

	<b>Antennas</b>	09/2022
	<b>Antenna holders / baluns</b>	
<b>VHA 9103 B</b>	Holder / Balun without telescopic dipole elements (for use with Biconical BBA 9106, BBAL 9136, BBAK 9137, BBVK 9138)	
<b>HFBA 9122</b>	HF-VHF Broadband balun / holder (0.1) 0.15 - 300 (500) MHz especially to measure very high field strength. BBAL 9136, BBA 9106, BBAK 9137, BBVU 9135 or BBUK 9139 biconical elements required.	
<b>VHBA 9123</b>	Antenna Holder / Balun for Bicon. Broad Band Antenna (e.g. BBA), 50 / 200 $\Omega$ , (better antenna factor below 50 MHz, also EMV application 100 W	
<b>VHBB 9124</b>	Antenna holder / balun 50:200 Ohm , high symmetry, 25-300 MHz, 10 W for BBA, BBAL, BBAK, BBVK	
<b>VHBC 9133</b>	Antenna holder / balun 50:200 Ohm, 1 kW, for biconical or collapsible elements (BBA, BBAL, BBFA, Triangle, FBAA, FBAB)	
<b>VHBD 9134-N</b>	High power antenna holder / balun with N-connector, 50:200 Ohm, 2.5 kW for lower frequency range or limited by N-connector for upper frequency range, 20-200 MHz for biconical or collapsible elements.	
<b>VHBD 9134-7/16</b>	High power antenna holder / balun with 7/16-connector, 50:200 Ohm, 2.5 kW, 20-200 MHz for biconical or collapsible elements.	
<b>VHBD 9134-4</b>	4 kW high power antenna holder / balun 50:200 $\Omega$ , 20-200 MHz for BBAL 9136 or BBFA 9146, 7/16-female connector.	
<b>VHBD 9134-10</b>	High power antenna balun 50:200 Ohm, 20-200 MHz, for BBAL 9136 or BBFA 9146, with 13-30 female connector. Max. input power is limited to: Pmax = 10 kW @ 20-30 MHz Pmax = 8 kW @ 50 MHz Pmax = 6 kW @ 100 MHz Pmax = 4 kW @ 200 MHz	
<b>UBAA 9114</b>	Broadband Balun/Holder 4:1, 30-1000 MHz, 5 W, low loss, BBVU, BBUK, BAOC or BBOC elem. required	
<b>UBAA 9115</b>	Broadband Balun/Holder 4:1, 30-1000 MHz, 5 W, extremely high symmetry, BBVU, BBUK, BAOC or BBOC elem. required	
	<b>Biconical elements</b>	
<b>BBA 9106</b>	Biconical Elements, 30-300 MHz, requires VHA 9103 B, VHBC, VHBB or VHBA	
<b>BBAL 9136</b>	Biconical Elements, 20-200 MHz, requires VHA 9103 B, VHBC, VHBB or VHBA	
<b>BBAK 9137</b>	Biconical Elements, 45-450 MHz broad band, requires VHA 9103, VHBB or VHBA	
<b>BBVK 9138</b>	Biconical Elements, 60-600 MHz broad band, requires VHA 9103, VHBB or VHBA	
<b>BBVU 9135</b>	Biconical Elements, (30)100-1000 MHz (like VUBA), for UBAA 9114/9115	
<b>BBUK 9139</b>	Biconical Elements, 30-1000 MHz broad band (like UBA), for UBAA 9114/9115	
<b>BBUK 9139 M4</b>	Biconical Elements, LE=33 cm, for EFS 9218 (9 kHz-300 MHz), SBA 9113 B (80-1000 MHz), SBA 9113 (500-1000 MHz)	
	<b>Collapsible or open Biconical Elements, booster coils</b>	
<b>BBAE 9179</b>	Foldable elements for immunity for automotive applications, optimized for 1 m measurement distance, max. diameter 150 cm, 20-220 MHz suitable for: VHBC 9133, VHBD 9134, VHBD 9134-4. Balun must be equipped with "HOLDER SHORT"!	

<b>HOLDER SHORT</b>	Plastic holders to be fixed at a high power balun e.g. VHBA 9123, VHBC 9133, VHBD 9134, VHBD 9134-4. BBAE 9179 elements cause torque in horizontal polarisation to the fixture at the balun. HOLDER SHORT absorbs the torque caused by BBAE 9179 in horizontal polarisation.	
<b>BBFA 9146</b>	Large collapsible aluminium Elements with extensions up to 4 m	
<b>FBAB 9177</b>	Collapsible Biconical Elements 30 – 300 MHz (instead of BBA)	
<b>FBAL 9178</b>	Large Collapsible Biconical Elements 20 – 200 MHz (instead of BBAL)	
<b>BAOC 9216</b>	Open Conical Elements, 160-1200 MHz broad band, for UBAA 9114/9115	
<b>BBOC 9217</b>	Open Conical Elements, (30)100-1000 MHz broad band, for UBAA 9114/9115	
<b>BCOI 9180 5W</b>	Set of pluggable coils with 10 mm element fixtures and 10 mm shafts. A pair of coils is added between the high power balun and the antenna element. Suitable for the following baluns: VHBA 9123, VHBC 9133, VHBD 9134, VHBD 9134-4. Suitable for the following elements: BBA 9106, BBAL 9136, BBFA 9146, BBAE 9179 and others. The booster coils have 5 turns and increase the gain of the biconical antenna in the lower frequency range remarkably. If the coils are used with BBAE 9179 the balun must be equipped with additional torque absorbing plastic fixation bar (holder long). (Also available: 4 turns = ...4W, 3 turns = ...3W, 2 turns = ...2W)	
<b>HOLDER LONG</b>	Plastic holders to be fixed at a high power balun e.g. VHBA 9123, VHBC 9133, VHBD 9134, VHBD 9134-4. The HOLDER LONG must be assembled to the balun to use BBAE 9179 with booster coils.	
<b>Logarithmic Periodic Broadband Antennas</b>		
<b>UHALP 9108 A</b>	Log.-Periodic Antenna, alum. Tubing, 250 – 2400 MHz, low loss, 1 kW power	
<b>VUSLP 9111-1000</b>	Log.-Per. Antenna, aluminium tubing, 1000 – 3000 (4000) MHz, low loss, 1 kW.	
<b>VUSLP 9111-400</b>	Log.-Periodic Antenna, alum. Tubing, 400 - 3000 (4000) MHz, low loss, 1 kW.	
<b>VUSLP 9111</b>	Log.-Periodic Antenna, alum. Tubing, 200 – 2300 (4000) MHz, low loss, 1 kW power	
<b>VUSLP 9111 B</b>	Log.-Periodic Antenna, alum. Tubing, (180) 200 - 3000 (4000) MHz, low loss, 1 kW power	
<b>VUSLP 9111 E</b>	Log.-Per. Antenna, aluminium tubing, 1 kW power, 70 (65)-3000 (4000) MHz. Recommended adapter: KG 9201. EN 61000-4-3	
<b>VUSLP 9111 F</b>	Log.-Per. Antenna, aluminium tubing, dismountable, (75) 80 MHz - 3 (4) GHz. Recommended adapter: KG 9201.	
<b>CCA 9111 F</b>	Case for VUSLP 9111 F. 4 elements must be unscrewed and the fastlinks must be removed. All parts then fit in this aluminum case 83.5x73x20cm. Assembly time: less than 5 Minutes. Suitable Torx screw driver in the case.	
<b>VULP 9118 A</b>	Log.-Per. Antenna, aluminium tubing, 1 kW power, 180 -1500 (2000) MHz	
<b>VULP 9118 B</b>	Log.-Per. Antenna, aluminium tubing, 1 kW power, 160-1500 (2000) MHz	
<b>VULP 9118 C</b>	Log.-Per. Antenna, aluminium tubing, 1 kW power, 100-1400 (2000) MHz	
<b>VULP 9118 C special</b>	Log.-Per. Antenna, aluminium tubing, 1 kW power, 100-1400 (2000) MHz. Nearly identical gain as VULP 9118 C but with reduced width. Special=folded longest elements.	
<b>VULP 9118 D</b>	Log.-Per. Antenna, aluminium tubing, 1 kW power, (80) 95 -1500 (1800) MHz	



