The evolution of technology has brought the need to communicate everywhere and at all times without being confined to one space. Our antennas feature wide bandwidth to enhance the performance and application of portable wireless devices based on standards such as 802.11 and Bluetooth®. The antennas are specifically designed to be embedded inside devices for aesthetically pleasing integration with high durability.

Features and Benefits

- Versatile, easy-to-use for 2.4 to 2.5 GHz Bluetooth® and IEEE 802.11 devices
- Designed for an easy connection to radio cards
- Has a ground plane incorporated into the resonator structure – no additional ground plane is required to radiate efficiently
- Uses patented PCB Microsphere technology

Electrical Specifications	
Operating Frequency (MHz)	2.4 – 2.5 GHz
VSWR – Max	< 2.5:1
Peak Gain - Max (dBi)	2
Nominal Impedance (Ohms)	50
Polarization	Linear

Mechanical Specifications	
Dimensions – mm (in.)	44.45 x 12.7 x 0.81 mm (1.75 x 0.5 x 0.032 in.)
Weight – g (oz.)	2 g (0.071 oz.)

CONFIGURATION

Part Number	Cable Length	Connector
MAF94045	100 mm, Ø 1.13 mm	IPEX MHF
MAF94102	100 mm, RG178	Flying Lead
MAF95096	100 mm, RG178	Right Angle MMCX
EBL2400A1-10MH4L	100 mm, Ø 1.13 mm	MHF4
EBL2400R1-20MHF4	200 mm, Ø 1.13 mm	MHF4

Note: Specifications are based on the 100mm cable length, standard antenna version with MHF1 / U.FL connector. Varying the cable length or type or connector will cause variations in these antenna specifications.

Ezurio's products are subject to standard Terms & Conditions.

Flat Surface Antenna Measurements

Flat surface measurements were performed with the antenna in free space.

