



**GALTRONICS**

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## 2.4 GHz SMT Antenna

02036073-06885-1

02036073-06885-2

Engineering Data Sheet



*Figure 1: Galtronics 2.4 GHz SMT Antenna  
02036073-06885-1 & 02036073-06885-2*

## Galtronics Embedded Antennas

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## Revision History (Required)

Revisions	Date	Note
P1	January 2019	Initial draft

### Disclaimers

The document is proprietary and confidential, which may be changed without notice. Please communicate with Galtronics sale team to verify before finalizing your product design.

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## 1. Galtronics 2.4 GHz SMT Antenna

The Galtronics 2.4 GHz SMT Antenna is a single band antenna that operates in 2400MHz-2500MHz. The antenna is mounted on a PCB with corresponding foot print and a 50 Ohms transmission line. A Pi matching network should be placed between the radio and antenna feed pad.

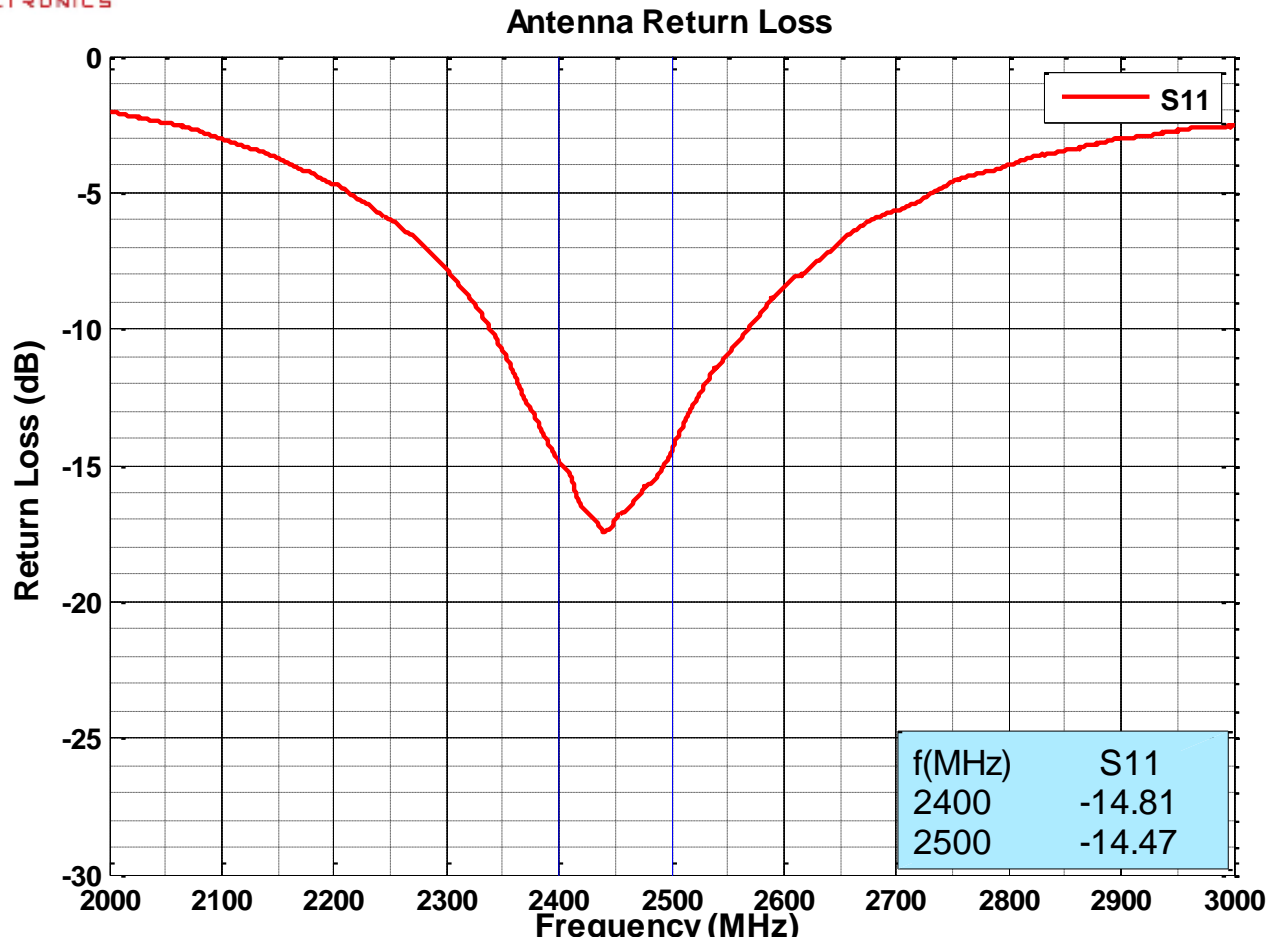
## 2. Features

- Operates in 2400MHz-2500MHz.
- Peak gain: 2.5dBi
- Efficiency: 65%
- Tape and Reel Packaging

