



# 5G/4G/3G/2G, NB-IoT, Cat-M, GNSS, Wi-Fi 6E WORLD BAND ANTENNA

**Part Numbers: 2195846-1, 2195846-2  
2195846-3, 2195846-4  
2195846-5, 2195846-6  
2195846-7, 2195846-8**

## FEATURES & BENEFITS

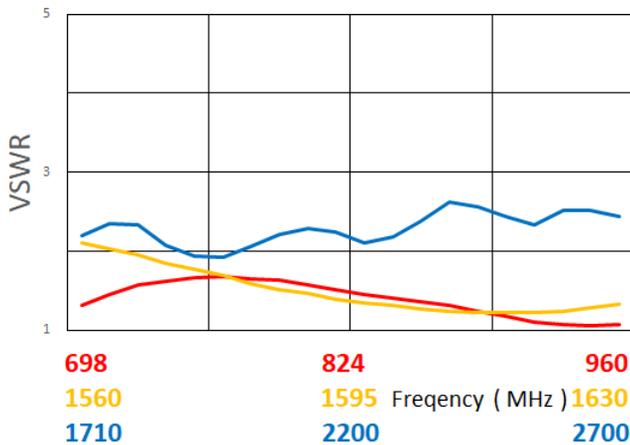
- Omnidirectional coverage
- Cabled FPC antenna
- Uses MetaSpan technology for World band coverage for 3G, 4G, 5G, NB-IoT and Cat-M
- Wi-Fi 6E triple band, Bluetooth, Zigbee and GNSS L1 included
- Adhesive backing on the FPC simplifies mounting within the device
- Different cable length and connector options available

## SPECIFICATIONS ( Shown as 2195846-4 : Others can vary with different cable lengths. )

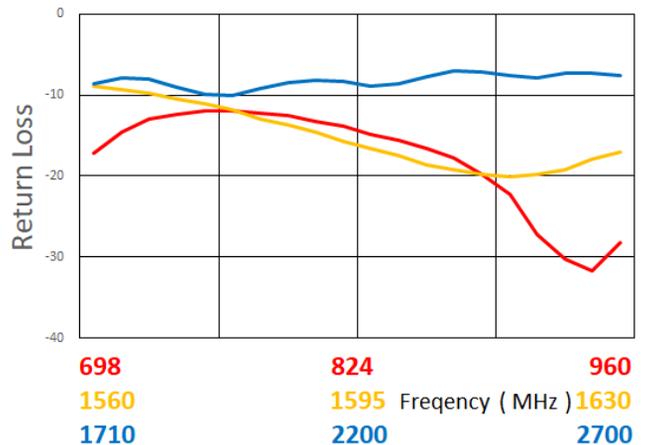
Frequency Range (MHz)	698-960	1560-1630	1710-2700	3200-3800	4400-5000	5150-5875	5925-7125
VSWR	< 1.7 : 1	< 2.1 : 1	< 2.6 : 1	< 1.9 : 1	< 1.8 : 1	< 1.5 : 1	< 2.3 : 1
Average Efficiency	49%	54%	57%	71%	71%	72%	59%
Peak Gain	-1.7 dBi	4.0 dBi	3.2 dBi	3.7 dBi	4.7 dBi	4.2 dBi	6.7 dBi
Average Gain	-3.1 dBi	-2.7 dBi	-2.4 dBi	-1.5 dBi	-1.5 dBi	-1.4 dBi	-2.3 dBi
Power Handling	10 Watt cw						
Feed Point Impedance	50 ohms unbalanced						
Polarization	Linear						
Size	80.0 mm x 15.0 mm x 0.2 mm						
Weight	< 1.5 g						
Mounting	Adhesive Tape						
Mating Connector	MHF and MHF4L type, Refer to page 9						
Cable (coaxial)	1.13 mm Dia. & 1.37 mm Dia. Refer to page 9						
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.						

