



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
2108971-1 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
2108971-2 100 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
2108971-3 150 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
2108971-4 200 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

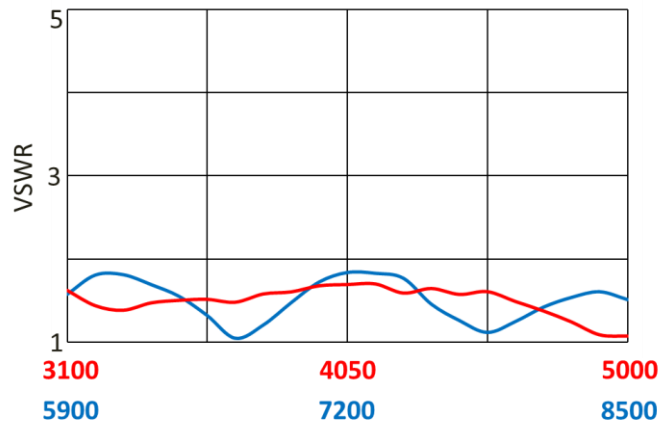
P/N Cable Length/ Connector/Cable OD	RF DATA	Frequency Range (MHz)	
		3100-5000	5900-8500
2108971-5 50 mm MHF4L 1.13 mm	VSWR	< 2.2:1	< 1.8:1
	Average Efficiency	74 %	79 %
	Peak Gain (Max)	1.7 dBi	4.3 dBi
	Average Gain	-1.3 dBi	-1.0 dBi
2108971-6 100 mm MHF4L 1.13 mm	VSWR	< 2.1:1	< 1.9:1
	Average Efficiency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

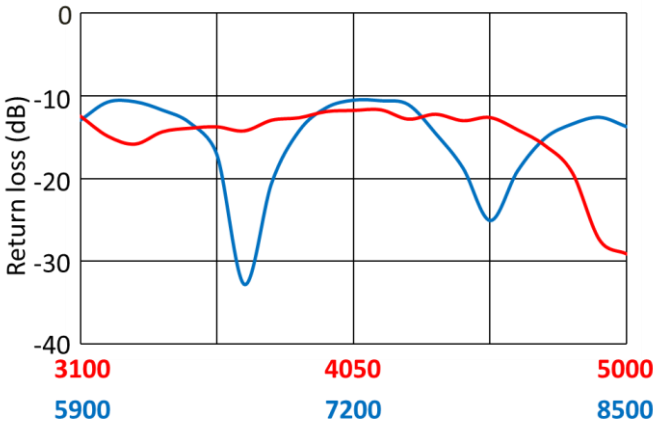
OD 1.13mm (P/N: 3-2108971-x)		
Freq. Range (MHz)	3100-5000	5900-8500
Cable attenuation (dB/m)	< 5.0	< 7.0

