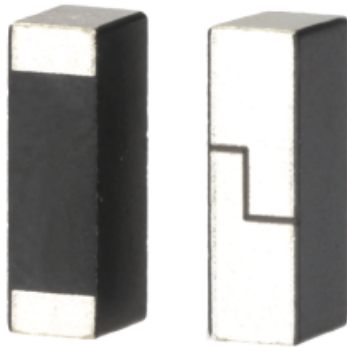


LoRa Antenna Information Model# W3012

W3012 Datasheet version 1.2. ISM 900 MHz Ceramic Antenna. (01/08).

ISM 900 MHz Ceramic Antenna

Ground cleared under antenna, clearance area 10.80 mm x 8.25 mm. Pulse Part Number: W3012



Features

- Omni directional radiation
- Low profile
- Compact size W x L x H (10 x 3.2 x 4 mm)
- Low weight (600 mg)
- Lead free materials
- Fully SMD compatible
- Lead free soldering compatible
- Tape and reel packing
- RoHS Compliant Product
- MSL 1

Applications

- ISM 900 Band

Electrical specifications @ +25 °C

Note: Electrical characteristics depend on test board (GP) size and antenna positioning on GP and Ground Clearance area size.

ISM 902 – 928 MHz

Typical performance (test board size 100 x 37 mm, PWB ground clearance area 10.80 mm x 8.25)

Frequency Range [MHz]	RHCP Gain [dBic]	Max Gain [dBi]	Efficiency [%] / [dB]	Return loss min. [dB]	Impedance [Ω]	Operating Temperature [°C]
902 – 928	0.85 (Peak) 0.5 (Band edges)	2 (peak) 0.5 (band edges)	70 / -1,55 (peak) 50 / -3 (band edges)	-6	50	-40 to +85

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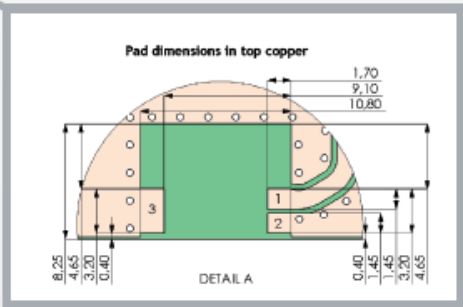
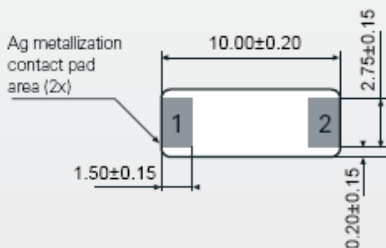
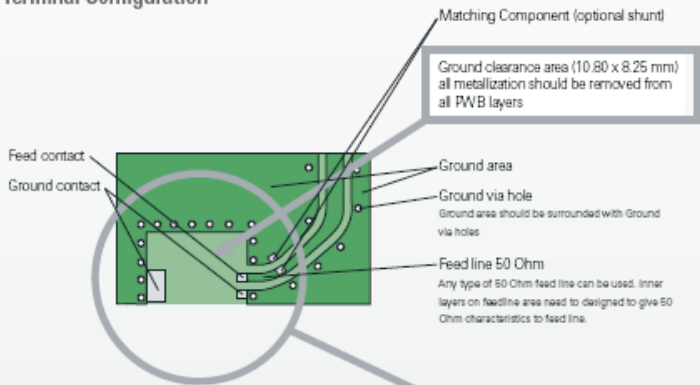
 **Pulse**
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W3012 Datasheet version 1.2. ISM 900 MHz Ceramic Antenna. (01/08).

ISM 900 MHz Ceramic Antenna

Ground cleared under antenna, clearance area 10.80 mm x 8.25 mm. Pulse Part Number: W3012

Terminal Configuration



Antenna features

No.	Terminal name	Terminal Dimensions
1	Feed / GND	1.5 x 2.75 mm
2	Feed / GND	1.5 x 2.75 mm

Antenna is symmetrical.
 Either of terminals 1 or 2 can be feed / GND

PWB features

No.	Terminal name	Terminal Dimensions
1	Feed	1,7 x 1,45 mm
2	GND	1,7 x 1,45 mm
3	GND	1,7 x 3,20 mm

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W3012 Datasheet version 1.2, ISM 900 MHz Ceramic Antenna, (01/08).

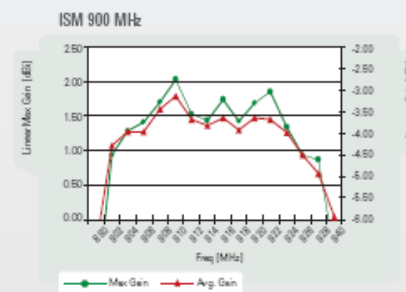
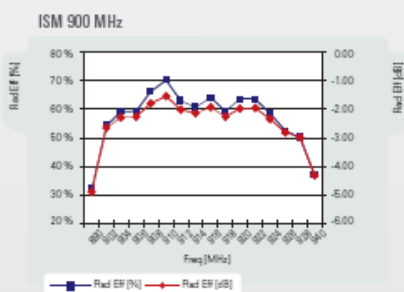
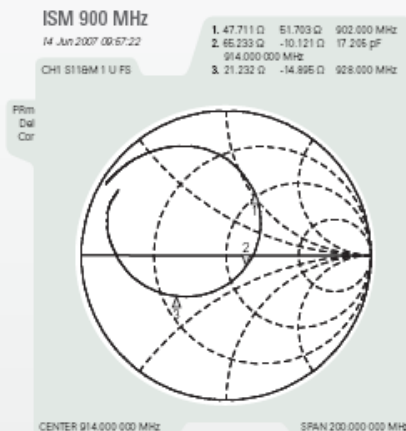
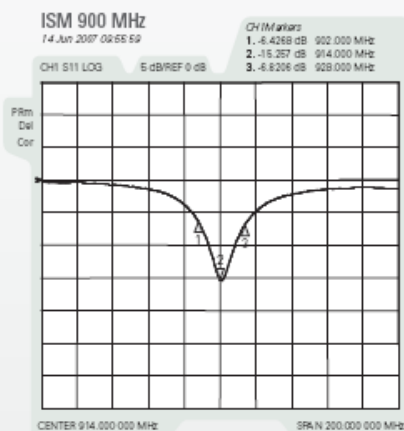
ISM 900 MHz Ceramic Antenna

