



# 3100 – 8500 MHz UWB ANTENNA

**Part Numbers: 2108971-X**  
(See page 9 for details)

## FEATURES & BENEFITS

- UWB channel 1,2,3,4,5,6,7,8,9
- Adhesive backing on the FPC simplifies mounting within the device
- FPC antenna assembly
- Different cable length and connector options available

## SPECIFICATIONS (Shown as 2108971-1 : Others can vary with different cable lengths.)

Frequency Range (MHz)	3100-5000	5900-8500
VSWR	< 1.8:1	< 1.9:1
Average Efficiency	76 %	80 %
Peak Gain	1.7 dBi	4.3 dBi
Average Gain	-1.3 dBi	-1.0 dBi
Power Handling	10 Watt cw	
Feed Point Impedance	50 ohms	
Polarization	Linear	
Size	24.1 mm x 35.1 mm x 0.15 mm	
Weight	< 1.4 g	
Mounting	Adhesive Tape	
Mating Connectors	MHF and MHF4L type, Refer to page 9	
Cable	1.13mm and 1.37mm 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.	

## Antenna RF Specifications with different cable assemblies

P/N  Cable Length/ Connector/Cable OD	RF DATA	Frequency Range (MHz)	
		3100-5000	5900-8500
<b>2108971-1</b>  50 mm MHF 1.37 mm	VSWR	< 1.8:1	< 1.9:1
	Average Efficiency	76 %	80 %
	Peak Gain (Max)	1.7 dBi	4.3 dBi
	Average Gain	-1.3 dBi	-1.0 dBi
<b>2108971-2</b>  100 mm MHF 1.37 mm	VSWR	< 1.9:1	<2.4:1
	Average Efficiency	72 %	75 %
	Peak Gain (Max)	1.5 dBi	4.1 dBi
	Average Gain	-1.4 dBi	-1.2 dBi
<b>2108971-3</b>  150 mm MHF 1.37 mm	VSWR	< 1.7:1	<2.0:1
	Average Efficiency	69 %	71 %
	Peak Gain (Max)	1.3 dBi	3.8 dBi
	Average Gain	-1.6 dBi	-1.5 dBi
<b>2108971-4</b>  200 mm MHF 1.37 mm	VSWR	< 1.6:1	<1.7:1
	Average Efficiency	65 %	66 %
	Peak Gain (Max)	1.1 dBi	3.5 dBi
	Average Gain	-1.8 dBi	-1.8 dBi

## CABLE LOSS

OD 1.37mm (P/N: 3-2108971-x)		
Freq. Range (MHz)	3100-5000	5900-8500
Cable attenuation (dB/m)	< 4.0	< 5.6

## Antenna RF Specifications with different cable assemblies

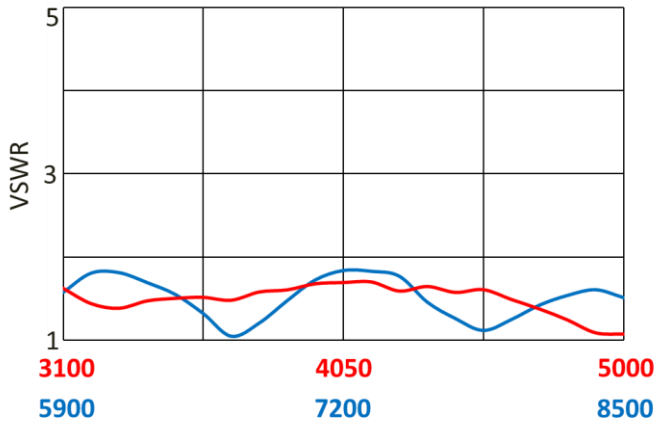
P/N  Cable Length/ Connector/Cable OD	RF DATA	Frequency Range (MHz)	
		3100-5000	5900-8500
<b>2108971-5</b>  <b>50 mm MHF4L 1.13 mm</b>	VSWR	< 2.2:1	< 1.8:1
	Average Efficiency	74 %	79 %
	Peak Gain (Max)	1.7 dBi	4.3 dBi
	Average Gain	-1.3 dBi	-1.0 dBi
<b>2108971-6</b>  <b>100 mm MHF4L 1.13 mm</b>	VSWR	< 2.1:1	< 1.9:1
	Average Efficiency	70 %	73 %
	Peak Gain (Max)	1.4 dBi	3.9 dBi
	Average Gain	-1.5 dBi	-1.4 dBi
<b>2108971-7</b>  <b>150 mm MHF4L 1.13 mm</b>	VSWR	< 2.0:1	< 2.0:1
	Average Efficiency	66 %	67 %
	Peak Gain (Max)	1.2 dBi	3.6 dBi
	Average Gain	-1.8 dBi	-1.7 dBi
<b>210891-8</b>  <b>200 mm MHF4L 1.13 mm</b>	VSWR	< 1.9:1	< 1.8:1
	Average Efficiency	63 %	62 %
	Peak Gain (Max)	0.9 dBi	3.2 dBi
	Average Gain	-2.0 dBi	-2.1 dBi

