

# Part No. 1004239-001

## Broadband External LTE MIMO Antenna

700 / 750 / 850 / 1700 / 1800 / 1900 / 2100 / 2700 MHz

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



Ethertronics' 1004239-001 antenna is designed to offer the best performances across LTE frequencies for an external MIMO solution. Regardless of the ground it is connected to, this antenna offers strong LTE signal with optimum isolation between its two elements. IP65 rated ruggedized low-profile design allows for diverse integration and functionality, with back adhesive or screw mounting available. Cable lengths and connector types can be customized on demand.

### High Performance External LTE MIMO Antenna

Low Band : 698-894 MHz

High Band: 1710-2155 MHz

High High Band: 2500-2690 MHz

The 1004239-001 broadband antenna offers full coverage for LTE bands 2, 4, 5, 7, 12, 13, 14, 17, 25, 26, 69, among others. Ethertronics' antennas are versatile with easy plug and play form factor for any major network carriers.

### Electrical Specifications

Measured in free space with 2000 mm coax cables

Frequency (MHz)	698-894	1710-2155	2500-2690
Average VSWR Match	<2.5:1		
Average Efficiency	58%	61%	59%
Peak Gain	4.0 dBi	6.3 dBi	4.8 dBi
ECC	<0.35	<0.1	<0.1
Polarization	Linear		
Feed Point Impedance	50 Ω unbalanced		

### KEY BENEFITS

#### Greater Flexibility

Different connector options upon request. Small form factor and low-profile antenna independent of ground maintains consistent performance 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, IP65 rated

### 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

### Mechanical Specifications & Ordering Part Number

Ordering Part Number	1004239-001
Dimensions (mm)	167.0 x 90.0 x 17.2
Mounting Type	Screw mount, M4 screw (5.0 mm Hole Diameter); Optional Adhesive Foam
Weight (g)	272.0
Connector and Cable Type	(2x) SMA MALE 2000.0 mm long LMR-200 equivalent cable
Antenna Color	Black



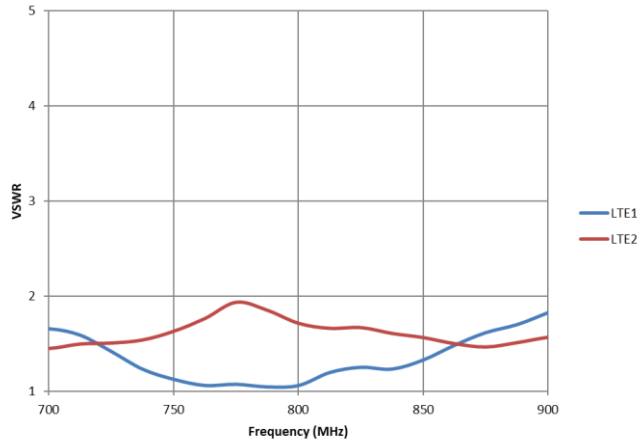
### 1004239-001 External LTE MIMO performances

Ethertronics produces a wide variety of standard and custom antennas to meet user needs.

