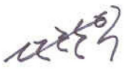


APPROVAL SHEET

MODEL : SEVENTEEN 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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 - 5.4 2D-Gain
- 6. Passive Measurement
- 7. Measurement Process



1. Revision History

[illegible]

2. Product Information

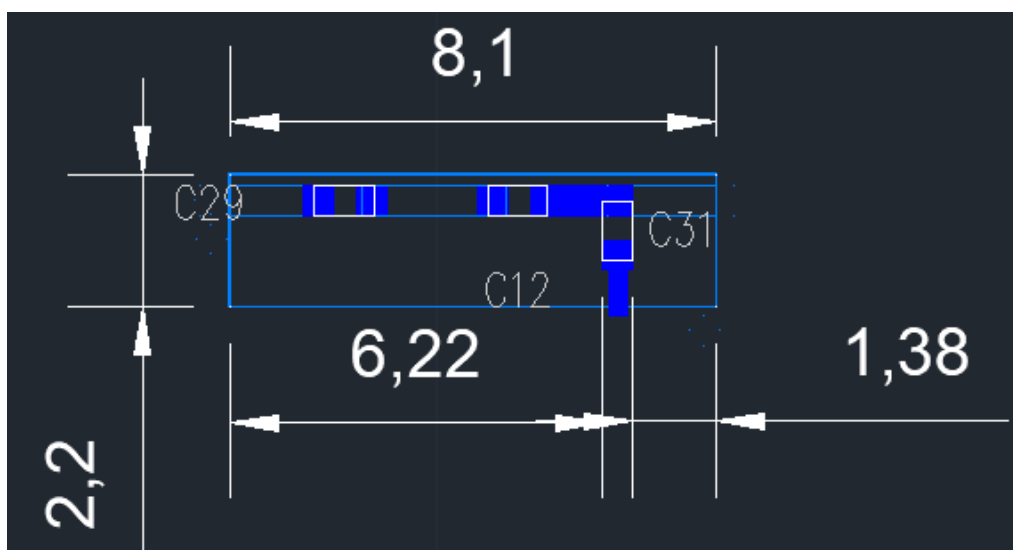
2.1 General Features

PART NEMBER	SEVENTEEN ANT