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

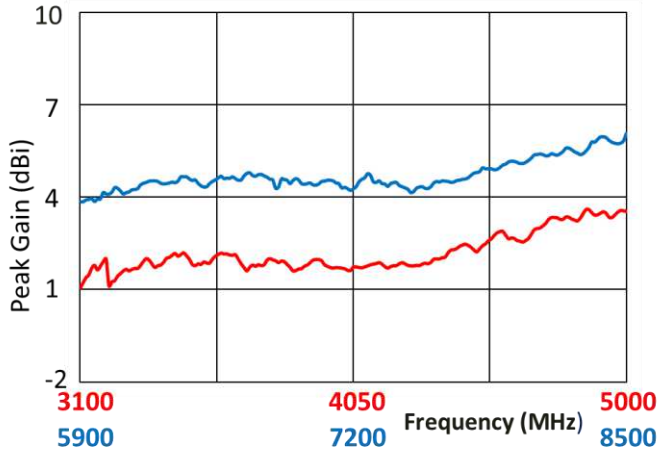
VSWR



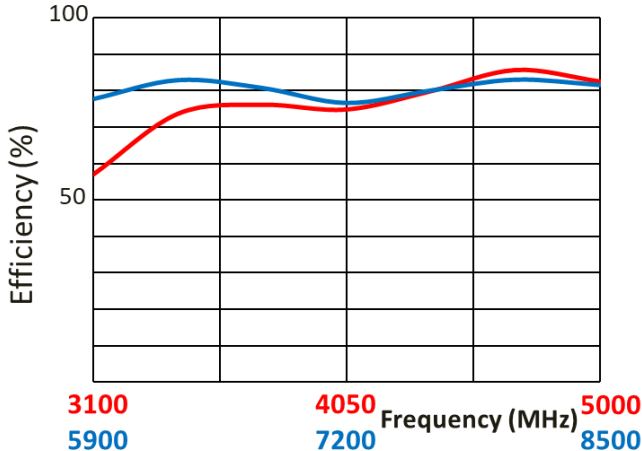
Return Loss



Peak Gain



Efficiency

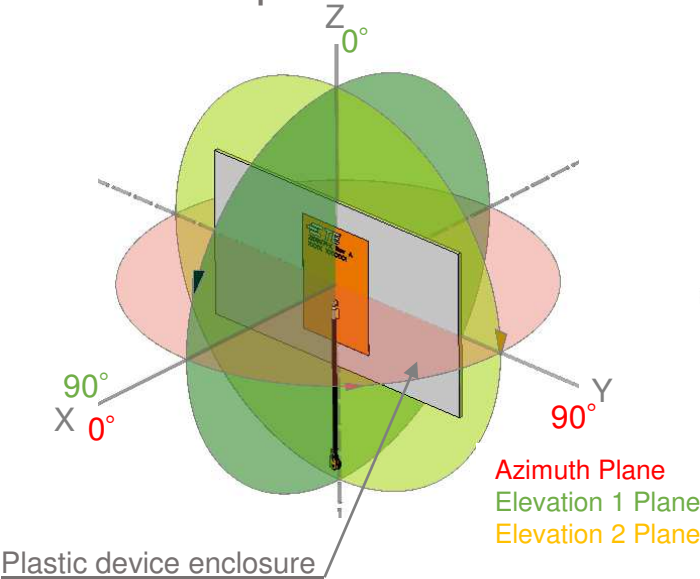


Data measured in free space and on 165 x 100 x 2 mm PC plastic

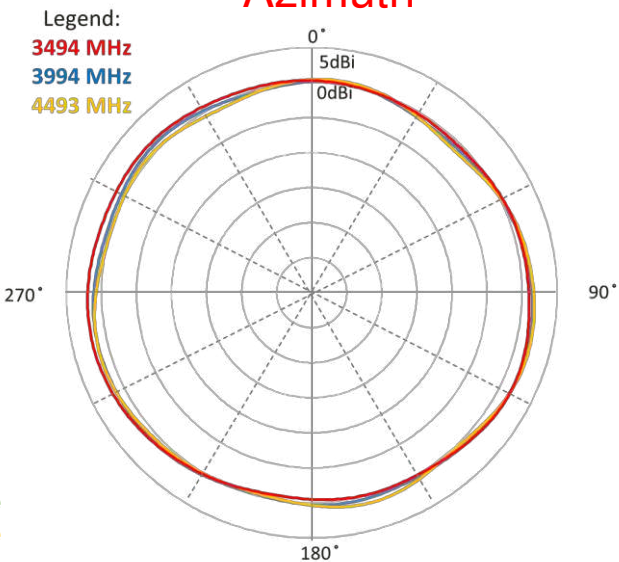
RADIATION PATTERN

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

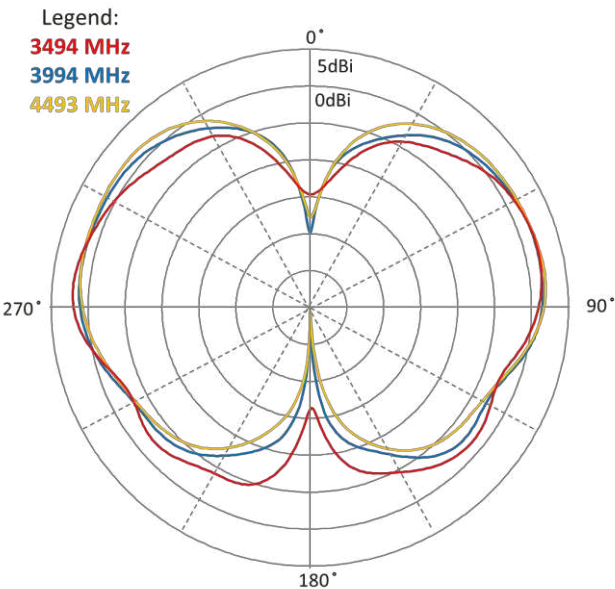
Test setup



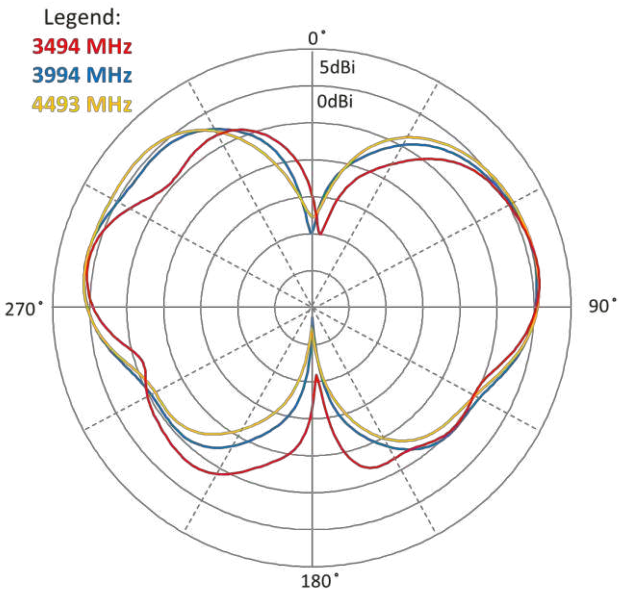
Azimuth



Elevation 1



