

# Part No. X1005324-LWS5SX10A2

## LTE MIMO / GNSS (active) / WiFi MIMO 5-in-1 External Antenna

(698-960; 1710-2170; 2300-2690) + (1561 / 1575 / 1602) MHz + (2400-2500; 5150-5850) MHz

Supports: Tracking, Smart Home, Agriculture, Automotive Aftermarket, Healthcare, Digital Signage, Logistics, Industrial Devices



### GPS/GLONASS (active) & LTE External Antenna

(698-960; 1710-2170; 2300-2690) MHz  
(1561 / 1575 / 1602) MHz

KYOCERA AVX's 5-in-1 LTE MIMO / GNSS (active) / WiFi MIMO external antenna delivers on the key needs of device designers for higher functionality and performance.

### Electrical Specifications

Typical characteristics in free-space

Frequency (LTE-1 / LTE-2)	698~960 MHz	1710~2170 MHz	2300~2690 MHz
Peak Gain	3.8 / 3.5 dBi	3.9 / 4.9 dBi	3.7 / 4.1 dBi
Average Efficiency	45 / 49%	64 / 67%	50 / 51%
VSWR	3.5:1 / 2.2:1 max	2.0:1 / 2.0:1 max	2.0:1 / 2.0:1 max
Impedance	50 Ω		

### KEY BENEFITS

#### Reduced Costs and Time-to Market

Standard antennas eliminate design fees and cycle time associated with a custom solution, getting products to market faster.

#### High Performance

By optimizing antenna size, performance and emissions, customer and regulatory specifications are more easily met.

#### Reliability

Products are the latest RoHS & REACH version compliant.

### APPLICATIONS

- Remote Monitoring
- Point of Sale
- IoT
- Gateway
- Telematics
- Tracking
- Healthcare
- M2M, Industrial devices
- Smart Grid
- Logistics
- Energy
- Retail

Frequency (GNSS)	1561 MHz	1575 MHz	1602 MHz
Gain at Zenith	3.0 dBi	3.0 dBi	3.5 dBi
VSWR	2.0:1 max		
Impedance	50 Ω		
LNA Electrical Properties			
Frequency (GNSS)	1561 MHz	1575 MHz	1602 MHz
VSWR	2.0:1 max		
Impedance	50 Ω		
Antenna Gain (@3.3 V)	28 dB / 25 dB min.		
DC Power Input	3~5 V		
Noise Figure	1.5 dB Typ.		
Power Consumption (@ 3.3 v)	9 mA Typ.		

LTE MIMO / GNSS (active) / WiFi MIMO 5-in-1 External Antenna Specifications.  
KYOCERA AVX produces a wide variety of standard and custom antennas to meet user needs.

## Electrical Specifications cont.

Typical characteristics in free-space

Frequency (WiFi-1 / WiFi-2)	2400~2485 MHz	5150~5825 MHz
Peak Gain	3.6 / 4.6 dBi	6.2 / 6.6 dBi
Average Efficiency	62 / 63%	51 / 49%
VSWR	1.8:1 / 1.6:1 max	1.8:1 / 1.8:1 max
Impedance	50 $\Omega$	

## Mechanical Specifications

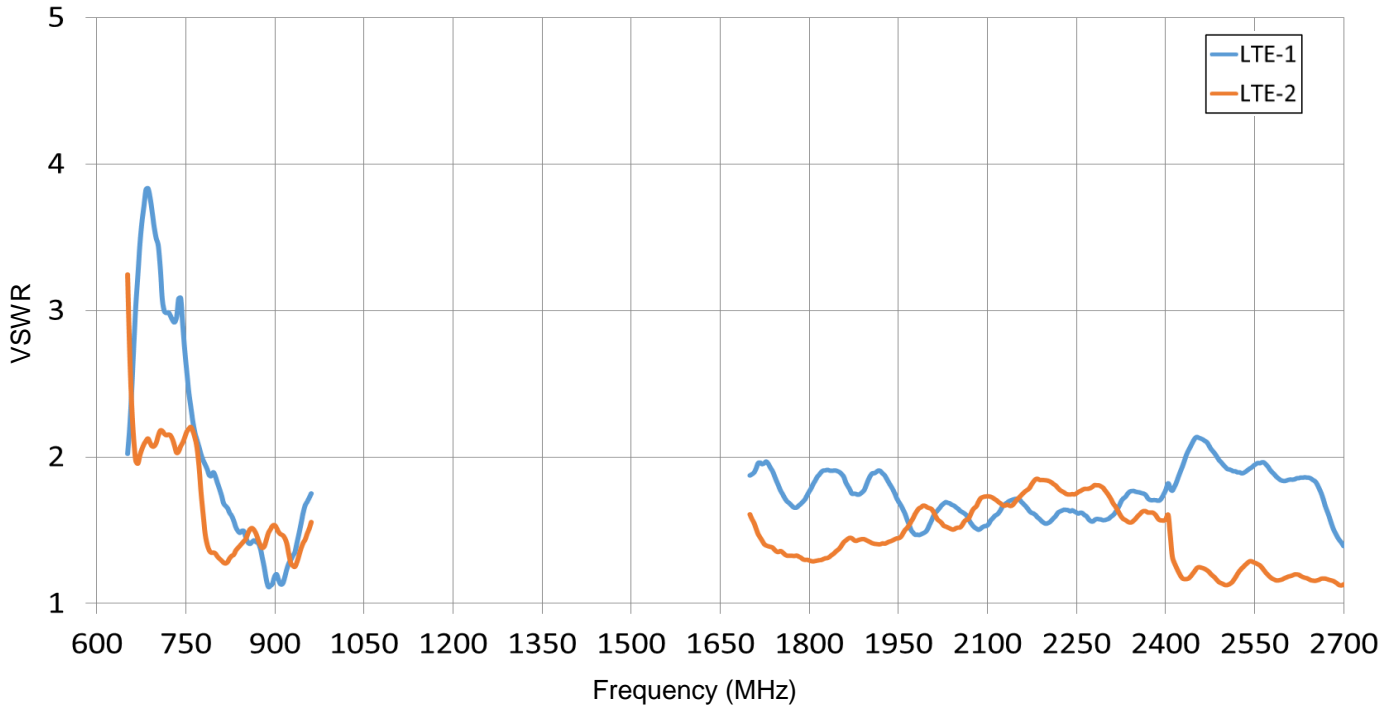
Ordering Part #	X1005324-LWS5SX10A2
Dimensions (mm)	141.98 (Diameter) x 63.5 (Height)
Mounting Type	Screw/Nut + Adhesive Foam
Operating Temperature °C	-40 ~ +85
Housing Material & Color	PC + ABS (Black)
Weight (grams)	715
Cable	Length: 1M Type: CFD-200 LTE (1&2) RG-174 GNSS CFD-200 WiFi (1&2)
Connector	SMA(M) LTE (1&2) SMA(M) GNSS RP-SMA(M) WiFi (1&2)
Waterproof	IPX7

LTE MIMO / GNSS (active) / WiFi MIMO 5-in-1 External Antenna Specifications.  
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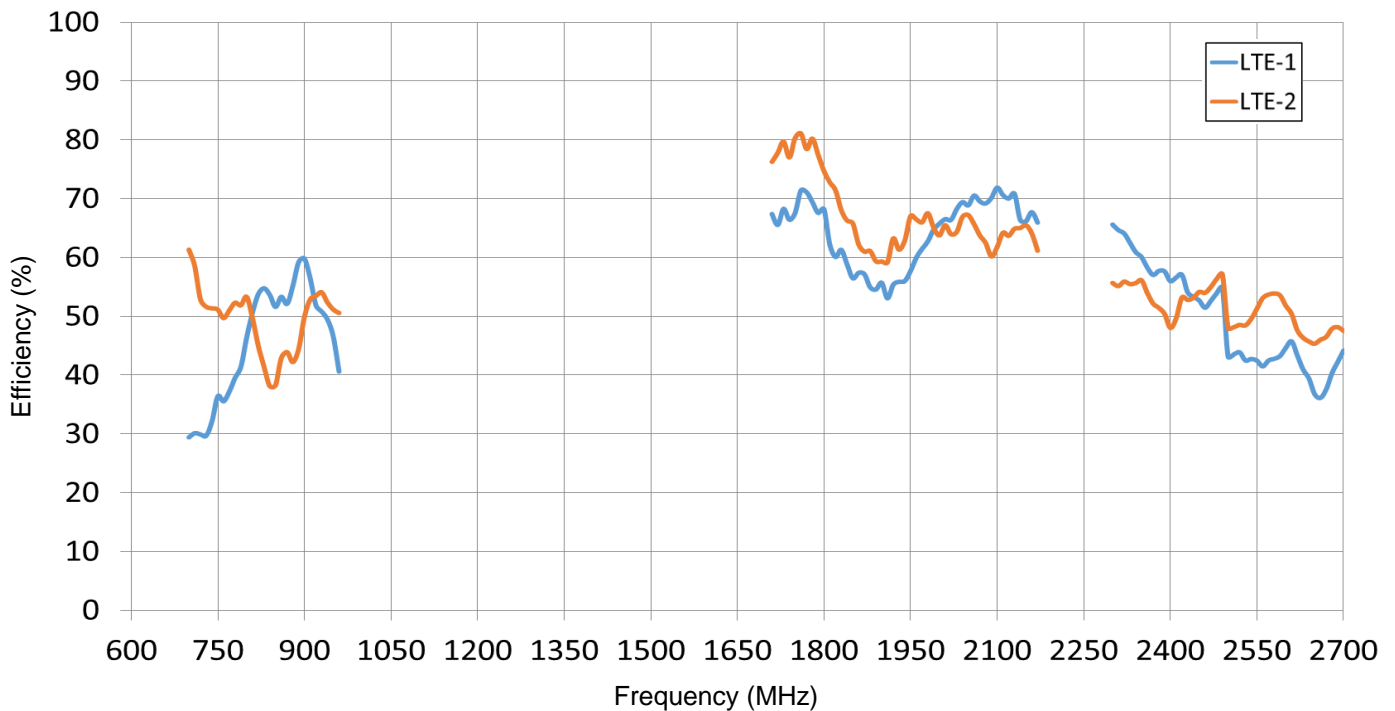
## VSWR, Efficiency Plots (LTE-1 & LTE-2 698-2690 MHz)

