

JMA DAS Platform Remote Monitoring and Management User Guide



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About this Guide

The DAS (Distributed Antenna System) supervision module web interface allows the monitoring, configuration, and commissioning of all the components managed by the DAS supervision module. This guide provides instructions on how to remotely access the supervision module for the monitoring (all users) and management (role-based capabilities) of the system. Users with admins or superusers privileges will also find guidance on how to set the options for an effective monitoring of the system. For detailed descriptions of the software commissioning tools, which are available for users with the **admins** privileges, refer to the *JMA DAS Platform Local Commissioning User Guide*.

What's New

This revision (rev.5) of the *JMA DAS Platform Remote Monitoring and Management User Guide* describes release 4.3.4 of the DAS supervision module, which adds support for the following new products:

- Next generation components, which operate in the 3400–3800MHz frequency band (351, *N43*):
 - ED35ID, next generation optical transceiver (NG OTRX).
 - ED35IDM and ED35IDS, next generation Master and Secondary Point-to-Point rack-mount units (NG PtoP).
 - RD35IWX2AT and RD35IWX2DT, single-band 10/20/40W, MIMO, next generation, Software Defined Remote Units (NG SDRU).
- TCPRIPOI-23T-M-N CPRI Point of Interface, which operates in the 2300–2400MHz frequency band (TCPRIPOI).

Release 4.3.4 of the DAS supervision module also introduces:

- The *PSU High Temperature* alarm, which is available for Next Generation Remote Units (NG RU) and Software Defined Remote Units (NG SDRU). See "NG RU and NG SDRU Panels" on page 114.
- The WAN *MTU* parameter, which allows configuration of the Maximum Transmission Unit for the Supervision Module WAN Interface. See "Setting the WAN Interface" on page 60.

This revision of the *JMA DAS Platform Remote Monitoring and Management User Guide* guide also includes instructions for adjusting the RF gain of the Next Generation Point-to-Point link. See "Adjusting the Next Generation Point-to-Point Link RF Gain" on page 43.

Accessing the DAS Supervision Module Web Interface

Note: When the DAS includes next generation point-to-point links, the DAS components installed at the master unit location and the DAS components installed at the remote location are managed by two separate supervision modules:

- The supervision module, which manages the DAS components installed at the master unit location, including the next generation point-to-point master component.
- The remote supervision module, which manages the DAS components installed at the remote location, including the next generation point-to-point secondary component, distant optical transceivers, and all connected remote units.

You need to connect to the supervision modules separately to manage the entire DAS.

To access the supervision module web interface:

1. Start a web browser.

Note: In the web browser options it is advisable to set the security level to medium (or lower) and disable the pop-up blocker, to correctly display the web interface.

2. In the URL bar, enter the IP address of the DAS supervision module.

Contact the network administrator to get the DAS supervision module IP address.

Note: For local connections, refer to the JMA DAS Platform Local Commissioning User Guide and to the JMA DAS Platform Quick Start Procedure.

- 3. Press the Enter key on your keyboard.
 - If a certificate error message appears (untrusted connection), bypass the warning page.
 - If a Connection failed message appears:
 - In the web browser options, check that the security level is set to medium (or lower) and that the pop-up blocker is disabled.
 - Make sure that:
 - The DAS is turned on.
 - The DAS IP address is correct.
 - The network connection is available.
 - Check the status of the VPN Server and the VPN connectivity.

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4. Enter the username and password of a registered account.

When the login panel appears, enter username and password of a registered account. Contact the software administrator to get the parameters.

JMÂ	
TEKO	
Username	
Password	
Login (full)	
Login (light)	

Note: Each user is assigned a role that is associated with a set of allowed capabilities.

The following table lists the capabilities associated with each role and the factory-set username and password for each role:

User Role (Community)	Factory-set Username and Password	Capabilities
admins	User name: admin Password: Password1	Total control over all parameters.
superusers	User name: superuser Password: Password1	Control over all parameters except users table.
users	User name: user Password: Password1	Control over modules parameters, no supervision (SPV).
guests	User name: guest Password: Password1	Can read but not edit parameters of the system (read-only user).

5. Click either Login (full) or Login (light).

Note: For low data rate connections, select the light version option Login (light).

Access Denied

If access is denied, check the username and password spelling, then log in with the correct details.

Note: Both **Username** and **Password** fields are case-sensitive; make sure to type the username and password with correct upper-case and lower-case letters.

Successful Login

After successful login, the user interface opens with the System panel displayed.

User Interface Description

The main elements of the supervision module web user interface (UI) are the following:

- The **Toolbar**, at the top of the UI. See "Toolbar" on the next page.
- The Physical Tree, on the left side of the UI, displays the hierarchy of the DAS components managed by the supervision module and provides an at-a-glance view of the alarm status of the whole DAS. See "Viewing the System Architecture" on page 16 and "Viewing the Alarm Status of Managed Components" on page 19.
- The Settings menu, below the Physical Tree, includes DAS monitoring, configuration, and commissioning tools. See "Settings Menu" on page 13.
- The **Main panel**, to the right of the Physical Tree. The content of the main panel changes depending on the user's selection in the UI. See "Main Panel" on page 11.
- The Status bar, at the bottom of the UI, displays:
 - The status of the supervision module communication interfaces (WAN, LAN, VPN, WWAN, Modem).
 - The browser current date and time. Click the date and time to toggle between local time and UTC.

	ЈМА ТЕКО			🛓 Save 🔒 P	rint 💄 admin 🕞 Logout	
Physical Tree	C System Name L C Statetuit U S System Name U S Syste	Giobar System	n Configuration			
	H = 113 [DASTRAY 25, 36L] C (113 [PAYALMAB8 C (113 [PAYALMAB8 C (113 [PAYALMAB8 (113 [PAYALMAB8 (113 [PAYALMAB (113 [PAYALMAB, 09 (113 [PAYALMAB, 12 (12 [PAYALMAB, 12	System description Name Description Software details Kernel Version Ramdisk	System-Name System-Description	System preferences Temperature unit	Celsius 🛩	Main panel
		Application version Application build Configuration version	1.1.1 4.3.0 2023-04-12, 12.33:20, UTC 4.3.0-202304121433	Alarm summary Max sevenity Active alarms Uptime Uptime 4 days, 17 hours, 10	0 minutes, 21 seconds	
	C	WAN parameters Wan State IPv4 Address MAC Address	0.150.5.217 9C:53.CD:02:A8:2F	LAN paraméters Lan State IP Address 192.16 Interface Enabled	9 58.1.100	
		Disk info Disk Total (MB) Disk Used (MB) Disk Available (MB)	1965 27 1819	Ram Used [MB]	494 223 271	
Settings Menu	Settings Settings U Sevices and Security Settings O Sevices and Security O Communication A Name Log	Modern parameters Operator IP Address More into	WINDTRE 10.21.181.53		:	
	Andrew Galage	VPN parameters VPN State IP Address	10.96.0.217	Modern commands Commands Commands C Reboot board C Restart processes		1
	Massve Change Menu Massve Change Menu Suport	1		C Restore factory settings	O 2023-04-17 09 32 32 (Local)	Status bar

• The relationship between icon color and alarm severity level (Help).

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Toolbar

Toolbar

The Toolbar is located at the top of the supervision module UI.

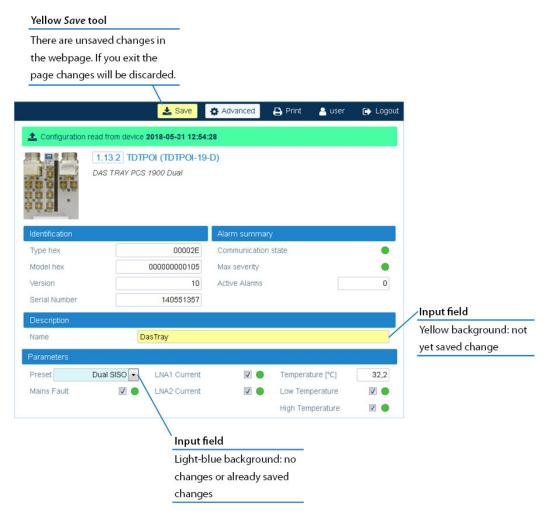


The **Toolbar** includes the following tools:

Save

The **Save** tool is available when fields can be edited by users. Editable fields have a light-blue background. When changes to editable fields are detected, the field background and the **Save** tool turn yellow.

Click the yellow **Save** tool in the toolbar or press the **Enter** key on your keyboard to save all the changes in the page.



Advanced

The **Advanced** tool is available when the main panel includes alarms. Select the **Advanced** tool to display enabled and disabled alarms. See "Enabling and Disabling Alarms" on page 32.

Note: If an alarm	is	disabled	its	icon	is	always	green.
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Print

Print the main panel of the current web page.

<User name of the account currently logged in>

Select the account name to open the Edit User panel, which is available for all users to:

- View their account details: user name and role.
- Change their own password to access the application and for SNMPv3 authentication and privacy. See "Changing Your Password and Username" on page 57.

	User age single user parameters			
User information				
User name	guest	User role	guests	•
Password for login and SN	MPv3 authentication	Password for SNMPv3 priva	су	
SNMPv3 Authentication	SHA 🔻	SNMPv3 Privacy	AES	•
Current Auth Password		Current Privacy Password		
Auth Password		Privacy Password		
Confirm Auth Password		Confirm Privacy Password		
Note: Admins: total control over all p Superusers: control over all p Users: control over modules p Guests: can read but not edit	arameters but users table parameters, no SPV			

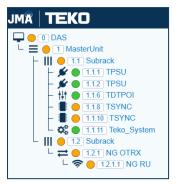
Logout

Exit the supervision module user interface. You will be redirected to the Login page.

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Physical Tree

The **Physical Tree** displays the hierarchical architecture of the DAS components managed by the supervision module. The **Physical Tree** is generated or updated after a discovery is accepted. See "Discovering the DAS Components" on page 34.



Each node in the **Physical Tree** is associated with an icon and an ID number. The icon identifies the component type; the ID number represents the component position in the DAS. See "Viewing the System Architecture" on page 16 for a detailed description of the **Physical Tree** device hierarchy.

To the left of the ID number, a color-coded icon gives immediate indication of the component alarm status. See "Viewing the Alarm Status of Managed Components" on page 19 for details.

Click a node in the **Physical Tree** to display the main panel with detailed information about the selected device.

Main Panel

The content of the main panel changes depending on the user's selection in the user interface.

Selection in the Settings menu

When you select a tool from the **Settings menu**, the main panel displays related content and options. See "Settings Menu" on page 13 for details.

- Selection in the Physical Tree
 - When you select the root node, the System panel provides information about the supervision module and the entire managed System. See "Viewing the Global System Configuration" on page 14.
 - When you select a component of the DAS, the main panel provides detailed information about the component. In the main panel, authorized users can set preferences and operating parameters. See "Editing Parameters" on page 48.

At the top of the component main panel, a green bar indicates that the configuration of the component is read from the device. If a previously generated inventory is available, an **Inventory** button displays.

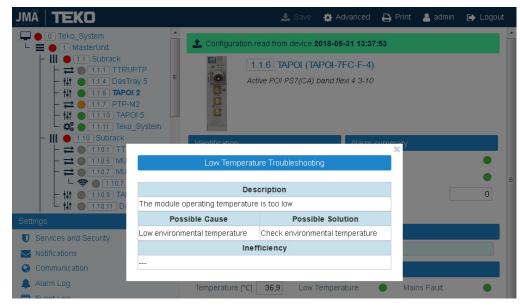


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The Inventory button allows users with admins or superusers role permissions to load the device configuration from the selected Inventory. See "Creating and Managing Inventory Lists" on page 51 and "Loading Device Configuration from Inventory" on page 54 for details. A red bar at the top of the web page indicates a lack of communication with the component.

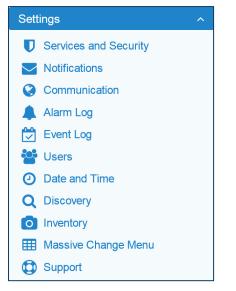
A Module not communicating

Alarms description and troubleshooting tips are also available clicking on alarm names.



Settings Menu

The Settings menu displays on the left side of the user interface, below the Physical Tree.



The **Settings** menu allows access to the following DAS monitoring, configuration, and commissioning tools:

- Monitoring Tools
 - Alarm Log. See "Viewing Alarms" on page 21.
 - · Event Log. See "Viewing Events" on page 25.
- Monitoring Tools Options
 - Notifications. See "Setting Alarm and Heartbeat Notifications" on page 27.
- Device Management and Commissioning Tools
 - Discovery. See "Discovering the DAS Components" on page 34
 - Massive Change Menu. See "Editing Parameters with the Massive Change Menu" on page 49.
 Note: The Massive Change Menu is a useful tool for users with admins role permissions to speed up the RF commissioning of Points of Interface (POIs) and remote units. Refer to the JMA DAS Platform Local Commissioning User Guide for details.
 - Inventory. See "Creating and Managing Inventory Lists" on page 51.
- Account Management Tools
 - Users. See "Managing Accounts" on page 57.
- Network Configurations Tools
 - Communication. See "Setting the Supervision Module Communication Interface for Remote Management" on page 60.
 - Services and Security. See "Setting the Network Security" on page 64.
 - Date and Time. See "Setting the System Date and Time" on page 65.

Monitoring the System

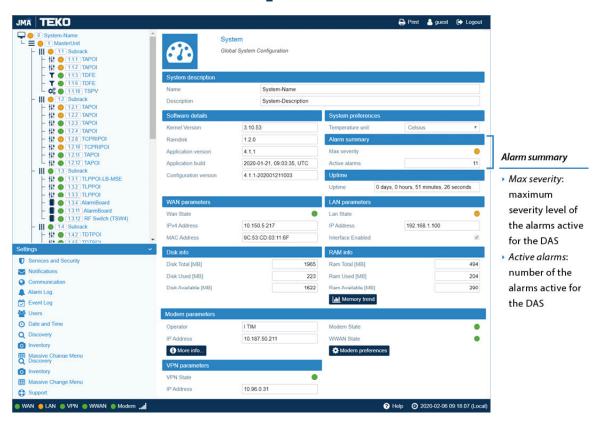
This section describes the features available to all users for viewing:

- The global system configuration. See "Viewing the Global System Configuration" below.
- The system architecture. See "Viewing the System Architecture" on page 16.
- The alarm status of the system components. See "Viewing the Alarm Status of Managed Components" on page 19.
- Details about active and cleared alarms. See "Viewing Alarms" on page 21.
- The system events. See "Viewing Events" on page 25.

Viewing the Global System Configuration

The System panel displays when you access the supervision module UI.

To return to the **System** panel from any other panel, select the root node at the top of the **Physical Tree**. The root node is identified by this icon:



The **System** panel includes the following information:

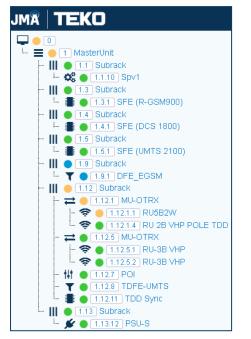
- System Name and Description Users with admins or superusers role permissions can modify the system name and description. See "Modifying the System Name and Description" on page 39.
- **Software Details** Kernel Version, Ramdisk, Application version and build, Configuration version.
- **Uptime** Amount of the Supervision module (TSPV) uptime.

- Disk and RAM Info Supervision module (TSPV) hard disk and RAM details.
- **System preferences** Users with the **admins** or **superusers** role permissions can set temperatures to display either in Fahrenheit or Celsius.
- WAN parameters Status and settings of the Ethernet WAN (Wide Area Network) Interface.
- LAN parameters Status and settings of the Ethernet LAN (Local Area Network) Interface.
- Modem parameters Modem and WWAN (Wireless Wide Area Network) status and settings. The Modem preferences button is available for all users to view the mobile connection settings and for users with admins or superusers role permissions to configure the wireless connection. The Modem commands button is available for users with admins or superusers permissions to reboot the modem and restart the WWAN connection.
- VPN Parameters Status and settings of the VPN connection.
- Alarm Summary Summary of the system current alarm status, detailing the maximum severity level (color-coded icon) and the total number of alarms currently active in all managed components.

The **Reboot board**, **Restart processes**, and **Restore factory settings** buttons are available for users with the **admins** or **superusers** role permissions.

Viewing the System Architecture

The **Physical Tree** displays upon the successful discovery of the DAS components. It displays the hierarchical architecture of all the DAS components managed by the supervision module. Click a node in the **Physical Tree** to display the main panel with detailed information about the selected component.



In the **Physical Tree**, each node is associated with an icon and an ID number. The icon identifies the component type; the ID number represents the component position in the System. See "Device Hierarchy" below for details.



To the left of the ID number, a color-coded icon provides immediate indication of the component alarm status. See "Viewing the Alarm Status of Managed Components" on page 19.

Device Hierarchy

The root node is the **System** (position 0), which includes all the DAS components managed by the supervision module. Clicking the root node takes you back to the system page.

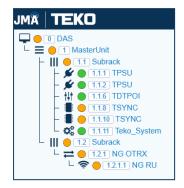
The Master Unit (position 1) is a container node for all the DAS components.

• **III** Subrack. The position of the sub-racks is 1.x, with x=1 to 13. The sub-rack hosting the supervision module is assigned position 1.1. The position of the other sub-racks depends on the supervision module port connected to the sub-racks: for example, a sub-rack position of 1.2 means that the sub-rack is connected to the supervision module port 1, a position of 1.3 means that the sub-rack is connected to the supervision module port 2.

The sub-rack is a container node for the following components:

- Rext generation optical sub-rack NG OTRX (ED35TD, ED35BD, ED35ID).
 - Next generation remote units (NG RU and NG SDRU) are contained within the NG OTRX optical sub-rack.

The remote unit position includes the number of the NG OTRX optical port connected to the remote unit.

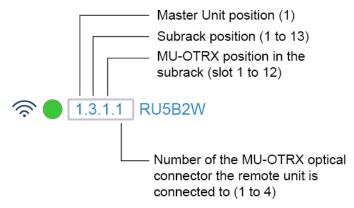


- →
 → Next generation master point-to-point NG PtoP (ED35TDM, ED35BDM, ED35IDM).
- Forced-air cooling unit, TFAN.
- Power supply unit, SUB-PSU.

Note: The position of the SUB-PSU is 1.1.12 when the SUB-PSU is connected to the supervision module in addition to other 12 monitored sub-racks.

- The following modules (position 1.x.y, where y is the module slot in the x active subrack):
 - Store
 TSPV, supervision module for the management of the entire DAS. The module is able to manage the sub-rack it is equipped in (master sub-rack, position 1.1), the power supply subrack (SUB-PSU), up to other 12 active subracks, and all connected remote units.
 - 👫 Points Of Interface, POIs, such as TDTPOI, TLPPOI, TAPOI, TCPRIPOI.
 - **T** Donor Front End (TDFE, TDFE-F).
 - RF Switch, TSYNC modules, and Alarm Board.
 - 🗯 Power supply unit (TPSU).
 - — Optical modules: optical Tx/Rx (MU-OTRX) and Point to Point Master and Secondary (TTRUPTP).
 - Remote units (RUs) are contained within MU-OTRX modules as they are hierarchically lower. The RU position ID number includes the number of the MU-OTRX optical port connected to the RU (1.x.y.z, where y is the MU-OTRX slot in the x active subrack and z is the MU-OTRX optical port number).

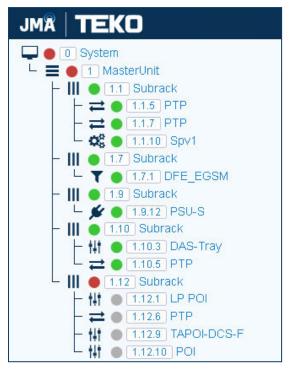
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Note: The add-on remote unit connected to the port 1 (DL1/UL1) of the TTRU2W-S-M-C2 optical module is assigned z = 3; the add-on remote unit connected to the port 2 (DL2/UL2) of the TTRU2W-S-M-C2 is assigned z = 4.

Viewing the Alarm Status of Managed Components

The **Physical Tree** provides an at-a-glance view of the alarm status of all managed components.



In the **Physical Tree**, each node is associated with an icon, which identifies the component type. To the right of the component-type symbol, a color-coded icon provides immediate indication of the alarm status of each component. See "Alarms Severities" on page 23 for descriptions of alarm severities and their associated color.

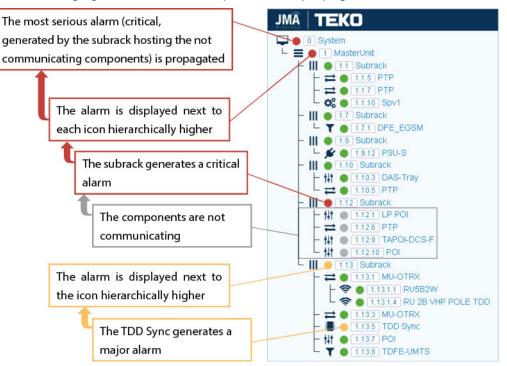


Alarms Propagation

The color-coded icon is displayed next to the node that generated the alarm and also next to hierarchically higher nodes. When multiple alarms are active, the most serious alarm is propagated.

Alarm propagation helps users to recognize active alarms and their source.

The following figure shows an example of alarm propagation:



Viewing Alarms

In the Settings menu, select Alarm Log to open the Alarm Log panel, which includes:

- The **Alarm log Table**, which reports detailed information about the active and cleared alarms that have been triggered in managed components.
- The **Summary** of the current DAS alarms listed in the **Alarm log Table**.
- Commands and Filters to manage the Alarm log Table logs.

	Alarm L Alarm sys	og stem information				
Summary				Commands	and filters	
Max severity			•	Active alarms	3	Z
Total alarms			9	Ceased alarr	ns	
Active alarms			1	聞 Clear ce	ased alarms	
Ceased alarm	าร		8	聞 Clear all	alarms	
				📩 Downloa	ad alarms	
				C Resync	active alarms	
				C Resync	all alarms	
Alarm log Tal	ble					
Address	Module Type	Alarm Id	\$ State	Severity	🚽 Start Time	End Time
l <u>.1.5</u>	TSYNC	Communication	Active	Critical	2022-07-01 14:39:21	
1.1.5	TSYNC	TDD Comm	Ceased	Major	2022-07-01 13:25:57	2022-07-01 14:39:21
.1.5	TSYNC	High Temperature	Ceased	Major	2022-07-01 13:23:17	2022-07-01 13:24:47
	TSYNC	Mains Fault	Ceased	Major	2022-07-01 13:23:17	2022-07-01 14:39:21
<u>1.1.5</u>						

Alarm Details

The Alarm log Table lists active and cleared alarms occurred in the DAS.

Note: Users with **admins** or **superusers** role permissions can clear alarms from the **Alarm log table**. The **Alarm log Table** includes all the alarms occurred in the DAS, after the last *Clear ceased alarms* or *Clear all alarms* command.

In the table, alarms are sorted by time. When a new alarm occurs, a row displaying the alarm details is added at the top of the table. The **Alarm log Table** can be sorted on a particular column clicking the header of the column.

Each alarm entry provides the following information:

• Address and Module Type – Information about the component that generated the alarm.

The **Address** is the position of the component that generated the alarm in the DAS, as displayed in the **Physical Tree** (see "Device Hierarchy" on page 16). Clicking the address opens the panel with the details of the component.

- Alarm Id Name of the alarm.
- State Alarm status, either Active or Ceased.

Monitoring the System

- Severity Severity of the alarm. For active alarms, the row background color is related to the alarm severity: warning, minor, major, or critical. Ceased alarms have a green background. See "Alarms Severities" on the next page for the relationship between icon color and alarm severity.
- **Start Time** Date and time when the alarm occurred.
- End Time Date and time when the alarm ceased (if applicable).

Alarm log 7	Table .					
Address	Module Type	Alarm Id	\$ State	Severity	🚽 Start Time	End Time
1.5.9.2.4	TDDU	PLL Unlock	Active	Major	2020-02-04 16:39:31	
1.5.9.2.4	TDDU	TDD Unlock	Active	Major	2020-02-04 16:39:31	
<u>1.1.10</u>	TSPV	Mains Absence	Ceased	Critical	2020-02-03 17:14:09	2020-02-03 17:14:14
1.5.7.2	RU 2B LP MIMO TDD	Rx Opt Low M2	Active	Major	2020-02-03 12:16:03	
1.5.7.2	RU 2B LP MIMO TDD	PLL Unlock	Active	Major	2020-02-03 12:16:03	
1.5.7.2	RU 2B LP MIMO TDD	TDD Unlock	Active	Major	2020-02-03 12:16:03	
Address and Type of the module that generated the alarm.Alarm Id, State (active/ceased), and SeverityThe Address is the componentFile Address is the component				sed), and	Date and time when the alarm occurred	Date and time whe the alarm ended (ceased alarms)
position in the DAS, as displayed in the <i>Tree View</i>				Time is displayed in (time zone where the monitoring resides)		

Refer to the *JMA DAS Platform Troubleshooting Charts* for a detailed description of the alarms that can occur in the DAS.

Alarms Severities

In the supervision module user interface, each alarm is associated with a color to immediately identify its severity level (that is, how serious the problem is).

Four service-affecting levels of severity are managed by the software: warning, minor, major, and critical, according to the ITU X.733 recommendation (CCITT Recommendation X.733 - "Alarm Reporting Function").

The following table describes the alarm severities and their associated color:

Alarm Severity	Color	Fault Description	Corrective Action Required
Critical	Red	The problem compromises functionality, and service cannot be provided.	Immediate action needed.
Major	Orange	The problem is affecting functionality, but the service can still be provided.	Urgent action needed, to prevent more serious fault.
Minor	Yellow	The problem might affect functionality but is not yet affecting it.	Monitor situation carefully. Corrective actions may be needed to prevent more serious fault.
Warning	Blue	The problem does not affect functionality.	Investigate further during scheduled maintenance.
_	Green	No alarm / cleared alarm.	-
-	Gray	Indeterminate alarm status due to lack of communication: the severity level cannot be determined.	_

Alarms Summary

In the **Summary** pane, you can view a summary of the alarms occurred in the DAS and listed in the Alarm log Table:

- Total alarms Number of active and cleared alarms.
- Active alarms Total number of active alarms.
- Ceased alarms Total number of ceased alarms.
- Max Severity The Max Severity icon shows the highest severity level of active alarms. See "Alarms Severities" above for details.

Note: Users with **admins** or **superusers** role permissions can clear alarms from the **Alarm log Table**. The **Alarm log Table** includes all the alarms, recorded after the last *Clear ceased alarms* or *Clear all alarms* command.

Commands and Filters

- To filter alarms to display in the Alarm log Table:
 - Clear the Active alarms and Ceased alarms check boxes to filter the records to display.
 - Select the Active alarms and Ceased alarms check boxes to remove filters.
- To download alarms:

Click the **Download alarms** button to download the list of alarms as a Comma Separated Value file (.csv).

- To synchronize the table on the SNMP manager with the current **Alarm log Table**:
 - Click the **Resync active alarms** button to synchronize active alarms on the SNMP manager.
 - Click the **Resync all alarms** button to synchronize all alarms (active and ceased) on the SNMP manager.
- To clear alarms from the **Alarm log table** (users with **admins** or **superusers** role permissions):
 - Click the **Clear ceased alarms** button to remove cleared alarms from the **Alarm log Table**.
 - Click the Clear all alarms button to remove all the alarms from the Alarm log Table.

