FEATURES

- Surface Mounted Devices with a small dimension of 5.2 x 2.0 x 1.1 mm^3 meet future miniaturization trend.
- 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.
- High Stability in Temperature / Humidity Change

APPLICATIONS

- Bluetooth
- Wireless LAN
- HormRF
- ISM band 2.4GHz wireless applications

DESCRIPTION

Walsin Technology Corporation develops a new ceramic embedded antenna specified for 2.4 GHz ISM Band application, as shown in below "CONSTRUCTION". Both of Wireless LAN IEEE 802.11b and Bluetooth™ typically located on this unlicensed frequency band which range covers from 2.4GHz to 2.4835GHz. To fulfil the friendly usage for antenna, this antenna has been designed to a typical 150MHz bandwidth through Walsin's advanced LTCC (Low Temperature Co-fired Ceramic) technology and superior product design via 3D EM Simulation Skill.

This antenna has a rectangular ceramic body with a tiny dimension of 5.2x 2.0 x 1.1 mm^3 meet the future SMT automation and miniaturization requirements on modern portable devices.

CONSTRUCTION

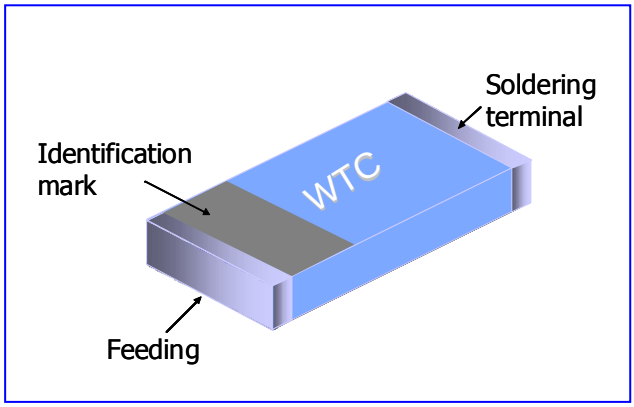


Fig 1. Outline of 2.4GHz Antenna – RFANT5220110A0T

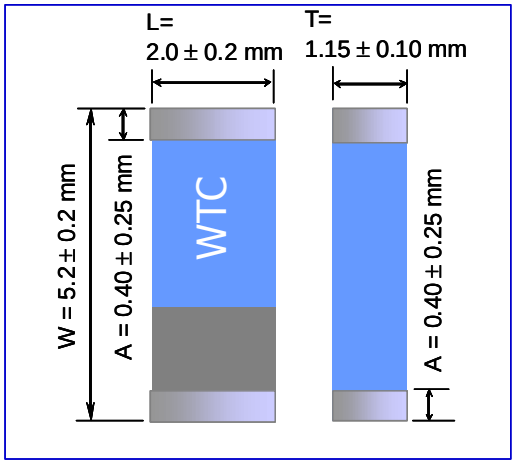
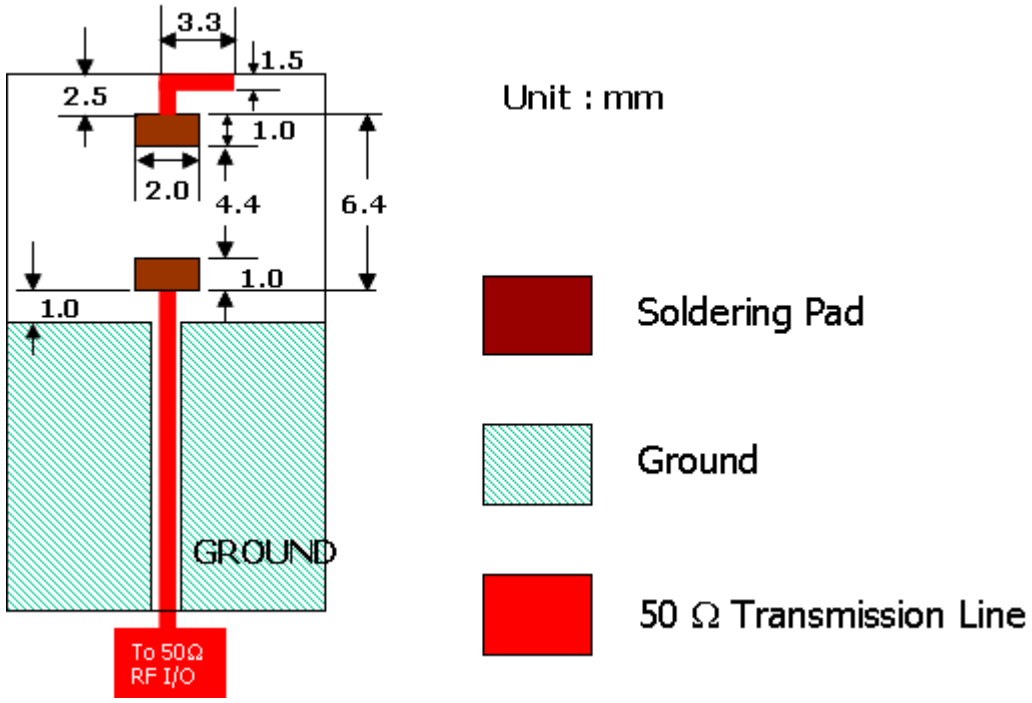


