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TOYO and Schwarzbeck are laser-focused on customer service. Schwarzbeck products are designed for a lifetime of use. And in the event they need servicing, the company repairs equipment at a reasonable cost, even if it has many years of service life, and/or is no longer covered by warranty. Schwarzbeck products provide better value than our competition, delivering features and capabilities at lower price points. All products and components are manufactured in Schwarzbeck's German Schönau factory. This includes something as simple as screws to the most sophisticated of components and devices. And unlike other vendors, we can customize and tailor our offerings to meet your requirements. TOYO is a global partner of Schwarzbeck reaching markets from Japan to China to the United States. Benefit from our expertise and experience.

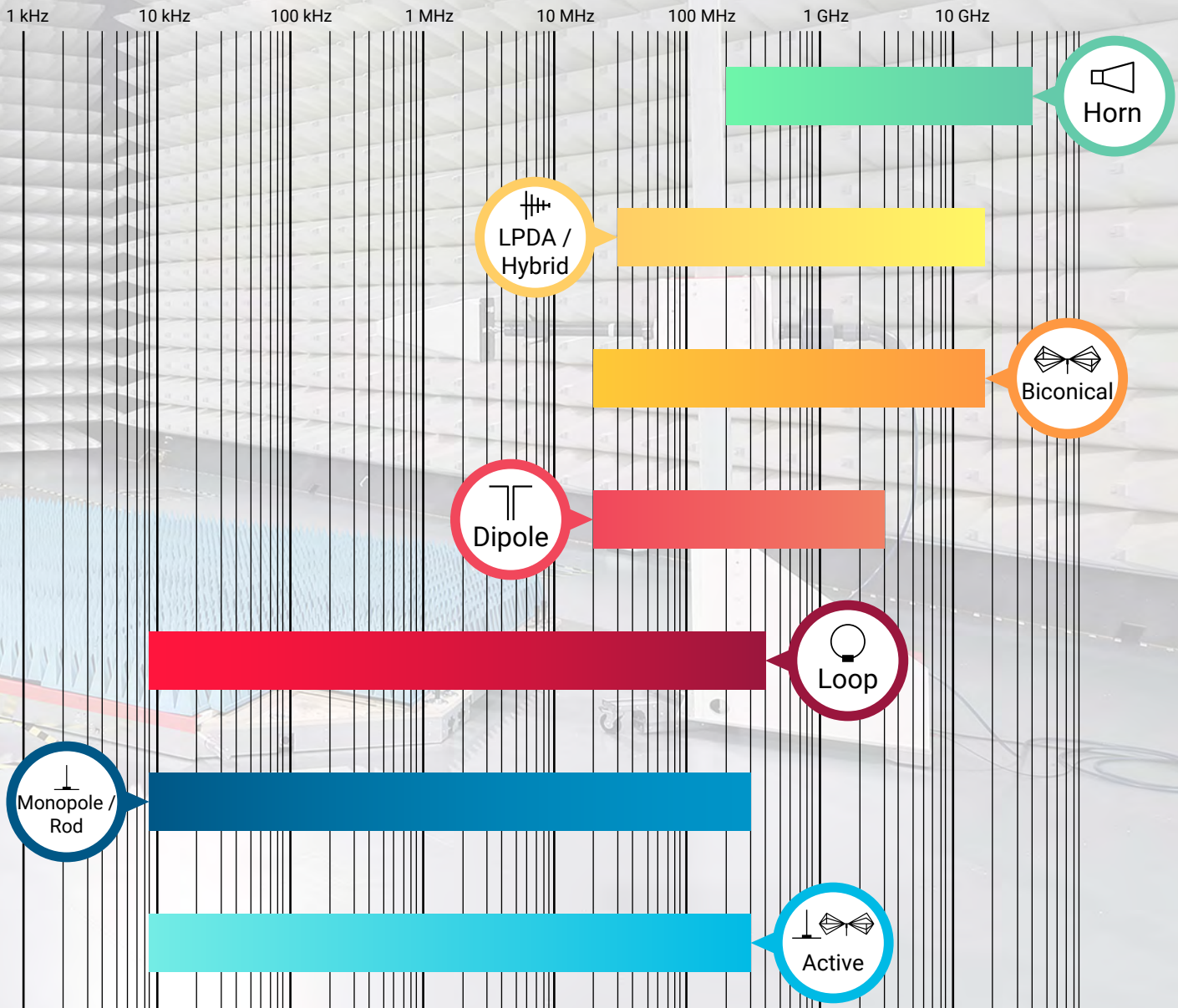
Visit our [micro-site](#) at the TOYOTech website that is devoted to Schwarzbeck's products for further information including technical specifications and collateral:

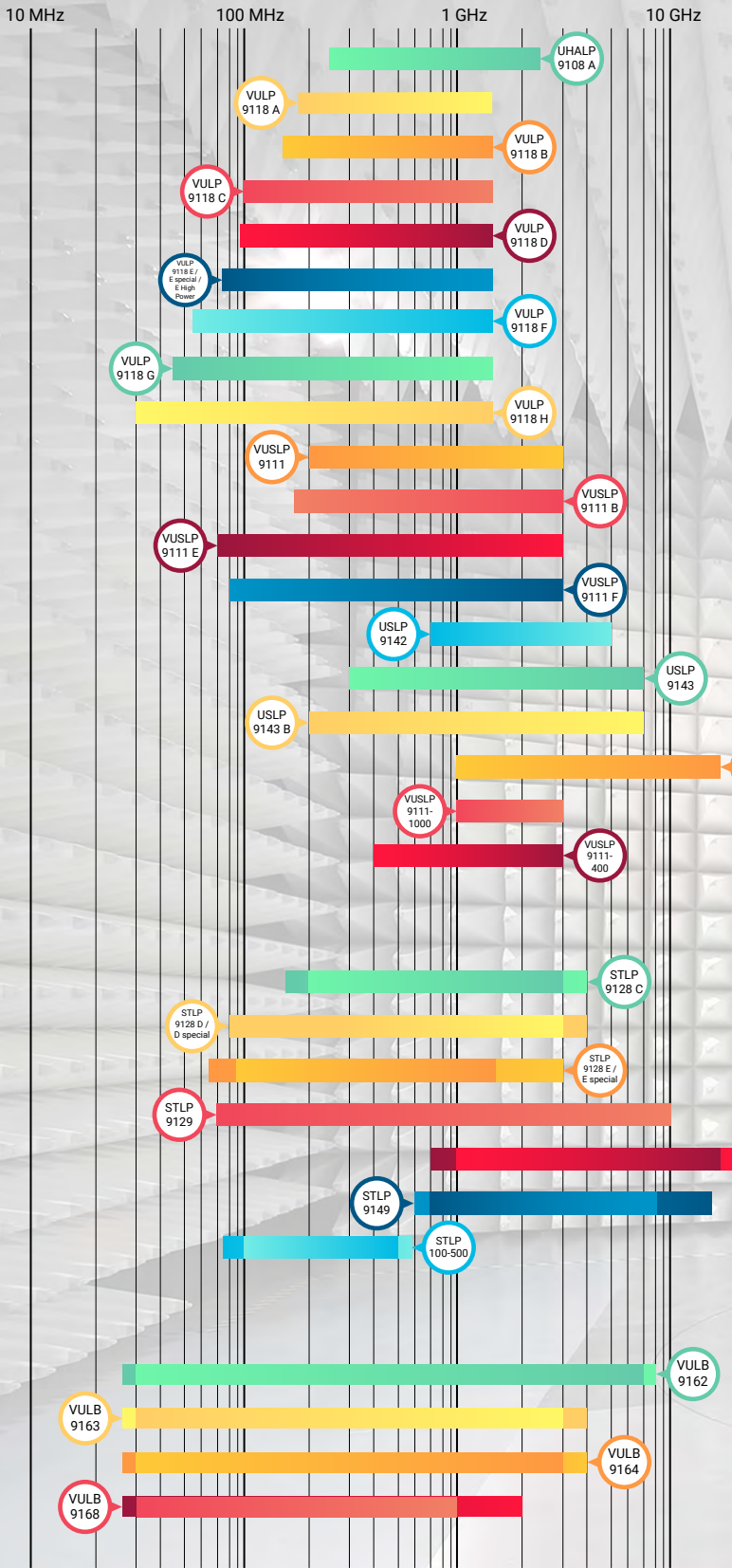
You can also visit specific areas (click the hyperlinks below) of the microsite devoted to a specific product class or type for more detailed information. And free feel to contact us at anytime.