Monitoring the System

Viewing Events

In the **Settings** menu, select **Event Log** to open the **Event Log** panel, which includes a summary of the events occurred in the DAS and a list providing details about each event.

Note: Events do not cause DAS service interruption.

	Event Log List of all events	recorded by the	system					
Remote log								
Enabled	Ad	dress		Port	Protoc	ol	Severity	
	10.15	50.5.131		514	UDP	~	All	~
	0.	0.0.0		514	UDP	~	All	``
	0.	0.0.0		514	UDP	~	All	``
	0.	0.0.0		514	UDP	~	All	``
	0.	0.0.0		514	UDP	~	All	``
Filters								
Communication (930)			~	Description				
User actions (1380)			~	Severity				All 🗸
Processes (0)			~	From (yyyy-mm-dd hh:	mm)			
Restarts (95)			✓	To (yyyy-mm-dd hh:mn	mm)			
Others (0)			~	T Apply filters	s			
Summary								
Total events			2405	🕹 Download all ever	nts			
Filtered events			2405	Lownload filtered	events			
Event Table								
Events per page	20	~		1 ✔ →				
↓ Time	Event Type	Severity		÷	Description	1		
2022-07-08 11:34:27	user action	info	Login [admi	n]: successful				
2022-07-08 10:22:09	user action	info	Login [admi	n]: successful				
2022-07-08 10:14:32	communication	info	Interface VF	N: Connected.				
2022-07-08 10:14:26	communication	info	Interface W	WAN: Connected.				
2022-07-08 10:13:25	communication	critical	Interface VF	N: Failing to connect to th	e VPN serv	er.		
2022-07-07 16:55:14	communication	info	Interface VF	N: Connected.				

The **Event Log** view includes the **Remote log** table, which allows users with **admins** or **superusers** role permissions to enable and configure up to five external Syslog servers to collect the events recorded by the system. See "Configuring Remote Log Servers" on page 31.

Event Details

The **Event Table** lists the events logged by the system.

The **Event Table** can be sorted by clicking the header of the column to sort rows by (Time, Event Type, Severity, and Description).

Each item in the list describes an event, providing the following information:

- **Time** Date and time when the event occurred.
- Event Type Type of event.

Note: The **User actions** event type allows tracking each access to the system and each configuration change.

• **Severity** – Severity of the event.

Event Severity	Color
Critical	Red
Major	Orange
Minor	Yellow
Warning	Blue
Info	Green

• **Description** – Description of the event.

Summary, Commands, and Filters

Summary of the Events Occurred in the DAS and Filters

- Total Events Total number of the events logged by the system.
- Filtered Events Number of filtered events.
- In the Filters pane, several filtering options are available to filter the events listed in the Event Table.

Note: The *User actions* event type filter allows tracking each access to the system and each configuration change.

- Commands
 - Click **Download all events** to download the list of all the events occurred in the DAS as a Comma Separated Value (.csv).
 - Click **Download filtered events** to download the list of filtered events as a Comma Separated Value (.csv).

Setting the Monitoring Options

This section describes the following monitoring options, which can be set for an effective monitoring of the DAS:

- Notifications can be forwarded to periodically test the system availability and to alert operators when alarm events occur in the system. See "Setting Alarm and Heartbeat Notifications" below.
- Remote Log Servers can be configured to collect the events recorded by the supervision. See "Configuring Remote Log Servers" on page 31.
- Alarms can be enabled and disabled. See "Enabling and Disabling Alarms" on page 32.
- Entries to be included in the SNMP alarm table can be selected. See "Selecting the SNMP Alarm Table Entries" on page 33.

Setting Alarm and Heartbeat Notifications

SNMP traps and SMS alerts can be forwarded to periodically test the system availability and to alert operators when alarm events occur in the DAS.

Note: The following configuration options are available for users with **admins** or **superusers** role permissions.

Enabling SNMP Traps

- 1. In the Settings menu, select Notifications to access the Notifications panel.
- 2. From the **Trap mode** drop-down list, in the **Traps** pane, select either *SNMPv2c* or *SNMPv3* to enable alarm notifications to be sent out.

Heartbeat			Traps	
Last sent	2023-05-03 00:01		Trap mode	SNMPv2c 🗸
Interval (hours)		12		
			Trap mode	
			•	n be enabled to alert m events occur in the DAS.

3. Click the yellow Save tool in the toolbar or press the Enter key on your keyboard to save changes.

Setting Heartbeat Notifications

- 1. In the Heartbeat pane, set the time Interval (hours) between heartbeat notifications.
- 2. Click the yellow Save tool in the toolbar or press the Enter key on your keyboard to save changes.

Note: When the heartbeat interval is set to 0 (zero) heartbeat notifications are disabled.

Setting the Monitoring Options

	Trap mode	
	Trap mode	SNMPv2c 🗸
12		
	12	12

- Last sent: date and time of the last Heartbeat message sent.
- Interval: time interval (hours) between
 KeepAlive messages. When the Interval is set to
 0 (zero) KeepAlive notifications are disabled.

Setting Alarms and Heartbeat Trap Destinations

In the Trap notifications table, you can set up to five trap destinations to receive SNMP notifications.

- 1. Add each trap receiver as follows:
 - a Set the IP address and Port of the SNMP trap destination.

Note: When the DAS is part of a Network managed via JMA Operation Management Centre (OMC), the OMC Server IP address can be set as one of the recipients of the SNMP trap notifications, in order to optimize the alarm monitoring of the DAS (refer to the *OMC Software Installation and Configuration Guide*).

- **b** Select the **User/Community** that is sending the trap (SNMPv3 Trap Mode only).
- **c** From the **Alarm severity** drop-down list, select the minimum alarm severity for notifications to be sent out. Only the events of equal or higher severity level cause the trap notification to be sent out.
- d Select the Alarm check box to enable SNMP traps to be forwarded to the trap destination.
- e Select the **Heartbeat** check box to enable heartbeat notifications to be forwarded to the trap destination.

IP address	Port	User	Alarm	Alarm severity	Heartbeat
0.0.00	162	admin		warning •	
0.0.0.0	162	admin		warning •	
0.0.0.0	162	admin		warning •	
0.0.00	162	admin		warning •	
0.0.0.0	162	admin		warning 🔻	
IP address	Port	User	Alarm	Alarm severity filter	Hearbeat
IP Address and port of each SN destination	NMP trap	User that is sending the trap (SNMPv3 Trap Mode)	Enable/ disable alarm notifications	A minimum alarm severity level can be associated with each notification: only the alarms of equal or higher severity level cause the notification to be sent out.	Enable/ disable hearbeat notifications

2. Click the yellow Save tool in the toolbar or press the Enter key on your keyboard to save changes.

Setting SMS Notifications

In the **SMS notifications** table, you can set up to five operators' phone numbers to receive SMS alarm and heartbeat notifications.

1. In the Settings menu, select Notifications to access the Notifications panel.

Operator number	Alarm	Alarm severity		Heartbeat
+393249500000		warning	~	
+00000000000		warning	~	
+00000000000		warning	~	
+00000000000		warning	~	
+00000000000		warning	~	
Preferences	Alarm	Alarm severity filter		Hearbeat
Operator number	Alarm	Alarm sevency filter		

- 2. Add each SMS recipient as follows:
 - a In Operator number, insert the recipient's phone number.
 - **b** From the **Alarm severity** drop-down list, select the minimum alarm severity for SMS notifications to be sent out. Only the events of equal or higher severity level cause the notification to be sent out.
 - c Select the Alarm check box to enable SMS notifications.
 - d Select the Heartbeat check box to enable heartbeat notifications.
- **3.** Click the **Preferences** button to select information to be included in the SMS (*Notification fields*) and to select the SMS notification format preferences (*Notification format*).

	📥 Save 🛛 🏟 Advanced	🖶 Print 💄 admin 🕞 Logout
SMS Notifications Preferen Manage SMS notifications configu		
Notification fields		
Field	Display on active	Display on ceased
System name		
Module type		
Module type name		
Module address		
Module name		
Module description		
Alarm name		
Alarm id		
Alarm severity name		
Alarm severity id		
Alarm start/end time		
Notification format		
Multiple notifications per sms	 Field separator 	.,
Field header		

4. Click the yellow **Save** tool in the toolbar or press the **Enter** key on your keyboard to save changes.

Configuring Remote Log Servers

Note: The following configuration options are available for users with **admins** or **superusers** role permissions.

1. In the Settings menu, select Event Log.

In the **Remote Log** table, you can configure and enable up to five external Syslog servers to collect the events recorded by the supervision module.

	Event Log List of all events recorded by the system			
Remote log				
Enabled	Address	Port	Protocol	Severity
	0.0.0.0	514	UDP 🗸	All
	0.0.0.0	514	UDP 🗸	All
	0.0.0.0	514	UDP 🗸	All
	0.0.0.0	514	UDP 🗸	All
			UDP 🗸	All

- Insert the Address of the remote syslog server to receive the logs.
 The address can be either a fully qualified domain name (FQDN), or an IPv4 or IPv6 address.
- **3.** Insert the **Port** for syslog service on the server (1 to 65535). Verify the syslog server configuration to set the correct port number.
- **4.** From the **Protocol** drop-down list, select the protocol to be used for log forwarding, either UDP, or TCP, according to the syslog server configuration.
- 5. From the Severity drop-down list, select the events to be forwarded to the syslog server:
 - All: All the events logged by the supervision module and listed in the Event Log table (see "Viewing Events" on page 25) are forwarded to the syslog server.
 - > = Critical, > = Major, > = Minor, >=Warning: Only the events of equal or higher severity level are forwarded to the syslog server. For example, if you select "> = Major", only the "Major" and "Critical" events are sent out.
- 6. Select the Enabled check box to enable event logs to be forwarded to the syslog server.
- 7. Click the yellow Save tool or press the Enter key on your keyboard to save changes.

Note: Each Syslog message includes a priority, calculated using facility and severity values.

For SPV events:

- The facility is 17 (local1).
- The severity depends on the severity of the supervision event. The conversion is as follows:

SPV event severity	Syslog event severity
Critical	1: ALERT
Major	2: CRITICAL
Minor	3: ERROR
Warning	4: WARNING
Info	5: NOTICE

Enabling and Disabling Alarms

Note: The following configuration options are available for users with **admins**, **superusers**, and **users** role permissions.

Alarms can be enabled or disabled in the detail panel of each component as follows:

- In the **Physical Tree**, select the DAS component to display its details panel.
- In the **Toolbar**, select the **Advanced** tool to display check boxes next to the alarm icons.
- Select the check box next to an alarm to enable the alarm. The **Save** tool in the toolbar turns yellow.
- To disable an alarm, deselect the check box. The Save tool in the toolbar turns yellow.
 Note: If an alarm is disabled, the icon is always green.
- Click the yellow **Save** tool in the toolbar or press the **Enter** key on your keyboard to save changes.

			Advance	ed tool			
			When se	elected, ena	bled/d	isabled	
			checkbo	oxes are dis	played	next to	
			alarm ic		,		
			7				
		🛃 Save	Advanced	🛱 Print	user	€ Logout	l .
		Save	Auvanceu	H Fine (user		
1 Configuration	read from device	2018-05-31 12:54:	28				
	1.13.2 TDT	Poi (TDTPoi-19-	D)				
	DAS TRAY PCS						
900							
Identification			Alarm summary	y			
Type hex		00002E	Communication	state		•	
Model hex		000000000105	Max severity			٠	
Version		10	Active Alarms			0	
Serial Number		140551357					
Description							
Description	-	_					
Name	D	asTray					
Parameters							Enable/disable checkbox
Preset	Dual SISO 💌	LNA1 Current		Temperature	[°C]	32,2	When selected, the alarm is
Mains Fault	V	LNA2 Current	V	Low Tempera	ature		enabled. If the alarm is disabled
				High Temper	ature		the icon is always green
							/ 5

Selecting the SNMP Alarm Table Entries

Note: The following configuration options are available for users with **admins** or **superusers** role permissions.

- 1. In the Settings menu, select Services and Security.
- **2.** In the **SNMP** pane, select the alarms to be included in the alarm table, retrieved by the SNMP agent embedded in the supervision module, when an authorized SNMP manager sends the request.

Services an Firewall, netwo	d Security ork services and ports configuration					
Firewall Security overview						
Firewall active	•	Curren	nt situation	•		
Services						
Service	Protocol		Port	Security		
File Transfer	SFTP	~	22	•		
Shell mode	SSH	~	22	•		
Web access	HTTPS	\sim	443	۲		
SNMP	SNMPv3	~	161	•		
Tunnel	Tunnel Tunnel		5556	•		
Incoming Ping						
İr	nterface		Allowed			
	WAN					
	LAN					
	VPN					
SNMP						
Alarm table entries	Active + Ceased V					

Two options are available:

- Active+Ceased: All the records in the Alarm Log Table (see "Viewing Alarms" on page 21) are included in the SNMP table.
- Active: Only active alarms are included in the SNMP table.
- 3. Click the yellow Save tool or press the Enter key on your keyboard to save settings.

Managing Devices

This section describes how to:

- Identify the DAS components. See "Discovering the DAS Components" below.
- Change the system name and description. See "Modifying the System Name and Description" on page 39.
- Assign names to the DAS components. See "Assigning Names to the DAS Components" on page 40.
- Select the proper NG OTRX Simulcast Configuration. See "Selecting the NG OTRX Simulcast Configuration" on page 41.
- Set the Next Generation Point-to-Point link RF gain. See "Adjusting the Next Generation Point-to-Point Link RF Gain" on page 43.
- Set external alarms and relays. See "Setting External Alarms and Relays" on page 45.
- Create and manage inventory lists. See "Creating and Managing Inventory Lists" on page 51.
- Load configuration of devices from a previously generated inventory. See "Loading Device Configuration from Inventory" on page 54.
- Power cycle (reset) remote units. See "Power Cycling a Remote Unit" on page 55.

Discovering the DAS Components

To manage the physical components connected to the supervision module they must first be identified.

Two tools are available for users logged in with the **admins** or **superusers** role to search and identify the physical components of the DAS: **Discovery full** and **Discovery incremental**.

• Select the **Discovery full** tool to identify the components of never discovered systems.

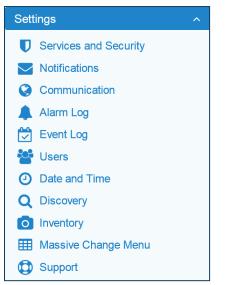
Note: If a previous discovery already exists, the **Discovery full** tool updates the entire DAS architecture. When the new full discovery is accepted, **all existing configuration data, inventory lists, and alarm logs are cleared. Components that are not communicating with the DAS supervision module are removed.**

 Select the Discovery Incremental tool to keep the discovered topology current. The Discovery Incremental tool only detects and identifies new devices. Current configuration data (Alarm Logs and Inventory Lists) are still available.

Note: Discovery tasks are shared with all connected users, whose activity will stall until the operation is complete.

Identifying the Components of Never Discovered Systems

1. In the Settings menu, select Discovery to open the Discovery panel.



2. In the Discovery panel, click Discovery full.

Q	Discovery Search new modules in the system		
Operations		Current State	
Q Discover	y full y incremental	Last discovery	2023-04-12 10:02

3. In the Please Confirm dialog box, click Proceed.

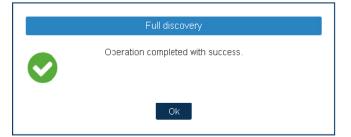
If the discovery process is successful, the hierarchical architecture of the DAS components displays in the **New Tree** pane.

4. Verify that all expected components are listed in the tree.

If not all expected devices are found by the discovery, check connections and power supply, then repeat the discovery.

5. Click Accept discovery to accept the discovery.

The supervision module uploads the names of all the detected components and the **Full discovery** dialog box displays.



6. In the Full discovery dialog box, click Ok to complete the discovery.

Managing Devices

Note: The discovery must be accepted to unlock the supervision system. Only after the full discovery is accepted, inventory lists and alarm logs, if any, are cleared, and the supervision module starts collecting the DAS alarms.

The discovered DAS physical components are populated in the **Physical Tree** only after the discovery is accepted. A progress bar below the **Physical Tree** indicates the progress of the operation.

Identifying the Components for Already Discovered Systems

If the physical network changes, use the **Discovery incremental** tool to keep the discovered topology current.

Note: The **Discovery Incremental** cannot be completed successfully when the DAS includes the following components:

- MU OTRX with version 8 or lower.
- Optical sub-rack NG OTRX.
- Next Generation remote units (NG RU and NG SDRU).

When the DAS includes these components use the **Discovery full** tool to identify new components. See "Discovery Full" below.

Discovery Incremental

The **Discovery incremental** tool is suitable for:

- Master Unit components added to an already discovered DAS.
- · Remote units added to an already discovered DAS.
- Swapped remote units, replacing even different models of remote units.
- 1. In the Settings menu, select Discovery to open the Discovery panel.
- 2. In the Discovery panel, click Discovery incremental. The Please Confirm dialog box displays.
- **3.** In the **Please Confirm** dialog box, click **Proceed**. If the discovery process is successful, the hierarchical architecture of the entire DAS displays in the **New Tree** pane.
- 4. Verify that all expected components are listed in the tree.
- Click Accept discovery to accept the incremental discovery. The Discovery successful dialog box displays.
- 6. Click Ok to complete the discovery.

Note: The **Discovery incremental** tool detects and identifies only new devices, current configuration data (Alarm Logs and Inventory Lists) are still available.

Discovery Full

The **Discovery full** tool is necessary for:

- Master unit components, replaced with components of another type.
- Systems equipped with MU OTRX modules version 8 or lower (the incremental discovery cannot be completed successfully).

- Systems equipped with NG OTRX and NG remote units (the incremental discovery cannot be completed successfully).
- Swapped MU OTRX modules.

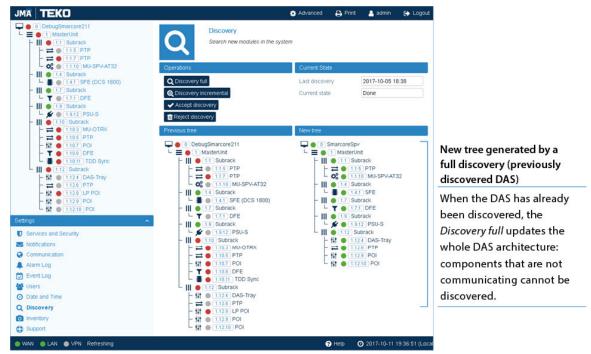
Note: When a previous discovery already exists, the **Discovery full** tool updates the entire DAS architecture. After the discovery is accepted, **current configuration data, existing inventory lists, and alarm logs are cleared. Components that are not communicating with the DAS supervision module are removed from the tree.**

- 1. In the Settings menu, select Discovery to open the Discovery panel.
- 2. In the Discovery panel, click Discovery full. The Please Confirm dialog box displays.

Carefully read the warning in the box.

Please Confirm	
Current configuration data, inventories and alarm log will be lost.	
Also not communicating modules can be lost: please check tree befo	е
accepting configuration.	
For more information please check the user manual.	
This operation may take up to few minutes to complete.	

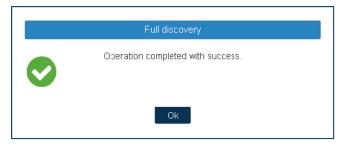
3. In the **Please Confirm** dialog box, click **Proceed**. If the discovery process is successful, the hierarchical architecture of the entire DAS displays in the **New Tree** pane.



4. Verify that all expected components are listed in the tree.

Note: If not all expected devices are found by the discovery, check connections and power supply, then repeat the discovery.

5. Click Accept discovery to accept the discovery. The Full discovery dialog box displays.



6. In the Full discovery dialog box, click Ok to complete the discovery.

Note: The discovery must be accepted to unlock the supervision system.

Only after the discovery is accepted, inventory lists and alarm logs, are cleared, and the supervision module starts collecting the DAS alarms.

The discovered DAS physical components are populated in the **Physical Tree** only after the discovery is accepted. A progress bar below the **Physical Tree** indicates the progress of the operation.

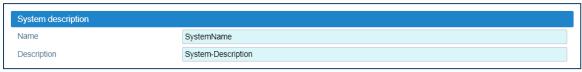
Modifying the System Name and Description

Note: Users logged in with the admins or superusers role can modify the system name and description.

1. Select the root node at the top of the **Physical Tree** to open the **System** panel.

The root node is identified by this icon: \square .

2. In the System Description pane, enter the new name and description.



The following characters are allowed:

- Lowercase letters (a through z)
- Uppercase letters (A through Z)
- Base 10 digits (0 through 9)
- Hyphen (-) and underscore (_)

The application input validation feature warns users if invalid characters are entered and details what input is expected for the field.

The **Save** tool in the toolbar and the background of modified fields turn yellow to highlight unsaved changes.

3. Click the yellow **Save** tool in the toolbar or press the **Enter** key on your keyboard to assign the new name and description to the DAS. The new system name is displayed in the **Physical Tree**.

Assigning Names to the DAS Components

Note: Users logged in with the **admins**, **superusers**, or **users** role can assign names to the DAS components.

- 1. In the Physical Tree, select the component to display its details panel.
- 2. In the Name field, type a descriptive name for the node.

The following characters are allowed:

- Lowercase letters (a through z)
- Uppercase letters (A through Z)
- Base 10 digits (0 through 9)
- Hyphen (-) and underscore (_)

The application input validation feature warns users if invalid characters are entered and details what input is expected for the field.

The **Save** tool in the toolbar and the background of modified fields turn yellow to highlight unsaved changes.

			🛃 Save 🔅 Advanced	🖨 Print	🐣 admin	🕞 Logout
□ Teko_System □ Teko_System □ □ MasterUnit	1 Configuration re	ead from device 2018-06-01 12:51:46				
- III ● 11 Subrack -		1.1.4 TDTPOI (TDTPOI-25-D) DAS TRAY UMTS 2500 TDD Dual				
	Identification		Alarm summary			
- = 0 1.10.5 MU-OTRX	Type hex	00002E	Communication state			•
-	Model hex	00000000129	Max severity			٠
- 👫 🌑 1.10.9 TAPOI 1	Version	7	Active Alarms			0
└ [Serial Number	1000642001				
	Description					
	Name	DAS Tray 2500TDD				

3. Click the yellow **Save** tool in the toolbar or press the **Enter** key on your keyboard to assign the new name to the DAS component. The name assigned to the component is displayed in the **Physical Tree**.

Note: The names of active points of interface (POIs) and remote units can be set either individually, in each component panel, or globally, accessing the Massive Change Menu. See "Editing Parameters with the Massive Change Menu" on page 49.

Selecting the NG OTRX Simulcast Configuration

Note: Users logged in with the **admins**, **superusers**, or **users** role can select the NG OTRX (Next Generation Optical Transceiver) simulcast configuration.

1. In the **Physical Tree**, select the NG OTRX to display its details panel.

1 Configuration read from	device 2023-08-23	09:05:30					
	1.2.1	NG OTRX (ED35BD)					
		Transmitter/Receiver for Master U	Init. Auction 110.	MIMO 2x2, 4 Sectors 80UT, W	ЮM		
	1111						
Identification				Alarm summary			
Type hex			00005C	Communication state			•
Model hex			00000000002	Max severity			•
Version			1.2.0.58	Active Alarms			2
Serial Number			1043643004				
Parameters							
Board Temperature ['C]		40 Low Tempera	ature	•	TDD Unlock		•
Core Temperature [*C]		67.3 High Temper	ature	•	Clock Distribu	tor Unlock	•
		Mains Fault			Init Failure		•
RF Path Mapping							
Configuration	Con	figuration 1 🗸					
A1 هر	• A1	A1 مر	▶ A1	A1 فر	• A1	A1 مر	А1 مر
A B1 A B	• A2	A2	• A2	A2	• A2	A2	A2
A • B • B1 A •	• B1	A • B1 A • B1 A • B2 B •	• B1	A • B1 A • B2 B •	• B1	A • B1 A B • B2 B	• B1
C • • · · · · C1 C •	• C1	C • • • C1 C •	• C1	C • 0 C1 C •	• C1	C • • C1 C	11
D • • • • C2 D •	C2	D • C2 D • 0 C1	° C2	D • C2 D • D1	© C2	D • C2 D	• C2
Conf. 1 D2	Conf. 2 D1		Conf. 4 D1	Conf. 5 D1	Conf. 6 D1	Conf. 7 D1	Conf. 8 D1
A1 - <u>1.2.1.1</u>				A2			
Opt. Link state	LC fiber 🗸	Rx Optical Low A1		Opt. Link state	Absent 🗸	Rx Optical Low A2	
SFP Temperature [°C]	54.4	Loss of Sync A1		SFP Temperature [°C]	-128	Loss of Sync A2	
Opt. Power Tx [dBm]	-0.3	RU Type Mismatch A1		Opt. Power Tx [dBm]	-70	RU Type Mismatch A2	
Opt. Power Rx [dBm]	-3.6	RU1 addr. fe80::1a45:b3ff	fe90:71e	Opt. Power Rx [dBm]	-70	rio ijpo monatori iz	
		Alarm summary RU1	•	- t			
RF Path A		· · · ·					
Attenuation UL1 [dB]	0	Attenuation DL1 [dB]	0	Attenuation UL2 [dB]	0	Attenuation DL2 [dB]	0
RMS Power Max A UL1		Overdrive A DL1		RMS Power Max A UL2		Overdrive A DL2	
Current A UL1				Current A UL2	_		
	-			B2	-		
B1	Abo	Dr. Osfaslika - Dr.				Du Osfasli - 22	-
Opt. Link state	Absent ∨	Rx Optical Low B1		Opt. Link state	Absent ∨	Rx Optical Low B2	•
SFP Temperature [°C]	-128	Loss of Sync B1		SFP Temperature [°C]	-128	Loss of Sync B2	
Opt. Power Tx [dBm]	-70	RU Type Mismatch B1	•	Opt. Power Tx [dBm]	-70	RU Type Mismatch B2	•
Opt. Power Rx [dBm]	-70			Opt. Power Rx [dBm]	-70		
RF Path B							
Attenuation UL1 [dB]	0	Attenuation DL1 [dB]	0	Attenuation UL2 [dB]	0	Attenuation DL2 [dB]	0
RMS Power Max B UL1	•	Overdrive B DL1	•	RMS Power Max B UL2	•	Overdrive B DL2	•
Current B UL1	•			Current B UL2	•		

2. In the **RF Path Mapping** pane, select the proper simulcast configuration from the **Configuration** drop-down list or choose a diagram. The diagram describes how RF signal is distributed to the connected remote units (RF path mapping).

When you select a configuration from the drop-down list, the diagram that corresponds to the selected configuration is highlighted. You can choose between eight different simulcast configurations.

Note: Refer to the system design to select the appropriate configuration.

Configuration 1 is the default factory configuration. If *Configuration 1* (default) is selected, the highlighted *Conf. 1* diagram shows that the signal from four different MIMO 2x2 cells will be simulcast by the NG OTRX transceivers (A, B, C, D) to four different pairs of remote units, connected to the NG OTRX optical ports (A1, A2, B1, B2, C1, C2, D1, D2).

