

698-4200 MHZ VDP 5G/LTE CELLULAR, NB-IOT, CAT-M WIDEBAND FPC ANTENNAS

FEATURES & BENEFITS

- Cellular world band coverage 698-4200 MHz for 5G, LTE, NB-IoT and Cat-M
- Covers European bands and commonly used world wide bands (excl. band 71)
- Flexible antenna with adhesive backing simplifies mounting within the device
- Different cable length and connector options available

MATING COMPONENTS TO PART NUMBERS AND DIMENSIONS

PART NUMBER	CABLE LENGTH		CABLE O.D, MM	CONNECTOR TYPE (ON CABLE)	MATING COMPONENTS	
	MM	INCH			PART NUMBER	IMAGE
L000486-1	50	1.97	1.13	MHF-TYPE PLUG	RECEPTACLE (TE PN: 2337019-1)	
L000486-2	100	3.94	1.13	MHF-TYPE PLUG	RECEPTACLE (TE PN: 2337019-1)	
L000486-3	150	5.91	1.13	MHF-TYPE PLUG	RECEPTACLE (TE PN: 2337019-1)	
L000486-4	200	7.87	1.13	MHF-TYPE PLUG	RECEPTACLE (TE PN: 2337019-1)	
L000486-5	50	1.97	1.13	MHF4L-TYPE PLUG	RECEPTACLE (TE PN: 2334884-1)	
L000486-6	100	3.94	1.13	MHF4L-TYPE PLUG	RECEPTACLE (TE PN: 2334884-1)	
L000486-7	150	5.91	1.13	MHF4L-TYPE PLUG	RECEPTACLE (TE PN: 2334884-1)	
L000486-8	200	7.87	1.13	MHF4L-TYPE PLUG	RECEPTACLE (TE PN: 2334884-1)	

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Standard Antenna Solutions

SPECIFICATIONS

Power Handling	10 Watt cw
Feed Point Impedance	50 ohms
Polarization	Linear
Size	90.0 mm x 15.0 mm x 1.20 mm
Weight	< 3.7 g
Mounting	Adhesive Tape
Mating Connectors	MHF and MHF4L type, Refer to page 10
Cable	1.13mm Dia., Refer to page 10
Operating Temperature	-40 to +85°C
Storage Temperature	-40 to +85°C
Hazardous Materials	A certificate of conformance is available from the product page on TE website

ANTENNA RF SPECIFICATIONS WITH DIFFERENT CABLE ASSEMBLIES

Cable Length	RF DATA	Frequency Range (MHz)						
		698-960	1427-1517	1690-2200	2200-2400	2496-2690	3300-3800	3800-4200
50 mm	VSWR	< 3.0 :1	< 3.0 :1	<3.0 :1	< 2.5 :1	< 2.5 :1	<2.0 :1	<2.0 :1
	Avg. Efficiency	49.1 %	65.4 %	57.9 %	54.6 %	58 %	62.7 %	67.5 %
	Peak Gain (Max)	1.3 dBi	3.8 dBi	3.2 dBi	3.5 dBi	3.9 dBi	3.5 dBi	3.9 dBi
	Average Gain	-3.1 dBi	-1.9 dBi	-2.5 dBi	-2.6 dBi	2.4 dBi	-2.0 dBi	-2.4 dBi
100 mm	VSWR	< 3.0 :1	< 2.5 :1	<2.5 :1	< 2.5 :1	< 2.5 :1	<2.0 :1	<2.0 :1
	Avg. Efficiency	46 %	53 %	55 %	52 %	54 %	62 %	64 %
	Peak Gain (Max)	0.69 dBi	3.6 dBi	4.11 dBi	5.56 dBi	2.98 dBi	3.11 dBi	2.74 dBi
	Average Gain	-3.4 dBi	-2.7 dB	-2.7 dBi	-2.9 dBi	-2.7 dBi	-2.1 dBi	-1.9 dBi
150 mm	VSWR	< 2.5 :1	< 2.5 :1	< 2.5 :1	< 2.5 :1	< 2.5 :1	<2.0 :1	<2.0 :1
	Avg. Efficiency	55.8 %	73.3 %	57.5 %	56.1 %	57.8 %	63.3 %	62.4 %
	Peak Gain (Max)	2.3 dBi	4.0 dBi	3.3 dBi	3.1 dBi	3.5 dBi	2.9 dBi	3.3 dBi
	Average Gain	-2.6 dBi	-1.4 dBi	-2.5 dBi	-2.6 dBi	-2.4 dBi	-2.0 dBi	-2.1 dBi
200 mm	VSWR	< 2.5 :1	< 2.5 :1	< 2.5 :1	< 2.5 :1	< 2.5 :1	<2.0 :1	<2.0 :1
	Avg. Efficiency	57.2 %	64.9 %	59.2 %	53.5 %	55.7 %	59.9 %	58.4 %
	Peak Gain (Max)	2.6 dBi	2.7 dBi	2.9 dBi	3.0 dBi	3.6 dB	2.8 dBi	2.6 dBi
	Average Gain	-2.4 dBi	-1.9 dBi	-2.4 dBi	-2.7 dBi	-2.5 dBi	-2.2 dBi	-2.3 dBi