[Antennas](#)
[LISN CISPR 16-1-2](#)
[LISN Automotive](#)

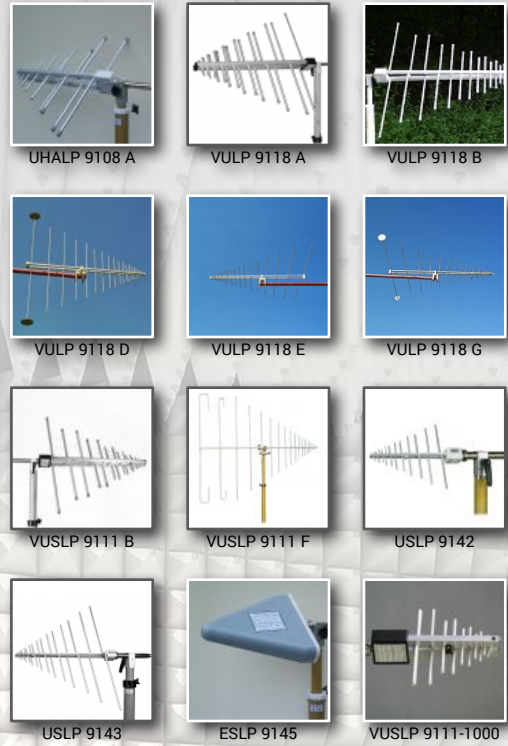
[EMC Measurement Systems](#)
[TOYO EMC Test Software](#)

Selection Chart





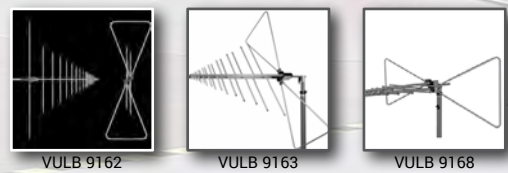
Logarithmic Periodic Broadband Antennas | Standard LPDA



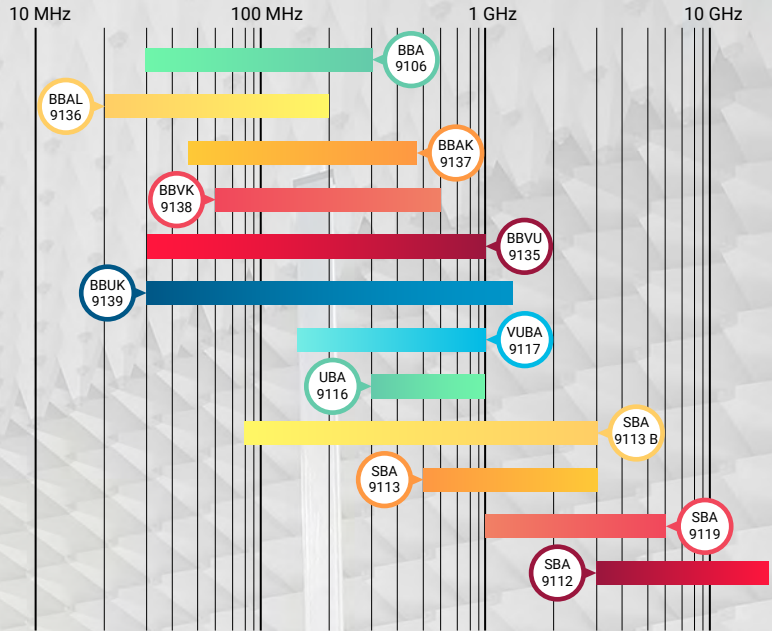
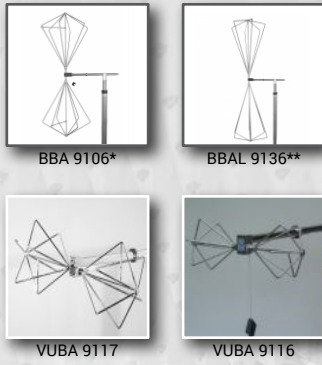
Logarithmic Periodic Broadband Antennas | Stacked LPDA