Managing Devices

Note: Changing the simulcast configuration has no impact on the RF link: no attenuation adjustment is needed.

In the JMA DAS Platform Master Unit Installation Guide, refer to Connecting the Next Generation Optical Transceiver to the Next Generation Remote Units for details about remote units and NG OTRX (Next Generation Optical Transceiver) connection.

3. Click the yellow **Save** tool in the toolbar or press the **Enter** key on your keyboard to apply the selected configuration.

Adjusting the Next Generation Point-to-Point Link RF Gain

Note: Users logged in with the **admins**, **superusers**, or **users** role can adjust the Point-to-Point link RF gain.

For each RF path (A, B, C, D), the overall RF gain of the Point-to-Point link is 0dB at default attenuation settings. The following table details the Next Generation Point-to-Point link default attenuation settings:

Next Generation Point-to-Point Component	Default Downlink Attenuation for each RF Path, MIMO1 layer	Default Downlink Attenuation for each RF Path, MIMO2 layer	Default Uplink Attenuation for each RF Path, MIMO1 layer	Default Uplink Attenuation for each RF Path, MIMO2 layer
NG PtoP Master	0dB	0dB	7dB	7dB
	(Attenuation Tx1)	(Attenuation Tx2)	(Attenuation Rx1)	(Attenuation Rx2)
NG PtoP Secondary	14dB	14dB	0dB	0dB
	(Attenuation Rx1)	(Attenuation Rx2)	(Attenuation Tx1)	(Attenuation Tx2)

If required by the system design, you can increase the Point-to-Point link RF gain as follows:

- 1. To increase the downlink RF gain for a specific RF path:
 - **a** In the **Physical Tree**, select the Next Generation Secondary Point-to-Point Component (NG PtoP Secondary).
 - **b** In the appropriate **RF Path** pane (RF Path A, RF Path B, RF Path C, RF Path D), reduce the *Attenuation Rx1* and *Attenuation Rx2* for the RF path. The following figure shows a detail of the NG PtoP Secondary panel with default RF attenuation settings:

RF Path A			
Attenuation Rx1 [14	Attenuation Tx1 [dB] 0	Attenuation Rx2 [14	Attenuation Tx2 [dB] 0
RMS Power Max A Rx1	Overdrive A Tx1	RMS Power Max A Rx2	Overdrive A Tx2
Current A Rx1		Current A Rx2	
RF Path B			
Attenuation Rx1 [14	Attenuation Tx1 [dB] 0	Attenuation Rx2 [14	Attenuation Tx2 [dB] 0
RMS Power Max B Rx1	Overdrive B Tx1	RMS Power Max B Rx2	Overdrive B Tx2
Current B Rx1		Current B Rx2	
RF Path C			
Attenuation Rx1 [14	Attenuation Tx1 [dB] 0	Attenuation Rx2 [14	Attenuation Tx2 [dB] 0
RMS Power Max C Rx1	Overdrive C Tx1	RMS Power Max C Rx2	Overdrive C Tx2
Current C Rx1		Current C Rx2	
RF Path D			
Attenuation Rx1 [14	Attenuation Tx1 [dB] 0	Attenuation Rx2 [14	Attenuation Tx2 [dB] 0
RMS Power Max D Rx1	Overdrive D Tx1	RMS Power Max D Rx2	Overdrive D Tx2
Current D Rx1		Current D Rx2	

- 2. To increase the uplink RF gain for a specific RF path:
 - **a** In the **Physical Tree**, select the Next Generation Master Point-to-Point Component (NG PtoP Master).
 - **b** In the appropriate **RF Path** pane (RF Path A, RF Path B, RF Path C, RF Path D), reduce the *Attenuation Rx1* and *Attenuation Rx2* for the RF path. The following figure shows a detail of the NG

PtoP Master panel with default RF attenuation settings:

Attenuation Rx1 [7	Attenuation Tx1 [dB] 0	Attenuation Rx2 [7	Attenuation Tx2 [dB] 0
RMS Power Max A Rx1	Overdrive A Tx1	RMS Power Max A Rx2	Overdrive A Tx2
Current A Rx1		Current A Rx2	
RF Path B			
Attenuation Rx1 [7	Attenuation Tx1 [dB] 0	Attenuation Rx2 [7	Attenuation Tx2 [dB] 0
RMS Power Max B Rx1	Overdrive B Tx1	RMS Power Max B Rx2	Overdrive B Tx2
Current B Rx1		Current B Rx2	
RF Path C			
Attenuation Rx1 [7	Attenuation Tx1 [dB] 0	Attenuation Rx2 [7	Attenuation Tx2 [dB] 0
RMS Power Max C Rx1	Overdrive C Tx1	RMS Power Max C Rx2	Overdrive C Tx2
Current C Rx1		Current C Rx2	
RF Path D			
Attenuation Rx1 [7	Attenuation Tx1 [dB] 0	Attenuation Rx2 [7	Attenuation Tx2 [dB] 0

3. Click the yellow Save tool in the toolbar or press the Enter key on your keyboard to save changes.

Setting External Alarms and Relays

Note: Users logged in with the admins, superusers, or users role can set external alarms and relays.

External Alarms

Alarms generated by external devices can be connected to the external alarms input connector (EXT IN), available on the following DAS components:

- Supervision module (**TSPV**)
- Alarm Board
- Remote units (RU)
- Next Generation remote units (NG RU and NG SDRU)

Configure and enable monitoring of external alarms as follows:

- 1. In the **Physical Tree**, select the DAS component to display its details panel.
- 2. In the External alarms table, assign names, severity (*Critical, Major, Minor, Warning*), and polarity (*active-high* or *active-low*) to the alarms.

External alarms				
Name	Enable	Severity	Polarity	State
Ext. name 1		warning 🗸	active-low 🗸	
Ext. name 2		warning 🗸	active-low 🗸	
Ext. name 3		warning 🗸	active-low 🗸	
Ext. name 4		warning 🗸	active-low 🗸	

- 3. Select the Enable check box to enable monitoring of configured external alarms.
- **4.** Click the yellow **Save** tool in the toolbar or press the **Enter** key on your keyboard to save all the changes in the page.

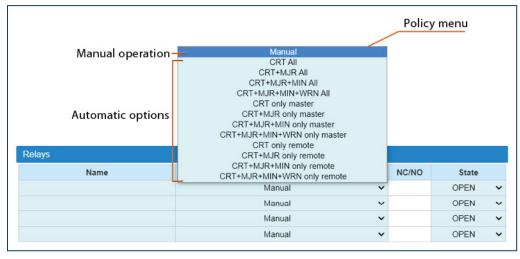
Relays

The EXT OUT connector is available on the following DAS components:

- Supervision module (TSPV)
- Remote units (RU)

Configure the logic of the relays in the **Relays** pane, available on the supervision module (TSPV) and remote units detail panels.

Supervision Module (TSPV)



- 1. In the **Physical Tree**, select the supervision module to display its details panel.
- 2. In the Relays pane, assign a descriptive name to the relay.
- 3. From the **Policy** menu, select either the *Manual* or an automatic mode.
 - *Manual*: The relay is switched manually by the operator.
 - a Select the relay status, Open or Closed.
 - Automatic mode: The relay is triggered automatically by alarms occurring in the DAS.
 - **a** Select one automatic option from the list of predefined triggering alarm events:

When the *CRT+MJR+MIN+WRN All* option is selected, alarms are not filtered: the relay is triggered when an alarm arises in any component of the DAS.

The other predefined triggering events filter alarms by device type and alarm severity: Alarm severity filter:

CRT+MJR+MIN (Critical + Major + Minor) – The relay is triggered when an alarm with a severity level equal to, or higher than Minor arises.

CRT+MJR (Critical + Major) – The relay is triggered when an alarm with a severity level equal to, or higher than Major arises.

CRT (Critical) – The relay is triggered when an alarm with a severity level equal to Critical arises.

Device type filter:

only master – The relay is triggered when an alarm arises in any component of the master unit.

only remote – The relay is triggered when an alarm arises in a remote unit.

b Set the relay status (NC/NO):

NO: the relay closes when the alarm condition selected in the Policy menu occurs.

NC: the relay opens when the alarm condition selected in the Policy menu occurs.

4. Click the yellow Save tool in the toolbar or press the Enter key on your keyboard to save changes.Note: The policy and relay state are applied after the relay is triggered by an alarm.

Remote Units

Relays					
Name	Policy		State		
	Manual	~	CLOSED	~	
	Manual	~	CLOSED	~	
	Manual	~	CLOSED	~	
	Manual	~	CLOSED	~	

You can manually switch the external outputs of remote units as follows:

- 1. In the **Physical Tree**, select the remote unit to display its details panel.
- 2. In the Relays pane, assign a descriptive name to the relay.
- 3. From the State drop-down list, select Open or Closed.
- **4.** Click the yellow **Save** tool in the toolbar or press the **Enter** key on your keyboard to save all the changes in the page.

Editing Parameters

Note: Users logged in with the admins, superusers, or users role can set operating parameters.

Editing Parameters Individually for Each Component

1. In the **Physical Tree**, select the component to display its details panel.

Note: Fields that can be edited by users have a light-blue background.

2. Modify parameters.

When changes to editable fields are detected, both the field background and the Save tool turn yellow.

3. Click the yellow **Save** tool or press the **Enter** key on your keyboard to save changes.

Yellow Save	e tool					
There are u	nsaved changes in					
the webpag	ge. If you exit the					
page chang	jes will be discarded.					
	📩 Save	Advanced	🖨 Print 🛛 🐣	user	🕞 Logout	
1 Configuration	n read from device 2018-05-31 12:54	1:28				
	1.13.2 TDTPOI (TDTPOI-19 DAS TRAY PCS 1900 Dual	⊢D)				
Identification		Alarm summary	у			
Type hex	00002E	Communication	state		٠	
Model hex	00000000105	Max severity			•	
Version	10	Active Alarms			0	
Serial Number	140551357					/Input field
Description						Yellow background: not
Name	DasTray					yet saved change
Parameters						yet saved change
Preset	Dual SISO - LNA1 Current		Temperature [°C]	32,2	
Mains Fault	🔽 🌒 🔪 LNA2 Current		Low Temperat	ure		
	\backslash		High Temperat	ture		
	change	olue backgrour es or already sa				
	change	es				

Editing Parameters with the Massive Change Menu

You can set the parameters for the RF commissioning of points of interface (POIs) and remote units either individually, in each component panel (see "Editing Parameters Individually for Each Component" on the previous page), or globally, accessing the Massive Change Menu.

1. In the Settings menu, select Massive Change Menu. In the Massive Change Menu panel, active POIs and remote units are grouped by type. A Massive Change button is available for each component type.

	Massive Change Menu Global parameter setting for commissioning of Active Point of Interface (POI) and SDRU
TDTPOI Massive Change	I Marsive Change
Click to open the Massive	TAPOI List
change table for the	TLPPOI
TDTPOIs in the System	I Massive Change
	TLPPOI List TDTPOI Massive Change
TDTPOI List	
List of the TDTPOIs in the	- 111 ● 14.5 TDTPOI - 111 ● 1.4.8 TDTPOI
System with links to each	- # ● 1.4.11 TDTPOI - # ● 1.5.12 TDTPOI
module web page	

2. Select the **Massive Change** button to display the massive change table for all the components of the same type.

Note: A pop-up, indicating the progress of the loading process, may display.

If the process completes successfully, the pop-up closes, and the massive change table is displayed.

If the pop-up reports errors, click **Ok**. The massive change table is displayed, but changes to the components listed in the pop-up are disabled. Click the **Reload** button to reload information and enable changes.

	Massive Chang Massive Change fo										
Modules	0										
Q All Address	Q All	Q All Name	DL att [dB]	UL att [dB]	DL RMS power [dBm]	DL RMS min [dBm]	DL RMS max [dBm]	Pwr Limiter mode	Hysteresis [dB]	Save	1 Reload
<u>1.2.6</u>	TAPOI-DCS-F	TAPOI-DCS-F	24	20	-7.7	10	27	10 dB plus 🗸	1	Ł	S
<u>1.10.5</u>	TAPOI-AWF-F-4	TAPOI-AWF-F-4_58	30	30	-9.7	-4	11	10 dB isolated 🗸	2	*	S
<u>1.10.6</u>	TAPOI-AWS	TAPOI-AWS_59	31	31	-9.9	-5	10	10 dB plus 🗸	1	ᆂ	S
<u>1.10.11</u>	TAPOI-6-F-4	TAPOI-6-F-4_27	30	30.5	-6.3	-10	27	10 dB plus 🗸	1	*	ສ
<u>1.11.12</u>	TAPOI-9PP-F-4	TAPOI-9PP-F-4_17	14	28	-7.5	-5	35	10 dB isolated 🗸	5	*	S
1.12.12	TAPOI-SMR700H-F-4	TAPOI-SMR700H-F-4	30	44	-14.9	-15	20	10 dB plus 🗸	3	+	S

- 3. Set configuration and parameters for each component.
- **4.** Click the yellow save icon to save all changes for the module or place the cursor in any position in the row and press the **Enter** key on your keyboard.

NOTE: Changes must be saved for each module. A save icon is available for each row.

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Managing Devices

⊞			ive Change for TDTPO e Change for TDTPOI	I													
Address	Code	Preset	Name	Path	DL att mecc BTS [dB]	DL att dig BTS in [dB]	DL att dig DAS out [dB]	UL att dig BTS Main [dB]	UL att dig BTS Div [dB]	UL att dig DAS in [dB]	DL RMS	DL min RMS thrs [dBm]	DL max RMS thrs [dBm]	Pwr Limiter mode	Histeresys [dB]	Save	Reloa
• <u>1.1.2</u>	TDTPOI-23	Dual SISC 🔻	DAS Tray	1	0 • 15 •	0	0	0	0	0	-13 -16,2	-10 0	36 36	10 dB plus 🔻	2	*	C
Address			Modified se	ettin	g							Ye	ellow S	Save icon	/		_
Component position in the DAS and link to the component web pageYellow background: not yet saved changes									m pa	iodule age ch	re unsaved settings. I anges will e icon to s	f you exi l be igno	t the red.	he			

Creating and Managing Inventory Lists

Users logged in with the **admins** or **superusers** role can create inventory lists to store the current DAS configuration.

Prior to changing the DAS configuration and settings, JMA strongly recommends that you create a new inventory to back up the current configuration. See "Loading Device Configuration from Inventory" on page 54.

Note: Existing inventory lists are cleared when a new **Discovery full** is accepted. See "Discovering the DAS Components" on page 34.

Creating an Inventory List of the DAS Current Configuration

- 1. In the Settings menu, select Inventory.
- 2. In the Other Commands pane, click Create new inventory.

0	List of the modules of the system						
Selected Inv	ventory			Othe	er commands		
Select Invent	tory (UTC)			✓ ○	Create new inventory		
📩 Downloa	ad inventory (.cs	sv)		Û	Delete current		
📩 Downloa	ad web pages (.	tgz)					
Selected Inv	entory Table						
Address	Type hex	Model hex	Version	Vendor	Serial number	Commercial code	Info

Note: Inventory tasks, or web pages download, made by a user are shared with the other connected users, whose activity will stall until the operation is complete.

Selecting an Inventory List

- 1. In the Settings menu, select Inventory.
- 2. In the Selected Inventory pane, select a list from the Select Inventory (UTC) drop-down list. The selected inventory list displays in the Selected Inventory Table.

0		nventory .ist of the module	es of the sy	/stem			
Selected	Inventory				Other command	ls	
Select In	ventory (UT	C) 2017-11-	20,08:28::	29 🔻	o Create new	inventory	
📩 Dow	nload inver	ntory (.csv)			💼 Delete curre	nt	
📩 Dow	nload web	pages (.tgz)					
Selected	Inventory 1	able					
Address	Type hex	Model hex	Version	Vendor	Serial number	Commercial code	Info
0	0000FC	000000030A35	4.0.1	0	-	-	Details
<u>1.1.1</u>	00004A	000000000000000001	2	0	1007523004	TSPV-EBB	Details
1.1.3	000003	000000003231	14	0	1003546134	TTRU4W-S-M	Details
<u>1.1.3.1</u>	000036	00000000AF21	12	0	1001900001	T7S8SC8A19AWEDWDT	Details
1.1.5	000003	000000003231	14	0	1004189112	TTRU4W-S-M	Details
1.1.5.2	000024	000000002F09	11	0	1008256028	T7S8SC8A19AWEWVAS	Details
	000003	000000003231	14	0	1004185212	TTRU4W-S-M	Details
<u>1.1.7</u>							Detelle
<u>1.1.7</u> <u>1.1.7.1</u>	000024	000000002F09	12	0	1008194002	T7S8SC8A19AWEWVAS	Details
	000024 000024	000000002F09 000000002F09		0 0	1008194002 1008194012	T7S8SC8A19AWEWVAS	Details

After an inventory is selected:

- You can click **Download inventory (.csv)** to download the selected inventory list in csv (Comma Separated Value) format.
- You can click **Download Web Pages (.tgz)** to download a compressed file (.tgz format), containing the selected inventory list web pages. Extract files to a folder to browse offline web pages.
- In the green bar at the top of each device main panel, the **Inventory** button is available for authorized users to restore the device configuration from the selected inventory list. See "Loading Device Configuration from Inventory" on page 54.

Downloading Inventory Lists (csv Format)

1. When different inventory lists are available, select an inventory list from the **Select Inventory (UTC)** drop-down list. The selected inventory displays in the **Selected Inventory Table**.

List of the modules of the system							
Selecte	d Inventory				Other command	ls	
Select In	iventory (UT	°C) 2017-11-	20,08:28:1	29 👻	O Create new	inventory	
📩 Dov	vnload inver	ntory (.csv)			前 Delete curre	nt	
📩 Dov	vnload web	pages (.tgz)					
_	I Inventory 1						
Address		Model hex	Version	Vandor	Sorial number	Commercial code	Info
0	0000FC		4.0.1	0	-	-	Details
1.1.1	00004A	000000000000	2	0	1007523004	TSPV-EBB	Details
1.1.3	000003	000000003231	14	0	1003546134	TTRU4W-S-M	Details
1.1.3.1	000036	00000000AF21	12	0	1001900001	T7S8SC8A19AWEDWDT	Details
1.1.5	000003	000000003231	14	0	1004189112	TTRU4W-S-M	Details
1.1.5.2	000024	000000002F09	11	0	1008256028	T7S8SC8A19AWEWVAS	Details
1.1.7	000003	000000003231	14	0	1004185212	TTRU4W-S-M	Details
	000003 000024		14 12	0 0	1004185212 1008194002	TTRU4W-S-M T7S8SC8A19AWEWVAS	Details Details
1.1.7			12	-			

2. Click **Download inventory (.csv)** to download the selected inventory list in csv (Comma Separated Value) format.

Downloading Inventory Lists (Web Pages)

- 1. When different inventory lists are available, select an inventory list from the **Select Inventory (UTC)** drop-down list. The selected inventory displays in the **Selected Inventory Table**.
- 2. Click **Download Web Pages (.tgz)** to download a compressed file (.tgz format), containing the selected Inventory list web pages.
- 3. Extract files to a folder to browse offline web pages.

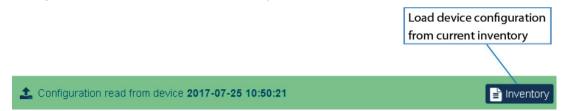
Loading Device Configuration from Inventory

In the green bar at the top of each device main panel, the **Inventory** button allows users with **admins** or **superusers** role permissions to restore the device configuration from a previously generated inventory list, as follows:

1. In the **Physical Tree**, select the device.

A colored bar displays at the top of the main panel. A green bar indicates that the configuration of the component is read from the device.

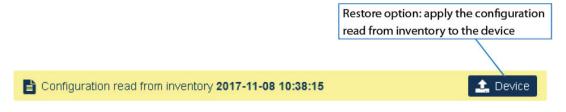
If a previously generated inventory is selected, an **Inventory** button is available to load the device configuration from the selected Inventory.



Note: For details on generating and selecting inventory lists, refer to "Creating and Managing Inventory Lists" on page 51.

2. Click the Inventory button to upload the device configuration from the selected inventory list.

The green bar turns yellow to indicate that the configuration of the component, displayed on the main panel, is read from the inventory list.



Note: When different Inventory lists are available, the configuration is uploaded from the list selected in the **Select Inventory (UTC)** drop-down list on the **Inventory** panel.

3. Click the **Device** button to apply the configuration read from the selected inventory (restore option).

Power Cycling a Remote Unit

Note: Users logged in with the admins, superusers, or users role can power cycle remote units.

- 1. In the **Physical Tree**, select the remote unit to display its details panel.
- 2. Click the Reset button to power cycle the unit.

			\$	Save 🏟 Advanced 🔒 Prin	t 🔒 admin 🕞 Logout	
	O Mobile World Congress DAS	2. Configuration read from device 2	023-07-26 12:44:28			
Selected Remote	- III Subrack - J III PsU - J I		1.2.1.2 NG RU (I Remote Unit Box 1B C	RD35TWW2AT) -BAND 3700-3980 MHz, 40W, M2x1	≿, AC, 4.3-10	
Unit	L III 🔴 12 Subrack	Identification		Alarm summary		
	L ≓ ● 121 NG OTRX	Type hex	00005E	Communication state	•	
	1212 RD35TWW2AT	Model hex	000000000C1	Max severity	•	
		Version	1.1.0.36	Active Alarms	1	
		Serial Number	1038815002			
		Description				
		Name	RD35TWW2AT			
		Description	New Generation RRU			
		Parameters				
		Board temperature ['C] 41	6 Low Temperature	Clock Dist	nibutor Unlock	 Reset button
		Core temperature ['C]	High Temperature	TDD Unloc	*	Click the button
		Temperature Minor	Mains Fault	C Reset		
		Temperature Warning	Init Failure	•		to power cycle
		Link			,	the remote unit
		Opt. Link state LC fib	 Opt. Power Tx [dB 	m] -2.5 RU addr.	fe80::1a45:b3ff.fe90:710	selected in the
		SFP Temperature ["C]	53 Opt. Power Rx [dB	im] -9.9 Loss of Sy	nc 🔴	Physical Tree.
		Channel C-BAND M1				
		RF Enable		Pwr DL [dBm]	-100	
	Settings v	Attenuation UL [dB]	0	Attenuation DL [dB]	0	
	Services and Security	C-BAND M1 UL Current	•	C-BAND M1 DL Power Low	•	
	Notifications	C-BAND M1 UL ALC	•	C-BAND M1 DL Power High	•	
	© Communication			Other alarms	•	
	Alarm Log	Channel C-BAND M2				
	😴 Event Log	RF Enable		Pwr DL [dBm]	-100	
	Obtaine Obtaine	Attenuation UL [dB]	0	Attenuation DL [dB]	0	
	Q Discovery	C-BAND M2 UL Current	•	C-BAND M2 DL Power Low	•	
	inventory	C-BAND M2 UL ALC	•	C-BAND M2 DL Power High	•	
	Massive Change Menu			Other alarms	•	
	G Support					
	🛛 WAN 😑 LAN 🍙 VPN			O Help O	2023-07-26 13:04:44 (Local)	1

Enabling or Disabling RF for the Remote Unit Downlink Path

Note: Users logged in with the admins, superusers, or users role can enable or disable RF.

- 1. In the **Physical Tree**, select the remote unit to display its details panel.
- 2. In the channel pane, select the RF Enable check box to enable downlink RF output for the channel.

			Ŧ	Save 🏟 Advanced 🔒 Print 🛔 admin	€ Logout
	Mobile World Congress DAS	Configuration read from device	e 2023-07-26 12:44:28		
Selected Remote	- III 0 11 Subrack - ₩ 111 TPSU - ₩ 112 TPSU - ₩ 113 TPSU		1.2.1.2 NG RU (R Remote Unit Box 1B C-l	RD35TWW2AT) BAND 3700-3980 MHz, 40W, M2x2, AC, 4.3-10	
Unit	U = 12 Subrack U = 121 NG OTRX	Identification		Alarm summary	
	121 ROSTWW2AT 1211 ROSTWW2AT 1211 ROSTWW2AT	Type hex Model hex Version	00005E 000000000C1 1.1.0.36	Communication state Max seventy Active Alarms	1
		Serial Number	1038815002		
		Description			
		Name	RD35TWW2AT		
		Description	New Generation RRI I		
		Parameters			
		Board temperature ['C]	41.6 Low Temperature	Clock Distributor Unlock	•
		Core temperature ['C]	41 High Temperature	TDD Unlock	•
		Temperature Minor	Mains Fault	C Reset	
		Temperature Warning	Init Failure	•	
		Link			
		Opt. Link state LC f	ib V Opt. Power Tx [dBn	n] -2.5 RU addr. fe80::1a45:b3	iff.fe90:710
		SFP Temperature ['C]	53 Opt. Power Rx [dBn	n] -9.9 Loss of Sync	•
		Channel C-BAND M1			
		RF Enable		Pwr.DL.[dBm]	-100 RF Enable
	Settings	 Attenuation UL [dB] 	0	Attenuation DL [dB]	Checkbox
	Services and Security	C-BAND M1 UL Current	•	C-BAND M1 DL Power Low	
	Notifications	C-BAND M1 UL ALC	•	C-BAND M1 DL Power High	Select the R
	© Communication			Other alarms	Enable chee
	Alarm Log Event Log	Channel C-BAND M2			box to enab
	Users	RF Enable		Pwr DL [dBm]	100
	 Date and Time 	Attenuation UL [dB]	0	Attenuation DL [dB]	downlink R
	Q Discovery	C-BAND M2 UL Current	•	C-BAND M2 DL Power Low	 output for t
	o Inventory	C-BAND M2 UL ALC	•	C-BAND M2 DL Power High	 specific cha
	Massive Change Menu Support			Other alarms	 of the select
	Support				remote unit

3. Click the yellow **Save** tool in the toolbar or press the **Enter** key on your keyboard to save changes.

Managing Accounts

This section describes how to manage your own account (all users) and create and edit other user accounts (users logged in with the **admins** user role).

Changing Your Password and Username

1. In the **Toolbar**, click the user name of the account currently logged in to open the **Edit User** panel.

	User age single user parameters			
User information				
User name	guest	User role	guests	٣
Password for login and SN	IMPv3 authentication	Password for SNMPv3 priva	су	
SNMPv3 Authentication	SHA	 SNMPv3 Privacy 	AES	•
Current Auth Password		Current Privacy Password		
Auth Password		Privacy Password		
Confirm Auth Password		Confirm Privacy Password		
Note: Admins: total control over all Superusers: control over all p Users: control over modules Guests: can read but not edit	arameters but users table parameters, no SPV			

- 2. In the User Information pane, change your user name.
- **3.** In the **Password for login and SNMPv3 authentication** pane, change your password to access the application. See "Password Requirements" below. Change your own *Password for login and SNMPv3 authentication* and *Password for SNMPv3 privacy*.