CABLE LOSS

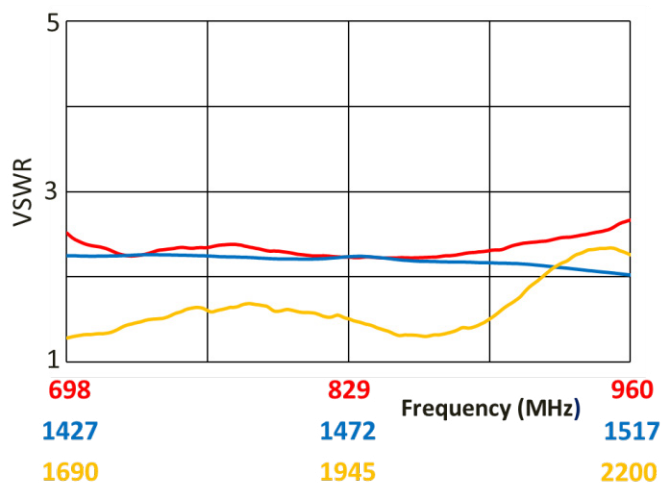
OD 1.13mm

Freq. Range (MHz)	617-960	1427-1517	1690-2400	2496-2690	3300-3800	3800-4200	4400-5000
Cable attenuation (dB/m)	< 2.2	<2.9	< 3.69	< 4.0	<4.5	< 4.7	< 5.0

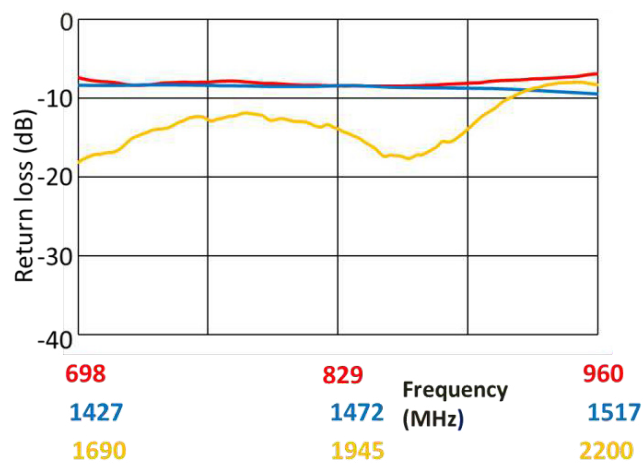
RF DATA

(Shown as L000486-2 : Others can vary with different cable lengths.)

