



# QSL External Antennas

## Antenna Products

TE Connectivity (TE) incorporates world class antenna design for both today and the next generation antennas. We develop and manufacture custom solutions for high performance embedded and external antennas required to operate diverse wireless applications in various industries around the world.

TE offers 3 port IEEE 802.11 a/b/g/n/ac and WiMax QSL antenna assemblies to support WiFi and WiMax enabled products and applications. The QSL antennas exhibit excellent performance through 6 GHz, and are suitable for 50-ohm applications, such as desktop computers, set top boxes, access points and flat panel televisions.

The design of the QSL antennas provides omnidirectional and hemispherical antenna pattern coverage for WiFi and WiMax (PN: 1513711-1 & 1513712-1). The design also integrates three RF connections into one connector, eliminating the need for three separate SMA connectors. There is a wide range of configuration options including cable plugs terminated to RG 174 and RG 316 cable types. All antennas are RoHS compliant for lead-free SMT process, complementing TE care for its customers and the environment.



[www.antenna.te.com](http://www.antenna.te.com)



## 2300 – 2700 & 3300 – 3800 & 4900 – 5875 MHz Quad Band Antenna

(IEEE 802.11 a/b/g/n/ac, includes frequencies of Bluetooth, ZigBee, and WiMAX products)

### Part Number: 1513711-1

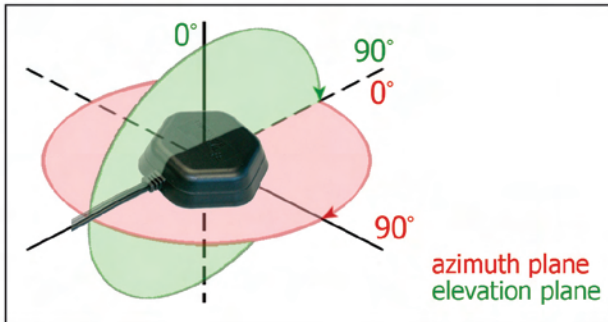
- ▶ 3 element quad-band vertically polarized omnidirectional, hemispherical antenna with 0.8 meter cable and QSL type 3 port connector (RPSMA optional)
- ▶ QSL test adaptor with SMA launches — Part number 1513743-1
- ▶ IEEE 802.11 a/b/g/n/ac and WiMAX frequency coverage
- ▶ RoHS compliant



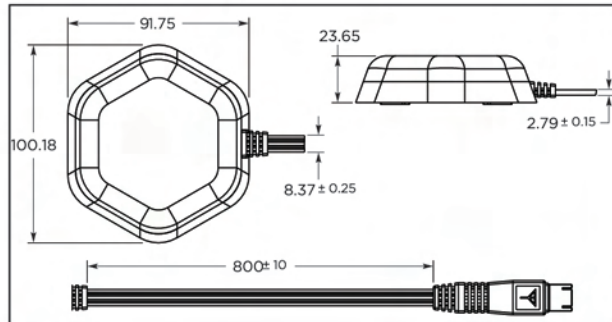
### Specifications

- Frequency Range (MHz)
  - 2300 – 2700
  - 3300 – 3800
  - 4900 – 5875
- Peak Gain
  - 0 dBi @ 2300 MHz
  - 3 dBi @ 3500 MHz
  - 2 dBi @ 5470 MHz
- VSWR < 2.5 : 1
- Operating Temperature -40°C to 70°C
- Polarization Vertical linear
- Power Handling 10 Watt cw
- Feed Point Impedance 50 Ohms
- Size 100.18 mm x 91.75 mm x 23.65 mm
- Weight < 130 g

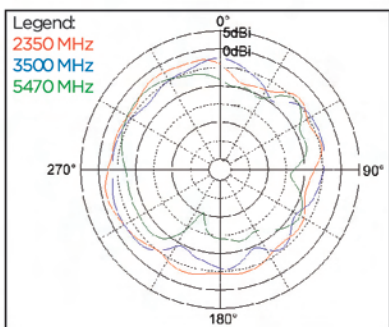
### Test Orientation in Free Space



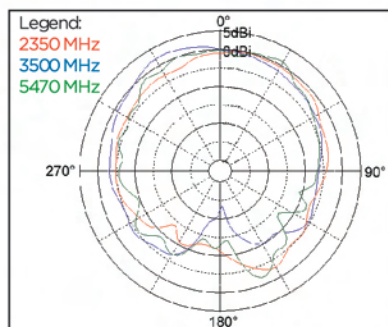
### Approx. Dimensions



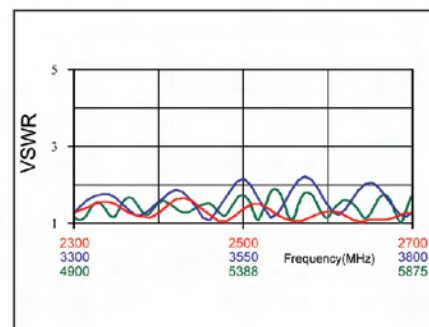
### Azimuth



### Elevation



### VSWR



## 2300 – 2700 & 3300 – 3800 & 4900 – 5875 MHz Quad Band Antenna

(IEEE 802.11 a/b/g/n/ac, includes frequencies of Bluetooth, ZigBee, and WiMAX products)