<b>VULP 9118 D special</b>	Log.-Per. Antenna, aluminium tubing, 1 kW power, (80) 95 -1500 (1800) MHz. Nearly identical gain as VULP 9118 D but with reduced width. Special = folded longest elements.	
<b>VULP 9118 D HP</b>	Log.-Per. Antenna, aluminium tubing, high power with 7/16.-connector, (80) 95 -1500 (1800) MHz	
<b>VULP 9118 D HP sp</b>	Log.-Per. Antenna, aluminium tubing, high power with 7/16.-connector, (80) 95 -1500 (1800) MHz, nearly identical gain as VULP 9118 E High Power but with reduced width. Special = folded longest elements.	
<b>VULP 9118 E</b>	Log.-Per. Antenna, aluminium tubing, 1 kW power, 75 (50)-1500 MHz.	
<b>VULP 9118 E special</b>	Log.-Per. Antenna, aluminium tubing, 1 kW power, 75 (50)-1500 MHz. Nearly identical gain as VULP 9118 E but with reduced width. Special=folded longest elements.	
<b>VULP 9118 E High Power</b>	Log.-Per. Antenna, aluminium tubing, high power, 7/16-connector, 75 (50)-1500 MHz.	
<b>VULP 9118 E HP sp</b>	Log.-Per. Antenna, aluminium tubing, high power, 7/16-connector, 75 (50)-1500 MHz. Nearly identical gain as VULP 9118 E HP but with reduced width. Special=folded longest elements.	
<b>VULP 9118 F</b>	Log.-Per. Antenna, al. tubing, end discs, 1 kW power, 55 -1800 MHz	
<b>VULP 9118 G</b>	Log.-Per. Antenna, al. tubing, end discs, 1 kW power, 45 -1500 MHz	
<b>VULP 9118 G special</b>	Log.-Per. Antenna, al. tubing, end discs, 1 kW power, 45 -1500 MHz. Nearly identical gain as VULP 9118 G but with reduced width. Special=folded longest elements.	
<b>VULP 9118 H</b>	Log.-Per. Antenna, aluminium tubing, 1 kW power, (26) 30 - 1500 (1800) MHz, N-connector gain 6 dBi, VSWR<3, width 5.2 m, length 4.8 m, weight 35 kg.	
<b>Opt. WP 9118 H</b>	Option: grey coating and sealing for outdoor use	
<b>USLP 9142</b>	UHF – SHF Log. – Per. Antenna, 0.7 – 5 (8) GHz	
<b>USLP 9143</b>	UHF – SHF Log. – Per. Antenna, (0.25) 0.3 – 7 (8) GHz	
<b>USLP 9143 B</b>	UHF – SHF Log. – Per. Antenna, (0.18) 0.2 – 7 (8) GHz	
<b>ESLP 9145</b>	UHF – EHF Log. – Per. Antenna, (0.7) 1- 18 (20) GHz, N-connector	
<b>XSLP 9142</b>	Dual Polarized UHF-SHF Log.-Per. Antenna, 800 MHz – 3(5) GHz, 50 W	
<b>XSLP 9143</b>	Dual Polarized UHF-SHF Log.-Per. Antenna, 300 MHz – 3(5.5) GHz, 50 W	
	<b>Stacked Logarithmic Periodic Broadband Antennas</b>	
<b>STLP 9128 C-N</b>	Stacked double Log.-Per. Antenna, typ. gain: 9 dBi, alum. Tubing, high power, (150) 200 - 1500 (4000) MHz, N-connector max. power 1 kW for lower frequency range or limited by N-connector for higher frequency range.	
<b>STLP 9128 C-7/16</b>	Stacked double Log.-Per. Antenna, typ. gain: 9 dBi, alum. Tubing, high power, (150) 200 - 1500 (4000) MHz, 7/16-connector max. power 2 kW for lower frequency range or limited by 7/16-connector for higher frequency range.	
<b>STLP 9128 C-13/30</b>	Stacked double Log.-Per. Antenna, typ. gain: 9 dBi, alum. Tubing, high power, (150) 200 - 1500 (4000) MHz, with 13-30-connector limited to 2500 MHz but higher power up to 8 kW including adapter similar to AA 9202.	

<b>STLP 9128 D-N</b>	Stacked double Log.-Per. Antenna, typ. gain: 9 dBi, alum. Tubing, high power, 80 -3000 (4000) MHz, max. power 1 kW in the lower frequency range, power limited by N-connector in the higher frequency range, fastlinks for quick removal of the rear parts of the antenna. Recommended Adapter: AA 9209	
<b>STLP 9128 D-7/16</b>	Stacked double Log.-Per. Antenna, typ. gain: 9 dBi, alum. Tubing, high power, 80 -3000 (4000) MHz, max. power 2 kW in the lower frequency range, power limited by 7/16-connector in the higher frequency range, fastlinks for quick removal of the rear parts of the antenna. Recommended Adapter: AA 9209	
<b>STLP 9128 D sp-N</b>	Like STLP 9128 D but with folded longest elements and smaller structure angle, N-connector, fastlinks for quick removal of the rear parts of the antenna. Antenna diameter < 150 cm. Recommended Adapter: AA 9209.	
<b>STLP 9128 D sp-7/16</b>	Like STLP 9128 D but with folded longest elements and smaller structure angle, 7/16-connector, fastlinks for quick removal of the rear parts of the antenna. Antenna diameter < 150 cm. Recommended Adapter: AA 9209.	
<b>STLP 9128 E-N</b>	Stacked double Log.-Per. Antenna, typ. gain: 9 dBi, alum. Tubing, high power, (65) 80 -1500 (3000) MHz, N-connector, max power in the lower frequency range 1 kW, in the upper frequency range limited by N-connector, fastlinks for quick removal of the rear parts of the antenna. Recommended Adapter: AA 9209	
<b>STLP 9128 E-7/16</b>	Stacked double Log.-Per. Antenna, typ. gain: 9 dBi, alum. Tubing, high power, (65) 80 -1500 (3000) MHz, 7/16-connector, max power in the lower frequency range 2 kW, in the upper frequency range limited by 7/16-connector, fastlinks for quick removal of the rear parts of the antenna. Recommended Adapter: AA 9209	
<b>STLP 9128 E sp-N</b>	Like STLP 9128 E but with folded longest elements and smaller structure angle. N-connector, antenna diameter < 150 cm. Fastlinks for quick removal of the rear parts of the antenna. Recommended Adapter: AA 9209	
<b>STLP 9128 E sp-7/16</b>	Like STLP 9128 E but with folded longest elements and smaller structure angle. 7/16-connector, antenna diameter < 150 cm. Fastlinks for quick removal of the rear parts of the antenna. Recommended Adapter: AA 9209	
<b>STLP 9128 F-N</b>	Stacked double Log.-Per. Antenna, typ. gain: 9 dBi, alum. tubing, high power, 70-1500 (3000) MHz, N-connector, max power in the lower frequency range 1 kW, in the upper frequency range limited by N-connector, fastlinks for quick removal of the rear parts of the antenna. Recommended Adapter: AA 9209	
<b>STLP 9128 F-7/16</b>	Stacked double Log.-Per. Antenna, typ. gain: 9 dBi, alum. Tubing, high power, 70 -1500 (3000) MHz, 7/16-connector, max power in the lower frequency range 2 kW, in the upper frequency range limited by 7/16-connector, fastlinks for quick removal of the rear parts of the antenna. Recommended Adapter: AA 9209	
<b>STLP 9129</b>	Stacked double Log.-Per. Antenna, typ. gain: 9 dBi, alum. Tubing, (70) 80 -9000 (10500) MHz, N-connector, fastlinks for quick removal of the rear parts of the antenna, tip with radome. Recommended Adapter: AA 9209. Ideal for IEC 61000-4-3.	

<b>STLP 9129 7/16</b>	Stacked double Log.-Per. Antenna, typ. gain: 9 dBi, alum. tubing, (70) 80 - 7500 MHz, 7/16-connector, fastlinks for quick removal of the rear parts of the antenna, tip with radome. Recommended Adapter: AA 9209. Ideal for IEC 61000-4-3. Max. power: 1400W @ 500 MHz, 950 W @ 1000 MHz, 380 W @ 5000 MHz Frequency range limited by large connector to ca. 7.5 GHz	
<b>STLP 9129 special</b>	Stacked double Log.-Per. Antenna, typ. gain: 9 dBi, alum. tubing, 80 - 9000 (10500) MHz, N-connector, antenna diameter < 150 cm. Fastlinks for quick removal of the rear parts of the antenna, tip with radome. Recommended Adapter: AA 9209. Ideal for IEC 61000-4-3.	
<b>STLP 9129 sp.-7/16</b>	Stacked double Log.-Per. Antenna, typ. gain: 9 dBi, alum. tubing, 80 - 7500 MHz, 7/16-connector, antenna diameter < 150 cm. Fastlinks for quick removal of the rear parts of the antenna, tip with radome. Recommended Adapter: AA 9209. Ideal for IEC 61000-4-3. Max. power: 4 kW @ 80 MHz 1,5 kW @ 400 MHz 0,95 kW @ 1000 MHz 0,5 kW @ 2500 MHz 0,3 kW @ 6000 MHz Frequency range limited by large connector to ca. 7.5 GHz	
<b>STLP 9148</b>	Stacked double Log.-Per. Antenna, typ. gain: 9 dBi (0.7) 1 – 18 (20) GHz, N-connector	
<b>STLP 9149</b>	Stacked double Log.-Per. Antenna for IEC 61000-4-3 typ. gain 10.3 dBi, (0,6) 0,7 – 9 (10,5) GHz, N-connector female.	
<b>STLP 9149-7/16</b>	Stacked double Log.-Per. Antenna for IEC 61000-4-3 typ. gain 10.3 dBi, (0,6) 0,7 – 7.5 GHz, 7/16-connector female. 950 Watt @1 GHz, 380 Watt @ 5 GHz	
<b>Biconic Logarithmic Periodic Antennas (Hybrid)</b>		
<b>VULB 9162</b>	TRILOG Broadband Antenna 30 MHz - 7 GHz, 100 W, diameter < 150 cm	
<b>VULB 9163</b>	TRILOG Super Broadband test Antenna, (25) 30 – 3000 (4000) MHz, 100 W (200 W)	
<b>VULB 9164</b>	TRILOG Super broad band antenna, (25) 30- 3000 (4000) MHz, gain at 80 MHz optimized.	
<b>VULB 9168</b>	TRILOG Super Broadb. Test Antenna, (25) 30-1000 (2000) MHz, 10 W, reduced width, diameter < 1.5 m.	
<b>VULX 9163</b>	Dual Linear polarized Logarithmic Periodic Broadband Antenna (140) 150 - 1500 (2500) MHz.	
<b>Biconical Antennas</b>		
<b>SBA 9113 B</b>	Small Biconical Antenna 80 MHz – 3 GHz for harmonics measurements acc. to IEC61000-4-3.	
<b>SBA 9113 B Mini Version</b>	Small biconical antenna 80 MHz – 3 GHz to measure harmonics acc. IEC61000-4-3. Tube shortened to LH=200 mm. The antenna can be used under space restrictions e.g. for Ford R1115.	
<b>SBA 9113</b>	Small biconical microwave antenna 0.5 – 3 GHz, 20 W. CISPR 16-1-4 Site evaluation above 1 GHz	
<b>SBA 9113 Mini-Version</b>	Small biconical microwave antenna 0.5 – 3 GHz, 20 W. Not for CISPR 16-1-4 Site evaluation above 1 GHz because of the short tube!	
<b>SBA 9112</b>	Small biconical microwave antenna (1) 3 – 18 GHz, 10 W including transport case. CISPR 16-1-4 Site evaluation above 1 GHz	

