HIRSCHMANN MOBILITY

Roof Top Antenna
GNSS +CN1+WiFi/BT

Part Number 920-713-001

A 006 820 39 75

Features

- Screw mounting on metallic ground
- For Cellular networks, GNSS services and WLAN/BT (2.4+5.8 GHz)

Technical Data

Dimensions	133 x 87 x 88 mm
Housing materials	PA 6 black
Weight	227 g
Operations temp. range Storage temp. range	-40 – +85 °C -40 – +90 °C
Protection class	IP 6k9k (acc. ISO 20653)
Connector	GNSS: Fakra male, Code C (Blue) CN: Fakra male, Code D (Bordeaux) WiFi/BT: Fakra male, Code I (Beige)

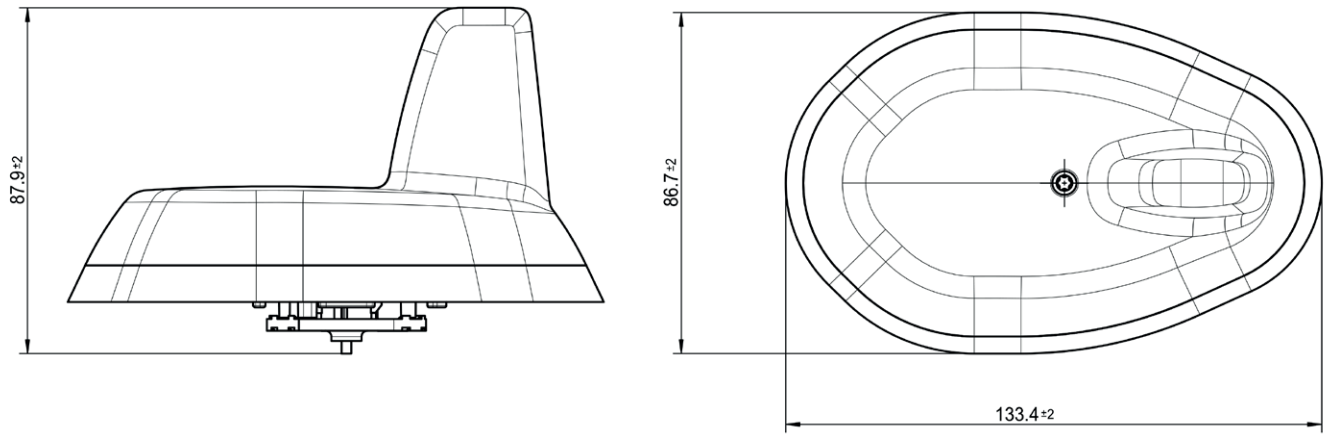
Technical Data

Cellular		
Frequency range		698 - 960 MHz
		1447 - 1511 MHz
		1710 - 2690 MHz
		3300 - 4200 MHz
		4400 - 5000 MHz
Return loss	698 – 960 MHz:	>6 dBi
	1447 - 1511 MHz:	>7 dBi
	1710 - 2690 MHz:	>7 dBi
	3300 - 4200 MHz:	>7 dBi
	4400 - 5000 MHz:	>4.5 dBi
VSWR	698 – 960 MHz:	>2
	1447 - 1511 MHz:	>2
	1710 - 2690 MHz:	>2
	3300 - 4200 MHz:	>2
	4400 - 5000 MHz:	>3
Impedance		50 Ω
Average gain*	698 – 960 MHz:	>-2 dBi
	1447 - 1511 MHz:	>-2 dBi
	1710 - 2690 MHz:	>-2 dBi
	3300 - 4200 MHz:	>-2 dBi
	4400 - 5000 MHz:	>-3 dBi
Peak gain*	698 – 960 MHz:	3.4 dBi
	1447 - 1511 MHz:	4.0 dBi
	1710 - 2690 MHz:	5.0 dBi
	3300 - 4200 MHz:	6.1 dBi
	4400 - 5000 MHz:	5.7 dBi
Radiation efficiency	698 – 960 MHz:	> 40%
	1447 - 1511 MHz:	> 30%
	1710 - 2690 MHz:	> 30%
	3300 - 4200 MHz:	> 40%
	4400 - 5000 MHz:	> 30%
Diagnostic Resistor		10 kΩ
BT/WiFi		
Frequency bands		2400-2480 MHz
		5150-5835 MHz
Return loss		> 7 dB

VSWR		< 2.6
Impedance		50 Ω
Average gain* (0=50-90°)	2400-2480 MHz:	>-2 dBi
	5150-5835 MHz:	>-2 dBi
Peak gain*	2400-2480 MHz:	6.2 dBi
	5150-5835 MHz:	8.2 dBi
Radiation efficiency**	2400-2480 MHz:	> 40%
	5150-5835 MHz:	> 50%
Diagnostic Resistor		10 kΩ
GNSS (GPS, Galileo, GLONASS, Beidou, QZSS)		
Output Return loss		> 10 dB
Output VSWR		< 2
Impedance		50 Ω
Low Noise Amplifier		
Current Consumption	typ.	22 mA
Supply Voltage		3-5.5 V
LNA Gain	typ.	28 dB
Noise Figure		< 2 dB
Out-of-Band Rejection	typ.	40 dB
Passive Antenna		
Polarization		RHCP
Passive Antenna Gain	typ.	3 dBic
Coexistence		
Frequency range		698 - 960 MHz
		1447 - 1511 MHz
		1710 - 2690 MHz
		3300 - 4200 MHz
		4400 - 5000 MHz
		2400 - 2480 MHz
		5150 - 5835 MHz
Isolation CN-BT/WiFi	698 - 960 MHz:	40 dB
	1447 - 1511 MHz:	40 dB
	1710 - 2690 MHz:	40 dB
	3300 - 4200 MHz:	16 dB
	4400 - 5000 MHz:	16 dB
	2400 - 2480 MHz:	36 dB
	5150 - 5835 MHz:	19 dB

