

APPROVAL SHEET

Customer Name: **Quanta Computer Inc.**

Date: **2023/01/13**

Doc. Version: **1**

OEM P/N	DQ6P15G3600
WNC P/N	81EABP15.G36
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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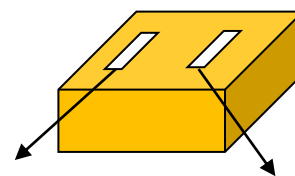
- 1. Introduction**
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1. Introduction

Antenna for WLAN system

WLAN antenna (PIFA)

1. Location: Bottom Right of the LCD panel for Main antenna
2. Cable Length: Main antenna: 259 mm, Black
(connector with $\Phi 1.13$ mm Low Loss cable)



WLAN Main Antenna
(Left side)

WLAN Aux Antenna
(Right side)

	Main Antenna
Position	Right side
Antenna Type	PIFA
Cable	Cable Color: White 1.13 (dia) x 259 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

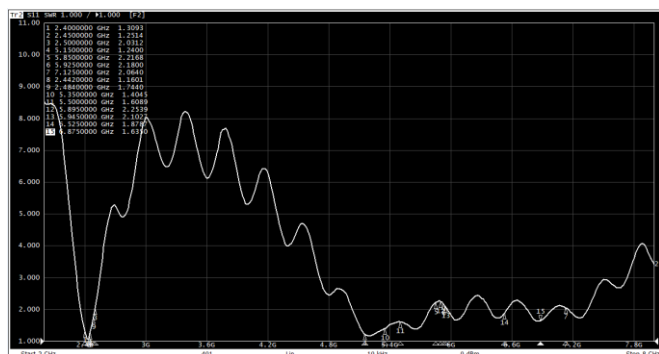
See the attached drawing.

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	-3.58
2450	-3.17
2500	-3.77
5150	-3.59
5250	-3.08
5350	-3.76
5470	-3.17
5600	-3.31
5725	-3.78
5785	-3.77
5850	-3.75
5925	-4.29
6000	-3.81
6125	-3.96
6225	-3.23
6325	-4.06
6425	-4.81
6525	-4.45
6625	-4.55
6725	-4.32
6875	-4.39
6925	-4.29
7000	-3.40
7125	-4.47

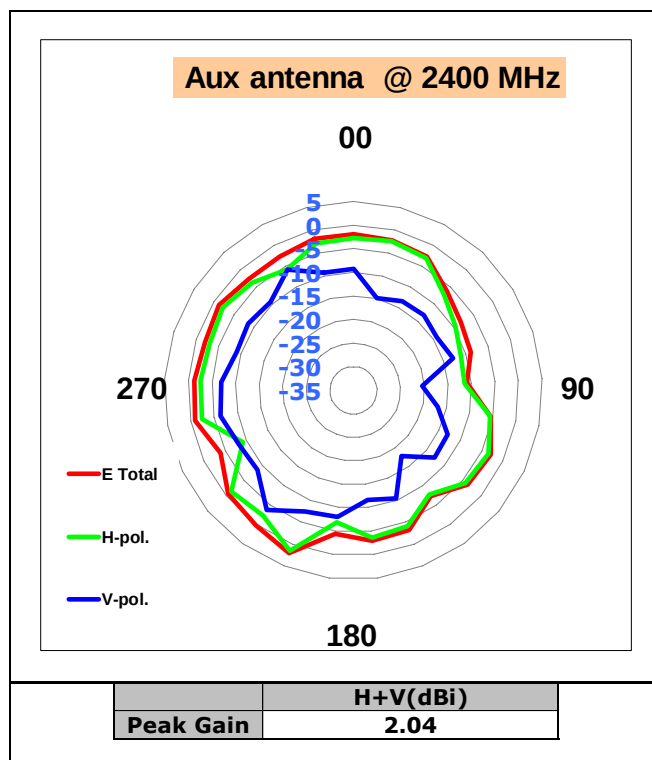
4.3 Peak Gain

Main Antenna	
Frequency (MHz)	(H+V)
2400	2.04
2450	1.53
2500	0.15
5150	-1.35
5250	-1.04
5350	-1.69
5470	-1.89
5600	-1.53
5725	-1.61
5785	-1.78
5850	-1.94
5925	-1.90
6000	-1.22
6125	-1.64
6225	-1.19
6325	-1.75
6425	-1.32
6525	-1.95
6625	-1.18
6725	-1.44
6875	-1.24
6925	-1.21
7000	-0.28
7125	-1.24

