

AP5010U DVT Testing Report

2021/12/08

Provided by Roye Chen

Smarter Solutions for a Smarter Future

A blue silhouette of a city skyline is positioned along a wavy blue and green gradient line at the bottom of the page. The skyline includes various figures and symbols: a person on the left holding a mobile phone with signal waves, a car with a large antenna, a person running, a person sitting at a desk with a computer monitor, and another person on the right with a mobile device. The overall theme is smart technology and urban development.

■ **4 x Single 6G [6G1+6G2+6G3+6G4] + 2 x Scanning Radio [56G1+56G2] + 1 x BLE + 1 x UWB**

- *Antenna Placement*
- *Summary*
- *Single 6G, Scanning Radio, BLE and UWB Antenna*
- *Isolation among Radio*

Model/Part number

95XEAJ15.G34: 6G_1, ANTENNA

95XEAJ15.G35: 6G_2, ANTENNA

95XEAJ15.G36: 6G_3, ANTENNA

95XEAJ15.G37: 6G_4, ANTENNA

95XEAJ15.G38: DUALBAND5/6G_1, ANTENNA

95XEAJ15.G39: DUALBAND5/6G_2, ANTENNA

95XEAJ15.G40: BLE, ANTENNA

95XEAJ15.G41: RAAB-E2_AP5010U, UWB, ANTENNA,



Summary

The summary antenna performance results shown in below.

- VSWR
 - Under 2 for all antennas
- Radiation efficiency
 - ~62% for Single 6G [6G1, 6G2, 563, 6G4]
 - ~72% for 5_6GHz Scanning Radio [56G1, 56G2]
 - ~66% for 2.4GHz BLE Antenna
 - ~61% for 6GHz UWB Antenna; ~61% for 8GHz UWB Antenna
- Peak gain
 - 5.2dBi for Single 6G [6G1, 6G2, 6G3, 6G4]
 - 6.0dBi for 5_6GHz Scanning Antenna [56G1, 56G2]
 - 4.2dBi for 2.4GHz BLE Antenna
 - 4.7dBi for 6GHz UWB Antenna; 4.7dBi for 8GHz UWB Antenna



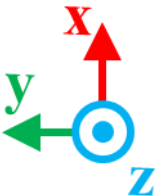
Peak Gain Table

	2400 ~ 2500 MHz
BLE	4.2 dBi

	5925 ~ 7125 MHz
Single 6G 6G1、6G2、6G3、6G4	5.2 dBi

	6250 ~ 6750 MHz	7750 ~ 8000 MHz
UWB	4.7 dBi	4.7 dBi

	2400 ~ 2500 MHz	5150 ~ 5850 MHz	5925 ~ 7125 MHz
Scanning 2G 25G1、25G2、25G3、25G4	4.2 dBi		
Scanning 5/6G 56G1、56G2		5.9 dBi	6.0 dBi

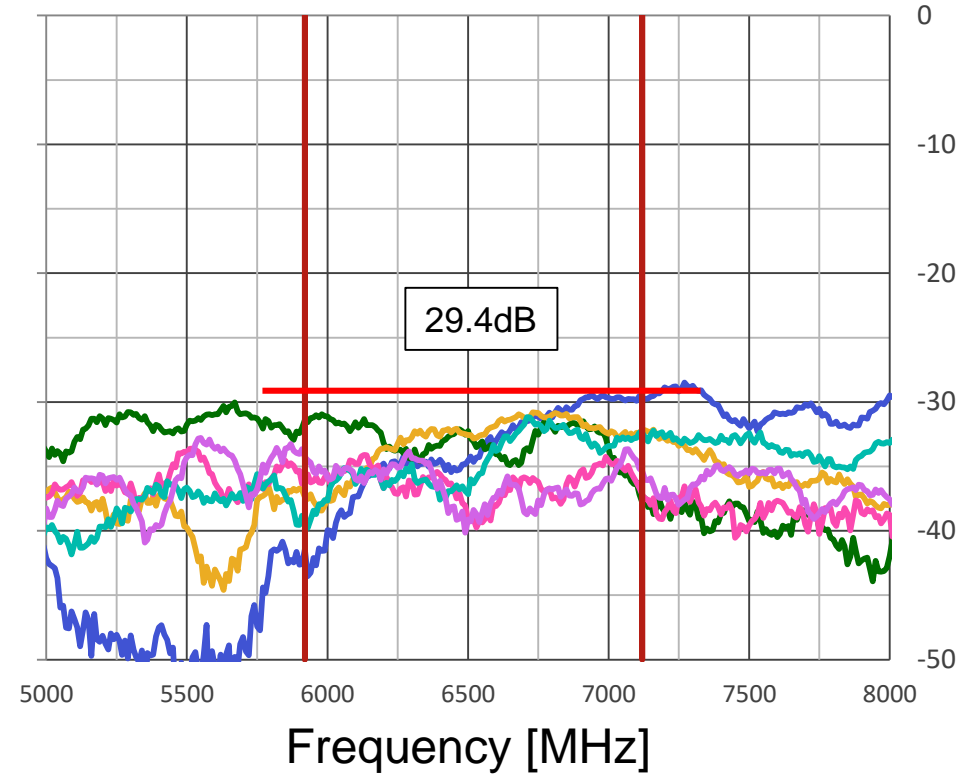
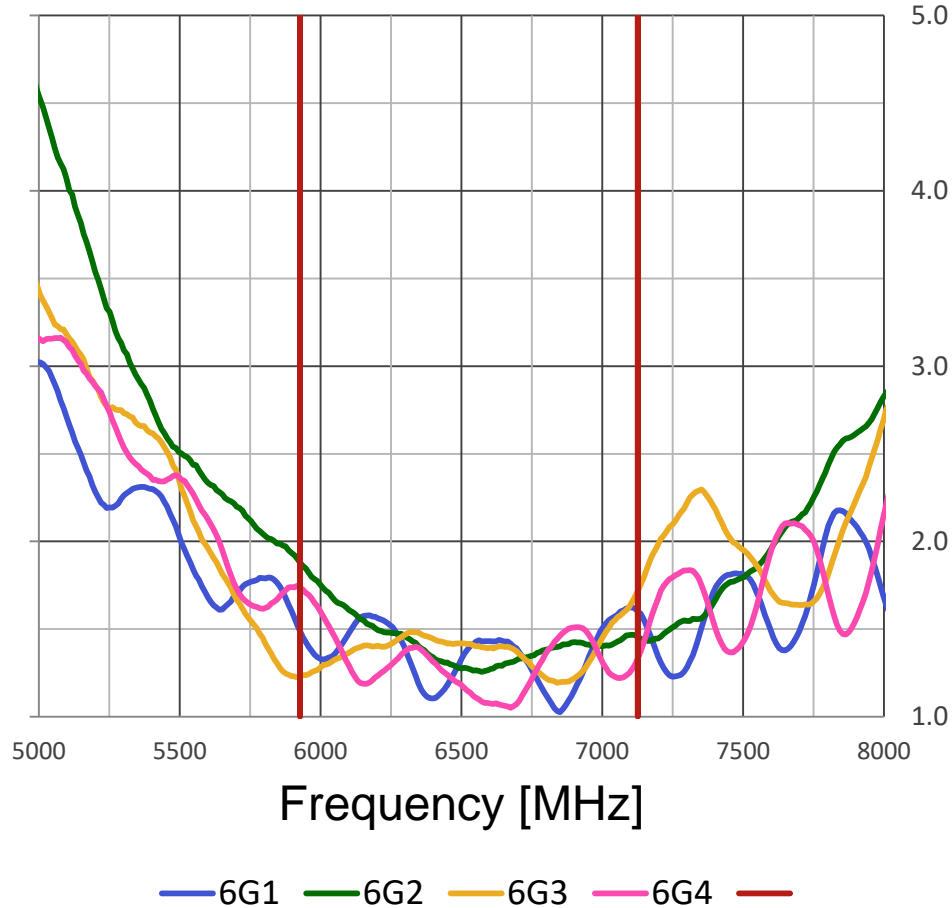


Single 6G

- **Maximum VSWR**
 - 1.9:1 on 6GHz
- **Minimum Isolation**
 - 29.4dB on 6GHz
- **Average Efficiency**
 - ~62% on 6GHz
- **Peak Gain**
 - 5.2dBi on 6GHz



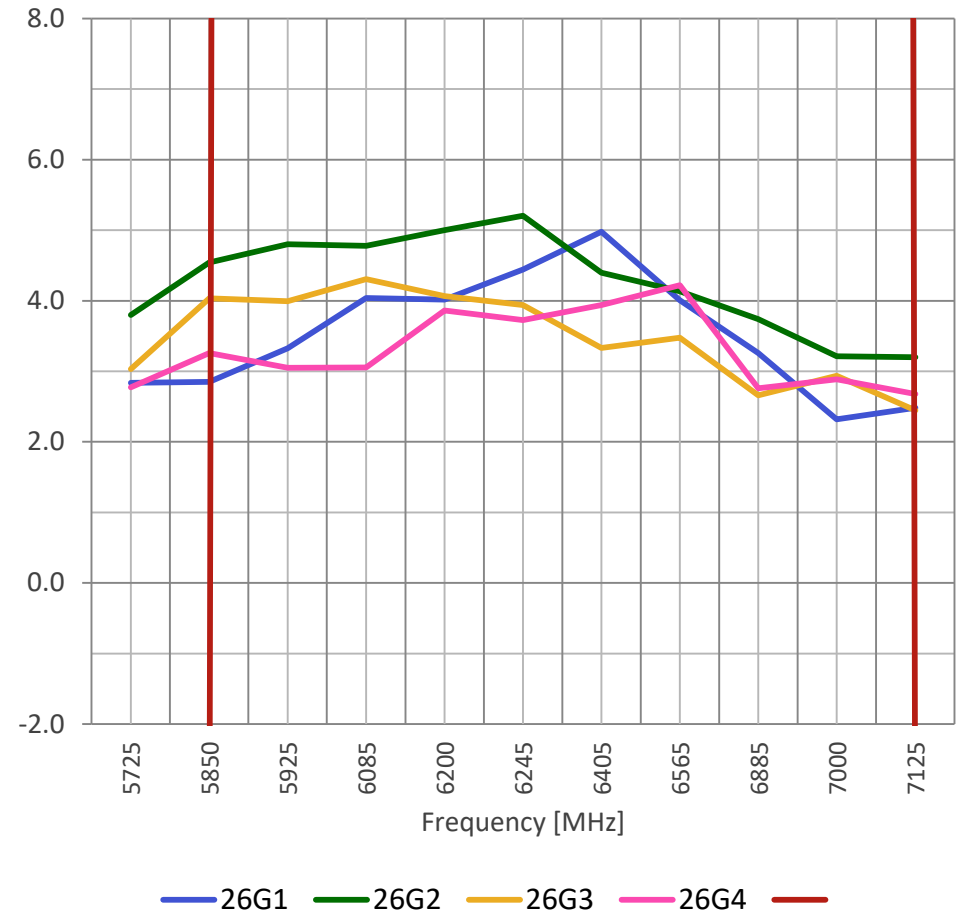
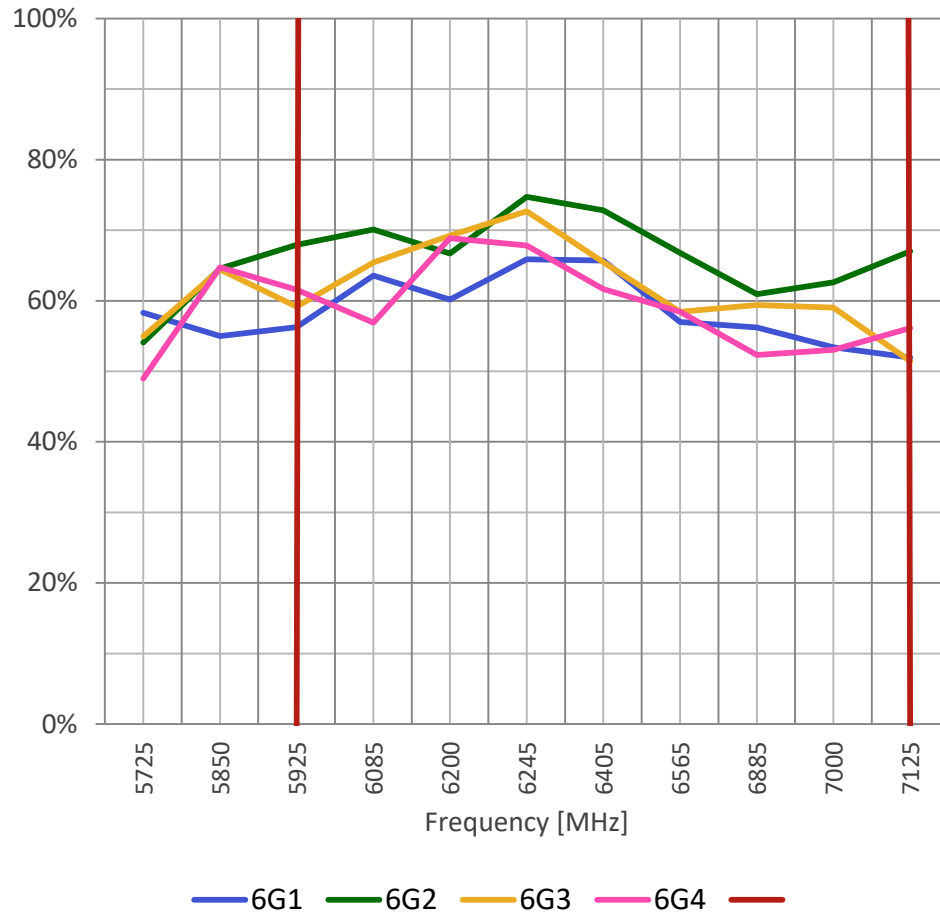
VSWR / Isolation Single 6G