* Measured on 1m Groundplane **including Filtering

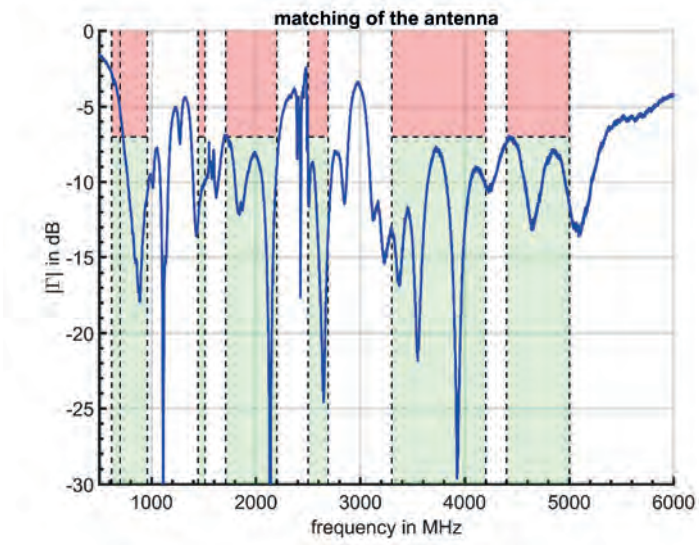
Technical Drawing



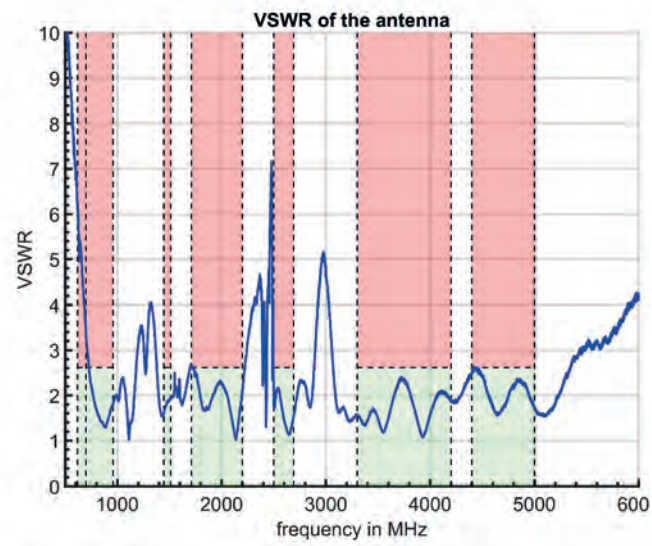
Antenna diagrams

Cellular Network

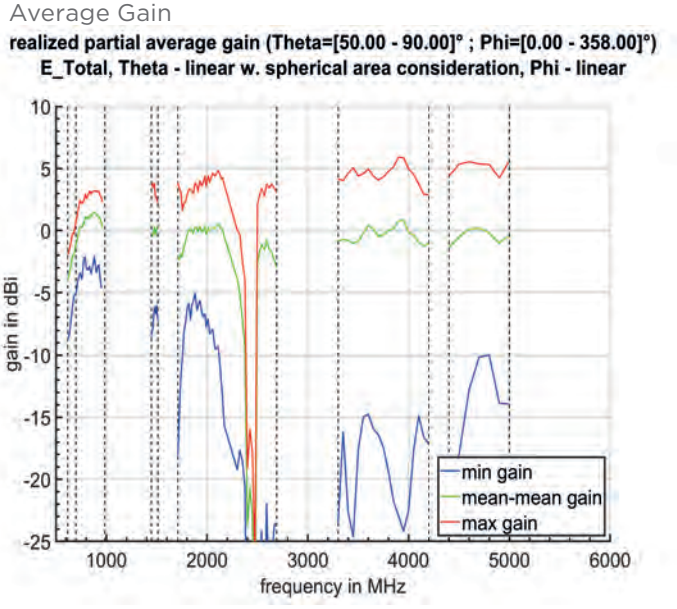
Reflection Coefficient



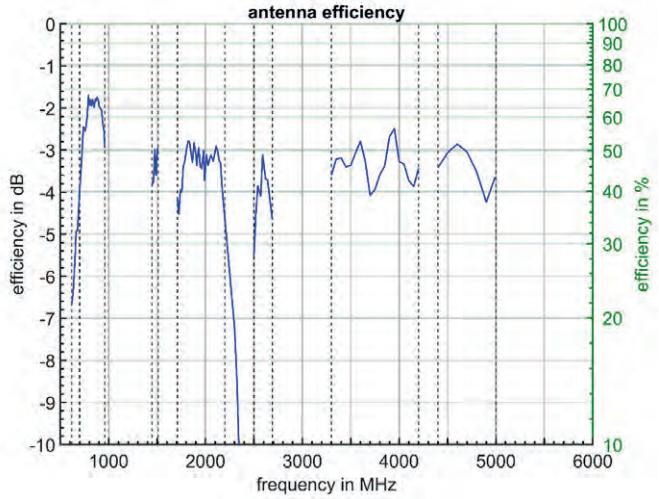
VSWR



Average Gain

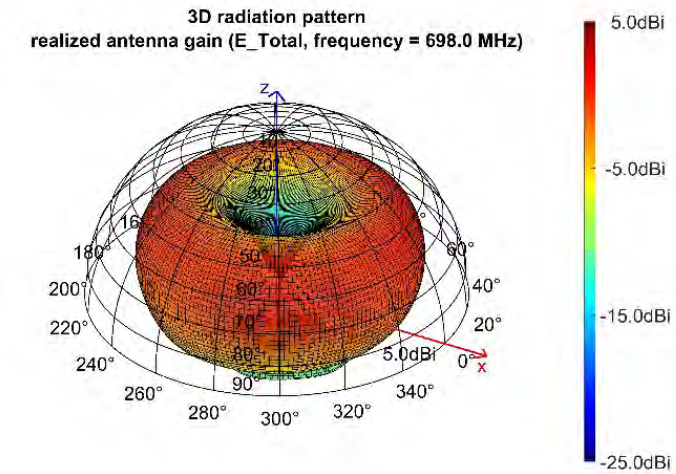


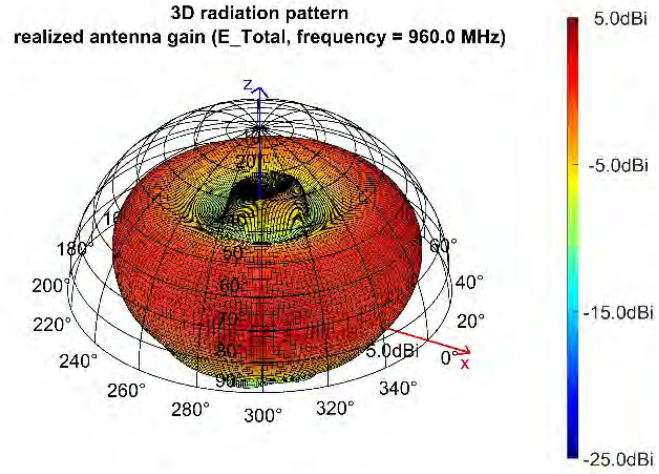
Efficiency (incl. Filtering)