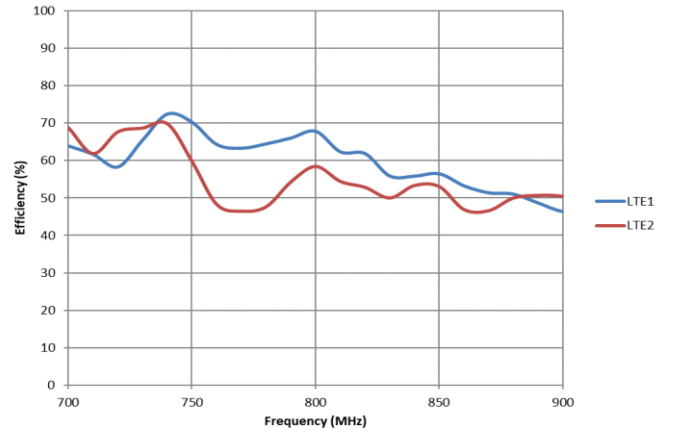
## VSWR and Efficiency Plots

Typical Performance in free space with 2000 mm cables

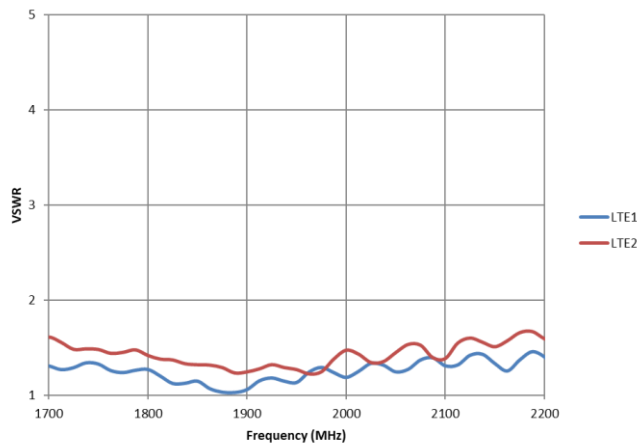
### Low Band VSWR



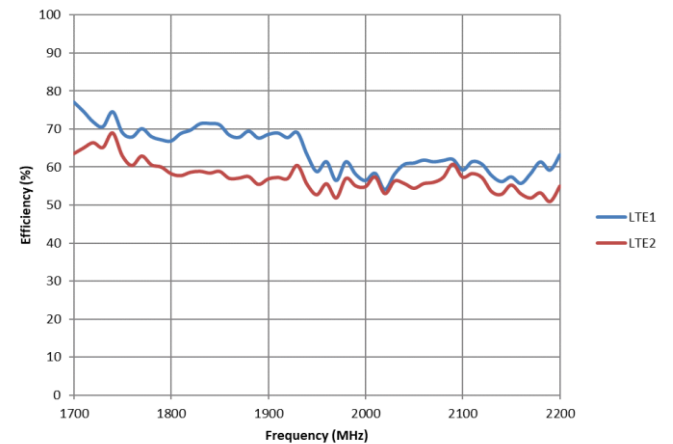
### Low Band Efficiency



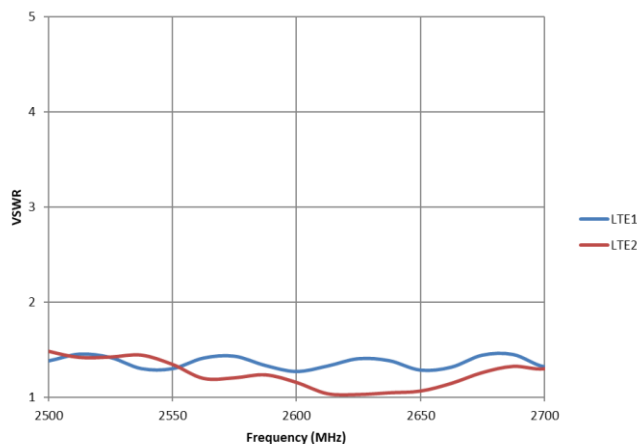
### High Band VSWR



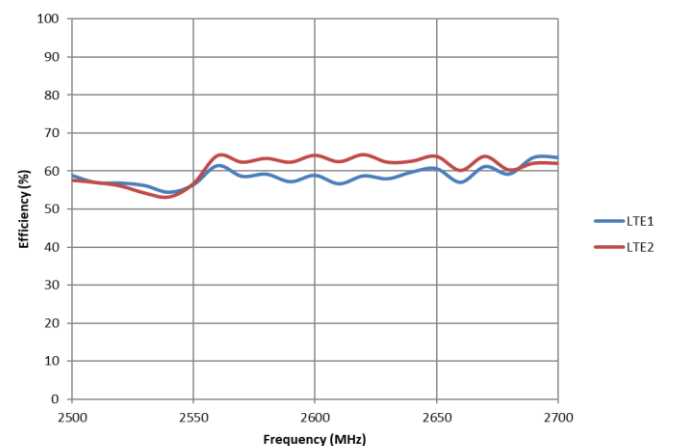
### High Band Efficiency



### High High Band VSWR



### High High Band Efficiency





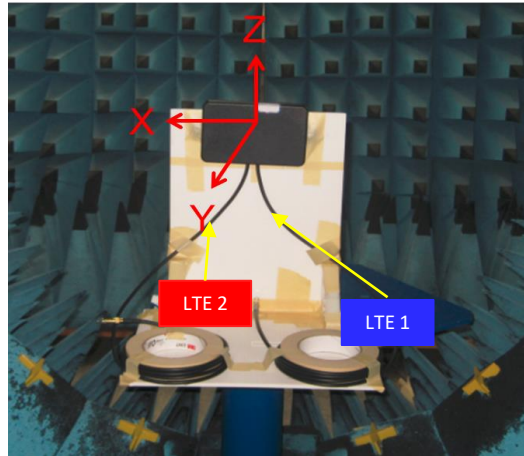