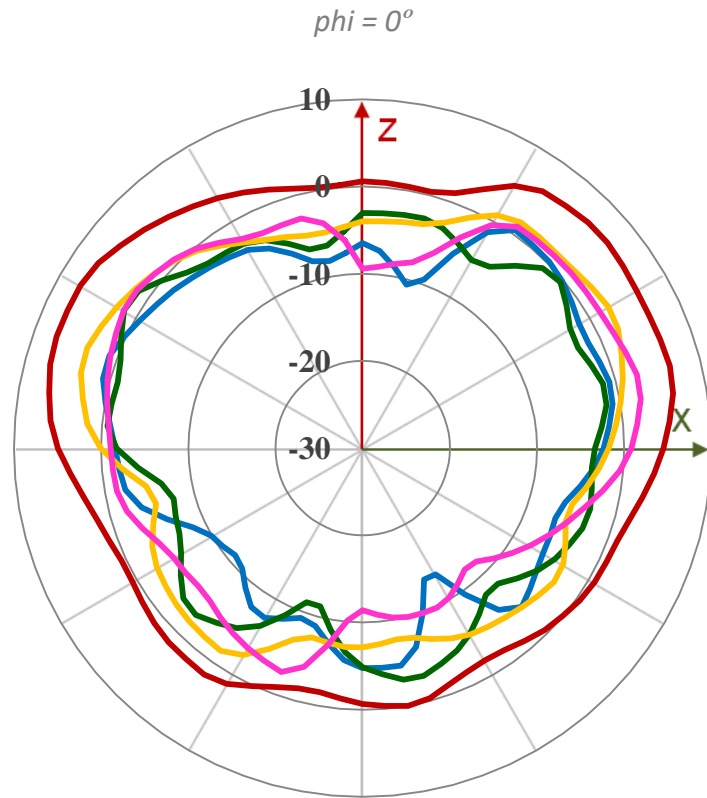
- 6G1_6G2 — 6G1_6G3 — 6G1_6G4 — 6G2_6G3
- 6G2_6G4 — 6G3_6G4 —



Efficiency / Peak Gain Single 6G



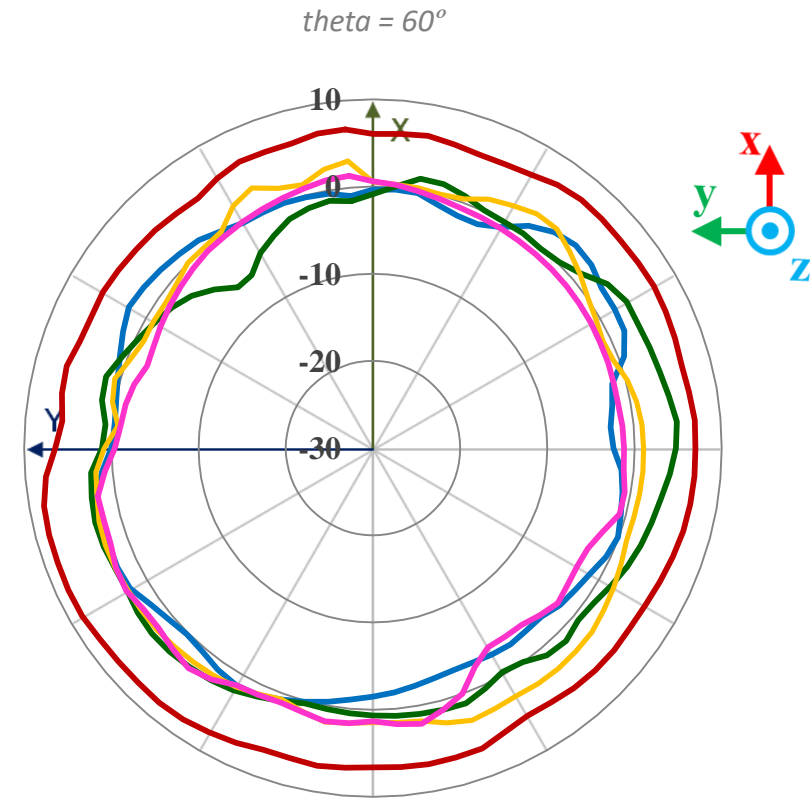
Realized Gain Pattern Single 6G @6200MHz for Gtotal



— 26G1 — 26G2 — 26G3
— 26G4 — Composite



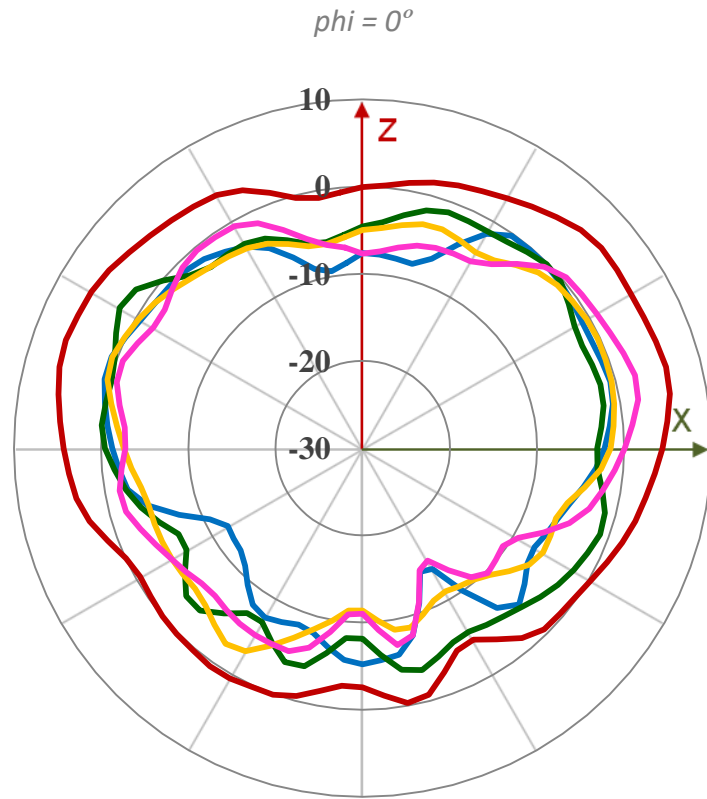
— 26G1 — 26G2 — 26G3
— 26G4 — Composite



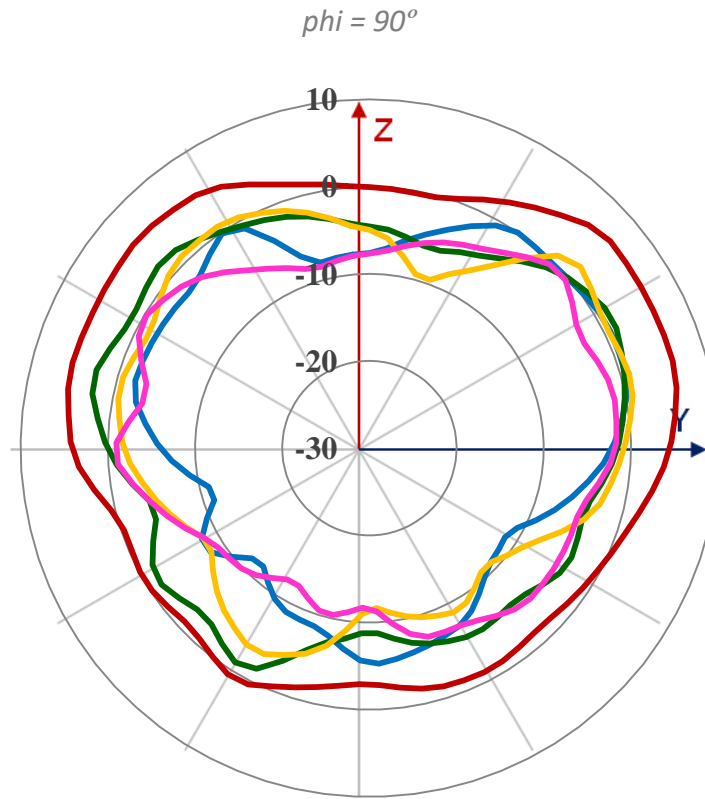
— 26G1 — 26G2 — 26G3
— 26G4 — Composite



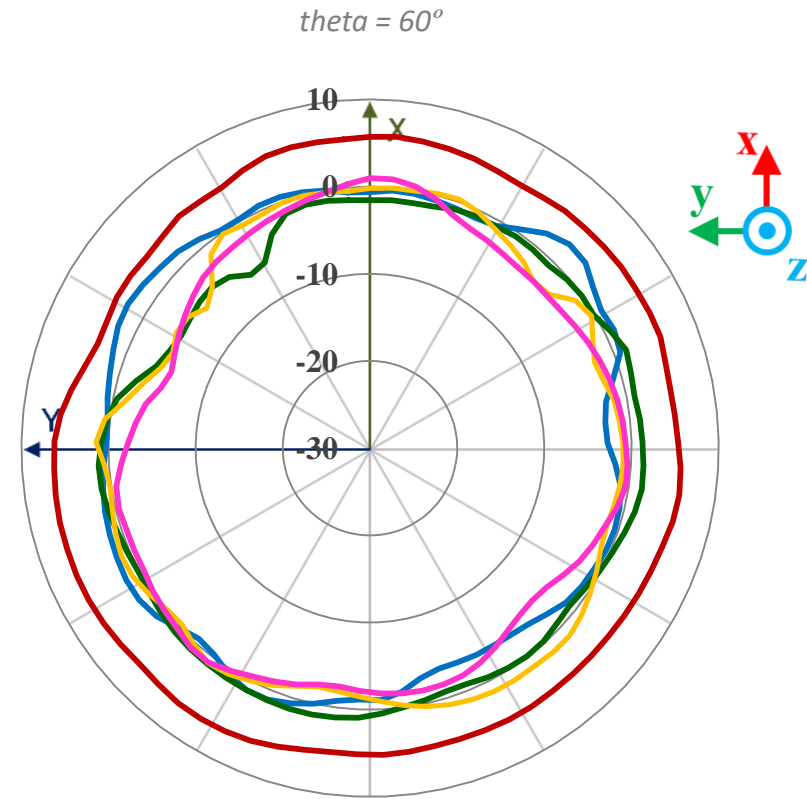
Realized Gain Pattern Single 6G @6565MHz for Gtotal



