



Test Report of WLAN Antenna Cable Assembly For Wistron Canary Project

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Prepared: Jimmy Lin	Checked: Allen Lin	Approved:	Date: 8/26/2003
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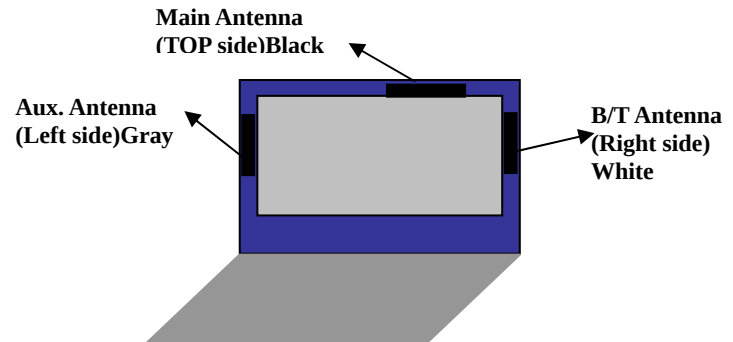
HannStar Electronics Corp.

1. Introduction

Antennas for 802.11b and 802.11a system

Main Antenna (PCB type)

1. Application: Right side in hinge location
2. Cable length: 680mm, Black
(IPEX connector with ϕ 1.13mm RF cable)



2. Revision History

Date	Version	Change Description
20/08/2003	A	New Release

3. Product Spec.

3.1 Antenna Design Specification

Measure environment LCD angle 110 degree

3.1.1 VSWR

VSWR	2G4 ISM (2.40GHz-2.483GHz)			U-NII(5.150GHz-5.350GHz)		
	2.40GHz	2.45GHz	2.50GHz	5.15GHz	5.25GHz	5.35GHz
Main antenna(Right)	2			2.5		

3.1.2 Average gain and peak gain

VSWR		2G4 ISM (2.40GHz-2.483GHz)			U-NII(5.150GHz-5.350GHz)		
		2.40GHz	2.45GHz	2.50GHz	5.15GHz	5.25GHz	5.35GHz
Main (Right)	Peak	3			6		
	Average	-5			-5		



1. General

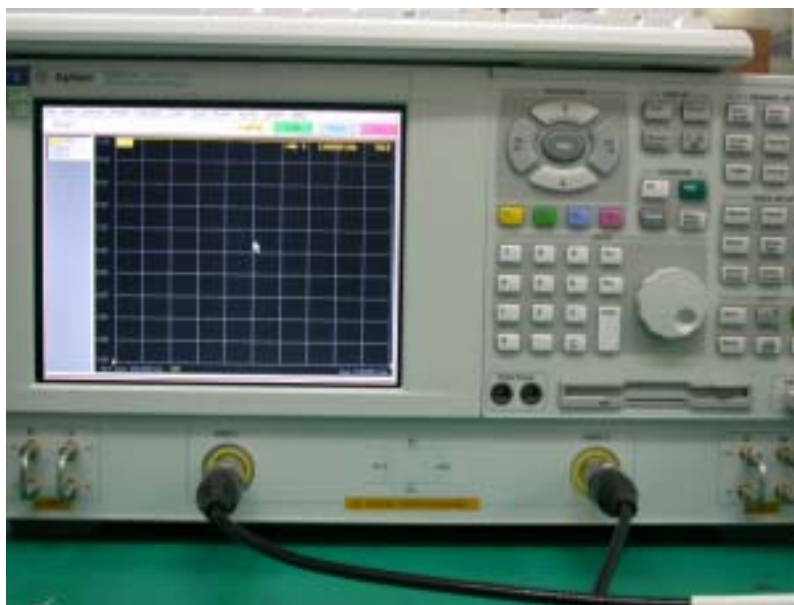
This document is the test result for PIFA . All test result are on the full set.

