



ISM 433 MHz FPC ANTENNAS

FEATURES & BENEFITS

- ISM 433 MHz FPC antennas for LoRaWAN/LPWA and other IoT products
- Available cable lengths: 50,100,150 mm
- Available connectors: MHF-type & MHF4-type
- FPC with double side adhesive tape simplifies mounting within the device even on curved areas
- Omnidirectional coverage

PART NUMBERS

PART NUMBER	CABLE LENGTH(A)		CONNECTOR TYPE (ON CABLE)
	MM	INCH	
L000605-1	50.0	1.968	MHF-TYPE PLUG
L000605-2	100.0	3.937	MHF-TYPE PLUG
L000605-3	150.0	5.905	MHF-TYPE PLUG
L000605-4	50.0	1.968	MHF4L-TYPE PLUG
L000605-5	100.0	3.937	MHF4L-TYPE PLUG
L000605-6	150.0	5.905	MHF4L-TYPE PLUG

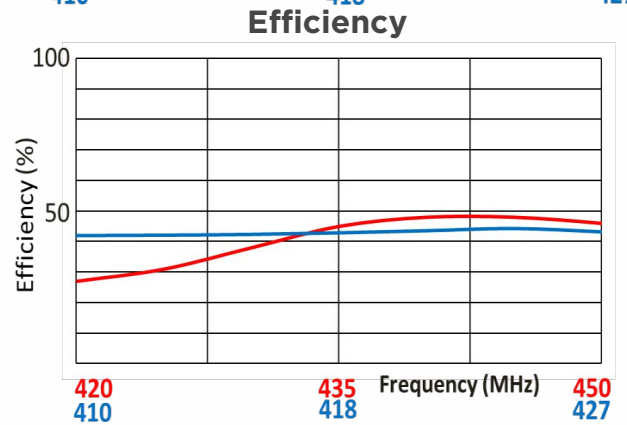
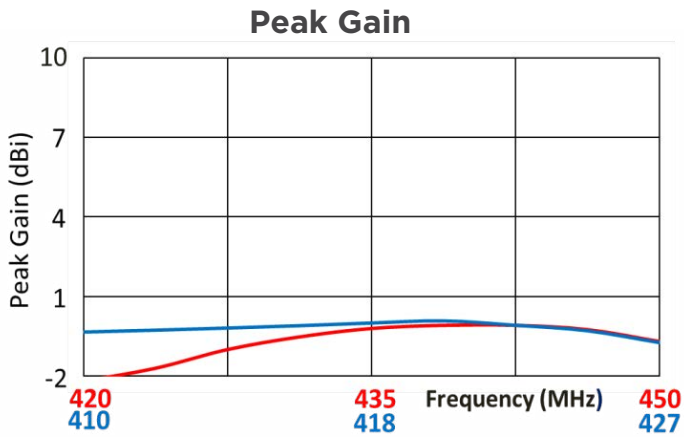
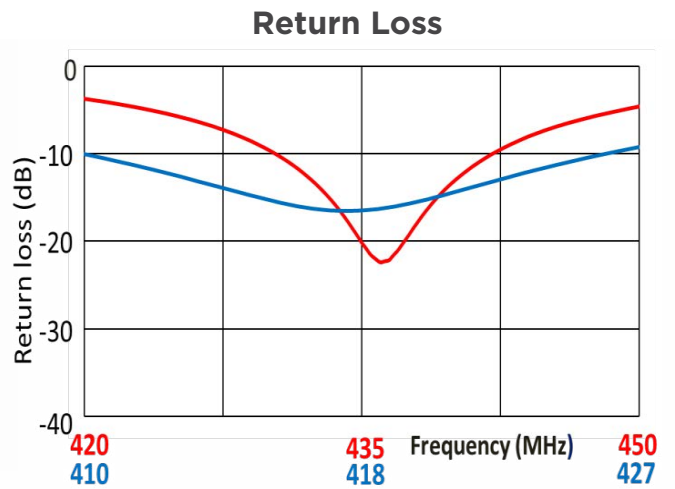
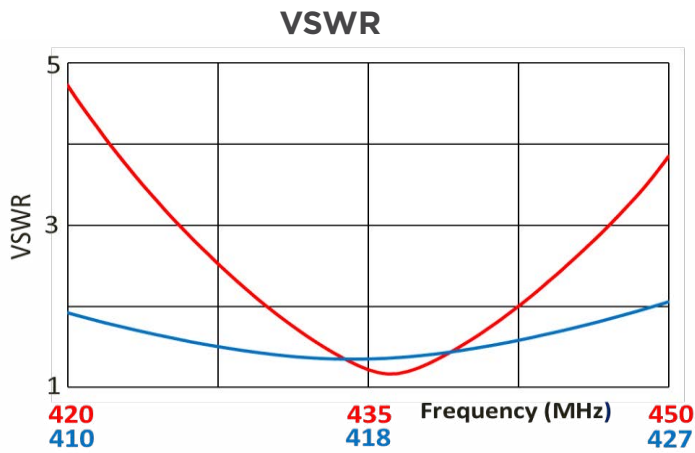
SPECIFICATIONS (Shown as L000605-2 : Others can vary with different cable lengths.)

