

GLCA-L01

SMD Antenna

CrossAir™ SMD antenna series

RoHS compliant

PN: GLCA-L01

LTE/4G/3G/2G/WCDMA/GSM/CDMA/NB-IoT Antenna

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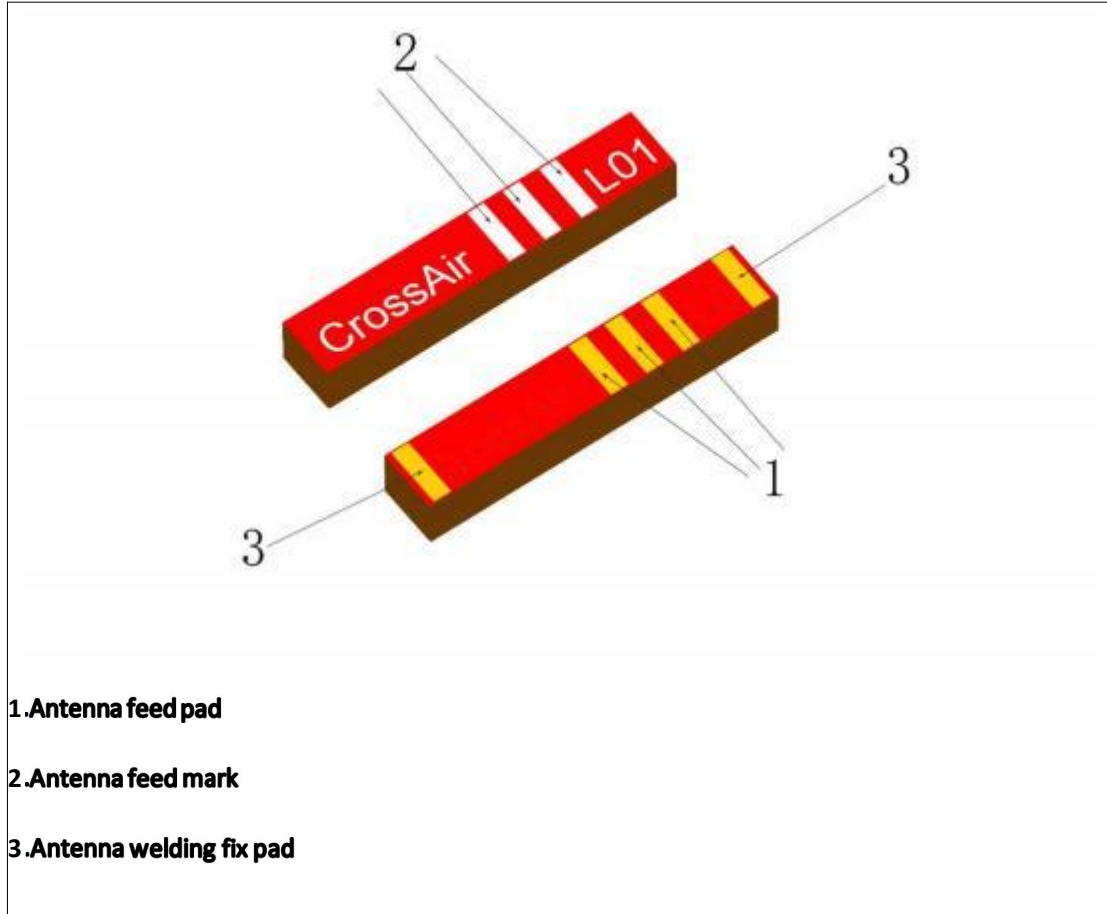
Features

1. Small Size 23.0 X 3.5 X 1.6mm SMD Patch Antenna
2. Low energy loss, High antenna efficiency
3. High stability under conditions of temperature and humidity changes


Applications

LTE/4G/3G/2G/WCDMA/GSM/CDMA/NB-IoT band for internal antenna using.

