



HL GLOBAL

PRELIMINARY ENGINEERING DATASHEET

PC65WOC02AS-B105FC2

**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
PC65WOC02AS-B105FC2/ Rev.01	20 th /Apr/2022	Preliminary Datasheet 1.0

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1. Antenna Product Description

PC65WOC02AS-B105FC2 Embedded Antenna features provides a high performance, off-board and cable feeding antenna solution. It was designed for supporting 5900-7125MHz bands applications including WiFi 6E.

2. Features Overview

PC65WOC02AS-B105FC2 Embedded Antenna features

- Covering 5900-7125MHz freq
- Superior performance
- Off-board, low profile design
- 5.8dBi@7125MHz
- Low Cost, High performance

3. Product Photographs



Figure 1. Photo of HL Global antenna PC65WOC02AS-B105FC2.



4. Antenna Specification Summary

Wireless Standard	WiFi 6E
Frequency Range	5900-7125MHz
Peak Realized Gain(Max)	5.8dBi@7125MHz
Realized Efficiency	77%@7125MHz
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	18*9*0.8(mm)
Weight	0.67g
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. PC65WOC02AS-B105FC2 antenna specification summary.

5. Principal Dimensions

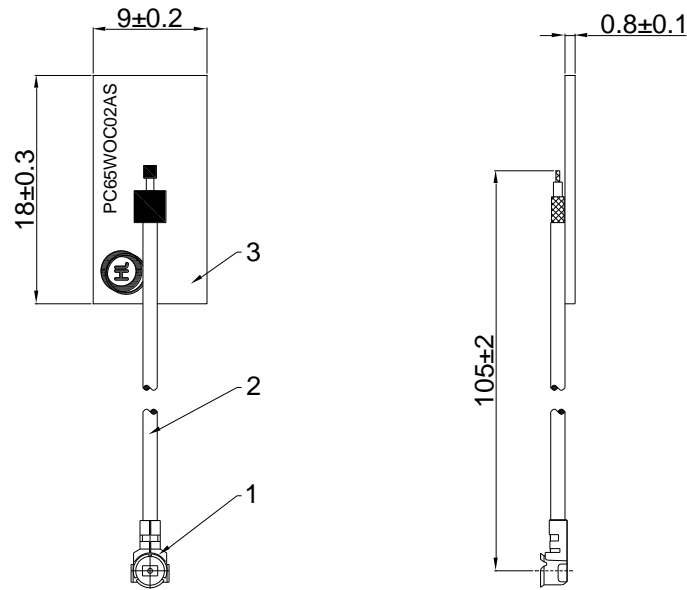
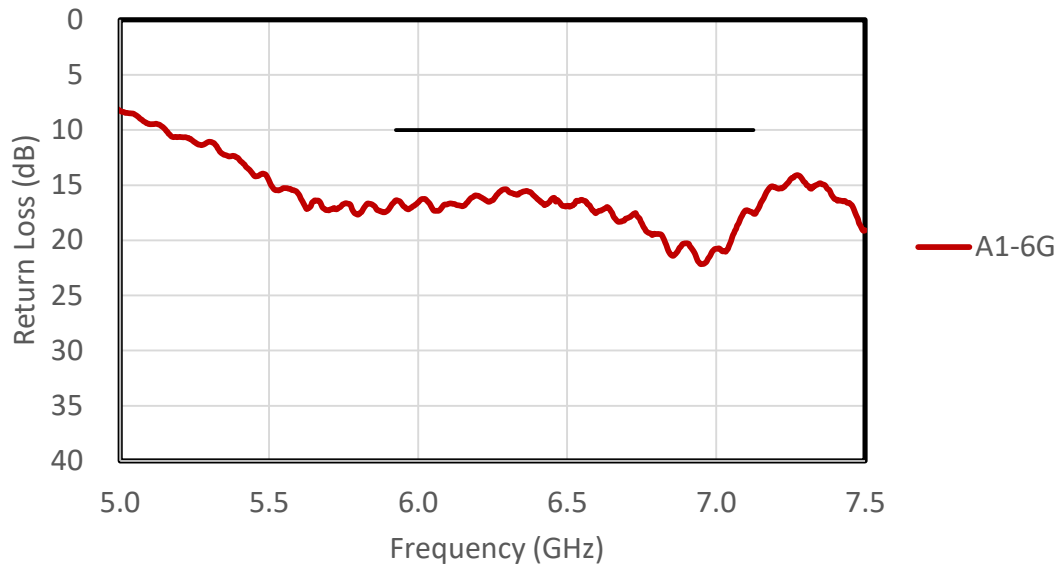


Figure 2. Basic dimensions and tolerances of PC65WOC02AS-B105FC2 antenna.