Frequency Range (MHz)	433 - 435
VSWR	< 1.6 : 1
Average Efficiency	47 %
Peak Gain	-0.3 dBi
Average Gain	-3.2 dB
Power Handling	10 Watt cw
Feed Point Impedance	50 ohms
Polarization	Linear
Size	100.0 mm x 20.0 mm x 0.15 mm
Weight	< 1 g
Mounting	Adhesive Tape
Mating Connectors	MHF and MHF4L type
Cable	1.13mm Dia.
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	VSWR	
		433 - 435	410 - 427
50 mm	VSWR	< 1.5 :1	NA
	Avg. Efficiency	65 %	NA
	Peak Gain (Max)	1.0 dBi	NA
	Average Gain	-1.87 dBi	NA
100 mm	VSWR	<1.6 :1	<2.1 :1
	Avg. Efficiency	47 %	42 %
	Peak Gain (Max)	-0.2 dBi	0.1 dBi
	Average Gain	-3.28 dBi	-3.77 dBi
150 mm	VSWR	<1.9 :1	<2.6 :1
	Avg. Efficiency	33 %	30%
	Peak Gain (Max)	-2.0 dBi	-1.5 dBi
	Average Gain	-4.81 dBi	-5.23 dBi

RF DATA (Shown as L000605-2 : Others can vary with different cable lengths.)

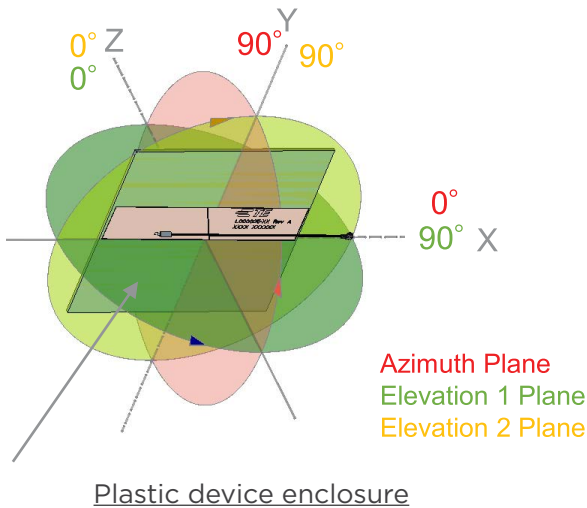


Data measured in free space and on reference ground plane of 41 x 90 x 1.6 mm ground plane condition, application data might vary.

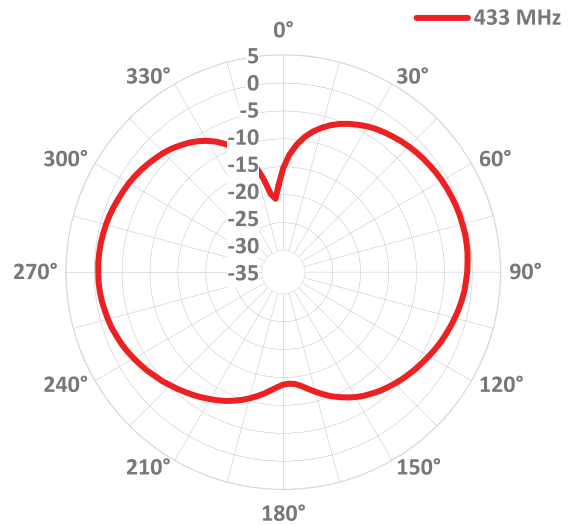
RADIATION PATTERN

(Shown as L000605-2 : Others can vary with different cable lengths.)

