시험보고서 (TEST REPORT)

정보통신산업진흥원 National IT Industry Promotion Agency

수신자(Recipient) The CEO of ArVizon
(경유)
제 목 (Subject) WiFi Antenna Performance Test(S230103-008)

시 험 의뢰자 (Applicant)	기관(업)명 (Company)	ArVizon Co., Ltd.		
	주소 (Address)	B1, B1006 ,119, Songdomunhwa-ro, Yeonsu-gu, Incheon, Republic of Korea		
	의뢰일/신청번호 (Date of Application)	2023. 01. 03. / S230103-008		
시료 정보 (Products)	품명/모델명 (Name/Model)	FPC Antenna / 2.4G/5G ANT		
	일련번호 (Serial Number)	-		
	제조사 (Manufacturer)	ArVizon Co., Ltd. / Korea Republic of.		
시험일 (Date of Test)		2023. 01. 11.		
시험 규격/방법 (Test Standard/Method)		ANSI/IEEE Std 149-1979 IEEE Standard Test Procedures for Antennas / Peak Gain, Radiation Pattern(2D/3D)		
시험 결과 (Test Results)		Refer to Page 3		
시험 담당자 (Tested by)		Kim Jae Wook	검토자 (Reviewed by)	Kim Kyeong Sik

주1) 본 보고서의 시험 결과 및 데이터는 의뢰자로부터 제공된 시료에 한정되며, 정보통신산업진흥원의 내부 절차에 따라 관리되고 있는 시험 장비 및 설비를 이용하여 시험한 결과입니다.
Note1) The test results and data in the report are limited to samples provided by the applicant. It is the test results by experimental equipment and facilities administered by the internal procedures of NIPA.

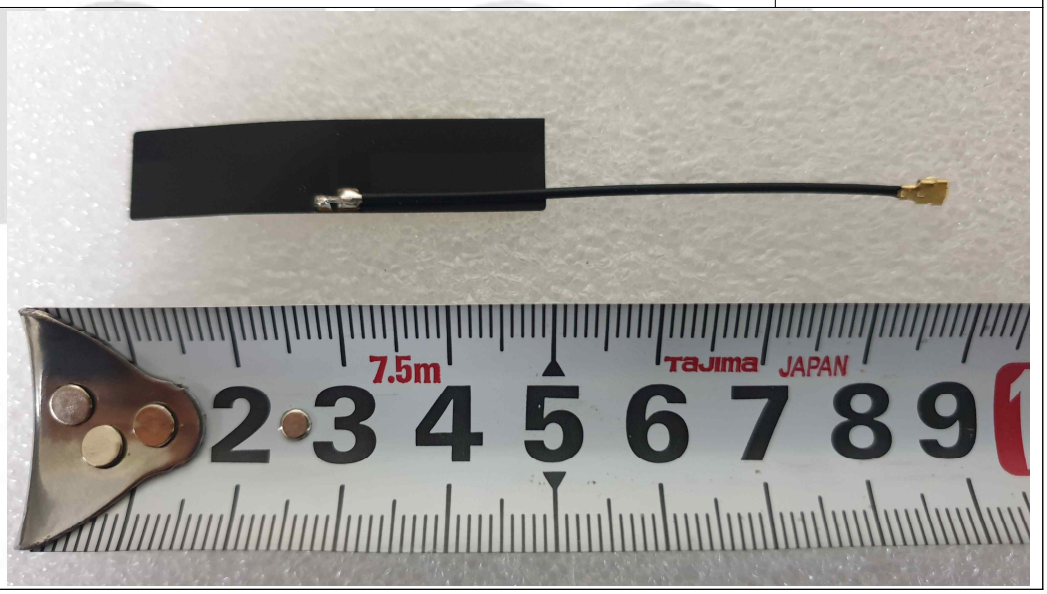
정보통신산업진흥원장

담당 김재욱 팀장 전결 01/13 김경식

협조자

시행 AIoT산업팀-204 (2023.01.13.) 접수 ( )
우 306-840 인천광역시 연수구 벤처로 82 / http://www.nipa.kr
전화 032-720-8125 /전송 032-720-8270 / jwkim0504@nipa.kr / 비공개(7)

1. DUT information

Items	Specifications	Remarks
Product name	FPC Antenna	
Model name	2.4G/5G ANT	
Serial number	-	
Operating Frequency	(2.4 ~ 2.5) GHz / (5.15 ~ 5.85) GHz	
VSWR	2.0 Less Than	Nominal Value
Antenna Gain	2.2 ~ 4.1 dBi	
Polarization	Linear	
Size	(45 × 10 × 0.1) mm	
Photograph		

※ The above DUT information was provided by the applicant of the test.

