PRODUCT SPECIFICATION

Model	Description
AIR-Y13A_ANT	IEEE802.15.4

APPROVAL	REMARK	APPENDIX

DESIGNED	CHECKED	APPROVED
2025.05.14	2025.05.14	2025.05.14
K.S.LEE	K.S.AN	I.U.KIM

ATEC IoT
에이텍아이오티

SPECIFICATION			
MODEL	AIR-Y13A_ANT	REV. No.	Rev 1.0
REG. DATE	2025.05.14	PAGE	6
REV. DATE	-	-	-

Revision History

Revision	Date	Contents of Revision Change	Remark
1.0	’25.05.14	First release	

ANTENNA SPECIFICATION

1. Model : AIR-Y13A_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 ΩNOMINAL		
V. S. W. R	2405 ~ 2480 MHz	Less than 2.0 : 1	#1. Attached
PEAK GAIN(Min)	2405 ~ 2480 MHz	-1.06 dBi	#2. Attached

4. Hardware specification and mechanical

MECHANICAL	SPECIFICATIONS	REMARK
Dimension	3.75mm x 17.75mm	#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

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6. OPERATING TEMPERATURE

Temperature : - 20℃ / + 60℃ 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

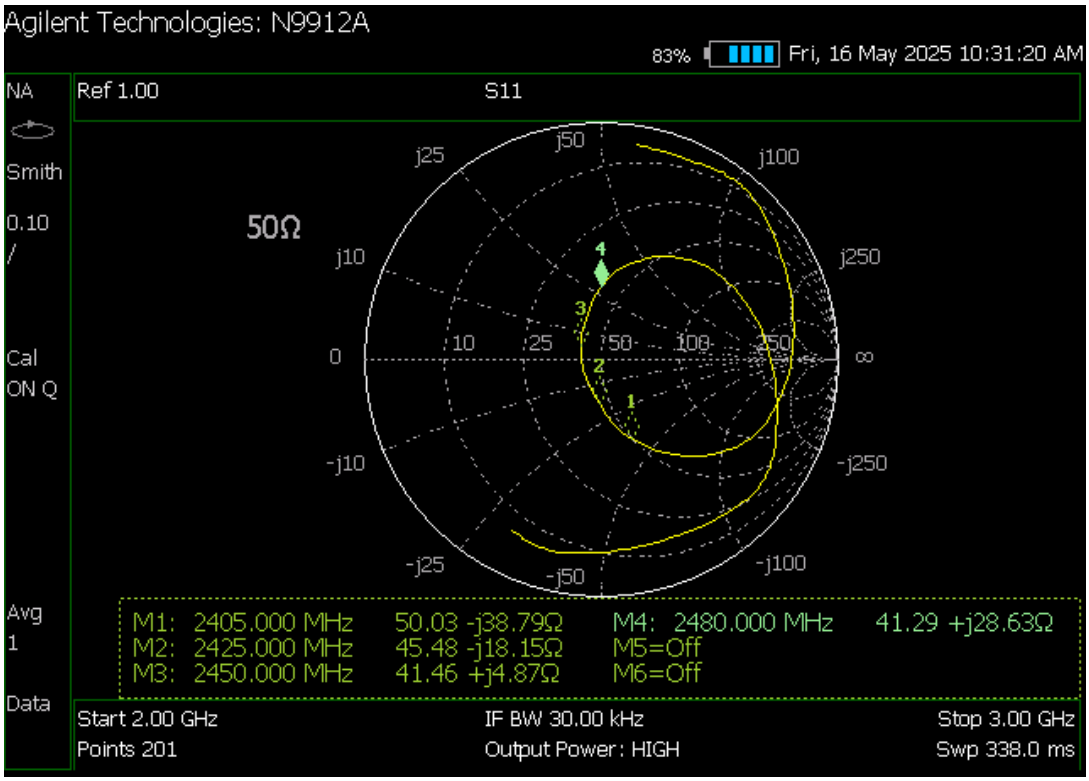
7. HUMIDITY Condition

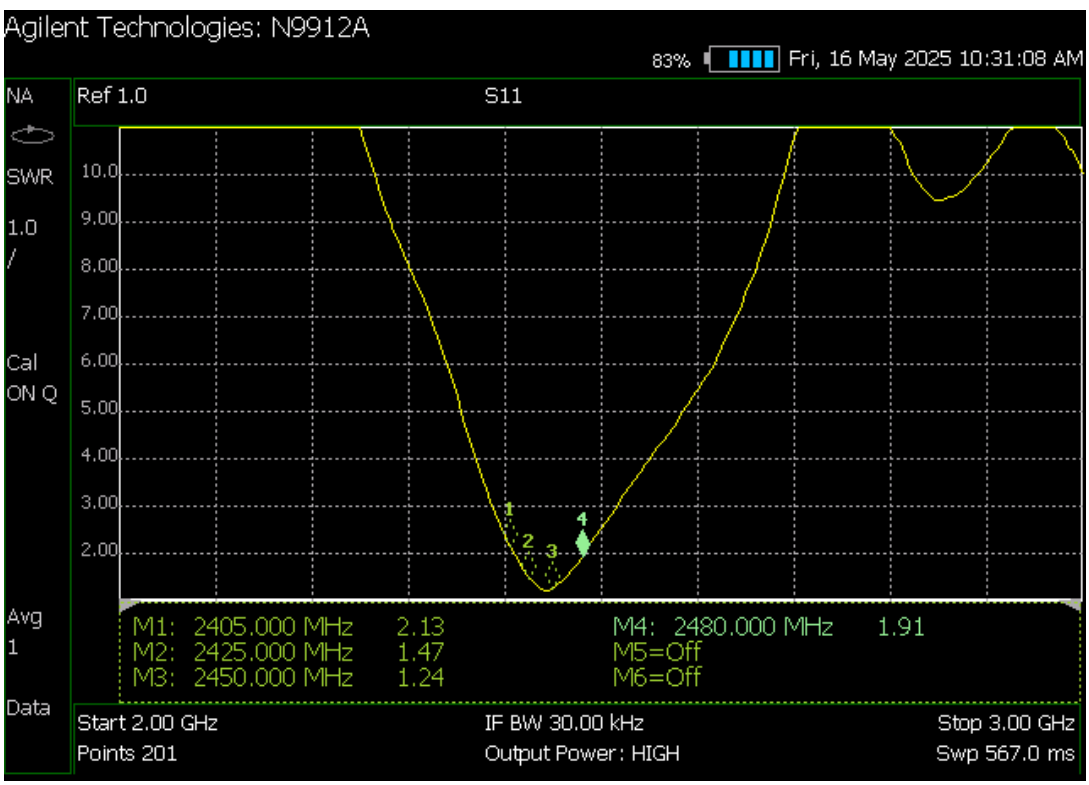
Condition : 80% / + 30℃ ~ +50 ℃ Measuring method Antenna is placed in climatic chamber for 48 hours. Antenna is taken out from the chamber and measured after another 24 hours in room temperature Demands : No visual and mechanical changes. Unchanged mechanically during the test. The antenna shall satisfy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

