

# Cellular GSM + NB-IoT - Flexible Antenna



**PRO-IS-590**

Request Samples



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**93 x 10 x 0.13 mm**  
**RoHS/RoHS II Compliant**  
**MSL Level = 1**

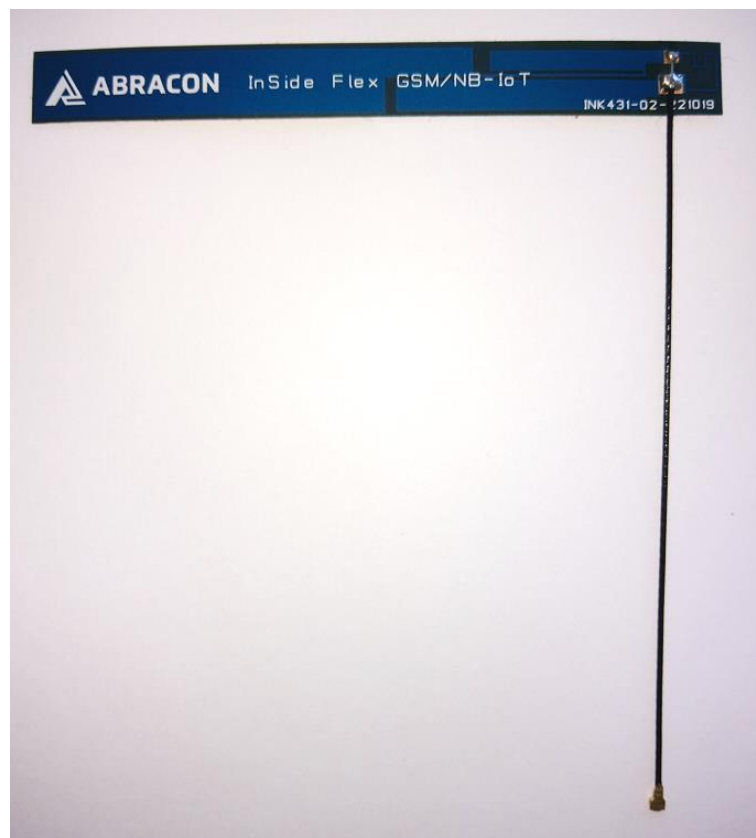
## Features

- Frequency coverage : 791 - 960, 1710 - 2170 MHz
- Flexible design with a low Profile (0.13 mm)
- Linear Polarization
- High Gain of up to 5.3 dBi
- Efficiency > 55%
- Easy integration using cable and connector
- Customizable cable and Connector options
- UL 94-V0 Compliant

## Applications

- NB-IoT/2G/3G/GSM applications
- IoT, M2M
- Industrial, Infrastructure IoT
- Smart Metering
- Consumer electronics
- Wireless modules
- Video and surveillance
- Broadband cellular connectivity

## Product Image



5101 Hidden Creek Ln Spicewood TX 78669  
Phone: 512-371-6159 | Fax: 512-351-8858  
For terms and conditions of sales, please visit:  
[www.abracon.com](http://www.abracon.com)

**REVISED: 05-05-23**

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## Electrical Specification

Parameter	Specification		Unit
Operating Frequency	791 ~ 960	1710 ~ 2170	MHz
Return Loss	< -7.6	< -6.0	dB
Polarization	Linear		-
Peak Gain	5.3	2.9	dBi
Efficiency	> -2.6 (55)	> -2.4 (57)	dB (%)
Impedance	50		$\Omega$

*Note: All measurements were conducted with the antenna mounted on ABS plastic, see section Measurement Setup. Performance can vary depending on the ground plane, application, and environment.*

## Mechanical Specification

Parameter	Specification
Antenna Dimension	93 x 10 x 0.13 mm
Mounting Type	Adhesive Tape
Cable Type	ø0.81 mm coaxial
Cable Length	100 mm
Connector Type	MHF4