VSWR

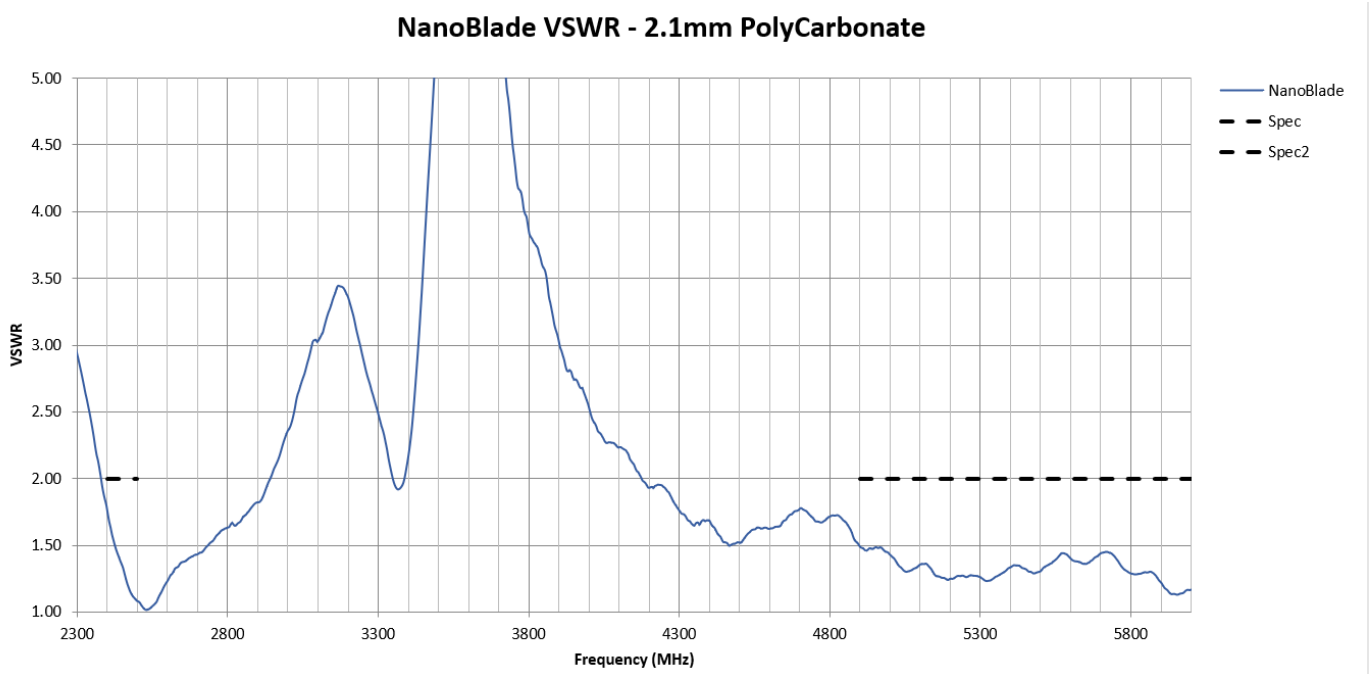


Figure 1: Antenna VSWR measured in *free space*

RETURN LOSS

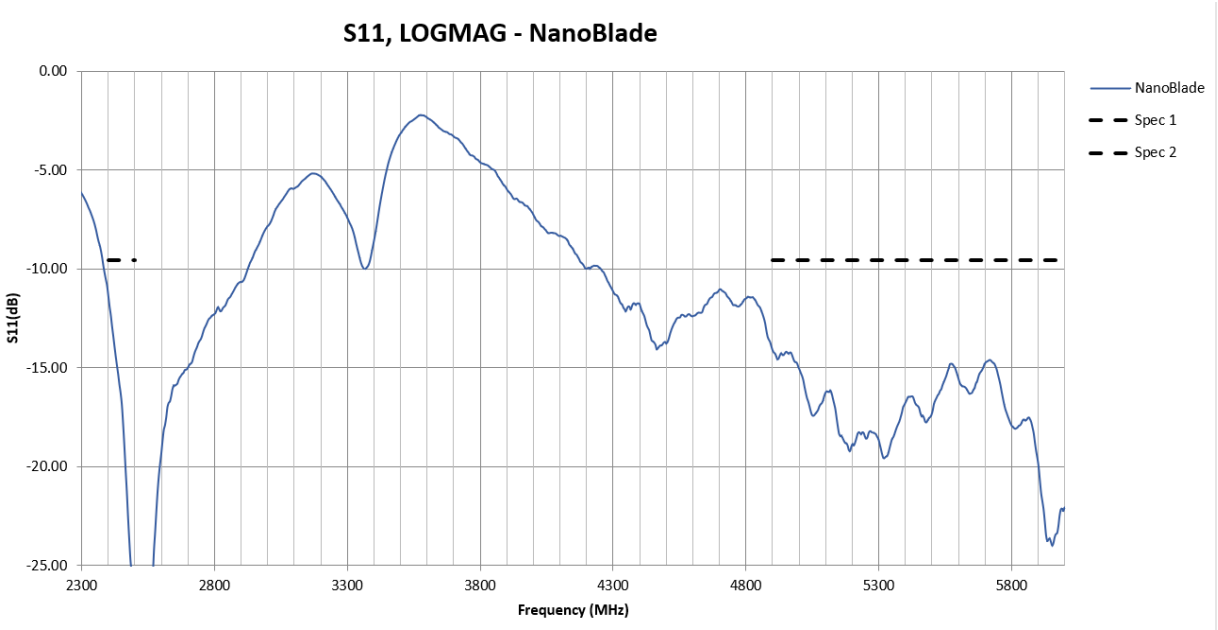


Figure 2: Antenna Return Loss measured in free space

Antenna Chamber Test Setup

Antenna measurements such as VSWR and S11 were measured with an Agilent E5071C vector network analyzer. Radiation patterns were measured with a Rohde & Schwarz ZNB8-4PORT vector network analyzer in a Howland Company 3100 chamber equivalent. Phase center is nine inches above the Phi positioner.