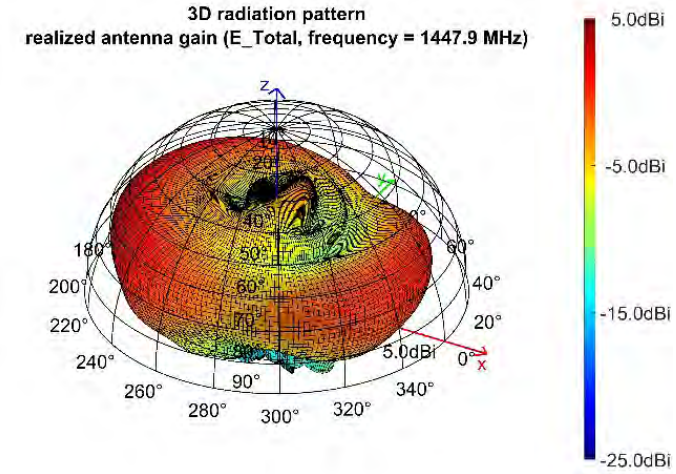


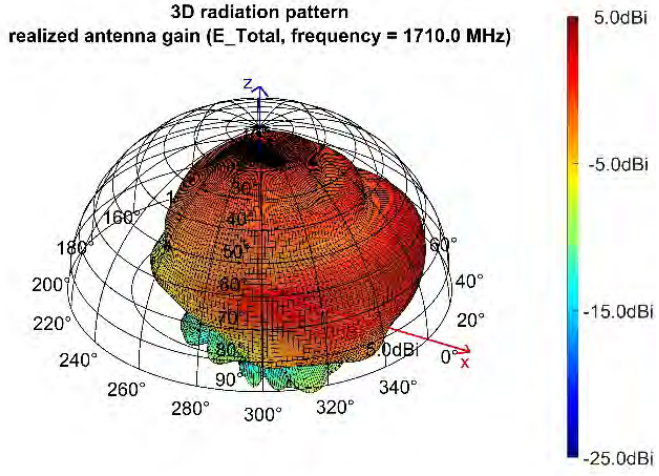
Antenna diagrams
Cellular Network

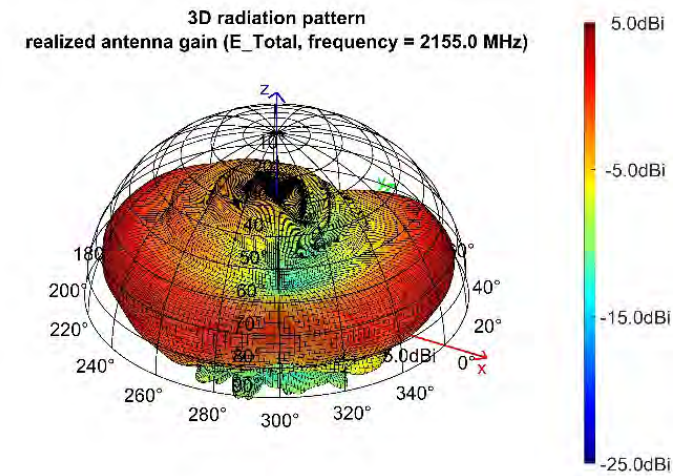
Radiation pattern

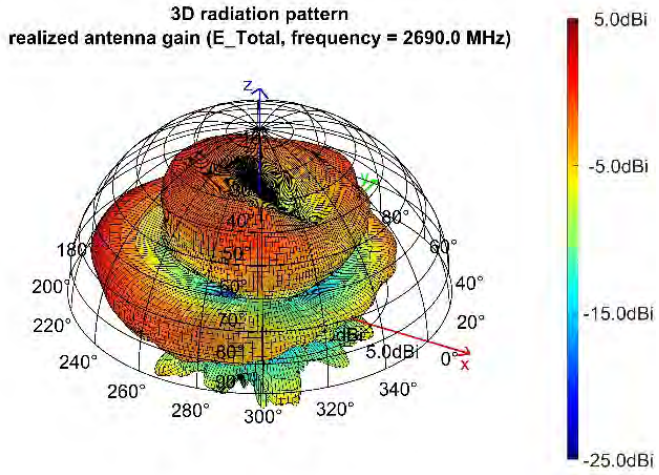






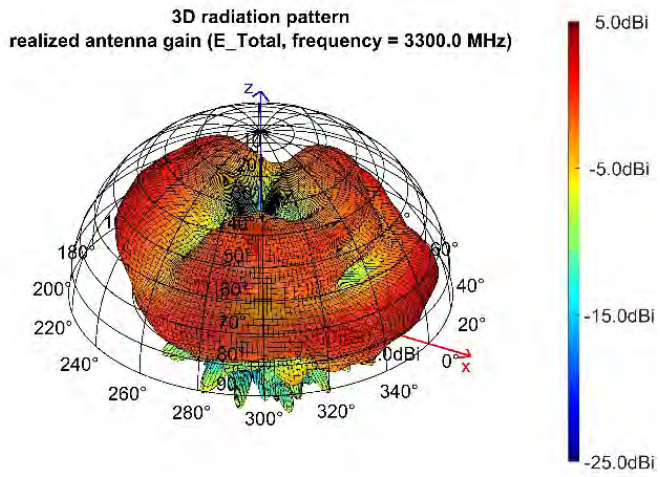


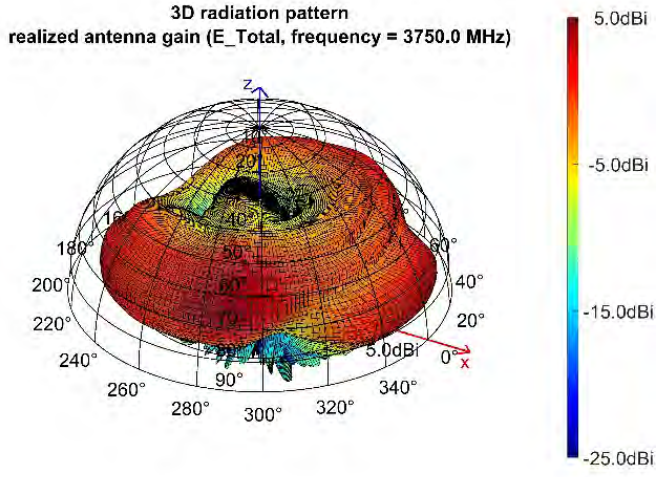