## CABLE LOSS

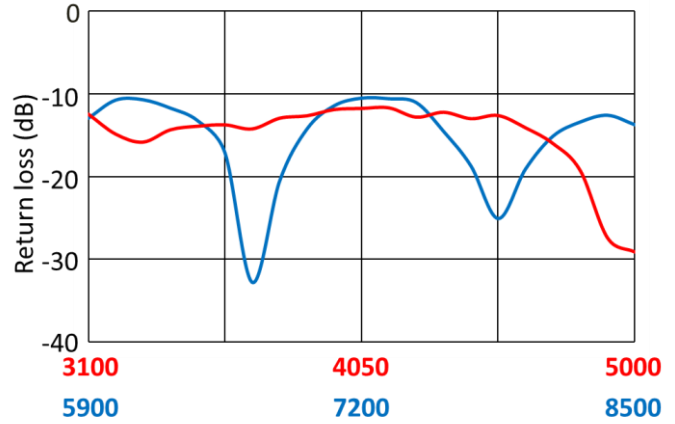
OD 1.13mm (P/N: 3-2108971-x)		
Freq. Range (MHz)	3100-5000	5900-8500
Cable attenuation (dB/m)	< 5.0	< 7.0

**RF DATA** (Shown as 2108971-1 : Others can vary with different cable lengths.)

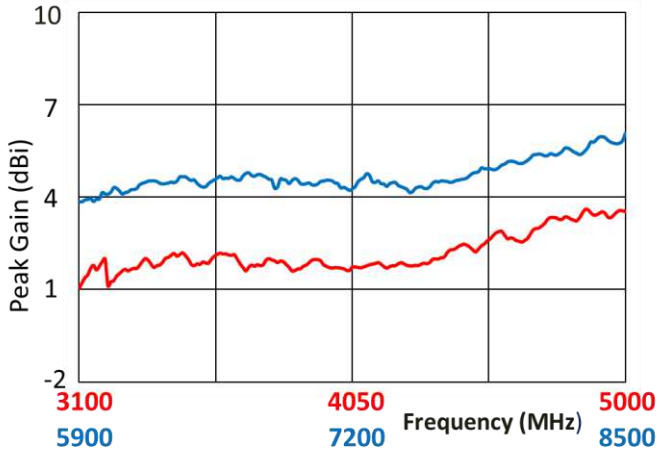
VSWR



