

## RFLD-8RE

8 Channel True Power RF Level Detector, 1 MHz ... 8000 MHz

### Features

- 8 separate channels
- extremely wideband
- high dynamic range
- RMS and pulse detection
- power range up to 4 W

### Applications

- automatic test sequences
- RF signal monitoring
- research and development (R&D)
- production

### Scope

The RFLD-8RE is an eight channel RMS RF level detector with high RF power capability. It is designed in 50 ohms technology. The detectors in each channel have a wide detection range. The operating frequency range covers 1 MHz to more than 8 GHz.

Each channel is equipped with two Detector types, a True Power RMS detector and an envelope detector. Both detectors can be queried at the same time to get RMS/peak value pairs. The envelope detection has a peak hold circuit. The peak hold circuit will be reset after each request by software.

The RFLD-8RE is designed as a slide-in module for the integration into the SR6-11C system platform.

### Principal Block Diagram

The RFLD-8RE has 8 independent RF level detector channels.



### Optical Power Indication

LEDs on the front- and rear panel are indicating the presence of RF signals for each channel. Their threshold levels are settable by software.

### Wide Detection Range

The RFLD-8RE is equipped with 8 detector channels. Each channel has a detection range of 38 dB typical with a power capability of 4 watts.

### Remote Control

In combination with the SR6-CU controller module, the RFLD-8RE is remote controllable via standard interfaces USB and LAN with simple SCPI orientated ASCII strings.

### Built-In Test Function

Internal supply voltages and temperatures in each detector channel are monitored. The module status can be read out via remote interface.

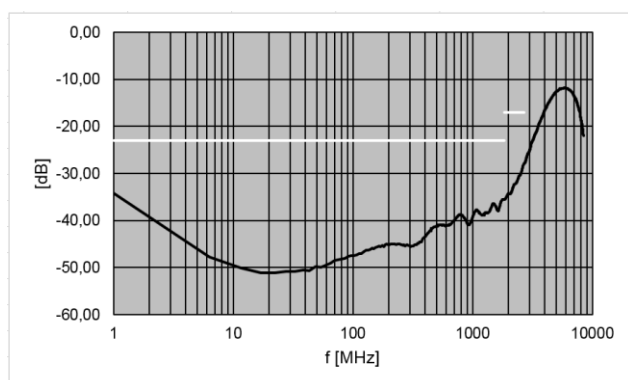
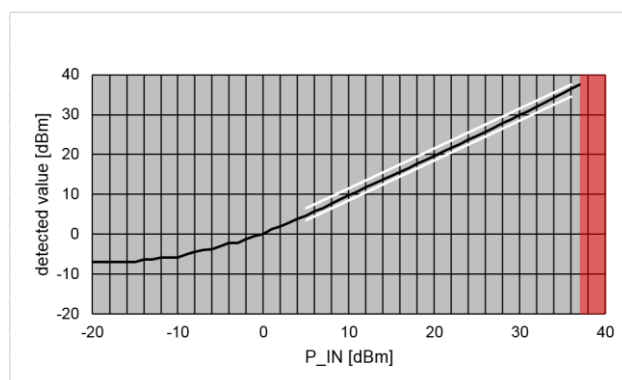
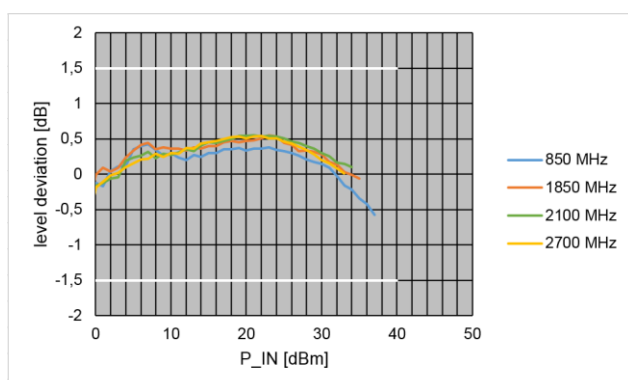
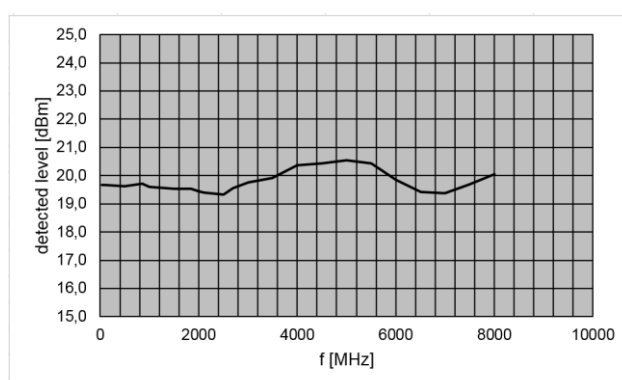
**RF Specification**

