HL GLOBAL

PRELIMINARY ENGINEERING DATASHEET

PC24WOC13JL-P3M48A-B80FC2

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INFORMATION:

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Datasheet Revision History

Revision	Date	Change Log
PC24WOC13JL-P3M48A-B80FC2 / Rev.01	12th/Jan /2021	Preliminary Datasheet 1.0

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1. Antenna Product Description

PC24WOC13JL-P3M48A-B80FC2 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

PC24WOC13JL-P3M48A-B80FC2 Embedded Antenna features

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

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3. Product Photographs

Figure 1. Photo of HL Technologies antenna PC24WOC13JL-P3M48A-B80FC2.

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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)	3.9dBi @2.49GHz
Realized Efficiency	59% @2.49 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	0.7g
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. PC24WOC13JL-P3M48A-B80FC2 antenna specification summary.

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5. Principal Dimensions

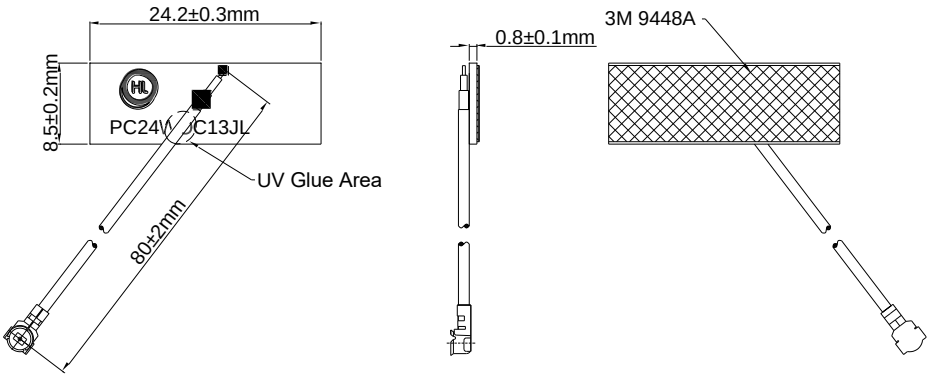

Figure 2. Basic dimensions and tolerances of PC24WOC13JL-P3M48A-B80FC2 antenna.

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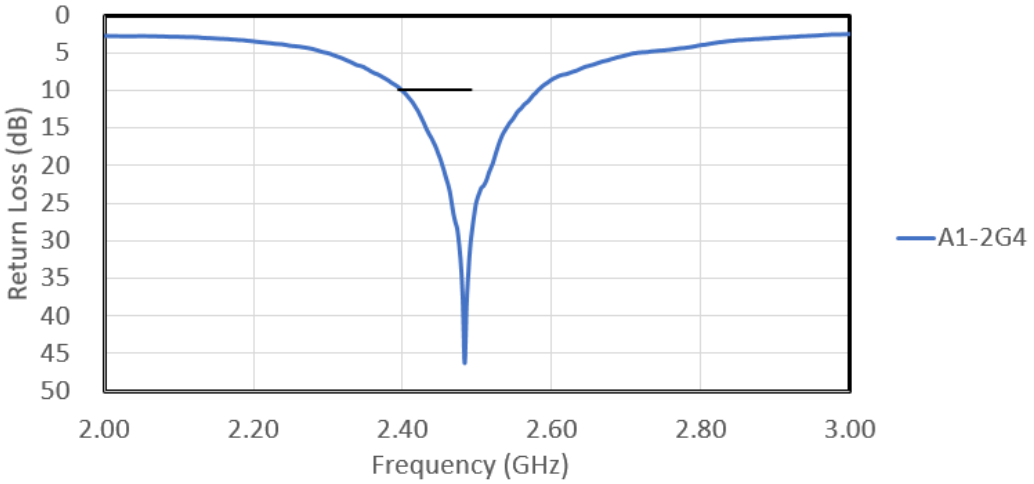
6. Return Loss

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



Freqency (MHz)	Return loss (dB)
2400	10.1
2450	19.1
2490	30.7

Figure 3. Measured Return Loss of PC24WOC13JL-P3M48A-B80FC2.

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7. Radiation Pattern Characteristics

Radiation characteristics for PC24WOC13JL-P3M48A-B80FC2 were measured in customer housing Satimo SG24L anechoic chamber.