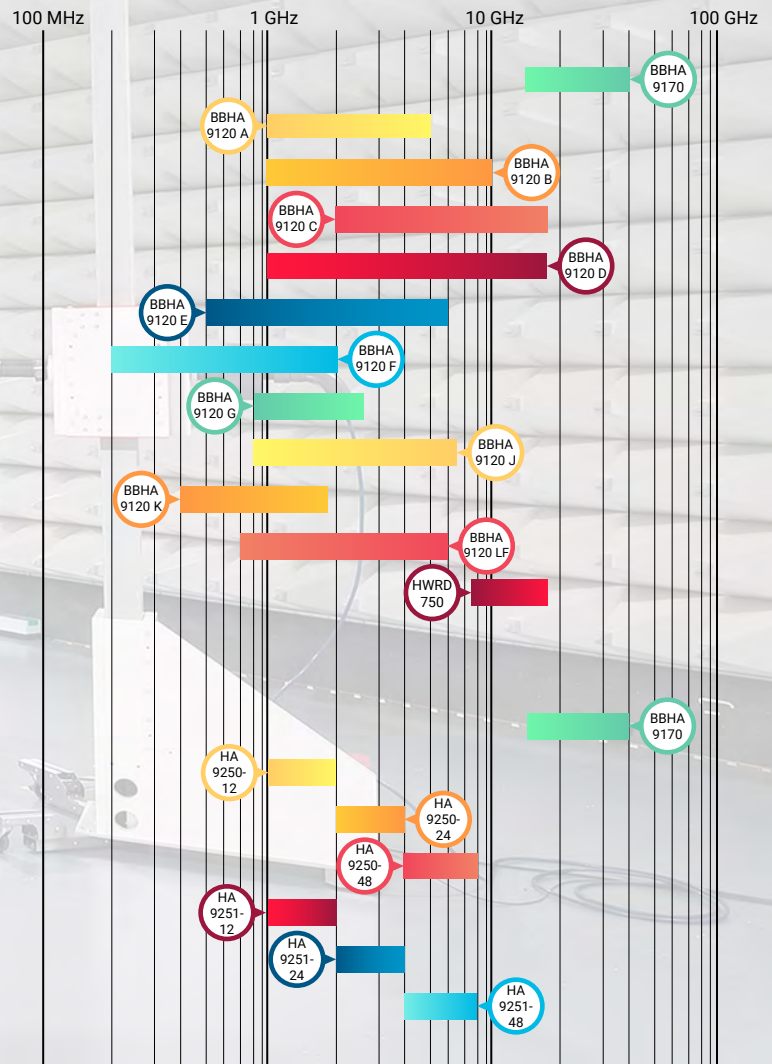
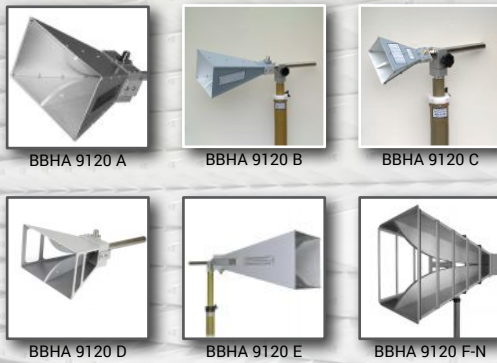
Logarithmic Periodic Broadband Antennas | Biconic Logarithmic Periodic Antennas (Hybrid)