## 3. Specifications

Frequency Range	2400MHz-2500MHz
Peak Gain	2.5dBi
Maximum VSWR	2.0:1
Impedance	50 $\Omega$
Power Handling	30 dBm
Antenna Dimensions	11.5 mm x 5.8 mm x 3.0 mm (L x W x H)
Humidity Range	Operating: 10% to 85% non-condensing Storage: 5% to 90% non-condensing

## 4. Antenna Return Loss



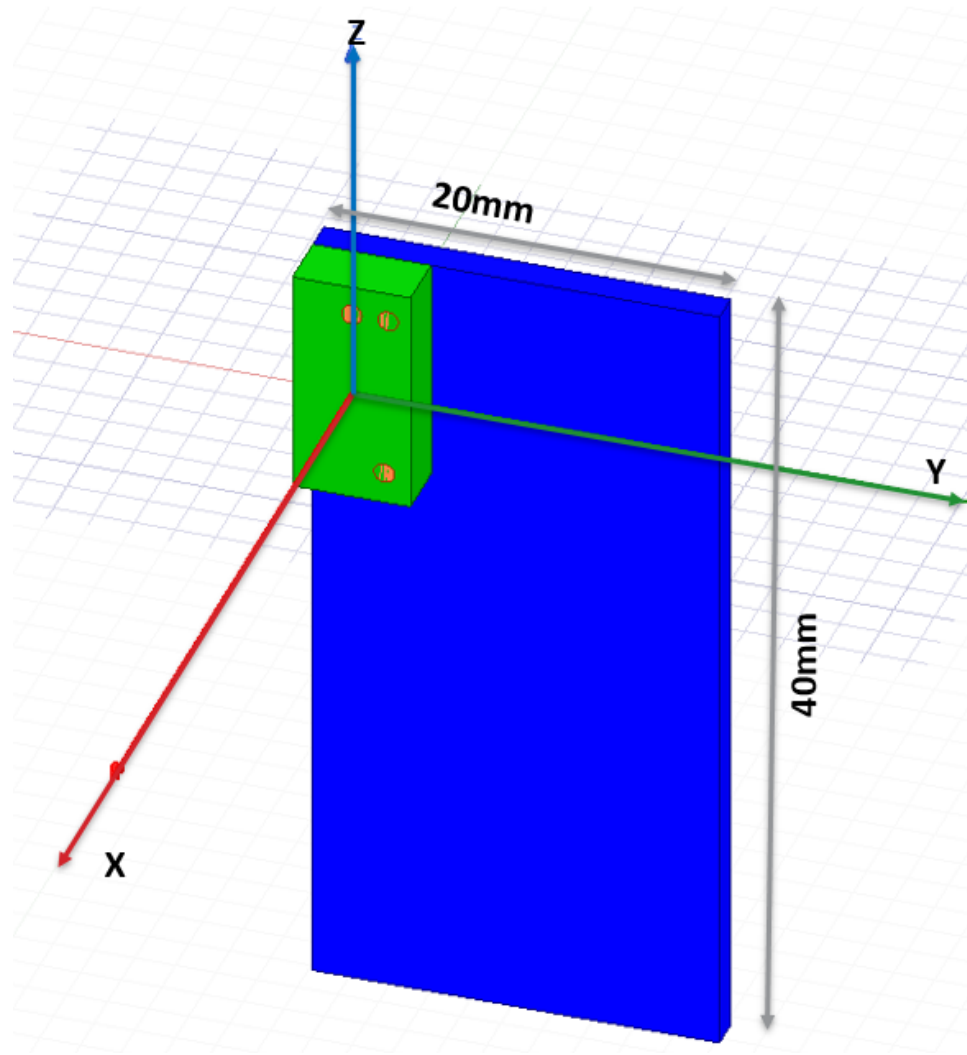
**Figure 2: Return Loss Measured on Reference PCB**