**RF DATA** ( Shown as 2195846-4 : Others can vary with different cable lengths. )

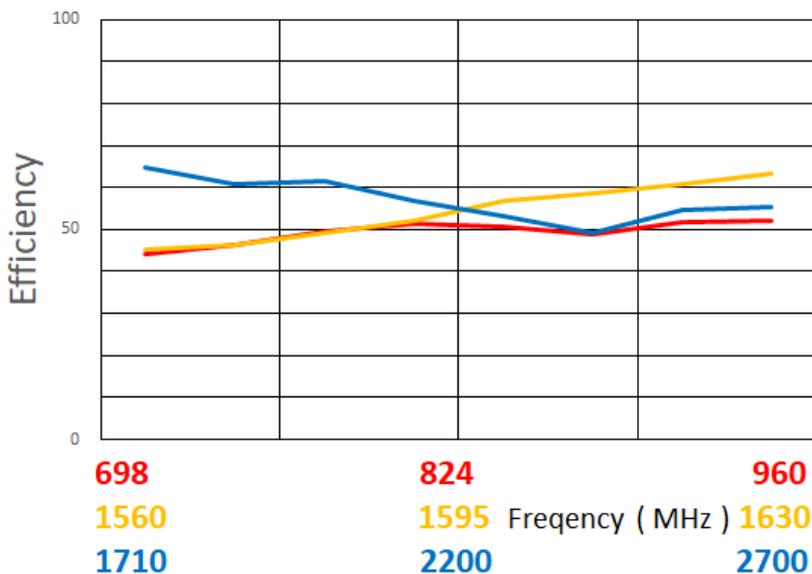
VSWR



Return Loss



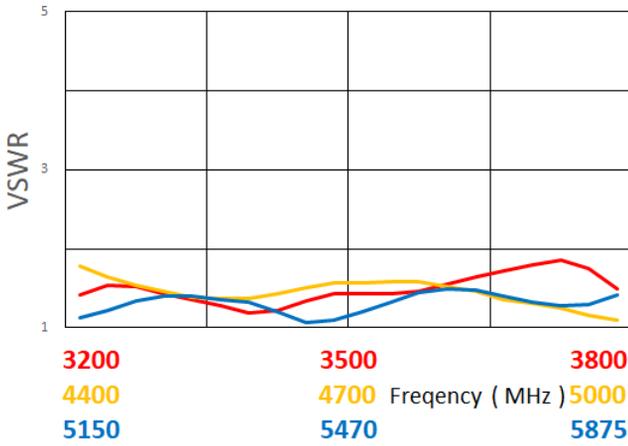
Efficiency



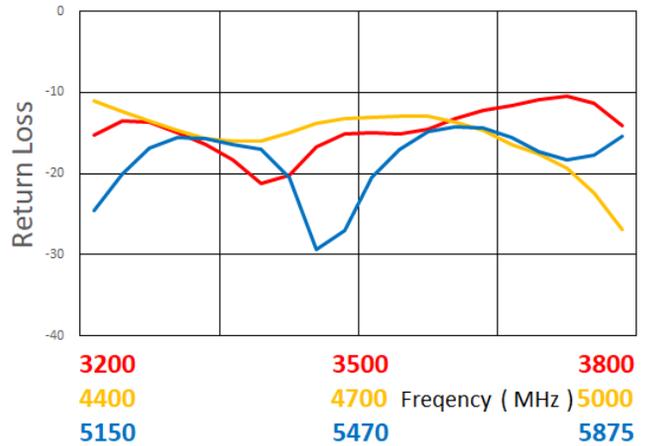
Data measured in free space and on plastic device enclosure

