

Walsin Technology Corporation
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APPROVAL SHEET

RFANT Pb free Series – RoHS Compliance

MULTILAYER CERAMIC ANTENNA

Halogens Free Product

2.4 GHz ISM Band RF Application

P/N: RFANT2012090A0T

*Contents in this sheet are subject to change without prior notice.

FEATURES

1. Surface Mounted Devices with a small dimension of $2.0 \times 1.25 \times 0.9 \text{ mm}^3$ meet future miniaturization trend.
2. Embedded and LTCC (Low Temperature Co-fired Ceramic) technology is able to future integrate with system design as well as beautifying the housing of final product.
3. High Stability in Temperature / Humidity Change
4. Omni - directional in azimuth

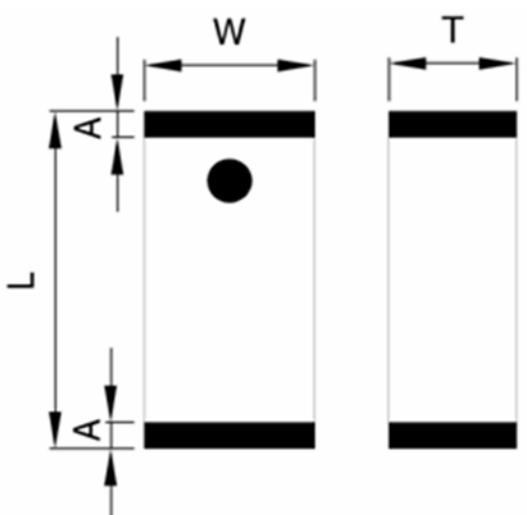
APPLICATIONS

1. Bluetooth
2. Wireless LAN
3. HormRF
4. ISM band 2.4GHz working frequency

CONSTRUCTION

| Figure | PIN | Connection |
|--|-----|--------------------|
|  | 1 | Feeding |
| | 2 | Soldering terminal |

DIMENSIONS

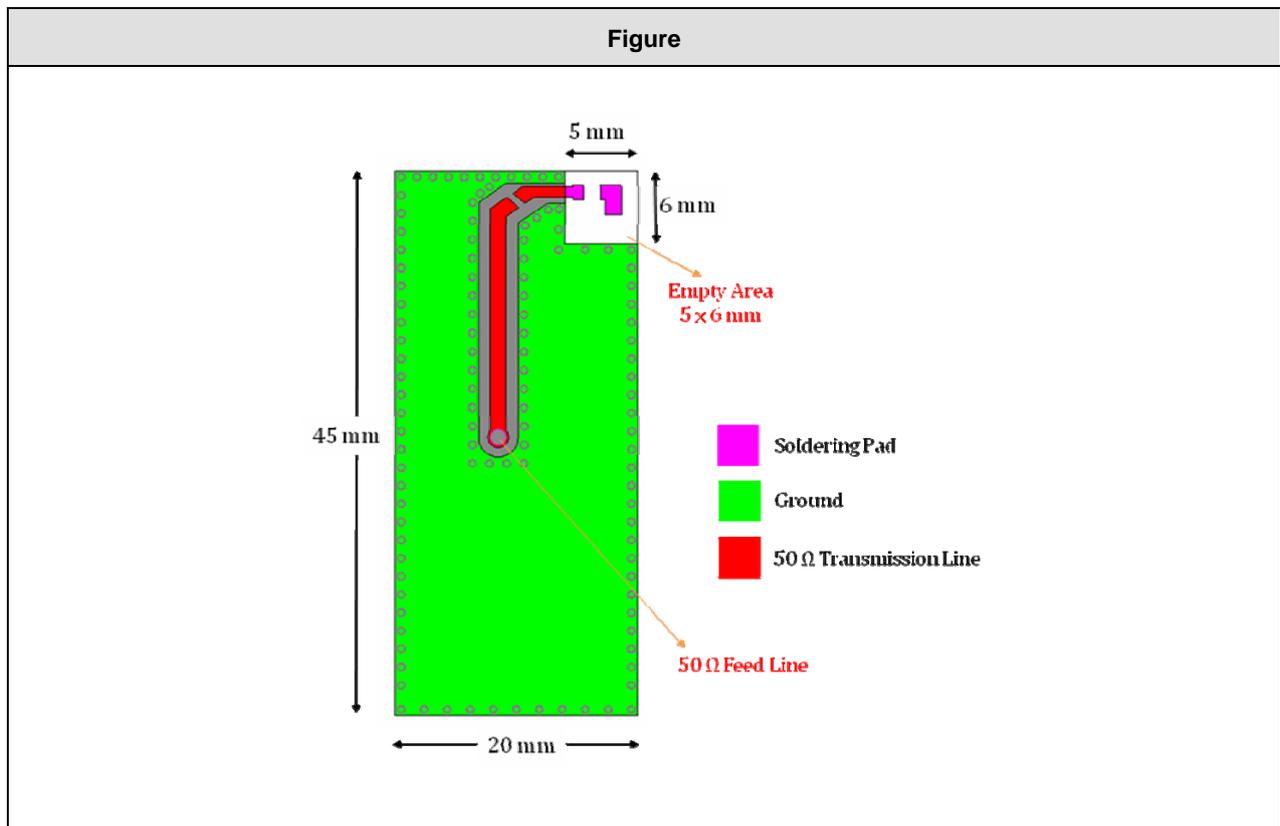
| Figure | Symbol | Dimension (mm) |
|---|--------|-----------------|
|  | L | 2.0 ± 0.20 |
| | W | 1.25 ± 0.20 |
| | T | 0.90 ± 0.10 |
| | A | 0.25 ± 0.15 |

