

PRODUCT SPECIFICATION

Model	Description
AIR-R75A_ANT	IEEE802.15.4

APPROVAL	REMARK	APPENDIX

DESIGNED	CHECKED	APPROVED
2023.11.01	2023.11.01	2023.11.01
K.S.AN	J.B.KIM	I.U.KIM

ANTENNA SPECIFICATION

1. Model : AIR-R75A_ANT
2. Application : 2.4GHz IEEE802.15.4 compliant RF Transceiver
3. Electrical specification and performance

ELECTRICAL DATA	SPECIFICATIONS		REMARK
FREQUENCY RANGE	2405 ~ 2480 MHz		
IMPEDANCE	50 Ω NOMINAL		
V. S. W. R	2405 ~ 2480 MHz	Less than 2.0 : 1	#1. Attached
PEAK GAIN(Min)	2405 ~ 2480 MHz	0.95 dBi	#2. Attached

4. Hardware specification and mechanical

MECHANICAL	SPECIFICATIONS		REMARK
Dimension	3.7mm x 18.0mm		#3. Attached

5. Company information

ATEC IoT Co.,Ltd. 289, Pangyo-ro, Bundan-gu, Seongnam-si, Gyeonggi, Republic of Korea TEL : +82-31-696-9815 PAX : +82-31-696-9899
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6. OPERATING TEMPERATURE

Temperature : - 20°C / + 60°C
Demands : Set Antenna for 48 hours each temperature.
No visual and mechanical changes.
Unchanged mechanically during the test.
The antenna shall satisfy the electrical data

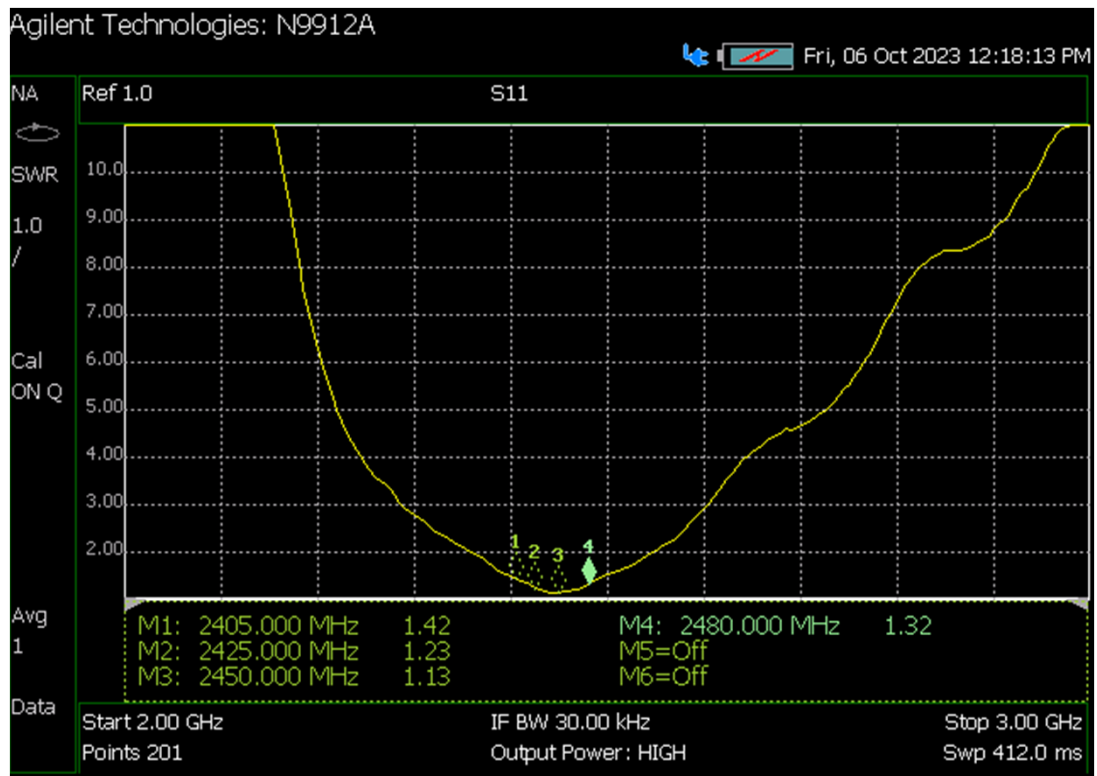
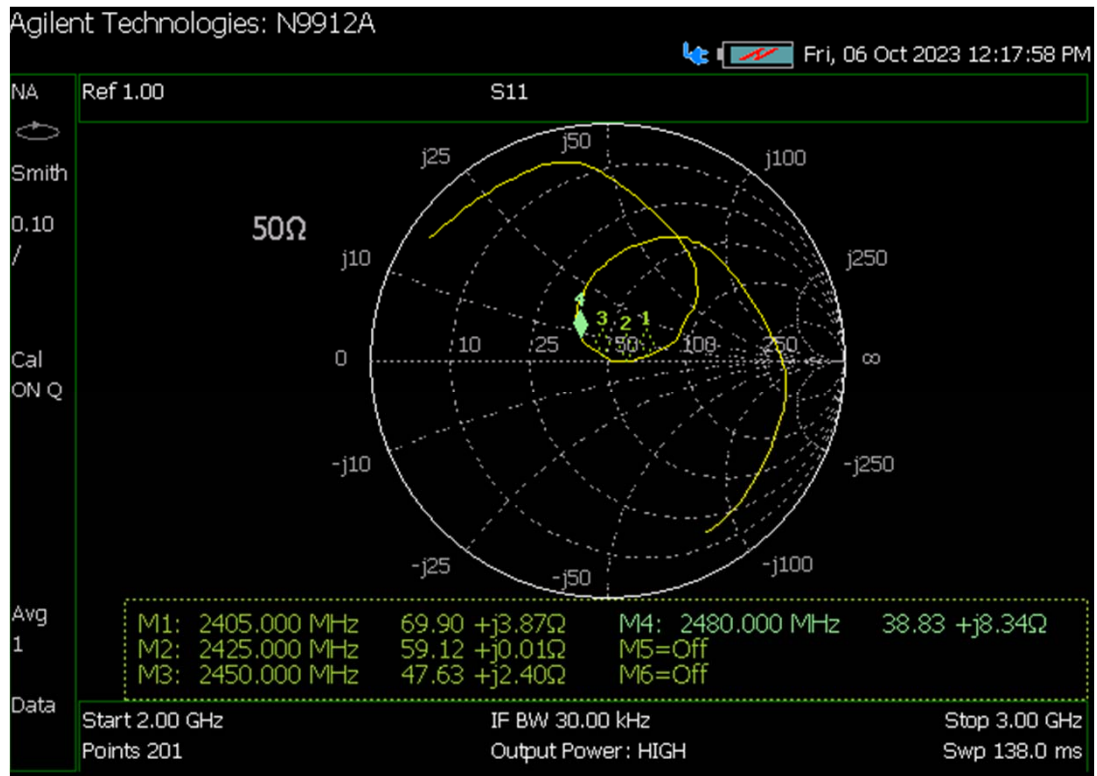
7. HUMIDITY Condition

