

APPROVAL SHEET

Customer Name: **Quanta Computer Inc.**

Date: **2023/01/13**

Doc. Version: **1**

OEM P/N	DQ6P15G3500
WNC P/N	81EABP15.G35
Description	OWV, ANTENNA, WLAN MAIN, EABP-Q03 ANTENNA 81EABP15.G35 (WLAN MAIN, NGFF)
Version	3A

Provided By Wistron NeWeb Corp	Reviewed By Wistron NeWeb Corp	Approved By Customer
Ben Shih	Mac Hong	

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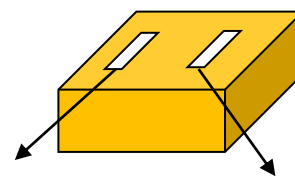
- 1. Introduction**
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- 4. Antenna Performance**
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1. Introduction

Antenna for WLAN system

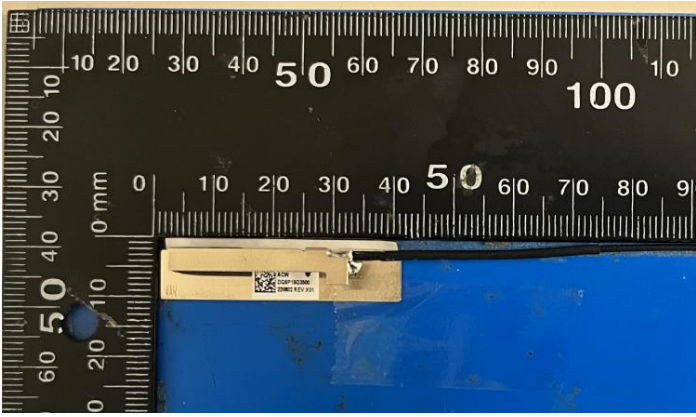
WLAN antenna (PIFA)

1. Location: Bottom Right of the LCD panel for Main antenna
2. Cable Length: Main antenna: 108 mm, Black
(connector with $\Phi 1.13$ mm Low Loss cable)



WLAN Main Antenna
(Left side)

WLAN Aux Antenna
(Right side)

	Main Antenna
Position	Left side
Antenna Type	PIFA
Cable	Cable Color: Black 1.13 (dia) x 108 mm, RF connector
Photos	

2. Revision History

Date	Version	Revision History
01/13/2023	1	New Release

3. Product Specifications

3.1 Specifications of Antenna Design

Measurement condition: LCD angle 110 degree

3.1.1 VSWR

Main	IEEE 802.11 b/g			IEEE 802.11a			IEEE 802.11ax		
	2400MHz	2450MHz	2483MHz	5150MHz	5470MHz	5850MHz	5925MHz	6525MHz	7125MHz
VSWR	< 3			< 3			< 3		

3.1.2 Peak gain

Main	IEEE 802.11 b/g			IEEE 802.11a			IEEE 802.11ax		
	2400MHz	2450MHz	2483MHz	5150MHz	5470MHz	5850MHz	5925MHz	6525MHz	7125MHz
Peak dBi	< 3			< 5			< 5		
Avg. dBi	> -5			> -5			> -5		

3.2 Mechanical Specifications

See the attached drawing.