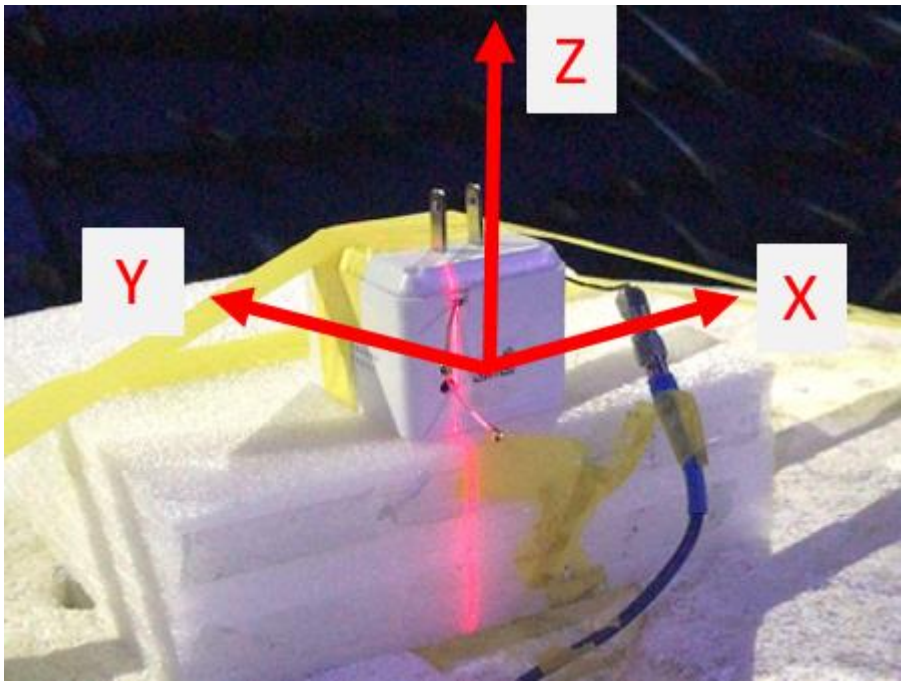

Figure 4. PC24WOC13JL-P3M48A-B80FC2 antenna for radiation pattern measurements. Coordinate system used for radiation pattern visualization.

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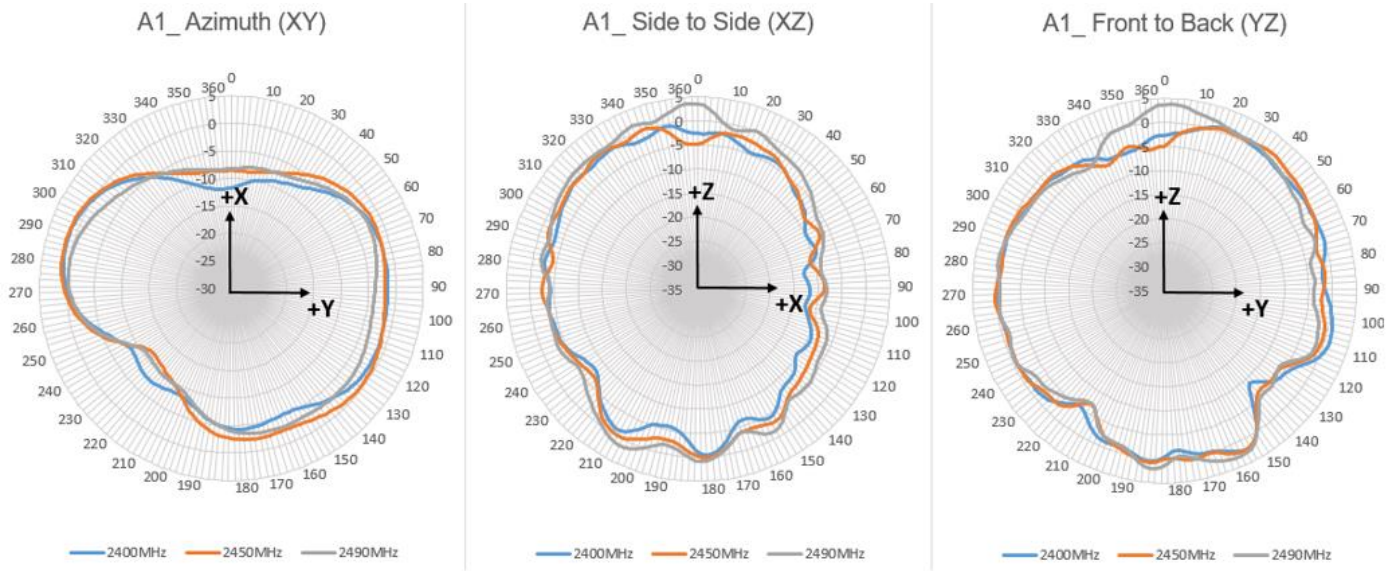

Figure 5. Measured radiation pattern characteristics in principal planes at 2GHz.

