



HL GLOBAL

PRELIMINARY ENGINEERING DATASHEET

PC2455WOC01AS-W80FC2

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Datasheet Revision History

Revision	Date	Change Log
PC2455WOC01AS-W80FC2/ Rev.01	3 th /Mar/2022	Preliminary Datasheet 1.0

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1. Antenna Product Description

PC2455WOC01AS-W80FC2 Embedded Antenna features provides a high performance, off-board and cable feeding antenna solution. It was designed for supporting 2400-2490MHz/5150-5850MHz bands applications including IEEE 802.11 a/b/g/n/ac/ax.

2. Features Overview

PC2455WOC01AS-W80FC2 Embedded Antenna features

- Covering 2400-2490MHz/5150-5850MHz freq
- Superior performance
- Off-board, low profile design
- 4.5dBi@2400MHz; 4.9dBi@5350MHz
- Low Cost, High performance

3. Product Photographs



Figure 1. Photo of HL Global antenna PC2455WOC01AS-W80FC2.



4. Antenna Specification Summary

Wireless Standard	IEEE 802.11 a/b/g/n/ac/ax
Frequency Range	2400-2490MHz/5150-5850MHz
Peak Realized Gain(Max)	4.5dBi@2400MHz; 4.9dBi@5350MHz
Realized Efficiency	75%@2400MHz; 72%@5350MHz
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	40*7*0.8(mm)
Weight	0.76g
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. PC2455WOC01AS-W80FC2 antenna specification summary.

5. Principal Dimensions

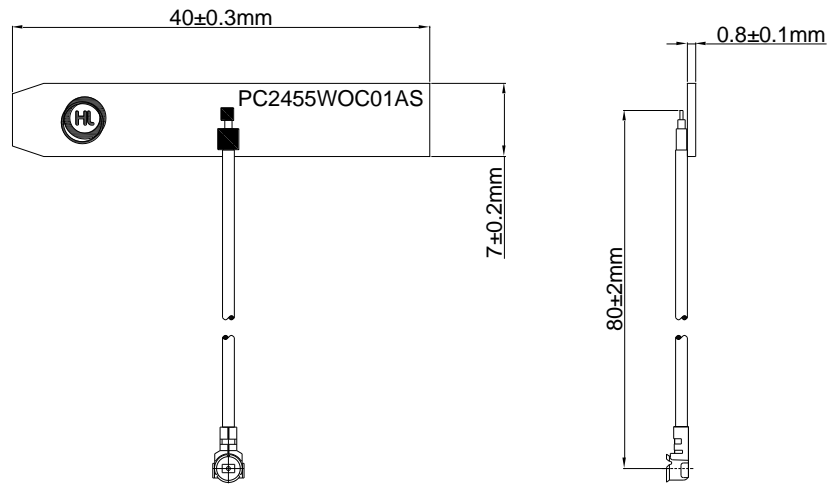
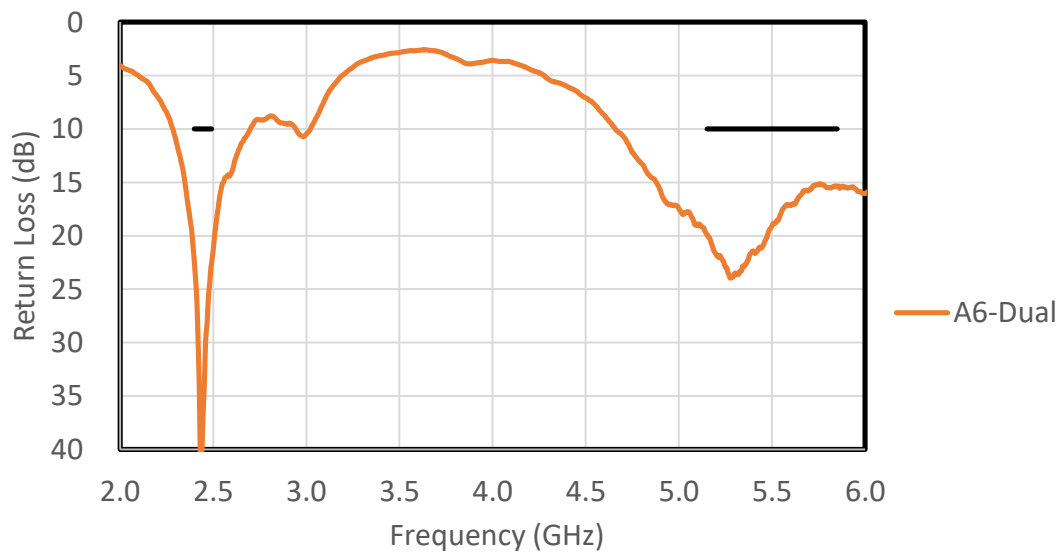


Figure 2. Basic dimensions and tolerances of PC2455WOC01AS-W80FC2 antenna.

