

# Part No. X9001248

## External Magnetic Mount LTE Antenna

700 / 800 / 900 / 1800 / 2100 / 2600 MHz

Supports: LTE Cat 1, LTE-M, SigFox, LoRa, NB-IoT, M2M applications, 2G, 3G, Cellular



KYOCERA AVX family of external antennas are designed to offer the best performances for a wide range of applications. X9001248 is specially developed to deliver stable gain across 2G, 3G, and 4G cellular bands. This antenna is designed to be mounted on a ground plane for optimal performance.

### External Magnetic Mount LTE Antenna

Low Band : 698 – 960 MHz

High Band : 1170 – 2690 MHz

#### KEY BENEFITS

##### Quicker Time-to-Market

Standard part means fewer design changes with, simple implementation

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

##### Great Flexibility

Standard connector to makes easy set-up

##### Environmental Compliance

Products are the latest RoHS version compliant.

#### APPLICATIONS

- Telematics
- Smart metering
- Home automation
- Smart city
- Structural health monitoring
- Predictive maintenance
- M2M devices

### Electrical Specifications

Typical Characteristics in Free Space and on 300 x 250 mm ground plane with 1meter cable

Frequency (MHz)	Free space		On 300 x 250 mm Ground Plane	
	698 - 960	1710 - 2690	698 - 960	1710 - 2690
Return Loss	< -5.2 dB	< -5.8 dB	< -5.2 dB	< -6.0 dB
Average Peak Gain	-0.5 dBi	-0.2dBi	1.8 dBi	1.9 dBi
Average Efficiency	33 %		54%	36%
Impedance	50 ohm			

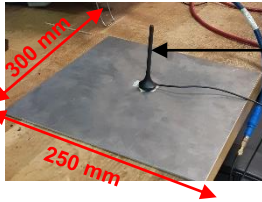
### Mechanical Specifications & Ordering Part Number

Ordering Part Number	X9001248
Dimensions (mm)	110.0 height 29.0 base diameter
Connector Types	SMA Male, RP-SMA Male
Weight (grams)	~50.0
Mounting	Magnetic
Color	Black
Cable/Length	LMR100 or RG-174/(Refer to pages 5-8)
Ingress Protection	IP65
Operating Temperature (°C)	-40 to + 70
Radome Material	TPE

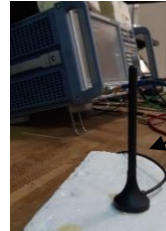
**LTE Magnetic mount External antenna specifications**  
 KYOCERA AVX produces a wide variety of standard and custom antennas to meet user needs