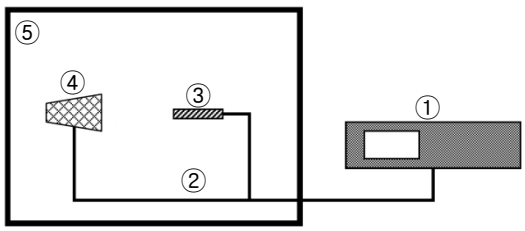




#2. Attached

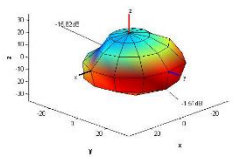
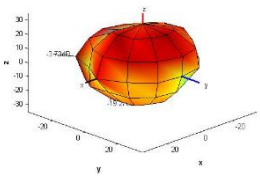
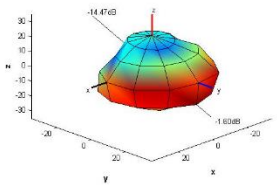
▪ Radiation Pattern and Gain

TEST METHOD



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

Radiation Pattern

2405 MHz	2440 MHz	2480 MHz
		

Efficiency

Frequency [MHz]	2405	2410	2415	2420	2425	2430	2435	2440	2445	2450	2455	2460	2465	2470	2475	2480
Efficiency [dB]	-6.02	-5.91	-5.79	-5.71	-5.49	-5.49	-5.39	-5.37	-5.46	-5.61	-5.71	-5.98	-6.16	-6.05	-6.22	-6.19
Efficiency [%]	25.0	25.7	26.3	26.9	28.2	28.3	28.9	29.0	28.4	27.5	26.9	25.2	24.2	24.9	23.9	24.1
Peak Gain [dB]	-1.51	-1.39	-1.28	-1.16	-0.97	-0.95	-0.81	-0.80	-0.91	-1.06	-1.14	-1.40	-1.56	-1.46	-1.63	-1.60
Directivity [dB]	4.51	4.52	4.52	4.54	4.53	4.53	4.58	4.57	4.55	4.54	4.56	4.58	4.60	4.58	4.59	4.59
Minimum Gain [dB]	-15.82	-15.60	-15.46	-15.13	-14.61	-14.49	-14.14	-13.71	-13.63	-13.76	-13.81	-14.14	-14.20	-14.18	-14.55	-14.47

Frequency(MHz)	2405	2440	2480	Avg.	Eff. [%]
Efficiency(dB)	-6.02	-5.37	-6.19	-5.88	25.83

#3. Attached: Drawing paper