Password Requirements

Passwords must be at least eight characters long and must contain characters from the following categories:

- lowercase letters (a through z)
- uppercase letters (A through Z)
- base 10 digits (0 through 9)

The user's input validation feature warns users if invalid characters are entered and details what input is expected for the field.

Managing Users

Users with admins role permissions can manage their own account and other user accounts.

Editing and Deleting Existing Accounts

- 1. In the Settings menu, select Users to open the Users panel.
- 2. In the User table, click Edit to edit accounts.
- 3. Click **Delete** to delete accounts.

NOTE: At least one account with administrative permissions (admins role) must be present and cannot be deleted.

Users List all information about the users of the system							
User informa	ation			C	commands		
Your name			admin		Add new user		
Your role			admins				
User table							
Username	Community	SNM	Pv3 Authentication		SNMPv3 Privacy	Edit	Delete
admin	admins	SHA			AES	💉 Edit	
guest	guests	SHA			AES	💉 Edit	🋃 Delete
superuser	superusers	SHA			AES	💉 Edit	🋃 Delete
user	users	SHA			AES	💉 Edit	🋃 Delete
Info		1			1		
Admins: total of Superusers: c Users: control	control over all para ontrol over all parar over modules para ead but not edit para	meters but u meters, no S	SPV				

Adding a New User

- 1. In the Settings menu, select Users to open the Users panel.
- 2. In the Commands pane, click Add new user.
- 3. Enter the new user name in the User name field.

	new User a new user account			
User information				
User name		User role	users •	
Password for login and SN	IMPv3 authentication	Password for SNMPv3 privacy		
SNMPv3 Authentication	SHA 🔻	SNMPv3 Privacy	AES 🔻	
Auth Password		Privacy Password		
Confirm Auth Password		Confirm Privacy Password		
Note: Admins: total control over all Superusers: control over all p Users: control over modules Guests: can read but not edit	arameters but users table parameters, no SPV			

4. Select a role for the new user from the User role drop-down list.

The following table lists the capabilities associated with each role and the factory-set username and password for each role:

User Role (Community)	Factory-set Username and Password	Capabilities
admins	User name: admin Password: Password1	Total control over all parameters.
superusers	User name: superuser Password: Password1	Control over all parameters except users table.
users	User name: user Password: Password1	Control over modules parameters, no supervision (SPV).
guests	User name: guest Password: Password1	Can read but not edit parameters of the system (read-only user).

5. Enter the user's password for login and SNMPv3 authorization twice, both in the **Auth Password** field and in the **Confirm Auth Password** field.

Password Requirements

Passwords must be at least eight characters long and must contain characters from the following categories:

- lowercase letters (a through z)
- uppercase letters (A through Z)
- base 10 digits (0 through 9)

The user's input validation feature warns users if invalid characters are entered and details what input is expected for the field.

Setting the Network Configuration

This section describes how to:

- Set the supervision module remote communication interfaces. See "Setting the Supervision Module Communication Interface for Remote Management" below.
- Test the network connection. See "Testing the Network Connection" on page 63.
- Set the network security. See "Setting the Network Security" on page 64.
- Set the date and time of the system. See "Setting the System Date and Time" on page 65.

Setting the Supervision Module Communication Interface for Remote Management

Note: The following configuration options are available for users logged in with the **admins** or **superusers** role.

Setting the WAN Interface

- 1. Contact the Network Administrator to get the parameters for the configuration of the supervision module WAN interface.
- 2. In the Settings menu, select Communication.
- **3.** In the **WAN Parameters** pane, select the IP (Internet Protocol) version, IPv4 or IPv6, from the *IP version* drop-down list.

Note: To avoid connection issues, JMA strongly recommends to switch from IPv4 to IPv6, or vice versa, only when connected locally to the supervision module LAN port.

	Communication Communication parameters configuration					
WAN Parameter	S					
MAC Address	9C:53:CD:03:11:9D	Wan State	•			
IP Version	IPv4 🗸	Netmask	255.255.255.0			
IPv4 Address	10.150.4.192	Gateway IPv4	10.150.4.253			
DNS Address		MTU	1500			

- 4. Enter the information provided by the Network Administrator to configure the connection.
- 5. Set the WAN *MTU*, Maximum Transmission Unit size, if necessary.
- 6. Click the yellow **Save** tool in the toolbar or press the **Enter** key on your keyboard to save all the changes in the page and allow redirection to the new IP address.
- 7. Connect the Wide Area Network (WAN) to the supervision module WAN port, to allow the remote management of the DAS.

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Setting the Network Configuration



Caution: Never connect the Wide Area Network to the LAN port. The DHCP server, running on the LAN port, may cause connectivity issues in the Wide Area Network.

Setting the Wireless WAN Interface (Modem)

- 1. In the Settings menu, select Communication.
- 2. In the **Modem Parameters** pane, select the **Modem preferences** button to access the modem configuration parameters.

Note: To reboot the modem and restart the WWAN connection, click the **Modem commands** button. A simple terminal for sending AT commands to the modem is also available.

3. Configure the wireless connection and APN preferences.

	em Preferences ge modem configuration		
SIM card settings			
IMSI	222015704125498	A Lock SIM	
ICCID	89390100002242746893		
Mobile connection settings			
Data connection enabled	2	MTU	1500
APN profile	Operator 🗸	Use IPv4 only	
APN preferences		Long SMS allowed	
Service mode	Auto 🗸	WWAN Internet test	
Preferred technology	3GPP 🗸	WWAN Internet test time peri	300

- 4. Select the Data connection enabled check box to enable the wireless connection.
- 5. Click the yellow **Save** tool in the toolbar or press the **Enter** key on your keyboard to save changes.

Setting the VPN

The VPN Client available on the supervision module allows a secure access to the DAS over unsecured networks (such as the Internet).

VPN Parameters				
VPN enabled		✓	VPN State	•
Server IPv4 address	46.44.238.53		IPv4 Address	10.96.0.3
Server port		1196	Netmask	255.255.0.0
VPN Device		tun0 🗸	MTU	1500
1 Upload VPN keys				

- 1. In the Settings menu, select Communication.
- 2. Select the VPN Device type (Tap or Tun).
- 3. Enter the VPN server IPv4 address and port.
- 4. Set the VPN MTU, Maximum Transmission Unit size, if necessary.
- 5. Upload VPN keys (Certification Authority, Client Certificate, Client Key), if needed.
- 6. Select the VPN enabled check box to enable the VPN connection.
- 7. Click the yellow **Save** tool in the toolbar or press the **Enter** key on your keyboard to save all the changes in the page and apply the new VPN settings.
- 8. Check that the VPN State icon turns green within a few seconds.

Note: The IP Address allocated by the VPN Server to the VPN Client is displayed in the IPv4 Address field.

Testing the Network Connection

Note: The following configuration options are available for users logged in with the **admins** or **superusers** role.

You can set up to five IP Addresses to periodically test the network connection as follows:

- 1. In the Settings menu, select Communication.
- 2. In the Ping settings pane, set the Ping interval between ping attempts.

Note: The ping interval is set as a global ping configuration option.

- 3. In the Ping Address Table, select the connection to be tested from the Interface drop-down list.
- 4. Set the IP Address for the network connectivity test.
- 5. Select the Enabled check box.
- 6. Click the yellow Save tool in the toolbar or press the Enter key on your keyboard to save changes.

Note: JMA recommends that you set at least one IP address always available because if the ping test fails, the network interface will be restarted.

An example of the **Ping Address Table** with configured IPv4 addresses is shown in the following figure:

Ping settings				
Ping interval (minutes)	1			
Ping Address Table				
	Ip Address	Interface		Enabled
	10.150.5.171	wan	~	
	192.168.0.5	wan	~	
	192.168.1.123	wan	~	
	8.8.8.8	wwan	~	
	192.168.0.5	wwan	~	

An example of the **Ping Address Table** with configured IPv6 addresses is shown in the following figure:

Ping settings			
Ping interval (minutes)	10		
Ping Address Table			
lp Address		Interface	Enabled
2002:c000:203::4		eth0	-
2002:c000:203::5		eth0	-
		eth0	-
		eth0	-
::		eth0	-

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Setting the Network Security

Note: The following configuration options are available for users logged in with the **admins** or **superusers** role.

- 1. In the Settings menu, select Services and Security.
- **2.** Enable or disable network services to set the appropriate security level for the supervision module communication interfaces.

In the **Services** table, colored icons indicate the security level of each service:

- Orange: unsafe service.
- Cyan: safe but not necessary service.
- Green: safe service.

In the **Security overview** pane, the color-coded icon provides an at-a-glance view of the network security status.

- 3. Enable or disable incoming ping for the supervision module communication interfaces.
- 4. Click the yellow Save tool or press the Enter key on your keyboard to save all the changes in the page.

Setting a Secure Network

1. For a secure network, configure services as shown in the following figure:

Services an	ork services and ports configuration	n				
Firewall		Security of	overview			
Firewall active	•	Current si	tuation	•		
Services						
Service	Protocol		Port	Security		
File Transfer	SFTP	~	22			
Shell mode	SSH	~	22			
Web access	HTTPS	\sim	443			
SNMP	SNMPv3	~	161			
Tunnel	Tunnel	~	5556			
Incoming Ping						
h	nterface		Allowed			
	WAN					
	LAN		2			
VPN						
SNMP						
Alarm table entries	Active + Ceased V					

2. Click the yellow **Save** tool in the toolbar or press the **Enter** key on your keyboard to save changes. **Note:**

If the *Tunnel* is disabled (OFF), the DAS cannot be managed via JMA OMC nor can Software Defined Remote Units (SDRUs) feature configuration and licensing be performed via the SDRU Panel.

The web server accepts only Secure HTTP (HTTPS) connections: make sure to use port 443 to communicate with the supervision module.

Setting the System Date and Time

Note: The following configuration options are available for users logged in with the **admins** or **superusers** role.

- 1. In the Settings menu, select Date and Time.
- 2. From the Synch Mode drop-down list, select the synchronization mode:
 - **a** Select *No synch* to manually set the DAS date and time.

In the Change board time pane, enter the board date and time in Local Time Standard.

0	Date and Time Date, Time and Synchronization settings				
Synch mode		Change board time			
Synch Mode	No synch 💌	Date (yyyy-mm-dd)	2017-10-04		
		Time (hh:mm:ss)	19:49:16		

- **b** Select *NTP* to enable and configure the automatic clock synchronization service.
 - Enter the NTP Server IP address in the NTP Server field.
 - In the Synch Interval field, set the time interval (minutes) between automatic time synchronization.
 - Click **Synchronize now** to check the NTP Server availability.

0	Date and Time Date, Time and Synchronization settings			
Synch mode		NTP Settings		
Synch Mode	NTP 🔻	NTP Server	10.150.0.56	
		NTP Port	123	
		Synch Interval (min)	60	
		Synchronize now		

3. Click the yellow **Save** tool in the toolbar or press the **Enter** key on your keyboard to save changes.

Appendix - Description of the Main Panels of the DAS Components

This section describes the main panels of the different components that can be managed by the DAS supervision module.

When you select a node from the **Physical Tree**, the main panel provides detailed information about the selected component. When you select the root node, the **System** panel provides information about the supervision module and the entire managed system.

In main panels, users are allowed to set preferences and operating parameters based on the capabilities associated with their role. See page 7 for more information about the capabilities associated with each role.

System Panel

The System panel includes all the DAS components managed by the supervision module.

System-Name					
E MasterUnit	System				
	Global Syste	m Configuration			
- ₩ ● 1.1.1 TTRUPTPMW-S_01 - ₩ ● 1.1.3 TTRUPTPMW-S					
- 11.6 DAS TRAY 25_35LL	Custom departintion				
- 02 0 1.1.8 TSPV-NLMBB	System description				
- 📕 🕒 1.1.10 TSYNC	Name	System-Name			
L	Description	System-Description			
	0.0.0		Out and and the second		
- ≓ ● 1.2.1 TTRUPTPMW-S_12 - ▼ ● 1.2.3 TDFE-7SH_61	Software details		System preferences		
- 11 126 TAPOI-DCS-F	Kernel Version	3.10.53	Temperature unit		Celsius 🔻
- 📕 🕒 127 TSYNC	Ramdisk	1.1.1	Alarm summary		
- ≓ ● 1.2.9 TTRUPTPMN23-S	Application version	4.3.0	Max severity		
L L	Application build	2023-04-12, 12:33:20, UTC	Active alarms		
L 🗢 🚺 1.3.1 TSFE (UMTS 2100)					
- III 🕒 1.4 Subrack	Configuration version	4.3.0-202304121433	Uptime		
L 🔆 🕒 1.4.1 TFAN			Uptime 4 da	ays, 17 hours, 10 minutes, 21	seconds
- Ⅲ ● 1.5 Subrack └ 🖌 ● 1.5.12 SUB-PSU	WAN parameters		LAN parameters		
- 110 Subrack					
- ≓ ● 1.10.1 MU-OTRX	Wan State	•			
-	IPv4 Address	10.150.5.217	IP Address	192.168.1.100	
- †↓† ● 1.10.5 TAPOI-AWF-F-4_58 - †↓† ● 1.10.6 TAPOI-AWS_59	MAC Address	9C:53:CD:02:A8:2F	Interface Enabled		
0 1.10.9 MU-OTRX	Disk info		RAM info		
L 🗢 🕒 1.10.9.1 TRL8SC1925AT_					
- 1.10.11 TAPOI-6-F-4_27	Disk Total [MB]	1965	Ram Total [MB]		49
	Disk Used [MB]	27	Ram Used [MB]		22
- ● 1.11 Subrack - → → ● 1.11.1 MU-OTRX	Disk Available [MB]	1819	Ram Available [MB]		27
└ 🗢 🕒 1.11.1.3 TRX7C89182126AT_	-		III Memory trend		
lings	v				
Services and Security	Modem parameters				
	Operator	WINDTRE	Modem State		(
Notifications	IP Address	10.21.181.53	WWAN State		
Communication	More info				
Alarm Log	T More into		Modern preferences		
Event Log			>_ Modern commands		
Users	VPN parameters		Commands		
Date and Time	VPN State		C Reboot board		
Discovery		40.00 0.047			
Inventory	IP Address	10.96.0.217	C Restart processes	_	
Massive Change Menu			C Restore factory setting	IS	
Support					

The **System** panel includes the following information:

- System Name and Description Users with admins or superusers role permissions can modify the system name and description. See "Modifying the System Name and Description" on page 39.
- **Software Details** Kernel Version, Ramdisk, Application version and build, Configuration version.
- **Uptime** Amount of the Supervision module (TSPV) uptime.

- Disk and RAM Info Supervision module (TSPV) hard disk and RAM details.
- **System preferences** Users with the **admins** or **superusers** role permissions can set temperatures to display either in Fahrenheit or Celsius.
- WAN parameters Status and settings of the Ethernet WAN (Wide Area Network) Interface.
- LAN parameters Status and settings of the Ethernet LAN (Local Area Network) Interface.
- Modem parameters Modem and WWAN (Wireless Wide Area Network) status and settings. The Modem preferences button is available for all users to view the mobile connection settings and for users with admins or superusers role permissions to configure the wireless connection. The Modem commands button is available for users with admins or superusers permissions to reboot the modem and restart the WWAN connection.
- VPN Parameters Status and settings of the VPN connection.
- Alarm Summary Summary of the system current alarm status, detailing the maximum severity level (color-coded icon) and the total number of alarms currently active in all managed components.

The **Reboot board**, **Restart processes**, and **Restore factory settings** buttons are available for users with the **admins** or **superusers** role permissions.

Master Unit Panel

The Master Unit is a container for all the DAS components managed by the supervision module.

	1 MasterUnit Master unit rack	
Description		Alarm summary
Address	1	Max severity Active alarms 7

The Master Unit panel provides the following information:

- Description
 - Address Position of the master unit in the DAS.
- Alarm Summary

The **Alarm Summary** pane of the **Master Unit** panel provides the same information available in the **Alarm Summary** pane of the **System** panel:

- *Max severity* Maximum severity of the alarms active in the DAS.
- Active alarms Number of the alarms active in the DAS.

Subrack Panel

The **Subrack** is a container for the components, both sub-racks and modules, managed by the DAS supervision module. A panel is available for each active sub-rack equipped in the DAS.

	1.8 Subrack Subrack for the Optical Modules	
Description		Alarm summary
Address	1.1	Max severity Active alarms 4

The **Subrack** panel provides the following information:

- Description
 - Address Position of the sub-rack in the DAS.
- Alarm Summary
 - Max severity Maximum severity of the alarms active for the sub-rack.
 - Active alarms Number of the alarms active for the sub-rack.

SUB-PSU Panel

1 Configuration read from	n device 20	018-05-19 13:27:39			
1.2.12 SUB-PSU (SUB-PSUN-MU) Subrack Power Supply for MU AC 2xTPSU/AC-30-1K					
tonologo Gaol					
Identification			Alarm summary		
Type hex		000025	Communication s	itate 🔴	
Model hex		00000000215	Max severity	•	
Version		7	Active Alarms	0	
Serial Number		1006916001			
PSU-1		PSU-3			
Temperature [°C]	32,4	Temperature [°C]	32,4		
Current [A]	0	Current [A]	6,05		
Temperature 1	•	Temperature 3	•		
Output Current 1	•	Output Current 3	•		
AC Input Voltage 1	٠	AC Input Voltage	3 🔴		
DC Output Voltage 1	•	DC Output Voltag	je 3 🛛 🔴		
Fan Fail 1	•	Fan Fail 3	•		
Communication 1	٠	Communication 3	•		
Vout and reset					
Vout [V]	30,2			CReset	
Vout Alarms					
Output Voltage 1	٠	Output Voltage 5	٠	Output Voltage 9	
Output Voltage 2	•	Output Voltage 6	•	Output Voltage 10	
Output Voltage 3	٠	Output Voltage 7	•	Output Voltage 11	
Output Voltage 4	•	Output Voltage 8	•	Output Voltage 12	

The SUB-PSU panel provides the following information about the rack-mount power supply unit:

- Identification
 - Type hex (hexadecimal notation)
 - Model hex (hexadecimal notation)
 - Version
 - Serial Number

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Alarm Summary

- Communication state
- Max severity Maximum severity of active alarms
- Active Alarms Number of active alarms
- **PSU-1**, **PSU-2**, **PSU-3** Detected *Temperature* and *Current*, and status of the alarms of each power supply module equipped inside the SUB-PSU sub-rack.
- Vout and reset Equipment output voltage (*Vout*) and *Reset* button.

Note: The *Reset* button is available for users logged in with the **admins**, **superusers**, or **users** role to reset the whole Master Unit. The supervision module will be unavailable while the reset is in progress.

• Vout Alarms – Alarm status of each Vdc output.

TFAN Panel

🛕 Configuration read fro	m device 2018-06-01	10:07:17	,		
	1 TFAN (TFAN-19 Pack 19' 1U with 4 Far				
Identification			Alarm sum	mary	
Type hex	00	001D	Communica	ation state	•
Model hex	0000000)2001	Max severit	у	•
Version		1 Active Alarms			
Serial Number	12122	121227060			
Parameters					
Temperature [°C]	33,5 Mains Fa	ault		•	
Low Temperature					
High Temperature	•				
Fan Cooler					
Fan Speed	•				
Measure	Fan 1		Fan 2	Fan 3	Fan 4
Speed Set [%]	60	60		60	60
Speed Read [rpm]	3750	3650		3750	3700

The **TFAN** panel includes the following information about the forced-air cooling unit:

- Identification
 - Type hex (hexadecimal notation)
 - Model hex (hexadecimal notation)
 - Version
 - Serial Number
- Alarm Summary
 - Communication state
 - Max severity Maximum severity of active alarms
 - Active Alarms Number of active alarms
- Parameters
 - Detected Temperature,
 - Status of the Low Temperature, High Temperature, and Mains Fault alarms.

Fan

- Status of the Fan Speed alarm.
- Speed Set [%] Rotational speed set for each fan.
- Speed Read [rpm] Actual fan rotation speed (revolutions per minute) of each fan.

TSPV Panel

		8-08 10:08:5							
	1	.1.11 TSP	V (TSPV-I	NBB)					
	Su	pervision moo	dule with Bat	ttery Backup					
Identification				Alarm su	mmary				
Type hex			00004A	Communi	cation st	ate			
Model hex		00000	00000101	Max seve	rity				
Version			9	Active Ala	irms				0
Serial Number		10 ⁻	11737003						
Parameters									
Name	System					Temperatu	ure [°C]		39
Description						Mains Abs	ence		
External alarms									
Ν	lame		Sev	erity		Polarity	E	Enable	State
			warn	-		active-low	~		•
			warn	•		active-low active-low	~		-
			warn warn	-		active-low	~		
Relays					_				
Name				Policy			NC/NO	St	ate
				Manual		~		OPE	EN
				Manual		~		OPE	
				Manual		~		OPE	EN

The **TSPV** panel includes the following information about the system supervision module:

Identification

- Type hex (hexadecimal notation)
- Model hex (hexadecimal notation)
- Version
- Serial Number
- Alarm Summary
 - Communication state
 - Max severity Maximum severity of active alarms
 - Active Alarms Number of active alarms
- Parameters
 - Supervision module Name and Description. Users logged in with the admins, superusers, or users role can assign a name and add a description. See "Assigning Names to the DAS"

Components" on page 40.

- Detected Temperature.
- Status of the Mains absence alarm.

Note: The *Mains absence* alarm is available only when the Supervision module is equipped with the battery backup option.

- External Alarms Alarm status of the external devices connected to the supervision module EXT IN input. Users logged in with the admins, superusers, or users role can enable or disable each external alarm, and set the external alarm name, severity, and polarity. See "Setting External Alarms and Relays" on page 45.
- Relays External outputs name and logic. Users logged in with the admins, superusers, or users role can switch external outputs either manually or automatically. See "Relays" on page 46.

Alarm Board Panel

1 Configuration rea	ad from devi	ce 2020-02-06 08:45:44				
		AlarmBoard (TEA-I16) Alarm Module with 16 inputs				
Identification				Alarm summary		
Type hex		000	019	Communication state		
Model hex		00000000	001	Max severity		
Version			2	Active Alarms		0
Serial Number		140535	057			
Descenter						
Parameters						
Low Temperature		High Tempera	ture	•	Mains Fault	•
External alarms						
	Name	E	nable	Severity	Polarity	State
				warning •	active-high •	
				warning •	active-high •	
				warning •		
				warning •	0	•
				warning •		•
				warning •	3	•
				warning •		•
				warning •	5	•
				warning v warning v		•
				warning •	_	
				warning •		
				warning •	_	•
				warning •	active-high •	•
				warning •		•
				warning •		•

The **Alarm Board** panel includes the following information about the optional module that can be equipped in the DAS system to increase the number of supported external alarms:

- Identification
 - Type hex (hexadecimal notation)
 - Model hex (hexadecimal notation)
 - Version
 - Serial Number
- Alarm Summary
 - Communication state

- Max severity Maximum severity of active alarms
- Active Alarms Number of active alarms

Parameters

Status of the Low Temperature, High Temperature, and Mains Fault alarms.

 External Alarms – Alarm status of the external devices connected to the alarm board EXT IN input. Users logged in with the admins, superusers, or users role can enable or disable each external alarm, and set the external alarm name, severity, and polarity. See "Setting External Alarms and Relays" on page 45.

TPSU Panel

1 Configuration rea	ad from	device 20	018-05-25 13:04:17			
		10 TPSI Supply Un	J (TPSU/AC) hit AC			
Identification				Alarm summary		
Type hex			000002	Communication s	tate	•
Model hex			0000000000000001	Max severity		•
Version			3	Active Alarms		0
Serial Number			81063018			
Temperature			Current		Voltage	
Temperature [°C]		46	Current [A]	1,58	Vout [V]	28,5
Low Temperature		•	Output Current	•	Output Voltage	•
High Temperature		•				

The **TPSU** panel includes the following information about the power supply module (TPSU/AC or TPSU/48):

- Identification
 - Type hex (hexadecimal notation)
 - Model hex (hexadecimal notation)
 - Version
 - Serial Number
- Alarm Summary
 - Communication state
 - Max severity Maximum severity of active alarms
 - Active Alarms Number of active alarms
- Temperature
 - Detected Temperature.
 - Status of the Low Temperature and High Temperature alarms.
- Current
 - Detected Output Current.
 - Status of the Output Current alarm.
- Voltage
 - Detected Output Voltage (Vout).
 - Status of the *Output Voltage* alarm.

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TDTPOI Panel

	2 TDTPOI (TDTPOI-7SL-E))	
AND ADD ADD ADD ADD ADD ADD ADD ADD ADD	RAY SMR 700 Low Dual	~,	
Identification		Alarm summary	
Type hex	00002E	Communication state	
Model hex	00000000113	Max severity	
Version	10	Active Alarms	C
Serial Number	131705001		
Description			
Name			
Parameters			
Preset Dual SISO	 LNA1 Current 	Temperature [°C	24,5
Mains Fault	LNA2 Current	Low Temperatur	re 🛛
		High Temperatu	re
Attenuations (Path 1)			
Dig Bts Main UL [dB]	8	Mec BTS DL [dB]	0 •
Dig Bts Div UL [dB]	3	Dig Bts In DL [dB]	17
Dig Das In UL [dB]	4	Dig Das Out DL [dB]	0
		Protection	
Powers readings (Path 1)			
Rms Pwr Div UL [dBm]	-51,6	Rms Pwr DL [dBm]	-10,3
Enable LNA		Thr Min Rms Pwr DL [dBm]	0
UI Pwr Reading	diversity <	Thr Max Rms Pwr DL [dBm]	26
		Pwr Rms Min DL1	
		Pwr Limiter DL1	
		Pwr Overdrive DL1	
Attenuations (Path 2)			
Dig Bts Main UL [dB]	25	Mec BTS DL [dB]	5 🔻
Dig Bts Div UL [dB]	25	Dig Bts In DL [dB]	17
Dig Das In UL [dB]	0	Dig Das Out DL [dB]	0
		Protection	
Powers readings (Path 2)			
Rms Pwr Div UL [dBm]	-50,7	Rms Pwr DL [dBm]	-11
Enable LNA	di una situ	Thr Min Rms Pwr DL [dBm]	0
UI Pwr Reading	diversity •	Thr Max Rms Pwr DL [dBm]	35
		Pwr Rms Min DL2 Pwr Limiter DL2	
		Pwr Overdrive DL2	
Power limiter			
	Power Limiter Moo	de RF OI 🔻 Pwr Alarm Hyst	[dB] 3
	Tower Limiter Mod	Fwi Aidiff Hyst	
Fans			

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Appendix - Description of the Main Panels of the DAS Components

The **TDTPOI** panel includes the following information about the selected DAS Tray Point of Interface:

- Identification
 - Type hex (hexadecimal notation)
 - Model hex (hexadecimal notation)
 - Version
 - Serial Number
- Alarm Summary
 - Communication state
 - Max severity Maximum severity of active alarms
 - Active Alarms Number of active alarms
- Description TDTPOI Name.

Users logged in with the **admins**, **superusers**, or **users** role can assign a name to the TDTPOI. See "Assigning Names to the DAS Components" on page 40.

- Parameters
 - Preset The Preset drop-down list shows the selected TDTPOI operation mode.

