

# Part No. 1004112

## Broadband External LTE / Cellular Antenna

700 / 750 / 850 / 900 / 1800 / 1900 / 2100 / 2700 MHz

Supports: Broadband LTE (OCTA-BAND), LTE CAT-M, NB-IoT, SigFox, LoRa, Cellular LPWA, RPMA, Firstnet



### High Performance External LTE/Cellular Antenna

Low Band : 698-960 MHz

High Band: 1710-2155 MHz

High High Band: 2500-2700 MHz

#### KEY BENEFITS

##### Greater Flexibility

Different connector options upon request. Small form factor and low profile. Independent of ground, the performances are maintained across design.

##### Quicker Time-to-Market

Standard antenna eliminates design fees, redesign cycle time and minimize risk associated with a customer solution. Quicker time to market.

##### Reliability

Comply with latest RoHS requirements

#### APPLICATIONS

- Medical applications
- Home automation
- Smart metering
- M2M, Industrial devices
- IoT
- Firstnet
- Automotive applications
- Healthcare Point of Sale
- Tracking
- NB-IoT
- Sigfox
- LoRa
- Cellular LPWA
- RPMA
- LTE CAT-M

KYOCERA AVX 1004112 antenna is designed to offer the best performances across LTE frequencies, regardless of the ground it is connected to. Its hinged connector and low profile design allows for diverse integration and functionality. Please refer to ordering guide for connector selection.

The 1004112 broadband antenna offers full coverage for LTE bands 2, 4, 5, 7, 8, 12, 13, 14, 17, 25, 26 among others. KYOCERA AVX antennas are versatile easy plug and play solutions for any major network carriers.

#### Electrical Specifications

Measured in Free space

Frequency (MHz)	690-960	1710-2200	2500-2700
VSWR Match	< 2.5:1	< 2.5:1	< 2.5:1
Average Efficiency	65%	60%	78%
Peak Gain	1.18 dBi	4.5 dBi	4.0 dBi
Polarization	Linear		
Feed Point Impedance	50 Ω unbalanced		

#### Mechanical Specifications & Ordering Part Number

Ordering Part #	1004112-A001	1004112-B002	1004112-C003
Dimensions (mm)	218.2 x 27.2 x 13.8	227.1 x 27.2 x 14.5	218.2 x 27.2 x 13.8
Mounting Type	External	External	External
Connector Type	SMA (MALE) 90° Hinged	TNC (MALE) 90° Hinged	SMA (MALE) 90° Hinged
Antenna Color	White	Black	Black
Weight (grams)	31.5	43.2	31.5
Operating Temperature (°C)	-30 to +70		
Max Power Handling (W)	5		

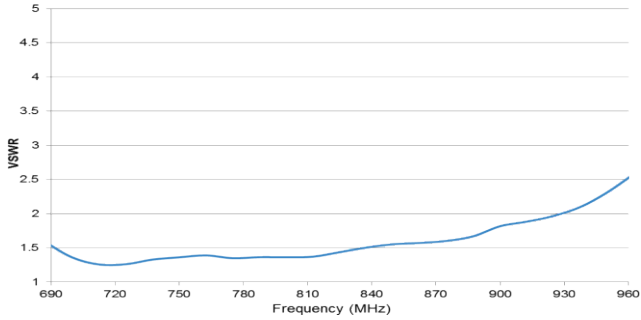
\*Additional variations available in different colors and connectors

**1004112 External LTE / Cellular performances**  
 KYOCERA AVX produces a wide variety of standard and custom antennas to meet user needs.