Condition : 80% / +30°C ~ +50 °C
Measuring method
Antenna is placed in climatic chamber for 48 hours.
Antenna is taken out from the chamber and measured
after another 24 hours in room temperature
Demands : No visual and mechanical changes.
Unchanged mechanically during the test.
The antenna shall satisfy the electrical data.

8. TEST and Q/C

This specification is according to fixed demands and suitable *ATEC IoT* Q/C provision.

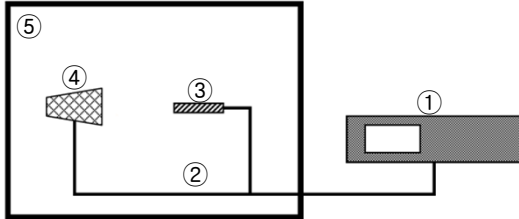
#1. Attached: VSWR



#2. Attached

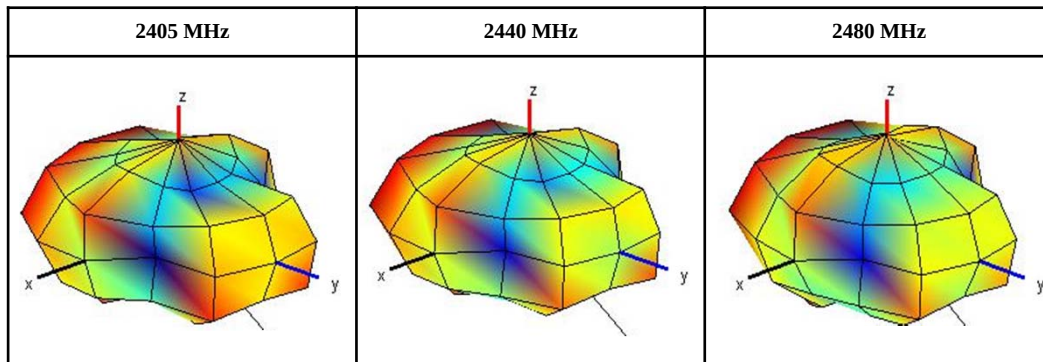
▪ Radiation Pattern and Gain

TEST METHOD



- ① Network Analyzer
- ② Signal Interface : Coaxial Cable
- ③ Test PCB Antenna
- ④ Dual Polarized Antenna
- ⑤ Shield Room

Radiation Pattern



Efficiency

Frequency [MHz]	2405	2410	2415	2420	2425	2430	2435	2440	2445	2450	2455	2460	2465	2470	2475	2480
Efficiency [dB]	-4.19	-4.14	-4.01	-3.98	-3.83	-3.71	-3.66	-3.56	-3.62	-3.78	-3.76	-3.88	-3.94	-3.82	-3.86	-3.97
Efficiency [%]	38.1	38.6	39.7	40.0	41.4	42.5	43.1	44.0	43.4	41.9	42.1	40.9	40.4	41.5	41.1	40.1
Peak Gain [dB]	0.19	0.26	0.39	0.44	0.61	0.73	0.84	0.95	0.91	0.79	0.86	0.71	0.64	0.74	0.65	0.51
Directivity [dB]	4.39	4.39	4.41	4.42	4.44	4.44	4.50	4.51	4.54	4.57	4.62	4.60	4.58	4.56	4.51	4.48
Minimum Gain [dB]	-11.86	-11.85	-11.85	-11.84	-11.75	-11.77	-11.63	-11.53	-11.64	-11.66	-11.56	-11.61	-11.52	-11.27	-11.04	-11.06

Frequency(MHz)	2405	2440	2480	Avg.	Eff. [%]
Efficiency(dB)	-4.19	-3.56	-3.97	-3.91	40.62

#3. Attached: Drawing paper