2. Test information

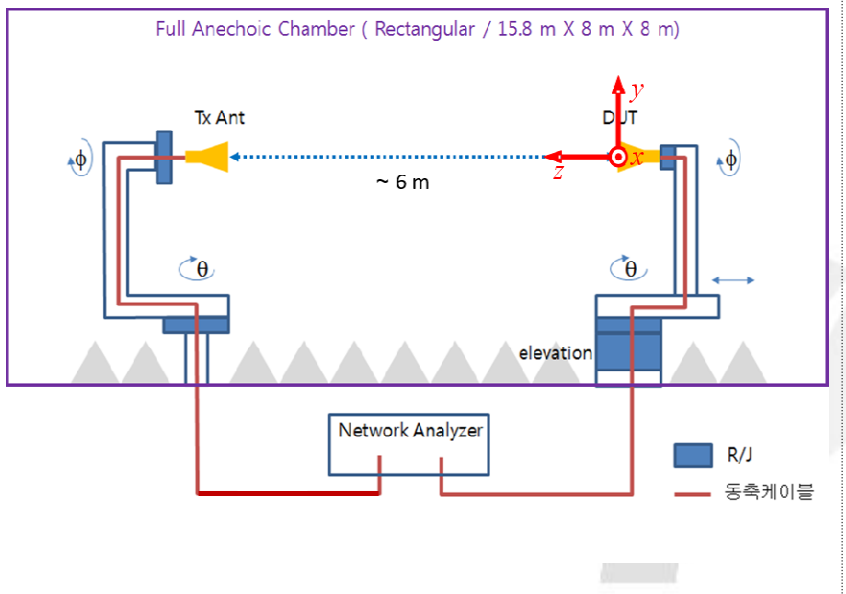
A. Equipments

No.	Equipments	Manufacturer	Model	S/N
1	ZNA Network Analyzer	ROHDE & SCHWARZ	ZNA26	101268
2	Quad-ridged Horn	MTG	QRH004060	-
3	Double Ridged Horn Antenna	Schwarzbeck Mess	BBHA 9120 LFA	253

B. Environment

Date of test	Temperature	Humidity
2023. 01. 11.	(22 ± 1) ℃	(53 ± 3) % R.H.

C. Configuration



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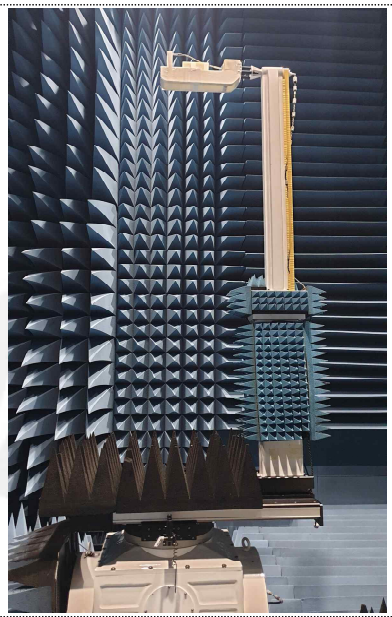

