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Innovative Service Around the Globe YAGEO

DATA SHEET

WIRELESS COMPONENTS

Ceramic Antenna

ANT4005B000RWHEXS

LTE-BAND

4005 Series

YAGEO Phycomp

Product Specification – August 5, 2015 V.0

FEATURES

- Compact Size
- High radiation efficiency
- Multi-band coverage
- Reflow process compatible
- RoHS compliant

APPLICATIONS

- Global cellular network devices
- Telematics
- Cellular broadband access
- M2M module

ORDERING INFORMATION

All part numbers are identified by the series, packing type, material, size, antenna type, working frequency and packing quantity.

PART NUMBER

ANT	4005	B	000	R	WHEXS
(1)	(2)	(3)	(4)	(5)	(6)

(1) PRODUCT

ANT = Antenna

(2) SIZE

4005 = 40 × 5 mm

(3) ANTENNA TYPE

B=Bulk Antenna

(4) SERIAL NO.

000

(5) PACKING STYLE

R = Reel

(6) WORKING FREQUENCY

WHEX=0.698~ 0.96 / 1.71~2.69 GHz

PHYCOMP CTC

CAN439144400HEX1K

12NC

439144400HEX

SPECIFICATION

Table 1

DESCRIPTION	VALUE
Working Frequency	698~960 / 1710~2690 MHz
Bandwidth	260 / 980 MHz (Typ.)
VSWR	3.0 dB max
Polarization	Linear
Azimuth Beamwidth	Omni-directional
Peak Gain	3.2 / 4.0 dBi(Typ.)
Impedance	50 Ω
Operating Temperature	- 40~105 °C
Maximum Power	1 W
Termination	Ag (Environmentally-Friendly Leadless)
Resistance to Soldering Heats	260°C , 5sec.

NOTE

1. The specification is defined on Yageo evaluation board

DIMENSIONS

OUTLINES

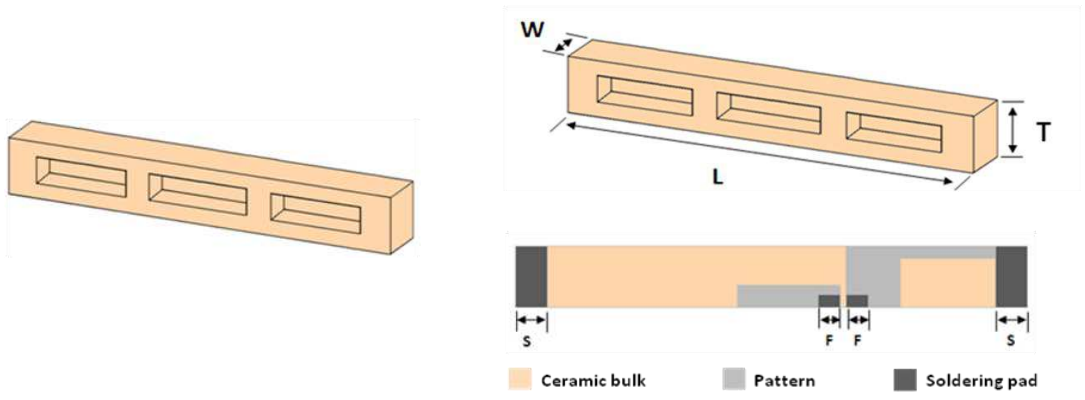


Fig. 1 Antenna outlines

Table 2 Mechanical Dimension

MARK	DIMENSION
L (mm)	40.0 ±0.5
W (mm)	5.0 ±0.3
T (mm)	6.00 ±0.3
S (mm)	2.4 ±0.2
F (mm)	1.6 ±0.2