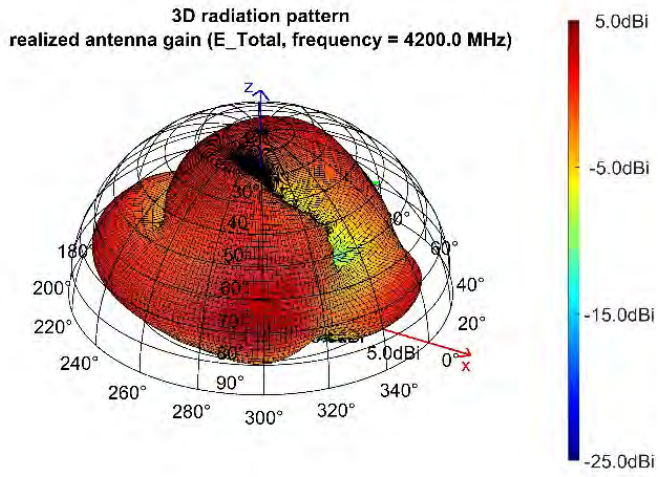


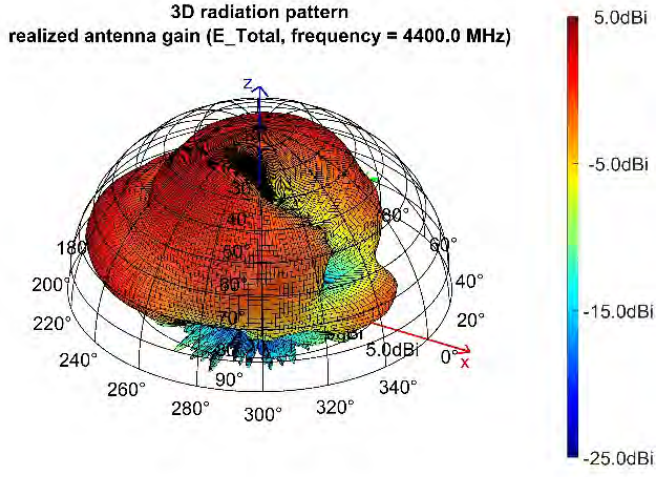
Antenna diagrams
Cellular Network

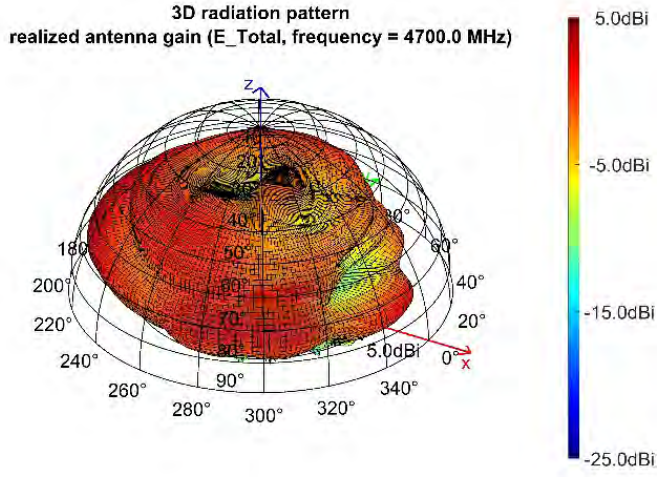
Radiation pattern

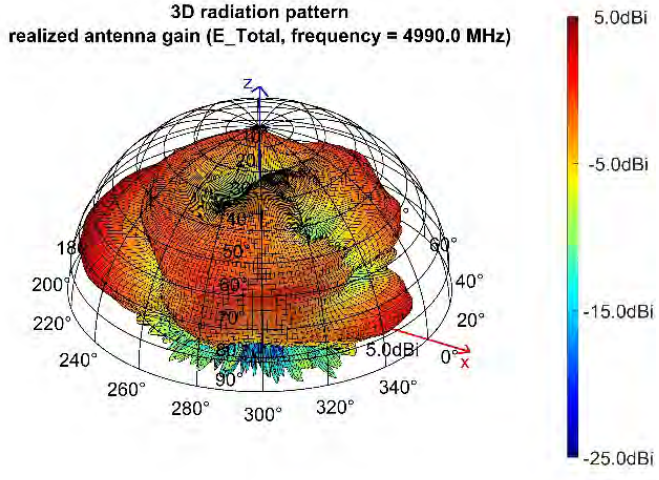






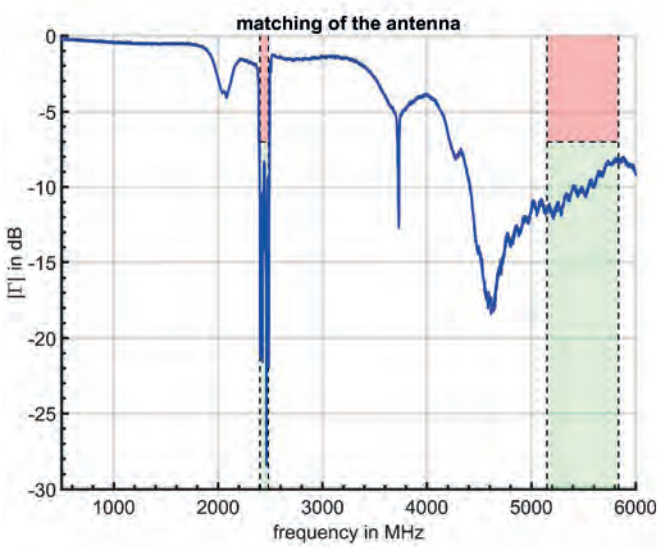




