



Part No. X9000984-4GDSMB

External Hinged EU 4G / LTE Antenna

790 - 960 MHz / 1710 - 2690 MHz

Supports: LTE Cat 1, LTE-M, SigFox, LoRa, NB-IoT, M2M applications, IoT Gateways, Routers, Access Points, Cellular LPWAN



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KYOCERA AVX' series of External antennas deliver on the key needs of device designers for higher functionality and performance in access points. Small form factor and simple implementation, ideal to offer outdoor areas coverage. This antenna designed with high performance for 4G LTE application, it can be easily mounted via SMA or RP-SMA.

Extensive RF Experience

Our external antennas are supported by documentation, and when needed, by the expertise of RF engineers who have integrated hundreds of antenna designs into wireless devices.

KEY BENEFITS

Quicker Time-to-Market

Standard part means fewer design changes. Simple implementation, and Easy Assembly using RP-SMA or SMA

Best in Class Performance

External antennas are designed to maintain high efficiency in a variety of device configurations

Superior Network Coverage

Better network coverage means more reliable wireless connections

RoHS Compliant

Products are the latest RoHS version compliant.

APPLICATIONS

- Gateways
- Telematics
- Smart metering
- Home automation
- Smart city
- Structural health monitoring
- Predictive maintenance

Electrical Specifications

Measured in Free Space in 90° bent position and with 200 x 200 mm PCB

Frequency (MHz)	Free Space		With 200 x 200 mm PCB	
	790-960	1710-2690	790-960	1710-2690
Return Loss	<-4 dB	<-6 dB	<-5 dB	<-6 dB
Efficiency	> 40%	> 60%	> 40%	
Peak Gain	2.2 dBi	3.8 dBi	3.4 dBi	4.7 dBi
Impedance	50 ohm			

Mechanical Specifications & Ordering Part Number

Ordering Part Number	X9000984-4GDSMB
Dimensions (mm)	196.00 ± 3.00 height (straight position) 6.00 ± 0.10 diameter
Connector Type	SMA Male
Weight (grams)	23.20
Hinge	Foldable 90 degrees at the hinge level
Color	Black
Radome Material	TPEE
Working Temperature (°C)	-40 to +120

EU 4G / LTE External antenna specifications
 KYOCERA AVX produces a wide variety of standard and custom antennas to meet user needs.

LTE Bands Covered by X9000984-4GDSMB

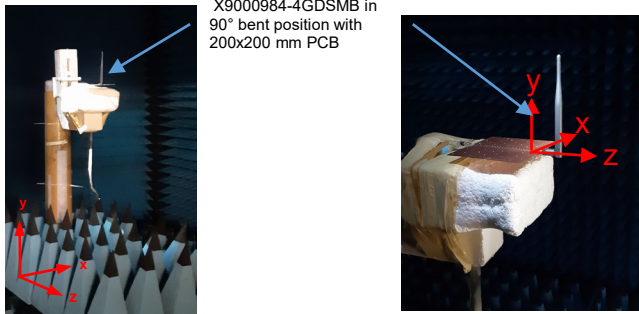
LTE Band	Frequency Band (MHz)	Uplink (UL) (MHz)	Downlink (DL) (MHz)	Region	Covered in Free Space	Covered With PCB
1	2100	1920 - 1980	2110 - 2170	Global	Yes	Yes
2	1900	1850 - 1910	1930 - 1990	NAM		
3	1800	1710 - 1785	1805 - 1880	Global		
4	1700	1710 - 1755	2110 - 2155	NAM		
5	850	824 - 849	869 - 894	NAM		
6	850	830 - 840	875 - 885	APAC		
7	2600	2500 - 2570	2620 - 2690	EMEA		
8	900	880 - 915	925 - 960	Global		
9	1800	1749.9 - 1784.9	1844.9 - 1879.9	APAC		
10	1700	1710 - 1770	2110 - 2170	NAM		
11	1500	1427.9 - 1447.9	1475.9 - 1495.9	Japan		
12	700	699 - 716	729 - 746	NAM	No	No
13	700	777 - 787	746 - 756	NAM		
14	700	788 - 798	758 - 768	NAM		
17	700	704 - 716	734 - 746	NAM		
18	850	815 - 830	860 - 875	Japan		
19	850	830 - 845	875 - 890	Japan	Yes	Yes
20	800	832 - 862	791 - 821	EMEA	No	No
21	1500	1447.9 - 1462.9	1495.9 - 1510.9	Japan		
22	3500	3410 - 3490	3510 - 3590	EMEA	Yes	Yes
23	2000	2000 - 2020	2180 - 2200	NAM		
24	1600	1626.5 - 1660.5	1525 - 1559	NAM	No	No
25	1900	1850 - 1915	1930 - 1995	NAM	Yes	Yes
26	850	814 - 849	859 - 894	NAM		
27	850	807 - 824	852 - 869	NAM		
28	700	703 - 748	758 - 803	APAC,EU	No	No
29	700	N/A	717 - 728	NAM		
30	2300	2305 - 23151	2350 - 2360	NAM	Yes	Yes
31	450	452.5 - 457.5	462.5 - 467.5	Global	No	No
32	1500	N/A	1452 - 1496	EMEA		
33	1900	1900 - 1920			Yes	Yes
34	2000	2010 - 2025				
35	1850	1850 - 1910				
36	1900	1930 - 1990				
37	1900	1910 - 1930				
38	2600	2570 - 2620				
39	1900	1880 - 1920				
40	2300	2300 - 2400				
41	2500	2496 - 2690				
42	3500	3400 - 3600				
43	3700	3600 - 3800				