| Parameter              | Symbol      | Min.       | Typ.      | Max.      | Unit       | Condition  |
|------------------------|-------------|------------|-----------|-----------|------------|--|
| impedance              | $Z_{IN}$    |            | 50        |           | $\Omega$   |  |
| number of channels     | $n_{CH}$    |            | 8         |           |            |  |
| frequency              | $f_{MIN}$   |            | 1         | 20        | MHz        |  |
|                        | $f_{MAX}$   | 2700       | 8000      |           | MHz        |  |
| return loss            | $S_{11}$    |            | -30       | -23       | dB         | $f \leq 1850$ MHz                                      |
|                        | $S_{11}$    |            | -25       | -17       | dB         | $1850 \text{ MHz} < f \leq 2700$ MHz                   |
|                        | $S_{11}$    |            | -12       |           | dB         | $f > 2700$ MHz   |
| detection limit        | $P_{DET}$   | +37        | +39       |           | dBm        | $20 \text{ MHz} \leq f \leq 1000$ MHz                  |
|                        | $P_{DET}$   | +36        | +38       |           | dBm        | $1000 \text{ MHz} < f \leq 2700$ MHz                   |
| accuracy (RMS)         | $dP_{DET}$  |            | $\pm 0,5$ | $\pm 1.5$ | dB         | $+5 \text{ dBm} \leq P_{IN} \leq +36 \text{ dBm (CW)}$ |
| noise floor            | $P_{NOISE}$ |            | -7        | 0         | dBm        | $20 \text{ MHz} \leq f \leq 2700$ MHz                  |
| RF power               | $P_{RF}$    |            |           | 5         | W          | single channel   |
| RF power dissipation   | $P_{DIS}$   |            |           | 20        | W          | sum of all channel, note 1                             |
| DC voltage             | $U_{DC}$    |            |           | 20        | V          |  |
| ESD discharge resistor | $R_{ESD}$   |            | 4.7       |           | k $\Omega$ |  |
| RF connectors          | $X_{RF}$    | SMA female |           |           |            |  |

Note1: cooling must be ensured by installation in system platform SR6-11C + fan unit FU-320

**Common Specifications**

| Parameter             | Symbol   | Min.                   | Typ.             | Max. | Unit               | Condition   |
|-----------------------|----------|------------------------|------------------|------|--------------------|-------------|
| power supply          | $U_{DC}$ | 23.5                   | 24.0             | 24.5 | V                  | via SR6-11C |
| power consumption     | $P_{DC}$ |                        | 2                |      | W                  |             |
| dimensions            | WxHxD    | approx. 30 x 262 x 197 |                  |      | mm                 | 6 U, 6 HP   |
| weight                | m        |                        | 1.2              |      | kg                 |             |
| operating temp. range | $T_o$    | +5                     |                  | +60  | $^{\circ}\text{C}$ |             |
| storage temp. range   | $T_s$    | -40                    |                  | +70  | $^{\circ}\text{C}$ |             |
| ordering information  | RFLD-8RE |                        | P/N: 1505.8000.1 |      |                    |             |