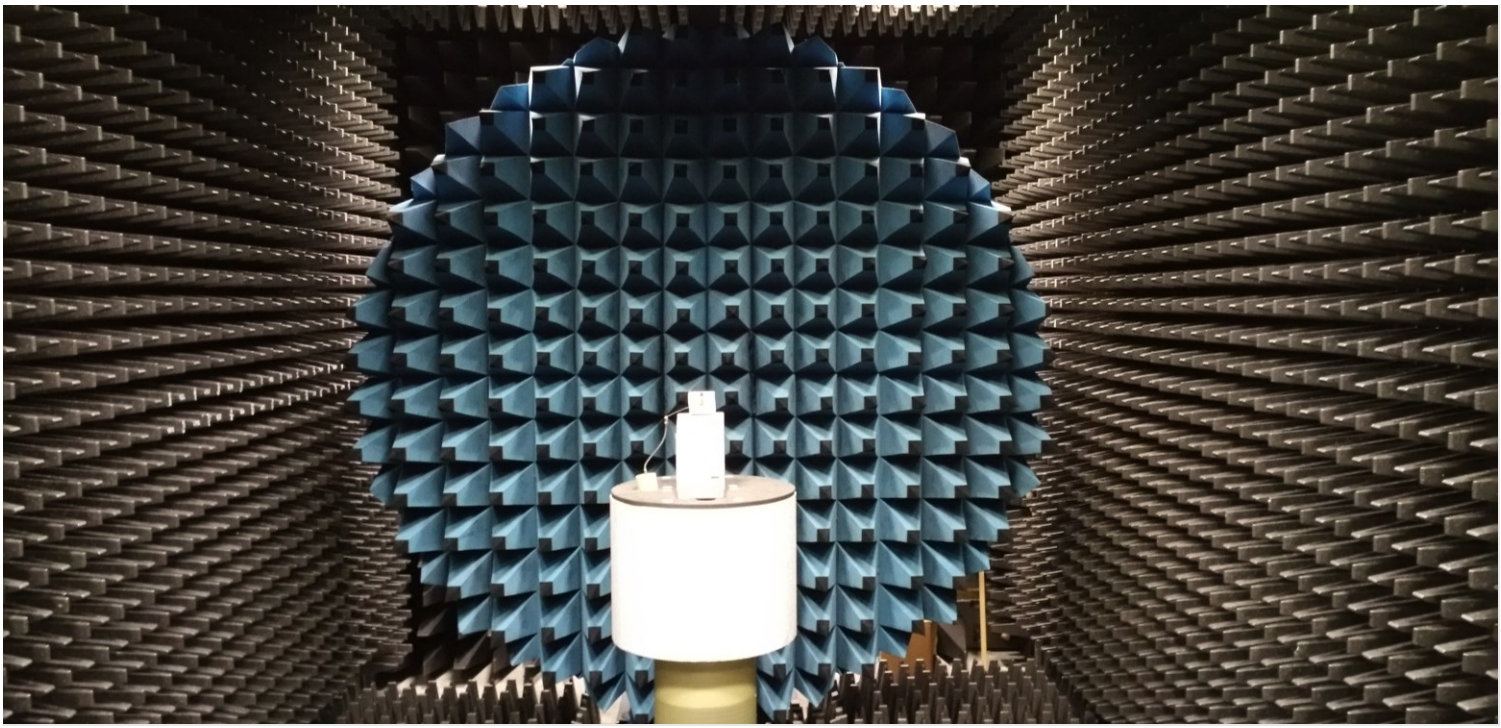


Figure 3: Howland Company 3100 Antenna chamber

Antenna Radiation Performance

NanoBlue centered in free