**Return Loss, Efficiency and Peak Gain Plots**

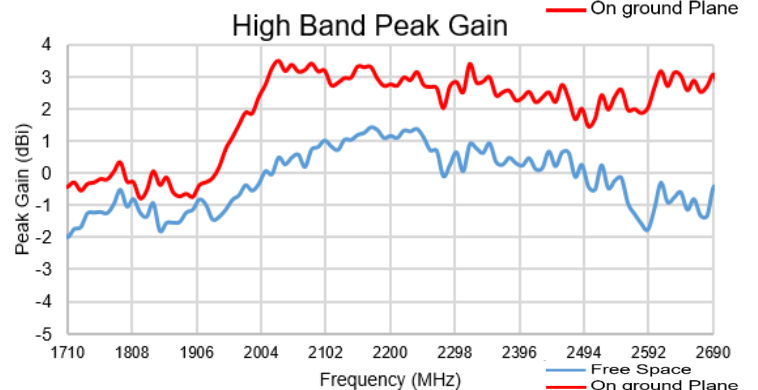
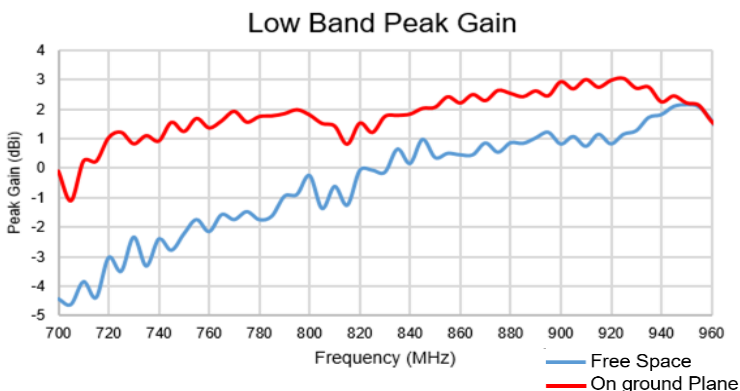
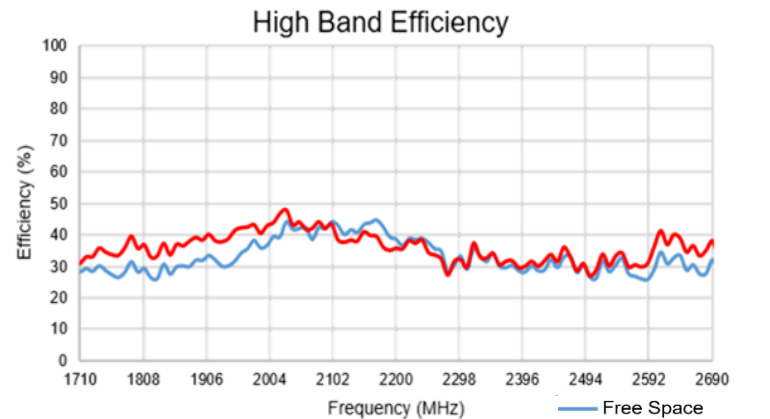
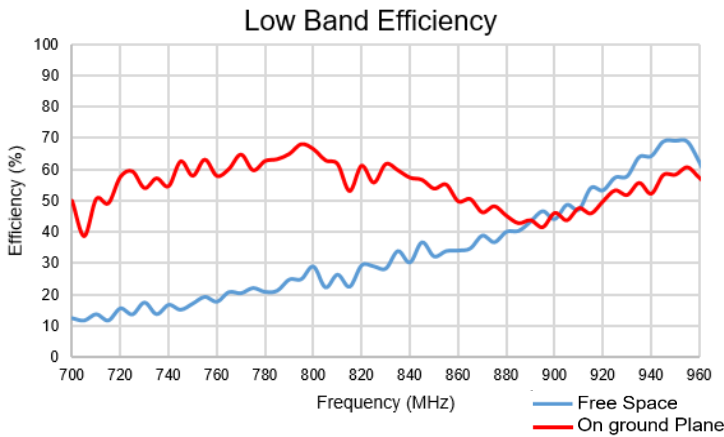
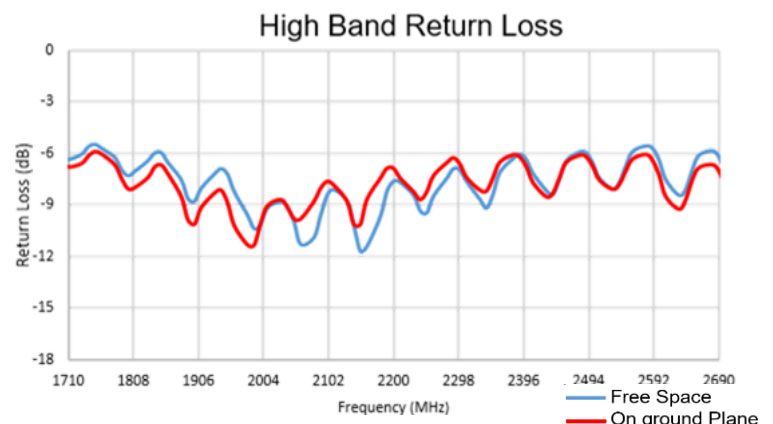
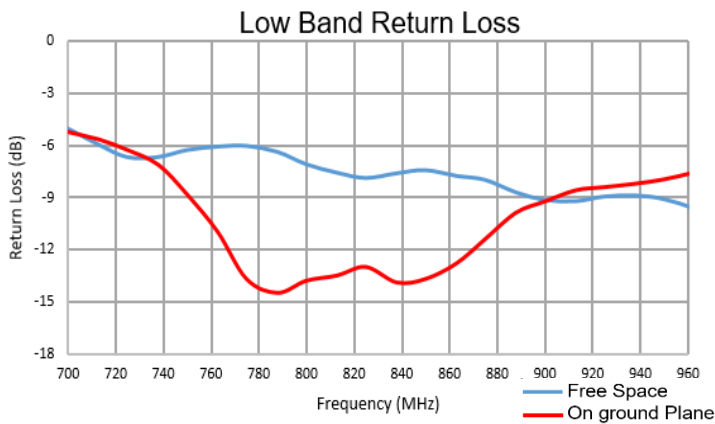
Typical performance measured in Free Space on a 300x250mm ground plane with a 1 meter cable