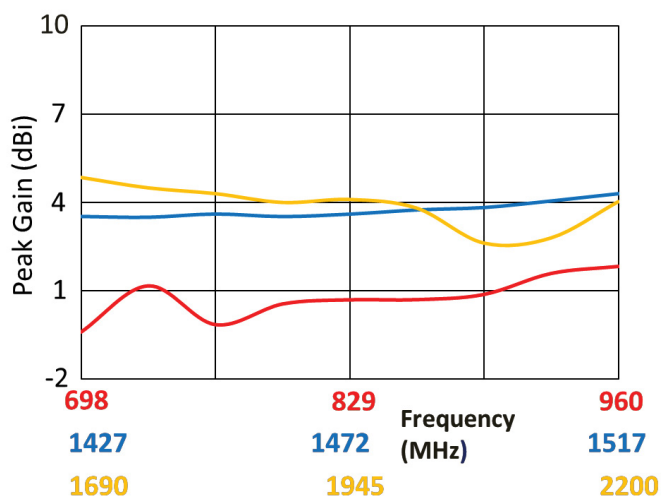
VSWR



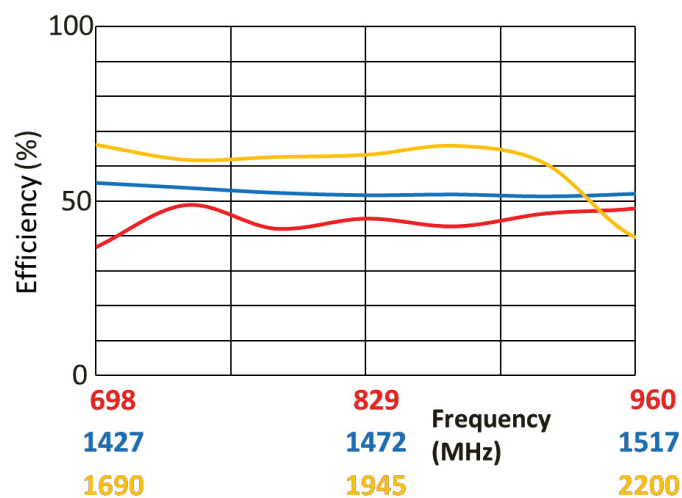
Return Loss



Peak Gain



Efficiency

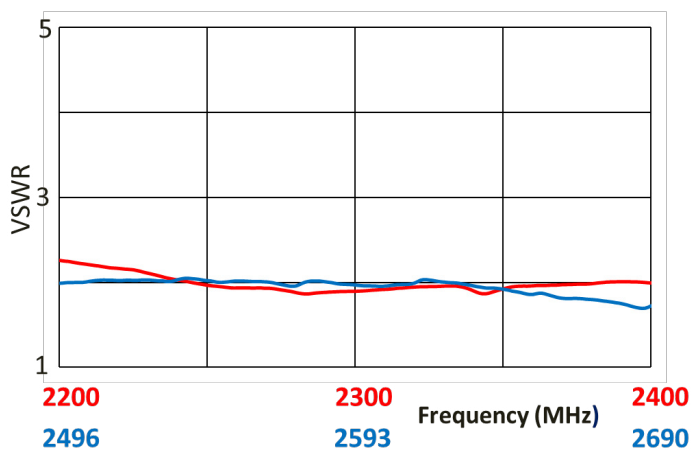


Data measured in free space and on 150 x 150 x 1.8 mm PC plastic

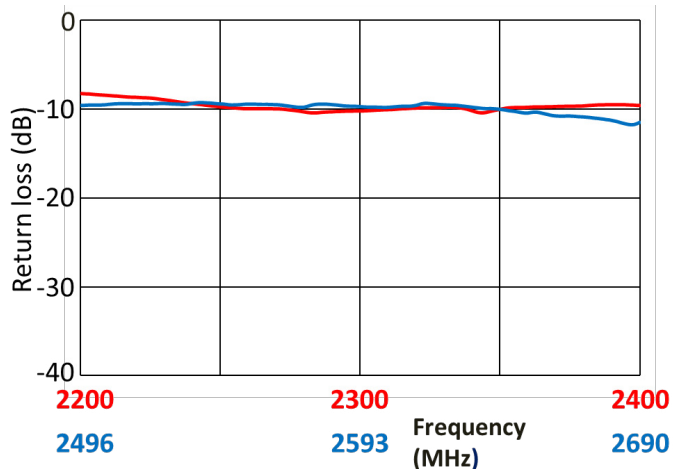
RF DATA

(Shown as L000486-2 : Others can vary with different cable lengths.)

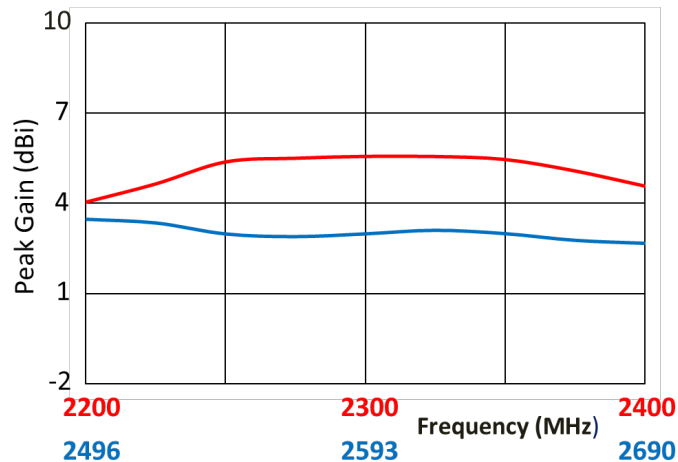
VSWR



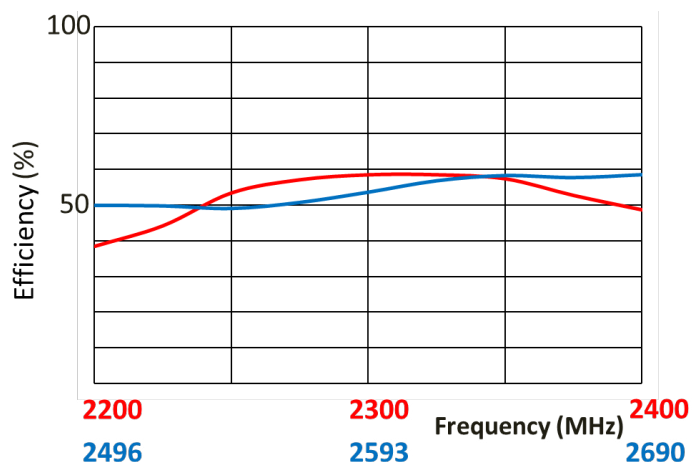
Return Loss



Peak Gain



Efficiency

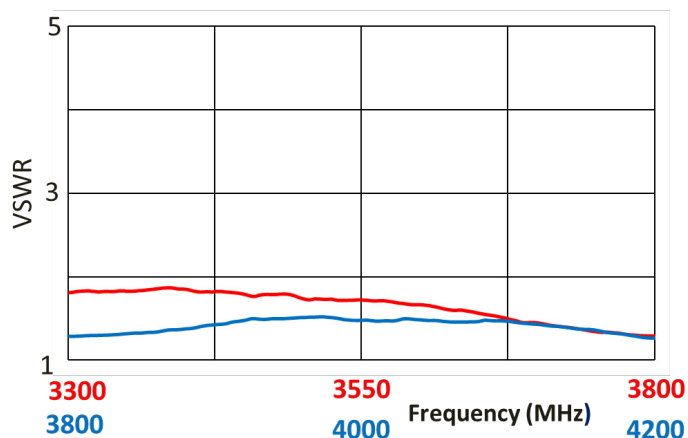


Data measured in free space and on 150 x 150 x 1.8 mm PC plastic

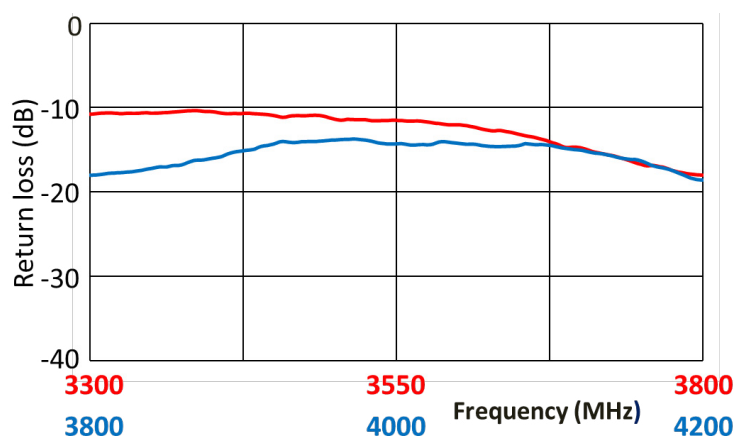
RF DATA

(Shown as L000486-2 : Others can vary with different cable lengths.)

