



HL GLOBAL

PRELIMINARY ENGINEERING DATASHEET

FL24WP01HK

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
FL24WP01HK/ Rev.01	8 th /Mar /2022	Preliminary Datasheet 1.0

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1. Antenna Product Description

FL24WP01HK Embedded Antenna features provides a high performance, off-board and Pogo pin-fed antenna solution. It was designed for 2400-2500MHz band applications including WIFI.

2. Features Overview

FL24WP01HK Embedded Antenna features

- Covering 2400-2500MHz freq
- Superior performance
- 3.0dBi@2500MHz
- Off-board, low profile design
- Low Cost, High performance

3. Product Photographs



Figure 1. Photo of HL GLOBAL antenna FL24WP01HK.



4. Antenna Specification Summary

Wireless Standard	WIFI
Frequency Range	2400-2500MHz
Peak Realized Gain	3.0dBi@2500MHz
Realized Efficiency	24%@2500MHz
Return Loss	>10dB
Polarization	Linear Polarization
Radiation Pattern	Omni-directional
Feed Impedance	50Ω
Power Handling	30dBm
Antenna Structure	FPC
Feeding Description	Pogo pin-fed
Antenna Dimensions	13.3*15.6*0.12 (mm)
Weight	0.262g
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. FL24WP01HK antenna specification summary.



5. Principal Dimensions

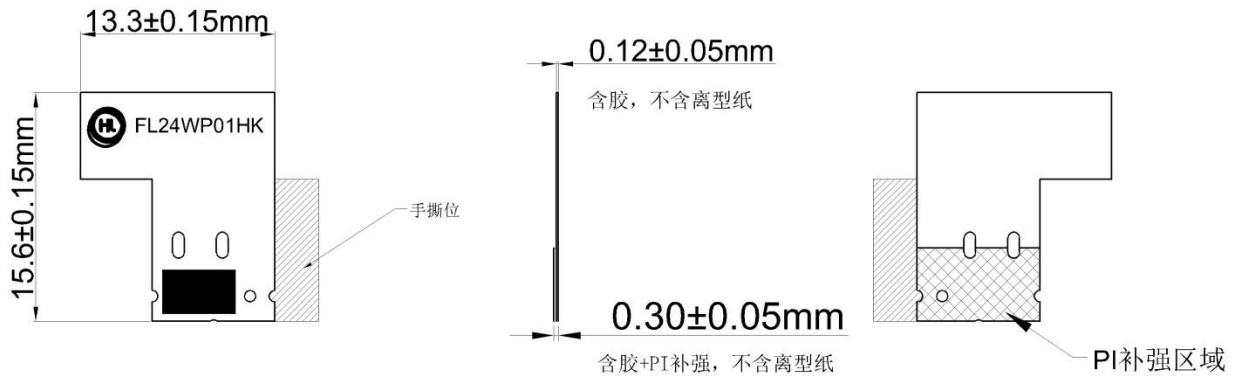


Figure 2. Basic dimensions and tolerances of FL24WP01HK antenna.