4.4 Antenna Pattern

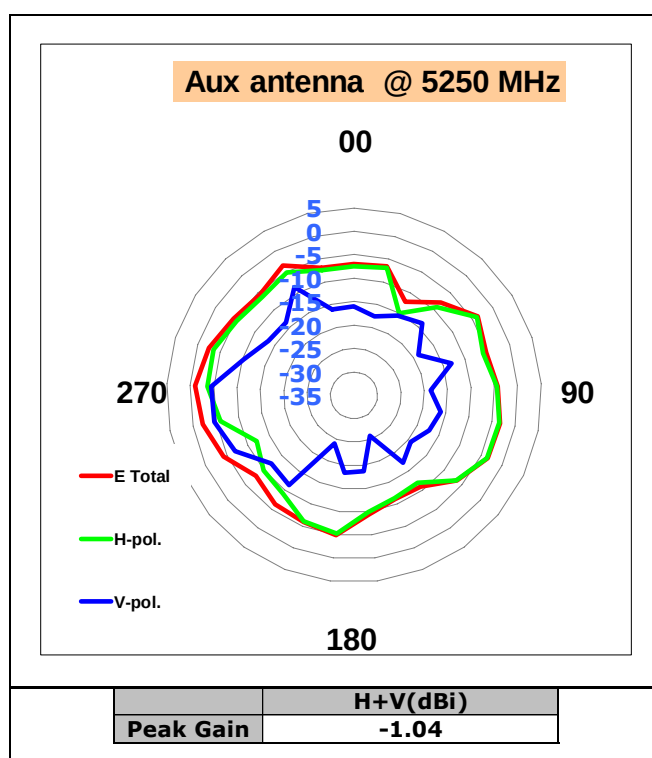
2400-2500MHz radiation characteristic (1E Peak Gain W/ Cable loss (dBi))

Aux antenna:



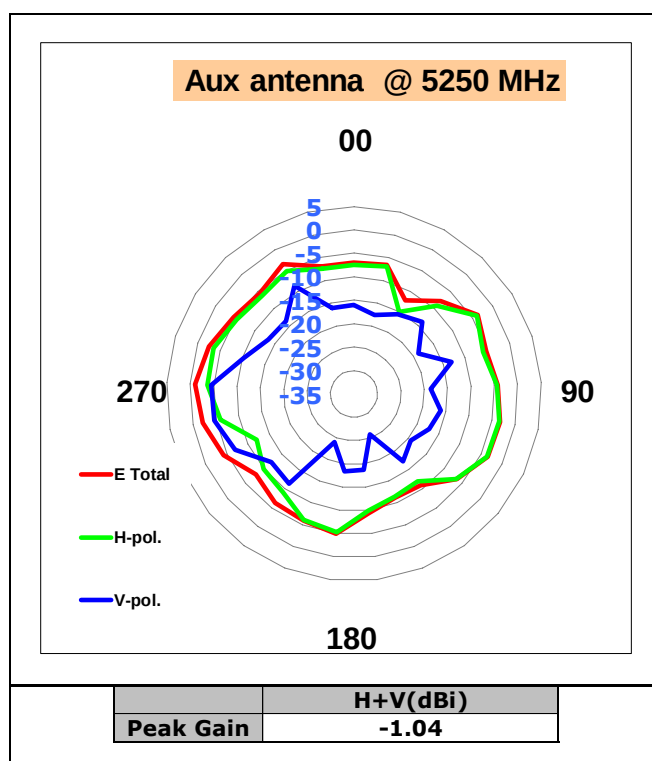
5150-5250MHz radiation characteristic

Aux antenna:



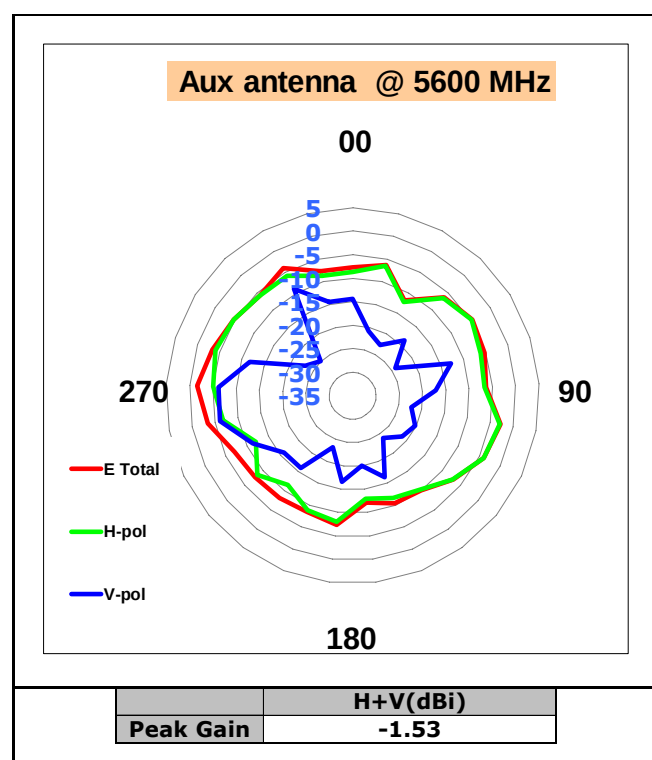
5250-5350MHz radiation characteristic

Aux antenna:



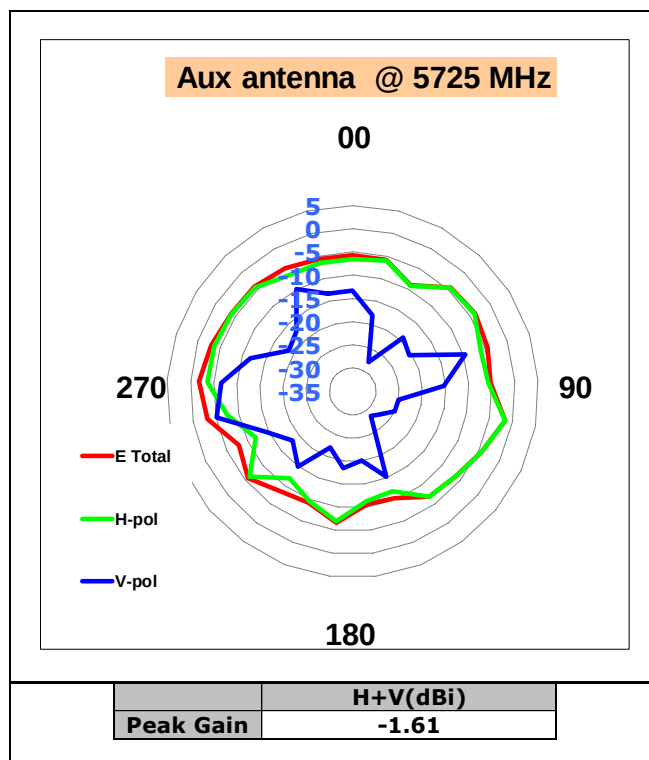
5470-5725MHz radiation characteristic(1E Peak Gain W/ Cable loss (dBi))

Aux antenna:



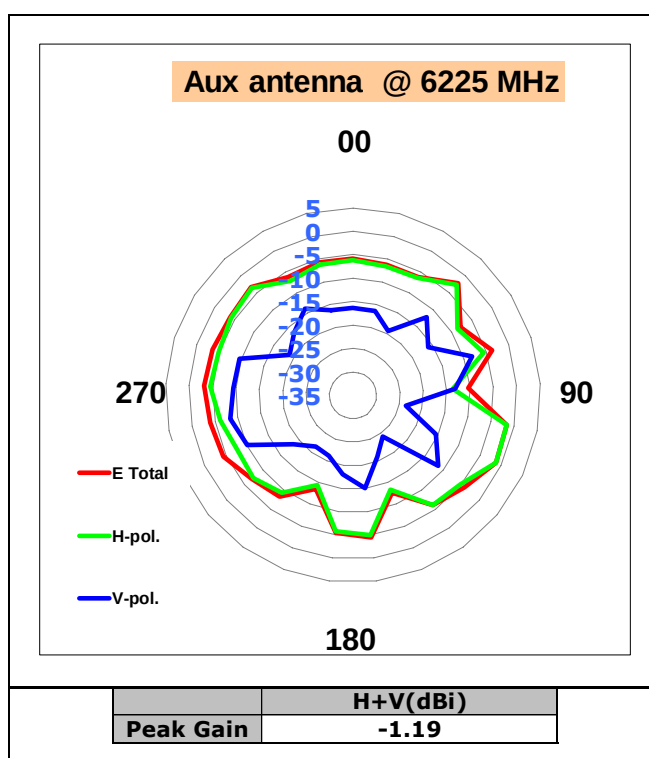
5725-5850MHz radiation characteristic(1E Peak Gain W/ Cable loss (dBi))