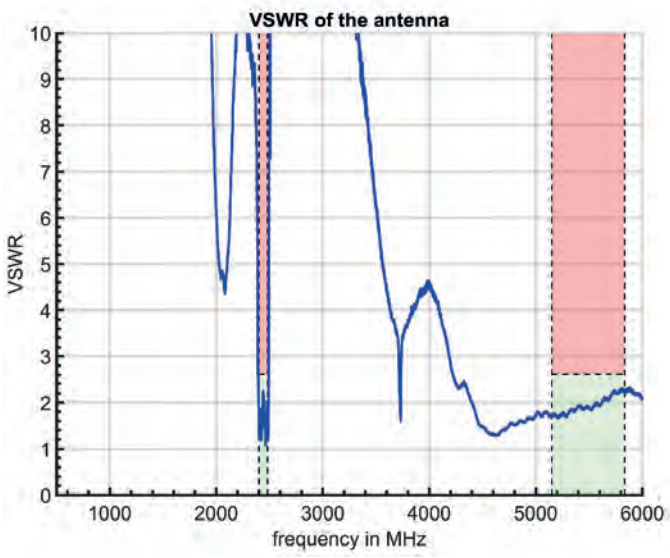


Antenna diagrams
Bluetooth/WiFi

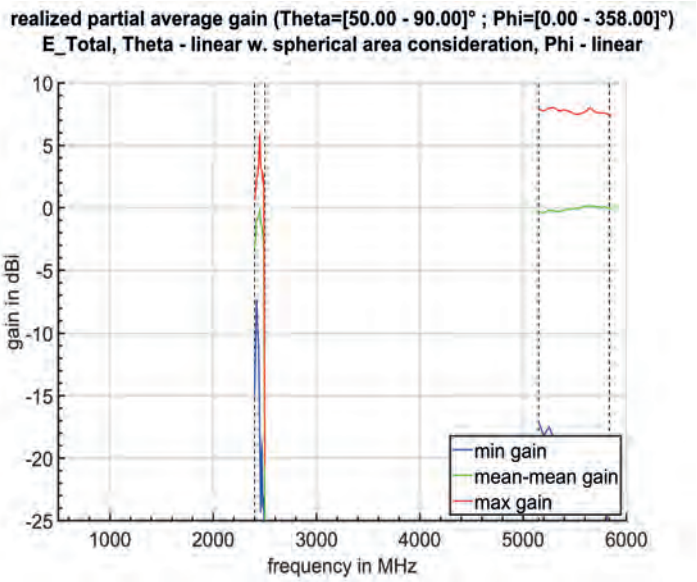
Reflection Coefficient



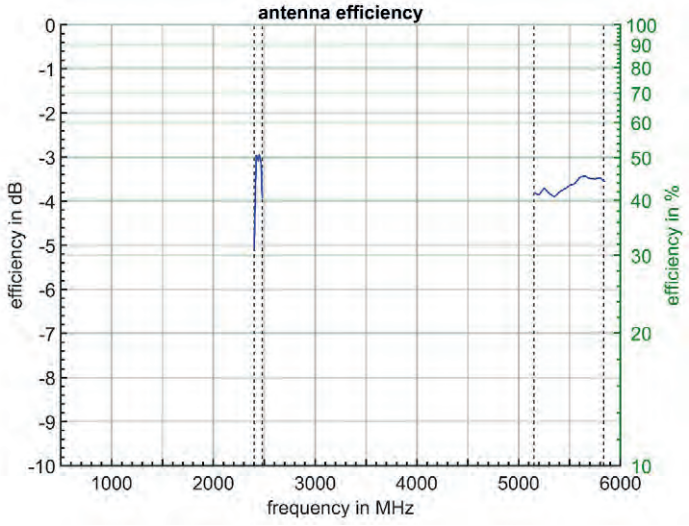
VSWR



Average Gain

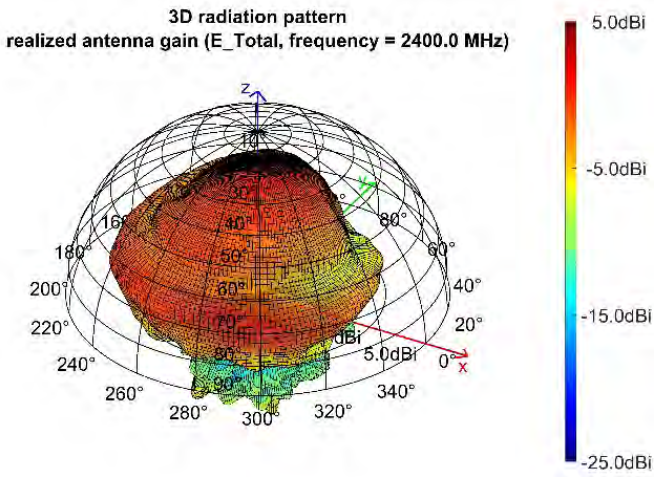


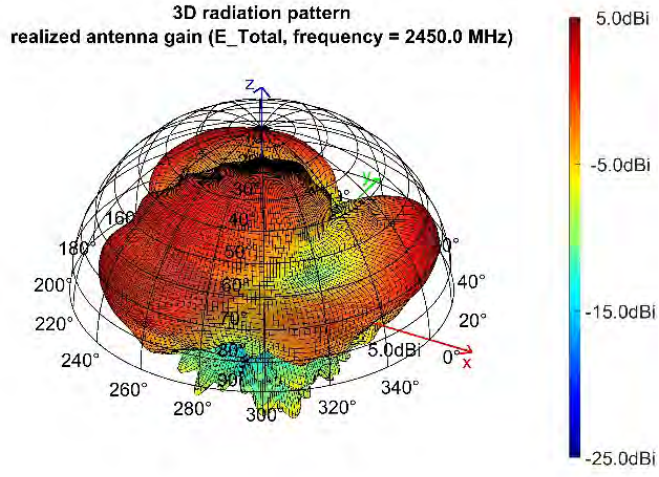
Efficiency (incl. Filtering)