6. Return Loss

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



Return loss (dB)	A1_6G
5900MHz	16.4
6500MHz	16.9
7125MHz	17.6

Figure 3. Measured Return Loss of PC65WOC02AS-B105FC2.



7. Radiation Pattern Characteristics

Radiation characteristics for PC65WOC02AS-B105FC2 were measured in Satimo SG24L anechoic chamber.

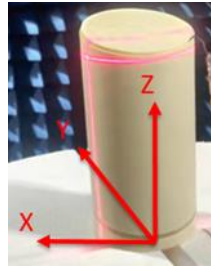


Figure 4. PC65WOC02AS-B105FC2 antenna for radiation pattern measurements. Coordinate system used for radiation pattern visualization.

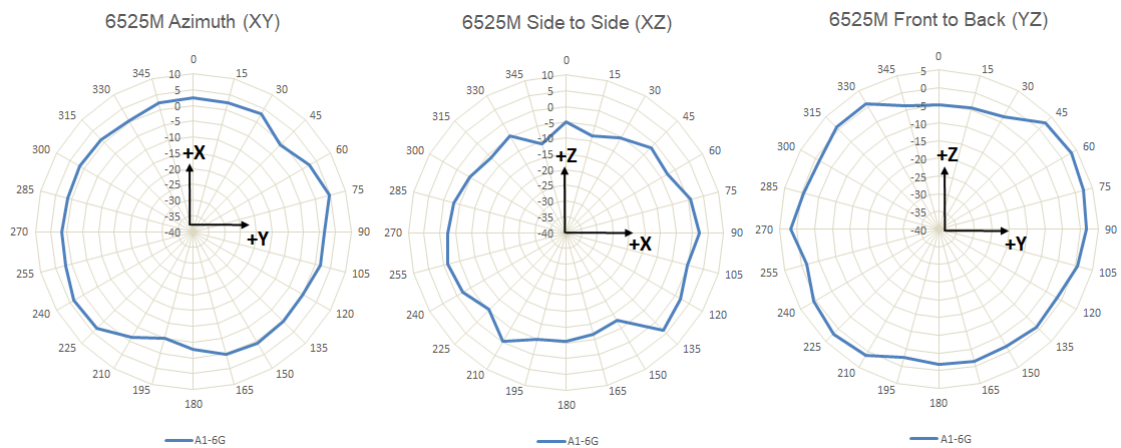


Figure 5. Measured radiation pattern characteristics in principal planes at 6525MHz.