6. Return Loss

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

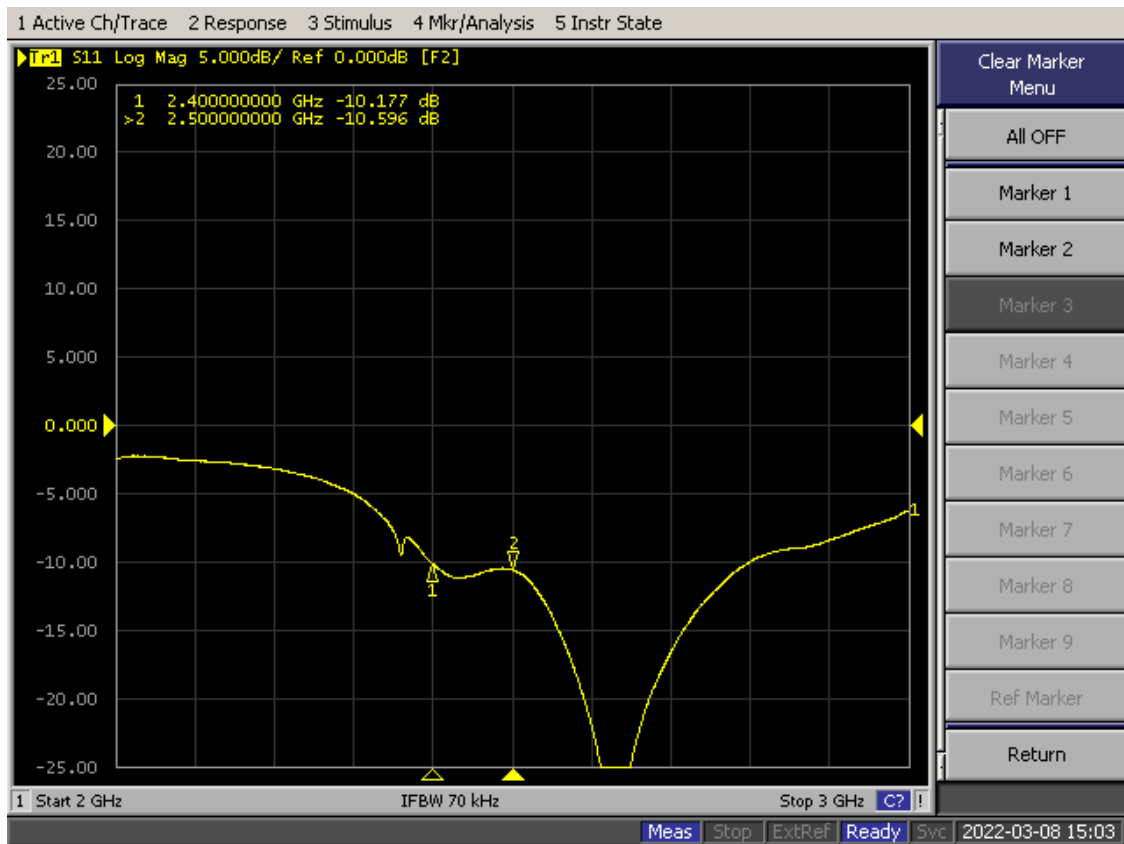


Figure 3. Measured Return Loss of FL24WP01HK.



7. Radiation Pattern Characteristics

Radiation characteristics for FL24WP01HK were measured on abs board in Satimo SG24L anechoic chamber.

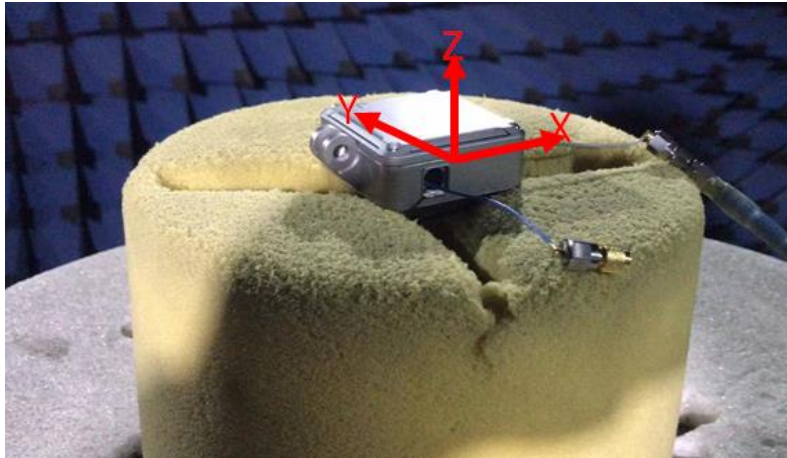


Figure 4. FL24WP01HK antenna for radiation pattern measurements. Coordinate system used for radiation pattern visualization.

