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Department: Product Support

Document type: Internal document Ref: PSD-DD-1205 By: Ding Ding

## 电磁兼容测试方案五: 灯具类设备



图一: 灯具类设备的磁场辐射发射测试

#### 1. 概述

灯具类产品的电磁兼容测试。测试项目包括磁场辐射,电场辐射,电源线和控制线的骚扰电压。

受试设备举例:

光源控制装置、电子镇流器、电子变压器、电子节能灯、无极灯、微波硫灯和新型的气体放电灯等。

#### 2. 适用标准

GB 17743, CISPR15, EN55015

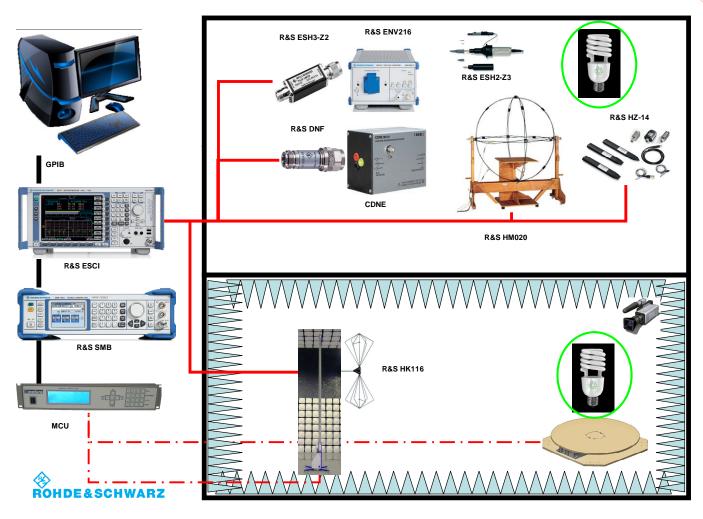
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#### 3. 系统配置

本测试方案可以根据用户需求,选择不同的仪器、软件及附件。本系统的软硬件为最优配置,软件具有友好的用户界面,操作者易于掌握和操作,而且与认证实验室的测量结果有较好的可比性。



图二: 灯具类设备的 EMI 测试配置框图

#### 测试软硬件要求:

- 测试接收机: R&S ESx 系列的测试接收机为本测试系统的核心。以下框图以 R&S ESL 为例,实际可 采用 R&S ESU, R&S ESCI 和 R&S ESPI,接收机的选择是预认证测试与认证测试的主要差别所在。
- 测试软件: 系统可通过电脑软件 R&S EMC32(或 R&S ES-SCAN)对测试进行远程控制。R&S EMC32 和 R&S ES-SCAN 都可支持 GPIB(National Instrument 公司)和 LAN 口。

附件:根据测试标准,同时也根据客户的具体产品和涉及的测试项目,选择如下附件:

• 电场天线:如 R&S HK116或 HL562, CISPR15只要求用于 30MHz---300MHz 的辐射发射测试,这些

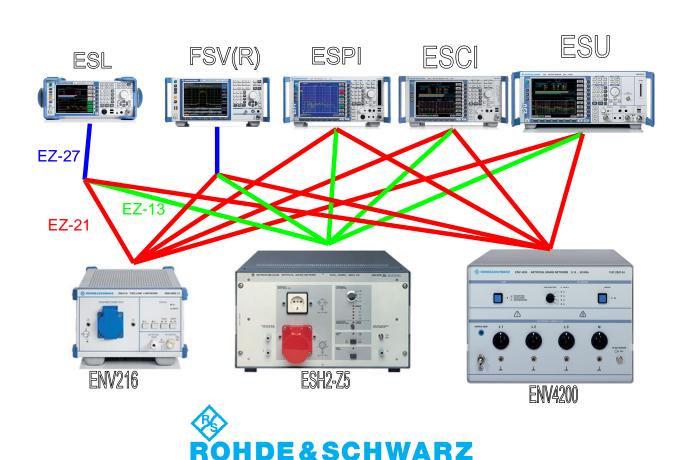
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测试一般在暗室,开阔场或现场进行。而且标准提出也可以采用 CDN 的替代方法,节省了暗室的高成本。

- 磁场天线:如 R&S HM020。在 9kHz---30MHz 对受试设备进行磁场发射测试,X,Y,Z 三环可通过 R&S BG020 进行切换。
- 人工电源网络: R&S ESH2-Z5, R&S ENY216。其中 R&S ESH2-Z5 额定电流 4×25A, R&S ENY216 额定电流 2×16A。
- 电压探头: R&S ESH2-Z3, 若受试设备有控制线,可采用此探头进行测试,此外,对大电流的电源线测试,若没有相应的 LISN,也可用此探头进行替代测试。
- 诊断测试近场探头: R&S HZ-14 或 R&S HZ-15, 16。
- 测试电缆和连接器:射频电缆: 50 欧姆的射频同轴电缆。接收机对人工电源网络的控制线缆: EZ-21, EZ-13, EZ-27。不同的接收机和人工电源网络的组合所需的自动切换控制线会有差异,见下图所示:



图三: 传导骚扰自动控制连线配置

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#### 4. 成功案例:

•	天祥(ITS)	上海
•	上海计量院	上海
•	浙江医疗	杭州
•	江苏医疗	杭州
•	时代之光	上海
•	常州质检所	常州
•	飞利浦	上海
•	阳光照明	厦门
•	东星电子	慈溪
•	立达信	厦门
•	富桦电子	上海
•	厦门质检	厦门

#### 5. 详细方案配置:

接收机配置选项: 可选择 ESU, FSV(R) 或 ESCI, ESPI, ESL

Typ Type	Material	Designation
		EMI Test Receiver 20 Hz to 26.5 GHz
		-155 dBm to +30 dBm, RBW 1 Hz to 10 MHz,
R&S® ESU26	1302.6005.26	for certification to commercial and
		military standards,
		compliant to CISPR 16-1-1
		DAkks(formerly DKD) calibration
R&S® ESU26-DKD	1302.6511.02	according to ISO 17025 and ISO 9000,
Na3@ E3020-DND	1302.6511.02	for R&S®ESU26
		(order only with device)
	1302.6005.40	EMI Test Receiver 20 Hz to 40 GHz,
		-155 dBm to +30 dBm, RBW 1 Hz to 10 MHz,
R&S® ESU40		for certification to commercial and
		military standards,
		compliant to CISPR 16-1-1
		DAkks(formerly DKD) calibration
R&S® ESU40-DKD	1302.6528.02	according to ISO 17025 and ISO 9000,
Nasw E3040-DND	1302.0328.02	for R&S®ESU40
		(order only with device)