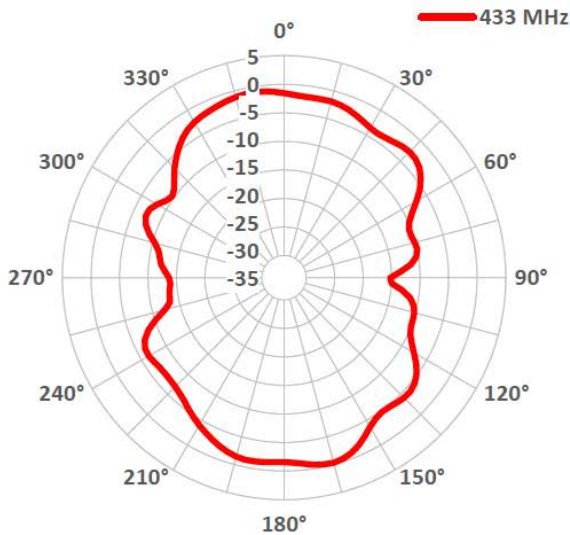
Test setup



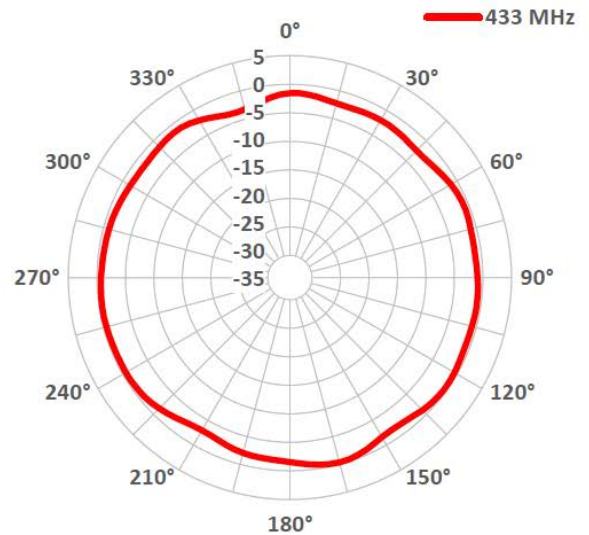
Azimuth



Elevation

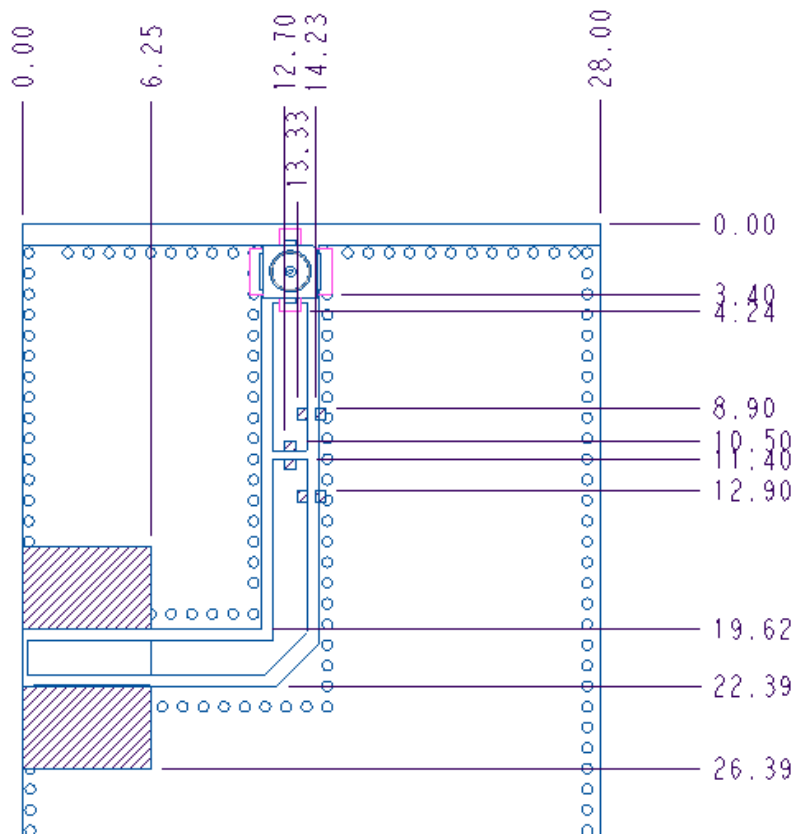


Elevation 2



Data measured on 1.7mm thick PC plastic with reference evaluation board and matching circuit. Application data might vary.