**RF DATA** ( Shown as 2195846-4 : Others can vary with different cable lengths. )

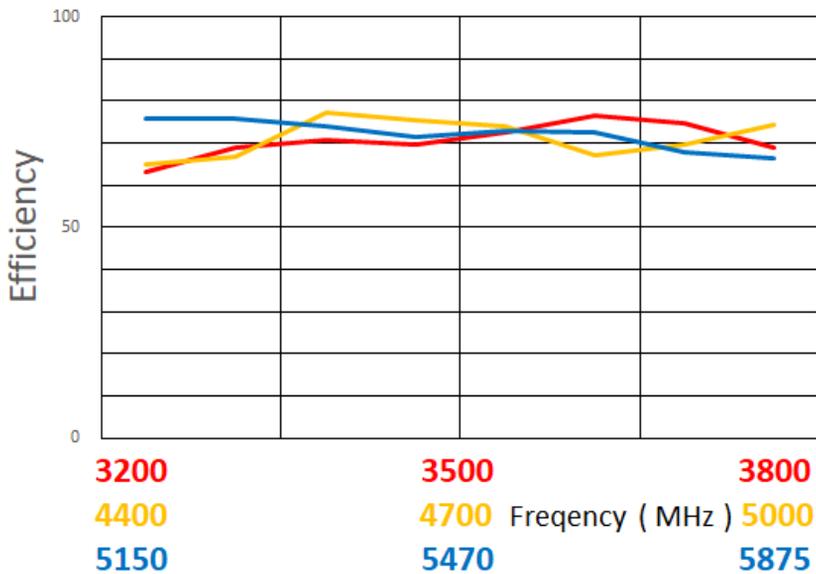
VSWR



Return Loss



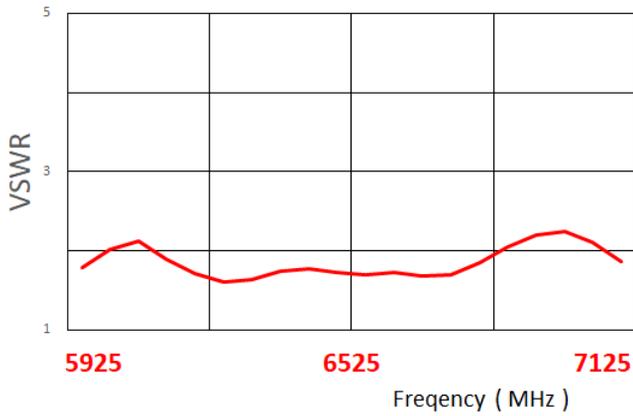
Efficiency



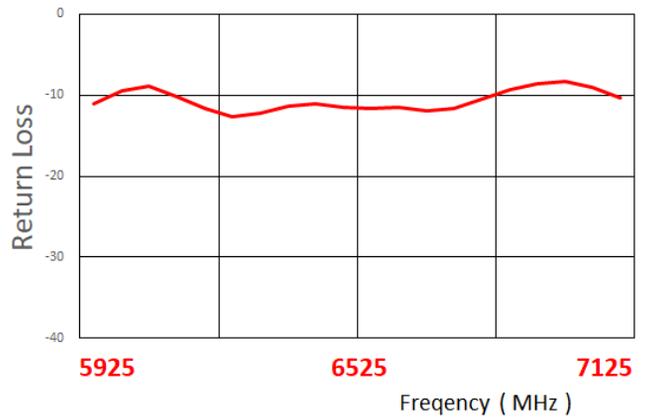
Data measured in free space and on plastic device enclosure