ELECTRICAL CHARACTERISTICS

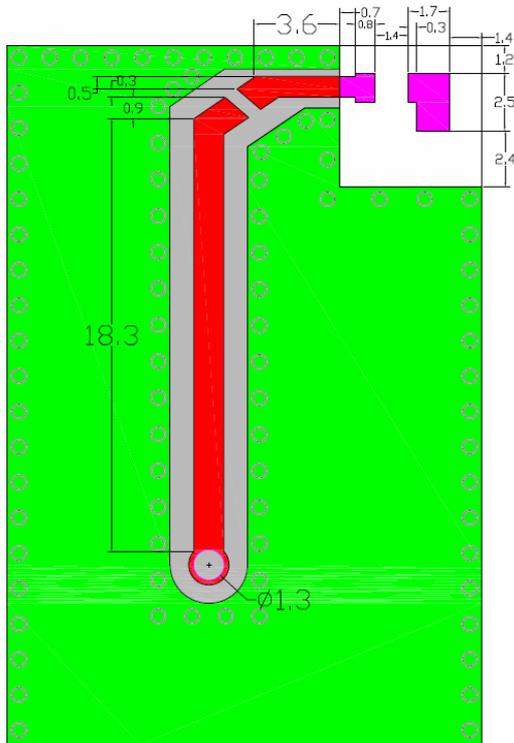
| RFANT2012090A0T | Specification |
|-------------------------|-----------------------|
| Working Frequency Range | 2400 ~ 2500 MHz |
| Gain | 1.36 dBi (Typical) |
| VSWR | 2.0 max. |
| Polarization | Linear |
| Azimuth Beamwidth | Omni-directional |
| Impedance | 50Ω |
| Rated Power (max.) | 3 Watts |
| Maximum Input Power | 5 Watts for 5 minutes |
| Operation Temperature | -40°C ~ +85°C |

Remark: The specification is defined based on the test board dimension as in below