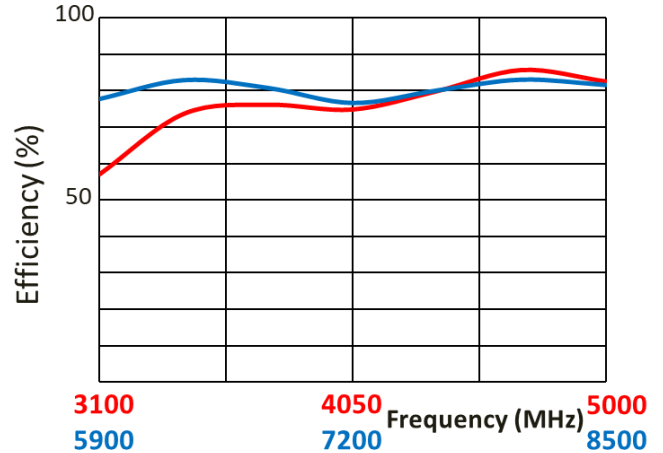
Return Loss



Peak Gain



Efficiency

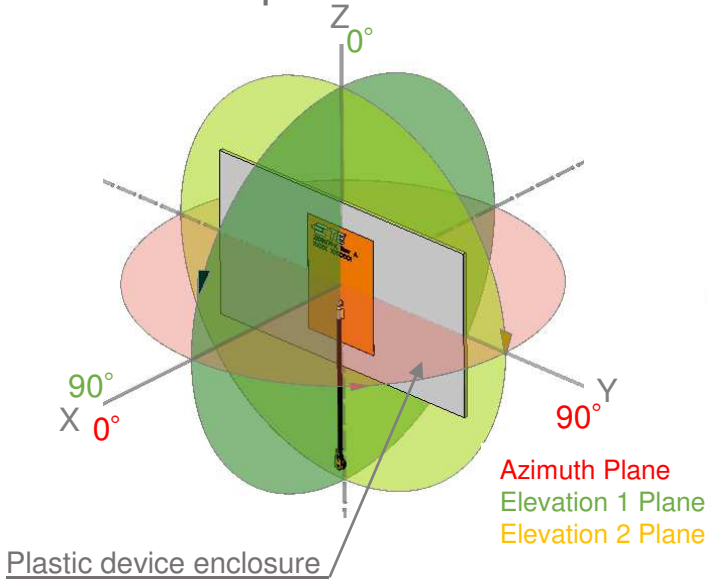


Data measured in free space and on 165 x 100 x 2 mm PC plastic

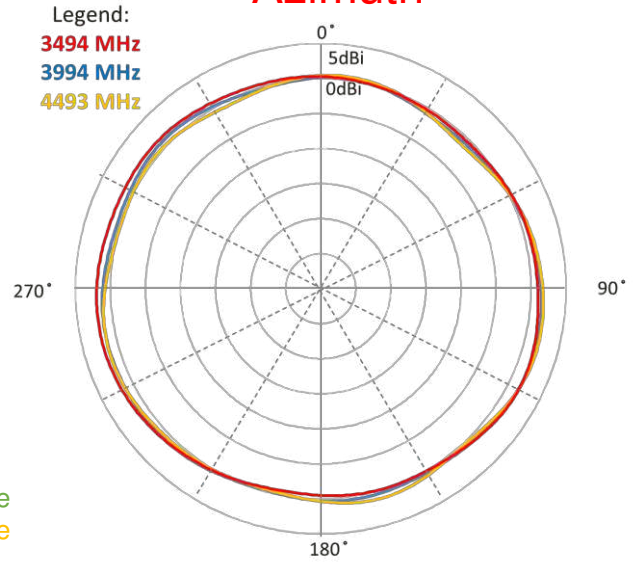
## RADIATION PATTERN

(Shown as 2108971-1 : Others can vary with different cable lengths.)