2. Test condition

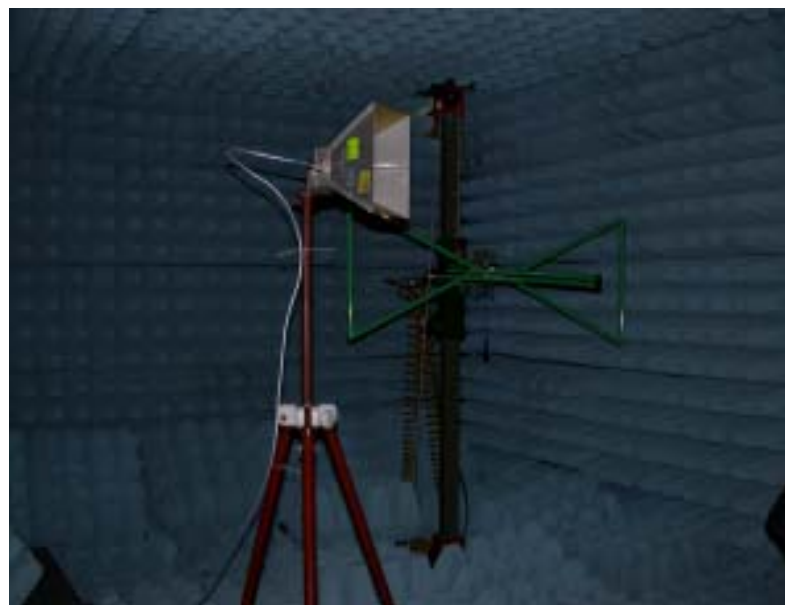
- (1) Temperature : 15 to 35 ° C
- (2) Humidity : : 25% to 85%
- (3) Atmospheric : 86kPa to 106kPa

3. Instrument:

- (1). Network Analyzer: Agilent E8357A



- (2) Chamber



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4. Describe

4-1 Photo:

Top Antenna



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4-1 Photo:

Left Antenna



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4-1 Photo:

Right Antenna

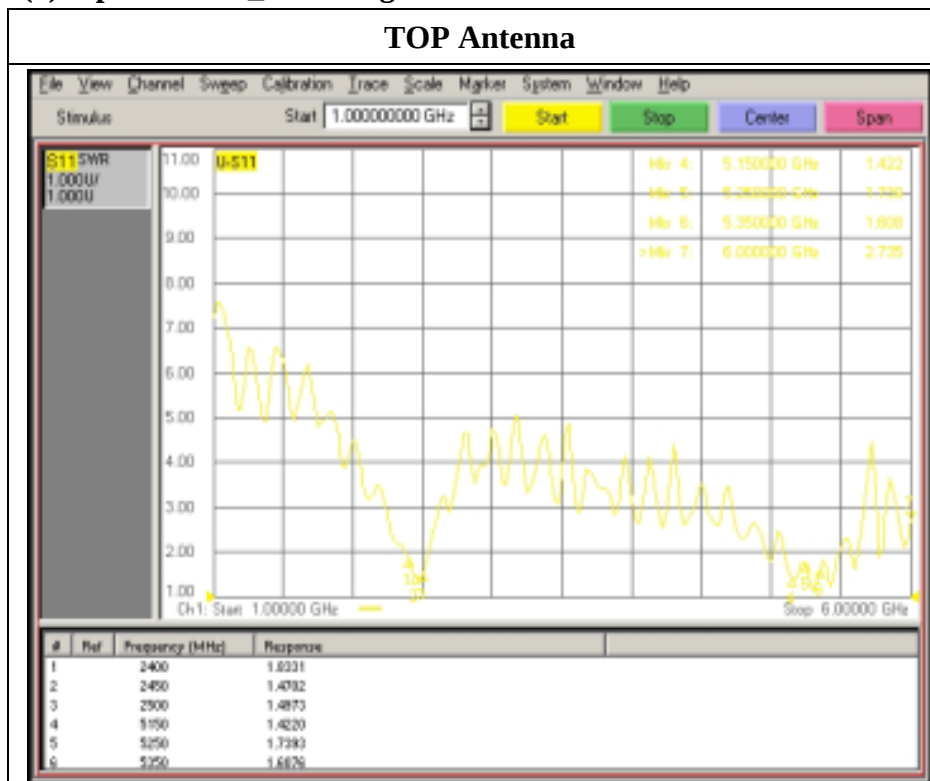


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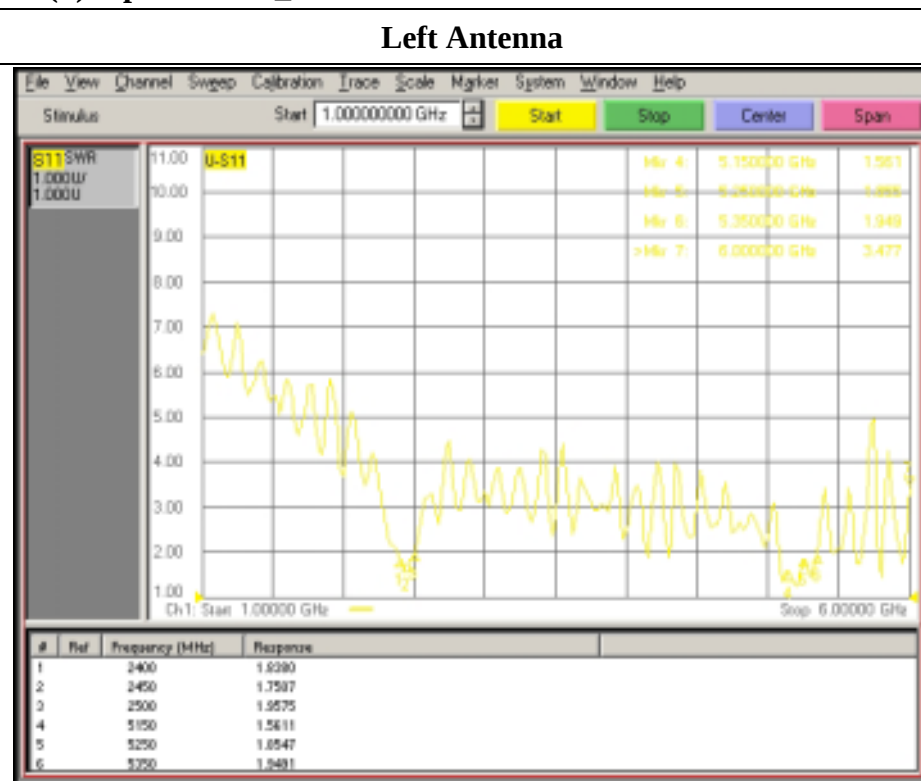
4-2 Test result:

(a) S-parameter _SWR-Right



Frequency	Result
2.4 GHz	1.8331
2.45 GHz	1.4702