space or on polycarbonate

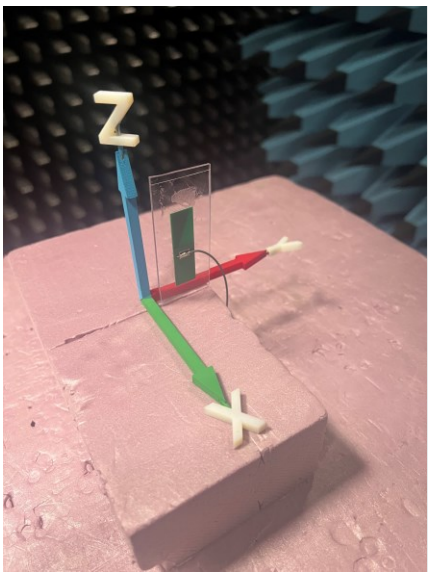
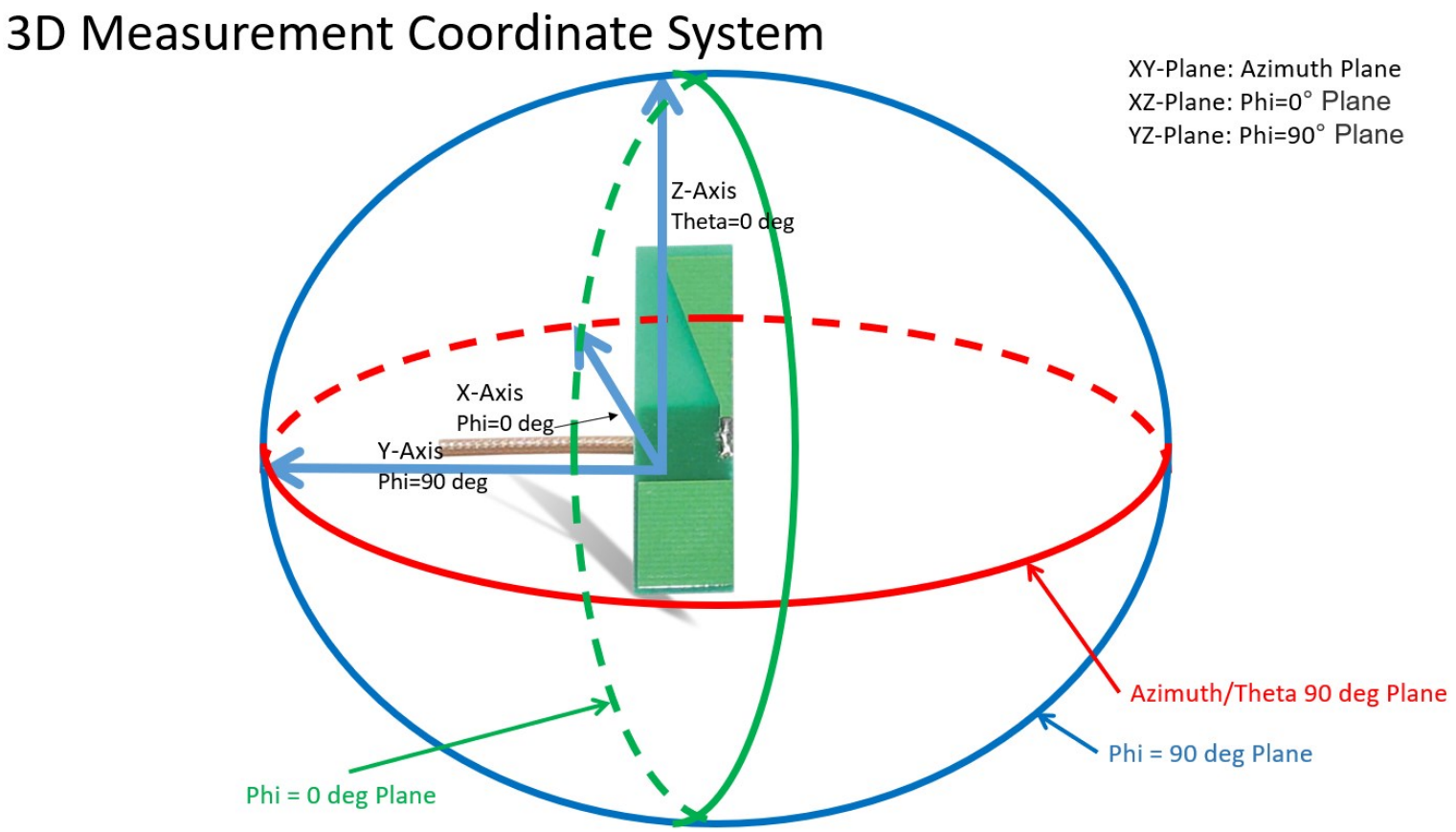
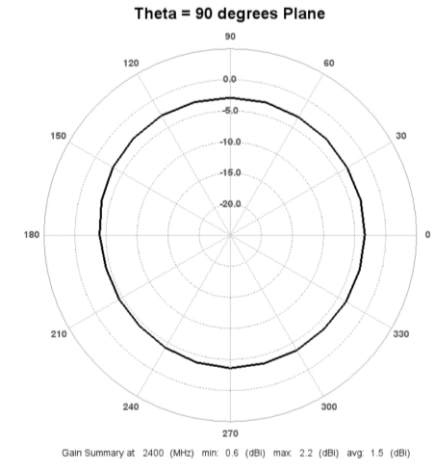