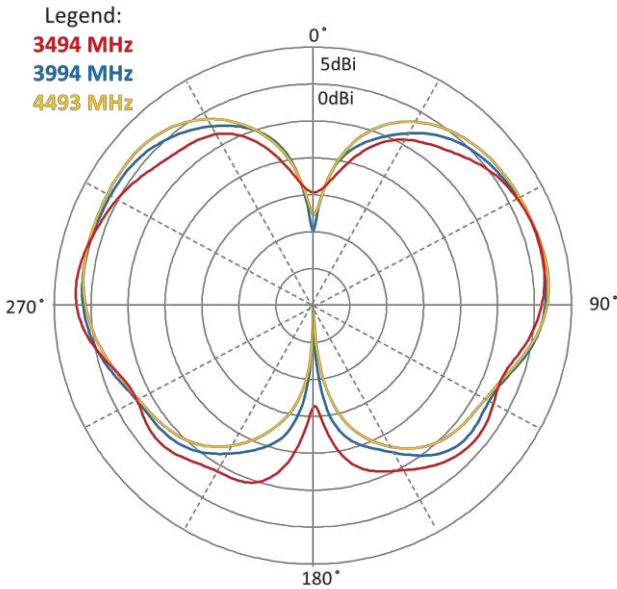
### Test setup



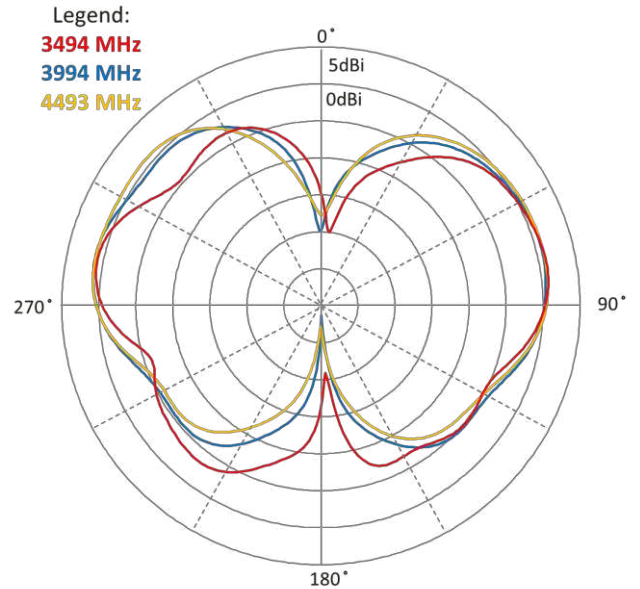
### Azimuth



### Elevation 1



### Elevation 2

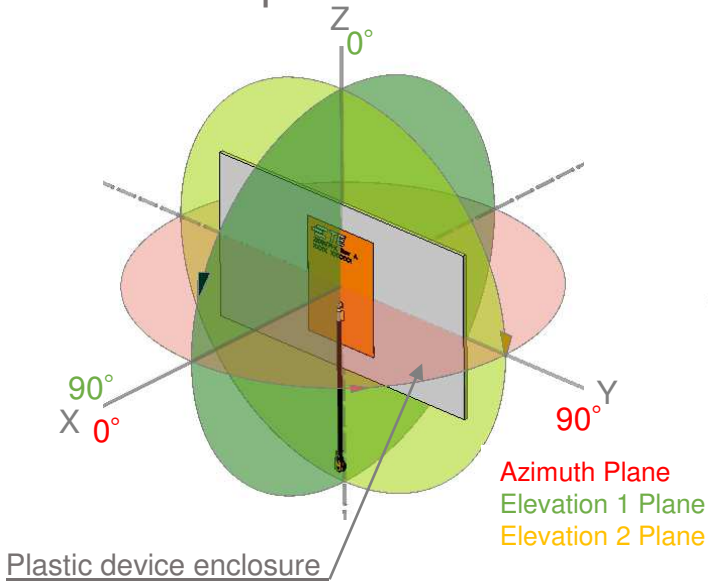


Data measured in free space and on 165 x 100 x 2 mm PC plastic

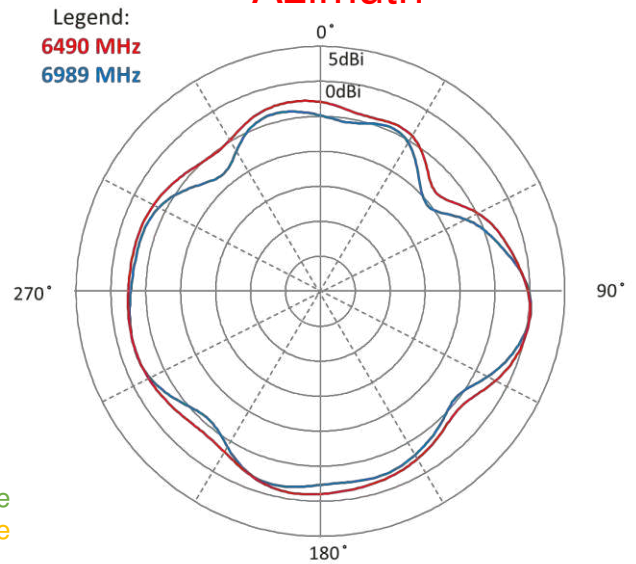
## RADIATION PATTERN

(Shown as 2108971-1 : Others can vary with different cable lengths.)

