Flexible Planer Inverter F Antenna

Laird Connectivity

COMPANY NAME : Laird Connectivity

ADDRESS : 50 Main Street, Akron OH 44308, U.S.A.

Flexible Planer Inverter F Antenna (FlexPIFA)

EFB2400A3S-6MHF1

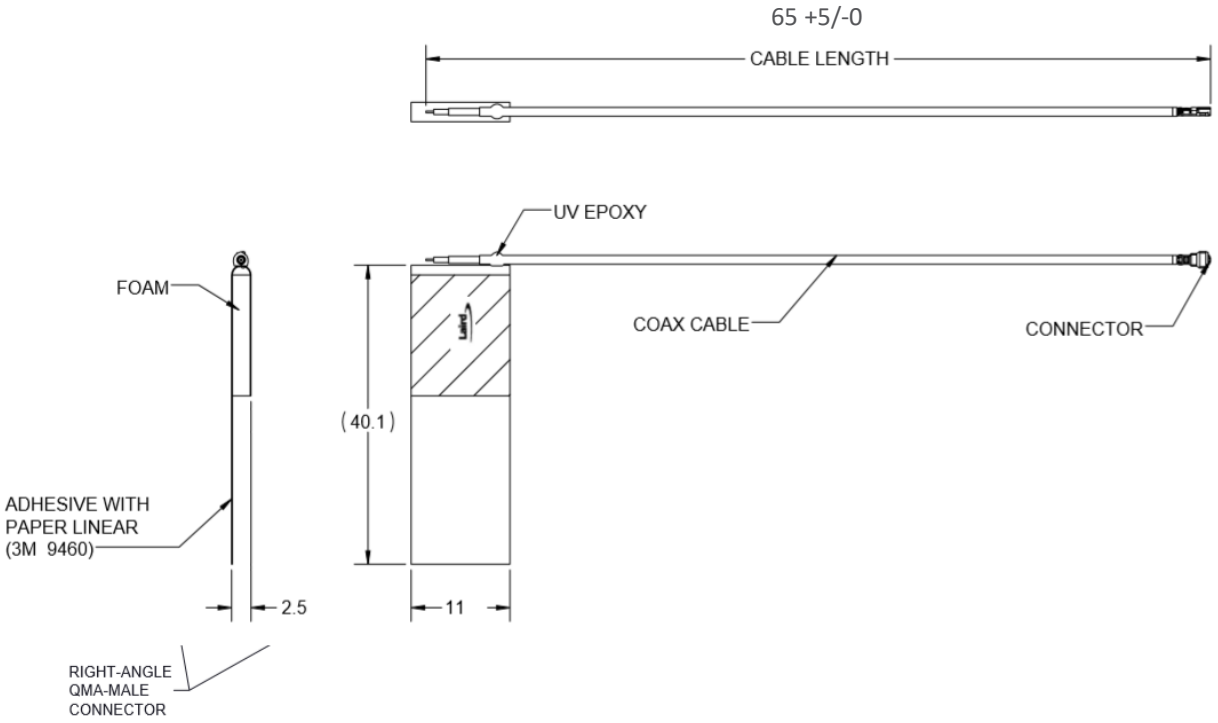
Presented by: Mohd Zaini
Date: 11-11-2020
Revision: 1.0
PNR

Antenna Structure Description

- VSWR measurement is performed in free space condition with total of 2 unit antenna samples.
- 2 antenna units measured in Satimo 3D chamber for gain and radiation pattern.