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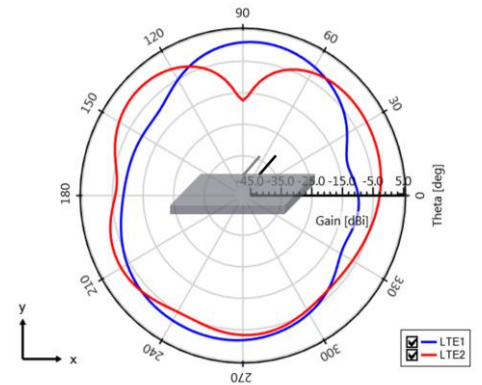
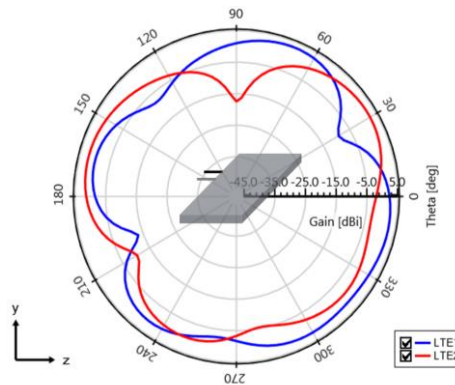
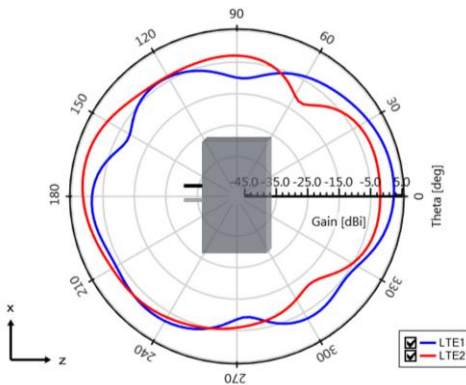
Antenna Radiation Patterns – Low/High Band

Typical Performance in free space with 2000 mm cables

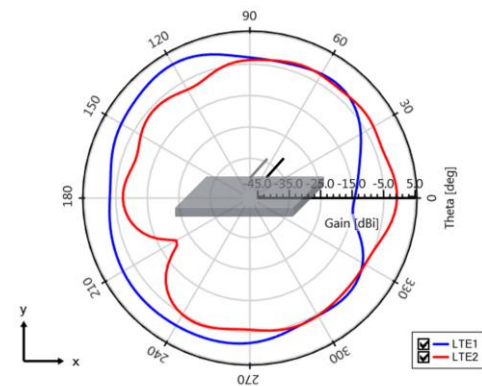
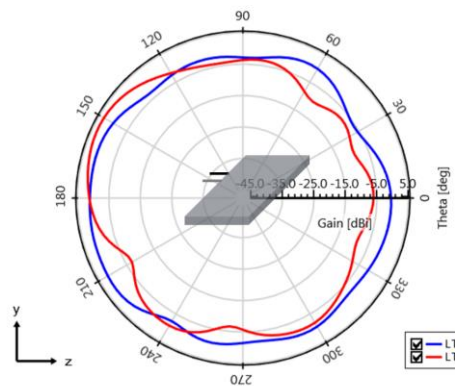
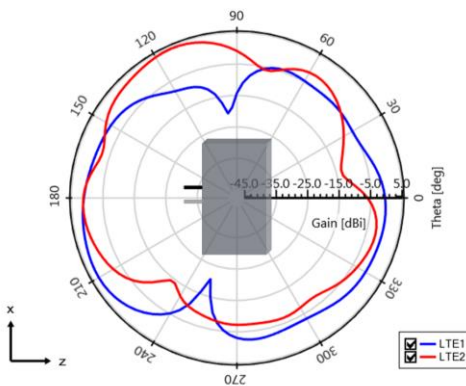
Test Setup



