

RBDM-XXXXX

IP67 Multiband Antenna
with Direct Mount

RFMAX

Series: Brick



Features:

- Compact size, just 8 x 3.5 x 1.8 inches (LxWxH)
- Optimized for all major 3G/4G/LTE carrier bands: AT&T, Verizon, Sprint, etc.
- Tested with all major cellular modem/gateway/routers: Cradlepoint, Sierra Wireless, PepLink, CalAmp, Digi

Available Configurations:

- 2-in-1: Dual 3G/4G/LTE Cellular
- 3-in-1: GPS + (2) Cellular
- 4-in-1: GPS + (2) Cellular + (1) Wi-Fi
- 4-in-1: (2) Cellular + (2) Wi-Fi
- 5-in-1: GPS + (2) Cellular + (2) Wi-Fi
- 6-in-1: GPS + (2) Cellular + (3) Wi-Fi

Applications:

- MDT / Mobile Data Terminals for Public Safety
Police, Sheriff, FBI, Fire & EMT / Ambulance
- Designed to fit all public safety vehicles, including
Ford Explorer - Interceptor SUV
- ELD / Electronic Logging Devices for Fleet Management
- Panasonic Toughbook, Dell Latitude Rugged &
Laptops / Tablets for Water, Gas & Electric Utilities
- ATM, Lottery & Vending Machines, Digital Signs
- IP67 rated NEMA enclosures

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ELECTRICAL SPECIFICATIONS	
Nominal Impedance	
698-960MHz, 1710-2690MHz	50 Ω
2400-2500MHz, 5150-5925MHz	50 Ω
VSWR*	
698-960MHz	<2.5
1710-2690MHz	<2.5
2400-2500MHz	<2
5150-5925MHz	<2
Isolation*	
698-960MHz, 1710-2690MHz	-8dB
2400-2500MHz, 5150-5925MHz	-12dB
Radiation Pattern	Omni
Polarization	Vertical

*Tested on 500mm / 19.685 inch metallic ground plane with 17ft (5.2m) LMR195 cable



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ELECTRICAL SPECIFICATIONS	
Peak Gain**	
698-960MHz	2.5dBi
1710-2690MHz	3.1dBi
2400-2500MHz	3.2dBi
5150-5925MHz	3.1dBi
GPS Antenna / Frequency	
1561.098±2.046MHz / 1575.42±1.023MHz / 1602.5625±4MHz	
Nominal Impedance	50 Ω
VSWR	<2
Gain (Radiating Element)	1 dBic±1 dB
Gain (LNA Gain)	30 dB± 2 dB
Polarization	RHCP
Out of Band Rejection	
698 MHz	>70 dB
960 MHz	>65 dB
1710 MHz	>60 dB
2170 MHz	>65 dB
2400 MHz	>65 dB
2700 MHz	>65 dB
Noise Figure	3.3 – 5 Vdc
Current Consumption	<15mA

**Tested on 500mm / 19.685 inch metallic ground plane with 1 ft LMR195 cable



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MECHANICAL SPECIFICATIONS

Overall Size (LxWxH)	202.3mm X 88.5mm X 45mm 7.96 in X 3.48 in X 1.77 in
Weight	1.5 Kg / 3.31 lbs.
Antenna Color / Material	Black or White
Connector type	Refer to Page 8
Cable type	Refer to Page 8
Cable length	Refer to Page 8

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-40 ~ +85° C
Storage Temperature	-40 ~ +85° C
Ingress Protection	IP67
RoHS Compliant	Yes



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OTHER SPECIFICATIONS	
Total cable assembly loss for 5.2m (17') LMR-195 @850MHz	2.1dB
Total cable assembly loss for 5.2m (17') RG-174 @1575MHz	5.9dB
Total cable assembly loss for 5.2m (17') LMR-195 @1930MHz	3.2dB
Total cable assembly loss for 5.2m (17') LMR-195 @2450MHz	3.6dB
Total cable assembly loss for 5.2m (17') LMR-195 @2500MHz	3.7dB
Total cable assembly loss for 5.2m (17') LMR-195 @5350MHz	5.5dB

Antenna Operates at the following 4G/LTE Bands and supports fall back to all legacy 2G/3G Frequencies in N. America:

AT&T: Band 2, Band 4, Band 5, Band 12, Band 17, Band 25, Band 29, Band 30, Band 66

T-Mobile: Band 2, Band 4, Band 5, Band 12, Band 17, Band 25, Band 66, Band 71

Sprint: Band 2, Band 25, Band 26, Band 41

Verizon: Band 2, Band 4, Band 5, Band 13, Band 25, Band 66

U.S. Cellular: Band 2, Band 4, Band 5, Band 12, Band 17, Band 25, Brand 66

*Based on carrier data provided in 2017.



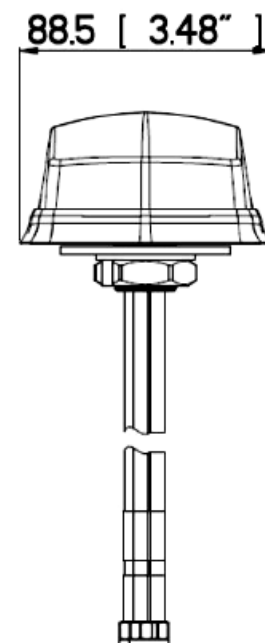
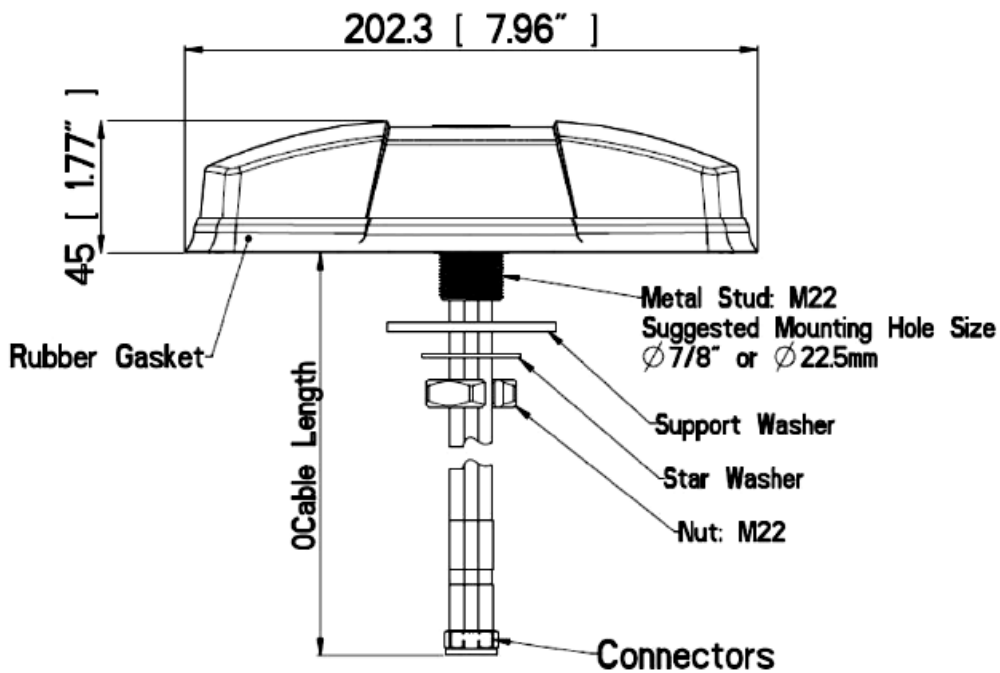
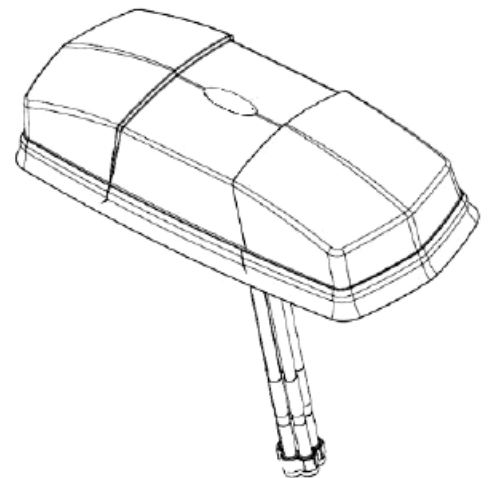
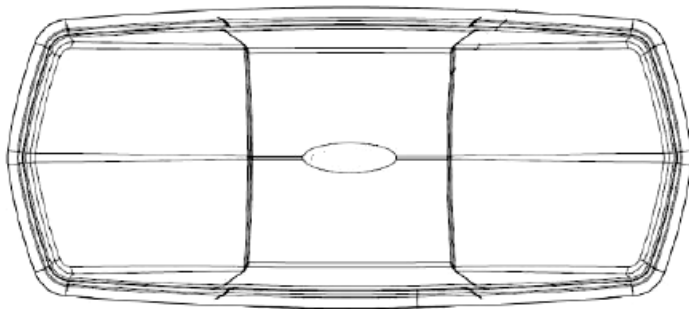
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MECHANICAL DRAWING



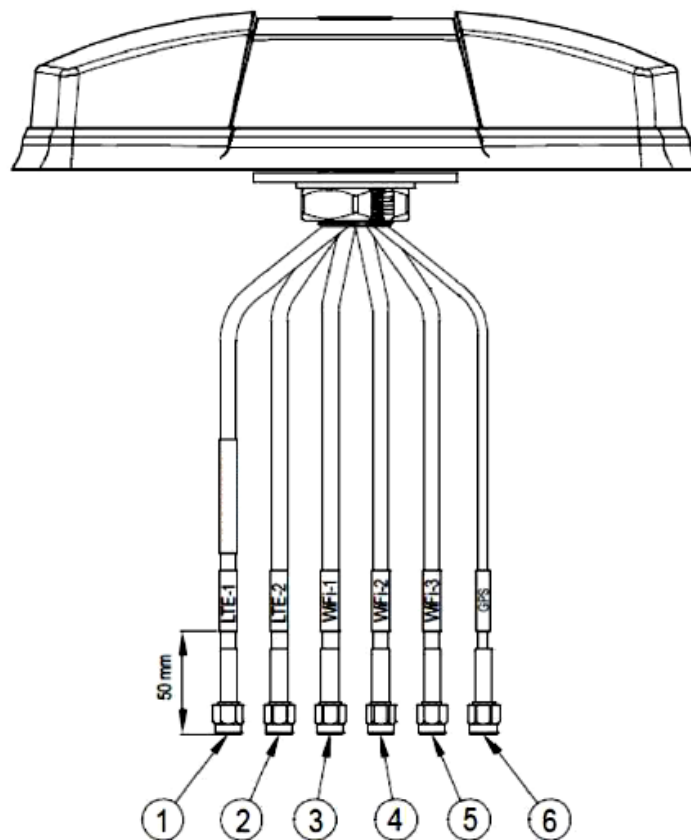
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MECHANICAL DRAWING



ELEMENT	Cable	Cable Length	Connector
LTE-1 Cable Assy	LMR-195*	5181MM / 204" / 17 FT	SMA-Male
WiFi-1 Cable Assy			RP-SMA-Male
WiFi-3 Cable Assy			RP-SMA-Male
WiFi-2 Cable Assy			RP-SMA-Male
GPS Cable Assy	LMR-100*		SMA Male
LTE-2 Cable Assy	LMR-195*		SMA Male

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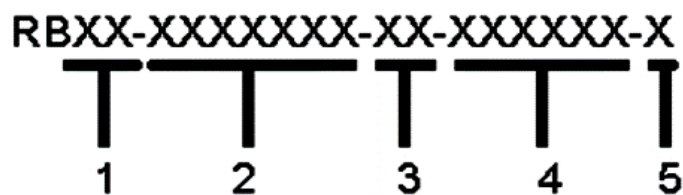
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ELEMENT	CABLE	CABLE LENGTH	CONNECTOR
LTE-1 Cable	LMR-195*	5181 mm / 204" / 17 FT	SMA Male
LTE-2			
WiFi-1	LMR-195*		RP-SMA Male
WiFi-2			
WiFi-3			
GPS Cable Assy	LMR-100		SMA Male

RFMAX "Brick" Part Numbering / Product Nomenclature



Number	Nomenclature	Description
1	Mount: DM or MM	DM= Direct Mount / MM= Magnetic Mount
2	Elements: G,4,W	G= GPS / GLONASS, 4 = 4G/LTE/3G, W= Dual Band WiFi
3	Cable length in Ft	Ex. 17 = 17 Ft of Cable / 4 = 4 Ft of Cable
4	Connectors type: S, R, T, N	S= SMA Male, R= RPSMA Male, T= TNC Male, N= N Male
5	Color: B or W	B= Black / W=White



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Product ID	Total Cables	GPS Cables	LTE Cables	WiFi Cables	Color	Mount
RBDM-G44WWW-17-SSSRRR-B	6	1	2	3	Black	Direct Mount; 7/8" Hole Re- quired
RBDM-G44WWW-17-SSSRRR-W	6	1	2	3	White	
RBDM-G44WW-17-SSSRR-B	5	1	2	2	Black	
RBDM-G44WW-17-SSSRR-W	5	1	2	2	White	
RBDM-G44W-17-SSSR-B	4	1	2	1	Black	
RBDM-G44W-17-SSSR-W	4	1	2	1	White	
RBDM-44WW-17-SSRR-B	4	0	2	2	Black	
RBDM-G44-17-SSS-B	3	1	2	0	Black	
RBDM-G44-17-SSS-W	3	1	2	0	White	
RBDM-44-17-SS-B	2	0	2	0	Black	
RBDM-44-17-SS-W	2	0	2	0	White	

*Other antenna configurations available upon request. MOQ / minimum order quantity may apply.



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Cross Reference Guide for Popular Cellular Modems / Gateways

Mfg.	Model	Antenna	Mfg.	Model	Antenna
Sierra Wireless	MP70	RBDM-G44WWW-17-SSSRRR-B	Cradlepoint	IBR1100	RBDM-G44WW-17-SSSRR-B
Sierra Wireless	GX450 + WiFi	RBDM-G44W-17-SSSR-B	Cradlepoint	IBR1150	RBDM-G44-17-SSS-B
Sierra Wireless	GX450 (No WiFi)	RBDM-G44-17-SSS-B	Cradlepoint	IBR900	RBDM-G44WW-17-SSSRR-B
Sierra Wireless	RV50	RBDM-G44-17-SSS-B	Cradlepoint	IBR950	RBDM-G44-17-SSS-B
Digi	Transport WR11	RBDM-44-17-SS-B	Cradlepoint	IBR600	RBDM-44WW-17-SSRR-B
peplink	Max BR1	RBDM-G44WW-17-SSSRR-B	Cradlepoint	IBR650	RBDM-44-17-SS-B
peplink	Max-TST	RBDM-G44WW-17-SSSRR-B	Cradlepoint	IBR350	RBDM-44-17-SS-B
peplink	BR1-Slim	RBDM-G44W-17-SSSR-B	Cradlepoint	MC400	RBDM-G44-17-SSS-B
peplink	BR1-Mini	RBDM-G44W-17-SSSR-B	Cal/Amp	Vanguard 3000	RBDM-G44W-17-SSSR-B
peplink	Max BR1-ENT	RBDM-G44-17-SSS-B	Cal/Amp	Vanguard 5530	RBDM-G44W-17-SSSR-B
encore networks	EN-1000	RBDM-44-17-SS-B	NetComm	NTC-140W	RBDM-G44WW-17-SSSRR-B
encore networks	EN-2000	Email: info@rfmax.us	NetComm	NTC-140	RBDM-G44-17-SSS-B
encore networks	EN-4000	Email: info@rfmax.us	NetComm	NTC-6200	RBDM-G44-17-SSS-B
Motorola	VML750	Email: info@rfmax.us	NetComm	NWL-25	RBDM-44-17-SS-B
MultiTech	All Models	Email: info@rfmax.us	NetComm	NWL-15	RBDM-44-17-SS-B

*Antennas are available with various cable lengths & connectors. MOQ / minimum order quantity may apply.

