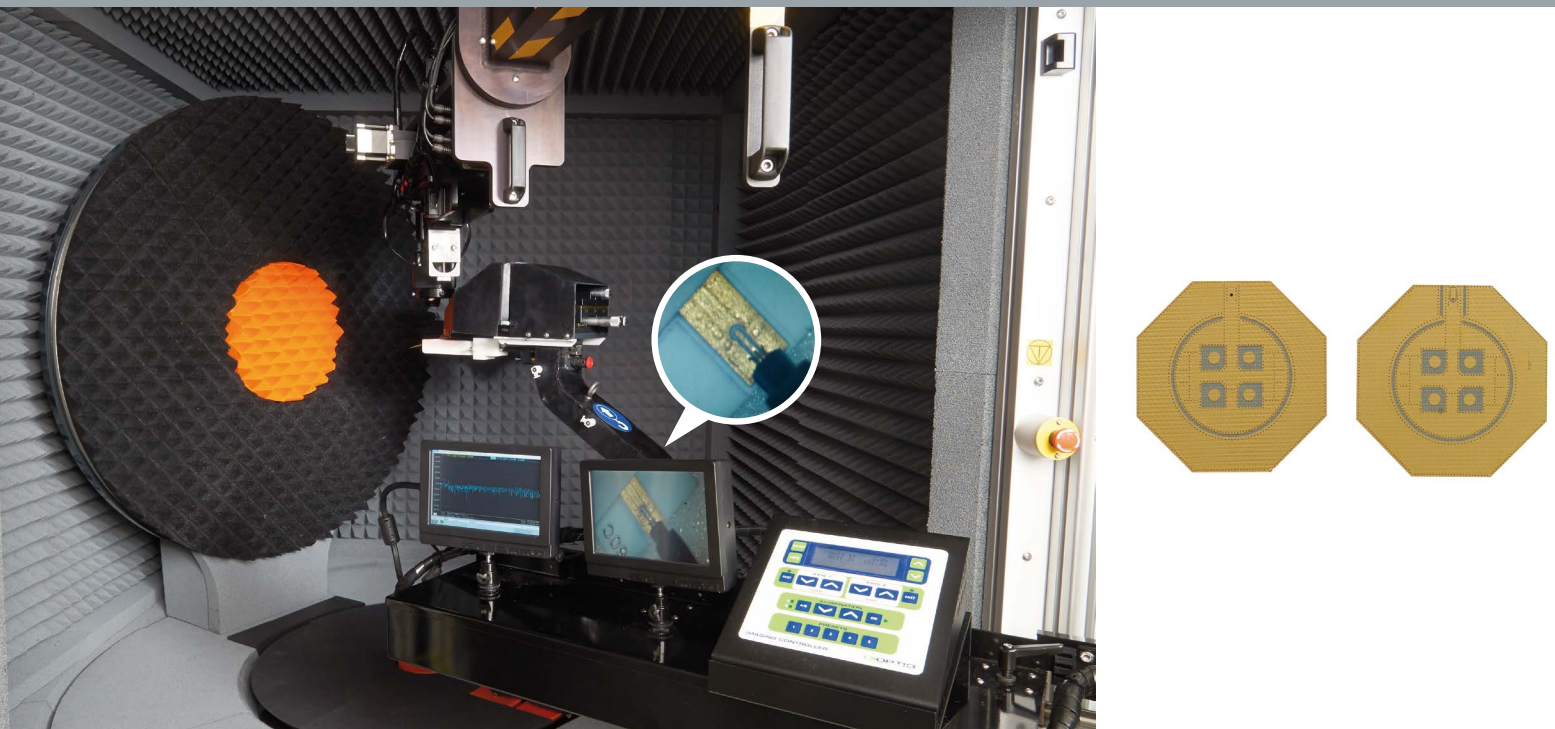


mm-Wave Chip Reference Antennas



SOLUTION FOR

- Millimeter Waves (IEEE 802.11.AD, WiGiG, 5G)
- Gain Reference, Gold Standard
- Micro-probed Chip Antenna Testing
- Far-Field or Spherical Near-Field Test Ranges

Main features

Technical performance

- High stability
- Excellent correlation between measurements and analysis
- High efficiency

Design

- Designed to minimize interaction with micro-probe
- Patented EBG structure to suppress surface wave radiation (only for SGCA-60-U-E)⁽¹⁾
- Compatible with 150 μ m-250 μ m pitch microprobes
- Each antenna comes with a unique Serial Number for traceability