## RF DATA ( Shown as 2195846-4 : Others can vary with different cable lengths. )

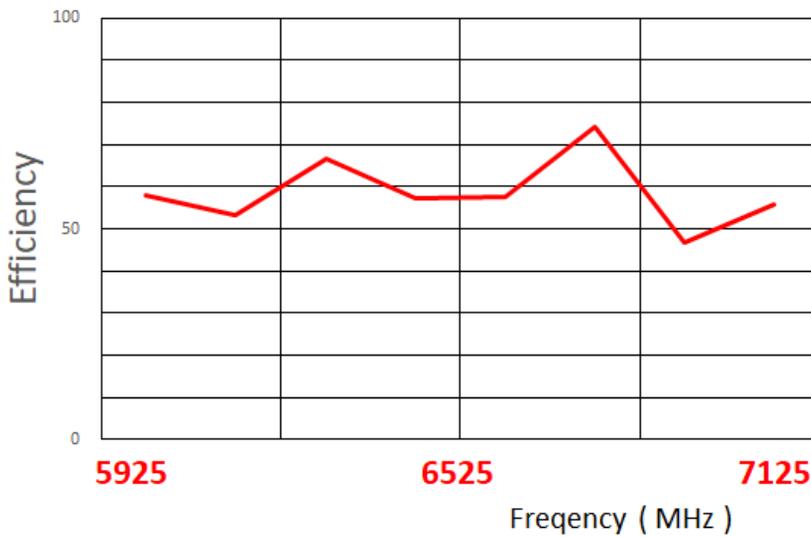
### VSWR



### Return Loss



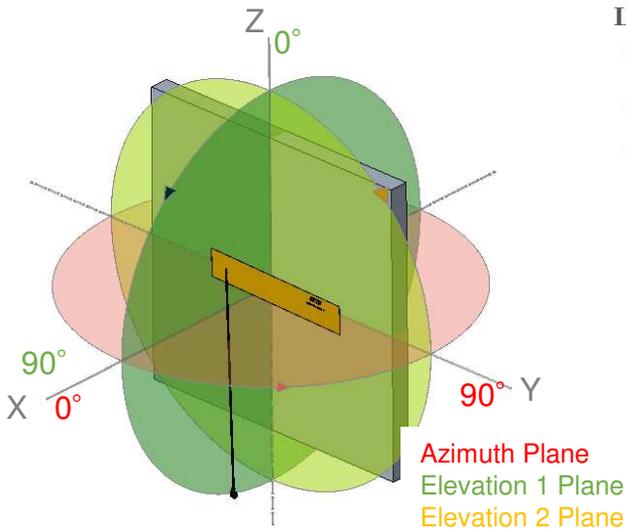
### Efficiency



Data measured in free space and on plastic device enclosure

# RADIATION PATTERN ( Shown as 2195846-4 : Others can vary with different cable lengths)

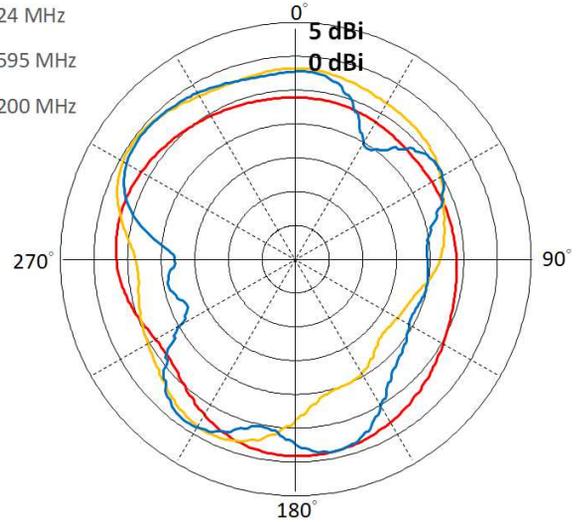
## Test setup



## Azimuth

**Legend :**

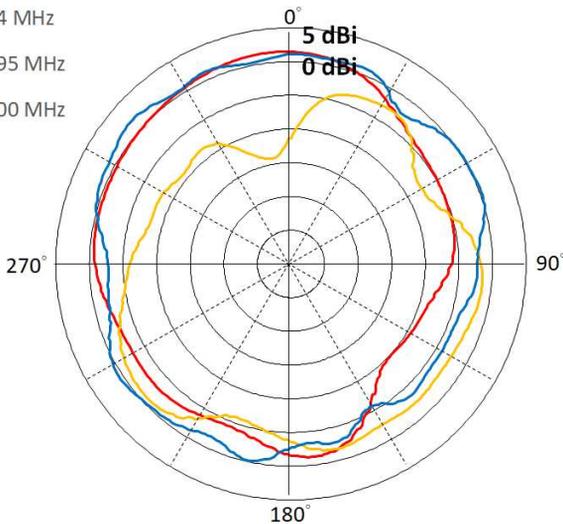
- 824 MHz
- 1595 MHz
- 2200 MHz



## Elevation 1

**Legend :**

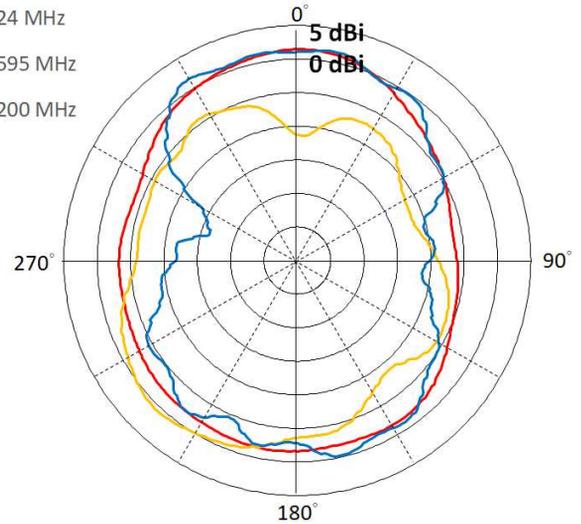
