

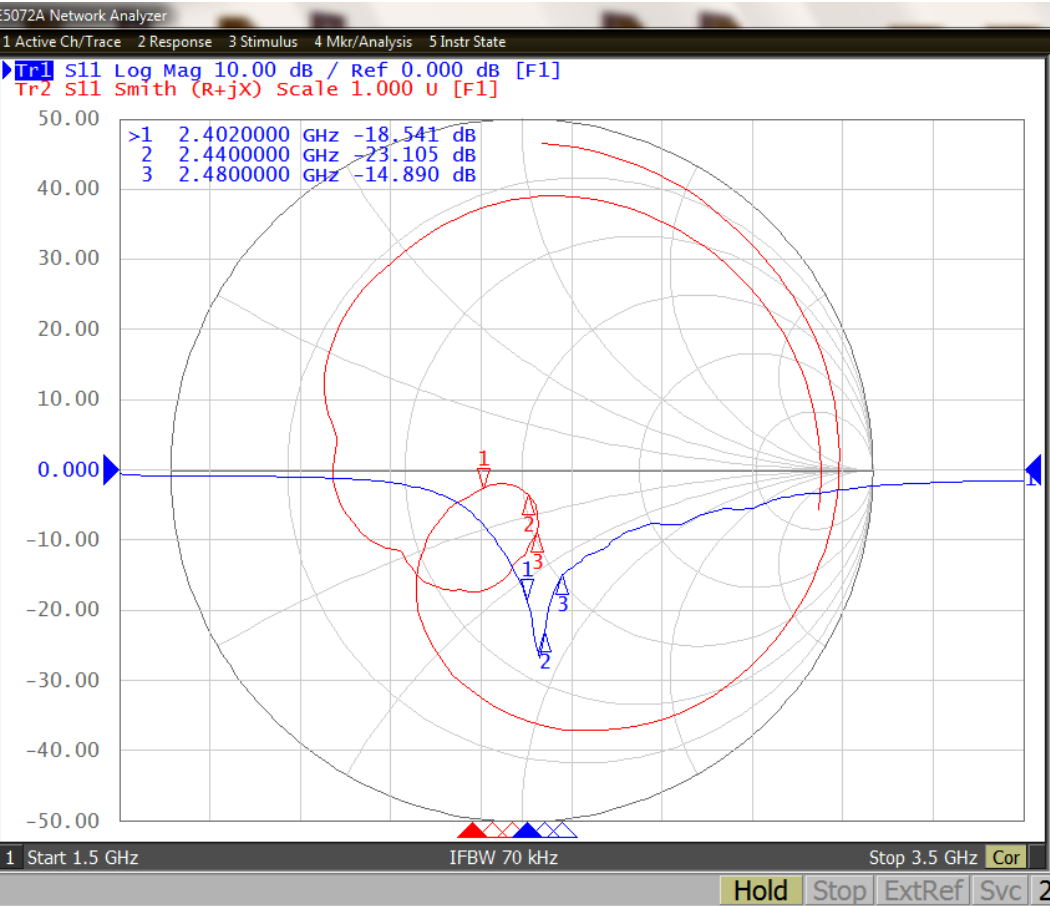
Pro-Passive Antenna Measurements

Test Date: 05/02/2024

Antenna type: PCB Manufacturer and Brand: Life 360
Manufacturer Address: 1900 S NORFOLK ST STE
310SAN MATEO CA 94403

Return Loss

Measured the input return loss S11 and Smith chart :