Typical characteristics in free-space

### VSWR:



### Efficiency:

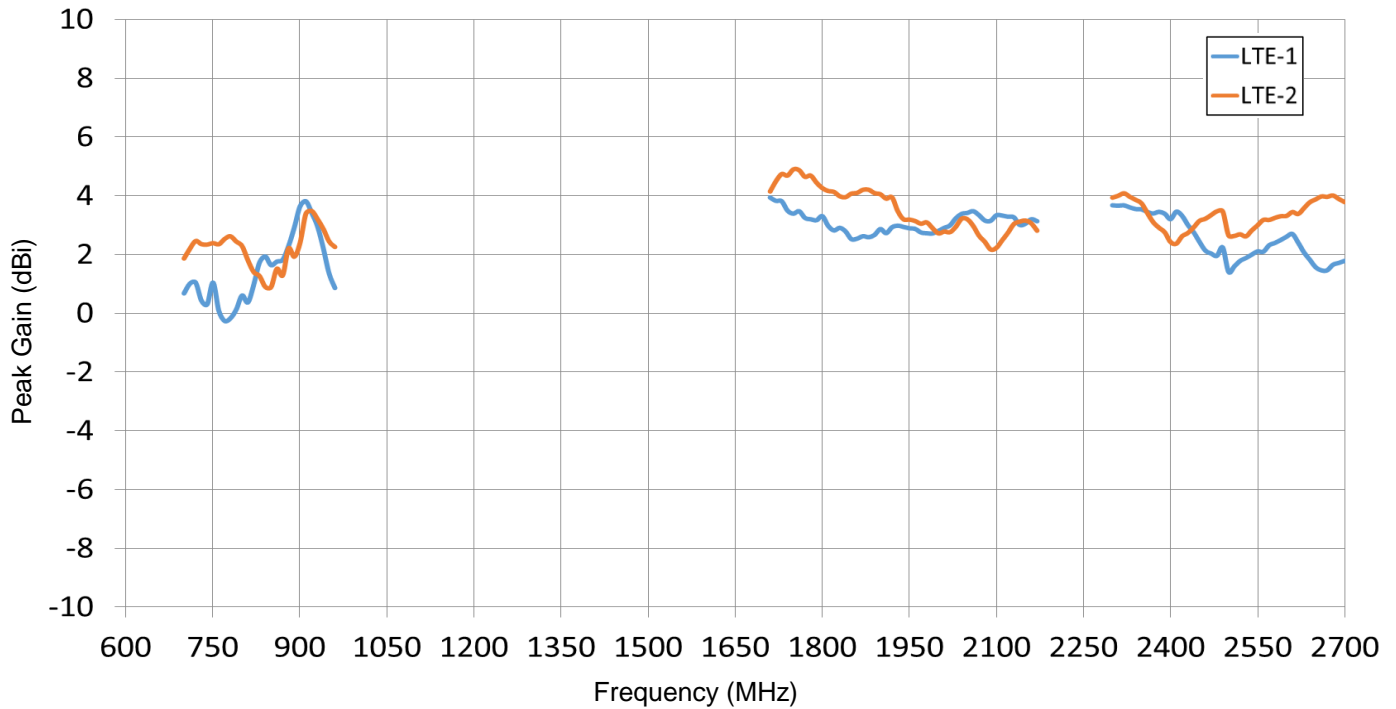


LTE MIMO / GNSS (active) / WiFi MIMO 5-in-1 External Antenna Specifications.  
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## Peak Gain Plots (LTE-1 & LTE-2 698-2690 MHz)

Typical characteristics in free-space

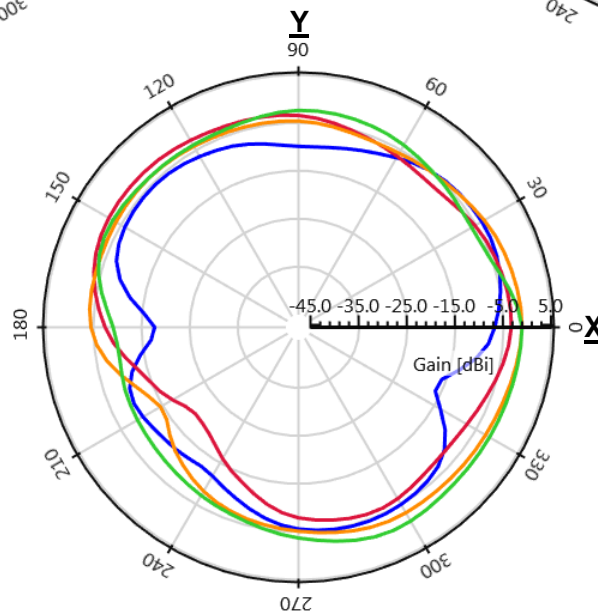
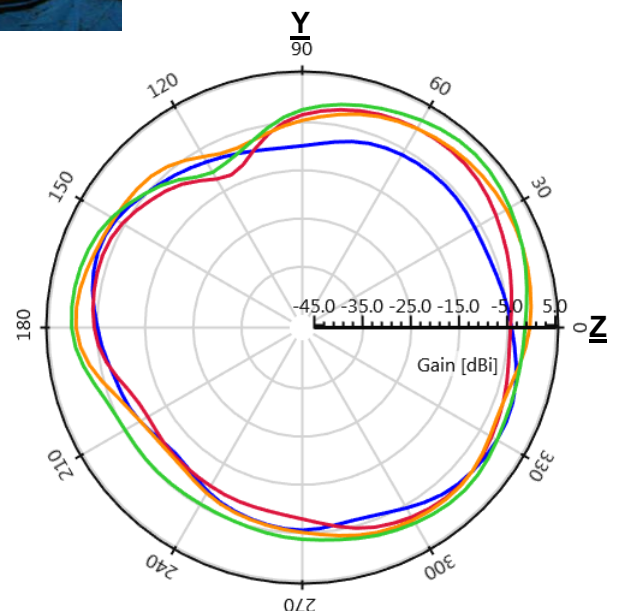
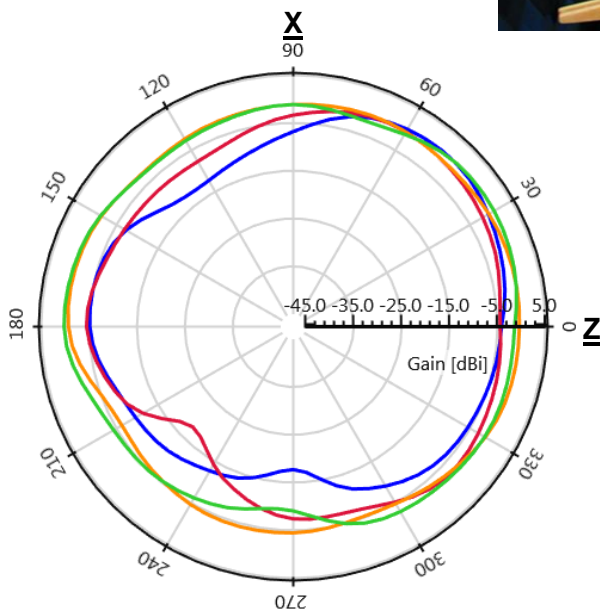
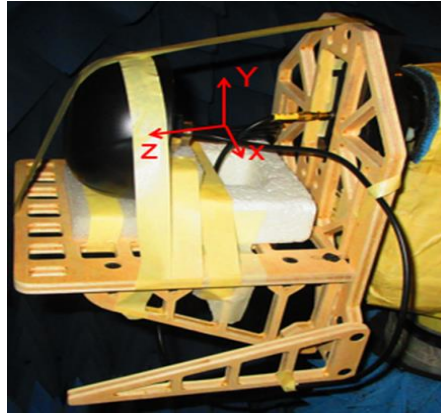
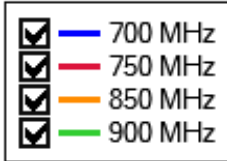
### Peak Gain:



LTE MIMO / GNSS (active) / WiFi MIMO 5-in-1 External Antenna Specifications.  
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## 2D Radiation Patterns (LTE-1 698-960 MHz)