— 26G1 — 26G2 — 26G3
— 26G4 — Composite



— 26G1 — 26G2 — 26G3
— 26G4 — Composite

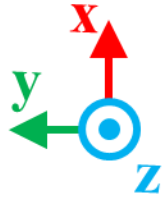


— 26G1 — 26G2 — 26G3
— 26G4 — Composite

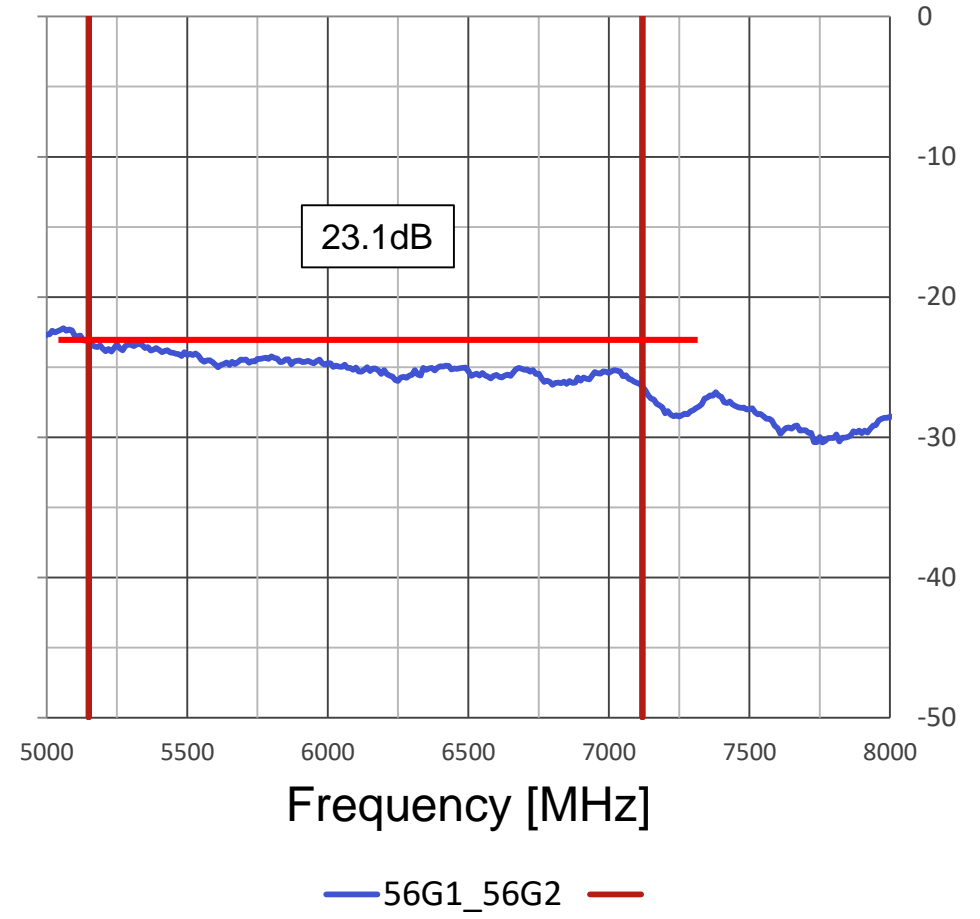
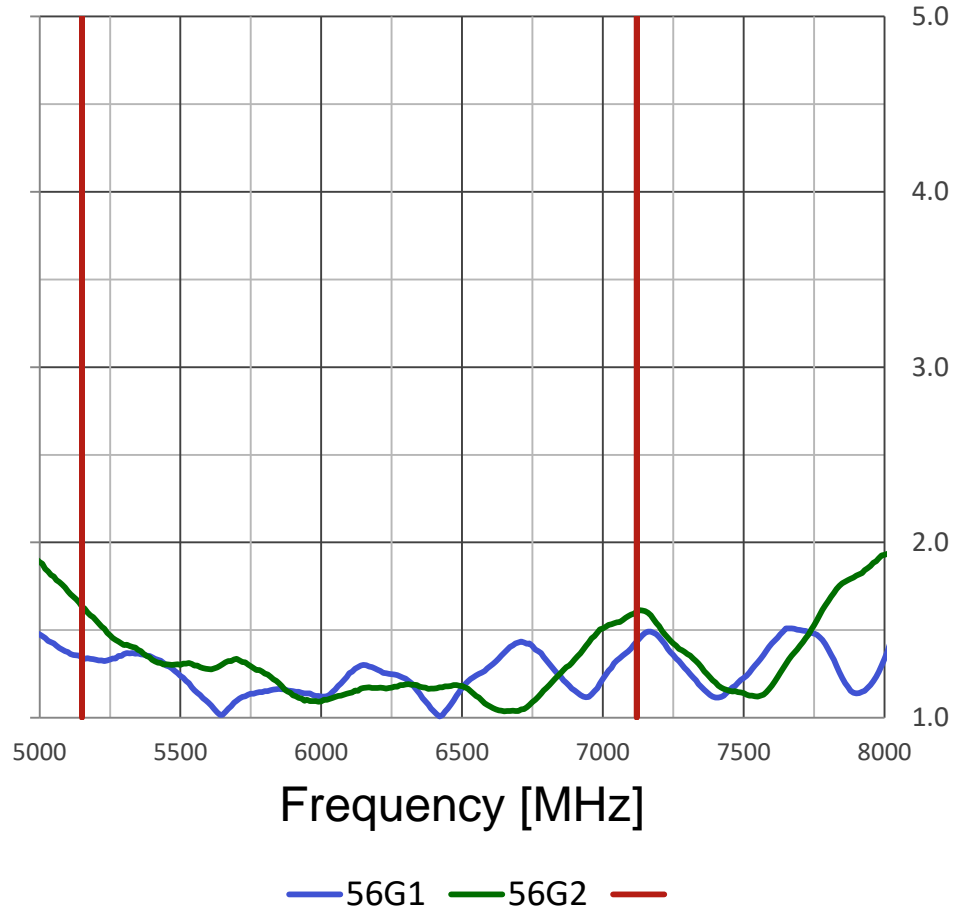


Scanning Radio

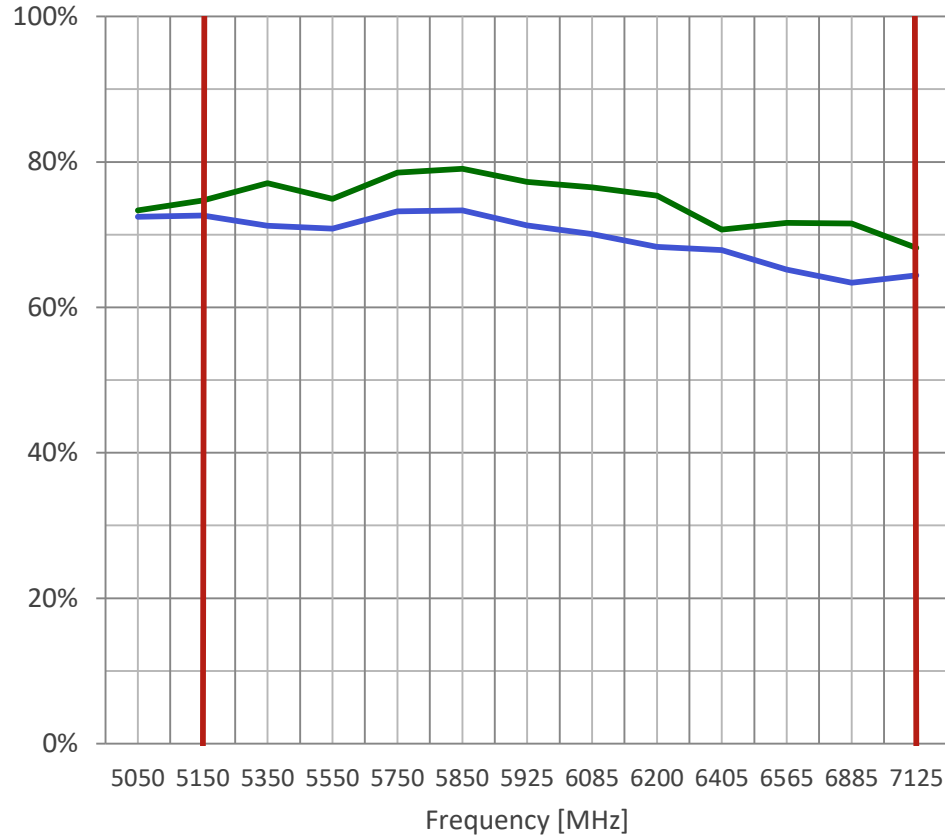
- **Maximum VSWR**
 - 1.6:1 on 5_6GHz
- **Minimum Isolation**
 - 23.1dB on 5_6GHz
- **Average Efficiency**
 - ~72% on 5_6GHz
- **Peak Gain**
 - 6.0dBi on 5_6GHz