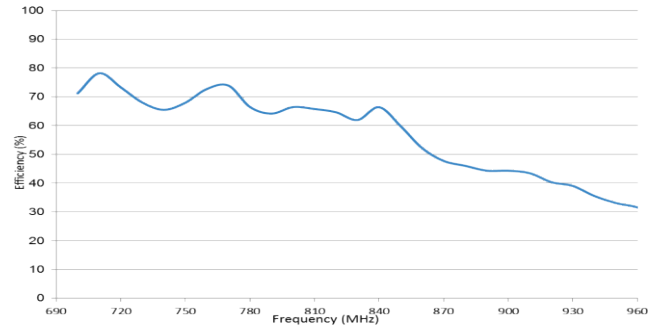
**VSWR and Efficiency**

Typical performance, measured in free space

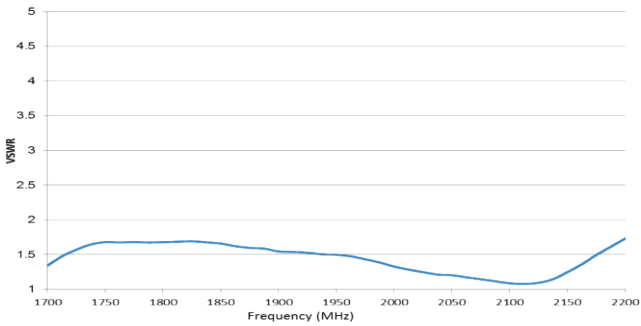
**Low Band VSWR**



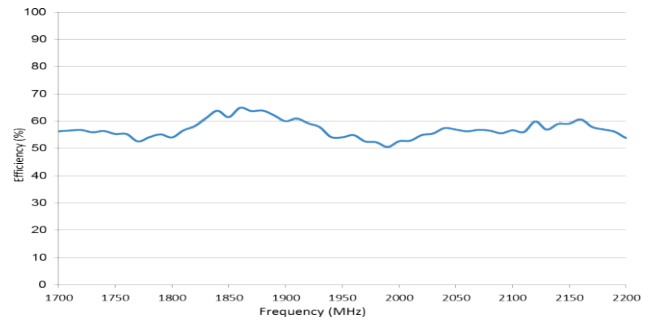
**Low Band Efficiency**



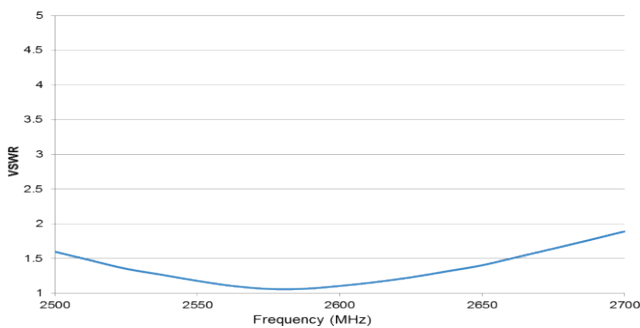
**High Band VSWR**



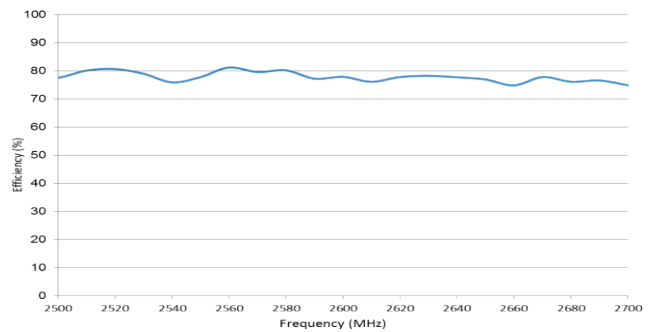
**High Band Efficiency**



**High High Band VSWR**



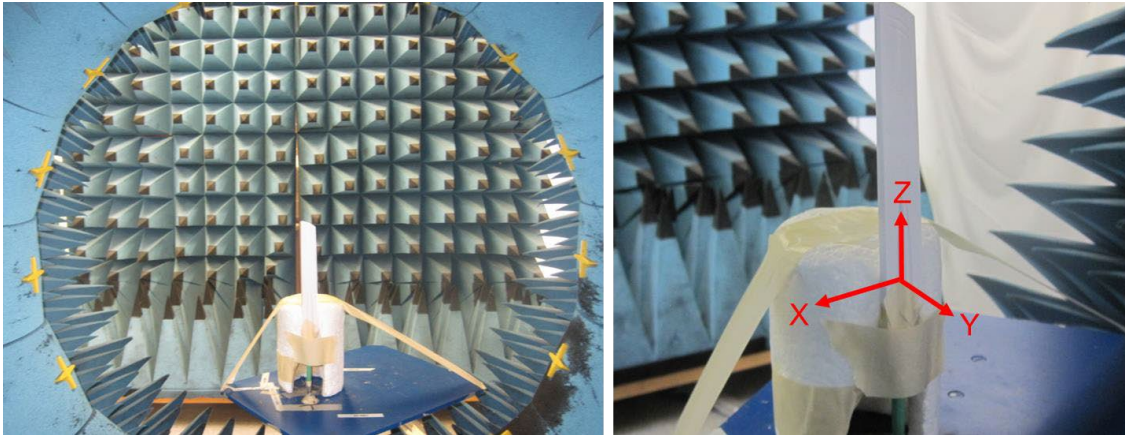