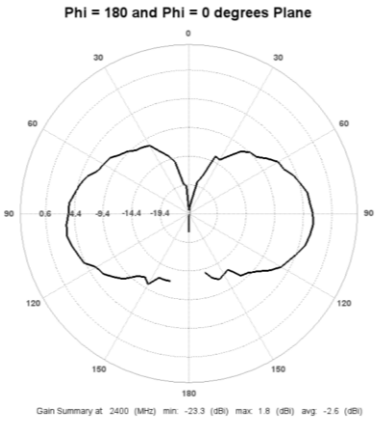
Figure 4: Flat surface setup

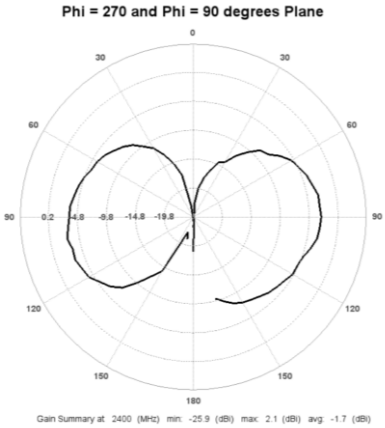


RADIATION PATTERNS – 2D Plots

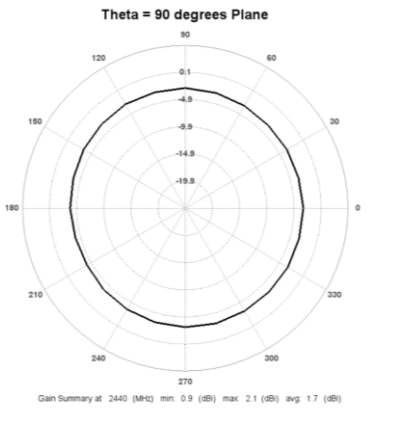
2D Plots at 2400 MHz

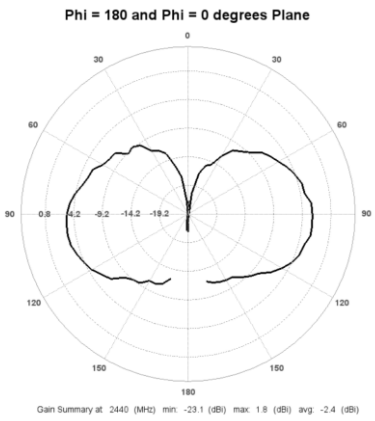


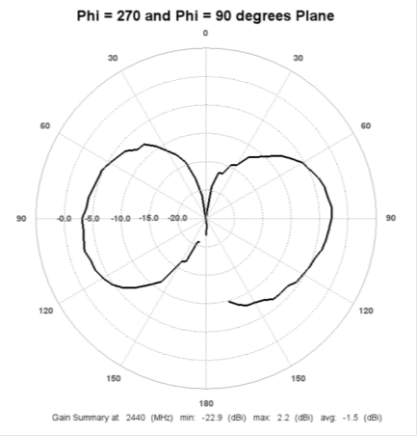




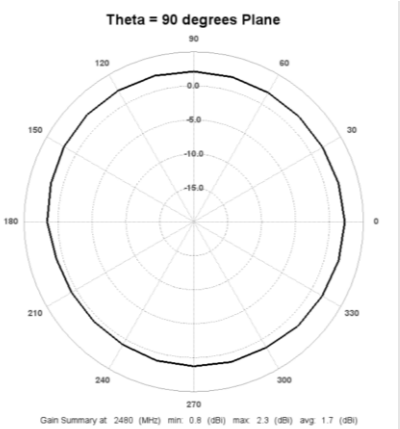
2D Plots at 2440 MHz

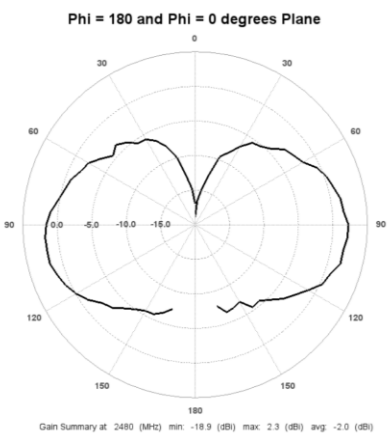


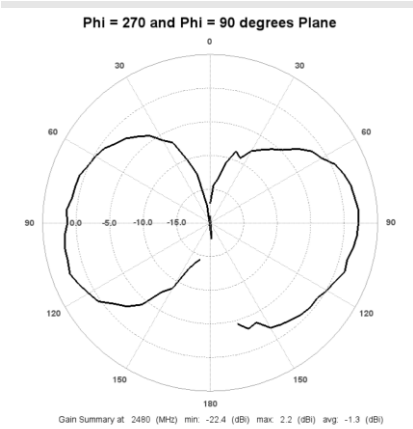




2D Plots at 2480 MHz







RADIATION PATTERNS – 3D Plots

3D Plots at 2400 MHz

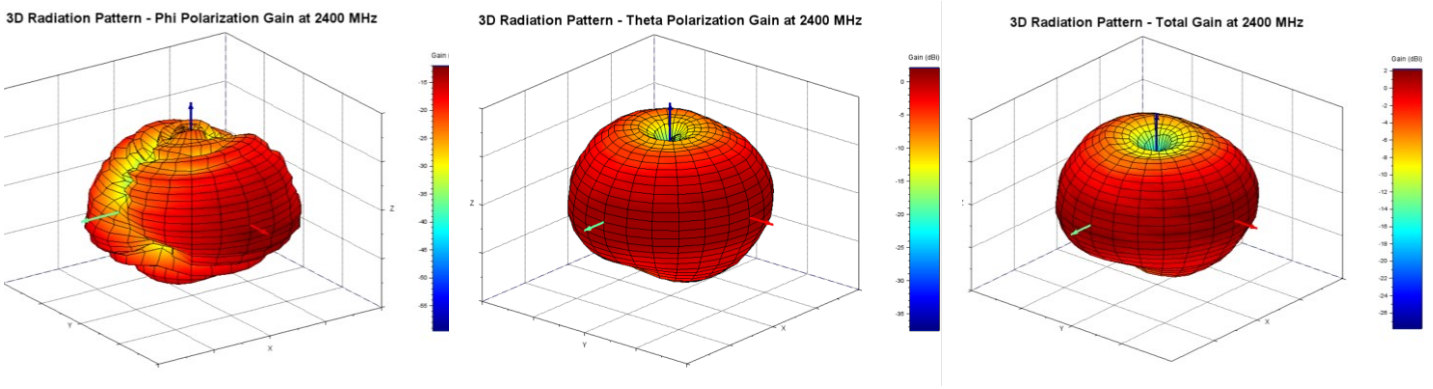


Figure 5: Phi polarization, Theta polarization and, and total gain plots – 2400 MHz