Table 3 Termination configuration

MARK	FUNCTION
F	Feeding Point
S	Soldering Point

REFERENCE DESIGN OF EVALUATION BOARD

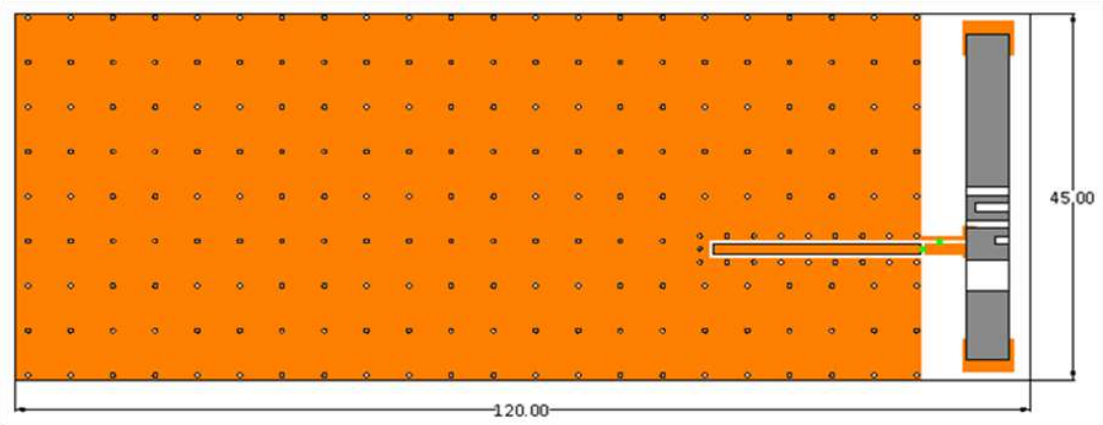


Fig. 2 Outlook and dimension of evaluation board

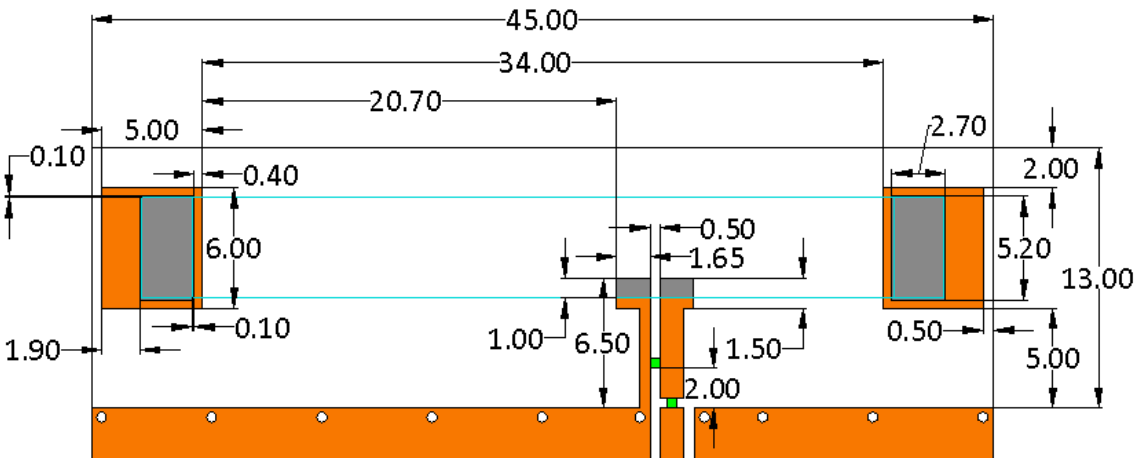