Picture of Antenna

DRAWING


65 +5/-0
CABLE LENGTH
UV EPOXY
FOAM
COAX CABLE
CONNECTOR
(40.1)
ADHESIVE WITH
PAPER LINEAR
(3M 9460)
2.5
11
RIGHT-ANGLE
QMA-MALE
CONNECTOR

Antenna Performance Table

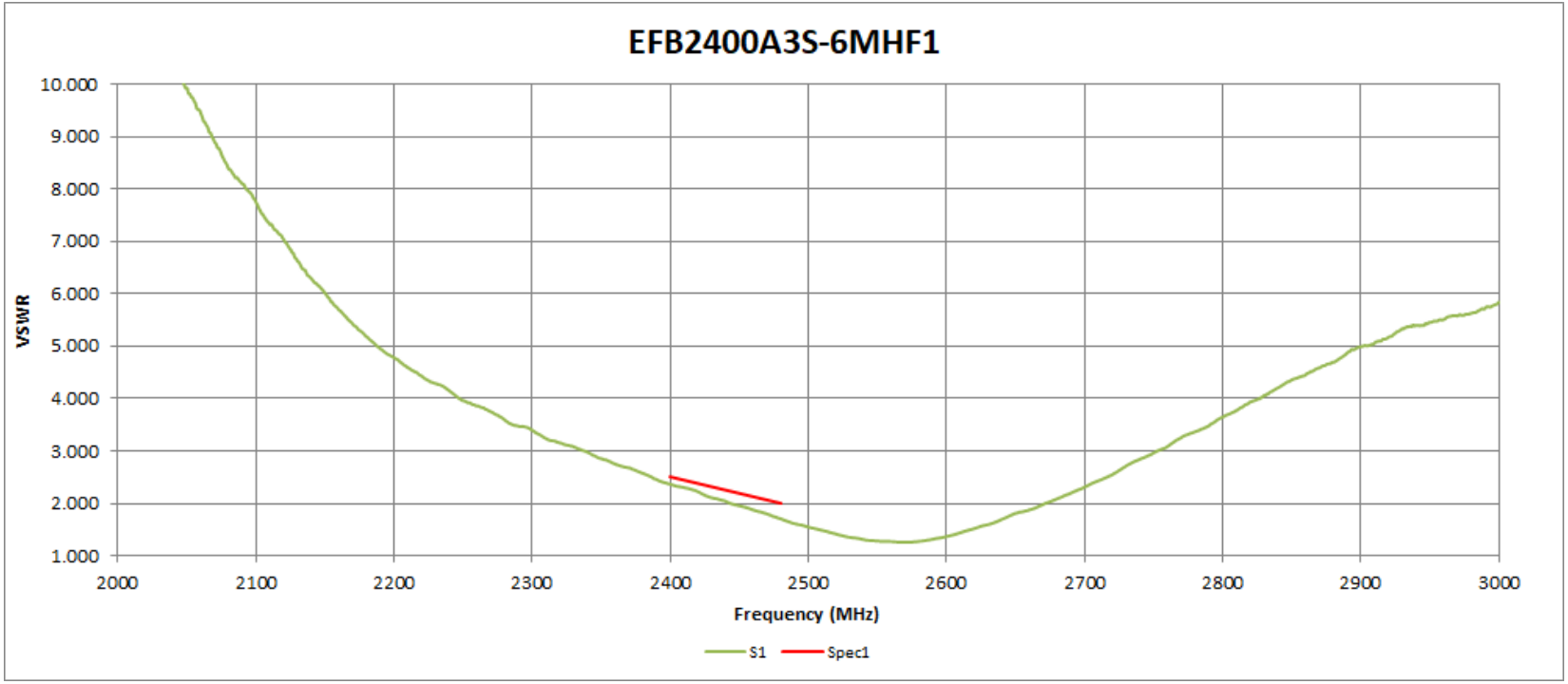
PARAMETER	PERFORMANCE
MODEL NUMBER	EFB2400A3S-6MHF1
ANTENNA TYPE	Flexible Planer Inverted F Antenna (FlexPIFA)
FREQUENCY, MHz	2400-2480
AVERAGE GAIN (*), dBi	1.51
AVERAGE EFFICIENCY (*),%	60
IMPEDENCE, ohm	50 ohms
VSWR (*)	< 2.5:1
POLARIZATION	Linear
CABLE TYPE	1.13 Coax Cable
CONNECTOR	IPEX MHF1
CABLE LENGTH, MM	65 +5/-0
RoHS COMPLIANCE	YES
OPERATING TEMPERATURE,°C	-40 to +85