<b>SBA 9112 Mini-Version</b>	Small biconical microwave antenna (1) 3 – 18 GHz, 10 W including transport case. Not applicable for CISPR 16-1-4 Site evaluation above 1 GHz because of the short tube.	
<b>SBA 9119</b>	Small biconical microwave antenna 1 – 6 GHz, 20 W. CISPR 16-1-4 Site evaluation above 1 GHz including transport case.	
<b>SBA 9119 mini</b>	Small biconical microwave antenna 1 – 6 GHz, shorter tube with LH=200mm, 20 W, including transport case.	
<b>UBA 9116</b>	Biconical UHF broad band antenna (160) 300 -1000 (1100) MHz	
<b>VUBA 9117</b>	Biconical VHF-UHF broad band antenna (30) 150 -1000 MHz	
<b>Dipoles</b>		
<b>VHA 9103</b>	VHF Half-Wave Dipole with 2 sets of telescopic elements, 30-300 MHz	
<b>UHA 9105</b>	Tuneable UHF – Half – Wave Dipole, 300 – 1000 MHz w. telescopic elements	
<b>UHA 9125 C</b>	Tuneable UHF – Half – Wave Dipole with EMI – Balun, 0.75 – 2 GHz with 4 sets of elements, $L_E = 180, 140, 100, 80$ mm including transport case.	
<b>UHA 9125 D</b>	Tuneable UHF – Half – Wave Dipole with EMI – Balun, 1.0 – 3 (4) GHz with 6 sets of elements, $L_E = 140, 114, 90, 72, 60, 48$ mm, including transport case.	
<b>ILS Dipole</b>	Linear polarized half-wave dipole with 1:1 balun and fixed element length for fieldstrength measurements at instrument landing systems (ILS) 108 - 118 MHz and 320 - 340MHz.	
<b>CCA ILS</b>	Transport and storage case made of aluminum for ILS Dipole	
<b>TETRA-Dipole</b>	Linear polarized half-wave dipole with 1:1 balun and fixed element length for measurements at TETRA (terrestrial trunked radio) networks 340 - 480 MHz	
<b>Precision Dipoles</b>		
<b>VHAP</b>	VHF Precision Dipole 30-300 MHz, 2 sets of telescopic elements (mostly required in pairs) CISPR 16-1-5.	
<b>UHAP</b>	UHF Precision Dipole 300-1000 MHz (VHAP & UHAP mostly required in pairs) CISPR 16-1-5	
<b>CCA VHAPUHAP</b>	Carrying and storing case for 2 x VHAP or 2 x UHAP, cases for other antennas also available.	
<b>VHAPA</b>	Calibration adaptor for VHAP Precision Dipoles	
<b>UHAPA</b>	Calibration adaptor for UHAP Precision Dipoles	
<b>Monitoring &amp; drive testing antennas</b>		
<b>RSH 113</b>	Omni directional horizontally polarised VHF antenna 108-118 MHz, 100 W	
<b>RSH 2342</b>	Omni directional horizontally polarised UHF antenna 170 - 350 MHz.	
<b>RSH 4786</b>	Omni directional horizontally polarised UHF antenna (350) 470 - 860 (1050) MHz for outside use.	
<b>RS 16</b>	Vertical polarized microwave biconical antenna (0,5) 1 – 6 (8,5) GHz with omni directional H-plane pattern.	
<b>RE 1790</b>	Vertical polarized VHF- UHF biconical antenna (170) 230 – 1000 (1100) MHz with omni directional H-plane pattern.	
<b>RE 4590</b>	Vertical polarized VHF- UHF biconical antenna (330) 450 – 1000 (1100) MHz with omni directional H-plane pattern.	
<b>RS 0460</b>	Vertically polarised symmetrical biconical antenna 0,4 – 6 GHz, omnidirectional in the H-plane.	
<b>CCA RS 0460</b>	Transport case for RS 0460.	
<b>Broadband Horn Antennas</b>		
<b>BBHA 9120 A</b>	Broad-Band Horn Antenna (0.8) 1 – 5 (10) GHz, N-connector	

<b>BBHA 9120 B</b>	Broad-Band Horn Antenna 1 – 10 GHz, N-connector	
<b>BBHA 9120 C</b>	Broad-Band Horn Antenna 2 – 18 (20) GHz, SMA-connector	
<b>BBHA 9120 D</b>	Broad-Band Horn Antenna (0,8) 1 – 18 GHz, N-connector	
<b>BBHA 9120 E</b>	Broad-Band Horn Antenna 0.5 – 6 GHz, N-connector	
<b>BBHA 9120 F-N</b>	Broad-Band Horn Antenna 0.2 – 2 GHz, N-connector	
<b>BBHA 9120 F-7/16</b>	Broad-Band Horn Antenna 0.2 – 2 GHz, 7/16-connector	
<b>BBHA 9120 G</b>	Broad-Band Horn Antenna 0.4 – 2.8 GHz, 7/16-connector	
<b>BBHA 9120 J</b>	Broadband horn antenna optimized for the gain in 1 m distance from 800 MHz to 6.2 GHz. Especially optimized for automotive immunity. Power limited by the N-connector. The N-connector can withstand ca. 400 Watt at 4 GHz.	
<b>BBHA 9120 J-7/16</b>	Broadband horn antenna optimized for the gain in 1 m distance from 800 MHz to 6.2 GHz. Especially optimized for automotive immunity. Power limited by the 7/16-connector. The 7/16-connector can withstand ca. 800 Watt at 4 GHz.	
<b>BBHA 9120 K</b>	Horn antenna 400 MHz - 1.6 GHz optimized for GM/Ford/Toyota radar testing lower band. Optimized for maximum gain in 1 m distance. Under free space conditions 600V/m using a 250 W amplifier in the range 1.2-1.4 GHz can be reached. N-connector	
<b>BBHA 9120 K 7/16</b>	Horn antenna 400 MHz - 1.6 GHz optimized for GM/Ford/Toyota radar testing lower band. Optimized for maximum gain in 1 m distance. Free space conditions 600V/m using a 250 W amplifier in the range 1.2-1.4 GHz can be reached. 7/16" connector.	
<b>BBHA 9120 LF</b>	Broad-Band Horn Antenna 0.7 – 6 GHz, N-connector	
<b>BBHA 9120 L</b>	Broad-Band Horn Antenna 3 - 40 GHz, 2.92 mm connector, optimized for wide beamwidth.	
<b>BBHA 9170</b>	Broad-Band Horn Antenna 15 – 26.5 (40) GHz, SMA-compatible connector	
<b>HA 9250-12</b>	Pyramidal standard gain horn Antenna, 1-2 GHz, 7/16-connector, 20 dBi, optimized for far field gain.	
<b>HA 9250-24</b>	Pyramidal standard gain horn Antenna, 2 – 4 GHz, 7/16-connector, 20 dBi, optimized for far field gain.	
<b>HA 9250-48</b>	Pyramidal standard gain horn Antenna, 4 – 8 GHz, N-connector, 22mm-tube, 20 dBi, optimized for far field gain. (Alternative fixture available: 3/8"-thread and M10 thread in center of gravity replaces 22mm-tube, alternative connector available: 7/16 replaces N)	
<b>HA 9250-818</b>	Pyramidal standard gain horn Antenna, 8 – 18 GHz, N-connector, 20 dBi, optimized for far field gain.	
<b>HA 9251-12</b>	Pyramidal standard gain horn Antenna, 1-2 GHz, 7/16-connector, far field gain 19-22 dBi, optimized for 1 m gain.	
<b>HA 9251-24</b>	Pyramidal standard gain horn Antenna, 2 – 4 GHz, 7/16-connector, 18 dBi, optimized for the gain in 1 m distance.	
<b>HA 9251-48</b>	Pyramidal standard gain horn Antenna, 4 – 8 GHz, N-connector, 22mm-tube, 19 dBi, optimized for the gain in 1 m distance. (Alternative fixture available: 3/8"-thread and M10 thread in center of gravity replaces 22mm-tube, alternative connector available: 7/16 replaces N)	
<b>HA 9251-818</b>	Pyramidal standard gain horn Antenna, 8 – 18 GHz, N-connector, 18 dBi, optimized for the gain in 1 m distance.	
<b>HWRD650</b>	Double ridge horn antenna 6.5-18 GHz with waveguide flange WRD650 D28. Gain 16-21 dBi, 1 kW, especially to generate very high field strengths.	
<b>NWRD650</b>	Adapter WRD650 to coaxial N-female. (Not required if the antenna is directly fixed to the amplifier rack using the WRD650 flange.)	

