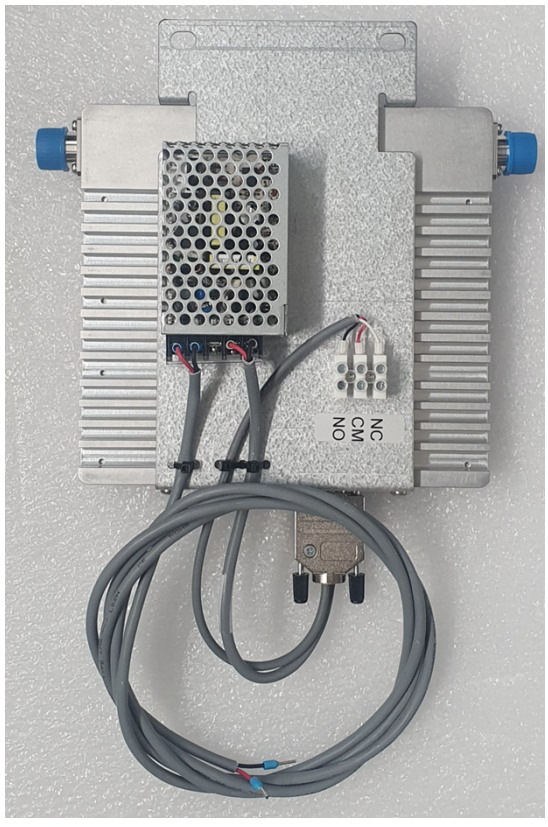
DS21093
February 14, 2025

Receive Line Monitor (RLM)

- **Identify issues before they become big problems through remote, continuous monitoring of the receive antenna line -- measures return loss at a customer-specified frequencies (3) and device temperature**
- **Easily compare performance to as-installed performance**
- **Antenna line return loss frequency sweep**
- **High level carrier logging**
- **Installed in-line with the receive antenna**
- **Available in VHF, 220 MHz, UHF, 7/800 MHz, and 900 MHz**
- **Compact form factor simplifies the installation process and helps save rack space**
- **Data is accessed via an integrated web server and SNMP**
- **Alarms are user configured via Ethernet or SNMP**
- **User management via password (Admin and User)**

Front view



Back view

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Description	Frequency range	Power supply	Conn. Rx / ANT
CP01164	120-140 MHz	AC	N-f / N-f
CP01172	135-155 MHz	AC	N-f / N-f
CP01131	150-170 MHz	AC	N-f / N-f
CP01132	150-170 MHz	DC	N-f / N-f
CP01153	210-230 MHz	AC	N-f / N-f
CP01154	210-230 MHz	DC	N-f / N-f
CP01125	340-360 MHz	AC	N-f / N-f
CP01143	340-360 MHz	DC	N-f / N-f
CP01175	380-400 MHz	DC	N-f / N-f
CP01166	400-420 MHz	DC	N-f / N-f
CP01165	410-430 MHz	DC	N-f / N-f
CP01163	410-430 MHz	AC	N-f / N-f
CP01122	450-470 MHz	AC	N-f / N-f
CP01130	450-470 MHz	DC	N-f / N-f
CP01170	450-470 MHz	DC	N-m / N-f
CP01144	470-490 MHz	DC	N-f / N-f
CP01177	470-490 MHz	AC	N-f / N-f
CP01133	797-817 MHz	AC	N-f / N-f
CP01171	797-817 MHz	DC	N-f / N-f
CP01181	797-817 MHz	DC, term block alarm	N-f /N-f

Specification	RF part
Insertion loss	<0.15 dB
Return loss range	0-20 dB
ANT input level	<20 dBm
Measurement pulse	-40 dBm, 50 ms
Pulse repetition	10-3600 sec. (1 sec. steps)
Input return loss	>20 dB
Output return loss	>20 dB
Tx-power	Max. 100W
Operating temp.	-25°C to 60°C
Operating env.	Indoor
Connectors	See table
Dimensions	163x177x33 mm (w/o bracket)
Weight	3 lbs
Outline	OD23470
User Guide	UG23184
MIB	SU21400

Specification	RLM
Power supply (ext.)	AC: 90-230V, 10W
	DC +/- 36 -72V, 10 W
Interfaces	Integrated web-server
	SNMP v2C (with MIB file)
Alarm output	Form-C dry contact
Functions and alarms	Rx antenna return loss (RL)
	Rx antenna reference RL
	Rx antenna RL sweep
	Rx antenna RL sweep ref.
	HLC (>-80 dBm) logging
	in 6.25 kHz channels
	Device temperature
Features	User and Admin logins
	SNTP
	Firmware update
	Factory test data

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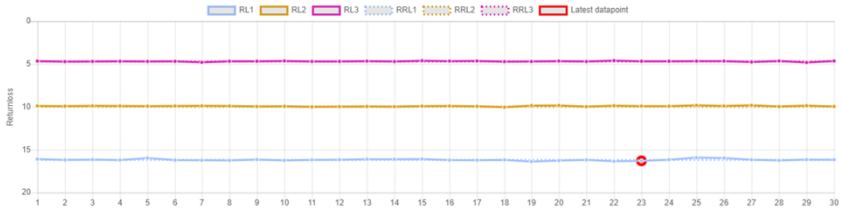
Home | Status | Sweep | Network config | SNMP config | System event log | Firmware upgrade | Test information

Status

Frequency	VSWR / RL	Reference VSWR / RL	Timestamp	Action
470.0	1.36 / 16.29	1.37 / 16.18	2022-04-08 01:59:46	Set ref.
480.0	1.94 / 9.90	1.93 / 9.96	2022-04-08 01:59:47	Set ref.
490.0	3.82 / 4.66	3.79 / 4.69	2022-04-08 01:59:47	Set ref.