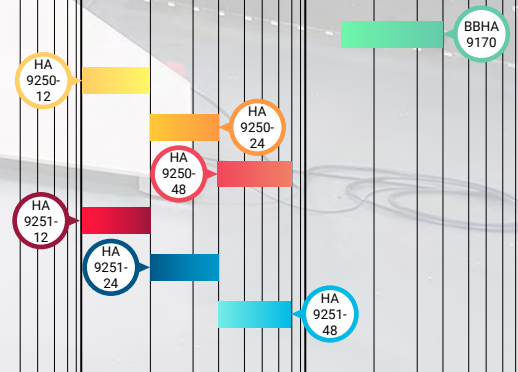
Broadband Horn Antennas | Biconical Antennas



Broadband Horn Antennas | Double-Ridged Horn Antennas



Broadband Horn Antennas | Standard Gain Horn



ACTIVE ANTENNAS

Model	Description	Frequency	Connector Type
VAMP 9243	Vertical Active Rod Antenna	9 kHz - 30 MHz	BNC

BICONICAL ANTENNAS

Model	Description	Frequency	Connector Type
BBA 9106	Biconical Elements (for VHA, VHBB, VHBA)	30 - 300 MHz	N
BBAL 9136	Biconical Elements (VHBA, VHBB, VHBC)	20 - 200 MHz	N
BBAK 9137	Biconical Elements (VHA, VHBB)	45 - 450 MHz	N
BBVK 9138	Biconical Elements (VHA, VHBB)	60 - 600 MHz	N
BBVU 9135	Biconical Elements (UBAA)	30 - 1000 MHz	N
BBUK 9139	Biconical Elements (UBAA)	30 - 1200 MHz	N
VHBB 9124	Antenna Balun for Biconical	50:200ohm, 10W	N
VHBC 9133	Antenna Balun for Biconical	50:200ohm, 1kW	N

SMALL BICONICAL ANTENNAS

Model	Description	Frequency	Connector Type
SBA 9113	Microwave Antenna	0.5 - 3 GHz	N
SBA 9113 B	For Harmonics Measurements Acc. to IEC61000-4-3	80 MHz - 3 GHz	N
SBA 9119	Compliant to CISPR 16-1-4 For Site Validation Above 1 GHz.	1 - 6 GHz	N
SBA 9112	Compliant to CISPR 16-1-4 For Site Validation Above 1 GHz.	(1) 3 - 18 GHz	N

BROADBAND HORN ANTENNAS

Model	Description	Frequency	Connector Type
BBHA 9120 A	Double Ridged Broadband Horn Antenna	1 - 5 GHz	N
BBHA 9120 B	Double Ridged Broadband Horn Antenna	1 - 10 GHz	N
BBHA 9120 C	Double Ridged Broadband Horn Antenna	2 - 18 GHz	N
BBHA 9120 D	Double Ridged Broadband Horn Antenna	1 - 18 GHz	N
BBHA 9120 J	Broadband High Gain Horn Antenna	800 MHz - 6.2 GHz	N (7/16 Opt.)
BBHA 9120 K	High Gain Horn Antenna	400 MHz - 1.6 GHz	N (7/16 Opt.)
TEMH 6000	Broadband TEM Horn Antenna	380 MHz - 6 GHz	N (300 W Max)

STANDARD LOG PERIODIC ANTENNA

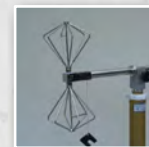
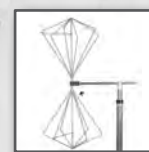
Model	Description	Frequency	Connector Type	Max Power
UHALP 9108 A	Log Periodic Antenna	250 - 2400 MHz	N	1kW
VULP 9118 A	Log Periodic Antenna	180 - 1500 (2000) MHz	N	1kW
VULP 9118 B	Log Periodic Antenna	160 - 1500 (2000) MHz	N	1kW
VULP 9118 C	Log Periodic Antenna	100 - 1400 (2000) MHz	N	1kW
VULP 9118 D	Log Periodic Antenna	(80) 95 - 1500 (1800) MHz	N	1kW
VULP 9118 H	Log Periodic Antenna	(26) 30 - 1500 (1800) MHz	N	1kW