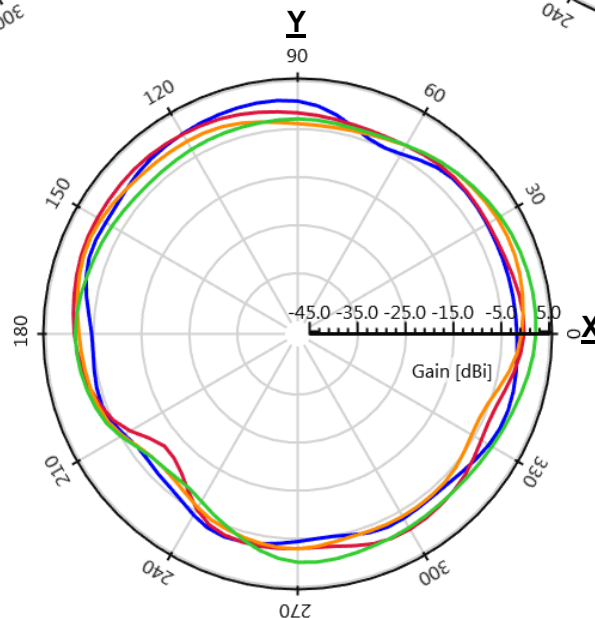
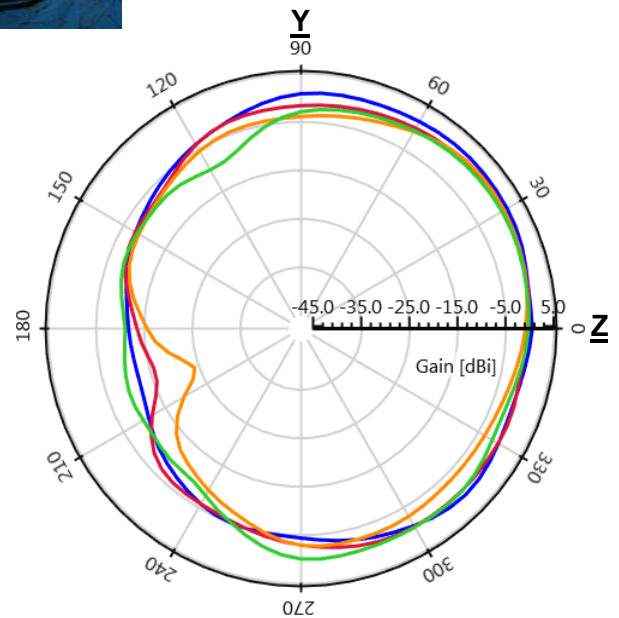
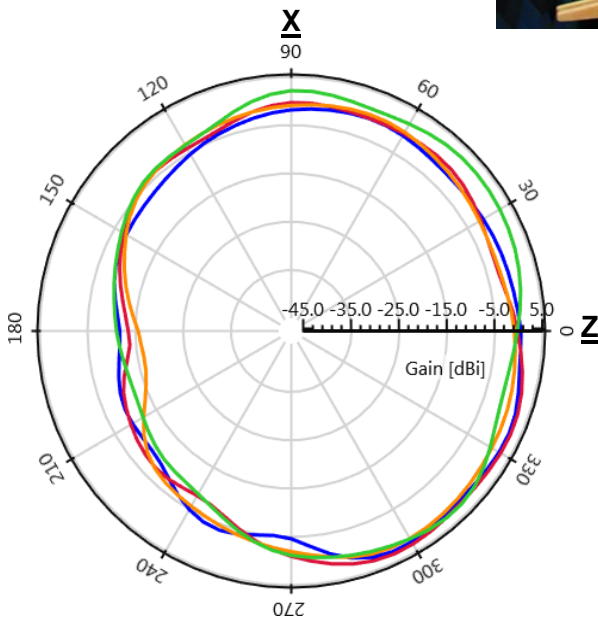
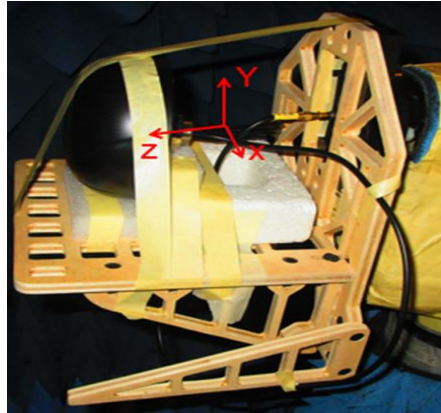
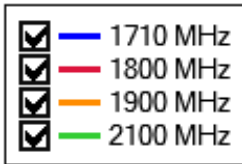
Typical characteristics in free-space



LTE MIMO / GNSS (active) / WiFi MIMO 5-in-1 External Antenna Specifications.  
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## 2D Radiation Patterns (LTE-1 1710-2170 MHz)

Typical characteristics in free-space

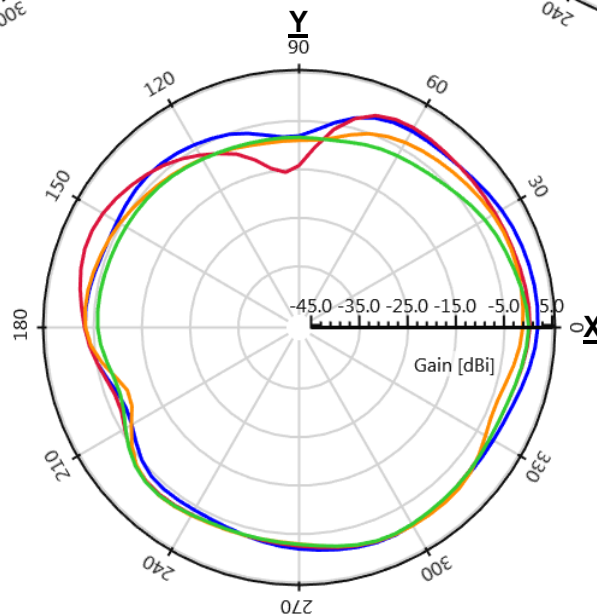
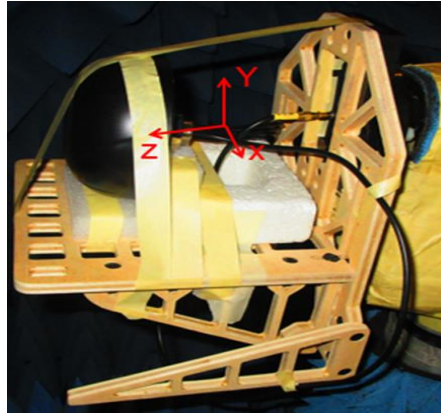
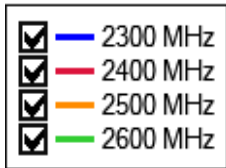




LTE MIMO / GNSS (active) / WiFi MIMO 5-in-1 External Antenna Specifications.  
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## 2D Radiation Patterns (LTE-1 2300-2690 MHz)

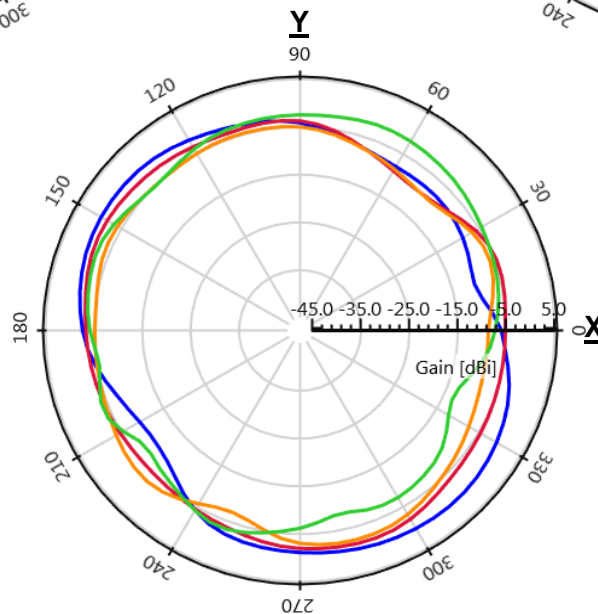
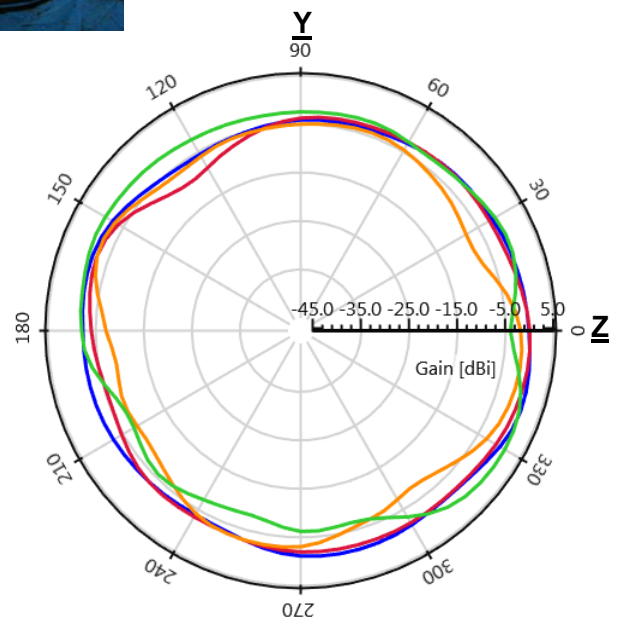
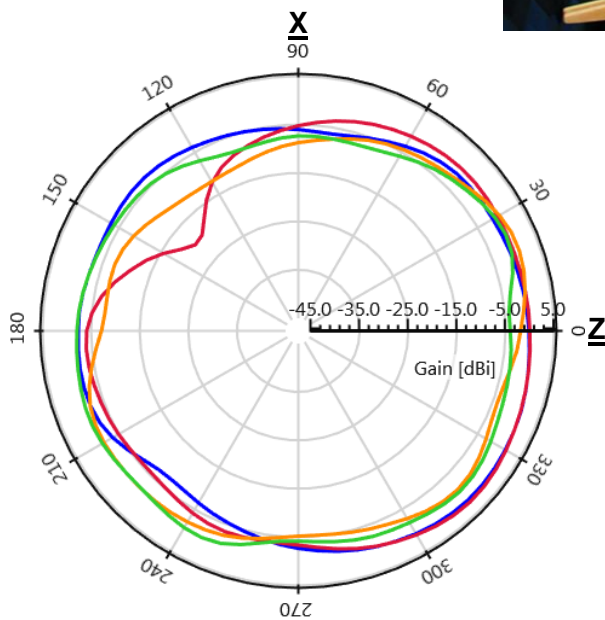
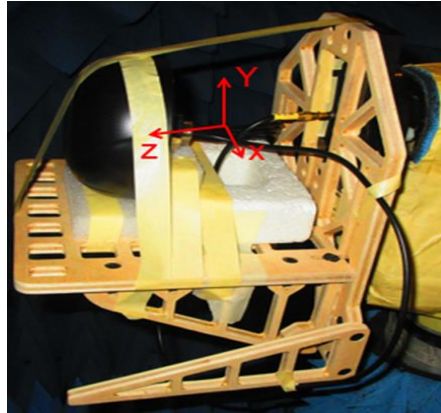
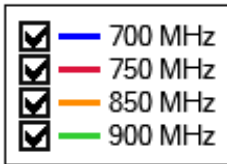
Typical characteristics in free-space



