


**CU23002-1**  
***Product Specification***  
***Rev.01***

For Antenova					
Author	Signature	Date	Approved by	Signature	Date
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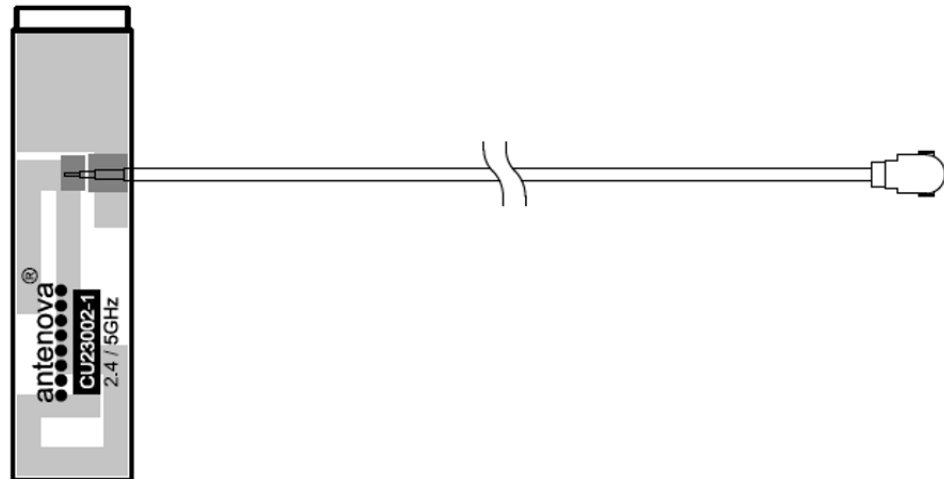
For Owl Labs			
	Approved by	Signature	Date
	Ashish Thanawala	<i>Ashish Thanawala</i>	17-Aug-2023

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## 1. PART NUMBER

Part Number
CU23002-1



## 2. GENERAL DATA

<b>Part No.</b>	CU23002-1
<b>Frequency</b>	2400-2500, 5150-5850 MHz
<b>Polarization</b>	Linear
<b>Operating Temperature</b>	-40 to +85°C
<b>Impedance</b>	50 $\Omega$
<b>Weight</b>	<1 g
<b>Antenna Type</b>	FPC antenna
<b>Dimensions</b>	FPC: 30.0 x 8.0 x 0.15 (mm <sup>3</sup> ), FPC + sponge : 30.0 x 8.0 x 2.3 (mm <sup>3</sup> )
<b>Cable Length</b>	205.0 (mm)-black, $\varnothing$ 1.13 double shielding cable + MHF (20278-112R-13)