## 5. Peak Gain and Efficiency

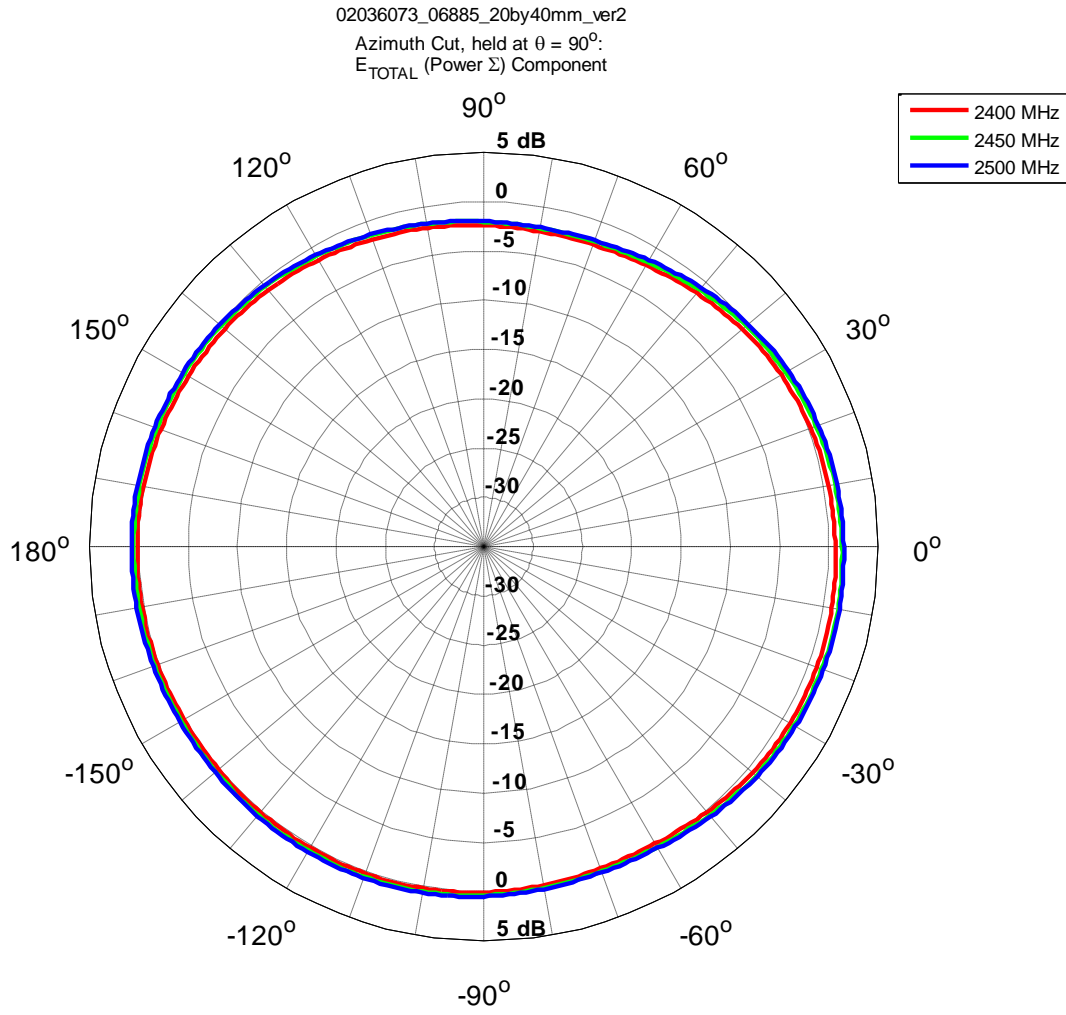
	Freq (MHz)	Peak Gain	Directivity	Efficiency
<b>02036073-06885</b>	2400	1.2	3.2	63 %
	2450	1.7	3.3	69 %
	2500	2.0	3.3	73 %
	Average			68 %