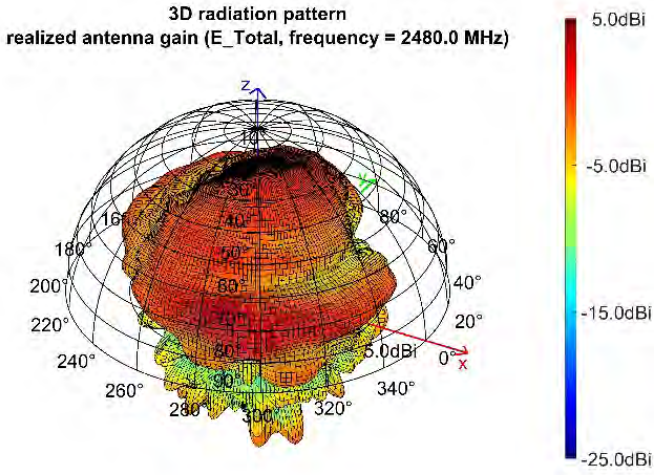


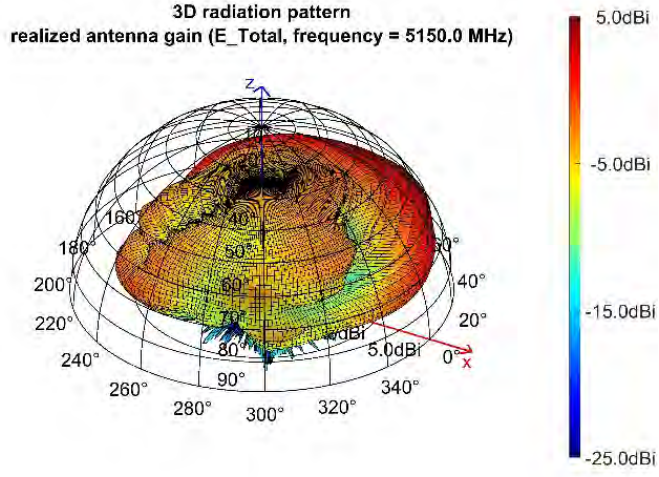
Antenna diagrams
Bluetooth/WiFi

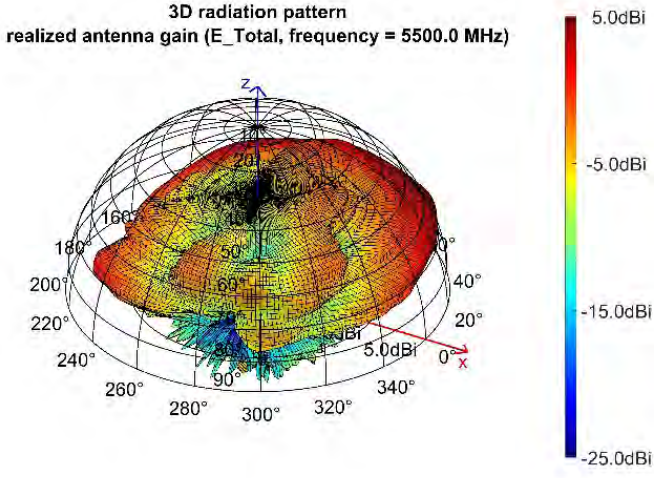
Radiation pattern

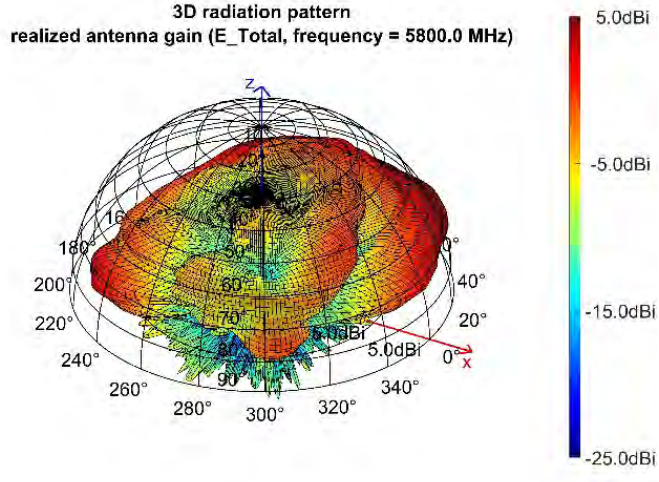






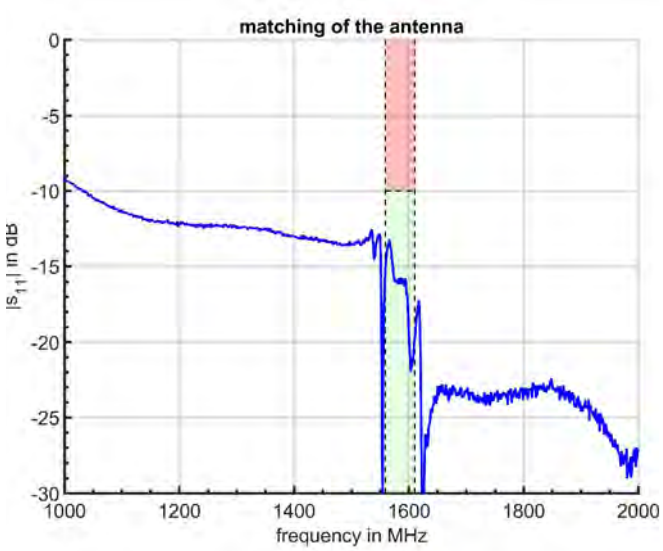




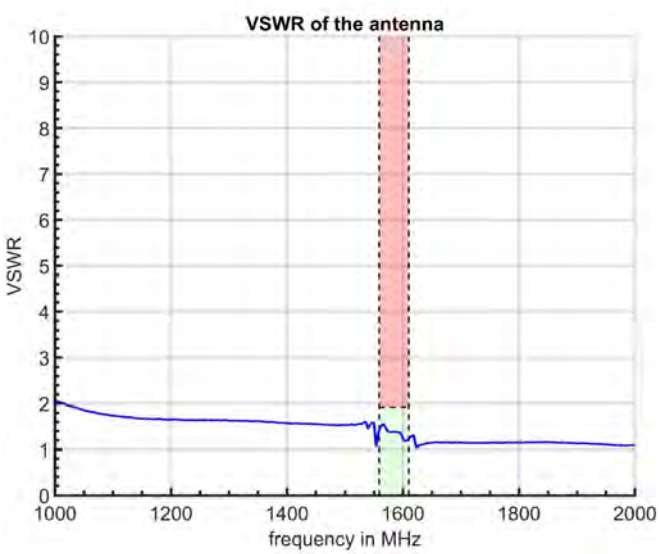


