HL GLOBAL

PRELIMINARY ENGINEERING DATASHEET

PC2455WOC01AS-B120F

HL GLOBAL
850 NEW BURTON ROAD.
SUITE 201, DOVER, DE 19904
UNITED STATES OF AMERICA

INFORMATION:
INFO@HLGLOBALCORP.COM

Datasheet Revision History

Revision	Date	Change Log
PC2455WOC01AS-B120F/ Rev.01	19th/Jan/2022	Preliminary Datasheet 1.0

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1. Antenna Product Description

PC2455WOC01AS-B120F 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-B120F Embedded Antenna features

- Covering 2400-2490MHz/5150-5850MHz freq
- Superior performance
- Off-board, low profile design
- 4.8dBi@2490MHz; 4.4dBi@5750MHz
- Low Cost, High performance

3. Product Photographs

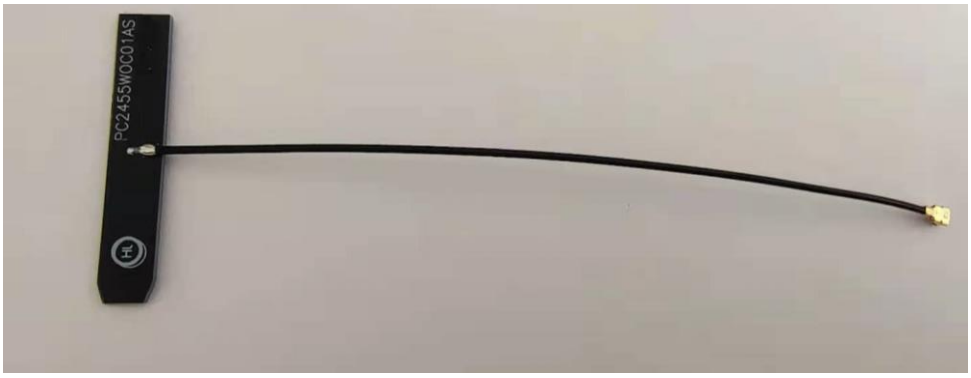


Figure 1. Photo of HL Global antenna PC2455WOC01AS-B120F.

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)	4.8dBi@2490MHz; 4.4dBi@5750MHz
Realized Efficiency	78%@2490MHz; 73%@5750MHz
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	0.90g
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-B120F antenna specification summary.

