National Space Organization

Report No：FF141118E

Function Test Report

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Sign of Reporter： Yeh Chih-Hui

Report Date： Nov. / 25 / 2014

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Test Unit: Dual-Band Antenna **Model No:** 5dBi 黑色雙頻天線 (2.4/5GHz) **Serial No:** WLD1-5024-05-02 **Received Date:** Nov./20/2014 **Total Page:** 17
Items to be measured: Antenna Gain / Antenna Pattern **Applicant:** WIFI-Link Technologies Co., Ltd. **Contact:** Zhi-juan Ze **Address:** No.25, Zhongyang Rd., Yongkang Dist., Tainan City 710, Taiwan (R.O.C.) **Tel:** 886-6-2523801 **Fax:** 886-6-2526033

※ The report only valid to the measured items. Do not copy without permission.

I. Test Project

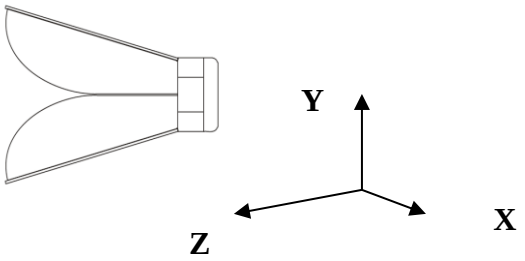
1. Test Date: Nov./21/2014 ~ Nov./24/2014
2. Test Method:
   - 2.1 The measurement only valid to the measured items. All of the measurement processes are certificated by ISO9001:2000 quality management.
   - 2.2 Test item, parameter setting and method are agreed by both sides. Test flow and test procedures are executed according to NSPO-PROC-0039.
   - 2.3 It is necessary to warm up the test facilities for at least one hour.
3. Test standard units:

Item	S/N	Valid date	Trace no.	Calibration Co.
Network Analyzer Agilent E8364B	MY43040631	2015/8/31	1-6182827751-1	Agilent Ltd.
Standard Horn Antenna	4101	2015/9/10	14-09-BCC-043-01	ETC

