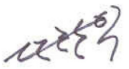


APPROVAL SHEET

MODEL : LESSERAFIM ANTENNA

Review	Consent	Approval
이중건	문병인	
J.G Lee	B.I Mun	C.I Jeon
23.01.16	23.01.16	23.01.16

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[illegible]

2. Product Information

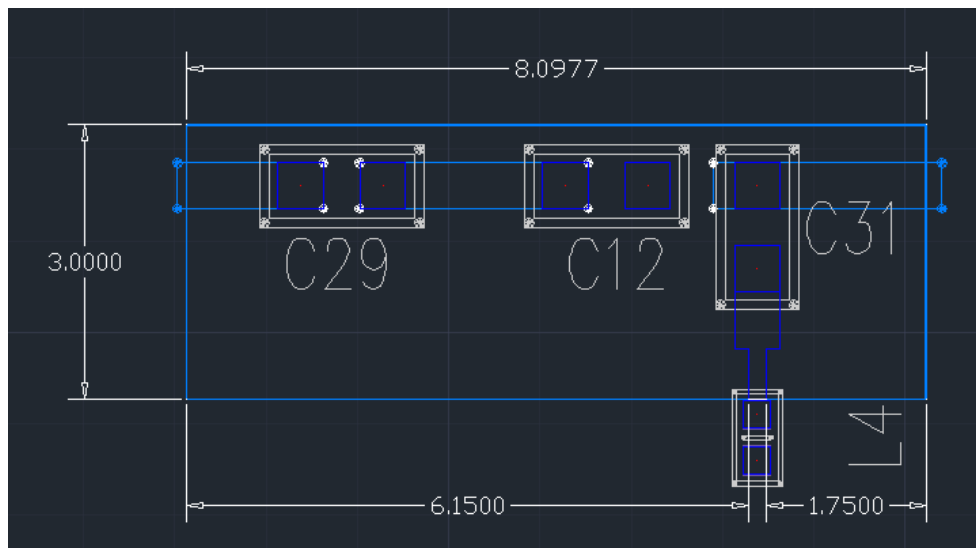
2.1 General Features

PART NEMBER	SEVENTEEN ANT
ANTENNA TYPE	PCB PATTERN ANTENNA
APPLICATIONS	Bluetooth

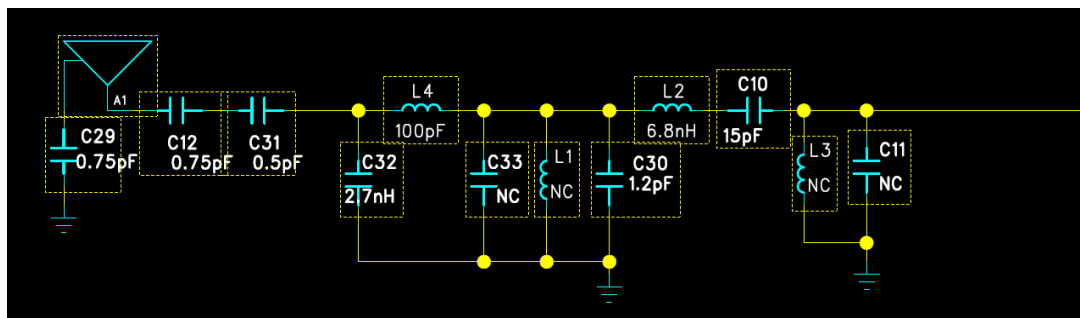
2.2 Electrical Specifications

Frequency Range (Tx)	2400MHz~2480MHz
Frequency Range (Rx)	2400MHz~2480MHz
IMPEDANCE	50Ω
POLARIZATION	Linear