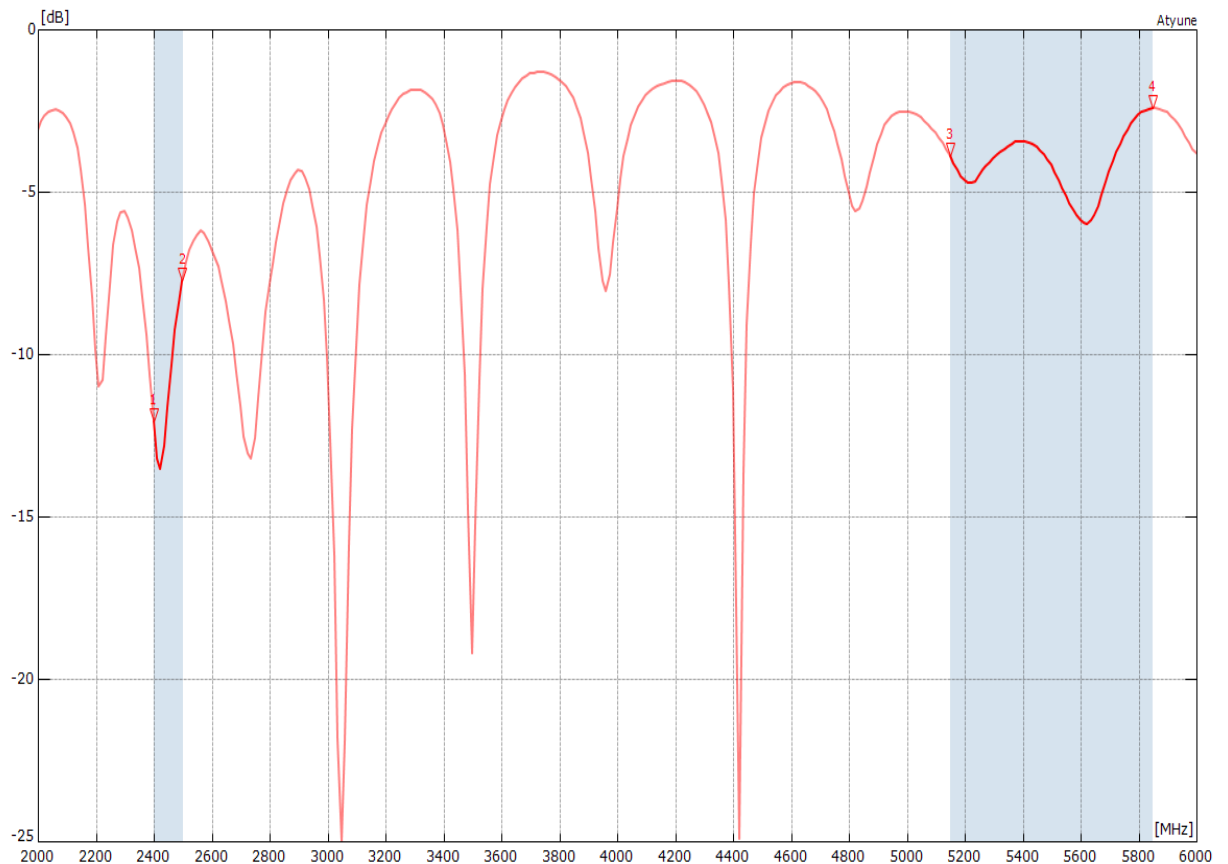
### 3. RF CHARACTERISTICS SUMMARY

CU23002-1	2400-2500 MHz	5150-5850 MHz
Efficiency (min.)	45.1%	28.2%
Efficiency (avg.)	47.3%	30.6%
Gain (peak)	2.9dBi	3.2dBi
Gain (avg.)	-3.2dB	-5.1dB