2.50 GHz	1.4973
5.15 GHz	1.4220
5.25 GHz	1.7393
5.35 GHz	1.6076

(b) S-parameter _SWR-Left



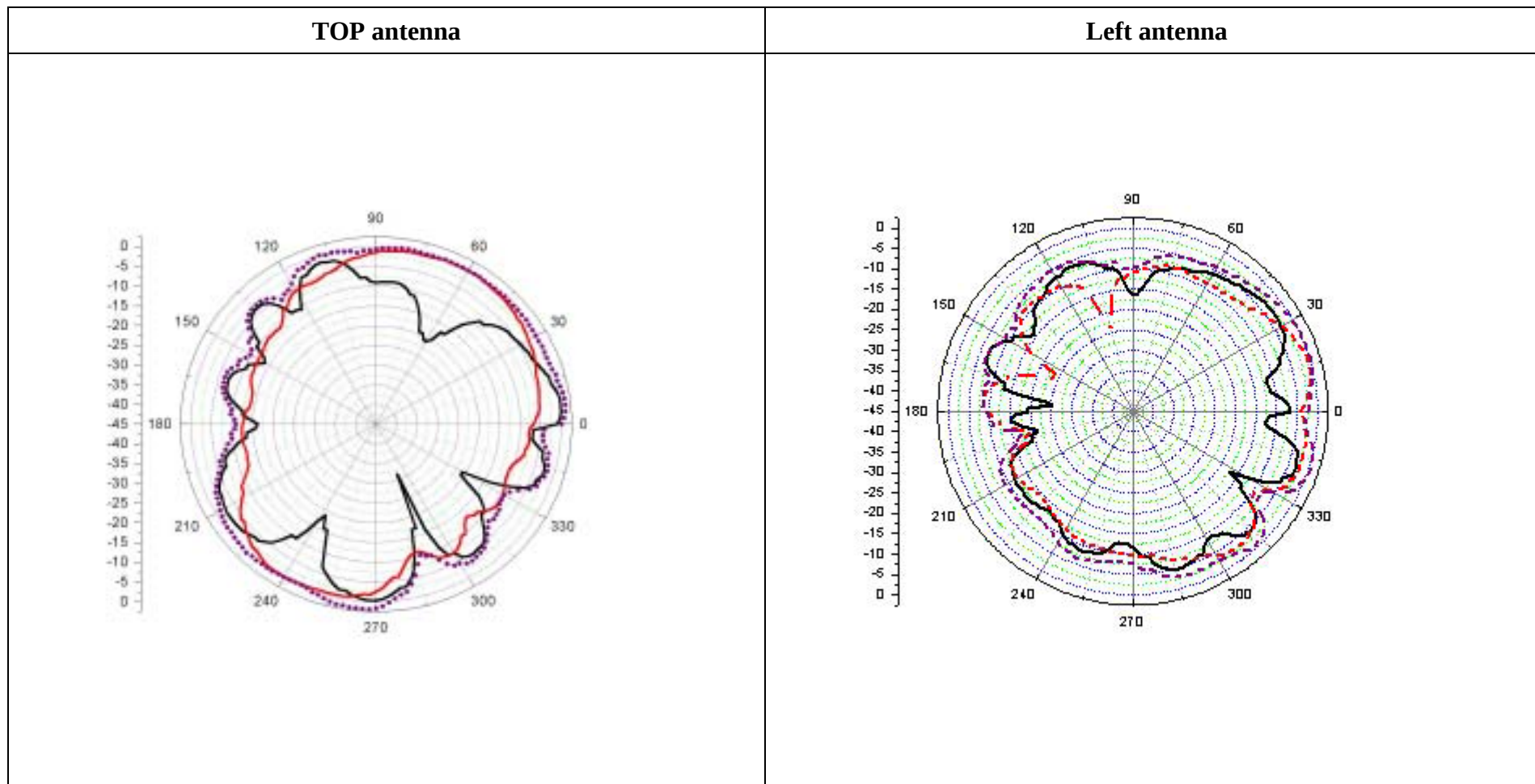
Frequency	Result
2.4 GHz	1.8380
2.45 GHz	1.7507
2.50 GHz	1.9575
5.15 GHz	1.5611
5.25 GHz	1.8547
5.35 GHz	1.9491