When multiple options are available, users with the **admins**, **superusers**, or **users** role can select the TDTPOI proper operation mode: *Dual SISO, UMTS Div, GSM Div*, or *MIMO 2x2*. Refer to the *JMA DAS Platform Local Commissioning User Guide, RF Commissioning of Points of Interface and Remote Units* section.

- Detected Temperature.
- Status of the Mains Fault, LNA1 Current and LNA2 Current, Low Temperature, and High Temperature alarms.
- Attenuations Path 1 Downlink and Uplink attenuations for path 1. Users logged in with the admins, superusers, or users role can set attenuations.
- Powers Readings Path 1
 - Detected Downlink rms Power (*Rms Pwr DL*), detected Uplink rms Power (*Rms Pwr Main UL* or, when the UL Pwr Reading menu is available and diversity is selected, *Rms Pwr Div UL*).
 - Enable LNA check box.
 - Thr Min Rms Pwr DL and Thr Max Rms Pwr DL Minimum and maximum rms input power thresholds. Users logged in with the admins, superusers, or users role can set the thresholds.
 - Status of the Pwr Rms Min DL 1, Pwr Limiter DL 1, and Pwr Overdrive DL 1 alarms.
- Attenuations Path 2 Downlink and Uplink attenuations for path 2. Users logged in with the admins, superusers, or users role can set attenuations.
- Powers Readings Path 2
 - Detected Downlink rms Power (Rms Pwr DL), detected Uplink rms Power (Rms Pwr Main UL or, when the UL Pwr Reading menu is available and diversity is selected, Rms Pwr Div UL).
 - Enable LNA check box.

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- Thr Min Rms Pwr DL and Thr Max Rms Pwr DL Minimum and maximum rms input power thresholds. Users logged in with the admins, superusers, or users role can set the thresholds.
- Status of the Pwr Rms Min DL 2, Pwr Limiter DL 2, and Pwr Overdrive DL 2 alarms.

Power Limiter

The power limiter protects the module from high RF input power.

 Power Limiter Mode – Users logged in with the admins, superusers, or users role can select the power limiter mode.

The following options are available in the **Pwr Limiter mode** drop-down list:

- *RF OFF*: If the Power Limiter Mode is set to *RF OFF*, when the rms downlink input power exceeds the user-set maximum input signal threshold for the path (1 or 2), the Pwr Limiter DL (1 or 2) alarm is triggered and the path is switched off, until the alarm condition ceases (auto power-on).
- *10dB plus*: If the Power Limiter Mode is set to *10dB plus*, when the rms downlink input power exceeds the user-set maximum input signal threshold for the path (1 or 2), the Pwr Limiter DL (1 or 2) alarm is triggered and the path input power is reduced by 10dB, until the alarm condition ceases.

Note: When the rms downlink input power (path 1 or 2) exceeds either the user-defined maximum input signal threshold +10dB, or the allowed Absolute Maximum Input Power, the path (1 or 2) is switched off by the overdrive protection and the Pwr Overdrive DL (1 or 2) alarm is triggered.

The overdrive alarm needs to be cleared: when the alarm ceases, click the **Clear Overdrive** button to reset the path.

The path is restored @ max attenuations (Mec DL and Dig DL) and the re-commissioning of the path is required.

Pwr Alarm Hyst – Users logged in with the admins, superusers, or users role can set the Power Alarm Hysteresis to avoid repeated power alarm reports.

If the detected input power exceeds the maximum input power threshold set for the path, the power limiter alarm is triggered. The alarm is cleared when:

DL RMS power = DL max RMS thrs - Pwr Alarm Hyst

Fans

- Actual fan rotation speed (rpm, revolutions per minute).
 Note: If the fan rotation speed is 100, the fan is not spinning.
- Status of the Fan Speed alarm.

TLPPOI Panel

1.3.	1 TLPPOI (TLPPOI-LB-MSE)		
	POWER POI LOW BAND MIMO SIM	PLEX WITH ADDITIONAL GAIN STAGE	
Identification		Alarm summary	
Type hex	000040	Communication state	
Model hex	00000000004	Max severity	
Version	4	Active Alarms	C
Serial Number	1012140003		
Description			
Name	TLPPOI-LB-MSE		
Parameters			
Temperature [°C]	23 Low Temperature	Mains Fault	
	High Temperature	•	
Attenuations (Path 1)			
Dig UL1 [dB]	20	Mec DL1 [dB]	0 🗸
5 []	23	Dig DL1 [dB]	15
		Protection	
nput Stage (Path 1)			
Enable LNA in UL1		Rms IN Pwr DL1 [dBm]	-25.5
Current LNA in UL1	•	Min Rms IN Pwr DL1 [dBm]	-20
	•	Max Rms IN Pwr DL1 [dBm]	11
		Rms Pwr IN Min DL1	
		Pwr Limiter DL1	
		Pwr Overdrive DL1	
Dutput Stage (Path 1)			
Enable LNA out UL1	V	Enable Power Amplifier	æ
Current LNA out UL1	•	Rms OUT Pwr DL1 [dBm]	-34,5
		Rms Pwr OUT Low DL1	
		Rms Pwr OUT High DL1	•
		Current Power Amplifier DL1	
Attenuations (Path 2)			
Dig UL2 [dB]	20	Mec DL2 [dB]	10 🔻
		Dig DL2 [dB]	20
		Protection	
nput Stage (Path 2)			
Enable LNA in UL2		Rms IN Pwr DL2 [dBm]	-25,3
Current LNA in UL2	•	Min Rms IN Pwr DL2 [dBm]	-20
		Max Rms IN Pwr DL2 [dBm]	10
		Rms Pwr IN Min DL2	
		Pwr Limiter DL2	•
		Pwr Overdrive DL2	•
Dutput Stage (Path 2)			
Enable LNA out UL2		Enable Power Amplifier	
Current LNA out UL2	•	Rms OUT Pwr DL2 [dBm]	-32,7
		Rms Pwr OUT Low DL2	•
		Rms Pwr OUT High DL2	
		Current Power Amplifier DL2	
Power limiter			

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Appendix - Description of the Main Panels of the DAS Components

The **TLPPOI** panel includes the following information about the selected Low Power Point of Interface:

- Identification
 - Type hex (hexadecimal notation)
 - Model hex (hexadecimal notation)
 - Version
 - Serial Number
- Alarm Summary
 - Communication state
 - Max severity Maximum severity of active alarms
 - Active Alarms Number of active alarms
- Description TLPPOI Name.

Users logged in with the **admins**, **superusers**, or **users** role can assign a name to the TLPPOI. See "Assigning Names to the DAS Components" on page 40.

- Parameters
 - Detected Temperature.
 - Status of the Mains Fault, Low Temperature, and High Temperature alarms.
- Attenuations (Path 1) Downlink and uplink attenuations for path 1. Users logged in with the admins, superusers, or users role can set attenuations.
- Input Stage (Path 1)
 - Enable LNA in UL1 check box.
 - Rms IN Pwr DL1 Detected downlink rms input power.
 - Min Rms IN Pwr DL1 and Max Rms IN Pwr DL1 Minimum and maximum rms input power thresholds. Users logged in with the admins, superusers, or users role can set the thresholds.
 - Status of the Current LNA in UL1, Rms Pwr IN Min DL1, Pwr Limiter DL1, and Pwr Overdrive DL1 alarms.
- Output Stage (Path 1)
 - Enable LNA out UL1 check box.
 - Enable Power Amplifier check box.
 - *Rms OUT Pwr DL1* Detected downlink rms input power.
 - Status of the Current LNA out UL1, Rms Pwr OUT Low DL1, Rms Pwr OUT High DL1, and Current Power Amplifier DL1 alarms.
- Attenuations (Path 2) Downlink and uplink attenuations for path 2. Users logged in with the admins, superusers, or users role can set attenuations.
- Input Stage (Path 2)
 - Enable LNA in UL2 check box.
 - Rms IN Pwr DL2 Downlink rms input power reading.

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- Min Rms IN Pwr DL2 and Max Rms IN Pwr DL2 Minimum and maximum rms input power thresholds. Users logged in with the admins, superusers, or users role can set the thresholds.
- Status of the Current LNA in UL2, Rms Pwr IN Min DL2, Pwr Limiter DL2, and Pwr Overdrive DL2 alarms.

Output Stage (Path 2)

- Enable LNA out UL2 check box.
- Enable Power Amplifier check box.
- *Rms OUT Pwr DL2* Downlink rms input power reading.
- Status of the Current LNA out UL2, Rms Pwr OUT Low DL2, Rms Pwr OUT High DL2, and Current Power Amplifier DL2 alarms.

Power Limiter

The power limiter protects the module from high RF input power.

 Power Limiter Mode – Users logged in with the admins, superusers, or users role can select the power limiter mode.

The following options are available in the Pwr Limiter mode drop-down list:

- *RF OFF*: If the Power Limiter Mode is set to *RF OFF*, when the rms downlink input power exceeds the user-set maximum input signal threshold (Max Rms IN Pwr DL) for the path (1 or 2), the Pwr Limiter DL (1 or 2) alarm is triggered and the path is switched off, until the alarm condition ceases (auto power-on).
- 10dB plus: If the Power Limiter Mode is set to 10dB plus, when the rms downlink input power exceeds the user-set maximum input signal threshold (Max Rms IN Pwr DL) for the path (1 or 2), the Pwr Limiter DL (1 or 2) alarm is triggered and the path input power is reduced by 10dB, until the alarm condition ceases.

Note: When the rms downlink input power (path 1 or 2) exceeds either the user-defined maximum input signal threshold Max Rms Power DL+10dB, or the allowed Absolute Maximum Input Power, the path (1 or 2) is switched off by the overdrive protection and the Pwr Overdrive DL (1 or 2) alarm is triggered.

The overdrive alarm needs to be cleared: when the alarm ceases, click the **Clear Overdrive** button to reset the path.

The path is restored @ max attenuations (Mec DL and Dig DL) and the re-commissioning of the path is required.

Pwr Alarm Hyst – Users logged in with the admins, superusers, or users role can set the Power Alarm Hysteresis to avoid repeated power alarm reports.

If the detected input power exceeds the maximum input power threshold set for the path, the power limiter alarm is triggered. The alarm is cleared when: *Rms IN Pwr DL* = *Max Rms IN Pwr DL* - *Pwr Alarm Hyst*.

TAPOI Panel

1 Configuration read from de	evice 2020-02-0	05 12:44:46				
		TAPOI-AWF-F-4)) Full band flexi 4.3-10				
Identification			Alarm sun	nmary		
Type hex		00001F	Communic	ation state	2	
Model hex		00000000C1F	Max severi	ty		
Version		6	Active Alar	ms		0
Serial Number		1011972001				
Description						
Name						
Parameters						
Temperature [°C]	19,8	Low Temperature			Mains Fault	
		High Temperature		٠		
Attenuations						
Attenuation UL [dB]	31	Attenuation DL [dB]		31		
Powers						
Peak Power [dBm]	-19,8	Rms Power [dBm]		-9,7	DL Power IN Low	•
Min Peak Power [dBm]	-5	Min Rms Power [dBr	n]	-10	DL Power IN High	•
Max Peak Power [dBm]	37	Max Rms Power [dB	m]	27		
Power limiter						
Power Limiter > thr RI	MS 🔻	Power Limiter Mode	10 dB plus	¥	Pwr Alarm Hyst [dB]	1

The **TAPOI** panel includes the following information about the selected Active Point of Interface:

- Identification
 - Type hex (hexadecimal notation)
 - Model hex (hexadecimal notation)
 - Version
 - Serial Number
- Alarm Summary
 - Communication state
 - Max severity Maximum severity of active alarms
 - Active Alarms Number of active alarms
- **Description** TAPOI Name.

Users logged in with the **admins**, **superusers**, or **users** role can assign a name to the TAPOI. See "Assigning Names to the DAS Components" on page 40.

- Parameters
 - Detected Temperature.
 - Status of the *Mains Fault, Low Temperature*, and *High Temperature* alarms.

 Attenuations – Downlink and Uplink attenuations. Users logged in with the admins, superusers, or users role can set attenuations.

Note: Refer to the following table for the relationship between the maximum input power and the minimum downlink attenuation to be set for the module.

Maximum input power	Minimum attenuation setting (DL Att)
26dBm	1dB
27dBm	2dB
28dBm	3dB
29dBm	4dB
30dBm	5dB
31dBm	6dB
32dBm	7dB
33dBm	8dB

Powers

- Detected Peak power and Rms power.
- *Min Peak Power* and *Min Rms Power*: minimum power thresholds for Peak and Rms detectors.
- Max Peak Power and Max Rms Power: maximum input power thresholds for Peak and rms detectors. Users logged in with the admins, superusers, or users role can set the thresholds.

Power limiter

The power limiter protects the module from high RF input power.

- Power Limiter Power limiter threshold. Users logged in with the admins, superusers, or users role can select the Power limiter threshold. The following options are available: peak (>thr Peak), rms (>thr RMS rms) or both (>thr Peak/>thr RMS rms).
- Power Limiter Mode Users logged in with the admins, superusers, or users role can select the power limiter mode.

The following options are available in the Pwr Limiter mode drop-down list:

- Disabled: The power limiter is disabled.
- 10dB isolated: When the Power Limiter Mode is set to 10dB isolated and the downlink input signal exceeds the user-set maximum input signal threshold (*Max Peak Power* or *Max Rms Power*, depending on the threshold set in the Power Limiter drop-down list), the module enters auto power-off.
- *10dB plus*: When the Power Limiter Mode is set to *10dB plus* and the downlink input signal exceeds the user-set maximum input signal threshold, the signal is 10dB attenuated.
- Pwr Alarm Hyst The Power Alarm Hysteresis can be set to avoid repeated power alarm reports.
 If the input power exceeds the maximum input power threshold set for the path, the power limiter alarm is triggered. The alarm is cleared when:

Rms IN Pwr DL = DL Rms Pwr = DL RMS max - Pwr Alarm Hyst.

TCPRIPOI Panel

1 Configuration read from dev	vice 2020-02-05 12:49:10		
	TCPRIPOI (TCPRIPOI-AW	/E-M)	
	oint Of Interface, Band 4+10+66 A	· · ·	
Identification		Alarm summary	
Type hex	00003E	Communication state	•
Model hex	00000000026	Max severity	•
Version	6	Active Alarms	1
Serial Number	1005178018		
Description			
Name			
Name System	System-Name		
Powers before attenuations			
Rms Pwr DL Ch1[dBm]	-28,6	Rms Pwr DL Ch2[dBm]	-27,1
Ch1 Pwr Out DL Low	•	Ch2 Pwr Out DL Low	•
Ch1 Pwr Out DL High	•	Ch2 Pwr Out DL High	•
Ch1 ALC On UL	•	Ch2 ALC On UL	•
Ch1 ALC On DL	•	Ch2 ALC On DL	•
Attenuations			
Att UL Ch1 [dB]	20	Att DL Ch1 [dB]	25
Att UL Ch2 [dB]	25	Att DL Ch2 [dB]	25
PreAmp			
PreAmp UL Ch1	۲	PreAmp UL Ch2	
Parameters			
Temperature [°C]	30,8 Low Temperature	Cur 28V [mA]	1264
Lock Synt UL	High Temperature	Mains Fault	•
Currents			
Cur 28V 1 Ch1 [mA]	64	Cur 28V 1 Ch2 [mA]	62
Cur 28V 2 Ch1 [mA]	42	Cur 28V 2 Ch2 [mA]	43
CPRI Description			
Mapped carrier number	0	CPRI Hw Revision	357 - 1
. •		CPRI Sw Version	2
CPRI Papr DL			
Papr DL Ch1 [dB]	9,2	Papr DL Ch2 [dB]	9,2
	3,2	. chi pe one [db]	0,2
CPRI alarms		Ch2 ADC OverflowCPRI	
Communication CPRI Ch1 ADC OverflowCPRI	•		
	•	Ch2 DAC Protect CPRI	
Ch1 DAC Protect CPRI	•	Mains Fault CPRI	•
ClkDistrUnlockCPRI	-	Lock Synt DL CPRI	•
Temperature CPRI			

The **TCPRIPOI** panel includes the following information about the selected CPRI Point of Interface:

- Identification
 - Type hex (RF board type, hexadecimal notation)
 - Model hex (RF board model, hexadecimal notation)

- Version
- Serial Number

Alarm Summary

- Communication state
- Max severity Maximum severity of active alarms
- Active Alarms Number of active alarms
- Description
 - Name DAS-side name assigned to the TCPRIPOI. Users logged in with the admins, superusers, or users role can assign a name to the TCPRIPOI. See "Assigning Names to the DAS Components" on page 40.
 - Name System Name of the system (DAS) the TCPRIPOI belongs to.
- Powers before attenuations
- Attenuations
- PreAmp
- Parameters
 - Detected *Temperature* and current (*Curr 28V*).
 - Status of the Low Temperature, High Temperature, Mains Fault, Lock Synt UL alarms.
- Currents
 - Detected currents (Curr 28V).
- CPRI Description:
 - Mapped carrier number: number of carriers assigned to the TCPRIPOI.
 - CPRI Hw Revision and CPRI Sw Version.
- CPRI Papr DL
- CPRI alarms

TDFE Panel

1 Configuration read	I from devic	e 2020-02-	-05 12:52:39					
		TDFE (TI ont End UM	DFE-UMT	S)				
Identification					Alarm summ	narv		
Type hex	ĺ			000018	Communicati			
Model hex			000000		Max severity			
Version				11	Active Alarms	5		0
Serial Number			141	833601	Communicati	on UL		•
Description								
Name								
Parameters								
Preset	DEE	+SEE+(oth	er modules)			 Tempera 	ture (°C)	41,5
BandSize	narrow	• • • • • • • • • •	Max Gain		SFE/RU VHP	 Tempera 		
Selectivity	GSM 95dE		Mains Fau		OF EARD VIII		ture High	
Ocidentity	COMOU		munio i uc	an		Fan Spe		
Spectrum								
	Sub-band 1	Sub-band	12			Sub-band 1	Sub-band 2	
100 90					100 90			
80					80			
70					70 円 60			
50 50					명) 60 님 50			
60 50 # 40					-Lee 40			
30					30			
20					20 10			
10		()	-0 - 40		20		() ()	
10	1940	1.950 1.5	980 1910	1980	20 10	2 ¹²⁰ 21 ³⁰	2140 2150	2160 2110
10		్ల ⁶⁹⁰ ్ల eq UL (MHz		1.0°	20		2 ¹⁴⁰ 2 ¹⁵⁰ eq DL (MHz)	2169 2119
10 0 10 10 10 10 10 10 10 10 10 10 10 10				,880	20	Fr		2168 211
10 0 straine Common - Uplink				-27,7	20 10 0 2 ¹⁰	Fr Downlink		2 ¹⁶⁰ 2 ¹¹⁰
10 0 5 ¹⁰ 5 ⁵⁰ Common - Uplink Pwr Out UL [dBm]			z)		20 10 0 2 ¹⁰ 0 2 ¹⁰ 0 2 ¹⁰ 0 2 ¹⁰	Fr D ownlink 3m]		
10 0 50 Common - Uplink Pwr Out UL [dBm] Attenuation UL [dB]			z)	-27,7	20 10 0 20 0 20 0 0 20 0 0 20 0 0 20 0 0 20 0 20 0 20 0 20 2	Fr D ownlink 3m]		-53,7
10 0 50 Common - Uplink Pwr Out UL [dBm] Attenuation UL [dB] Pwr Out UL			z)	-27,7	20 10 0 2 ^{NS} Common - D Pwr In DL [dE Attenuation D	Fr Downlink 3m] DL [dB]		-53,7
Common - Uplink Pwr Out UL [dBm] Attenuation UL [dB] Pwr Out UL Peak Pwr + OFA UL			z)	-27,7	20 10 0 5 S S S S S S S S S S S S S	Fr Downlink 3m] DL [dB] DFA DL		-53,7
Common - Uplink Pwr Out UL [dBm] Attenuation UL [dB] Pwr Out UL Peak Pwr + OFA UL Lock Detect UL			z)	-27,7	20 10 0 V Pwr In DL [dE Attenuation D Pwr Out DL Peak Pwr + C	Fr Downlink 3m] DL [dB] DFA DL		-53,7
Common - Uplink Pwr Out UL [dBm] Attenuation UL [dB] Pwr Out UL Peak Pwr + OFA UL Lock Detect UL ALC On UL			z)	-27,7	20- 10- 0- Pwr In DL [dE Attenuation D Pwr Out DL Peak Pwr + C Lock Detect D	Fr Downlink 3m] DL [dB] DFA DL		-53,7
Common - Uplink Pwr Out UL [dBm] Attenuation UL [dB] Pwr Out UL Peak Pwr + OFA UL Lock Detect UL ALC On UL Pwr In UL			z)	-27,7	20 10 0 Wr In DL (dE Attenuation D Pwr Out DL Peak Pwr + C Lock Detect D ALC On DL Pwr In DL	Fr Downlink 3m] JL [dB] DFA DL DL		-53,7
Common - Uplink Pwr Out UL [dBm] Attenuation UL [dB] Pwr Out UL Peak Pwr + OFA UL Lock Detect UL ALC On UL Pwr In UL Sub-band 1 Uplink			z)	-27,7	20- 10- 0- Pwr In DL [dE Attenuation D Pwr Out DL Peak Pwr + C Lock Detect D ALC On DL	Fr Downlink 3m] JL [dB] DFA DL DL		-53,7
Common - Uplink Pwr Out UL [dBm] Attenuation UL [dB] Pwr Out UL Peak Pwr + OFA UL Lock Detect UL ALC O UL Pwr In UL Sub-band 1 Uplink UL Enabled			z)	-27,7 29,5 • •	20 10 0 20 10 0 20 10 0 20 10 0 20 10 0 20 10 0 20 10 0 10 0 10 0 10 0 10 0 10 0 10 0 10 1	Fr Downlink 3m] DL [dB] DFA DL DL DDFA DL DDFA DL		-53,7 30
Common - Uplink Pwr Out UL [dBm] Attenuation UL [dB] Pwr Out UL Peak Pwr + OFA UL Lock Detect UL ALC On UL Pwr In UL Sub-band 1 Uplink UL Enabled Pwr Out UL [dBm]			z)	-27,7 29,5	20 10 0 20 10 0 20 10 10 20 20 20 20 20 20 20 20 20 2	Fr Downlink 3m] DL [dB] DDFA DL DL DDFA DL DDFA DDFA DL DDFA DDFA DL DDFA DDFA DL DDFA DDFA DDFA DDFA DDFA DDFA DDFA DDFA		-53,7 30
Common - Uplink Pwr Out UL [dBm] Attenuation UL [dB] Pwr Out UL Peak Pwr + OFA UL Lock Detect UL ALC On UL Pwr In UL Sub-band 1 Uplink UL Enabled Pwr Out UL [dBm] Attenuation UL [dB]			z)	-27,7 29,5 • • • • • •	20 10 0 20 10 0 20 10 0 20 10 0 20 20 20 20 20 20 20 20 20	Fr Downlink 3m] DL [dB] DDFA DL DL DOwnlink 3m] DL [dB]		-53,7 30
Common - Uplink Pwr Out UL [dBm] Attenuation UL [dB] Pwr Out UL Peak Pwr + OFA UL Lock Detect UL ALC On UL Pwr In UL Sub-band 1 Uplink UL Enabled Pwr Out UL [dBm] Attenuation UL [dB]			z)	-27,7 29,5 • • • • •	20 10 0 20 10 0 20 10 0 20 10 0 20 20 20 20 20 20 20 20 20	Fr Downlink 3m] DL [dB] DDFA DL DL DOwnlink 3m] DL [dB] DL		-53,7 30
Common - Uplink Pwr Out UL [dBm] Attenuation UL [dB] Pwr Out UL Peak Pwr + OFA UL Lock Detect UL ALC On UL Pwr In UL Sub-band 1 Uplink UL Enabled Pwr Out UL [dBm] Attenuation UL [dB] Pwr Out SB1 UL				-27,7 29,5 • • • • •	20 10 0 20 10 0 20 10 0 20 10 0 20 20 20 20 20 20 20 20 20	Fr Downlink 3m] DL [dB] DDFA DL DL DOwnlink 3m] DL [dB] DL		-53,7 30
Common - Uplink Pwr Out UL [dBm] Attenuation UL [dB] Pwr Out UL Peak Pwr + OFA UL Lock Detect UL ALC On UL Pwr In UL Sub-band 1 Uplink UL Enabled Pwr Out UL [dBm] Attenuation UL [dB] Pwr Out SB1 UL Frequency UL [MHz]			r)	-27,7 29,5 • • • • • • • • • • • • • • • • • • •	20 10 0 20 10 0 20 10 0 20 10 0 20 20 20 20 20 20 20 20 20	Fr Downlink 3m] DL [dB] DDFA DL DL DOwnlink 3m] DL [dB] DL		-53,7 30
Common - Uplink Pwr Out UL [dBm] Attenuation UL [dB] Pwr Out UL Lock Detect UL ALC On UL Pwr In UL Sub-band 1 Uplink UL Enabled Pwr Out UL [dBm] Attenuation UL [dB] Pwr Out SB1 UL Frequency UL [MHz] Bandwidth [MHz]			r)	-27,7 29,5 - - 12,1 0 - 142,5 14,2	20 10 0 20 10 0 20 10 0 20 10 0 20 20 20 20 20 20 20 20 20	Fr Downlink 3m] DL [dB] DDFA DL DL Downlink 3m] DL [dB] DL	eq DL (MHz)	-53,7 30
Common - Uplink Pwr Out UL [dBm] Attenuation UL [dB] Pwr Out UL Lock Detect UL ALC On UL Pwr In UL Sub-band 1 Uplink UL Enabled Pwr Out UL [dBm] Attenuation UL [dB] Pwr Out SB1 UL Frequency UL [MHz] Bandwidth [MHz] Frq Range [MHz]			r)	-27,7 29,5 - - 12,1 0 - 142,5 14,2	20 10 0 NV Pwr In DL (dE Attenuation D Pwr Out DL Peak Pwr + C Lock Detect D ALC On DL Pwr In DL Sub-band 1 DL Enabled Pwr In DL (dE Attenuation D Pwr In SB1 D Pwr Min SB1	Fr Downlink 3m] DL [dB] DDFA DL DL Downlink 3m] DL [dB] DL	eq DL (MHz)	-53,7 30 -46,8 0
Common - Uplink Pwr Out UL [dBm] Attenuation UL [dB] Pwr Out UL Lock Detect UL ALC On UL Pwr In UL Sub-band 1 Uplink UL Enabled Pwr Out UL [dBm] Attenuation UL [dB] Pwr Out SB1 UL Frequency UL [MHz] Bandwidth [MHz] Frq Range [MHz] Filter ID			r)	-27,7 29,5 - - 12,1 0 - 142,5 14,2	20 10 0 0 0 0 0 0 0 0 0 0 0 0 0	Fr Downlink 3m] DL [dB] DFA DL DL Downlink 3m] DL [dB] DL DL	eq DL (MHz)	-53,7 30 -46,8 0
Common - Uplink Pwr Out UL [dBm] Attenuation UL [dB] Pwr Out UL Lock Detect UL ALC On UL Pwr In UL Sub-band 1 Uplink UL Enabled Pwr Out UL [dBm] Attenuation UL [dB] Pwr Out SB1 UL Frequency UL [MHz] Bandwidth [MHz] Frq Range [MHz] Filter ID Sub-band 2 Uplink			r)	-27,7 29,5 - - -12,1 0 - 42,5 14,2 1949,6(20 10 0 0 0 0 0 0 0 0 0 0 0 0 0	Fr Downlink 3m] DL [dB] DFA DL DL Downlink 3m] DL [dB] DL DL	eq DL (MHz)	-53,7 30 -46,8 0 125.40 - 2139.6(
Common - Uplink Pwr Out UL (dBm) Attenuation UL [dB] Pwr Out UL Peak Pwr + OFA UL Lock Detect UL ALC On UL Pwr In UL Sub-band 1 Uplink UL Enabled Pwr Out UL [dBm] Attenuation UL [dB] Pwr Out SB1 UL Frequency UL [MHz] Bandwidth [MHz] Frq Range [MHz] Filter ID Sub-band 2 Uplink UL Enabled			r)	-27,7 29,5 - - - 12,1 0 - 12,1 0 - 12,1 1949.6(20 10 0 0 0 0 0 0 0 0 0 0 0 0 0	Fr Downlink 3m] DL [dB] DFA DL DL DOwnlink DL DL DL HHz] Downlink	eq DL (MHz)	-53,7 30 -46,8 0 125.40 - 2139.6(
Common - Uplink Pwr Out UL [dBm] Attenuation UL [dB] Pwr Out UL Cock Detect UL ALC On UL Pwr In UL Sub-band 1 Uplink UL Enabled Pwr Out UL [dBm] Attenuation UL [dB] Pwr Out UL [dBm] Attenuation UL [dB] Frequency UL [MHz] Bandwidth [MHz] Frq Range [MHz] Filter ID UL Enabled Pwr Out UL [dBm]			r)	-27,7 29,5 -29,5 -29,5 -20,5 -20,7 -20,7 -20,7 -20,7 -20,7 -20,7 -20,7 -20,7 -20,7 -20,7 -20,7 -20,7 -20,7 -20,5 -	20 10 0 0 0 0 0 0 0 0 0 0 0 0 0	Fr Downlink 3m] DL [dB] DFA DL DL DOwnlink DL DL DL DL DL DL DL MHz] DOwnlink	eq DL (MHz)	53,7 30 46,8 0 125.40 - 2139.6(
Common - Uplink Pwr Out UL [dBm] Attenuation UL [dB] Pwr Out UL Cock Detect UL ALC On UL Pwr In UL Sub-band 1 Uplink UL Enabled Pwr Out UL [dBm] Attenuation UL [dB] Pwr Out SB1 UL Frequency UL [MHz] Bandwidth [MHz] Frq Range [MHz] Filter ID Sub-band 2 Uplink UL Enabled Pwr Out UL [dBm] Attenuation UL [dB] Pwr Out UL [dBm] Attenuation UL [dB]			r)	-27,7 29,5 - - - 12,1 0 - 12,1 0 - 12,1 1949.6(20 10 0 Pwr In DL (dE Attenuation D Pwr Out DL Peak Pwr + C Lock Detect D ALC On DL Pwr In DL Sub-band 1 DL Enabled Pwr In SB1 D Pwr In SB1 D Pwr In SB1 D Pwr Min SB1 D P	Fr Downlink 3m] DL [dB] DFA DL DL DOwnlink 0L [dB] DL DL DL DL 3m] DL (dB] DL DL	eq DL (MHz)	-53,7 30 -46,8 0 125.40 - 2139.6(
Common - Uplink Pwr Out UL [dBm] Attenuation UL [dB] Pwr Out UL Cock Detect UL ALC On UL Pwr In UL Sub-band 1 Uplink UL Enabled Pwr Out UL [dBm] Attenuation UL [dB] Pwr Out SB1 UL Frequency UL [MHz] Bandwidth [MHz] Frq Range [MHz] Filter ID UL Enabled Pwr Out UL [dBm]			r)	-27,7 29,5 -29,5 -29,5 -20,5 -20,7 -20,7 -20,7 -20,7 -20,7 -20,7 -20,7 -20,7 -20,7 -20,7 -20,7 -20,7 -20,7 -20,5 -	20 10 0 Pwr In DL (dE Attenuation D Pwr Out DL Peak Pwr + C Lock Detect D ALC On DL Pwr In DL Sub-band 1 DL Enabled Pwr In SB1 D Pwr In SB1 D Pwr In SB1 D Pwr Min SB1 Frq Range (M Sub-band 2 DL Enabled Pwr In DL (dE Attenuation D Pwr In SB2 D	Fr Downlink 3m] DL [dB] DFA DL DL DOwnlink 0L DL DL DL DL DL DL DL DL DL DL DL DL DL	eq DL (MHz)	53,7 30 46,8 0 125.40 - 2139.6(
Common - Uplink Pwr Out UL [dBm] Attenuation UL [dB] Pwr Out UL Lock Detect UL ALC On UL Pwr In UL Sub-band 1 Uplink UL Enabled Pwr Out UL [dBm] Attenuation UL [dB] Pwr Out SB1 UL Frequency UL [MHz] Freq Range [MHz] Filter ID Sub-band 2 Uplink UL Enabled Pwr Out UL [dBm] Attenuation UL [dB] Pwr Out UL [dBm] Attenuation UL [dB] Pwr Out SB2 UL			r)	-27,7 29,5 -29,5 -29,5 -20,5 -20,7 -12,4 0 -12,4 0 -12,4 0 -0 -0 -0 -0 -0 -0 -0 -0 -0 -0 -0 -0 -	20 10 0 Pwr In DL (dE Attenuation D Pwr Out DL Peak Pwr + C Lock Detect D ALC On DL Pwr In DL Sub-band 1 DL Enabled Pwr In SB1 D Pwr In SB1 D Pwr In SB1 D Pwr Min SB1 D P	Fr Downlink 3m] DL [dB] DFA DL DL DOwnlink 0L DL DL DL DL DL DL DL DL DL DL DL DL DL	eq DL (MHz)	53,7 30 46,8 0 125.40 - 2139.6(
Common - Uplink Pwr Out UL [dBm] Attenuation UL [dB] Pwr Out UL Peak Pwr + OFA UL Lock Detect UL ALC On UL Pwr In UL Sub-band 1 Uplink UL Enabled Pwr Out UL [dBm] Attenuation UL [dB] Pwr Out SB1 UL Frequency UL [MHz] Fird Range [MHz] Fird Range [MHz] Filter ID Sub-band 2 Uplink UL Enabled Pwr Out UL [dBm] Attenuation UL [dB] Pwr Out SB2 UL Frequency UL [MHz]			r)	-27,7 29,5 -29,5 -29,5 -20,5 -20,5 -20,5 -20,5 -20,5 -20,7 -20,7 -20,7 -20,7 -20,7 -20,7 -20,7 -20,7 -20,5 -	20 10 0 Pwr In DL (dE Attenuation D Pwr Out DL Peak Pwr + C Lock Detect D ALC On DL Pwr In DL Sub-band 1 DL Enabled Pwr In SB1 D Pwr In SB1 D Pwr In SB1 D Pwr Min SB1 Frq Range (M Sub-band 2 DL Enabled Pwr In DL (dE Attenuation D Pwr In SB2 D	Fr Downlink 3m] DL [dB] DFA DL DL DOwnlink 0L DL DL DL DL DL DL DL DL DL DL DL DL DL	eq DL (MHz)	53,7 30 46,8 0 125.40 - 2139.6(
Common - Uplink Pwr Out UL [dBm] Attenuation UL [dB] Pwr Out UL Lock Detect UL ALC On UL Pwr In UL Sub-band 1 Uplink UL Enabled Pwr Out UL [dBm] Attenuation UL [dB] Pwr Out SB1 UL Frequency UL [MHz] Freq Range [MHz] Filter ID Sub-band 2 Uplink UL Enabled Pwr Out UL [dBm] Attenuation UL [dB] Pwr Out UL [dBm] Attenuation UL [dB] Pwr Out SB2 UL			r)	-27,7 29,5 -29,5 -29,5 -20,5 -	20 10 0 Pwr In DL (dE Attenuation D Pwr Out DL Peak Pwr + C Lock Detect D ALC On DL Pwr In DL Sub-band 1 DL Enabled Pwr In SB1 D Pwr In SB1 D Pwr In SB1 D Pwr Min SB1 Frq Range (M Sub-band 2 DL Enabled Pwr In DL (dE Attenuation D Pwr In SB2 D	Fr Downlink 3m] DL [dB] DFA DL DL DOwnlink 0L DL DL DL 3m] DL (dB] DL DL 3m] DL (dB] DL DL 3m] DL DL	eq DL (MHz)	53,7 30 46,8 0 125.40 - 2139.6(