Low Band measured at 750 MHz



High Band measured at 1750 MHz





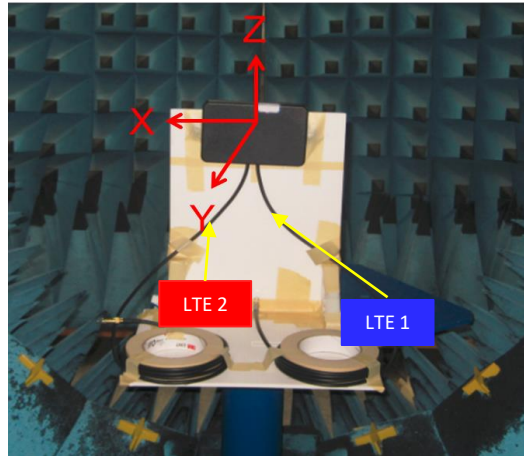
1004239-001 External LTE MIMO performances

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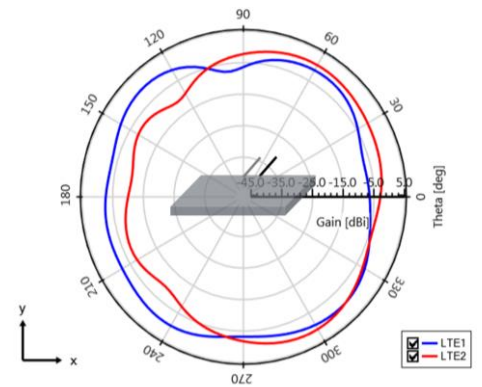
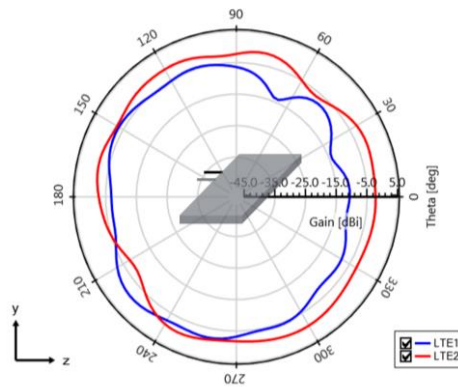
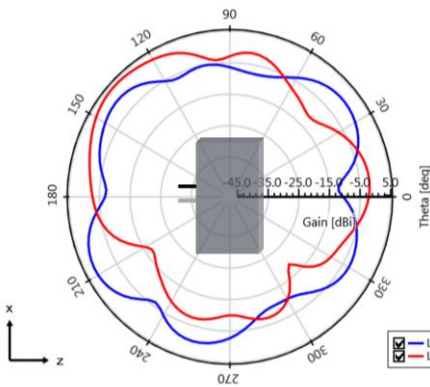
Antenna Radiation Patterns – High High Band