LTE MIMO / GNSS (active) / WiFi MIMO 5-in-1 External Antenna Specifications.  
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## 2D Radiation Patterns (LTE-2 698-960 MHz)

Typical characteristics in free-space

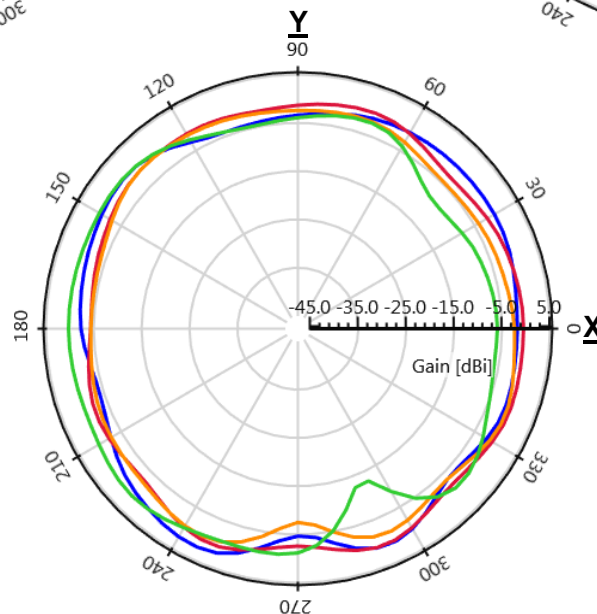
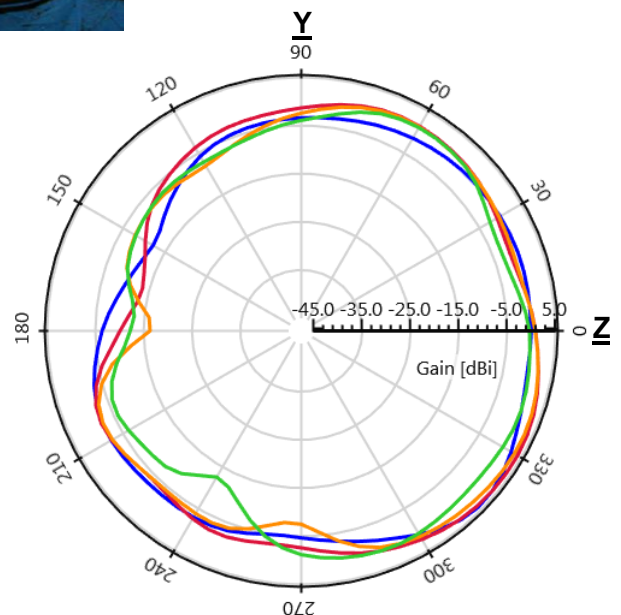
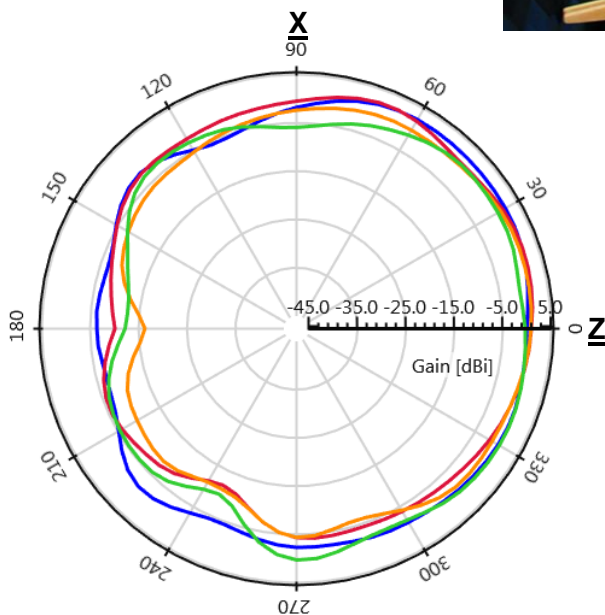
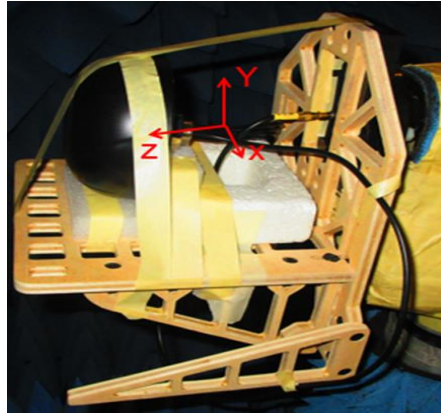
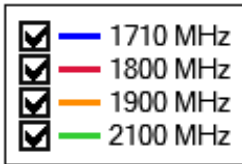




LTE MIMO / GNSS (active) / WiFi MIMO 5-in-1 External Antenna Specifications.  
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## 2D Radiation Patterns (LTE-2 1710-2170 MHz)

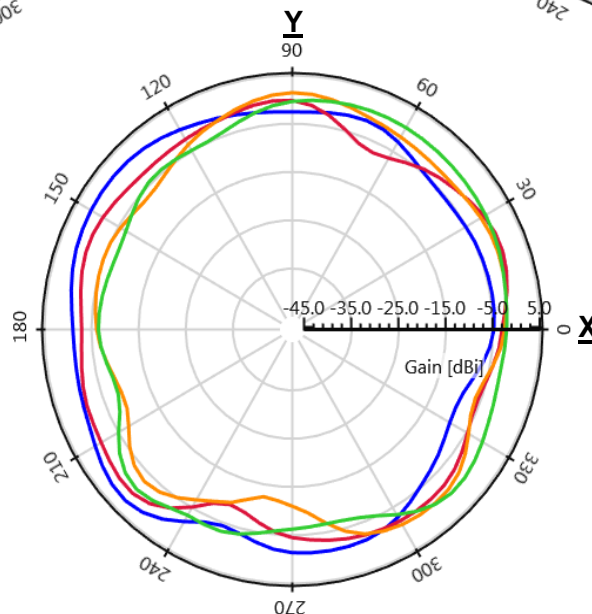
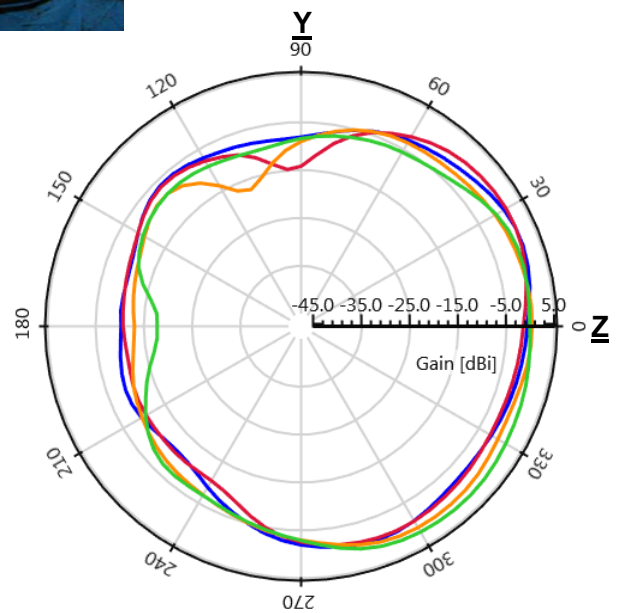
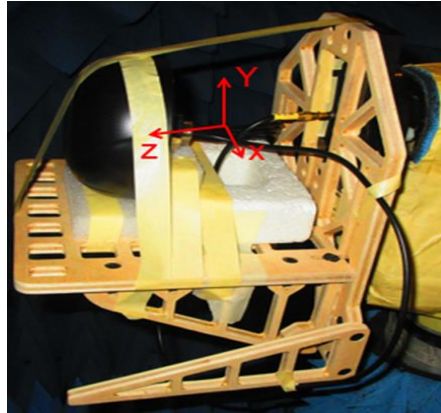
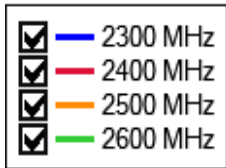
Typical characteristics in free-space



LTE MIMO / GNSS (active) / WiFi MIMO 5-in-1 External Antenna Specifications.  
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## 2D Radiation Patterns (LTE-2 2300-2690 MHz)

