

Part No. 1003657

External Balanced LTE / Cellular Antenna

LTE Band 17, Band 13 and Band 4

Supports: LTE CAT-M, NB-IoT, SigFox, LoRa, Cellular LPWA



KYOCERA AVX 1003657 antenna is designed to offer the best cellular performances across the LTE bands regardless of the ground it is connected to, and a low profile for easy integration.

The 1003657 wideband antenna offers full coverage for LTE bands 17, 13 and 4. KYOCERA AVX antennas are a versatile easy plug and play solution for any major network carrier.

High Performance Balanced External LTE Antenna

Low Band : 698 - 787 MHz
High Band: 1710 - 2155 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.

Environmental Compliance

Comply with latest RoHS requirements

APPLICATIONS

- Medical applications
- Home automation
- Smart metering
- M2M, Industrial devices
- IoT
- M2M
- Healthcare (FDA Class I)
- Point of Sale
- Tracking
- NB-IoT
- Sigfox
- LoRa
- Cellular LPWA
- RPMA
- LTE CAT-M

Electrical Specifications

Measured in Free space with 218 mm coax cable

Frequency (MHz)	B17 704-746	B13 746-787	B4 Tx 1710-1755	B4 Rx 2110-2155
VSWR Match	2.5:1 max	2:1 max	2:1 max	2:1 max
Average Efficiency	45.1%	51.4%	65.8%	79.6%
Peak Gain	1 dBi	1.6 dBi	3.2 dBi	3.4 dBi
Feed Point Impedance	50 Ω unbalanced			

Mechanical Specifications & Ordering Part Number

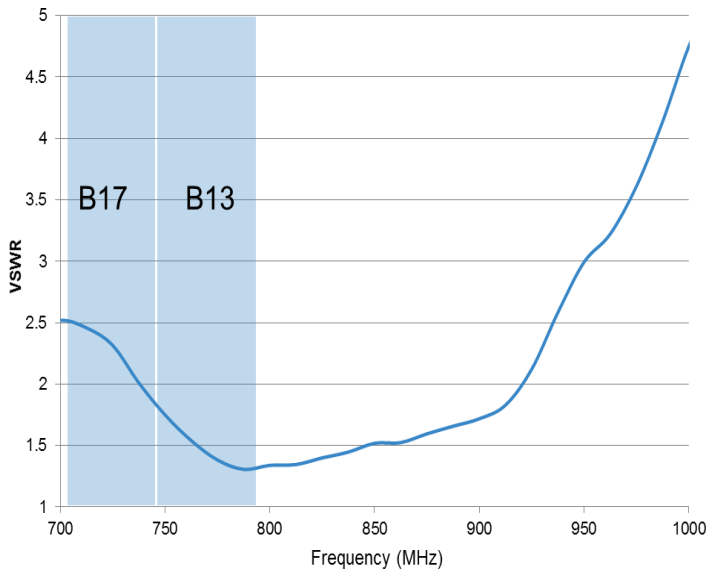
Ordering Part Number	1003657
Size (mm)	104.0 x 22.0 x 4.2
Cable/Connector (mm)	1.80 diameter, 218 RG178 long coax cable MMCX 90° connector
Weight (grams)	8.3
Material	FR4 with black heat shrink cover
Additional Resources	Download 3D FIT File

