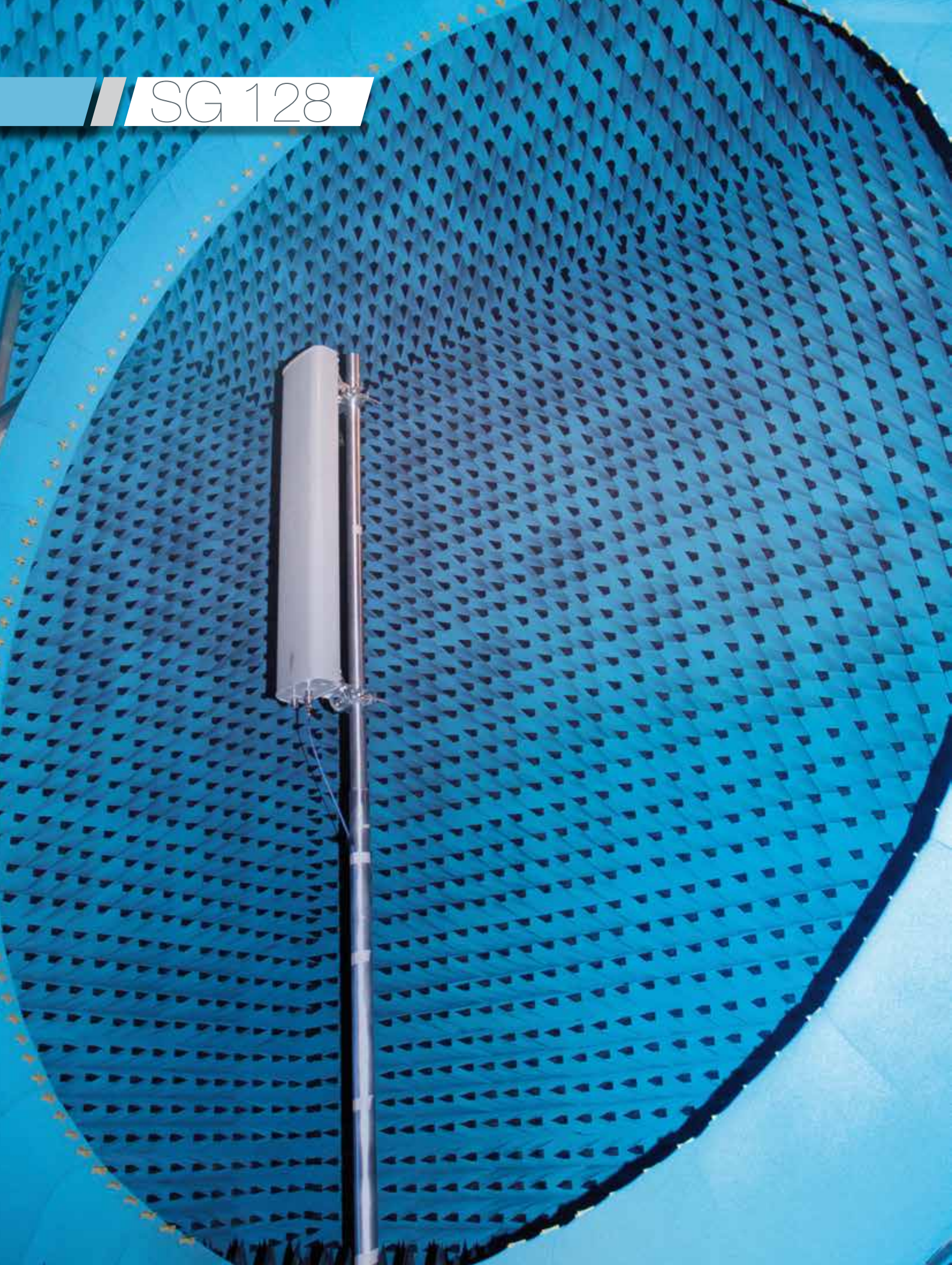


SG 128



Ideal for very large antenna measurements. SG 128 is a bigger version of the SG 64 with 127 probes (+1 reference channel).