1

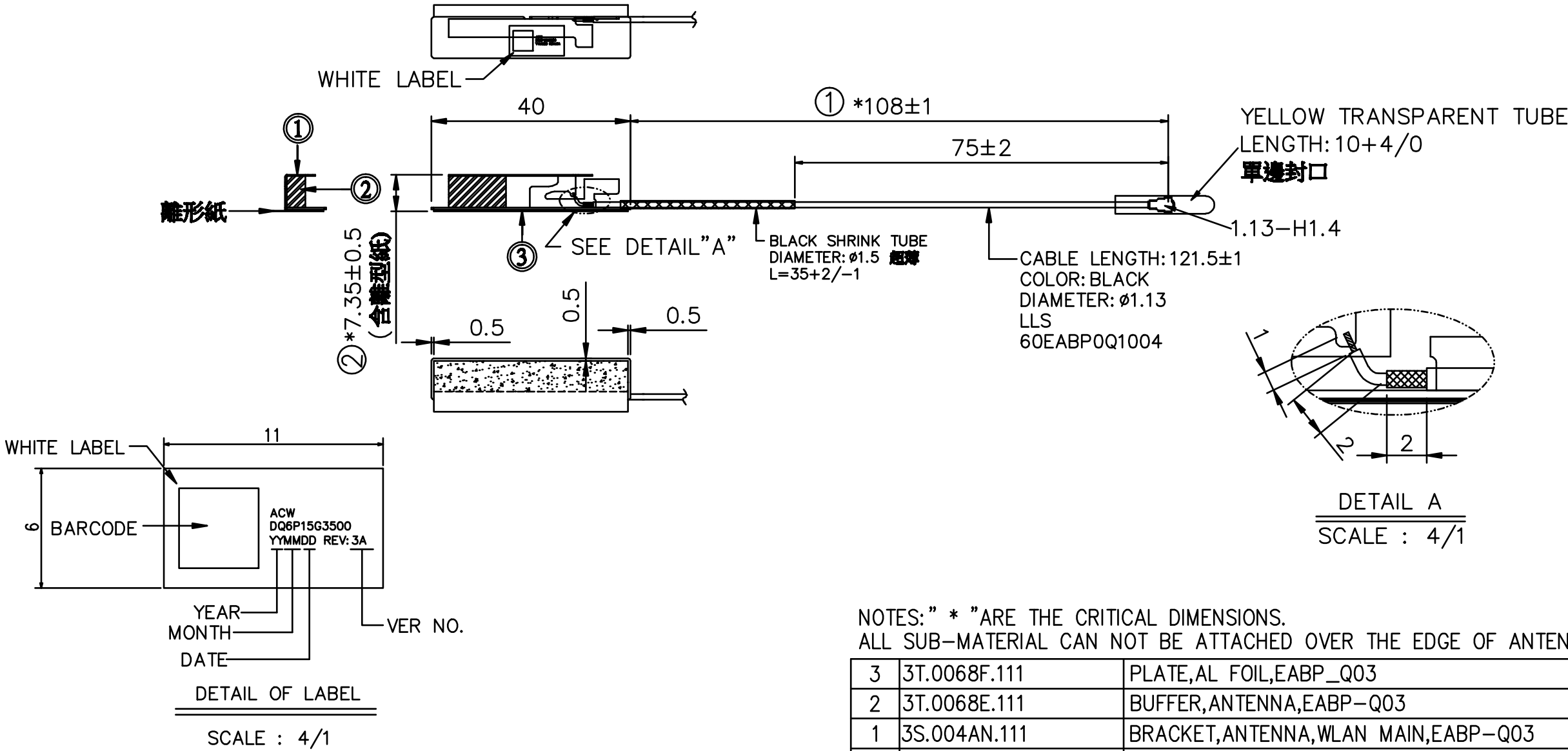
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WNC PROPRIETARY

PART NUMBER BLOCK		CUSTOMER P/N BLOCK		CONFIRM ANTENNA SPEC.	
PART NUMBER	REV	PART NUMBER	REV	APPROVED	DATE
57EABP15.035	1	DQ6P15G3500	3A	BEN SHIH	12/30/22

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED
	1	RELEASE TO FILE	12/30/22	VINCENT PU

WNC PART NUMBER: 81EABP15.G35



NOTES: " * " ARE THE CRITICAL DIMENSIONS.
ALL SUB-MATERIAL CAN NOT BE ATTACHED OVER THE EDGE OF ANTENNA BODY.

3	3T.0068F.111	PLATE,AL FOIL,EABP_Q03	EA	1
2	3T.0068E.111	BUFFER,ANTENNA,EABP-Q03	EA	1
1	3S.004AN.111	BRACKET,ANTENNA,WLAN MAIN,EABP-Q03	EA	1
ITEM	PART NO.	DESCRIPTION	UNIT	QTY

ONLY ME PARTS REFERENCE

		UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN mm AND TOLERANCES ARE: INTEGER DIMENSIONS ±0.2 1 PLACE DECIMAL ±0.1 2 PLACE DECIMALS ±0.05				WNC 啟基科技股份有限公司 Wistron NetWeb Corp. 20 Park Avenue II, Hsinchu Science Park, Hsinchu 308, Taiwan, R.O.C. Tel: 886-3-6667799 Fax: 886-3-5788726			
		MATERIAL: NA				DWG TITLE			
		FINISH: NA				OWV, ANTENNA, WLAN MAIN, EABP-Q03 ANTENNA 81EABP15.G35 (WLAN MAIN, NGFF)			
81EABP15.G35	EABP-Q03	THIRD ANGLE PROJECTION				SIZE	DWG NO.	REV	
NEXT ASSY	USED ON	DRAWN				A3	57EABP15.035	1	
APPLICATION		ENGR				SCALE		SHEET	
		APVD				1/1		1 OF 1	