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

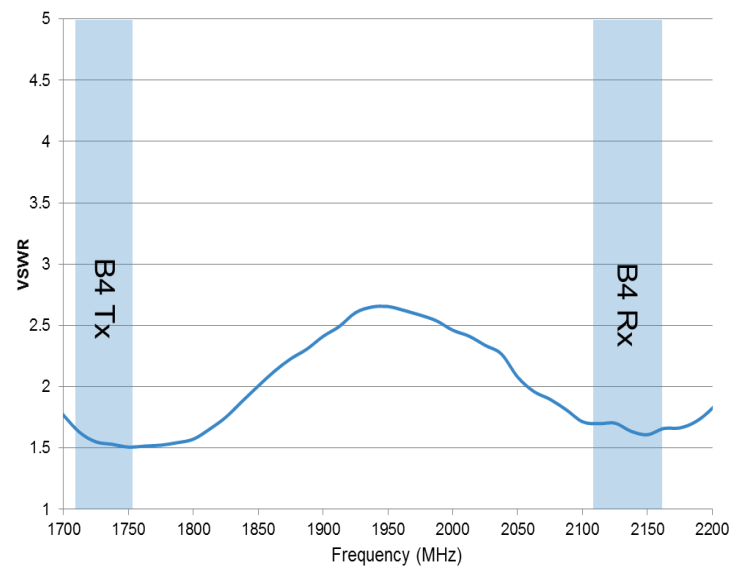
VSWR and Efficiency Plots

Typical performance, measured in free space with 218 mm cable

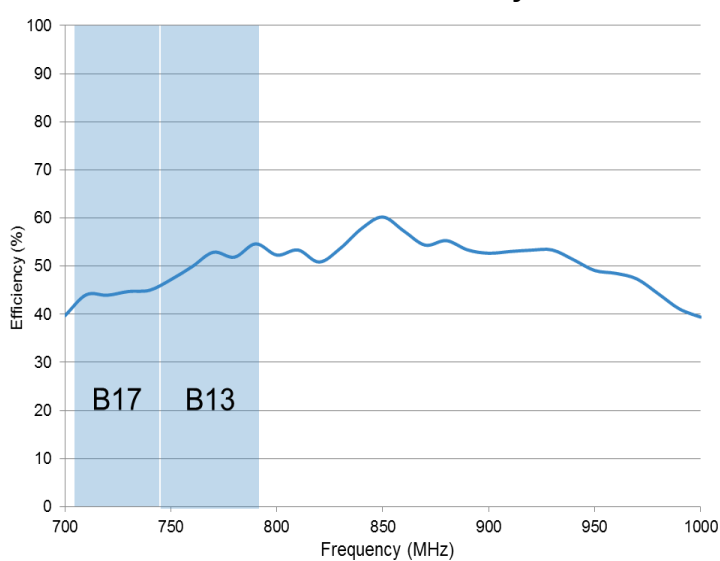
Low Band VSWR



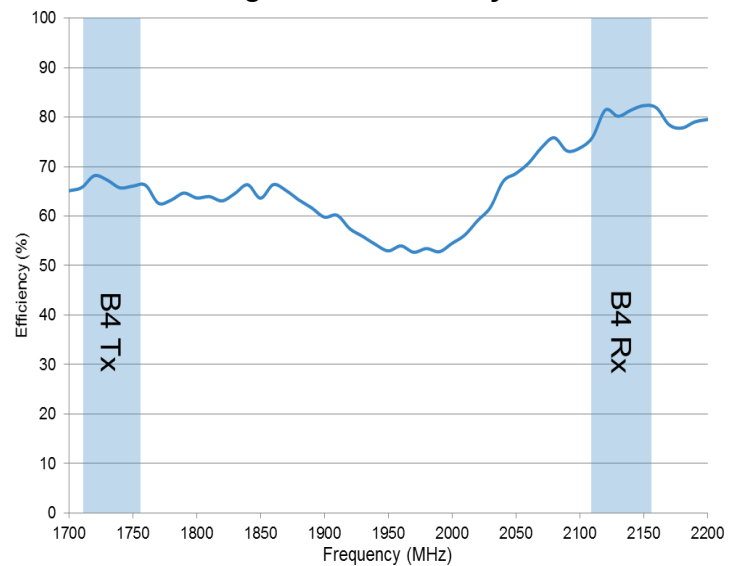
High Band VSWR



Low Band Efficiency