5. Principal Dimensions

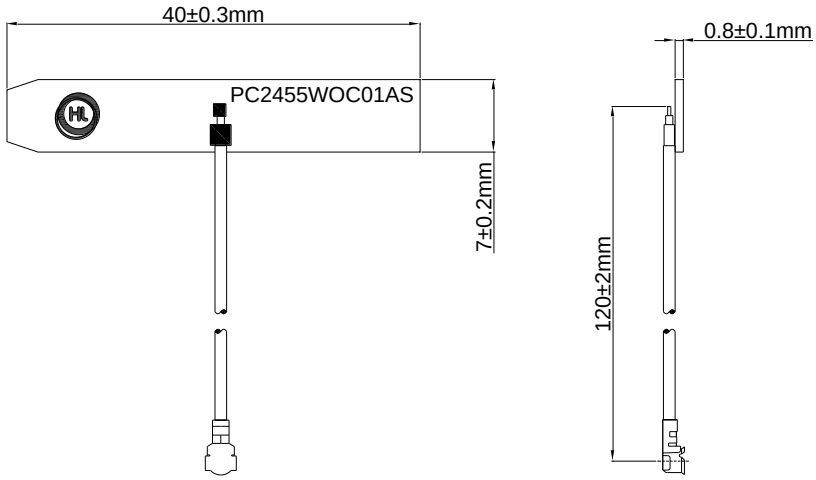
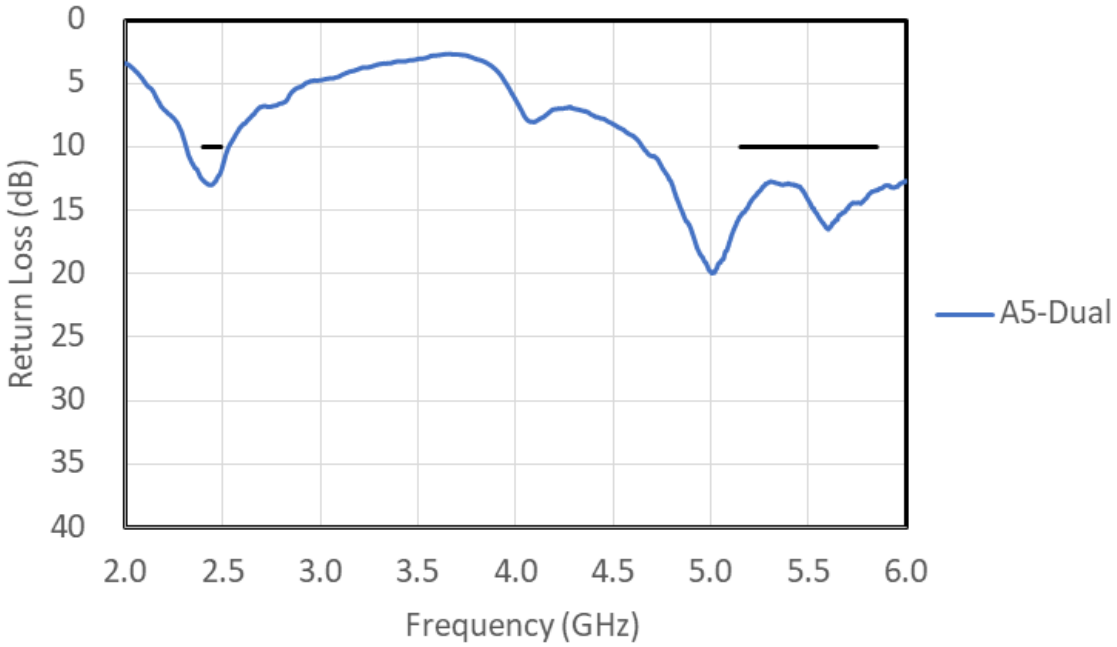


Figure 2. Basic dimensions and tolerances of PC2455WOC01AS-B120F antenna.

6. Return Loss

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



Return loss （dB）	A5_Dual
2400MHz	12.6
2490MHz	11.9
5150MHZ	15.4
5850MHz	13.4

Figure 3. Measured Return Loss of PC2455WOC01AS-B120F.

7. Radiation Pattern Characteristics

Radiation characteristics for PC2455WOC01AS-B120F were measured in Satimo SG24L anechoic chamber.

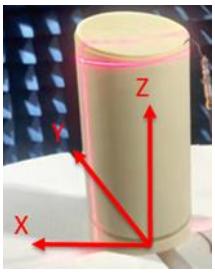


Figure 4.PC2455WOC01AS-B120F antenna for radiation pattern measurements. Coordinate system used for radiation pattern visualization.