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TEST SETUP



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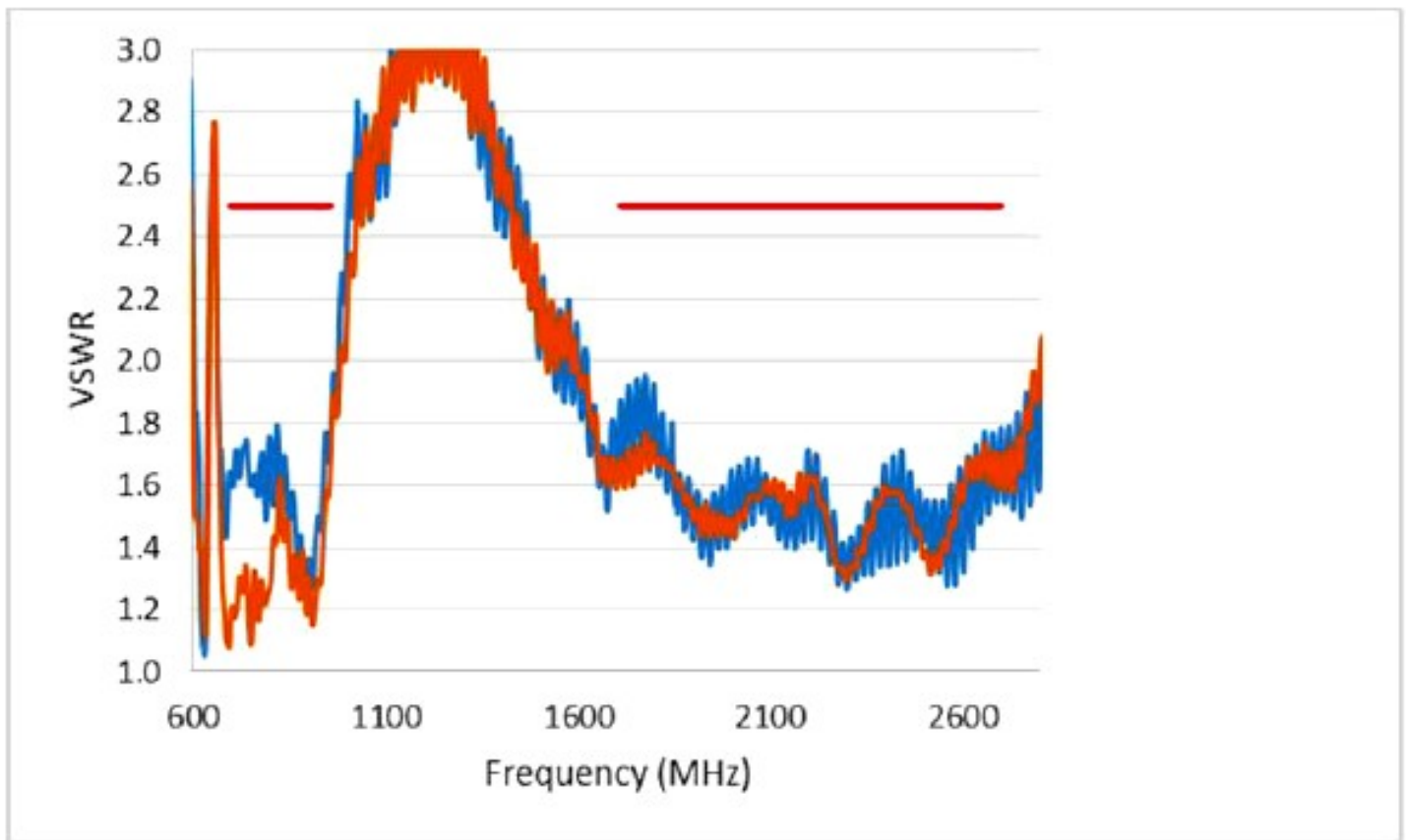
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VSWR (LTE)



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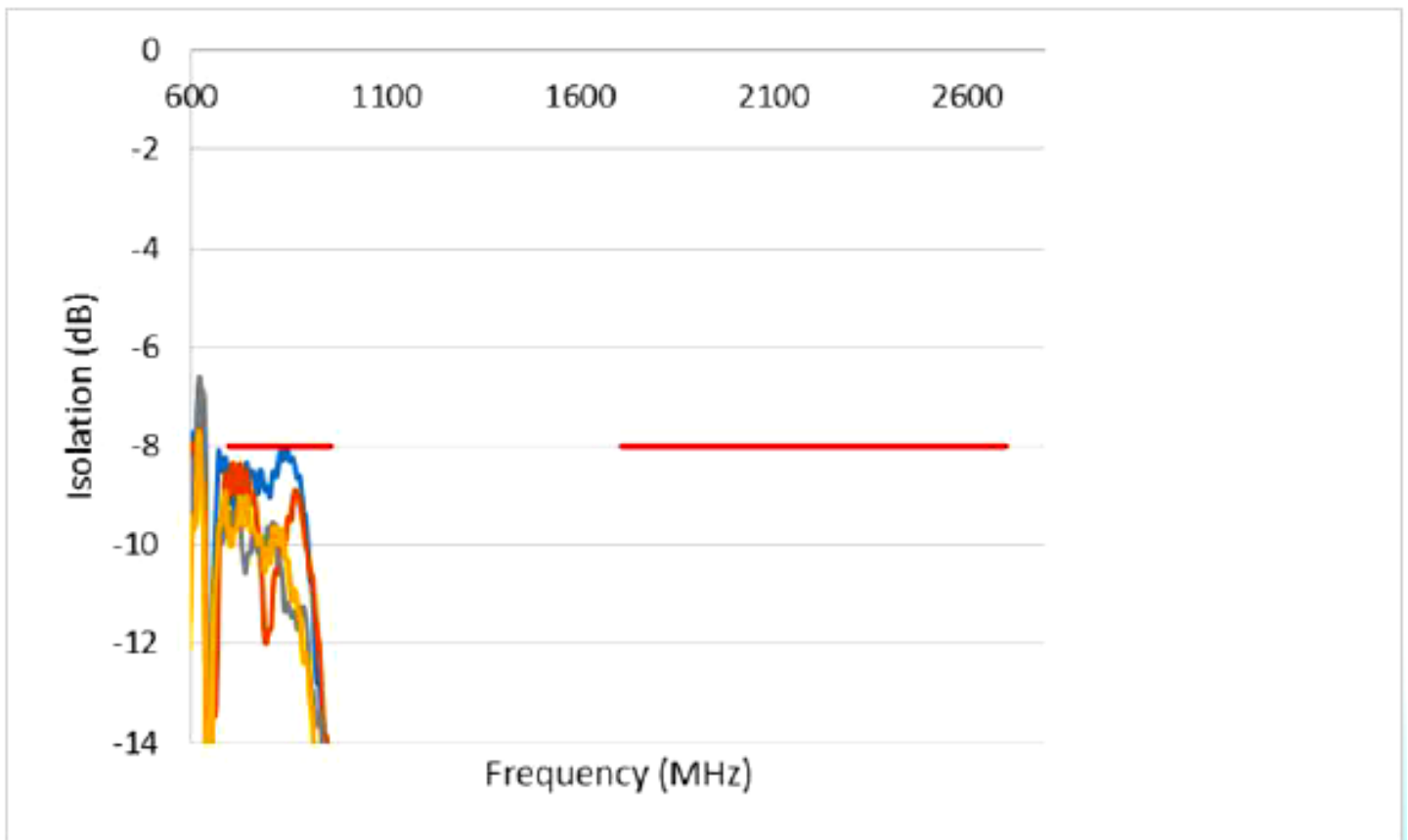
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Isolation (LTE)



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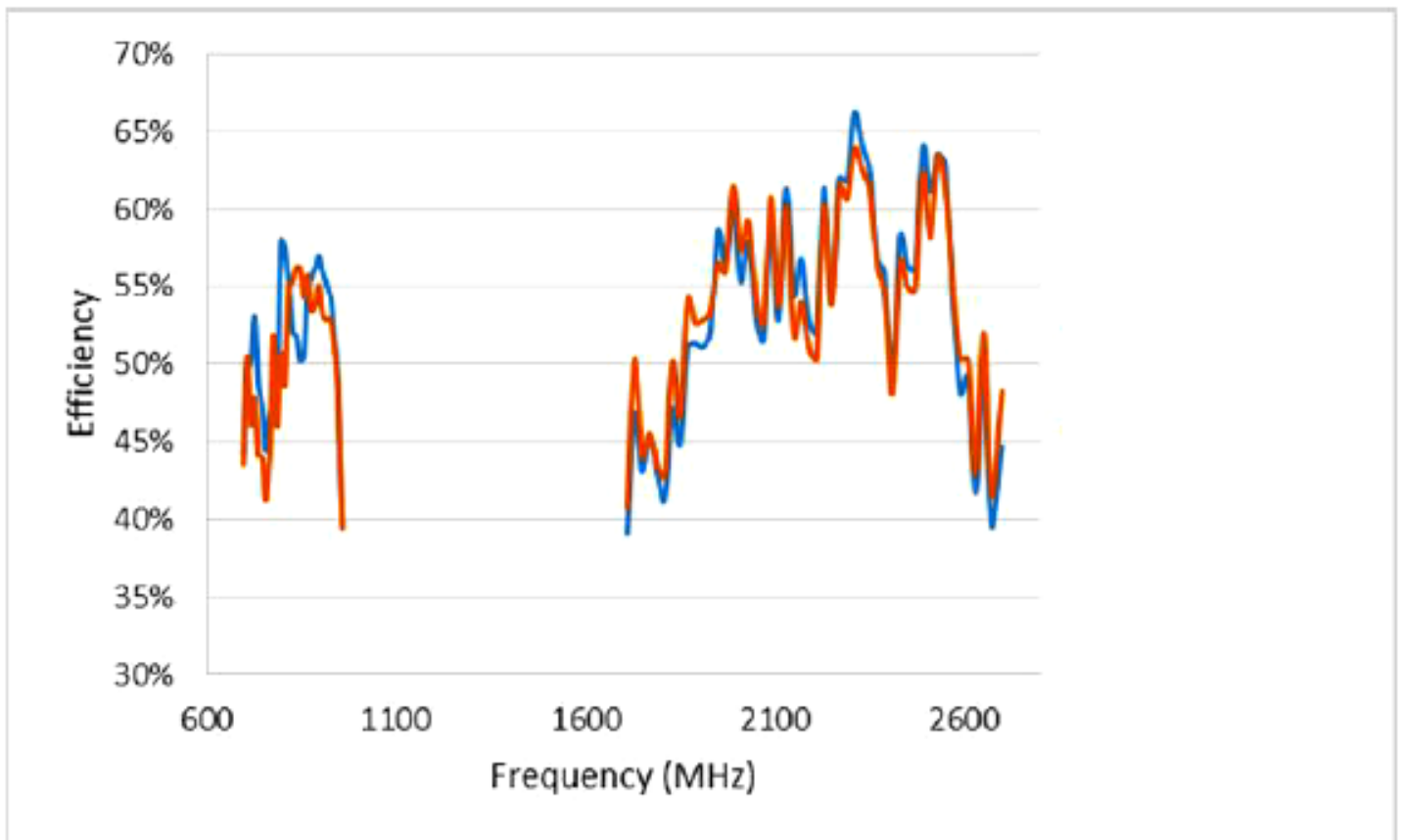
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Radiation Efficiency (LTE)



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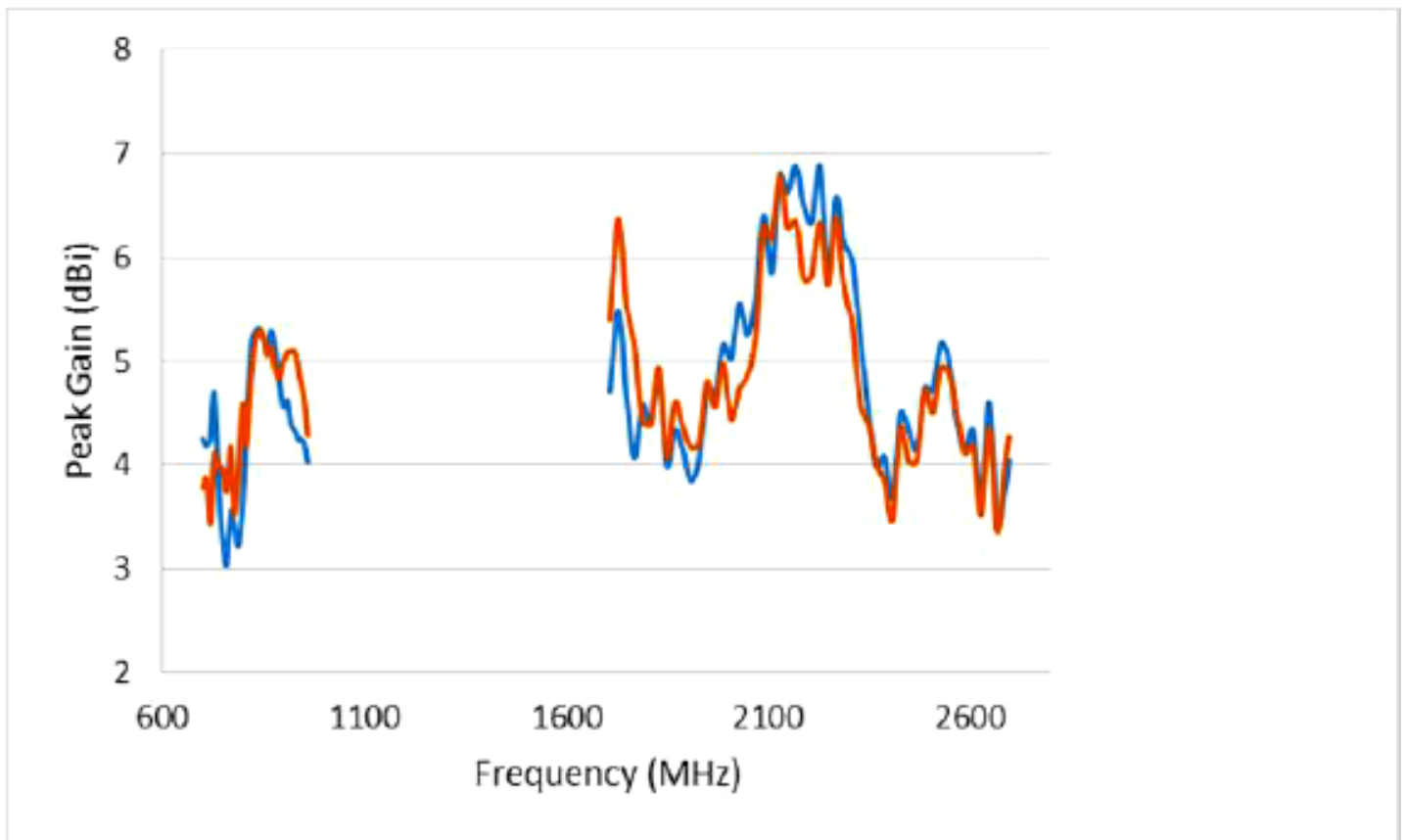
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Peak Gain (LTE)