Antenna Performance

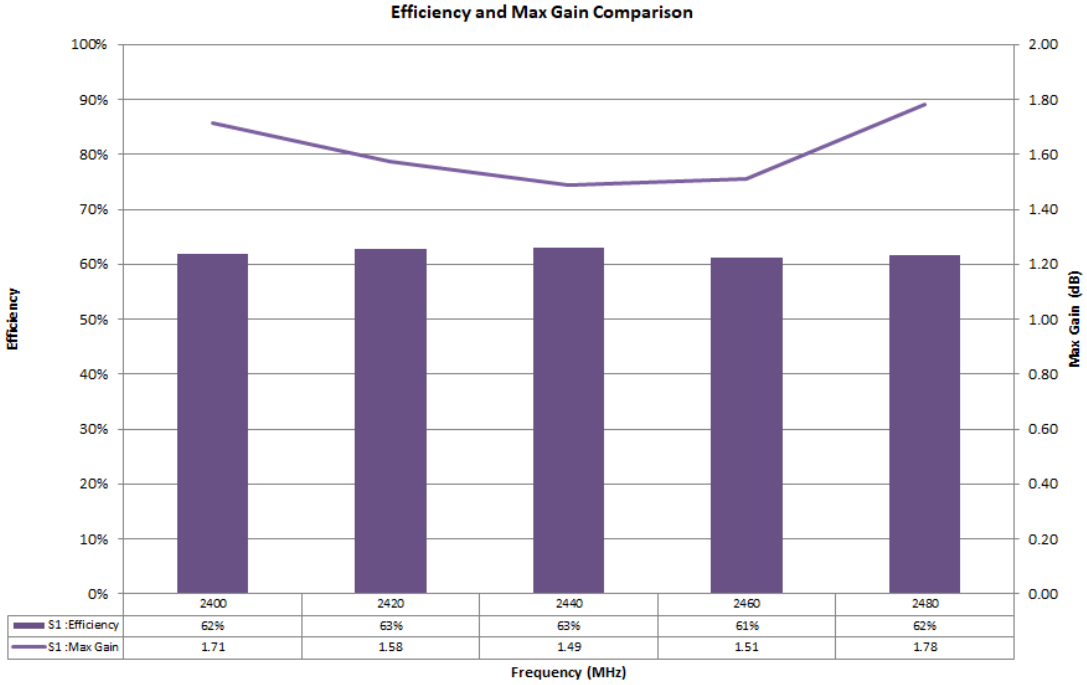
VSWR and Radiation Pattern

Laird CONNECTIVITY

VSWR

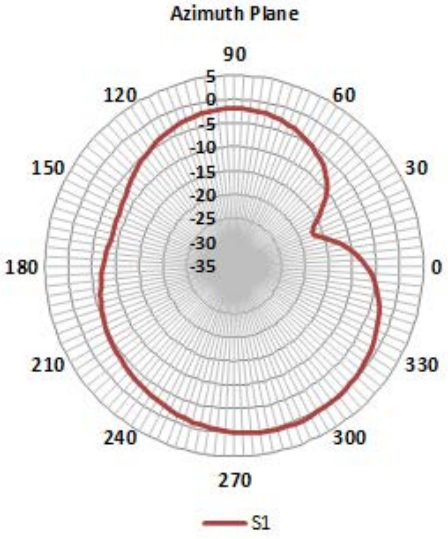

EFB2400A3S-6MHF1
VSWR
10.000
9.000
8.000
7.000
6.000
5.000
4.000
3.000
2.000
1.000
2000
2100
2200
2300
2400
2500
2600
2700
2800
2900
3000
Frequency (MHz)
S1
Spec1