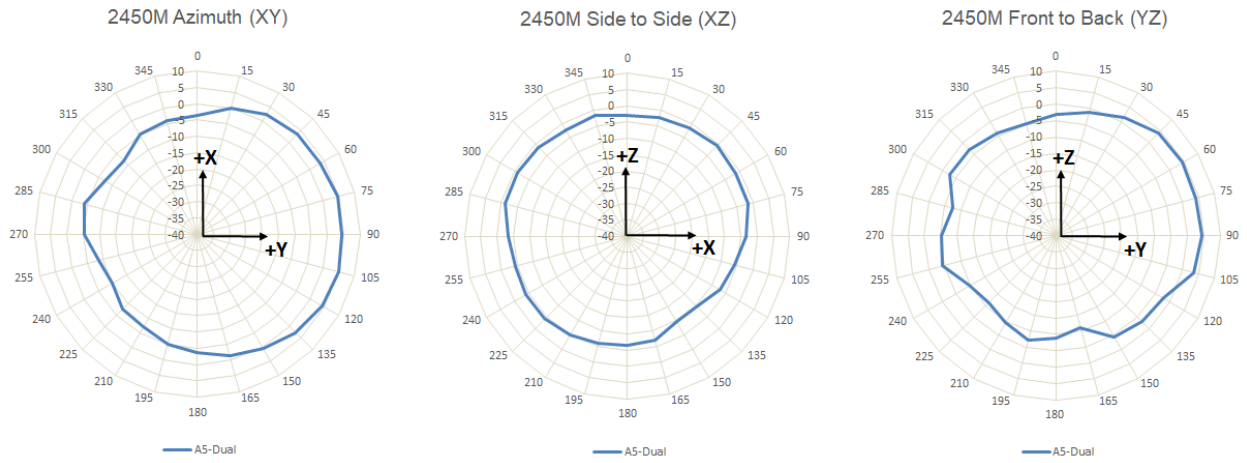


Figure 5. Measured radiation pattern characteristics in principal planes at 2450MHz.

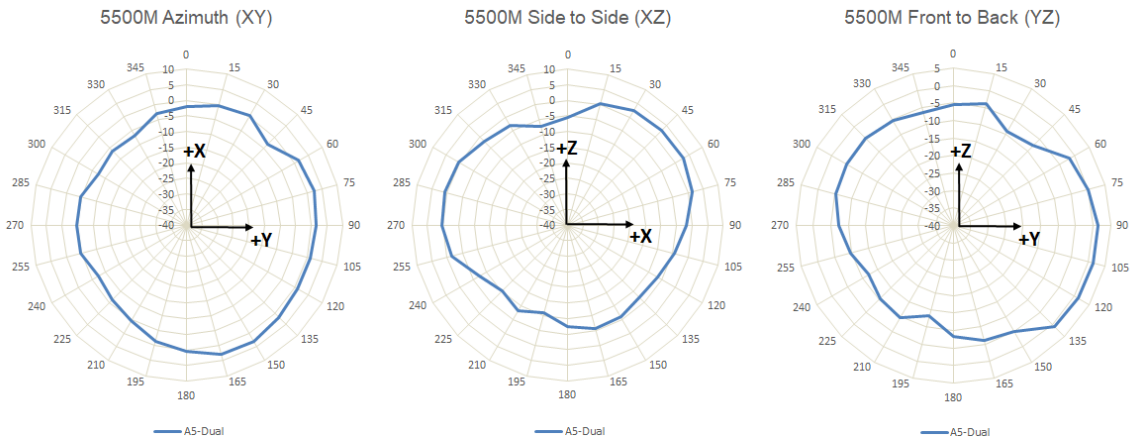


Figure 6. Measured radiation pattern characteristics in principal planes at 5500MHz.