Structure



Dimension

3 views	Symbol	Size(mm)
	L	23.0±0.2
	w	3.5±0.1
	T	1.6±0.1

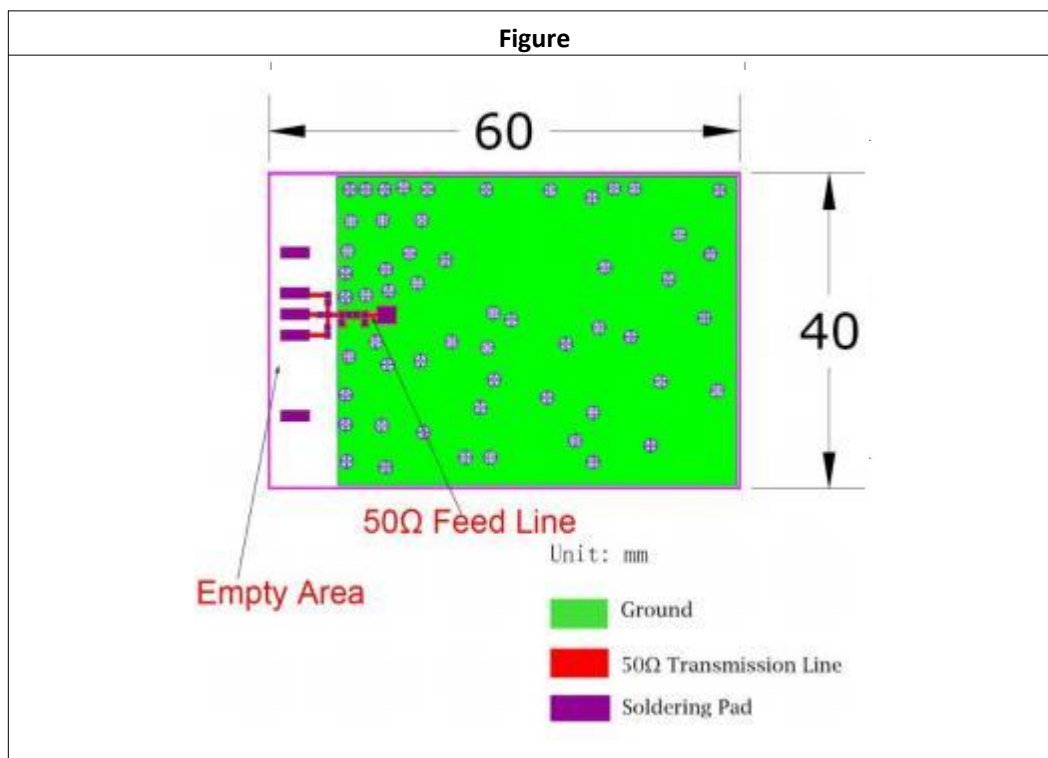
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Electrical Specifications

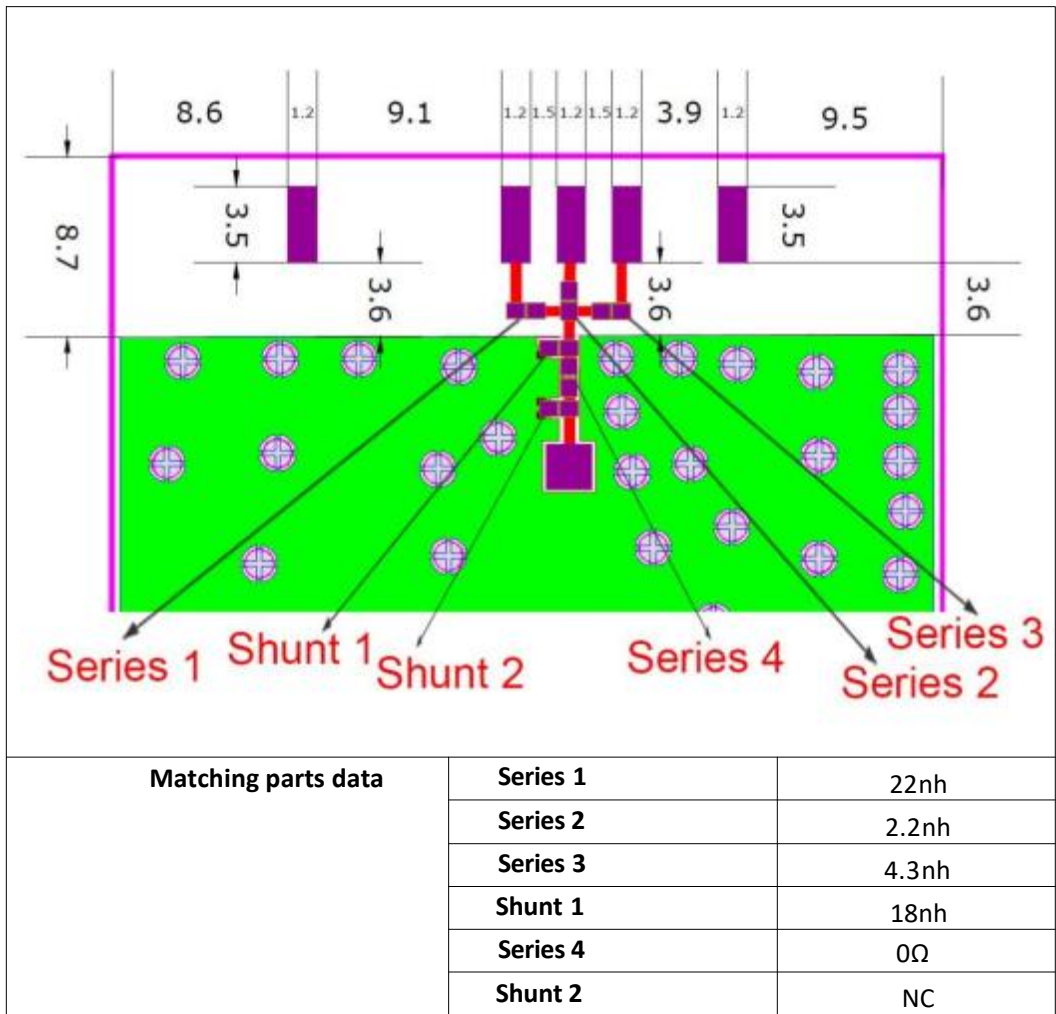
GLCA-L01	Specification	
Working Frequency	824M-960MHz, 1710M-2700MHz	
Impedance	50Ω	
Gain(dBi)	(700-960MHz)	3.3dBi (Peak)
	(1710-2170MHz)	2.0dBi (Peak)
	(2300-2700MHz)	2.0dBi (Peak)
VSWR	<3.5	
Operation Temperature	-40°C~+85°C	
Power Capacity	4W	

