



HL GLOBAL

PRELIMINARY ENGINEERING DATASHEET

PC65WOC04AS-P1-G40F

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Datasheet Revision History

Revision	Date	Change Log
PC65WOC04AS-P1-G40F/ Rev.01	18 th /Mar/2022	Preliminary Datasheet 1.0

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1. Antenna Product Description

PC65WOC04AS-P1-G40F Embedded Antenna features provides a high performance, off-board and cable feeding antenna solution. It was designed for supporting 5925-7125MHz bands applications including WiFi 6E.

2. Features Overview

PC65WOC04AS-P1-G40F Embedded Antenna features

- Covering 5925-7125MHz freq
- Superior performance
- Off-board, low profile design
- 4.5dBi@6725MHz
- Low Cost, High performance

3. Product Photographs



Figure 1. Photo of HL Global antenna PC65WOC04AS-P1-G40F.



4. Antenna Specification Summary

Wireless Standard	WiFi 6E
Frequency Range	5925-7125MHz
Peak Realized Gain(Max)	4.5dBi@6725MHz
Realized Efficiency	79%@6725MHz
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	0.48g
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. PC65WOC04AS-P1-G40F antenna specification summary.



5. Principal Dimensions

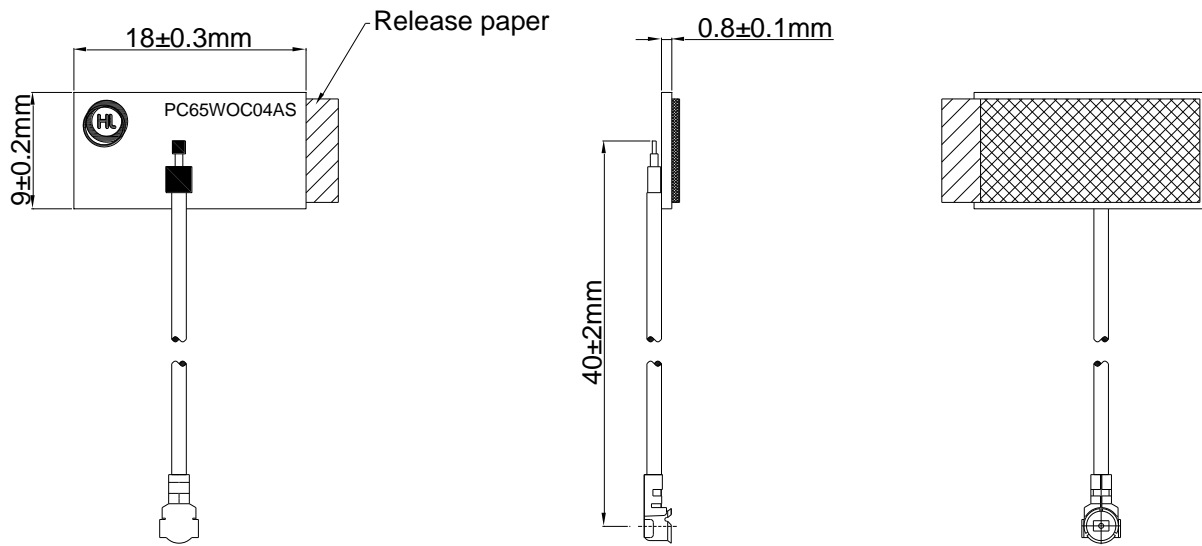
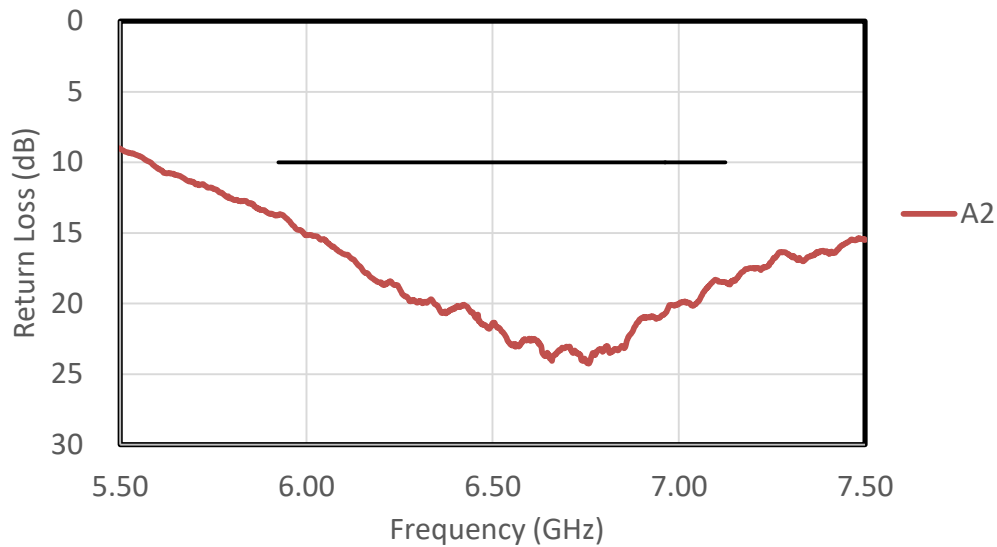