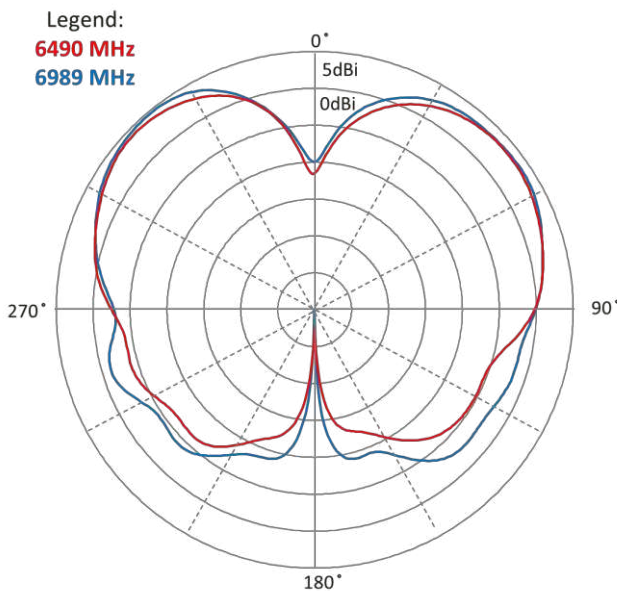
### Test setup



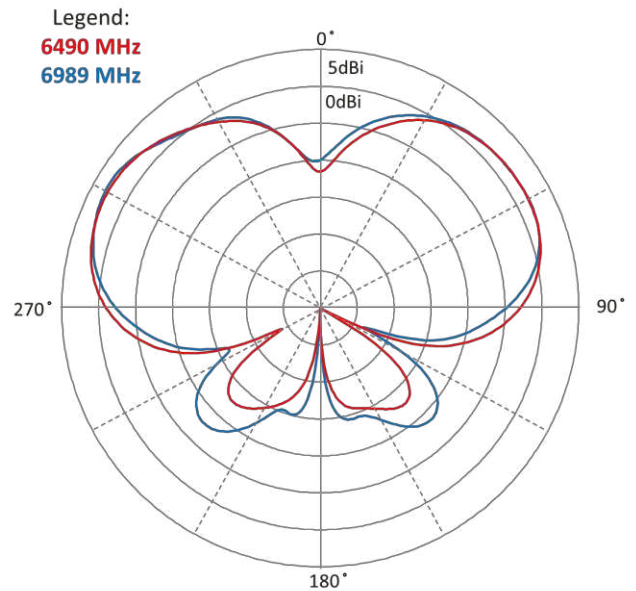
### Azimuth



### Elevation 1



### Elevation 2

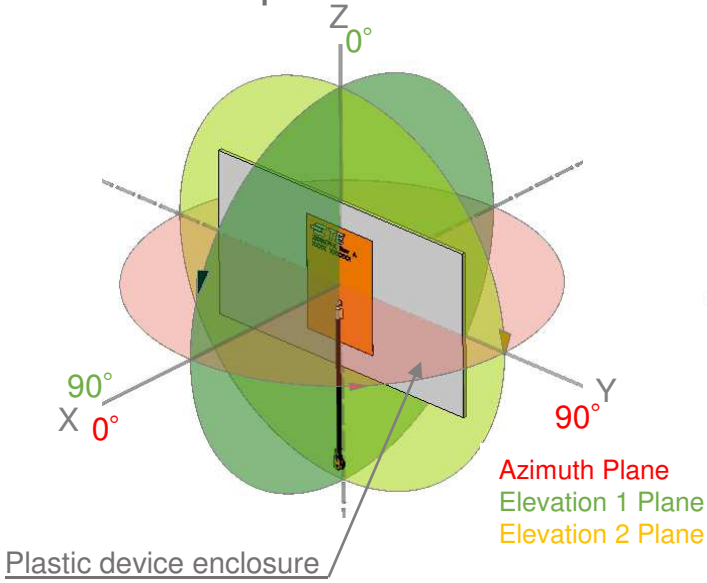


Data measured in free space and on 165 x 100 x 2 mm PC plastic

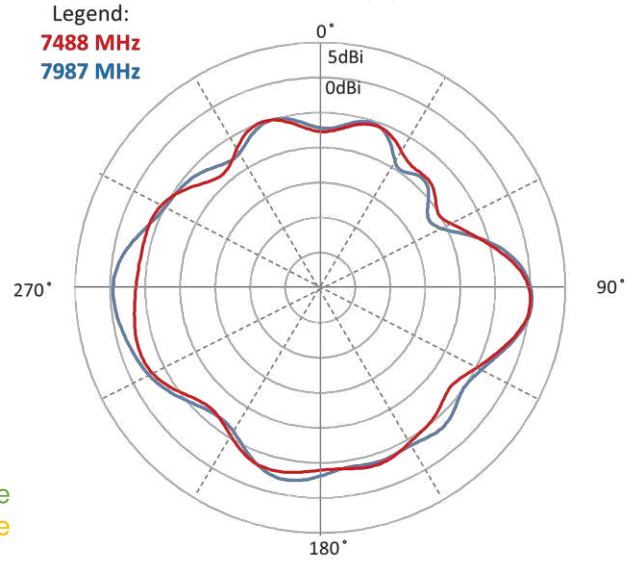
## RADIATION PATTERN

(Shown as 2108971-1 : Others can vary with different cable lengths.)