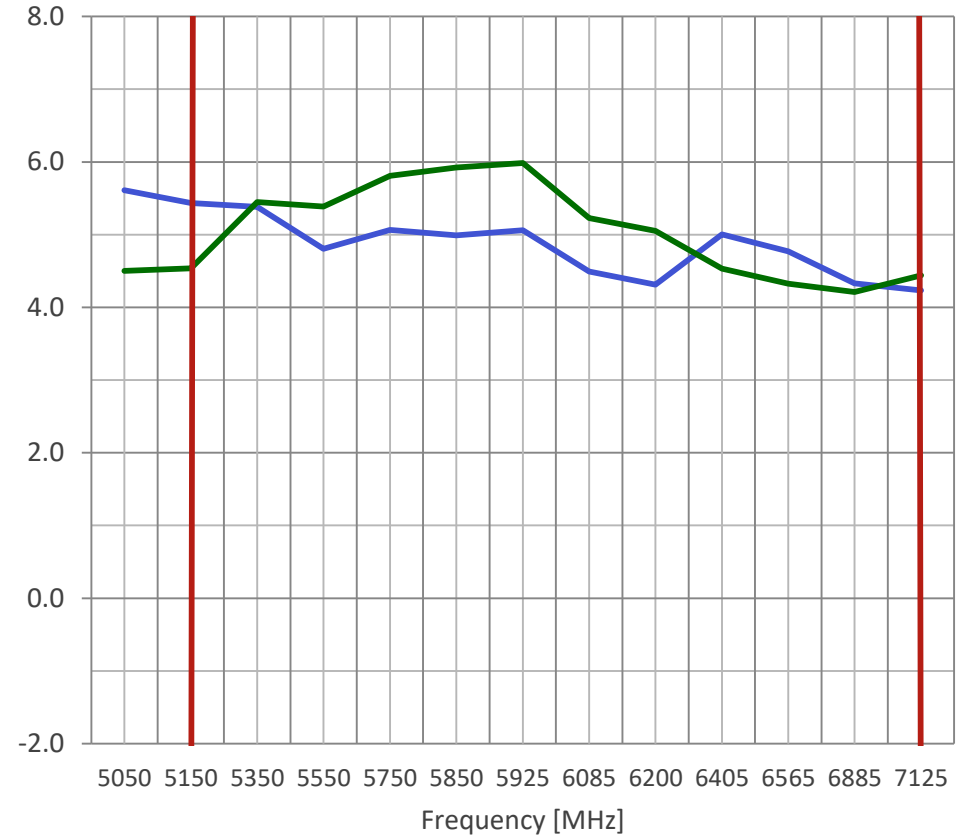
VSWR / Isolation Scanning Radio 5/6G



Efficiency / Peak Gain Scanning Radio 5/6G



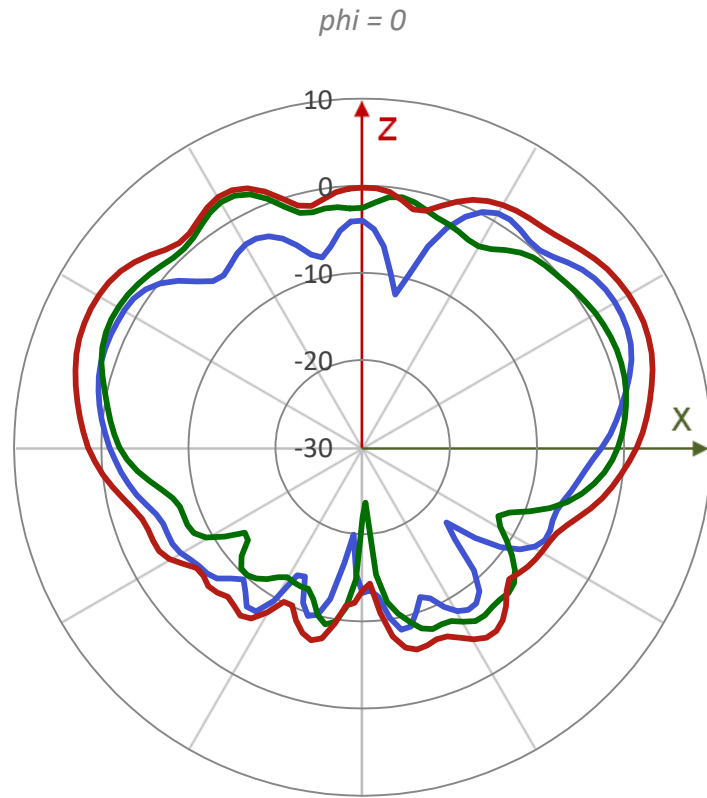
— 56G1 — 56G2 —



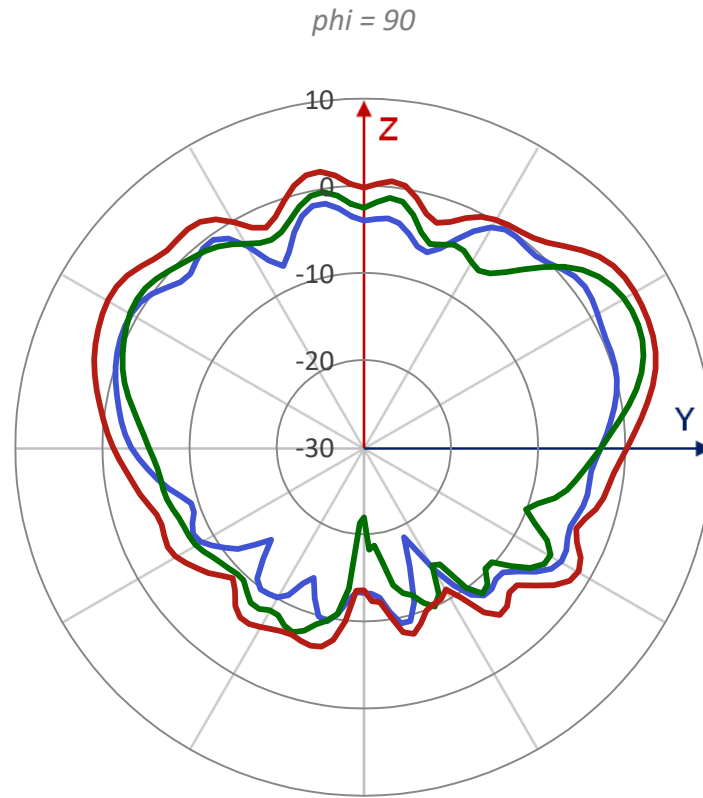
— 56G1 — 56G2 —



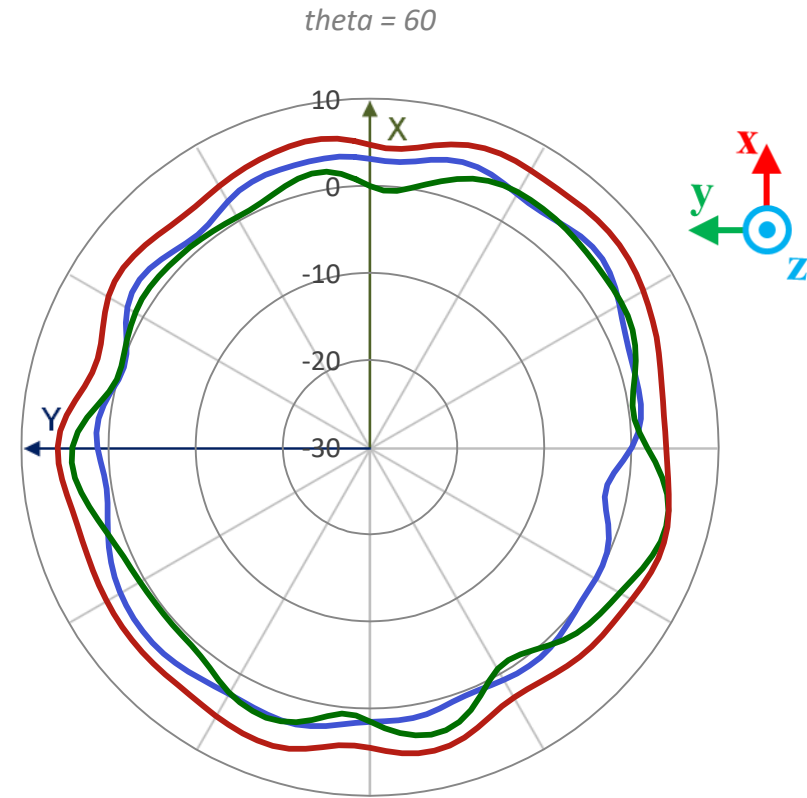
Realized Gain Pattern Scanning Radio @5450MHz for Gtotal



— 56G1 — 56G2 — Composite



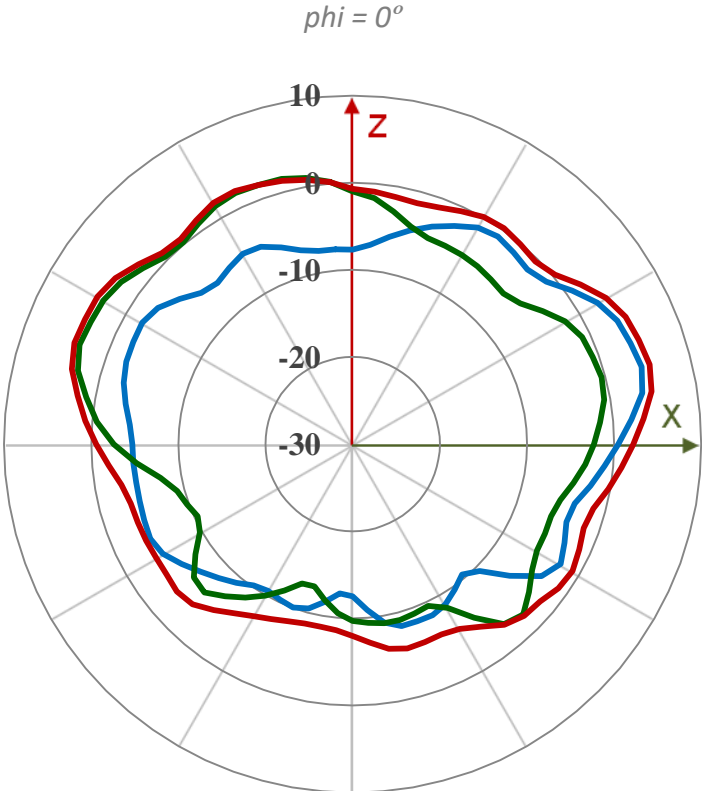
— 56G1 — 56G2 — Composite



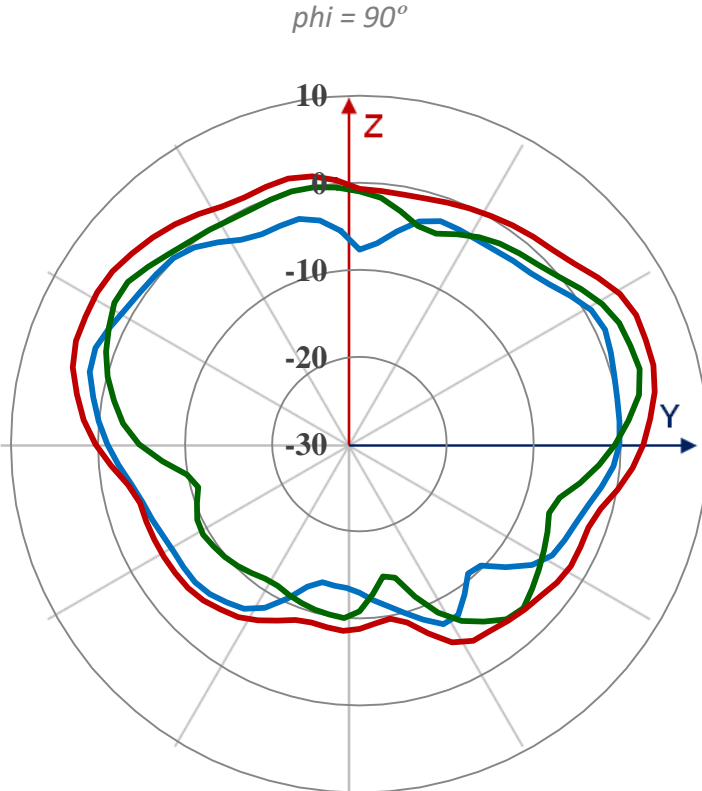
— 56G1 — 56G2 — Composite



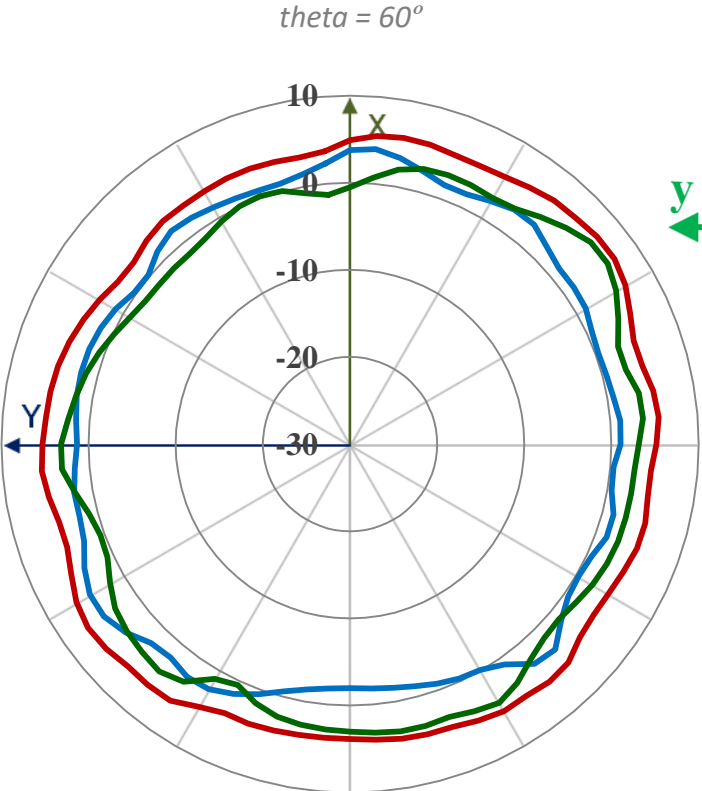
Realized Gain Pattern Scanning Radio @6200MHz for Gtotal