NAM: North America, EMEA: Europe, Middle East, and Africa, APAC: Asia-Pacific, EU: Europe

EU 4G / LTE External antenna specifications
 KYOCERA AVX produces a wide variety of standard and custom antennas to meet user needs

Return loss, Efficiency and peak Gain Plots

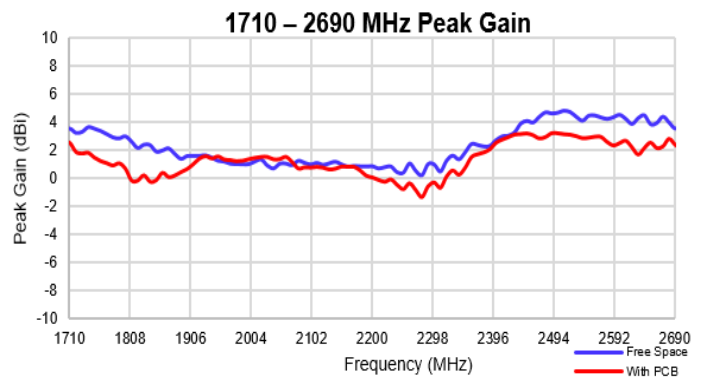
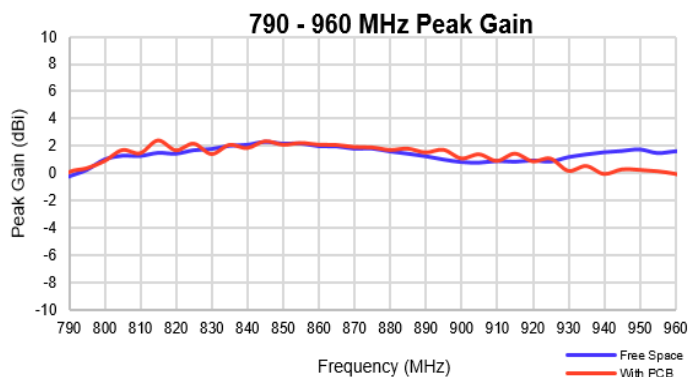
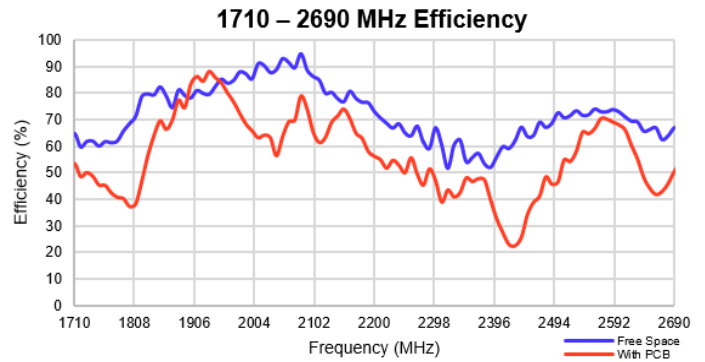
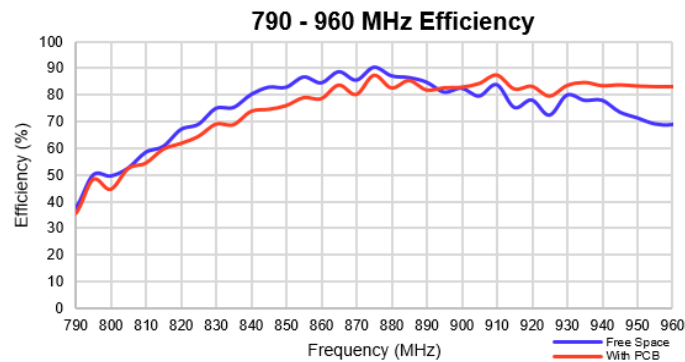
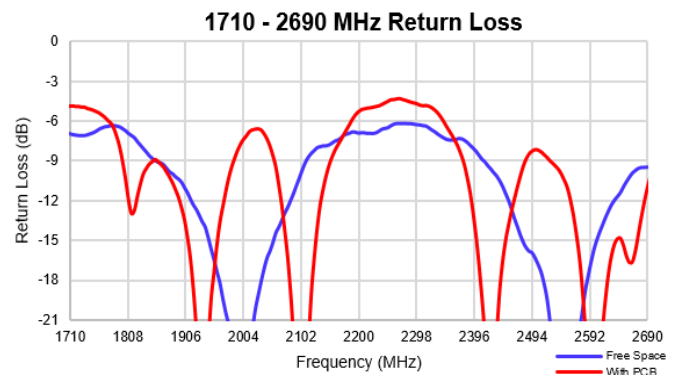
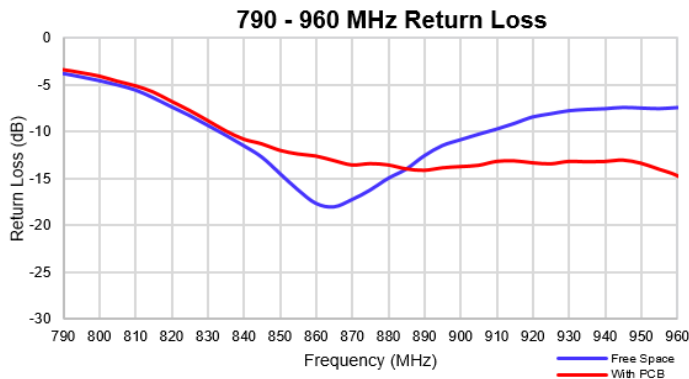
Typical Performance, measured in Free Space and with 200 x 200 mm PCB