Ground cleared under antenna, clearance area 10.80 mm x 8.25 mm. Pulse Part Number: W3012

Typical Electrical Characteristics (T=25 °C)

Measured on the 100 x 37mm test board

Typical Return Loss S11/ impedance



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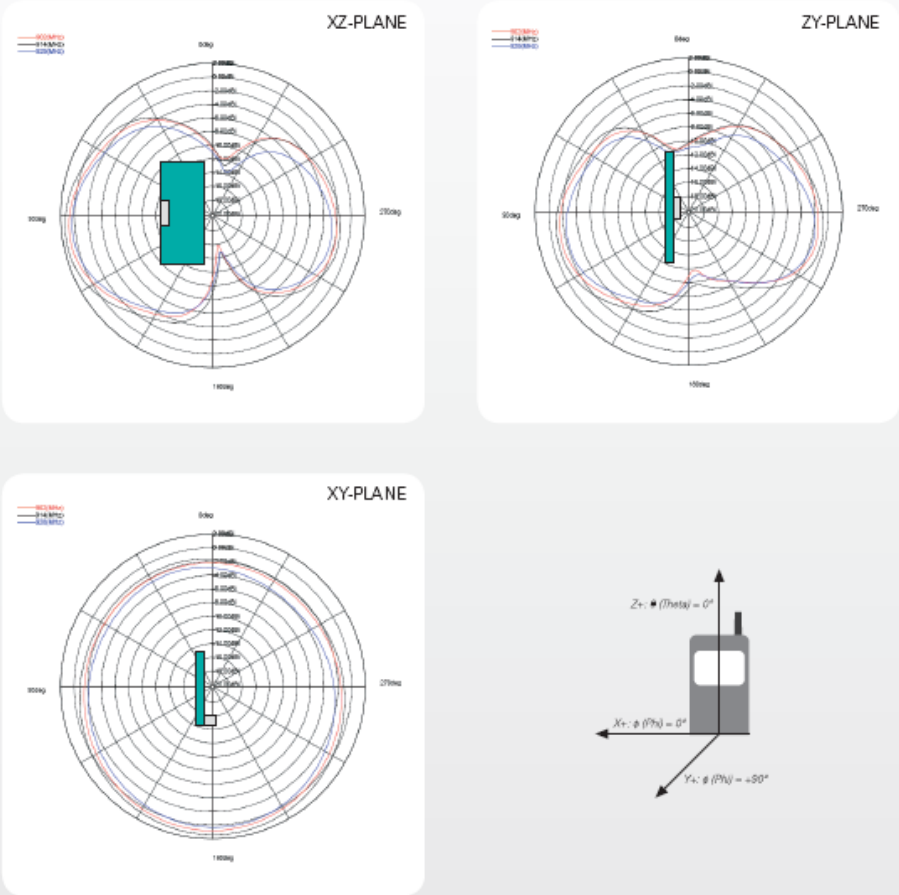
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W3012 Datasheet version 1.2: ISM 900 MHz Ceramic Antenna: (01/08).

ISM 900 MHz Ceramic Antenna

Ground cleared under antenna, clearance area 10.80 mm x 8.25 mm. Pulse Part Number: W3012

2,4 GHz Typical Free space Radiation Patterns



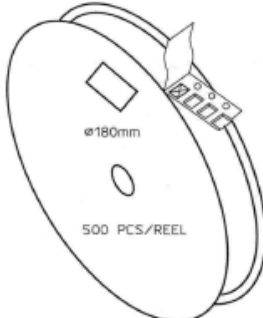
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W3012 Datasheet version 1.2. ISM 900 MHz Ceramic Antenna. (01/08).

ISM 900 MHz Ceramic Antenna

Ground cleared under antenna, clearance area 10.80 mm x 8.25 mm. Pulse Part Number: W3012

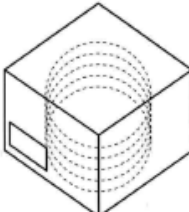
Packing form



CARRIER TAPE H85-00158
 width=24.00 depth=4.15
 COVER TAPE H85-00159
 width=21.20

 LENGTH OF TAPE:
 - Leader section: min 350 mm before component section
 - Trailer section: min 40 mm after component section.

 Empty part cavities at leader and trailer section of the tape must be sealed with top cover tape.



BOX H85-00128 (182x182x125) 1 pcs
 - LABEL 1 pcs/BOX

 REEL H85-00160 (D180, W28) 4 pcs
 - REEL LABEL 1 pcs/REEL

MATERIAL			
HANDLINGS			
		RAT ID	160197 PeHa H
		DRWN	G
		DGNER	F
		CHKD	E
		APPRD	D
PRODUCT		H90-DY800-F01P01	
DENOMINATION		PACKING FORM	
VERSION		MOD/DATE/NAME	

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BLE Antenna Information Model# W3008



Series: Chip Antenna

TECHNICAL DATA SHEET

Description: 2.4-2.4835GHz Ceramic SMT antenna, 4x4.25mm keep out area

PART NUMBER: W3008



Features:

- 2400-2483.5MHz
- Size: 3.2 x 1.6 x 1.1mm
- Efficiency: 66 %
- Gain: 1.1 dBi
- Polarization: Linear
- Power Handling: 5W
- RoHS Compliant
- Moisture Sensitivity Level MSL3

Applications:

- Bluetooth, BLE, Zigbee, WiFi
- 2.4GHz ISM band radios

All dimensions are in mm / inches



Series: Chip Antenna

TECHNICAL DATA SHEET

Description: 2.4-2.4835GHz Ceramic SMT
antenna, 4x4.25mm keep out area

PART NUMBER: W3008

ELECTRICAL SPECIFICATIONS

Frequency	2400-2483.5MHz
Nominal Impedance	50 Ω
Return Loss	-4dB
Radiation Pattern	Omni
Gain	1.1dBi
Efficiency	66%
Polarization	linear
Power Withstanding	5W

MECHANICAL SPECIFICATIONS

Overall Length	3.2x1.6x1.1mm
Weight	33mg
Antenna Color / Material	Ceramic

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-40~+85° C
Storage Temperature	-40~+85° C
RoHS Compliant	Yes

(*) All RF parameters measured on 80*37mm PCB with 4*4.25mm clearance in free space. No matching component used.