The working frequency need be adjusted to working band with matching circuit.

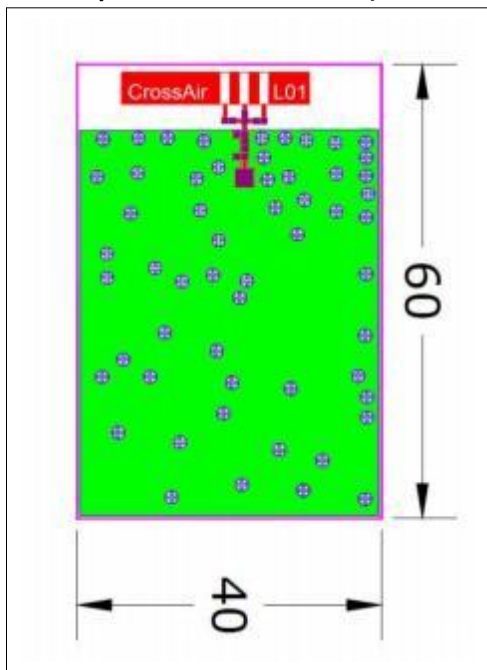
Antenna pad and wiring design



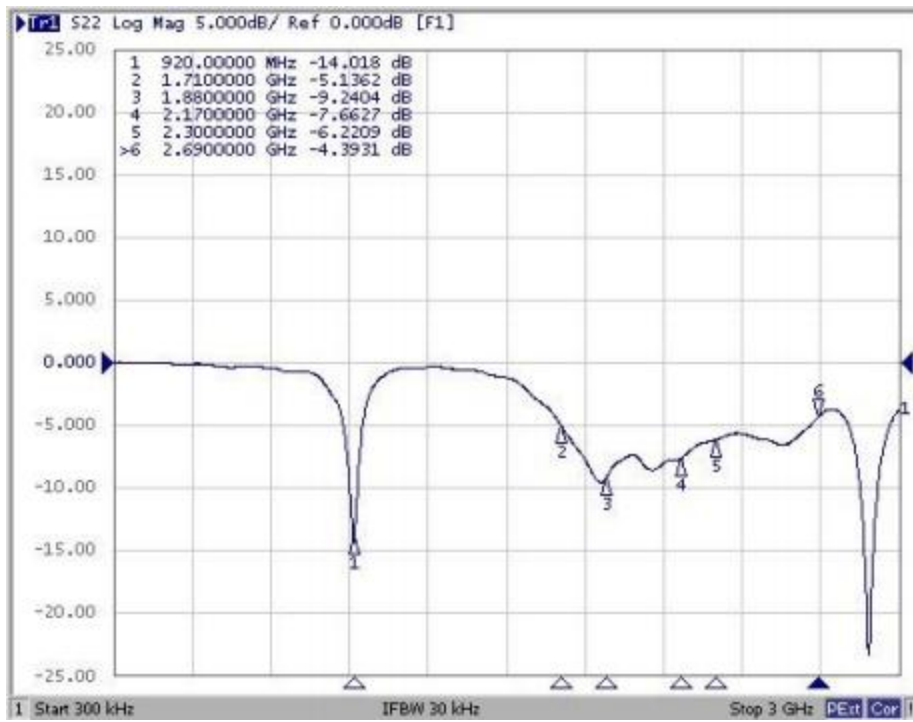
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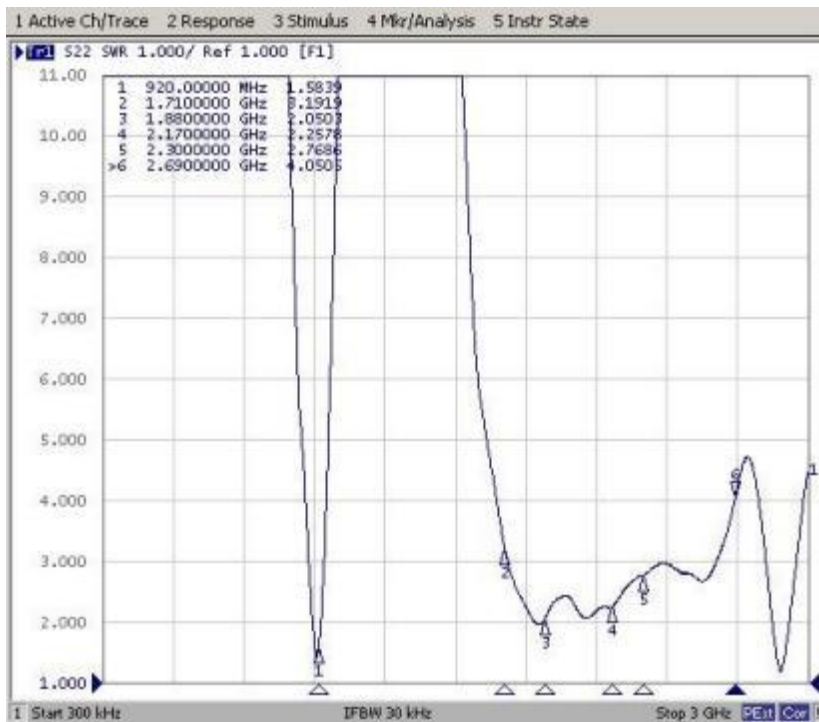
Antenna performance on board (Thickness: 1.0mm)



Antenna S11 feature



Antenna VSWR feature 1



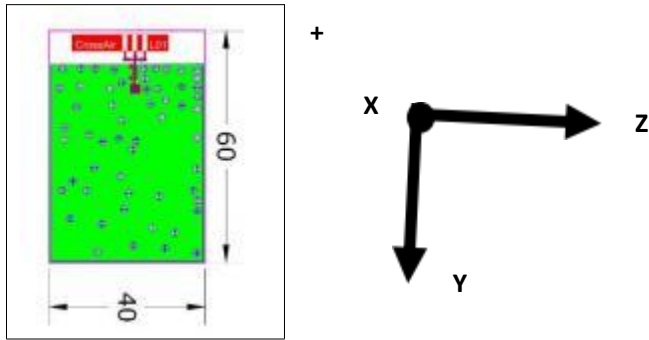
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Efficiency and radiation diagram

Efficiency, radiation graph, gain and other performance are based on the design of the test board. Antenna specification characteristics test data is based on tests