### Part Number: 1513712-1

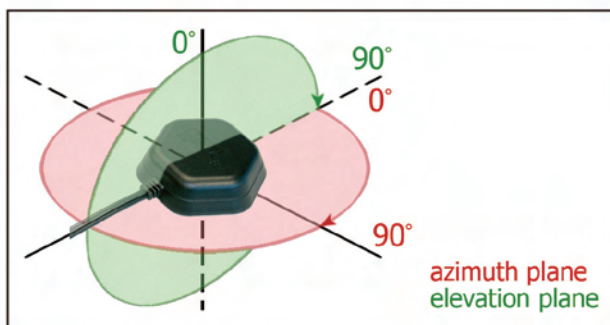
- ▶ 3 element quad-band vertically polarized omnidirectional, hemispherical antenna with 0.8 meter cable and QSL type 3 port connector with attachment screws and flange (RPSMA optional)
- ▶ QSL test adaptor with SMA launches— Part number 1513743-1
- ▶ IEEE 802.11 a/b/g/n/ac and WiMAX frequency coverage
- ▶ RoHS compliant



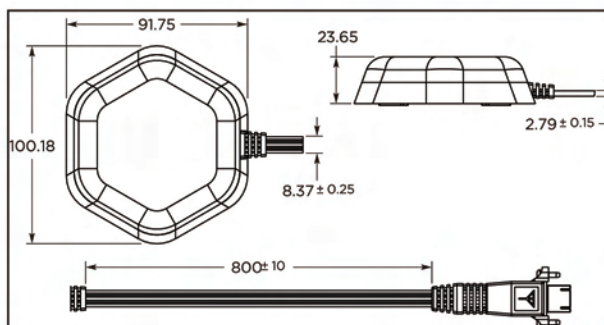
### Specifications

- Frequency Range (MHz)
  - 2300 – 2700
  - 3300 – 3800
  - 4900 – 5875
- Peak Gain
  - 0 dBi @ 2300 MHz
  - 3 dBi @ 3500 MHz
  - 2 dBi @ 5470 MHz
- VSWR < 2.5 : 1
- Operating Temperature -40°C to 70°C
- Polarization Vertical linear
- Power Handling 10 Watt cw
- Feed Point Impedance 50 Ohms
- Size 100.18 mm x 91.75 mm x 23.65 mm
- Weight < 130 g

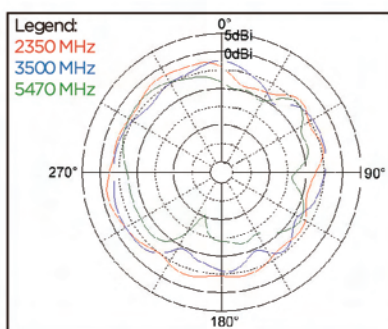
### Test Orientation in Free Space



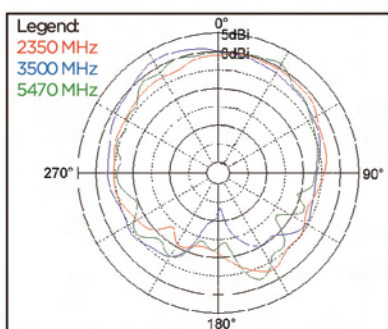
### Approx. Dimensions



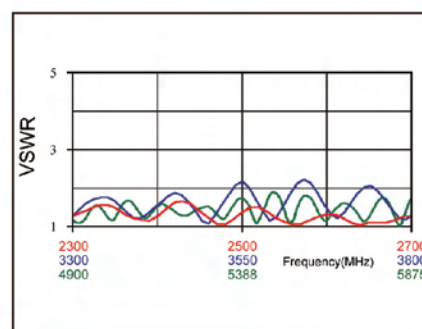
### Azimuth



### Elevation

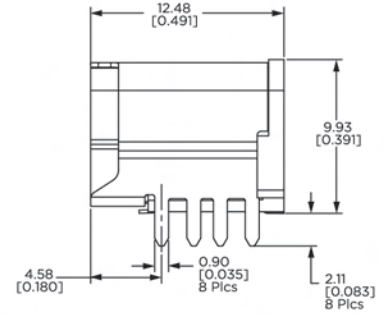
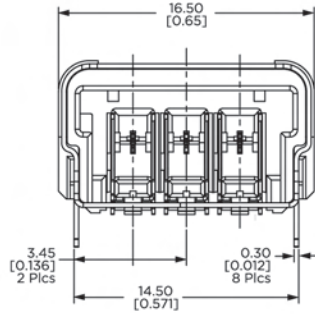
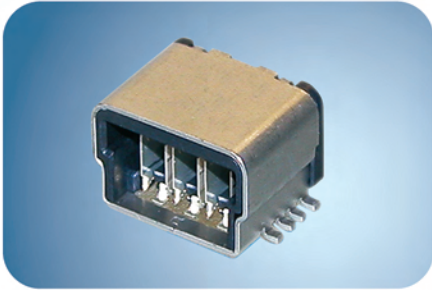