Figure 2. Basic dimensions and tolerances of PC65WOC04AS-P1-G40F antenna.

6. Return Loss

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



Return loss (dB)	A2
5925MHz	13.7
6525MHz	22.0
7125MHz	18.5

Figure 3. Measured Return Loss of PC65WOC04AS-P1-G40F.



7. Radiation Pattern Characteristics

Radiation characteristics for PC65WOC04AS-P1-G40F were measured on abs board in Satimo SG24L anechoic chamber.

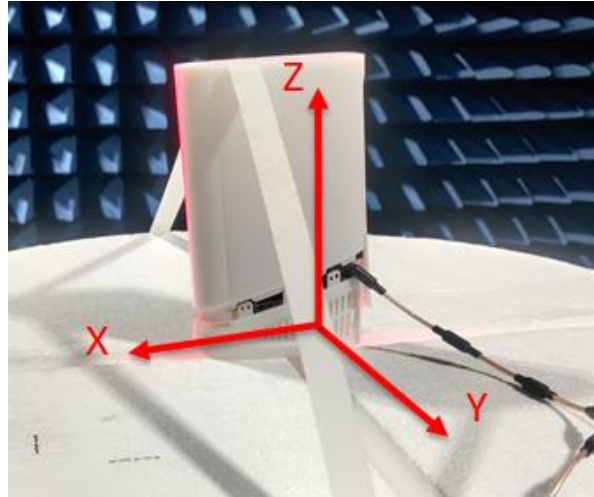


Figure 4. PC65WOC04AS-P1-G40F antenna for radiation pattern measurements. Coordinate system used for radiation pattern visualization.

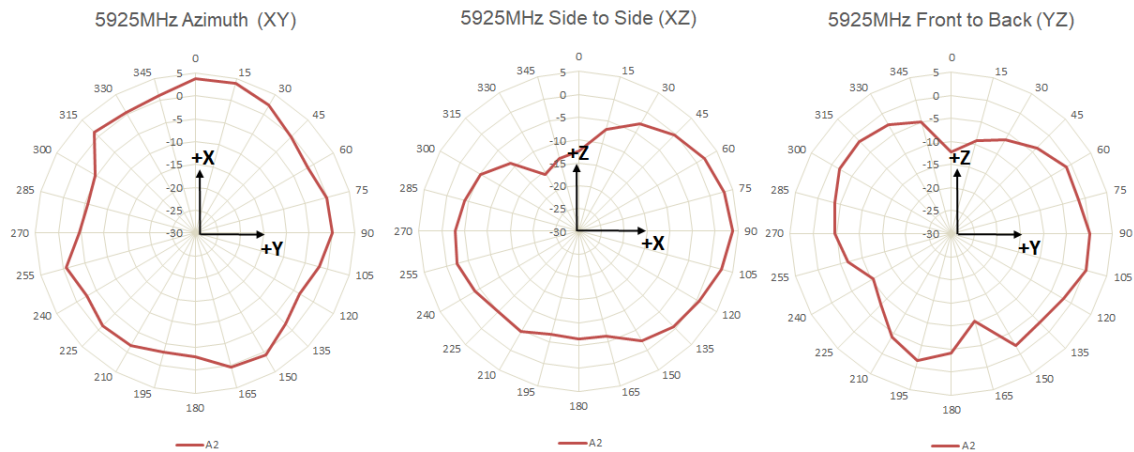


Figure 5. Measured radiation pattern characteristics in principal planes at 5925MHz.