8. Realized Efficiency and Peak Realized Gain

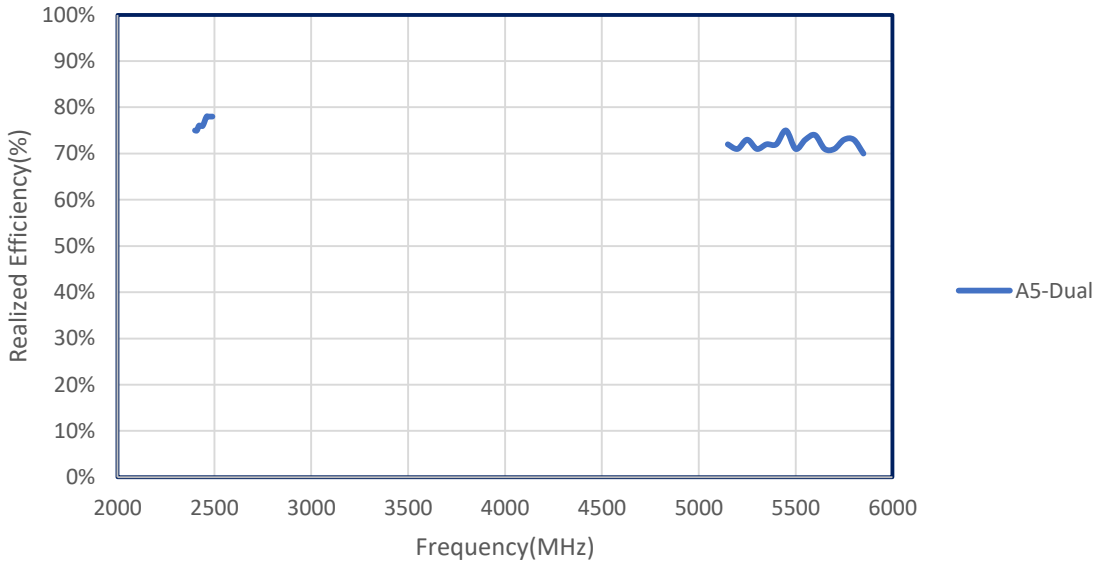


Figure 7. Measured Realized Efficiency over frequency.

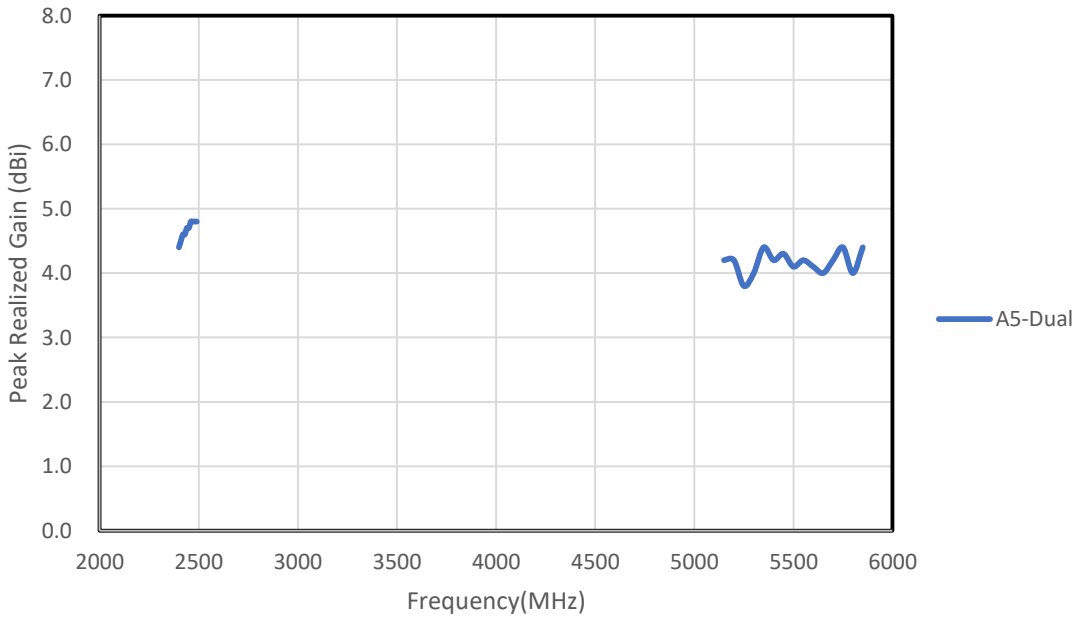


Figure 8. Measured Peak Realized gain over frequency.

Frequency(MHz)	Realized Efficiency	Peak Realized Gain(dBi)
2400	75%	4.4
2410	75%	4.5
2420	76%	4.6
2430	76%	4.6
2440	76%	4.7
2450	77%	4.7
2460	78%	4.8
2470	78%	4.8
2480	78%	4.8
2490	78%	4.8
5150	72%	4.2
5200	71%	4.2
5250	73%	3.8
5300	71%	4.0
5350	72%	4.4
5400	72%	4.2
5450	75%	4.3
5500	71%	4.1
5550	73%	4.2
5600	74%	4.1
5650	71%	4.0
5700	71%	4.2
5750	73%	4.4
5800	73%	4.0
5850	70%	4.4