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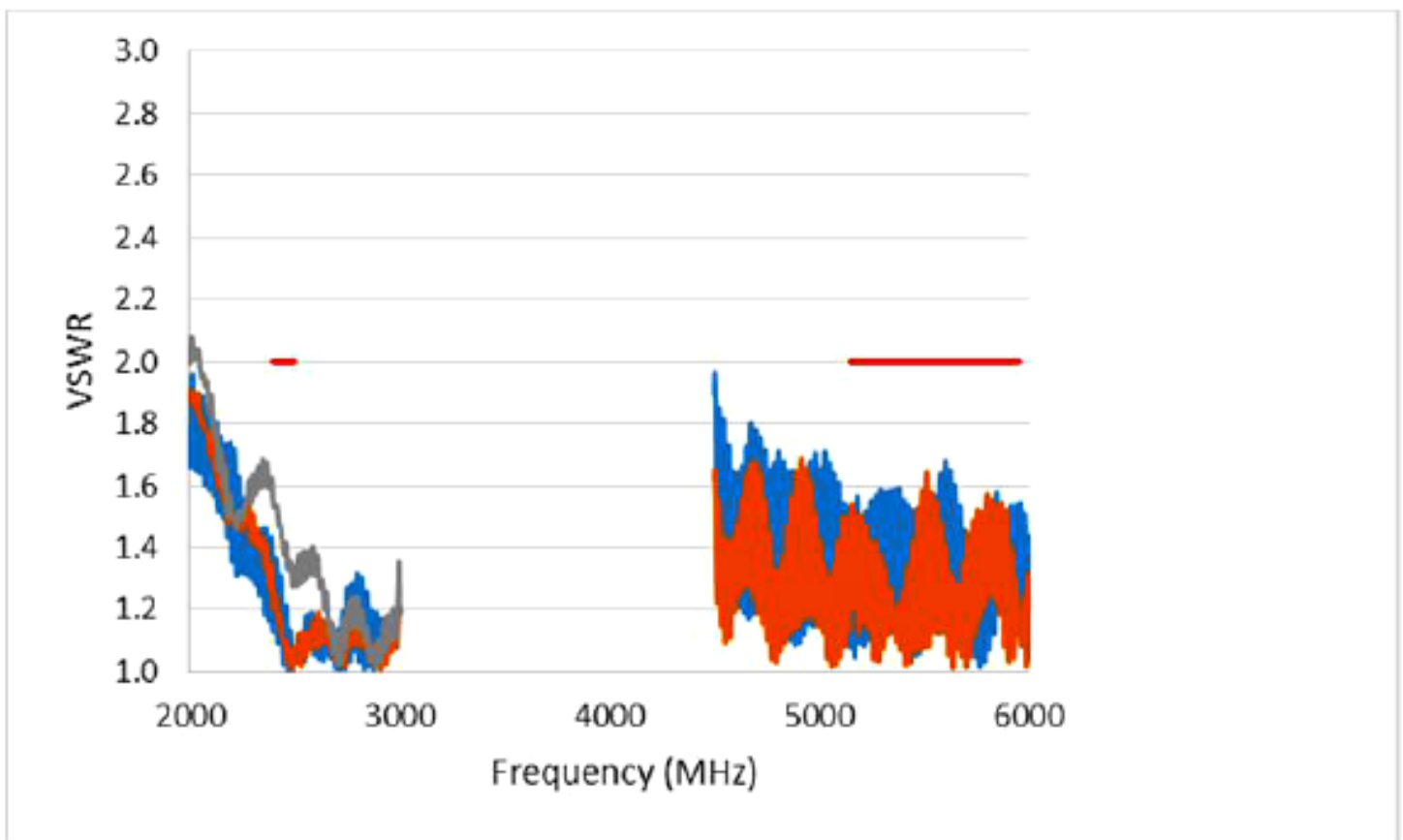
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VSWR (WIFI)



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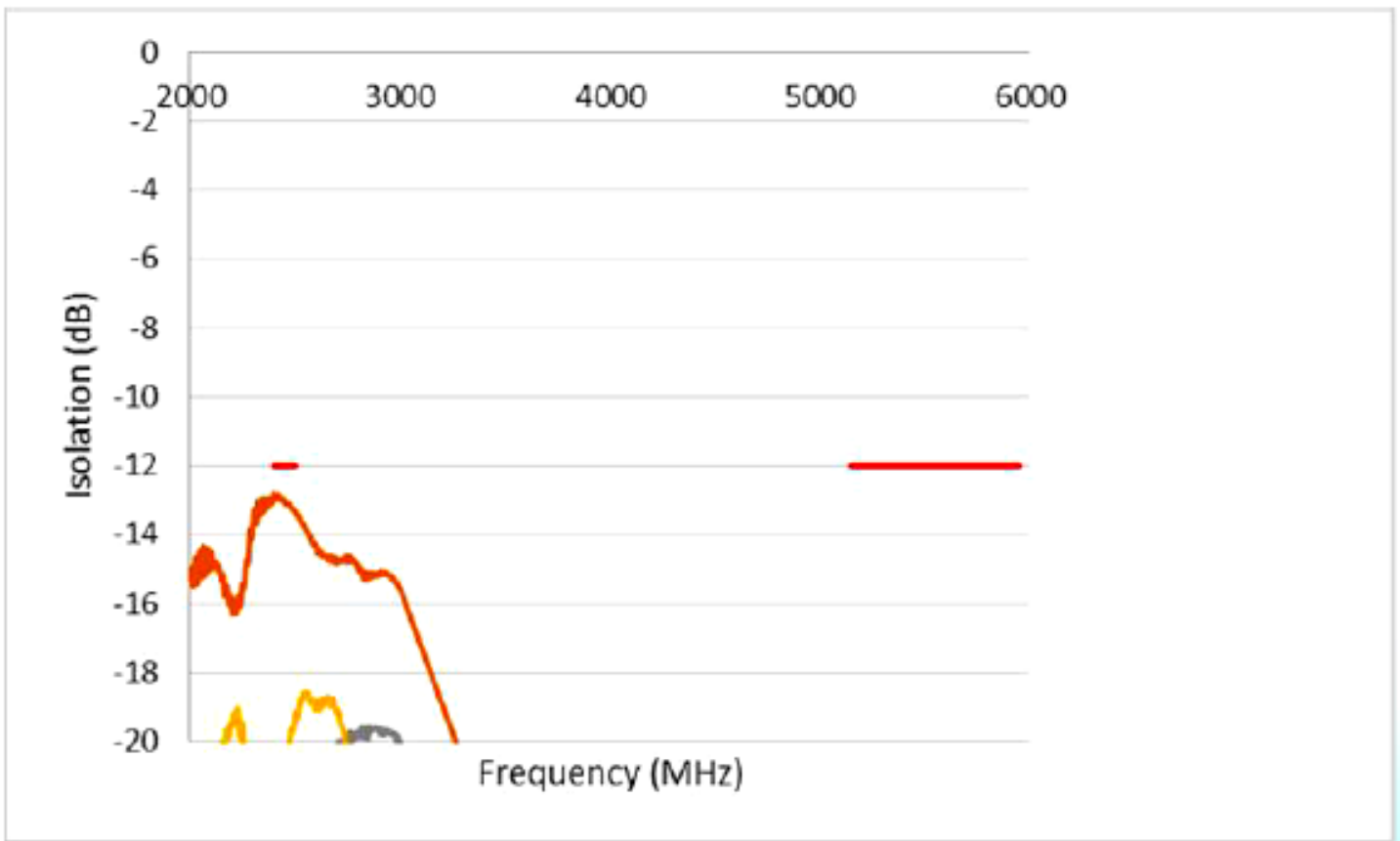
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Isolation (WIFI)



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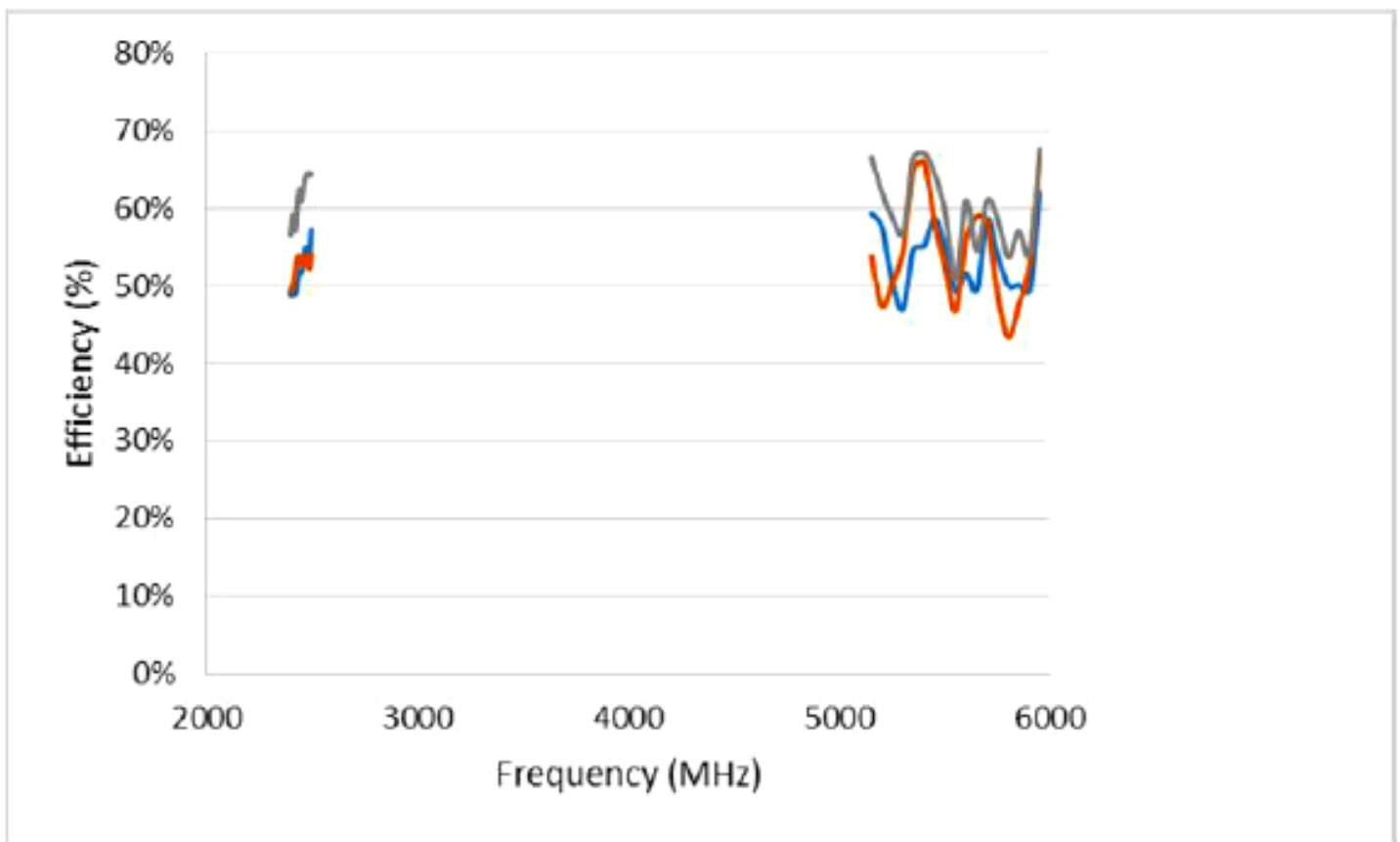
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Radiation Efficiency (WIFI)



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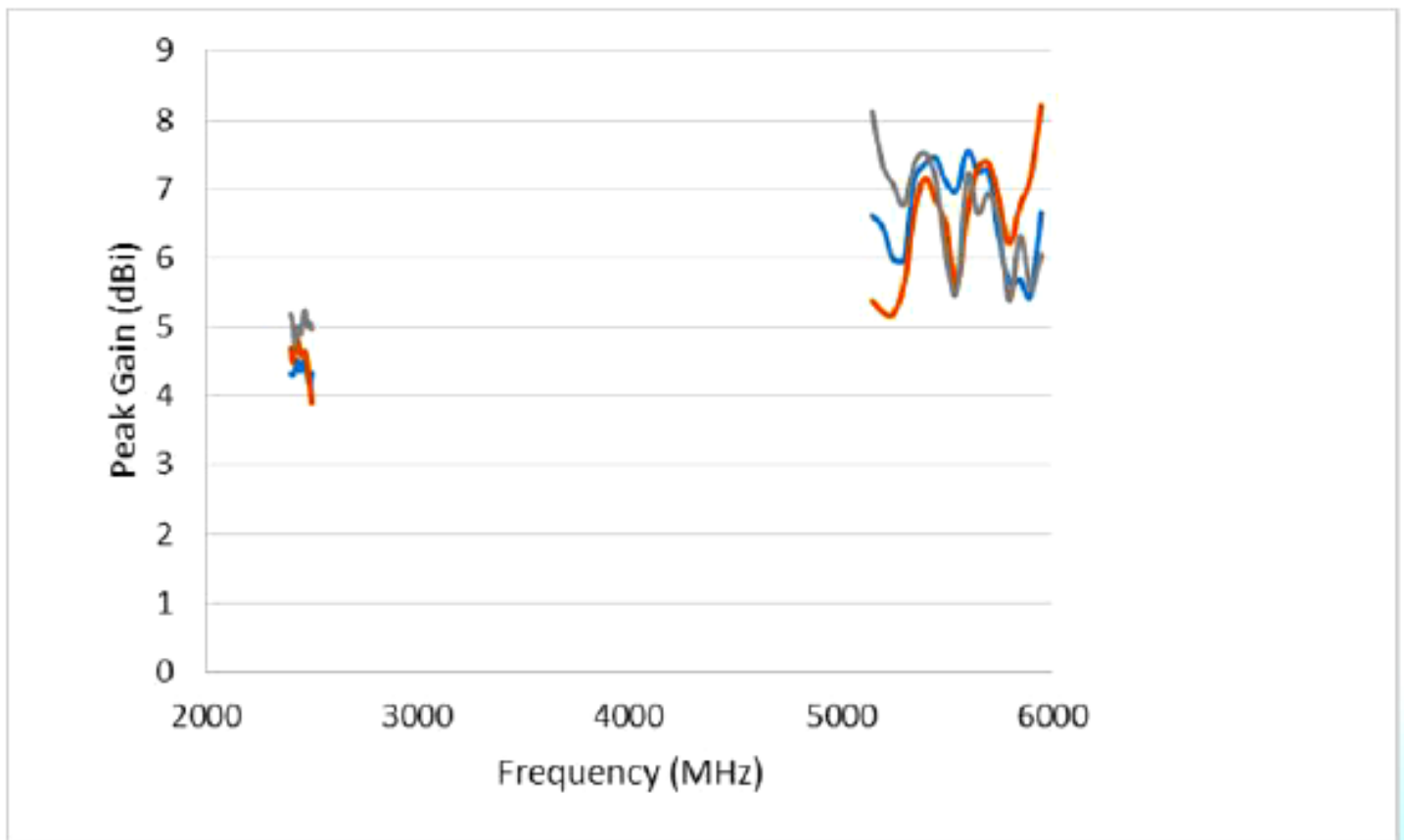
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Peak Gain (WIFI)