Fig. 3 Details of soldering Pad

ELECTRICAL PERFORMANCES

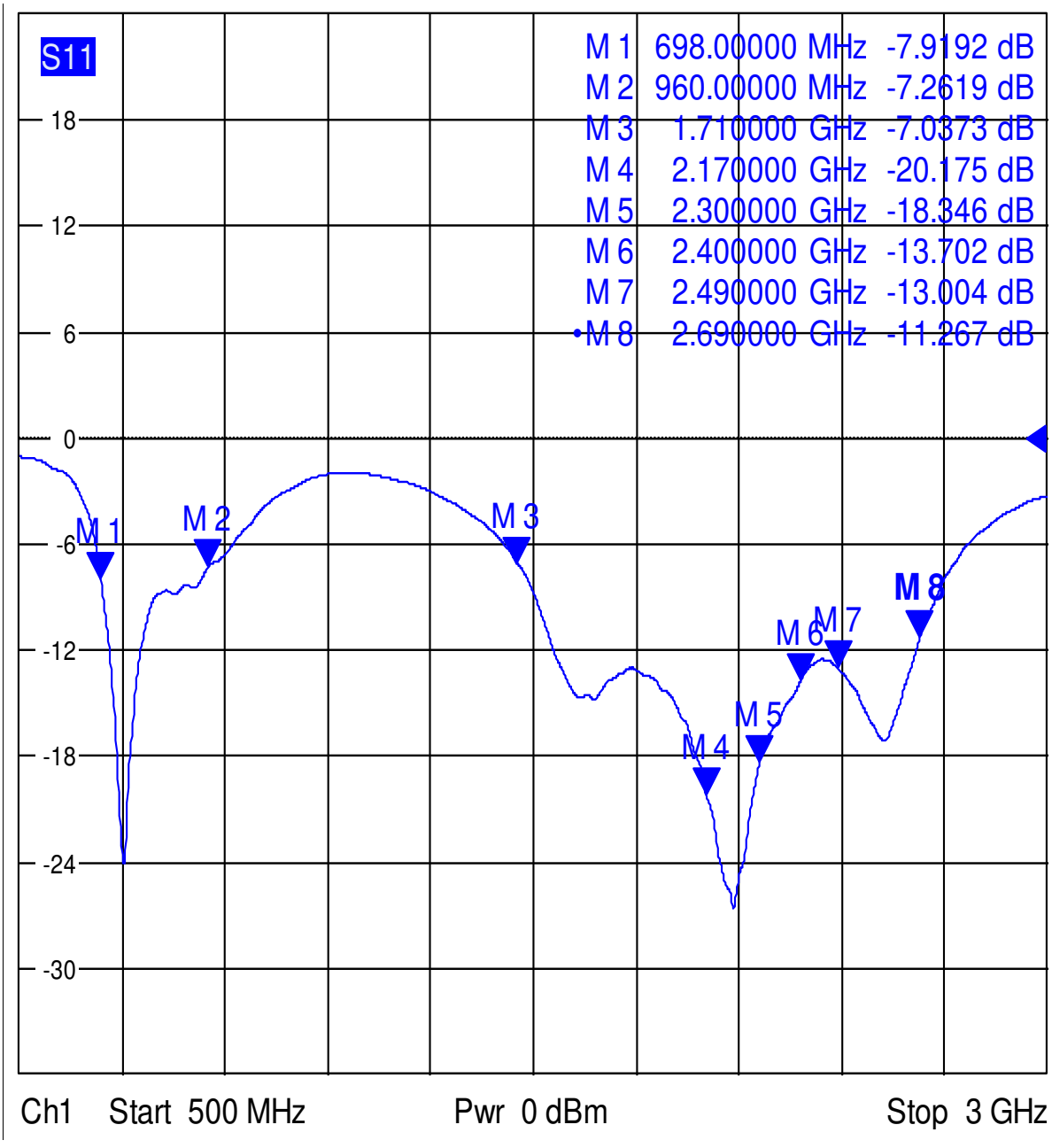
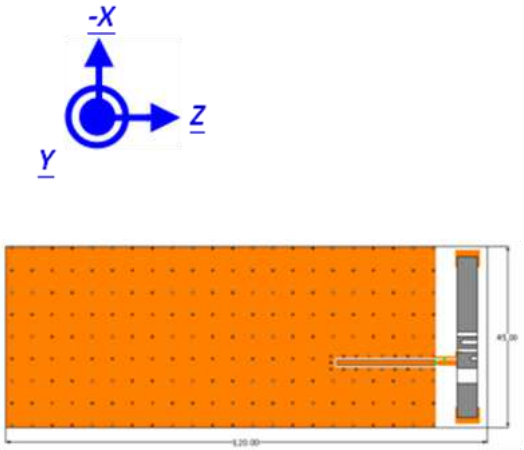
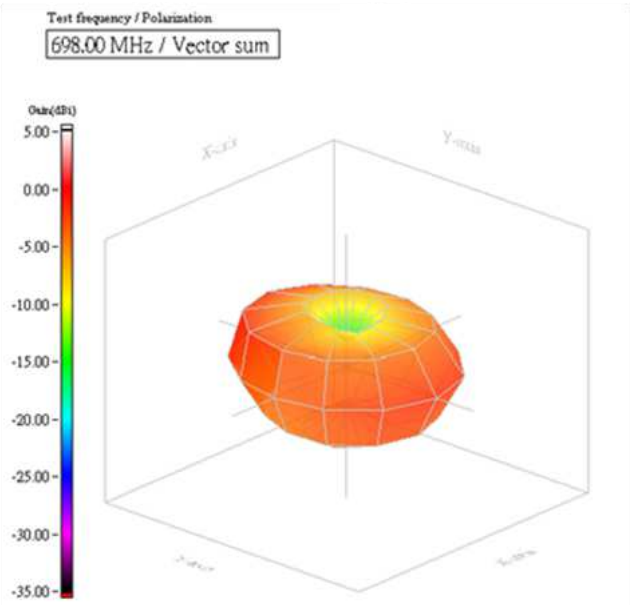
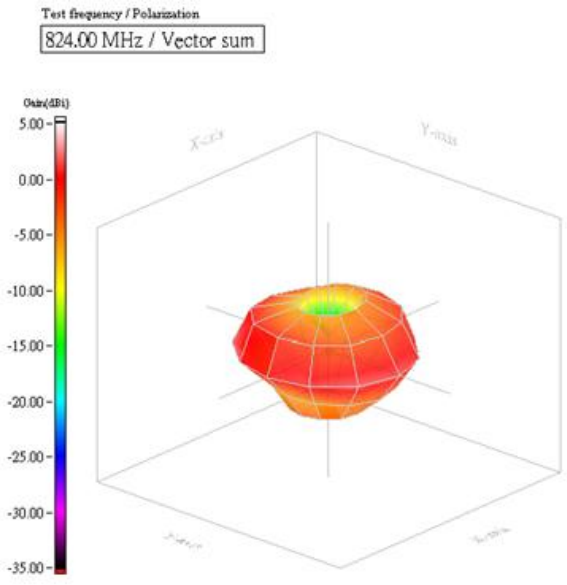