<b>TWRD650</b>	Option for HWRD650: 22 mm tube with indexing ring. (Not required if the antenna is directly fixed to the amplifier rack using the WRD650 flange.)	
<b>HWRD750</b>	Double ridge horn antenna 7.5-18 GHz with waveguide flange WRD750. Gain 16-21 dBi, 1 kW, especially to generate very high field strengths.	
<b>NWRD750</b>	Adapter WRD750 to coaxial N-female. (Not required if the antenna is directly fixed to the amplifier rack using the WRD750 flange.)	
<b>TWRD750</b>	Option for HWRD750: 22 mm tube with indexing ring. (Not required if the antenna is directly fixed to the amplifier rack using the WRD750 flange.)	
<b>TEMH 6000</b>	TEM Horn antenna acc. to IEC 61000-4-39, 380-6000 MHz	
<b>Spacer 100</b>	Spacer for TEMH 6000. Test distance 100 mm.	
<b>Dual polarised horn antennas</b>		
<b>CTIA 0710</b>	CTIA horn antenna, dual polarized, 0,7-10 GHz, typ. 30 dB cross polar rejection, antenna with reduced size for OTA measurements. Antenna without 22 mm tube!	
<b>Opt. CTIA tube 22 mm</b>	Option for CTIA 0710: 22 mm tube with indexing ring.	
<b>BBHX 9120 E</b>	Dual polarized Broad-Band Horn Antenna 0.4 – 10 GHz, N-connectors	
<b>BBHX 9120 LF</b>	Dual polarized Broad-Band Horn Antenna (0.8) 1 – 8 (10.5) GHz, N-connectors.	
<b>Active Antennas</b>		
<b>VAMP 9243 B</b>	Vertical active rod antenna, 9 kHz - 30 MHz, BNC, reduced noise floor, additional ESD-protection in switched-off-state, with mounting nut for AM 9144 and rechargeable battery.	
<b>GP f. 9243</b>	Accessory for VAMP 9243 or VAMP 9243 B: Aluminium-Groundplane, 0.6 x 0.6 m	
<b>GP f. 9243 Foldable</b>	Accessory for VAMP 9243 or VAMP 9243 B: aluminium-Groundplane, 0.6 x 0.6 m, foldable in half for easier transportation.	
<b>GP f. 9243 60x140</b>	Accessory for VAMP 9243 or VAMP 9243 B: Aluminium-Groundplane, 1.4 x 0.6 m.	
<b>ACS 110 f. VAMP 9243</b>	Accessory for VAMP 9243 or VAMP 9243 B: Charger ACS 110	
<b>VT 9243 B</b>	Accessory for VAMP 9243 or VAMP 9243 B: 20 dB plug in divider to measure high field strength.	
<b>CA 9243 B</b>	Calibration Adapter for VAMP 9243 and VAMP 9243 B	
<b>MIL461F bonding kit</b>	Bonding kit for VAMP 9243 acc. MIL-STD-461F consisting of a BNC cable double shielded ca. 70 cm, with braid current blocking ferrite in the center, elbow aluminium angle with BNC bulkhead adapter.	
<b>EFS 9218</b>	Active Electric Field Probe with Biconical Elements, 9 kHz - 300 MHz, 12 µV/m - 65 V/m, antenna factor switchable 46 dB/m or 20 dB/m, high symmetry, built in rechargeable battery	
<b>BBUK 9139 M4</b>	Biconical Elements, 30-1000 MHz for EFS 9218	
<b>ACS 110</b>	Option: Automatic charger ACS 110 for EFS 9218	
<b>Field probes</b>		
<b>FSH3D</b>	Isotropic H-Field Antenna for the Rohde und Schwarz handheld spectrum analyser FSH or the TS-EMF System 9 kHz - 200 (300) MHz. Light weight low attenuation radom, outer diameter ca. 150 mm. The selection of the active loop and the power supply for the antenna is provided by the included short cable that can directly be connected to the R&S FSH.	



<b>FSE3D</b>	Isotropic E-field antenna for the Rohde und Schwarz handheld spectrum analyser FSH or the TS-EMF System (25) 30 MHz - 3 GHz. Light weight low attenuation radome, outer diameter ca. 150 mm. The selection of the active loop and the power supply for the antenna is provided by the included short cable that can directly be connected to the R&S FSH.	
<b>FSHPH</b>	Passive H-Field probe for handheld spectrum analysers to measure large magnetic fields to analyse health effects of non-ionizing radiation acc. to standards like BGV-B11, ICNIRP, IEEE C95.1, FCC 96-236.	
<b>FSHPE</b>	Passive E-field probe for handheld spectrum analysers to measure large electric fields to analyse health effects of non-ionizing radiation acc. to standards like BGV-B11, ICNIRP, IEEE C95.1, FCC 96-236.	
<b>Automotive antennas</b>		
<b>NMHA 6M</b>	Nissan Specification 28401NDS02 [6]antenna set Immunity to handy transmitters and RENAULT antenna set Immunity to handy transmitters acc. 36-00-808/M (Combined Set) consisting of: NMHA 26, NMHA 28, NMHA 30, NMHA 40, NMHA 52, NMHA 75, NMHA 125, NMHA 145, NMHA 155, NMHA 165, NMHA 174, NMHA 190, NMHA 223, NMHA 350, SBA 9113 without original biconical elements, 420 NJ flat elements, Spacer 50, counterpoise for NMHA antennas and case.	
<b>NMHA 6M reduced</b>	Nissan Specification 28401NDS02 [6]antenna set Immunity to handy transmitters and RENAULT antenna set Immunity to handy transmitters acc. 36-00-808/M (Combined Set) consisting of: NMHA 26, NMHA 28, NMHA 30, NMHA 40, NMHA 52, NMHA 75, NMHA 125, NMHA 145, NMHA 155, NMHA 165, NMHA 174, NMHA 190, NMHA 223, NMHA 350, counterpoise for NMHA antennas and case.	
<b>VW TL 82166 2016-02</b>	Antenna set according to Volkswagen Specification VW TL 82166:2016-02 "antenna set for mobile radio testing using mobile portable radio units inside the vehicle." The set consists of: NMHA 26.5, NMHA 27.5, NMHA 28.5, NMHA 29.5, NMHA 71, NMHA 77, NMHA 83.75, NMHA 151, NMHA 166, SBA 9113 mini version total length of the balun LH=20 cm without the small original biconical elements. 420 NJ, Spacer 50, SBA 9119 mini version total length of the balun LH=20 cm without the small original biconical elements. 422 NJ, Spacer 30, VW metal case large with short 22 mm tube, VW metal case small with short 22 mm tube, MSS 9630, AD Nm BNCf, AD Nm Nm, Case for all parts CCA VW 2016	
<b>420 NJ</b>	Elements for radiated immunity caused by handy transmitters with SBA 9113 or SBA 9113 mini version for the Ford standard RI115.	
<b>Spacer 50 for 420 NJ</b>	Spacer for 420 NJ. Test distance 50 mm.	
<b>422 NJ</b>	Elements for radiated immunity caused by handy transmitters for SBA 9119.	
<b>Spacer 30 for 422 NJ</b>	Spacer for 422 NJ. Test distance 30 mm.	
<b>RS 9244</b>	Radiating source for CISPR 25, consisting of a 500 mm brass rod with 4 mm diameter and 2 aluminum angles with N-connectors.	
<b>NMHB 4MM</b>	Balun 20-420 MHz to hold FDAI Folded Dipole Elements via 4 mm element fixtures. For immunity tests of components against handheld transmitters acc. ISO 11452-9, stable VSWR.	
<b>FDAI 146</b>	Folded dipole antenna radiating element for 146 MHz (142-150 MHz) acc. ISO 11452-9, Balun NMHB 4MM required.	
<b>FDAI 155</b>	FDAI 155 Folded dipole antenna radiating element for 155 MHz (151-161 MHz) acc. ISO 11452-9, Balun NMHB 4MM required.	