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		Nej 100 00 1200 0j. 0.
5000 5000	4000 0005 00	EMI Test Receiver 20 Hz to 8 GHz, -155 dBm to +30 dBm, RBW 1 Hz to 10 MHz,
R&S® ESU8	1302.6005.08	for certification to commercial and military standards,
		compliant to CISPR 16-1-1
		DAkks(formerly DKD) calibration
R&S® ESU8-DKD	1302.6505.02	according to ISO 17025 and ISO 9000,
		for R&S®ESU8 (order only with device)
		Option: Output attenuator
R&S® FSU-B12	1142.9349.02	for tracking generator
K&3@130-B12	1142.9349.02	for FSU, FSQ
		Option: Tracking generator
R&S® FSU-B9	1142.8994.02	for FSU and FSQ,
NG0@100 B3	1142.0994.02	100 kHz - 3.6 GHz
		Option: Removable Hard Disk(Flash Card),
R&S® ESU-B18	1303.0400.06	operating system WinXP
11000 200 210	1000.0400.00	(Factory installation only)
		Option: 2nd hard disk (Flash Card)
R&S® ESU-B19	1303.0600.06	for ESU-B18 incl. ESU firmware
11000 200 210	1000.0000.00	Operating system WinXP
		Option: Internal preamplifier
		100kHz to 8GHz; gain 30dB nominal
R&S® ESU-B24	1157.2100.08	(For EMI Test Receiver R&S® ESU8;
		retrofitting requires re-calibration)
		Option: Internal preamplifier
		100kHz to 26.5GHz; gain 30dB nominal
	1157.2100.26	(For EMI Test Receiver R&S® ESU26;
		retrofitting requires re-calibration)
		Option: Internal preamplifier
	4457.0400.40	100kHz to 40GHz; gain 30dB nominal
	1157.2100.40	(For EMI Test Receiver R&S® ESU40;
		retrofitting requires re-calibration)
		Documentation of calibration values
R&S® ESU-DCV	T000.0002.96	ESU Please order:
		DCV-2 /Mat.No.: 0240.2193.09
R&S® ESU-K53		Option: Time Domain Scan
	1305.8509.02	FFT based scan for very fast overview
		measurements
R&S® ESCI	1166.5950.03	EMI Test Receiver
	1100.0000.00	for certification to commercial
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		Rej. F30-00-1203 By.	ווט
		standards, 9 kHz to 3 GHz,	
		CISPR 16-1-1 compliant	
		EMI test receiver,	
R&S® ESCI7	1166.5950.07	9kHz to 7GHz, for certification	
NGO® EOON	1100.000.01	measurements to commercial standards,	
		compliant to basic standard CISPR 16-1-1	
R&S® FSP-B9	1129.6991.02	Tracking generator for FSP	
K&3@13F-B9	1129.0991.02	9 kHz - 3 GHz, I/Q modulator	
		LAN interface 10/100 base T	
R&S® FSP-B16	1129.8042.03	for FSP 1164.4391.XX and	
		ESPI 1164.6407.XX	
		DAkks(formerly DKD) calibration	
		according to ISO 17025 and ISO 9000,	
R&S® ESCI7DKD	1161.2646.07	for R&S®ESCI7	
		(order only with device)	
		Extended environment specification	
		for ESCI/ESCI7	
R&S® ESCI-B20	1155.1606.14	(Random Vibration 1.9G RMS;	
		temperature 0 to 55°C), no retrofitting,	
		only for instruments with FMR7	
		Documentation of calibration values	
R&S® ESCI-DCV	T000.0002.80	ESCI/ESCI7 Please order:	
11000 2001 201	1000.0002.80	DCV-2 /Mat.No.: 0240.2193.09	
		DC power supply 12 - 28 V	
R&S® FSP-B30	1155.1158.02	for FSP spectrum analyzer	
K&3@13F-B30	1133.1136.02	and ESPI test receiver	
D	4455 4050 00	NiMH battery pack + charger for FSP and ESPI	
R&S® FSP-B31	1155.1258.02		
		requires FSP-B1 and FSP-B30	
D000 F05 500	4455 4500 00	Spare battery pack (NiMH)	
R&S® FSP-B32	1155.1506.02	for FSP spectrum analyzer	
		and ESPI test receiver	
		DAkks(formerly DKD) calibration	
R&S® ESCI-DKD	1161.2646.02	according to ISO 17025 and ISO 9000,	
		for R&S®ESCI	
		(order only with device)	
		EMI Test Receiver 9 kHz to 3 GHz,	
R&S® ESPI3	1164.6407.03	for precertification to commercial	
		standards	
R&S® ESPI3DKD	1161.2546.02	DAkks(formerly DKD) calibration	
MOS LOI IODIND		according to ISO 17025 and ISO 9000,	

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		for R&S®ESPI3	ly Sirily
		(order only with device)	
		EMI Test Receiver 9 kHz to 7 GHz,	
R&S® ESPI7	1164.6407.07	for precertification to commercial	
		standards	
		DAkks(formerly DKD) calibration	
		according to ISO 17025 and ISO 9000,	
R&S® ESPI7DKD	1161.2552.02	for R&S®ESPI7	
		(order only with device)	
		Option: Preselector and preamplifier	
R&S® ESPI-B2	1129.7498.03	for R&S®ESPI3, R&S®ESPI7;	
		factory installation	
		LAN interface 10/100 base T	
R&S® FSP-B16	1129.8042.03	for FSP 1164.4391.XX and	
		ESPI 1164.6407.XX	
		Extended environment specification	
D. C.	1155 1000 10	(Random Vibration 1.9G RMS;	
R&S® ESPI-B20	1155.1606.13	temperature 0 to 55°C), no retrofitting	
		(for ESPI3, ESPI7)	
	1155.1158.02	DC power supply 12 - 28 V	
R&S® FSP-B30		for FSP spectrum analyzer	
		and ESPI test receiver	
		NiMH battery pack + charger	
R&S® FSP-B31	1155.1258.02	for FSP and ESPI	
		requires FSP-B1 and FSP-B30	
		Spare battery pack (NiMH)	
R&S® FSP-B32	1155.1506.02	for FSP spectrum analyzer	
		and ESPI test receiver	
		Documentation of calibration values	
R&S® ESPI-DCV	T000.0002.54	ESPI3/7 Please order:	
		DCV-2 /Mat.No.: 0240.2193.09	
R&S® ESL3	1300.5001.03	EMI Test Receiver 9 kHz to 3 GHz,	
		for precompliance measurements	
		EMI Test Receiver 9 kHz to 3 GHz,	
	1300.5001.13	for precompliance measurements, with	
		built-in tracking generator up to 3 GHz	
		DAkks(formerly DKD) calibration	
R&S® ESL3-DKD	1303.6044.33	according to ISO 17025 and ISO 9000,	
		for R&S®ESL3, spectrum analysis only	
		(order only with device)	
R&S® ESL6	1300.5001.06	EMI Test Receiver 9 kHz to 6 GHz,	