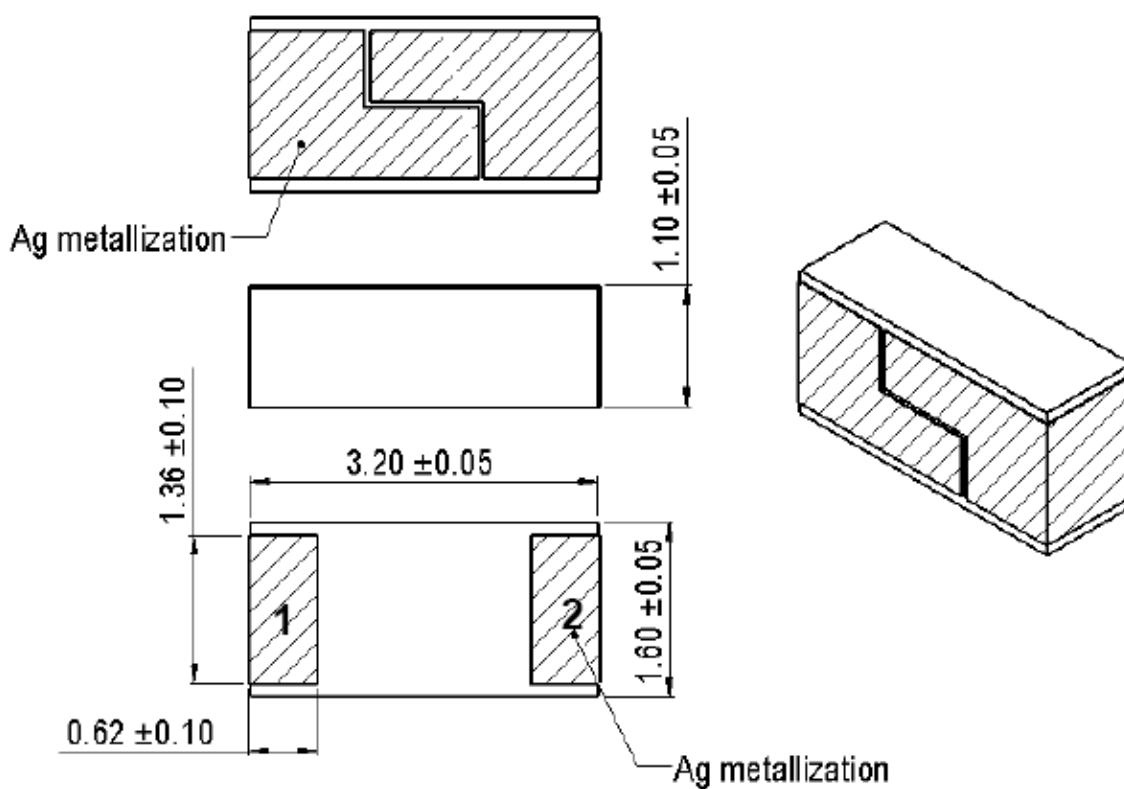
Series: Chip Antenna

TECHNICAL DATA SHEET

Description: 2.4-2.4835GHz Ceramic SMT
antenna, 4x4.25mm keep out area

PART NUMBER: W3008

MECHANICAL DRAWING AND TERMINAL CONFIGURATION



No.	Terminal Name	Terminal Dimensions
1	Feed /GND	0.62 x 1.36 mm
2	Feed /GND	0.62 x 1.36 mm
Antenna is symmetrical, either one of pads 1 or 2 can be used as feed terminal		



Series: Chip Antenna

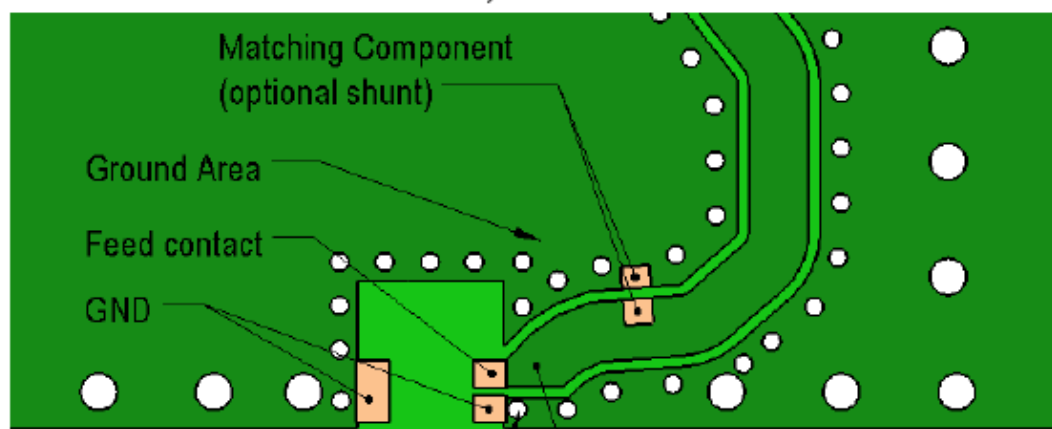
TECHNICAL DATA SHEET

Description: 2.4-2.4835GHz Ceramic SMT antenna, 4x4.25mm keep out area

PART NUMBER: W3008

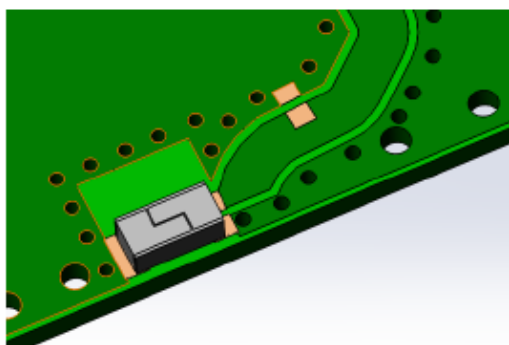
MECHANICAL DRAWING AND TERMINAL CONFIGURATION

Ground cleared under antenna, clearance area 4 mm x 4.25mm



Ground Via Hole
Ground area should be surround with ground via holes

Feed line 50Ohm
Any type of 50 Ohm feed line can be used. inner layers on feed line area need to designed to give 50 Ohm characteristics to feed line.