Fig 2. Dimension

SOLDER LAND PATTERN DESIGN

Figure

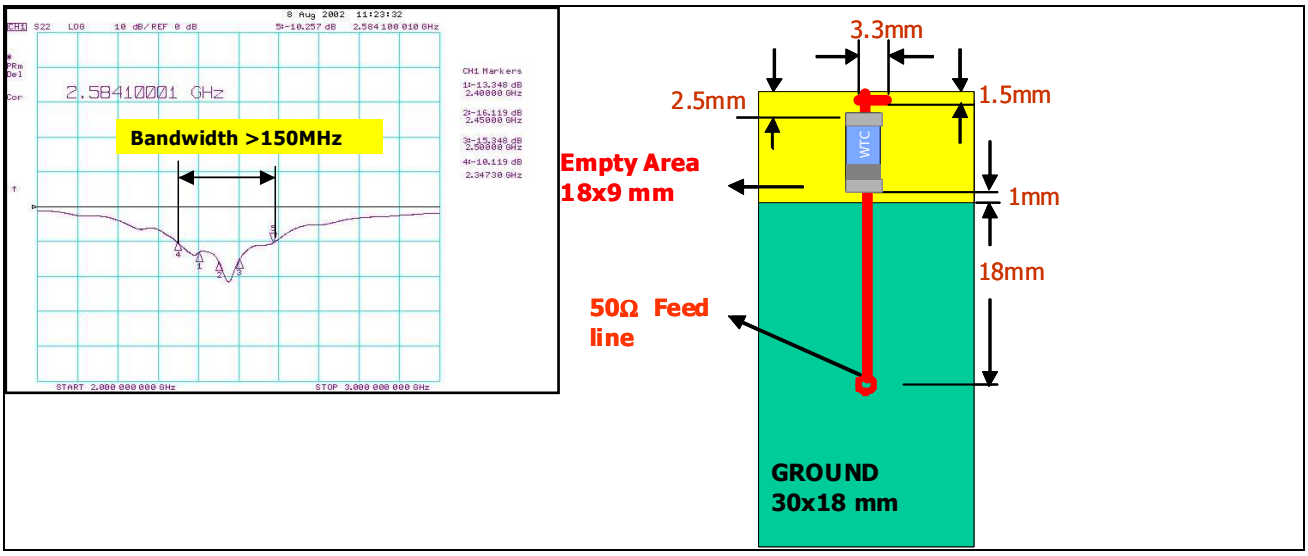


ELECTRICAL CHARACTERISTICS

RFANT5220110A0T	Specification
Working Frequency Range	2.4 GHz ～ 2.5GHz
Gain	2 dBi (Typical)
VSWR	2 max.
Polarization	Linear
Azimuth Bandwidth	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