X9001248-4GMSMB1000R



X9001248-4GMSMB1000R



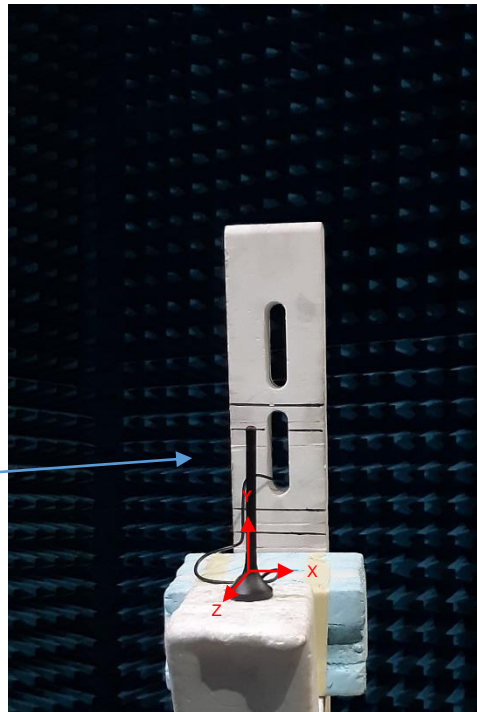
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**Radiation Patterns Plots**

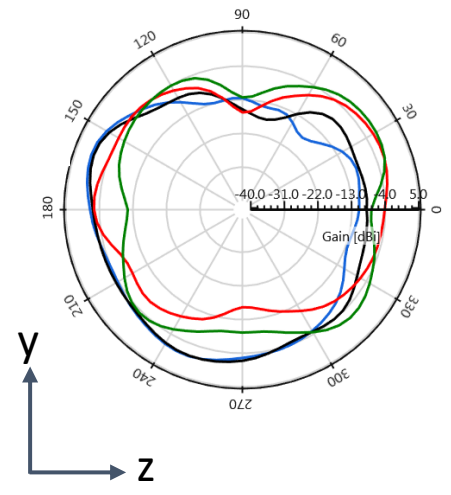
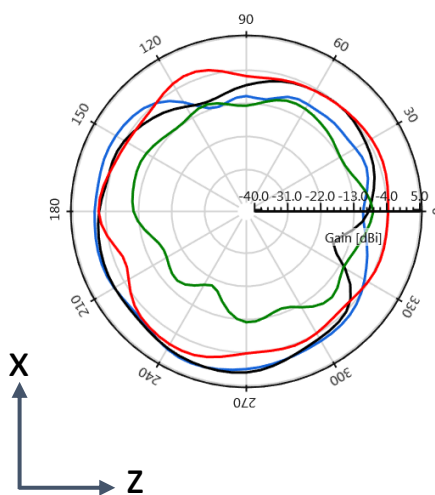
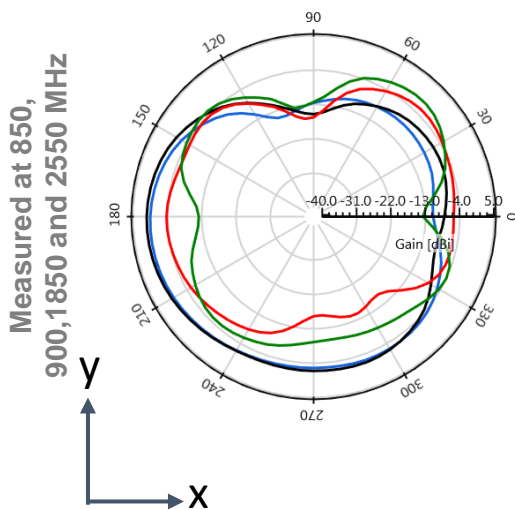
Typical performance measured in Free Space  
 on a 300x250mm ground plane with a 1 meter cable  
 Measured at 850, 900, 1850 and 2550 MHz