JMA DAS Platform - Remote Monitoring and Management User Guide This document contains JMA Wireless proprietary and/or confidential information.

Appendix - Description of the Main Panels of the DAS Components

The **TDFE** panel includes the following information about the selected Digital Donor Front End:

- Identification
 - Type hex (hexadecimal notation)
 - Model hex (hexadecimal notation)
 - Version
 - Serial Number
- Alarm Summary
 - Communication state
 - Max severity Maximum severity of active alarms
 - Active Alarms Number of active alarms
 - Status of the Communication UL alarm
- **Description –** TDFE Name.

Users logged in with the **admins**, **superusers**, or **users** role can assign a name to the TDFE. See "Assigning Names to the DAS Components" on page 40.

Parameters

- Temperature Detected temperature.
- Status of the Mains Fault, Temperature Low, Temperature High, and Fan Speed alarms.
- Preset List of presets for automatic gain setting. Users logged in with the admins, superusers, or users role can select the system hardware configuration to apply the corresponding automatic gain setting.
- Band size Wide (1 sub-band) or narrow (2 sub-bands),
- Max Gain Users logged in with the admins, superusers, or users role can select the SFE/RU output power to display the proper downlink diagram in the Spectrum panel,
- Selectivity The selectivity options allow users logged in with the admins, superusers, or users role to optimize the filter either for low delay (UMTS) or for high selectivity (GSM 95dB).
- **Spectrum –** Uplink and Downlink Frequency/Gain diagrams.
- Common-Uplink
 - *Pwr Out UL* Detected Uplink Output Power.
 - Attenuation UL Uplink attenuation. Users logged in with the admins, superusers, or users role can set the module uplink attenuation.
 - Status of the Pwr Out UL, Peak Pwr + OFA UL, Lock Detect UL, ALC On UL, Pwr in UL alarms.
- Common-Downlink
 - Pwr In DL Detected downlink input power (measured on the whole band).
 - Attenuation DL Downlink attenuation. Users logged in with the admins, superusers, or users role can set the module downlink attenuation.
 - Status of the *Pwr Out DL, Peak Pwr* + OFA *DL, Lock Detect DL, ALC On DL, Pwr in DL* alarms.

- Sub-band <number> Uplink Main uplink parameters of each sub-band enhanced by the TDFE module.
 - UL Enabled check box Users logged in with the admins, superusers, or users role can enable or disable the sub-band Uplink.
 - Power Out UL Detected Uplink Output Power inside the filtered channel.
 - Attenuation UL Uplink attenuation set for the sub-band. Users logged in with the admins, superusers, or users role can set the sub-band uplink attenuation.
 - Status of the Pwr Out SB<number> UL Uplink output power out of range.
 - Frequency UL Uplink frequency center.
 - Bandwidth Uplink bandwidth.
 - Frq Range uplink operating frequency range.
 - Filter ID number.
- Sub-band <number> Downlink Main downlink parameters of each sub-band enhanced by the TDFE module.
 - DL Enabled check box Users logged in with the admins, superusers, or users role can enable/disable the sub-band Downlink.
 - Power In DL Downlink Input Power inside the filtered channel.
 - Attenuation DL Downlink attenuation set for the sub-band. Users logged in with the admins, superusers, or users role can set the sub-band downlink attenuation.
 - Status of the sub-band *Pwr In SB<number> DL* (downlink input power out of range) and *Pwr Min SB<number> DL* (downlink input power too low) alarms.
 - Frq range Sub-band downlink operating frequency range.

TSYNC Panel

🛃 Configuration read	from device 2018-	06-01 10:40:33				
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	.6.3 TSYNC (T					
Identification			Alarm summary			
Type hex		000032	Communication st	ate		•
Model hex	000	000000000	Max se∨erity			•
Version		3	Active Alarms			0
Serial Number	1	001488083				
Parameters						
Temperature [°C]	32,5 Ct	urr 28V [mA]	144	PLL Unlock		•
Low Temperature	Ma	ains Fault	•	TDD Comm		
High Temperature	٠			TDD Unlock		
Attenuations						
Channel 1	Char	inel 2	Channel 3		Channel 4	
10	19	1	19	12		*
Inner board						
Configuration	2🚔 Sp	ecial Frame	7 🚔			

The **TSYNC** panel includes the following information about the TDD sync module used in 4G Systems:

- Identification
 - Type hex (hexadecimal notation)
 - Model hex (hexadecimal notation)
 - Version
 - Serial Number
- Alarm Summary
 - Communication state
 - Max severity Maximum severity of active alarms
 - Active Alarms Number of active alarms

Parameters

- Detected Temperature and current (Curr 28V).
- Status of the Low Temperature, High Temperature, Mains Fault, PLL Unlock, TDD Comm, TDD Unlock alarms.
- Attenuations Attenuation set for each channel (factory-set attenuation=19dB). Users logged in with the admins, superusers, or users role can adjust each port attenuation to compensate for the TDD reference output signal path losses.
- Inner Board
 - Configuration Users logged in with the admins, superusers, or users role can select the TDD downlink-uplink configuration (0-6), which defines subframes distribution between uplink and downlink and the switch-point periodicity.
 - Special Frame Users logged in with the admins, superusers, or users role can select the subframe configuration (0-8), which defines the length of the Guard period, Downlink Pilot Time Slot, and Uplink Pilot Time Slot.

TSYNC-N Panel

2 Configuration read from device 2023-07-27 14	1:25:56				
and the	NC (TSYNC-N) ONIZER FOR 5G				
Identification			Alarm summary		
Type hex		000032	Communication state		٠
Model hex		00000000003	Max severity		٠
Version		10	Active Alarms		0
Serial Number		1024190002			
Parameters					
Temperature [°C]	37,3 Curr	28V [mA]	156	PLL Unlock	•
Low Temperature	Mair	ns Fault	•	TDD Unlock	•
High Temperature	•				
Attenuations					
Att Channel 1		19	Att Channel 3		19
Att Channel 2		19	Att Channel 4		19
5G/NR Frame Structure					
TDD device version	4.8		SSB filter width		5
Subcarrier spacing [kHz]		30 🗸	Holdover time [minutes]		0
SSB position		2 🗸			
Pattern 1 enabled			Pattern 2 enabled		~
DL/UL Pattern 1 duration [ms]		3 🗸	DL/UL Pattern 2 duration [ms]		2 🗸
Nbr of DL slots Pattern 1		3	Nbr of DL slots Pattern 2		4
Special slot DL symbols Pattern 1		4	Special slot DL symbols Pattern	2	0

The **TSYNC-N** panel includes the following information about the TDD sync module used in 5G Systems:

Identification

- Type hex (hexadecimal notation)
- Model hex (hexadecimal notation)
- Version
- Serial Number
- Alarm Summary
 - Communication state
 - Max severity Maximum severity of active alarms
 - Active Alarms Number of active alarms

Parameters

- Detected Temperature and current (Curr 28V).
- Status of the Low Temperature, High Temperature, Mains Fault, PLL Unlock, TDD Unlock alarms.
- Attenuations Attenuation set for each channel (factory-set attenuation=26dB). Users logged in with the admins, superusers, or users role can adjust each port attenuation to compensate for the TDD reference output signal path losses.
- 5G/NR Frame Structure

Users logged in with the **admins**, **superusers**, or **users** role can configure the TDD sync module frame structure.

Note: The proper setting of the TDD sync module frame structure is crucial to optimal DAS performance in TDD networks.

- TDD device version.
- Subcarrier spacing [kHz] 15kHz, 30kHz, or 60kHz.
- SSB Position Position in time of the SSB (Synchronization Signal Block) Carrier. Only one SSB Position per Pattern1+Pattern2 is supported.
- Pattern 1 Synchronization pattern enabled by default.
- **Pattern 2 –** Additional synchronization pattern (Pattern 2).
- DL/UL Pattern 1 duration[ms], DL/UL Pattern 2 duration [ms].
- Nbr of DL slots Pattern 1, Nbr of DL slots Pattern 2 Number of downlink slots per pattern Note: Each slot is made of 14 symbols in the time domain.
- Special slot DL symbols Pattern 1, Special slot DL symbols Pattern 2 Number of DL symbols defined in the Special Slot Format. Refer to ETSI TS 38.213 Release 15, Table 11.1.1-1 for details.
- Holdover time [minutes] Time for which the TSYNC-N module will remain in a sync status even if the signal from the BS is absent.
 Note: At least 10 minutes of past lock are required.
- SSB filter width.

TSYNC-X Panel

Configuration read from devi	ce 2023-09-15 12:19:42 1.11.11 TSYNC (TSYNC-X) TDD SYNCHRONIZER FOR X-RAN		
Identification		Alarm summary	
Type hex	000032	Communication state	•
Model hex	00000000002	Max severity	•
Version	6	Active Alarms	1
Serial Number	1		
Parameters			
Temperature [°C]	31.3 Curr 28V [mA]	112 PLL Unlock	•
Low Temperature	Mains Fault	TDD Unlock	•
High Temperature	•		
Attenuations			
Att Channel 1	19	Att Channel 3	19
Att Channel 2	19	Att Channel 4	19

The **TSYNC-X** panel includes the following information about the TDD sync module that is used when the DAS is connected to the JMA XRAN System:

- Identification
 - Type hex (hexadecimal notation)
 - Model hex (hexadecimal notation)
 - Version
 - Serial Number
- Alarm Summary
 - Communication state
 - Max severity Maximum severity of active alarms
 - Active Alarms Number of active alarms
- Parameters
 - Detected Temperature and current (Curr 28V).
 - Status of the Low Temperature, High Temperature, Mains Fault, PLL Unlock, TDD Unlock alarms.
- Attenuations Attenuation set for each channel (factory-set attenuation=19dB). Users logged in with the admins, superusers, or users role can adjust each port attenuation to compensate for the TDD reference output signal path losses.

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TSYNC-C Panel

Configuration read from device	e 2023-08-2	22 10:00:10		
		8 TSYNC (TSYN DD SYNCHRONIZER	C-C)	
Identification			Alarm summary	
Type hex		000032	Communication state	•
Model hex		00000000004	Max severity	۲
Version		10	Active Alarms	0
Serial Number		1036992002		
Parameters				
Temperature [°C]	36.8	Curr 28V [mA]	46 TDD Unlock	•
Low Temperature		Mains Fault	•	
High Temperature	٠			
5G/NR Frame Structure				
TDD device version		4.8	SSB filter width	4
Subcarrier spacing [kHz]		30 🗸	Holdover time [minutes]	0
SSB position		2 🗸		
Pattern 1 enabled		1	Pattern 2 enabled	~
DL/UL Pattern 1 duration [ms]		3 🗸	DL/UL Pattern 2 duration [ms]	2 🗸
Nbr of DL slots Pattern 1		3	Nbr of DL slots Pattern 2	4
Special slot DL symbols Pattern	1	6	Special slot DL symbols Pattern 2	0

The **TSYNC-C** panel includes the following information about the next generation TDD sync module:

- Identification
 - Type hex (hexadecimal notation)
 - Model hex (hexadecimal notation)
 - Version
 - Serial Number
- Alarm Summary
 - Communication state
 - Max severity Maximum severity of active alarms
 - Active Alarms Number of active alarms

This document contains JMA Wireless proprietary and/or confidential information.

Parameters

- Detected Temperature and current (Curr 28V).
- Status of the Low Temperature, High Temperature, Mains Fault, TDD Unlock alarms.

5G/NR Frame Structure

Users logged in with the **admins**, **superusers**, or **users** role can configure the TDD sync module frame structure.

Note: The proper setting of the TDD sync module frame structure is crucial to optimal DAS performance in TDD networks.

- TDD device version.
- Subcarrier spacing [kHz] 15kHz, 30kHz, or 60kHz.
- SSB Position Position in time of the SSB (Synchronization Signal Block) Carrier. Only one SSB Position per Pattern1+Pattern2 is supported.
- Pattern 1 Synchronization pattern enabled by default.
- Pattern 2 Additional synchronization pattern (Pattern 2).
- DL/UL Pattern 1 duration [ms], DL/UL Pattern 2 duration [ms].
- Nbr of DL slots Pattern 1, Nbr of DL slots Pattern 2 Number of downlink slots per pattern Note: Each slot is made of 14 symbols in the time domain.
- Special slot DL symbols Pattern 1, Special slot DL symbols Pattern 2 Number of DL symbols defined in the Special Slot Format. Refer to ETSI TS 38.213 Release 15, Table 11.1.1-1 for details.
- Holdover time [minutes] Time for which the TSYNC-C module will remain in a sync status even if the signal from the BS is absent.
 Note: At least 10 minutes of past lock are required.
- SSB filter width.

MU-OTRX Panel

1 Configuration read from d	levice 2020	-02-05 11:41:08					
1.5.3	MU-OT	RX (TTRU4W-S-	-M)				
· · ·		r/Receiver for Master		80-2600MHz	1TX 4RX WDM SC/A	PC with RF Mo	nitor
Identification			Alar	m summary			
Type hex		000003	Com	munication st	ate		
Model hex		00000003231	Max	severity			
Version		16	Activ	e Alarms			0
Serial Number		81571008					
Parameters							
Temperature [°C]	42	Low Temperature			Mains Fault		
		High Temperature		•			
Transmitter							
Enabled Tx	af.				Laser Fault		
Attenuation Tx [dB]	3				Laser Warn		•
Receiver General							
Attenuation Rx [dB]	7,5						
Receiver Rx1							
Enable Rx		Opt. Power Rx [dB	3m]	-26,2	Rx1 Optical Low		
Attenuation Rx [dB]	10	Fiber Loss [dB]		Too High	Rx1 Optical Warn		
		Alarm summary R	U1		Rx1 Optical High		
Receiver Rx2							
Enable Rx		Opt. Power Rx [dB	3m]	-26,2	Rx2 Optical Low		
Attenuation Rx [dB]	0	Fiber Loss [dB]		Too High	Rx2 Optical Warn		•
		Alarm summary R	U2	۰	Rx2 Optical High		
Receiver Rx3							
Enable Rx	A	Opt. Power Rx [dB	3m]	6,2	Rx3 Optical Low		
Attenuation Rx [dB]	0	Fiber Loss [dB]		0,0	Rx3 Optical Warn		
		Alarm summary R	U3	•	Rx3 Optical High		
Receiver Rx4							
Enable Rx		Opt. Power Rx [dB	3m]	-26,2	Rx4 Optical Low		
Attenuation Rx [dB]	0	Fiber Loss [dB]		Too High	Rx4 Optical Warn		
		Alarm summary R	U4		Rx4 Optical High		

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Appendix - Description of the Main Panels of the DAS Components

The **MU-OTRX** panel includes the following information about the selected plug-in optical module:

- Identification
 - Type hex (hexadecimal notation)
 - Model hex (hexadecimal notation)
 - Version
 - Serial Number
- Alarm Summary
 - Communication state
 - Max severity Maximum severity of active alarms
 - Active Alarms Number of active alarms
- Parameters
 - Detected Temperature.
 - Status of the Low Temperature, High Temperature, and Mains Fault alarms.
- Transmitter
 - Enabled TX Optical transmitter enable check box.
 - Attenuation Tx [dB] Optical transmitter attenuation.
 - Status of the Laser Fault and Laser Warn alarms.
- Receiver General
 - Attenuation Rx [dB] Common receiver attenuation.
- Receiver Rx 1
 - Enable Rx check box Optical receiver enable/disable check box.
 - Attenuation Rx [dB] Receiver attenuation.
 - Opt. power Rx [dBm] Received optical power.
 - Fiber Loss [dB].
 - Status of the RX1 Optical Low, RX1 Optical Warn, and RX1 Optical High alarms.
 - Alarm summary RU1 Maximum severity of the alarms active for the remote unit connected to the receiver 1.
- Receiver Rx 2
 - Enable Rx check box Optical receiver enable/disable check box.
 - Attenuation Rx [dB] Receiver attenuation.
 - Opt. power Rx [dBm] Received optical power.
 - Fiber Loss [dB].
 - Status of the RX2 Optical Low, RX2 Optical Warn, and RX2 Optical High alarms.
 - Alarm summary RU2 Maximum severity of the alarms active for the remote unit connected to the receiver 2.

Receiver Rx 3

- Enable Rx check box Optical receiver enable/disable check box.
- Attenuation Rx [dB] Receiver attenuation.
- Opt. power Rx [dBm] Received optical power.
- Fiber Loss [dB].
- Status of the RX3 Optical Low, RX3 Optical Warn, and RX3 Optical High alarms.
- Alarm summary RU3 Maximum severity of the alarms active for the remote unit connected to the receiver 3.
- Receiver Rx 4
 - Enable Rx check box Optical receiver enable/disable check box.
 - Attenuation Rx [dB] Receiver attenuation.
 - Opt. power Rx [dBm] Received optical power.
 - Fiber Loss [dB].
 - Status of the RX4 Optical Low, RX4 Optical Warn, and RX4 Optical High alarms.
 - Alarm summary RU4 Maximum severity of the alarms active for the remote unit connected to the receiver 4.