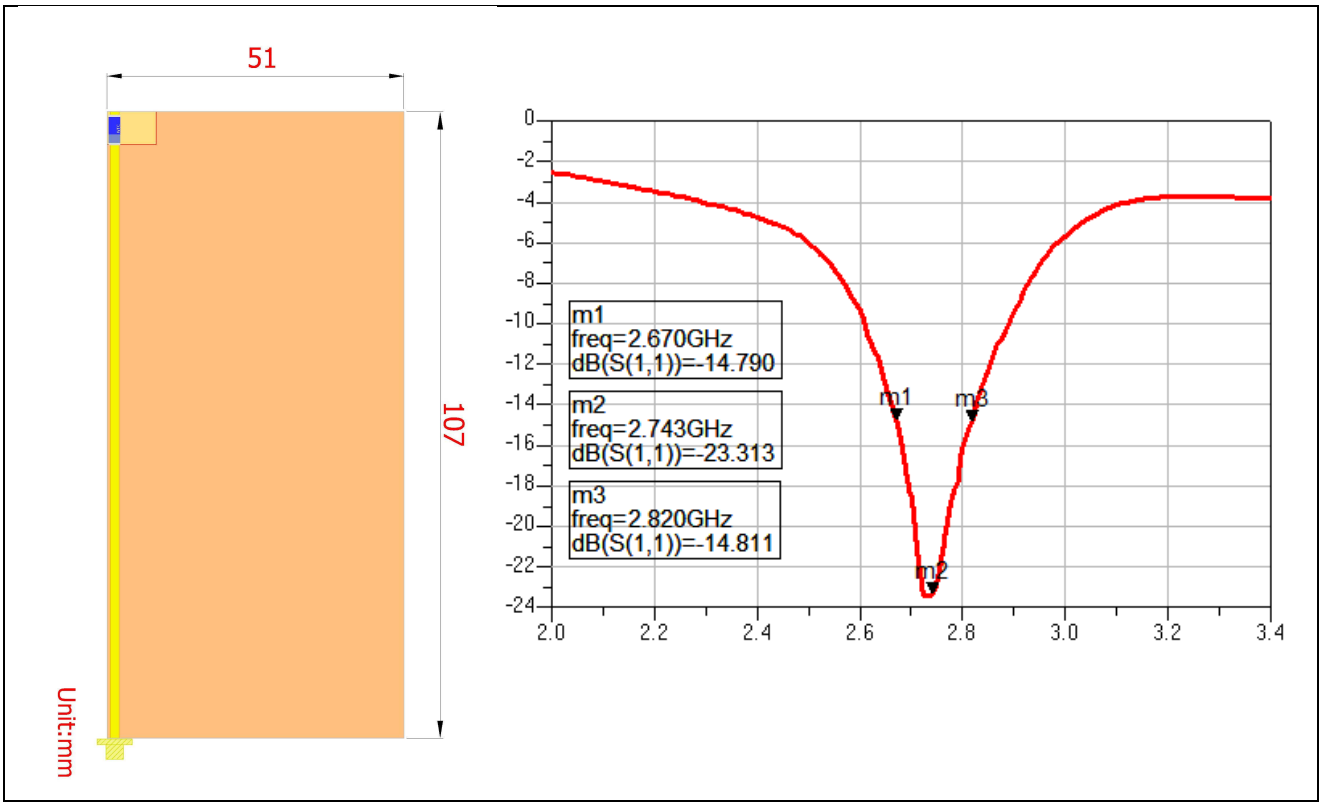
Antenna on Test Board (FR4 Thickness 0.8mm)