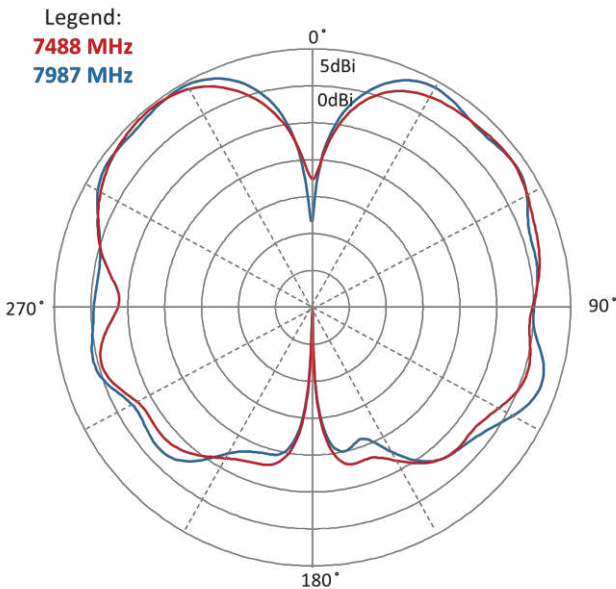
### Test setup



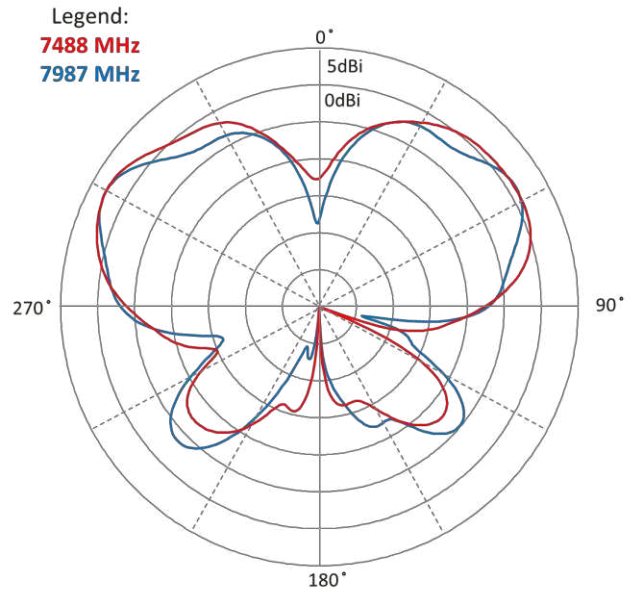
### Azimuth



### Elevation 1

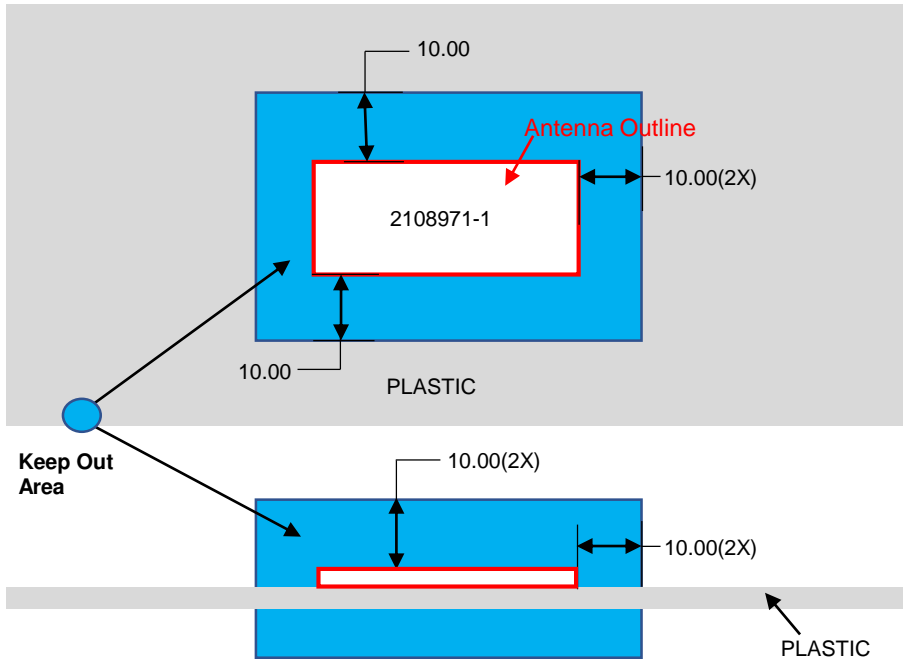


### Elevation 2



Data measured in free space and on 165 x 100 x 2 mm PC plastic

