



# **HL GLOBAL**

## **PRELIMINARY ENGINEERING DATASHEET**

### **PC65WOC01AS-B87F**

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## Datasheet Revision History

Revision	Date	Change Log
PC65WOC01AS-B87F/ Rev.01	20 <sup>th</sup> /Apr/2022	Preliminary Datasheet 1.0

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## 1. Antenna Product Description

PC65WOC01AS-B87F 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

PC65WOC01AS-B87F Embedded Antenna features

- Covering 5900-7125MHz freq
- Superior performance
- Off-board, low profile design
- 5.2dBi@7125MHz
- Low Cost, High performance

## 3. Product Photographs



**Figure 1.** Photo of HL Global antenna PC65WOC01AS-B87F.



## 4. Antenna Specification Summary

Wireless Standard	WiFi 6E
Frequency Range	5900-7125MHz
Peak Realized Gain(Max)	5.2dBi@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	25*25*0.8(mm)
Weight	1.2g
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.** PC65WOC01AS-B87F antenna specification summary.

## 5. Principal Dimensions

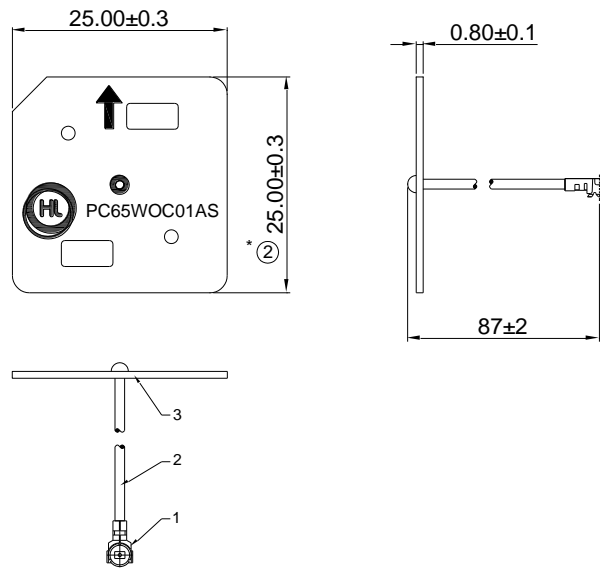
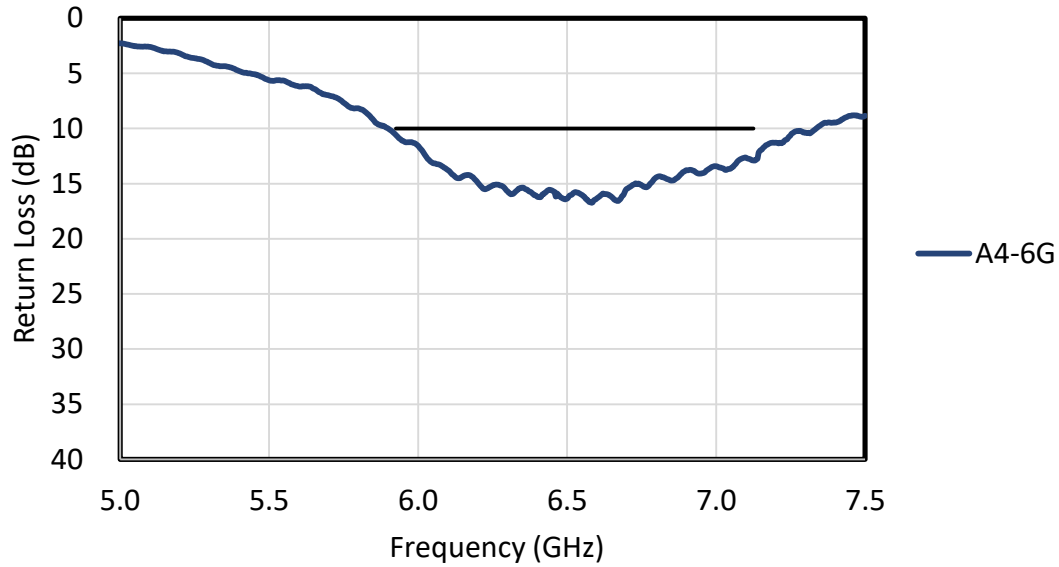


Figure 2. Basic dimensions and tolerances of PC65WOC01AS-B87F antenna.