3D Plots at 2440 MHz

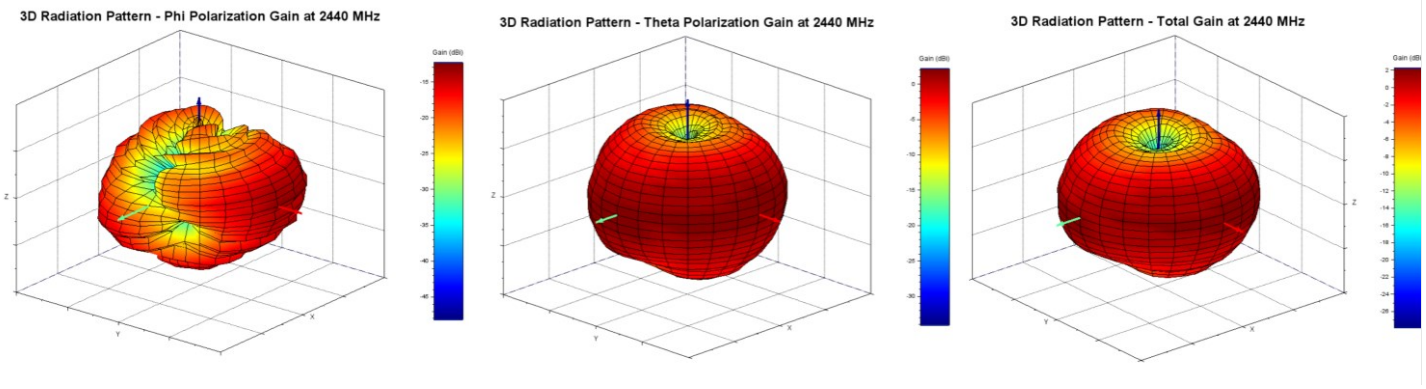


Figure 6: Phi polarization, Theta polarization and, and total gain plots – 2440 MHz

3D Plots at 2480 MHz

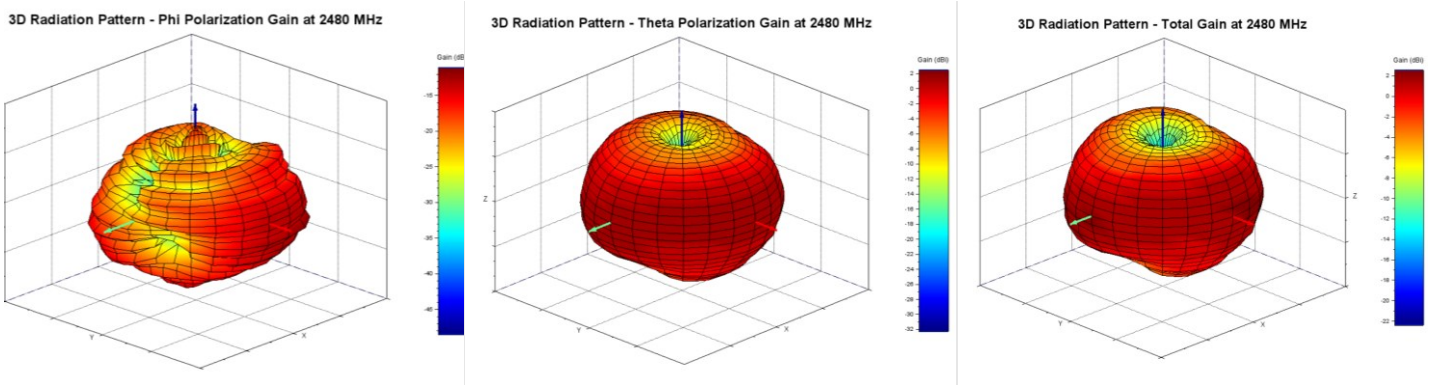


Figure 7: Phi polarization, Theta polarization and, and total gain plots – 2480 MHz

