HL GLOBAL

PRELIMINARY ENGINEERING DATASHEET

PC24WOC14JL-P3M48A-G60FC3

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INFORMATION:

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Datasheet Revision History

Revision	Date	Change Log
PC24WOC14JL-P3M48A-G60FC3 / Rev.01	12th/Jan /2021	Preliminary Datasheet 1.0

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Table of Contents

1. **Antenna Product Description** 4
2. **Features Overview** 4
3. **Product Photographs** 5
4. **Antenna Specification Summary** 6
5. **Principal Dimensions** 7
6. **Retrun Loss** 8
7. **Radiation Pattern Characteristics** 9
8. **Realized Efficiency and Peak Realized Gain** 11
9. **Assembly Drawing** 13

Figures

Figure 1. Photo of HL Technologies antennaPC24WOC14JL-P3M48A-G60FC3. 4
Figure 2. Basic dimensions and tolerances ofPC24WOC14JL-P3M48A-G60FC3 antenna 7
Figure 3. Measured Return Loss of PC24WOC14JL-P3M48A-G60FC3.. 8
Figure 4.PC24WOC14JL-P3M48A-G60FC3 antenna for radiation pattern measurements. Coordinate system used for radiation pattern visualization. 9
Figure 5. Measured radiation pattern characteristics in principal planes at 2GHz 10
Figure 6 Measured realized efficiency over frequency 11
Figure 7. Measured peak realized gain over frequency 11
Figure 8. Assembly Drawing. 13

Tables

Table 1.PC24WOC14JL-P3M48A-G60FC3 antenna specification summary. 6
Table 2. Summary of peak realized gain and realized efficiency results. 12

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1. Antenna Product Description

PC24WOC14JL-P3M48A-G60FC3 Embedded Antenna features provides a high performance, off-board and cable feeding antenna solution. It was designed for 2.4GHz band applications including WLAN 802.11 b/g/n.

2. Features Overview

PC24WOC14JL-P3M48A-G60FC3 Embedded Antenna features

- Covering 2.4GHz-2.49GHz freq
- Superior performance
- Off-board, low profile design
- 3.3dBi @2.44GHz
- Low Cost, High performance

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3. Product Photographs

Figure 1. Photo of HL Technologies antenna PC24WOC14JL-P3M48A-G60FC3.

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4. Antenna Specification Summary

Wireless Standard	IEEE 802.11 b/g/n
Frequency Range	From 2.40GHz to 2.49GHz
Peak Realized Gain(Max)	3.3dBi @2.44GHz
Realized Efficiency	63% @2.44 GHz
Return Loss	＜-10dB
Polarization	Linear Polarization
Axial Ratio	/
Radiation Pattern	Omni-directional
Feed Impedance	50Ω
Power Handling	30dBm
Antenna Structure	PCB
Feeding Description	Cable Feeding
Antenna Dimensions	24.2*8.5*0.8 (mm)
Weight	0.63g
Temperature Range	Operating temperature: -40° C to +75° C (-40° F to +167° F) Storage temperature: -40° C to +85° C (-40° F to +185° F)

Table 1.PC24WOC14JL-P3M48A-G60FC3 antenna specification summary.