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8. Realized Efficiency and Peak Realized Gain

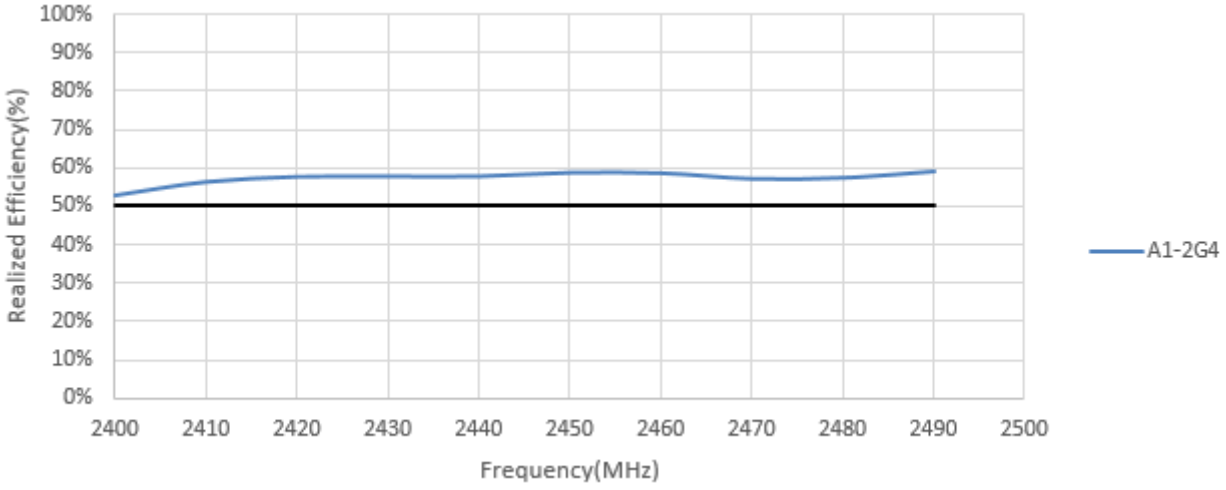

Figure 6. Measured Realized Efficiency over frequency

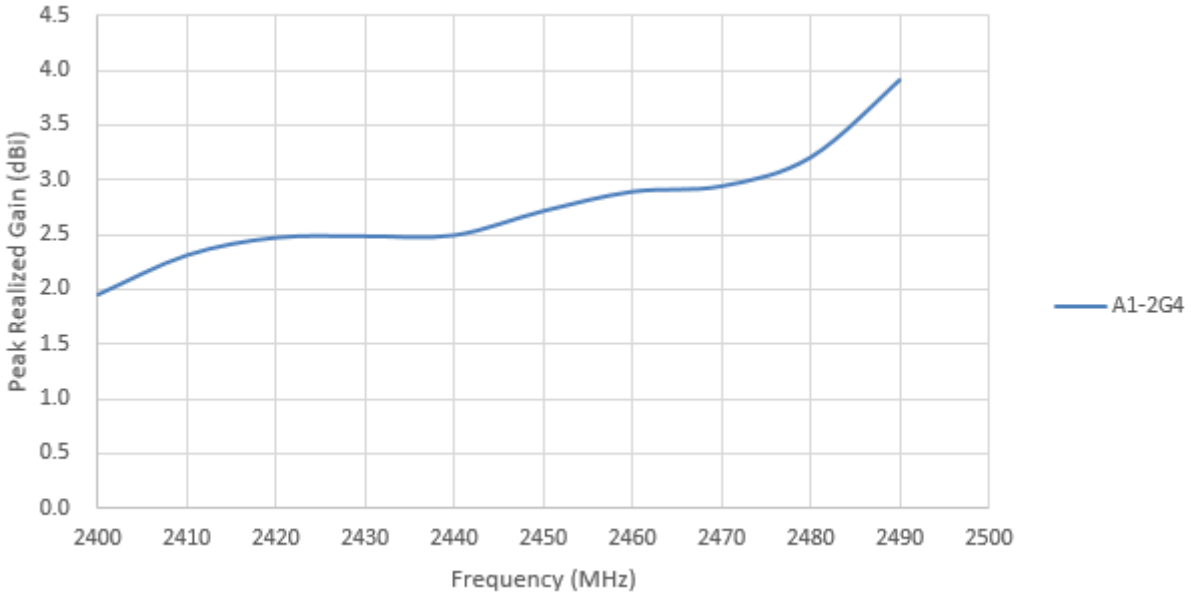

Figure7. Measured Peak Realized gain over frequency.