## KEEP OUT AREA

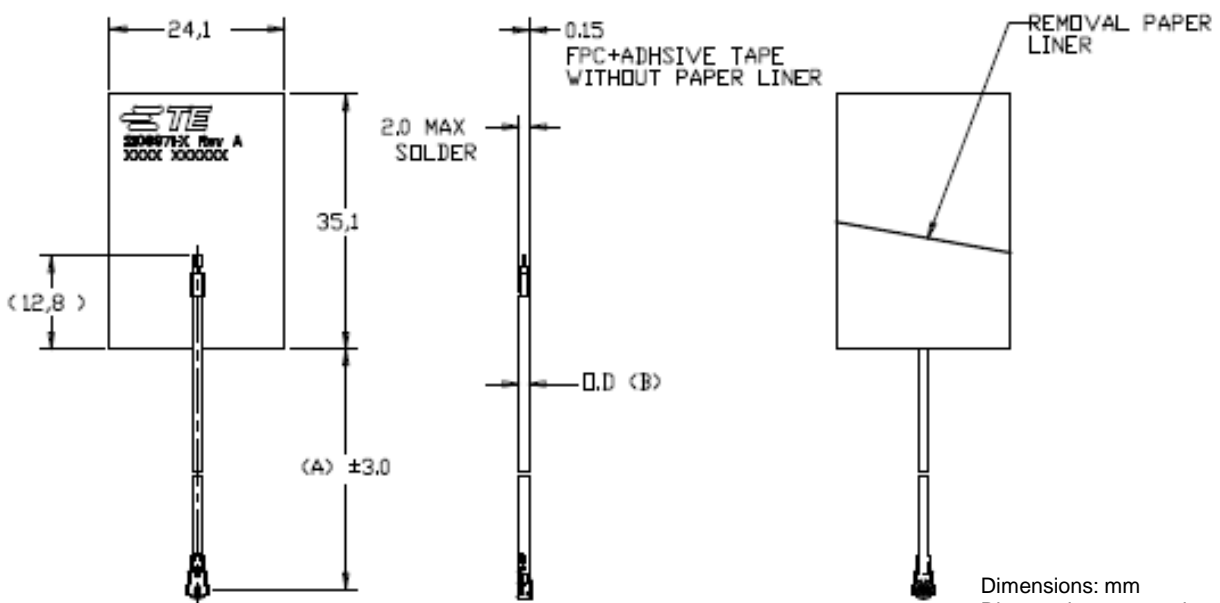


- NOTES: 1. Antenna designed to be mounted on plastic cover.  
2. Area in blue above indicates Keep Out Area.  
3. For more information please call TE.