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5. Principal Dimensions

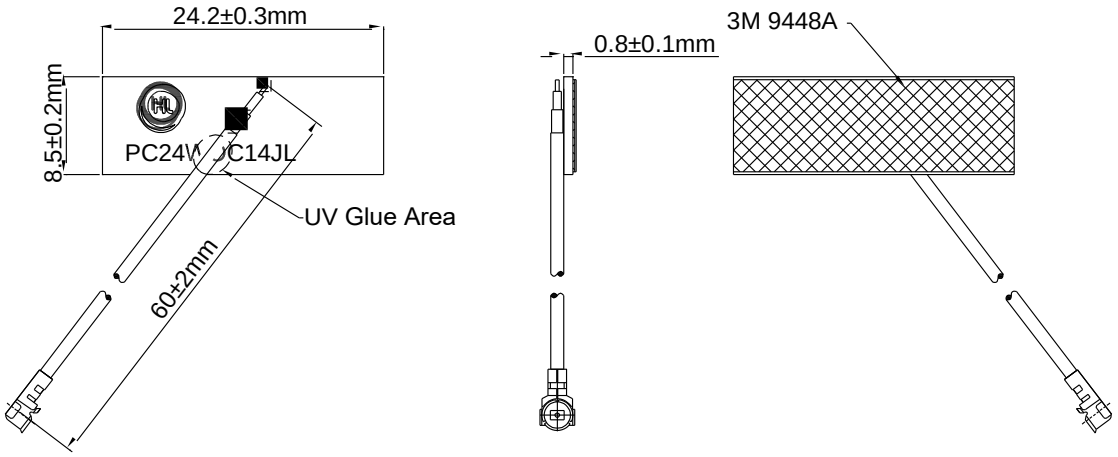

Figure 2. Basic dimensions and tolerances ofPC24WOC14JL-P3M48A-G60FC3 antenna.

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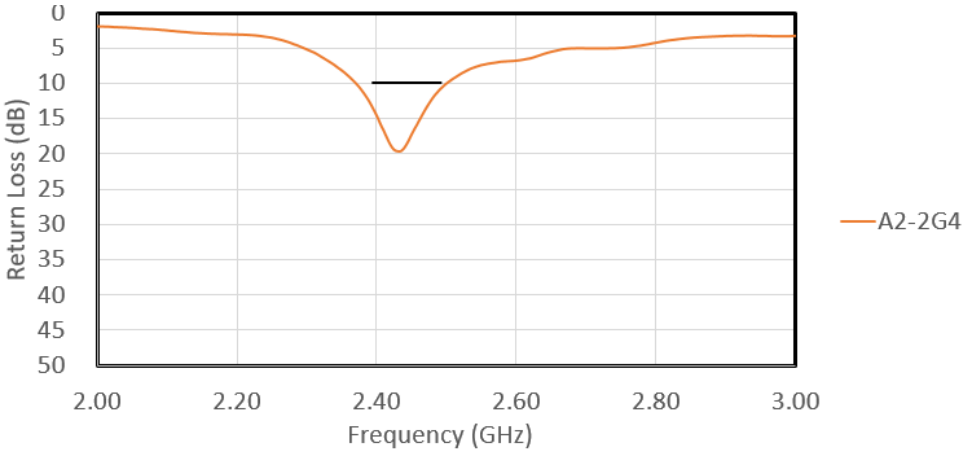
6. Return Loss

Return Loss (RL) were measured using Keysight E5071B Vector Network Analyzer (VNA).



Freqency (MHz)	Return loss (dB)
2400	14.5
2450	17.3
2490	10.9

Figure 3. Measured Return Loss of*PC24WOC14JL-P3M48A-G60FC3*.

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7. Radiation Pattern Characteristics

Radiation characteristics forPC24WOC14JL-P3M48A-G60FC3 were measured in customer housing Satimo SG24L anechoic chamber.