EVALUATION BOARD MATCHING NETWORK LAYOUT



NOTES

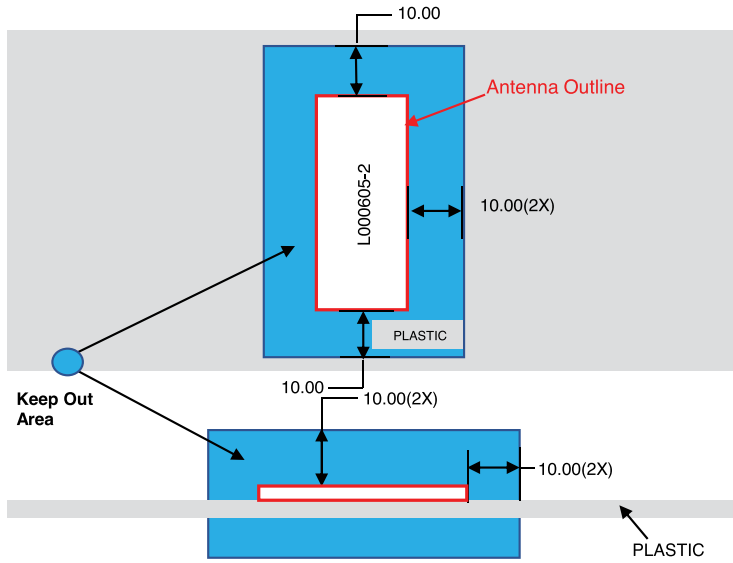
1. Antenna is connected to evaluation board with MHF
2. Measured with below matching circuit condition.
3. Reference PCB Dimension(mm) - 28 x 103 x 1.6mm
4. NC = Non connection (mechanical mounting pads).
5. NA = Not available for the frequency band.
6. For more information please contact TE.

Dimension: mm

Diagram is not to scale

P/N	Matching Network					
	433 - 435 MHz			410 - 427 MHz		
	1	2	3	1	2	3
L000605-01	56nH	3pF	NC	56nH	3pF	NC
L000605-02	56nH	3pF	NC	4.5pF	40nH	NC
L000605-03	6.2nH	13nH	NC	NC	4pF	20nH