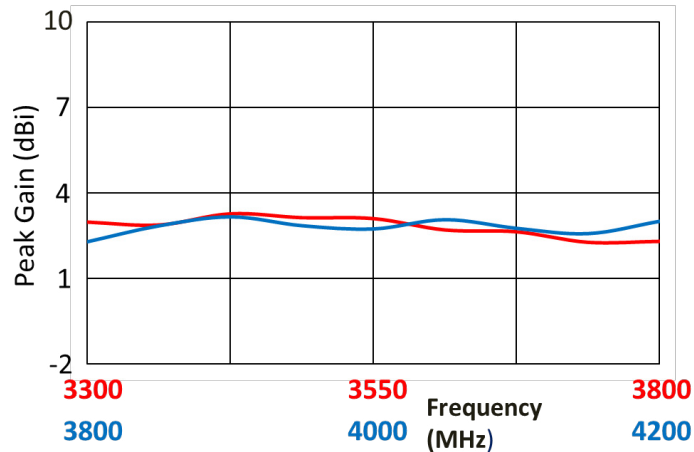
VSWR



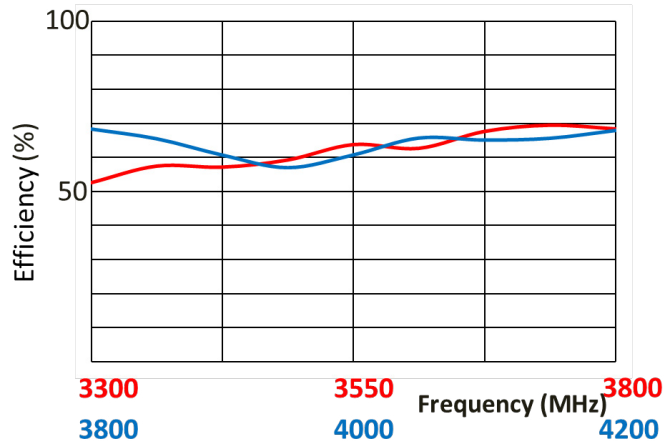
Return Loss



Peak Gain



Efficiency

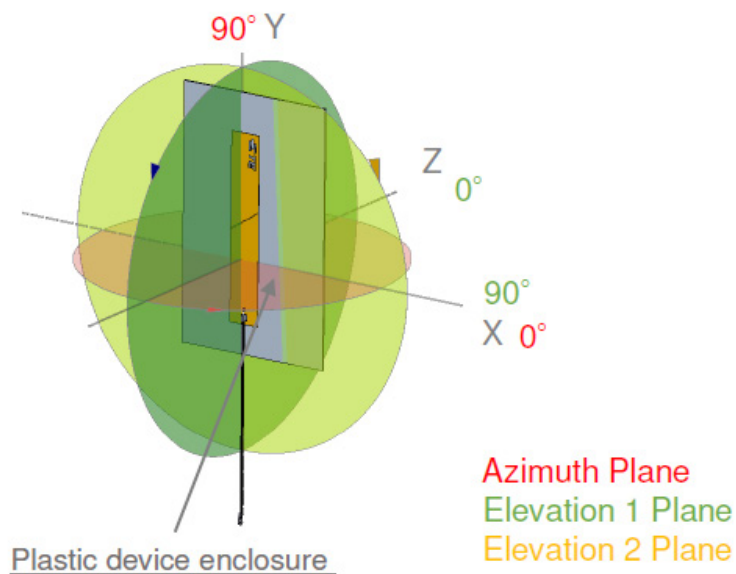


Data measured in free space and on 150 x 150 x 1.8 mm PC plastic

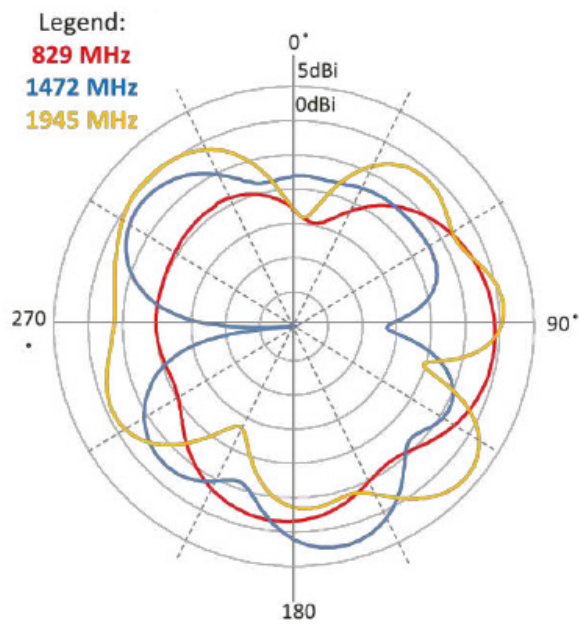
RADIATION PATTERN

(Shown as L000486-2 : Others can vary with different cable lengths.)