Series: Chip Antenna

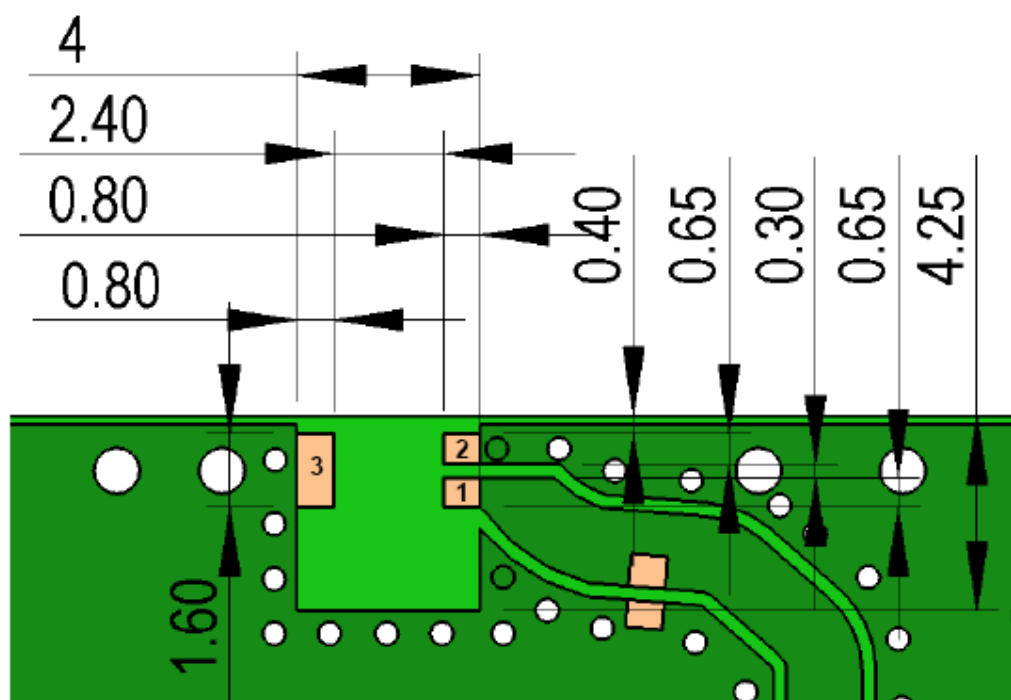
TECHNICAL DATA SHEET

Description: 2.4-2.4835GHz Ceramic SMT antenna, 4x4.25mm keep out area

PART NUMBER: W3008

MECHANICAL DRAWING AND TERMINAL CONFIGURATION

Recommended Antenna Pad Dimensions on PCB Layout (top surface)
Ground cleared under antenna, clearance area 4 mm x 4.25 mm



PCB contact pads

No.	Terminal Name	Terminal Dimensions
1	Feed	0,80 x 0,65 mm
2	GND	0,80 x 0,65 mm
3	GND	0,80 x 1,60 mm



Series: Chip Antenna

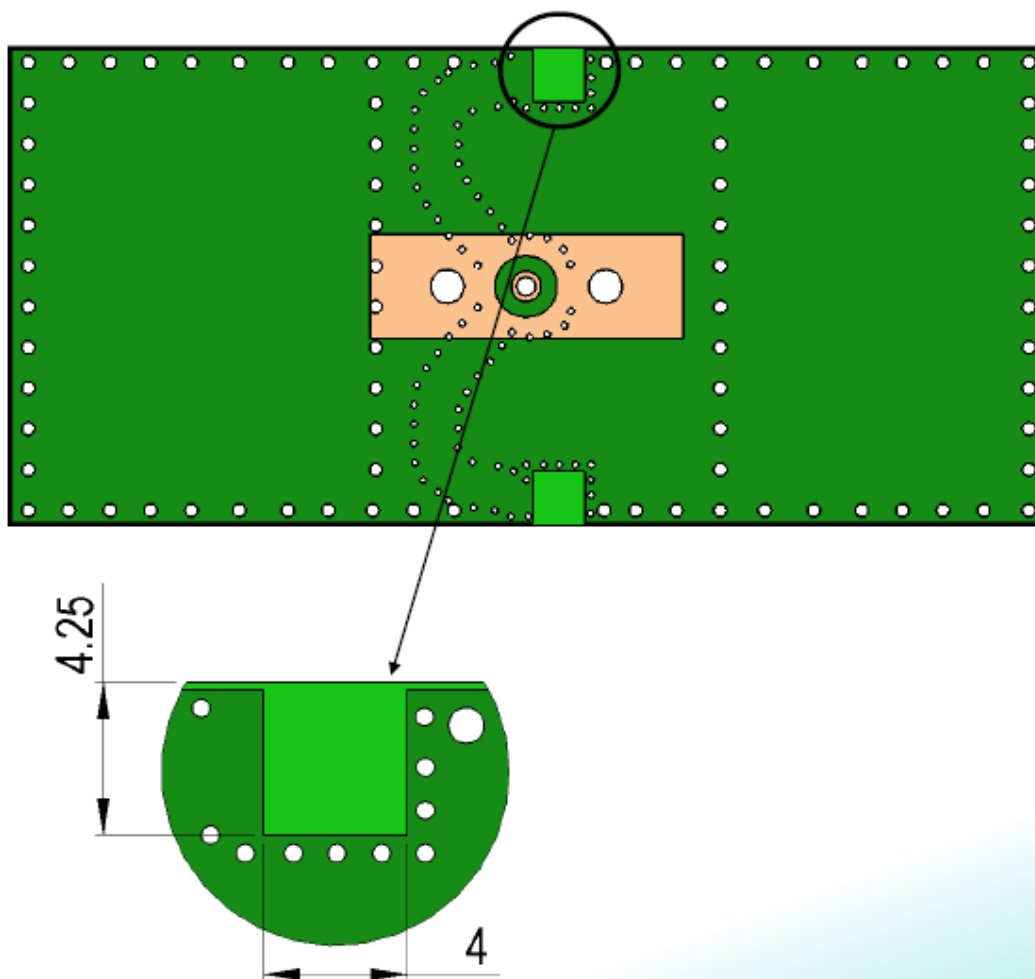
TECHNICAL DATA SHEET

Description: 2.4-2.4835GHz Ceramic SMT
antenna, 4x4.25mm keep out area

PART NUMBER: W3008

MECHANICAL DRAWING AND TERMINAL CONFIGURATION

*Recommended Antenna Pad Dimensions on PCB Layout (bottom surface)
Ground cleared under antenna, clearance area 4 mm x 4.25 mm*