- 824 MHz
- 1595 MHz
- 2200 MHz



## Elevation 2

**Legend :**

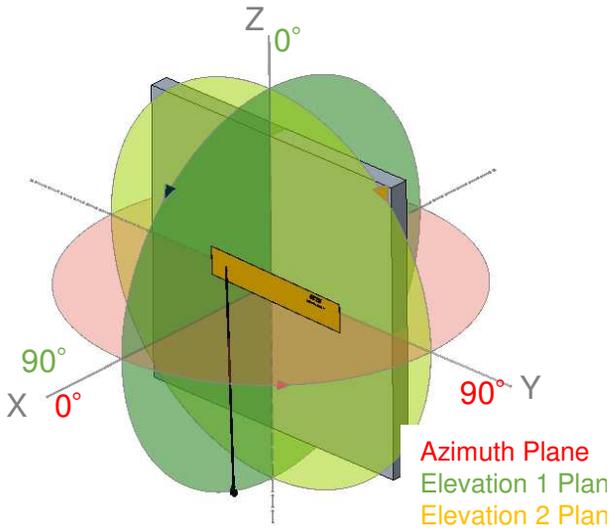
- 824 MHz
- 1595 MHz
- 2200 MHz



Data measured in free space and on plastic device enclosure

## RADIATION PATTERN ( Shown as 2195846-4 : Others can vary with different cable lengths)

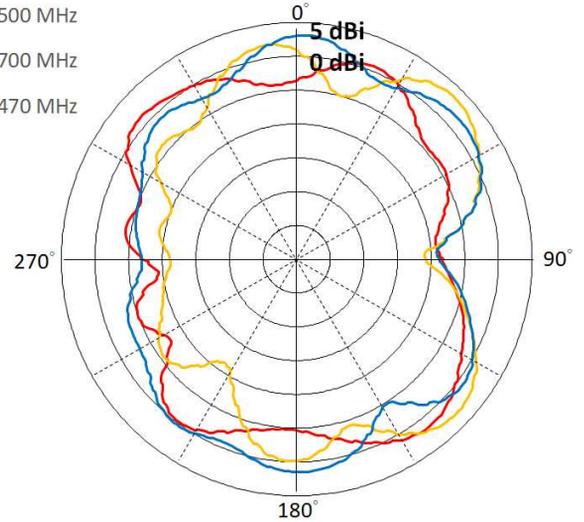
### Test setup



### Azimuth

Legend :

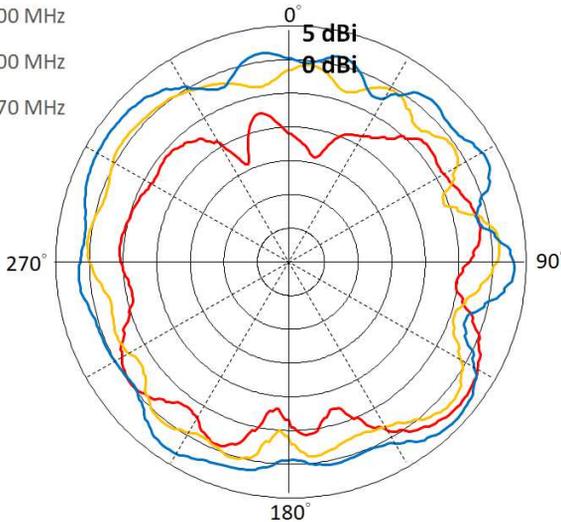
- 3500 MHz
- 4700 MHz
- 5470 MHz



### Elevation 1

Legend :

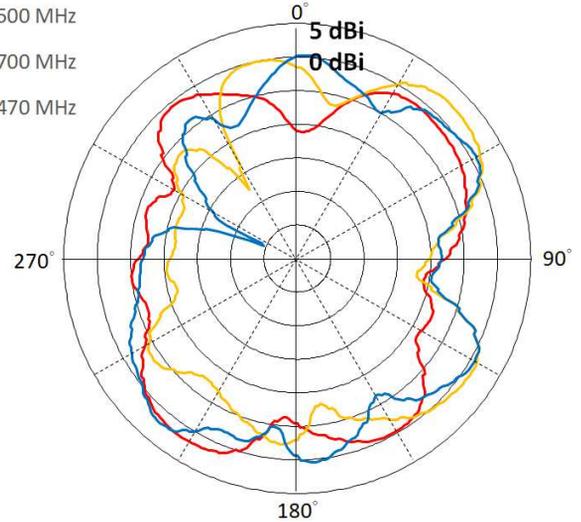
- 3500 MHz
- 4700 MHz
- 5470 MHz



### Elevation 2

Legend :