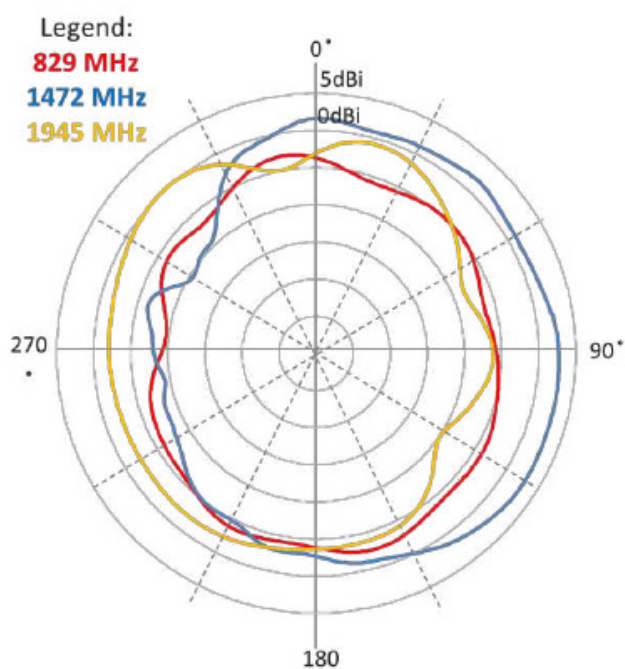
Test setup



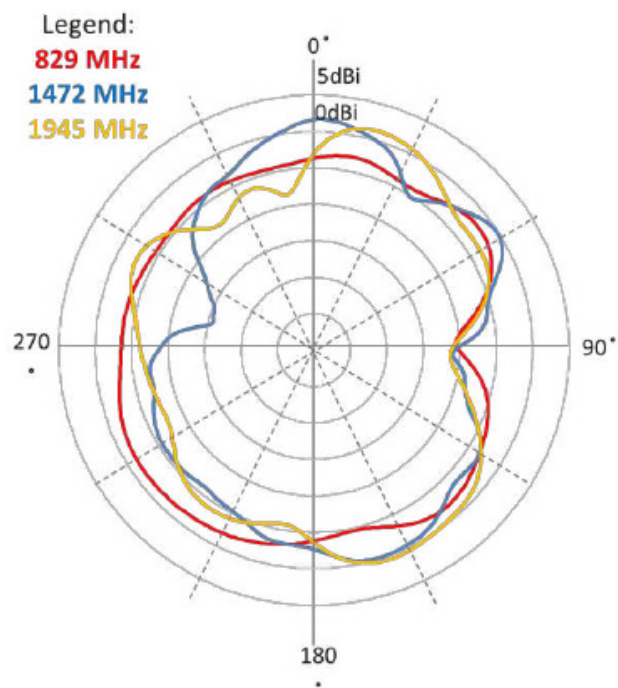
Azimuth(XY)



Elevation 1(XZ)



Elevation 2(YZ)

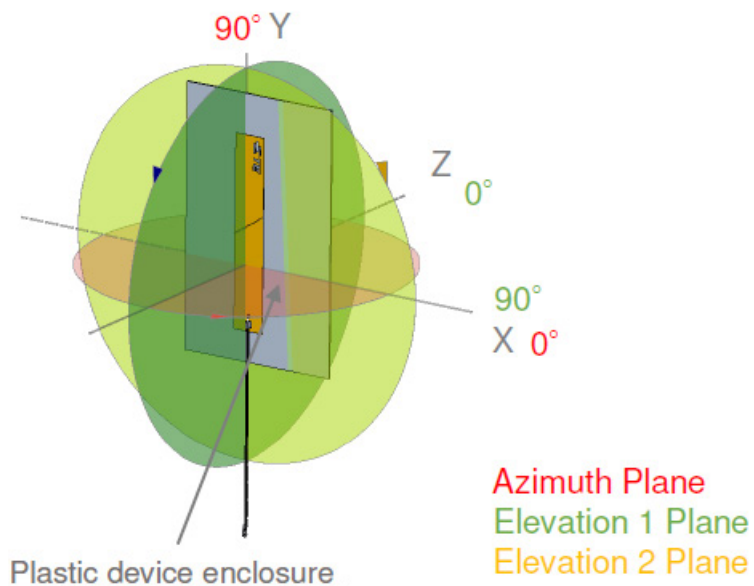


Data measured in free space and on 150 x 150 x 1.8 mm PC plastic

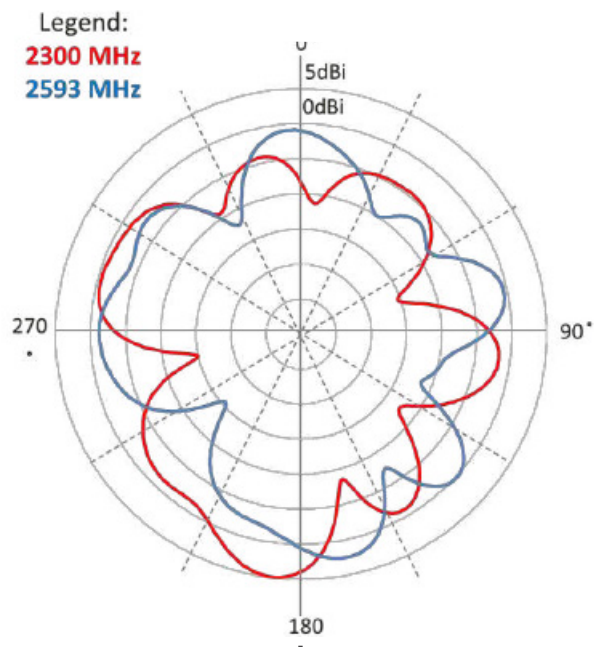
RADIATION PATTERN

(Shown as L000486-2 : Others can vary with different cable lengths.)