Free Space

X9001248-4GMSMB1000R



— 850 MHz  
— 900 MHz  
— 1850 MHz  
— 2550 MHz

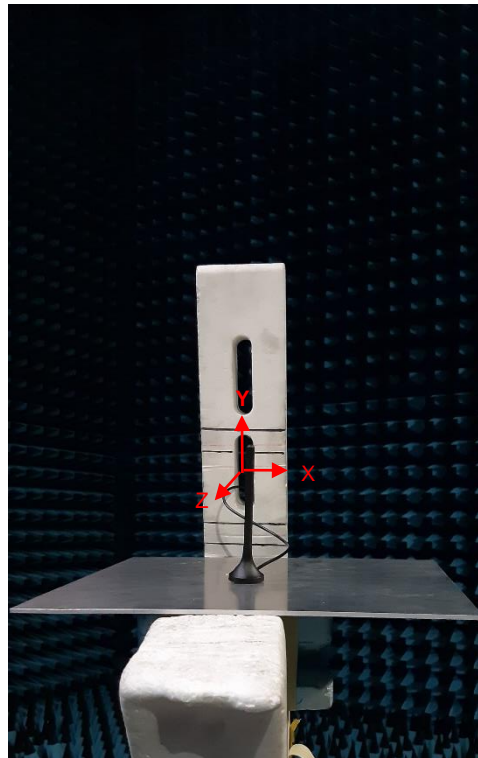


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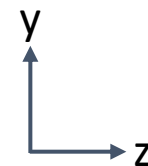
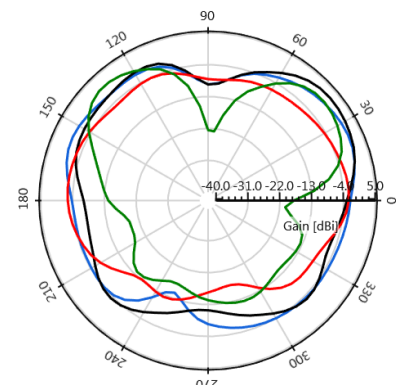
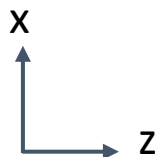
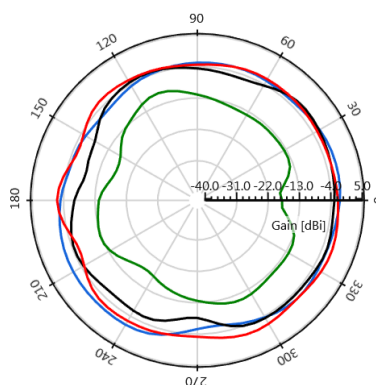
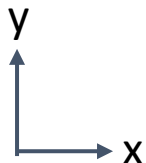
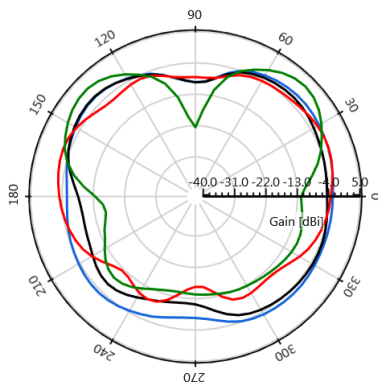
**Radiation Patterns Plots**

Typical performance measured in Free Space  
 on a 300x250mm ground plane with a 1meter cable  
 Measured at 850, 900, 1850 and 2550 MHz

On Ground Plane



Measured at 850, 900, 1850 and 2550 MHz



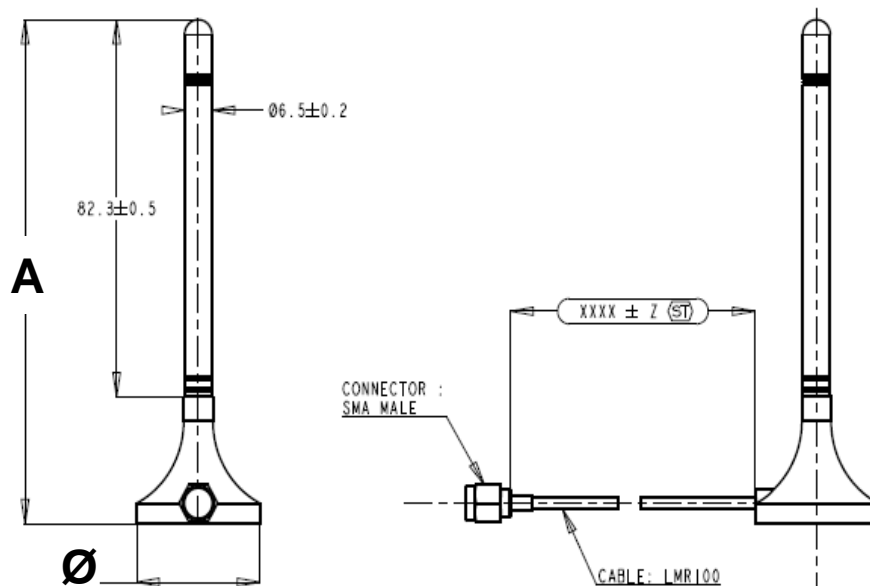
LTE Magnetic mount External antenna specifications  
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**Mechanical Specifications (SMA MALE, LMR100)**