— 56G1 — 56G2 — Composite



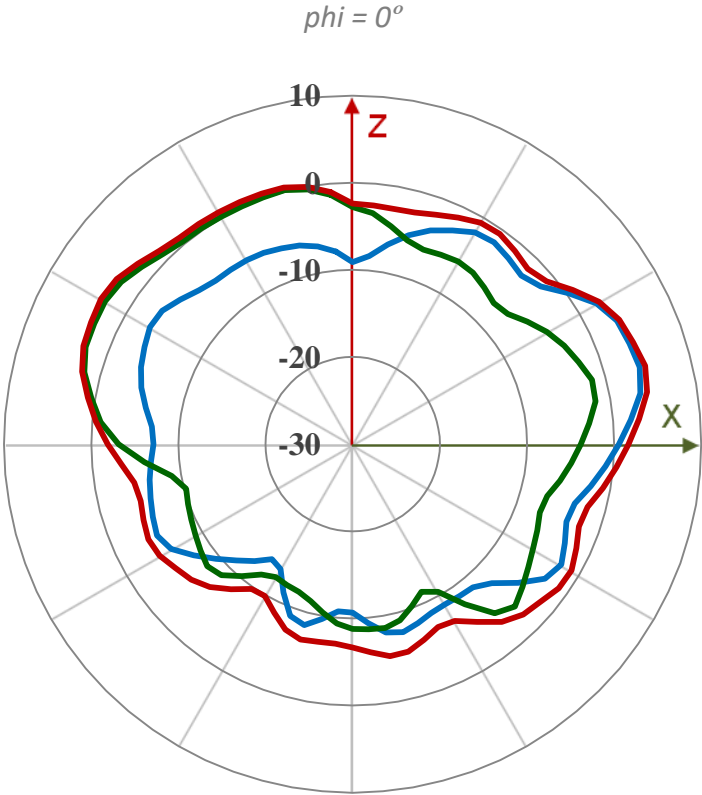
— 56G1 — 56G2 — Composite



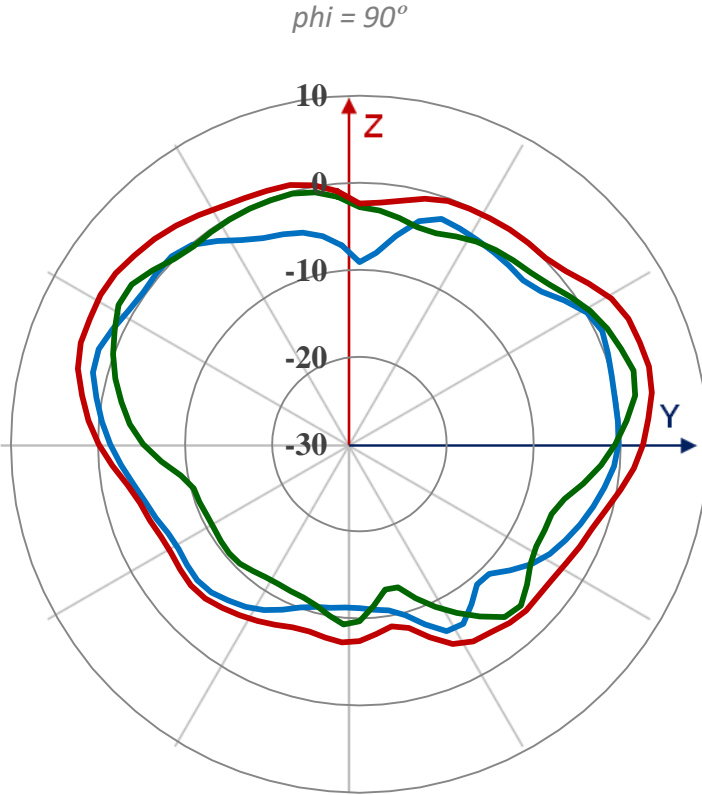
— 56G1 — 56G2 — Composite



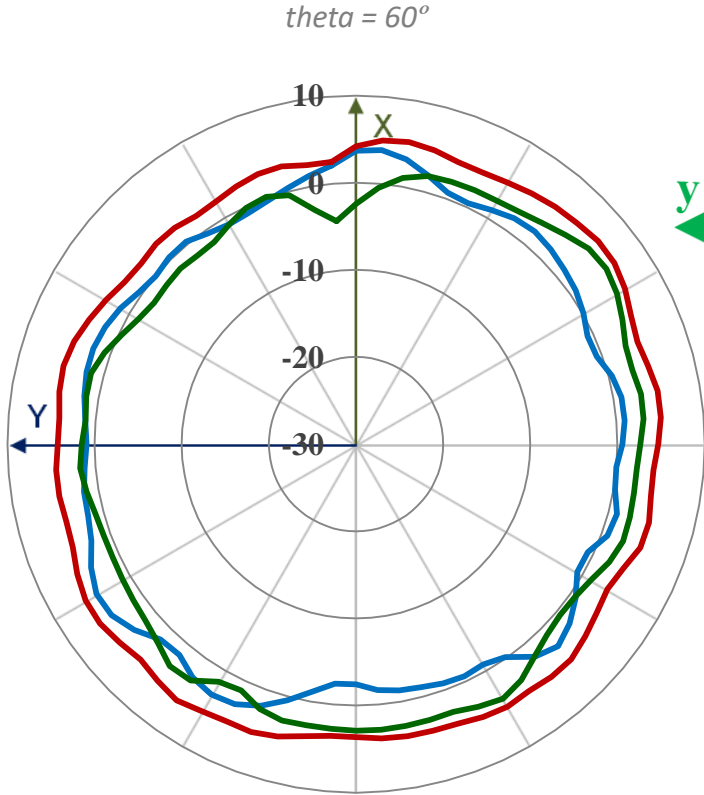
Realized Gain Pattern Scanning Radio @6565MHz for Gtotal



— 56G1 — 56G2 — Composite



— 56G1 — 56G2 — Composite

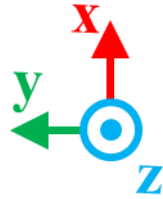


— 56G1 — 56G2 — Composite

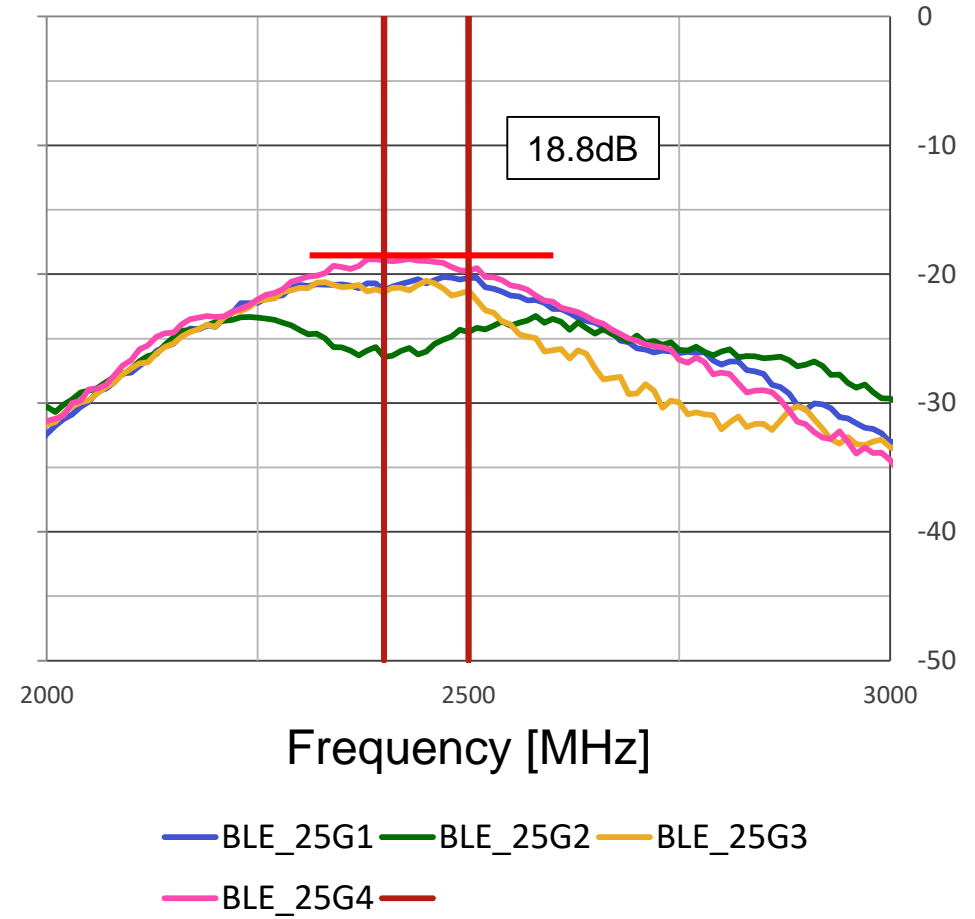
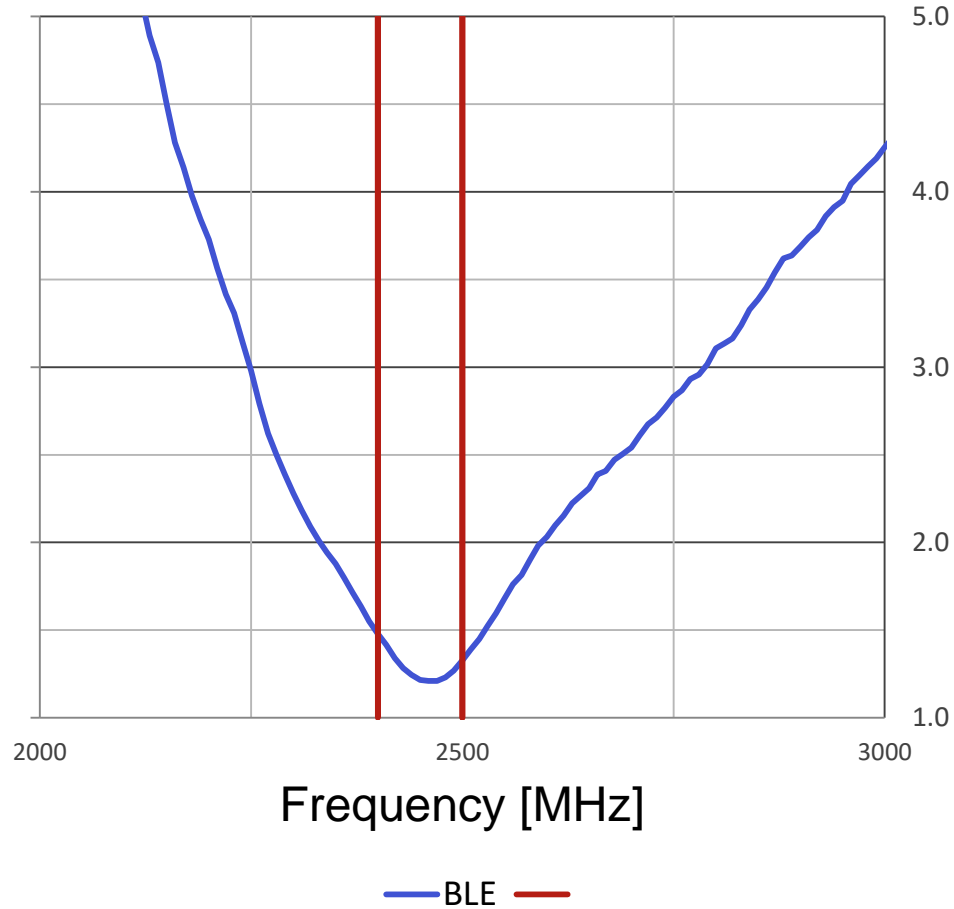