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		Rej. F30-00-1203 By	יט יי
		for precompliance measurements	
		EMI Test Receiver 9 kHz to 6 GHz,	
	1300.5001.16	for precompliance measurements, with	
		built-in tracking generator up to 6 GHz	
		DAkks(formerly DKD) calibration	
	4000 0044 00	according to ISO 17025 and ISO 9000,	
R&S® ESL6-DKD	1303.6044.36	for R&S®ESL6, spectrum analysis only	
		(order only with device)	
R&S® FSL-B10	1300.6208.02	GPIB interface	
		RF preamplifier,	
R&S® FSL-B22	1300.5953.02	gain 20 dB	
		(software license)	
R&S® FSL-B30	1300.6308.02	DC power supply 12 - 28 V	
R&S® FSL-B31	1300.6408.02	NiMH battery pack	
		Additional interfaces	
R&S® FSL-B5	1300.6108.02	video/IF-output, power meter	
NGO® FOE BO	1300.0100.02	28 V - DC for noise source	
		Documentation of calibration values	
R&S® ESL-DCV	T000.0003.34		
RASW ESL-DCV	1000.0003.34	ESL Please order: DCV-1 / Mat.No.: 0240.2187.09	
		DCV-1 / Mat.No.: 0240.2187:09	
		Circul Arabinar 4011- to 42 C CI I-	
D. C. E. E. L.	4007.0000.40	Signal Analyzer 10Hz to 13,6 GHz,	
R&S® FSV13	1307.9002.13	-154 dBm to 30 dBm, resolutionbandwidth	
		1 Hz to 10 MHz, Touchscreen	
		DAkks(formerly DKD) calibration	
R&S® FSV13-DKD	1303.6038.13	according to ISO 17025 and ISO 9000,	
		for R&S®FSV13	
		(order only with device)	
		Signal analyzer 10Hz to 3.6GHz,	
R&S® FSV3	1307.9002.03	-154dBm to 30dBm, Resolutionbandwidth	
		1Hz to 10MHz, Touchscreen	
		Signal and Spectrum Analyzer	
R&S® FSV30	1307.9002.30	10Hz to 30GHz, -154dBm to 30dBm,	
K&3@ F3 V30	1307.3002.30	resolutionbandwidth 1Hz to 10MHz,	
		Touchscreen	
R&S® FSV30-DKD		DAkks(formerly DKD) calibration	
	1303.6038.30	according to ISO 17025 and ISO 9000,	
NGO TO VOU-DID	1303.0036.30	for R&S®FSV30	
		(order only with device)	
		DAkks(formerly DKD) calibration	
R&S® FSV3-DKD	1303.6038.03	according to ISO 17025 and ISO 9000,	
		for R&S®FSV3	
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		Ref: PSD-DD-1205 By: Di
		(order only with device)
		Signal and spectrum analyzer,
R&S® FSV40	1307.9002.39	10Hz to 40GHz, -154dBm to +30dBm,
1,00010140	1307.9002.39	resolution bandwidth 1Hz bis 10MHz,
		touchscreen
		Signal and spectrum analyzer,
	1307.9002.40	10Hz to 40GHz, -154dBm to +30dBm,
	1007.0002.40	resolution bandwidth 1Hz to 28(40)MHz,
		touchscreen
		DAkks(formerly DKD) calibration
R&S® FSV40-DKD	1303.6038.40	according to ISO 17025 and ISO 9000,
NGO® 1 OV 40 DND	1303.0030.40	for R&S®FSV40
		(order only with device)
		Signal analyzer 10Hz to 7GHz,
R&S® FSV7	1307.9002.07	-154dBm to 30dBm, Resolutionbandwidth
		1Hz to 10MHz, Touchscreen
		DAkks(formerly DKD) calibration
R&S® FSV7-DKD	1303.6038.07	according to ISO 17025 and ISO 9000,
Kase i svi-bkb	1303.0036.07	for R&S®FSV7
		(order only with device)
R&S® FSV-B10	1310.9551.02	External generator control
R&S® FSV-B21	1210 0507 02	LO/IF connections for external mixers
K&3@ F3V-B21	1310.9597.02	(FSV30 / FSV40)
R&S® FSV-B22	1310.9600.02	RF Preamplifier 20 dB, 9 kHz to 7 GHz
		RF preamplifier 9kHz to 13GHz
R&S® FSV-B24	1310.9616.13	(for R&S® FSV13 only)
		not installable post factory
	1310.9616.30	RF preamplifier 9kHz to 30GHz
		(for R&S® FSV30 only)
		not installable post factory
		RF preamplifier 9kHz to 40GHz
	1310.9616.40	(for R&S® FSV40 only)
		not installable post factory
R&S® FSV-B25	1310.9622.02	Electronic attenuator, 1 dB steps
R&S® FSV-B29	1310.9639.02	Frequency extension to 20Hz
1.000107020	1010.0009.02	(retrofittable in service center only)
		Option: AM/FM demodulator for listening;
R&S® FSV-B3	1310.9516.02	includes loudspeaker, plug for
		headphone and volume control
		Option: OCXO, precision frequency
R&S® FSV-B4	1310.9522.02	reference
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Temp. drift: 0.1 ppm (5 to 45 °C)			Document type: In  Ref: PSD-DD-1205 By	ternal document Ding Ding
Option: OCXO, precision frequency reference, aging per year: 0.1 ppm improved specification of temp. drift: 0.01ppm (5 to 40°C)				
1310.9522.03   aging per year: 0.1 ppm   improved specification of temp.   drift: 0.01 ppm (5 to 40°C)			Option: OCXO, precision frequency	
improved specification of temp. drift: 0.01ppm (5 to 40°C) Option: Additional interfaces. IF/Video/AM-FM-demod. output, AUX port, trigger output, 2 additional USB(A) connectors  Tracking generator.  R&S® FSV-B9 1310.9545.02 R&S® FSV-K14 1310.8255.02 Spectrogram measurement application EMI application for diagnostic of RF interference with spectrum analyzers R&S®FSVR and real-time spectrum analyzers R&S®FSVR, R&S®ES-SCAN recommended (software license) Real-Time spectrum analyzer, 10 Hz to 13GHz, 40MHz bandwidth, signal and spectrum analyzer, 10 Hz to 13GHz DAkks(formerly DKD) calibration according to ISO 17025 and ISO 9000, for R&S®FSVR13  R&S® FSVR30  R&S® FSVR30  1311.0006.30  R&S® FSVR30  R&S® FSVR30  R&S® FSVR40DKD 1303.6050.30  R&S® FSVR40DKD 1303.6050.40  DAkks(formerly DKD) calibration according to ISO 17025 and ISO 9000, for R&S®FSVR30 (order only with device)  R&S®FSVR30  Corder only with device)  R&S®FSVR30  DAkks(formerly DKD) calibration according to ISO 17025 and ISO 9000, for R&S®FSVR30 (order only with device)  R&S®FSVR30  DAkks(formerly DKD) calibration according to ISO 17025 and ISO 9000, for R&S®FSVR30 (order only with device)  R&S®FSVR30  DAkks(formerly DKD) calibration according to ISO 17025 and ISO 9000, for R&S®FSVR30 (order only with device)  R&SS®FSVR30  DAkks(formerly DKD) calibration according to ISO 17025 and ISO 9000, for R&S®FSVR30 (order only with device)  R&SS®FSVR30  DAkks(formerly DKD) calibration according to ISO 17025 and ISO 9000, for R&SS®FSVR30 (order only with device)  R&SS®FSVR30  DAkks(formerly DKD) calibration DAkks(formerly DKD) calibration			reference,	
