Car LTE/3G ANTENNA

Model : TC-825

1. GENERAL DESCRIPTION

P/N
TC825-2M-SMA(M)

1.1 Electrical Properties

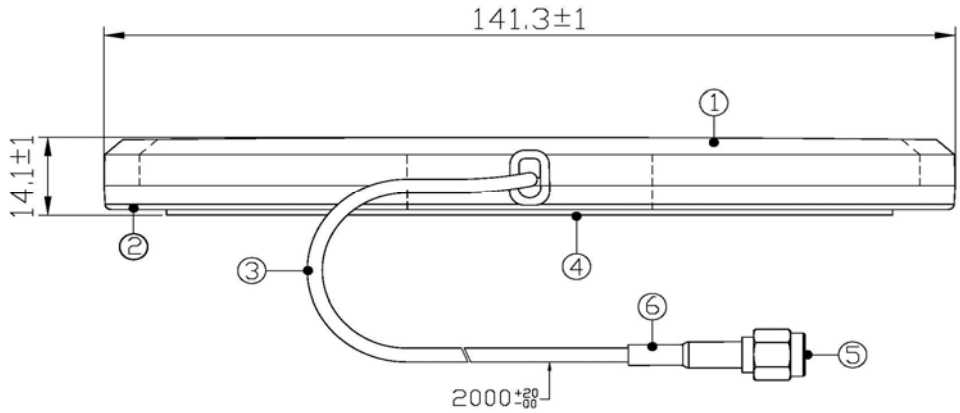
Parameter	Description
Frequency Band	690~960/1710~2170/2400~2700 MHz
Nominal Impedance	50 ohm
Polarization	Vertical
V.S.W.R	3.0:1

1.2 Mechanical Properties

Parameter	Description
Antenna Type	External Antenna
Antenna Cover	奇美 PC-540
Touch Type	3M Type