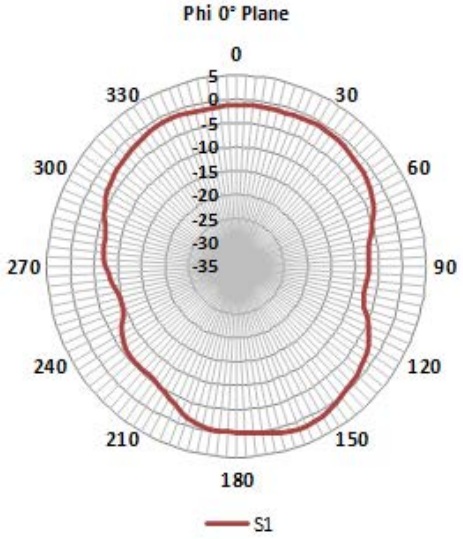
Efficiency And Max Gain

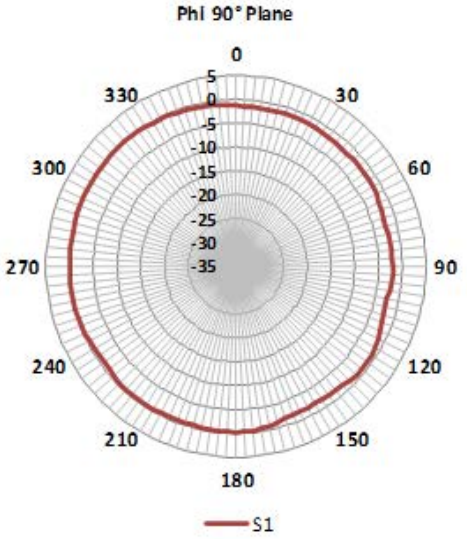


Radiation Pattern

2400 MHz

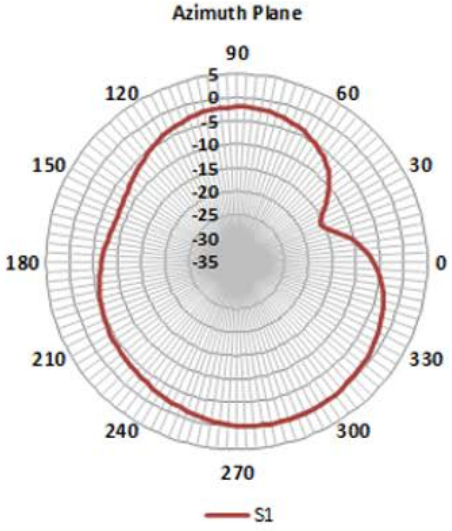


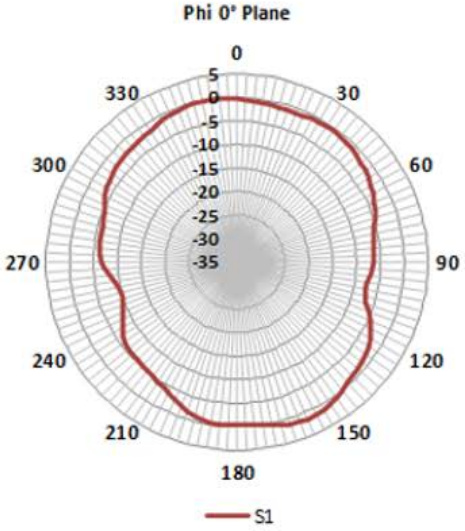


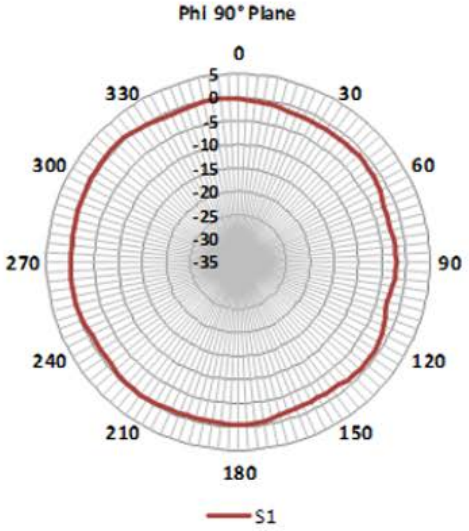


Radiation Pattern

2420 MHz

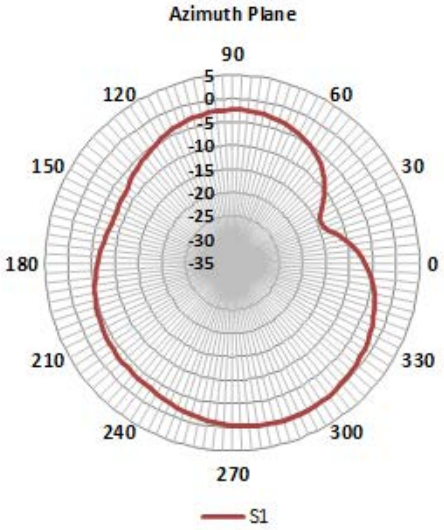