**High High Band Efficiency**



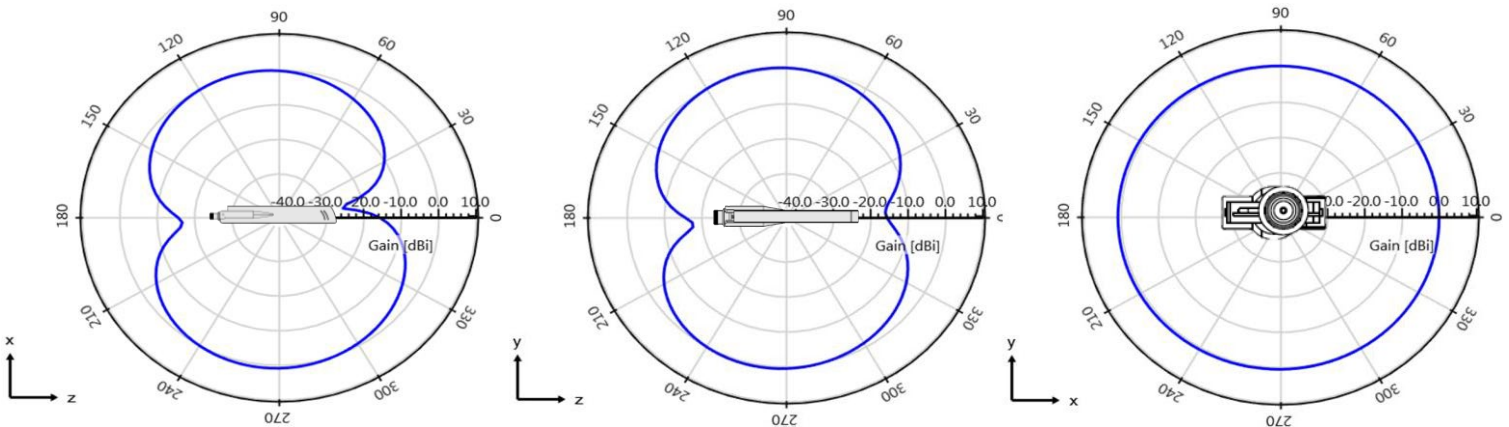
1004112 External LTE / Cellular performances  
 KYOCERA AVX produces a wide variety of standard and custom antennas to meet user needs.

**Antenna Radiation Patterns – Low / High Band**

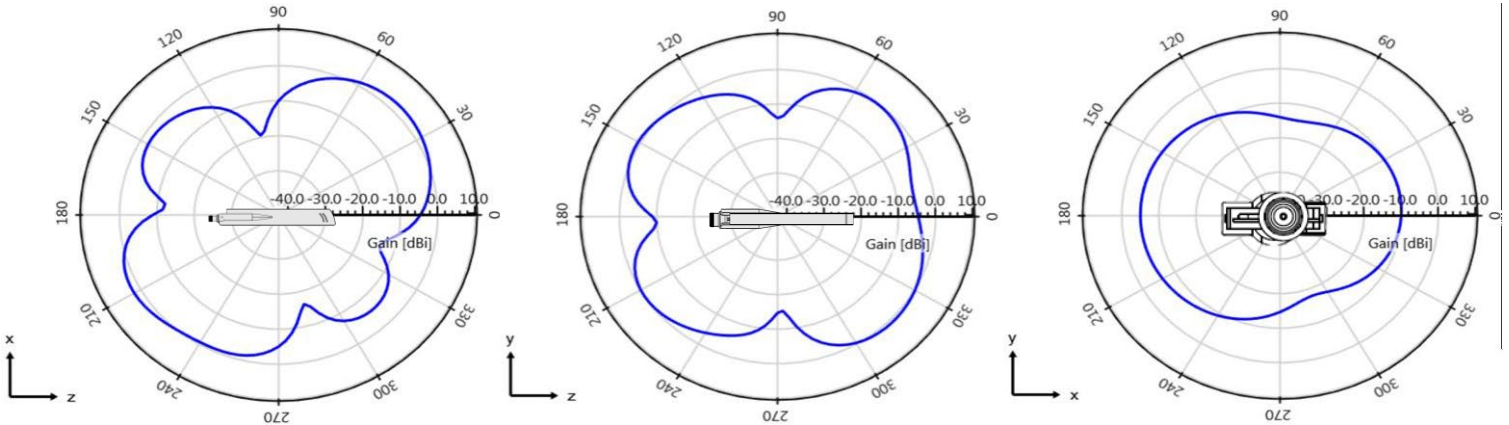
Typical performance, measured in free space