Elevation 2

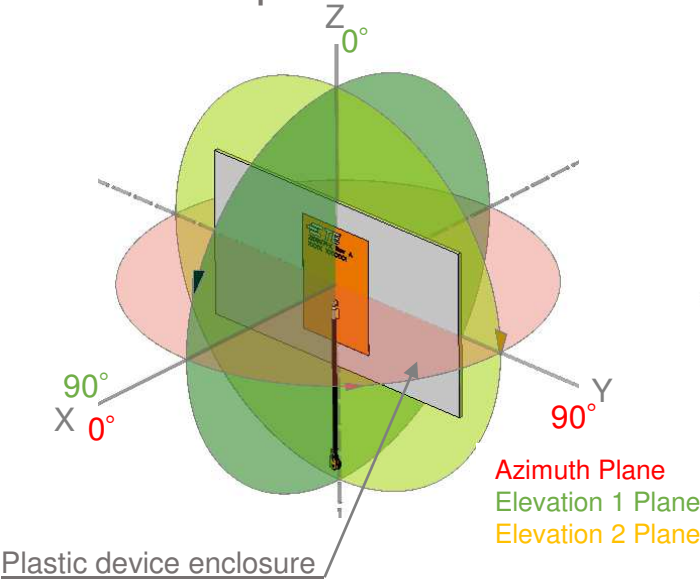


Data measured in free space and on 165 x 100 x 2 mm PC plastic

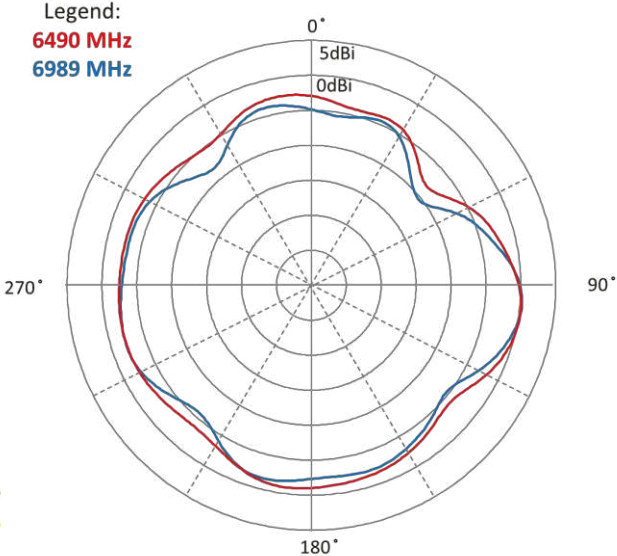
RADIATION PATTERN

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

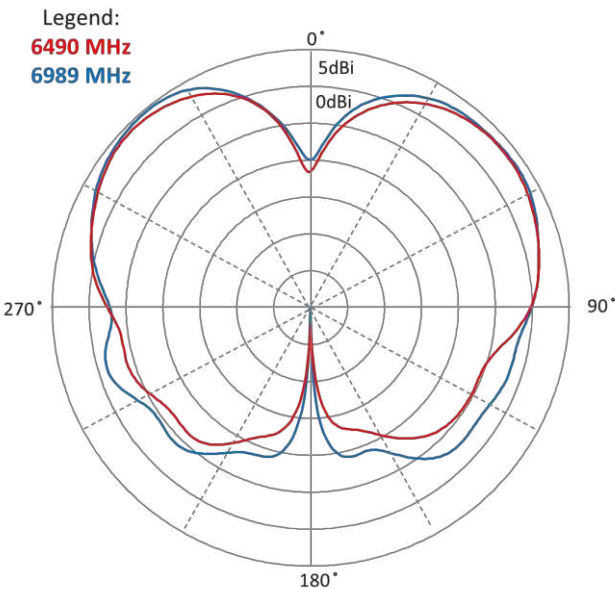
Test setup



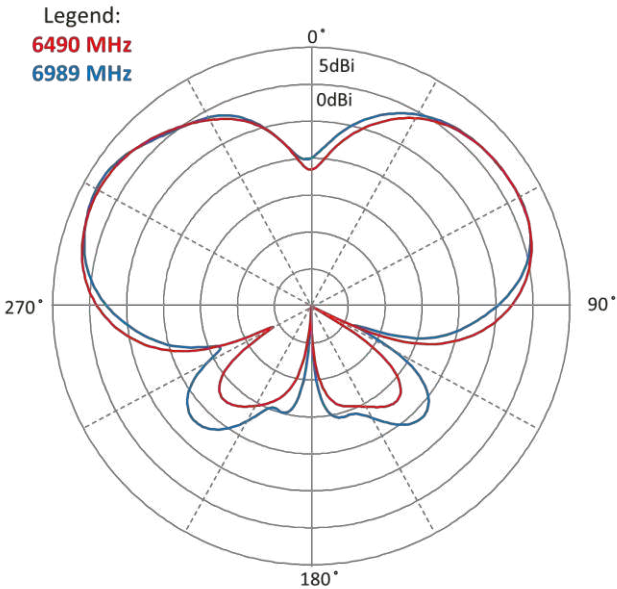
Azimuth



Elevation 1



Elevation 2

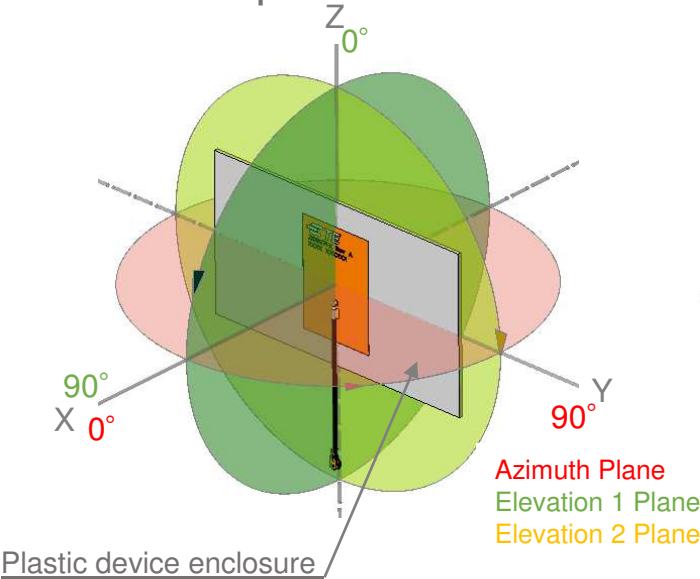


Data measured in free space and on 165 x 100 x 2 mm PC plastic

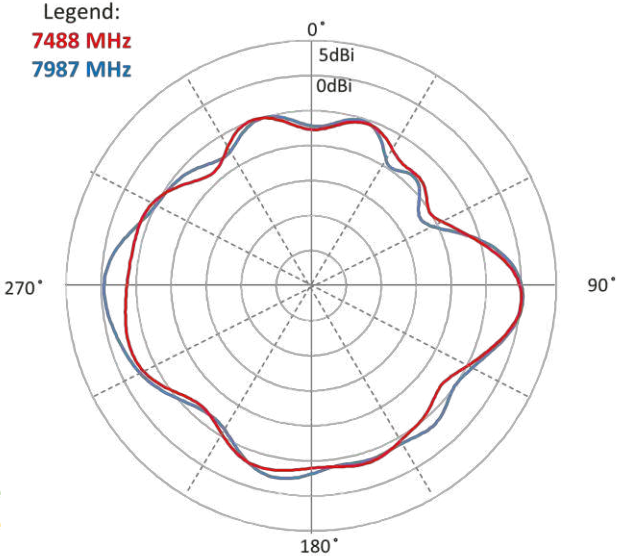