4. Test environment:

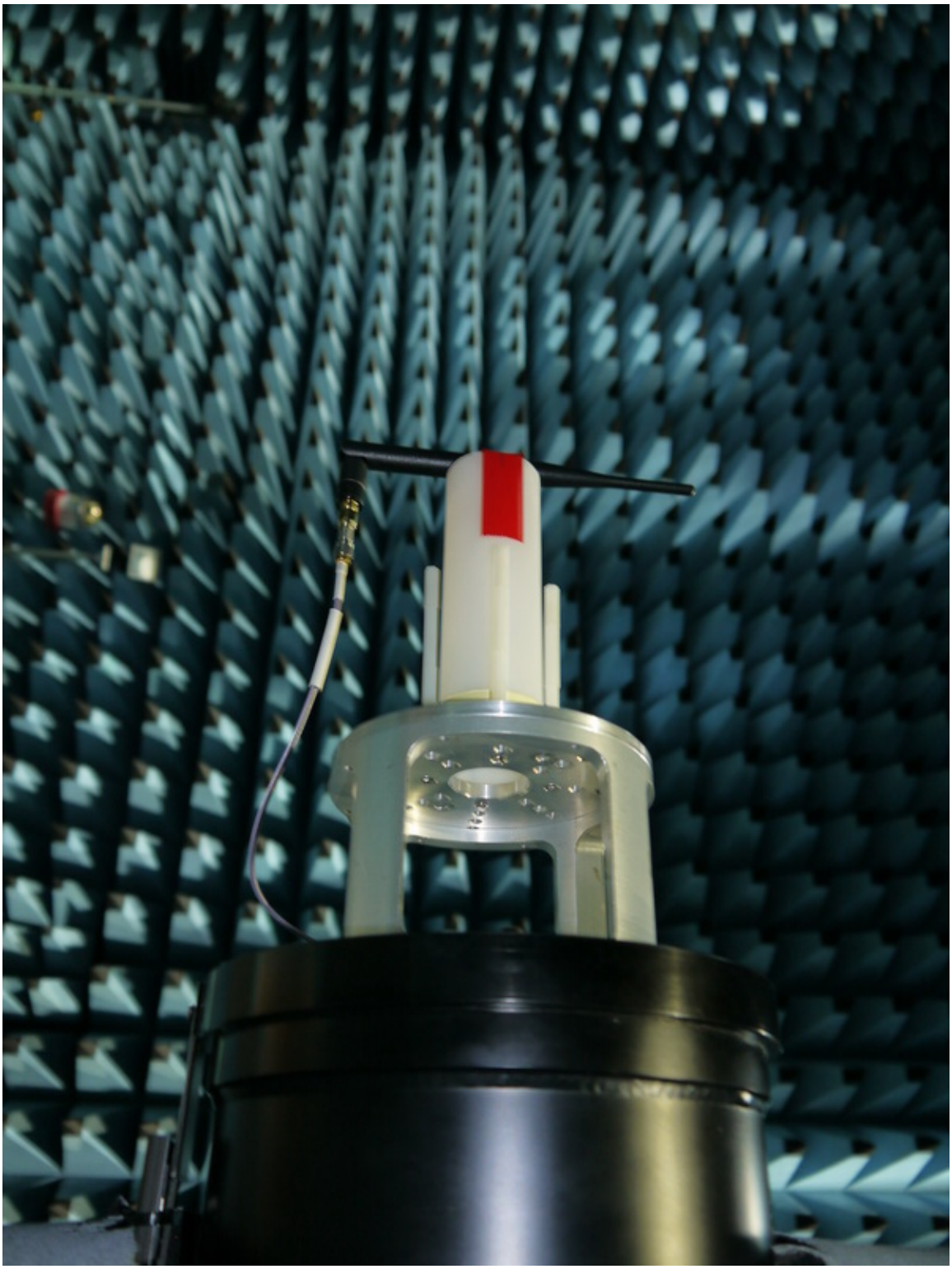
   Temperature: 21.3 ˚C Humidity: 50 %

5. Measured unit coordinate:



6. Reference Document:

   Antenna measurement system operation procedure, NSPO-PROC-0039, version: 0102, National Space Organization, 2012.



II. System parameter setup

A. Measure Surface

(I). Planer	□ Polar	□ Rectangular	□ Linear
(II). Spherical	□ E-th/E-phi	□ Co-pol/X-pol	
(III). Cylindrical	□ Y/Phi Vertical	□ X/Phi Horizontal	
(IV). Direct Far Field	■ E-th/E-phi	□ Co-pol/X-pol	

B. Probe type

Type: □ WG: _____ ■ Horn: X: 6.9 in Y: 6.1 in

C. AUT setup

(I). Orientation: Y

(II). Polarization: Linear

(III). AUT Probe Distance: 118.1 in

D. Frequency

Start: 2.40 GHz Stop: 2.50 GHz Step: 0.05 GHz

Start: 5.15 GHz Stop: 5.35 GHz Step: 0.10 GHz

Start: 5.82 GHz Stop: 5.83 GHz Step: 0.005 GHz

E. Sampling

I. Scan Priority	No of Theta (N):	201
	No of Phi Angles (M):	2
II. Travel Range	Theta (2-way) (deg):	360
	Phi-Cut (1/2 way)(deg):	180