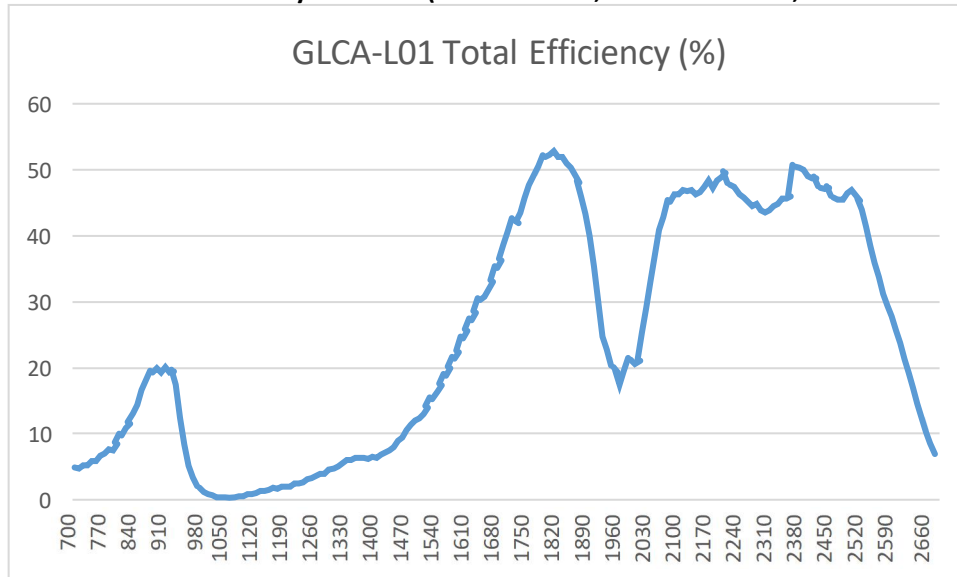
PCB board size and test direction as shown below. The following data were obtained in ETS 3D microwave anechoic testing

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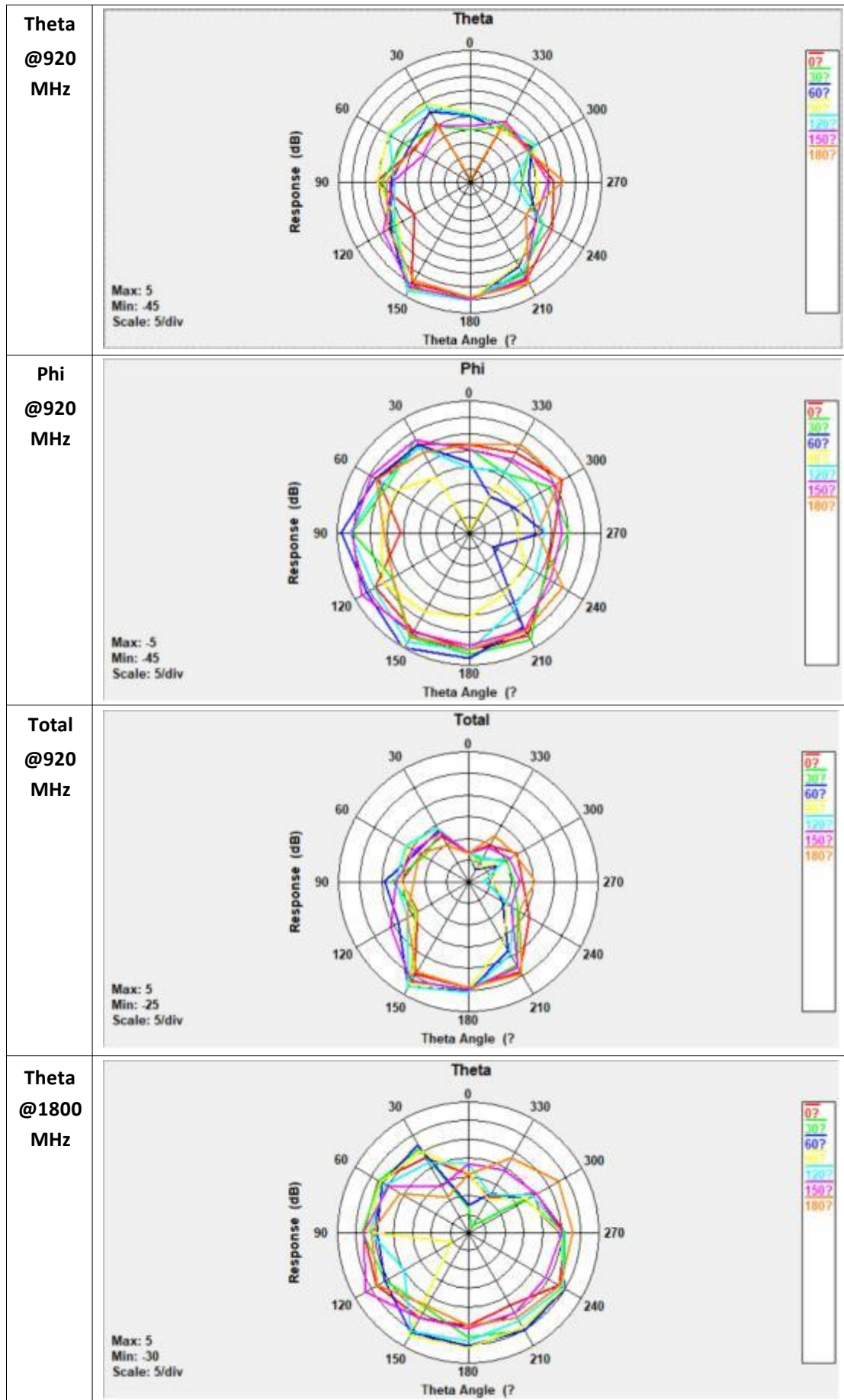