Connector Type	SMA 180˚(Male)/Cable:2000+/-20
Antenna Dimensions	141.3 mm±1
Antenna Color	Black
Operating Temperature Range	-20˚C~+60˚C
Storage Temperature Range	-30˚C~+70˚C

2. Appearance

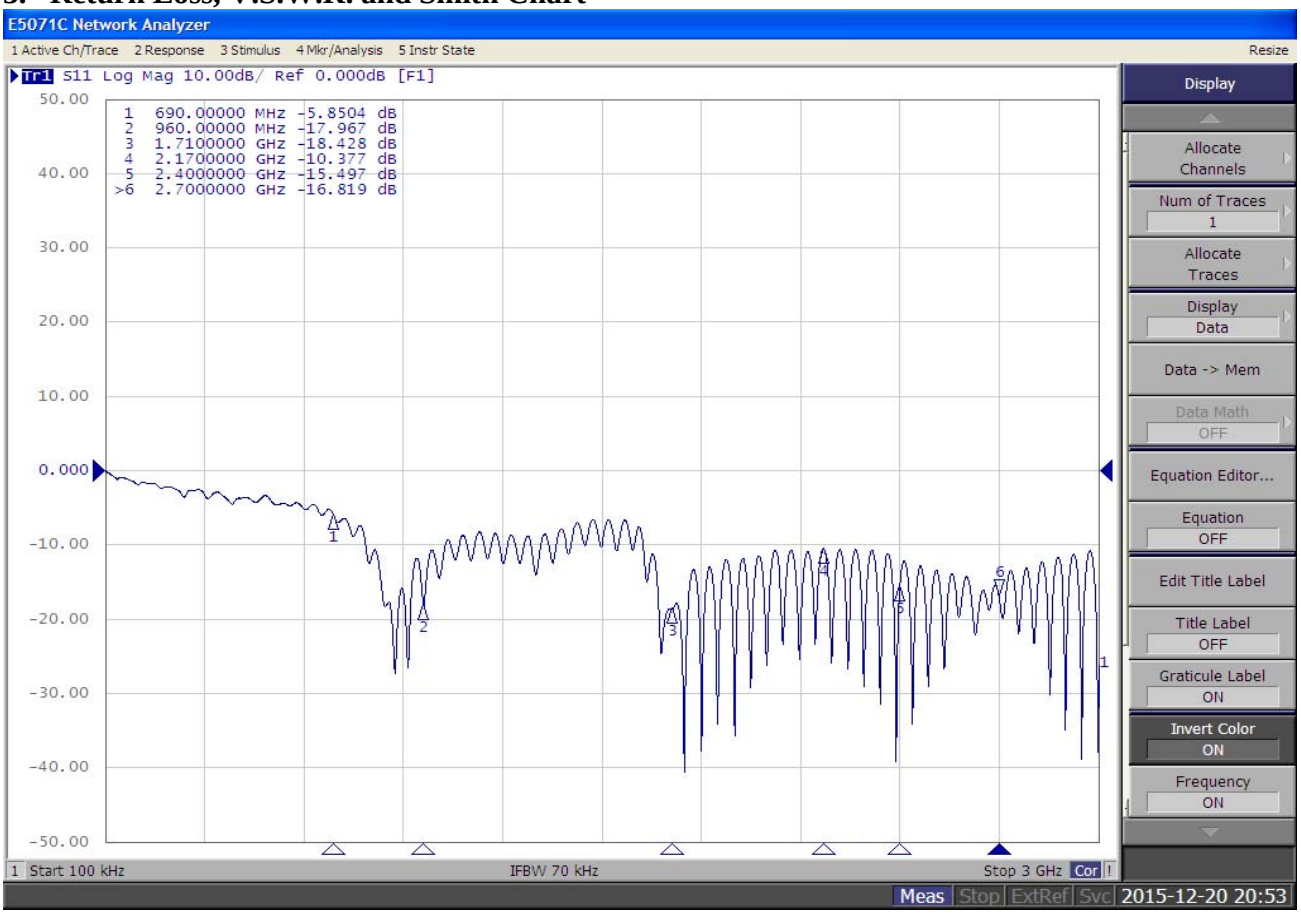
NO.	NAME	FINISH	Q, TY
01	Head top	Black	01
02	Lower head	Black	01
03	RG-174 /U Cable	Black	01
04	Twin adhesive	Red	01
05	SMA 180°(Male)	Golden plating	01
06	Heat-shrink tube	Black	01