Ideal for very large antenna measurements

SOLUTION FOR

- Antenna Measurement
- Linear Array Antenna Measurement
- Sub-System Antenna Measurement

Main features

Technology

- Near-field / Spherical
- Far-field

Measurement capabilities

- Gain
- Directivity
- Beamwidth
- Cross polar discrimination
- Sidelobe levels
- Front to Back ratio
- 1D, 2D and 3D radiation patterns
- Radiation pattern in any polarization (linear or circular)
- Antenna efficiency

Frequency bands

- SG128 - 6 GHz: 400 MHz to 6 GHz
- SG 128 - 18 GHz: 400 MHz to 18 GHz

Max. size of DUT

- 4.16 m

Max. weight of DUT

- 200 kg

Typical dynamic range

- 70 dB

Oversampling

- Elevation tilt of the DUT

System configurations

Software

Measurement control, data acquisition and post processing

- SatEnv

Near-field/far-field transform

- SatMap

Advanced post processing

- SatSIM
- Insight
- Antenna Analyzer (Linear antenna measurement)

Equipment

- Amplification unit
- Mixer unit
- N-PAC
- Uninterruptible power supply
- Instrumentation rack
- DUT positioner
- Primary synthesizer
- Auxiliary synthesizer

Add-on

- Shielded anechoic chamber*

Accessories

- Styrofoam mast
- Acquisition PC & touch screen PC
- PVC chair
- Ultra rigid mast
- TV mast
- Linear antenna pole mast
- Positioning laser pointer
- Laptop interface
- Head and hand phantoms
- Reference antennas (horns, sleeve dipoles, loops, linear array)

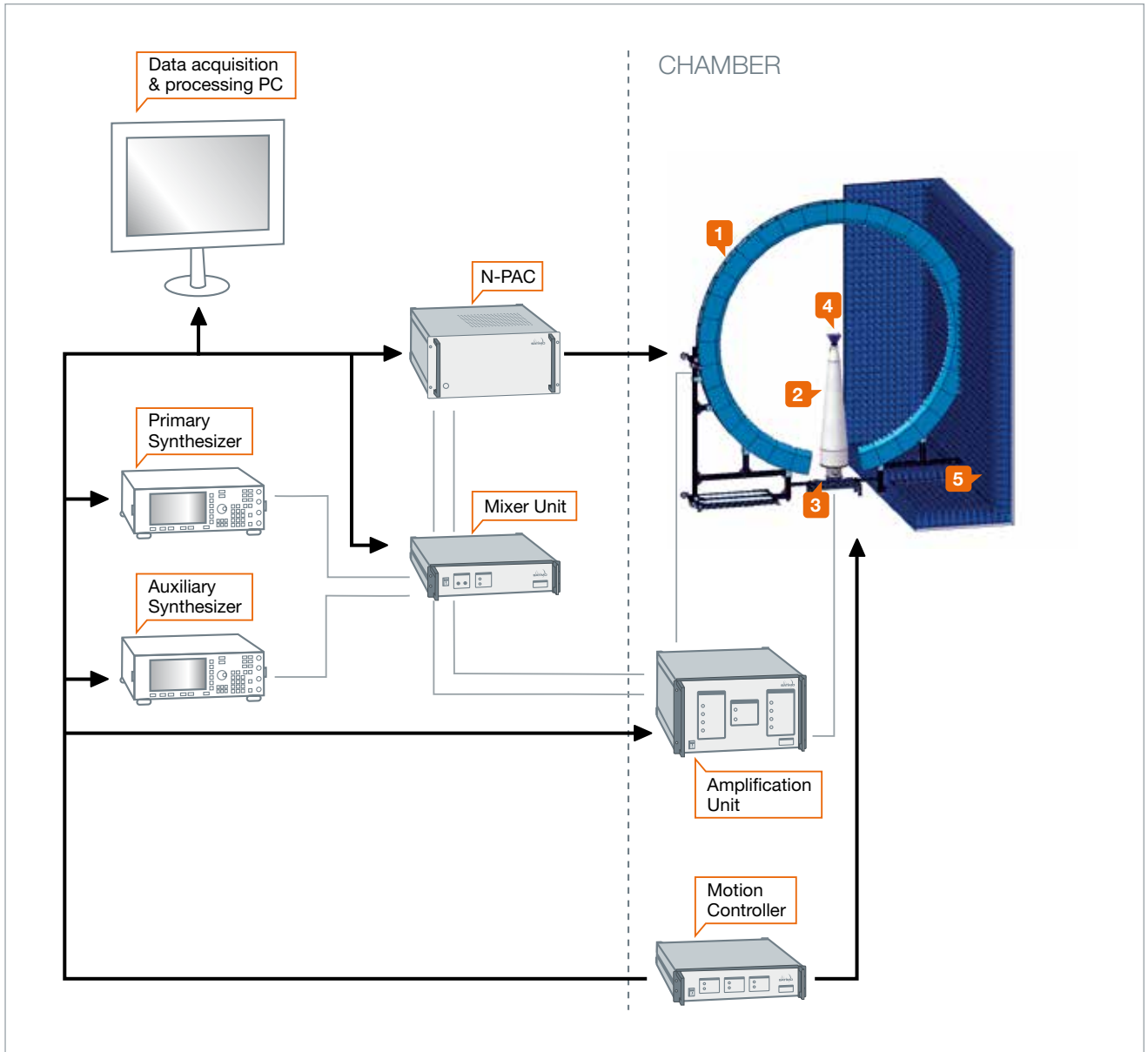
Services

- Installation and calibration
- Warranty
- Project management
- Training
- Post warranty service plans

* See AEMI/Rainford EMC Systems catalogs for more information

■ Included □ Optional ○ Required

System overview



SG 128 is used for antenna measurements. It uses Analog RF Signal Generators to emit from the probe array to the Antenna Under Test or vice versa. It uses the N-PAC as a RF receiver for antenna measurements. The N-PAC

also drives the electronic scanning of the probe array. The Amplification Unit has RF amplifiers for each of the RX and TX channels.