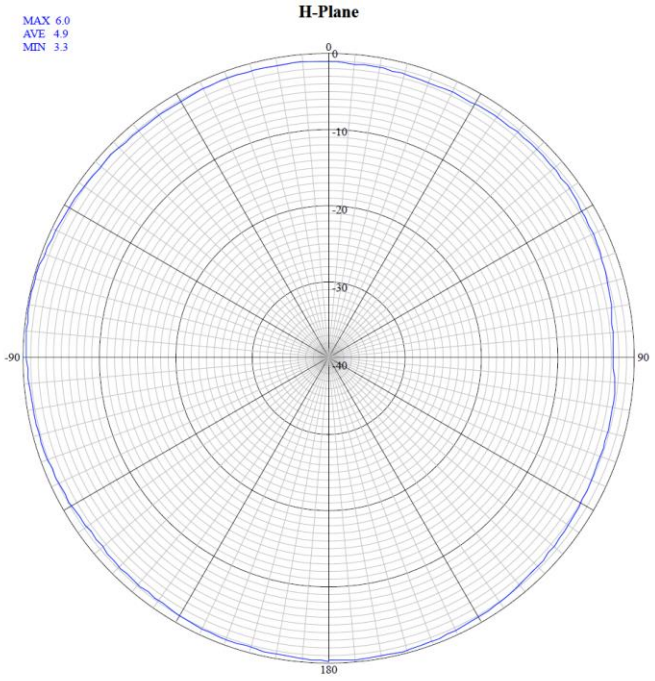
III. Test Result

1. Antenna Gain

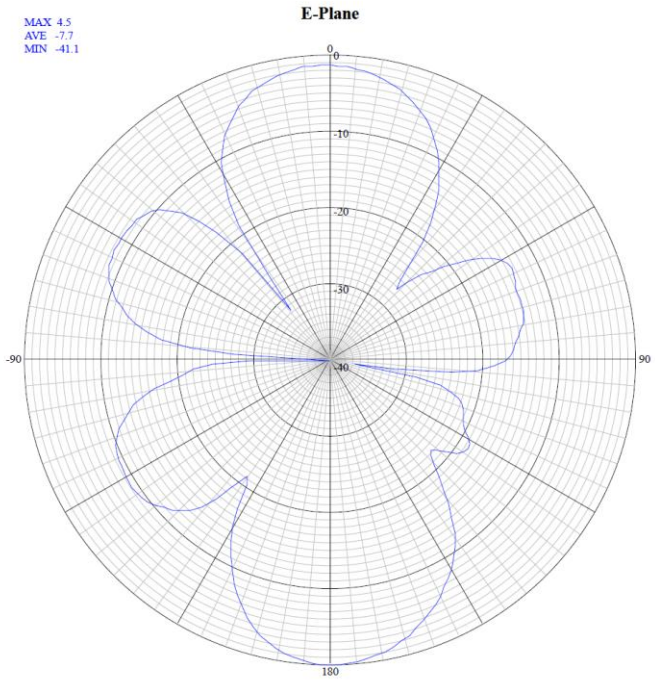
頻率	Gain H-Plane	Gain E-Plane
2.400 GHz	6.0 dBi	4.5 dBi
2.450 GHz	6.0 dBi	5.3 dBi
2.500 GHz	5.9 dBi	5.4 dBi
5.150 GHz	4.5 dBi	4.0 dBi
5.350 GHz	5.1 dBi	3.3 dBi
5.825 GHz	4.9 dBi	4.3 dBi

頻率	HPBW H-Plane	HPBW E-Plane
2.400 GHz	360.0 deg	30.6 deg
2.450 GHz	360.0 deg	35.2 deg
2.500 GHz	360.0 deg	35.3 deg
5.150 GHz	360.0 deg	26.5 deg
5.350 GHz	360.0 deg	26.7 deg
5.825 GHz	360.0 deg	43.2 deg