## Environmental Specification

Parameter	Specification
Operating Temperature	-40°C to +85°C



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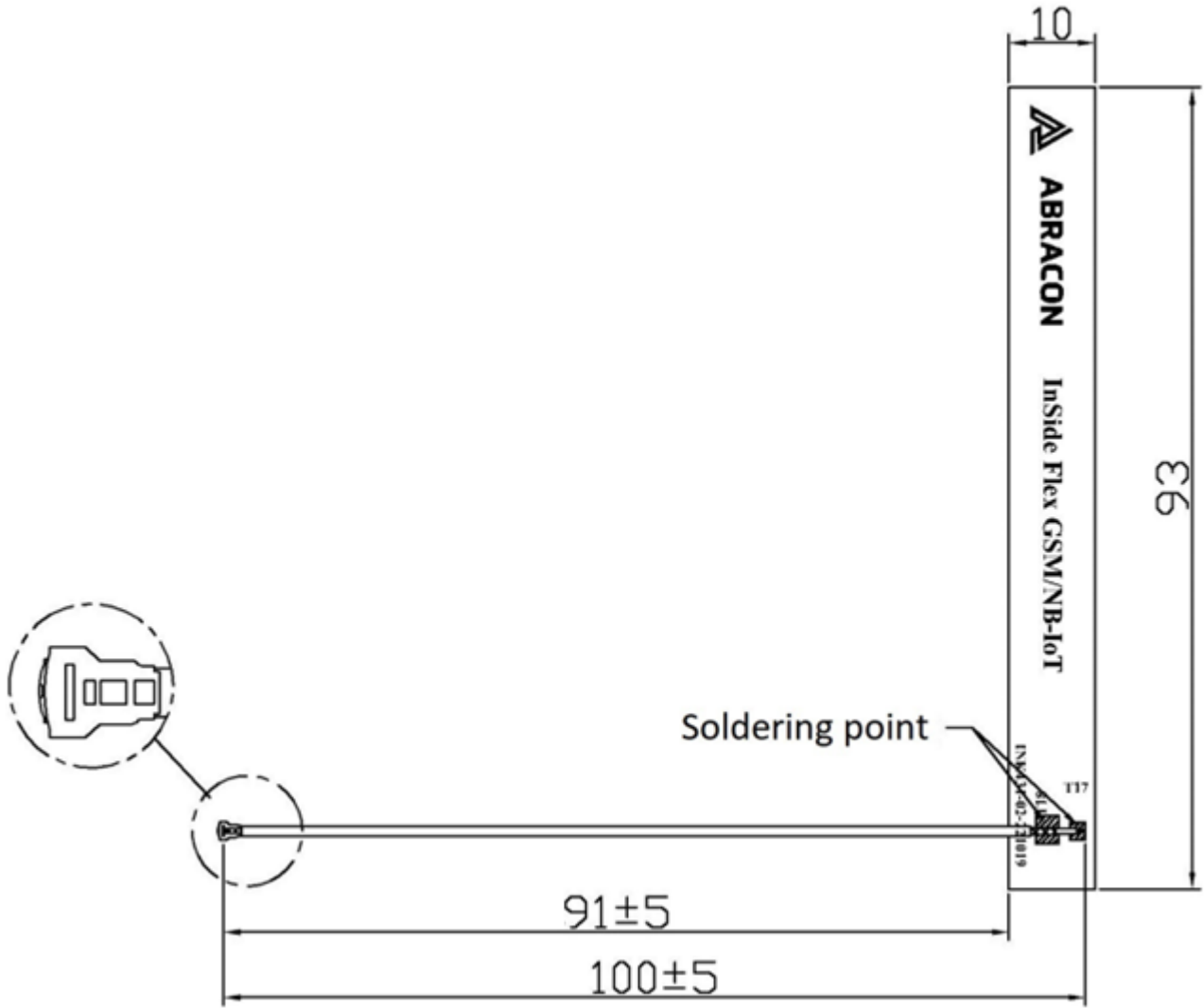