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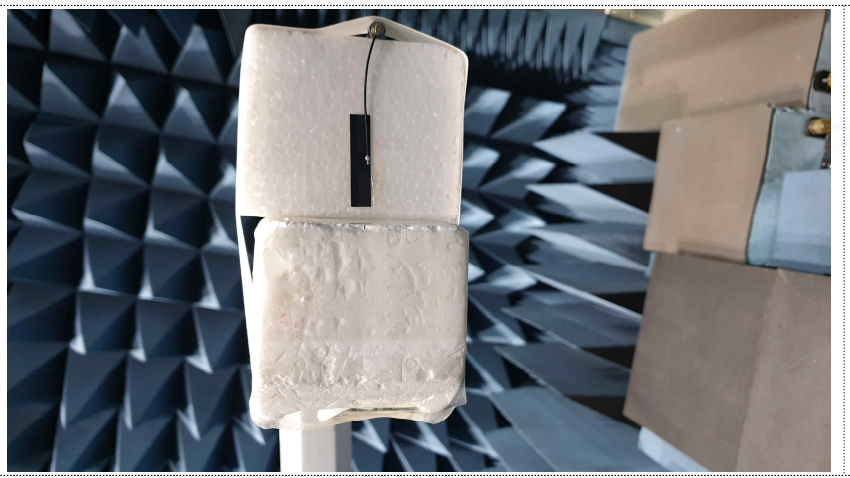

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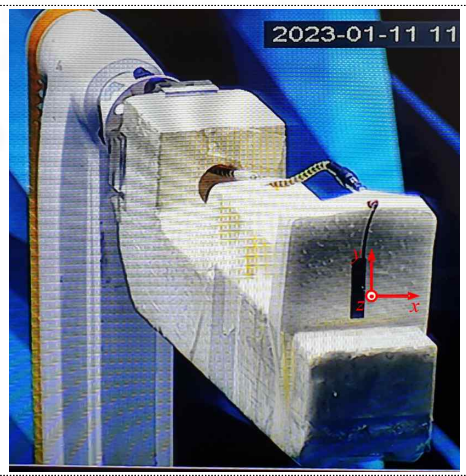


< Orientation >

D. Test method: Gain-Transfer Measurements

* Refer to the ANSI/IEEE Std 149-1979 IEEE Standard Test Procedures for Antennas

3. Test result

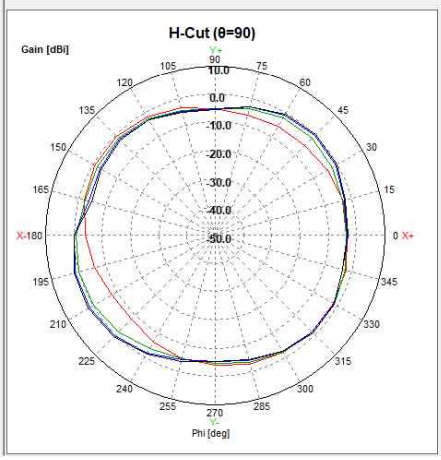
Frequency (GHz)	Peak Gain (dBi)
2.400	3.2
2.450	2.9
2.485	3.2
2.500	3.5
5.150	2.2
5.250	2.6
5.350	3.0
5.450	3.5
5.550	3.5
5.650	4.0
5.750	4.1
5.850	3.9