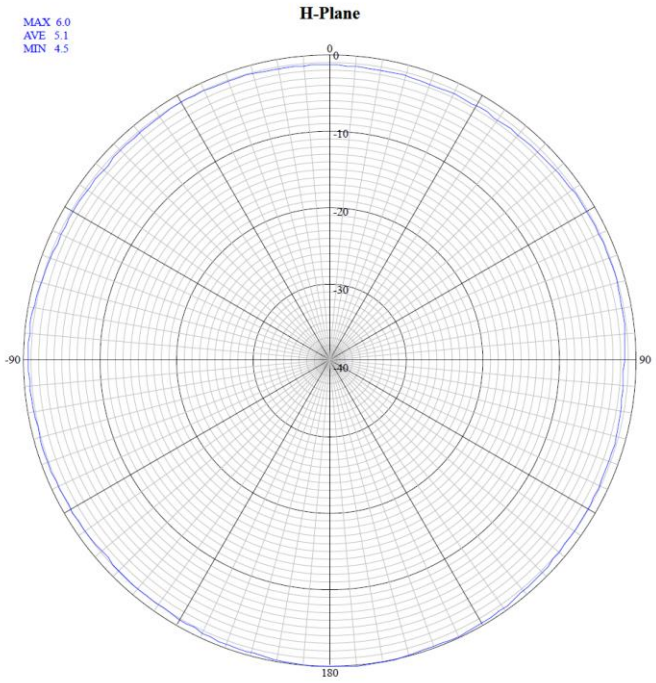
4. Antenna Pattern



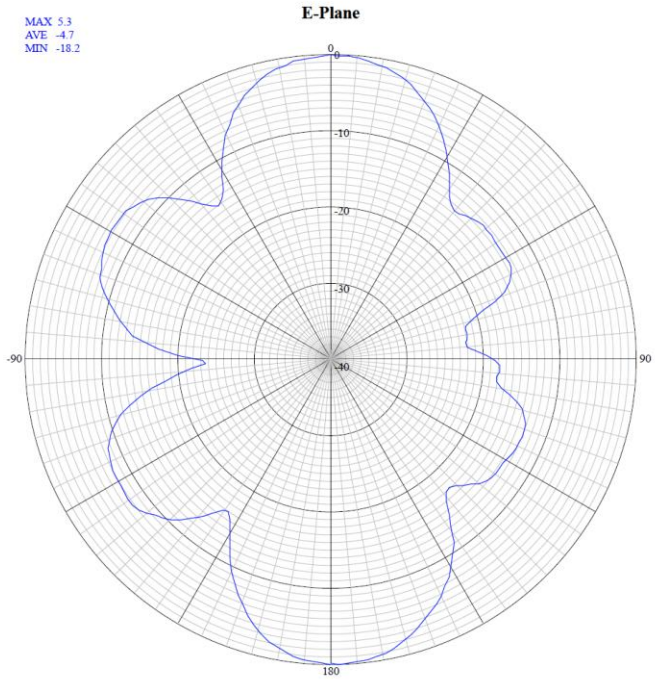
Far-Field Patterns
Frequency: 2.4000



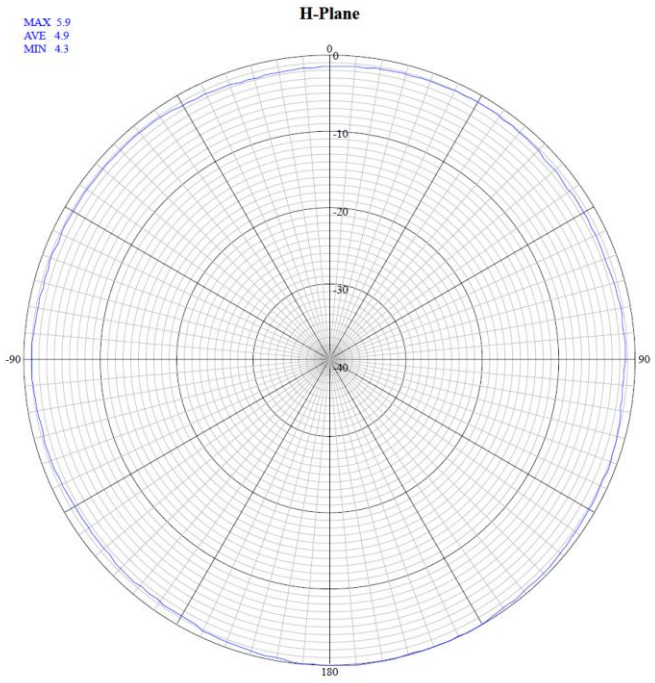
Far-Field Patterns
Frequency: 2.4500



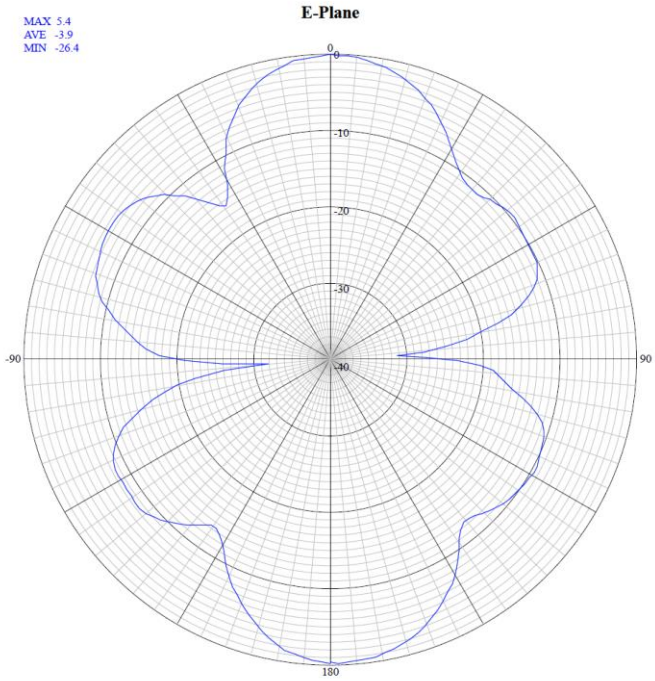
Far-Field Patterns