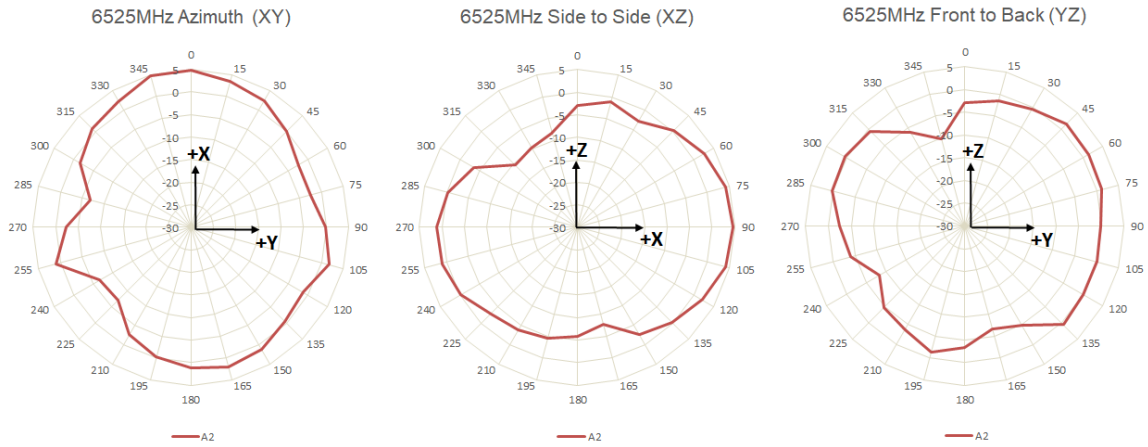


Figure 6. Measured radiation pattern characteristics in principal planes at 6525MHz.

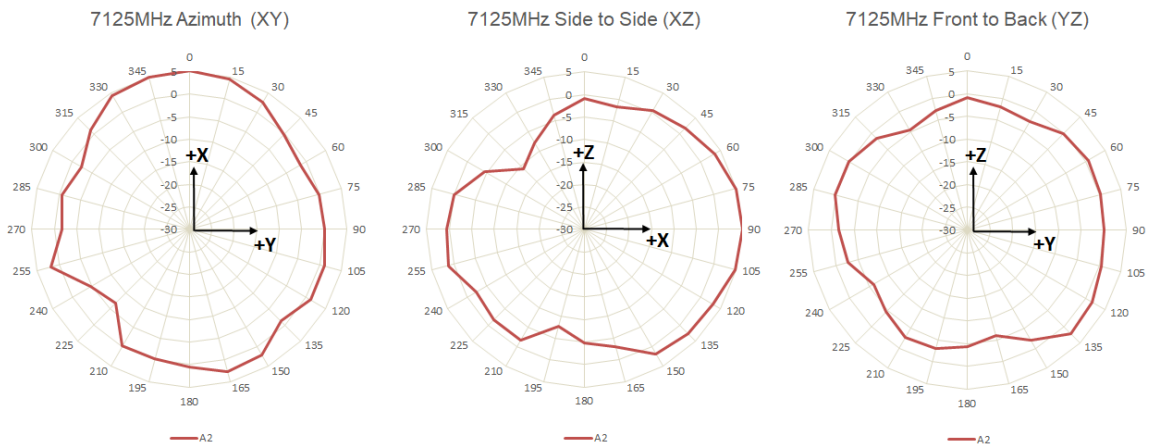


Figure 7. Measured radiation pattern characteristics in principal planes at 7125MHz.