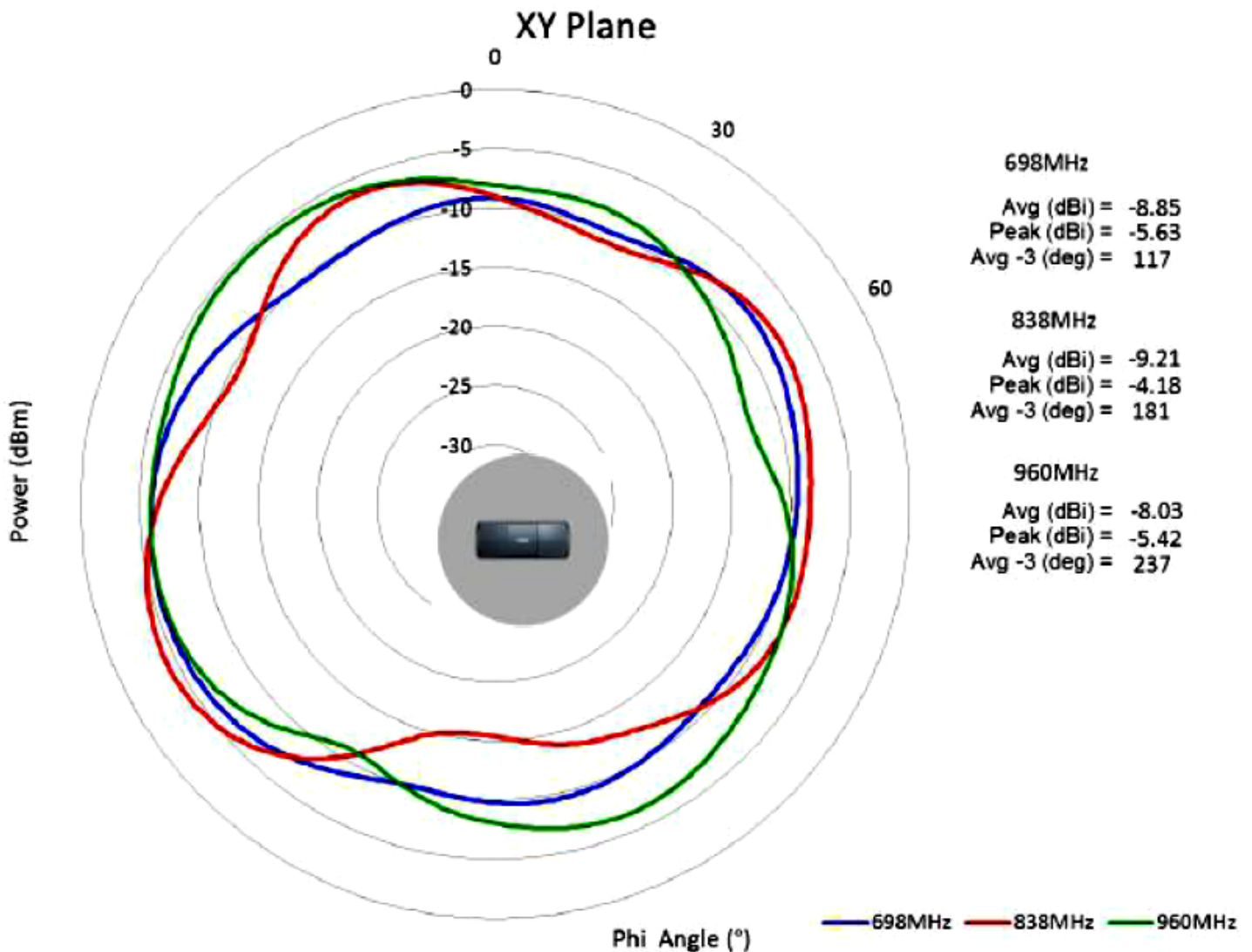
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LTE1 XY plane radiation pattern



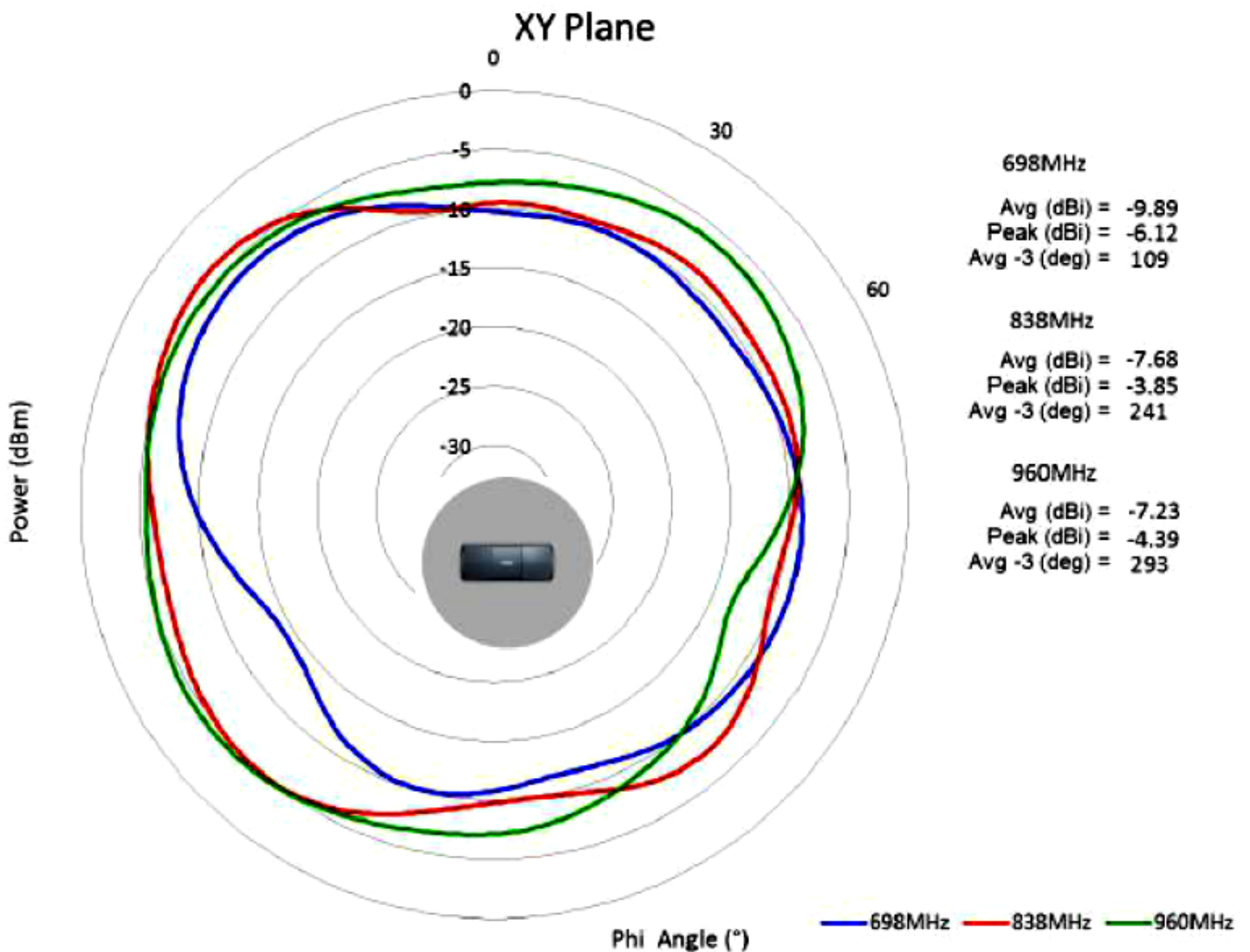
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LTE2 XY plane radiation pattern



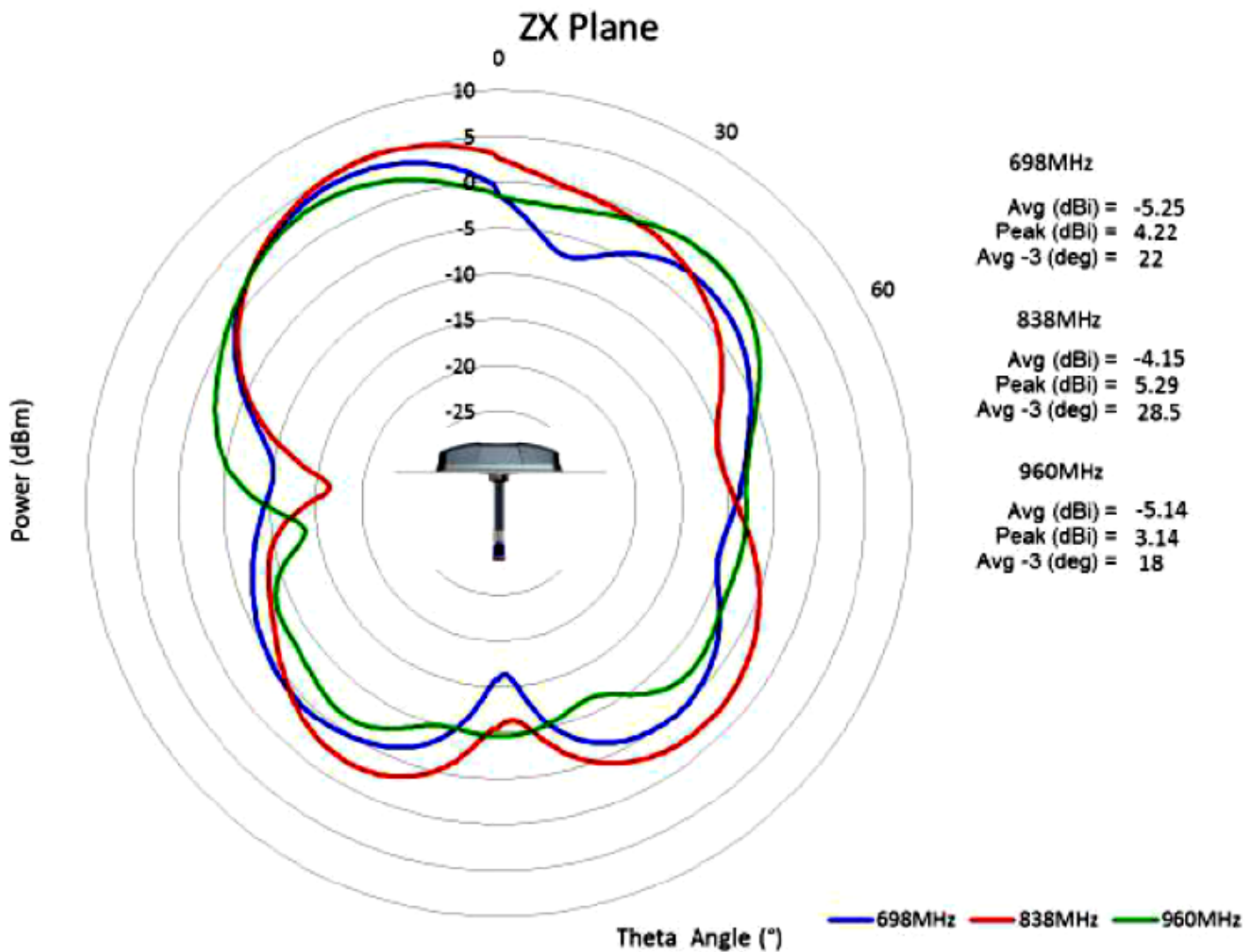
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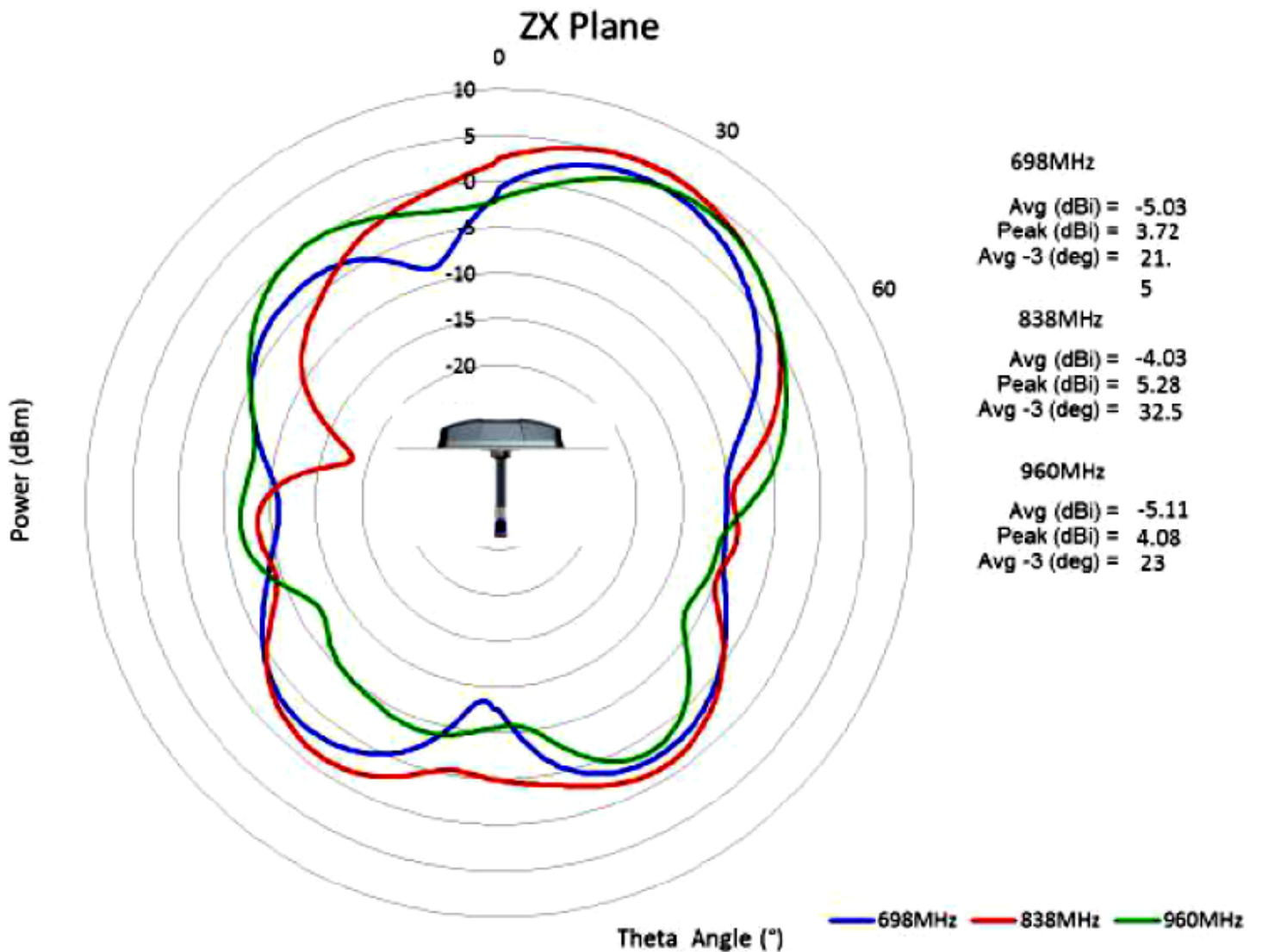
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LTE1 ZX plane radiation pattern



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LTE2 ZX plane radiation pattern