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(b) Radiation Pattern

2.4 GHz — H-Plane E-Plane H+V-Plane

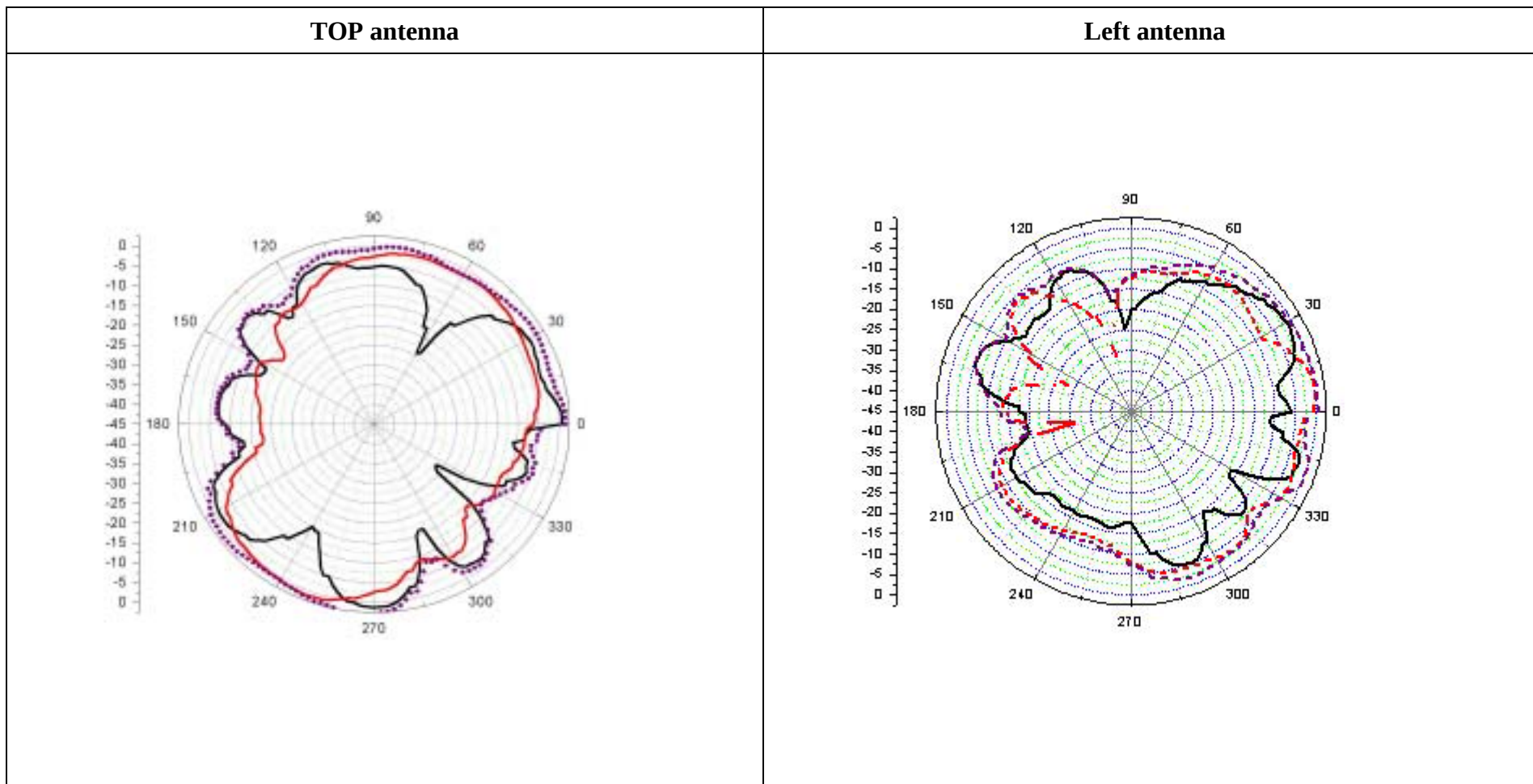


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2.45 GHz

—— H-Plane E-Plane H+V-Plane

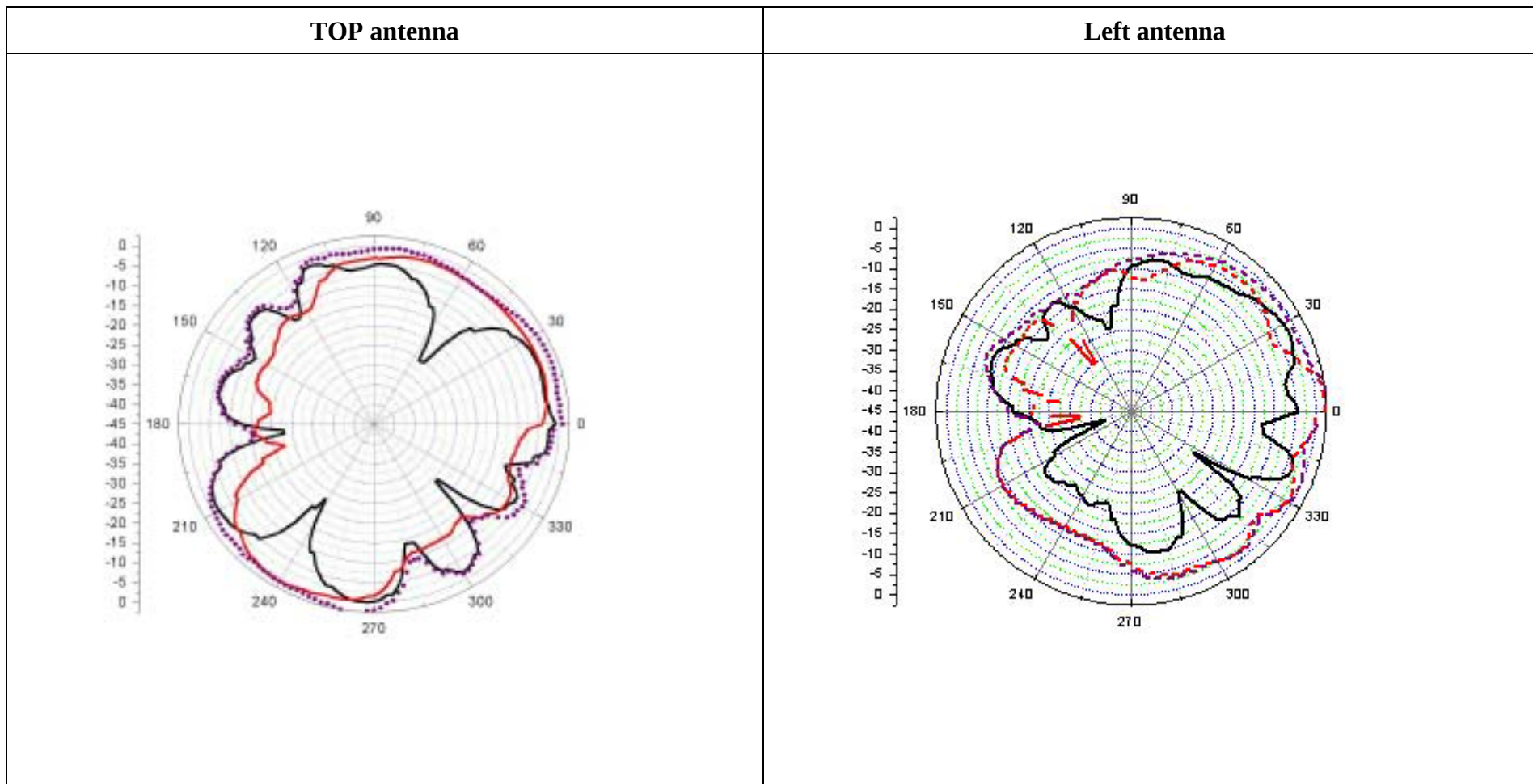


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2.5 GHz

—— H-Plane E-Plane H+V-Plane

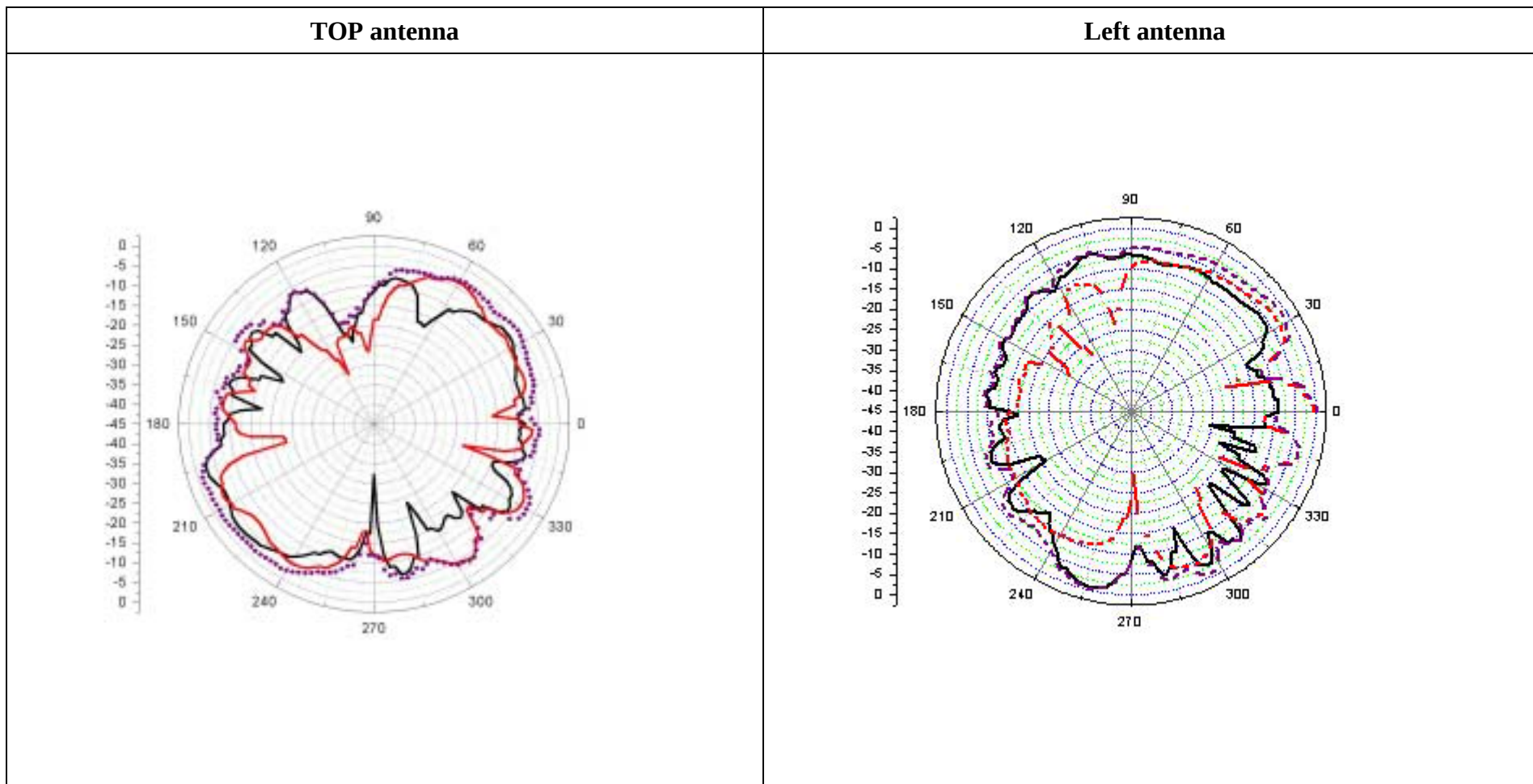