## 6. Return Loss

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



Return loss (dB)	A4_6G
5900MHz	10.6
6500MHz	16.4
7125MHz	12.9

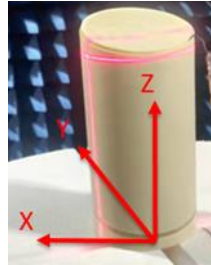
Figure 3. Measured Return Loss of PC65WOC01AS-B87F.



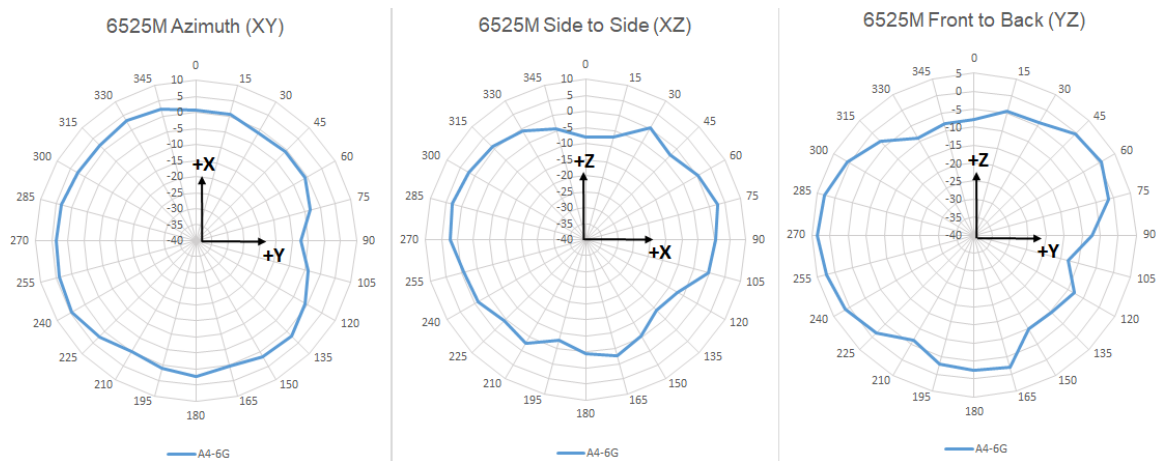


## 7. Radiation Pattern Characteristics

Radiation characteristics for PC65WOC01AS-B87F were measured on abs board in Satimo SG24L anechoic chamber.