*All data is measured while CU23002-1 adhered to the Owl's device*

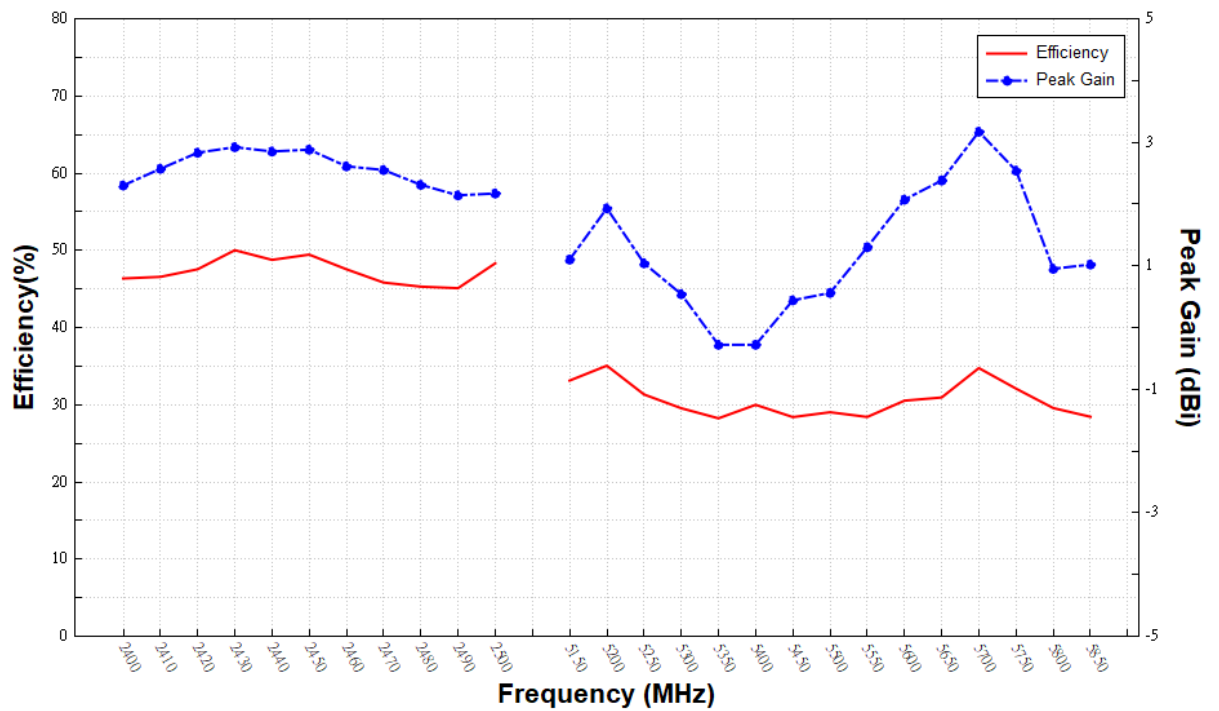
## 4. RF PERFORMANCE

### 4.1 Return Loss



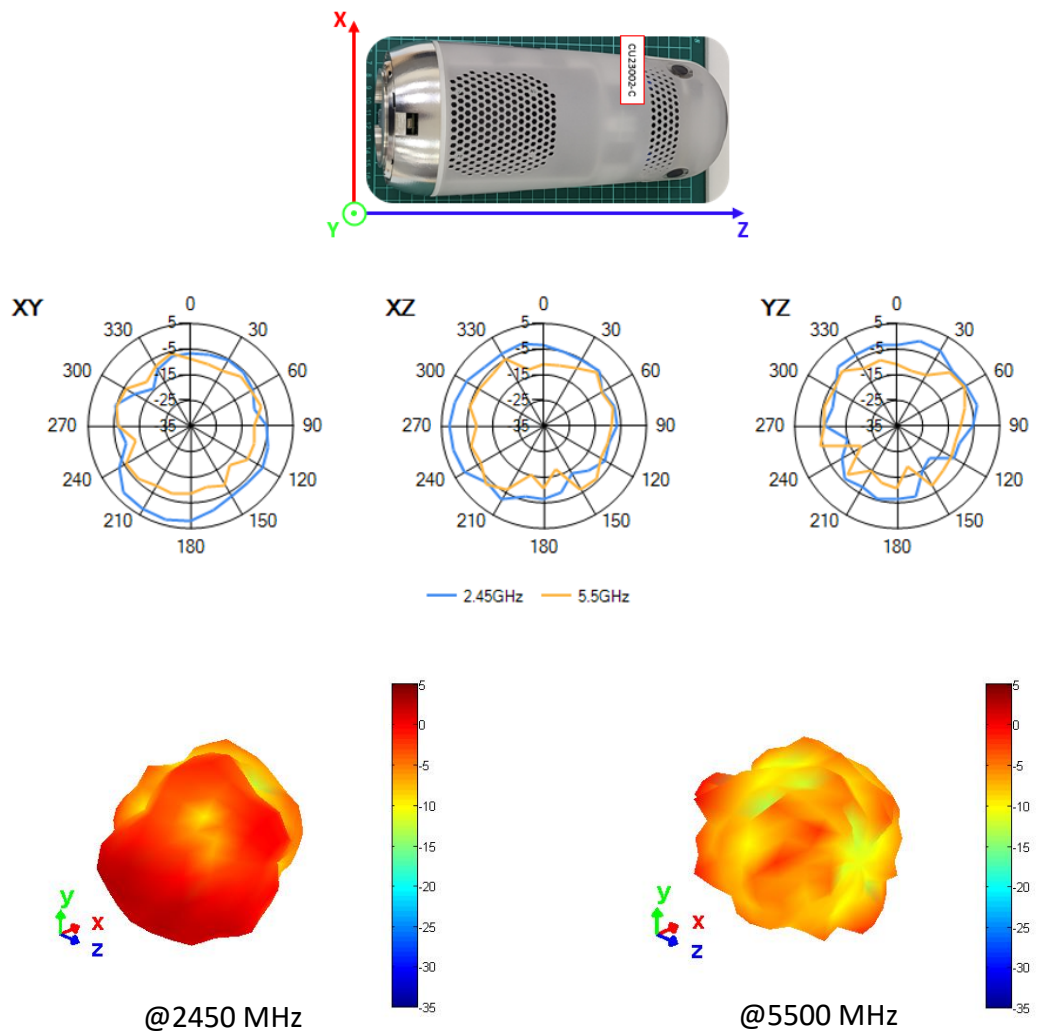
*All data is measured while CU23002-1 adhered to the Owl's device*