MU-OTRX MIMO Panel

1 Configuration read from d	evice 2023-08	-09 12:05:19			lnventory		
1.1.9 MU-OTRX MIMO (TTRX24W-S-M) Optical Transmitter/Receiver for Master Unit, 2300-3800MHz 2TX 4RX WDM SC/APG RF Monitor							
Identification			Alarm summary				
Type hex		00005A	Communication state	÷	•		
Model hex		00000000014	Max severity		•		
Version		2	Active Alarms		3		
Serial Number		1029254043					
Parameters							
Temperature [°C]	33.5	Low Temperature High Temperature	•	Mains Fault	٠		
Transmitter A							
Enabled Tx				Laser Fault M1	•		
Attenuation Tx [dB]	0			Laser Warn M1	•		
Transmitter B							
Enabled Tx				Laser Fault M2	•		
Attenuation Tx [dB]	0			Laser Warn M2	•		
Receiver General A							
Attenuation Rx [dB]	0						
Receiver General B							
Attenuation Rx [dB]	0						
Receiver Rx1							
Enable Rx		Opt. Power Rx [dBm]	5.8	Rx1 Optical Low			
Attenuation Rx [dB]	0	Fiber Loss [dB]	0.2	Rx1 Optical Warn			
	Ū	Alarm summary RU1		Rx1 Optical High	•		
Receiver Rx2			-				
Enable Rx		Opt. Power Rx [dBm]	5.4	Rx2 Optical Low			
Attenuation Rx [dB]	0	Fiber Loss [dB]	0.6	Rx2 Optical Warn			
. []	-	Alarm summary RU2		Rx2 Optical High	•		
Receiver Rx3		,					
Enable Rx		Opt. Power Rx [dBm]	-18.2	Rx3 Optical Low			
Attenuation Rx [dB]	0	Fiber Loss [dB]	24.2	Rx3 Optical Warn			
		Alarm summary RU3		Rx3 Optical High	•		
Receiver Rx4		,					
Enable Rx		Opt. Power Rx [dBm]	-26.2	Rx4 Optical Low			
Attenuation Rx [dB]	0	Fiber Loss [dB]	Too High	Rx4 Optical Warn			
	-	Alarm summary RU4		Rx4 Optical High			

The **MU-OTRX MIMO** panel includes the following information about the selected plug-in MIMO optical module:

- Identification
 - Type hex (hexadecimal notation)
 - Model hex (hexadecimal notation)

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- Version
- Serial Number

Alarm Summary

- Communication state
- Max severity Maximum severity of active alarms
- Active Alarms Number of active alarms
- Parameters
 - Detected Temperature.
 - Status of the Low Temperature, High Temperature, and Mains Fault alarms.
- Transmitter A
 - Enabled TX Optical transmitter enable check box.
 - Attenuation Tx [dB] Optical transmitter attenuation.
 - Status of the Laser Fault M1 and Laser Warn M1 alarms.
- Transmitter B
 - Enabled TX Optical transmitter enable check box.
 - Attenuation Tx [dB] Optical transmitter attenuation.
 - Status of the Laser Fault M2 and Laser Warn M2 alarms.
- Receiver General A
 - Attenuation Rx [dB] Common receiver attenuation.
- Receiver General B
 - Attenuation Rx [dB] Common receiver attenuation.
- Receiver Rx 1
 - Enable Rx check box Optical receiver enable/disable check box.
 - Attenuation Rx [dB] Receiver attenuation.
 - Opt. power Rx [dBm] Received optical power.
 - Fiber Loss [dB].
 - Status of the RX1 Optical Low, RX1 Optical Warn, and RX1 Optical High alarms.
 - Alarm summary RU1 Maximum severity of the alarms active for the remote unit connected to the receiver 1.
- Receiver Rx 2
 - Enable Rx check box Optical receiver enable/disable check box.
 - Attenuation Rx [dB] Receiver attenuation.
 - Opt. power Rx [dBm] Received optical power.
 - Fiber Loss [dB].
 - Status of the RX2 Optical Low, RX2 Optical Warn, and RX2 Optical High alarms.

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- Alarm summary RU2 Maximum severity of the alarms active for the remote unit connected to the receiver 2.
- Receiver Rx 3
 - Enable Rx check box Optical receiver enable/disable check box.
 - Attenuation Rx [dB] Receiver attenuation.
 - Opt. power Rx [dBm] Received optical power.
 - Fiber Loss [dB].
 - Status of the RX3 Optical Low, RX3 Optical Warn, and RX3 Optical High alarms.
 - Alarm summary RU3 Maximum severity of the alarms active for the remote unit connected to the receiver 3.
- Receiver Rx 4
 - Enable Rx check box Optical receiver enable/disable check box.
 - Attenuation Rx [dB] Receiver attenuation.
 - Opt. power Rx [dBm] Received optical power.
 - Fiber Loss [dB].
 - Status of the RX4 Optical Low, RX4 Optical Warn, and RX4 Optical High alarms.
 - Alarm summary RU4 Maximum severity of the alarms active for the remote unit connected to the receiver 4.

MU-OTRX (TTRU2W-S-M-C2) Panel

1 Configuration r	ead from device	2018-12-17 11:27:27			lnventory
		OTRX (TTRU2W-S-I		Ultra-wide band, with M	onitor, Cascade
Identification			Alarm summary		
Type hex		000003	Communication s	tate	۲
Model hex		00000007241	Max severity		۲
Version		15	Active Alarms		0
Serial Number		1002040001			
Parameters					
Temperature [°C]	56,3	Low Temperature High Temperature	•	Mains Fault	•
Transmitter					
TX enabled	v	2		Laser Fault	۲
Att Tx [dB]	0	D		Laser Warn	٠
Receiver General					
Att Rx [dB]	0	Att Rx 2 [dB]	0		
Receiver Rx1					
Enable Rx] Opt. Power Rx [dB	3m] -26,2	Rx1 Optical Low	۲
Att [dB]	0	Fiber Loss (dB)	Too High	Rx1 Optical Warn	۲
		Alarm summary R	U1 O	Rx1 Optical High	٠
Receiver Rx2					
Enable Rx] Opt. Power Rx [dB	3m] -26,2	Rx2 Optical Low	۲
Att [dB]	0	Fiber Loss (dB)	Too High	Rx2 Optical Warn	•
		Alarm summary R	U2 O	Rx2 Optical High	٠
Receiver Rx3					
Enable Rx] Opt. Power Rx [dB	3m] -26,2	Rx3 Optical Low	۲
Att [dB]	0	Fiber Loss [dB]	Too High	Rx3 Optical Warn	۲
		Alarm summary R	U3 🔴	Rx3 Optical High	۲
Receiver Rx4					
Enable Rx		Opt. Power Rx [dB	3m] -26,2	Rx4 Optical Low	٠
Att [dB]	0	Fiber Loss [dB]	Too High	Rx4 Optical Warn	۲
		Alarm summary R	U4 O	Rx4 Optical High	•

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The **MU-OTRX (TTRU2W-S-M-C2)** panel includes the following information about the selected plug-in optical module for DAS designs delivering seven or nine bands on a single fiber:

- Identification
 - Type hex (hexadecimal notation)
 - Model hex (hexadecimal notation)
 - Version
 - Serial Number
- Alarm Summary
 - Communication state
 - Max severity Maximum severity of active alarms
 - Active Alarms Number of active alarms
- Parameters
 - Detected Temperature.
 - Status of the Low Temperature, High Temperature, and Mains Fault alarms.
- Transmitter
 - *Enabled TX* Optical transmitter enable check box.
 - Attenuation Tx [dB] Optical transmitter attenuation.
 - Status of the Laser Fault and Laser Warn alarms.
- Receiver General
 - Attenuation Rx [dB] Receiver attenuation.
 - Attenuation Rx 2 [dB] Receiver 2 attenuation.
- Receiver Rx 1
 - Enable Rx check box Optical receiver enable/disable check box.
 - Attenuation Rx [dB] Receiver attenuation.
 - Opt. power Rx [dBm] Received optical power.
 - Fiber Loss [dB].
 - Status of the RX1 Optical Low, RX1 Optical Warn, and RX1 Optical High alarms.
 - Alarm summary RU1 Maximum severity of the alarms active for the remote unit connected to the receiver 1.
- Receiver Rx 2
 - Enable Rx check box Optical receiver enable/disable check box.
 - Attenuation Rx [dB] Receiver attenuation.
 - Opt. power Rx [dBm] Received optical power.
 - Fiber Loss [dB].
 - Status of the RX2 Optical Low, RX2 Optical Warn, and RX2 Optical High alarms.

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- Alarm summary RU2 Maximum severity of the alarms active for the remote unit connected to the receiver 2.
- Receiver Rx 3
 - Enable Rx check box Optical receiver enable/disable check box.
 - Attenuation Rx [dB] Receiver attenuation.
 - Opt. power Rx [dBm] Received optical power.
 - Fiber Loss [dB].
 - Status of the RX3 Optical Low, RX3 Optical Warn, and RX3 Optical High alarms.
 - Alarm summary RU3 Maximum severity of the alarms active for the remote unit connected to the receiver 3.
- Receiver Rx 4
 - Enable Rx check box Optical receiver enable/disable check box.
 - Attenuation Rx [dB] Receiver attenuation.
 - Opt. power Rx [dBm] Received optical power.
 - Fiber Loss [dB].
 - Alarm summary RU4 Maximum severity of the alarms active for the remote unit connected to the receiver 4.

NG OTRX Panel

L Configuration read from d	evice 2023-08-23	09:05:30				
	1.2.1	NG OTRX (ED35BD)				
	Optical	Transmitter/Receiver for Master Unit, Auction 11	0, MIMO 2x2, 4 Sectors 8OUT, WDI	M		
	222					
d-attention			A1			
dentification		00005C	Alarm summary Communication state			
Type hex						
vlodel hex /ersion		00000000002				
Serial Number		1043643004				
		1043043004				
arameters						
Board Temperature ["C]		40 Low Temperature	•	TDD Unlock		
Core Temperature [*C]		67.3 High Temperature		Clock Distribu	tor Unlock	
		Mains Fault	•	Init Failure		
F Path Mapping	_					
Configuration	Cont	iguration 1 🗸				
• A1	• A1	• A1 • A1		• A1	• A1	• A1
• A2	• A2	A O O B1 A O O B1	A O B1 A O	• A2	A • • • • • A2	• A2
• B2 B •	• B2	B • • B2 B • • B2		• B2	B • • B2 B •	B2
• C1 C • C1 C • C2 D •	C1	C • • · · · · · · · · · · · · · · · · ·		• C1	C • • C1 C • D • • C2 D •	C1
• C2 D •	D1			0 C2	• D1	
Conf. 1 D2	Conf. 2 D2	Conf. 3 0 D2 Conf. 4 0 D2	Conf. 5 D2 0	Conf. 6 D2	Conf. 7 D2	Conf. 8 D
1 - <u>1.2.1.1</u>			A2			
Opt. Link state	LC fiber 🗸	Rx Optical Low A1	Opt. Link state	Absent 🗸	Rx Optical Low A2	
SFP Temperature [*C]	54.4	Loss of Sync A1	SFP Temperature [*C]	-128	Loss of Sync A2	•
Opt. Power Tx [dBm]	-0.3	RU Type Mismatch A1	Opt. Power Tx [dBm]	-70	RU Type Mismatch A2	•
Opt. Power Rx [dBm]	-3.6	RU1 addr. fe80::1a45:b3ff:fe90:71e	Opt. Power Rx [dBm]	-70		
		Alarm summary RU1				
F Path A						
ttenuation UL1 [dB]	0	Attenuation DL1 [dB] 0	Attenuation UL2 [dB]	0	Attenuation DL2 [dB]	0
MS Power Max A UL1		Overdrive A DL1	RMS Power Max A UL2		Overdrive A DL2	
Current A UL1	•		Current A UL2			
31			B2			
Opt. Link state	Absent 🗸	Rx Optical Low B1	Opt. Link state	Absent 🗸	Rx Optical Low B2	
SFP Temperature [*C]	-128	Loss of Sync B1	SFP Temperature [*C]	-128	Loss of Sync B2	
Opt. Power Tx [dBm]	-70	RU Type Mismatch B1	Opt. Power Tx [dBm]	-70	RU Type Mismatch B2	
Opt. Power Rx [dBm]	-70		Opt. Power Rx [dBm]	-70		
F Path B			· • • • • • •			
	0	Attenuation DI 1 (dD)	Attenuation LIL 9 (-101	0	Attonuation DL 2 (4D)	
ttenuation UL1 [dB]	0	Attenuation DL1 [dB] 0 Overdrive B DL1	Attenuation UL2 [dB] RMS Power Max B UL2	0	Attenuation DL2 [dB] Overdrive B DL2	0
Current B UL1			Current B UL2		Overunive b DLZ	
1			C2			
Opt. Link state	Absent 🗸	Rx Optical Low C1	Opt. Link state	Absent 🗸	Rx Optical Low C2	
SFP Temperature [°C]	-128	Loss of Sync C1	SFP Temperature [°C]	-128	Loss of Sync C2	
Opt. Power Tx [dBm]	-70	RU Type Mismatch C1	Opt. Power Tx [dBm]	-70	RU Type Mismatch C2	
Opt. Power Rx [dBm]	-70		Opt. Power Rx [dBm]	-70		
F Path C						
ttenuation UL1 [dB]	0	Attenuation DL1 [dB] 0	Attenuation UL2 [dB]	0	Attenuation DL2 [dB]	0
MS Power Max C UL1	٠	Overdrive C DL1	RMS Power Max C UL2	•	Overdrive C DL2	•
urrent C UL1	٠		Current C UL2	•		
1			D2			
Opt. Link state	Absent 🗸	Rx Optical Low D1	Opt. Link state	Absent 🗸	Rx Optical Low D2	•
SFP Temperature [℃]	-128	Loss of Sync D1	SFP Temperature [°C]	-128	Loss of Sync D2	•
Opt. Power Tx [dBm]	-70	RU Type Mismatch D1	Opt. Power Tx [dBm]	-70	RU Type Mismatch D2	•
Opt. Power Rx [dBm]	-70		Opt. Power Rx [dBm]	-70		
F Path D						
ttenuation UL1 [dB]	0	Attenuation DL1 [dB] 0	Attenuation UL2 [dB]	0	Attenuation DL2 [dB]	0
MS Power Max D UL1	•	Overdrive D DL1	RMS Power Max D UL2	•	Overdrive D DL2	
Current D UL1			Current D UL2	•		
				2		
ans						

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The **NG OTRX** panel includes the following information about the **next generation** MIMO 2x2 optical transceiver:

- Identification
 - Type hex (hexadecimal notation)
 - Model hex (hexadecimal notation)
 - Version
 - Serial Number
- Alarm Summary
 - Communication state
 - Max severity Maximum severity of active alarms
 - Active Alarms Number of active alarms

Parameters

- Detected *Board Temperature*.
- Detected Core Temperature.
- Status of the Low Temperature, High Temperature, Mains Fault, TDD Unlock, Clock Distributor Unlock, and Init Failure alarms.
- RF Path Mapping
 - Configuration drop-down list Selected simulcast configuration. Users logged in with the admins, superusers, or users role can select how the RF signal from different MIMO 2x2 cells is distributed to the remote units connected to the NG OTRX optical ports (A1, A2, B1, B2, C1, C2, D1, D2). Eight different simulcast configurations are available. Configuration 1 is the default factory configuration. See "Selecting the NG OTRX Simulcast Configuration" on page 41.
 - Conf<number> diagrams The diagrams describe how the different simulcast configurations distribute the RF signal to the connected remote units. When you select a configuration from the drop-down list, the diagram that corresponds to the selected configuration is highlighted.

• <optical port label> - <ppppittion of the connected remote unit in the system (link to the remote unit panel)</p>

Note: When the port is connected to a remote unit, the address of the connected remote unit is displayed in the title of the pane, next to the optical port label. Click the address to open the connected remote unit panel.

The **NG OTRX** optical ports are labeled and numbered as follows:

- A1 (port number 1), A2 (port number 2)
- **B1** (port number 3), **B2** (port number 4)
- C1 (port number 5), C2 (port number 6)
- D1 (port number 7), D2 (port number 8).

For each port the following information is provided:

- Opt. Link state:
 - *absent* no fiber is connected to the optical port.
 - *LC fiber* LC fiber connected to the optical port.
- SFP Temperature
- *Opt. Power Tx* Transmitted optical power.
- Opt. Power Rx Received optical power.
- Status of the Rx Optical Low, Loss of Sync, and RU Type Mismatch alarms.
- *RU<port number> addr.* IPv6 Address of the connected remote unit.
- Alarm summary RU<port number> Maximum severity of the alarms active for the remote unit connected to the optical port.

• RF Path A, RF Path B, RF Path C, RF Path D

The **NG OTRX** RF paths are identified as A, B, C, D. For each RF path the following information is provided:

- Attenuation UL1 [dB], Attenuation DL1 [dB] Attenuations for the RF Path, MIMO1 layer.
- Attenuation UL2 [dB], Attenuation DL2 [dB] Attenuations for the RF Path, MIMO2 layer.
- Status of the RMS Power Max <path> UL1, Overdrive <path> DL1, Current <path> UL1, RMS Power Max <path> UL2, Overdrive <path> DL2, Current <path> UL2 alarms.
- Fans
 - Fan 1 speed Actual rotation speed of fan 1 (rpm, revolutions per minute).
 - Fan 2 speed Actual rotation speed of fan 2 (rpm, revolutions per minute).
 Note: If the fan rotation speed is 4300 rpm, the fan is not spinning.
 - Status of the Fan Speed alarm.

RU Panel

A panel is available for each remote unit (RU) equipped in the DAS. The panels vary based on the model of the remote unit.

Note: In the Physical Tree, remote units are contained within the connected MU-OTRX.

1593	RU POLE 2	W SDRU (T2	325WXAT)		
				59 1 SCAPC Wideband 4.3-10	
Hende	Unit Pole 2014 HIL	-22300[#3007(93	STEELASOBULAC -	op i acore e motoano « a n	
Identification			Alarm summary		
Type hex		000050	Communication stat	e	
Model hex	0	00000000729	Max sevenity		
Version		1	Active Alarms		2
Serial Number		1012954001			
Description					
Name	T2325W	KAT			
Description					
Paramotors	_				_
Temperature [*C]	25 PSI	J Vout [V]	29.2	PSU1 Current (A)	2,34
Low Temperature		J Tmp [*C]	37.4	PSU2 Current (A)	2,34
High Temperature		J Temperature	37,4	PSU3 Current [A]	2,37
Pign Temperature Operator		J DC Out Cur		C Reset	2,96
destruction.		- Dorstell GOP		C Internet	
ransmitter			-		
Laser Fault		•	Q Show ROTRX		53253
Laser Warning		•	Rotrx alarm summa	7	•
Receiver					
Rx Optical Power (dBm)		1,7	Rx Optical Low		•
Fiber Loss (dB)		1,3	Rx Optical Warning		٠
			Rx Optical High		٠
Channel WCS2300 (43dBm)					_
RF Enable			Q Show amplifier	details	
			Module alarm summ	1.1/1	
			Power (dBm)		0,6
Attenuation UL (dB)		0	Attenuation DL (dB)		0
WCS2300 Current			DL Power Low		
WCS2300 UL Power High		•	DL Power High		
Channel 25TDD (43dBm)					
RF Enable			Q Show amplifier	details	
			Module alarm summ		
			Power (dBm)		-4.9
Altenuation UL [dB]		0	Attenuation DL [dB]		0
25TDD Current			DL Power Low		
25TDD UL Power High			DL Power High		
_		-			-
DOU				1	
PLL Unlock		•	Q Show TODU de		
		•	TDDU alarm summ	iry :	•
TDD Unlack					
TDD Unlock					
TDD Unlock an Fan speed 1 [%]		speed 1 [rpm]	0	Fan Speed	•
TDD Unlock		speed 1 [rpm] speed 3 [rpm]	0	Fan Speed	•
TDD Unlock an Fan speed 1 [%]				Fan Speed	•
TDD Unlock Fan Speed 1 [%] Fan Speed 3 [%] Edornal alarms Name			0 Severity	Polarity	• State
TDD Unlock Tan Fan speed 1 [%] Fan speed 3 [%] Commal alarms Name A1		spred 3 (rpm) Enable	0 Severity warning	Polarity • active-low	State
TDD Unlock Fan speed 1 [%] Fan speed 3 [%] Citemal alarms A1 82		spied 3 (tpm) Enable R	0 Severity warning warning	Polarity active-low active-low	State • •
IDD Unlock San Fan speed 1 [%] Fan speed 3 [%] Cotornal alamis A1 B2 C3		Enable	0 Severity warning warning warning	Polarity • active-low • active-low • active-low	State • • • •
TDD Unlock San Fan speed 1 [N] Fan speed 3 [N] Cotornal alarms A1 B2 G3 G3 D4		spied 3 (tpm) Enable R	0 Severity warning warning	Polarity active-low active-low	State • •
TDD UNlook Fan speed 1 [%] Fan speed 1 [%] Cotornal alarms A1 B2 G3 G4 Rolays	0 Fan	Enable	0 Severity warning warning warning	Polarity active-low active-low active-low active-low	State • 0 • 0 • 0 • 0
TDD UNlook Fan speed 1 [%] Fan speed 1 [%] Cotornal alarms A1 B2 G3 G4 Rolays		Enable	0 Severity warning warning warning Policy	Polarity active-low active-low active-low active-low State	State • 0 • 0 • 0 • 0
TDD UNlook Fan speed 1 [%] Fan speed 1 [%] Cotornal alarms A1 B2 G3 G4 Rolays	0 Fan	Enable	0 Severity warning warning warning	Polarity active-low active-low active-low active-low	State • 0 • 0 • 0 • 0

1.5	1.2 RU 58	3 2W (TRM8918212	SAT)					
Remi	ste Unit 2W L1 ector	E800EGSM900DCS1	IOOVMTS2100LTE	2600 AC 1	550 1 3	SC/APC E	Suplexed 4	3-10
MANAGARA AND			Alarm summary					
Type hex		000048	Communication s	tata				
Model her:		000000082D	Max seventy	1.439				
Version		3	Active Alarma					
Serial Number		1012903001						
Description								
Name								
Description								
Parameters	-							
PSU Vout [V]	26.7	Temperature [*C]	\$7.7					
Mains Fault	20,7	Temperature (*C)	51,7					
		temperature	_	_				
Transmitter		1						
		Laser Fault						
Receiver								
Rx Optical Power [dBm] Fiber Loss [dB]	3,2	Rx Optical Low Rx Optical Warn			Splical I	High		
	0,0	Rx Optical Warn						
CW parametors		-						
Frequency LTE2600 - 26	# 25351/ *	CW Test		CW	Fault			
Channel LTE800								
RF Enable		8	Pwr DL (dBire)					-13,3
Attenuation UL (dB)		0	Attenuation DL. [d					0
LTE800 Current		•	LTE800 DL Pwr L					
LTE800 UL Pwr High		•	LTE800 DL Pwr H	ligh				
Channel EGSM900								
RF Enable		×	Pwr DL (d8m)					-13
Attenuation UIL [dB]		0	Attenuation DL (d	81				0
EGSM900 Current		•	EGSM000 DL Pw					
EGSM900 UL Pwr High		•	EGSM000 DL Pw	r High				
Channel DCS1800								
RF Enable		8	Pwr DL (dBm)					-7,3
Attenuation UIL [dB]		0	Attenuation DL [d					0
DCS1800 Current		•	DCS1800 DL Pw					
DCS1800 UL Pwr High		•	DCS1800 DL Pw	High				
Channel UMTS2100								
RF Enable		8	Pwr DL (dBm)					-12,9
Attenuation UL [dB]		0	Attenuation DL [d					0
UMTS2100 Current		•	UMTS2100 DL P					
UMTS2100 UIL Pwr High		•	UMTS2100 DL P	wr High				
Channel LTE2600								
RF Enable		8	Pwr DL (dBm)					-11,5
Attenuation UL [dB]		0	Attenuation DL [d					0
LTE2600 Current		•	LTE2600 DL Pwr					
LTE2600 UL Pwr High		•	LTE2600 DL Pwr	High				
External alarms								
Nam	•	Enable	Severity		tive-lov	Polarity		State
			warning		tive los			
		8	warning	• =	tive los		•	
		8	warning	• 8	tive los			•
Rokrys								
	Name		Poli	cy		LOSED	State	
			Manual			LOSED		
			and a second of			LOSED		

The RU panel includes the following information about the selected remote unit:

- Identification
 - Type hex (hexadecimal notation)
 - Model hex (hexadecimal notation)
 - Version
 - Serial Number
- Alarm Summary
 - Communication state

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- Max severity Maximum severity of active alarms
- Active Alarms Number of active alarms

Description

Remote unit Name and Description.

Users logged in with the **admins**, **superusers**, or **users** role can assign a name and add a description. See "Assigning Names to the DAS Components" on page 40.

• **Parameters –** Remote unit operating parameters and alarm status.

Note: The parameters and alarms displayed vary based on the model of the selected remote unit.

- Transmitter (SISO remote units)
 - Transmitter alarm status.
 - Pole-mount and very-high-power (VHP) remote units: A button is available to access the details of the optical module (ROTRX) equipped inside the remote unit.
- Transmitter 1 (MIMO remote units, layer 1)
 - Transmitter 1 alarm status.
 - Pole-mount and very-high-power (VHP) remote units: A button is available to access the details of the optical module (ROTRX) equipped inside the remote unit.
- Transmitter 2 (MIMO remote units, layer 2) Transmitter 2 alarm status.
- Receiver (SISO remote units) Receiver parameters and alarm status.
- Receiver 1 (MIMO remote units, layer 1) Receiver 1 parameters and alarm status.
- Receiver 2 (MIMO remote units, layer 2) Receiver 2 parameters and alarm status.
- CW parameters (available for RUs models supporting the CW Test UL generation feature) CW parameters for continuous wave (CW) testing: *Frequency* drop-down list, *CW Test* button, and *CW Fault* alarm status icon.

Channel <band name> (SISO remote units)

One pane is available for each band enhanced by the remote unit. Each pane includes the *RF Enable* check box, which allows users logged in with the **admins**, **superusers**, or **users** role to enable and disable the downlink RF output for the channel. See "Enabling or Disabling RF for the Remote Unit Downlink Path" on page 56.

Note: For pole-mount and very-high-power (VHP) remote units a button is available to access the details of the power amplifier equipped inside the remote unit.

Channel <band name> M1 (MIMO remote units, layer 1)

MIMO layer 1 parameters and alarm status.

The *RF Enable* check box allows users logged in with the **admins**, **superusers**, or **users** role to enable and disable the downlink RF output for the MIMO layer. See "Enabling or Disabling RF for the Remote Unit Downlink Path" on page 56.

Note: For pole-mount and very-high-power (VHP) remote units a button is available to access the details of the power amplifier equipped inside the remote unit.

Channel <band name> M2 (MIMO remote units, layer 2)

MIMO layer 2 parameters and alarm status.

The *RF Enable* check box allows users logged in with the **admins**, **superusers**, or **users** role to enable and disable the downlink RF output for the MIMO layer. See "Enabling or Disabling RF for the Remote Unit Downlink Path" on page 56.

- TDDU (available for TDD pole-mount and TDD very-high-power remote units only)
 - Status of the PLL Unlock and TDD Unlock alarms.
 - TDDU alarm summary Maximum severity of the alarms active for the TDD synchronizer equipped inside the remote unit.
 - Show TDDU details Link to the TDD synchronizer panel.
- Fan (if equipped):
 - Fan speed <fan number> [%] Rotational speed set for the fan.
 - Fan speed <fan number> [rpm] Actual fan rotational speed (revolutions per minute).
 - Status of the Fan Speed alarm.
- External Alarms Alarm status of the external devices connected to the remote unit. Users logged in with the admins, superusers, or users role can enable or disable each external alarm, and set the external alarm name, severity, and polarity. See "Setting External Alarms and Relays" on page 45.
- Relays External outputs name and logic. Users logged in with the admins, superusers, or users role can switch external outputs either manually or automatically. See "Relays" on page 46.

NG RU and NG SDRU Panels

A panel is available for each next generation remote unit (NG RU or NG SDRU) equipped in the DAS.

Note: In the **Physical Tree**, Next Generation Remote Units (NG RU) and Next Generation Software Defined Remote Units (NG SDRU) are contained within the connected NG OTRX.