Repeatability

- Hermetic material
- Gold conductors
- High tolerance for temperature variations

Delivered documents

- Typical performance data (TYMEDA™)
- Measured return loss data

Product configuration

Equipment

- Low density foam chucks to hold the chip in μ -Lab

Related services

- Calibration
- Customization

(1) Sievenpiper Electronic Bandgap Structure protected by US patent no. 6,262,495, Canadian patent no. 2323610, Japanese patent no. 3653470

Included Optional



Contact your local sales representative for more information

www.mvg-world.com/mmWaveChip
salesteam@mvg-world.com



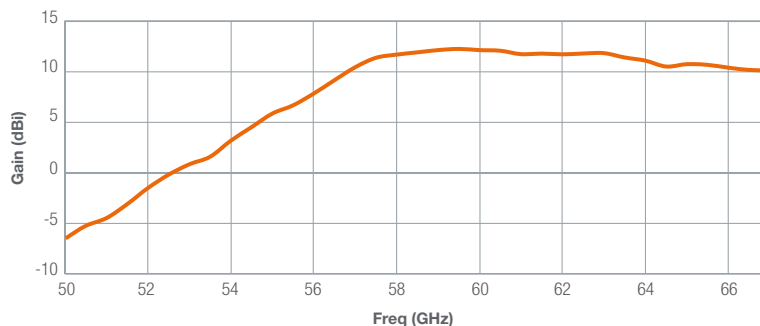


The MVG Chip Reference Antennas have been specifically developed as a reference or “gold” standard antenna for micro-probed antenna measurements. These reference antennas are designed to interface with 150 μm through 250 μm pitch GSG micro-probes, allowing them to be used in MVG-ORBIT/FR’s μ -Lab millimeter wave antenna test chamber, or any other mm-Wave antenna measurement system where a GSG micro-probed antenna reference is needed. These reference antennas have a nominal gain of 12 dBi. Different models are available with two orientations of linear polarization with respect to the micro-probe axis, and either top side or bottom side main beam directions.

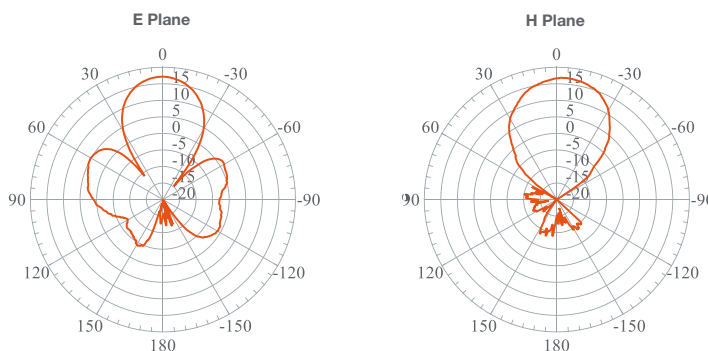
Electrical characteristics

Part number	SGCA-27-U-H	SGCA-27-L-H	SGCA-60-U-E
Type of antenna	2 x 2 Patch Array	2 x 2 Patch Array	2 x 2 Patch Array
Feeding Method	Microprobe 200-250 μm (Probe along H-Plane)	Microprobe 200-250 μm (Probe along H-Plane)	Microprobe 150-250 μm (Probe along H-Plane)
Direction of Main Beam	Zenith (up)	Nadir (down)	Zenith (up)
Frequency range	24.25-29.5 GHz	24.25-29.5 GHz	56-64 GHz
Gain (Nominal)	12 dBi	12 dBi	12 dBi
VSWR (typical)	< 2	< 2	< 2
Return loss (typical)	< -10 dB	< -10 dB	< -10 dB
Polarization	Single linear	Single linear	Single linear
Impedance	50 Ohms	50 Ohms	50 Ohms

Measured Data SGCA-60-U-E



Typical Measured
Boresight Realized Gain



Typical Radiation Patterns
@ 60 GHz

Mechanical characteristics

Part number	SGCA-27-U-H	SGCA-27-L-H	SGCA-60-U-E
Dimensions (H x W x L) [mm]	2.8 x 38.1 x 38.1	2.8 x 38.1 x 38.1	0.63 x 10.9 x 12.2
Connector	Coplanar (GSG)	Coplanar (GSG)	Coplanar (GSG)
Material	PTFE/woven glass	PTFE/woven glass	LTCC (Ceramic) Dupont 9K7 Greentape™
Conductors	Au (Gold)	Au (Gold)	Au (Gold)