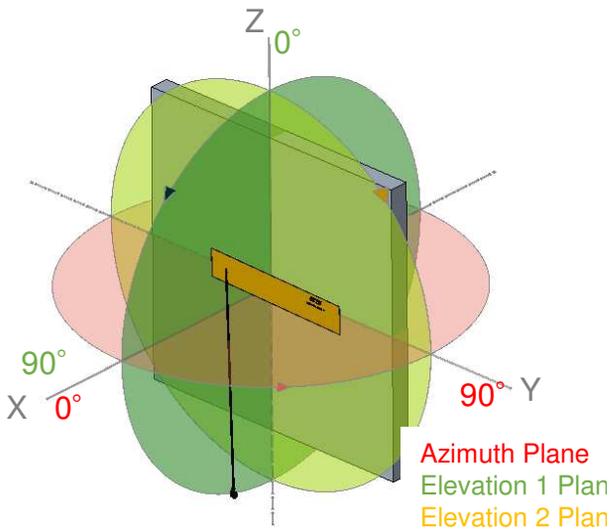
- 3500 MHz
- 4700 MHz
- 5470 MHz



Data measured in free space and on plastic device enclosure

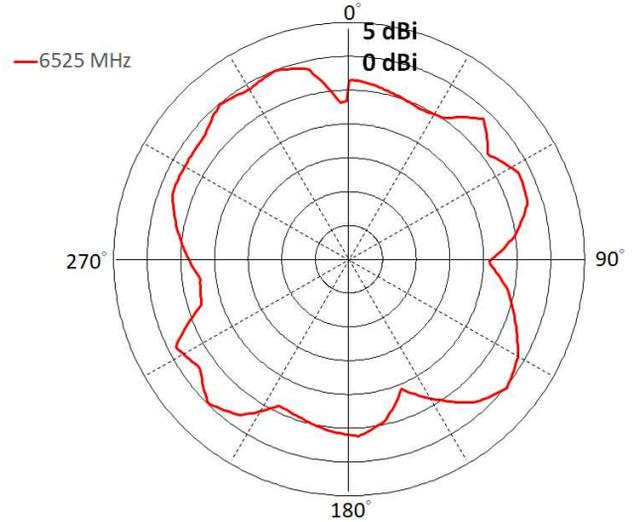
## RADIATION PATTERN ( Shown as 2195846-4 : Others can vary with different cable lengths)

### Test setup



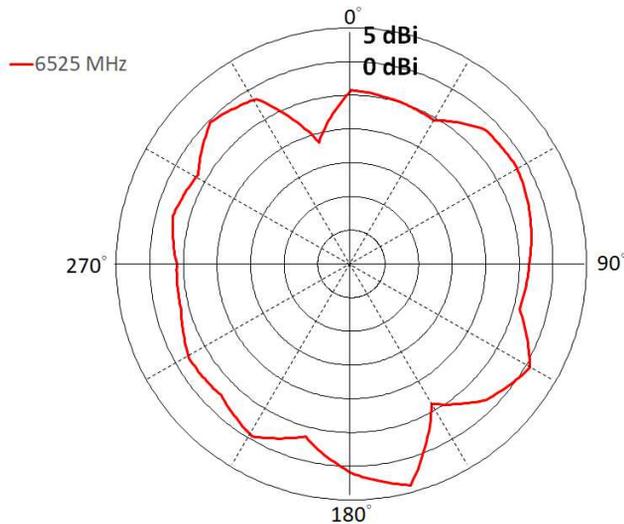
### Azimuth

Legend :



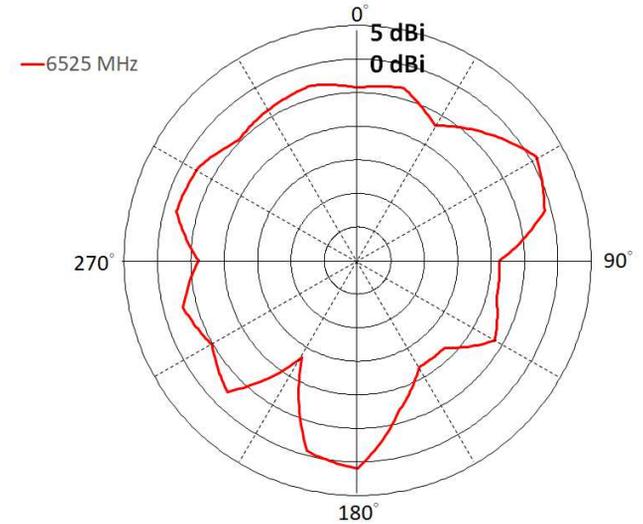
### Elevation 1

Legend :