8. Realized Efficiency and Peak Realized Gain

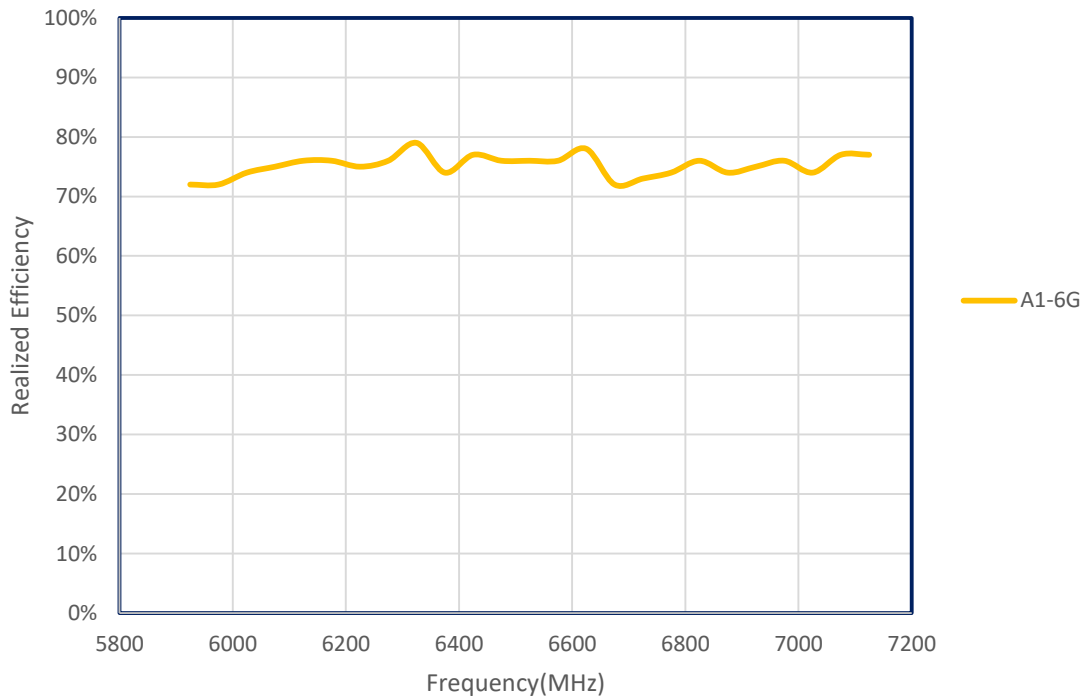


Figure 6. Measured Realized Efficiency over frequency.

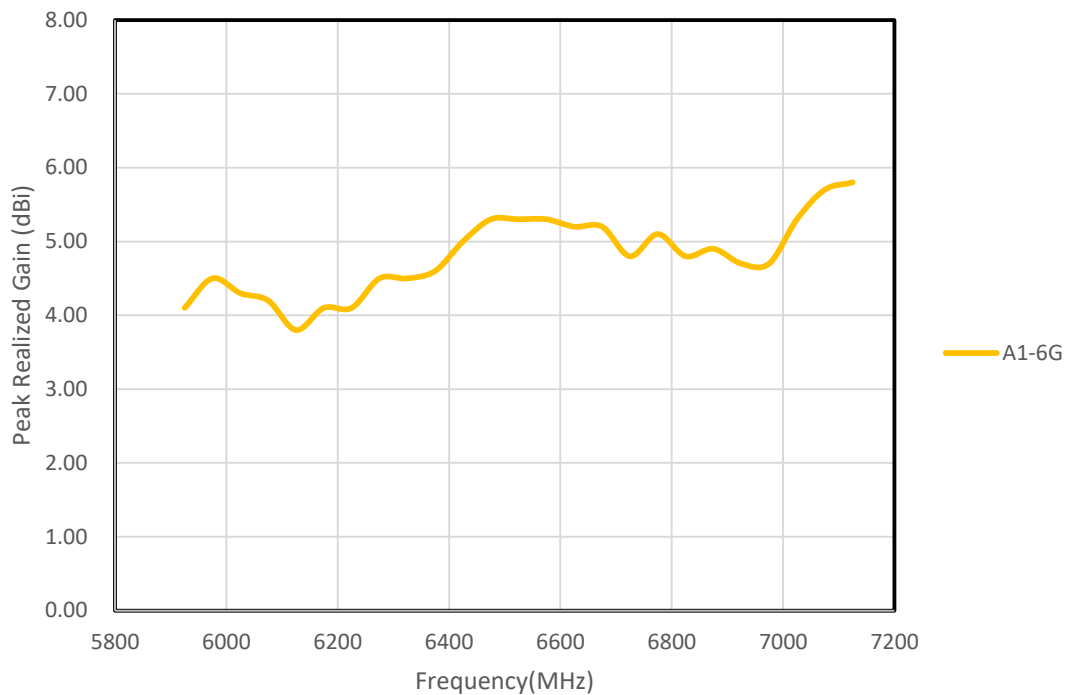


Figure 7. Measured Peak Realized gain over frequency.