Antenna measured with PCB



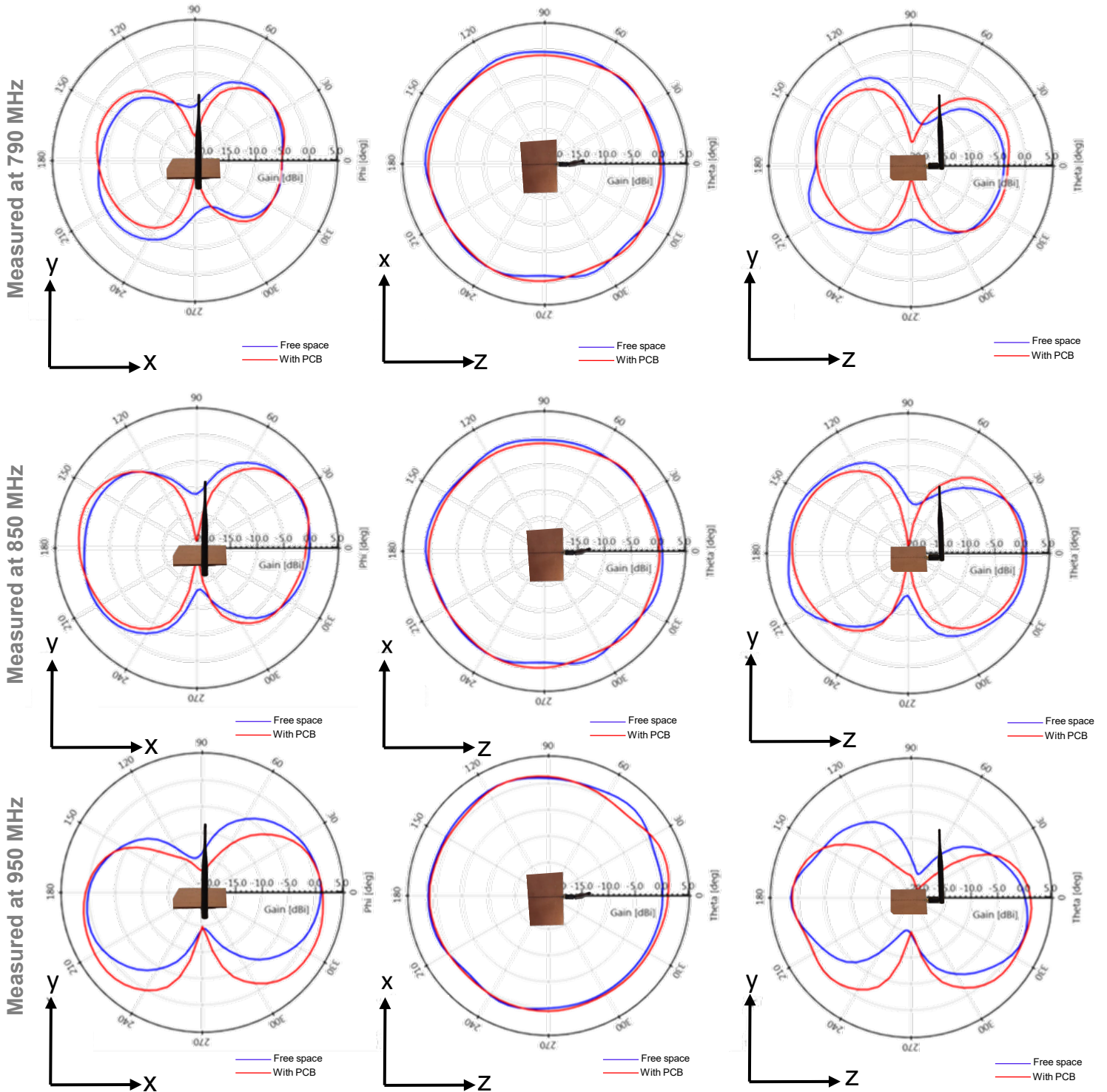
Antenna measured in Free Space



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Radiation pattern Plots