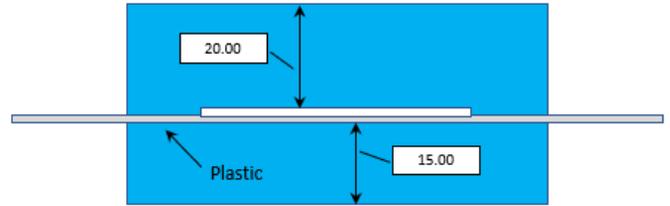
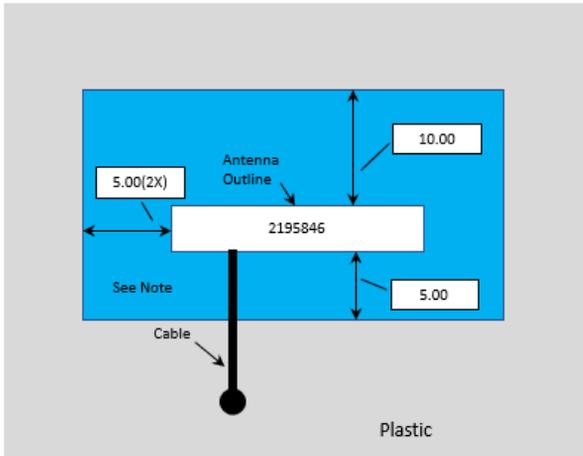
### Elevation 2

Legend :



Data measured in free space and on plastic device enclosure

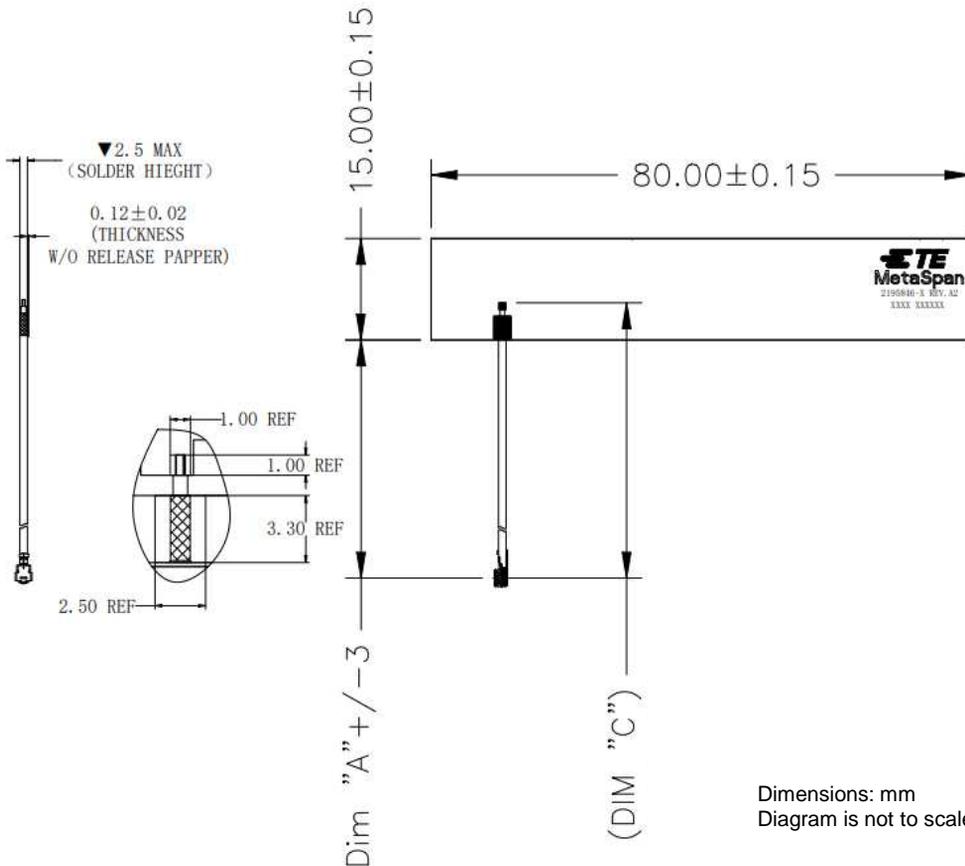
## KEEP OUT AREA



- NOTES :
1. Antenna designed to be mounted on plastic cover.
  2. Area in blue above indicates Keep Out Area. This is base on 60x60mm size metal parts.
  3. For more information please call TE.