Frequency(MHz)	Realized Efficiency	Peak Realized Gain(dBi)
5925	72%	4.1
5975	72%	4.5
6025	74%	4.3
6075	75%	4.2
6125	76%	3.8
6175	76%	4.1
6225	75%	4.1
6275	76%	4.5
6325	79%	4.5
6375	74%	4.6
6425	77%	5.0
6475	76%	5.3
6525	76%	5.3
6575	76%	5.3
6625	78%	5.2
6675	72%	5.2
6725	73%	4.8
6775	74%	5.1
6825	76%	4.8
6875	74%	4.9
6925	75%	4.7
6975	76%	4.7
7025	74%	5.3
7075	77%	5.7
7125	77%	5.8

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



9. Assembly Drawing

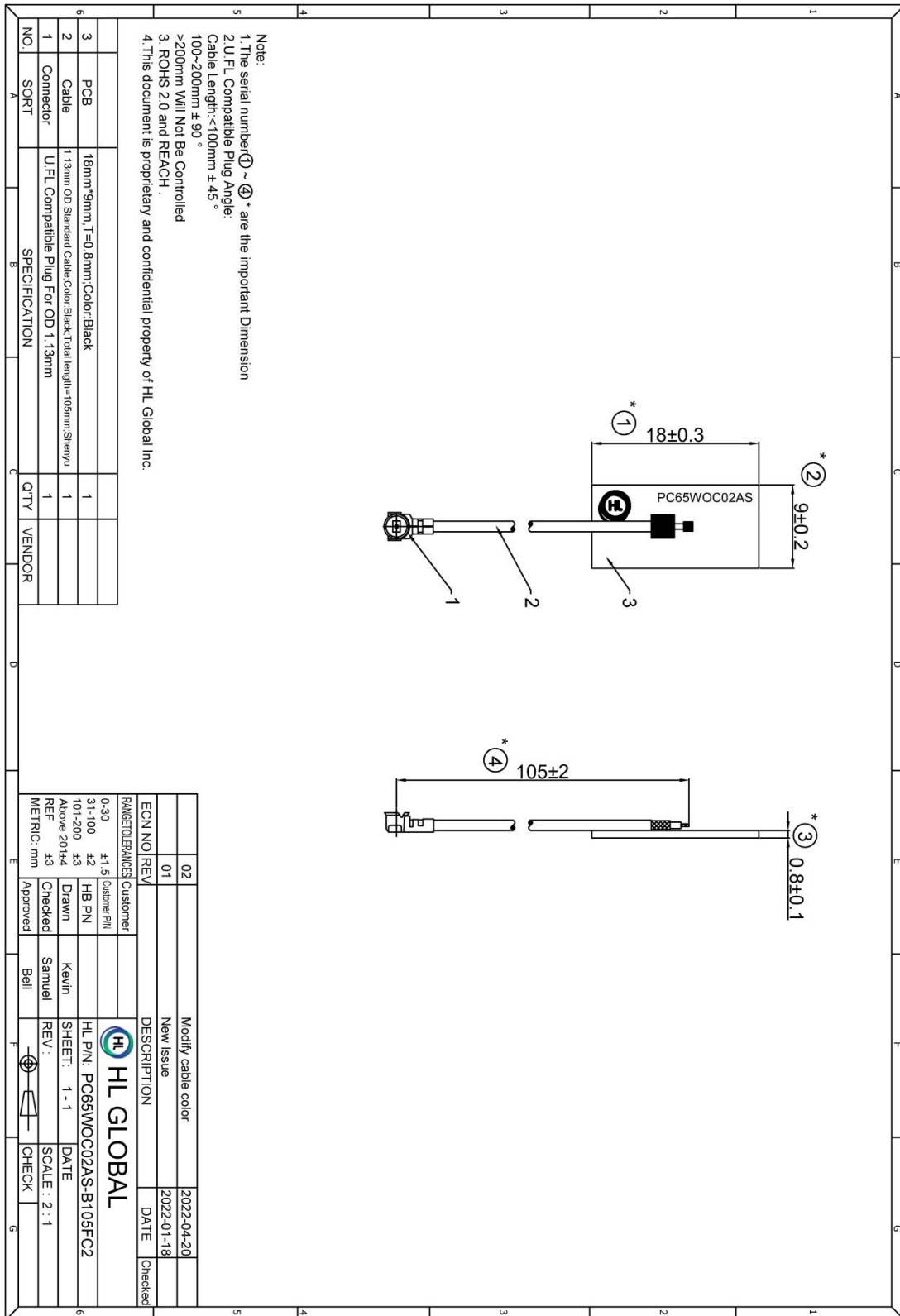


Figure 8. Assembly Drawing.