Typical antenna dimensions in mm.

Part Number	A	∅	Cable Type	XXXX Cable Length	Z Cable Tolerance	Connector
X9001248-4GMSMBXXXXL	110±3.0	29±0.5	LMR100	0XXX < 150	± 3.0	SMA MALE
X9001248-4GMSMB0050L	110±3.0	29±0.5	LMR100	50	± 3.0	SMA MALE
X9001248-4GMSMB0100L	110±3.0	29±0.5	LMR100	100	± 3.0	SMA MALE
X9001248-4GMSMB0150L	110±3.0	29±0.5	LMR100	150	± 4.0	SMA MALE
X9001248-4GMSMB0200L	110±3.0	29±0.5	LMR100	200	± 4.0	SMA MALE
X9001248-4GMSMB0250L	110±3.0	29±0.5	LMR100	250	± 4.0	SMA MALE
X9001248-4GMSMB0XXXL	110±3.0	29±0.5	LMR100	150 ≤ 0XXX < 300	± 4.0	SMA MALE
X9001248-4GMSMB0300L	110±3.0	29±0.5	LMR100	300	± 5.0	SMA MALE
X9001248-4GMSMB0400L	110±3.0	29±0.5	LMR100	400	± 5.0	SMA MALE
X9001248-4GMSMB0XXXL	110±3.0	29±0.5	LMR100	300 ≤ 0XXX < 500	± 5.0	SMA MALE
X9001248-4GMSMB0500L	110±3.0	29±0.5	LMR100	500	± 7.0	SMA MALE
X9001248-4GMSMB0600L	110±3.0	29±0.5	LMR100	600	± 7.0	SMA MALE
X9001248-4GMSMB0XXXL	110±3.0	29±0.5	LMR100	500 ≤ 0XXX < 1000	± 7.0	SMA MALE
X9001248-4GMSMB1000L	110±3.0	29±0.5	LMR100	1000	± 1%	SMA MALE
X9001248-4GMSMB0XXXL	110±3.0	29±0.5	LMR100	1000 ≤ XXXX	± 1%	SMA MALE

\*XXX : CABLE LENGTH MENTIONNED IN PART NUMBER (CUSTOMER REQUEST)



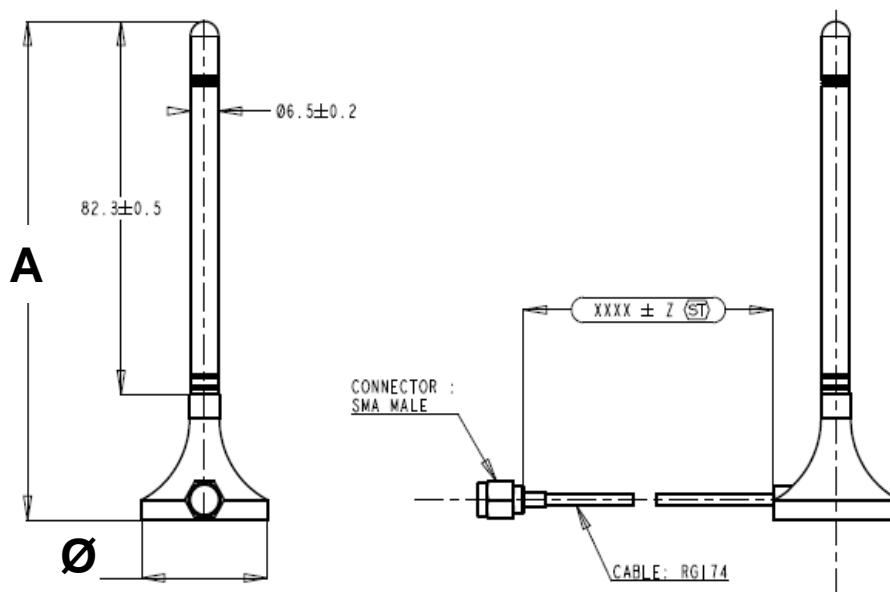
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**Mechanical Specifications (SMA MALE, RG-174)**

Typical antenna dimensions in mm.