Typical characteristics in free-space

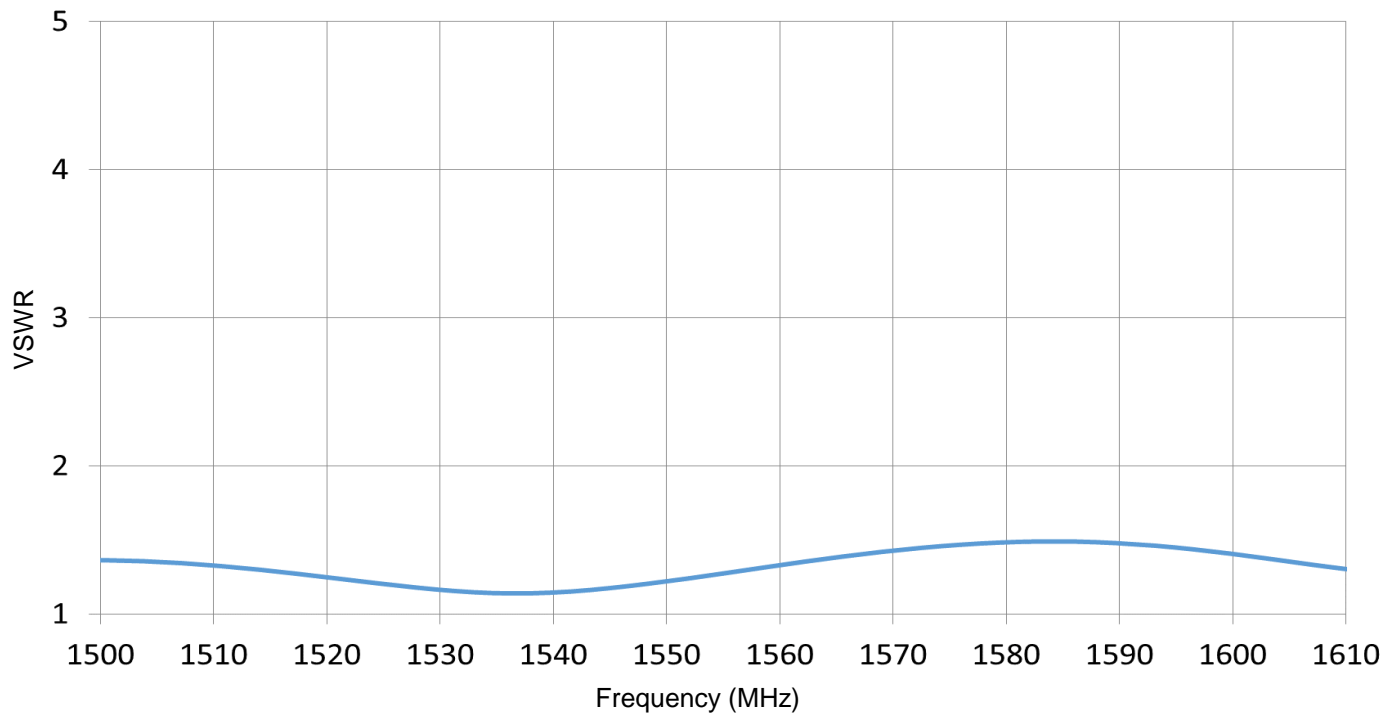


LTE MIMO / GNSS (active) / WiFi MIMO 5-in-1 External Antenna Specifications.  
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## VSWR Plot (GNSS)

Typical characteristics in free-space

**VSWR:**

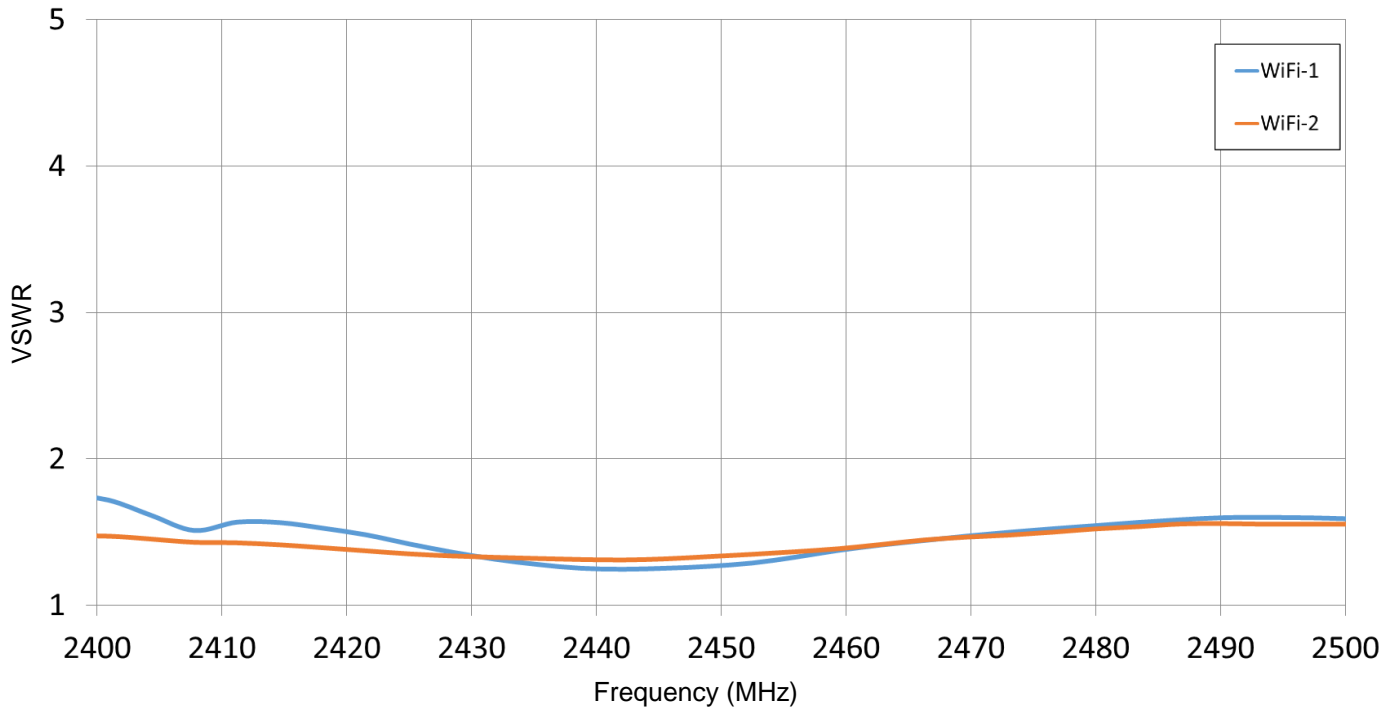


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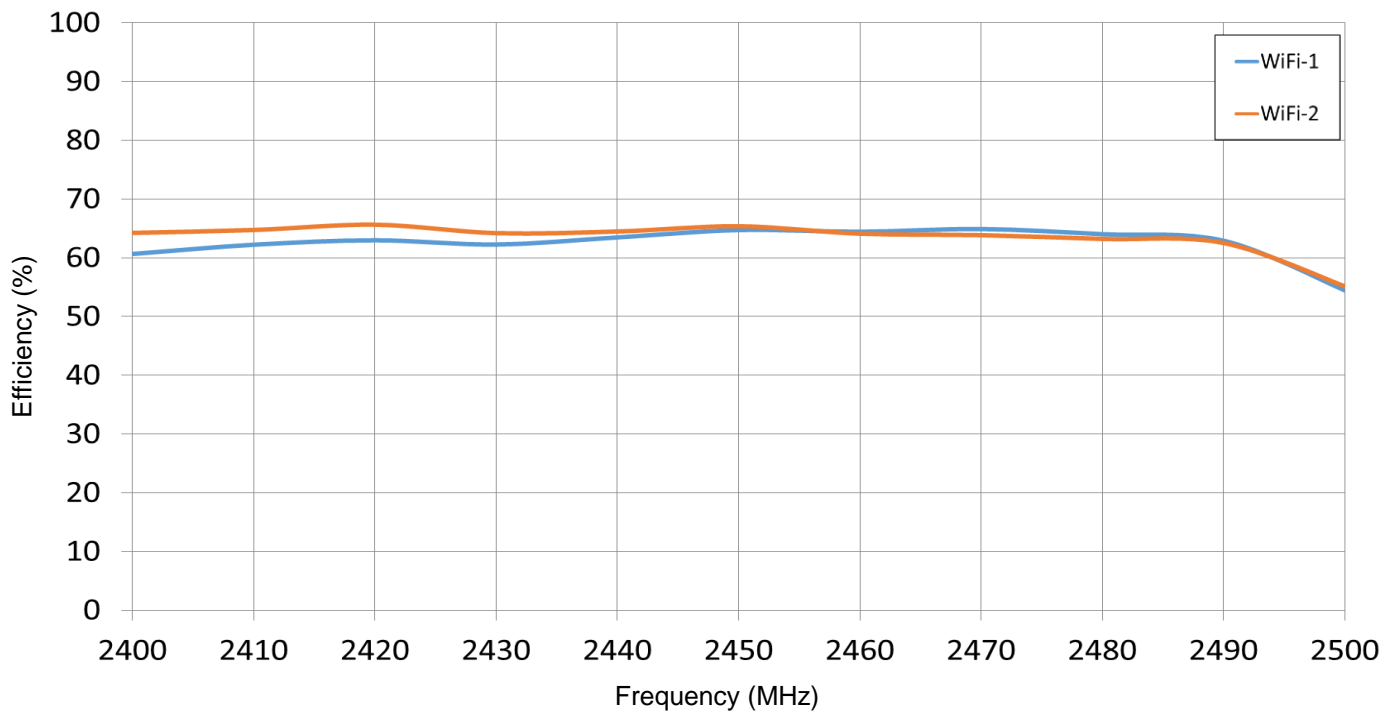
## VSWR, Efficiency Plots (WiFi-1 & WiFi-2 2400-2485 MHz)