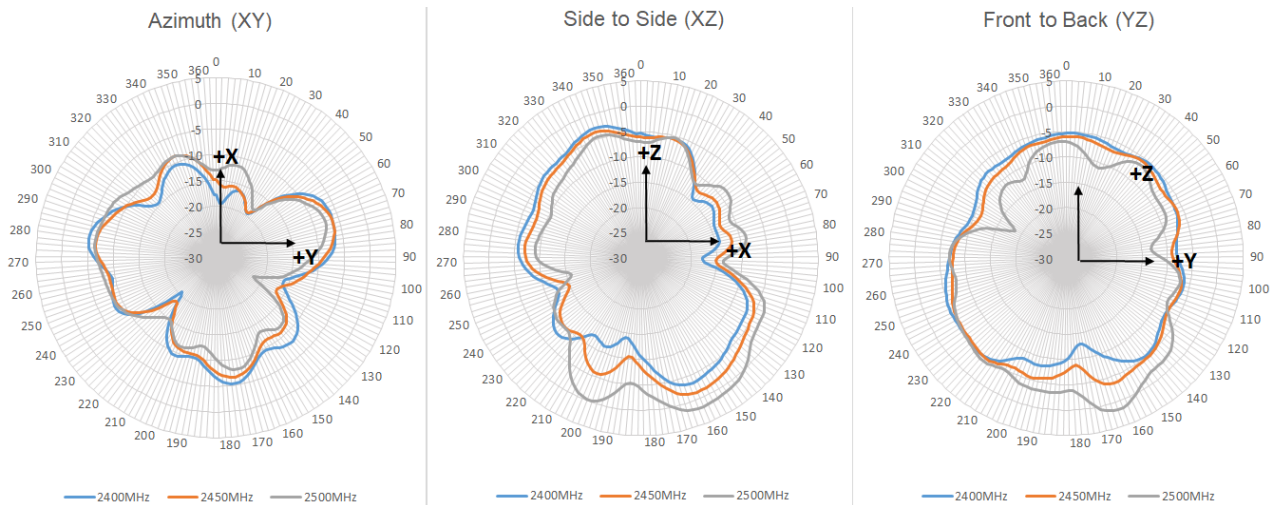


Figure 5. Measured radiation pattern characteristics in principal planes at 2.4GHz.