Board temperature	Time to next measurement	Wideband RX RSSI	System status
26.5	0	<-40.0 dBm	OK

Test mode	Status	Meas mode
Activate	Inactive	Idle

Description

Status page.
Temperature readings are in Celcius.

VSWR / Returnloss:
White = no alarm
Gold = Warning active
Red = Alarm active

Set reference value, for each frequency. Used to track value changes over time.

Board temperature:
White = no alarm
Gold = Warning active
Red = Alarm active

Line chart shows RL history, last 30 samples.

Test mode:
30 measurements, 1s interval.
Automatically returns to normal mode.

Parameter configuration:
Warning/Alarm threshold configuration.
Setting measurement frequency = 0, disables measurement.
Set Returnloss measurement interval in seconds.
Setup noise measurement properties.
Choosing noise bandwidth will impact possible measurement interval, due to noise measurement time.

Parameter configuration:

Setting	Value
RL warning threshold (abs.)	9.0
RL alarm threshold (abs.)	6.0
Measurement frequency 1 (470.0 - 490.0) MHz	470.0
Measurement frequency 2 (470.0 - 490.0) MHz	480.0
Measurement frequency 3 (470.0 - 490.0) MHz	490.0
Measurement interval (2 - 3600s)	5
Noise meas. on/off	☐
Noise meas. start frequency MHz	470.0
Noise meas. bandwidth MHz	10.0
Noise sweep time (s)	80.0
Board temperature warning level (0 - 100C)	60
Board temperature alarm level (0 - 100C)	80
	Change

Alarm relay config
☑ VSWR / Returnloss
☑ Board temp
☑ Input overload
☑ System fail
All On / All Off
Submit new setting

Alarm relay configuration:
Checked alarms will activate relay alarm.

Device information:
Serial number information.

Boot counter is increased at each device power up.

Device information:

Serial number	Firmware
C027290210012209000092249 5	ETH SU22498-4
	DSP SU22563-5

Boot counter
453

Web interface status page (UHF example)

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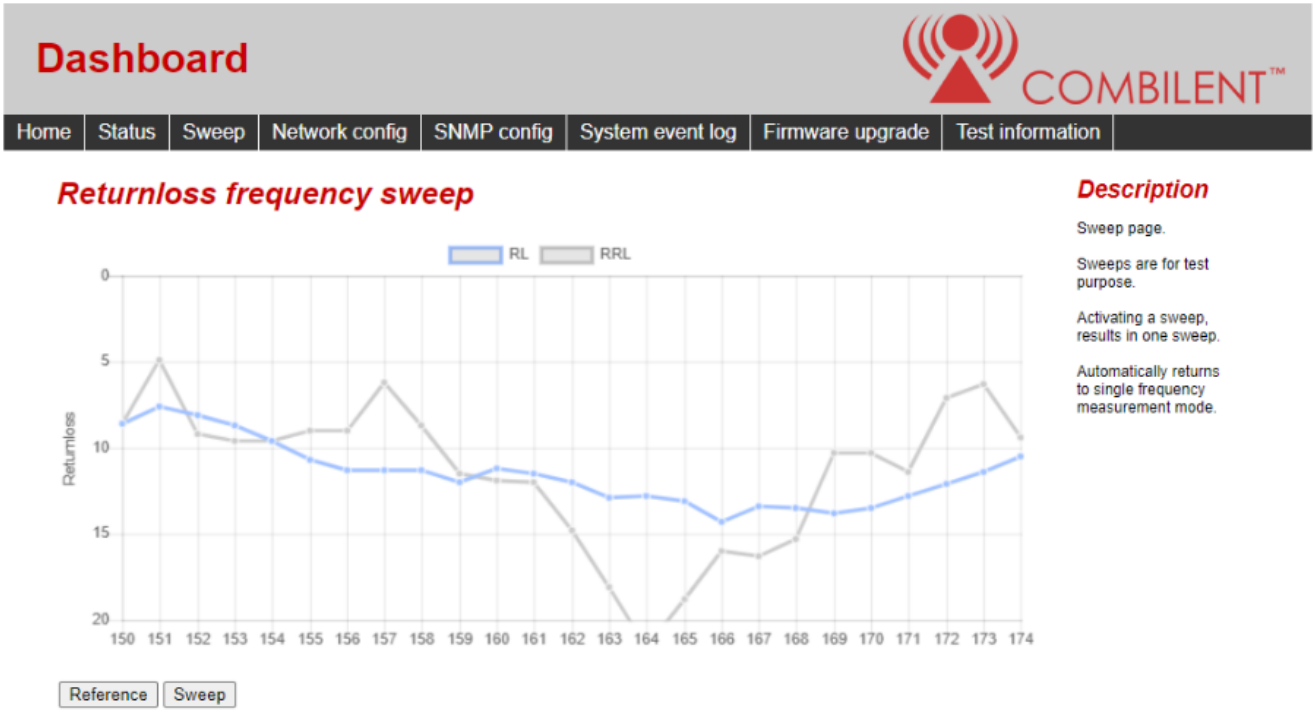

Antenna return loss sweep (VHF example)

High level carriers' detection (UHF example)

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