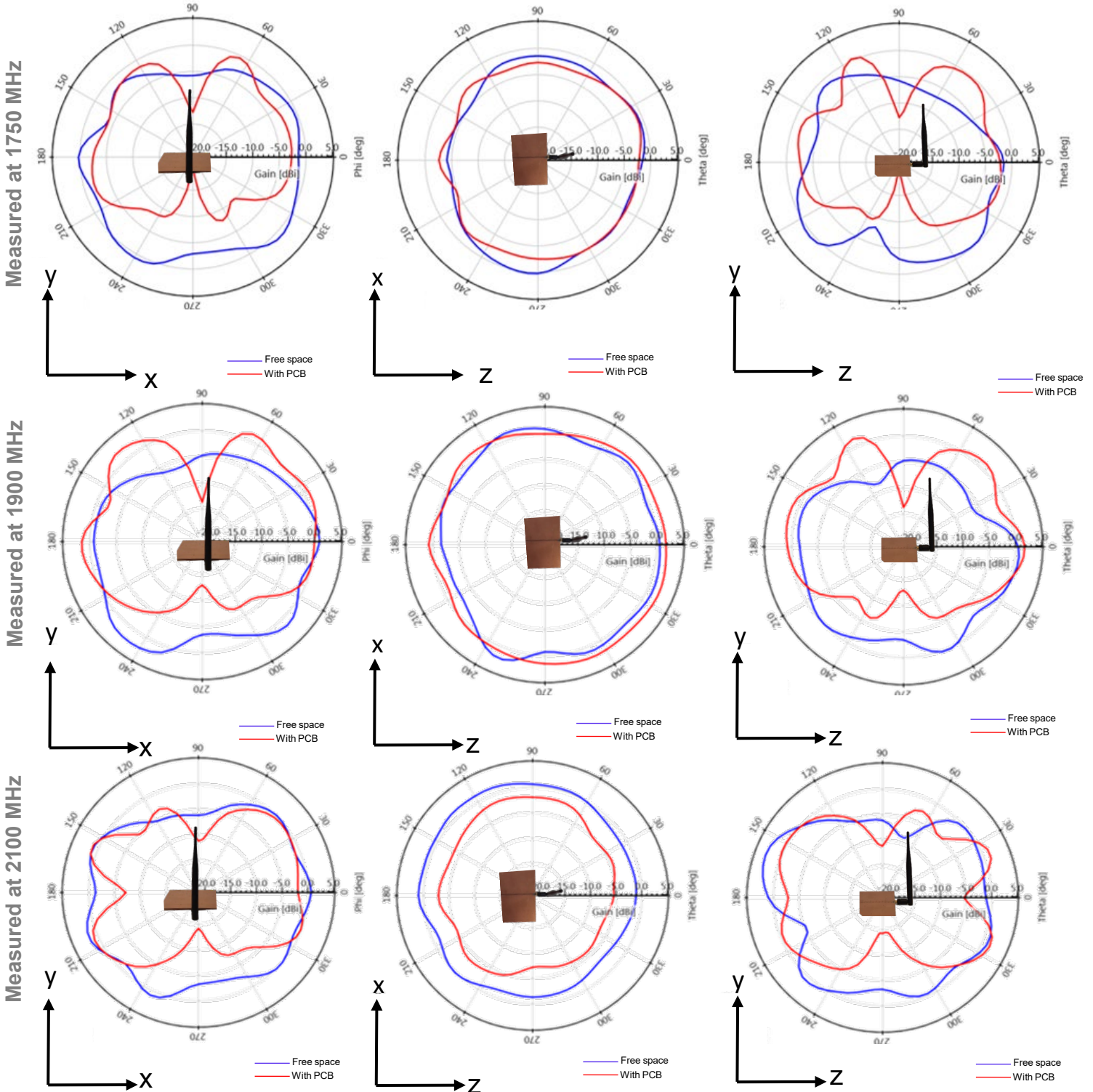
Typical performance measured in Free space and with 200 x 200 mm PCB in 90° bent position
 Measured at 790, 850, 950 MHz



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Radiation pattern Plots