Series: Chip Antenna

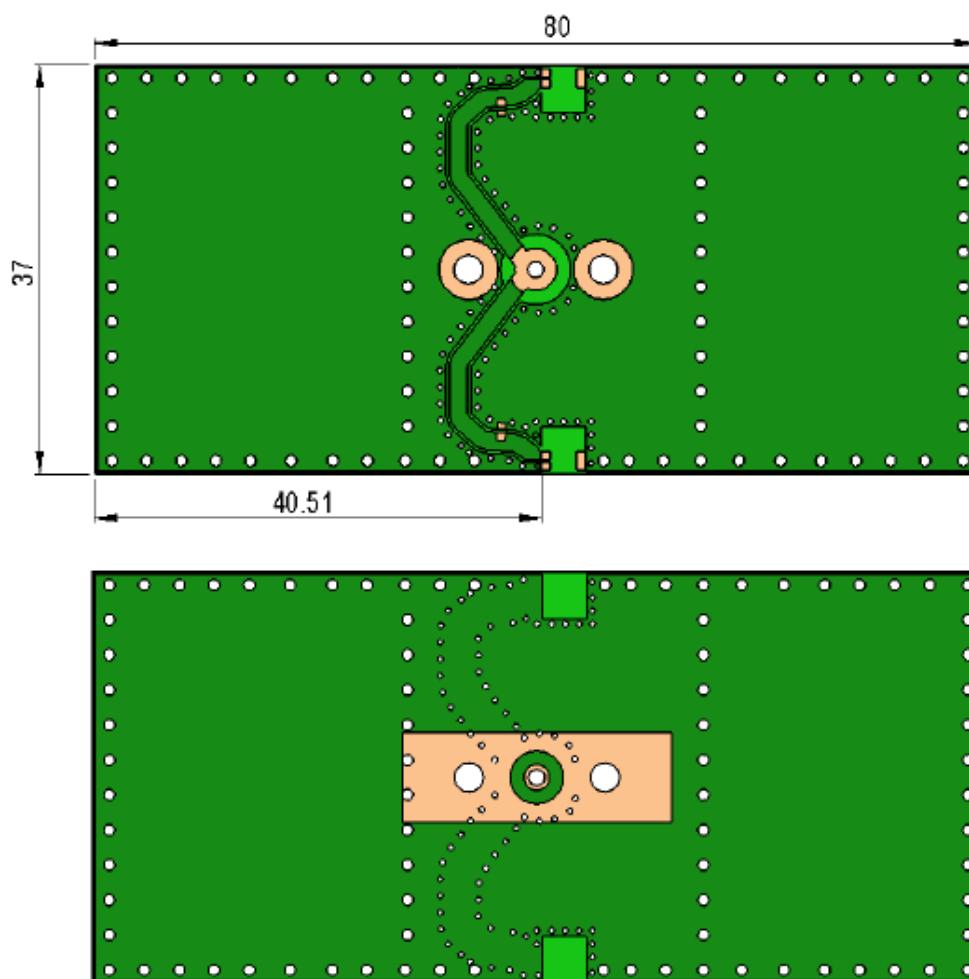
TECHNICAL DATA SHEET

Description: 2.4-2.4835GHz Ceramic SMT antenna, 4x4.25mm keep out area

PART NUMBER: W3008

MECHANICAL DRAWING AND TERMINAL CONFIGURATION

Recommended test board layout for electrical characteristic measurement, test board outline size 80 x 37mm