R&S® FSV-B5   1310.9539.02   1310.9539.02   IF/Video/AM-FM-demod. output, AUX port, trigger output, 2 additional USB(A) connectors   Tracking generator.   100 kHz - 7 GHz (R&S®FSV7/13/30/40); 100 kHz - 3.6 GHz (R&S®FSV3)   R&S® FSV-K14   1310.8255.02   Spectrogram measurement application   EMI application for diagnostic of RF interference with spectrum analyzers R&S®FSV and real-time spectrum analyzers R&S®FSVR, R&S®ES-SCAN recommended (software license)   Real-Time spectrum analyzer, 10 Hz to 13GHz, 40MHz bandwidth, signal and spectrum analyzer, 10 Hz to 13GHz   DAkks(formerly DKD) calibration according to ISO 17025 and ISO 9000, for R&S®FSVR13 (order only with device)   DAkks(formerly DKD) calibration according to ISO 17025 and ISO 9000, for R&S®FSVR30 (order only with device)   DAkks(formerly DKD) calibration according to ISO 17025 and ISO 9000, for R&S®FSVR30 (order only with device)   Real-Time spectrum analyzer, 10 Hz to 30GHz   DAkks(formerly DKD) calibration according to ISO 17025 and ISO 9000, for R&S®FSVR30 (order only with device)   Real-Time spectrum analyzer, 10 Hz to 40GHz, 40MHz bandwidth, signal and spectrum analyzer, 10 Hz to 40GHz   DAkks(formerly DKD) calibration according to ISO 17025 and ISO 9000, for R&S®FSVR30 (order only with device)   Real-Time spectrum analyzer, 10 Hz to 40GHz   DAkks(formerly DKD) calibration according to ISO 17025 and ISO 9000, for R&S®FSVR30 (order only with device)   Real-Time spectrum analyzer, 10 Hz to 40GHz   DAkks(formerly DKD) calibration according to ISO 17025 and ISO 9000, for R&S®FSVR30 (order only with device)   Real-Time spectrum analyzer, 10 Hz to 40GHz   DAkks(formerly DKD) calibration   DAkks(formerly		1310.9522.03	aging per year: 0.1 ppm	
Option: Additional interfaces.   IF/video/AM-FM-demod. output, AUX port, trigger output, 2 additional USB(A) connectors			improved specification of temp.	
R&S® FSV-B5			drift: 0.01ppm (5 to 40°C)	
R&S® FSV-B6         1310.9539.02         trigger output, 2 additional USB(A) connectors           R&S® FSV-B9         1310.9545.02         Tracking generator. 100 kHz - 7 GHz (R&S®FSV7)13/30/40); 100 kHz - 3.6 GHz (R&S®FSV3)           R&S® FSV-K14         1310.8255.02         Spectrogram measurement application           EMI application for diagnostic of RF interference with spectrum analyzers R&S®FSV and real-time spectrum analyzers R&S®FSVR, R&S®ES-SCAN recommended (software license)           R&S® FSVR13         1311.0006.13           R&S® FSVR140         1303.6050.13           R&S® FSVR30         1303.6050.13           R&S® FSVR30         1311.0006.30           R&S® FSVR30DKD         1303.6050.30           R&S® FSVR30DKD         1303.6050.30           R&S® FSVR30DKD         1303.6050.30           R&S® FSVR40DKD         1303.6050.40           R&S® FSVR40DKD         1303.6050.40			Option: Additional interfaces.	
Trigger output, 2 additional USB(A)   connectors			IF/Video/AM-FM-demod. output, AUX port,	
Tracking generator.   100 kHz - 7 GHz (R&S®FSV7/13/30/40);   100 kHz - 7 GHz (R&S®FSV7/13/30/40);   100 kHz - 3.6 GHz (R&S®FSV7/13/30/40);   100 kHz - 3.6 GHz (R&S®FSV3)     1310.8255.02     Spectrogram measurement application   EMI application for diagnostic of   RF interference with   spectrum analyzers R&S®FSV and   real-time spectrum analyzers R&S®FSVR,   R&S®ES-SCAN recommended   (software license)     Real-Time spectrum analyzer,   10 Hz to 13GHz, 40MHz bandwidth,   signal and spectrum analyzer,   10 Hz to 13GHz   DAkks(formerly DKD) calibration   according to ISO 17025 and ISO 9000,   for R&S®FSVR13   (order only with device)   Real-Time spectrum analyzer,   10 Hz to 30GHz   40MHz bandwidth,   signal and spectrum analyzer,   10 Hz to 30GHz   DAkks(formerly DKD) calibration   according to ISO 17025 and ISO 9000,   for R&S®FSVR30   1303.6050.30   DAkks(formerly DKD) calibration   according to ISO 17025 and ISO 9000,   for R&S®FSVR30   Corder only with device)   Real-Time spectrum analyzer,   10 Hz to 30GHz   DAkks(formerly DKD) calibration   according to ISO 17025 and ISO 9000,   for R&S®FSVR30   (order only with device)   Real-Time spectrum analyzer,   10 Hz to 40GHz, 40MHz bandwidth,   signal and spectrum analyzer,   10 Hz to 40GHz, 40MHz bandwidth,   signal and spectrum analyzer,   10 Hz to 40GHz, 40MHz bandwidth,   signal and spectrum analyzer,   10 Hz to 40GHz, 40MHz bandwidth,   signal and spectrum analyzer,   10 Hz to 40GHz, 40MHz bandwidth,   signal and spectrum analyzer,   10 Hz to 40GHz, 40MHz bandwidth,   signal and spectrum analyzer,   10 Hz to 40GHz, 40MHz bandwidth,   signal and spectrum analyzer,   10 Hz to 40GHz, 40MHz bandwidth,   signal and spectrum analyzer,   10 Hz to 40GHz, 40MHz bandwidth,   signal and spectrum analyzer,   10 Hz to 40GHz, 40MHz bandwidth,   signal and spectrum analyzer,   10 Hz to 40GHz, 40MHz bandwidth,   signal and spectrum analyzer,   10 Hz to 40GHz, 40MHz bandwidth,   signal and spectrum analyzer,   10 Hz to 40GHz   10 Hz to 40GHz   10 Hz to 40GHz   10 Hz to 40G	R&S® FSV-B5	1310.9539.02	trigger output, 2 additional USB(A)	