Frequency: 2.4500



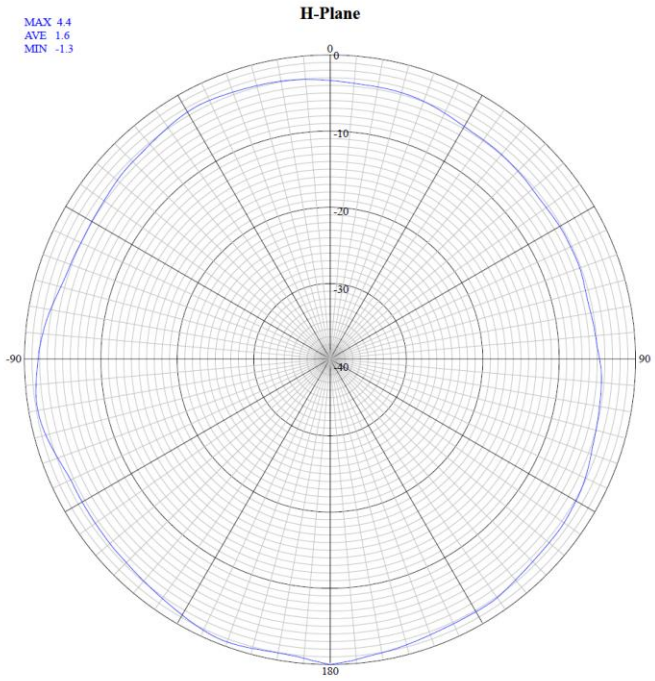
Far-Field Patterns
Frequency: 2.5000



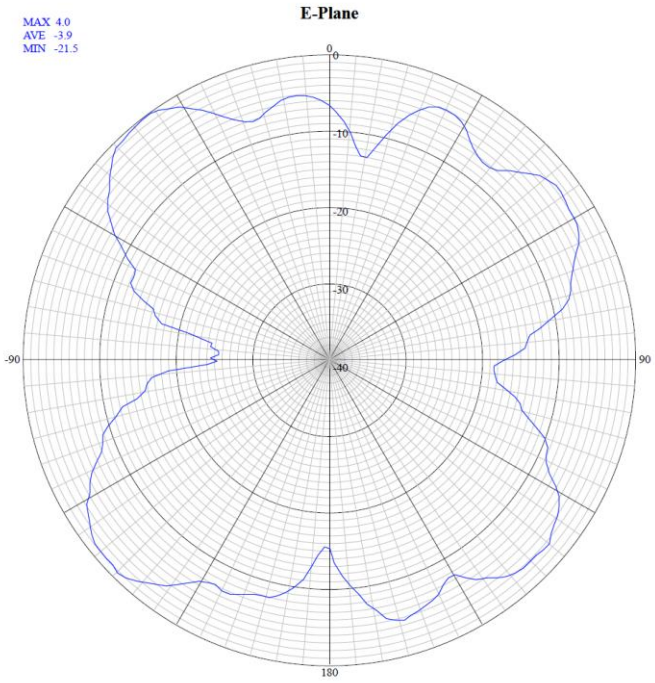
Far-Field Patterns
Frequency: 2.5000



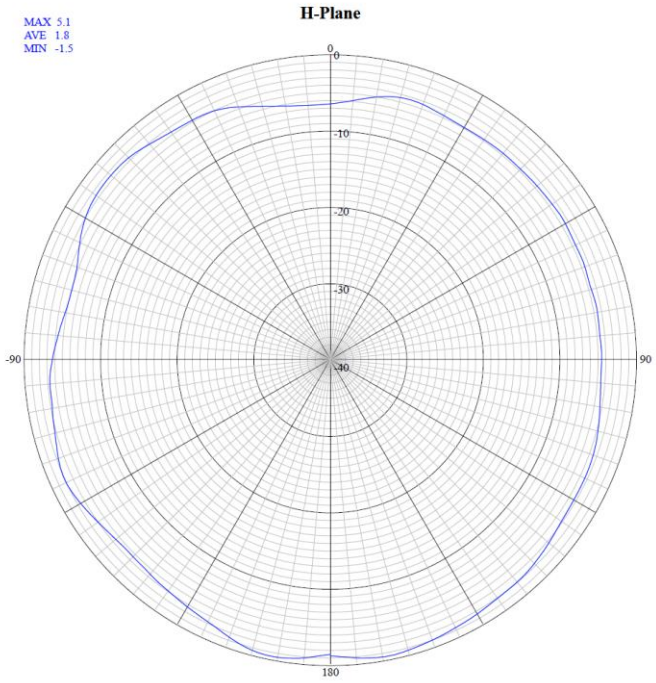
Far-Field Patterns
Frequency: 5.1500



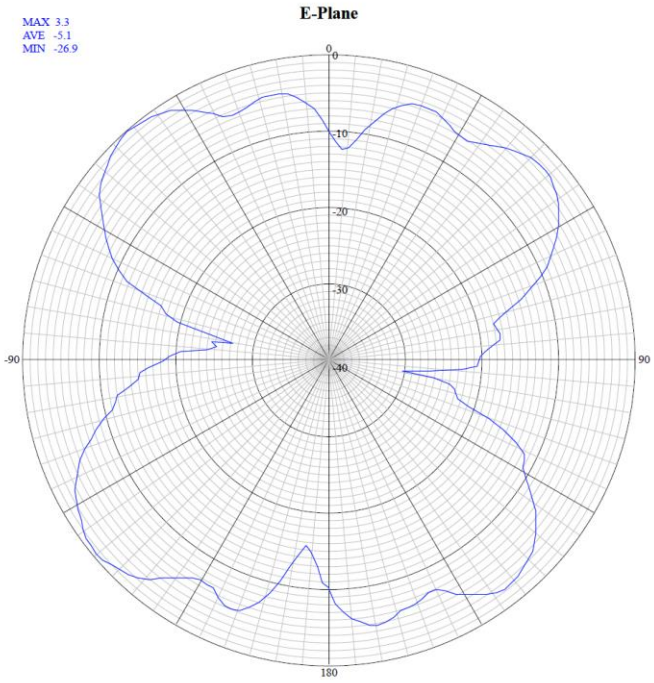