Part Number	A	Ø	Cable Type	XXXX Cable Length	Z Cable Tolerance	Connector
X9001248-4GMSMBXXXXR	110±3.0	29±0.5	RG-174	0XXX < 150	± 3.0	SMA MALE
X9001248-4GMSMB0050R	110±3.0	29±0.5	RG-174	50	± 3.0	SMA MALE
X9001248-4GMSMB0100R	110±3.0	29±0.5	RG-174	100	± 3.0	SMA MALE
X9001248-4GMSMB0150R	110±3.0	29±0.5	RG-174	150	± 4.0	SMA MALE
X9001248-4GMSMB0200R	110±3.0	29±0.5	RG-174	200	± 4.0	SMA MALE
X9001248-4GMSMB0250R	110±3.0	29±0.5	RG-174	250	± 4.0	SMA MALE
X9001248-4GMSMB0XXXXR	110±3.0	29±0.5	RG-174	150 ≤ 0XXX < 300	± 4.0	SMA MALE
X9001248-4GMSMB0300R	110±3.0	29±0.5	RG-174	300	± 5.0	SMA MALE
X9001248-4GMSMB0400R	110±3.0	29±0.5	RG-174	400	± 5.0	SMA MALE
X9001248-4GMSMB0XXXXR	110±3.0	29±0.5	RG-174	300 ≤ 0XXX < 500	± 5.0	SMA MALE
X9001248-4GMSMB0500R	110±3.0	29±0.5	RG-174	500	± 7.0	SMA MALE
X9001248-4GMSMB0600R	110±3.0	29±0.5	RG-174	600	± 7.0	SMA MALE
X9001248-4GMSMB0XXXXR	110±3.0	29±0.5	RG-174	500 ≤ 0XXX < 1000	± 7.0	SMA MALE
X9001248-4GMSMB1000R	110±3.0	29±0.5	RG-174	1000	± 1%	SMA MALE
X9001248-4GMSMB0XXXXR	110±3.0	29±0.5	RG-174	1000 ≤ XXXX	± 1%	SMA MALE

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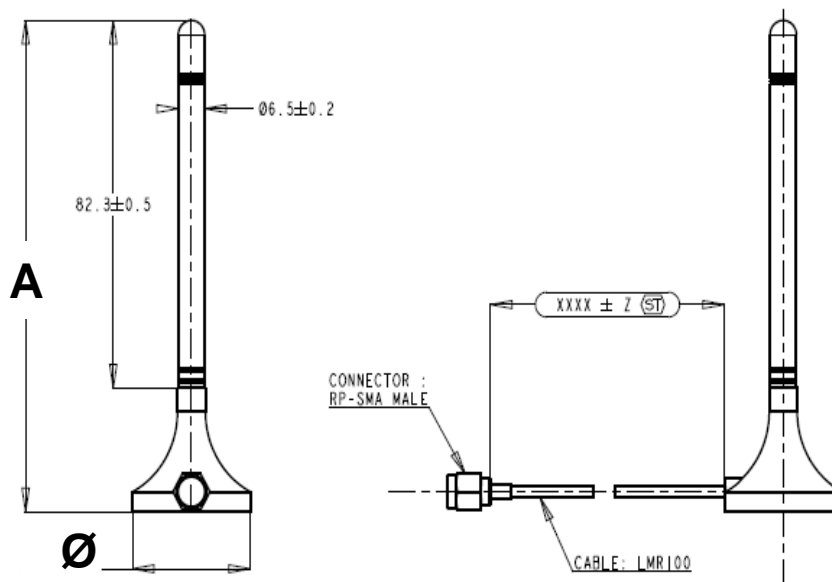
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### Mechanical Specifications (RP-SMA MALE, LMR100)

Typical antenna dimensions in mm.