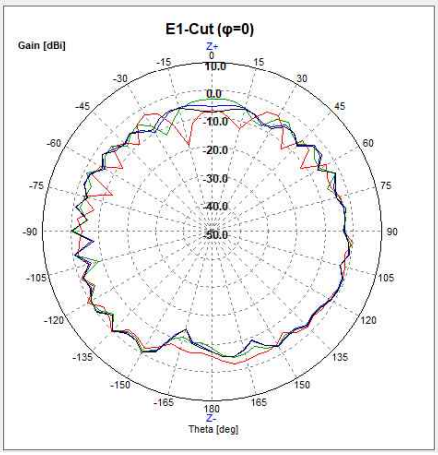
4. Test data

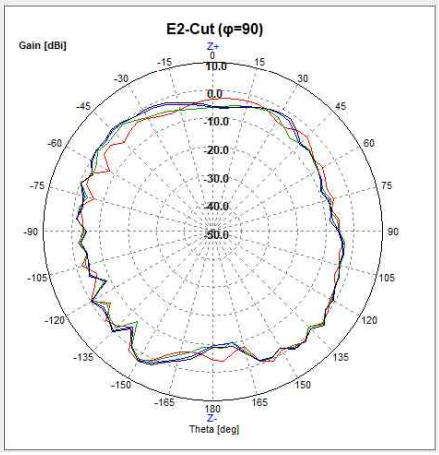
− 2D Radiation Patterns

2D Radiation Patterns_Low Band

		PwrSum					H(θ=90)				E1(φ=0)				E2(φ=90)			
No.	Freq.	Eff.[%]	Avg.[dBi]	Peak[dBi]	θ[deg]	φ[deg]	Avg.[dBi]	Peak[dBi]	φ[deg]	BW[deg]	Avg.[dBi]	Peak[dBi]	θ[deg]	BW[deg]	Avg.[dBi]	Peak[dBi]	θ[deg]	BW[deg]
1	2400.000	57.56	-2.40	3.22	-150.00	60.00	-3.44	-0.74	135.00	74.61	-3.88	0.83	-120.00	6.83	-2.95	2.95	-150.00	11.78
2	2450.000	60.21	-2.20	2.88	-150.00	60.00	-2.33	0.07	195.00	116.89	-3.75	-0.01	-135.00	7.39	-3.09	2.23	-150.00	12.68
3	2485.000	67.38	-1.71	3.16	-150.00	60.00	-1.87	1.36	210.00	64.01	-3.75	-0.15	-135.00	24.02	-2.56	2.75	-150.00	13.59
4	2500.000	70.51	-1.52	3.50	-150.00	60.00	-1.72	1.85	210.00	60.93	-3.71	-0.05	-90.00	4.65	-2.33	3.06	-150.00	13.92