**Figure 4.** PC65WOC01AS-B87F 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

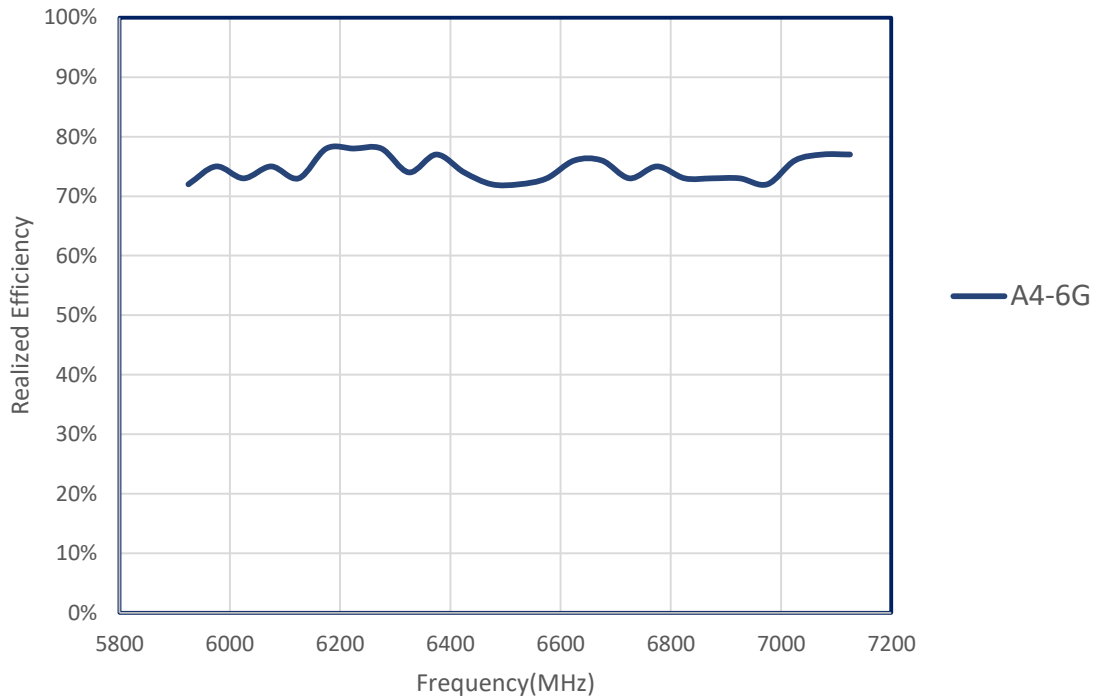


Figure 6. Measured Realized Efficiency over frequency.

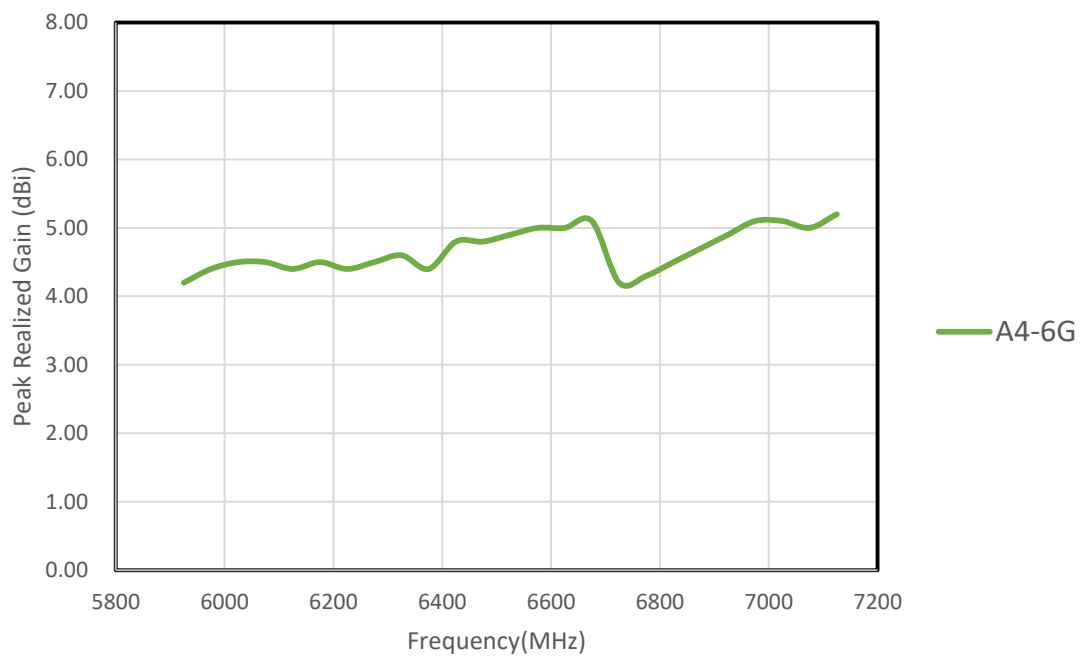


Figure 7. Measured Peak Realized gain over frequency.