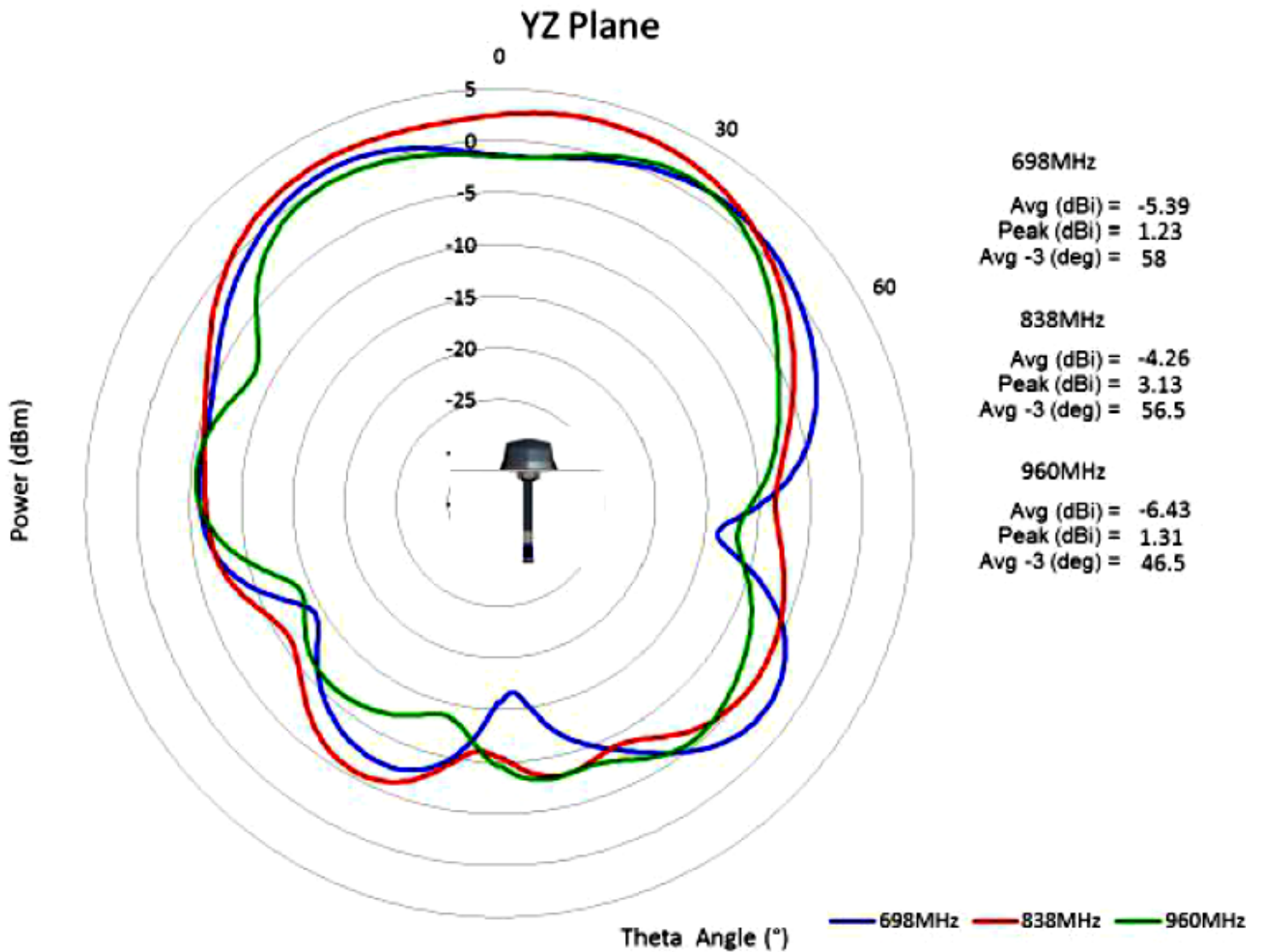
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LTE1 YZ plane radiation pattern



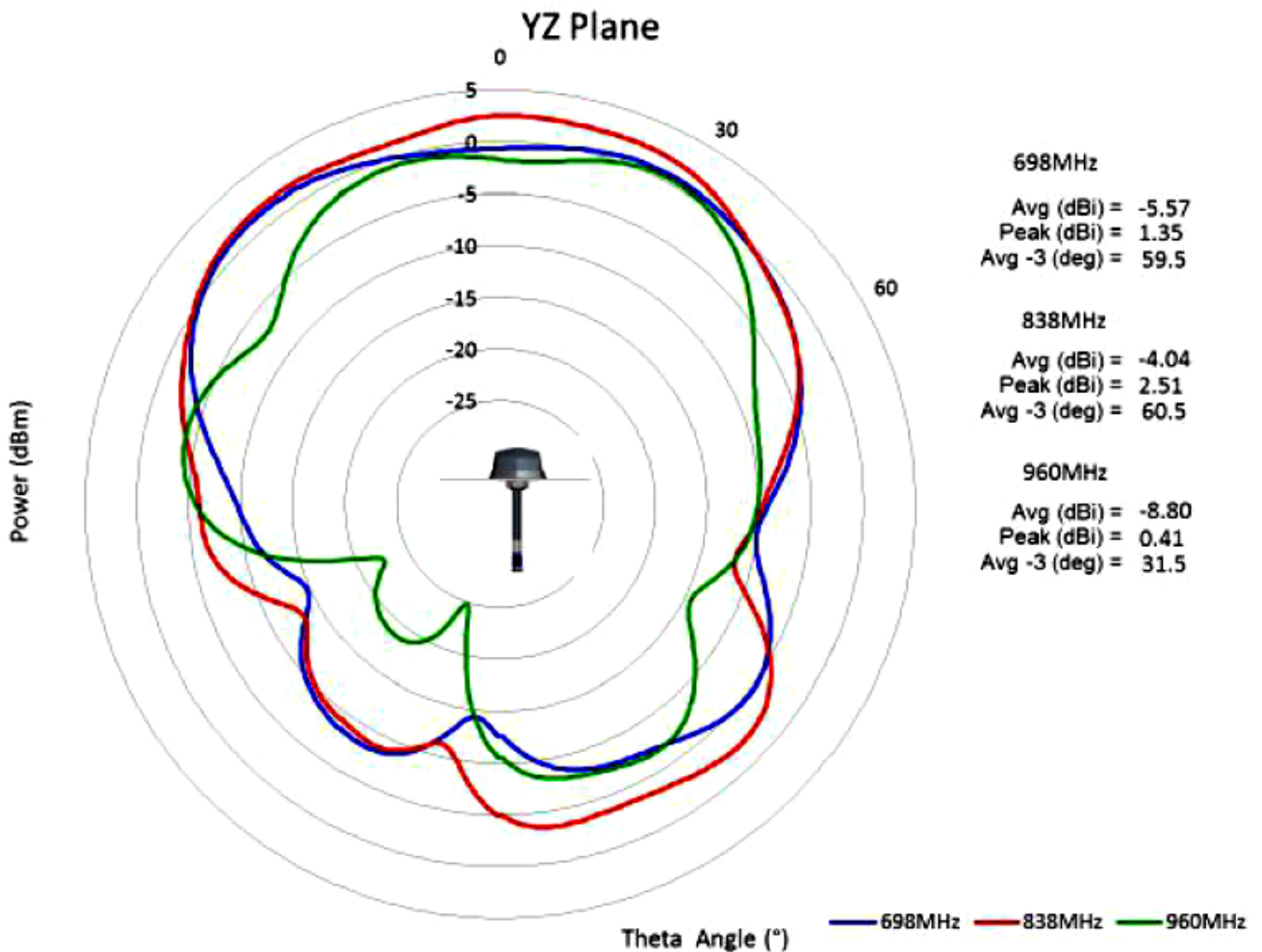
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LTE2 YZ plane radiation pattern



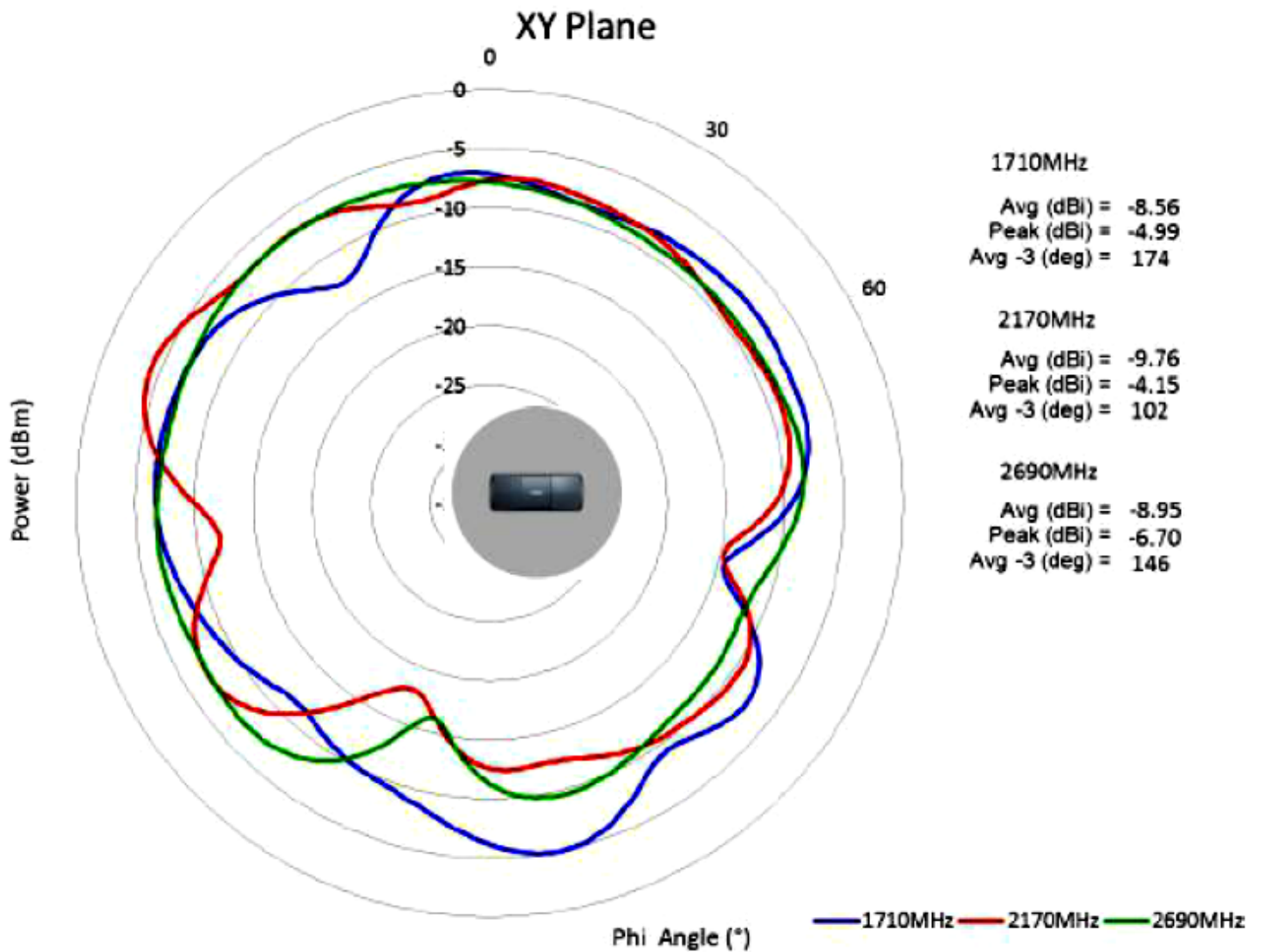
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LTE1 XY plane radiation pattern



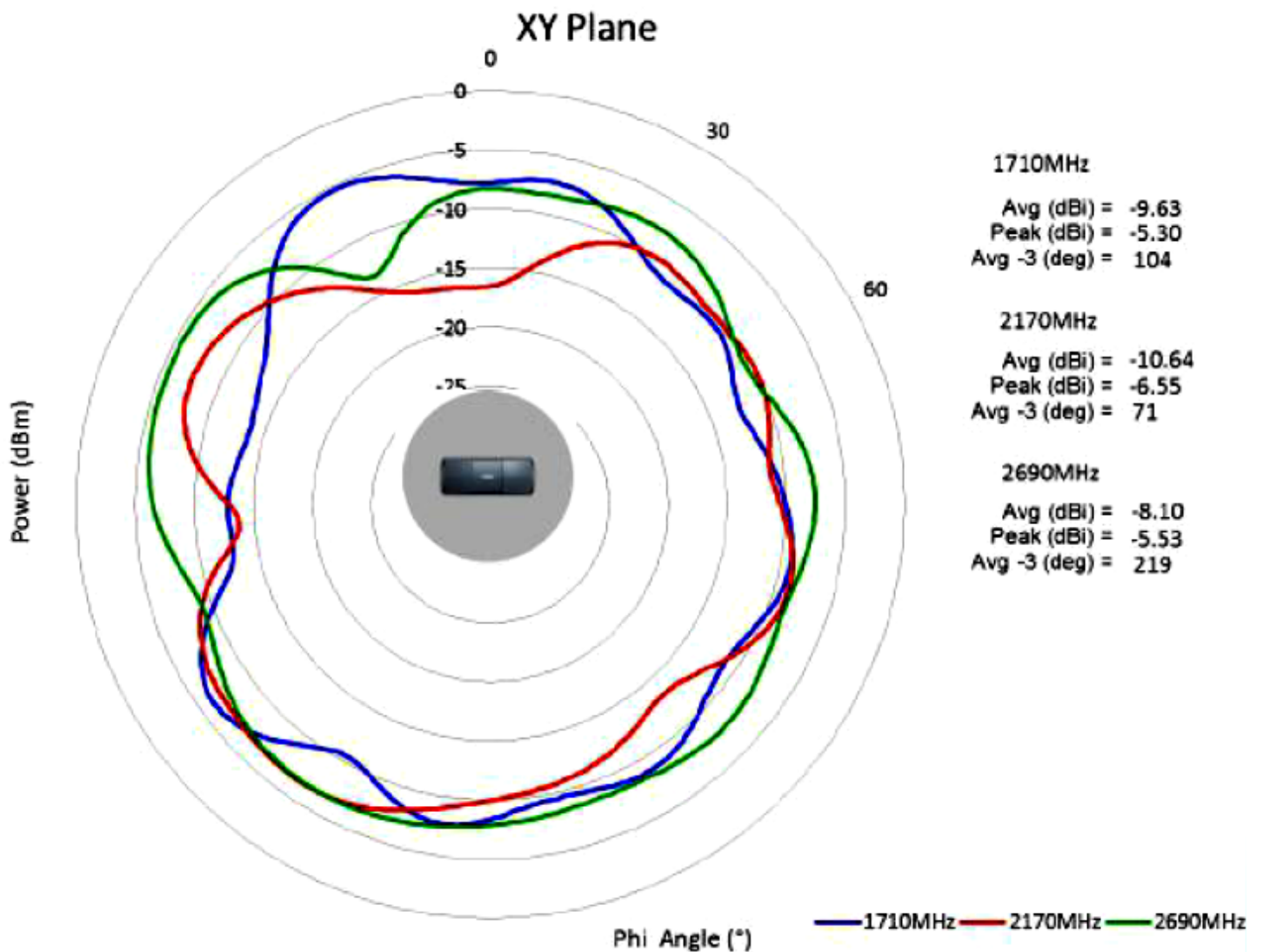
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LTE2 XY plane radiation pattern