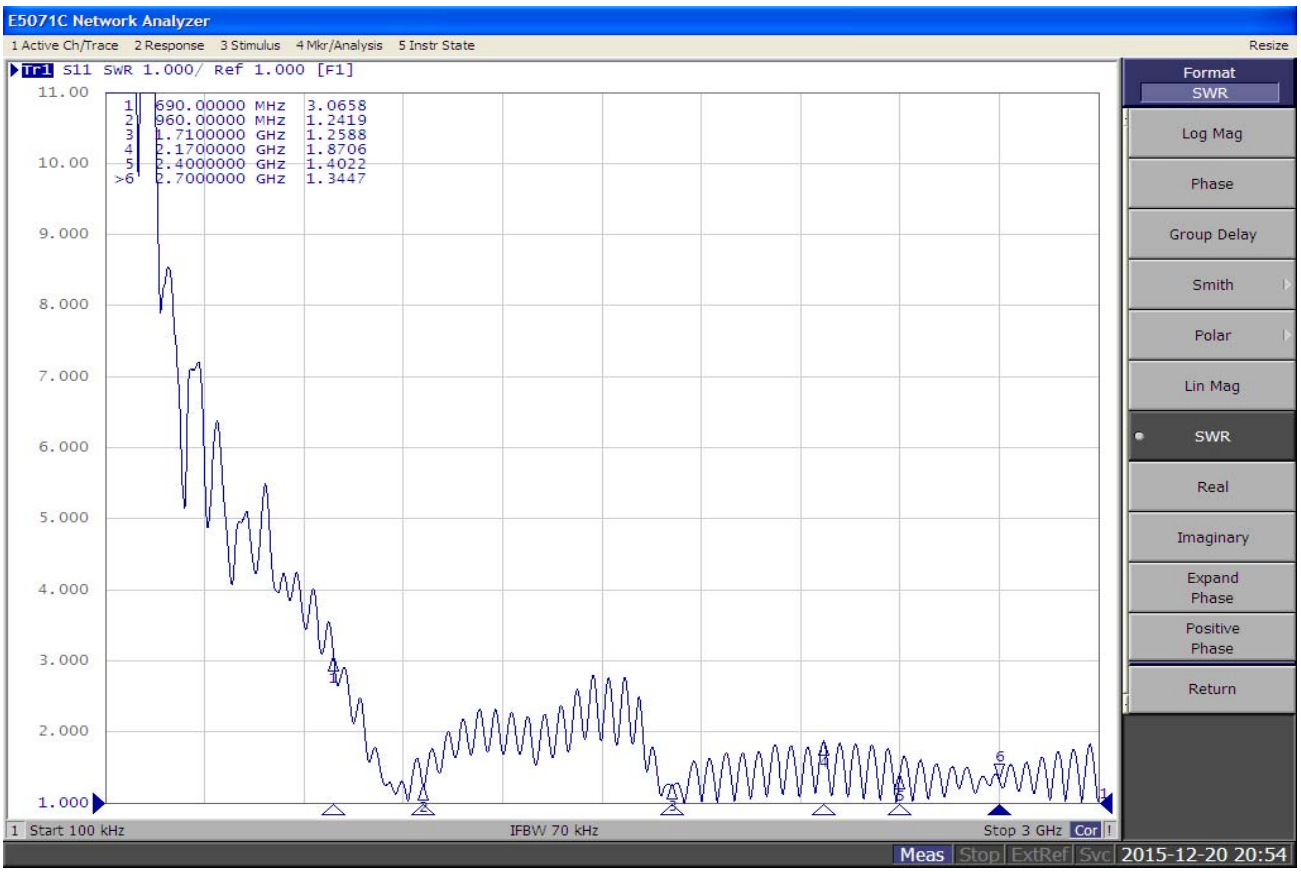


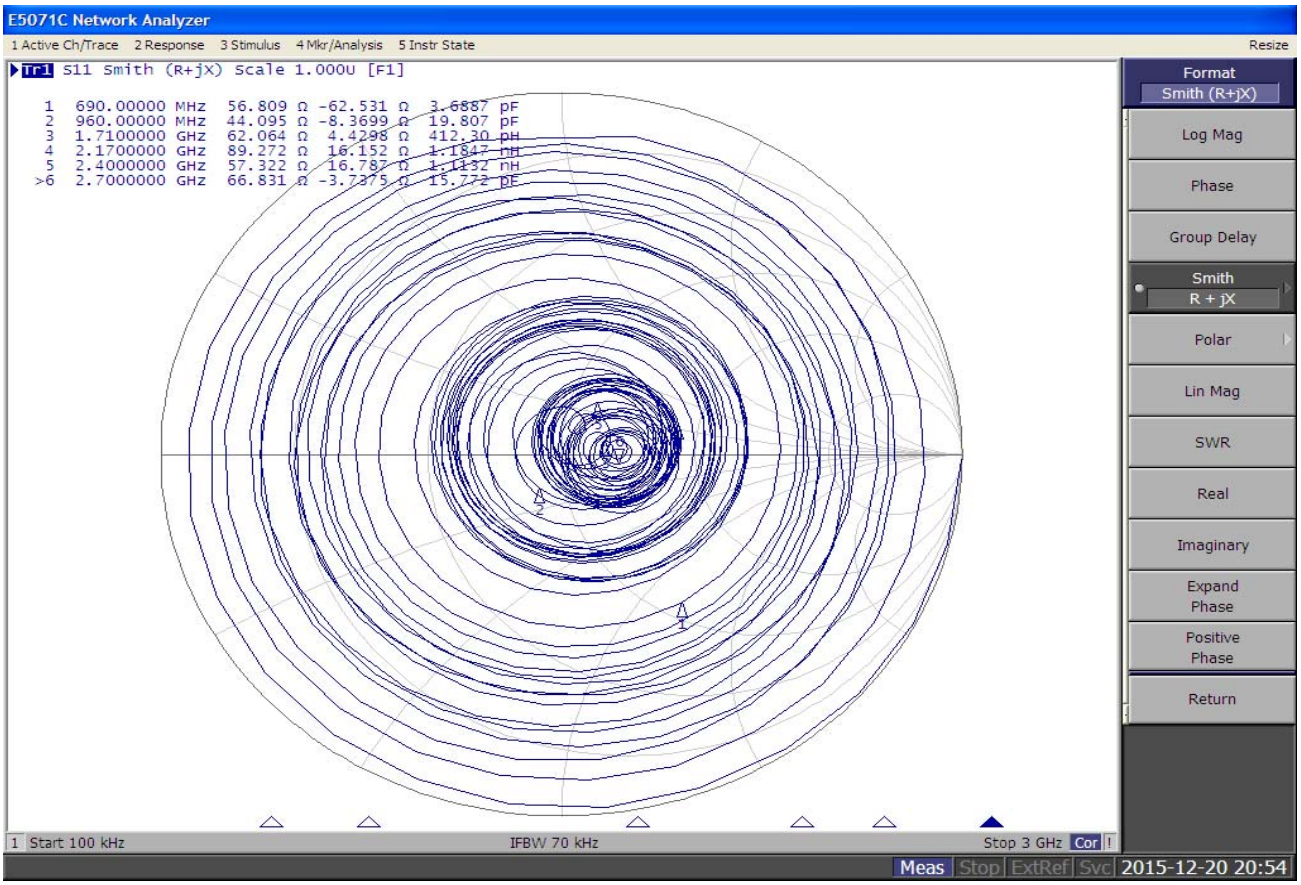
註:690~960/1710~2170~2400~2700MHz

Third angle projection	CUSTOMER' S	MODEL	PARTS NUMBER	FREQUENCY	UNIT	SCALE	DATE	VERSION
					M/M		20151221	1
	TOLERANCE	X. XX±0. 15	NAME	PARTS NUMBER	APPROVED	CHECKED	DRAWING	DESIGNED
	SURFACE ROUGHNESS	S	APPEARANCE					