Far-Field Patterns
Frequency: 5.1500



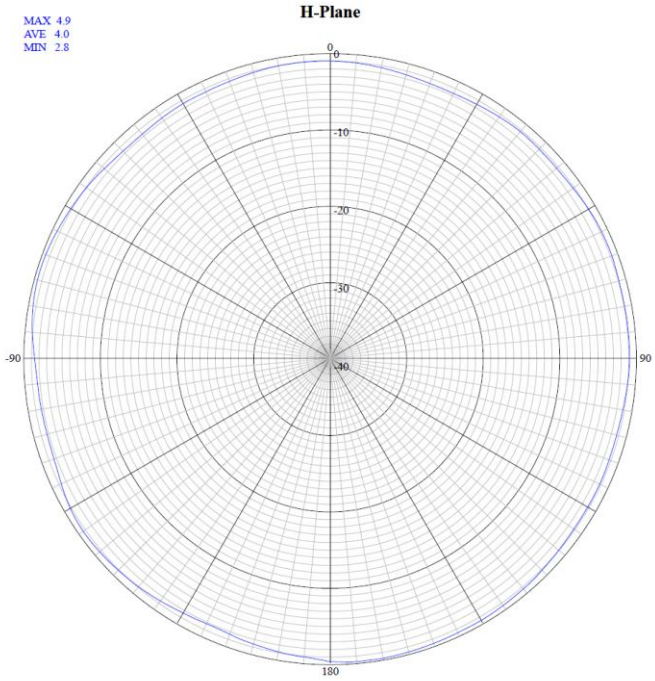
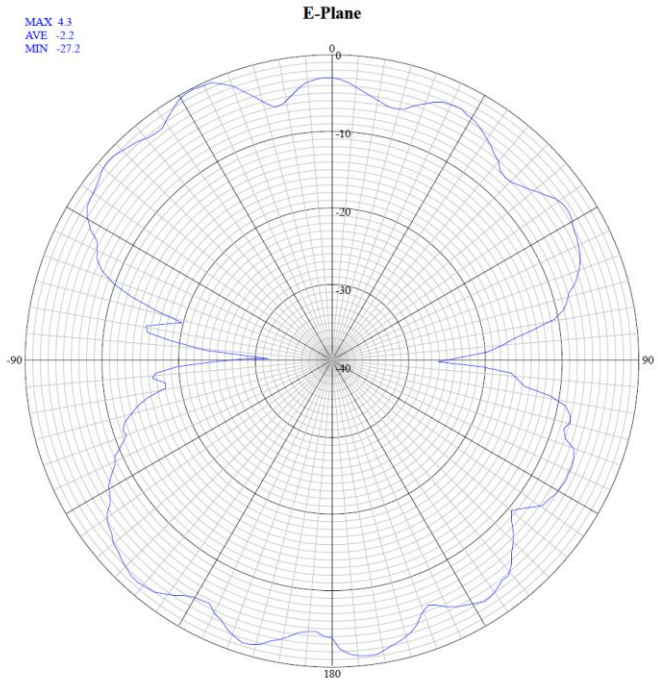
Far-Field Patterns
Frequency: 5.3500



Far-Field Patterns
Frequency: 5.3500



Far-Field Patterns
Frequency: 5.8250



Far-Field Patterns
Frequency: 5.8250