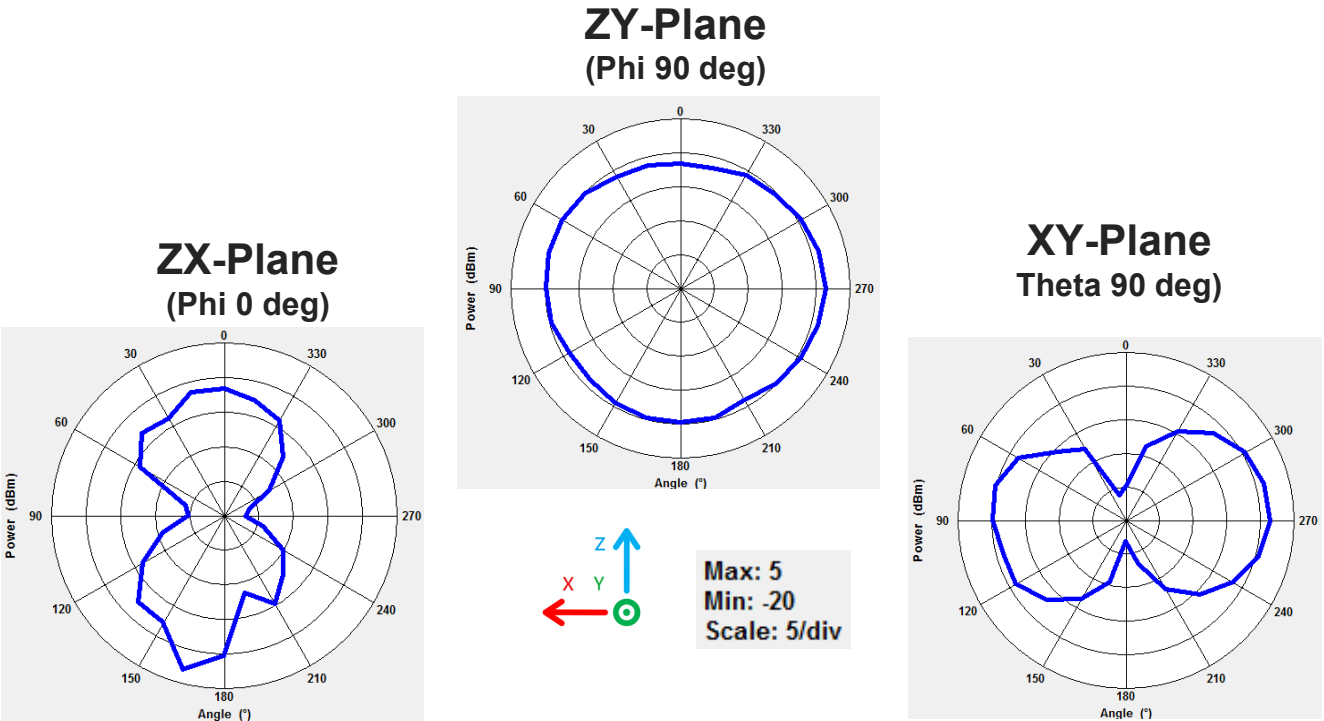


Antenna Efficiency & Radiation Patterns

Measured Antenna Efficiency at 2400-2500MHz :

Frequency (MHz)	2400	2410	2420	2430	2440	2450	2460	2470	2480	2490	2500
Efficiency (%)	56.59	58.12	59.96	61.38	61.05	61.30	62.34	61.95	61.00	61.37	61.52
Gain (dBi)	1.43	1.45	1.59	1.74	1.81	1.85	1.95	1.93	1.83	1.85	1.90

Measured 2-D Radiation Patterns at 2440MHz in free space :



JABIL's Over-the-Air (OTA) Laboratory

AMS –System 8947-195	Passive Antenna Antenna Performance Measurement	Pattern Measurement		Cellular	LTE	WiFi	BT	RFID UHF	CTIA Certificated Sys. & Method
		2D	3D	2G ~ 3.5G	4G	A,B,G,N	BLE		
Function	✓	✓	✓	✓	✓	✓	✓	✓	✓

- **ETS-LINDGREN AMS-8947-195 :**

- ✓ Frequency range : 700MHz ~ 6GHz
- ✓ Dimension(internal size): 4.9m * 4.9m * 4.9m
- ✓ Measurement path length : 1.95m

- **Test Item :**

- Passive Antenna Performance Measurement:**

- ✓ 2D radiation pattern
 - ✓ 3D radiation pattern
 - ✓ Efficiency
 - ✓ Peak gain and average gain

- Active Antenna Performance Measurement:**

- ✓ TRP (Total Radiated Power)
 - ✓ TIS (Total Isotropic Sensitivity)

- **Test condition :**

- ✓ Measurement in free space. (Optional) CTIA Head / Forearm Phantom



Forearm Phantom



Head Phantom



ETS-LINDGREN AMS-8947-195



OTA Test Facilities

Basic Information 基本資料					Calibration 校準		
Equipment identification number 設備識別編號	Equipment type(name)設備類型 (名稱)	Manufacturer name or Brand 製造商名稱或 品牌	Model or manufacturing part number 型號或製造零件號	Equipment serial number 設備序號	Calibration interval 校準間隔	Last calibration date 最後校準日期	Calibration available due date 校驗有效截止日
ANT-EC-001	Network Analyzer	Keysight	E5072A	MY51300812	2 years	2023/7/25	2025/7/24
ANT-EC-002	Network Analyzer	Keysight	E5071C	MY46524627	2 years	2023/7/26	2025/7/25
ANT-EC-003	Spectrum Analyzer	Keysight	N9010A	MY54510598	2 years	2023/7/24	2025/7/23
ANT-EC-004	Simulated Base Station	R&S	CMW500	1201.0002K50-154061-Qp	2 years	2023/7/12	2025/7/11
ANT-EC-005	Near-field Communication Equipement	Micropross	CTS	MP3.15.13.06	3 years	2015/9/30	NA
ANT-EC-006	Sleeve Dipole	ETS-Lindgren	CF1575	NA	4 years	2017/5/23	NA
ANT-EC-007	Sleeve Dipole	ETS-Lindgren	CF2500	NA	4 years	2017/5/23	NA
ANT-EC-008	Sleeve Dipole	ETS-Lindgren	CF5500	NA	4 years	2017/5/23	NA

target to
calibrate
校準目標 100%