1

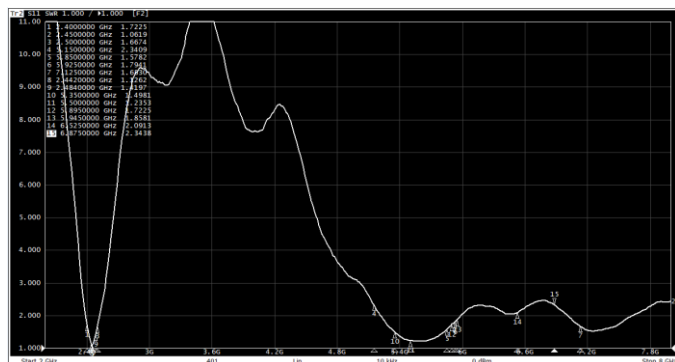
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3.3 Antenna Material List

Main antenna
1. Coaxial cable and RF connector 2. FR4 PCB 3. Plate, Copper Foil 4. Tape, Double Adhesive

4. Antenna Performance

4.1 VSWR



4.2 Efficiency data

Main Antenna	
Frequency (MHz)	Efficiency (dB)
2400	-3.70
2450	-3.73
2500	-3.80
5150	-3.28
5250	-3.59
5350	-3.51
5470	-4.12
5600	-3.85
5725	-3.15
5785	-3.25
5850	-3.36
5925	-3.16
6000	-4.59
6125	-4.73
6225	-4.08
6325	-4.37
6425	-4.65
6525	-4.22
6625	-4.41
6725	-4.68
6875	-4.38
6925	-4.98
7000	-3.95
7125	-4.16

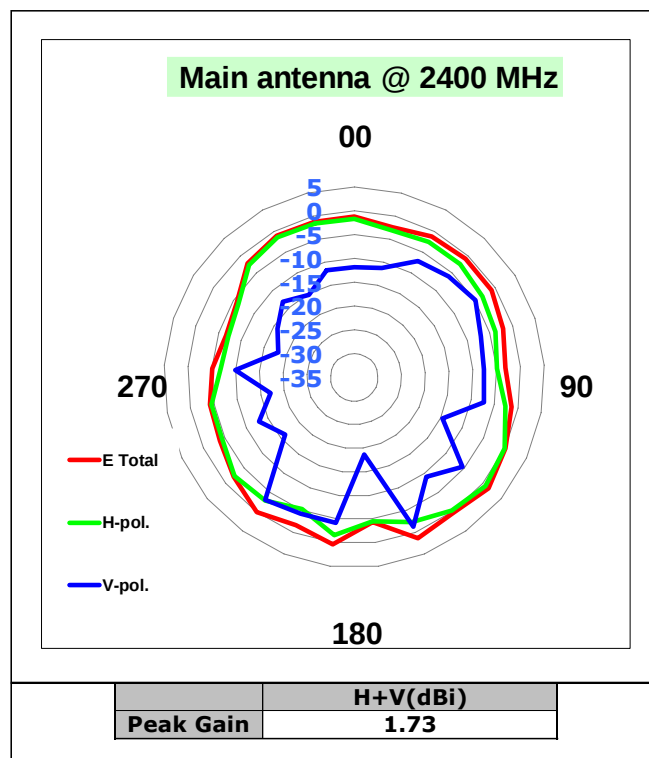
4.3 Peak Gain

Main Antenna	
Frequency (MHz)	(H+V)
2400	1.73
2450	1.14
2500	1.16
5150	-1.10
5250	-0.69
5350	-1.33
5470	-1.85
5600	-1.86
5725	-0.88
5785	-1.12
5850	-0.98
5925	-0.74
6000	-1.24
6125	-1.87
6225	-0.67
6325	-1.26
6425	-1.43
6525	-1.04
6625	-0.18
6725	0.05
6875	-0.70
6925	-0.32
7000	0.79
7125	-0.13