<b>FDAI 165</b>	FDAI 165 Folded dipole antenna radiating element for 165 MHz (162-174 MHz) acc. ISO 11452-9, Balun NMHB 4MM required.	
<b>FDAI 174</b>	FDAI 174 Folded dipole antenna radiating element for 174 MHz (172-180 MHz) acc. ISO 11452-9, Balun NMHB 4MM required.	
<b>FDAI 222</b>	FDAI 222 Folded dipole antenna radiating element for 222 MHz (215-246 MHz) acc. ISO 11452-9, Balun NMHB 4MM required.	
<b>CCA FDAI</b>	Carrying and storing case for NMHB 4MM and 5 x FDAI elements (FDAI 146, 155, 165, 174, 222).	
<b>FDAI Set</b>	Folded Dipole antenna´s set for ISO 11452-9, stable VSWR. Consisting of: NMHB 4MM Balun 20-420 MHz to hold FDAI elements, FDAI 146, FDAI 155, FDAI 165, FDAI 174, FDAI 222 dipole elements, CCA FDAI transport case.	
<b>EGG 900</b>	Antenna for IMMUNITY TO ON-BORD TRANSMITTERS (PSA EQ/IR 05, ISO 11452-9 B.4.2) for GSM 900, GSM 850 and PDC 800 bands (890-915 MHz)	
<b>EGG 1860</b>	Antenna for IMMUNITY TO ON-BORD TRANSMITTERS (PSA EQ/IR 05, ISO 11452-9 B.4.3.3) for GSM 1800, UMTS, GSM 1900 and PDC 1500 bands (1710-2025 MHz).	
<b>FAN 405</b>	Symmetrically folded antenna w. housing 380-430 MHz according to ISO 11452-9 B.4.8	
<b>FAN 450</b>	Symmetrically folded antenna w. housing 430-470 MHz according to ISO 11452-9 B.4.9	
<b>HLC 27</b>	Helical T-antenna with housing according to ISO 11452-9 B.4.5, 26.96-27.4 MHz.	
<b>HLC 146</b>	Helical antenna with top cone & housing according to ISO 11452-9 B.4.6, 144-148 MHz.	
<b>HLC 170</b>	Helical antenna with top cone & housing according to ISO 11452-9 B.4.7, 168-173 MHz.	
<b>PCD 2440</b>	Antenna for IMMUNITY TO ON-BORD TRANSMITTERS (PSA EQ/IR 05, ISO 11452-9 B.4.4) for bluetooth band (2402 – 2480 MHz)	
<b>TSA 385</b>	Tuned sleeve antenna 373-397 MHz acc. ISO 11452-9 B.3	
<b>TSA 400</b>	Tuned sleeve antenna 387-419 MHz acc. ISO 11452-9 B.3	
<b>TSA 415</b>	Tuned sleeve antenna 407-423 MHz acc. ISO 11452-9 B.3	
<b>TSA 430</b>	Tuned sleeve antenna for Toyota TSC7006G or ISO 11452-9 B.3, 425-435 MHz	
<b>TSA 455</b>	Tuned sleeve antenna 437-470 MHz acc. ISO 11452-9 B.3	
<b>TSA 835</b>	Tuned sleeve antenna for Toyota TSC7006G, VSWR = 1.5 or better at 835 MHz.	
<b>TSA 880</b>	Tuned sleeve antenna 806-958 MHz acc. ISO 11452-9 B.3	
<b>TSA 900</b>	Tuned sleeve antenna for Toyota TSC7006G, VSWR = 1.5 or better at 900 MHz.	
<b>TSA 1270</b>	Tuned sleeve antenna for Toyota TSC7006G, VSWR = 1.5 or better at 1270 MHz.	
<b>TSA 1440</b>	Tuned sleeve antenna 1440-1453 MHz acc. ISO 11452-9 B.3	
<b>TSA 1750</b>	Tuned sleeve antenna 1.14-2.0 GHz acc. ISO 11452-9 B.3	
<b>TSA 1950</b>	Tuned sleeve antenna for Toyota TSC7006G, VSWR = 1.5 or better at 1950 MHz.	
	<b>Passive Rod Antenna</b>	
<b>VPMP 9241</b>	Monopole acc. to CISPR 25 passive, 2 N-connectors, element fixture for rod, rod, aluminum housing and groundplane.	
<b>Opt. TLD 9241</b>	Top loading disc for VPMP 9241 diameter < 12 cm.	
	<b>Helical antennas</b>	

<b>HLX 0810-LHCP</b>	Helical antenna 800 - 1000 MHz, left circular polarisation, gain 11 dBc, 22 mm tube, N-jack.	
<b>HLX 0810-RHCP</b>	Helical antenna 800 - 1000 MHz, right circular polarisation, gain 11 dBc, 22 mm tube, N-jack.	
<b>CLSA 0110L</b>	Conical Log Spiral Antenna 1-10 GHz, typ. gain 2 dBi, N-connector, left threaded.	
<b>CLSA 0110R</b>	Conical Log Spiral Antenna 1-10 GHz, typ. gain 2 dBi, N-connector, right threaded.	
<b>Opt. 0110 Radome</b>	Radome for CLSA 0110 L/R	
<b>Magnetic Antennas, TX-Loop Antennas</b>		
<b>HFRA 5146</b>	Circular shielded transmitting loop antenna 9 kHz – 30 MHz, diameter 300 mm, for IEEE 299-2006 and MIL 285. Banana connectors for 9 - 200 kHz and N-connector for 15 MHz.	
<b>HFRA 5148</b>	Circular transmitting loop antenna diam. 180 mm, 1 turn	
<b>HFRA 5149</b>	Circular transmitting loop antenna 9 kHz – 30 MHz, diam. 500 mm including 50 Ohm 20 Watt termination, N-connectors.	
<b>HFRA 5149-60</b>	Circular transmitting loop antenna 9 kHz – 30 MHz, diam. 600 mm including 50 Ohm 20 Watt termination, N-connectors.	
<b>HFRA 5152</b>	Circular transmitting loop antenna diam. 250 mm, DC-3 MHz	
<b>HFRA 5153</b>	Circular transmitting loop antenna diam. 180 mm, 0-20 (30) MHz, 5 W	
<b>HFRA 5154</b>	Circular transmitting loop antenna diam. 100 mm, 0.1 – 30 MHz, Transformer 50 Ohm, 0.5 W	
<b>HFRA 5155</b>	Circular Transmitting VHF – UHF loop antenna, diam. 50 mm,	
<b>HFRA 5156</b>	Circular Transmitting Loop Antenna diam. 50 mm, 0-5 MHz, 2 W, 10 turns	
<b>HFRA 5157</b>	Circular Transmitting Loop Antenna diam. 100 mm, 0-20(30) MHz, 3 W, 2 turns	
<b>HFRA 5158</b>	Circular Transmitting Loop Antenna diam. 180 mm, 0-2 MHz, 5 W, 10 turns	
<b>HFRA 5159</b>	Circular Transmitting Loop Antenna diam. 250 mm, 0-400 kHz, 5 W	
<b>HFRA 5164</b>	Circular Transmitting Loop Antenna, for IEC 61000-4-39, shielded, diameter 10 cm, 3 turns, wire diameter 1mm, frequency range: DC to 50(120) MHz. Including HFRA-Spacer50 for test distance of 50 mm.	
<b>NFCN 1356</b>	Compensation network for the HFRA 5164, to be used at the frequency of 13.56 MHz. Must be connected directly at the HFRA 5164 connector.	
<b>HFRA 5170</b>	Cal. Loop 3 W, diam. 100 mm, 0-30 MHz, 1 turn, 250 Ohm	
<b>HFRA SF02G</b>	Tuneable resonant magnetic loop antenna to generate extremely high magnetic fields in the range 10 kHz to 30 MHz acc. to VG95373-13:2008-11 and VG95373-23:2008-11. Including sensor loop HFRAE 5163 und control cable.	
<b>Passive Magnetic Antennas, RX-Loop Antennas</b>		
<b>HFRAE 5160</b>	Receiving VHF – UHF loop antenna, diam. 50 mm, 2-300 MHz, transformer	
<b>HFRAE 5161</b>	HF RX Loop, diam. 100 mm, 70 k-120 MHz, 1 turn, transformer	
<b>HFRAE 5162</b>	VLF-HF RX Loop, diam. 250 mm, 50 k-30 MHz, 1 turn, transformer	
<b>HFRAE 5163</b>	Passive magnetic loop antenna 9 kHz – 400 MHz, 1 turn, transformer, diam. 50 mm	
<b>Cable loop EN 303417</b>	Collapsible cable-loop-antenna as described in Fig. 12 of EN 303417. Maximum field in the antenna's center: 100 dBuA/m (0.1 A/m).	
<b>CISPR 15 3-dimensional loop antenna van Veen</b>		