Aux antenna:



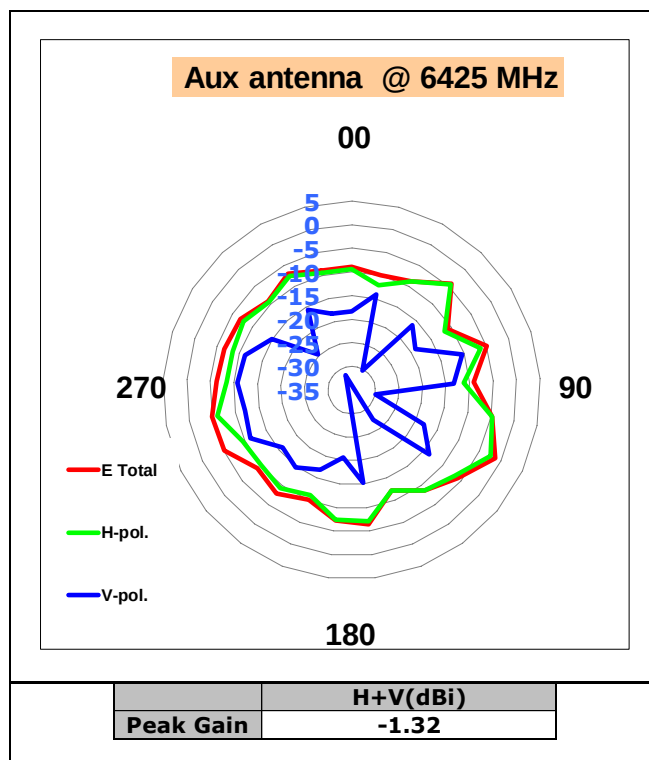
5925-6425MHz radiation characteristic(1E Peak Gain W/ Cable loss (dBi))

Aux antenna:



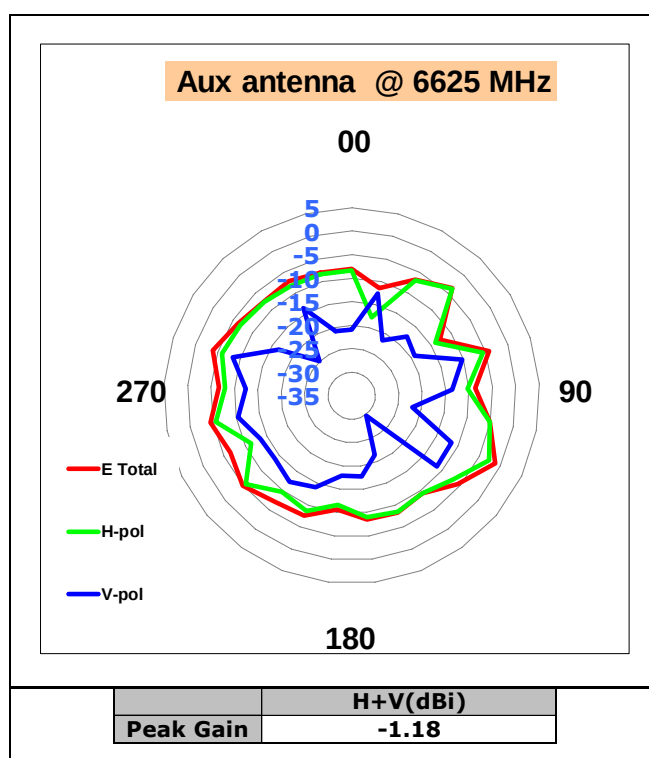
6425-6525MHz radiation characteristic (1E Peak Gain W/ Cable loss (dBi))

Aux antenna:



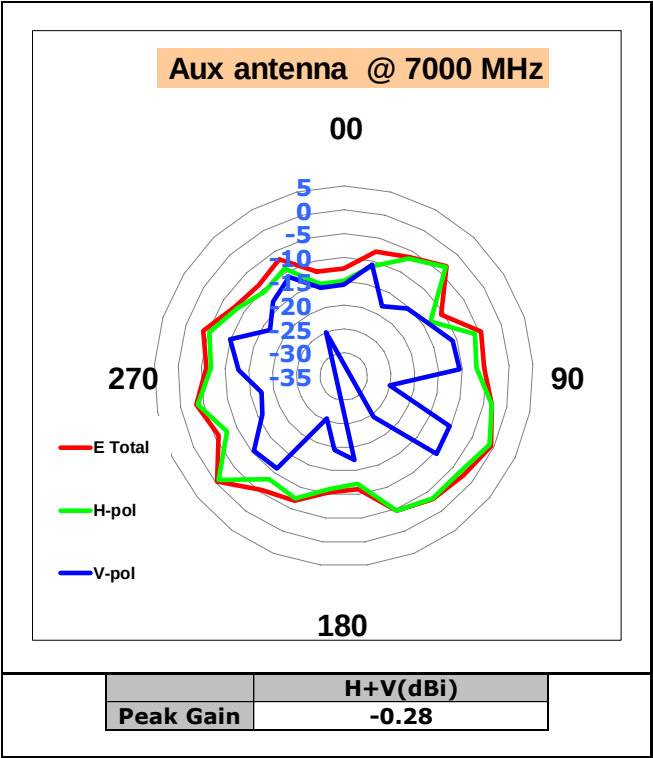
6525-6875MHz radiation characteristic (1E Peak Gain W/ Cable loss (dBi))

Aux antenna:



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

Aux antenna:



5. FAI & CPK

5.1 FAI

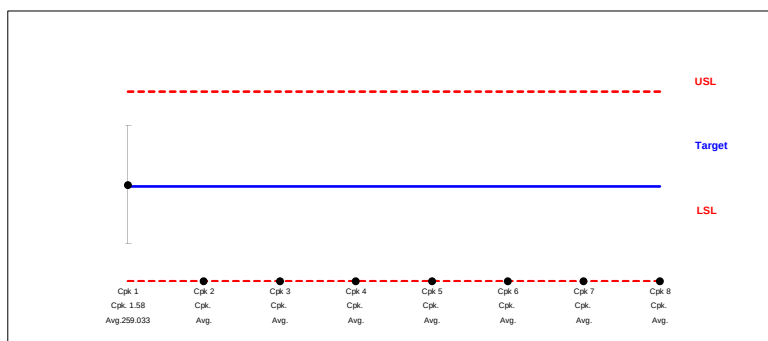
First Article Inspection Report																		
Part Number: DQ6P15G3600		Supplier: wnc		Document NO: 2022/10/22														
Part Description: ANTENNA		Submission No: N/A		Cavity / Tool #: N/A														
Part Revision: X01		Material Spec: N/A		Inspector: 黃雪純														
Submission Reason: FOR APPROVAL																		
DRAWING SPECIFICATIONS			INSPECTION RESULTS						INSPECTION ANALYSIS				COMMENTS					
ITEM	LOCATION	NOMINAL	+TOL	-TOL	Sample Number			Deviation from Nominal			Mean	% Tolerance	UPPER	LOWER	Acc/Rej	Inspection Method	Supplier Remarks	DELL Engineering Disposition
1	A1	259	2	2	259	260	259	0	1	0	259.3333	50%	0%			RULE	OK	
2	A1	75	2	2	75	76	75	0	1	0	75.33333	50%	0%			RULE	OK	
3	A2	7.35	0.2	0.2	7.34	7.35	7.35	-0.01	0	0	7.346667	0%	5%			CAP	OK	
4																		
5																		
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Note #		2,000																
Note Description					Statement of Conformance													
1																		
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5.2 CPK

Process Capability Calculation Worksheet							
Part Number: DQ6P15G3600		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: 黃雪純			
Submission Reason: FOR APPROVAL							

DRAWING SPECIFICATIONS								
	Cpk 1	Cpk 2	Cpk 3	Cpk 4	Cpk 5	Cpk 6	Cpk 7	Cpk 8
Nominal	259							
Upper Tol.	2							
Lower Tol.	2							
USL	261	0	0	0	0	0	0	0
LSL	257	0	0	0	0	0	0	0

Total Tol	4.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Xbar	259.033							
Stdv	0.414							
Zu	1.584							
Zl	1.638							
Cp	1.611							
Cpk	1.584							
Max	260.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Min	258.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000



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