R&S® FSV-B9         1310.9545.02         100 kHz - 7 GHz (R&S®FSV713/30/40); 100 kHz - 3.6 GHz (R&S®FSV3)           R&S® FSV-K14         1310.8255.02         Spectrogram measurement application           EMI application for diagnostic of RF interference with spectrum analyzers R&S®FSV and real-time spectrum analyzers R&S®FSVR, R&S®ES-SCAN recommended (software license)           R&S® FSVR13         1311.0006.13         Real-Time spectrum analyzer, 10 Hz to 13GHz, 40MHz bandwidth, signal and spectrum analyzer, 10 Hz to 13GHz           DAkks(formerly DKD) calibration according to ISO 17025 and ISO 9000, for R&S®FSVR13 (order only with device)         Real-Time spectrum analyzer, 10 Hz to 30GHz, 40MHz bandwidth, signal and spectrum analyzer, 10 Hz to 30GHz, 40MHz bandwidth, signal and spectrum analyzer, 10 Hz to 30GHz, 40MHz bandwidth, signal and spectrum analyzer, 10 Hz to 30GHz           R&S® FSVR30DKD         1303.6050.30         DAkks(formerly DKD) calibration according to ISO 17025 and ISO 9000, for R&S®FSVR30 (order only with device)           R&S® FSVR40         1311.0006.40         Real-Time spectrum analyzer, 10 Hz to 40GHz, 40MHz bandwidth, signal and spectrum analyzer, 10 Hz to 40GHz, 40MHz bandwidth, signal and spectrum analyzer, 10 Hz to 40GHz, 40MHz bandwidth, signal and spectrum analyzer, 10 Hz to 40GHz, 40MHz bandwidth, signal and spectrum analyzer, 10 Hz to 40GHz, 40MHz bandwidth, signal and spectrum analyzer, 10 Hz to 40GHz, 40MHz bandwidth, signal and spectrum analyzer, 10 Hz to 40GHz, 40MHz bandwidth, signal and spectrum analyzer, 10 Hz to 40GHz, 40MHz bandwidth, signal and spectrum analyzer, 10 Hz to 40GHz, 40MHz bandwidth, signal and spectrum analyzer, 10 Hz to 40GHz, 40MHz bandwidth, signal and spectrum analyzer, 10 Hz			connectors	
R&S® FSV-K14			Tracking generator.	
R&S® FSV-K14 1310.8255.02 Spectrogram measurement application  EMI application for diagnostic of RF interference with spectrum analyzers R&S®FSV and real-time spectrum analyzers R&S®FSVR, R&S®ES-SCAN recommended (software license)  Real-Time spectrum analyzer, 10 Hz to 13GHz DAkks(formerly DKD) calibration according to ISO 17025 and ISO 9000, for R&S®FSVR13  R&S® FSVR30  R&S® FSVR30DKD 1303.6050.30  R&S® FSVR30DKD 1303.6050.30  R&S® FSVR40 1311.0006.40  R&S® FSVR40DKD 1303.6050.40  DAkks(formerly DKD) calibration according to ISO 17025 and ISO 9000, for R&S®FSVR30 (order only with device)  Real-Time spectrum analyzer, 10 Hz to 30GHz, 40MHz bandwidth, signal and spectrum analyzer, 10 Hz to 30GHz DAkks(formerly DKD) calibration according to ISO 17025 and ISO 9000, for R&S®FSVR30 (order only with device)  Real-Time spectrum analyzer, 10 Hz to 40GHz, 40MHz bandwidth, signal and spectrum analyzer, 10 Hz to 40GHz, 40MHz bandwidth, signal and spectrum analyzer, 10 Hz to 40GHz, 40MHz bandwidth, signal and spectrum analyzer, 10 Hz to 40GHz DAkks(formerly DKD) calibration	R&S® FSV-B9	1310.9545.02	100 kHz - 7 GHz (R&S®FSV7/13/30/40);	
R&S® FSV-K54  R&S® FSV-K55  R&S® FSV-K50  R&			100 kHz - 3.6 GHz (R&S®FSV3)	
RESIDENCE NOT SET THE PROPERTY OF THE PROPERTY	R&S® FSV-K14	1310.8255.02	Spectrogram measurement application	
R&S® FSV-K54         1310.0425.02         spectrum analyzers R&S®FSV and real-time spectrum analyzers R&S®FSVR, R&S®ES-SCAN recommended (software license)           R&S® FSVR13         1311.0006.13         Real-Time spectrum analyzer, 10 Hz to 13GHz, 40MHz bandwidth, signal and spectrum analyzer, 10 Hz to 13GHz           DAkks(formerly DKD) calibration according to ISO 17025 and ISO 9000, for R&S®FSVR13 (order only with device)         Real-Time spectrum analyzer, 10 Hz to 30GHz, 40MHz bandwidth, signal and spectrum analyzer, 10 Hz to 30GHz           R&S® FSVR30DKD         1303.6050.30         DAkks(formerly DKD) calibration according to ISO 17025 and ISO 9000, for R&S®FSVR30 (order only with device)           R&S® FSVR40         1311.0006.40         Real-Time spectrum analyzer, 10 Hz to 40GHz, 40MHz bandwidth, signal and spectrum analyzer, 10 Hz to 40GHz, 40MHz bandwidth, signal and spectrum analyzer, 10 Hz to 40GHz, 40MHz bandwidth, signal and spectrum analyzer, 10 Hz to 40GHz           R&S® FSVR40DKD         1303.6050.40         DAkks(formerly DKD) calibration			EMI application for diagnostic of	
R&S® FSV-K54         1310.0425.02         real-time spectrum analyzers R&S®FSVR, R&S®ES-SCAN recommended (software license)           R&S® FSVR13         1311.0006.13         Real-Time spectrum analyzer, 10 Hz to 13GHz, 40MHz bandwidth, signal and spectrum analyzer, 10 Hz to 13GHz           DAkks@FSVR13DKD         DAkks(formerly DKD) calibration according to ISO 17025 and ISO 9000, for R&S®FSVR13 (order only with device)           R&S® FSVR30         1311.0006.30         Real-Time spectrum analyzer, 10 Hz to 30GHz, 40MHz bandwidth, signal and spectrum analyzer, 10 Hz to 30GHz           DAkks(formerly DKD) calibration according to ISO 17025 and ISO 9000, for R&S®FSVR30 (order only with device)         DAkks(formerly DKD) calibration according to ISO 17025 and ISO 9000, for R&S®FSVR30 (order only with device)           R&S® FSVR40         1311.0006.40         Real-Time spectrum analyzer, 10 Hz to 40GHz, 40MHz bandwidth, signal and spectrum analyzer, 10 Hz to 40GHz           DAkks(formerly DKD) calibration         DAkks(formerly DKD) calibration			RF interference with	