**Return Loss** (typical response)**Dynamic Range** (typical response)**Detection Accuracy** (typical responses)**Frequency Response** (typical response)

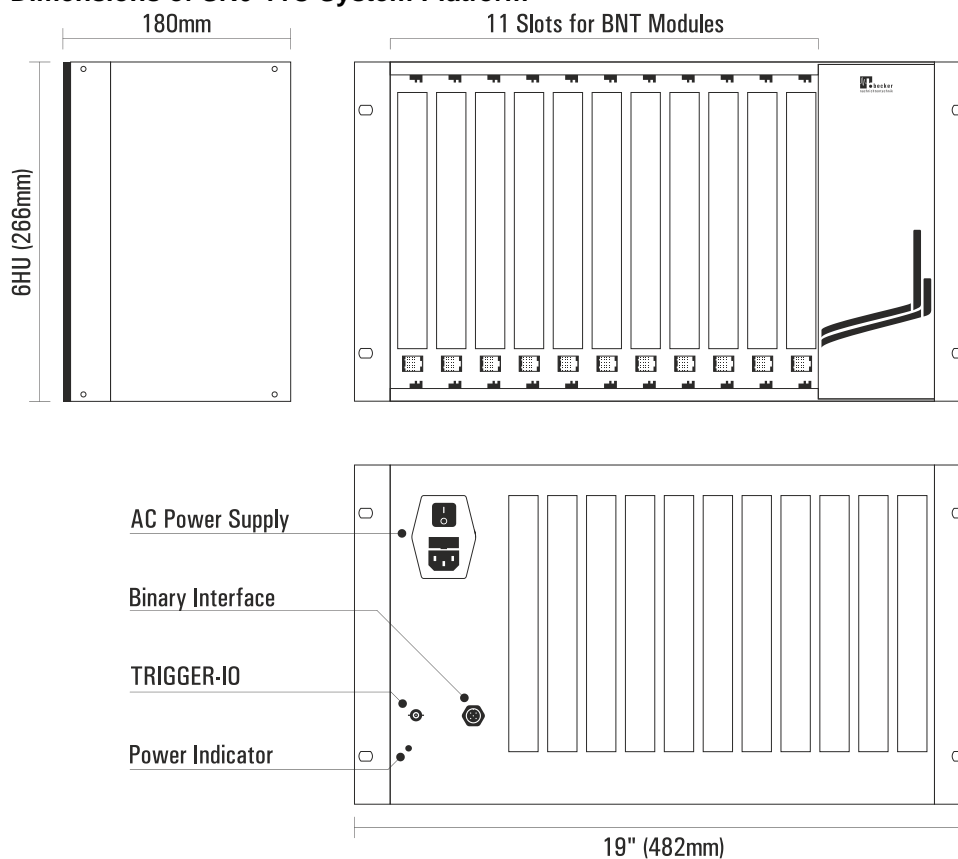
## SR6-11C System Platform

The RFLD-8RE module is foreseen for the integration into the SR6-11C system platform. 11 slots in the SR6-11C can be used for modules like RF switches, matrices, multicouplers,

attenuators, BIAS-Ts, level detectors, bi-directional splitters/combiners for signal conditioning and a controller unit.

For the control of RFLD-8RE module the SR6-CU controller unit is required.