Standard system components



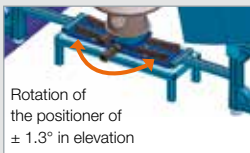
1 Arch

- Other or additional configurations available upon customer request



2 Mast

- 2 masts available according to max. weight of DUT
- Linear antenna mast
- PVC chair
- Laptop interface
- TV mast



Rotation of the positioner of $\pm 1.3^\circ$ in elevation

3 Goniometer

- Goniometers are used to calibrate the system and perform oversampling.
- A choice of goniometers depending on the size of the arch, the max. weight of the DUT and the frequency range



4 Antennas

- A choice of reference antennas (horns, dipoles and loops)

 [MVG antenna catalog](#)



5 Absorbers and anechoic chambers

- A choice of standard, adapted and specialty absorbers
- Anechoic chambers with integrated design, production, installation and testing services

 [AEMI absorber catalog](#)

System specifications*

	SG 128
Measurement time for 11 frequencies**	< 4 min
Typical dynamic range	70 dB

	10 dBi AUT	20 dBi AUT	30 dBi AUT
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PEAK GAIN ACCURACY

0.4 GHz - 0.8 GHz	± 0.7 dB	± 0.6 dB	± 0.5 dB
0.8 GHz - 1 GHz	± 0.5 dB	± 0.5 dB	± 0.5 dB
1 GHz - 6 GHz	± 0.5 dB	± 0.5 dB	± 0.5 dB
Peak gain repeatability	± 0.3 dB	± 0.3 dB	± 0.3 dB

- 10 dB SIDELOBES ACCURACY

0.4 GHz - 0.8 GHz	± 0.8 dB	± 0.5 dB	± 0.4 dB
0.8 GHz - 1 GHz	± 0.7 dB	± 0.5 dB	± 0.4 dB
1 GHz - 6 GHz	± 0.7 dB	± 0.5 dB	± 0.4 dB

- 20 dB SIDELOBES ACCURACY

0.4 GHz - 0.8 GHz	± 2.6 dB	± 0.8 dB	± 0.5 dB
0.8 GHz - 1 GHz	± 2.1 dB	± 0.7 dB	± 0.5 dB
1 GHz - 6 GHz	± 2.1 dB	± 0.7 dB	± 0.5 dB

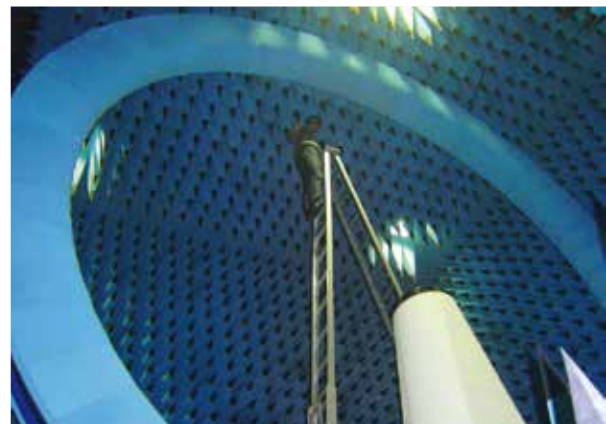
- 30 dB SIDELOBES ACCURACY

0.4 GHz - 0.8 GHz	-	± 2.6 dB	± 0.8 dB
0.8 GHz - 1 GHz	-	± 2.1 dB	± 0.7 dB
1 GHz - 6 GHz	-	± 2.1 dB	± 0.7 dB

* Specifications given according to the following assumptions:

- Controlled temperature and humidity during measurement
- Specifications on radiation pattern are given for a normalized pattern
- Measurements inside an anechoic chamber
- Peak gain is given for a ± 0.3 dB of gain error on the reference antenna
- DUT phase center does not exceed 15 cm from arch center
- Measurement performed with a suitable mast depending on the load and directivity of the DUT

** No oversampling, no averaging



MVG Engineer working on the installation of SG 128

Mechanical characteristics*

SG 128	
Probe array diameter (int/ext)	6.4 m
Shielded anechoic chamber size	10 x 10 x 10 m
Angle between probes	2.61°
Azimuth accuracy	0.02°
Azimuth max. speed	30°/s
Oversampling capability	Yes
AUT max. weight	200 kg