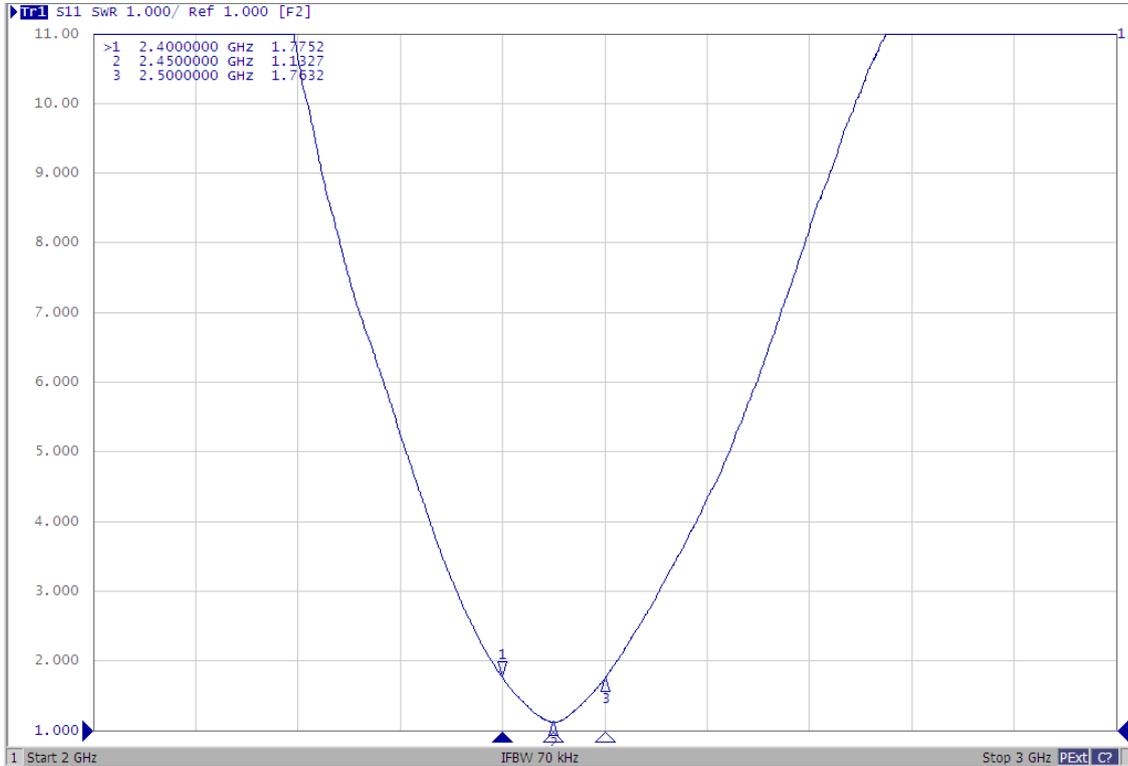
SOLDER LAND PATTERN DESIGN



Antenna on Test Board (FR4 Thickness 0.8mm)

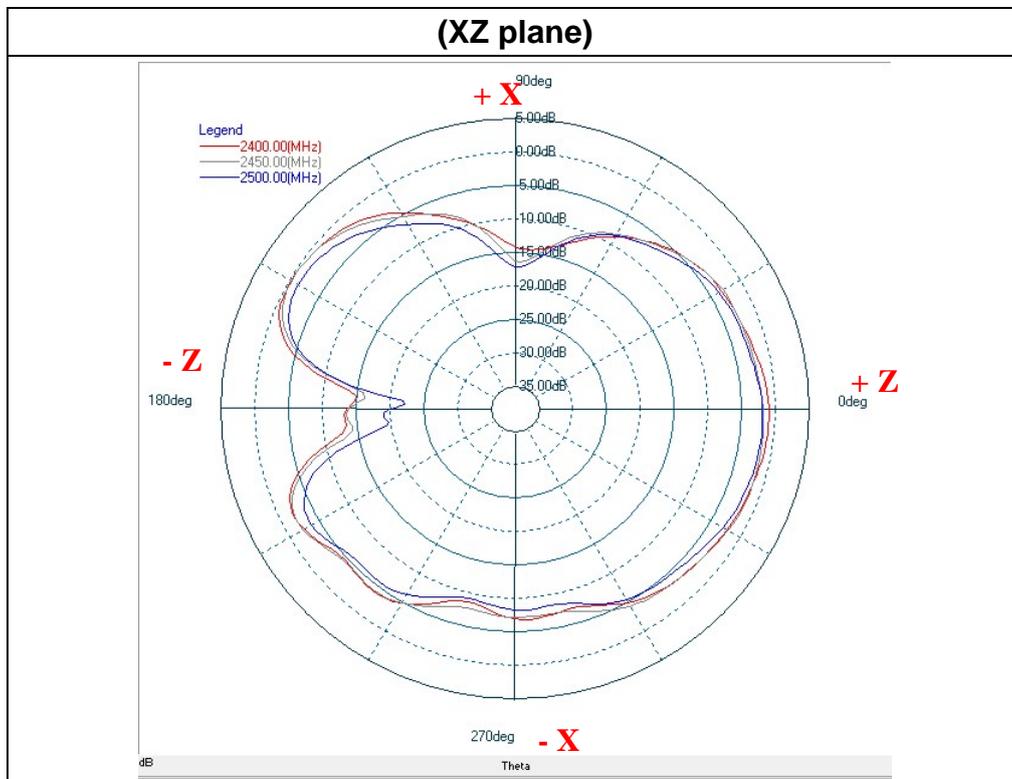
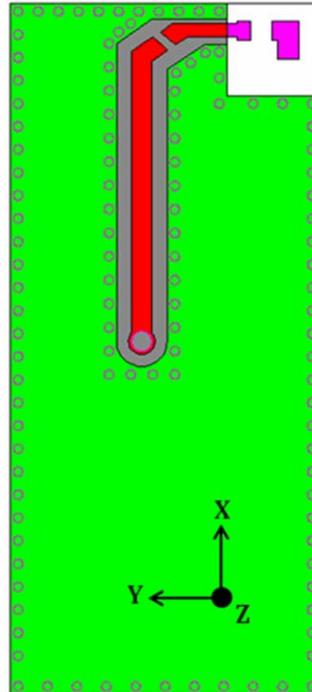