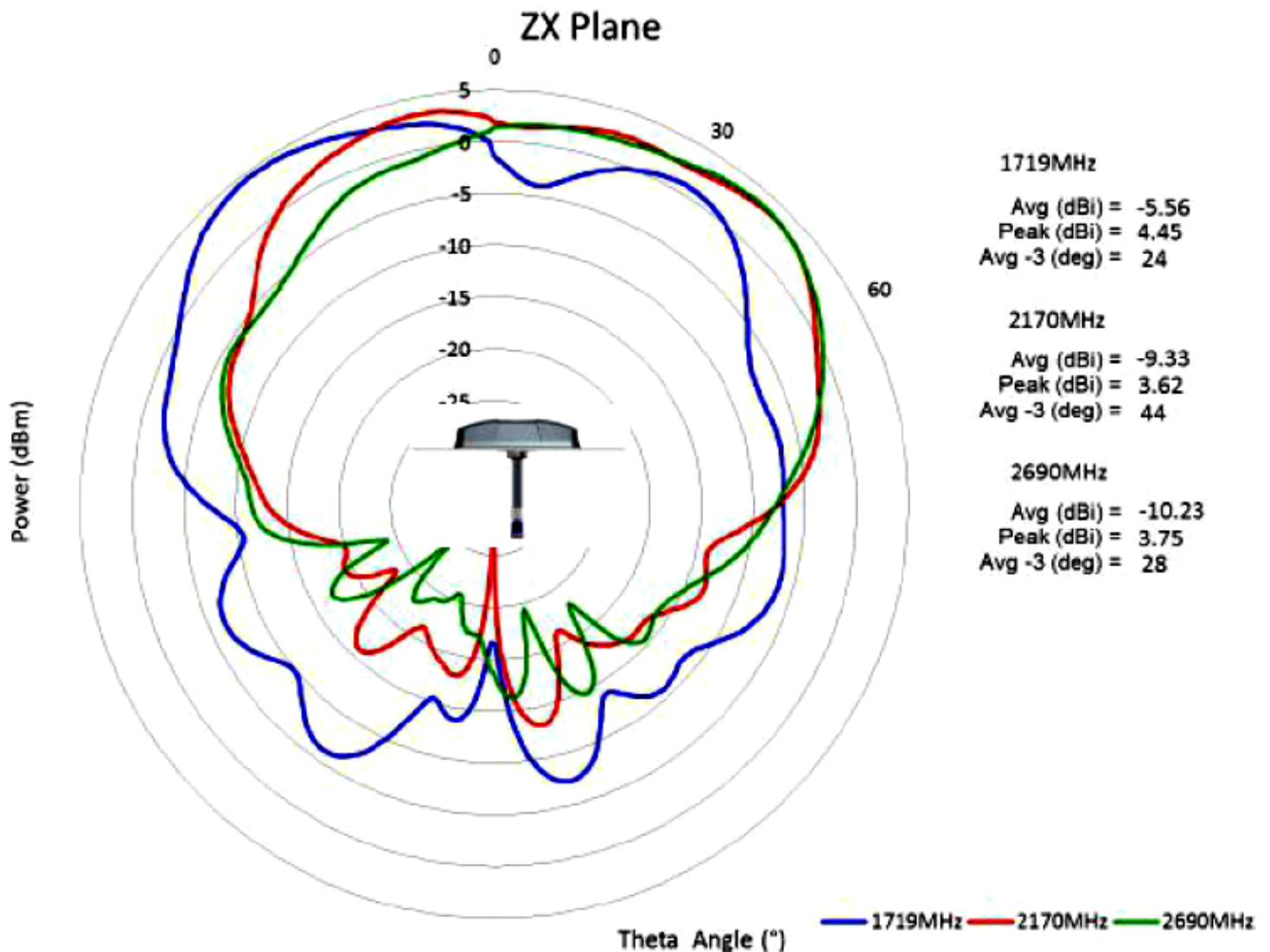
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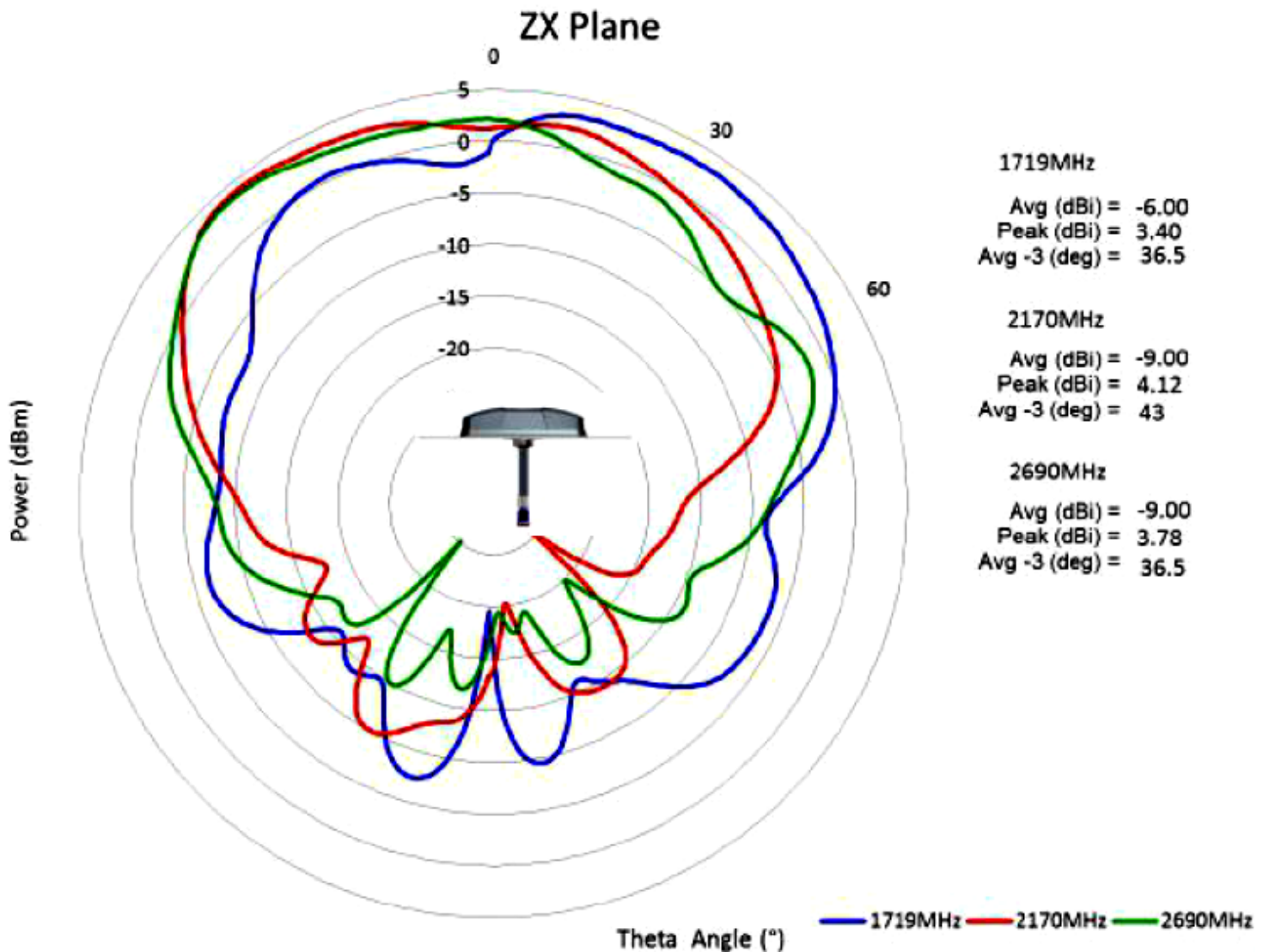
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LTE1 ZX plane radiation pattern

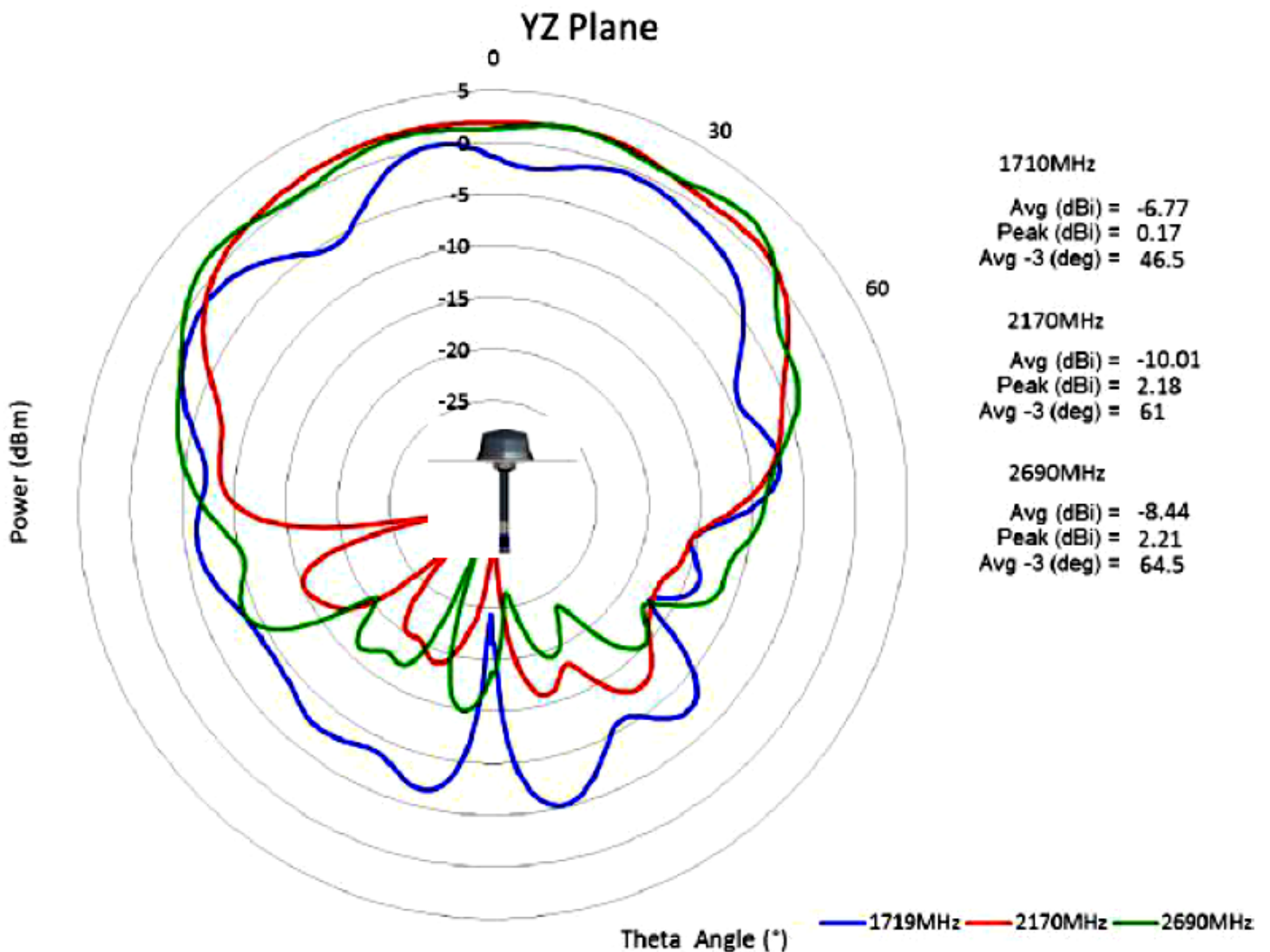


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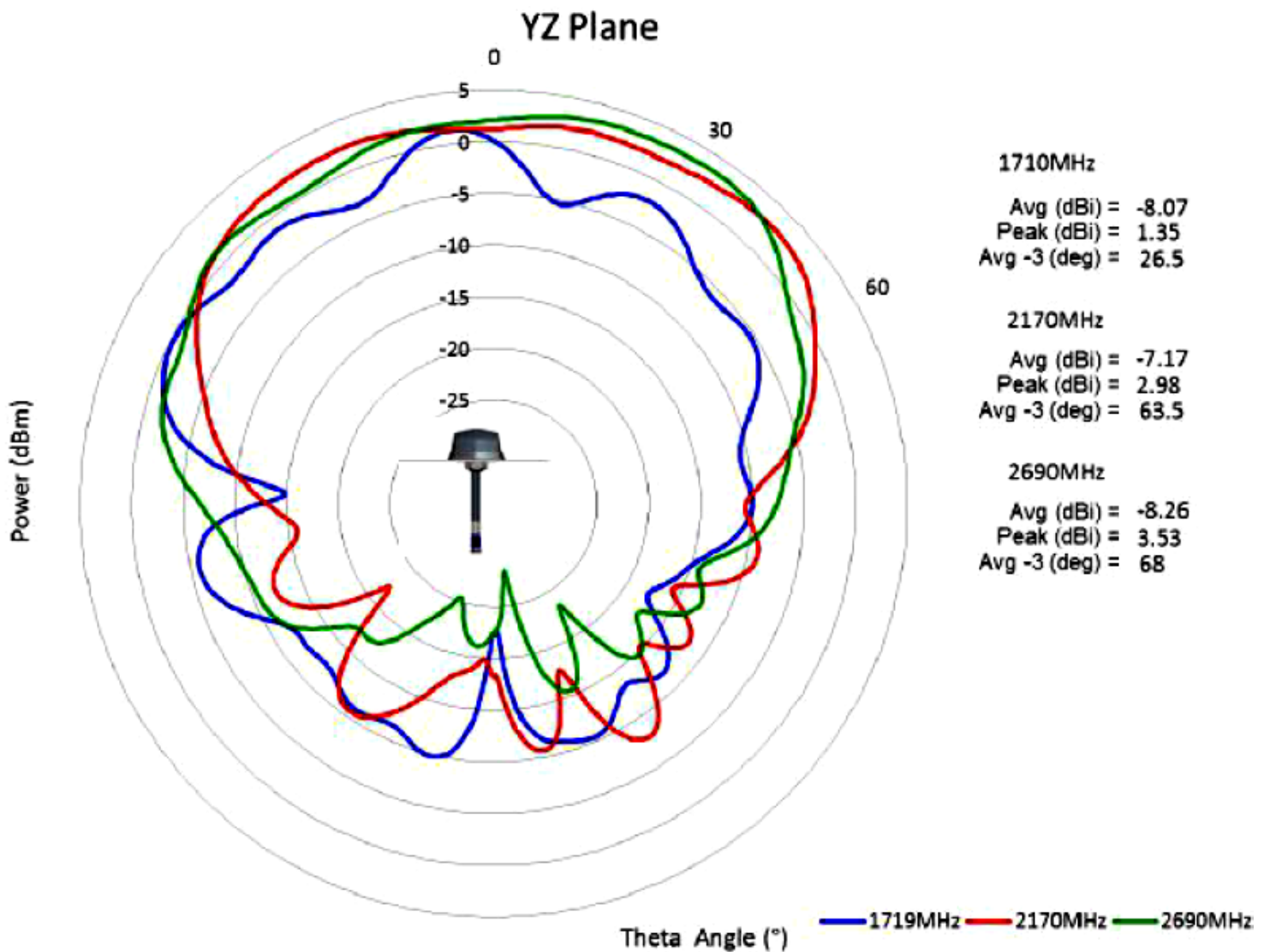
LTE2 ZX plane radiation pattern

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LTE1 YZ plane radiation pattern