real-time spectrum analyzers R&S®FSVR, R&S®ES-SCAN recommended (software license)  Real-Time spectrum analyzer, 10 Hz to 13GHz, 40MHz bandwidth, signal and spectrum analyzer, 10 Hz to 13GHz  DAkks(formerly DKD) calibration according to ISO 17025 and ISO 9000, for R&S®FSVR13 (order only with device)  Real-Time spectrum analyzer, 10 Hz to 30GHz, 40MHz bandwidth, signal and spectrum analyzer, 10 Hz to 30GHz, 40MHz bandwidth, signal and spectrum analyzer, 10 Hz to 30GHz  DAkks(formerly DKD) calibration according to ISO 17025 and ISO 9000, for R&S®FSVR30 (order only with device)  R&S®FSVR30DKD  R&S®FSVR30 (order only with device)  Real-Time spectrum analyzer, 10 Hz to 40GHz 1311.0006.40  R&S®FSVR40DKD  Also 1303.6050.40  DAkks(formerly DKD) calibration according to ISO 17025 and ISO 9000, for R&S®FSVR30 (order only with device)  Real-Time spectrum analyzer, 10 Hz to 40GHz, 40MHz bandwidth, signal and spectrum analyzer, 10 Hz to 40GHz  DAkks(formerly DKD) calibration	D000 501/1/5/	1010 0105 00	spectrum analyzers R&S®FSV and	
R&S® FSVR13  1311.0006.13  R&S® FSVR13DKD  R&S® FSVR13DKD  R&S® FSVR13DKD  R&S® FSVR30  R&S® FSVR30  R&S® FSVR30  R&S® FSVR30  R&S® FSVR30DKD  1303.6050.30  R&S® FSVR30DKD  R&S® FSVR30DKD  DAkks(formerly DKD) calibration according to ISO 17025 and ISO 9000, for R&S®FSVR30 (order only with device)  Real-Time spectrum analyzer, 10 Hz to 30GHz  DAkks(formerly DKD) calibration according to ISO 17025 and ISO 9000, for R&S®FSVR30 (order only with device)  R&S® FSVR40  R&S® FSVR40  DAkks(formerly DKD) calibration  DAkks(formerly DKD) calibration  DAkks(formerly DKD) calibration	R&S® FSV-K54	1310.0425.02	real-time spectrum analyzers R&S®FSVR,	
Real-Time spectrum analyzer,   10 Hz to 13GHz, 40MHz bandwidth,   signal and spectrum analyzer,   10 Hz to 13GHz   DAkks(formerly DKD) calibration   according to ISO 17025 and ISO 9000,   for R&S®FSVR13   (order only with device)   Real-Time spectrum analyzer,   10 Hz to 30GHz, 40MHz bandwidth,   signal and spectrum analyzer,   10 Hz to 30GHz   DAkks(formerly DKD) calibration   according to ISO 17025 and ISO 9000,   for R&S®FSVR30   1303.6050.30   DAkks(formerly DKD) calibration   according to ISO 17025 and ISO 9000,   for R&S®FSVR30   (order only with device)   Real-Time spectrum analyzer,   10 Hz to 40GHz   DAkks(formerly DKD) calibration   according to ISO 17025 and ISO 9000,   for R&S®FSVR30   (order only with device)   Real-Time spectrum analyzer,   10 Hz to 40GHz, 40MHz bandwidth,   signal and spectrum analyzer,   10 Hz to 40GHz   DAkks(formerly DKD) calibration   DAKks			R&S®ES-SCAN recommended	
1311.0006.13			(software license)	
R&S® FSVR13 1311.0006.13 signal and spectrum analyzer, 10 Hz to 13GHz  DAkks(formerly DKD) calibration according to ISO 17025 and ISO 9000, for R&S®FSVR13 (order only with device)  R&S® FSVR30 1311.0006.30 Real-Time spectrum analyzer, 10 Hz to 30GHz  DAkks(formerly DKD) calibration according to ISO 17025 and ISO 9000, for R&S®FSVR30 (order only with device)  R&S® FSVR30DKD 1303.6050.30 DAkks(formerly DKD) calibration according to ISO 17025 and ISO 9000, for R&S®FSVR30 (order only with device)  R&S® FSVR40 1311.0006.40 Real-Time spectrum analyzer, 10 Hz to 40GHz, 40MHz bandwidth, signal and spectrum analyzer, 10 Hz to 40GHz  DAkks(formerly DKD) calibration  R&S® FSVR40DKD 1303.6050.40 DAkks(formerly DKD) calibration			Real-Time spectrum analyzer,	
signal and spectrum analyzer, 10 Hz to 13GHz  DAkks(formerly DKD) calibration according to ISO 17025 and ISO 9000, for R&S®FSVR13 (order only with device)  Real-Time spectrum analyzer, 10 Hz to 30GHz, 40MHz bandwidth, signal and spectrum analyzer, 10 Hz to 30GHz  DAkks(formerly DKD) calibration according to ISO 17025 and ISO 9000, for R&S®FSVR30DKD  R&S®FSVR30DKD  1303.6050.30  R&S®FSVR30DKD  R&S®FSVR40  1311.0006.40  R&S®FSVR40DKD  1303.6050.40  DAkks(formerly DKD) calibration according to ISO 17025 and ISO 9000, for R&S®FSVR30 (order only with device)  Real-Time spectrum analyzer, 10 Hz to 40GHz, 40MHz bandwidth, signal and spectrum analyzer, 10 Hz to 40GHz  DAkks(formerly DKD) calibration	D000 F0\/D40	1011 0000 10	10 Hz to 13GHz, 40MHz bandwidth,	
R&S® FSVR30DKD  R&S® FSVR30  R&S® FSVR30  R&S® FSVR30  R&S® FSVR30  R&S® FSVR30  R&S® FSVR30DKD  R&S® FSVR30  ADAkks(formerly DKD) calibration according to ISO 17025 and ISO 9000, for R&S®FSVR30 (order only with device)  Real-Time spectrum analyzer, 10 Hz to 40GHz, 40MHz bandwidth, signal and spectrum analyzer, 10 Hz to 40GHz  DAkks(formerly DKD) calibration  R&S® FSVR40DKD  DAkks(formerly DKD) calibration	R&S® FSVR13	1311.0006.13	signal and spectrum analyzer,	
R&S® FSVR13DKD  1303.6050.13  according to ISO 17025 and ISO 9000, for R&S®FSVR13 (order only with device)  Real-Time spectrum analyzer, 10 Hz to 30GHz, 40MHz bandwidth, signal and spectrum analyzer, 10 Hz to 30GHz  DAkks(formerly DKD) calibration according to ISO 17025 and ISO 9000, for R&S®FSVR30 (order only with device)  R&S® FSVR40  R&S® FSVR40  R&S® FSVR40DKD  1303.6050.40  according to ISO 17025 and ISO 9000, for R&S®FSVR30 (order only with device)  Real-Time spectrum analyzer, 10 Hz to 40GHz, 40MHz bandwidth, signal and spectrum analyzer, 10 Hz to 40GHz  DAkks(formerly DKD) calibration			10 Hz to 13GHz	