Antenna diagrams
GNSS

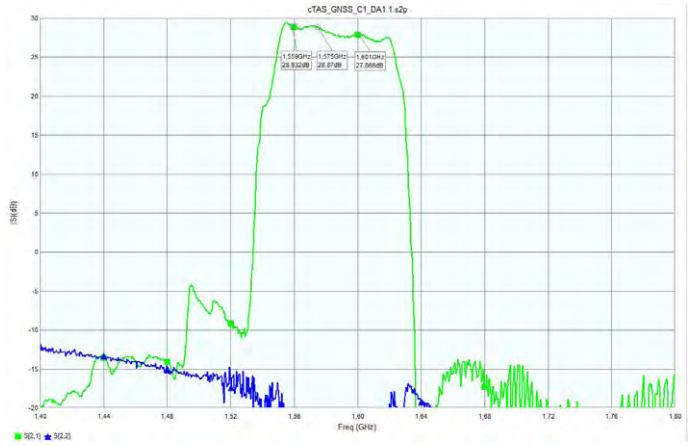
Output Reflection Coefficient



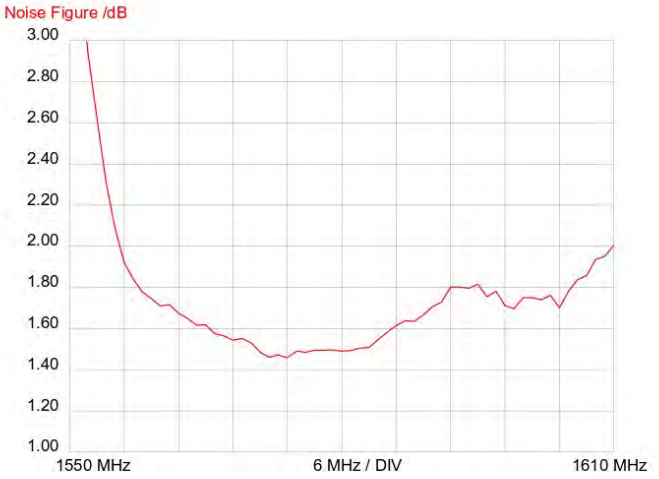
Output VSWR



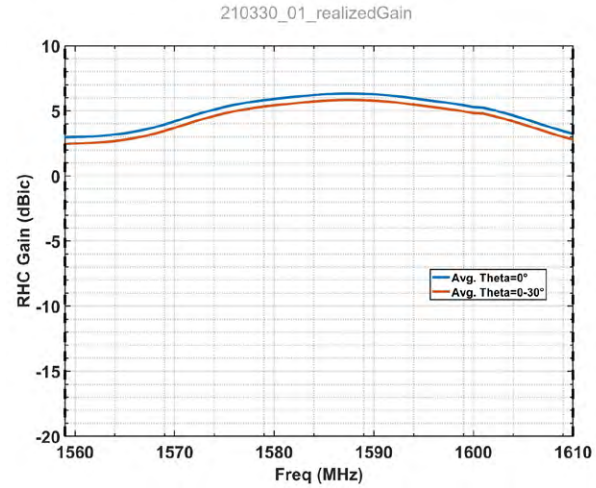
LNA Gain



LNA Noise Figure

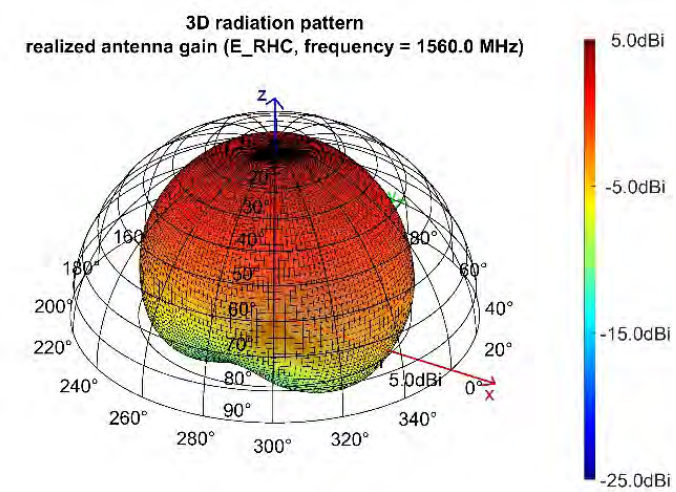


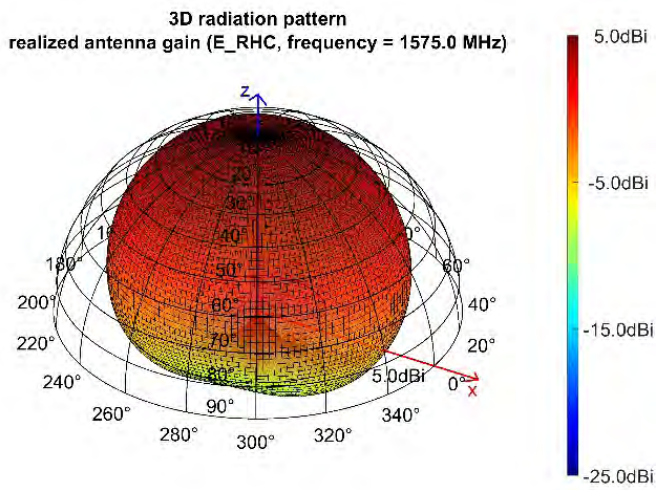