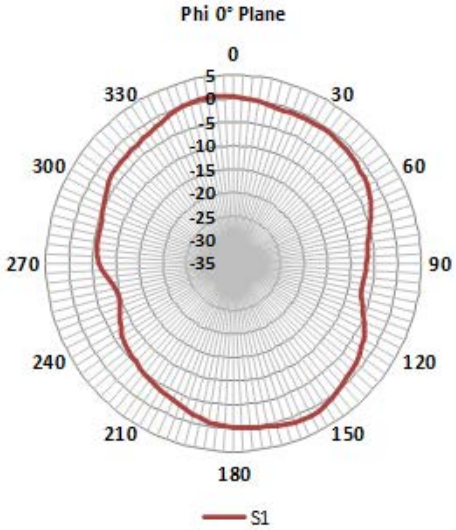


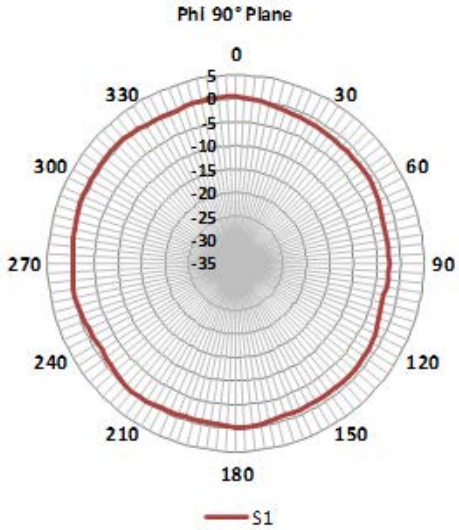


Radiation Pattern

2440 MHz

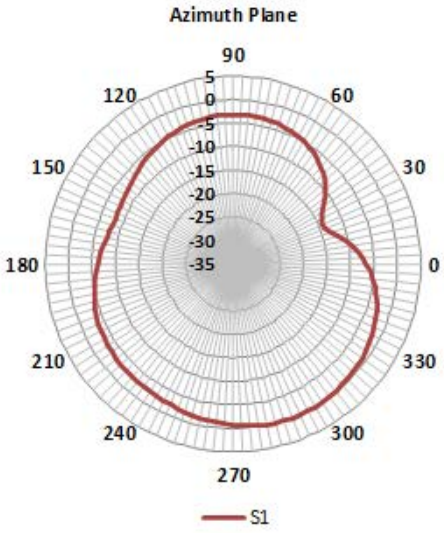


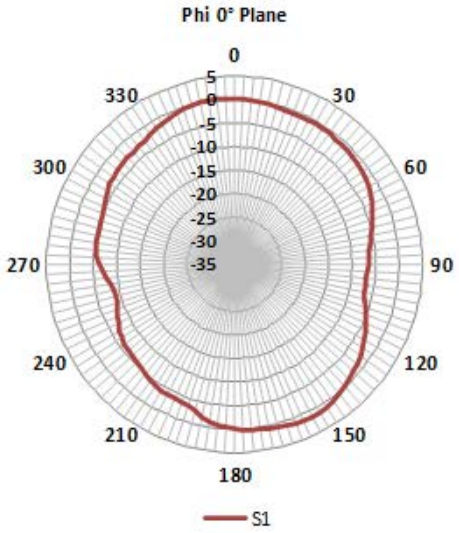


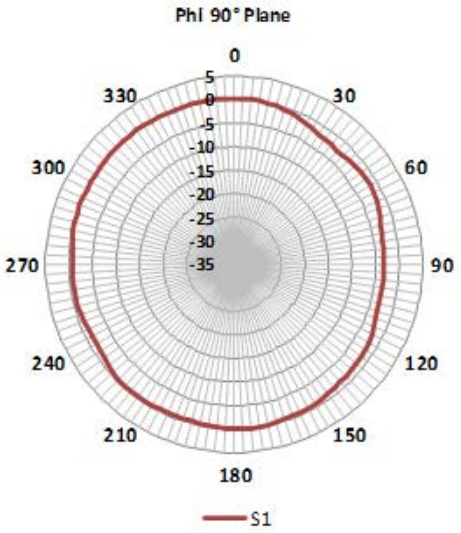


Radiation Pattern

2460 MHz

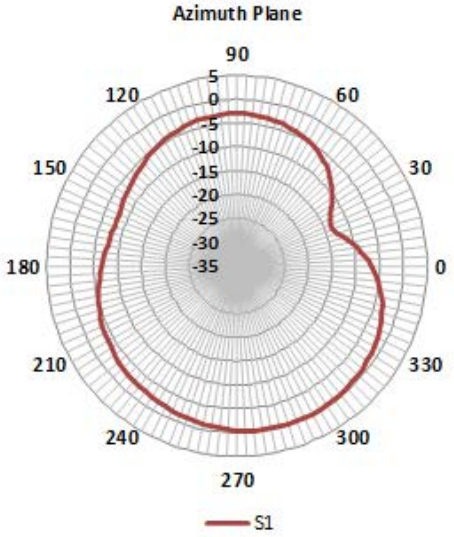