**Table 1: Peak Gain, Directivity & Efficiency**

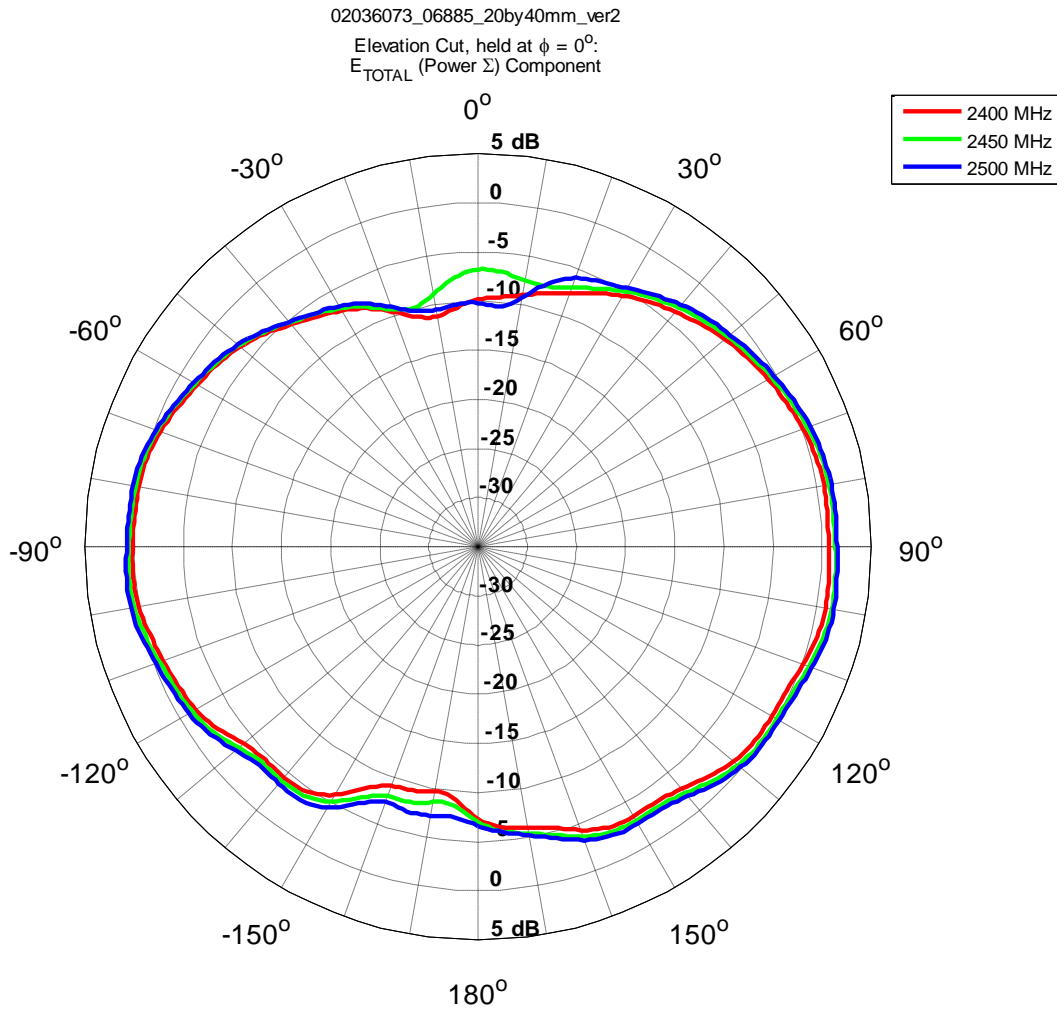
## 6. Radiation Patterns



**Figure 3 Measurement Orientation**

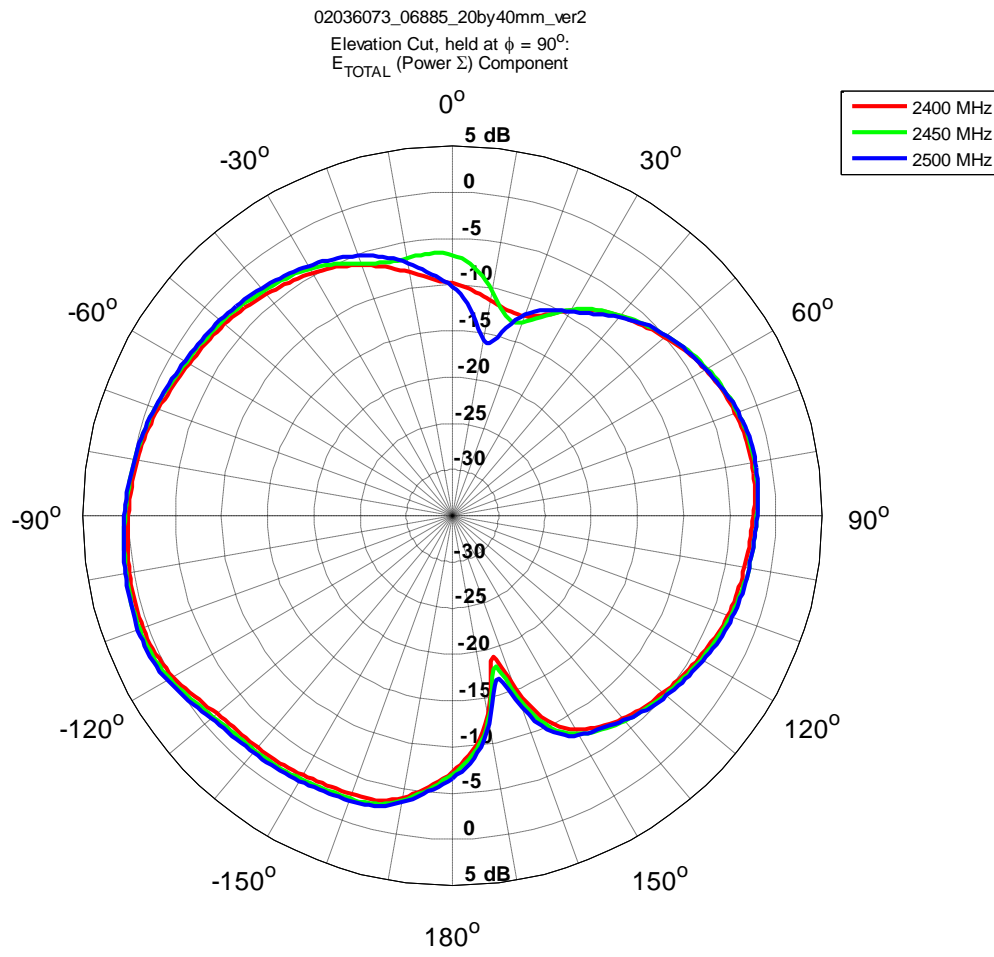