6. Return Loss

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



Return loss (dB)	A6_Dual
2400MHz	22.5
2490MHz	22.5
5150MHZ	19.9
5850MHz	15.4

Figure 3. Measured Return Loss of PC2455WOC01AS-W80FC2.



7. Radiation Pattern Characteristics

Radiation characteristics for PC2455WOC01AS-W80FC2 were measured in Satimo SG24L anechoic chamber.

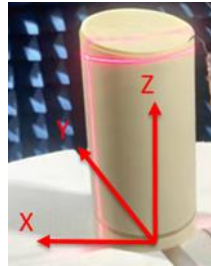


Figure 4. PC2455WOC01AS-W80FC2 antenna for radiation pattern measurements. Coordinate system used for radiation pattern visualization.

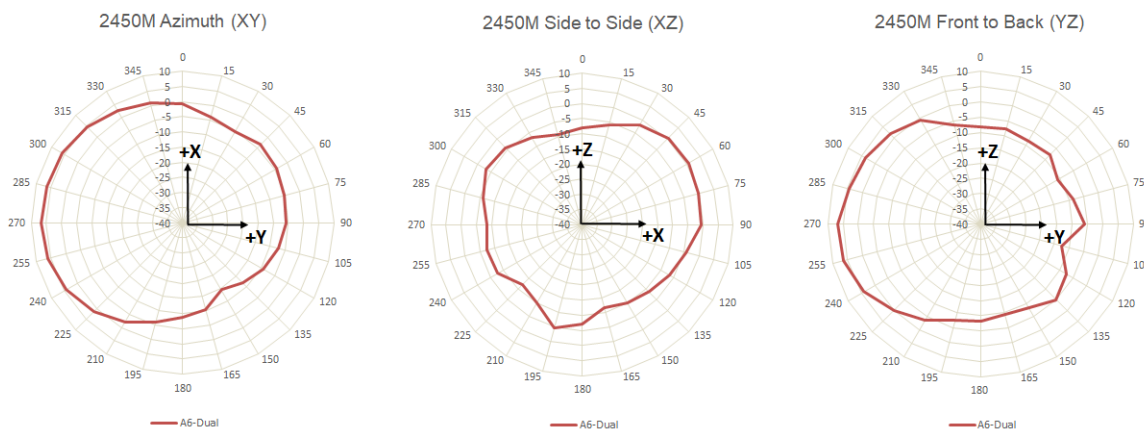


Figure 5. Measured radiation pattern characteristics in principal planes at 2450MHz.

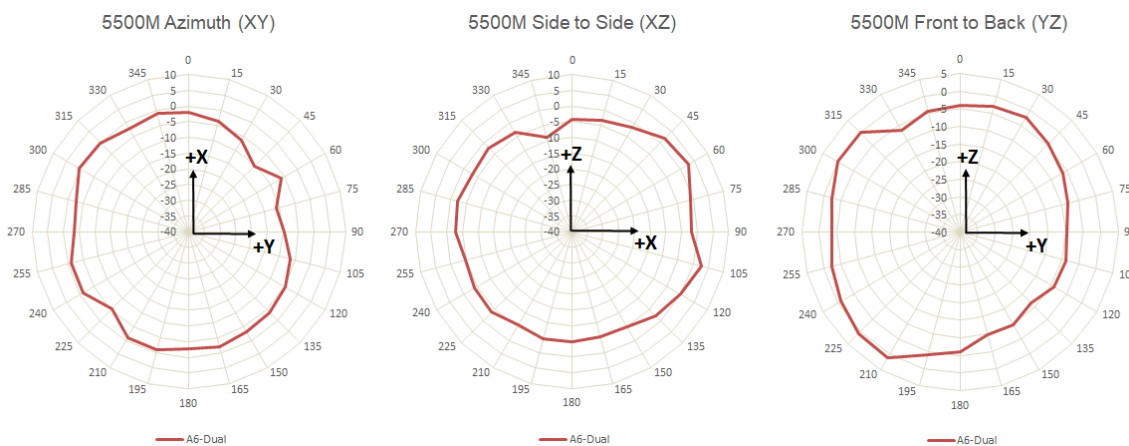


Figure 6. Measured radiation pattern characteristics in principal planes at 5500MHz.