Typical Performance in free space with 2000 mm cables

Test Setup

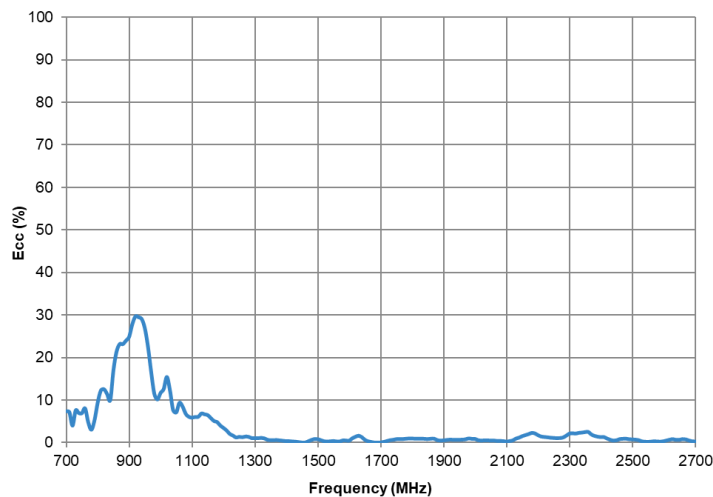


High High Band measured at 2550 MHz



Antenna Ecc

Typical Performance in free space with 2000 mm cables





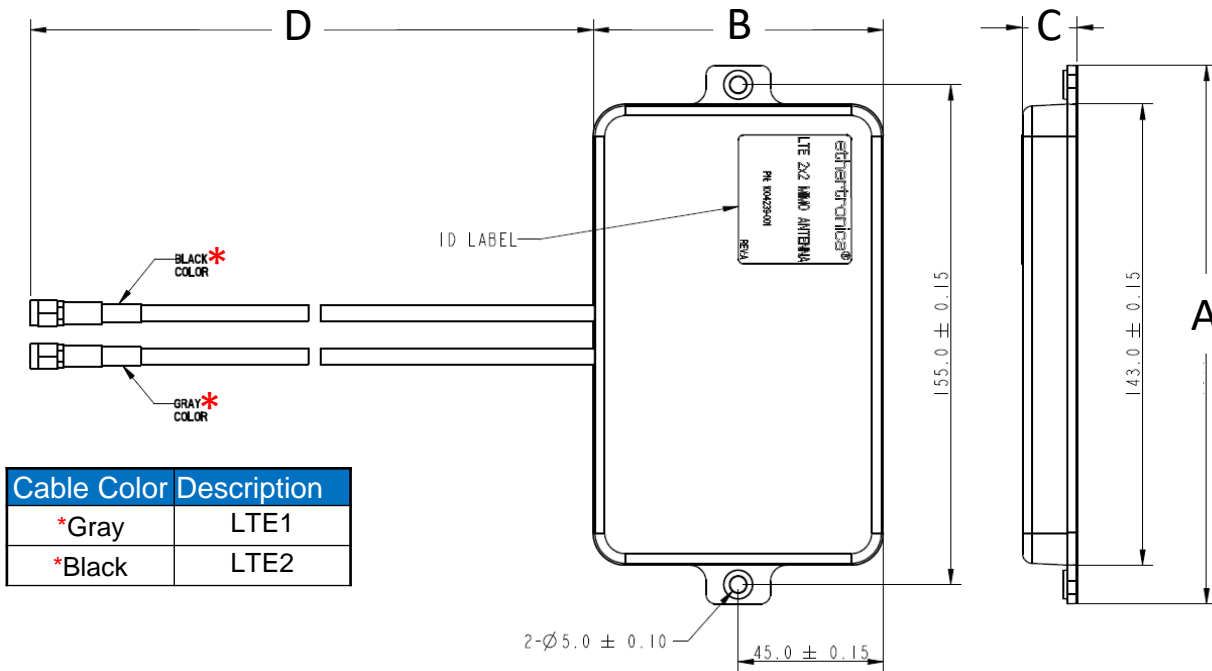
1004239-001 External LTE MIMO performances

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Antenna Dimensions

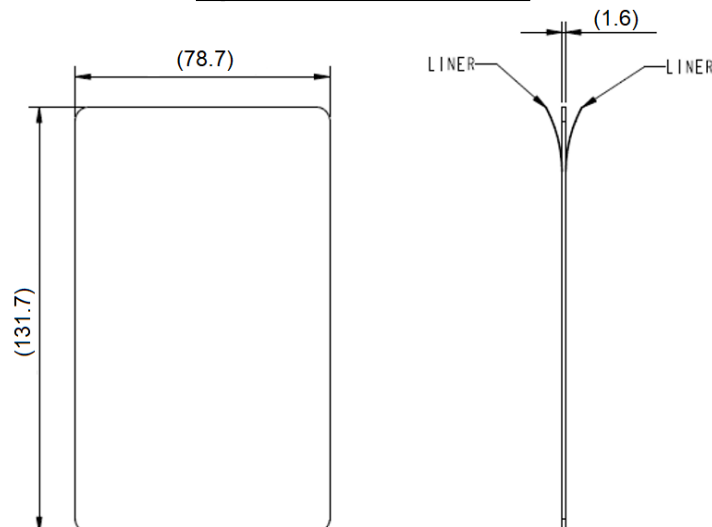
Typical antenna dimensions, in mm.