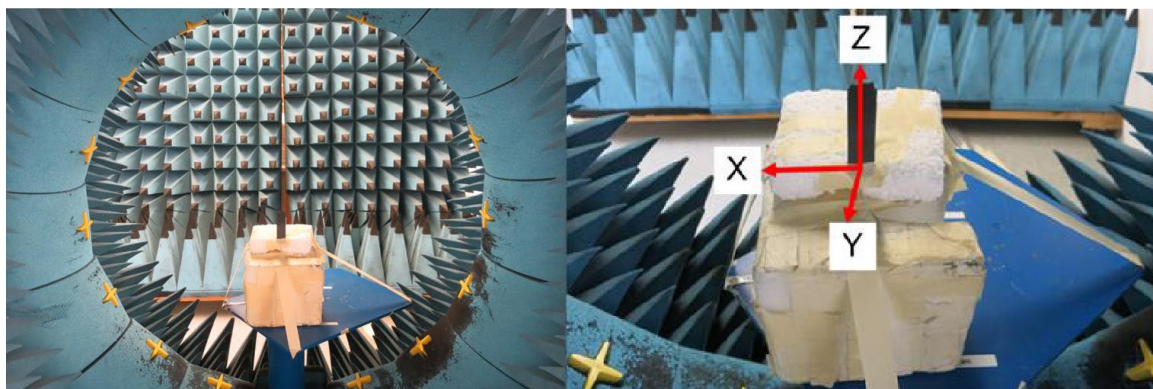
High Band Efficiency



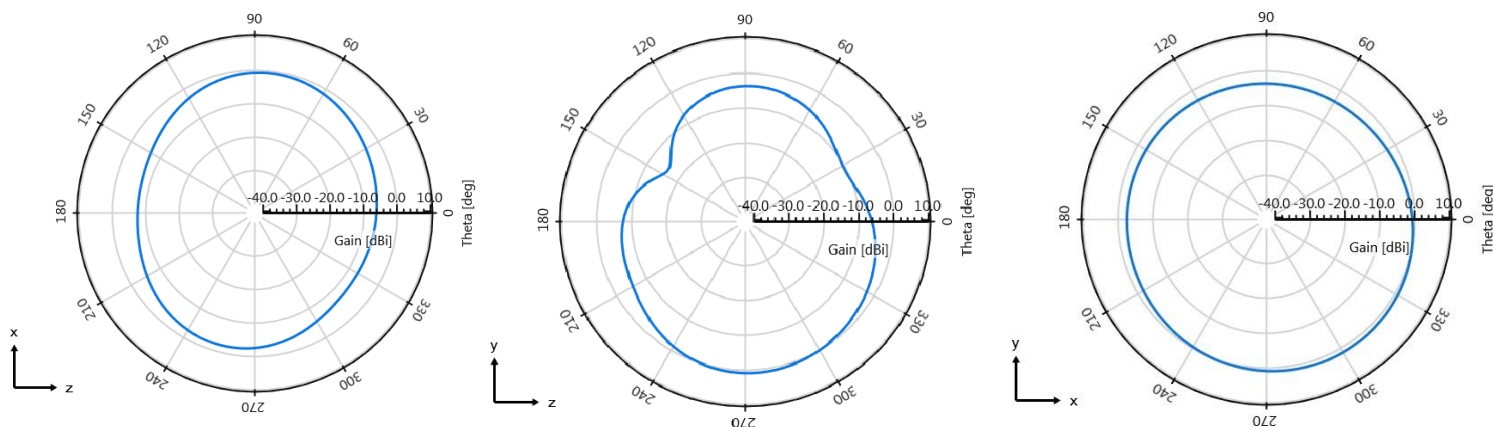
LTE / Cellular Balanced KYOCERA AVX External Antenna Specifications
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Antenna Radiation Patterns – Low Band

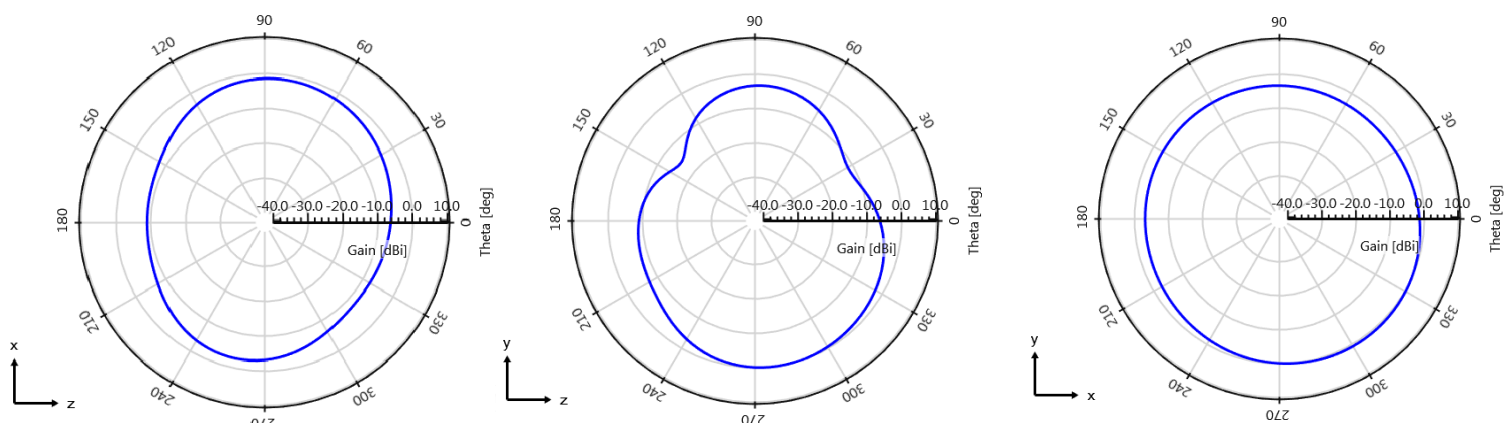
Typical performances in free space with 218 mm cable