ANTENNA TYPE	PCB PATTERN ANTENNA
APPLICATIONS	Bluetooth

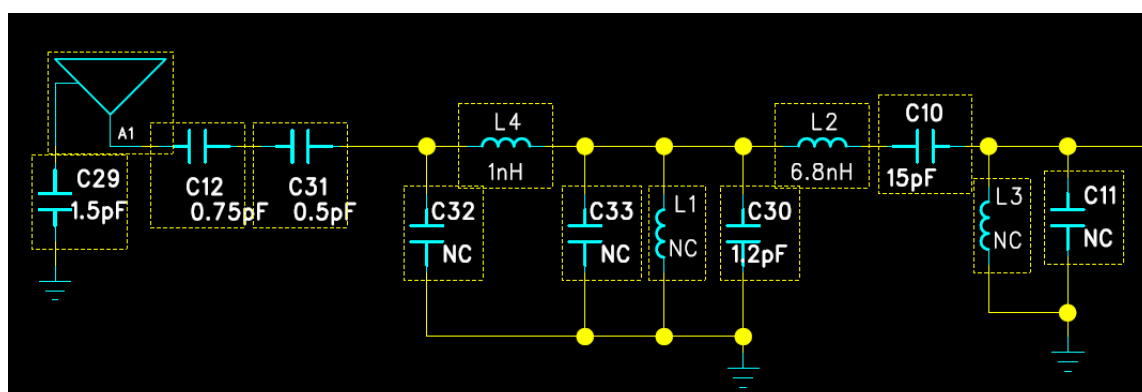
2.2 Electrical Specifications

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

3. Pattern Specifications

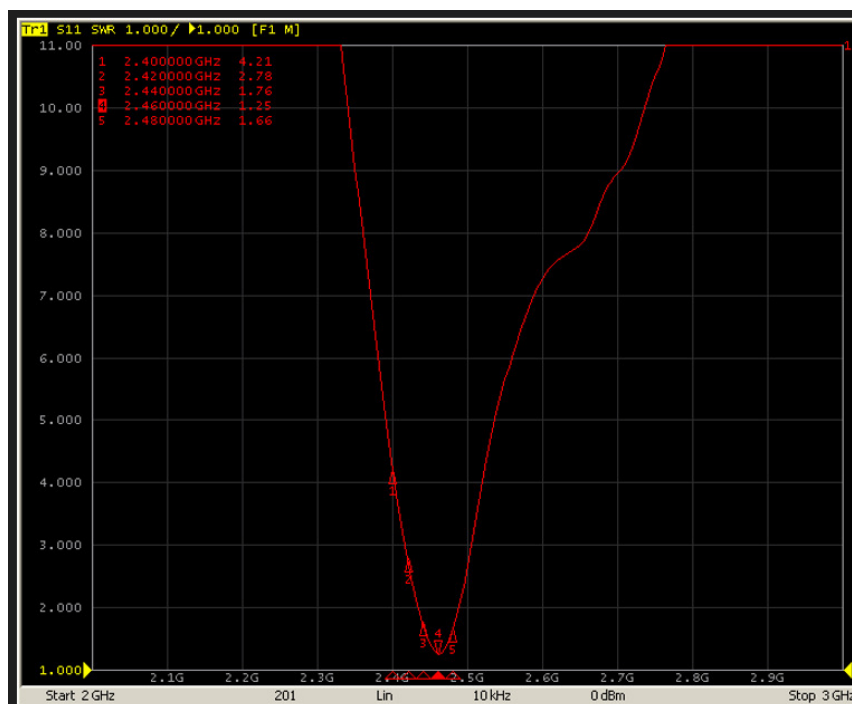


4. Matching Network

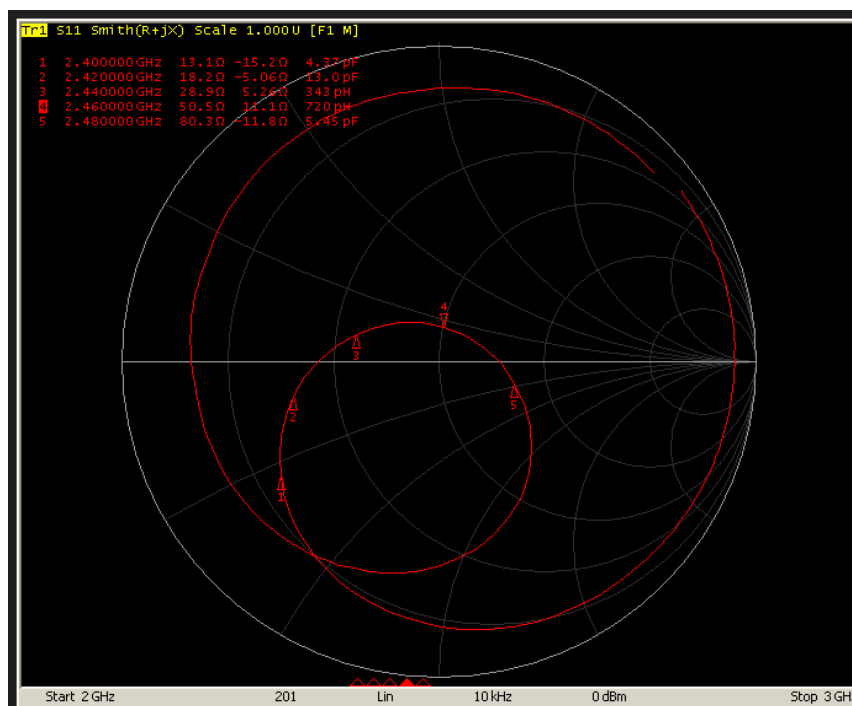


5. Electrical Characteristics

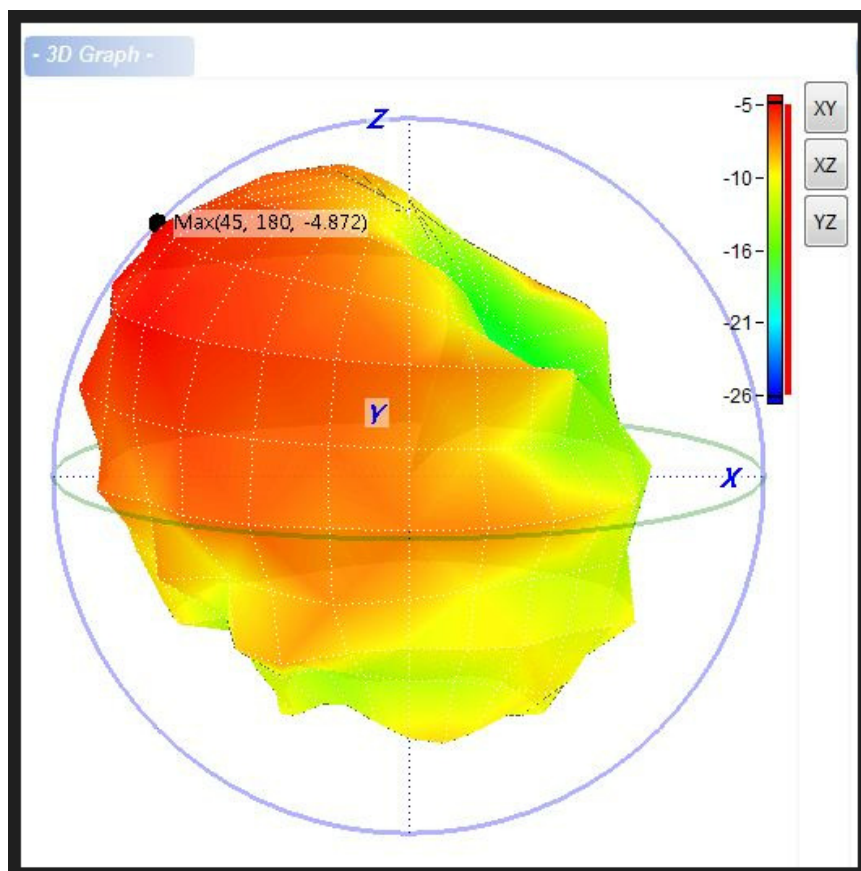
5.1 VSWR