Part Number	A (mm)	B (mm)	C (mm)	D (mm)
1004239-001	167.0 ± 0.15	90.0 ± 0.15	17.2 ± 0.25	2000.0 ± 20.0



Cable Color	Description
*Gray	LTE1
*Black	LTE2

Optional Back Adhesive



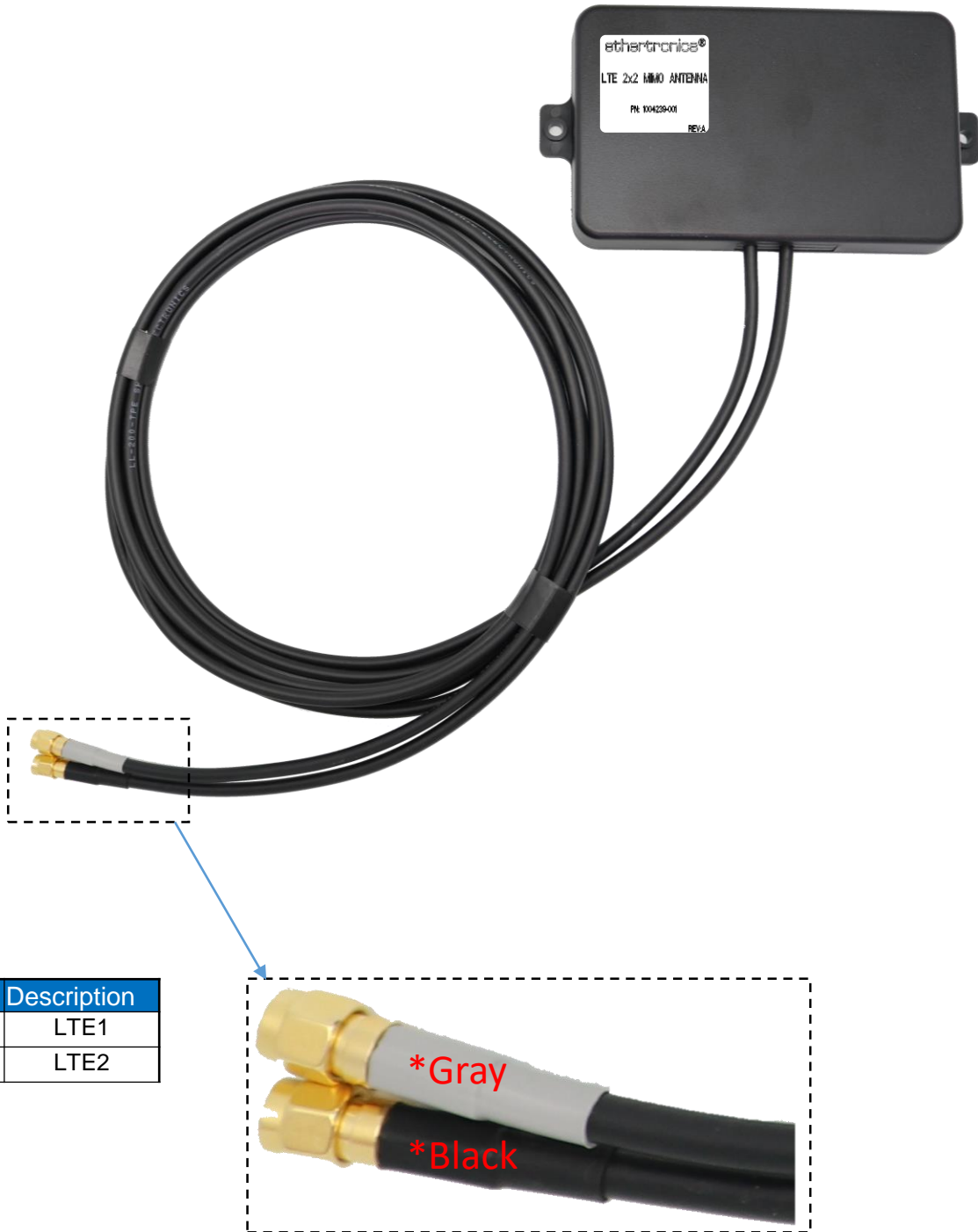


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Antenna Configuration

Typical antenna assembly.



Cable Color	Description
*Gray	LTE1
*Black	LTE2