**Figure 4 2D Radiation Pattern in X-Y PLANE**

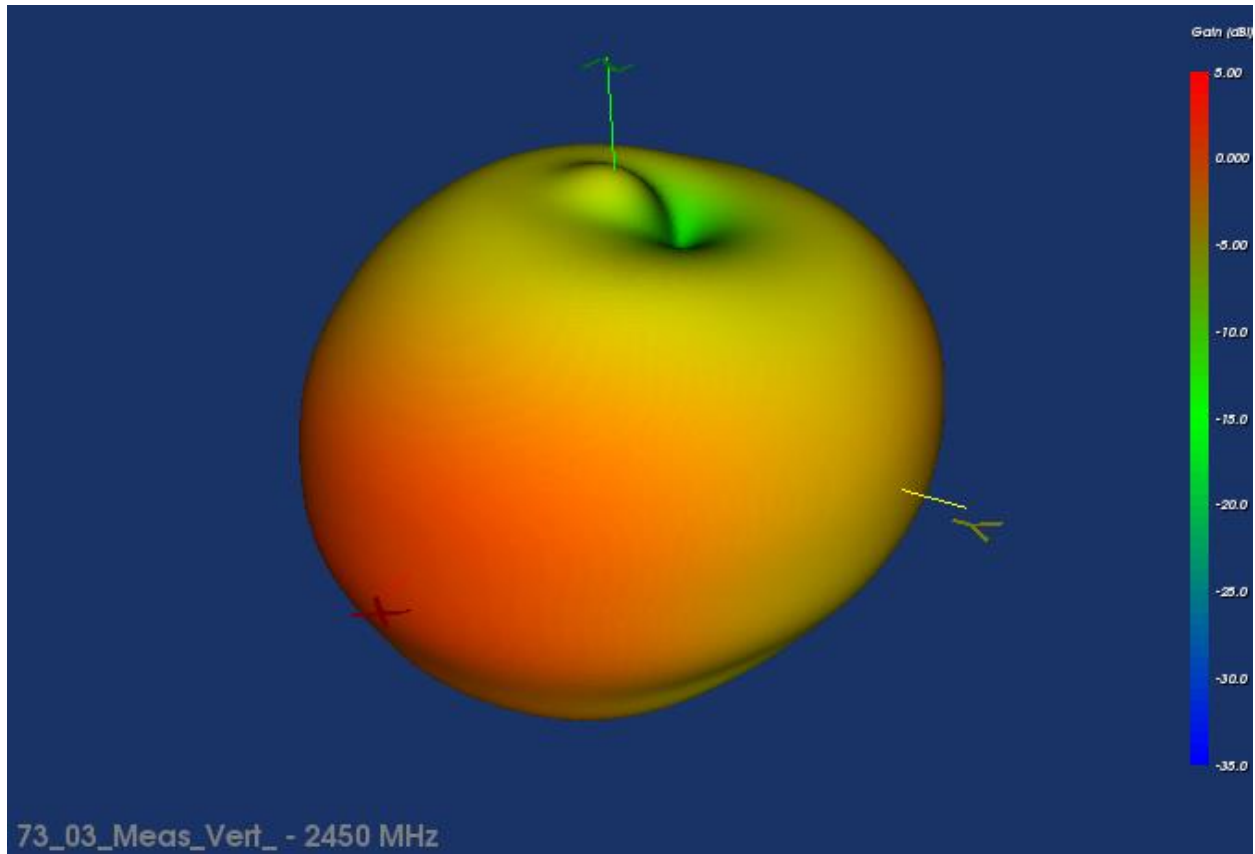


**Figure 5 2D Radiation Pattern in X-Z PLANE**





**Figure 6 2D Radiation Pattern in Y-Z PLANE**

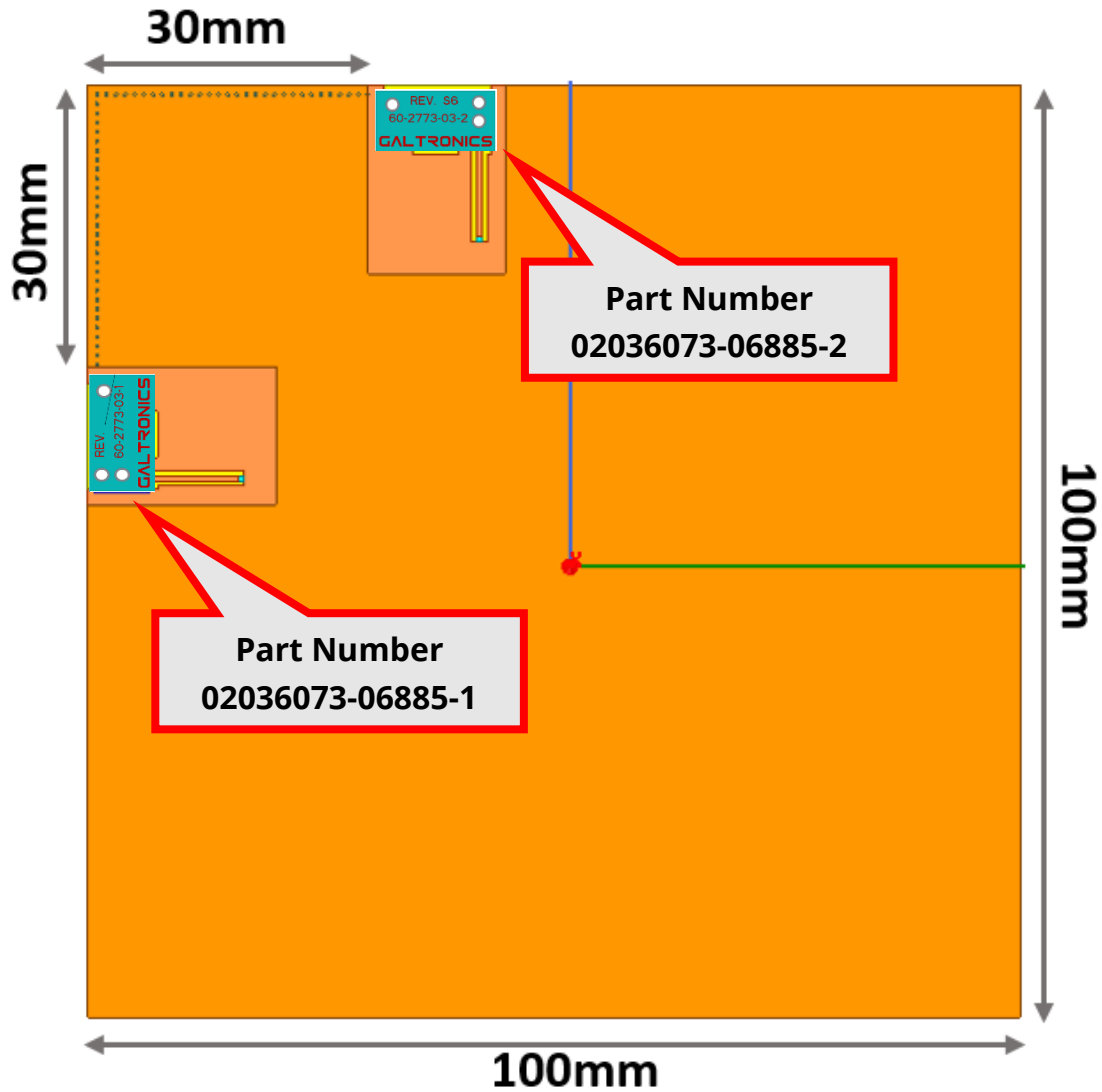