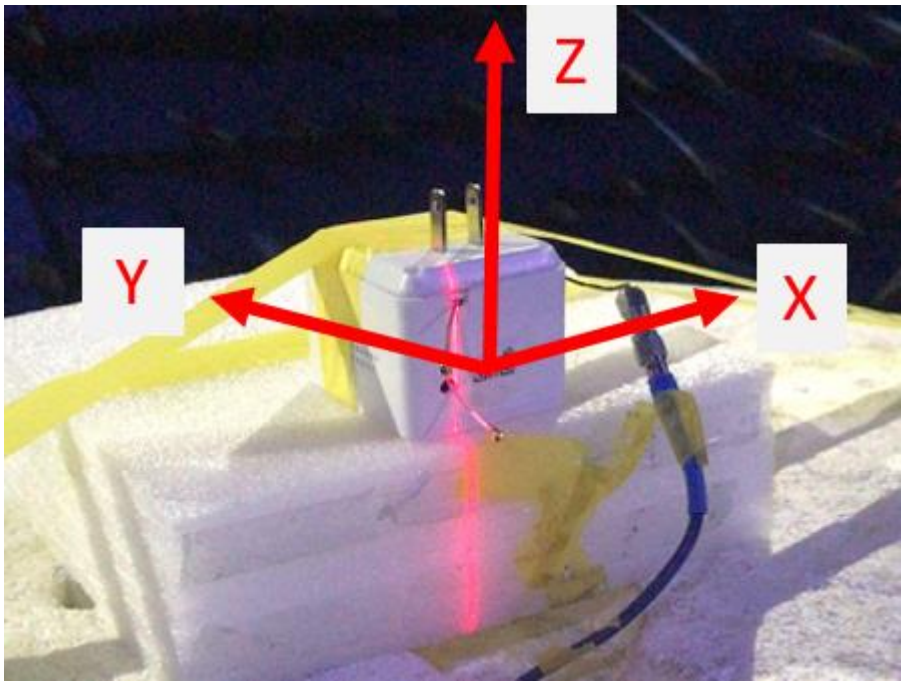

Figure 4.PC24WOC14JL-P3M48A-G60FC3 antenna for radiation pattern measurements. Coordinate system used for radiation pattern visualization.

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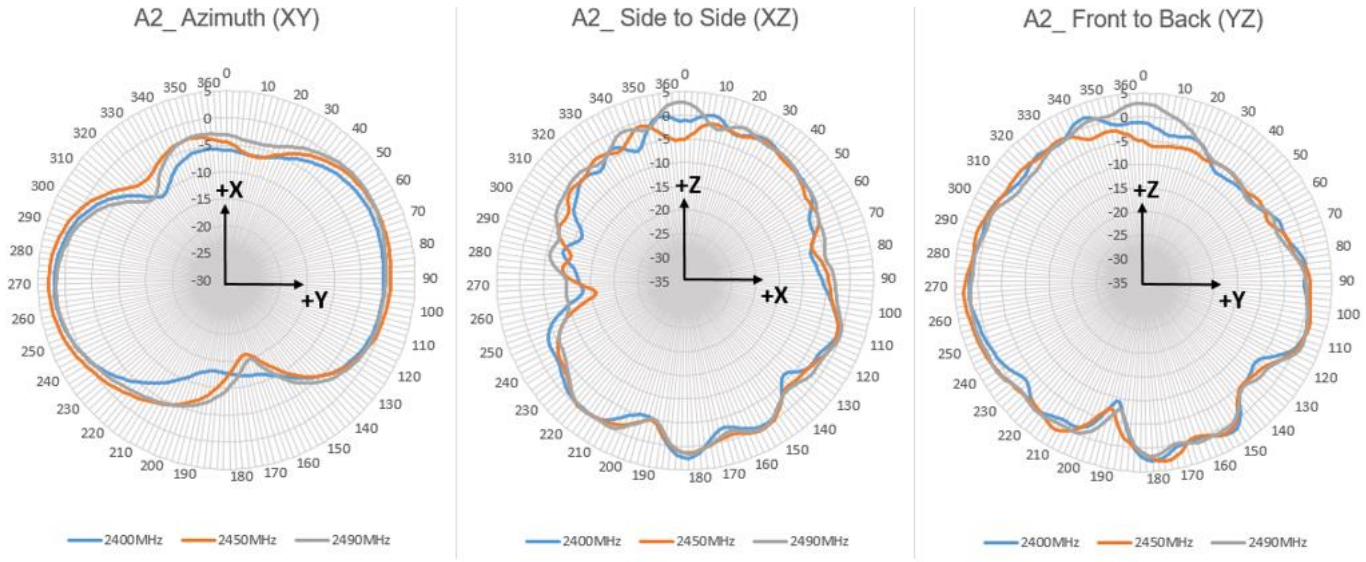

Figure 5. Measured radiation pattern characteristics in principal planes at 2GHz.