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## Product Dimensions



*Unit: mm*



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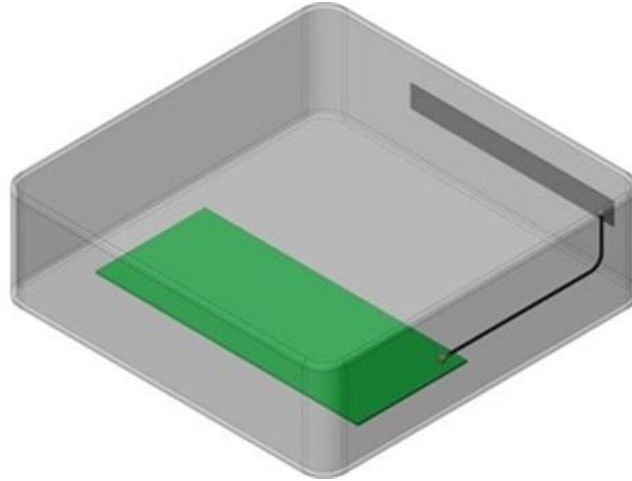
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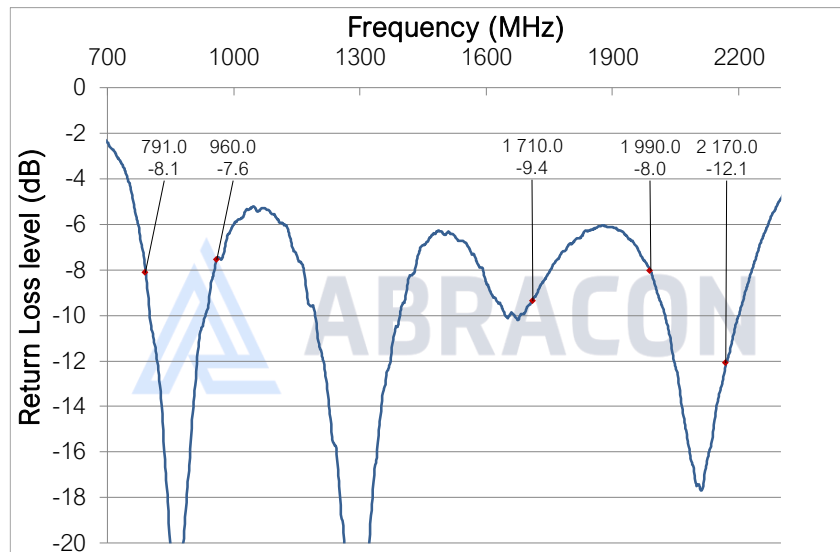
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**MSL Level = 1**

## Measurement Setup

The antenna measurements were done on a standard measurement fixture - the antenna mounted in an ABS plastic box, 150x150x45 mm, connected to a PCB, 120x50 mm, with the cable fully extended.



## Reflection Characteristics – Return Loss





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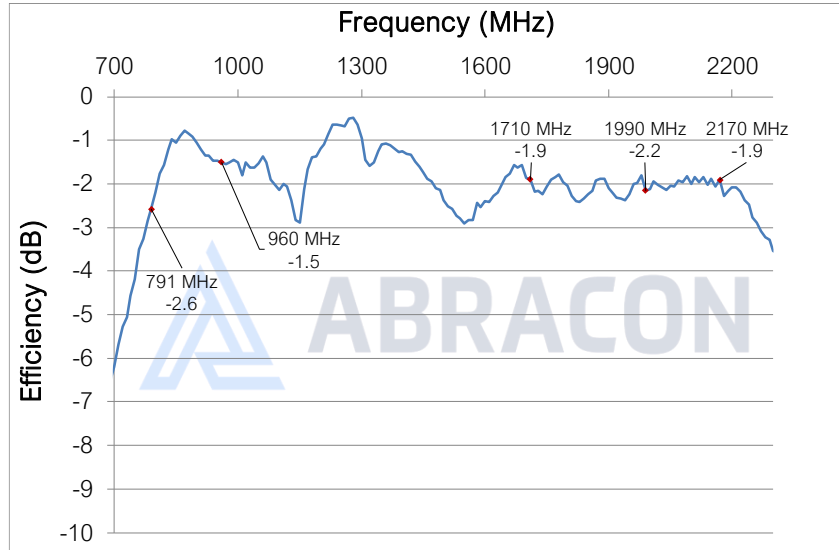


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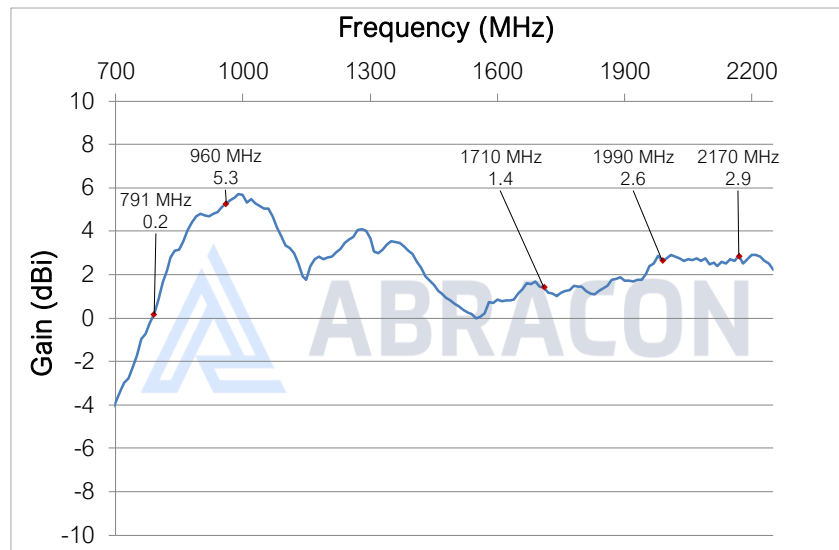


