

**PIM RACK ANALYZER
BAND FILTER UNIT****IM-R-FI-xxxx-R****Main Features**

- Outstanding PIM Performance
- Industrial 24/7 ready
 - Forced air cooled depending on usage
 - Easy to replace air filters
- Plug'N'Play System reconfiguration
 - Automatic detection in BaseUnit
 - Factory calibrated
- Wideband hybrid coupler design
- Spacesaving 3 HU height
- Field replaceable Testport
 - 7-16 DIN and 4.3-10 DIN

**General****Dimensions** (w/o connectors)

482.6 × 550 × 132.5mm (W×L×H)

19", 3 HU, depth 550mm

Weight

10 to 16 kg (depends on frequency band)

Internal Ports

3 × N, 2 × SMA, 2 × HSD

RF Port

Field replaceable Testport 7-16 DIN, 4.3-10 DIN (opt)

Environmental**Operating Temperature Range**

-10°C to + 40°C

Storage Temperature Range

-20°C to +80°C

Relative Humidity

5% to 95% RH non-condensing

Mechanical shock

1G

**PIM RACK ANALYZER
BAND FILTER UNIT**

IM-R-FI-xxxx-R

Compatibility / Supported Base Unit

The Filter unit must match into the BaseUnits frequency range:

Base Unit 0722 Filter Units 07, 08, ..., 21
 with **IM-R-HWO-Conv-B71** + Filter Unit 06
Base Unit 2127 Filter Units 21, ..., 26

**IM-R-FI-06/B71-R (LTE600)
(with optional IM-R-HWO-Conv-B71)**

ETSI Band B71
Transmit Path
Range 617 – 652 MHz
Receive Path
Rang 663 – 698 MHz
Residual PIM < -128 dBm (< -171 dBc), referred to 2 x +43 dBm
Weight tbd. kg

IM-R-FI-07/B12-14-R (LTE700 L+U)

ETSI Band B12 - 14, B17
Transmit Path
Range 728 – 764 MHz
Output Power +45 dBm min.
Receive Path
Range B12+17 698 – 716 MHz
Range B13+14 776 – 798 MHz
Residual PIM < -128 dBm (< -171 dBc), referred to 2 x +43 dBm
Weight 15.5 kg

IM-R-FI-07/B28-R (APT700)

ETSI Band B28
Transmit Path
Range 758 – 803 MHz
Output Power +45 dBm min.
Receive Path
Range 703 – 748 MHz
Residual PIM < -128 dBm (< -171 dBc), referred to 2 x +43 dBm
Weight 16.0 kg

IM-R-FI-08/B20-R (DigDiv800)

ETSI Band B20
Transmit Path
Range 791 – 821 MHz
Receive Path
Range 832 – 862 MHz
Residual PIM < -128 dBm (< -171 dBc), referred to 2 x +43 dBm
Weight 13.5 kg

**PIM RACK ANALYZER
BAND FILTER UNIT**

IM-R-FI-xxxx-R

IM-R-FI-08/B5-R (AMPS850)

ETSI Band	B5
Transmit Path	
Range	869 – 894 MHz
Receive Path	
Range	824 – 849 MHz
Residual PIM	< -128 dBm (< -171 dBc), referred to 2 x +43 dBm
Weight	13.0 kg

IM-R-FI-09/B8-R (EGSM900)

ETSI Band	B8
Transmit Path	
Range	925 – 960 MHz
Receive Path	
Range	880 – 915 MHz
Residual PIM	< -128 dBm (< -171 dBc), referred to 2 x +43 dBm
Weight	13.0 kg

IM-R-FI-14/B11+21-R (LTE1400)

ETSI Band	B11 + 21
Transmit Path	
Range	1475.9 – 1510.9 MHz
Receive Path	
Range	1427.9 – 1462.9 MHz
Residual PIM	< -128 dBm (< -171 dBc), referred to 2 x +43 dBm
Weight	kg