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5.15 GHz

—— H-Plane E-Plane H+V-Plane

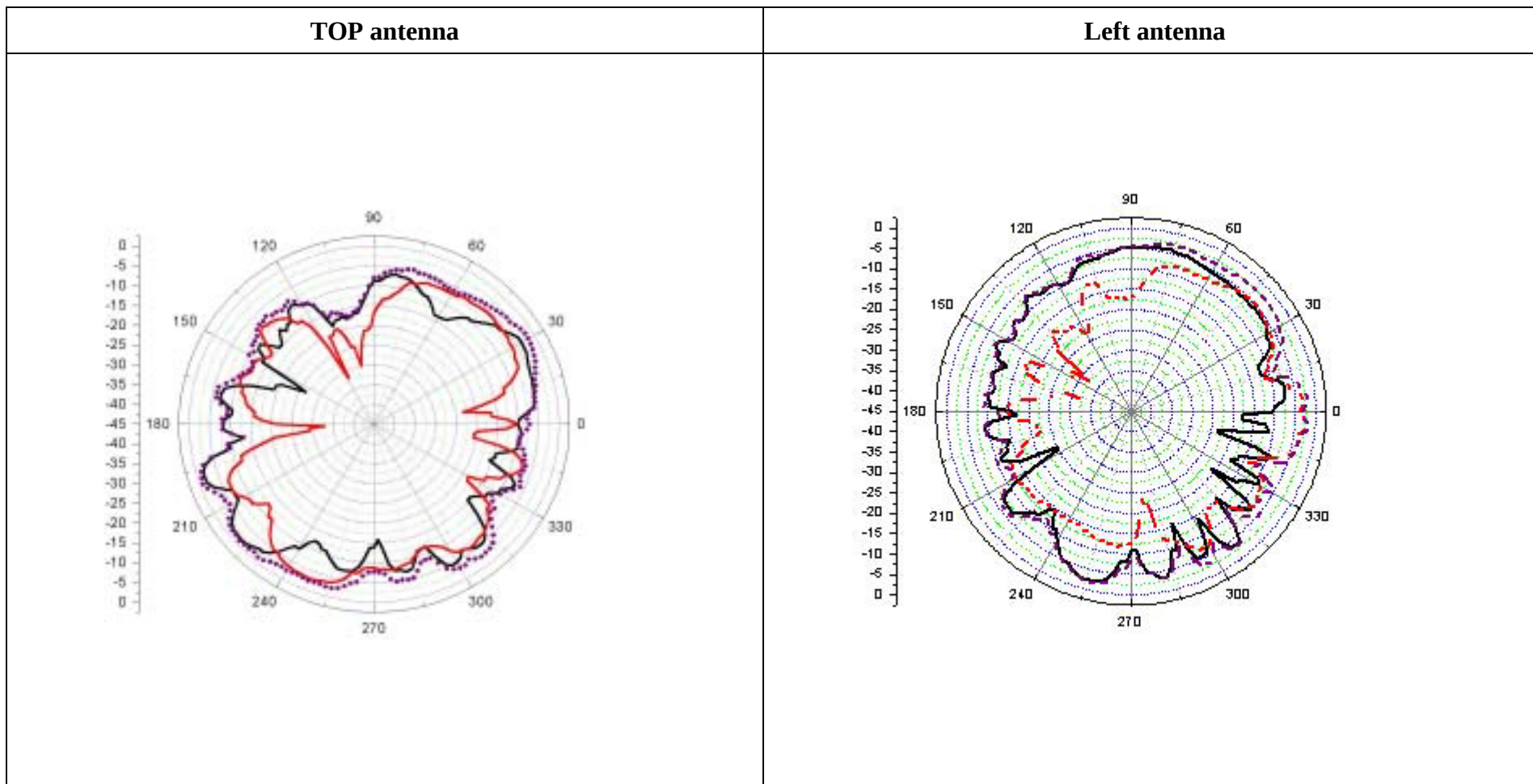


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5.25GHz

—— H-Plane E-Plane H+V-Plane



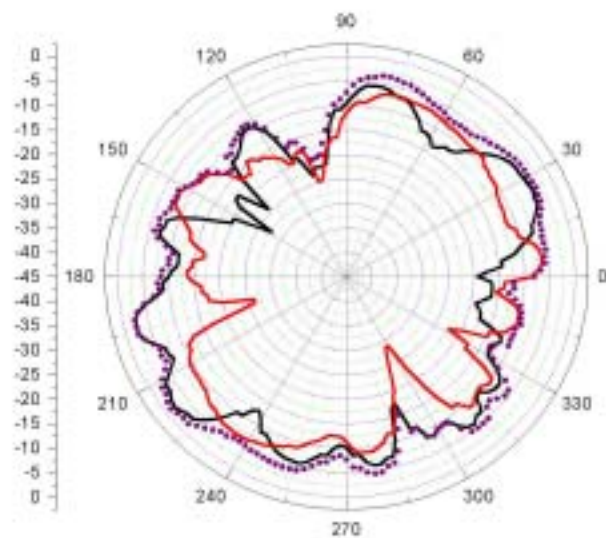
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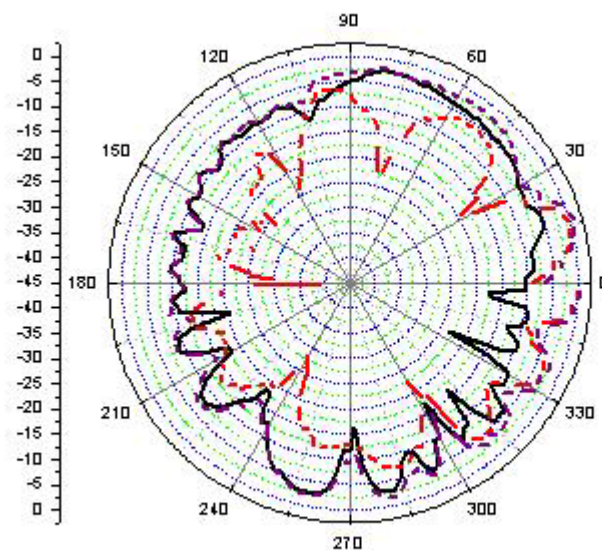
5.35 GHz

—— H-Plane E-Plane H+V-Plane

TOP antenna



Left antenna