Part Number	A	∅	Cable Type	XXXX Cable Length	Z Cable Tolerance	Connector
X9001248-4GMRMBXXXXL	110±3.0	29±0.5	LMR100	0XXX < 150	± 3.0	RP-SMA MALE
X9001248-4GMRMB0050L	110±3.0	29±0.5	LMR100	50	± 3.0	RP-SMA MALE
X9001248-4GMRMB0100L	110±3.0	29±0.5	LMR100	100	± 3.0	RP-SMA MALE
X9001248-4GMRMB0150L	110±3.0	29±0.5	LMR100	150	± 4.0	RP-SMA MALE
X9001248-4GMRMB0200L	110±3.0	29±0.5	LMR100	200	± 4.0	RP-SMA MALE
X9001248-4GMRMB0250L	110±3.0	29±0.5	LMR100	250	± 4.0	RP-SMA MALE
X9001248-4GMRMB0XXXL	110±3.0	29±0.5	LMR100	150 ≤ 0XXX < 300	± 4.0	RP-SMA MALE
X9001248-4GMRMB0300L	110±3.0	29±0.5	LMR100	300	± 5.0	RP-SMA MALE
X9001248-4GMRMB0400L	110±3.0	29±0.5	LMR100	400	± 5.0	RP-SMA MALE
X9001248-4GMRMB0XXXL	110±3.0	29±0.5	LMR100	300 ≤ 0XXX < 500	± 5.0	RP-SMA MALE
X9001248-4GMRMB0500L	110±3.0	29±0.5	LMR100	500	± 7.0	RP-SMA MALE
X9001248-4GMRMB0600L	110±3.0	29±0.5	LMR100	600	± 7.0	RP-SMA MALE
X9001248-4GMRMB0XXXL	110±3.0	29±0.5	LMR100	500 ≤ 0XXX < 1000	± 7.0	RP-SMA MALE
X9001248-4GMRMB1000L	110±3.0	29±0.5	LMR100	1000	± 1%	RP-SMA MALE
X9001248-4GMRMB0XXXL	110±3.0	29±0.5	LMR100	1000 ≤ XXXX	± 1%	RP-SMA MALE

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**Mechanical Specifications (RP-SMA MALE, RG-174)**

Typical antenna dimensions in mm.

Part Number	A	∅	Cable Type	XXXX Cable Length	Z Cable Tolerance	Connector
X9001248-4GMRMBXXXXR	110±3.0	29±0.5	RG-174	0XXX < 150	± 3.0	RP-SMA MALE
X9001248-4GMRMB0050R	110±3.0	29±0.5	RG-174	50	± 3.0	RP-SMA MALE
X9001248-4GMRMB0100R	110±3.0	29±0.5	RG-174	100	± 3.0	RP-SMA MALE
X9001248-4GMRMB0150R	110±3.0	29±0.5	RG-174	150	± 4.0	RP-SMA MALE
X9001248-4GMRMB0200R	110±3.0	29±0.5	RG-174	200	± 4.0	RP-SMA MALE
X9001248-4GMRMB0250R	110±3.0	29±0.5	RG-174	250	± 4.0	RP-SMA MALE
X9001248-4GMRMB0XXXXR	110±3.0	29±0.5	RG-174	150 ≤ 0XXX < 300	± 4.0	RP-SMA MALE
X9001248-4GMRMB0300R	110±3.0	29±0.5	RG-174	300	± 5.0	RP-SMA MALE
X9001248-4GMRMB0400R	110±3.0	29±0.5	RG-174	400	± 5.0	RP-SMA MALE
X9001248-4GMRMB0XXXXR	110±3.0	29±0.5	RG-174	300 ≤ 0XXX < 500	± 5.0	RP-SMA MALE
X9001248-4GMRMB0500R	110±3.0	29±0.5	RG-174	500	± 7.0	RP-SMA MALE
X9001248-4GMRMB0600R	110±3.0	29±0.5	RG-174	600	± 7.0	RP-SMA MALE
X9001248-4GMRMB0XXXXR	110±3.0	29±0.5	RG-174	500 ≤ 0XXX < 1000	± 7.0	RP-SMA MALE
X9001248-4GMRMB1000R	110±3.0	29±0.5	RG-174	1000	± 1%	RP-SMA MALE
X9001248-4GMRMB0XXXXR	110±3.0	29±0.5	RG-174	1000 ≤ XXXX	± 1%	RP-SMA MALE

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