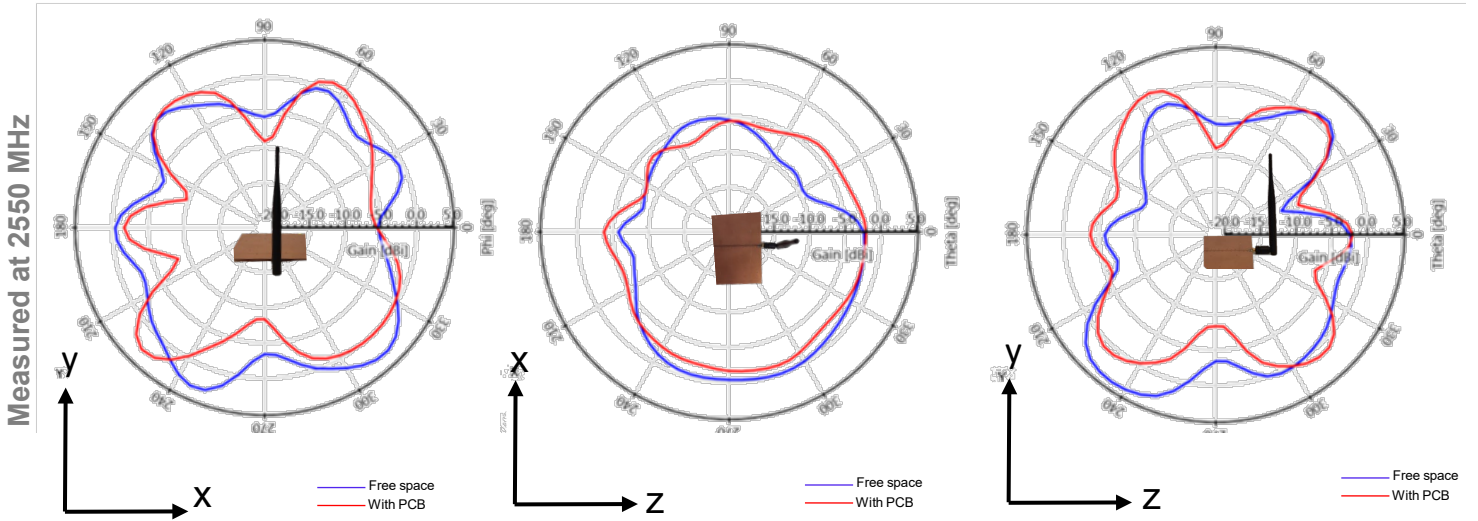
Typical performance measured in Free Space, and with 200 x 200 mm PCB in 90° bent position
 Measured at 1750, 1900, 2100 MHz