3. Return Loss, V.S.W.R. and Smith Chart

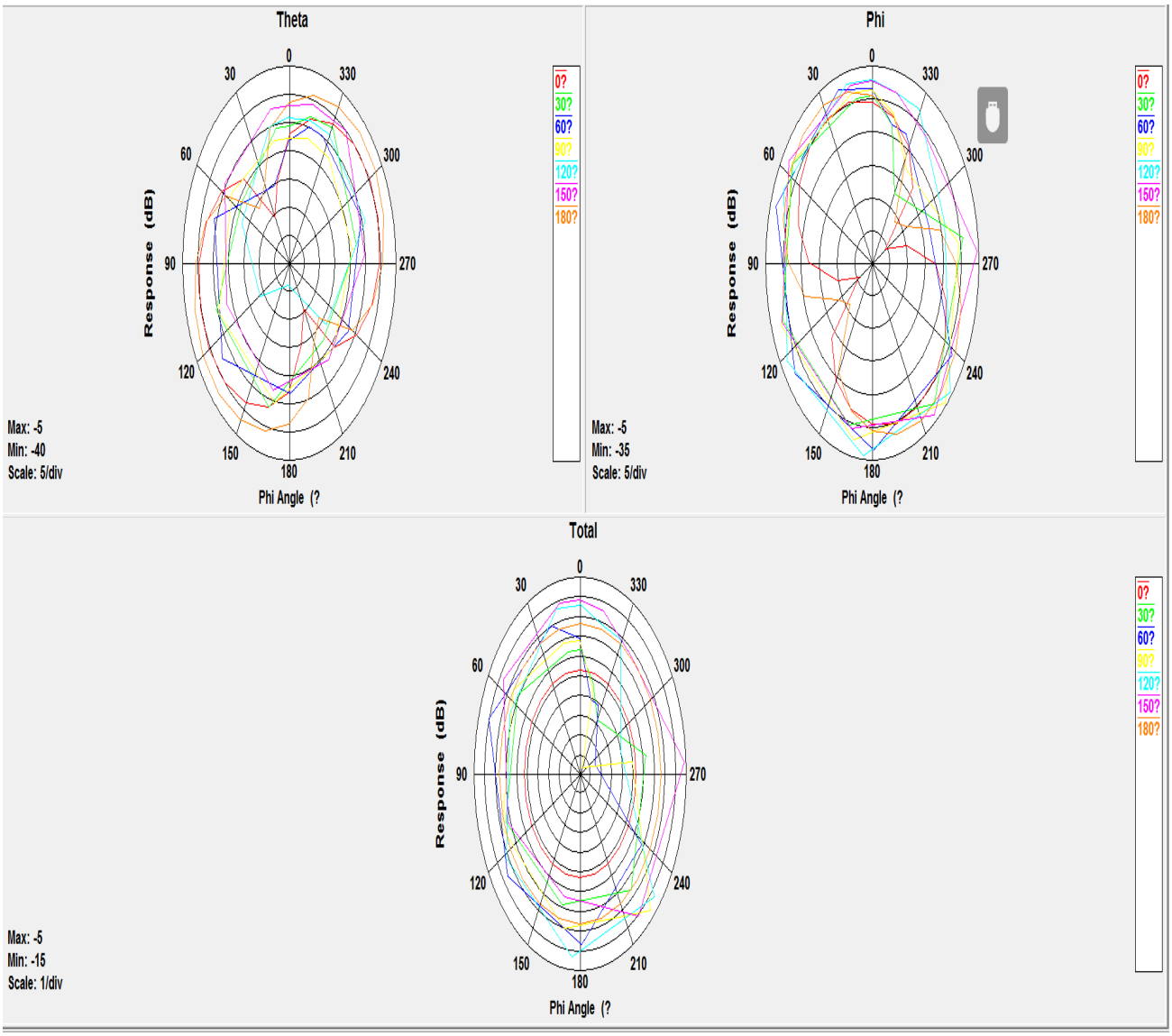


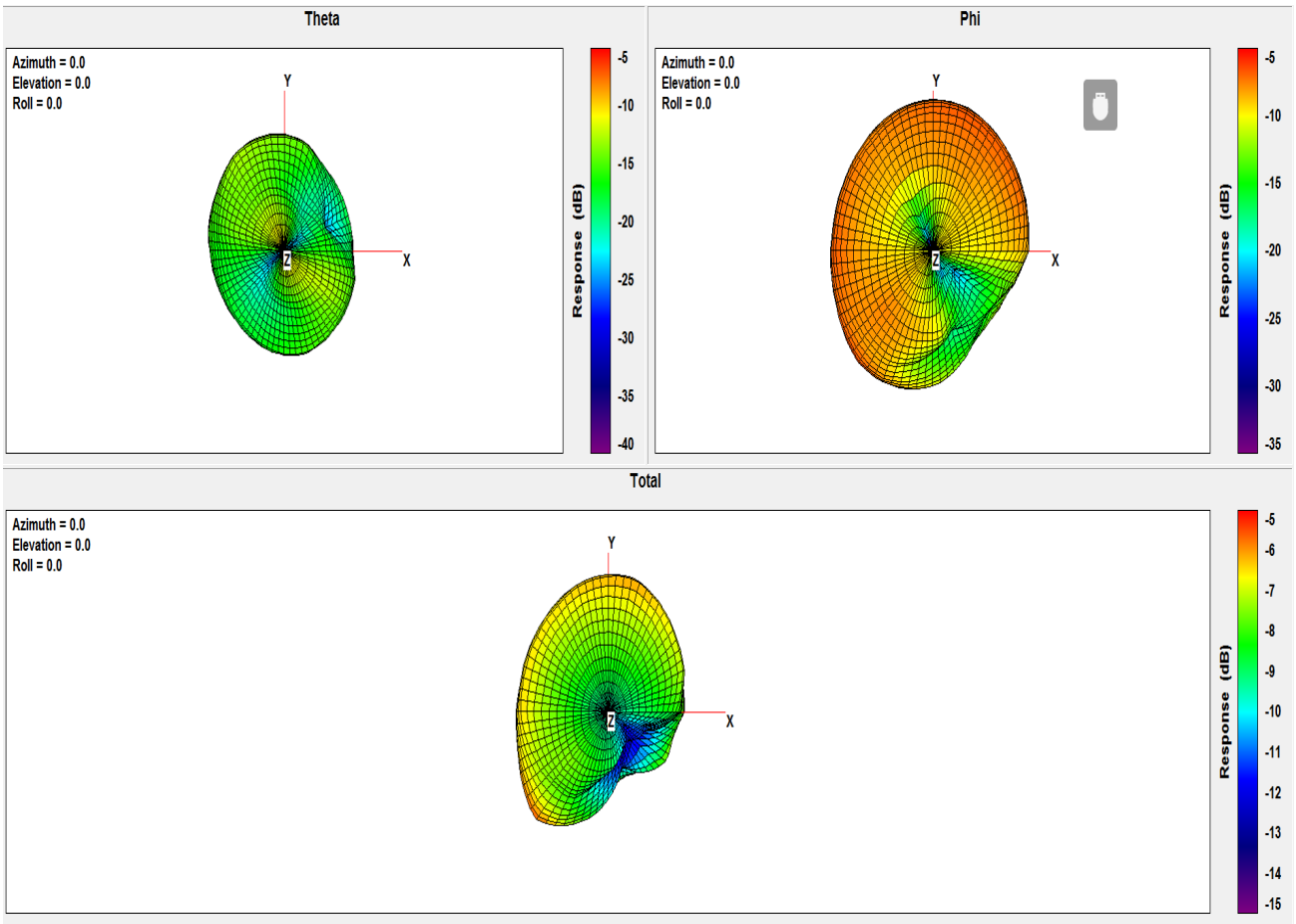

E5071C Network Analyzer
1 Active Ch/Trace 2 Response 3 Stimulus 4 Mkr/Analysis 5 Instr State
Resize
Tr1 S11 SWR 1.000/ Ref 1.000 [F1]
1 690.00000 MHz 3.0658
2 960.00000 MHz 1.2419
3 1.7100000 GHz 1.2588
4 2.1700000 GHz 1.8706
5 2.4000000 GHz 1.4022
>6 2.7000000 GHz 1.3447
11.00
10.00
9.000
8.000
7.000
6.000
5.000
4.000
3.000
2.000
1.000
1 Start 100 kHz
IFBW 70 kHz
Stop 3 GHz
Cor
Format
SWR
Log Mag
Phase
Group Delay
Smith
Polar
Lin Mag
SWR
Real
Imaginary
Expand Phase
Positive Phase
Return
Meas
Stop
ExtRef
Svc
2015-12-20 20:54