RADIATION PATTERN

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

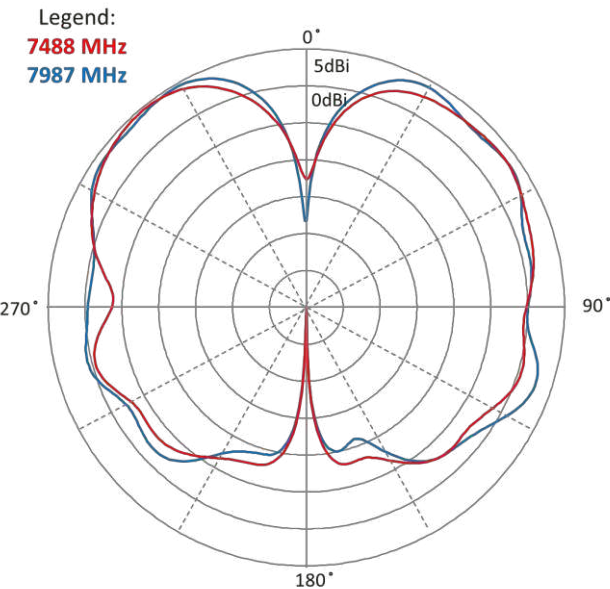
Test setup



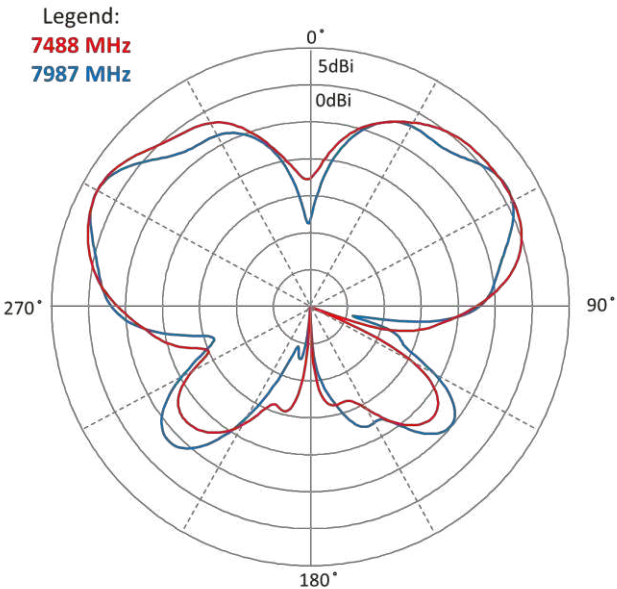
Azimuth



Elevation 1

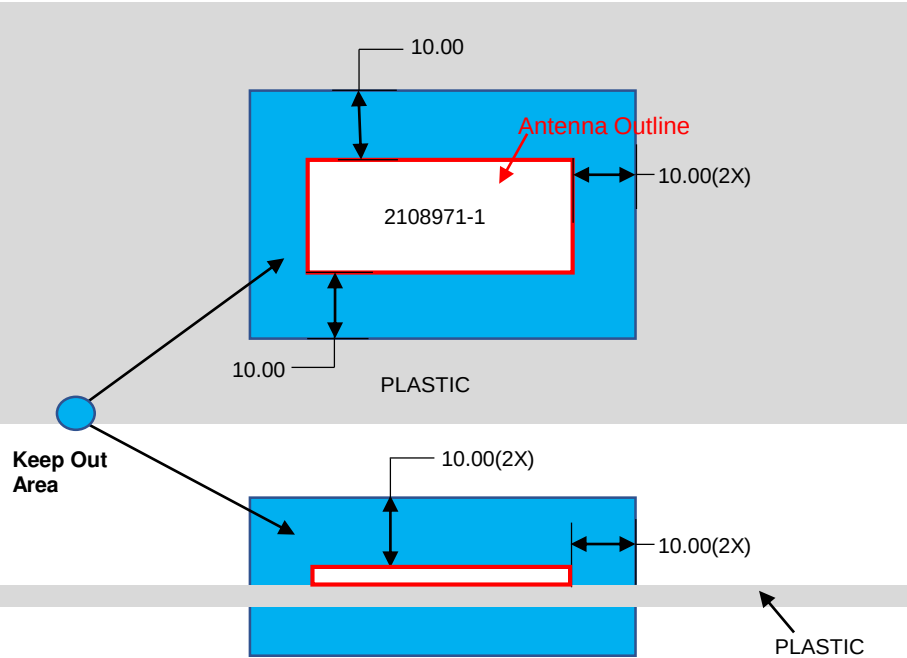


Elevation 2



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

KEEP OUT AREA

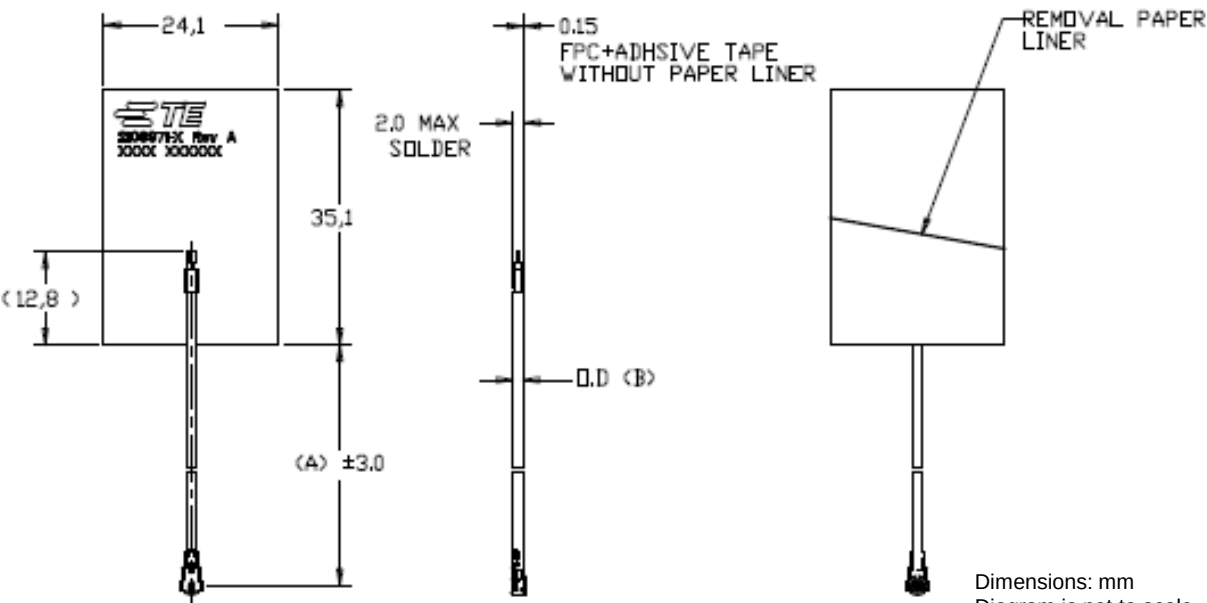


NOTES:1. Antenna designed to be mounted on plastic cover.
2. Area in blue above indicates Keep Out Area.
3. For more information please call TE.