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## Radiation Characteristics – Total Efficiency (dB)



## Radiation Characteristics – Maximum Gain



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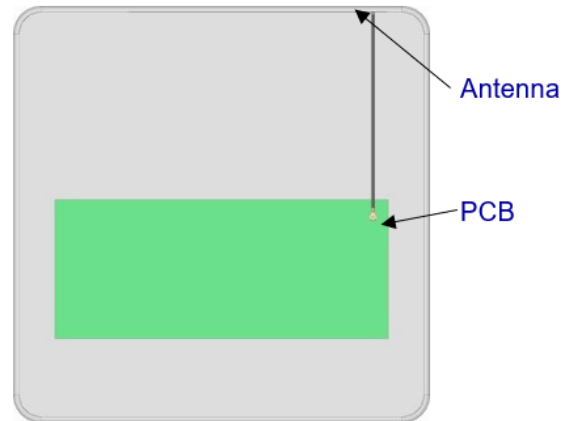
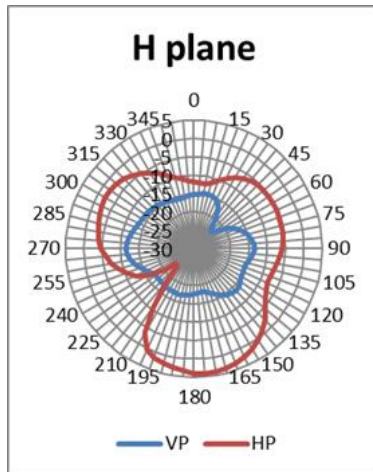
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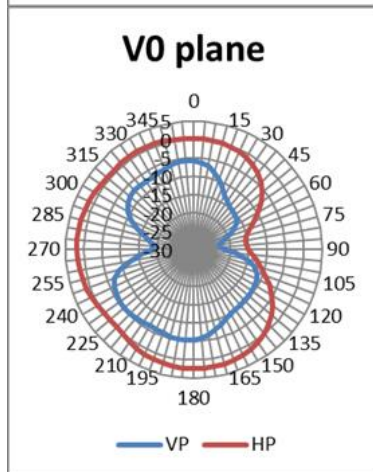
**93 x 10 x 0.13 mm**  
**RoHS/RoHS II Compliant**  
**MSL Level = 1**

## Radiation Characteristics – 2D Pattern @ 870 MHz

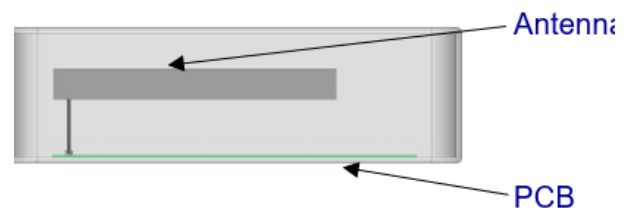
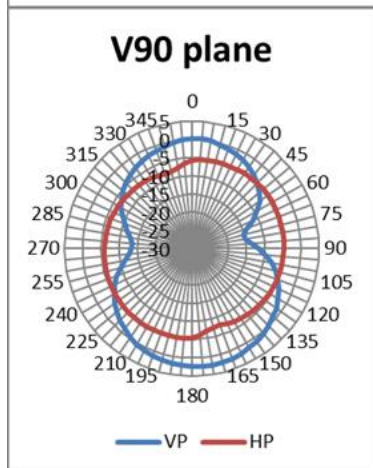
**XY-plane:**