<b>HXYZ 9170</b>	3-dimensional large loop antenna, diam. 2 m, acc. EN 55015 / CISPR 15, Socket and Coaxial switch recommended	
<b>Socket for HXYZ 9170</b>	Socket and mounting equipment for large loop HXYZ 9170	
<b>Opt. fold HXYZ 9170</b>	Option foldable for HXYZ 9170: The joints of the base version of HXYZ are stiff. The option foldable replaces the stiff joints which have to be removed by screws by rotatable connections. Only one locking pin per joint has to be removed to collapse the antenna. The socket will additionally be equipped with wheels. This option allows to park the antenna folded close to a wall and to set it up in less than 5 minutes.	
<b>Coaxial Switch for HXYZ 9170</b>	3 in one coaxial switch for manual / remote operation including cable set (3 BNC cables with braid current blockers) for large loop HXYZ 9170	
<b>PS 230/12 or PS 120/12</b>	12 V DC ultra low emission trafo wall outlet plug in power supply for Coaxial Switch of HXYZ 9170, not required in case of manual switching or if switched remotely by a Schwarzbeck receiver or by an R&S receiver with 12V/100mA on pin 25 of the USER-Port. Is required in all other cases e.g. for R&S receivers with AUX Port or with USER-Port without 12V/100mA on Pin 25.	
<b>HXYZ 9170-RS USER Ad</b>	HXYZ 9170-RS USER Adapter for remote control of the HXYZ 9170 Coaxial Switch by an R&S receiver with USER Port. 12 V Power Supply for Coaxial Switch eventually required!	
<b>HXYZ 9170-RS AUX Ad.</b>	HXYZ 9170-RS AUX Adapter for remote control of the HXYZ 9170 Coaxial Switch by an R&S receiver with AUX Port. 12 V Power Supply for Coaxial Switch required!	
<b>HFCD 9171</b>	Calibration Balun / Dipole for HXYZ 9170 (recommended accessory: AM 9144)	
<b>CDA 9271</b>	Adapter to hold HFCD 9171 on AM 9144, 3/8" female large camera thread.	
<b>Active Loop Antennas / Magnetic Field Probes</b>		
<b>FMZB 1513 B</b>	Active magnetic loop antenna, acc. to CISPR 16-1-4 and ANSI C 63.10, 9 kHz to 30 MHz, 50 cm loop diameter, constant antenna factor 20 dB/m, with built in rechargeable NiMH-battery, saturation indicator for remote monitoring, detachable glass fiber handle 180 mm. Optimized for mobility.	
<b>ACS 110</b>	Option: Charger ACS 110 for FMZB 1513.	
<b>CCA 1513</b>	Transport case for FMZB 1513 of FMZB 1513 B and accessories.	
<b>500 mm Handle</b>	Accessory for FMZB 1513: Additional glass fiber handle of 500 mm length.	
<b>22mm tube 3/8</b>	Short 22 mm tube (ca. 120 mm) with 3/8-inch thread male on top. Can be screwed into the bottom of FMZB 1513. Using this part FMZB 1513 can be held by AA 9202 or AA 9203 in different orientations.	
<b>1513 Stand</b>	Holder or stand to put FMZB 1513 on a table.	
<b>FMZB 1513-60 B</b>	Active magnetic loop antenna, acc. to CISPR 16-1-4 and ANSI C 63.10, 9 kHz to 30 MHz, 60 cm loop diameter, constant antenna factor 20 dB/m +/- 1.0 dB, built in rechargeable NiMH-battery, saturation indicator for remote monitoring. Detachable glass fibre handle 180 mm. Optimized for mobility.	
<b>ACS 110</b>	Option: Charger ACS 110 for FMZB 1513.	
<b>CCA 1513-60</b>	Transport case for FMZB 1513-60 or FMZB 1513-60 B and accessories.	
<b>500 mm Handle</b>	Accessory for FMZB 1513: Additional glass fiber handle of 500 mm length.	
<b>22mm tube 3/8</b>	Short 22 mm tube (ca. 120 mm) with 3/8-inch thread male on top. Can be screwed into the bottom of FMZB 1513. Using this part FMZB 1513 can be held by AA 9202 or AA 9203 in different orientations.	

<b>1513 Stand</b>	Holder or stand to put FMZB 1513 on a table.	
<b>FMZB 1519 C</b>	Active magnetic loop antenna, acc. to CISPR 16-1-4 and ANSI C 63.10, 9 kHz to 30 MHz, 50 cm loop diameter, constant antenna factor 20 dB/m, built in rechargeable NiMH-battery and saturation indicator for remote monitoring.	
<b>ACS 110</b>	Option: ACS 110 charger for FMZB 1519 B	
<b>HFS 1546</b>	Active magnetic Field Probe with shielded 50-mm-Loop, 150 kHz – 400 MHz	
<b>ACS 110</b>	Option: ACS 110 charger for HFS 1546	
<b>FMZB 1512</b>	Active magnetic loop antenna with 15 cm loop diameter for mobile applications with built in rechargeable batteries, 9 kHz to 30 MHz, antenna factor adjustable.	
<b>ACS 48</b>	Option: ACS 48 charger for FMZB 1512	
<b>FMZB 1525</b>	Active shielded magnetic loop antenna 9 kHz - 30 MHz, diameter 300 mm, for IEEE 299-2006 and MIL-STD-285. N-connector, 22 mm tube.	
<b>ACS 48</b>	Option: ACS 48 charger for FMZB 1525	
<b>HHDF 5110 A</b>	Hand held direction finder lightweight loop-antenna. Frequency range: 9 kHz-30 MHz. N-female connector.	
<b>HHDF 5110 B</b>	Hand held direction finder lightweight loop-antenna. Frequency range: 30-300 MHz. N-female connector.	
<b>HHDF 5110 C</b>	Hand held direction finder lightweight loop-antenna. Frequency range: 200-500 MHz. N-female connector.	
<b>HHDF Handle</b>	Handle for HHDF antennas.	
<b>Helmholtz coils, electro magnets, audio amplifiers</b>		
<b>MagTest</b>	Schwarzbeck-Software to test Immunity against magnetic fields and to calibrate monitoring loops. Fulfills standards like MIL-461 E, ISO 11452-8, EN 61000-4-8, SAE J551-17 and others. Control of all required devices via GPIB.	
<b>LFA 9733 B</b>	Universal audio frequency power amplifier 5 Hz - 1 MHz for magnetic field immunity testing, 60 V peak, 40 A peak, protected against short at the output or overtemperature. Gain compression in case of overload, GPIB interface. A minimum load of 0.25 Ohm at the output must be connected in series with the coil, e.g. SHUNT 9571 or NFCN 9734.	
<b>NFCN 9734</b>	Universal matching network with built in shunt resistor to compensate for the inductance of Helmholtz coils, GPIB or RS232 controllable.	
<b>SHUNT 9571</b>	Low inductive high power precision shunt resistor DC-250 kHz, 2 x 0,5 Ohm / 400 W, 1 x 1 Ohm / 800 W, 1 x 250 mOhm / 800 W respectively for best matching at low frequencies, cooling fans. Note: If you order the compensation network NFCN 9734 an additional shunt is not required as the network already contains a shunt.	
<b>CP 9610</b>	Current probe to monitor current through radiating loop or Helmholtz coils. Can be used to measure currents in case a shunt is not allowed (Ford EMC-CS-2009), including 1m RG223/U BNC-BNC.	
<b>CABLES MagTest</b>	Cables with banana plugs / -jacks / lugs to connect all components of the MagTest System.	
<b>HHS 5201-6</b>	Helmholtz Coils circular up to 2860 A/m 5 MHz for DuT size 45 mm.	
<b>HHS 5201-98</b>	Helmholtz Coils circular up to 64 kA/m 200 kHz for DuT size 45 mm.	
<b>HHS 5202-9</b>	Helmholtz Coils, circular, diam. 200 mm, 3053 A/m 2,5 MHz acc. MIL-STD 461E	
<b>HHS 5202-81</b>	Helmholtz Coils, circular, diam. 200 mm, 3000 A/m 300 kHz acc. MIL-STD 461E	