BLE Antenna

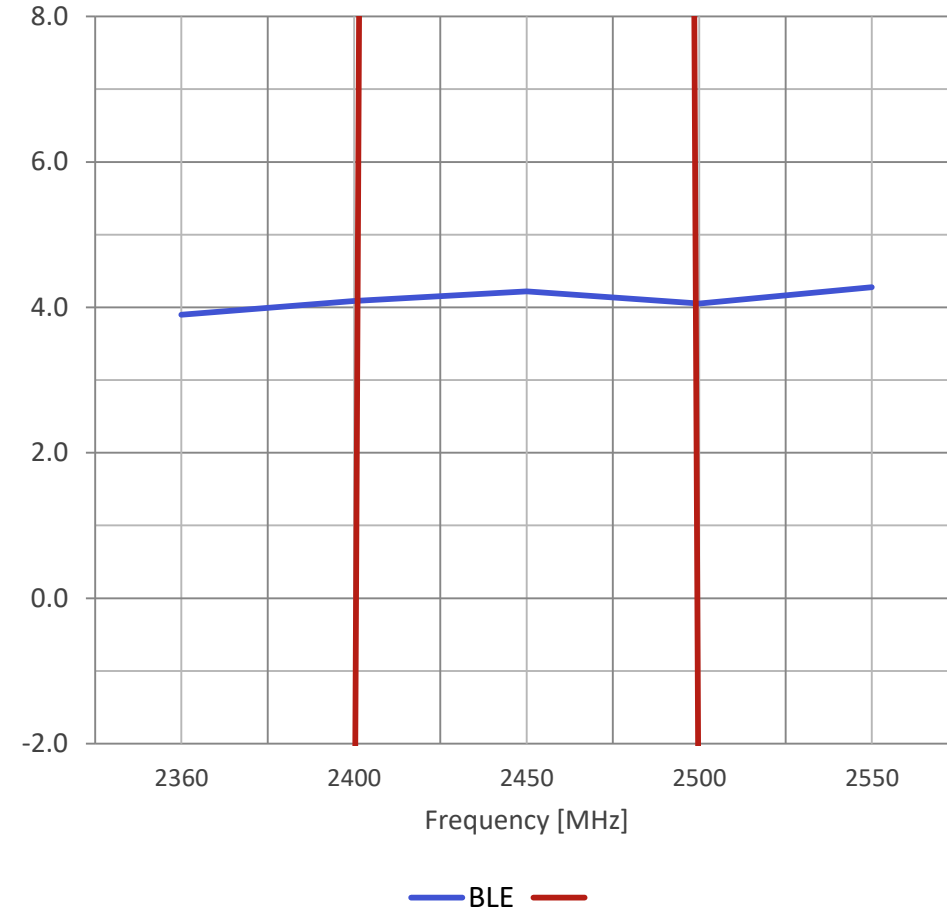
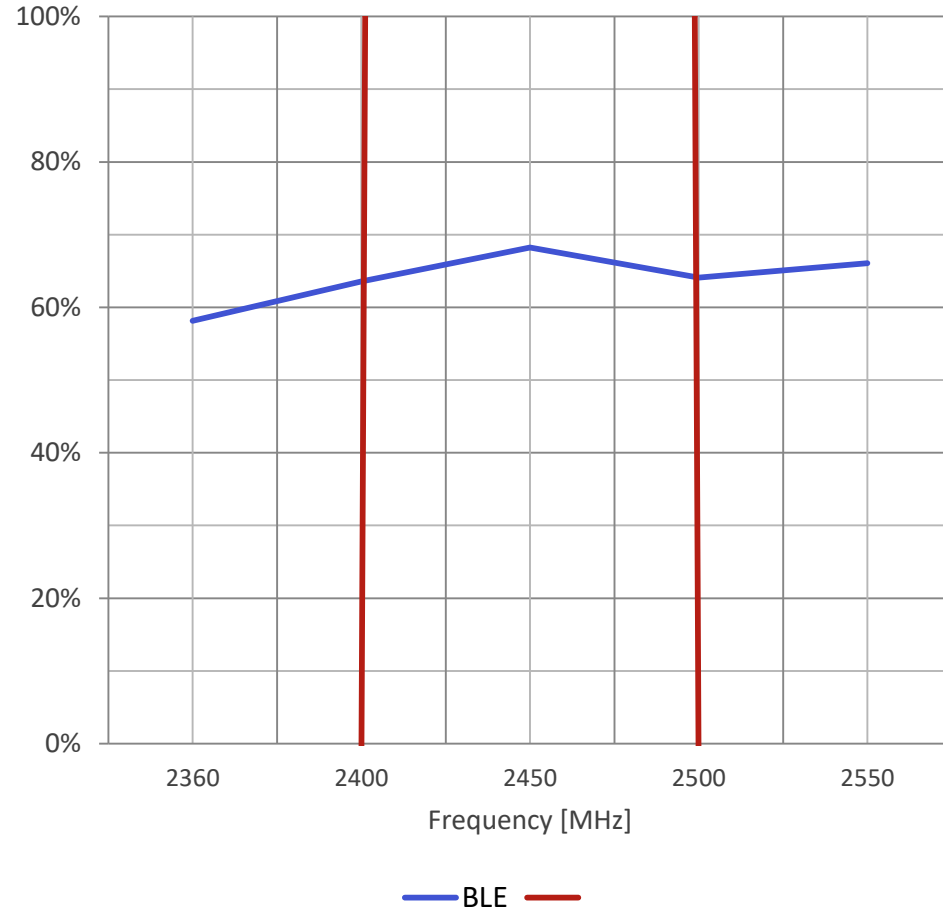
- **Maximum VSWR**
 - 1.5:1 on 2.4GHz
- **Minimum Isolation**
 - 18.8dB on 2.4GHz
- **Average Efficiency**
 - ~66% on 2.4GHz
- **Peak Gain**
 - 4.2dBi on 2.4GHz



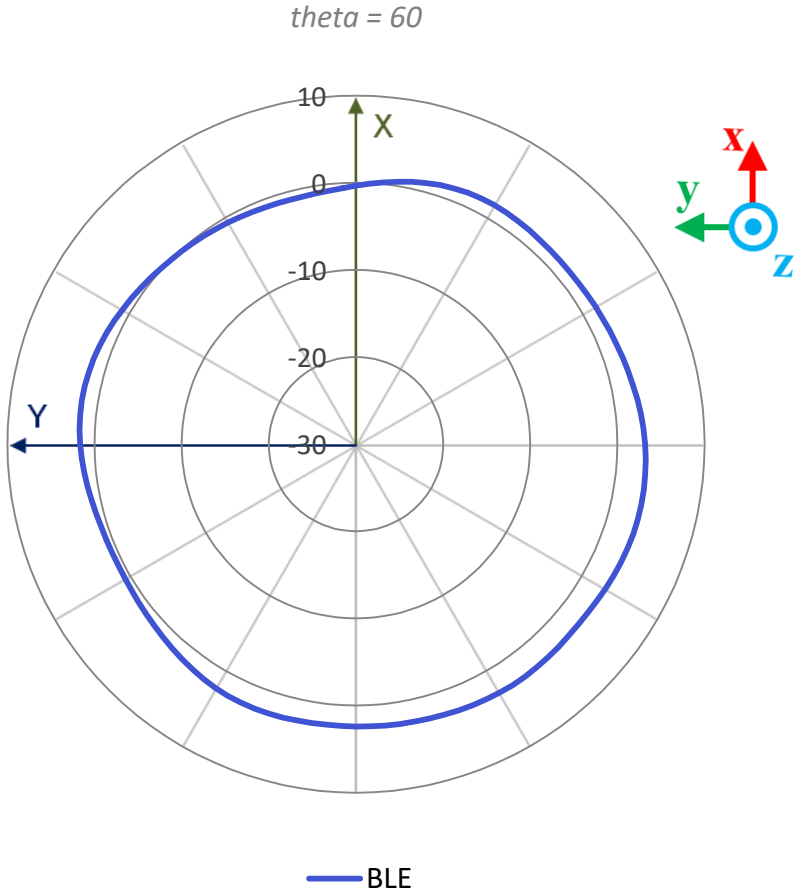
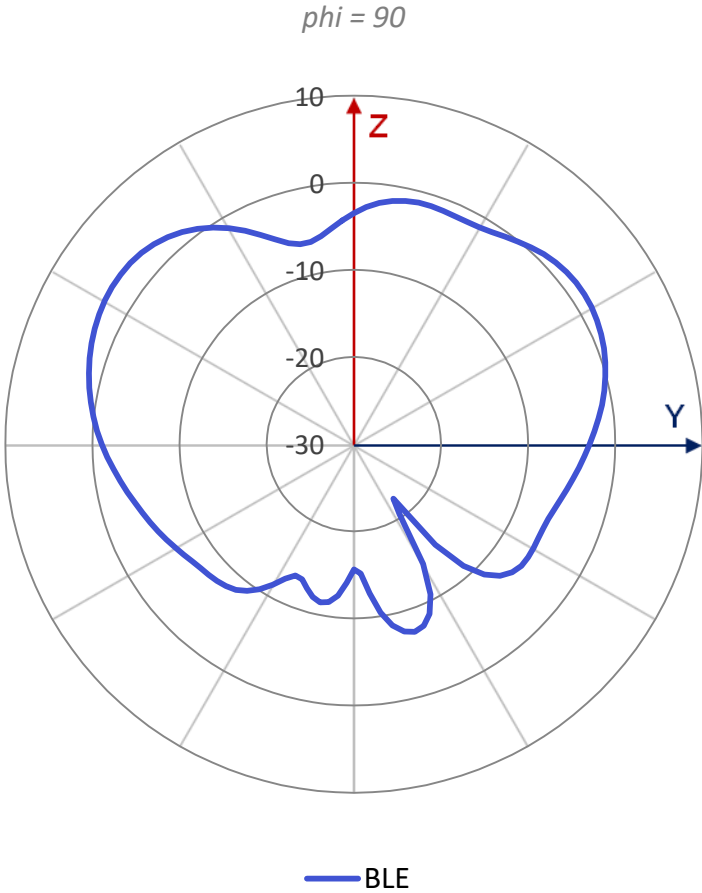
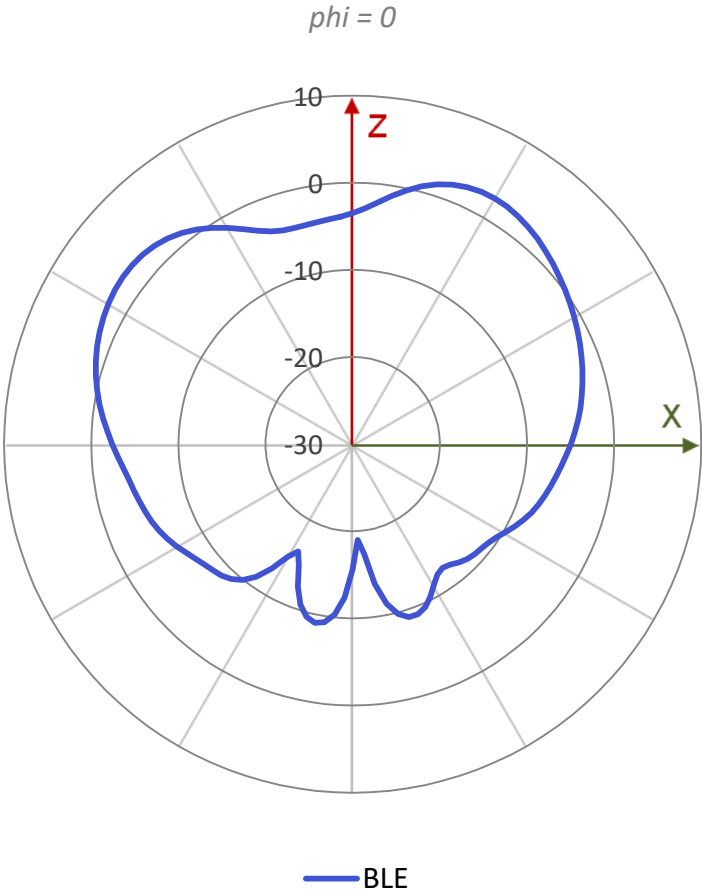
VSWR / Isolation BLE Antenna