**YZ-plane:**



**XZ-plane:**



VP: Vertical Polarization  
 HP: Horizontal Polarization

Unit: dBi

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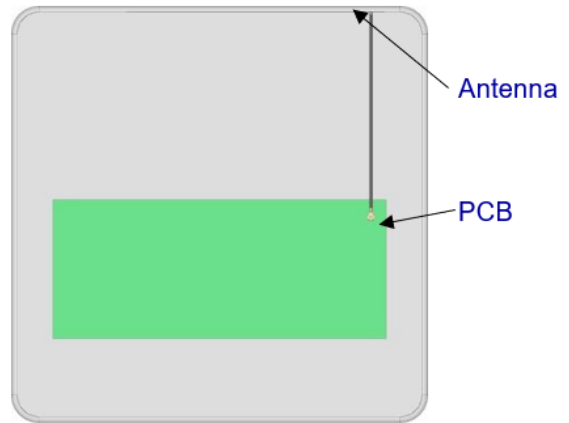
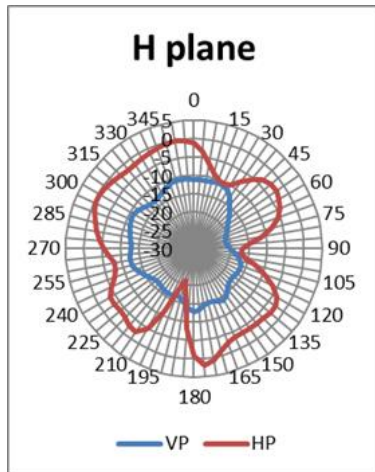
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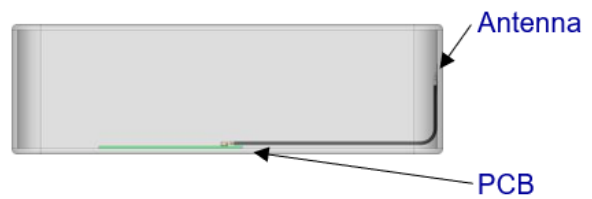
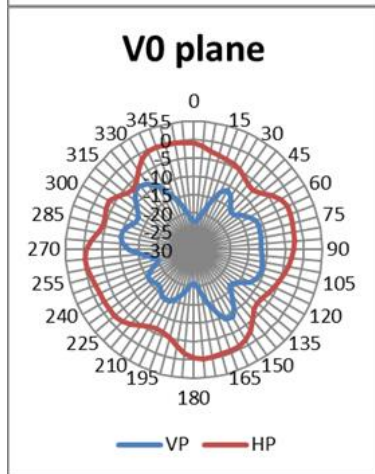
**93 x 10 x 0.13 mm**  
**RoHS/RoHS II Compliant**  
**MSL Level = 1**

## Radiation Characteristics – 2D Pattern @ 1850 MHz

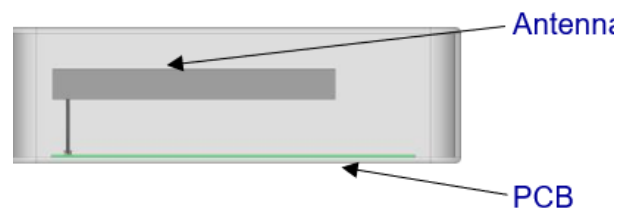
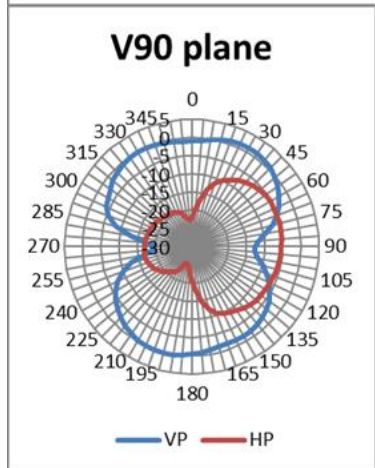
**XY-plane:**