<b>HHS 5204-12</b>	Helmholtz Coils, circular, diam. 400 mm, 2500 A/m 500 kHz MIL-STD 461E	
<b>HHS 5204-36</b>	Helmholtz Coils, circular, diam. 400 mm, 2500 A/m 150 kHz MIL-STD 461E	
<b>HHS 5204-144</b>	Circular pair of Helmholtz coils, diameter 400 mm, up to 10 kA/m, max. current 20 A.	
<b>HHS 5206-4</b>	Circular pair of Helmholtz coils, diameter 600 mm, 4 turns.	
<b>HHS 5206-8</b>	Circular pair of Helmholtz coils, diameter 600 mm, 8 turns.	
<b>HHS 5206-16</b>	Circular pair of Helmholtz coils, diameter 600 mm, up to 2100 A/m, max. current 55 A.	
<b>HHS 5206-25</b>	Circular pair of Helmholtz coils, diameter 600 mm, up to 2700 A/m, max. current 46 A.	
<b>HHS 5206-132</b>	Circular pair of Helmholtz coils, diameter 600 mm, up to 4713 A/m, max. current 15 A.	
<b>FESP 5410-1</b>	1 x 1 meter induction coil, 1 turn, to produce continuous magnetic fields up to 360 A/m, short time more than 1000 A/m. For IEC 61000-4-8, IEC 61000-4-9, IEC 61000-4-10. Recommended generator: MFPO9760.	
<b>MFPO 9760</b>	Transformer with pulse generator to be used together with the FESP 5410-1 coil (not included), to produce continuous magnetic fields up to 360 A/m and short time magnetic fields up to more than 1000 A/m. Including cables 95 mm <sup>2</sup> to connect the transformer to the FESP 5410-1 and glass fiber mast. For IEC 61000-4-8.	
<b>AM 5410-1</b>	Mounting kit for the FESP 5410-1/ MFPO 9760, composed by: - aluminium base with wheels for the MFPO 9760; - glass-fiber mast; - adapter to mount the FESP 5410-1 on the fiber-glass mast.	
<b>HHS 5210</b>	Helmholtz Coils up to 300 A/m constant H field, 1 m x 1 m, 10 turns per coil, EN 61000-4-8, VDE 0847 part 4-8	
<b>HHS 5210-100</b>	Helmholtz Coils up to 2183 A/m constant H field, 1 m x 1 m, 100 turns per coil, EN 61000-4-8, VDE 0847 part 4-8	
<b>HHS 5210-100-2,5</b>	Helmholtz coil pair, square shaped, side length 1 m, 100 turns with 2.5 mm diameter copper wire (for higher currents with less heat dissipation)	
<b>HHS 5212</b>	Helmholtz Coils up to 250 A/m H field, 1.20m x 1.20 m, 10 turns.	
<b>HHS 5213-50</b>	Helmholtz Coils 1.25 m x 1.25 m, 50 turns per coil, acc. EN 55103-2 A.2.1.b)	
<b>HHS 5213-100</b>	Helmholtz Coils 1.29 m x 1.29 m, 100 turns per coil.	
<b>HHS 5215</b>	Helmholtz Coils up to 200 A/m constant H field, 1,5 m x 1,5 m, 10 turns per coil	
<b>HHS 5215-100</b>	Helmholtz Coils up to 2000 A/m constant H field, 1,5 m x 1,5 m, 100 turns per coil	
<b>HHS 5215-100-2,5</b>	Helmholtz Coils up to 3900 A/m constant H field, 1,5 m x 1,5 m, 100 turns per coil, wire diameter 2.5mm.	
<b>HHS 5218</b>	Helmholtz Coils up to 126 A/m constant H field, 1,8 m x 1,8 m, 10 turns per coil	
<b>NFCN 9732-xx</b>	Compensations network with a fixed capacitor of xx microfarad capacity. Lowers the total impedance of a series circuitry of HHS and NFCN at a fixed design frequency.	
<b>HHS 5230-100</b>	Pair of Helmholtz coils according to SAE J551-17: 2 square coils with a side length of 3m, 100 turns, max. 650 A/m, each coil movable on a wheeled platform.	
<b>NFCN 9731-100</b>	Matching network for HHS 5230-100 for the following frequencies: 16,666 Hz; 50 Hz; 60 Hz; 150 Hz; 180 Hz. Recommended amplifiers: 2 units of AE Techron 7224.	



<b>HHS 3D 5213-50</b>	3-dimensional (one pair of coils for the X-Y-Z axis) Helmholtz Coils 1.25 m x 1.25 m (average size), 50 turns per coil. 240 A/m continuously (~ 300 $\mu$ T/axis). Inner Coil (Y-Axis): 1.1 m x 1.1 m Center Coil (X-Axis): 1.21 m x 1.21 m Outer Coil (Z-Axis): 1.32 m x 1.32 m	
<b>AGEM 5520</b>	Air gap electromagnet for extreme high magnetic field strengths of up to 2.2 Tesla.	
<b>HS 5136</b>	Hall probe to measure magnetic fields DC-200 kHz including power supply.	
<b>Opt. 5136 ZG</b>	Zero-Gauss-chamber to shield from external magnetic fields to calibrate hall probe HS 5136.	
<b>FESP 5132</b>	Radiating loop diam. 12 cm, 20 turns, DC to 250 kHz, max 15 A, 2x Banana jack 4mm, ISO 11452-8, MIL-STD 461E p. 108, EN 55103 5.18.3.2	
<b>LoopHolder50</b>	Calibration fixture to hold FESP 5134-40 in FESP 5132 in a distance of 50 mm acc. MIL461E figure RS101-3.	
<b>FESP 5134-40</b>	Loop Sensor / Antenna, diam. 4 cm, 51 turns, 5 Hz to 250 kHz, electrostatic shielding, BNC jack.	
<b>FESP 5133</b>	Loop Sensor / Antenna, 36 turns in 4 layers, diam. 133 mm, EN 55103-1 A.2.b), EN 55103-2 A.4.1 0 – 200 kHz, banana plugs (standard) or BNC connector female.	
<b>FESP 5133-9</b>	Circular Transmitting Loop Antenna, 133mm diameter, 10 kHz to 3 MHz, including 5cm distance ring, suitable for VG 95377 Part 13 or Volvo Immunity against magnetic fields.	
<b>FESP 5133-7/41</b>	Circular shielded loop sensor to determine the magnetic field strength 5 Hz – 250 kHz. 36 turns AWG 7/41, diameter 133 mm, distance gauge 7 cm included. MIL 461E RE101 or RS101 alternative test procedures.	
<b>FESP 5133-F</b>	Circular shielded loop sensor to determine the magnetic field strength 5 Hz to 250 kHz. 36 turns with nominal resistance of 7 Ohm, diameter 133 mm, distance gauge 7 cm included. MIL 461F and G RE101or RS101 alternative tests.	
<b>FESP 5133 1330</b>	Circular radiating loop for extremely high field strength up to several mT, 225 turns, acc. SF 01 G, VG95377.	
<b>FESP 5135</b>	Radiating coil diam. 0.5 m, 20 turns in one layer, acc. EN 55103-2 A.3.1	
<b>HFRA 5164</b>	Circular Transmitting Loop Antenna, for IEC 61000-4-39, shielded, diameter 10 cm, 3 turns, wire diameter 1mm, frequency range: DC to 50(120) MHz.	
<b>NFCN 1356</b>	Compensation network for the HFRA 5164, to be used at the frequency of 13.56 MHz. Must be connected directly at the HFRA 5164 connector.	
<b>Loopholder 5164-39</b>	Calibration jig to hold HFRA 5164 in a distance of 50 mm from FESP 5134-1 acc. to IEC 61000-4-39.	
<b>FESP 5134-1</b>	Monitor loop, diameter 4 cm, 1 turn, 100 kHz – 300 MHz, electrostatically shielded, BNC-jack.	
	<b>Devices for IEC 61000-4-39 testing</b>	
<b>FESP 5132</b>	Radiating loop diam. 12 cm, 20 turns, DC to 250 kHz, max 15 A, 2x Banana jack 4mm, ISO 11452-8, MIL-STD 461E p. 108, EN 55103 5.18.3.2	
<b>LoopHolder50</b>	Calibration fixture to hold FESP 5134-40 in FESP 5132 in a distance of 50 mm acc. MIL461E figure RS101-3.	
<b>FESP 5134-40</b>	Loop Sensor / Antenna, diam. 4 cm, 51 turns, 5 Hz to 250 kHz, electrostatic shielding, BNC jack.	