4.4 Antenna Pattern

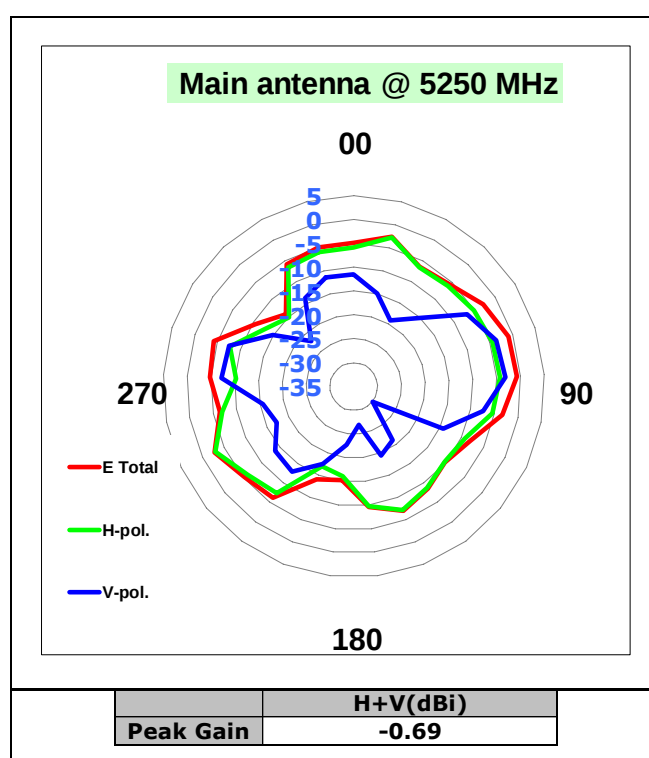
2400-2500MHz radiation characteristic (1E Peak Gain W/ Cable loss (dBi))

Main antenna:



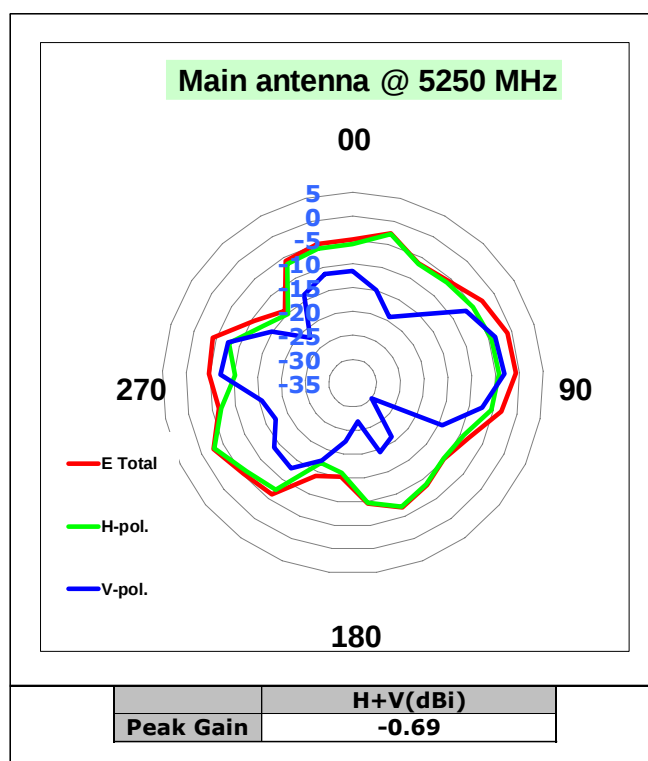
5150-5250MHz radiation characteristic

Main antenna:



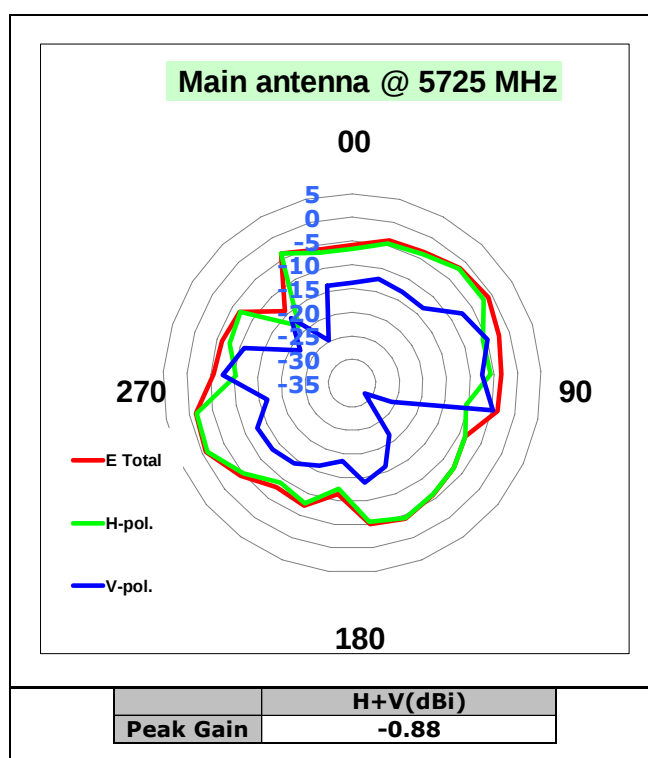
5250-5350MHz radiation characteristic

Main antenna:



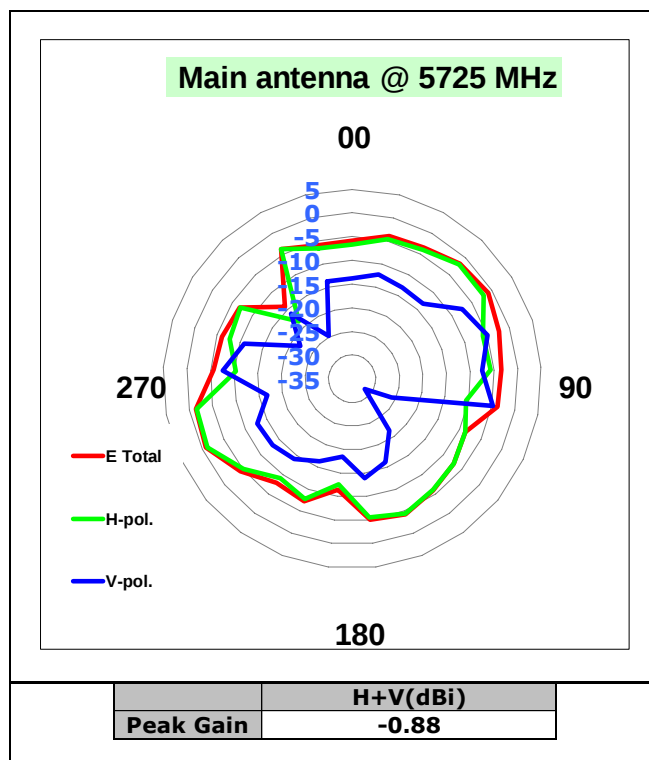
5470-5725MHz radiation characteristic(1E Peak Gain W/ Cable loss (dBi))

Main antenna:



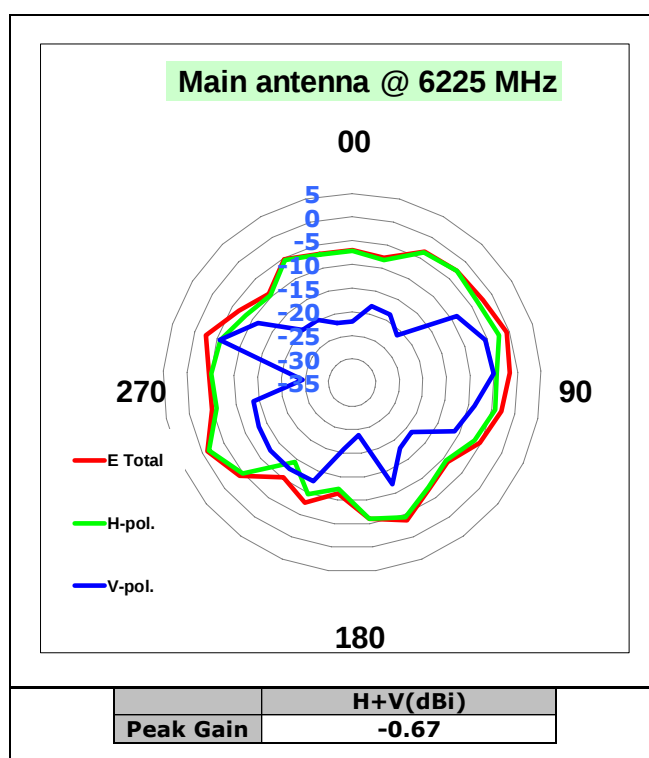
5725-5850MHz radiation characteristic(1E Peak Gain W/ Cable loss (dBi))