R&S® FSVR30 1303.6050.13 for R&S®FSVR13 (order only with device)  R&S® FSVR30 1311.0006.30 Real-Time spectrum analyzer, 10 Hz to 30GHz, 40MHz bandwidth, signal and spectrum analyzer, 10 Hz to 30GHz  DAkks(formerly DKD) calibration according to ISO 17025 and ISO 9000, for R&S®FSVR30 (order only with device)  R&S® FSVR40 1311.0006.40 Real-Time spectrum analyzer, 10 Hz to 40GHz, 40MHz bandwidth, signal and spectrum analyzer, 10 Hz to 40GHz  DAkks(formerly DKD) calibration  R&S® FSVR40DKD 1303.6050.40 DAkks(formerly DKD) calibration			DAkks(formerly DKD) calibration	
for R&S®FSVR13 (order only with device)  Real-Time spectrum analyzer, 10 Hz to 30GHz, 40MHz bandwidth, signal and spectrum analyzer, 10 Hz to 30GHz  DAkks(formerly DKD) calibration according to ISO 17025 and ISO 9000, for R&S®FSVR30 (order only with device)  Real-Time spectrum analyzer, 10 Hz to 40GHz, 40MHz bandwidth, signal and spectrum analyzer, 10 Hz to 40GHz  DAkks(formerly DKD) calibration	D 0 0 0 FOVD4 2 DVD	1202 0050 12	according to ISO 17025 and ISO 9000,	
R&S® FSVR30  1311.0006.30  R&S® FSVR30DKD  R&S® FSVR30DKD  R&S® FSVR40  R&S® FSVR40DKD  R&S® FSVR40DKD  R&S® FSVR40DKD  1303.6050.40  R&S® FSVR40DKD  R&S® FSVR40DKD  R&S® FSVR40DKD  R&S® FSVR40DKD  R&S® FSVR40DKD  1303.6050.40  Real-Time spectrum analyzer, 10 Hz to 40GHz, 40MHz bandwidth, signal and spectrum analyzer, 10 Hz to 40GHz  DAkks(formerly DKD) calibration  R&S® FSVR40DKD  DAkks(formerly DKD) calibration  RAKS® FSVR40DKD  DAkks(formerly DKD) calibration	K&S@ FSVK ISDKD	1303.6050.13	for R&S®FSVR13	
R&S® FSVR30  1311.0006.30  1311.0006.30  1311.0006.30  1311.0006.30  1311.0006.30  1303.6050.30  R&S® FSVR30DKD  R&S® FSVR40  R&S® FSVR40  1311.0006.40  1311.0006.40  1311.0006.40  1311.0006.40  R&S® FSVR40DKD  1311.0006.40  1311.0006.40  1311.0006.40  1311.0006.40  1311.0006.40  1311.0006.40  R&S® FSVR40DKD  1311.0006.40  1311.0006.40  1311.0006.40  1311.0006.40  DAkks(formerly DKD) calibration  DAkks(formerly DKD) calibration			(order only with device)	
R&S® FSVR30  1311.0006.30  signal and spectrum analyzer, 10 Hz to 30GHz  DAkks(formerly DKD) calibration according to ISO 17025 and ISO 9000, for R&S®FSVR30 (order only with device)  R&S® FSVR40  1311.0006.40  R&S® FSVR40DKD  1303.6050.40  signal and spectrum analyzer, 10 Hz to 40GHz, 40MHz bandwidth, signal and spectrum analyzer, 10 Hz to 40GHz  DAkks(formerly DKD) calibration  DAkks(formerly DKD) calibration			Real-Time spectrum analyzer,	
signal and spectrum analyzer, 10 Hz to 30GHz  DAkks(formerly DKD) calibration according to ISO 17025 and ISO 9000, for R&S®FSVR30 (order only with device)  R&S® FSVR40  1311.0006.40  R&S® FSVR40DKD  1303.6050.40  Signal and spectrum analyzer, 10 Hz to 40GHz, 40MHz bandwidth, signal and spectrum analyzer, 10 Hz to 40GHz  DAkks(formerly DKD) calibration	P&S@ FS\/P30	1311 0006 30	10 Hz to 30GHz, 40MHz bandwidth,	
R&S® FSVR30DKD  1303.6050.30  DAkks(formerly DKD) calibration according to ISO 17025 and ISO 9000, for R&S®FSVR30 (order only with device)  Real-Time spectrum analyzer, 10 Hz to 40GHz, 40MHz bandwidth, signal and spectrum analyzer, 10 Hz to 40GHz  R&S® FSVR40DKD  1303.6050.40  DAkks(formerly DKD) calibration	1000101100	1311.0000.30	signal and spectrum analyzer,	
R&S® FSVR30DKD  1303.6050.30  according to ISO 17025 and ISO 9000, for R&S®FSVR30 (order only with device)  Real-Time spectrum analyzer, 10 Hz to 40GHz, 40MHz bandwidth, signal and spectrum analyzer, 10 Hz to 40GHz  R&S® FSVR40DKD  1303.6050.40  DAkks(formerly DKD) calibration			10 Hz to 30GHz	
R&S® FSVR30DKD 1303.6050.30 for R&S®FSVR30 (order only with device)  R&S® FSVR40 1311.0006.40 Real-Time spectrum analyzer, 10 Hz to 40GHz, 40MHz bandwidth, signal and spectrum analyzer, 10 Hz to 40GHz  DAkks(formerly DKD) calibration			DAkks(formerly DKD) calibration	
for R&S®FSVR30 (order only with device)  Real-Time spectrum analyzer, 10 Hz to 40GHz, 40MHz bandwidth, signal and spectrum analyzer, 10 Hz to 40GHz  R&S® FSVR40DKD  1303.6050.40  DAkks(formerly DKD) calibration	R&S® FSVR30DKD	1303 6050 30	according to ISO 17025 and ISO 9000,	
R&S® FSVR40  1311.0006.40  Real-Time spectrum analyzer, 10 Hz to 40GHz, 40MHz bandwidth, signal and spectrum analyzer, 10 Hz to 40GHz  DAkks(formerly DKD) calibration		1303.0030.30	for R&S®FSVR30	
R&S® FSVR40  1311.0006.40  10 Hz to 40GHz, 40MHz bandwidth, signal and spectrum analyzer, 10 Hz to 40GHz  R&S® FSVR40DKD  1303.6050.40  DAkks(formerly DKD) calibration			(order only with device)	
R&S® FSVR40 1311.0006.40 signal and spectrum analyzer, 10 Hz to 40GHz  R&S® FSVR40DKD 1303.6050.40 DAkks(formerly DKD) calibration	R&S® FSVR40		Real-Time spectrum analyzer,	
signal and spectrum analyzer,  10 Hz to 40GHz  DAkks(formerly DKD) calibration		1311 0006 40	10 Hz to 40GHz, 40MHz bandwidth,	
R&S® FSVR40DKD 1303.6050.40 DAkks(formerly DKD) calibration		10.17.0000.40		
I R&S® FSVR40DKD   1303.6050.40			10 Hz to 40GHz	
according to ISO 17025 and ISO 9000,	R&S® FSVR40DKD	1303 6050 40	DAkks(formerly DKD) calibration	
	. ISSS FORMADING	1000.0000.40	according to ISO 17025 and ISO 9000,	