8. Realized Efficiency and Peak Realized Gain

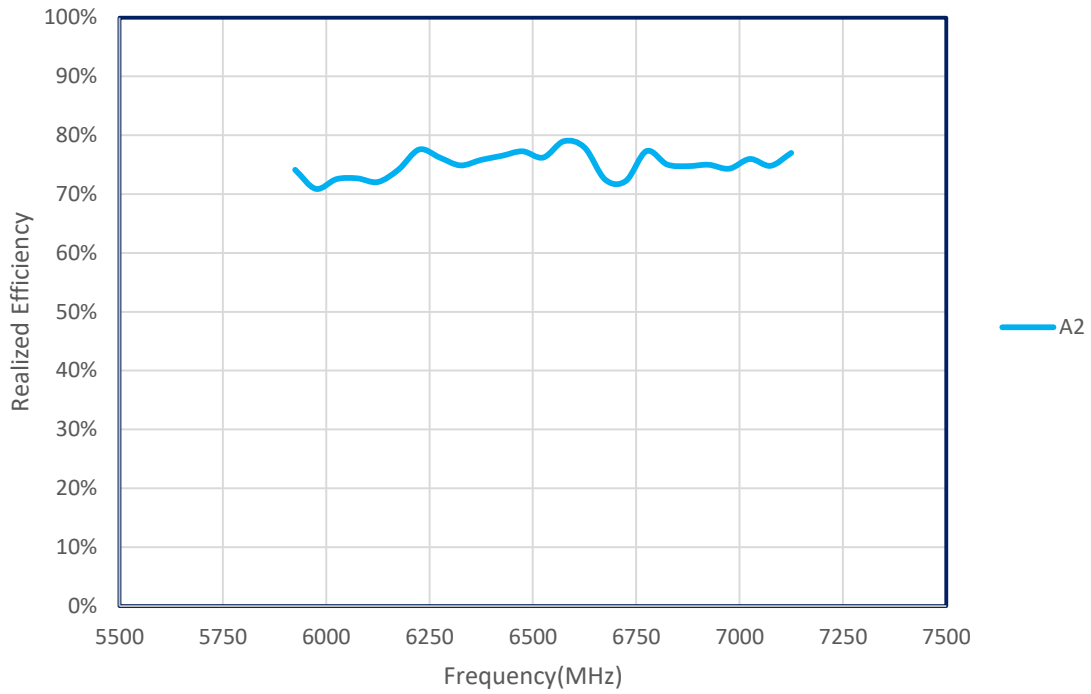


Figure 8. Measured Realized Efficiency over frequency.

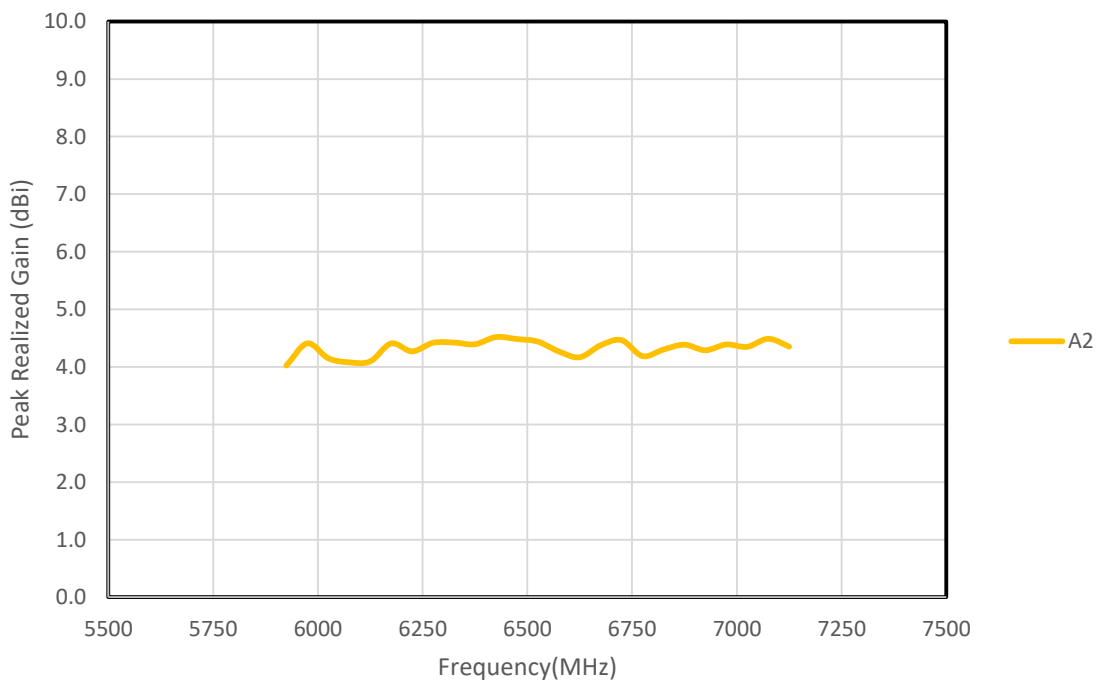


Figure 9. Measured Peak Realized gain over frequency.