Typical characteristics in free-space

### VSWR:



### Efficiency:

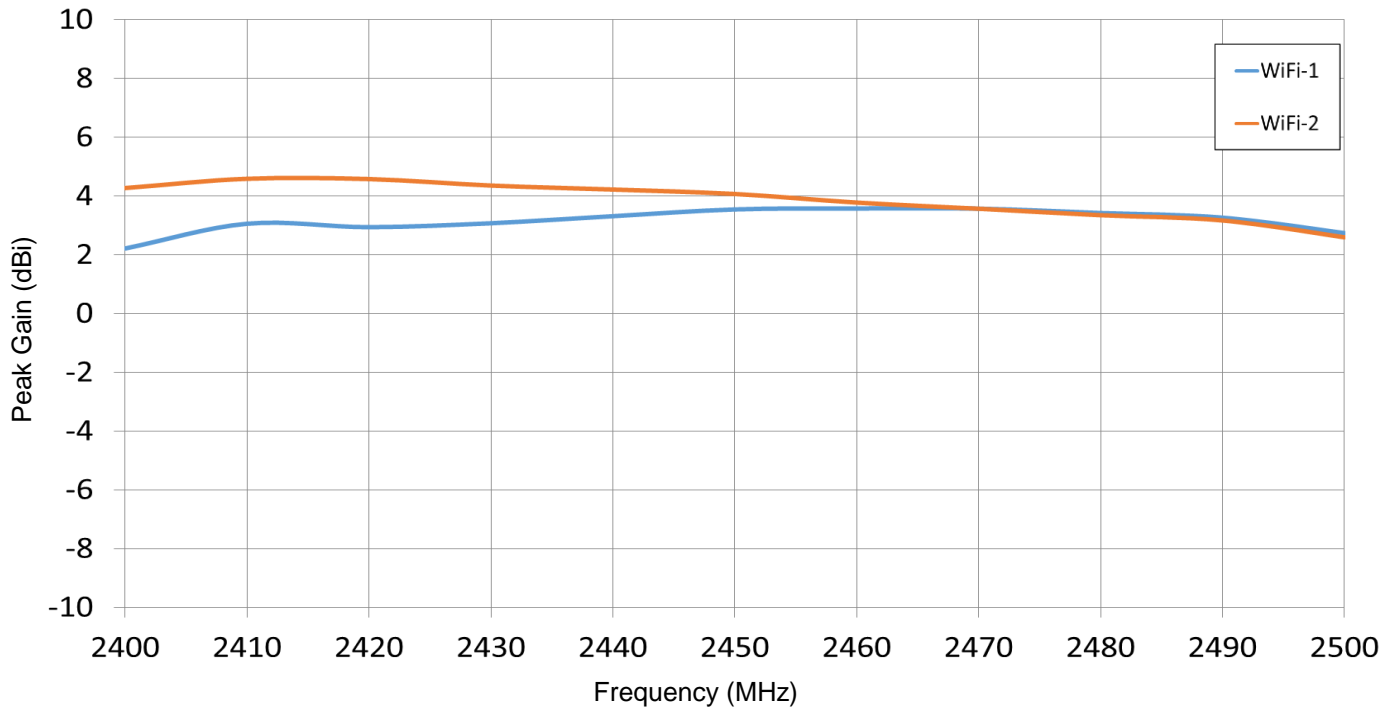


LTE MIMO / GNSS (active) / WiFi MIMO 5-in-1 External Antenna Specifications.  
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## Peak Gain Plots (WiFi-1 & WiFi-2 2400-2485 MHz)

Typical characteristics in free-space

### Peak Gain:

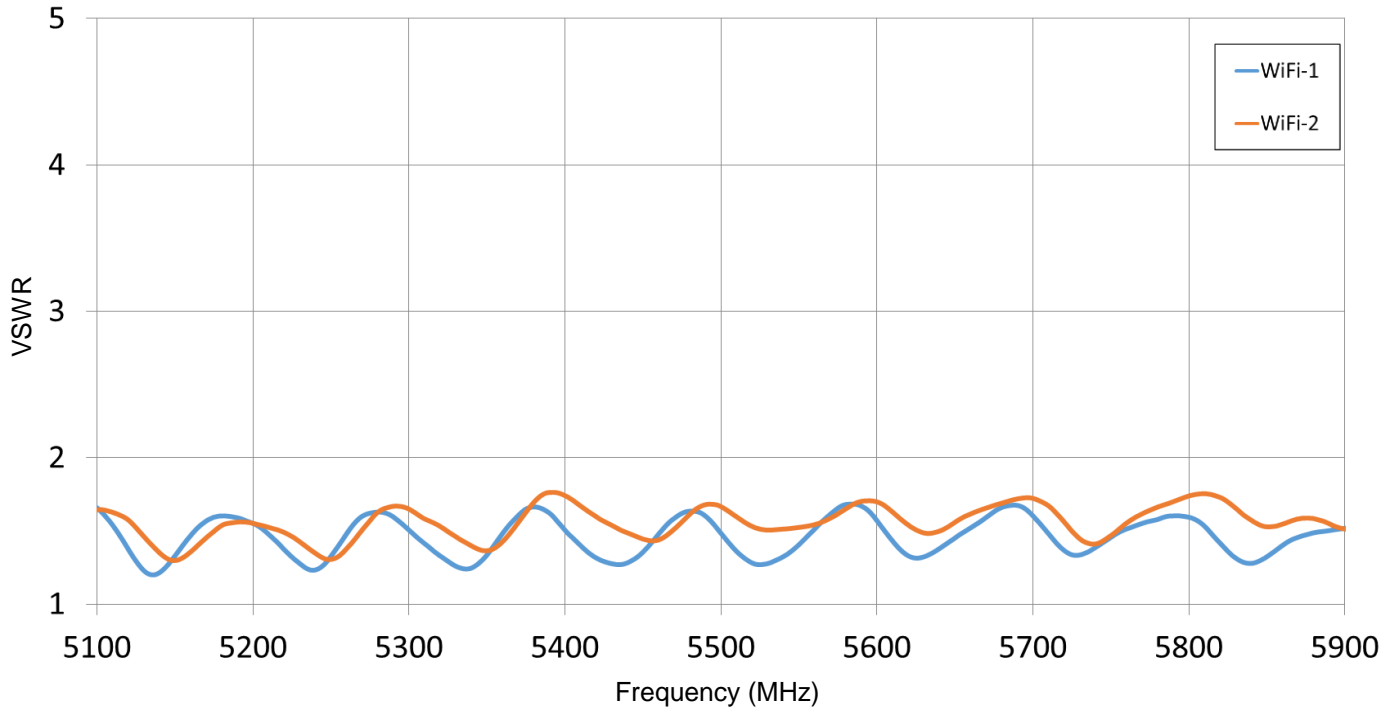


LTE MIMO / GNSS (active) / WiFi MIMO 5-in-1 External Antenna Specifications.  
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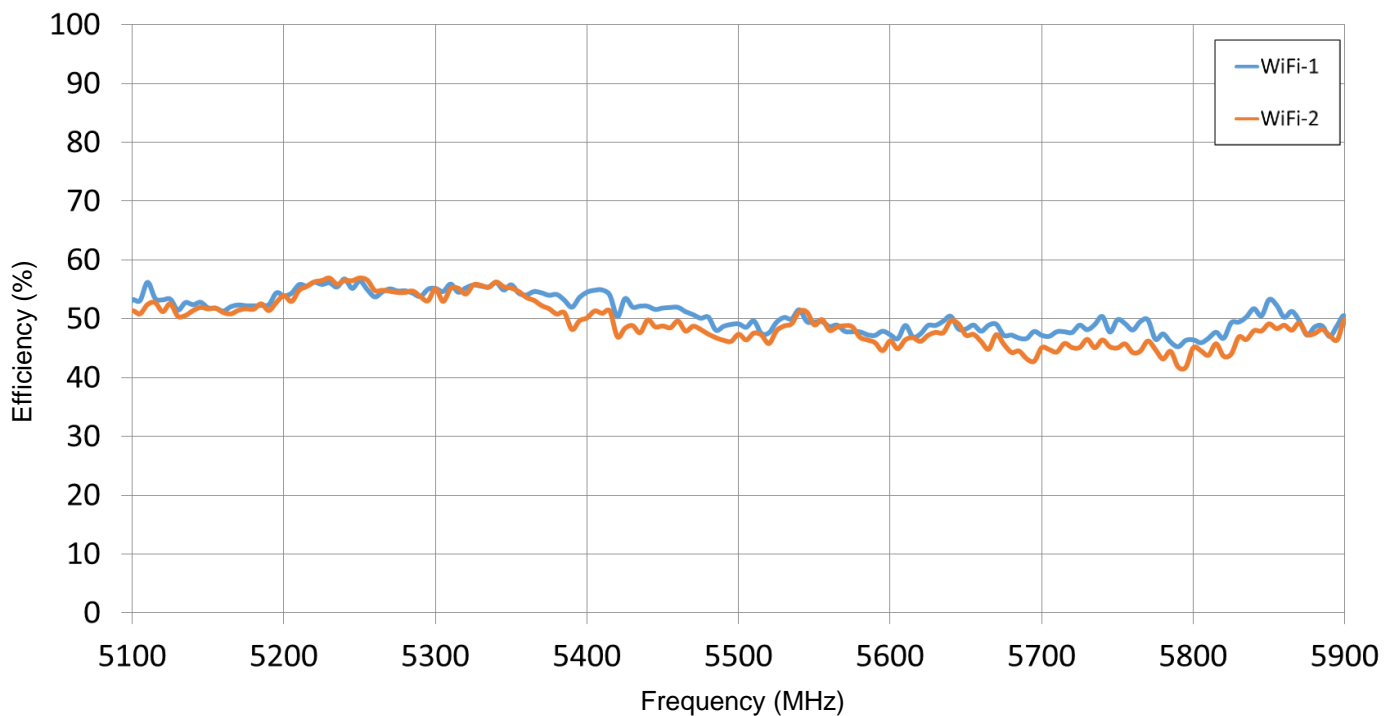
## VSWR, Efficiency Plots (WiFi-1 & WiFi-2 5150-5825 MHz)