IM-R-FI-18/B3-R (DCS1800)

ETSI Band	B3
Transmit Path	
Range	1805 – 1880 MHz
Receive Path	
Range	1710 – 1785 MHz
Residual PIM	< -128 dBm (< -171 dBc), referred to 2 x +43 dBm
Weight	11.5 kg

IM-R-FI-19/B2+4-R (PCS/AWS1900)

ETSI Band	B2 + 4
Transmit Path	
Range TX1	1930 – 2155 MHz
Range TX2 (B2 PCS)	1930 – 1990 MHz
Range TX2 (B4 AWS)	1930 – 2155 MHz
Output Power	+45 dBm min.
Receive Path	
Range (B2 PCS)	1850 – 1910 MHz
Range (B4 AWS)	1710 – 1755 MHz
Residual PIM	< -128 dBm (< -171 dBc), referred to 2 x +43 dBm
Weight	13.5 kg

IM-R-FI-21/B1-R (UMTS2100)

ETSI Band	B1
Transmit Path	
Range	2110 – 2170 MHz
Receive Path	
Range	1920 – 2060 MHz
Residual PIM	< -128 dBm (< -171 dBc), referred to 2 x +43 dBm
Weight	12.0 kg

**IM-R-FI-23/B30-R (WCS)
(opt. on request)**

ETSI Band	B30
Transmit Path	
Range	2345 MHz – 2360 MHz
	Adjustable max. output power may be limited to +45dBm with this filter.
	It is recommended to use short connection cables and to use MPX position 1 - 6.
Receive Path	
Range	2305 MHz – 2335 MHz
Residual PIM	-128 dBm (< -171 dBc), referred to 2 x +43 dBm
Weight	kg

IM-R-FI-26/B7-R (LTE II 2600)

ETSI Band	B7
Transmit Path	
Range	2620 – 2690 MHz
Receive Path	
Range	2500 – 2570 MHz
Residual PIM	< -128 dBm (< -171 dBc), referred to 2 x +43 dBm
Weight	12.5 kg

Accessories

	Part Number	Description
Useful Accessories	IM-R-HWO-ExtCtrl	External Control/Signalling Interface
	IM-R-ACSRy-Fil-BU	10 air filter mats for BaseUnit (420x375x15mm, Polyolefin, Filter class G3, Flammability F1)
	IM-R-ACSRy-Fil-FI	25 air filter mats for FilterUnit (130x45x15mm, Polyolefin, Filter class G3, Flammability F1)
Spare Parts	60S101-KIMN1	7-16 Testport Saver for use on Filter
	60S164-K00N1	4.3-10 Testport Saver for use on Filter
Low PIM Adaptors	60S101-KIMN1	7-16 Male to 7-16 Female adapter
	60S101-SIMN1	7-16 Male to 7-16 Male adapter
	60K101-KIMN1	7-16 Female to 7-16 Female adapter
	60S153-KIMN1	7-16 Male to N Female adapter
	53S160-KIMN1	7-16 Female to N Male adapter
	60S164-K00N1	7-16 Male to 4.3-10 Female adapter
	60S164-S00N1	7-16 Male to 4.3-10 Male adapter
	60K164-S00N1	7-16 Female to 4.3-10 Male adapter
PIM Standards	60S110-KxxN1	-110dBm standard adapter (band specific) included with every filter unit (7-16 DIN Type)
	64S110-KxxN1	-110dBm standard adapter (band specific) included with every filter unit (4.3-10 DIN Type)
xx: 07 LTE700; 08 DigDiv AMPS; 09 EGSM; 18 DCS; 19 PCS/AWS; 21 UMTS; 26 LTE2600; other frequencies on request		
Low PIM Terminations	60Z150-001	Low PIM termination (19" Rack type, 3HU)
	60Z150-012	Low PIM termination (Benchtop type)
	60Z150-020	Low PIM termination (portable, with male & female ports)
Tools	60W000-002	32mm torque wrench
	53W010-000	18mm torque wrench
	99W057-000	Adjustable flat wrench
Corrugated Test Cables	LC02-186-4000	Test Cable 7-16 male / 7-16 male 4.0m
	LC02-186-1500	Test Cable 7-16 male / 7-16 male 1.5m
	LC02-188-4000	Test Cable 7-16 male / N male 4.0m
	LC02-188-1500	Test Cable 7-16 male / N male 1.5m
	SLJ12SP-60M64M-2.0m-00	Test Cable 7-16 male / 4.3-10 male 2.0m
	SLJ12SP-64M64M-2.0m-00	Test Cable 4.3-10 male / 4.3-10 male 2.0m
Super Flex Test Cables	IM-Cable-716m-716m-3000	Test Cable 7-16 male / 7-16 male 3.0m
	IM-Cable-716m-4310m-3000	Test Cable 7-16 male / 4.3-10 male 3.0m
	IM-Cable-4310m-4310m-3000	Test Cable 4.3-10 male / 4.3-10 male 3.0m