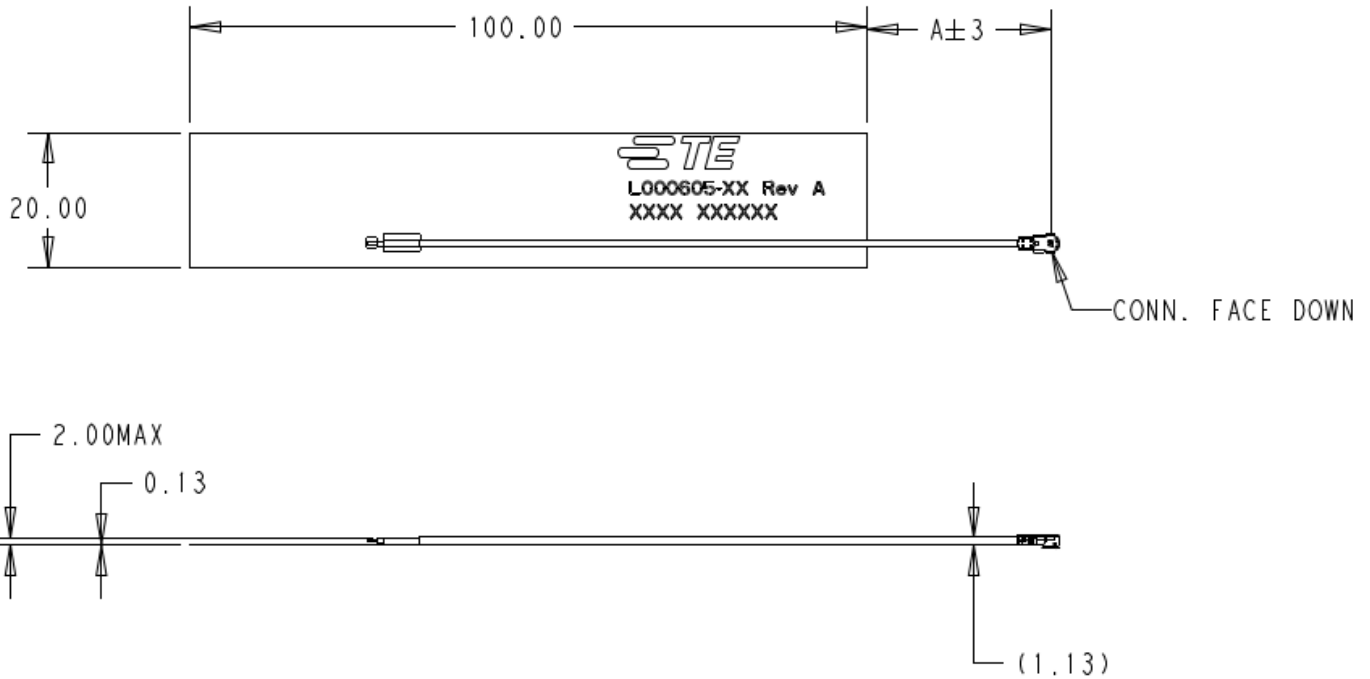
KEEP OUT AREA



NOTES


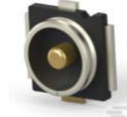
1. Antenna designed to be mounted on plastic cover.
 2. Area in blue above indicates Keep Out Area.
 3. For more information please call TE.
- Dimension: mm
Diagram is not to scale

DIMENSIONS



Dimension: mm
Diagram is not to scale

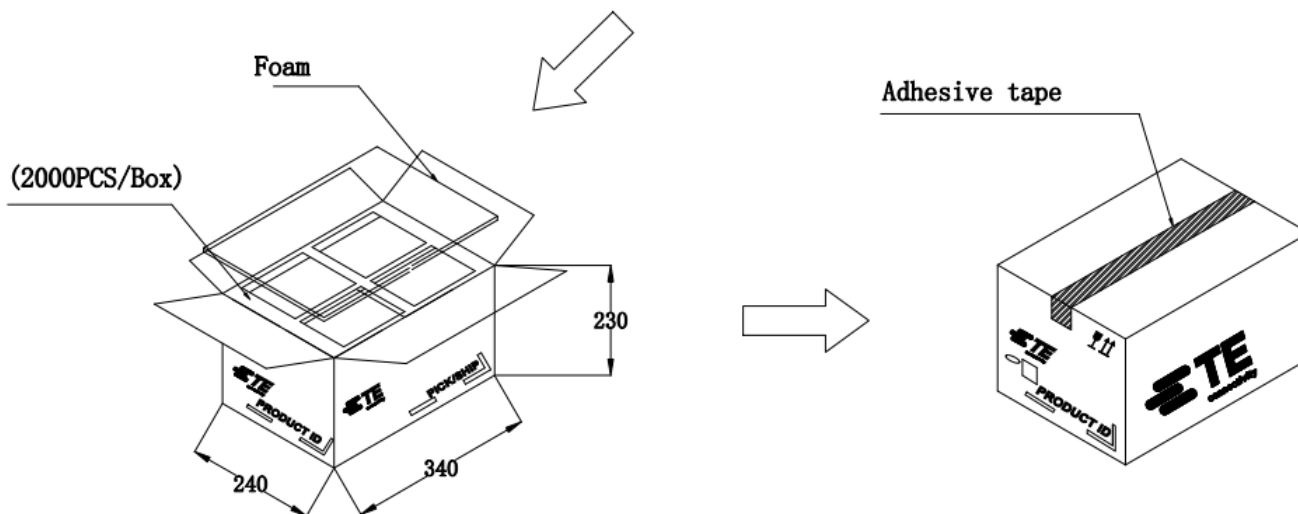
MATING COMPONENTS TO PART NUMBERS AND DIMENSIONS

PART NUMBER	CABLE LENGTH(A)		CABLE O.D, MM	CONNECTOR TYPE (ON CABLE)	PART NUMBER MATING COMPONENTS	IMAGE
	MM	INCH				
L000605-1	50.0	1.968	1.13	MHF-TYPE PLUG	RECEPTACLE (TE PN: 2337019-1)	
L000605-2	100.0	3.937	1.13	MHF-TYPE PLUG	RECEPTACLE (TE PN: 2337019-1)	
L000605-3	150.0	5.905	1.13	MHF-TYPE PLUG	RECEPTACLE (TE PN: 2337019-1)	
L000605-4	50.0	1.968	1.13	MHF4L-TYPE PLUG	RECEPTACLE (TE PN: 2334884-1)	
L000605-5	100.0	3.937	1.13	MHF4L-TYPE PLUG	RECEPTACLE (TE PN: 2334884-1)	
L000605-6	150.0	5.905	1.13	MHF4L-TYPE PLUG	RECEPTACLE (TE PN: 2334884-1)	

PACKAGING



50pcs/Bag
drying agent: 1pcs/Bag



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