**Figure 7 3D Radiation Pattern**

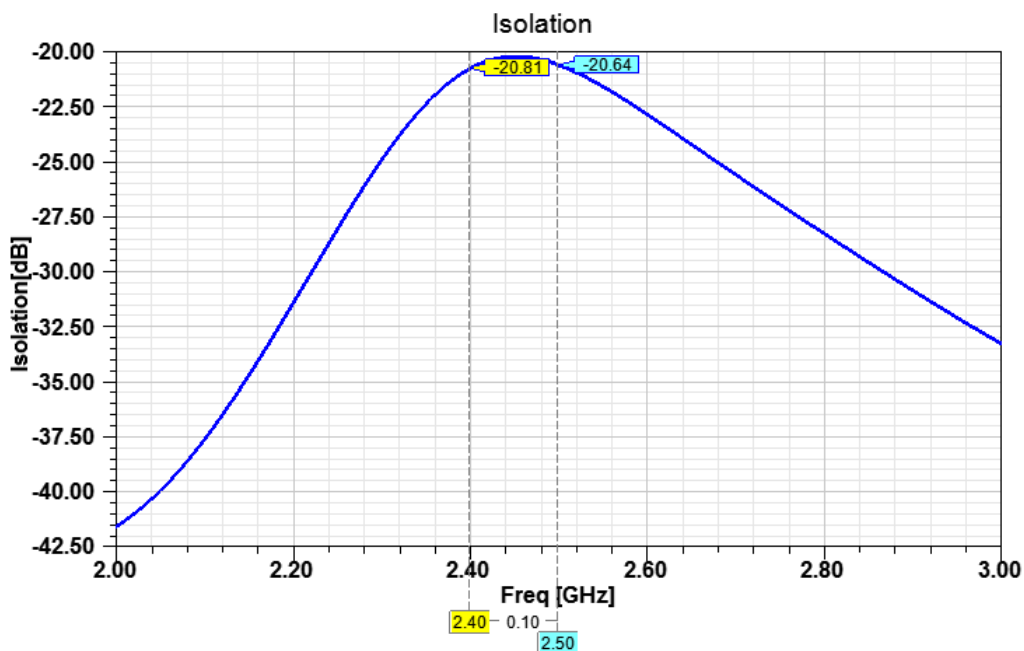
## Application Note: Integration of Multiple SMT Antennas

The following guidelines should be followed when integrating multiple SMT antennas onto a single PCB.