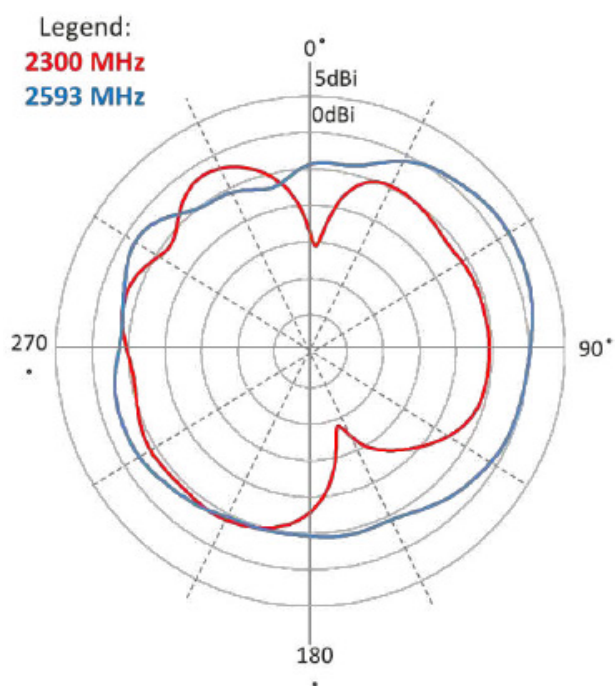
Test setup



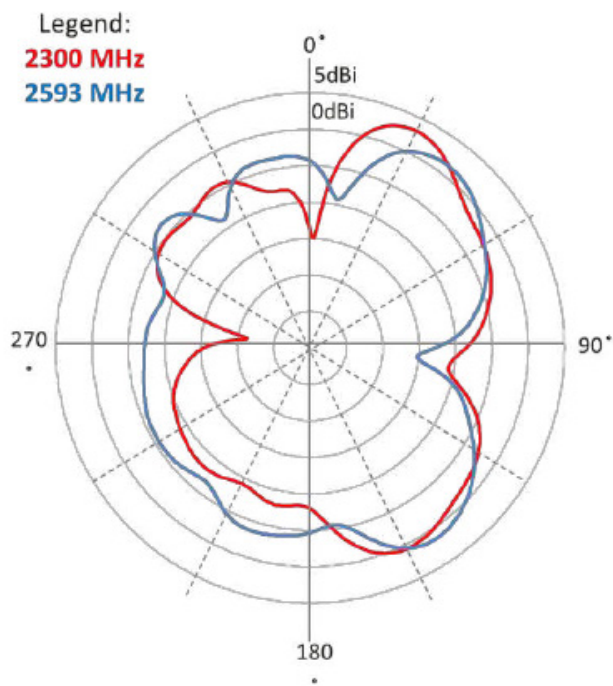
Azimuth(XY)



Elevation 1(XZ)



Elevation 2(YZ)

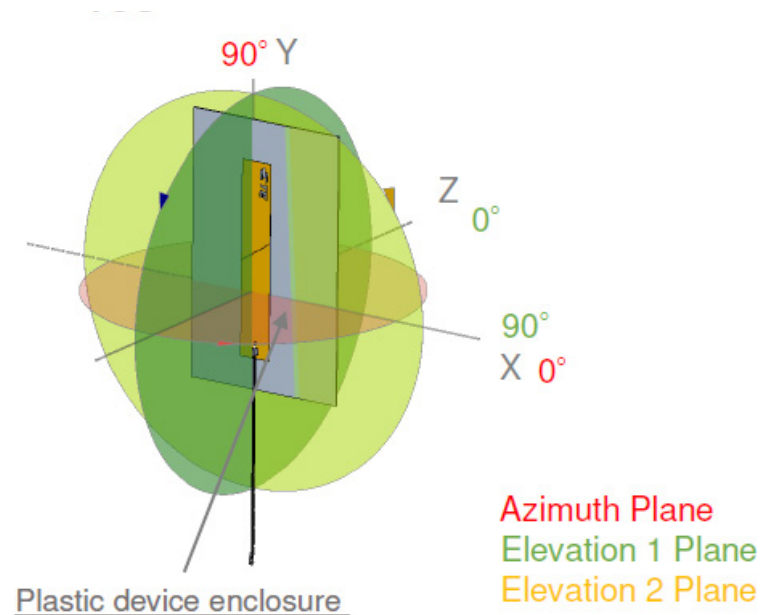


Data measured in free space and on 150 x 150 x 1.8 mm PC plastic

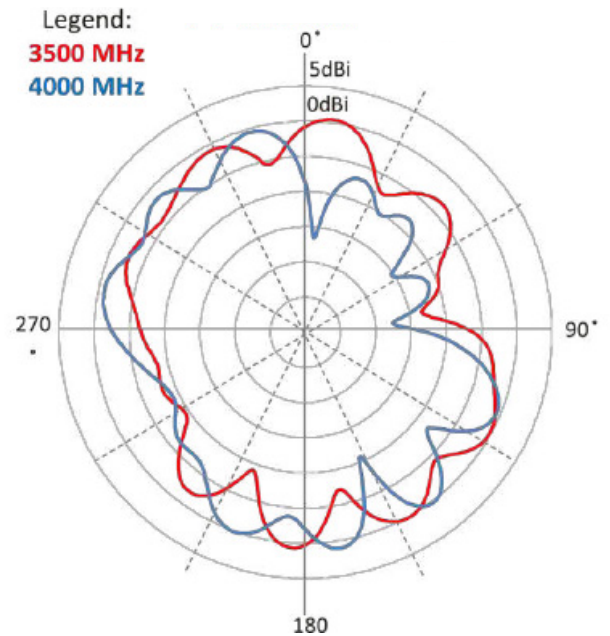
RADIATION PATTERN

(Shown as L000486-2 : Others can vary with different cable lengths.)