Gain and Efficiency	824M-960MHz	1710M-2170MHz	2300M-2690Mhz
Peak Gain	3.36dBi	2.04dBi	2.01dBi
Average Gain across the band	1.71dBi	0.377dBi	0.39dBi
Gain Range across the band	-0.64dBi ~ 3.36dBi	-3.68dBi ~ 2.04dBi	-3.8dBi ~ 2.01dBi
Peak Efficiency	20.0%	52.8%	50.5%
Average Efficiency across the band	15.8%	40.1%	37.6%
Efficiency Range across the band	8.0% ~ 20.0%	17.2% ~ 52.8%	8.2% ~ 50.5%

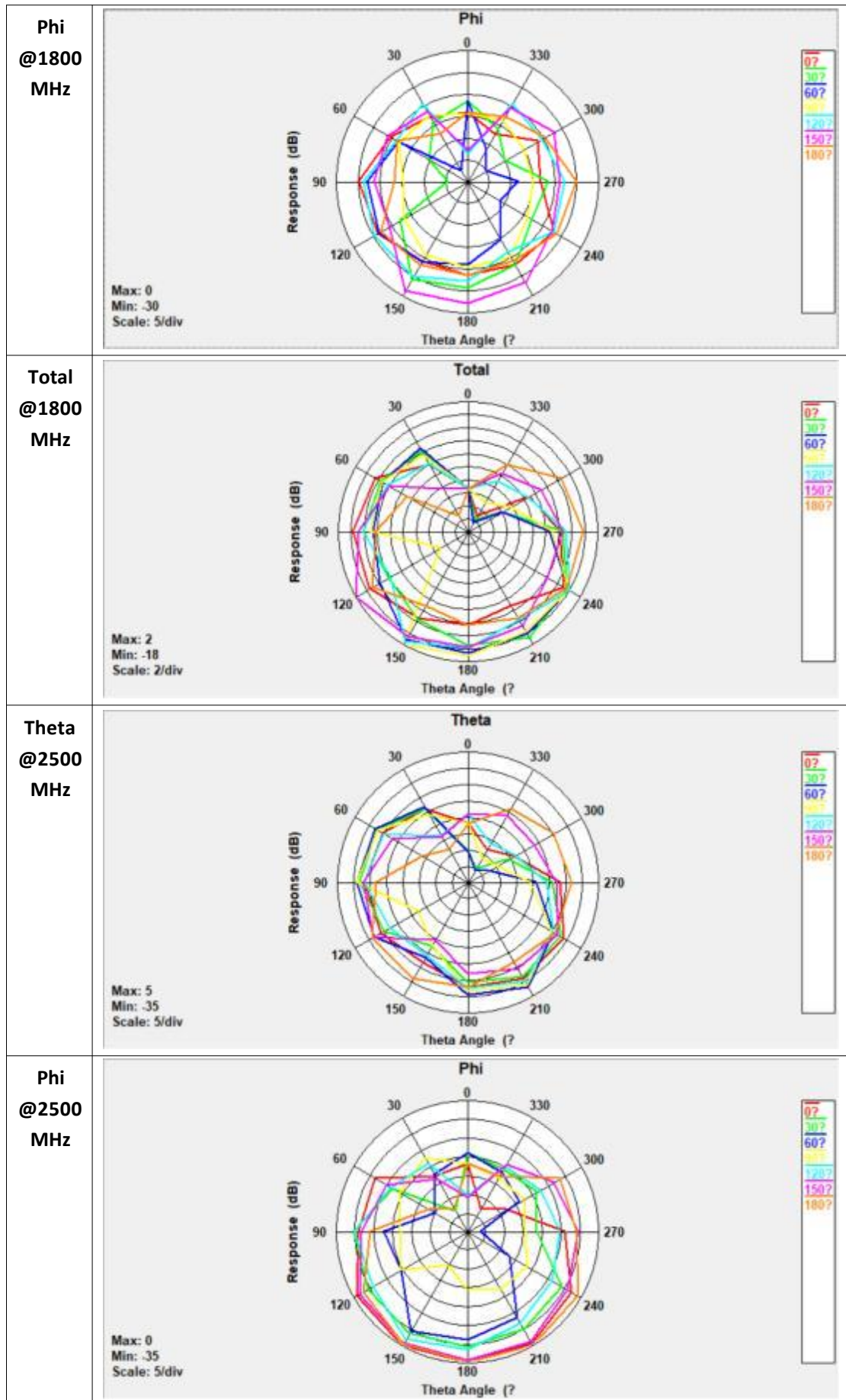
LTE band efficiency curve (824-960MHz, 1710-2170MHz, 2300-2690MHz).