Typical characteristics in free-space

### VSWR:



### Efficiency:



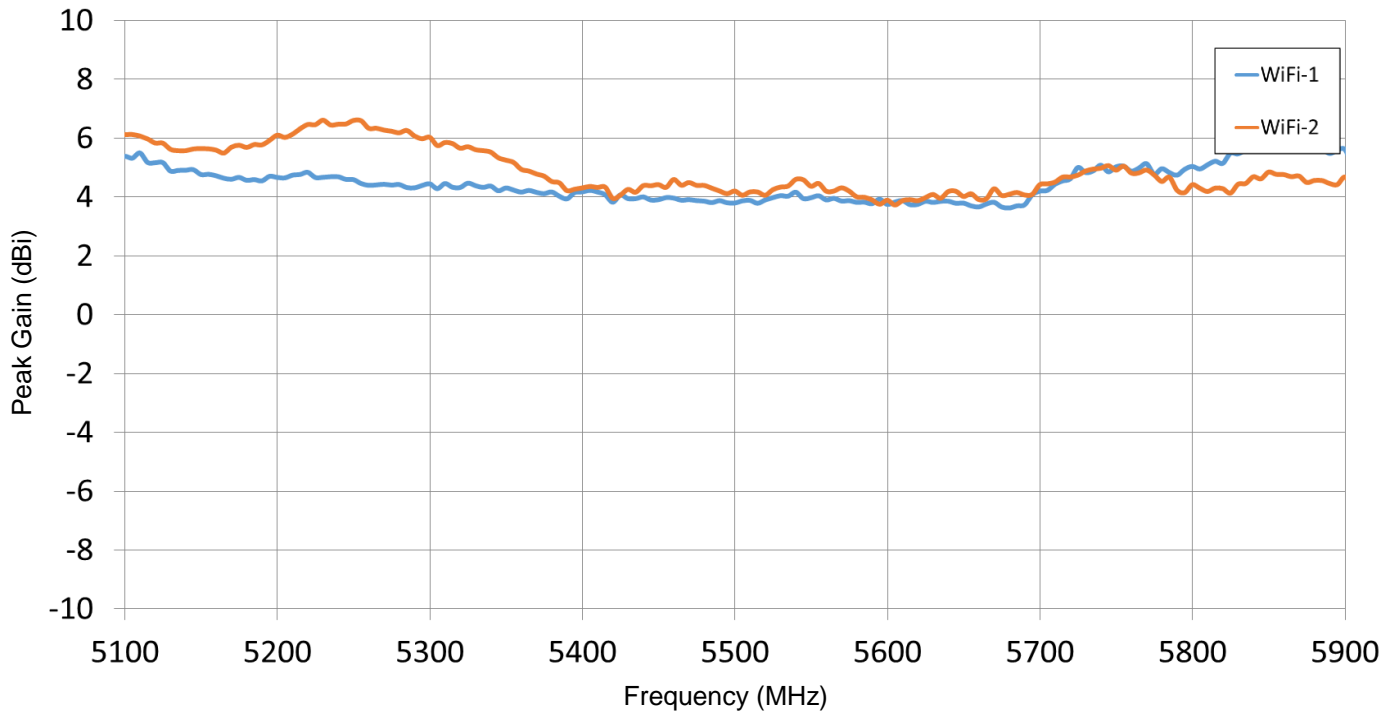


LTE MIMO / GNSS (active) / WiFi MIMO 5-in-1 External Antenna Specifications.  
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## Peak Gain Plots (WiFi-1 & WiFi-2 5150-5825 MHz)

Typical characteristics in free-space

### Peak Gain:

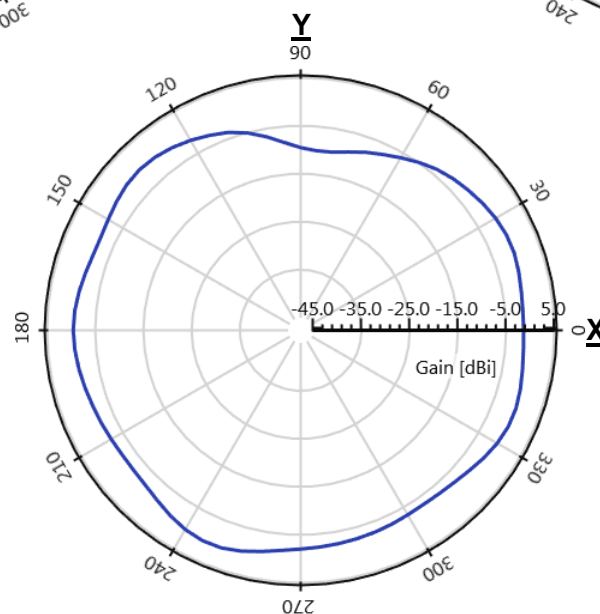
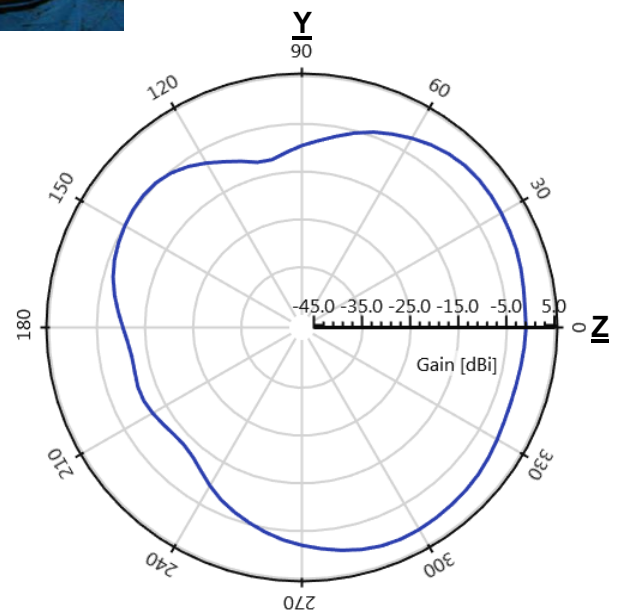
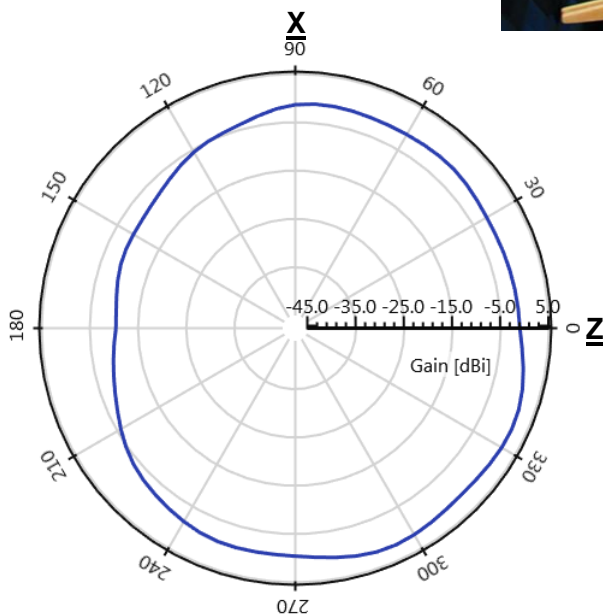
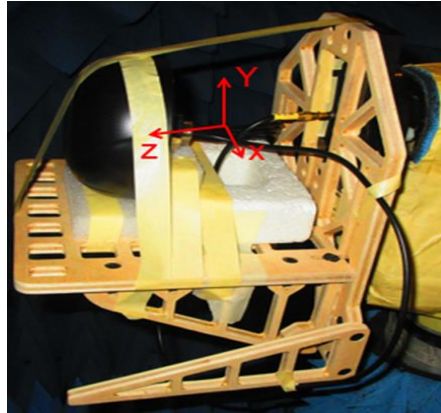


LTE MIMO / GNSS (active) / WiFi MIMO 5-in-1 External Antenna Specifications.  
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## 2D Radiation Patterns (WiFi-1 2400-2485 MHz)

Typical characteristics in free-space

☒ — 2400 MHz

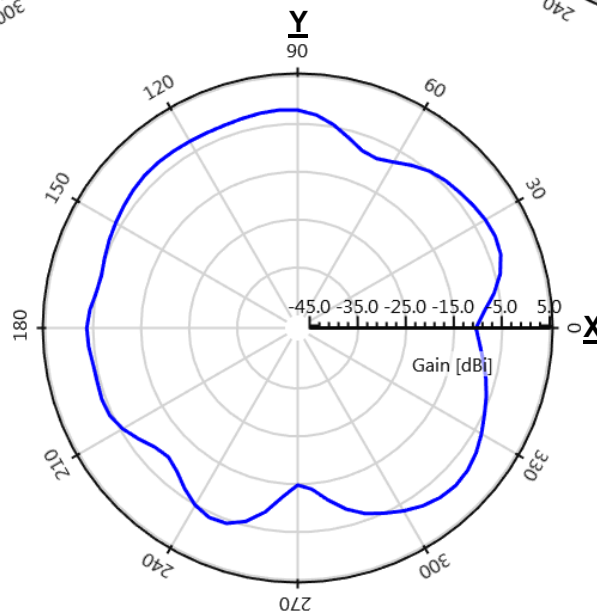
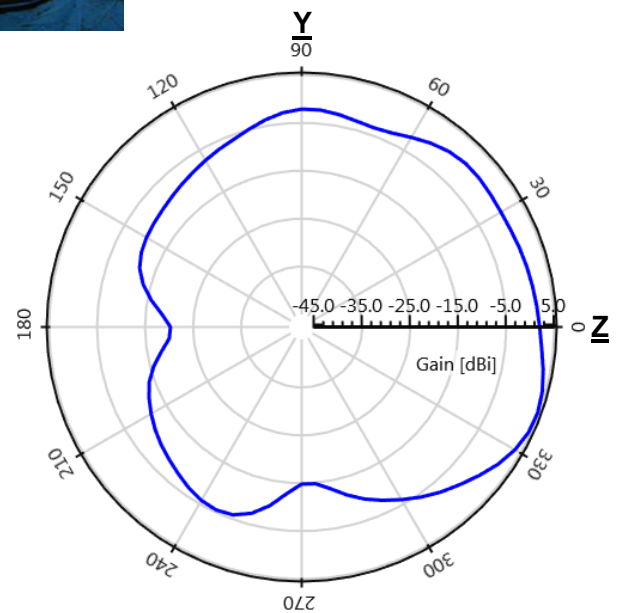
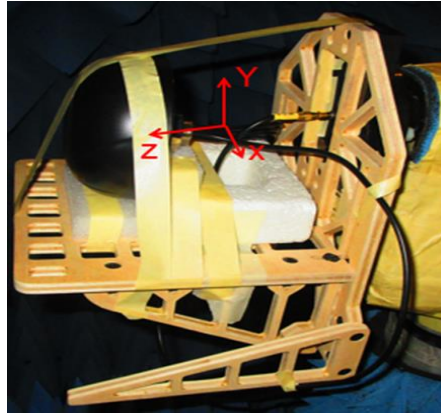