Main antenna:



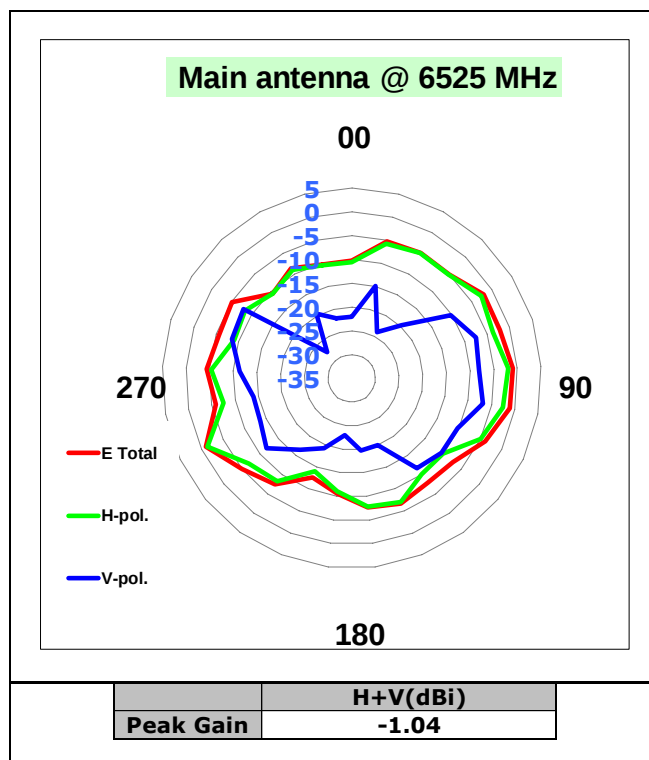
5925-6425MHz radiation characteristic(1E Peak Gain W/ Cable loss (dBi))

Main antenna:



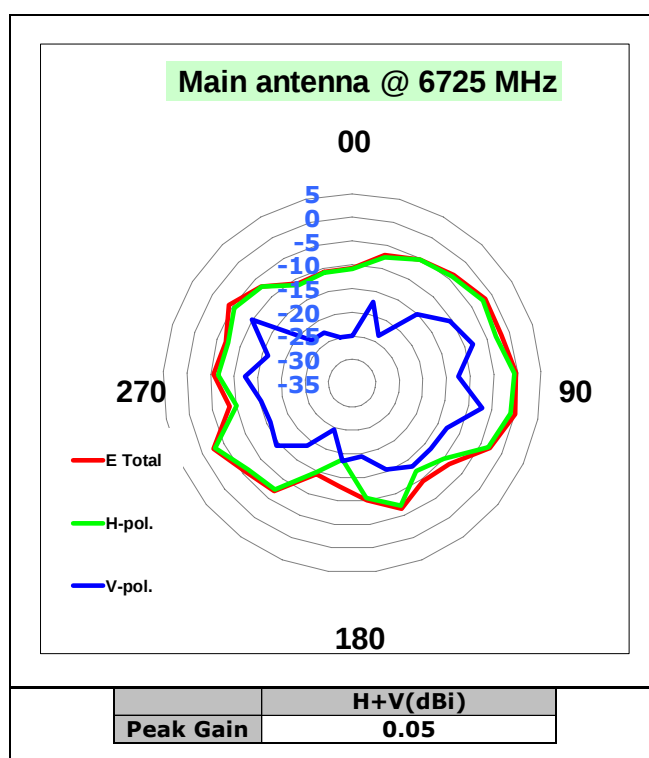
6425-6525MHz radiation characteristic (1E Peak Gain W/ Cable loss (dBi))

Main antenna:



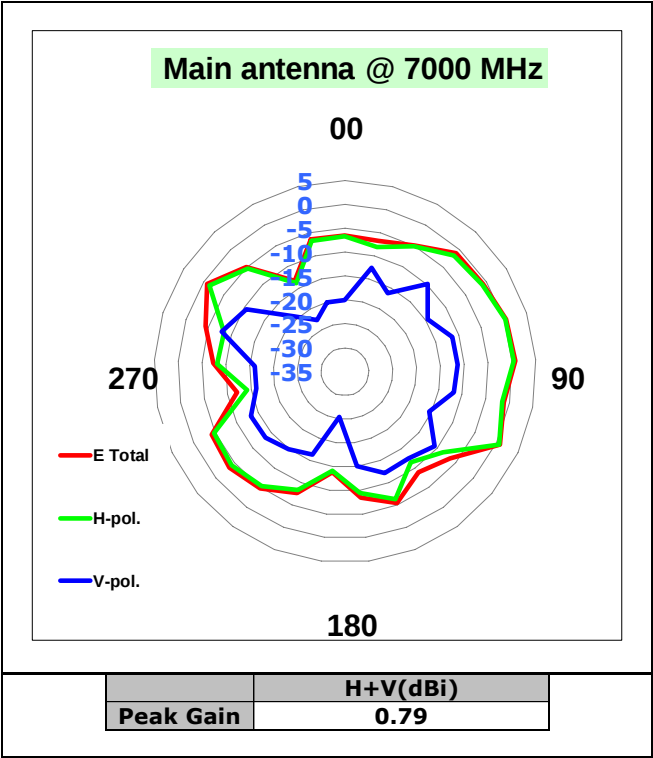
6525-6875MHz radiation characteristic (1E Peak Gain W/ Cable loss (dBi))

Main antenna:



6875-7125MHz radiation characteristic(1E Peak Gain W/ Cable loss (dBi))

Main antenna:



5. FAI & CPK

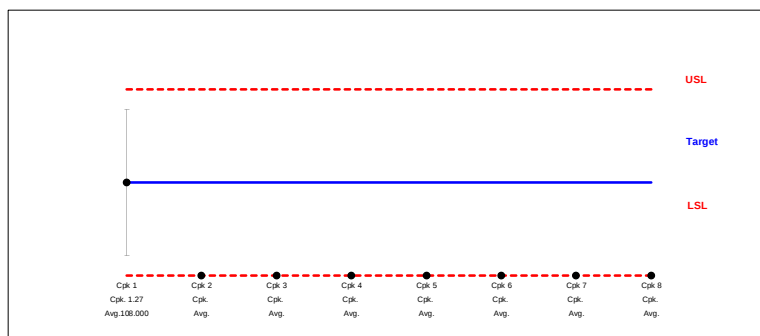
5.1 FAI

First Article Inspection Report																	
Part Number: DQ6P15G3500 Part Description: ANTENNA Part Revision: X01					Supplier: wnc Submission No.: N/A Material Spec.: N/A					Document NO.: Submission Date: 2022/10/22 Cavity / Tool #: N/A Inspector: 黃聖柏							
Submission Reason: FOR APPROVAL																	
DRAWING SPECIFICATIONS				INSPECTION RESULTS						INSPECTION ANALYSIS				COMMENTS			
ITEM	LOCATION	NOMINAL	+TOL	-TOL	Sample Number			Deviation from Nominal			Mean	% Tolerance		Acc/Rel	Inspection Method	Supplier Remarks	DELL Engineering Disposition
					1	2	3	1	2	3		UPPER	LOWER	HIGH	LOW		
1	A2	108	1	1	109	108	108	1	0	0	108.3333	100%	0%	Alert		RULE	OK
2	A2	75	2	2	75	76	75	0	1	0	75.33333	50%	0%			RULE	OK
3	A1	7.35	0.2	0.2	7.35	7.36	7.35	0	0.01	0	7.353333	5%	0%			CAP	OK
4																	
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Note #		2,000															
Note Description					1	2	3	Statement of Conformance									
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5.2 CPK

Process Capability Calculation Worksheet									
Part Number: DQ6P15G3500					Supplier: wnc		Submission Date: 2022/10/22		
Part Description: ANTENNA					Submission No.: N/A		Cavity / Tool #: N/A		
Part Revision: X01					Material Spec.: N/A		Inspector: 黃聖柏		
Submission Reason: FOR APPROVAL									

DRAWING SPECIFICATIONS								
	Cpk 1	Cpk 2	Cpk 3	Cpk 4	Cpk 5	Cpk 6	Cpk 7	Cpk 8
Nominal	108							
Upper Tol.	1							
Lower Tol.	1							
USL	109	0	0	0	0	0	0	0
LSL	107	0	0	0	0	0	0	0
Total Tol	2.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Xbar	108.000							
Stdv	0.263							
Zu	1.269							
Zl	1.269							
Cp	1.269							
Cpk	1.269							
Max	109.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Min	107.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000



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