Fig. 4 Return loss

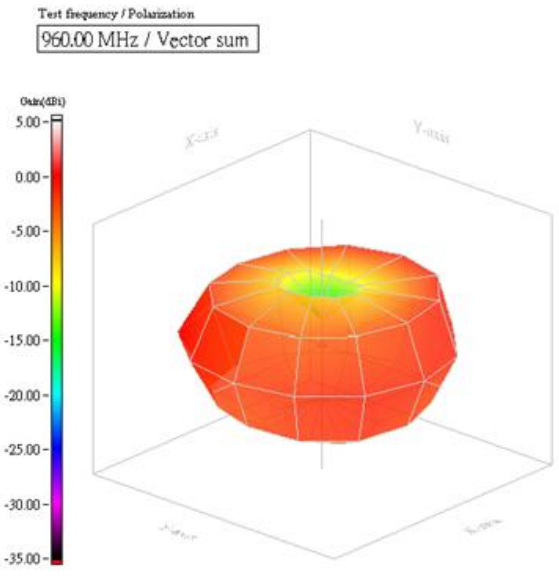




Max gain= -0.70dBi, at (90, 270)
MEG (mean effective gain)= -5.66dBi
Directivity(dB)= 3.21
Efficiency= -3.91dB, 40.62%

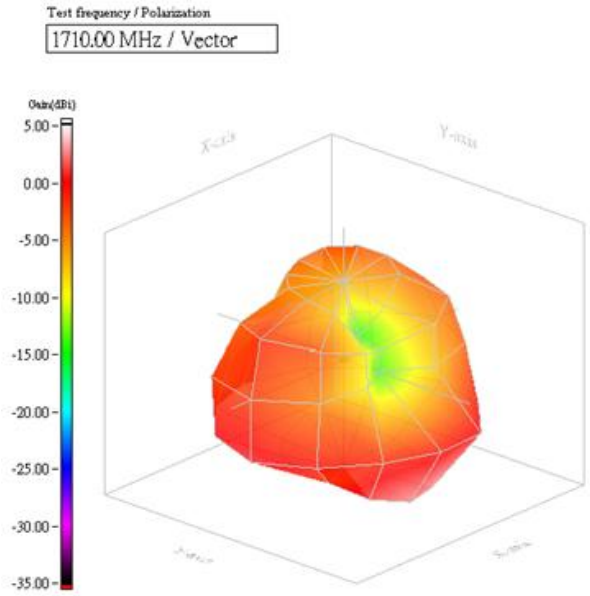


Max gain= 2.94dBi, at (90, 270)
MEG (mean effective gain)= -3.58dBi
Directivity(dB)= 4.70
Efficiency= -1.76dB, 66.64%