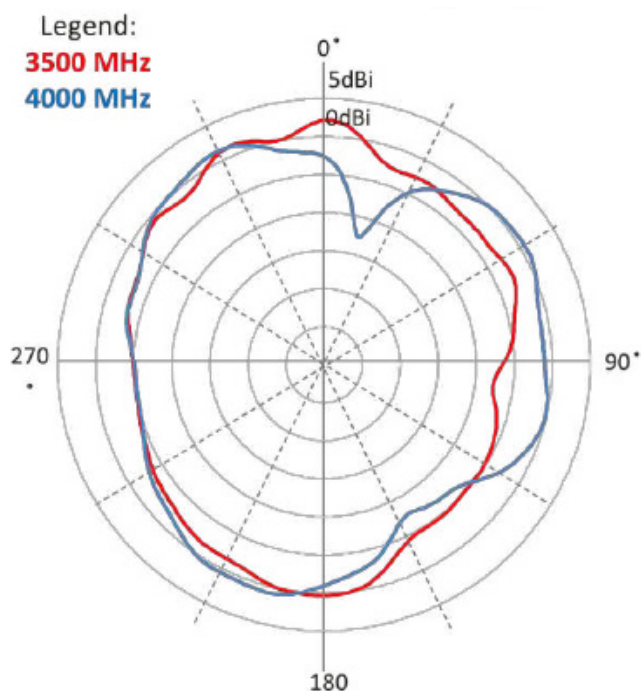
Test setup



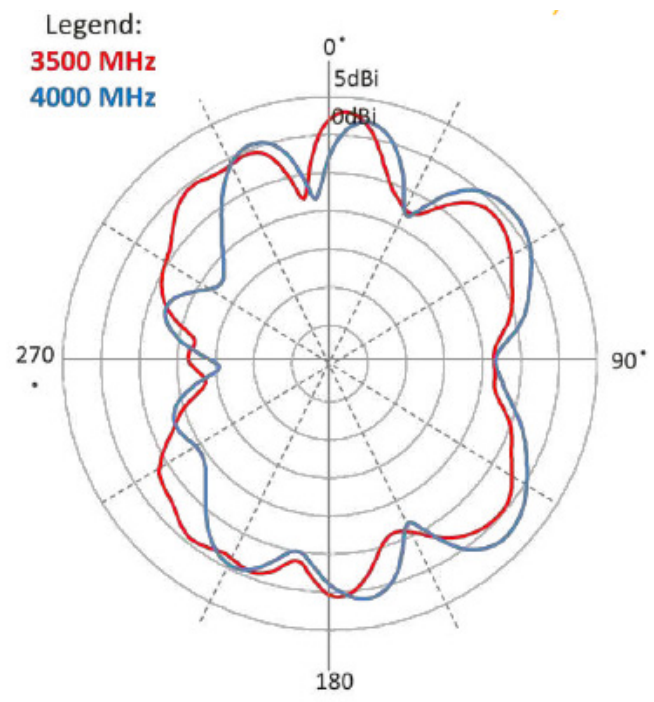
Azimuth(XY)



Elevation 1(XZ)



Elevation 2(YZ)



Data measured in free space and on 150 x 150 x 1.8 mm PC plastic

Technical drawing of a rectangular antenna assembly. The drawing consists of two views: a top view (left) and a side view (right).

Top View (Left):

- A blue rectangular area represents the antenna assembly.
- A red rectangular outline is centered within the blue area, labeled "Antenna Outline".
- The text "L000486-2" is printed within the blue area.
- A dimension of $10.00(2X)$ is shown for the width of the blue area.
- A dimension of 10.00 is shown for the height of the blue area.
- A label "PLASTIC" is located below the blue area.
- A blue circle with an arrow pointing to the top view is labeled "Keep Out Area".

Side View (Right):

- A blue rectangular area represents the antenna assembly.
- A red rectangular outline is centered within the blue area, labeled "Antenna Outline".
- The text "L000486-2" is printed within the blue area.
- A dimension of $10.00(2X)$ is shown for the width of the blue area.
- A dimension of 10.00 is shown for the height of the blue area.
- A label "PLASTIC" is located below the blue area.
- A blue circle with an arrow pointing to the side view is labeled "Keep Out Area".

1. Antenna designed to be mounted on plastic cover.
2. Area in blue indicates Keep Out Area
3. Contact TE if keep out zone cannot be guaranteed.