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LTE2 YZ plane radiation pattern

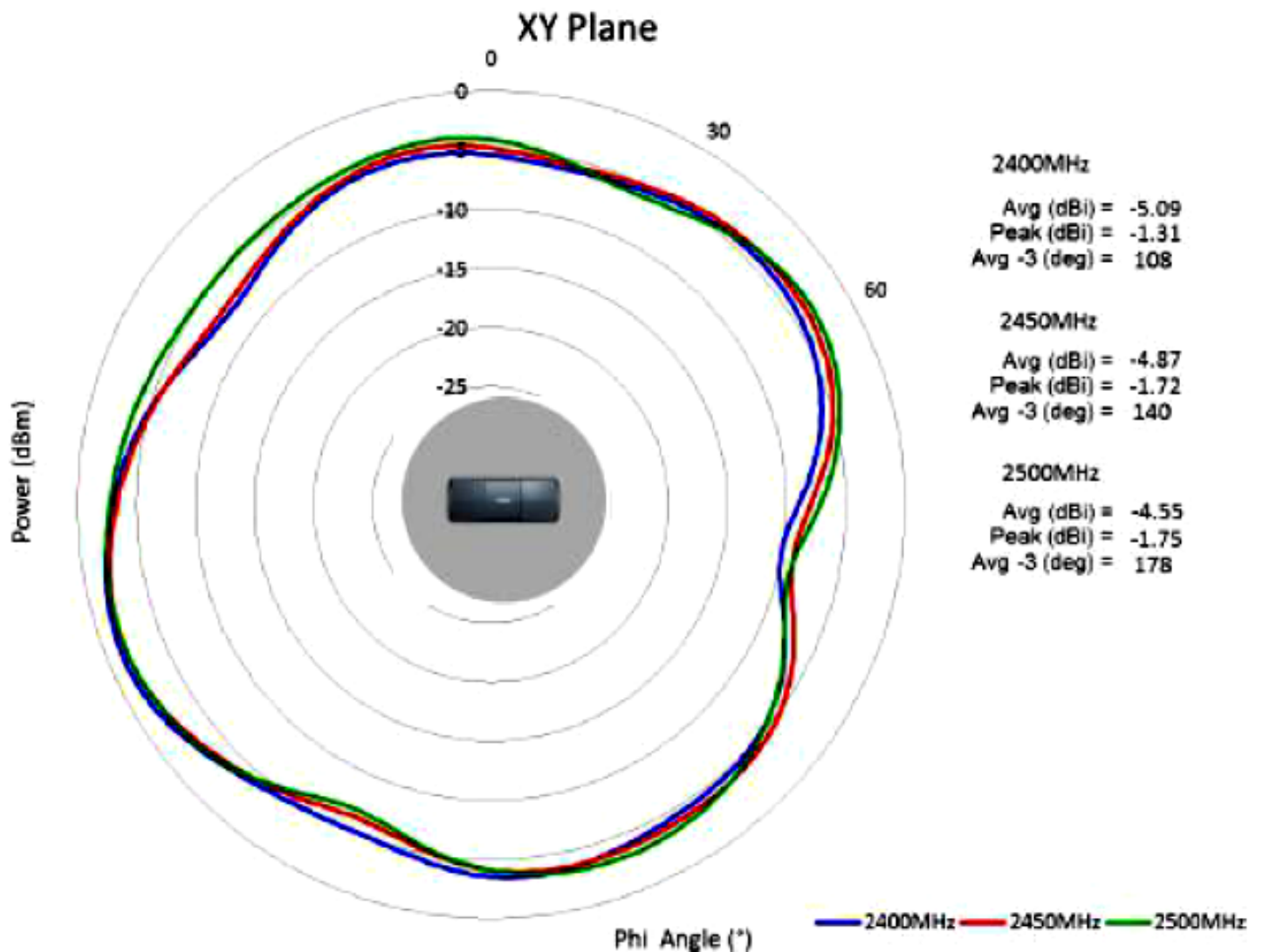
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WIFI1 XY plane radiation pattern



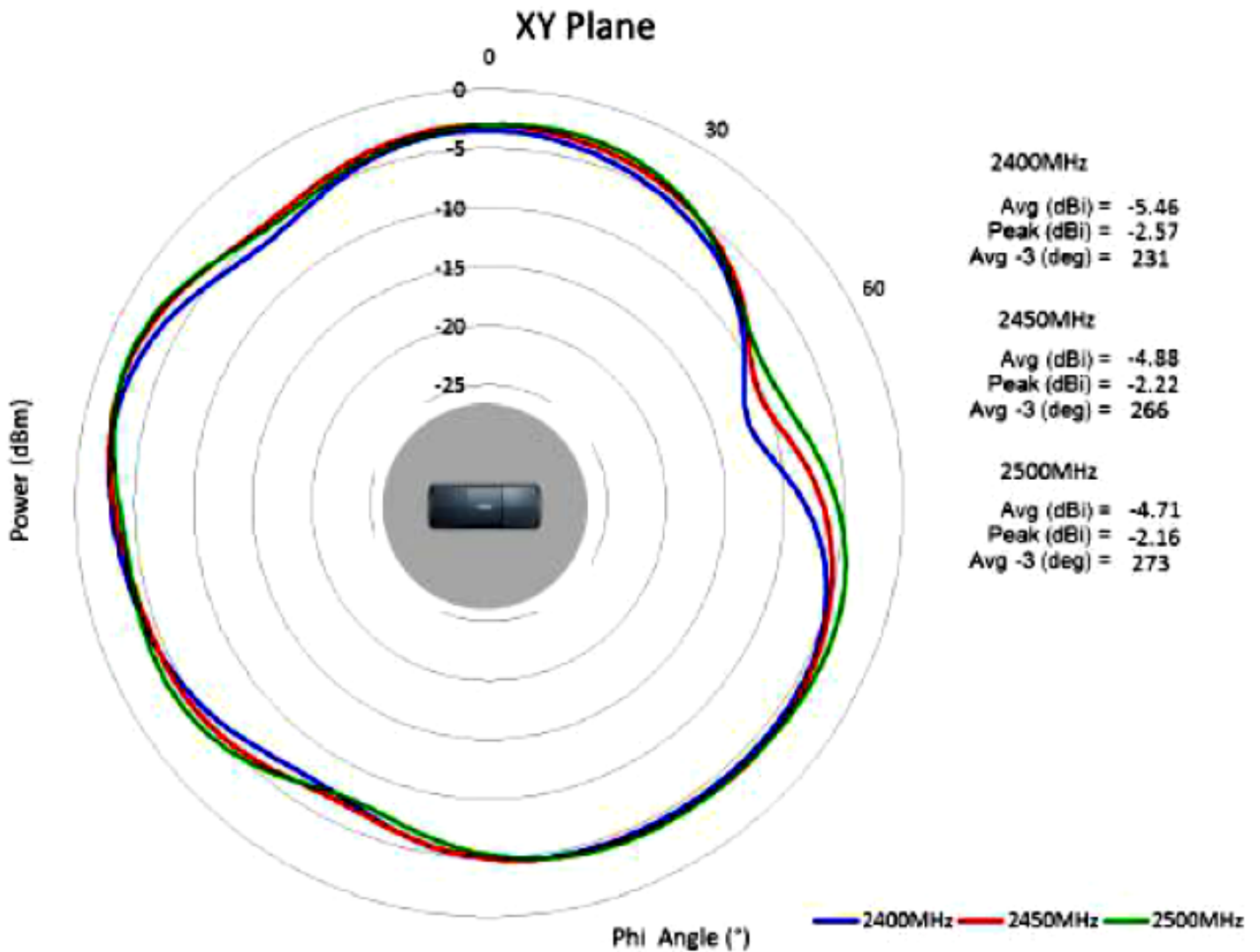
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WIFI2 XY plane radiation pattern



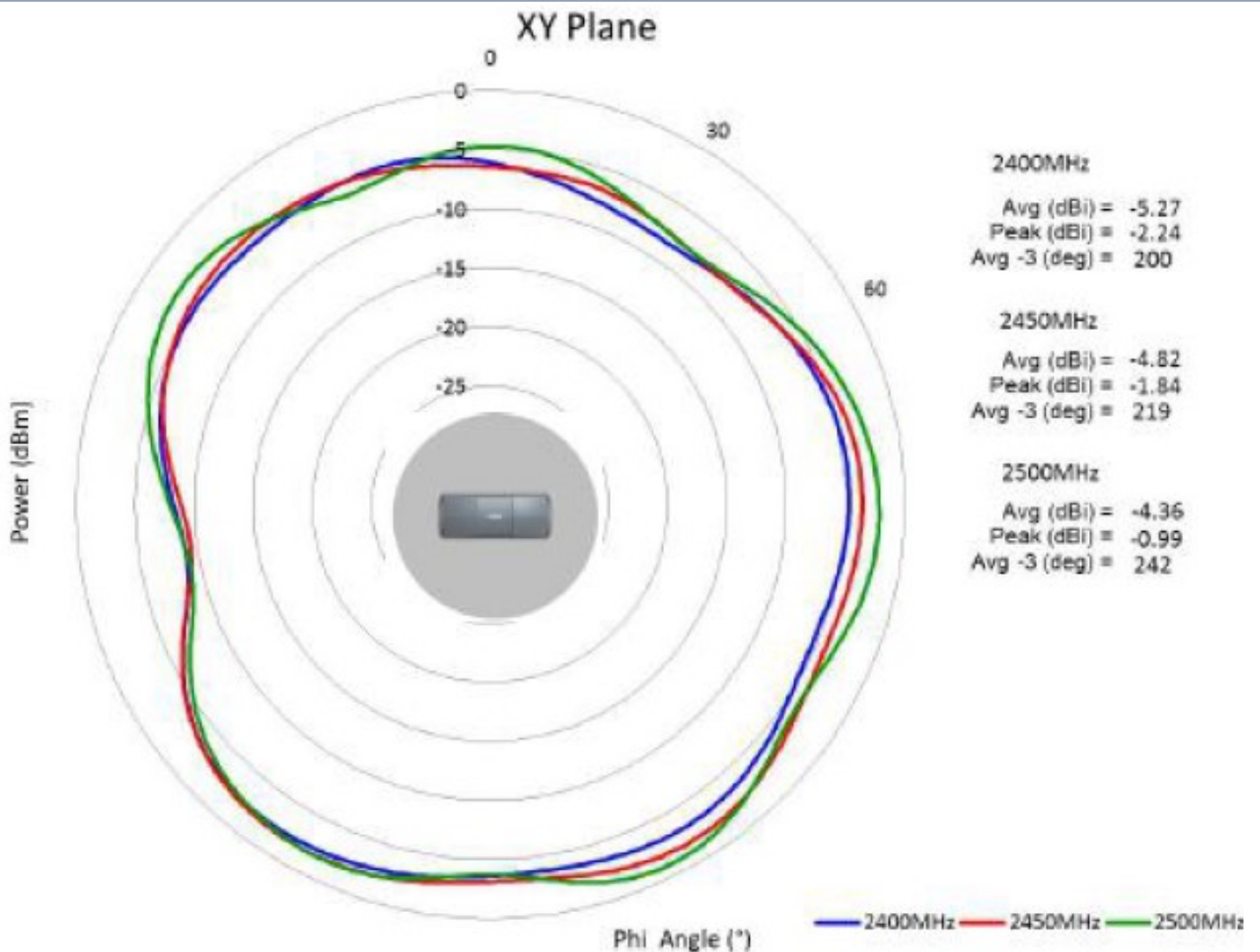
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WiFi3 XY plane radiation pattern



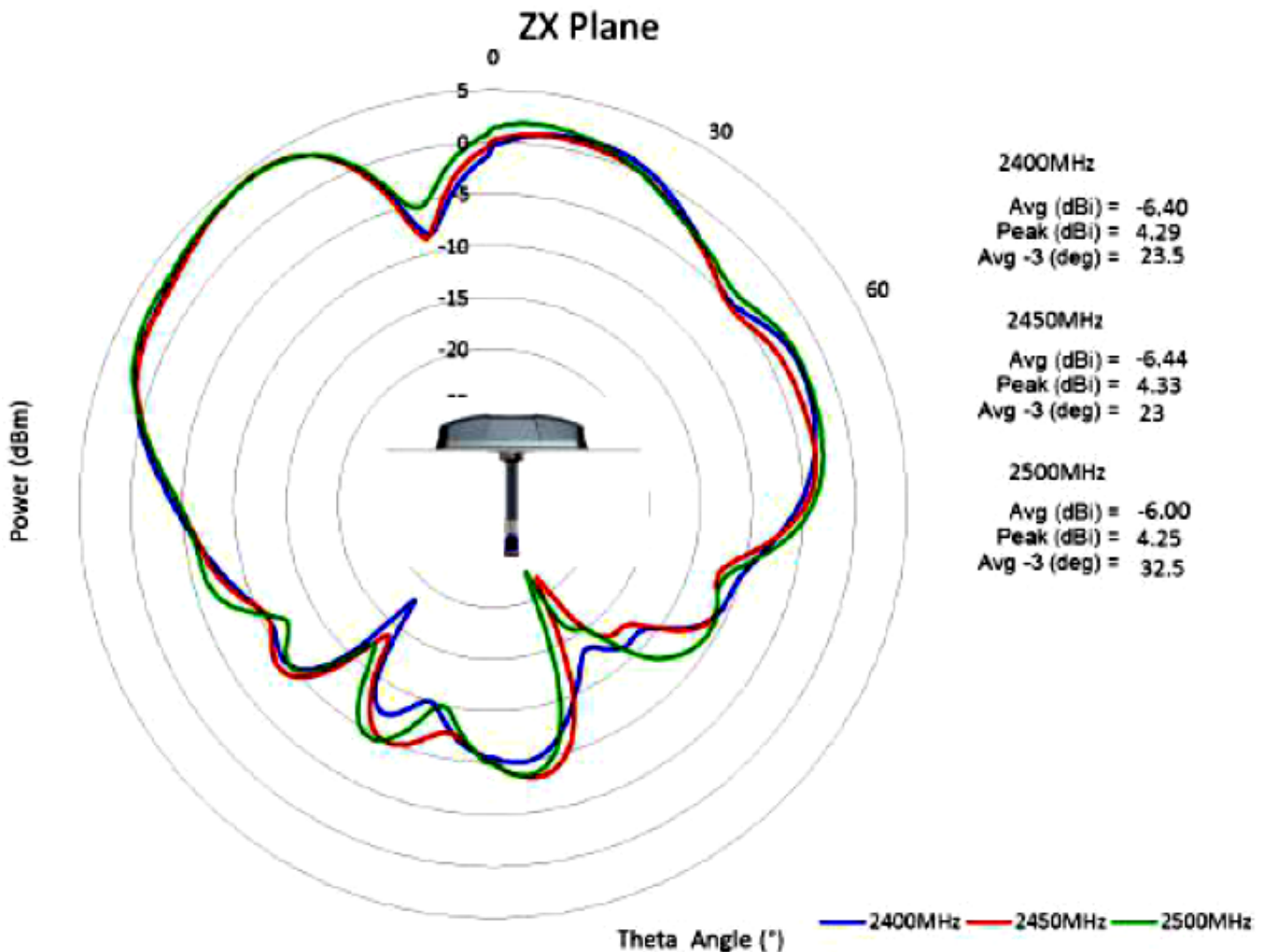
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WiFi1 ZX plane radiation pattern