Series: Chip Antenna

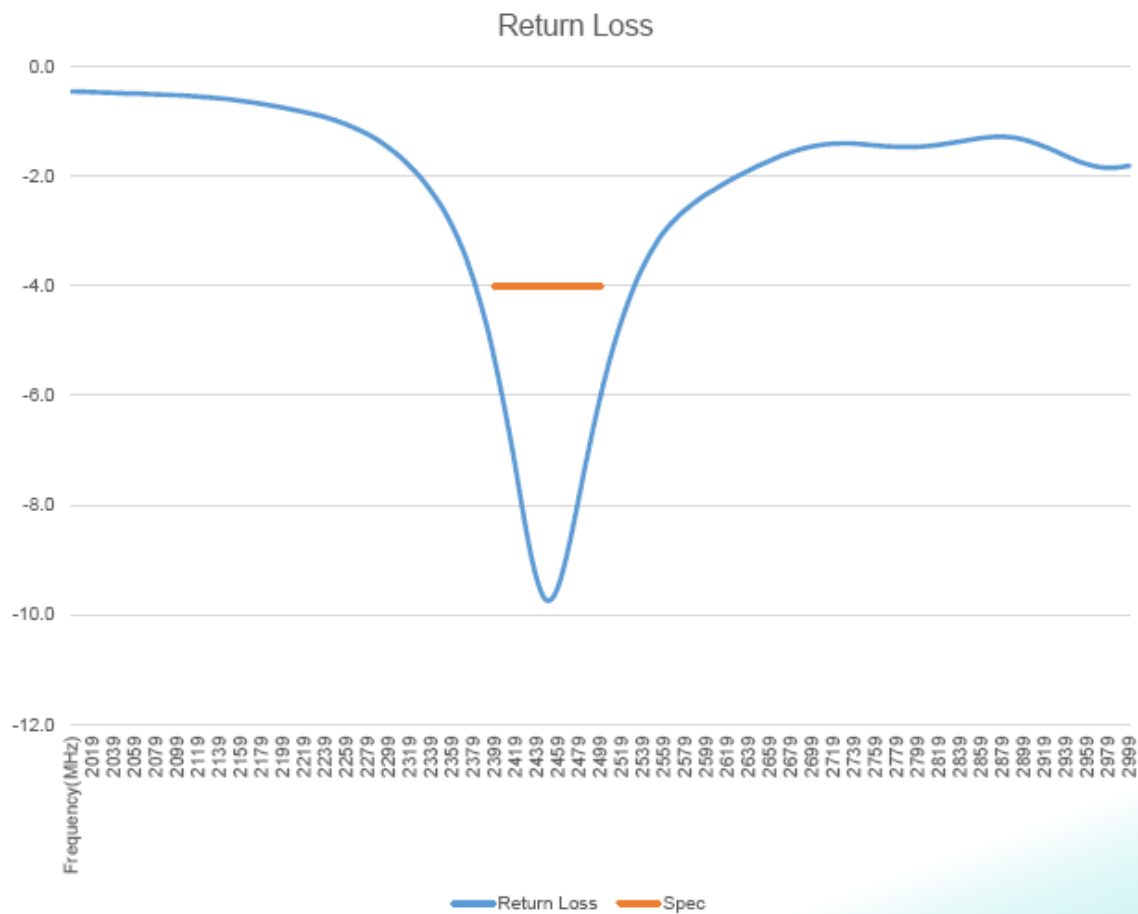
TECHNICAL DATA SHEET

Description: 2.4-2.4835GHz Ceramic SMT antenna, 4x4.25mm keep out area

PART NUMBER: W3008

CHARTS

Return loss



(*) All RF parameters measured on 80*37mm PCB with 4*4.25mm clearance in free space. No matching component used.



Series: Chip Antenna

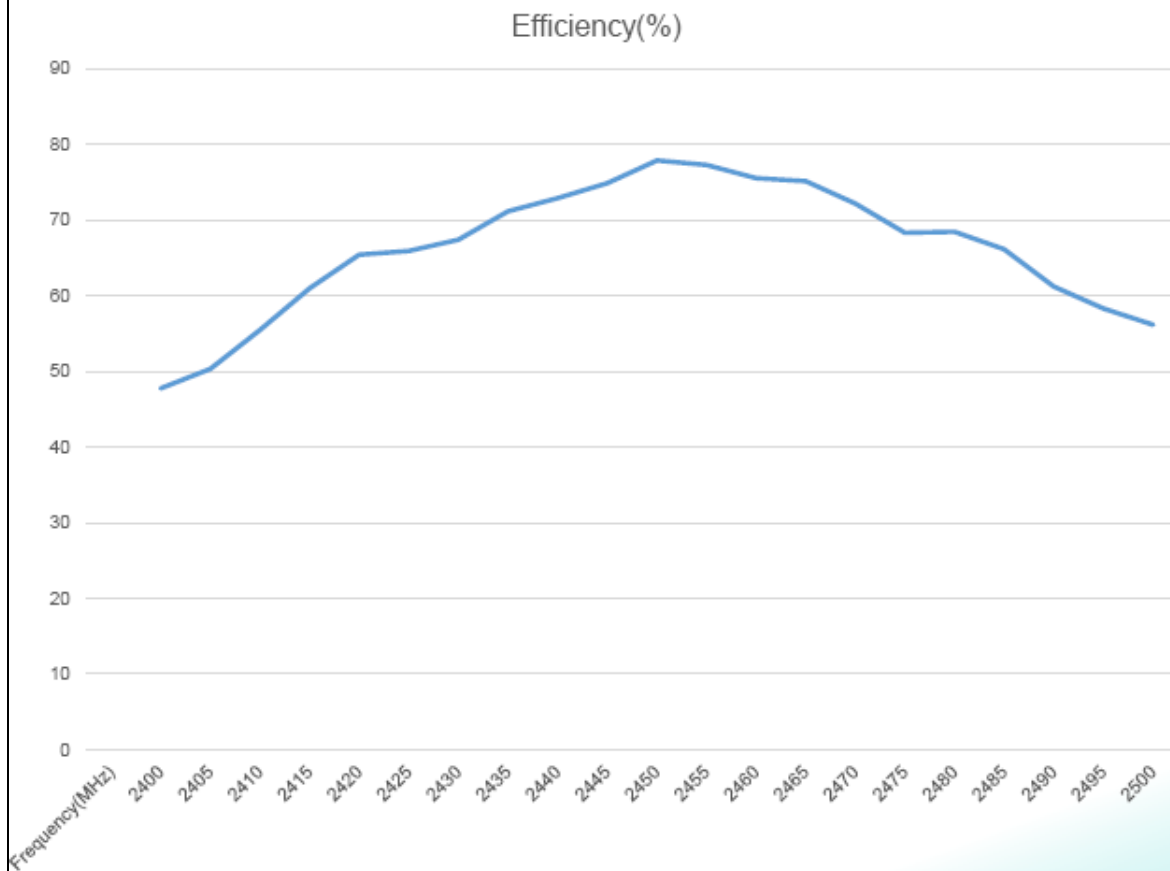
TECHNICAL DATA SHEET

Description: 2.4-2.4835GHz Ceramic SMT antenna, 4x4.25mm keep out area

PART NUMBER: W3008

CHARTS

Efficiency(%)



(*) All RF parameters measured on 80*37mm PCB with 4*4.25mm clearance in free space. No matching component used.