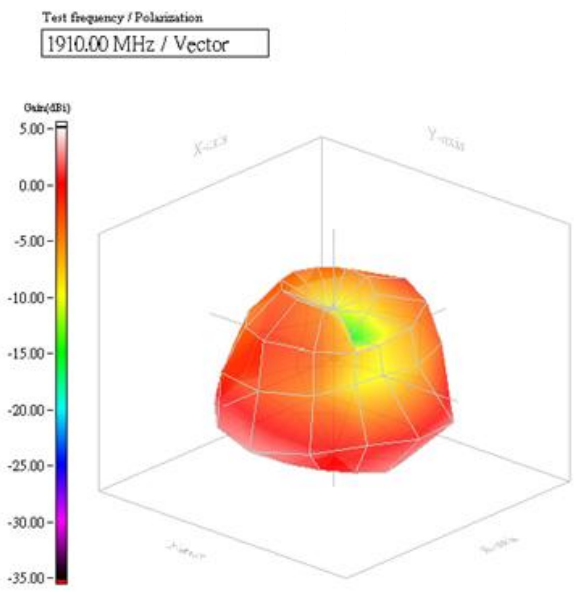


Max gain= 0.50dBi, at (90, 270)
MEG (mean effective gain)= -4.36dBi
Directivity(dB)= 3.08
Efficiency= -2.58dB, 55.22%

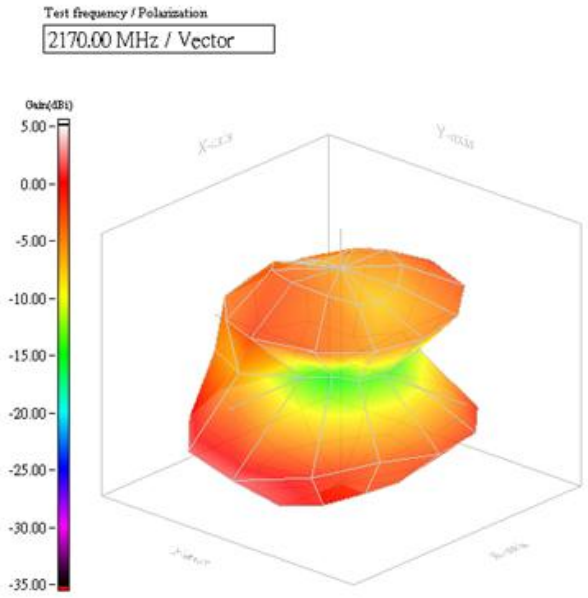
Fig. 5 Radiation Pattern



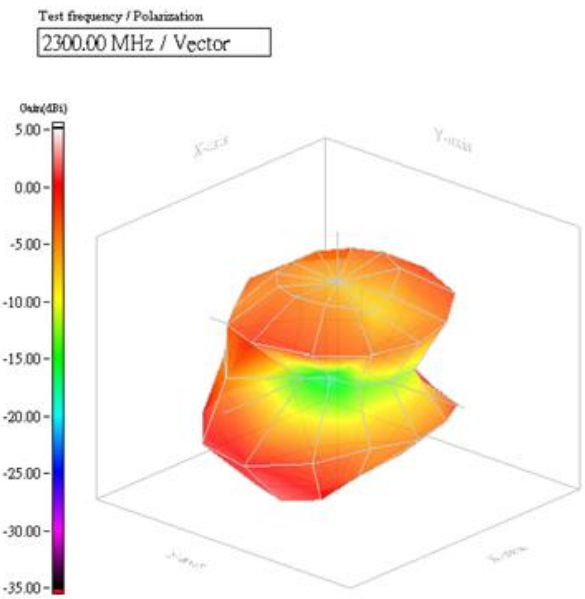
Max gain= 2.98dBi, at (150, 120)
MEG (mean effective gain)= -2.79dBi
Directivity(dB)= 5.60
Efficiency= -2.62dB, 54.70%