Band 13 measured at 750 MHz



Band 17 measured at 710 MHz

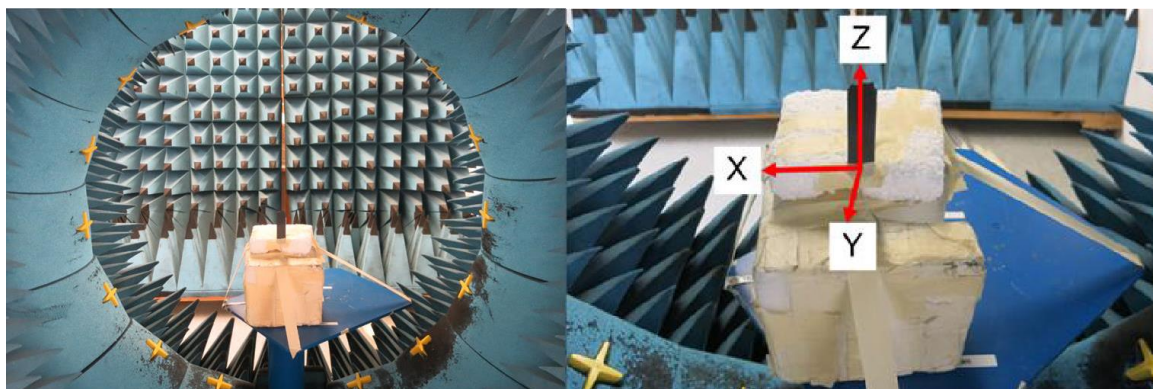


*All dimensions provided in this document are for informational purposes only.

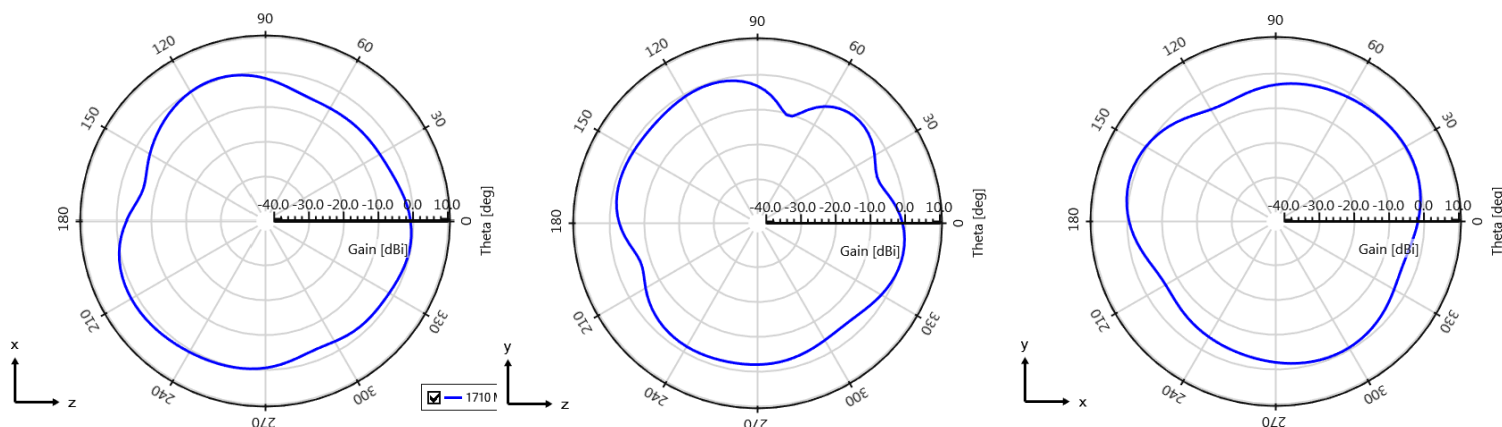
LTE / Cellular Balanced KYOCERA AVX External Antenna Specifications
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Antenna Radiation Patterns – High Band