**YZ-plane:**



**XZ-plane:**



VP: Vertical Polarization  
 HP: Horizontal Polarization

Unit: dBi





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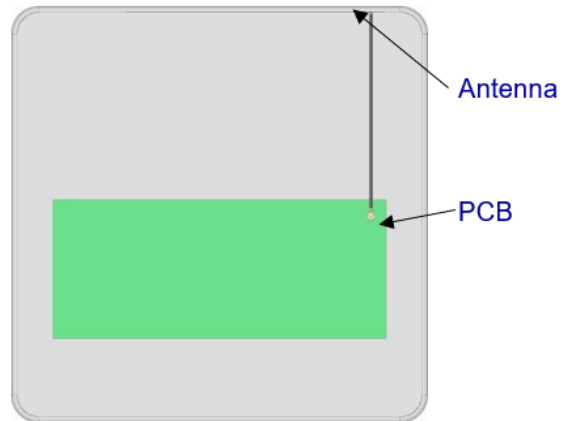
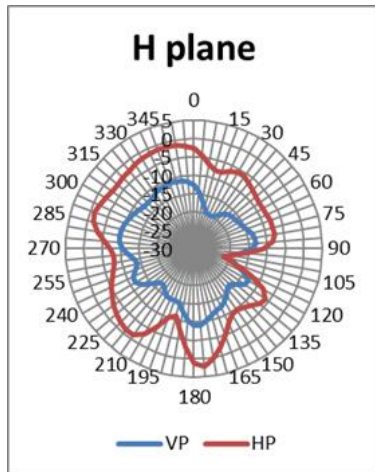
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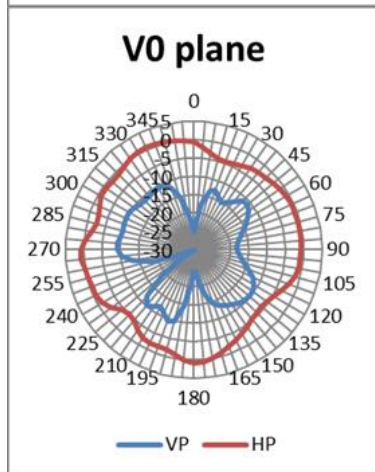
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**RoHS/RoHS II Compliant**  
**MSL Level = 1**

## Radiation Characteristics – 2D Pattern @ 2100 MHz

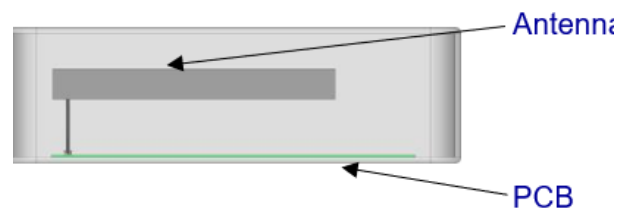
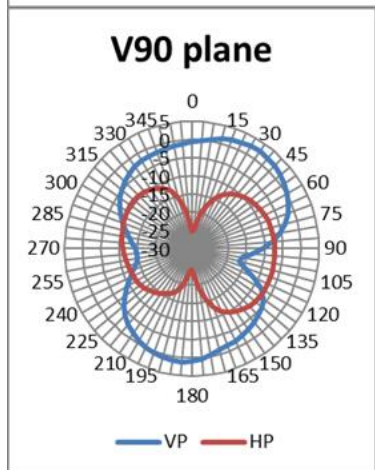
**XY-plane:**



**YZ-plane:**



**XZ-plane:**



VP: Vertical Polarization  
 HP: Horizontal Polarization

Unit: dBi





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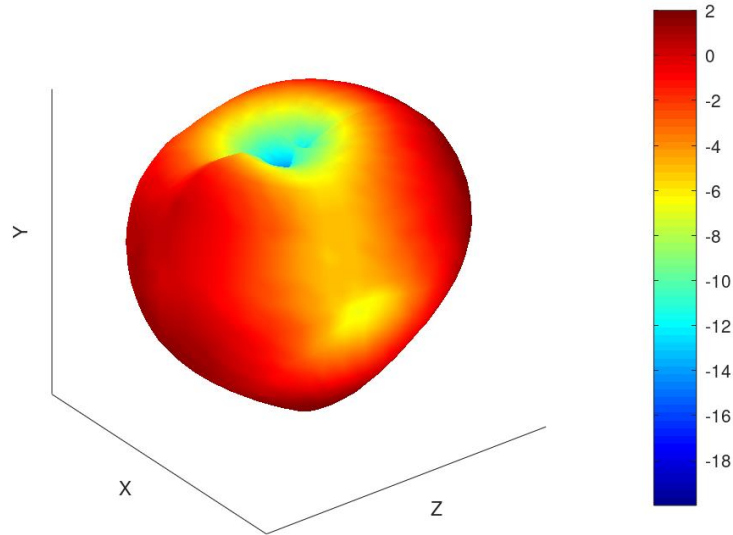


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**MSL Level = 1**

## Radiation Characteristics – 3D Pattern @ 870 MHz



## Radiation Characteristics – 3D Pattern @ 1850 MHz