### VSWR

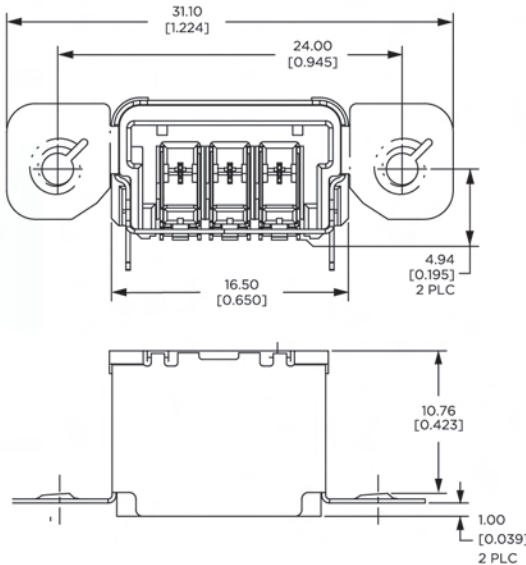


## PCB Receptacles

**Part Number: 2016032-1**



**Part Number: 1274824-2**



## QSL Connector Mated Pair VSWR Test Boards

**Part Number: 2032605-1**



Test dongle, QSL to SMA

**Part Number: 1513743-1**



Test board with Receptacle, QSL to SMA

**Part Number: 2016008-1**



Test board with Receptacle, QSL to UMCC

## QSL RF Connector Specifications



### Electrical

- Characteristic Impedance 50 Ohms\*
- Frequency Range DC-6 GHz
- VSWR\*\*:
  - DC-3 GHz 1.3 max
  - 3-6 GHz 1.45 max
- Insertion Loss:
  - DC-3 GHz 0.30 dB max
  - 3-6 GHz 0.40 dB max
- Rated Voltage 60 VAC
- Rated Current Per Port 5 A max
- Diel. Withstanding Voltage 800 VAC
- Insulation Resistance 100 milliohms min
- Contact Resistance
  - Center 20 milliohms max
  - Outer 20 milliohms max

\* 75 Ohm available upon request  
 \*\* Mated Pair

### Mechanical / Environmental

- Engagement Force < 40 N
- Disengagement Force < 30 N
- Cable Retention > 110 N
- Operating Temperature -40 to + 85°C
- Durability 500 cycles

### Material and Finish

Part Description	Material	Finish
Housing (Cable Plug)	PBT	Black, UL 94V-0
Housing (Receptacle)	LCP	Black, UL 94V-0
Hold Downs / Shell	Copper Alloy	Sn over Ni
Shield & Strain Relief (Cable Plug)	Copper Alloy	*
Shield (Receptacle)	Copper Alloy	*
Center Contact (Cable & Receptacle)	Copper Alloy	*
Insulator (Cable Plug)	Copper Alloy	Black, UL 94HB

\* Conforms to the requirements of EIA/ECA-364-1000.01A (controlled environment applications), and TE production specification 108-2324.

## FOR MORE INFORMATION

### TE Technical Support Center

Austria: +43 (0) 1-9056-0

Baltic Regions: +44 (0) 1-382508080

Canada: +1 (800) 522-6752

China: +86 (0) 400-820-6015

France: +33 (0) 1-3420-8686

Germany: +49 (0) 6151-607-1999

Italy: +39 (0) 011-401-2111

Latin/S. America: +54 (0) 11-4733-2200

Mexico: +52 (0) 55-1106-0800

Netherlands: +31 (0) 73-6246-999

Nordic: +46 (0) 8-5072-5000

Spain/Portugal: +34 (0) 932-910-330

Switzerland: +41 (0) 71-447-0447

UK: +44 (0) 800-267666

USA: +1 (800) 522-6752

For other country number go to [te.com/supportcenter](http://te.com/supportcenter)

Part numbers in this brochure are RoHS Compliant\*, unless marked otherwise.

\*as defined [www.te.com/leadfree](http://www.te.com/leadfree)

[te.com](http://te.com)

©2013 Tyco Electronics Corporation, a TE Connectivity Ltd. Company. All Rights Reserved.

7-1773452-7 Rev.3 CS 06/2013

TE Connectivity and TE connectivity (logo) are trademarks.

ZigBee is a trademark of ZigBee Alliance.

Bluetooth is a trademark of Bluetooth SIG, Inc.

WiMax is a trademark of WiMax Forum.

Wi-Fi is a trademark of Wi-Fi Alliance.

Other logos, product and/or company names might be trademarks of their respective owners.

While TE has made every reasonable effort to ensure the accuracy of the information in this brochure, TE does not guarantee that it is error-free, nor does TE make any other representation, warranty or guarantee that the information is accurate, correct, reliable or current. TE reserves the right to make any adjustments to the information contained herein at any time without notice. TE expressly disclaims all implied warranties regarding the information contained herein, including, but not limited to, any implied warranties of merchantability or fitness for a particular purpose. The dimensions in this catalog are for reference purposes only and are subject to change without notice. Specifications are subject to change without notice. Consult TE for the latest dimensions and design specifications.