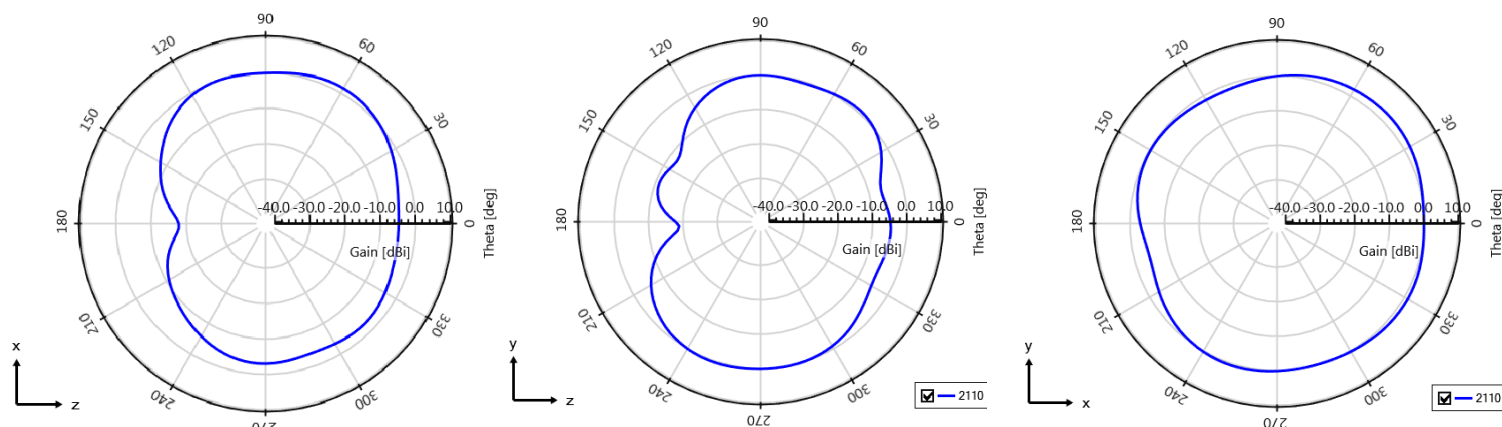
Typical performances in free space with 218 mm cable



Band 4 Tx measured at 1710 MHz



Band 4 Rx measured at 2110 MHz



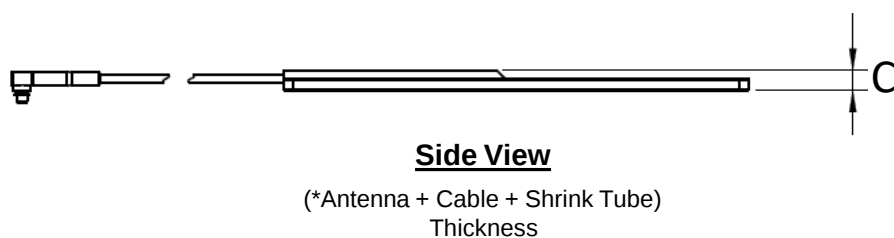
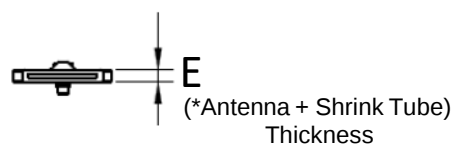
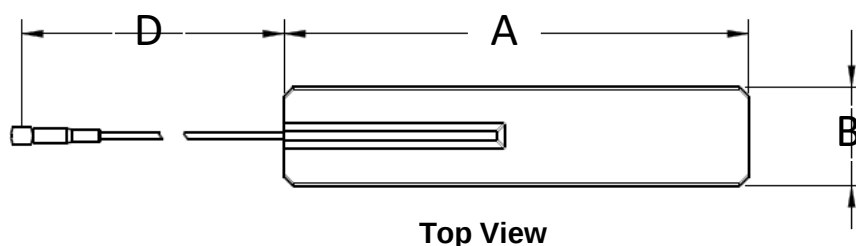
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LTE / Cellular Balanced KYOCERA AVX External Antenna Specifications
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Mechanical Dimensions

Typical antenna dimensions (mm)

Part Number	A	B	C	D	E
1003657	104.0 ± 3.0	22.0 ± 1.5	4.2 ± 0.8	218.0 ± 4.0	2.4 ± 0.8



LTE / Cellular Balanced KYOCERA AVX External Antenna Specifications
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Additional Resources - 1003657

3D FIT File:

https://www.kyocera-avx.com/download/antennas/ME-FIT/1003657_ME_fit.zip