**Low Band measured at 750 MHz**



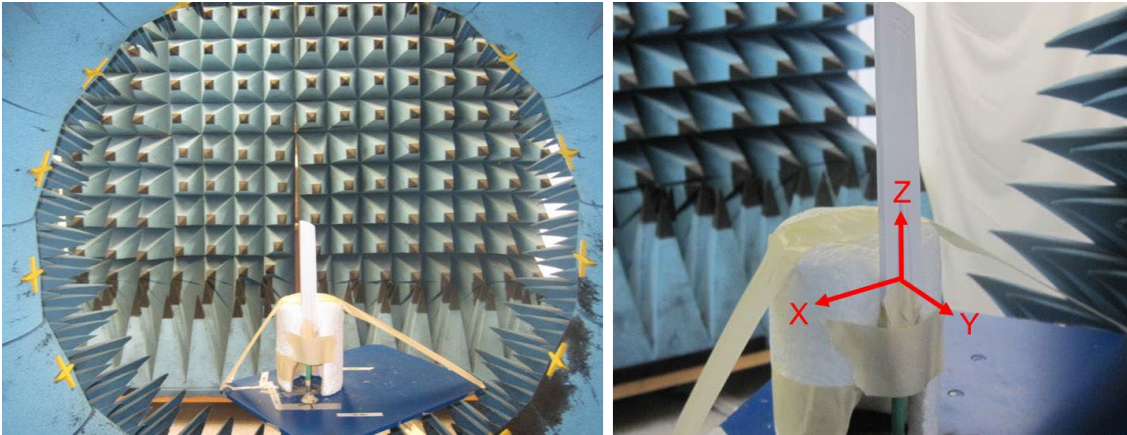
**High Band measured at 1720 MHz**



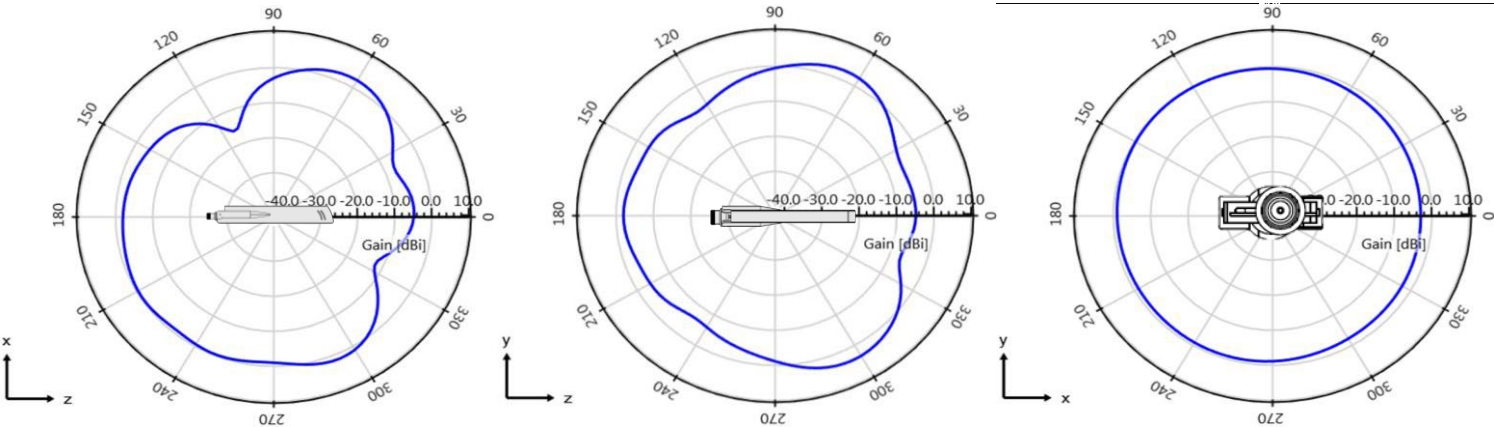
1004112 External LTE / Cellular performances  
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**Antenna Radiation Patterns – High High Band**

Typical performance, measured in free space



High High Band measured at 2550 MHz





1004112 External LTE / Cellular performances  
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### Mechanical Dimensions

Typical antenna dimensions (mm)

Part Number	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	Connector
1004112-A001	218.2 ± 3.0	27.2 ± 1.0	13.8 ± 1.0	10.1 ± 0.5	197.4 ± 3.0	27.4 ± 2.0	41.5 ± 2.0	SMA (Male)
1004112-B002	227.1 ± 3.0	27.2 ± 1.0	13.8 ± 1.0	14.5 ± 0.5	197.4 ± 3.0	36.4 ± 2.0	50.0 ± 2.0	TNC (Male)
1004112-C003	218.2 ± 3.0	27.2 ± 1.0	13.8 ± 1.0	10.1 ± 0.5	197.4 ± 3.0	27.4 ± 2.0	41.5 ± 2.0	SMA (Male)