Efficiency / Peak Gain BLE Antenna



Realized Gain Pattern BLE Antenna @2450MHz for Gtotal



UWB Antenna

- **Maximum VSWR**

- 2.0:1 on 6_8GHz

- **Minimum Isolation**

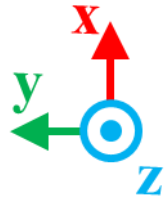
- 22.0dB on 6_8GHz

- **Average Efficiency**

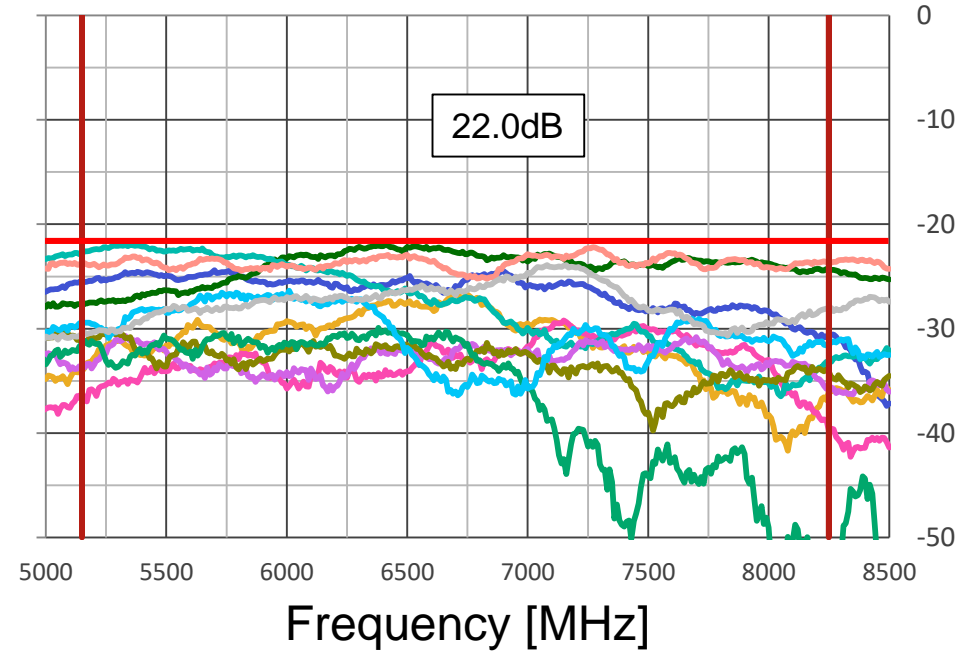
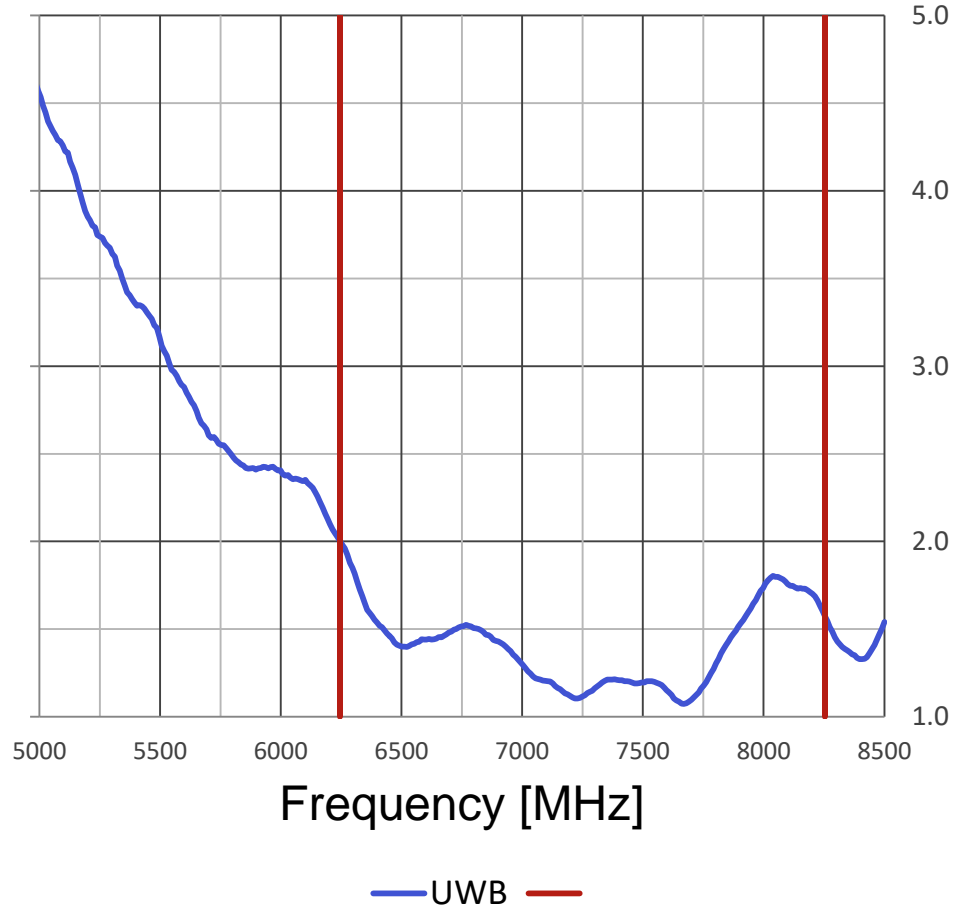
- ~61% on 6GHz / ~61% on 8GHz

- **Peak Gain**

- 4.7dBi on 6GHz / 4.7dBi on 8GHz



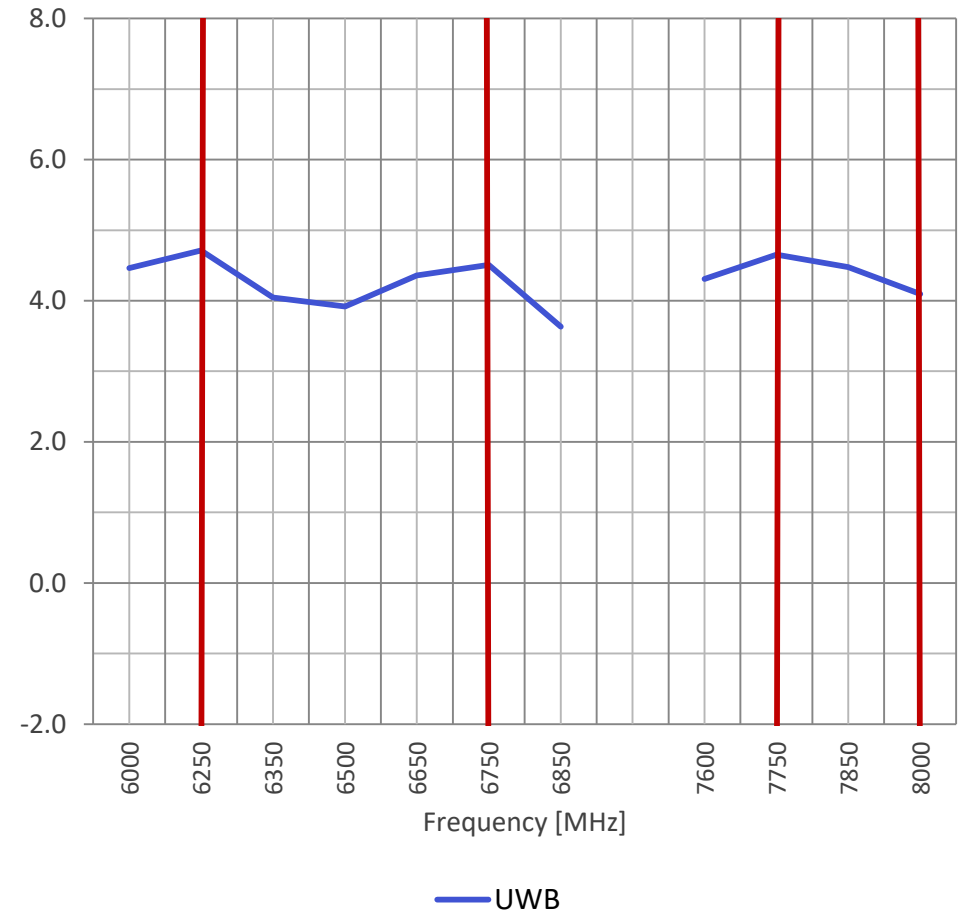
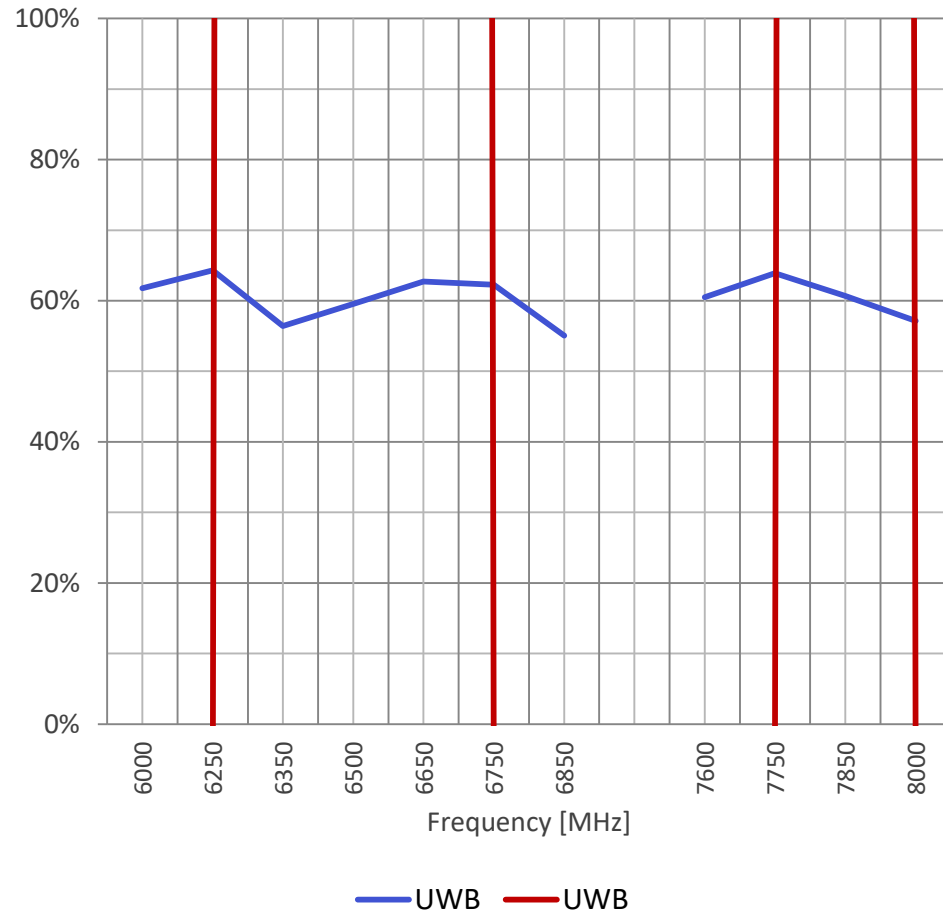
VSWR / Isolation UWB Antenna