## 4.2 Antenna Efficiency and Peak Gain



*All data is measured while CU23002-1 adhered to the Owl's device*

### 4.3 Antenna Radiation Pattern

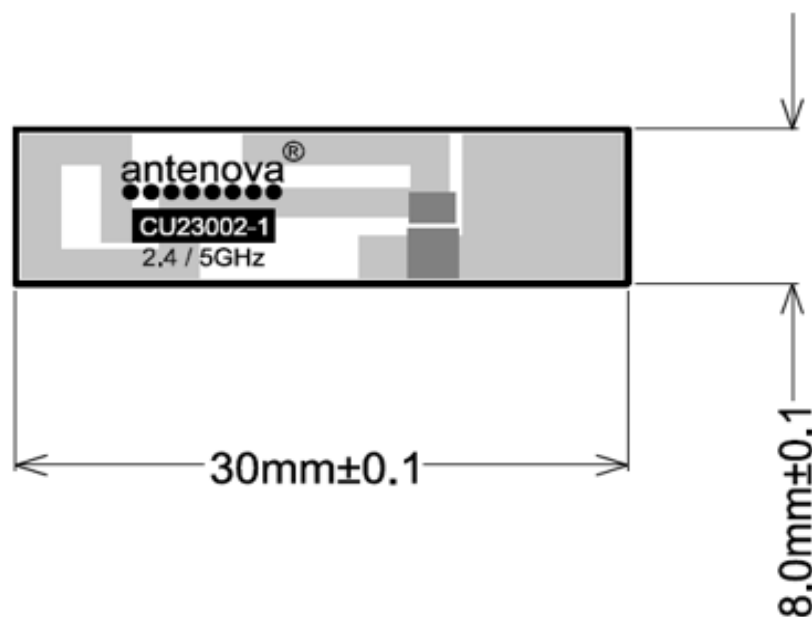


*All data is measured while CU23002-1 adhered to the Owl's device*

## 5. DIMENSIONS

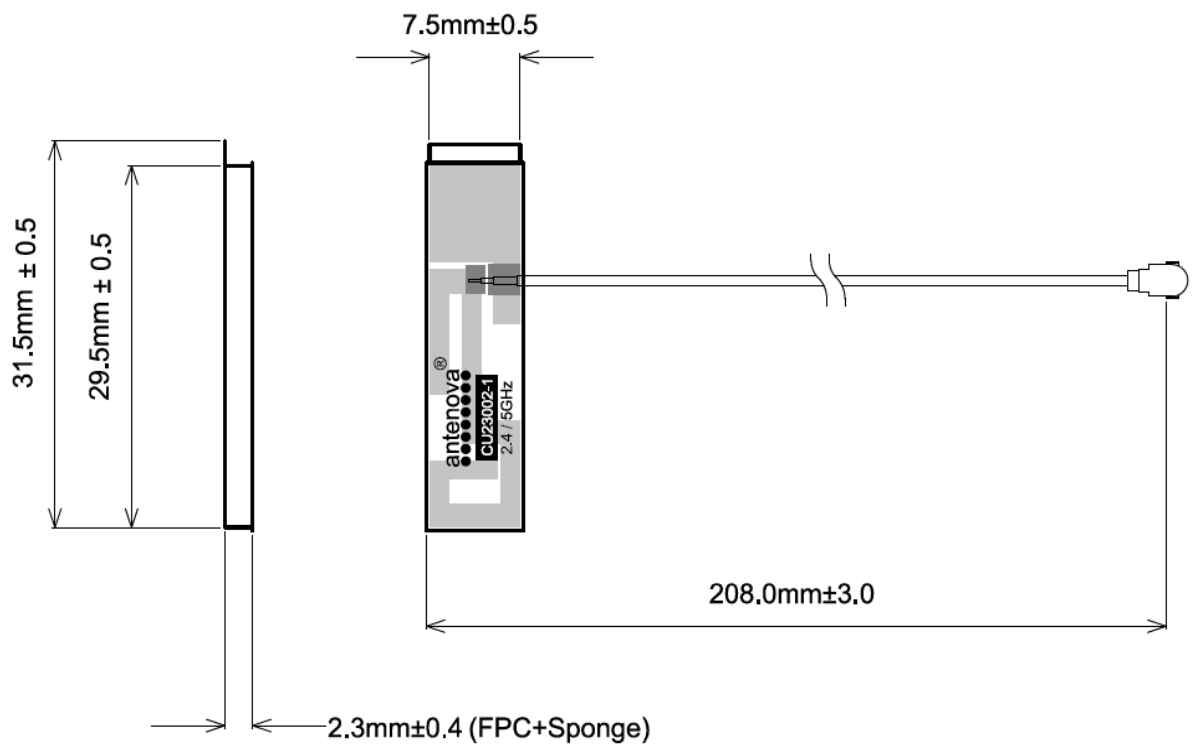
### 5.1 Antenna Dimensions

L	W	T
Length	Width	Thickness
30.0 ±0.1 mm	8.0 ±0.1 mm	0.15mm





## 5.2 Assembled



## 6. ELECTRICAL INTERFACE

The Host PCB should ensure that the transmission lines are designed to have a characteristic impedance of 50  $\Omega$

- The length of the transmission lines should be kept to a minimum
- Any other parts of the RF system like transceivers, power amplifiers, etc., should also be designed to have an impedance of 50  $\Omega$

Once the material for the PCB has been chosen (PCB thickness and dielectric constant), a coplanar transmission line can easily be designed using any of the commercial software packages for transmission line design. For the chosen PCB thickness, copper thickness and substrate dielectric constant, the program will calculate the appropriate transmission line width and gaps on either side of the track so the characteristic impedance of the coplanar transmission line is 50  $\Omega$

## 7. HAZARDOUS MATERIAL REGULATION CONFORMANCE

The antenna has been tested to conform to RoHS requirements. A certificate of conformance is available from Antenova's website.

## 8. STATEMENT ON INTELLECTUAL PROPERTY & DISCLAIMER

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