7. Realized Efficiency and Peak Realized Gain

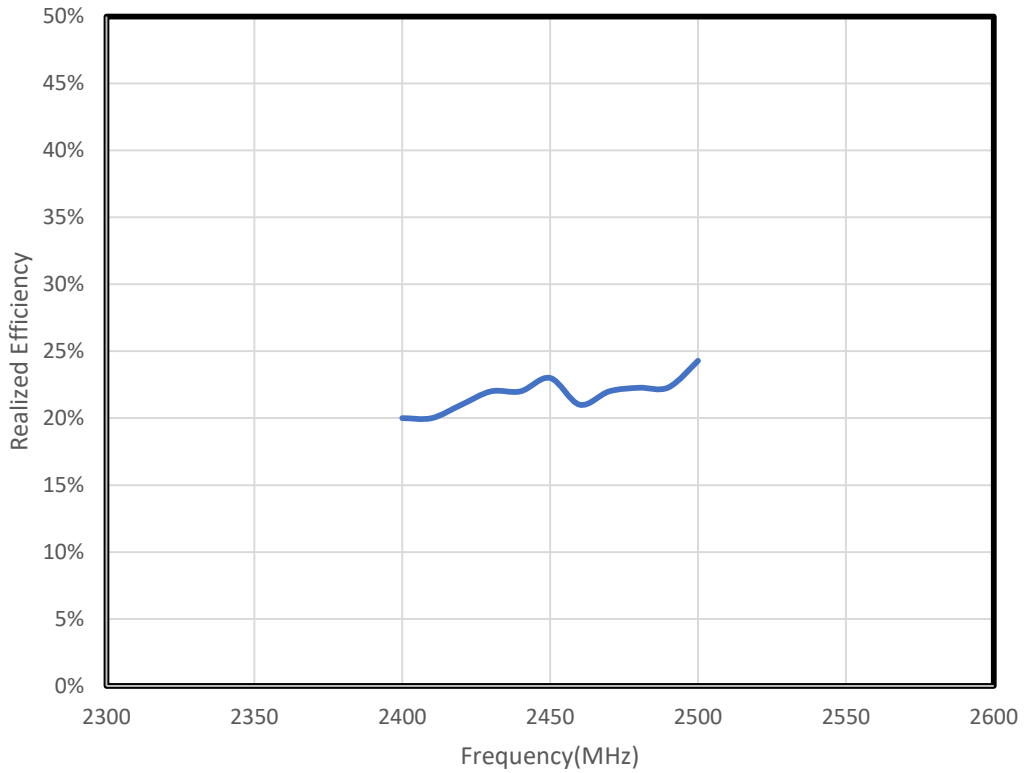


Figure 6. Measured Realized Efficiency over frequency.

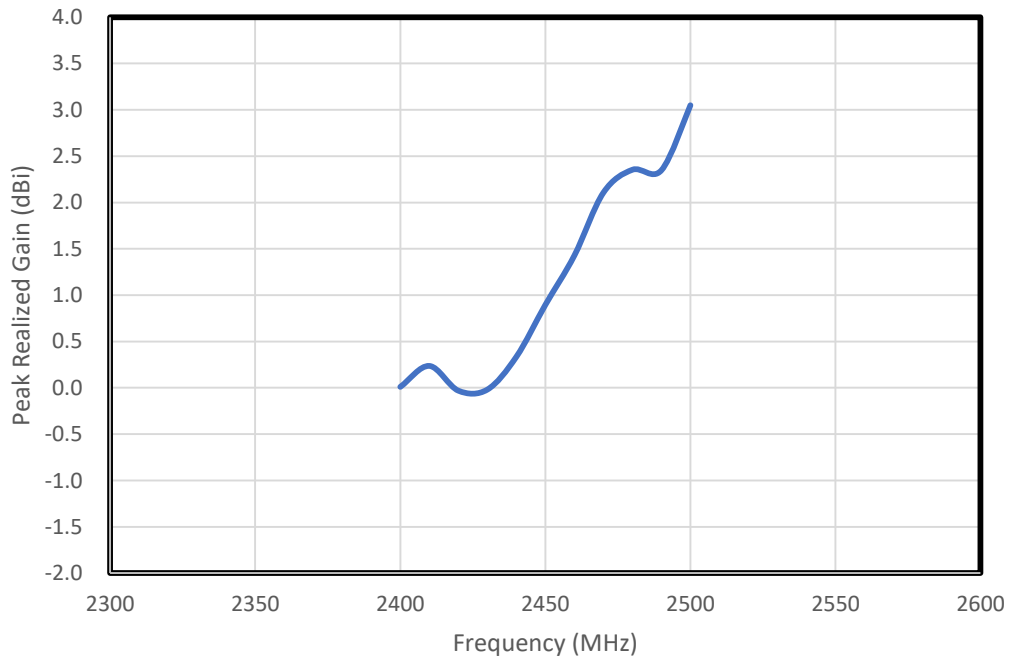


Figure 7. Measured Peak Realized gain over frequency.



Frequency(MHz)	Realized Efficiency	Peak Realized Gain(dBi)
2400	20%	0.0
2410	20%	0.2
2420	21%	0.0
2430	22%	0.0
2440	22%	0.3
2450	23%	0.9
2460	21%	1.4
2470	22%	2.1
2480	22%	2.4
2490	22%	2.3
2500	24%	3.0

Table 2.Summary of peak realized gain and realized efficiency results.