Dimensions: mm
Diagram is not to scale

DIMENSIONS

(Refer to Page9 for dimension “A” and “B”)

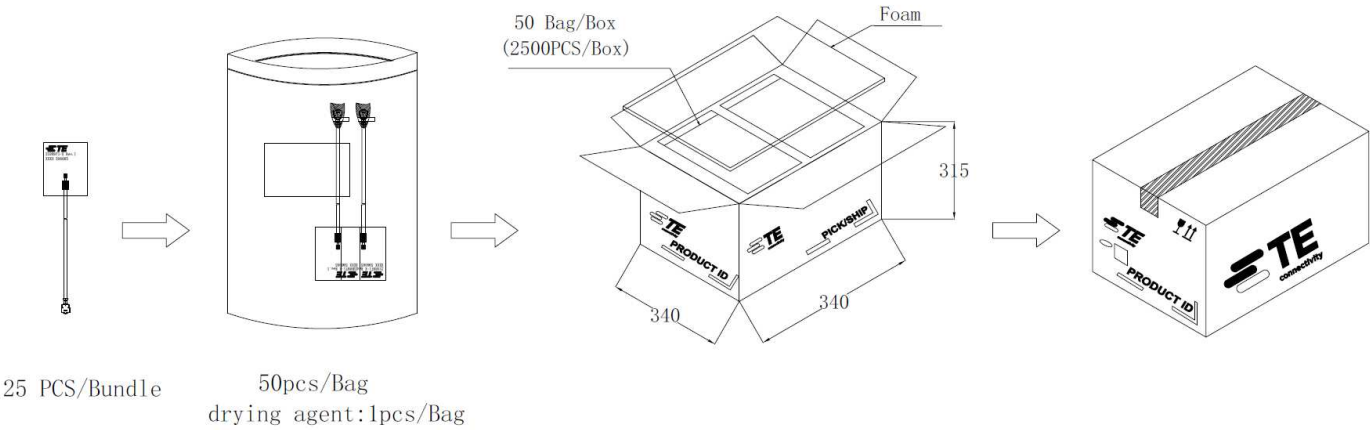


Dimensions: mm
Diagram is not to scale

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	MM	INCH	CABLE O.D("B"), MM	CONNECTOR TYPE	PART NUMBER	IMAGE
NUMBER	CABLE LENGTH(A)			(ON CABLE)	MATING COMPONENTS	

PACKAGING





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

For phone numbers in other countries, go to te.com/support-center

te.com

TE Connectivity, TE Connectivity (logo) are trademarks. All other logos, products and/or company names referred to herein might be trademarks of their respective owners.

The information given herein, including drawings, illustrations and schematics which are intended for illustration purposes only, is believed to be reliable. However, TE Connectivity makes no warranties as to its accuracy or completeness and disclaims any liability in connection with its use. TE Connectivity's obligations shall only be as set forth in TE Connectivity's Standard Terms and Conditions of Sale for this product and in no case will TE Connectivity be liable for any incidental, indirect or consequential damages arising out of the sale, resale, use or misuse of the product. Users of TE Connectivity products should make their own evaluation to determine the suitability of each such product for the specific application.

© 2020 TE Connectivity Ltd. family of companies All Rights Reserved.

06/2022

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[TE Connectivity:](#)

[2108971-8](#)