STACKED LOG PERIODIC ANTENNA

Model	Description	Frequency	Connector Type	Max Power
STLP 9128 C	Stacked Log Periodic Antenna	(150)200 - 1500 (4000) MHz	N	2kW
STLP 9128 D special	Stacked Log Periodic Antenna	(70)80 - 3000(4000) MHz	N & 7/16	2kW
STLP 9148	Stacked Microwave Log.-Per. Antenna	(0.7)1-18 (20) GHz	N	
STLP 9128 E	Stacked Log Periodic Antenna	(65)80 - 1500(3000) MHz	N & (7/16)	
STLP 9128 Esp	Stacked Log Periodic Antenna (with folded elements)	80 - 1700(2700) MHz	N & (7/16)	
STLP 9129	Stacked Log Periodic Antenna (acc. IEC 61000-4-3)	70 MHz - 10 GHz	N & (7/16)	
STLP 9149	Stacked Log Periodic Antenna (acc. IEC 61000-4-3)	(0.6)0.7GHz - 9(10.5) GHz	N	150(300)W

BICONIC LOGARITHMIC PERIODIC ANTENNAS (HYBRID)

Model	Description	Frequency	Connector Type	Max Power
VULB 9162	TRILOG Broadband Antenna	30 MHz - 7 GHz	N	100W
VULB 9163	TRILOG Broadband Antenna	30 MHz - 3 GHz	N	100W
VULB 9164	TRILOG Broadband Antenna	30 MHz - 3 GHz	N	1kW (f<100 MHz)
VULB 9168	TRILOG Broadband Antenna	30 MHz - 1000MHz	N	10W