DUT MAX. WEIGHT

Styrofoam mast	50 kg
Ultra rigid mast	200 kg
PVC chair	100 kg
BTS antenna pole mast	200 kg

* Centered load without oversampling

RF equipment characteristics

Number of probes	127 + 1 ref. channel
Frequency range	0.4 GHz to 6 GHz

Maximum diameter of the DUT (m)

FREQUENCY (GHz)	NUMBER OF OVERSAMPLING				
	x 1	x 2	x 3	x 5	x 10
0.4	3.40	3.40	3.40	3.40	3.40
1	4.16	4.16	4.16	4.16	4.16
2	3.29	4.16	4.16	4.16	4.16
3	2.20	4.16	4.16	4.16	4.16
4	1.65	3.29	4.16	4.16	4.16
5	1.32	2.64	3.95	4.16	4.16
6	1.10	2.20	3.29	4.16	4.16

Linear antenna measurement

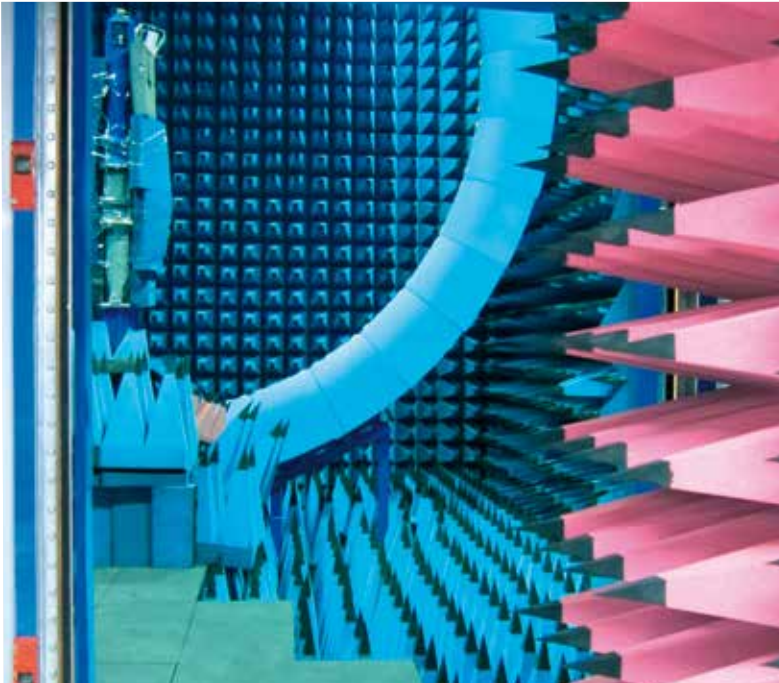
Linear antenna measurement characteristics

SG 128	
Linear antenna measurement capability	Yes
Geometry	Spherical
Linear antenna max Length/Weight	416 cm / 200 kg
Measurement Time for 11 frequencies*	< 4 min

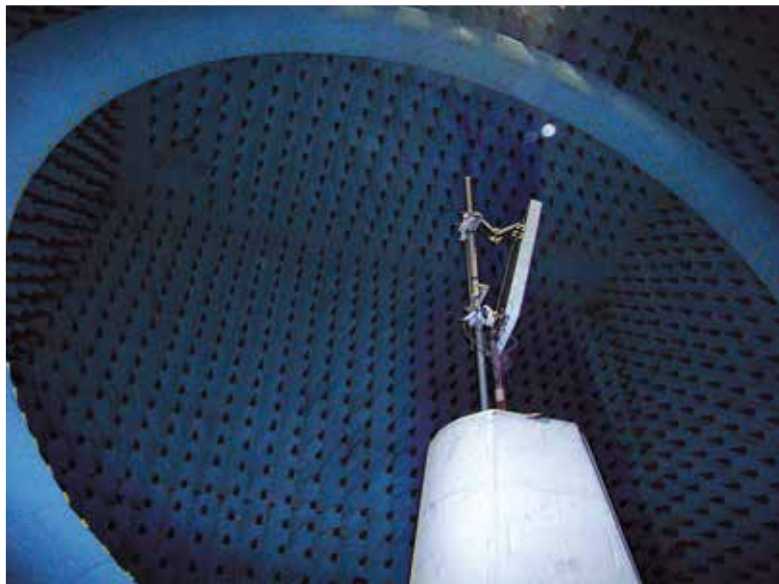
* 1 port (no oversampling, no averaging), Linear antenna of 160 cm at GSM900



SG 128 system



SG 128 in a shielded anechoic chamber size



SG 128 with a DUT