Frequency(MHz)	Realized Efficiency	Peak Realized Gain(dBi)
5925	72%	4.2
5975	75%	4.4
6025	73%	4.5
6075	75%	4.5
6125	73%	4.4
6175	78%	4.5
6225	78%	4.4
6275	78%	4.5
6325	74%	4.6
6375	77%	4.4
6425	74%	4.8
6475	72%	4.8
6525	72%	4.9
6575	73%	5.0
6625	76%	5.0
6675	76%	5.1
6725	73%	4.2
6775	75%	4.3
6825	73%	4.5
6875	73%	4.7
6925	73%	4.9
6975	72%	5.1
7025	76%	5.1
7075	77%	5.0
7125	77%	5.2

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



# 9. Assembly Drawing

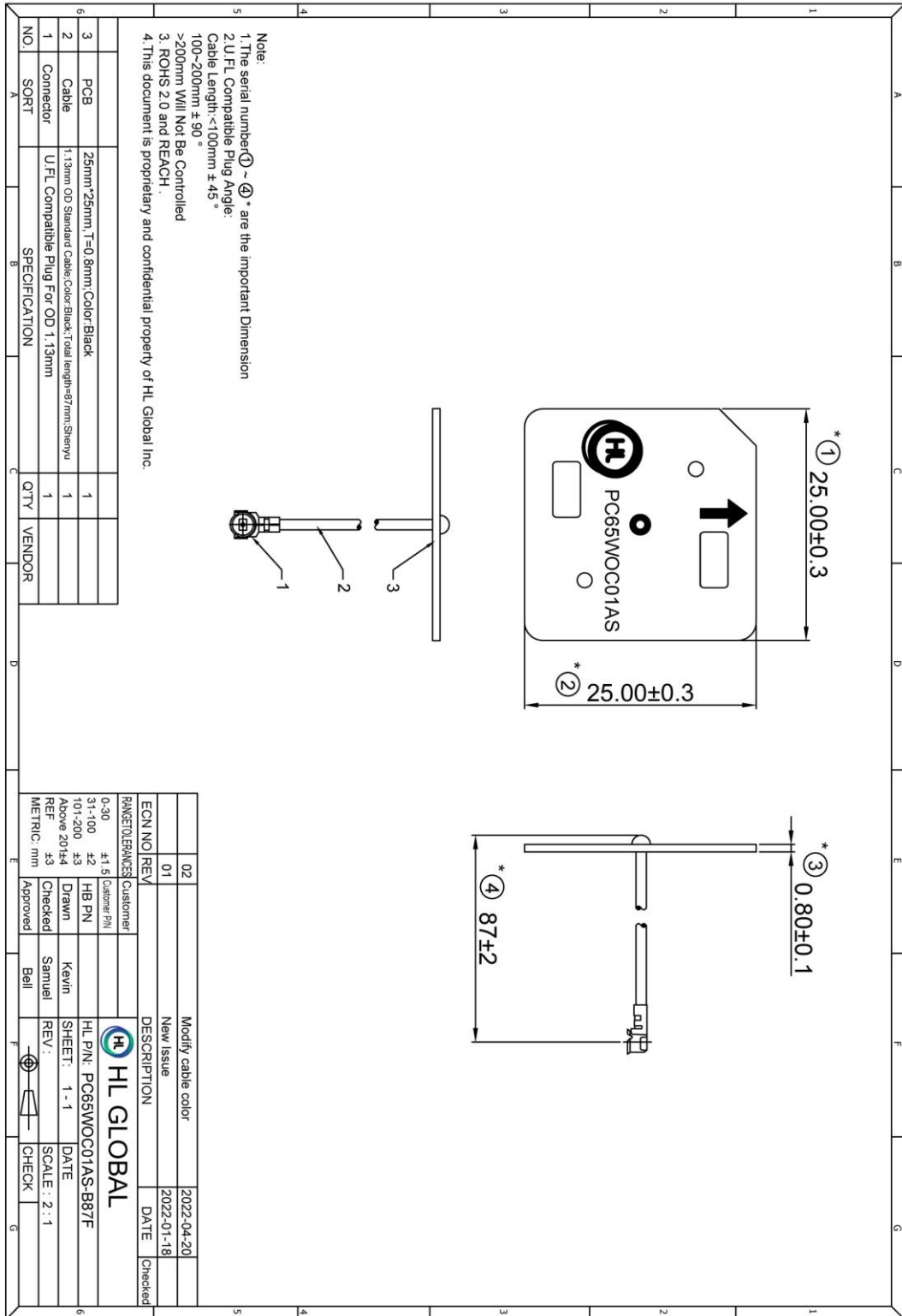


Figure 8.Assembly Drawing.