The following figure shows an example of the NG RU panel:

1 Configuration read from	m device 202 4	4-01-04 13:06:16					Inventory
	[1.9.1.5 NG RU	(RD35T	WW2AT)			
	1	Remote Unit Box 1B	C-BAND 3	700-3980 N	MHz, 40W, M2	x2, AC, 4.3-10	
Identification			Alarm	summary			
Type hex		00005E	Commu	inication sta	ate		•
Model hex		000000000C1	Max se	verity			•
Version		1.3.0.5	Active A	larms			0
Serial Number		1039875053					
Description							
Name							
Description							
Parameters							
Board temperature [°C]	42.9	Low Temperature		۲	Init Failure		•
Core temperature [°C]	44.9	High Temperature		٠	Clock Distri	butor Unlock	•
Temperature Minor	٠	Mains Fault		٠	TDD Unlock	¢	•
Temperature Warning	٠	PSU High Temper	ature	۲	C Reset		
Link							
Opt. Link state	LC fib 🗸	Opt. Power Tx [dB	8m]	-0.5	RU addr.	fe80::1a45:b3f	f:fe90:b14
SFP Temperature [°C]	47	Opt. Power Rx [dB	Bm]	-2.9	Loss of Syn	с	•
Channel C-BAND M1							
RF Enable		~	Pwr DL	[dBm]			42.3
Attenuation UL [dB]		0	Attenua	tion DL [dB	3]		0
C-BAND M1 UL Current		•	C-BANI	D M1 DL Po	ower Low		•
C-BAND M1 UL ALC		۲	C-BANI	D M1 DL Po	ower High		•
			🛃 Ot	her alarms	;		۲
Channel C-BAND M2							
RF Enable		~	Pwr DL	[dBm]			42
Attenuation UL [dB]		0	Attenua	tion DL [dB	3]		0
C-BAND M2 UL Current		•	C-BANI	D M2 DL Po	ower Low		•
C-BAND M2 UL ALC		•	C-BANI	D M2 DL Po	ower High		•
			🖬 Ot	her alarms	;		•
Fans							
Fan 1 speed [rpm]	2882	Fan 3 speed [rpm]		2969	Fan Speed		•
Fan 2 speed [rpm]	3150	Fan 4 speed [rpm]		2952			
External alarms							
Nam		Enable		Severity		olarity	State
Ext. nar				arning		ive-low	-
	ne 2		W	arning	 act 	ive-low 💉	1
Ext. nar Ext. nar				arning	✓ act	ive-low	/

JMA DAS Platform - Remote Monitoring and Management User Guide This document contains JMA Wireless proprietary and/or confidential information. The following figure shows an example of the **NG SDRU** panel:

1 Configuration read from	device 2024-01-04 12	:56:36			Inventory
			I (RD35TWX2AT 3AND(43dBm), SDR(·	1
Identification			Alarm summary		
Type hex		000062	Communication state	;	•
Model hex	000000	0000C1	Max severity		•
Version		1.3.0.5	Active Alarms		0
Serial Number	1025	5744990			
Description					
Name					
Description					
Parameters					
Board temperature [°C]	42.9 Low Te	mperature	•	Init Failure	•
Core temperature [°C]	46.2 High Te	emperature	•	Clock Distributor Ur	nlock
Temperature Minor	Mains F	ault	•	TDD Unlock	•
Temperature Warning	PSU Hi	gh Temperatu	re 🕒	C Reset	
Link					
Opt. Link state	LC fib 🗸 🛛 Opt. Po	wer Tx [dBm]	-1.6	RU addr. fe80::1a	a45:b3ff:fe90:bda
SFP Temperature [°C]	44 Opt. Po	wer Rx [dBm]	-2.9	Loss of Sync	•
Channel C-BAND M1 (430	iBm)				
RF Enable		v	Pwr DL [dBm]		40.6
Attenuation UL [dB]		0	Attenuation DL [dB]		0
C-BAND M1 UL Current			C-BAND M1 DL Pow	er Low	•
C-BAND M1 UL ALC			C-BAND M1 DL Pow	er High	•
			🛨 Other alarms		•
Channel C-BAND M2 (430	(Bm)				
RF Enable	ioniy		Pwr DL [dBm]		39.2
Attenuation UL [dB]			Attenuation DL [dB]		0
C-BAND M2 UL Current			C-BAND M2 DL Pow	er Low	
C-BAND M2 UL ALC			C-BAND M2 DL Pow		
			Other alarms		•
			_		
Fans	2404		0000	Fee Const	
Fan 1 speed [rpm]		peed [rpm]		Fan Speed	•
Fan 2 speed [rpm]	2987 Fan 4 s	peed [rpm]	3233		
External alarms		Frekt	Paula	Delect	
Name Ext. name	: 1	Enable	Severity warning V	Polarity active-low	State
Ext. name			minor V		✓✓
Ext. name	3		major 🗸	 active-low 	~
Ext. name	4		critical 🗸	 active-low 	✓

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The **NG RU** and **NG SDRU** panels include the following information about the selected next generation remote unit:

- Identification
 - Type hex (hexadecimal notation)
 - Model hex (hexadecimal notation)
 - Version
 - Serial Number
- Alarm Summary
 - Communication state
 - Max severity Maximum severity of active alarms
 - Active Alarms Number of active alarms
- Description Remote unit Name and Description

Users logged in with the **admins**, **superusers**, or **users** role can assign a name and add a description. See "Assigning Names to the DAS Components" on page 40.

- Parameters
 - Detected *Board Temperature*.
 - Detected Core Temperature.
 - Status of the Temperature Minor, Temperature Warning, Low Temperature, High Temperature, Mains Fault, PSU High Temperature, Init Failure, Clock Distributor Unlock and TDD Unlock alarms.
 - Reset The reset button is available for all users to power cycle the unit.
- Link
 - Opt. Link state:
 - absent No fiber is connected to the optical port.
 - *LC fiber* LC fiber connected to the optical port.
 - Detected SFP Temperature
 - *Opt. Power Tx* Transmitted optical power.
 - Opt. Power Rx Received optical power.
 - RU addr. IPv6 Address of the remote unit.
 - Status of the Loss of Sync alarm.
- Channel <band name> M1 (licensed output power>, NG SDRU panel only) MIMO layer 1 parameters and alarm status.
 - *RF Enable* The *RF Enable* check box allows users logged in with the admins, superusers, or users role to enable and disable downlink RF output for the MIMO layer. See "Enabling or Disabling RF for the Remote Unit Downlink Path" on page 56.
 - *Pwr DL* Detected downlink output power.

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- Attenuation UL and Attenuation DL Attenuations set for the MIMO1 layer. Users logged in with the admins, superusers, or users role can set attenuations.
- Channel <band name> M2 (licensed output power>, NG SDRU panel only) MIMO layer 2 parameters and alarm status.
 - *RF Enable* The *RF Enable* check box allows users logged in with the admins, superusers, or users role to enable and disable downlink RF output for the MIMO layer. See "Enabling or Disabling RF for the Remote Unit Downlink Path" on page 56.
 - *Pwr DL* Detected downlink output power.
 - Attenuation UL and Attenuation DL Attenuations set for the MIMO1 layer. Users logged in with the admins, superusers, or users role can set attenuations.

Note: The operating bands and output power of Software Defined Remote Units (SDRU) are tied to license keys, which can be managed remotely using the *JMA Wireless SDRU Panel* software. No channel panes are available on the **NG SDRU** panel until licenses are activated using the SDRU Panel software. If not all the expected channels and output power levels are available, verify the activation of purchased features. Refer to the *JMA DAS Platform SDRU Panel User Guide* for details.

- Fans
 - Fan speed <fan number> [rpm] Actual fan rotational speed (revolutions per minute).
 - Status of the *Fan Speed* alarm.
- External Alarms Alarm status of the external devices connected to the remote unit. Users logged in with the admins, superusers, or users role can enable or disable each external alarm, and set the external alarm name, severity, and polarity. See "Setting External Alarms and Relays" on page 45.

Point to Point Link

Two TTRUPTP panels are available for the management of each optical Point-to-Point link: Point-to-Point link master and secondary panels.

TTRUPTP Master Panel

1 Configuration rea	ad from device 2018-05-25 13:	14:51		
• (5)	1.1.7 TTRUPTP (TTRUPT Point to Point link Master, Ultra		ionitor, SC-APC, lambda 155	0
Identification		Alarm summar	ý	
Type hex	0000	004 Communication	state	٠
Model hex	000000007	729 Max severity		•
Version		2 Active Alarms		0
Serial Number	10080610	003		
Description				
Name	PTP-M2			
Description	Connected to P	TP-S2		
Parameters				
Temperature [°C]	43 Low Tempe	rature 🔴	Mains Fault	•
	High Tempe	erature 🔴		
Transmitter				
TX enabled			Laser Fault	•
Att Tx [dB]			Laser Warn	٠
Receiver				
Power Rx[dBm]	-1 Att In [dB]		Rx Optical Low	•
Fiber Loss (dB)	7 Att Out [dB]		Rx Optical Warn	•
			Rx Optical High	

The **TTRUPTP Master** panel includes the following information about the master Point-to-Point module:

- Identification
 - Type hex (hexadecimal notation)
 - Model hex (hexadecimal notation)
 - Version
 - Serial Number
- Alarm Summary
 - Communication state
 - Max severity Maximum severity of active alarms
 - Active Alarms Number of active alarms

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• **Description** – TTRUPTP Master Name and Description.

Users logged in with the **admins**, **superusers**, or **users** role can assign a name and add a description. See "Assigning Names to the DAS Components" on page 40.

- Parameters
 - Detected Temperature.
 - Status of the Low Temperature, High Temperature, Mains Fault alarms.
- Transmitter
 - *Tx enabled* Transmitter enable/disable check box. Users logged in with the admins, superusers, or users role can enable or disable the Optical Transmitter.
 - Attenuation Tx Optical Transmitter downlink attenuation. Users logged in with the admins, superusers, or users role can set the transmitter attenuation.
 - Status of the Laser Fault and Laser Warn alarms.
- Receiver
 - Power Rx Received optical power.
 - Fiber Loss.
 - Attenuation In and Attenuation Out Receiver uplink attenuation (In/Out). Users logged in with the admins, superusers, or users role can set the receiver attenuation.
 - Status of the Rx Optical Low, Rx Optical Warn, Rx Optical High alarms.

TTRUPTP Secondary Panel

1 Configuration read from	m device 2018-05-25 13:17:30	
	.1 TTRUPTP (TTRUPTPS) to Point link Secondary, Ultra b	N-S) and, with WDM, w∕o Monitor, SC-APC, lambda 1550
Identification		Alarm summary
Type hex	000004	Communication state
Model hex	00000000739	Max severity
Version	4	Active Alarms 0
Serial Number	121389017	
Description		
Name		
Description	Connected to PTP-M1	
Parameters		
Temperature [°C]	53,5 Low Temperature	e Operator 🕒
	High Temperature	e 🕒 Mains Fault 🔶
Transmitter		
Att Tx [dB]	10 🚔	Laser Fault
		Laser Warn 🕒
Receiver		
Power Rx[dBm]	-1 Att In [dB]	0 → Rx Optical Low
Fiber Loss [dB]	7 Att Out [dB]	Rx Optical Warn
		Rx Optical High

The **TTRUPTP Secondary** panel includes the following information about the secondary Point-to-Point module:

- Identification
 - Type hex (hexadecimal notation)
 - Model hex (hexadecimal notation)
 - Version
 - Serial Number
- Alarm Summary
 - Communication state
 - Max severity Maximum severity of active alarms
 - Active Alarms Number of active alarms
- Description TTRUPTP Secondary Name and Description

Users logged in with the **admins**, **superusers**, or **users** role can assign a name and add a description. See "Assigning Names to the DAS Components" on page 40.

Parameters

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- Detected *Temperature*.
- Status of the Low Temperature, High Temperature, Operator, and Mains Fault alarms.
- Transmitter
 - Attenuation Tx Optical Transmitter downlink attenuation. Users logged in with the admins, superusers, or users role can set the transmitter attenuation.
 - Status of the Laser Fault and Laser Warn alarms.
- Receiver
 - Power Rx Received optical power.
 - Fiber Loss.
 - Attenuation In and Attenuation Out: Receiver uplink attenuation (In/Out). Users logged in with the admins, superusers, or users role can set the receiver attenuation.
 - Status of the Rx Optical Low, Rx Optical Warn, Rx Optical High alarms.

TTRUPTP Secondary without 4-way Splitter/Combiner Panel

🔔 Configuration read	from device :	2019-01-24 13:	57:56		
		PTP (TTRUPTI : Secondary, Ultr ; SC-APC, lambo	P SN25-S-1) ra band, w/o WDM da 1557	l, w/o Monitor, w/	D
Identification			Alarm summar	V	
Type hex		000004	Communication	state	•
Model hex	00	0000001331	Max severity		•
Version		4	Active Alarms		0
Serial Number		0			
Description					
Name	PTF	SECONDAY			
Description	chiu	iso completo			
Parameters					
Temperature [°C]	48,1	Low Temperatu	re 🔴	Operator	•
		High Temperatu	re 🔴	Mains Fault	•
Transmitter					
Att Tx [dB]	10≑			Laser Fault	٠
				Laser Warn	•
Receiver					
Power Rx[dBm]	6,4	Att In [dB]	0	Rx Optical Low	•
Fiber Loss [dB]	0	Att Out [dB]	0	Rx Optical War	n 🔴
				Rx Optical High	n 🔴

The **TTRUPTP Secondary without 4-way splitter/combiner** panel includes the following information about the secondary Point-to-Point module, without four-way splitter/combiner module:

- Identification
 - Type hex (hexadecimal notation)
 - Model hex (hexadecimal notation)
 - Version
 - Serial Number
- Alarm Summary
 - Communication state
 - Max severity Maximum severity of active alarms
 - Active Alarms Number of active alarms
- Description TTRUPTP Secondary without 4-way splitter/combiner Name and Description Users logged in with the admins, superusers, or users role can assign a name and add a description. See "Assigning Names to the DAS Components" on page 40.

Parameters

- Detected Temperature.
- Status of the Low Temperature, High Temperature, Operator, and Mains Fault alarms.
- Transmitter
 - Attenuation Tx Optical Transmitter downlink attenuation. Users logged in with the admins, superusers, or users role can set the transmitter attenuation.
 - Status of the Laser Fault and Laser Warn alarms.
- Receiver
 - *Power Rx* Received optical power.
 - Fiber Loss.
 - Attenuation In and Attenuation Out: Receiver uplink attenuation (In/Out). Users logged in with the admins, superusers, or users role can set the receiver attenuation.
 - Status of the Rx Optical Low, Rx Optical Warn, Rx Optical High alarms.

Next Generation Point to Point Link

Two panels are available for the management of each next generation optical Point-to-Point link: NG PtoP Master and NG PtoP Secondary.

Note: When the DAS includes next generation point-to-point links, the DAS components installed at the master unit location and the DAS components installed at the remote location are managed by two separate supervision modules. You need to connect to the supervision modules separately to gain access to the NG PtoP Master and NG PtoP Secondary panels.

NG PtoP Master

	1.5.1 NG PtoP (ED3	5BDM)	
	Point to Point link Master, 3	3450-3550 MHz, MIMO 2x2, 4OUT	4IN, WDM
	tt.		
dentification		Alarm summary	
Type hex	00005D	Communication state	•
Model hex	0000000002	Max severity	
/ersion	1.1.0.29	Active Alarms	0
Serial Number	1039566008		
Description			
Name	NGPTP_Master		
Description	4.203		
Parameters			
Board Temperature [°C]	42.7 Low Temperature	TDD Unl	ock 🔴
Core Temperature [°C]	63.3 High Temperature	Clock Di	stributor Unlock
	Mains Fault	Init Failu	re 🔴
A1		B1	
Opt. Link state	Rx Optical Low A1	Opt. Link state LC 🗸	Rx Optical Low B1
SFP Temperature 49	Loss of Sync A1	SFP Temperature 50.1	Loss of Sync B1
Opt. Power Tx [d 2	PtoP Type Mismatch A1	Opt. Power Tx [d 1.8	PtoP Type Mismatch B1
Opt. Power Rx [d1.8		Opt. Power Rx [d1.7	
C1		D1	
Opt. Link state	Rx Optical Low C1	Opt. Link state	Rx Optical Low D1
SFP Temperature 49	Loss of Sync C1	SFP Temperature 47.4	Loss of Sync D1
Opt. Power Tx [d 2.9	PtoP Type Mismatch C1	Opt. Power Tx [d 2.1	PtoP Type Mismatch D1
Opt. Power Rx [d1		Opt. Power Rx [d1	
RF Path A			
Attenuation Rx1 [7	Attenuation Tx1 [dB] 0	Attenuation Rx2 [7	Attenuation Tx2 [dB] 0
RMS Power Max A Rx1	Overdrive A Tx1	RMS Power Max A Rx2	Overdrive A Tx2
		Current A Rx2	
RF Path B			
Attenuation Rx1 [7	Attenuation Tx1 [dB] 0	Attenuation Rx2 [7	Attenuation Tx2 [dB] 0
RMS Power Max B Rx1	Overdrive B Tx1	RMS Power Max B Rx2	Overdrive B Tx2
Current B Rx1		Current B Rx2	
RF Path C			
Attenuation Rx1 [7	Attenuation Tx1 [dB] 0	Attenuation Rx2 [7	Attenuation Tx2 [dB] 0
RMS Power Max C Rx1	Overdrive C Tx1	RMS Power Max C Rx2	Overdrive C Tx2
Current C Rx1		Current C Rx2	
F Path D			
Attenuation Rx1 [7	Attenuation Tx1 [dB] 0	Attenuation Rx2 [7	Attenuation Tx2 [dB] 0
RMS Power Max D Rx1	Overdrive D Tx1	RMS Power Max D Rx2	Overdrive D Tx2
Current D Rx1	-	Current D Rx2	
ans			
ans			

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The **NG PtoP Master** panel includes the following information about the selected next generation master Point-to-Point component:

- Identification
 - Type hex (hexadecimal notation)
 - Model hex (hexadecimal notation)
 - Version
 - Serial Number
- Alarm Summary
 - Communication state
 - Max severity Maximum severity of active alarms
 - Active Alarms Number of active alarms
- Description NG PtoP Master Name and Description

Users logged in with the **admins**, **superusers**, or **users** role can assign a name and add a description. See "Assigning Names to the DAS Components" on page 40.

- Parameters
 - Detected *Board Temperature*.
 - Detected Core Temperature.
 - Status of the Low Temperature, High Temperature, Mains Fault, TDD Unlock, Clock Distributor Unlock, and Init Failure alarms.
- <optical port label>

The NG PtoP Master optical ports are labeled A1, B1, C1, and D1.

For each port the following information is provided:

- Opt. Link state:
 - absent: no fiber is connected to the optical port.
 - LC fiber: LC fiber is connected to the optical port.
- SFP Temperature
- *Opt. Power Tx* Transmitted optical power.
- Opt. Power Rx Received optical power.
- Status of the Rx Optical Low, Loss of Sync, and PtoP Type Mismatch alarms.

• RF Path A, RF Path B, RF Path C, RF Path D

The **PtoP Master** RF paths are identified as A, B, C, D. For each RF path the following information is provided:

 Attenuation Rx1 [dB], Attenuation Tx1 [dB] – Attenuations for the RF Path, MIMO1 layer. Users logged in with the admins, superusers, or users role can set attenuations. See "Adjusting the Next Generation Point-to-Point Link RF Gain" on page 43.

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- Attenuation Rx2 [dB], Attenuation Tx2 [dB] Attenuations for the RF Path, MIMO2 layer. Users logged in with the admins, superusers, or users role can set attenuations. See "Adjusting the Next Generation Point-to-Point Link RF Gain" on page 43.
- Status of the RMS Power Max <RF path> Rx1, Overdrive <RF path> Tx1, Current <RF path> Rx1, RMS Power Max <RF path> Rx2, Overdrive <RF path> Tx2, Current <RF path> Rx2 alarms.
- Fans
 - Fan 1 speed Actual rotation speed of fan 1 (rpm, revolutions per minute).
 - Fan 2 speed Actual rotation speed of fan 2 (rpm, revolutions per minute).
 Note: If the fan rotation speed is 4300 rpm, the fan is not spinning.
 - Status of the *Fan Speed* alarm.

NG PtoP Secondary

	1.7.1 NG PtoP (ED3	5BDS)	
	Point to Point link Seconda	ry, 3450-3550 MHz, MIMO 2x2, 40	DUT 4IN, WDM
dentification		Alarm summary	
Type hex	00005D	Communication state	•
Model hex	00000000022	Max severity	•
Version	1.1.0.19	Active Alarms	0
Serial Number	1039566009		
Description			
Name	NGPTP_Secondary		
Description	4.204		
Parameters			
Board Temperature [°C]	46.2 Low Temperature	TDD Un	lock O
Core Temperature [°C]	65.3 High Temperature	Clock Di	stributor Unlock
	Mains Fault	Init Failu	ire 🔴
41		B1 (Sync)	
Opt. Link state LC 🗸	Rx Optical Low A1	Opt. Link state LC 🗸	Rx Optical Low B1
SFP Temperature 50.1	Loss of Sync A1	SFP Temperature 51.5	Loss of Sync B1
Opt. Power Tx [d 2	PtoP Type Mismatch A1	Opt. Power Tx [d 2	PtoP Type Mismatch B1
Opt. Power Rx [d2.4		Opt. Power Rx [d2.9	
01		D1	
Opt. Link state	Rx Optical Low C1	Opt. Link state LC 🗸	Rx Optical Low D1
SFP Temperature 50.8	Loss of Sync C1	SFP Temperature 49	Loss of Sync D1
Opt. Power Tx [d 2.7	PtoP Type Mismatch C1	Opt. Power Tx [d 2.2	PtoP Type Mismatch D1
Opt. Power Rx [d5.5		Opt. Power Rx [d6.6	
RF Path A			
Attenuation Rx1 [14	Attenuation Tx1 [dB] 0	Attenuation Rx2 [14	Attenuation Tx2 [dB] 0
RMS Power Max A Rx1	Overdrive A Tx1	RMS Power Max A Rx2	Overdrive A Tx2
Current A Rx1		Current A Rx2	
RF Path B			
Attenuation Rx1 [14	Attenuation Tx1 [dB] 0	Attenuation Rx2 [14	Attenuation Tx2 [dB] 0
RMS Power Max B Rx1	Overdrive B Tx1	RMS Power Max B Rx2	Overdrive B Tx2
Current B Rx1		Current B Rx2	
RF Path C			
Attenuation Rx1 [14	Attenuation Tx1 [dB] 0	Attenuation Rx2 [14	Attenuation Tx2 [dB] 0
RMS Power Max C Rx1	Overdrive C Tx1	RMS Power Max C Rx2	Overdrive C Tx2
Current C Rx1		Current C Rx2	
RF Path D			
Attenuation Rx1 [14	Attenuation Tx1 [dB] 0	Attenuation Rx2 [14	Attenuation Tx2 [dB] 0
RMS Power Max D Rx1	Overdrive D Tx1	RMS Power Max D Rx2	Overdrive D Tx2
Current D Rx1	•	Current D Rx2	
ians			
ans		7400 Fan Spe	

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The **NG PtoP Secondary** panel includes the following information about the next generation secondary Point to Point component:

- Identification
 - Type hex (hexadecimal notation)
 - Model hex (hexadecimal notation)
 - Version
 - Serial Number
- Alarm Summary
 - Communication state
 - Max severity Maximum severity of active alarms
 - Active Alarms Number of active alarms
- Description NG PtoP Secondary Name and Description

Users logged in with the **admins**, **superusers**, or **users** role can assign a name and add a description. See "Assigning Names to the DAS Components" on page 40.

- Parameters
 - Detected *Board Temperature*.
 - Detected Core Temperature.
 - Status of the Low Temperature, High Temperature, Mains Fault, TDD Unlock, Clock Distributor Unlock, and Init Failure alarms.
- <optical port label>

The NG PtoP Secondary optical ports are labeled A1, B1, C1, and D1.

For each port the following information is provided:

- Opt. Link state:
 - absent: no fiber is connected to the optical port.
 - LC fiber: LC fiber is connected to the optical port.
- SFP Temperature
- *Opt. Power Tx* Transmitted optical power.
- Opt. Power Rx Received optical power.
- Status of the Rx Optical Low, Loss of Sync, and PtoP Type Mismatch alarms.

Note: The **(Sync)** indication, which is displayed next to one of the optical ports, identifies the CPRI link on which the NG PtoP Secondary derives the synchronization.

• RF Path A, RF Path B, RF Path C, RF Path D

The **PtoP Secondary** RF paths are identified as A, B, C, D. For each RF path the following information is provided:

Attenuation Rx1 [dB], Attenuation Tx1 [dB] – Attenuations for the RF Path, MIMO1 layer. Users logged in with the admins, superusers, or users role can set attenuations. See "Adjusting the

Next Generation Point-to-Point Link RF Gain" on page 43.

- Attenuation Rx2 [dB], Attenuation Tx2 [dB] Attenuations for the RF Path, MIMO2 layer. Users logged in with the admins, superusers, or users role can set attenuations. See "Adjusting the Next Generation Point-to-Point Link RF Gain" on page 43.
- Status of the RMS Power Max <RF path> Rx1, Overdrive <RF path> Tx1, Current <RF path> Rx1, RMS Power Max <RF path> Rx2, Overdrive <RF path> Tx2, Current <RF path> Rx2 alarms.
- Fans
 - Fan 1 speed Actual rotation speed of fan 1 (rpm, revolutions per minute).
 - Fan 2 speed Actual rotation speed of fan 2 (rpm, revolutions per minute).
 Note: If the fan rotation speed is 4300 rpm, the fan is not spinning.
 - Status of the Fan Speed alarm.

Getting Help: Technical Support Contact Information

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 +1 888-201-6073
 customerservice@jmawireless.com
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Abbreviations

AGC

Automatic Gain Control

APN

Access Point Name

BS

Base Station

CPRI

Common Public Radio Interface

csv

Comma Separated Value

DAS

Distributed Antenna System

DHCP

Dynamic Host Configuration Protocol

DL

Downlink

EU

European Union

FQDN

Fully Qualified Domain Name

HTTP

Hypertext Transport Protocol (http://)

HTTPS

secure Hypertext Transport Protocol (https://)

IPv4

Internet Protocol version 4

IPv6

Internet Protocol version 6

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Abbreviations

ITE

Information Technology Equipment

LAN

Local Area Network

LMT

Local Maintenance Terminal

MIMO

Multiple Input, Multiple Output

MU

Master Unit

NEM

Network Element Manager

NG

Next Generation

NTP

Network Time Protocol

PDU

Power Distribution Unit

Pol

Point of Interface

PSU

Power Supply Unit

RAL

Restricted Access Location

RU

Remote Unit

SDRU

Software Defined Remote Unit

SISO

Single Input, Single Output

JMA DAS Platform - Remote Monitoring and Management User Guide

Abbreviations

SMS

Short Message Service

SNMP

Simple Network Management Protocol

SSB

Synchronization Signal Block

Syslog

System Logging Protocol

ТСР

Transmission Control Protocol

TDD

Time Division Duplex

TDFE

Digital Donor Front End

UDP

User Datagram Protocol

UK

United Kingdom

UL

Uplink

UPS

Uninterruptible Power Supply

UTC

Universal Time Coordinated

VPN

Virtual Private Network

WAN

Wide Area Network

WDM

Wavelength Division Multiplexing

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WWAN

Wireless Wide Area Network