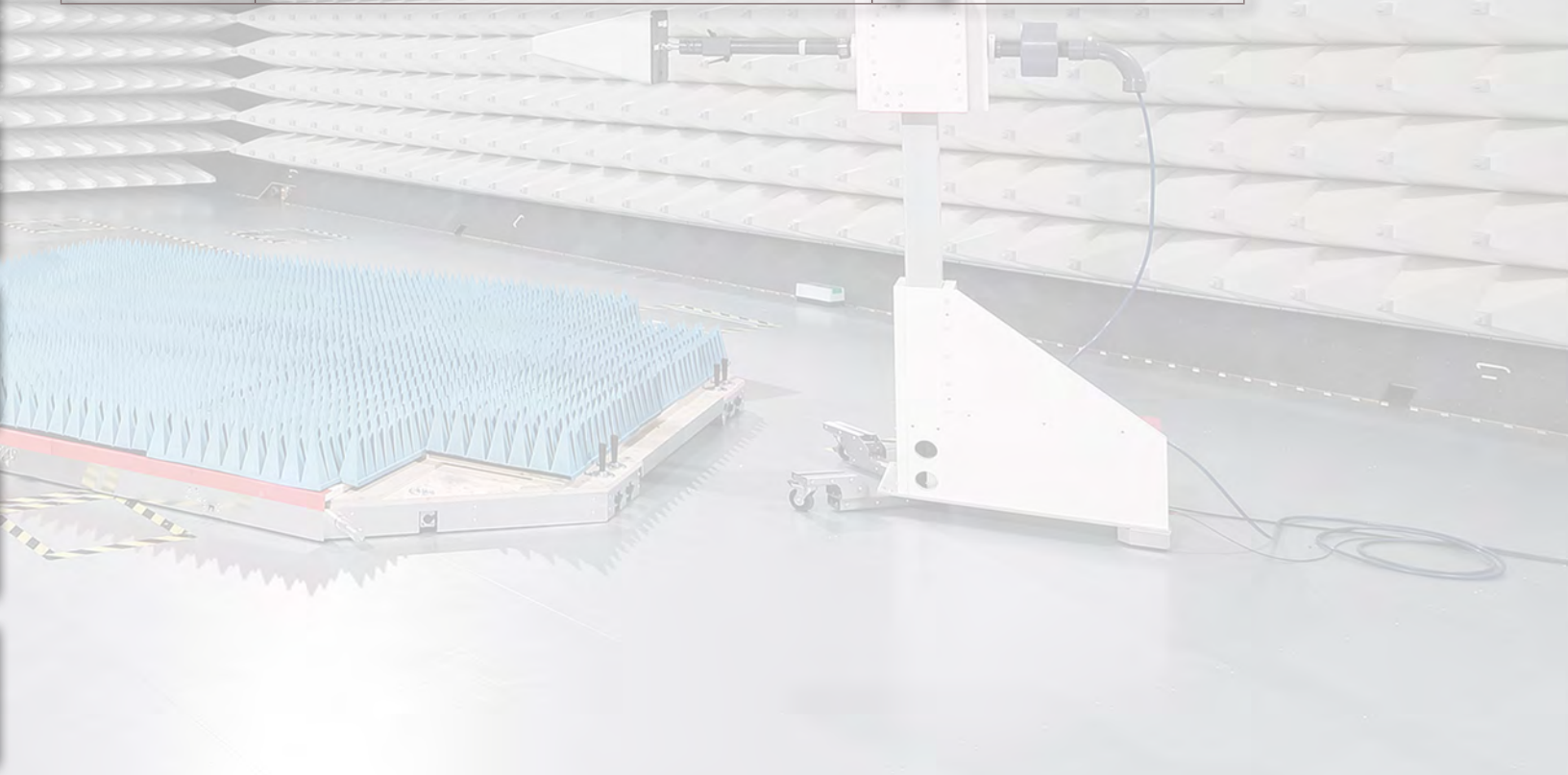
MAGNETIC TEST SYSTEM		
Model	Description	Frequency
LFPA 9733B	Power Amplifier, 60Vpeak, 40Apeak	5 Hz to 1 MHz, Gain 26 dB
SHUNT 9751	Shunt	1 x 0.25 Ohm / 800 W 1 x 1 Ohm / 800 W 2 x 0.5 Ohm / 400 W"
CP 9610	Current Probe	40A DC - 1 MHz
HHS 5206-16	Helmholtz Coil	DC - 500 kHz
HHS 5204-12	Helmholtz Coil	DC - 500 kHz
HHS 5202-9	Helmholtz Coil	DC - 2.5 MHz
NFCN 9734	Compensation Network	DC - 200 kHz, up to 32 Arms
FESP 5134-40	Monitoring Loop for FESP	5 kHz - 250 kHz
FESP 5133-7/41	Monitoring Loop for HHS	0.01 kHz - 250 kHz
Keysight 33511B	Function Generator	
Keysight 34465A	RMS-Voltmeter	
Mag Test	Software for Magnetic Test System	



OTHER MAGNETIC TEST SYSTEM ITEMS		
Model	Description	Frequency
FESP 5132	Radiating Loop (ISO 11452-8, MIL 461E RS101, EN 55103 5.18.3.2)	0 - 150 kHz
LoopHolder50	Calibration fixture to hold FESP 5134-40 in FESP 5132 in a distance of 50 mm acc. MIL461E figure RS101-3	
FESP 5134-40	Loop Sensor / Antenna, diam 4 cm, 51 turns	5 Hz - 250 kHz
HFRA 5164	Passive magnetic loop antenna diam. 100 mm	0.01 - 120 MHz
Loopholder 5164-39	Calibration jig to hold HFRA 5164 in a distance of 50 mm from FESP 5134-1 acc. to IEC 61000-4-39	
FESP 5134-1	Field Monitoring Loop	10 kHz - 400 MHz
NFCN 1356	Loop Antenna diam. 250 mm, resonating at 13.56 MHz	