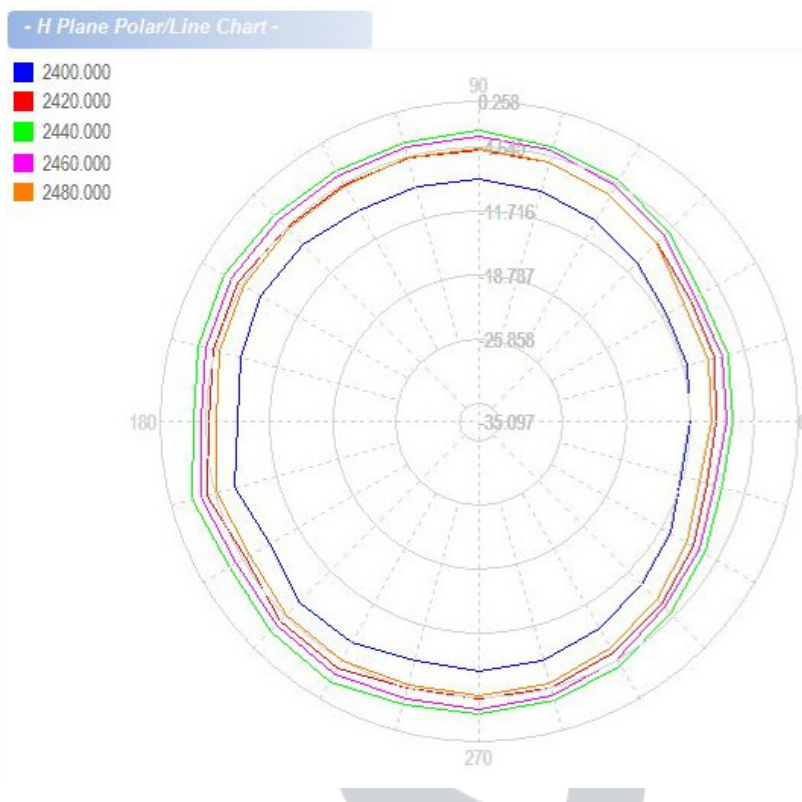
5.2 SMITH CHART



5.3 3D-PLOTS

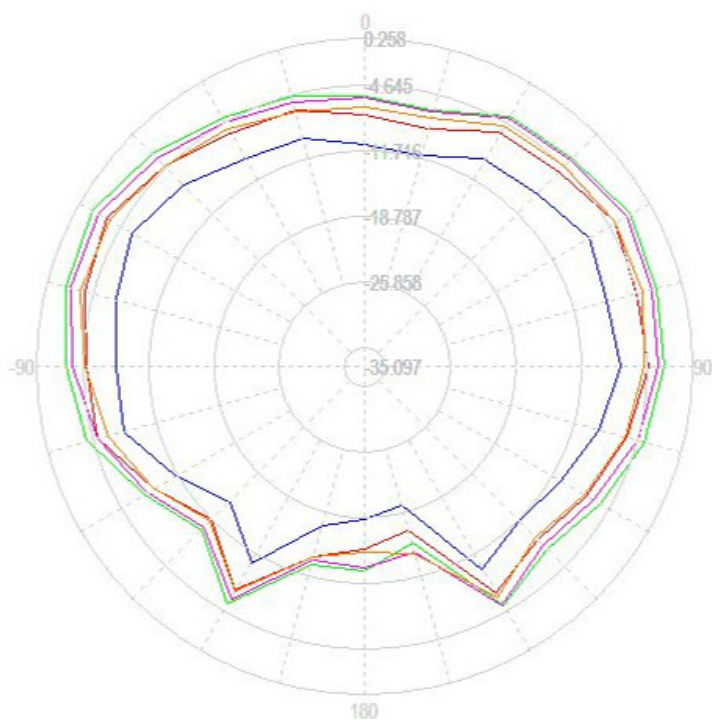


5.4 2D-Gain



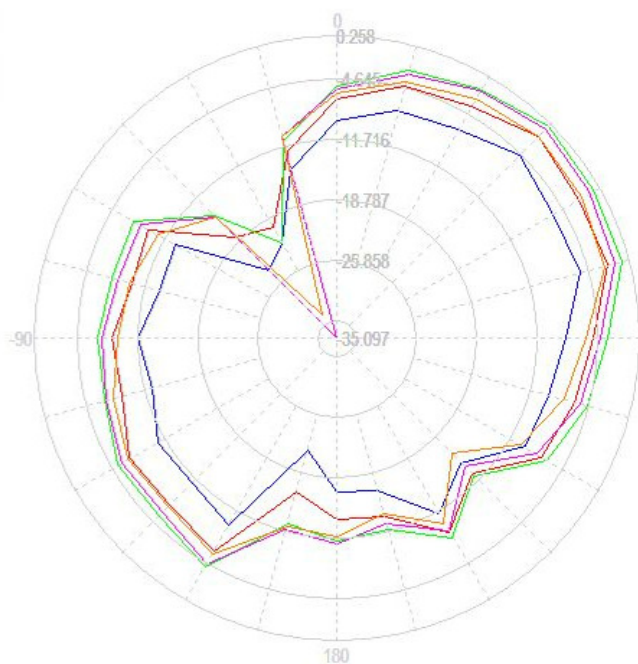
- E1 Plane Polar/Line Chart -

■ 2400.000
■ 2420.000
■ 2440.000
■ 2460.000
■ 2480.000



- E2 Plane Polar/Line Chart -

■ 2400.000
■ 2420.000
■ 2440.000
■ 2460.000
■ 2480.000

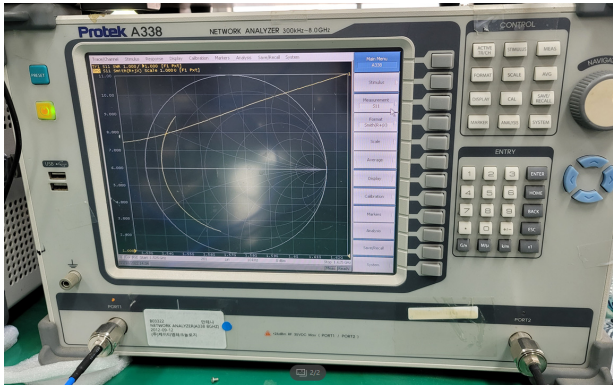


6. Passive Measurement

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	45.0	180.0	-4.872	30.0	345.0	-26.414	-9.204	12.013
2,420.000	60.0	165.0	-1.542	30.0	345.0	-23.389	-6.018	25.014
2,440.000	60.0	165.0	0.258	30.0	0.0	-22.169	-4.206	37.962
2,460.000	60.0	165.0	-0.466	30.0	0.0	-35.097	-4.807	33.057
2,480.000	45.0	195.0	-1.560	30.0	0.0	-31.779	-6.026	24.969

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