Series: Chip Antenna

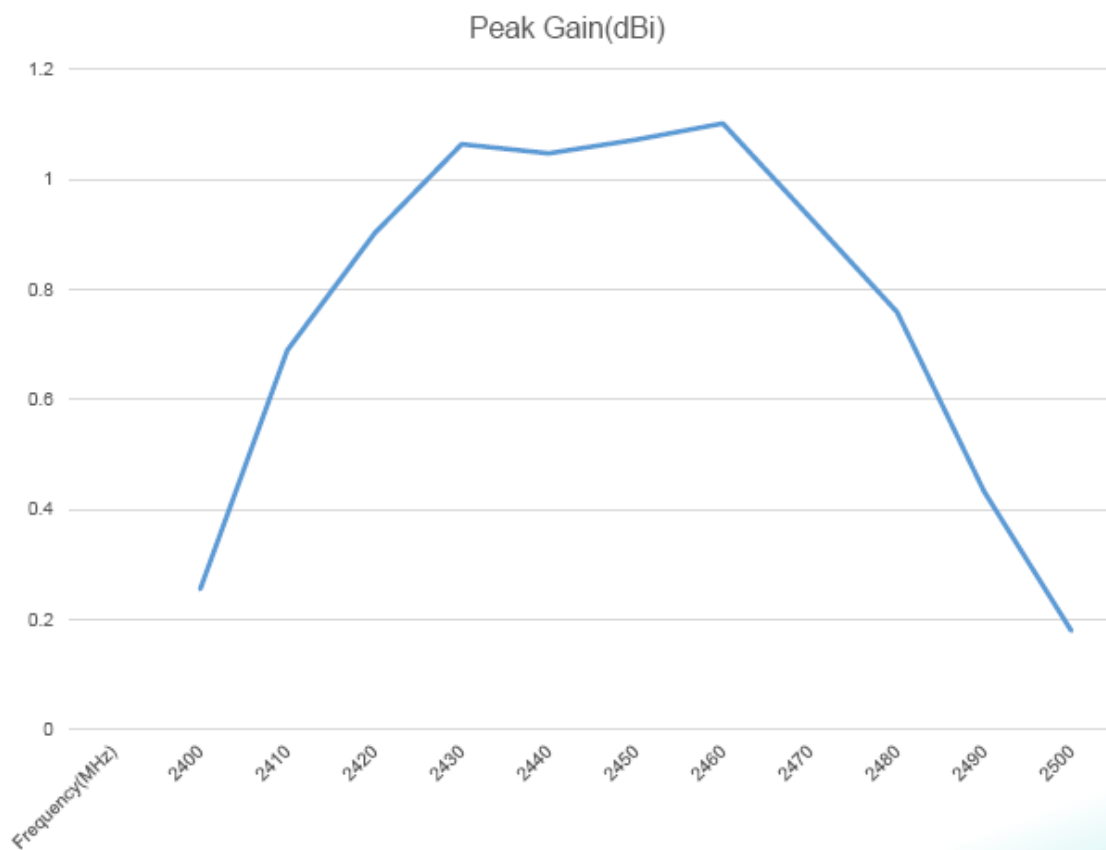
TECHNICAL DATA SHEET

Description: 2.4-2.4835GHz Ceramic SMT antenna, 4x4.25mm keep out area

PART NUMBER: W3008

CHARTS

Peak Gain(dBi)



(*) All RF parameters measured on 80*37mm PCB with 4*4.25mm clearance in free space. No matching component used.



Series: Chip Antenna

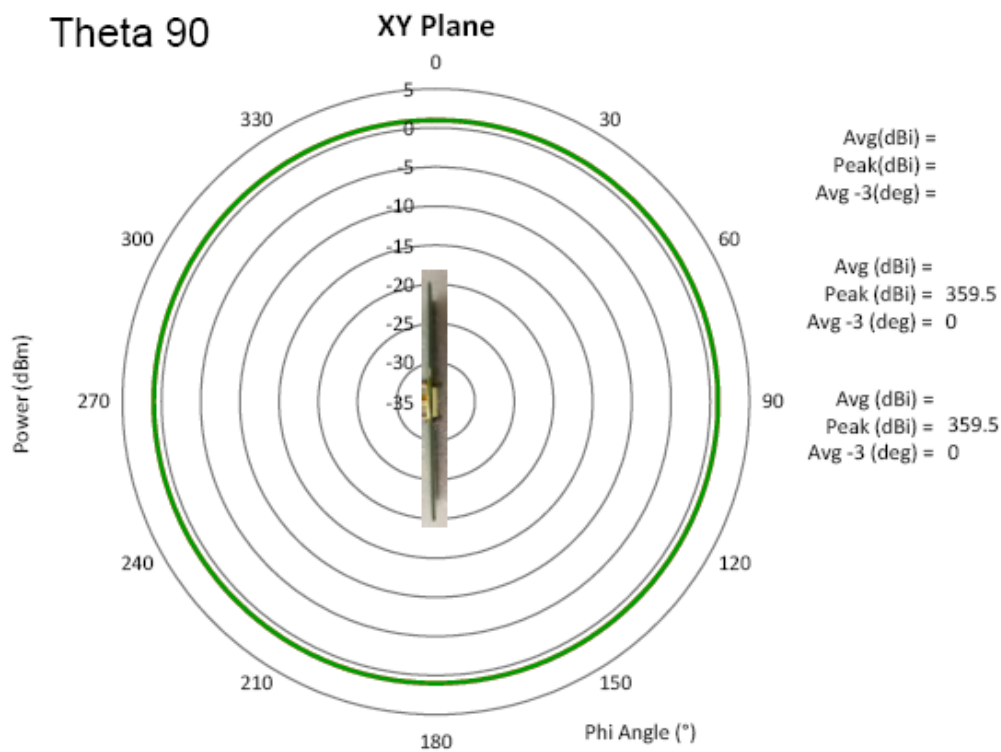
TECHNICAL DATA SHEET

Description: 2.4-2.4835GHz Ceramic SMT
antenna, 4x4.25mm keep out area

PART NUMBER: W3008

CHARTS

Free Space Radiation Pattern



(*) All RF parameters measured on 80*37mm PCB with 4*4.25mm clearance in free space. No matching component used.