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8. Realized Efficiency and Peak Realized Gain

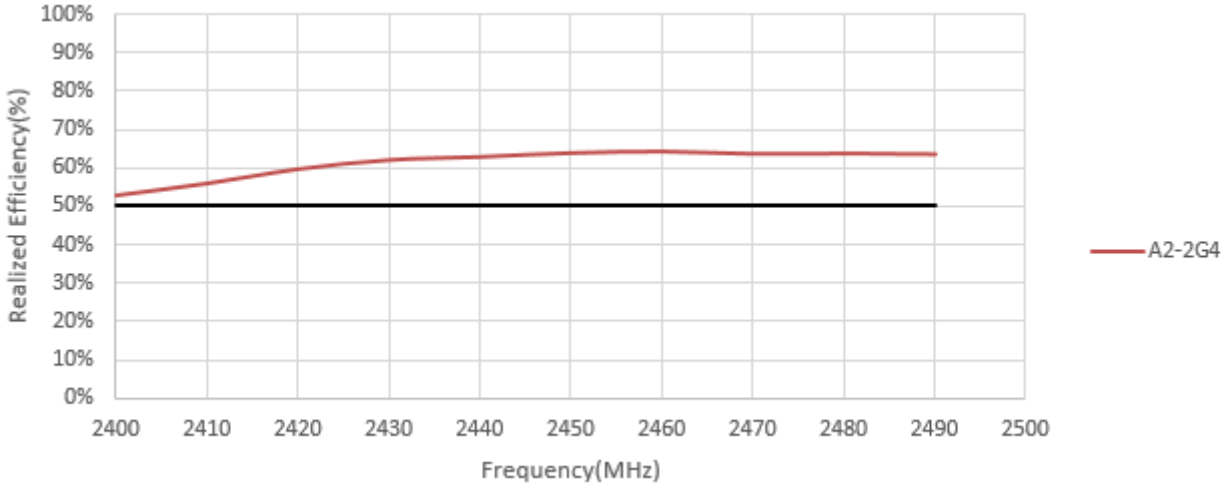

Figure 6. Measured Realized Efficiency over frequency

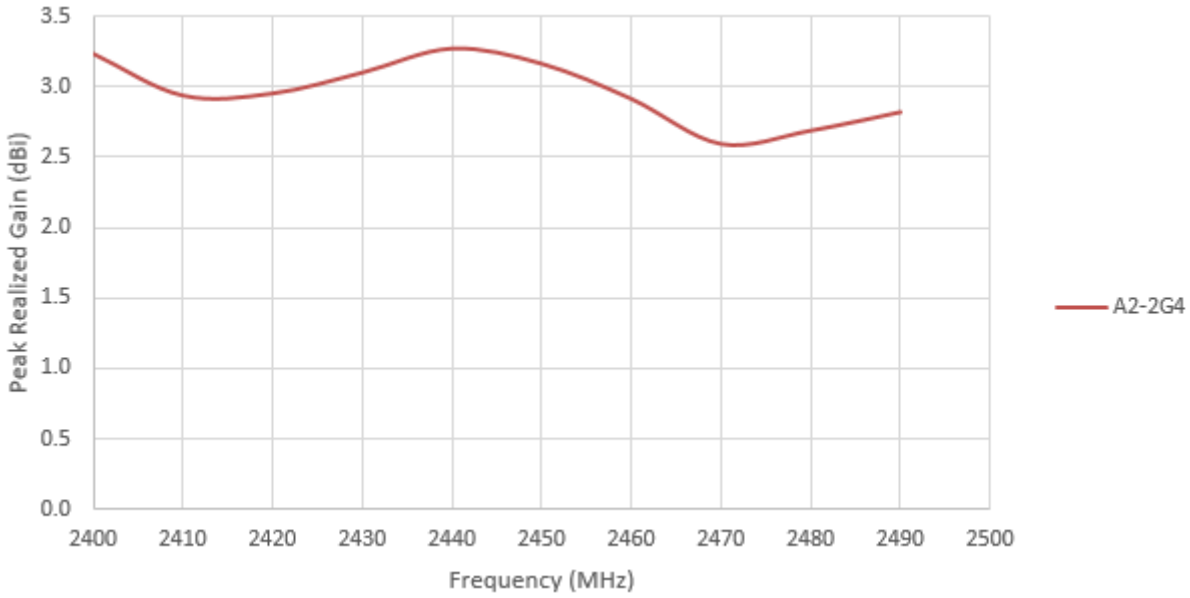

Figure7. Measured Peak Realized gain over frequency.

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Frequency(MHz)	Realized Efficiency(%)	Peak Realized Gain(dBi)
2400	53%	3.2
2410	56%	2.9
2420	60%	2.9
2430	62%	3.1
2440	63%	3.3
2450	64%	3.2
2460	64%	2.9
2470	64%	2.6
2480	64%	2.7
2490	64%	2.8
Average	**61%**	**3.0**

Table 2. Summary of Peak Realized Gain and Realized Efficiency results.