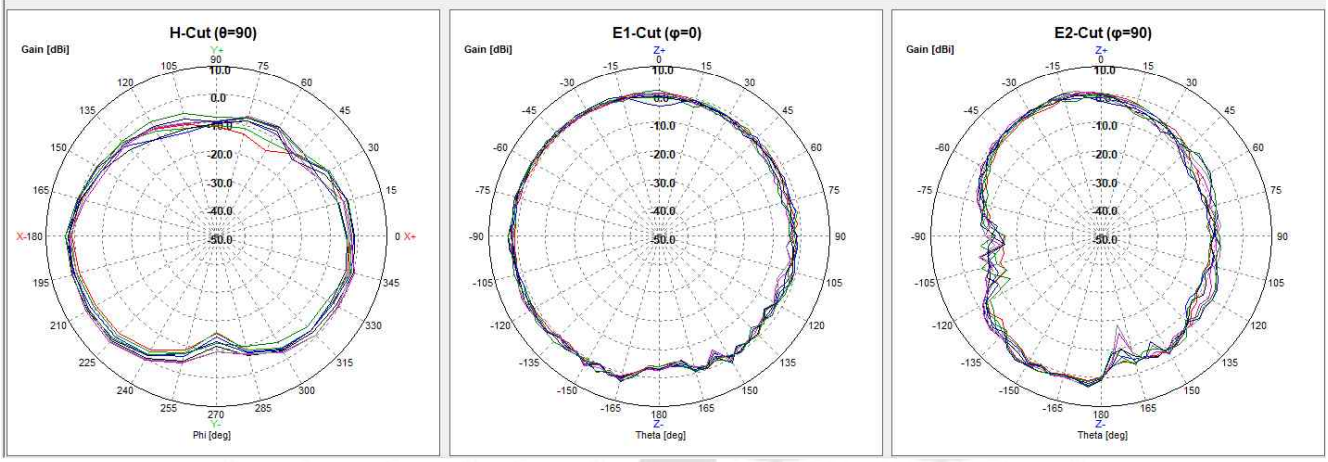






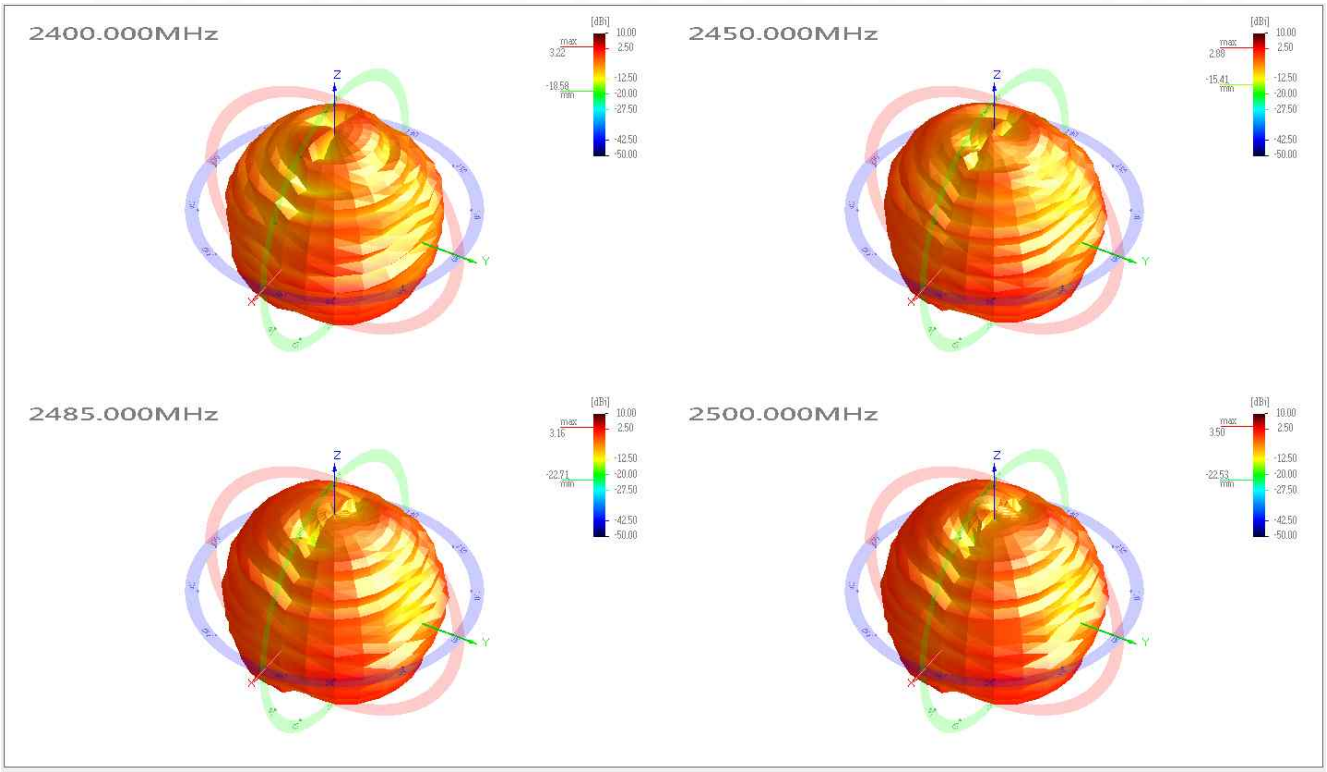
2D Radiation Patterns_High Band

		PwrSum					H(θ=90)				E1(φ=0)				E2(φ=90)			
No.	Freq.	Eff.[%]	Avg.[dBi]	Peak[dBi]	θ[deg]	φ[deg]	Avg.[dBi]	Peak[dBi]	φ[deg]	BW[deg]	Avg.[dBi]	Peak[dBi]	θ[deg]	BW[deg]	Avg.[dBi]	Peak[dBi]	θ[deg]	BW[deg]
5	5150.000	58.64	-2.32	2.21	-160.00	15.00	-3.60	0.90	180.00	84.50	-0.48	1.70	-80.00	190.27	-3.49	1.40	-160.00	999.00
6	5250.000	62.79	-2.02	2.64	-160.00	30.00	-3.03	1.86	180.00	76.43	-0.31	1.86	-90.00	165.32	-3.33	1.80	-160.00	999.00
7	5350.000	64.83	-1.88	3.00	-160.00	30.00	-2.54	2.33	180.00	74.26	-0.26	2.33	-90.00	170.40	-3.18	2.15	-175.00	999.00
8	5450.000	67.83	-1.69	3.52	-160.00	30.00	-2.01	2.71	195.00	73.71	-0.23	2.68	-150.00	155.38	-2.78	2.74	-175.00	999.00
9	5550.000	70.36	-1.53	3.54	-175.00	120.00	-1.86	3.01	210.00	67.58	-0.35	3.20	-115.00	102.44	-2.40	3.09	-175.00	999.00
10	5650.000	72.47	-1.40	3.99	-175.00	120.00	-2.22	2.45	225.00	72.76	-0.32	2.81	-115.00	173.81	-2.38	3.35	-175.00	999.00
11	5750.000	71.35	-1.47	4.10	-175.00	120.00	-2.55	3.01	180.00	66.47	-0.17	3.01	-90.00	155.57	-2.51	3.37	-175.00	999.00
12	5850.000	68.75	-1.63	3.91	-175.00	120.00	-2.26	3.18	180.00	67.39	0.00	3.18	-90.00	128.96	-2.85	3.16	-175.00	999.00