9. Assembly Drawing

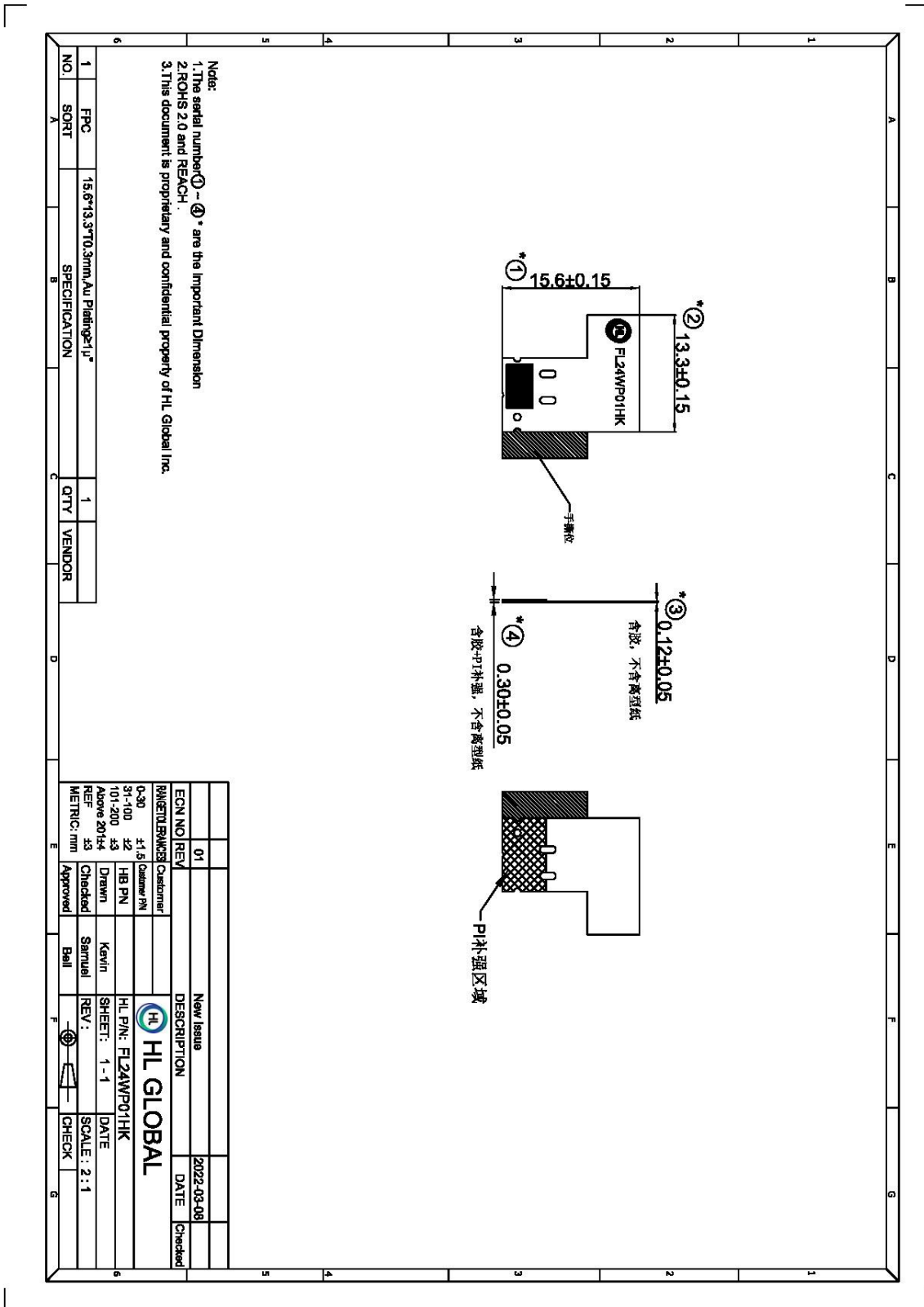


Figure 8.Assembly Drawing.