Dimensions : mm  
Diagram is not to scale

## DIMENSIONS

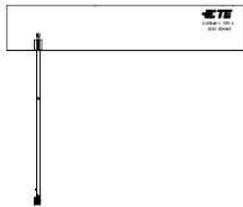


Dimensions: mm  
Diagram is not to scale

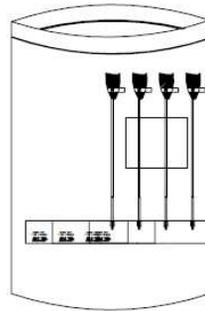
## MATING COMPONENTS TO PART NUMBERS AND DIMENSIONS

2195846-1	50.0	1.969	1.37	MHF-TYPE PLUG	RECEPTACLE ( TE PN : 2337019-1 )	
2195846-2	100.0	3.937	1.37	MHF-TYPE PLUG	RECEPTACLE ( TE PN : 2337019-1 )	
2195846-3	150.0	5.906	1.37	MHF-TYPE PLUG	RECEPTACLE ( TE PN : 2337019-1 )	
2195846-4	200.0	7.874	1.37	MHF-TYPE PLUG	RECEPTACLE ( TE PN : 2337019-1 )	
2195846-5	50.0	1.969	1.13	MHF4L-TYPE PLUG	RECEPTACLE ( TE PN : 2334884-1 )	
2195846-6	100.0	3.937	1.13	MHF4L-TYPE PLUG	RECEPTACLE ( TE PN : 2334884-1 )	
2195846-7	150.0	5.906	1.13	MHF4L-TYPE PLUG	RECEPTACLE ( TE PN : 2334884-1 )	
2195846-8	200.0	7.874	1.13	MHF4L-TYPE PLUG	RECEPTACLE ( TE PN : 2334884-1 )	
PART NUMBER	MM	INCH	MM	CONNECTOR TYPE ( ON CABLE )	PART NUMBER	IMAGE
	CABLE LENGTH "A"		CABLE DIA.		MATING COMPONENTS	

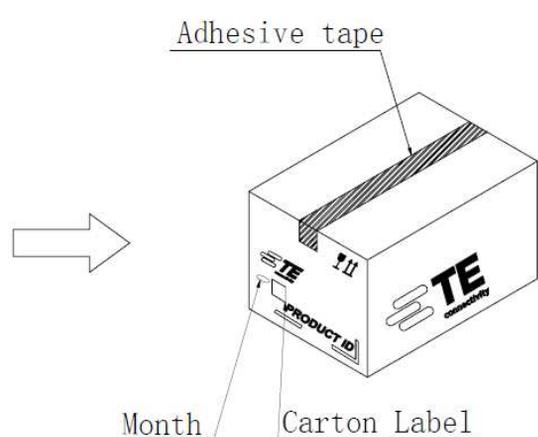
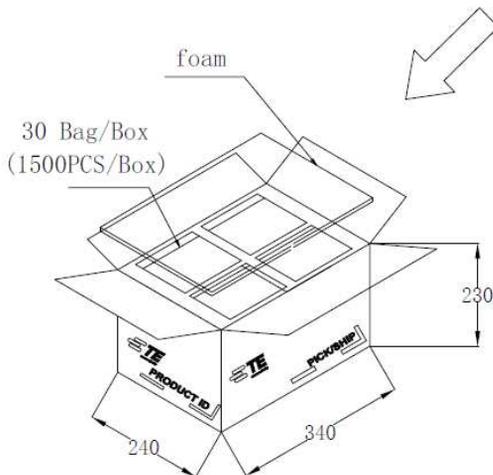
## PACKAGING



25 PCS/Bundle



50pcs/Bag  
drying agent:1pcs/Bag



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Standard Antenna Solutions

## TE TECHNICAL SUPPORT CENTER

USA:	+1 (800) 522-6752
Canada:	+1 (905) 475-6222
Mexico:	+52 (0) 55-1106-0800
Latin/S. America:	+54 (0) 11-4733-2200
Germany:	+49 (0) 6251-133-1999
UK:	+44 (0) 800-267666
France:	+33 (0) 1-3420-8686
Netherlands:	+31 (0) 73-6246-999
China:	+86 (0) 400-820-6015

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