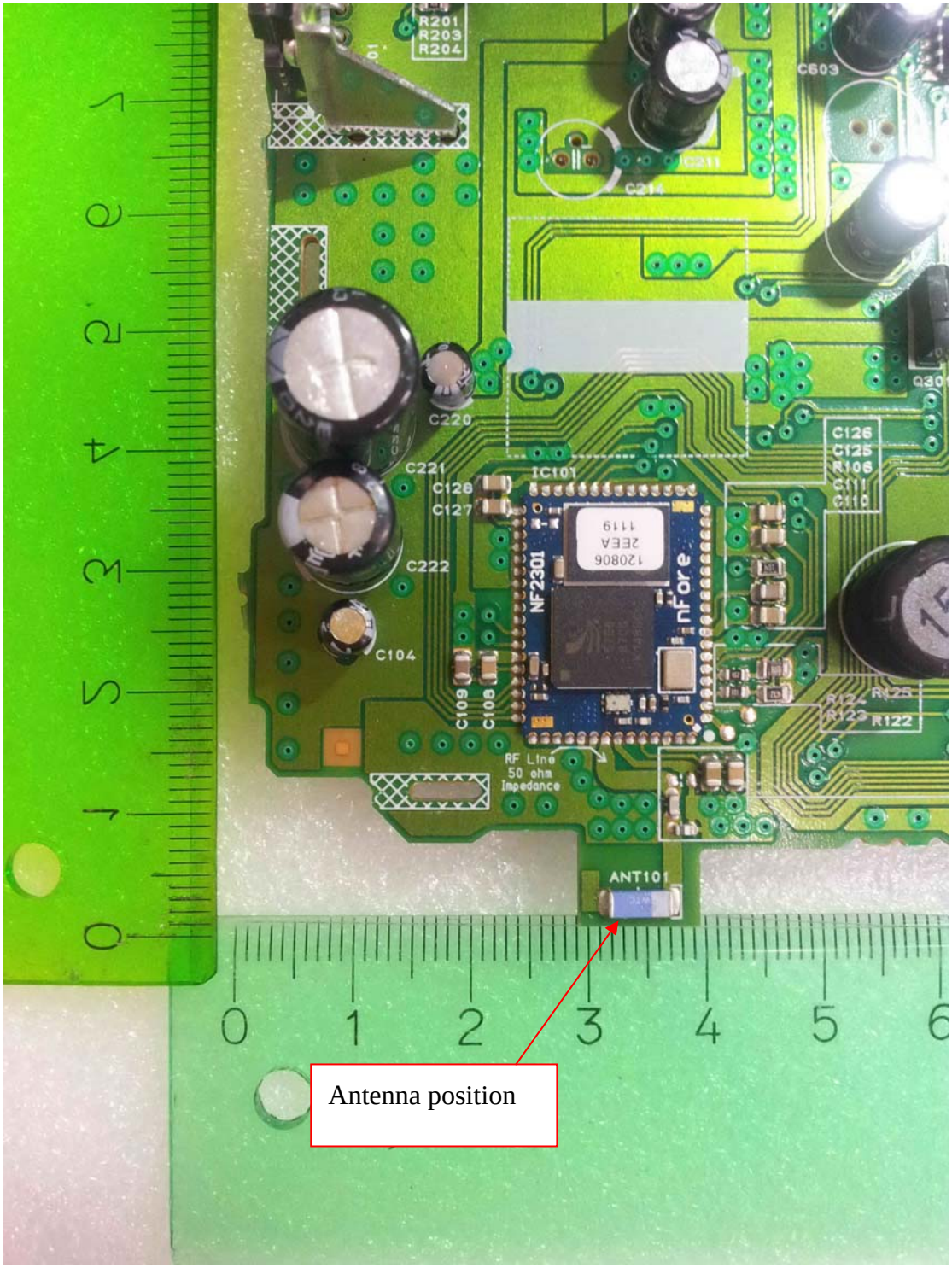


Antenna S11 on Measured Board:

Measured Frequency (GHz)	2.67	2.7425	2.82
Return Loss(S11)(dBmax.)	<-10	<-10	<-10

Measured Board + S11:




R201
R203
R204
C603
C211
C214
C220
C221
C128
C127
C222
C104
IC101
NF2301
nFore
C126
C125
R106
C111
C110
Q30
C109
C108
R124
R123
R125
R122
RF Line
50 ohm
Impedance
ANT101
Antenna position