<b>HFRA 5164</b>	Circular Transmitting Loop Antenna, for IEC 61000-4-39, shielded, diameter 10 cm, 3 turns, wire diameter 1mm, frequency range: DC to 50(120) MHz.	
<b>NFCN 1356</b>	Compensation network for the HFRA 5164, to be used at the frequency of 13.56 MHz. Must be connected directly at the HFRA 5164 connector.	
<b>Loopholder 5164-39</b>	Calibration jig to hold HFRA 5164 in a distance of 50 mm from FESP 5134-1 acc. to IEC 61000-4-39.	
<b>FESP 5134-1</b>	Monitor loop, diameter 4 cm, 1 turn, 100 kHz – 300 MHz, electrostatically shielded, BNC-jack.	
<b>TEMH 6000</b>	TEM Horn antenna acc. to IEC 61000-4-39, 380-6000 MHz	
<b>Spacer 100</b>	Spacer for TEMH 6000. Test distance 100 mm.	
<b>Antennas for railway applications</b>		
<b>RSAL 5340</b>	LF 3-dimensional magnetic rolling stock antenna for the lower frequency range acc. to CLC/TS 50238-3:2010. 10 kHz to 100 kHz.	
<b>RSAH 5324</b>	3-dimensional magnetic rolling stock antenna for the higher frequency range acc. to CLC/TS 50238-3:2010. 100 kHz to 1.3 MHz.	
<b>RSA COVER</b>	Dirt and weather protection cover to house the rolling stock antennas RSAL 5340 or RSAH 5324 and to fix the antenna to the rail track.	
<b>Tube wSMA</b>	Assembled cable set in transparent hose for rolling stock antenna RSAH 5324/ RSAL 5340: -length: 5 m (other lengths available on request) Specification of a cable harness: - impedance: 50 Ohm - Cable type RG 316 - Connection type analyzer side: BNC or SMA connector - Connection type antenna side: SMA connector - Cable labeled on both sides with field direction: X, Y or Z	
<b>Antenna Masts / Tripods / Adapters</b>		
<b>AM BBHA 9120 K</b>	Antenna Mast System for the BBHA 9120 K horn antenna, manual height scanning 1.0 m to 1.8 m, polarization and tilting continuously adjustable.	
<b>Opt. 9120 K PN</b>	Option for antenna mast AM BBHA 9120 K: pneumatic polarisation change.	
<b>AM BBHA 9120 K 1m</b>	Antenna Mast System for the BBHA 9120 K horn antenna, fixed height of 1.0 m, polarization continuously adjustable, tilting not adjustable.	
<b>AM 9104</b>	Detachable Antenna Mast System (glass-fibre tubing) for VHF-UHF Antennas, manual height scanning 0.4 m to 4 m, insulated mast and antenna box with 0°/90° detents, zinc-plated / stainless steel 3-leg mast foot.	
<b>AM 9104 GF</b>	Detachable Antenna Mast System (glass-fibre tubing) for VHF-UHF Antennas, manual height scanning 0.4 m to 4 m, insulated mast and antenna box with 0°/90° detents, 3-leg mast foot made of glass fiber.	
<b>Opt. 9104 wheels</b>	Option: Caster Wheels and Brakes for zinc-plated / stainless steel 3-leg mast foot	
<b>AM 9144 T-05</b>	Glass fiber telescopes for antenna tripod/mast AM 9144, height range adjustable by screw 510-940mm, 3/8"-thread on top, 55mm shaft to be inserted into a mast foot	
<b>AM 9144 T-08</b>	Glass fiber telescopes for antenna tripod/mast AM 9144, height range adjustable by screw 700-1300mm, 3/8"-thread on top, 55mm shaft to be inserted into a mast foot	
<b>AM 9144 T-09</b>	Glass fiber telescopes for antenna tripod/mast AM 9144, height range adjustable by screw 800-1510mm, 3/8"-thread on top, 55mm shaft to be inserted into a mast foot	



<b>AM 9144 T-12</b>	Glass fiber telescopes for antenna tripod/mast AM 9144, height range adjustable by screw 1050-1950mm, 3/8"-thread on top, 55mm shaft to be inserted into a mast foot	
<b>AM 9144 M-VA</b>	Robust 3-leg-mastfoot made of stainless steel with 55mm-inlet	
<b>AM 9144 M-GFK</b>	Low reflective 3-leg-mastfoot made of glass fiber reinforced plastics with 55 mm-inlet	
<b>AM 9144 M-TILT</b>	Modification of stainless steel mast foot for AM 9144 with 0-20 degrees tilt function by hand wheel.	
<b>AM 9144 W-VA</b>	Caster wheels and brakes for stainless foot AM 9144 M-VA	
<b>AM 9144 W-GFK</b>	Caster wheels and brakes for GF-foot AM 9144 M-GFK	
<b>AM 9144 E-05</b>	Accessory for AM 9144: extender rod with 3/8" thread male on top and 3/8" thread female on bottom. Allows to extend by a fixed length. Length: 430mm	
<b>AM 9144 E-08</b>	Accessory for AM 9144: extender rod with 3/8" thread male on top and 3/8" thread female on bottom. Allows to extend by a fixed length. Length: 600mm	
<b>AM 9144 E-09</b>	Accessory for AM 9144: extender rod with 3/8" thread male on top and 3/8" thread female on bottom. Allows to extend by a fixed length. Length: 710mm	
<b>AM 9144 E-12</b>	Accessory for AM 9144: extender rod with 3/8" thread male on top and 3/8" thread female on bottom. Allows to extend by a fixed length. Length: 900mm	
<b>AA 9202</b>	Mast Adapter for AM 9144 with 22 mm hole for most Antenna models, 3/8" and 1/4" camera threads, polarisation continuously adjustable.	
<b>AA 9202 POM</b>	Non metallic mast adapter for most light weight Antenna models with 22 mm tube, minimizes reflections, 3/8" camera thread, polarisation continuously adjustable.	
<b>AA 9203</b>	Mast Adapter for AM 9144 with 22 mm hole for most Antenna models, 3/8" and 1/4" camera threads polarisation and elevation continuously adjustable	
<b>AA 9205</b>	Orthogonal Swivel Adapter for positioning in 3 perpendicular directions. Application: determination of the magnitude of the fieldstrength	
<b>AA 9209</b>	Antenna adapter to fix STLP 9128 E, STLP 9128 E special, STLP 9128 D, STLP 9128 D special on AM 9144. Allows antenna rotation without height adjustment. Antenna can be fixed in the center of gravity without any collision with the AM 9144 during polarisation change.	
<b>AA 9213</b>	Adapter to convert a 3/8" female thread to 22 mm tube, e.g. to fix BBHA 9170 on AM 9104.	
<b>AA NMHA</b>	Set of adapters, to mount the NMHA antennas on the AM 9144 system. Composed by the following parts: <ul style="list-style-type: none"> <li>• 22mm tube NMHA (Short 22 mm tube (ca. 200 mm) with N-female connectors on both sides. Ideal to mount a NMHA antenna on the AM 9144 system, with AA 9202 or AA 9203 or POSITIONER);</li> <li>• AD Nm BNCf (Adapter N male to BNC female);</li> <li>• AD Nm Nm (Adapter N male to N male);</li> <li>• NMHA Counterpoise N (NMHA Counterpoise 65x40 mm N jack - N jack for Renault or Nissan.)</li> </ul>	
<b>RS 9214</b>	Adapter to convert the R&S Aluminium Flange into 22 mm tube with indexing ring.	
<b>RA 9215</b>	Indexing adapter for fast & precise polarisation change.	
<b>R&amp;S Flange</b>	R&S Flange for Schwarzbeck antenna with 22 mm tube.	

# Price list

<b>KG 9201</b>	Mast Adapter (swivel, 90° vertical/horizontal polarisation for AM 9144), for VULP 9118 D,E,F,G and VUSLP 9111 E only	
<b>PPS 9208</b>	Pneumatic polarisation shifter with 2-way pneumatic cylinder for all Schwarzbeck antennas with 22 mm tube on AM 9144. Compressed air required.	
<b>PDG 9211</b>	Polarisation changer jig for large horn antennas. Allows easy polarisation change of large horn antennas on AM 9144. Connection to AM 9144: 3/8" female thread. Antenna will be held close to center of gravity. Polarisation change by rotating along circular metal curve by one single person without any height offset.	
<b>Opt. 9211 PN</b>	Additional option for PDG 9211: polarisation change with pneumatic cylinder and 12V valve 5/2 ways. Including 50m compressed air hose.	
<b>Opt. 9211 J</b>	Specific accessories to fix BBHA 9120 J to PDG 9211. (rotating ring, braces, short central tube, fixture materials). If ordered together with the antenna we will fix everything before shipment.	
<b>Opt. 9211 F</b>	Specific accessories to fix BBHA 9120 F to PDG 9211. (rotating ring, braces, short central tube, fixture materials). If ordered together with the antenna we will fix everything before shipment.	
<b>Opt. 9211 G</b>	Specific accessories to fix BBHA 9120 G to PDG 9211. (rotating ring, braces, short central tube, fixture materials). If ordered together with the antenna we will fix everything before shipment.	
<b>Opt. 9211 9251-24</b>	Specific accessories to fix HA 9251-24 to PDG 9211. (rotating ring, braces, short central tube, fixture materials). If ordered together with the antenna we will fix everything before shipment.	
<b>SWHA 9204</b>	Swivel handle for light antennas	
<b>EA 9207</b>	Adapter for Schwarzbeck antennas with 22 mm tube on EMCO mast.	
<b>TA 9204</b>	Thread Adapter with 3/8" female and 1/4" male threads. Mainly for American antenna brands.	
<b>TA 9205</b>	Thread Adapter with 1/4" female and 3/8" male threads. (For camera tripods, not for AM 9144)	
<b>TA 9206</b>	Thread Adapter with 3/8" female and 5/8" male threads. (Geodesy)	
<b>POSITIONER</b>	Positioner for light weight antennas like SBA 9113 with 420 NJ. The positioner consists of: 1 piece of glass fiber tube 22 mm thick, 1000 mm long, an adapter AA 9203 is mounted to the tube. The other end of the tube carries a 3/8 inch male camera thread.	
<b>CABLE GUIDE</b>	Holder to guide the antenna's cable parallel to the POSITIONER at a distance of 50 cm. Ideal for the SBA 9113 + 420 NJ and the SBA 9119 + 422NJ antennas.	
<b>RRAH 9286</b>	Antenna holder for antennas with 22mm tube to be fixed at car roof railing or car roof rack.	
<b>TWAD 9220</b>	Twin adapter to mount two antennas equipped with 22 mm diameter tube. The TWAD 9220 allows to position the antennas in a broad combination of distances and angles.	
<b>AD ATH4G8</b>	Adapter to mount the horn antenna ATH4G8 (Made by AR) on a AA 9202 or AA 9203 mast adapter. Consisting of a 22 mm tube with length of 20 cm.	