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Test result: TOP antenna

Result Frequency	Peak Gain (dBi)	Average Gain (dBi)
2.4 GHz	2.08	-2.71
2.45 GHz	2.89	-2.34
2.50 GHz	2.72	-2.69
5.15 GHz	-1.18	-4.08
5.25 GHz	-0.75	-4.06
5.35 GHz	-1.19	-4.12

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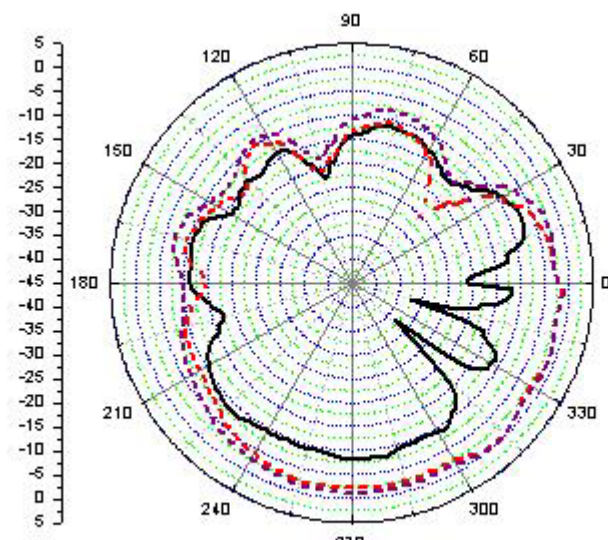
Test result: Left antenna

Result Frequency	Peak Gain (dBi)	Average Gain (dBi)
2.4 GHz	0.48	-4.34
2.45 GHz	0.81	-4.36
2.50 GHz	3.17	-3.87
5.15 GHz	0.20	-3.96
5.25 GHz	-1.13	-4.19
5.35 GHz	0.82	-4.15

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(c) Test Result : Bluetooth Antenna ————— H-Plane V-Plane

2.45 GHz		V.S.W.R	
			
Peak Gain (dBi):-0.00614	Average Gain (dBi) :-4.354	Frequency	Result
		2.4 GHz	1.9695
		2.45 GHz	1.4363
		2.5 GHz	1.3620

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