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Department: Product Support Document type: Ref: PSD-DD-1205 Ding Ding

		for R&S®FSVR40
		(order only with device)
		Real-Time spectrum analyzer,
R&S® FSVR7	1311.0006.07	10 Hz to 7GHz, 40MHz bandwidth,
Kase i svki	1311.0006.07	signal and spectrum analyzer,
		10 Hz to 7GHz
	1303.6050.07	DAkks(formerly DKD) calibration
R&S® FSVR7-DKD		according to ISO 17025 and ISO 9000,
Naswisvki-DKD		for R&S®FSVR7
		(order only with device)

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Department: Product Support

Document type: I
Ref: PSD-DD-1205 B

By: Ding Ding

#### 附件及软件配置选项:

Тур Туре	Material	Designation
, ,		Control Unit to HM020 Antenna
R&S® BG020	4024.1002.02	needed, if a measurement receiver
		without user port is applied
		EMI measurement software; basic version
		for commercial and military standards;
		hardlock protection.
R&S® EMC32-EB	1300.7010.02	Operating system:
		Win7 or Vista (32/64 bit), XP SP3;
		english versions
		(software license)
		Option EMI Auto Test
R&S® EMC32-K10	1117.6840.02	for EMC32-EB
		2-Line V-Network, 9kHz to 30 MHz,
		16A continuous current,
R&S® ENV216	3560.6550.12	for disturb. voltage measurements,
	3300.0330.12	Mains connectors for Germany,
		incl. calibration certificate and report
		2-Line V-Network, 9kHz to 30 MHz,
		13A continuous current,
	3560.6550.13	for disturb. voltage measurements,
		Mains connectors for United Kingdom,
		incl. calibration certificate and report
		2-Line V-Network, 9kHz to 30 MHz,
		16A continuous current,
	3560.6550.14	for disturb. voltage measurements,
	0000.0000.11	Mains connectors for France,
		incl. calibration certificate and report
		2-Line V-Network, 9kHz to 30 MHz,
		10A continuous current,
	3560.6550.15	for disturb. voltage measurements,
		Mains connectors for China/Australia,
		incl. calibration certificate and report
		2-Line V-Network, 9kHz to 30 MHz,
		15A continuous current,
	3560.6550.16	for disturb. voltage measurements,
		Mains connectors for USA,
		incl. calibration certificate and report

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Document type:
Ref: PSD-DD-1205

Product Support

		Document type:	Internal documer
		DAkks(formerly DKD) calibration	By: Ding Ding
		according to ISO 17025 and ISO 9000,	
R&S® ENV216DKD	1161.2623.02	for R&S®ENV216	
		(order only with device)	
		4 line V-network,	
D000 FNII/4000	4407.0007.04	continous current 200 A; 0.15 to 30 MHz;	
R&S® ENV4200	1107.2387.04	remote controllable (TTL);	
		incl. calibration certificate	
		and test report	
		Accessory: Active voltage probe	
R&S® ESH2-Z2	0299.7210.52	9 kHz to 30 MHz,	
		voltage divison factor 10 dB	
		incl. calibration certificate and report	
		Accessory : Passive voltage probe	
R&S® ESH2-Z3	0299.7810.56	9 kHz to 30 MHz,	
11000 20112 20	0200.7010.00	voltage division factor 30dB,	
		incl. calibration certificate and report	
		Attenuator for R&S®ESH2-Z3 for	
R&S® ESH2Z31	0827.6513.06	determination of RFI source impedance	
Nase E3112231	0027.0313.00	in accordance with CISPR16-2-1.	
		(Accessory,replaces model 02)	
		4 line V-network,	
D C C C C C C 75	0338.5219.53	9 kHz to 30 MHz, continuous current	
R&S® ESH2-Z5	0338.5219.53	25 A, remote control (TTL)	
		incl. calibration certificate and report	
		Pulse limiter 0 - 30 MHz	
R&S® ESH3-Z2	0357.8810.54	N-type connector	
		incl. calibration certificate and report	
		EMI Software for EMI Test Receivers	
		R&S®ESL, R&S®ESPI, R&S®ESCI and	
R&S® ES-SCAN	1308.9270.02	Analyzers R&S®FSL, R&S®FSP,R&S®FSV;	
		incl. VISA software interface	
		from National Instruments	
		Accessory: Control cable 2 m length;	
		from ESCS/ESIB/ESPI/ESCI/ESU/ESL	
R&S® EZ-13	1026.5293.02	to ESH2-Z5; fits with EZ-5/EZ-6;	
		ESL additionally requires adapter EZ-27	
		and option FSL-B5	
		Accessory: Control cable 3 m length;	
		from ESxS/ESIB/ESPI/ESCI/ESU/ESL	
R&S® EZ-21	1107.2087.03	to ENV216/ENV4200;	
		ESL additionally requires adapter EZ-27	
	l	LOL additionally requires adapter EZ-ZI	

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		and option FSL-B5
		Accessory: Control cable 10 m length;
		from ESxS/ESIB/ESPI/ESCI/ESU/ESL
	1107.2087.10	to ENV216/ENV4200;
		ESL additionally requires adapter EZ-27
		and option FSL-B5
R&S® EZ-26	1142.8320.02	Test-/Calibration adapter for ENV4200
		Adapter
		for control cable R&S®EZ-21/EZ-13
R&S® EZ-27	1142.8271.02	for remote control of
		R&S V-networks(LISNs)
		by R&S EMI Test Receiver R&S®ESL
		Accessory: Control cable 10 m
R&S® EZ-5	0816.0625.03	from ESxI/ESIB/ESPI/ESCI/ESU
		to ESH2-Z5 (in shielded room)
		Double-ridged waveguide horn antenna
		800 MHz to 18 GHz, linear polarized
R&S® HF907	4070.7000.02	broadband transmitting/receiving antenna
		N-female
		including individual calibration
		Accessory: RF connecting cable
		12 meters; N-connectors, with
R&S® HFU2-Z4	0252.0090.56	common mode suppression,
		for measurements up to 1 GHz
		Accessory: RF connecting cable
		7 meter, N-connectors, with
R&S® HFU2-Z5	0252.0055.56	common mode suppression,
		for measurements up to 1 GHz
		Biconical Antenna
		20MHz to 300MHz, N-female
R&S® HK116	4000.7752.02	with adapter for tripod HZ-1
		including individual calibration
		Log-Periodic Broadband Antenna
		200MHz to 1300MHz
R&S® HL223	4001.5501.02	with adapter for tripod HZ-1
		N-female
		including individual calibration
		ULTRALOG Antenna
		Combined Biconical and
I	1	l

Log-Periodic Broadband Antenna

30 MHz to 3000 MHz

N-female, for applications in

4041.3000.02

R&S® HL562

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Department: Product Support Document type:

		Ref: PSD-DD-1205 By: Ding Ding
		anechoic chambers
		also suitable for EMS
		including individual calibration
R&S® HL562Z1	4041.3900.02	Tripod for HL562 ULTRALOG Antenna
		movable
R&S® HM020	4023.4508.02	Triple Loop Antenna
		9kHz to 30MHz, N-female
		system van Veen/Bergervoet
		including individual calibration
R&S® HM020Z1	4023.5504.02	Basic Pedestal for HM020
		Triple Loop Antenna
		for DUT support
R&S® HM020Z2	4023.5604.02	Adapter Pedestal for HM020
		Triple Loop Antenna
		for raising up the DUT from HM020Z1
		Basic Pedestal
R&S® HM020Z3	4023.5704.02	Calibration Dipole to HM020
		Triple Loop Antenna
R&S® HZ-1	0837.2310.02	Wooden tripod as antenna mount
		for EMC measurements with
		HFH2-Z6, HK116, HL223 and HUF-Z4
R&S® HZ-14	1026.7744.03	Probe set for E and H near-field
		measurements, 9kHz to 1GHz
R&S® HZ-15	1147.2736.02	Probe set for E and H nearfield
		emissions
		30 MHz to 3 GHz
R&S® HZ-16	1147.2720.02	Preamplifier 100 kHz to 3 GHz, 20 dB
		power supply 100 - 230 V
		for probe HZ-15