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

9. Assembly Drawing

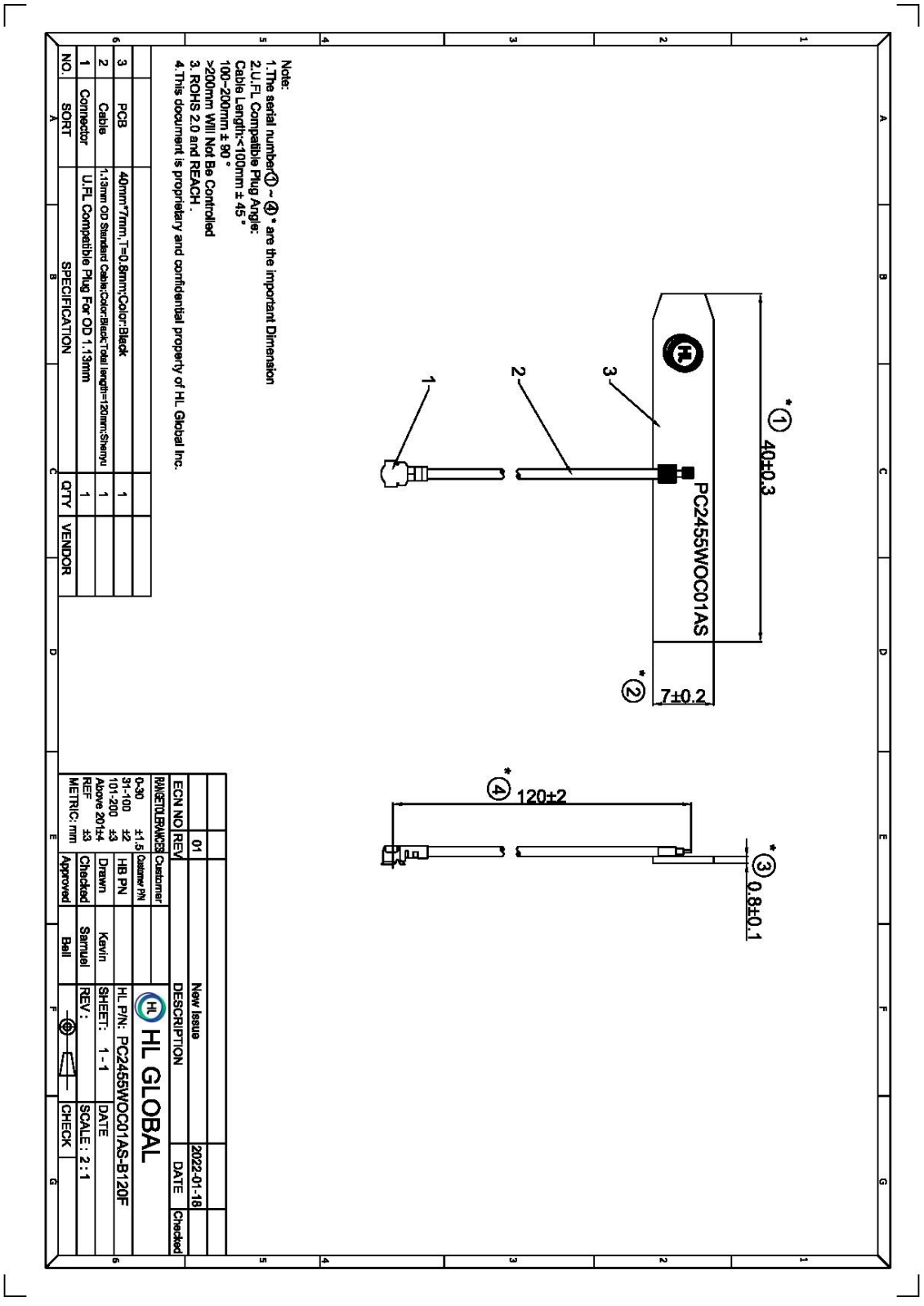


Figure 9. Assembly Drawing**.**