**PIM RACK ANALYZER
BAND FILTER UNIT**

IM-R-FI-xxxx-R

Part Number Designation

IM-R-FI-xxxx-yy

xxxx: 0722:
2127:
yy: 150W:

Base Unit

700-2200MHz Broadband Amplifier & Receiver
2100-2200MHz Broadband Amplifier & Receiver
150W Output Power

IM-R-MPX-xxxx

xxxx: 6way:
11way:

Base Unit

6-way Switch Matrix (connect up to 6 filters)
11-way Switch Matrix (connect up to 11 filters)

IM-R-FI-xxxx-y

xxxx: 07/B12-14:
07/B28:
08/B20:
08/B5:
09/B8:
14/B11+21:
18/B3:
19/B2+4:
21/B1:
23/B30:
26/B7:
y: R:
T:

Filter Unit 7-16 Test port

LTE700LU (ETSI Band12 to 14)
APT700 (ETSI Band28)
DigDiv (ETSI Band20)
AMPS (CDMA 800) (ETSI Band5)
EGSM (ETSI Band8)
LTE1400 (ETSI Band11 & 21)
DCS (ETSI Band3)
PCS + AWS (ETSI Band2 & 4)
UMTS (ETSI Band1)
WCS (ETSI Band 30)
UMTS II / LTE II (ETSI Band7)
Reflected PIM measurements (1 Port)
Transmitted and Dual Port measurements (2 Port)

IM-R-HWO-xxxx

xxxx: ExtCtrl
Conv-B71

Hardware option

External control interface to enable/disable Amplifiers and get RF-ON warning
Extends IM-R-BU-0722-150W to support 600 Band

IM-R-SWO-xxxx

xxxx: VirtualFI

Software option

Virtual Cross Band Filters to combine existing Filters to measure cross band PIM

IM-R-ACSRY-xxxx

xxxx: Fil-BU:
Fil-FI:

Accessory

10 pcs Air Filter mats for Base Unit
25 pcs Air Filter mats for Filter Unit

Order Number Example

IM-R-BU-0722-150W Base unit with broadband amplifier 700 -2700 MHz, receiver
IM-R-MPX-6way Switch Matrix for up to 6 Filters
IM-R-FI-07/B28-R Filter Unit for APT700 (ETSI Band 28)
IM-R-FI-19/B2+4-R Filter Unit for PCS / AWS 1900 (ETSI Band 2+4)
IM-R-ACSRY-Fil-BU Filter Mats for Base Unit

While the information has been carefully compiled to the best of our knowledge, nothing is intended as representation or warranty on our part and no statement herein shall be construed as recommendation to infringe existing patents. In the effort to improve our products, we reserve the right to make changes judged to be necessary.

Draft	Date	Approved	Date	Rev.	Engineering change number	Name	Date
Kaindl B.	2018-06-21	Kaindl B.	2018-08-21	b00	21-0013	Benjamin Kaindl	2021-11-29
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