Series: Chip Antenna

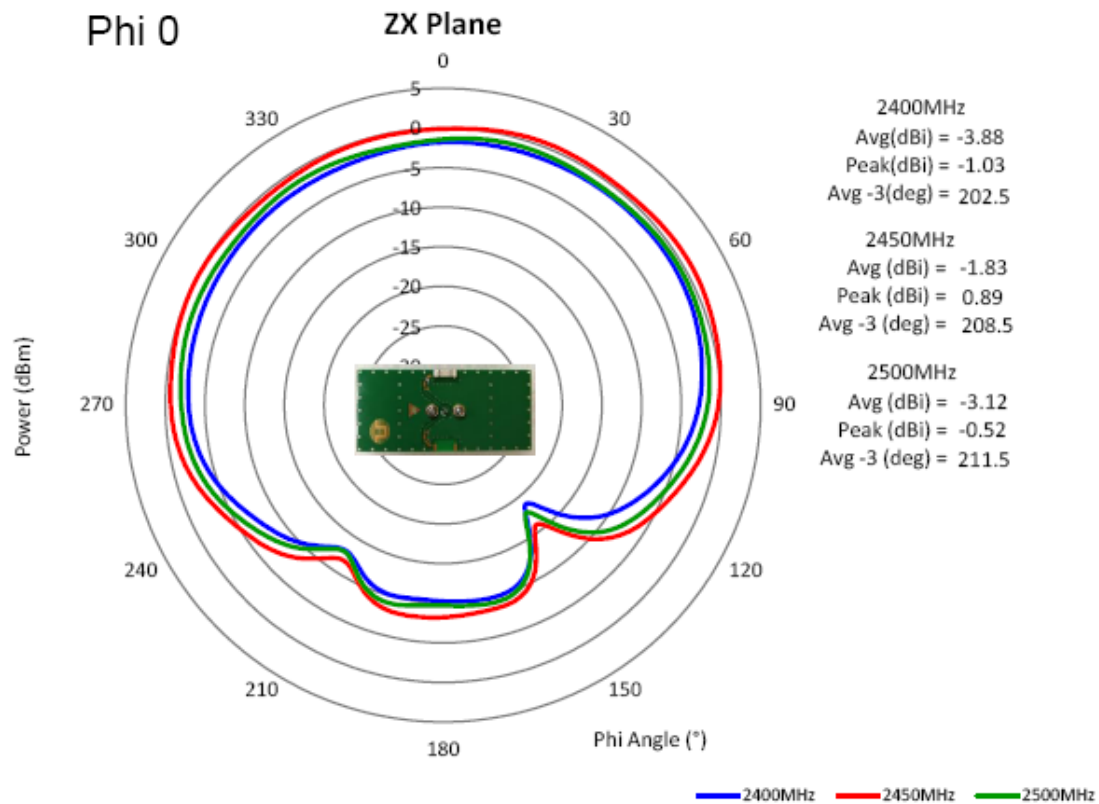
TECHNICAL DATA SHEET

Description: 2.4-2.4835GHz Ceramic SMT
antenna, 4x4.25mm keep out area

PART NUMBER: W3008

CHARTS

Free Space Radiation Pattern



(*) All RF parameters measured on 80*37mm PCB with 4*4.25mm clearance in free space. No matching component used.



Series: Chip Antenna

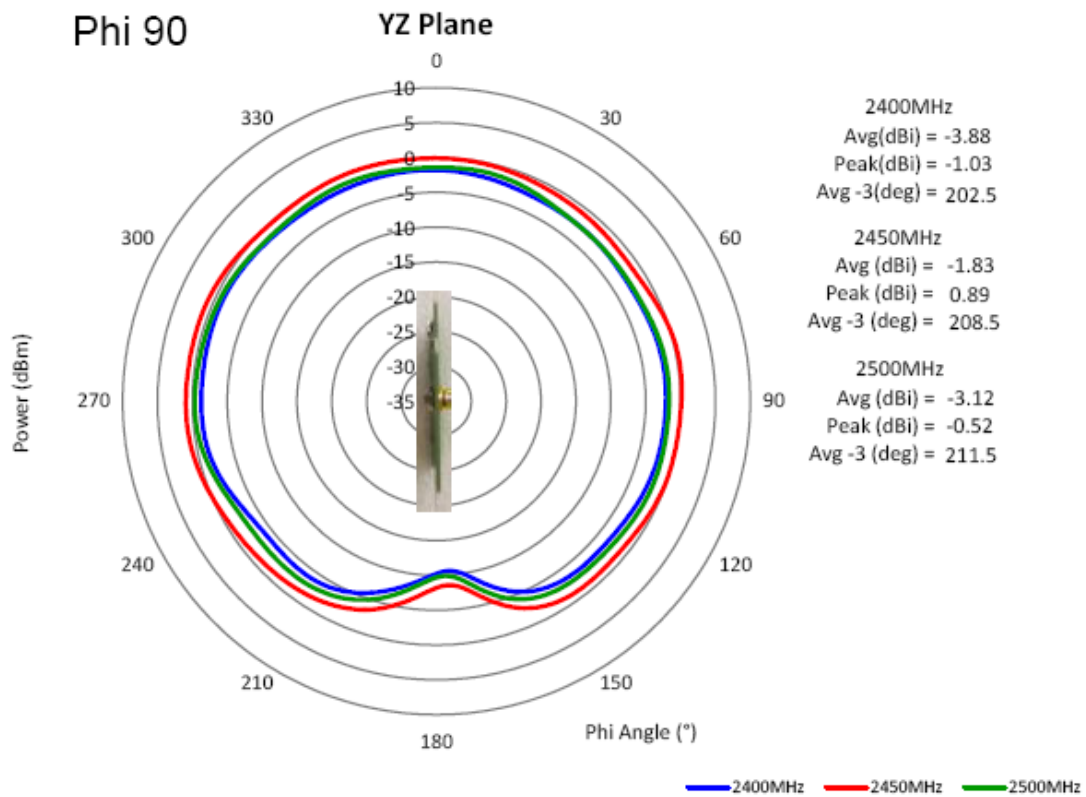
TECHNICAL DATA SHEET

Description: 2.4-2.4835GHz Ceramic SMT antenna, 4x4.25mm keep out area

PART NUMBER: W3008

CHARTS

Free Space Radiation Pattern



(*) All RF parameters measured on 80*37mm PCB with 4*4.25mm clearance in free space. No matching component used.



Series: Chip Antenna

TECHNICAL DATA SHEET

Description: 2.4-2.4835GHz Ceramic SMT
antenna, 4x4.25mm keep out area

PART NUMBER: W3008

PACKAGING

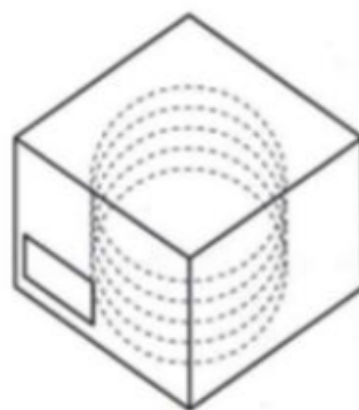
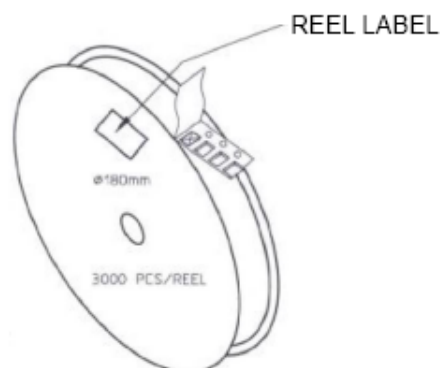
3000pcs antennas per 7" reel

5pcs 7" reel per inner package box

2pcs inner box per out box

Total 30000pcs antenna per out box

Out box size: 390mmx215mmx165mm



According to MSL3 packing requirement, MBB-Moisture Barrel Bag, Desiccant, HIC-Humidity Indicator Card, MSID Label, Caution Label are required.