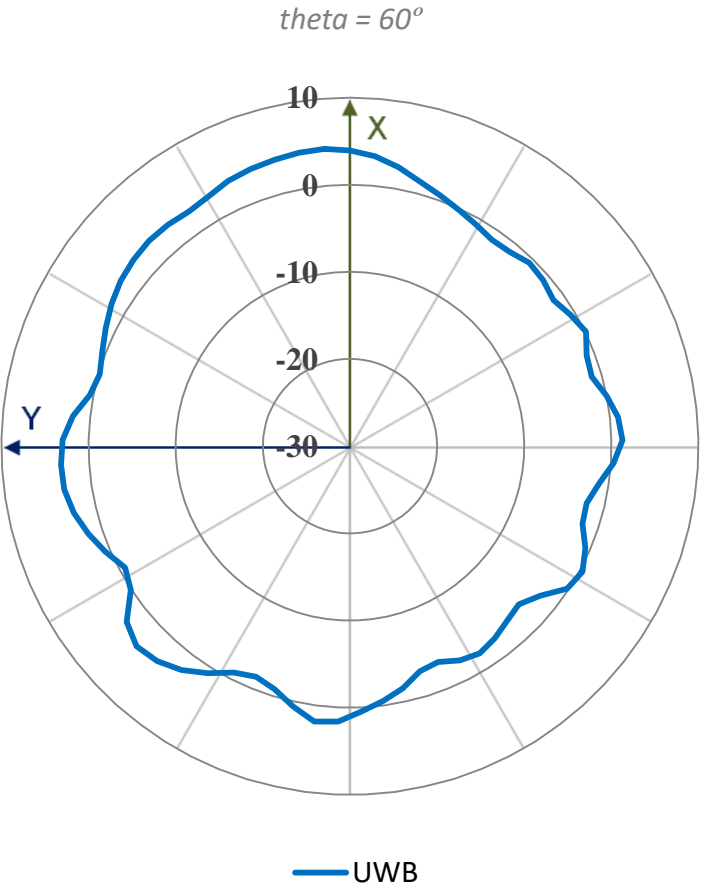
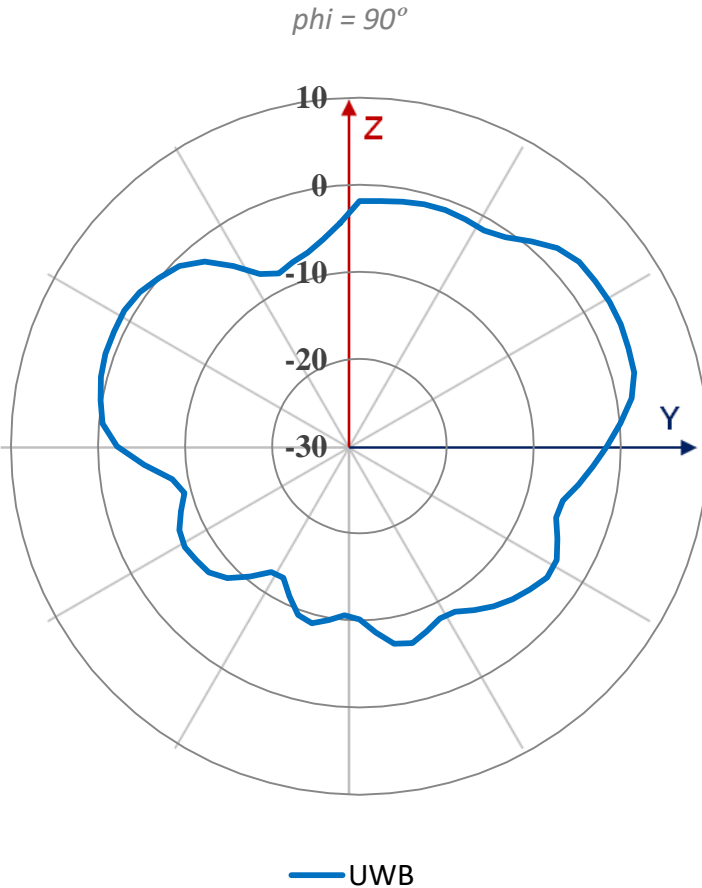
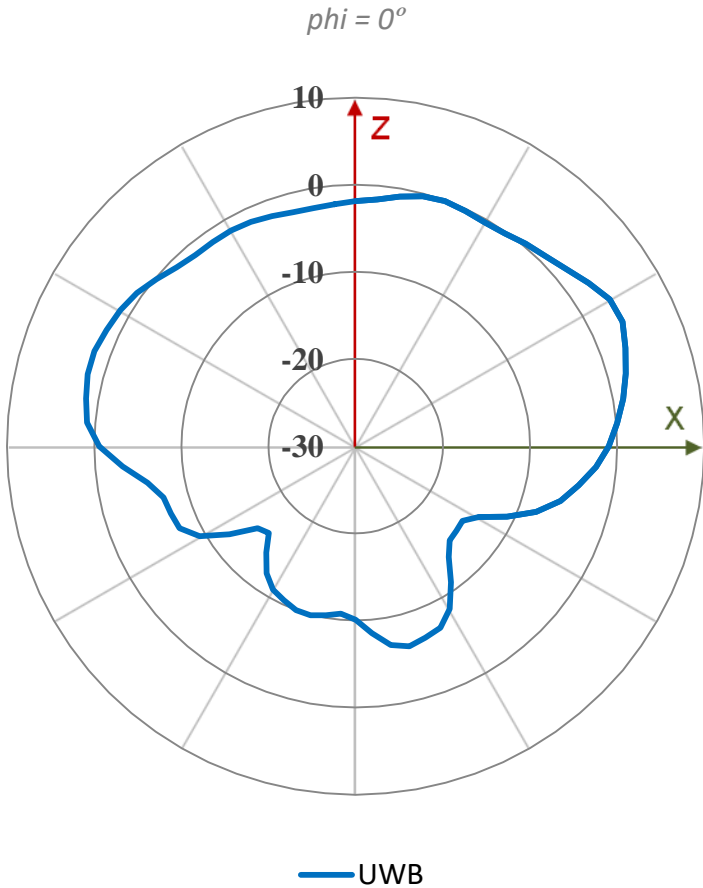
- UWB_6G1 —
- UWB_6G2 —
- UWB_6G3 —
- UWB_6G4 —
- UWB_25G1 —
- UWB_25G2 —
- UWB_25G3 —
- UWB_25G4 —
- UWB_56G1 —
- UWB_56G2 —
- UWB_BLE —



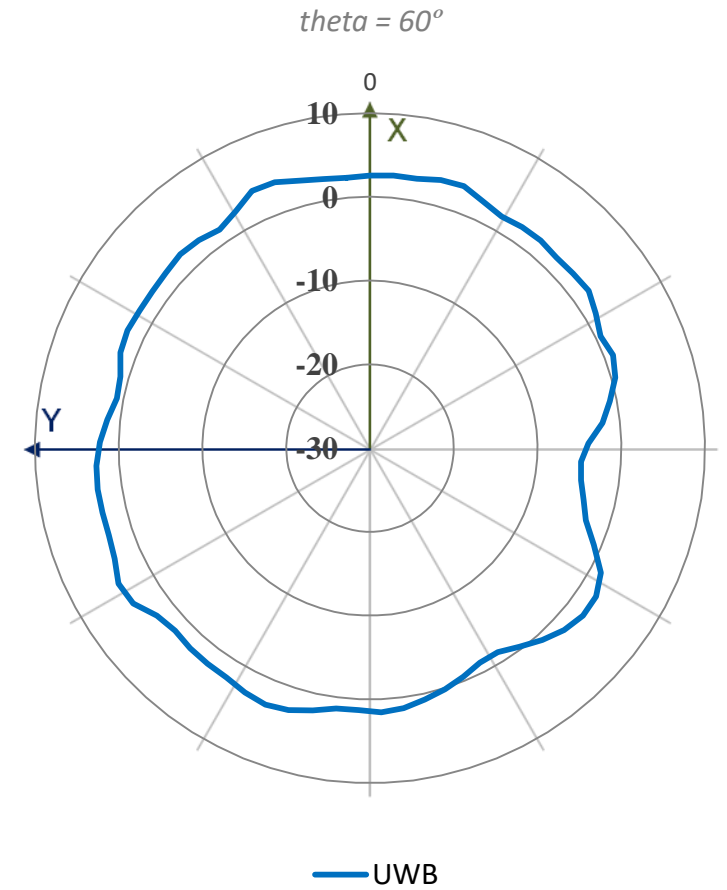
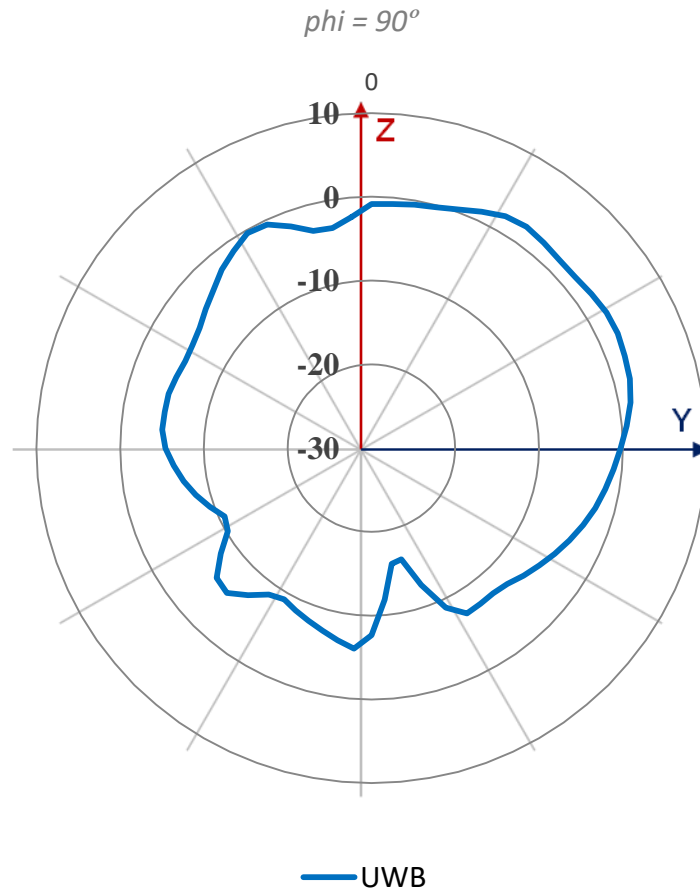
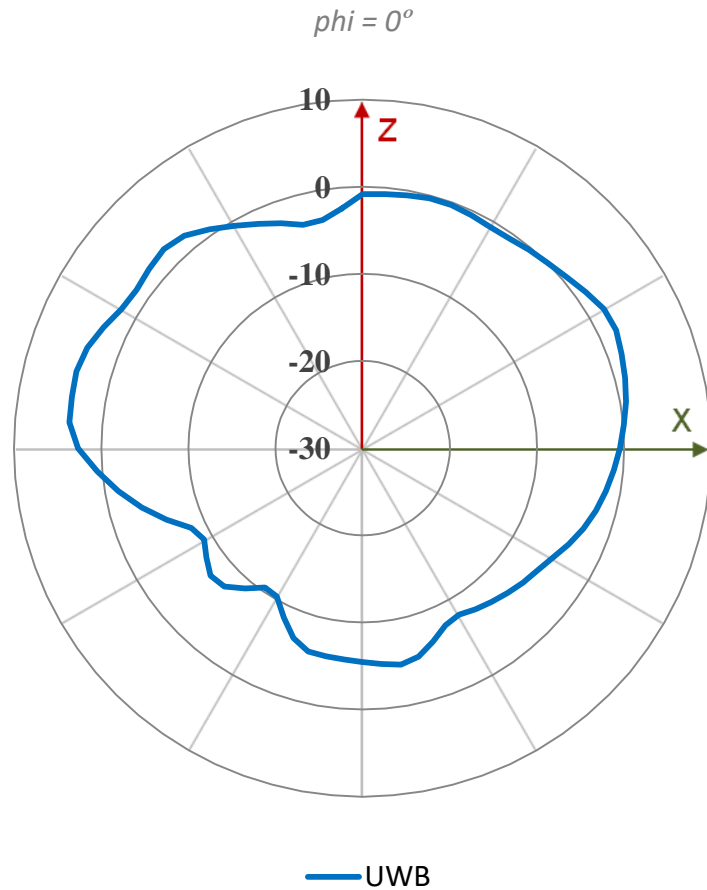
Efficiency / Peak Gain UWB Antenna



Realized Gain Pattern UWB @6500MHz for Gtotal



Realized Gain Pattern UWB @8000MHz for Gtotal



WNC

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