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Frequency(MHz)	Realized Efficiency(%)	Peak Realized Gain(dBi)
2400	53%	2.0
2410	57%	2.3
2420	58%	2.5
2430	58%	2.5
2440	58%	2.5
2450	59%	2.7
2460	59%	2.9
2470	57%	2.9
2480	58%	3.2
2490	59%	3.9
Average	**58%**	**2.7**

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

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9. Assembly Drawing

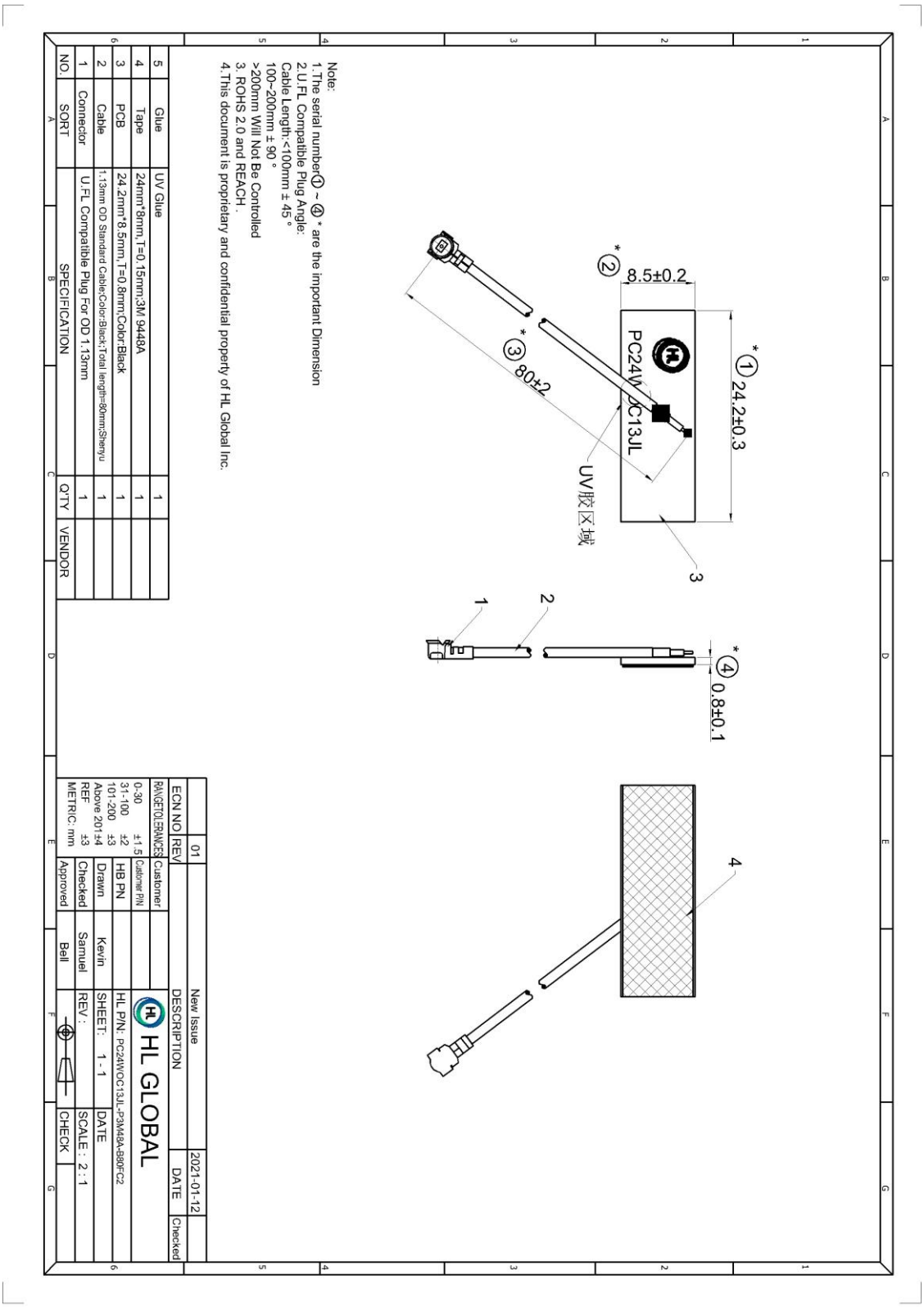

Figure 8. Assembly Drawing.

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