Diagram is not to scale

(Refer to Page 10 for dimension "A")

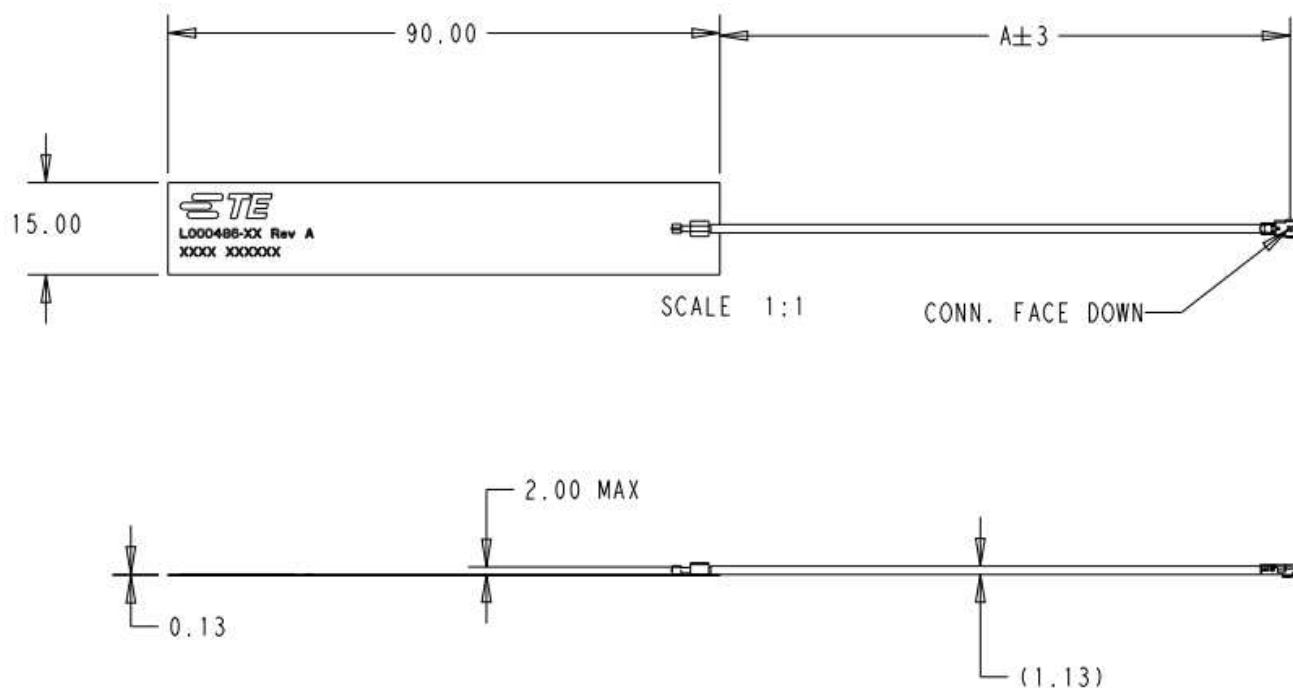
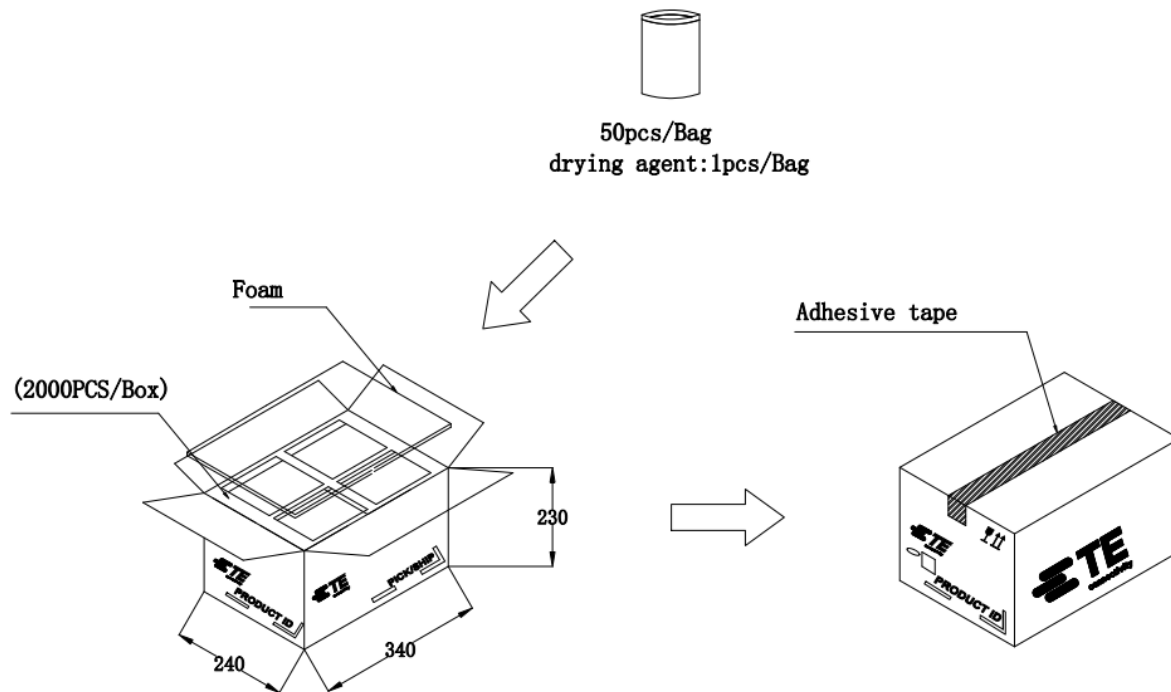


Diagram is not to scale

PACKAGING



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