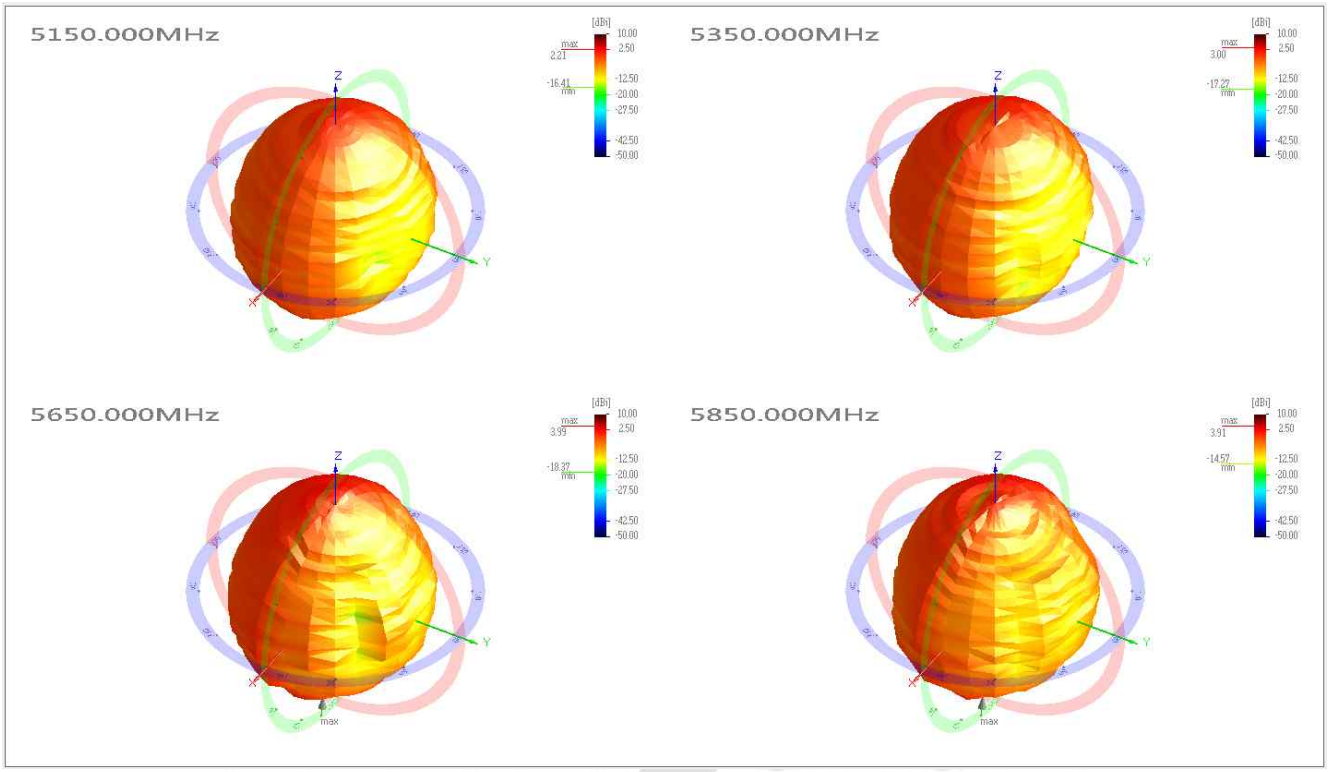


− 3D Radiation Patterns

3D Radiation Patterns_Low Band



3D Radiation Patterns_High Band



The end.