8. Realized Efficiency and Peak Realized Gain

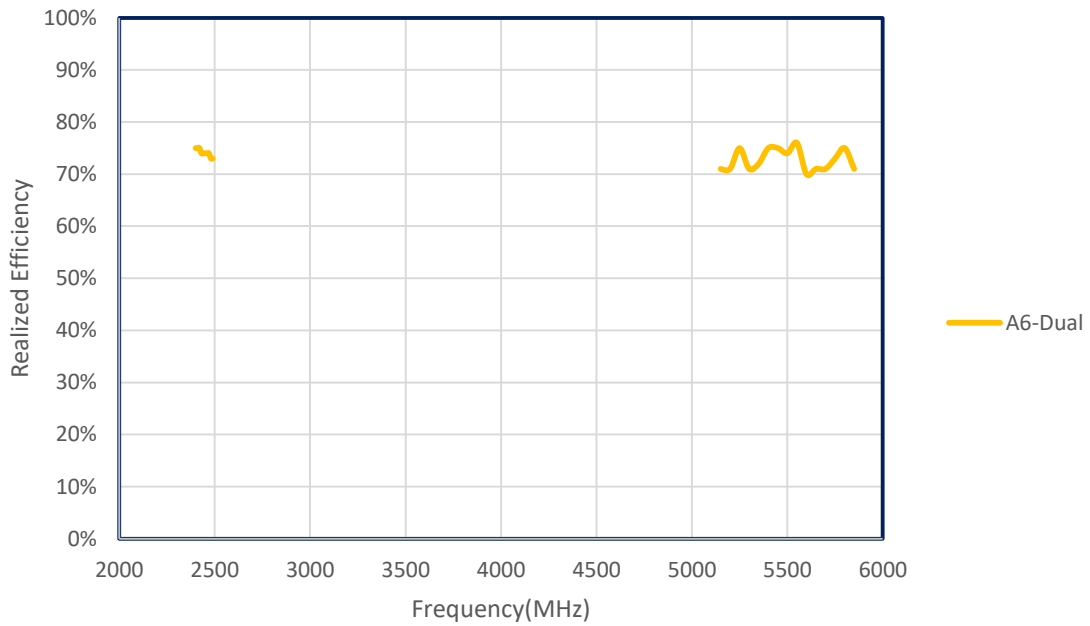


Figure 7. Measured Realized Efficiency over frequency.

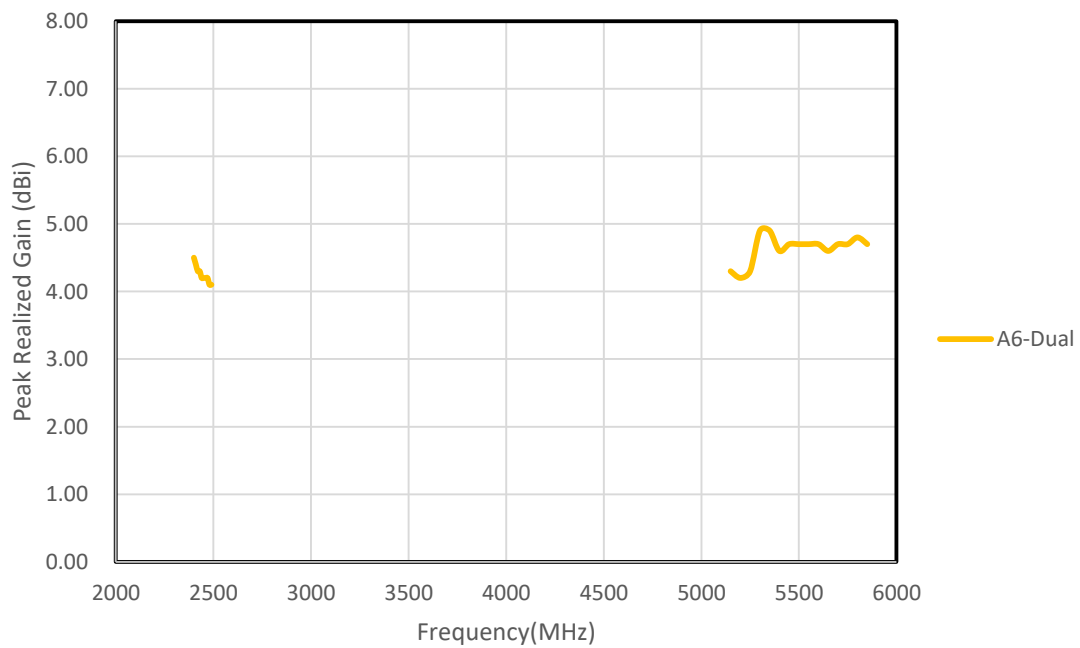


Figure 8. Measured Peak Realized gain over frequency.