LTE MIMO / GNSS (active) / WiFi MIMO 5-in-1 External Antenna Specifications.  
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## 2D Radiation Patterns (WiFi-1 5150-5825 MHz)

Typical characteristics in free-space

☒ — 5150 MHz

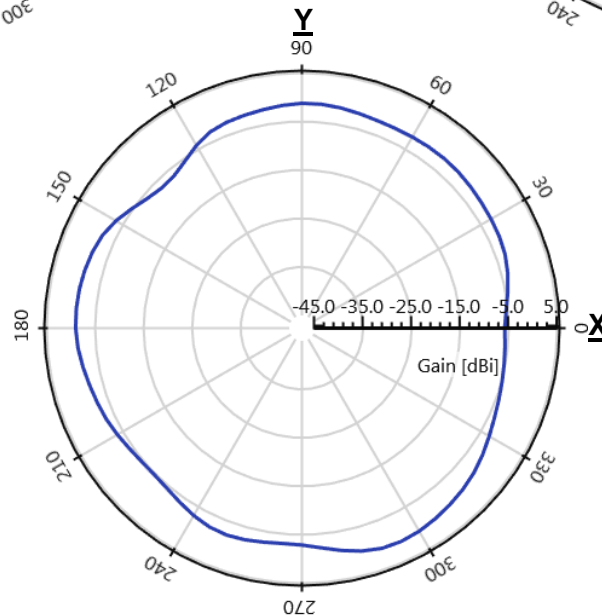
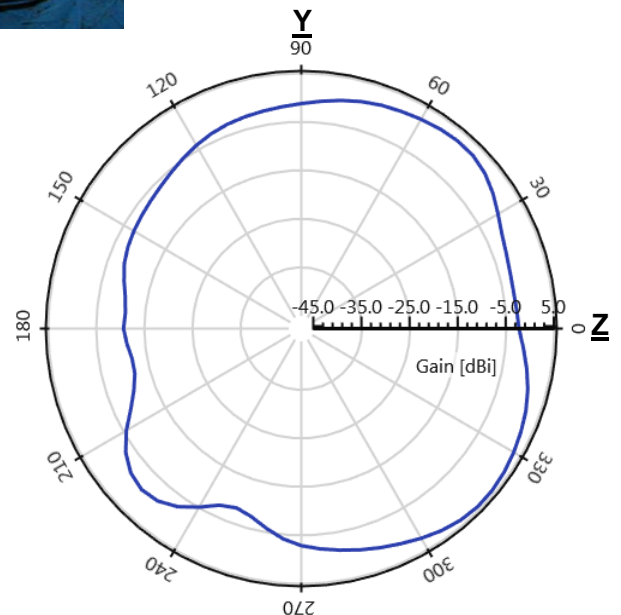
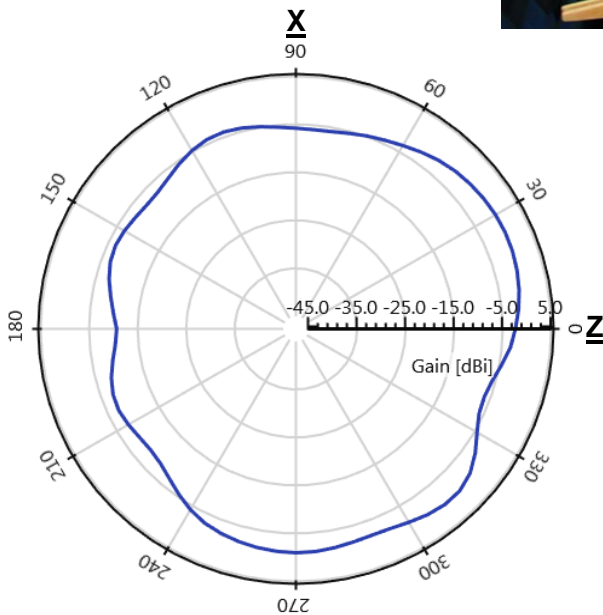
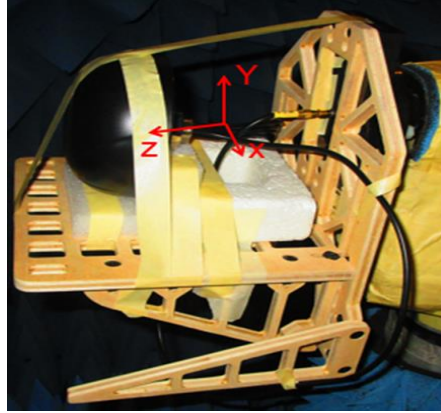


LTE MIMO / GNSS (active) / WiFi MIMO 5-in-1 External Antenna Specifications.  
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## 2D Radiation Patterns (WiFi-2 2400-2485 MHz)

Typical characteristics in free-space

☒ — 2400 MHz

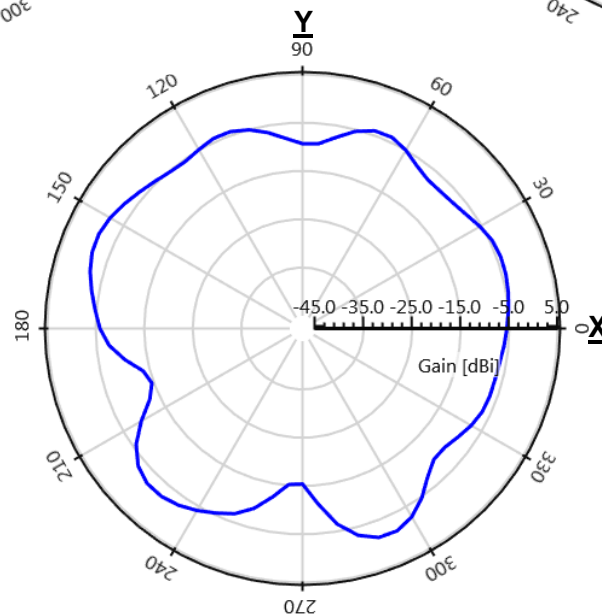
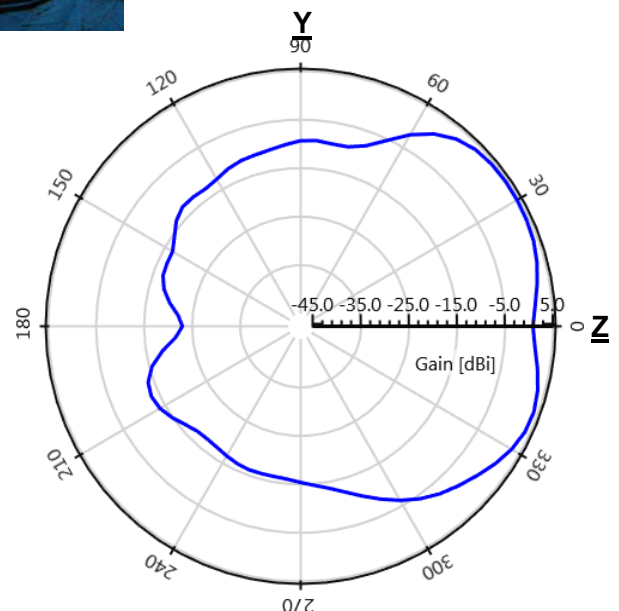
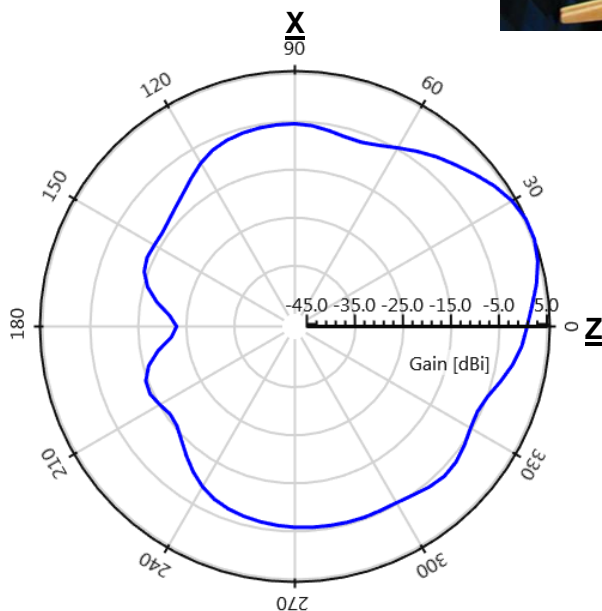
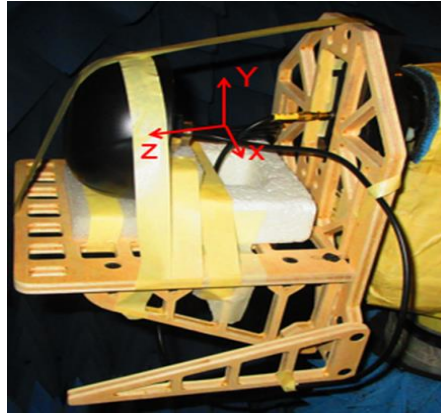


LTE MIMO / GNSS (active) / WiFi MIMO 5-in-1 External Antenna Specifications.  
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## 2D Radiation Patterns (WiFi-2 5150-5825 MHz)

Typical characteristics in free-space

☒ — 5150 MHz



LTE MIMO / GNSS (active) / WiFi MIMO 5-in-1 External Antenna Specifications.  
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## Mechanical Dimensions

Typical antenna dimensions (mm)

Part Number	A	B	C
X1005324-LWS5SX10A2	63.5 ± 1.0	141.98 ± 2.0	1000 ± 40.0