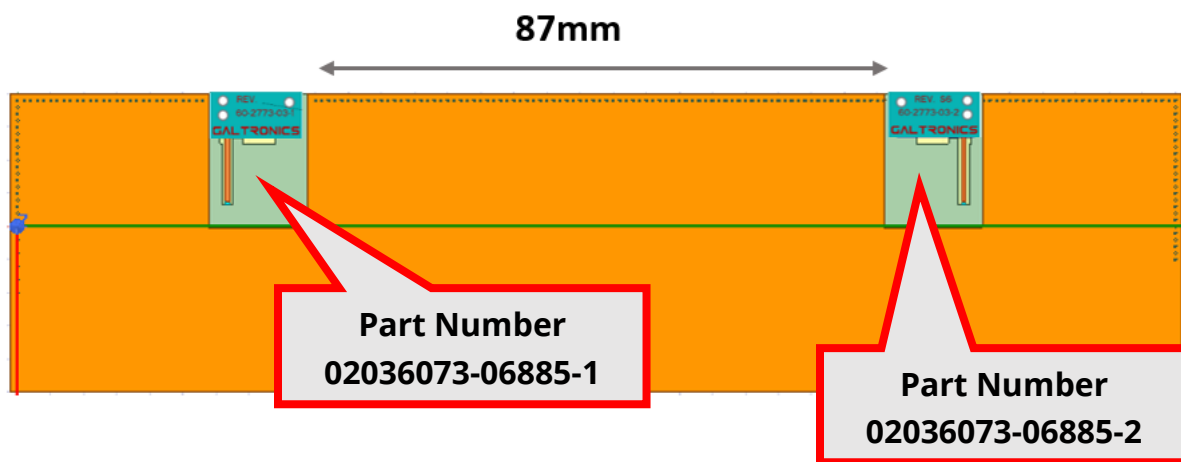
- When co-locating two antennas near the corner of the PCB ensure each antenna is placed a minimum of 30mm from the corner. Use the correct part number for the locations shown in Figure 8. Use the recommended layout for each antenna part number shown.
- When co-locating two antennas on the same edge of a PCB ensure each antenna is placed a minimum of 87mm from each other. Use the correct part number for the locations shown in Figure 10. Use the recommend layout for each antenna part number shown.



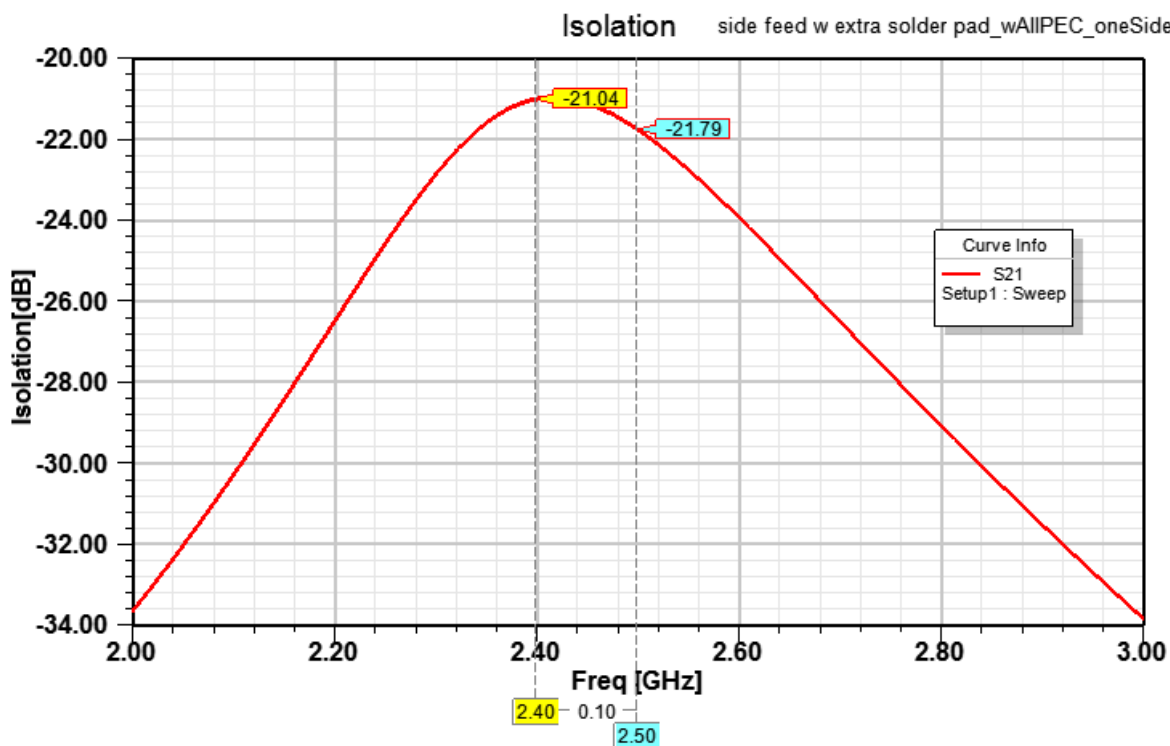
**Figure 8 Co-locating Antennas Near Corner of PCB**