Frequency(MHz)	Realized Efficiency	Peak Realized Gain(dBi)
2400	75%	4.5
2410	75%	4.4
2420	75%	4.3
2430	74%	4.3
2440	74%	4.2
2450	74%	4.2
2460	74%	4.2
2470	74%	4.2
2480	73%	4.1
2490	73%	4.1
5150	71%	4.3
5200	71%	4.2
5250	75%	4.3
5300	71%	4.9
5350	72%	4.9
5400	75%	4.6
5450	75%	4.7
5500	74%	4.7
5550	76%	4.7
5600	70%	4.7
5650	71%	4.6
5700	71%	4.7
5750	73%	4.7
5800	75%	4.8
5850	71%	4.7

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



9. Assembly Drawing

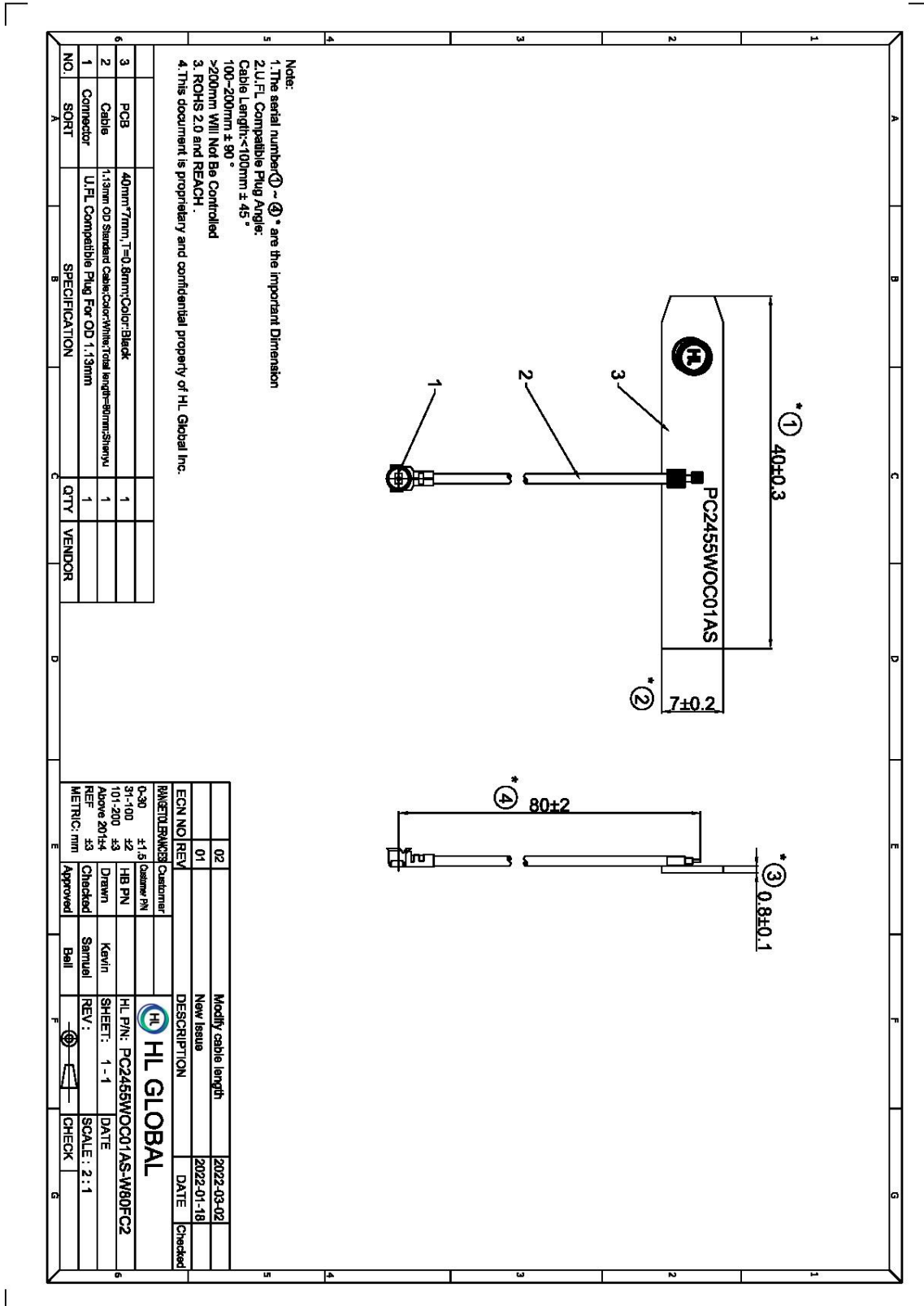


Figure 9. Assembly Drawing.