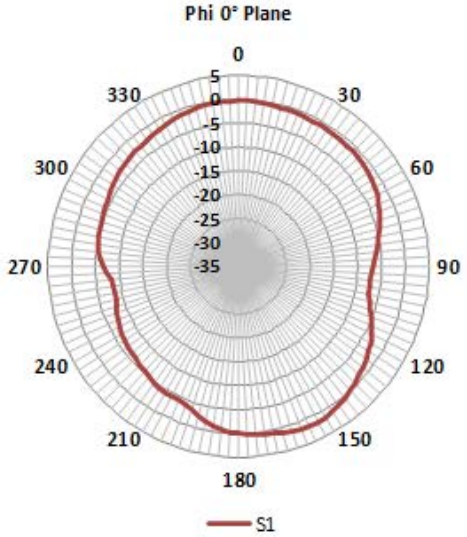


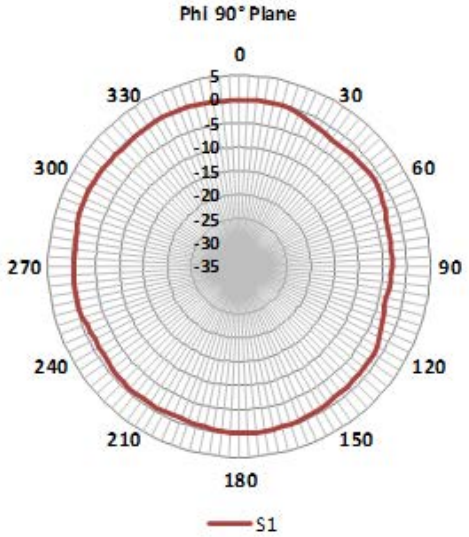


Radiation Pattern

2480 MHz







VSWR/S-parameter

Measurement Setup

VNA ENA5071B

N4431B E-Calibration Kit

- VSWR and Isolation tested with the VNA 2 ports ENA5071B
- VNA is calibrated with the N4431B E-Calibration Kit
- VSWR is measured on PC Plastic 1.7mm thk.