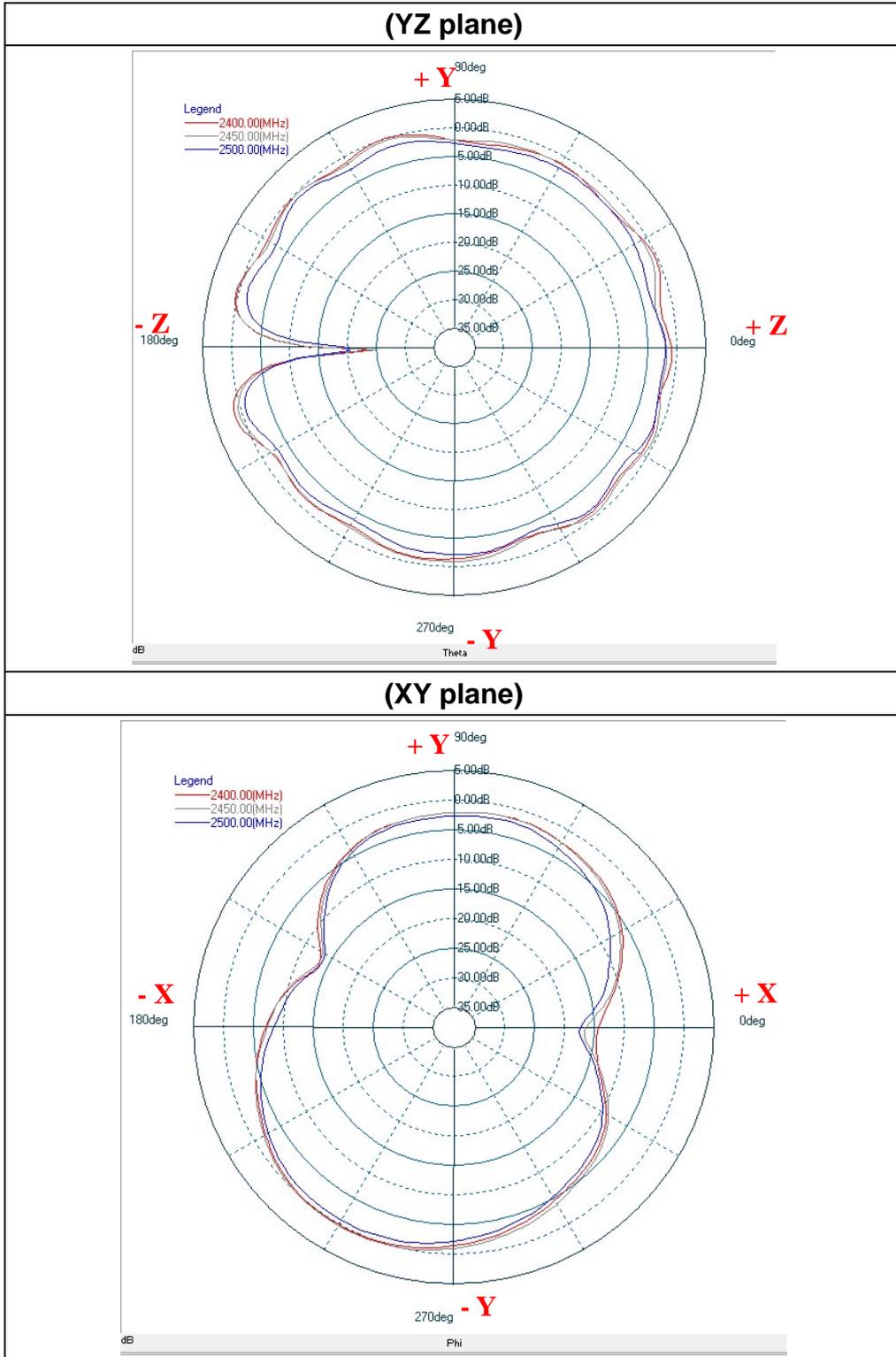
Antenna VSWR on Test Board



RADIATION PATTERN

Radiation Pattern and Gain were dependent on measurement board design. The specification of RFANT2012090A0T antenna was measured based on the PCB size and installation position as shown in the below figure Test Board





| Frequency [MHz] | ZX plane | | ZY plane | | XY plane | |
|-----------------|-----------------|---------------|-----------------|---------------|-----------------|---------------|
| | Max Value [dBi] | Average [dBi] | Max Value [dBi] | Average [dBi] | Max Value [dBi] | Average [dBi] |
| 2400 | 0.89 | -4.72 | 1.07 | -0.64 | -0.03 | -3.73 |
| 2450 | -0.11 | -4.90 | 1.36 | -0.54 | 0.20 | -3.54 |
| 2500 | -0.72 | -5.43 | 0.95 | -1.00 | 0.09 | -3.77 |