3. Pattern Specifications



4. Matching Network

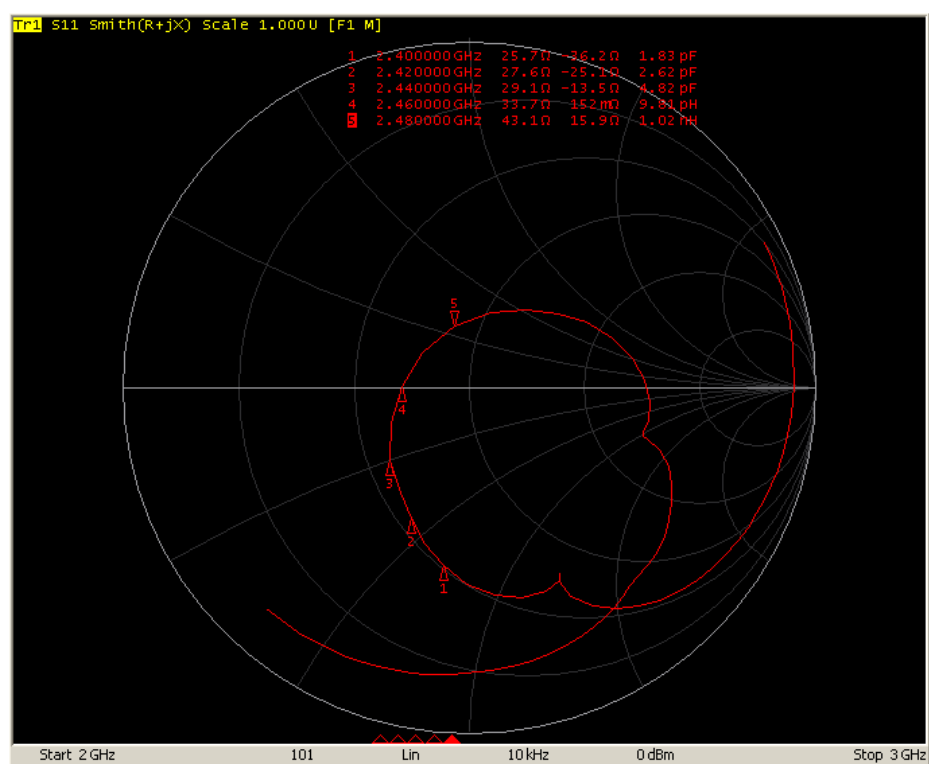


5. Electrical Characteristics

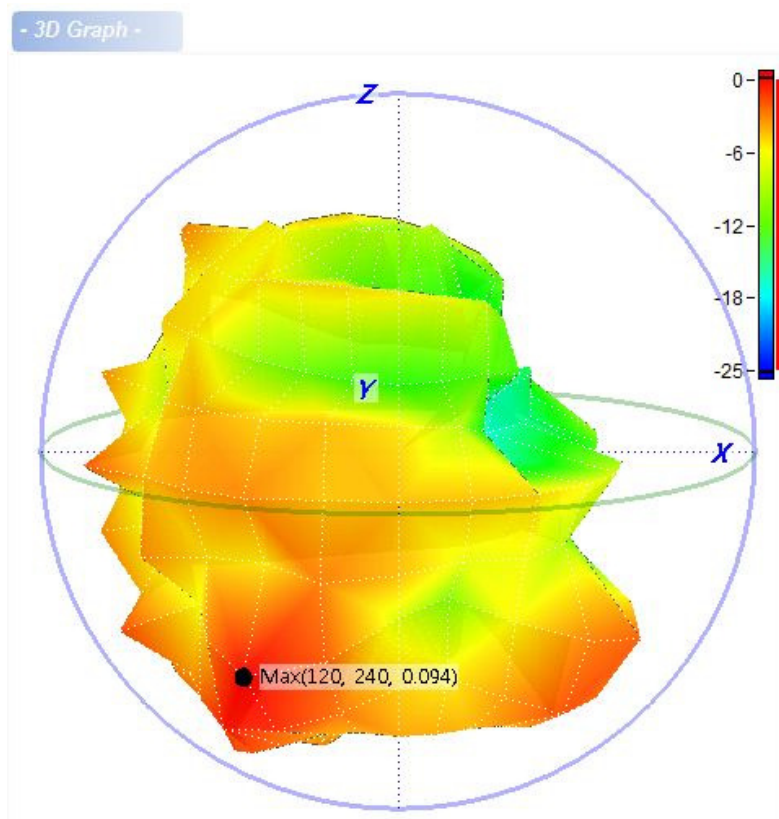
5.1 VSWR



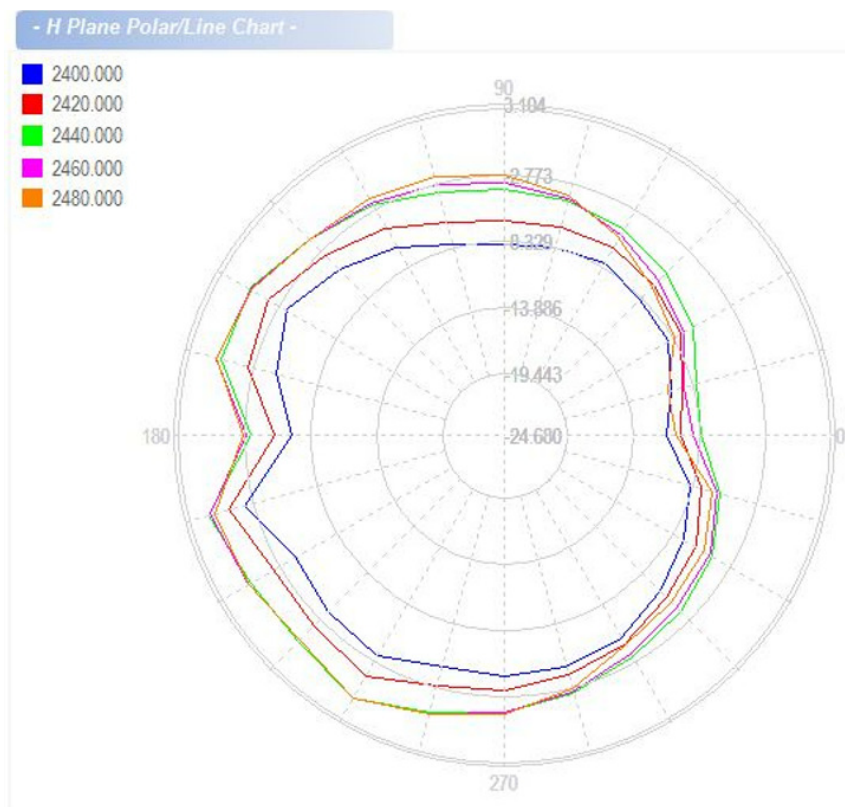
5.2 SMITH CHART



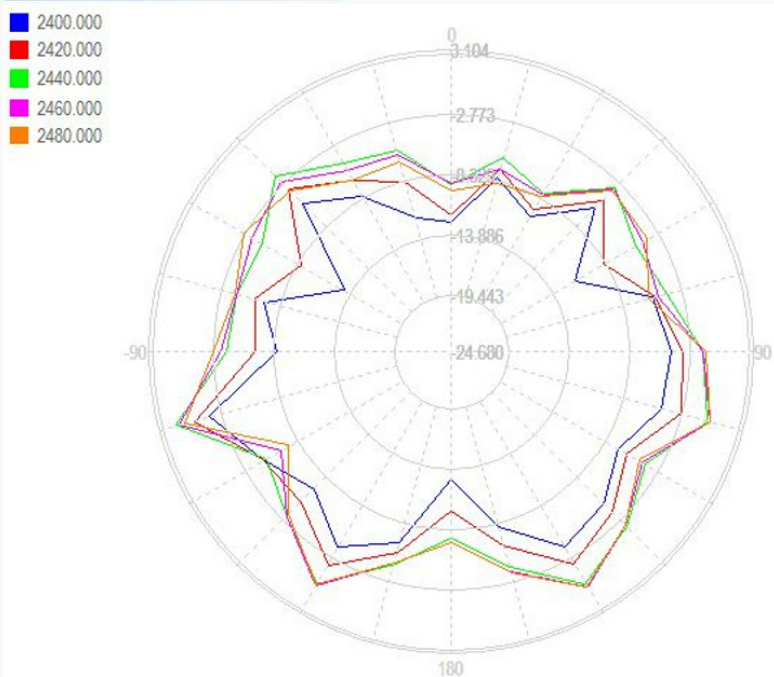
5.3 3D-PLOTS



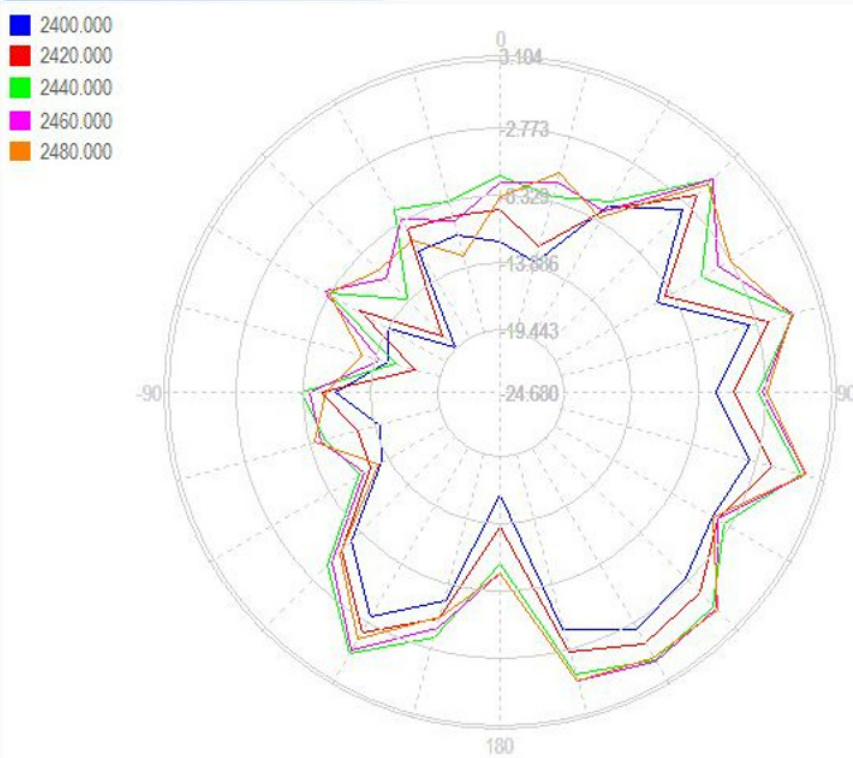
5.4 2D-Gain



- E1 Plane Polar/Line Chart -