Dimensions: mm  
Diagram is not to scale

## DIMENSIONS



(Refer to Page 9 for dimension "A" and "B")



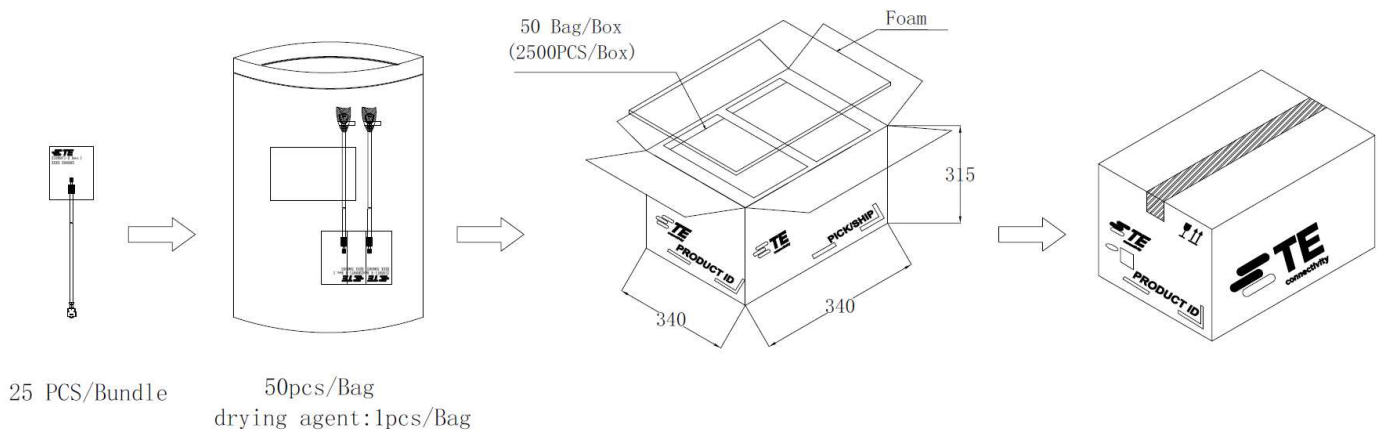
Dimensions: mm  
Diagram is not to scale



## MATING COMPONENTS TO PART NUMBERS AND DIMENSIONS

2108971-1	50.0	1.968	1.37	MHF-TYPE PLUG	RECEPTACLE (TE PN: 2337019-1)	
2108971-2	100.0	3.937	1.37	MHF-TYPE PLUG	RECEPTACLE (TE PN: 2337019-1)	
2108971-3	150.0	5.905	1.37	MHF-TYPE PLUG	RECEPTACLE (TE PN: 2337019-1)	
2108971-4	200.0	7.784	1.37	MHF-TYPE PLUG	RECEPTACLE (TE PN: 2337019-1)	
2108971-5	50.0	1.968	1.13	MHF4L-TYPE PLUG	RECEPTACLE (TE PN: 2334884-1)	
2108971-6	100.0	3.937	1.13	MHF4L-TYPE PLUG	RECEPTACLE (TE PN: 2334884-1)	
2108971-7	150.0	5.905	1.13	MHF4L-TYPE PLUG	RECEPTACLE (TE PN: 2334884-1)	
2108971-8	200.0	7.784	1.13	MHF4L-TYPE PLUG	RECEPTACLE (TE PN: 2334884-1)	
PART NUMBER	MM	INCH	CABLE O.D("B"), MM	CONNECTOR TYPE (ON CABLE)	PART NUMBER	IMAGE
	CABLE LENGTH(A)				MATING COMPONENTS	

## PACKAGING



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