Frequency(MHz)	Realized Efficiency	Peak Realized Gain(dBi)
5925	75%	4.0
5975	73%	4.4
6025	71%	4.1
6075	79%	4.1
6125	75%	4.1
6175	74%	4.4
6225	75%	4.3
6275	79%	4.4
6325	76%	4.4
6375	80%	4.4
6425	83%	4.5
6475	80%	4.5
6525	79%	4.4
6575	79%	4.3
6625	77%	4.2
6675	77%	4.4
6725	79%	4.5
6775	77%	4.2
6825	79%	4.3
6875	76%	4.4
6925	78%	4.3
6975	76%	4.4
7025	78%	4.3
7075	78%	4.5
7125	76%	4.4

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



9. Assembly Drawing

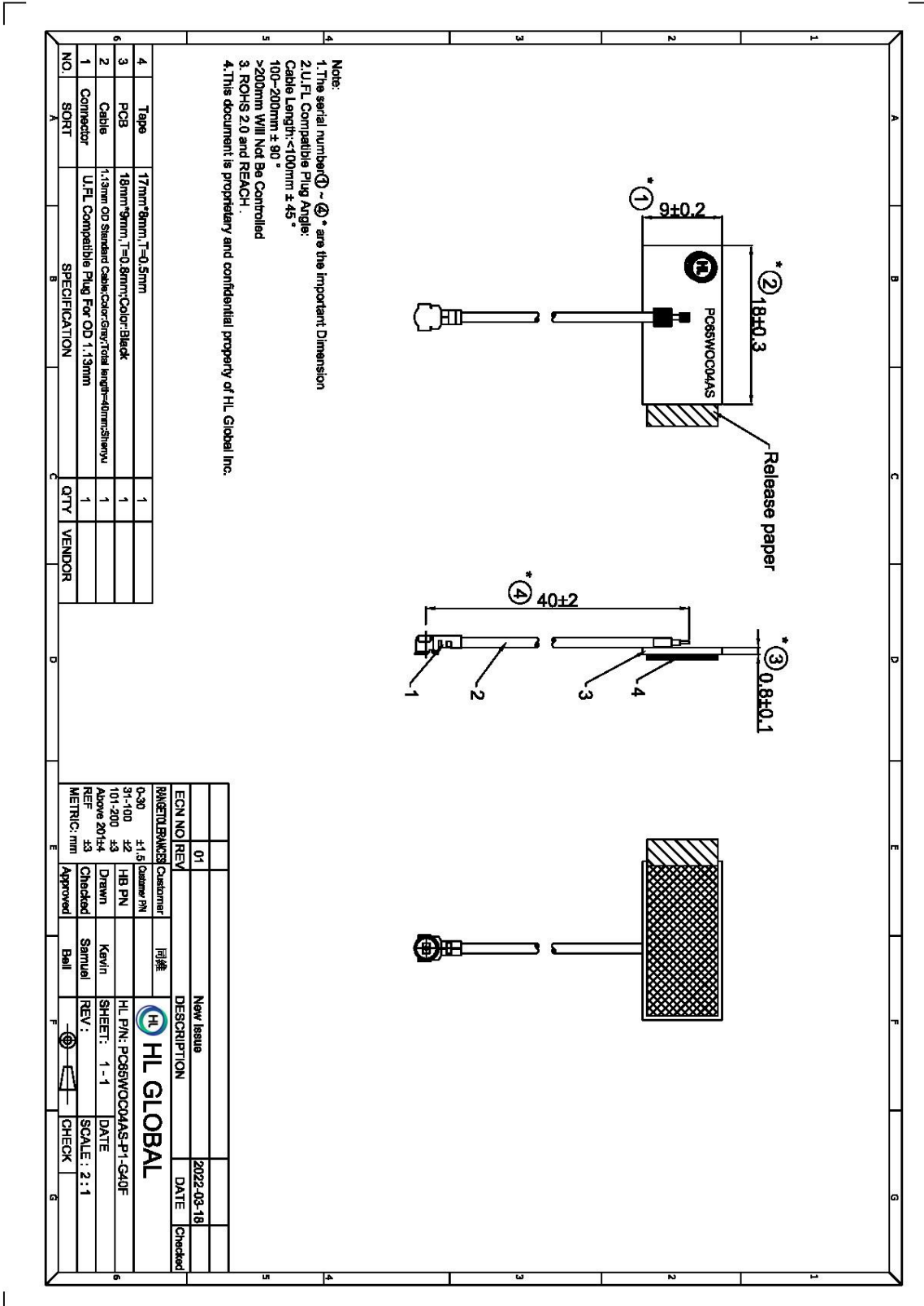


Figure 10.Assembly Drawing.