- E2 Plane Polar/Line Chart -

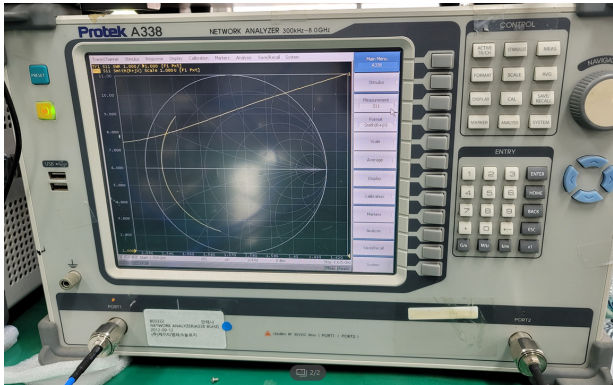


6. Passive Measurement

Frequency	Max Gain			Min Gain			Average Gain	Efficiency
[MHz]	θ [Deg]	Φ [Deg]	Gain[dBi]	θ [Deg]	Φ [Deg]	Gain[dBi]	Gain[dBi]	[%]
2,400.000	120.0	240.0	0.094	60.0	345.0	-24.680	-6.056	24.796
2,420.000	120.0	240.0	1.409	75.0	315.0	-20.780	-4.625	34.477
2,440.000	120.0	240.0	3.104	45.0	15.0	-18.008	-2.703	53.670
2,460.000	120.0	240.0	2.930	75.0	30.0	-16.969	-2.674	54.019
2,480.000	120.0	240.0	2.444	180.0	270.0	-18.991	-2.809	52.369

7. Measurement Process

7.1 SWR/Return loss

	Set Condition
Network Analyzer	Protek A338
Cable	RF cable (300 mm)
Test condition	

7.2 Gain

Antenna gain is measured in the anechoic chamber of this company.



7.3 Gain Test block diagram