EFFICIENCY

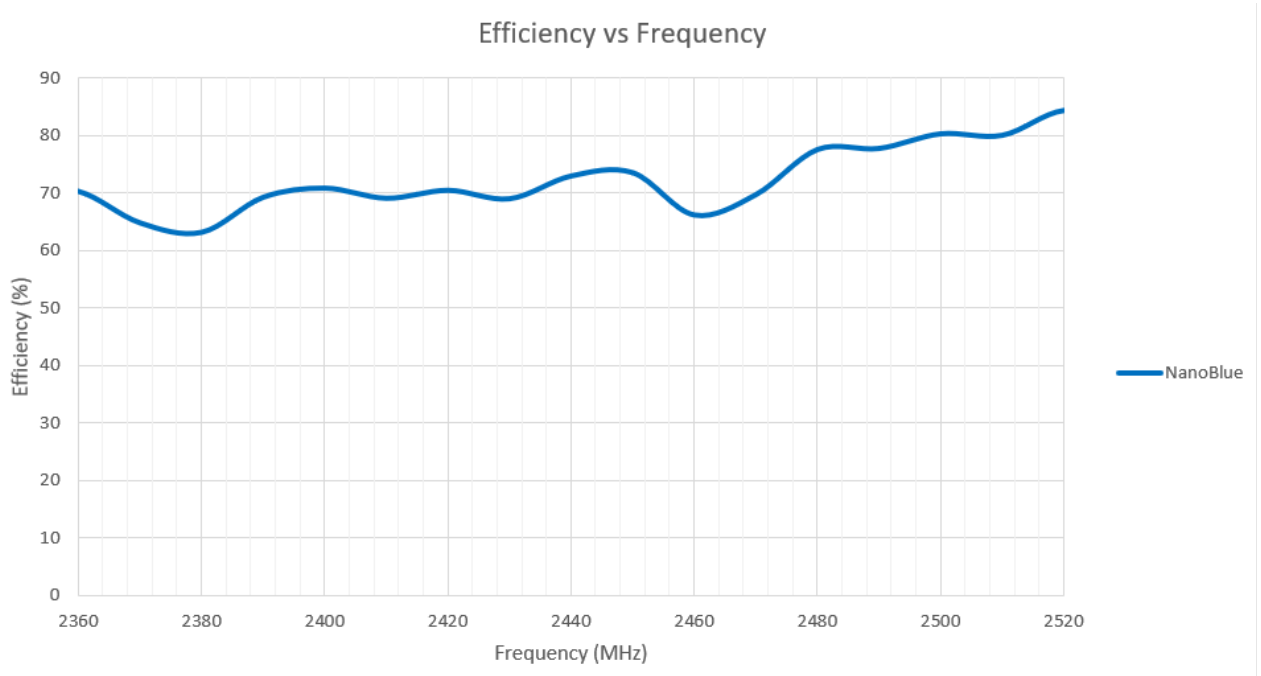


Figure 8: Antenna efficiency measured in free space with a nominal value of -1.5dB across the operating frequency