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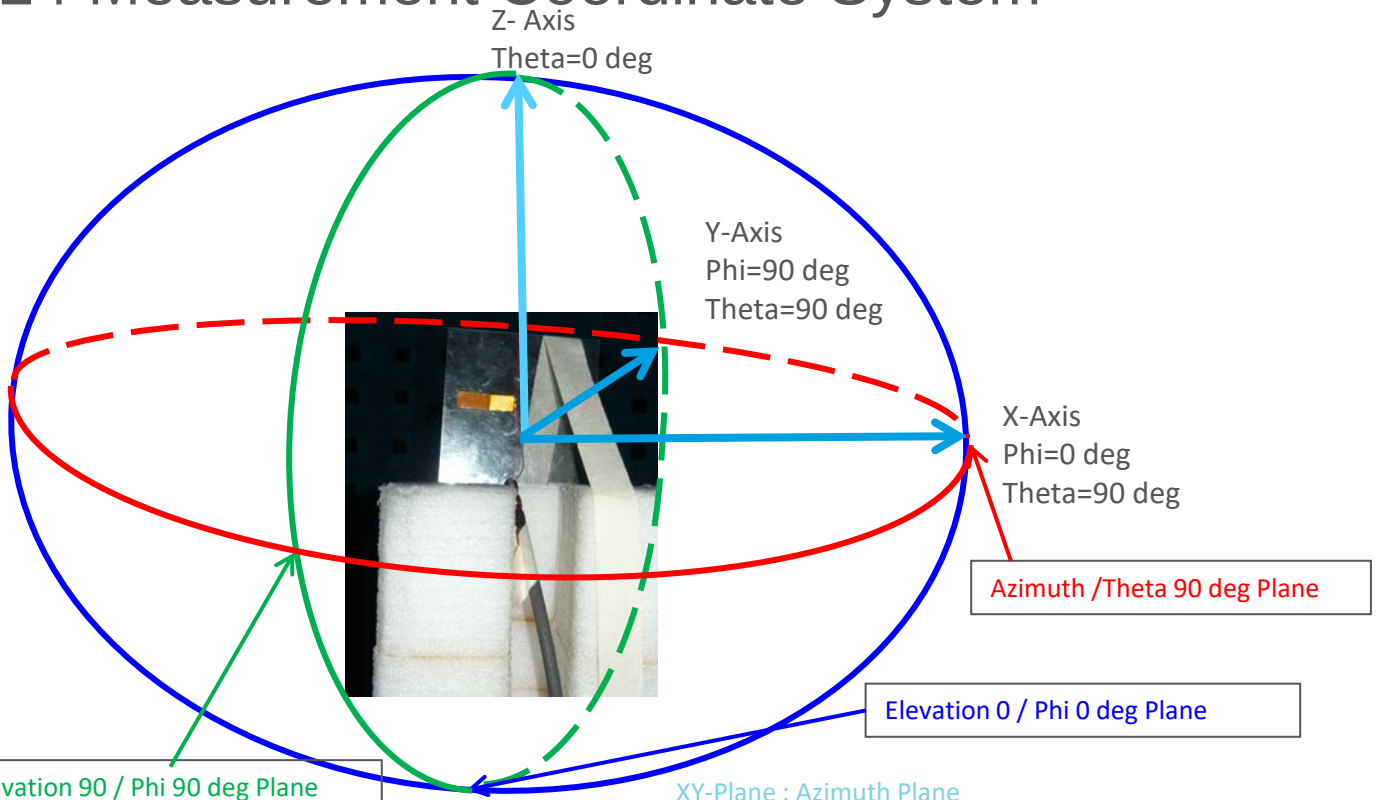
Satimo SG 24 3D Chamber

Laird Connectivity Penang

- SG24 has 23 probes, spaced at 15º in elevation, with an internal arch diameter of 2.4 meters.
- Passive antenna measurements are performed using a Vector Network Analyzer and software

Laird Connectivity Confidential

SG 24 Measurement Coordinate System



XY-Plane : Azimuth Plane
XZ-Plane : Elevation 0°
YZ-Plane : Elevation 90°

Thank you!