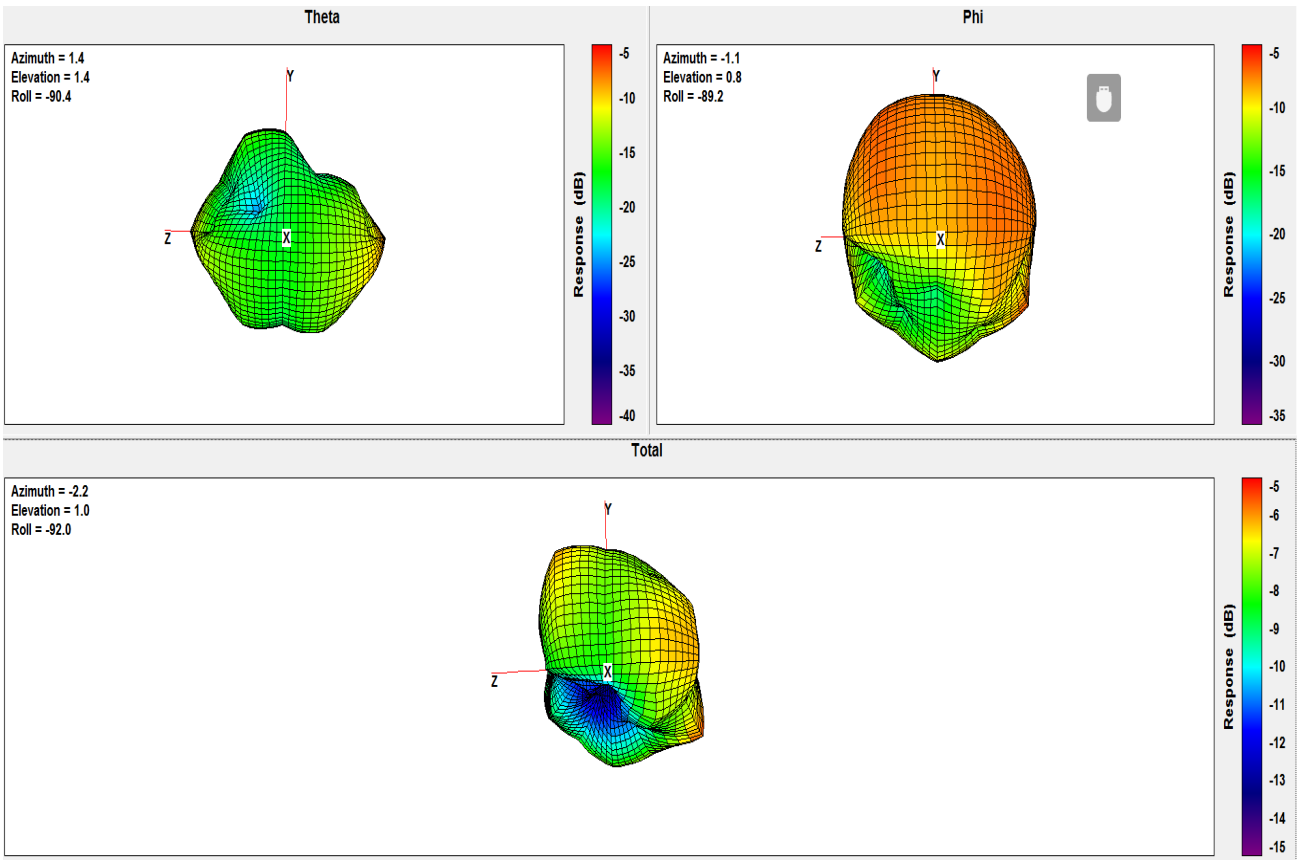

E5071C Network Analyzer
1 Active Ch/Trace 2 Response 3 Stimulus 4 Mkr/Analysis 5 Instr State
Resize
Tr1 S11 Smith (R+jX) Scale 1.000U [F1]
1 690.00000 MHz 56.809 Ω -62.531 Ω 3.6887 pF
2 960.00000 MHz 44.095 Ω -8.3699 Ω 19.807 pF
3 1.7100000 GHz 62.064 Ω 4.4298 Ω 412.30 pH
4 2.1700000 GHz 89.272 Ω 16.152 Ω 1.1847 nH
5 2.4000000 GHz 57.322 Ω 16.787 Ω 1.1132 nH
>6 2.7000000 GHz 66.831 Ω -3.7375 Ω 15.772 pF
1 Start 100 kHz
IFBW 70 kHz
Stop 3 GHz
Cor
Format
Smith (R+jX)
Log Mag
Phase
Group Delay
Smith
R + jX
Polar
Lin Mag
SWR
Real
Imaginary
Expand Phase
Positive Phase
Return
Meas
Stop
ExtRef
Svc
2015-12-20 20:54