ANTENNA GAIN

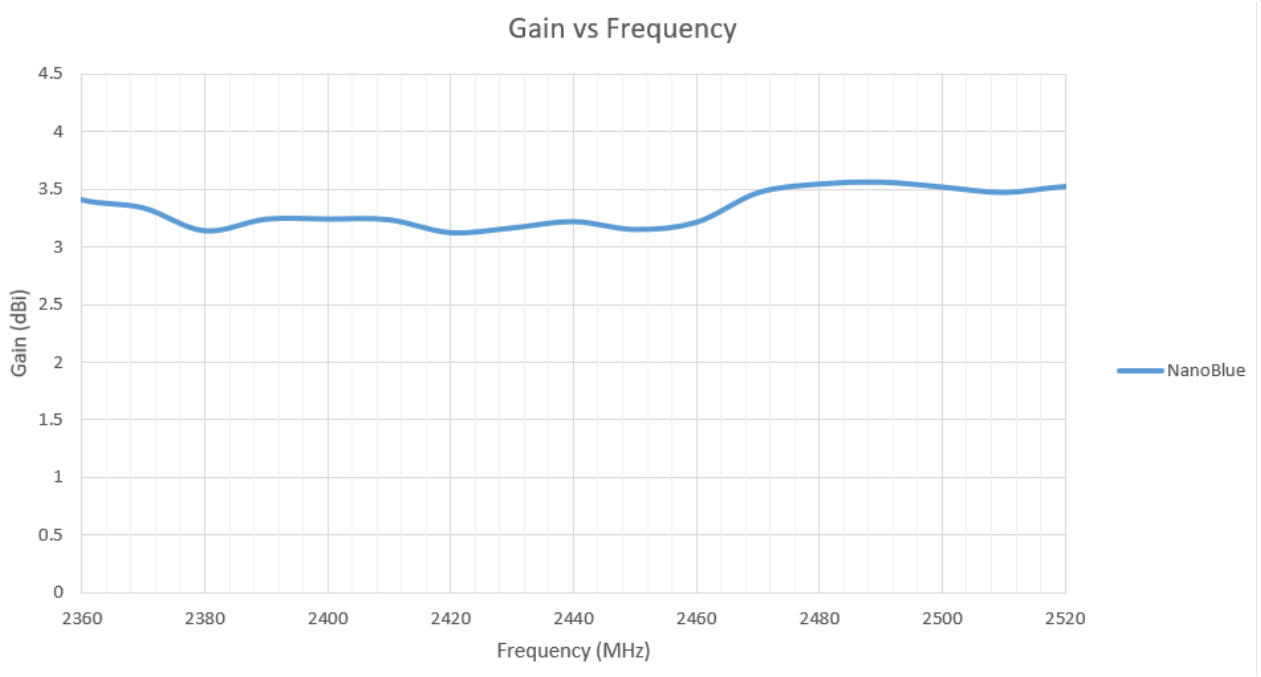
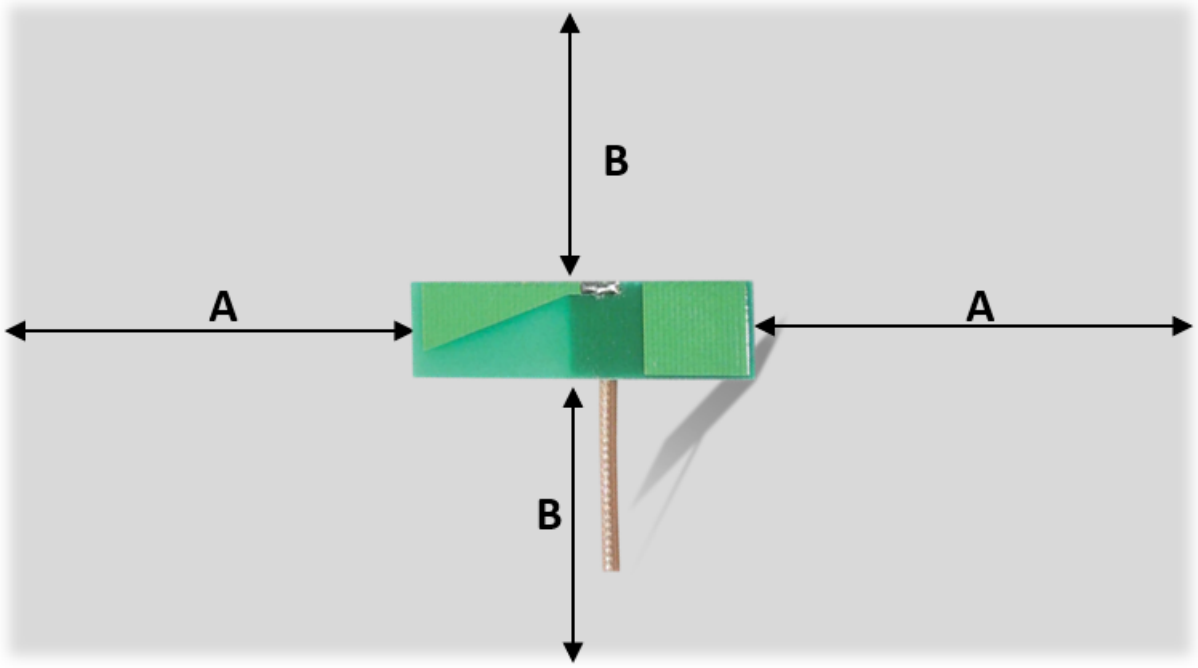
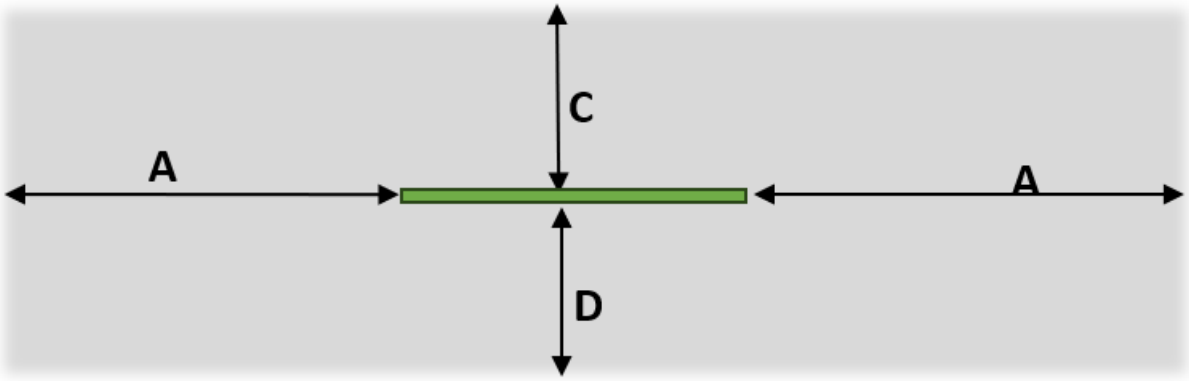


Figure 9: Antenna gain measured in free space

Antenna Placement & Keep Out Region





Keep Out Region Distance (mm)			
A	B	C	D
5	5	10	10

Notes:

- Antenna can be mounted on polycarbonate with a nominal thickness of 2.25mm (1.5mm - 3mm)
- Diagram is not to scale

Additional Information

Please contact your local sales representative or our support team for further assistance:

Headquarters	Ezurio 50 S. Main St. Suite 1100 Akron, OH 44308 USA
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Technical Support	http://www.ezurio.com/resources/support
Sales Contact	http://www.ezurio.com/contact

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