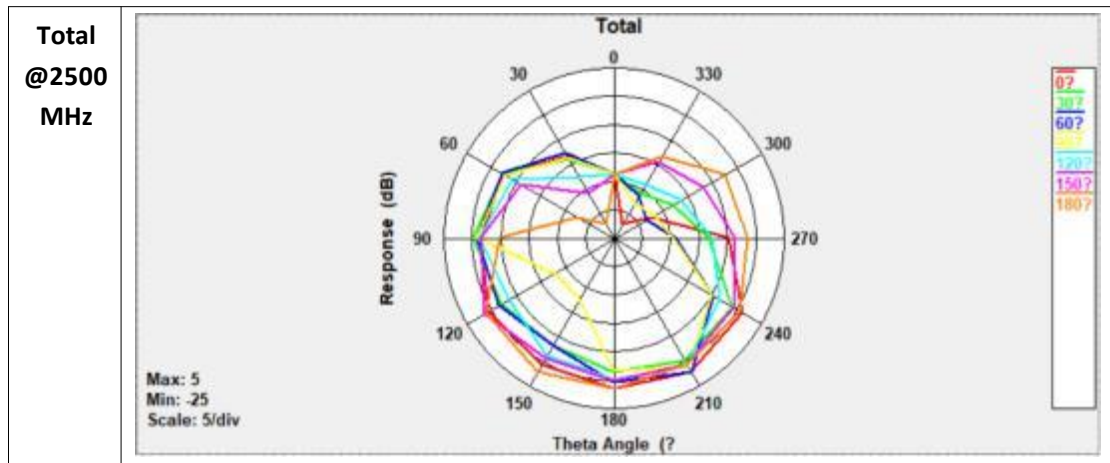
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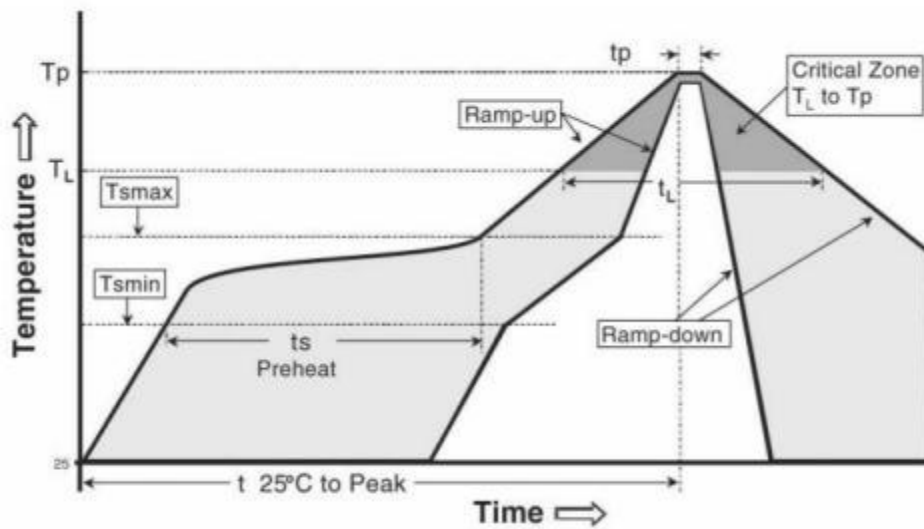