## Dimensions of SR6-11C System Platform



## Appearances



RFLD-8RE front view



RFLD-8RE rear view



SR6-11C front view

**Related Products**

| Product   | Description   | P/N         |
|---|---|-------------|
| SR6-11C   | System Platform with 11 Slots for Modules   | 1409.1202.1 |
| SR6-CU  | Controller Unit with LAN and USB Remote Interface   | 1409.3000.1 |
| <b>Unidirectional Products: Active Multicouplers, Matrices, Level Detectors</b>   |   |             |
| WSDU-1X8A   | 8 Way High Dynamic Signal Conditioning Multicoupler<br>100 kHz ... 4000 MHz                               | 1807.6300.1 |
| WSDU-2X4A   | 2 Section 4 Way High Dynamic Signal Conditioning Multicoupler<br>100 kHz ... 4000 MHz                     | 1807.6400.1 |
| WSDU-1X8L   | 8 Way Multicoupler Module 100 kHz ... 4000 MHz  | 1807.6100.1 |
| WSDU-2X4L   | 2 Section Hi Dynamic 4 Way Multicoupler Module<br>100 kHz ... 4000 MHz                                    | 1807.6200.1 |
| WSDU-2X4E+  | 2 Section 1x4 plus 1x2 Multicoupler Module 20 ... 8000 MHz  | 1501.6200.1 |
| WSDU-1X8S   | High Dynamic 1x8 Shortwave Multicoupler Module 300 kHz ... 30 MHz   | 1502.6100.1 |
| WSDU-1X2P   | 2 Channel, 5 W Multicoupler with ALC Capability 20 MHz...3000 MHz   | 1606.6000.1 |
| RSWM-4X4  | 4x4 Switching Matrix -Non-blocking-,<br>100 kHz ... 4000 MHz or 20 MHz ... 4000 MHz                       | 1205.4100   |
| RSWM-4X4E   | 4x4 Ultra-Wideband Switching Matrix -Non-blocking-,<br>20 MHz ... 8000 MHz                                | 2001.4100.1 |
| RFLD-8RE  | 8 Channel True Power RF Level Detector, 1 MHz ... 8000 MHz  | 1505.8000.1 |
| <b>Bi-Directional Products:<br/>Switches, Matrices, Attenuators, Delay Lines, BIAS-Ts, Splitters/Combiners, Filters</b> |   |             |
| RSWU-2SP4TS+  | 2 Channel Non-reflective SP4T Switches plus 1 Channel SPDT Switch,<br>100 kHz ... 8500 MHz                | 1408.4010.1 |
| RSWU-8SPSTS   | 8 Channel Non-reflective SPST Switch 100 kHz ... 8500 MHz   | 1408.4000.1 |
| RSWU-4SPDTS   | 4 Channel Non-reflective SPDT Switch 100 kHz ... 8500 MHz   | 1408.4020.1 |
| RSWU-8SPST-CS   | 8 Channel High Isolation SPST with DC Load Simulation,<br>100 kHz ... 7500 MHz                            | 1811.4100.1 |
| BSWM-4X4E   | 4x4 High Isolation Bi-Directional Switching Matrix –Blocking-,<br>100 kHz ... 7500 MHz                    | 1205.4600.1 |
| ATT-8E  | 8 Channel Digital Step Attenuator 0 ... 31.75 dB,<br>100 kHz ... 8000 MHz                                 | 1503.4000.1 |
| DLL-4   | 4 Channel Programmable Delay Line 0 ... 1700 ps,<br>250 MHz ... 4000 MHz                                  | 1303.4200.1 |
| PT-4CS  | 4 Channel Programmable DC Sink 0 ... 400 mA, 100 kHz ... 8500 MHz   | 1605.2020.1 |
| PT-4CL  | 4 Channel Wideband DC Load, 100 kHz ... 8500 MHz  | 1605.2040.1 |
| BSDU-2X4A+  | 2 Section 4 Way, Bi-Directional Signal Conditioning plus 2 Way<br>Splitter/Combiner, 500 MHz ... 7500 MHz | 1903.6100.1 |
| BSDU-2X4+   | 2 Section 4 Way Wideband Bi-Directional plus 2 Way<br>Splitter/Combiner, 500 MHz ... 7500 MHz             | 1903.6200.1 |
| FBS-1590  | L1 Band GNSS Notch Filter   | 1511.5100.1 |