Max gain= 3.65dBi, at (120, 210)
MEG (mean effective gain)= -1.67dBi
Directivity(dB)= 4.87
Efficiency= -1.22dB, 75.50%

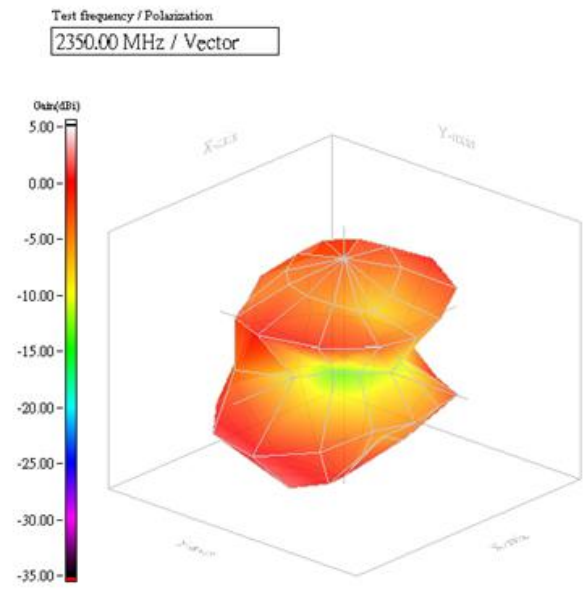


Max gain= 3.02dBi, at (120, 240)
MEG (mean effective gain)= -2.78dBi
Directivity(dB)= 5.83
Efficiency= -2.81dB, 52.34%

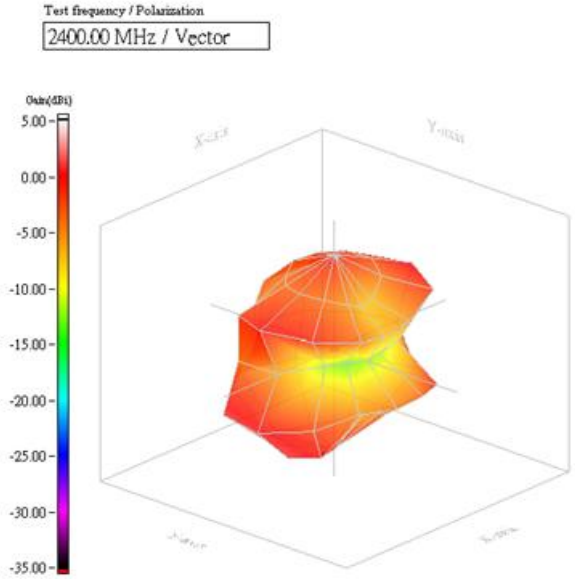


Max gain= 3.29dBi, at (120, 240)
MEG (mean effective gain)= -2.05dBi
Directivity(dB)= 5.67
Efficiency= -2.38dB, 57.75%