Passive Antenna Gain

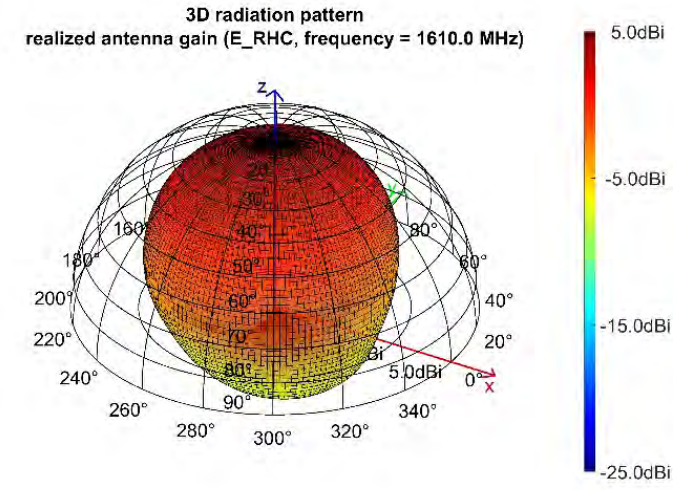


Antenna diagrams
GNSS

Passive Patch Antenna Radiation Pattern*

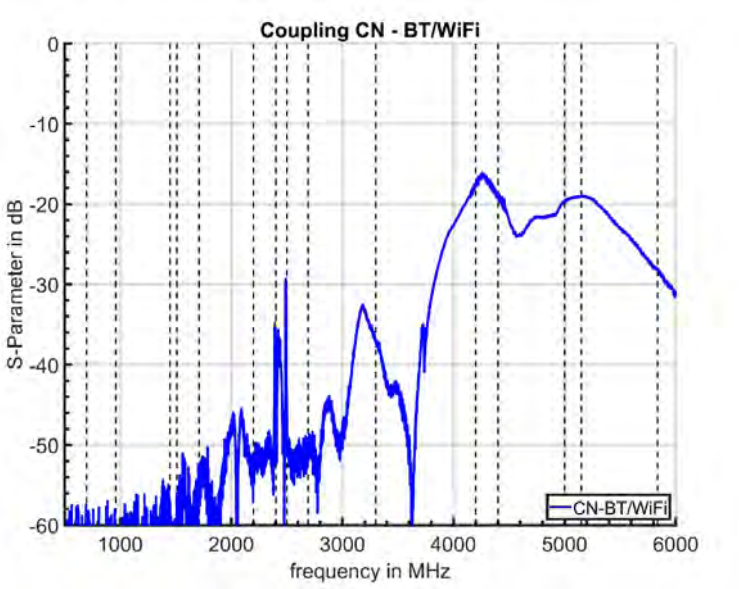






*Measured on 150mm Groundplane

Antenna diagrams
Coexistence CN-BT/WiFi



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