4G / LTE External antenna specifications
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Radiation pattern Plots

Typical performance measured in Free Space and with 200 x 200 mm PCB, in 90° bent position
 Measured at 2550 MHz

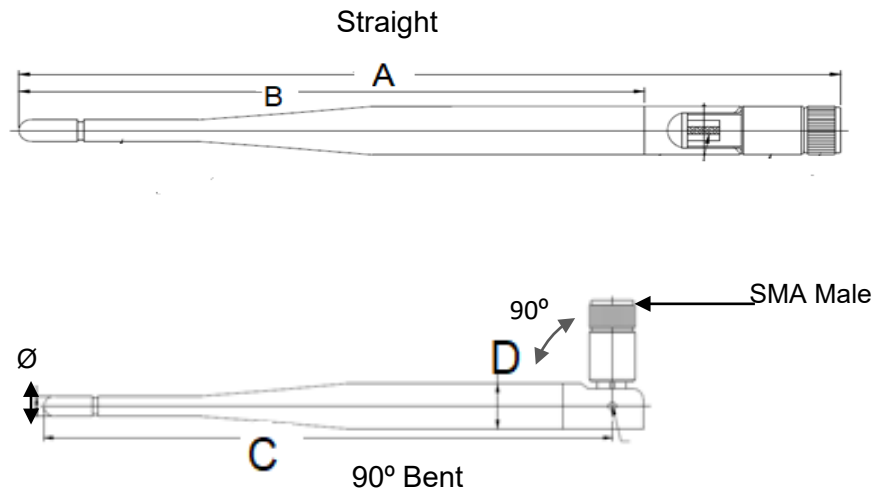


4G / LTE External antenna specifications
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Mechanical Specifications

Typical antenna dimensions in mm

Part Number	A (mm)	B (mm)	C (mm)	D (mm)	Ø (mm)	Connector	Color
X9000984-4GDSMB	196.0 ± 3.0	154.0 ± 0.2	165.0 ± 2.0	13.0 ± 0.1	6.0 ± 0.1	SMA Male	Black



Generic Antenna Part Numbers

KYOCERA AVX produces a wide variety of standard and custom antennas to meet user needs. Below are the generic standard antenna part numbers for 4G/LTE.

Example of generic PN: X9000984-4GDSMB

PN Nomenclature

X	9000984	4G	D	S	M	B
T	T	T	T	T	T	T
Series	Part number	Freq.of operation	Mounting type	Connector	Type	Color
X = External		4G = 4G/ LTE	D = Direct	S = SMA R = RP- SMA	M = Male	B = Black W = White

Typical Ordering Part Numbers

Part Number	Type	Frequency	Mounting Options	Connector Type	Color
X9000984-4GDSMB	External	4G / LTE	Direct	SMA Male	Black
X9000984-4GDSMW					White
X9000984-4GDRMB				RP- SMA Male	Black
X9000984-4GDRMW					White