PREAMPLIFIERS		
Model	Description	Frequency/Noise Figure
BBV 9743 B	Broadband Preamplifier, Gain +28dB	10 MHz - 6 GHz, NF: Typ. <2.7 dB (1.0 GHz)
BBV 9744	Broadband Preamplifier, Gain +28dB	9 kHz - 6 GHz, NF: 2.5 dB (1.0 GHz)
BBV 9745	Broadband Preamplifier, Gain +30dB	9 kHz - 2 GHz, 2.5 dB (1.0 GHz)
BBV 9718 C	Microwave Broadband Preamplifier, Gain 30dB	Nominal 1 - 18 GHz; Useable 0.5 - 20 GHz NF: 2 dB



SCHWARZBECK LISN (AMN) OVERVIEW

Type	Topology	Impedance	Current max.	Paths	Options
CISPR 16-1-2 socket					
NSLK 8117	V-LISN	(50 μ H + 5 Ω) 50 Ω	2 x 10 A	2	
NSLK 8127	V-LISN	(50 μ H + 5 Ω) 50 Ω	2 x 16 A	2	RC, PLC
NSLK 8126	V-LISN	(50 μ H + 5 Ω) 50 Ω	2 x 16 A Schuko 4 x 16 A CEKON	4	RC
NSLK 8128	V-LISN	(50 μ H + 5 Ω) 50 Ω	2 x 16 A Schuko and 4 x 32 A CEKON	4	RC
NSLK 8163	V-LISN	(50 μ H + 5 Ω) 50 Ω	4 x 64 A CEKON	4	RC
CISPR 16-1-2 Wing Terminals					
NNLK 8121	V-LISN	(50 μ H + 5 Ω) 50 Ω	4 x 50 (100) A	4	RC, Cont. high current, 400/700V, Cooling Fans
NNLK 8122	V-LISN	(50 μ H + 5 Ω) 50 Ω	2 x 50 A	2	
NNLK 8129	V-LISN	50 μ H 50 Ω	4 x 200 (300) A	4	RC, 400/700 V, Cooling Fans
NNLK 8129-2 HV	V-LISN	50 μ H 50 Ω	2 x 200 (300) A	2	RC,TC
NNLK 8130	V-LISN	50 μ H 50 Ω	4 x 400 (500) A	4	RC
NNLK 8140	V-LISN	50 μ H 50 Ω	1 x 800 (1000) A	single	
Automotive					
NNHV 8123	V-LISN	5 μ H 50 Ω	70 (100) A	single	
NNHV 8123-200	V-LISN	5 μ H 50 Ω	200 A	single	
NNHV 8123-400	V-LISN	5 μ H 50 Ω	400 A	single	
NNBM 8123-400R	V-LISN	(5 μ H + 1 Ω) 50 Ω	400 A	single	
NNBM 8124	V-LISN	(5 μ H + 1 Ω) 50 Ω	70 (100) A	single	N-connector
NNBM 8124-200	V-LISN	(5 μ H + 1 Ω) 50 Ω	200 A	single	N-connector
NNBM 8124-400	V-LISN	(5 μ H + 1 Ω) 50 Ω	400 A	single	N-connector
NNBM 8124-800	V-LISN	(5 μ H + 1 Ω) 50 Ω	800 A	single	N-connector
NNBM 8126 A 890	V-LISN	5 μ H 50 Ω	70 (100) A	single	DO-160
NNBM DO160-1500	V-LISN	5 μ H 50 Ω	200 (280) A	single	
BAN 8508			8 A (DC)	single	
BAN 8530			30 A (DC)	single	
MIL					
NNBL 8225	V-LISN	(50 μ H + 5 Ω) 50 Ω	20 A	single	
NNBL 8226	V-LISN	(50 μ H + 5 Ω) 50 Ω	70 (100) A	single	
NNBL 8226-HV	V-LISN	(50 μ H + 5 Ω) 50 Ω	70 (100) A	single	
NNBL 8226-2	V-LISN	(50 μ H + 5 Ω) 50 Ω	70 (100) A	2	
NNBL 8229-HV	V-LISN	(50 μ H + 5 Ω) 50 Ω	200 A	single	
NNBL 8230	V-LISN	(50 μ H + 5 Ω) 50 Ω	300 A	single	
NNBL 8240	V-LISN	(50 μ H + 5 Ω) 50 Ω	800 (1000) A	single	



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