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9. Assembly Drawing

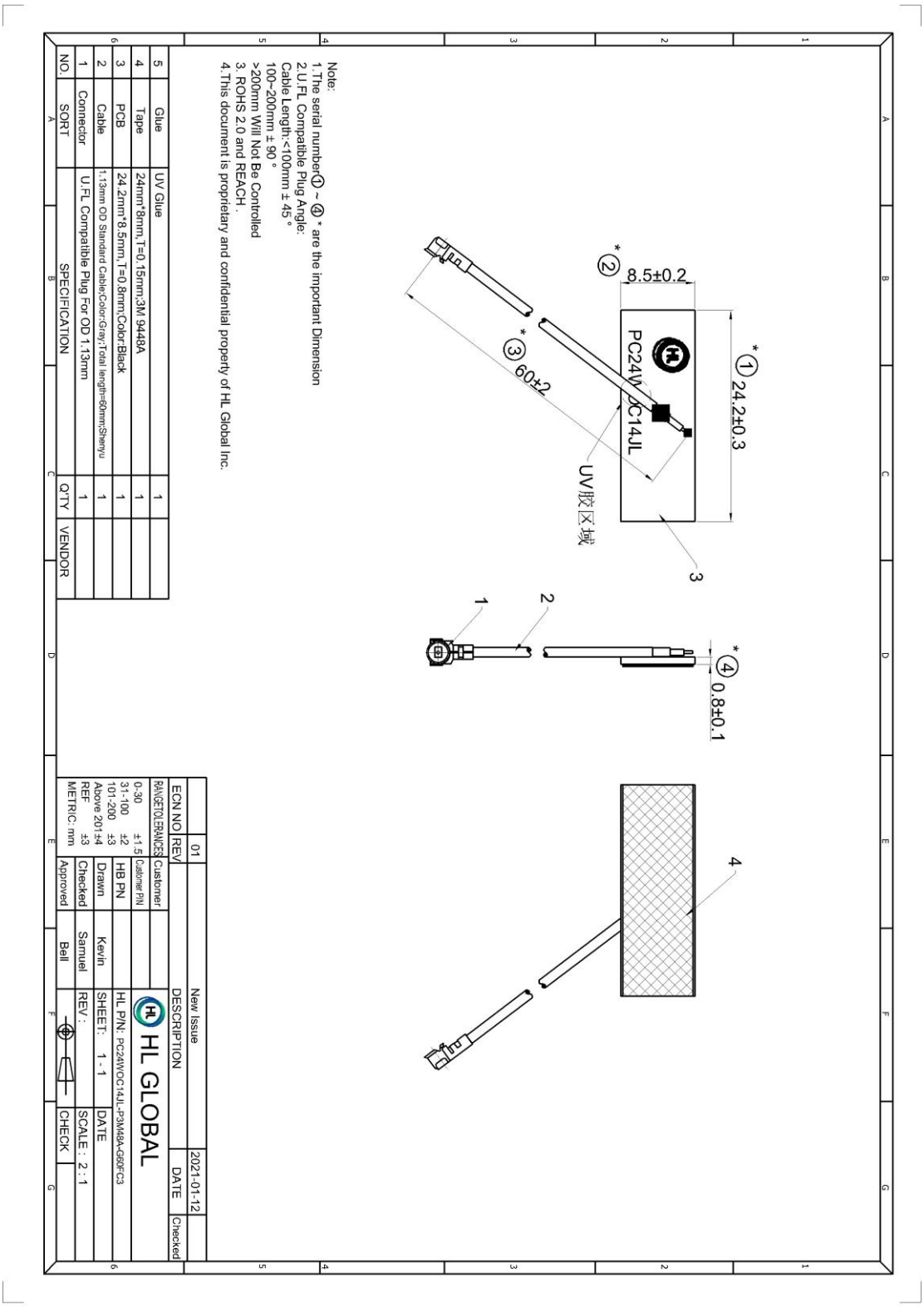

Figure 8. Assembly Drawing.

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