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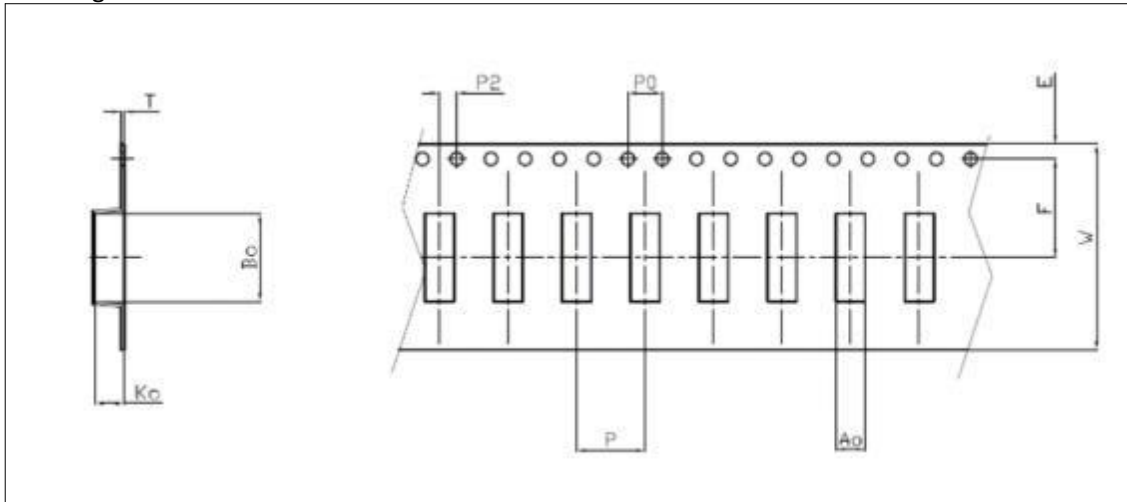
Welding condition

Typical welding specifications for reliable and non-destructive as shown as below:



Phase	Profile features	Pb-Free assembly (SnAgCu)
RAMP-UP	Avg. Ramp-up Rate (Tsmmax to Tp)	3 °C / second (max.)
PREHEAT	- Temperature Min (Tsmmin) - Temperature Max (Tsmmax) - Time (tsmin to tsmax)	150 °C 200 °C 60-180 seconds
REFLOW	- Temperature (TL) - Total Time above TL (tL)	217 °C 60-150 seconds
PEAK	- Temperature (Tp) - Time (tp)	260 °C 20-40 seconds
RAMP-DOWN	Rate	6 °C/second max
Time from 25 °C to Peak Temperature		8 minutes max

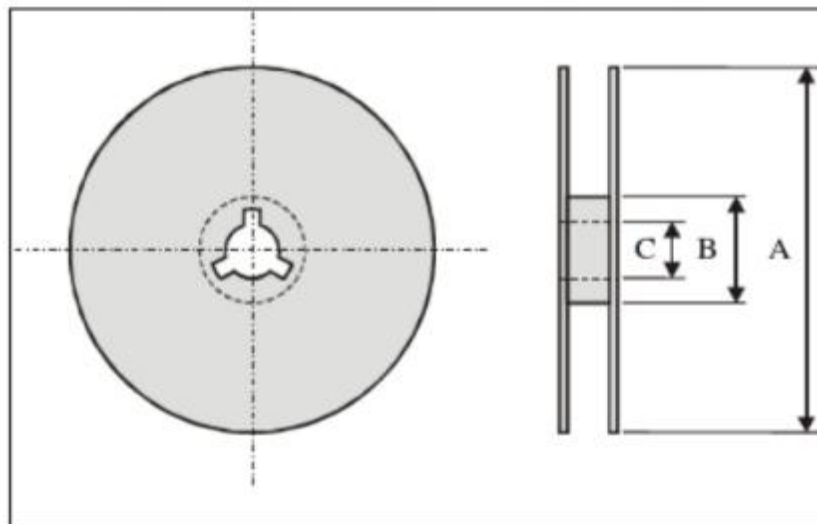
Package



Plastic Tape specification (unit:mm)

Index	Ao	Bo	Ko	T	W
Dimension (mm)	4.0±0.1	24.0±0.1	1.8±0.1	0.3±0.05	44.0±0.3
Index	E	F	P	P0	P2
Dimension (mm)	1.75±0.1	20.0±0.1	8.0±0.1	4.0±0.1	2.0±0.1

Reel dimensions



Index	A	B	C
Dimension(mm)	330	100	13.5

Standard quantities: 4000 PCS/plate

Storage Environment:

Temperature: -10°C~+40°C

Humidity : 30% -70% relative humidity

Keep the product away from corrosive gases, such as sulfur. Chlorine gas or acid may lead to oxidation of product electrodes resulting in poor welding ability.

The product should be placed in the toolbox and protected from moisture and dust. Products should be stored in the warehouse and avoid heat, vibration, direct sunlight. Products should be stored under closed condition.