**Figure 9 Isolation between antennas co-located on the corner of the PCB**

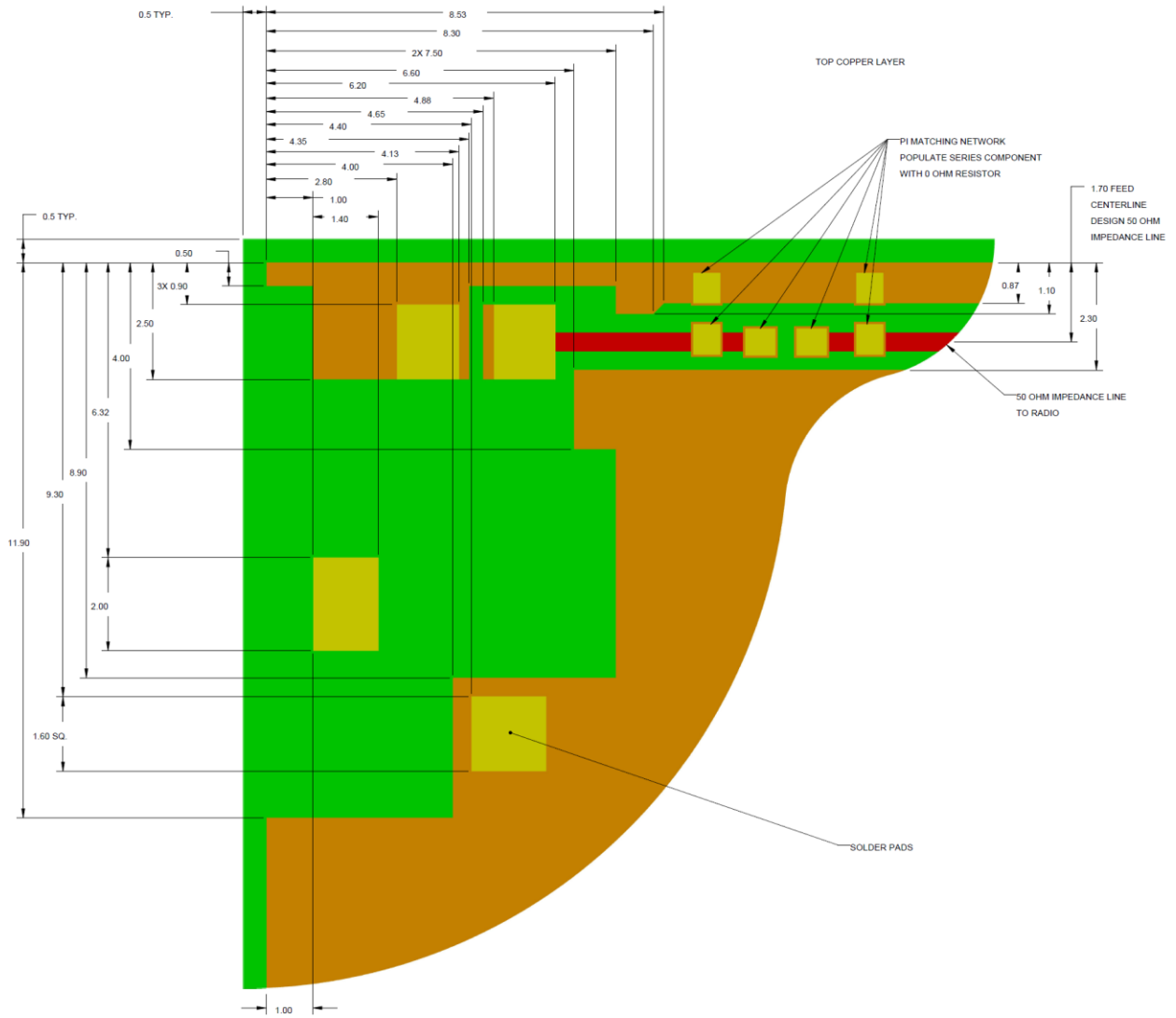


**Figure 10 Co-locating antennas on the same edge of a PCB**



**Figure 11 Isolation between two antennas co-located on the same edge of a PCB**

**Packaging: Tape and Reel**





**Figure 12 Recommended Footprint**

Contact Galtronics for DXF / CAD layout files if needed