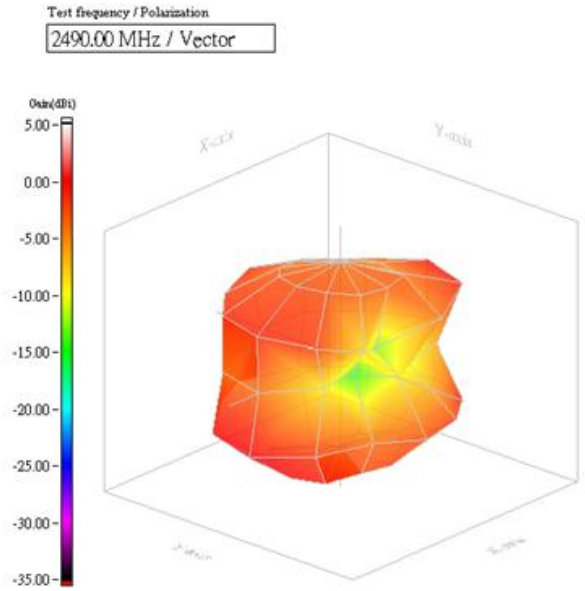
Fig. 6 Radiation Pattern



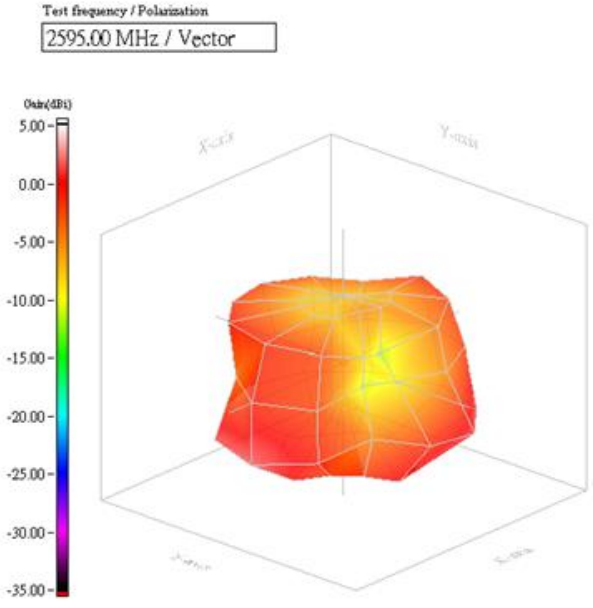
Max gain= 3.76dBi, at (150, 240)
MEG (mean effective gain)= -1.37dBi
Directivity(dB)= 5.74
Efficiency= -1.98dB, 63.35%



Max gain= 3.98dBi, at (150, 240)
MEG (mean effective gain)= -1.31dBi
Directivity(dB)= 6.00
Efficiency= -2.02dB, 62.84%

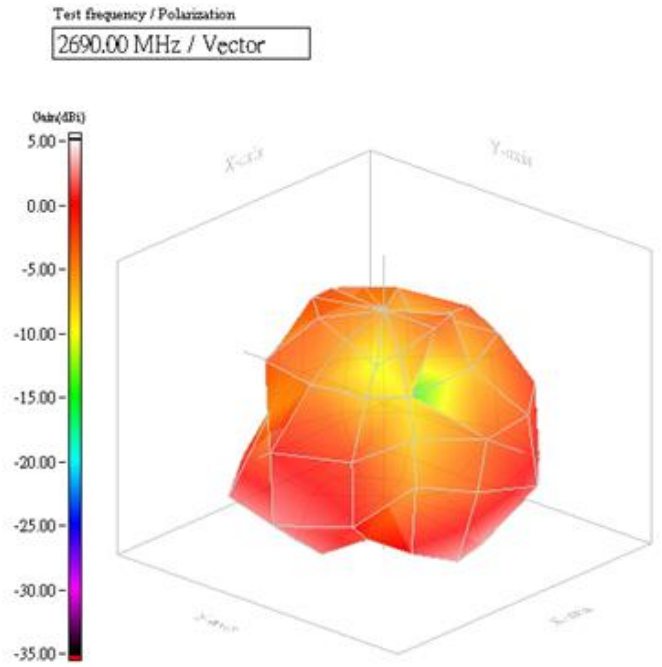


Max gain= 3.22dBi, at (150, 240)
MEG (mean effective gain)= -2.71dBi
Directivity(dB)= 5.65
Efficiency= -2.43dB, 57.15%



Max gain= 3.35dBi, at (120, 180)
MEG (mean effective gain)= -3.23dBi
Directivity(dB)= 5.46
Efficiency= -2.11dB, 61.56%

Fig. 7 Radiation Pattern



Max gain= 3.19dBi, at (150, 120)
MEG(mean effective gain)= -2.45dBi
Directivity(dB)= 5.04
Efficiency= -1.85dB, 65.27%

Fig. 8 Radiation Pattern

REVISION HISTORY

REVISION	DATE	CHANGE NOTIFICATION	DESCRIPTION
Version 0	Jun. 02, 2015	-	New data sheet for SMD type antenna, WHEXS application, 4005 series