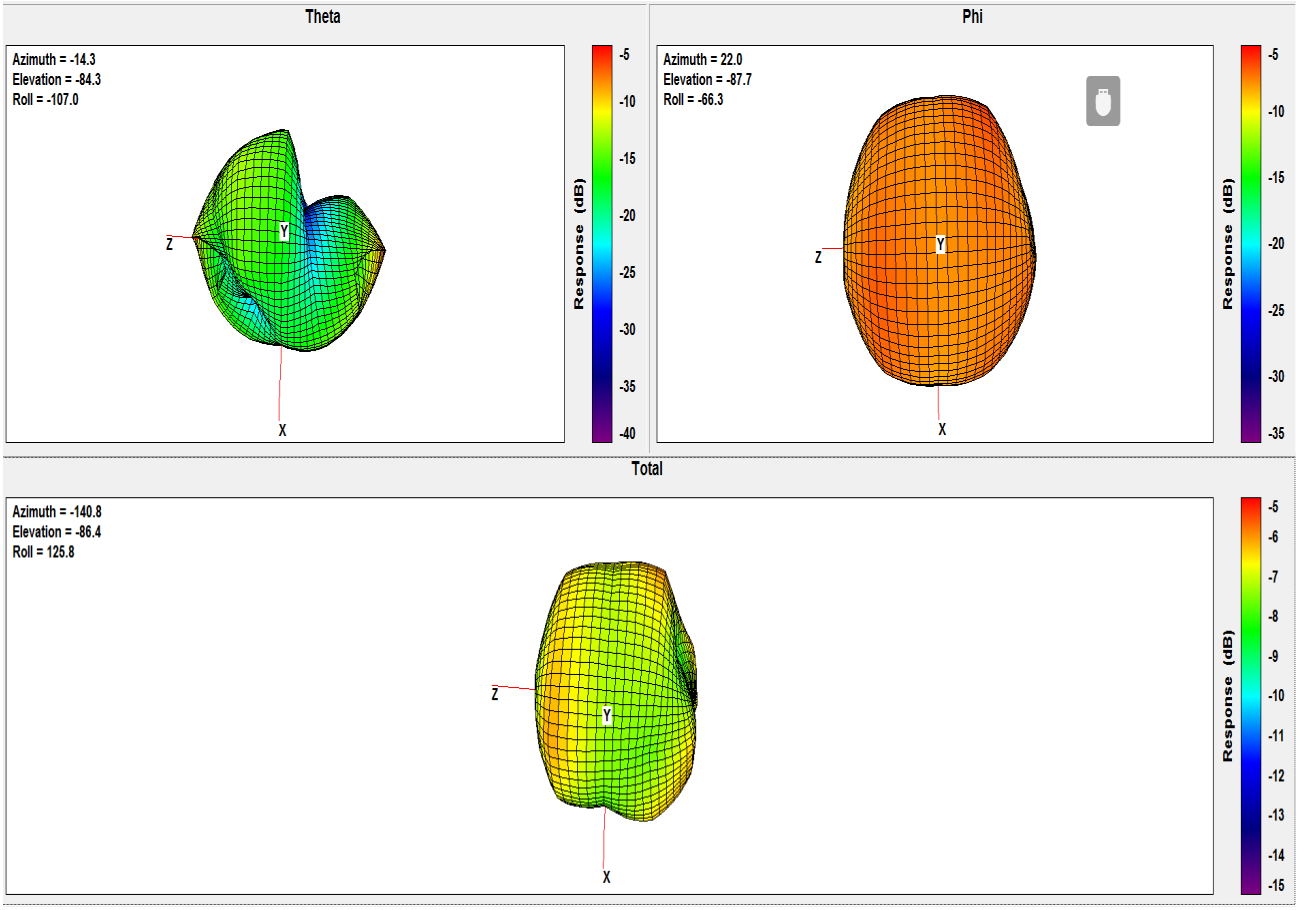
Test result:

Frequency (MHz)	690	751	821	824	860	890	900	960	1710	1880	1990	2170	2500	2700
Peak Gain (dBi)	-5.2	-3.87	-1.13	-1.10	0.21	1.20	1.25	1.55	0.43	2.14	1.18	0.53	2.74	2.3
Efficiency (%)	17.59	18.79	28.04	28.74	34.17	41.29	42.3	44.17	36.67	31.26	23.0	24.72	34.99	41.26




Theta
Azimuth = 0.0
Elevation = 0.0
Roll = 0.0
Y
Z
X
Response (dB)
-5
-10
-15
-20
-25
-30
-35
-40
Phi
Azimuth = 0.0
Elevation = 0.0
Roll = 0.0
Y
Z
X
Response (dB)
-5
-10
-15
-20
-25
-30
-35
Total
Azimuth = 0.0
Elevation = 0.0
Roll = 0.0
Y
Z
X
Response (dB)
-5
-6
-7
-8
-9
-10
-11
-12
-13
-14
-15


Theta
Azimuth = 1.4
Elevation = 1.4
Roll = -90.4
Y
Z
X
Response (dB)
-5
-10
-15
-20
-25
-30
-35
-40
Phi
Azimuth = -1.1
Elevation = 0.8
Roll = -89.2
Y
Z
X
Response (dB)
-5
-10
-15
-20
-25
-30
-35
Total
Azimuth = -2.2
Elevation = 1.0
Roll = -92.0
Y
Z
X
Response (dB)
-5
-6
-7
-8
-9
-10
-11
-12
-13
-14
-15


Theta
Azimuth = -14.3
Elevation = -84.3
Roll = -107.0
Z
Y
X
Response (dB)
-5
-10
-15
-20
-25
-30
-35
-40
Phi
Azimuth = 22.0
Elevation = -87.7
Roll = -66.3
Z
Y
X
Response (dB)
-5
-10
-15
-20
-25
-30
-35
Total
Azimuth = -140.8
Elevation = -86.4
Roll = 125.8
Z
Y
X
Response (dB)
-5
-6
-7
-8
-9
-10
-11
-12
-13
-14
-15