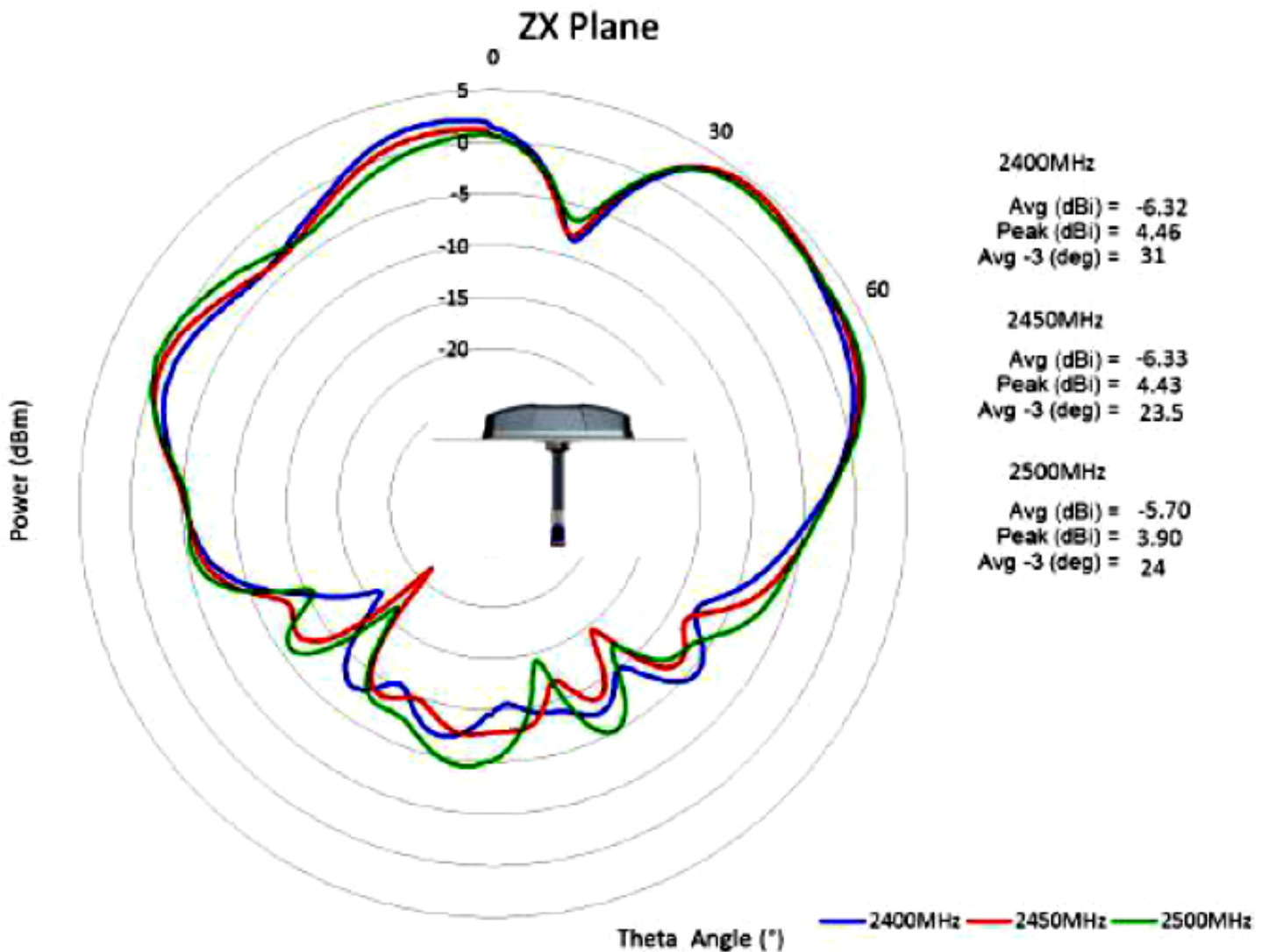
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WiFi2 ZX plane radiation pattern



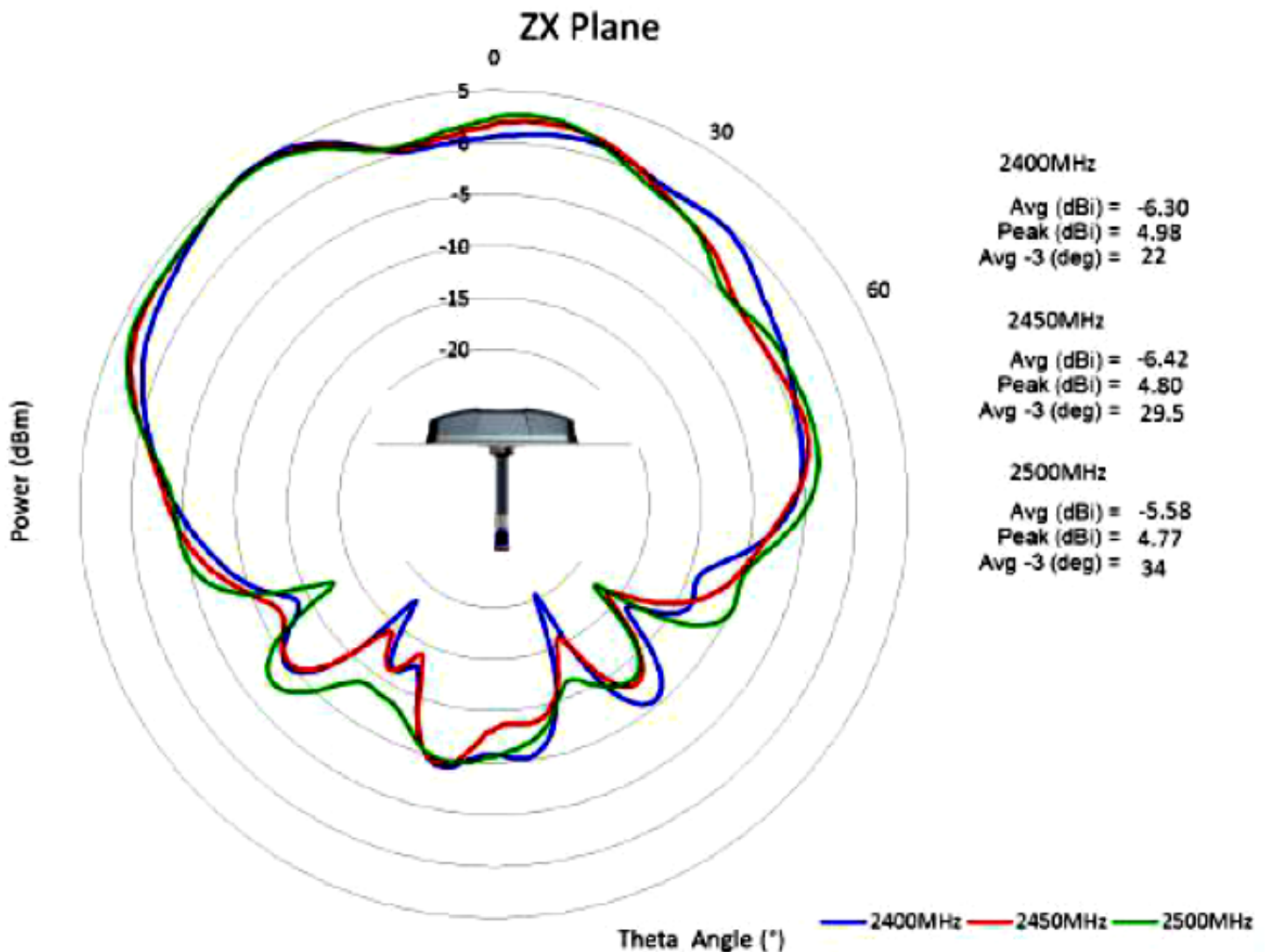
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WiFi3 ZX plane radiation pattern



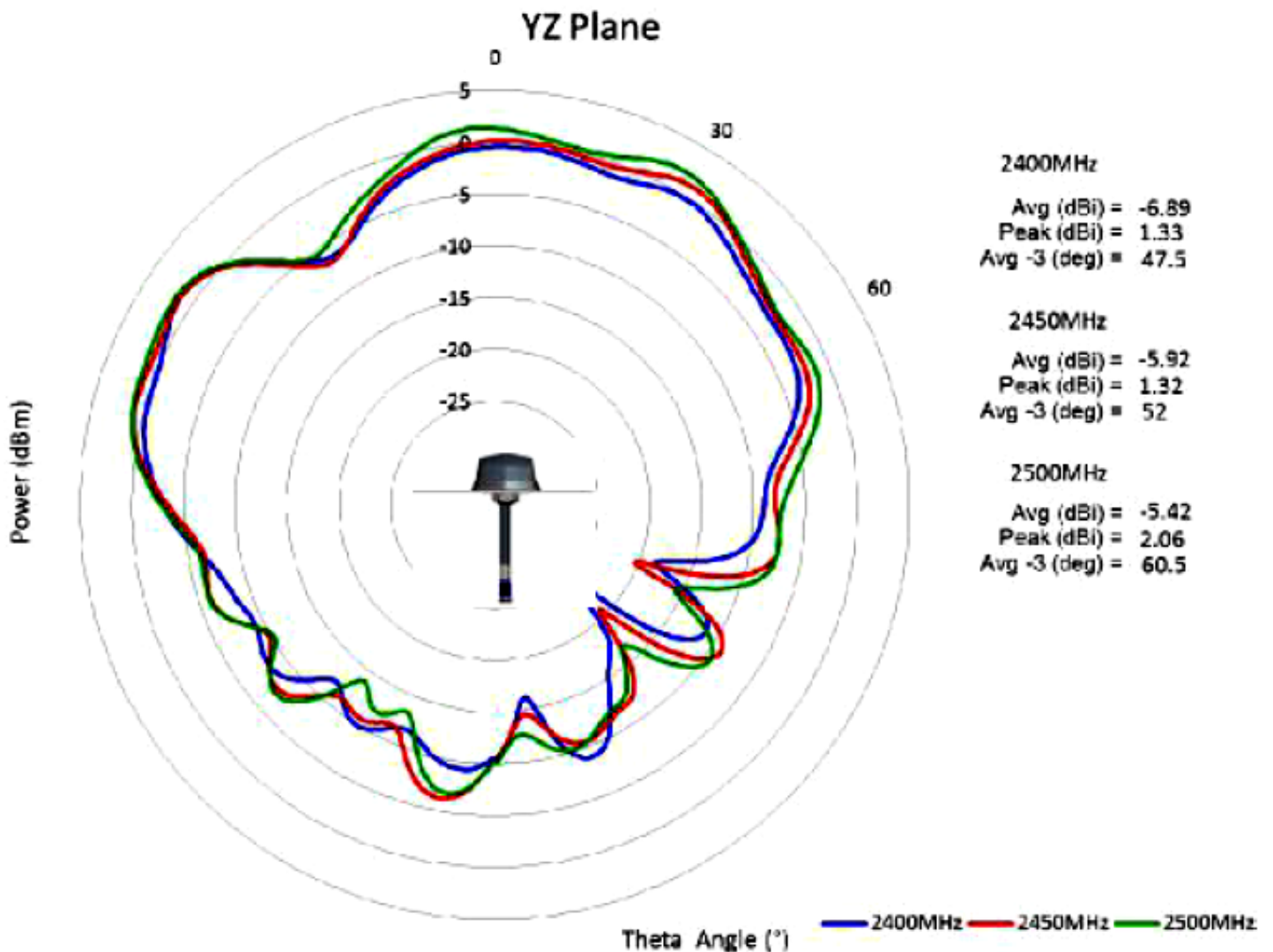
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WiFi1 YZ plane radiation pattern



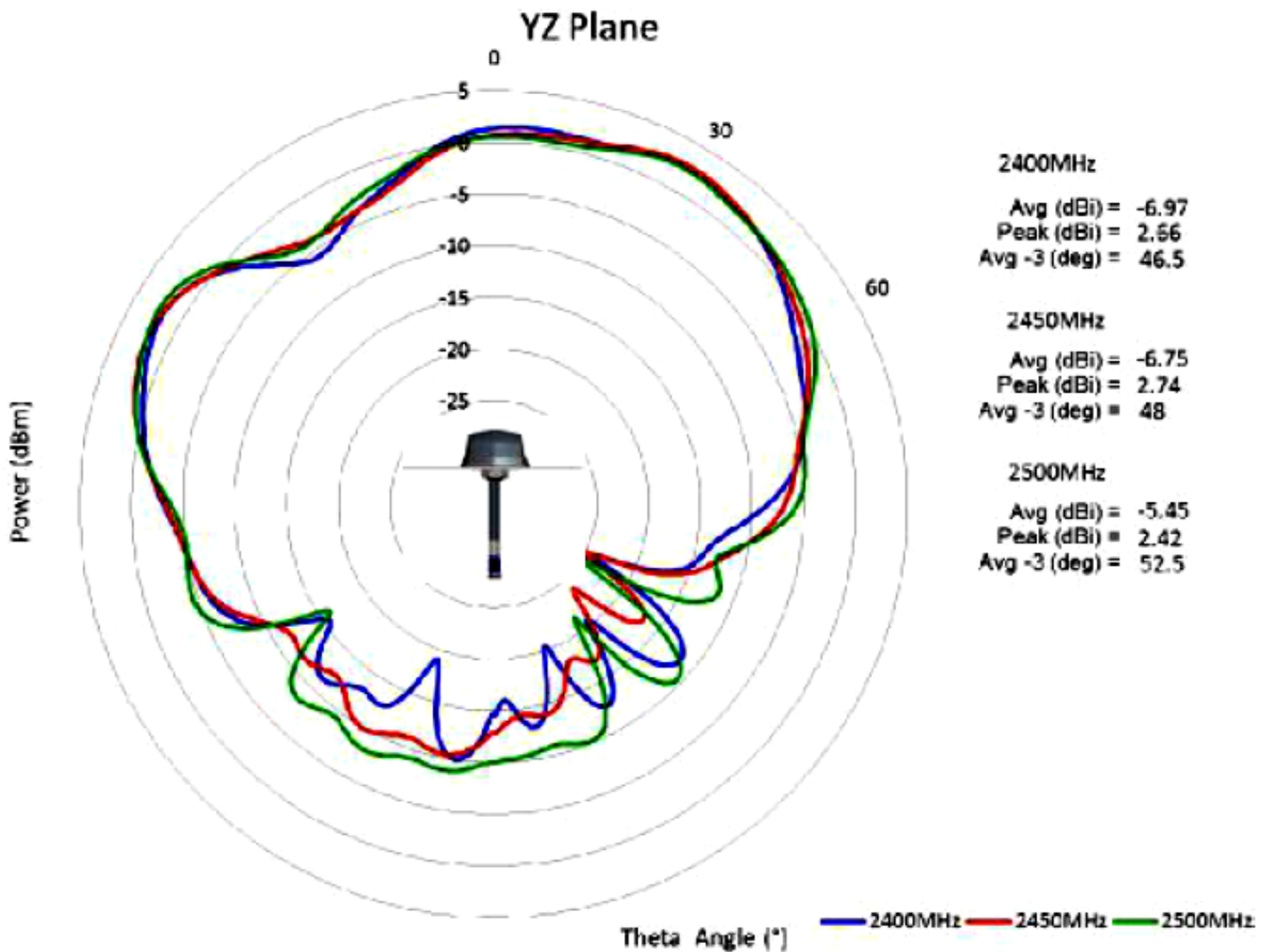
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WiFi2 YZ plane radiation pattern



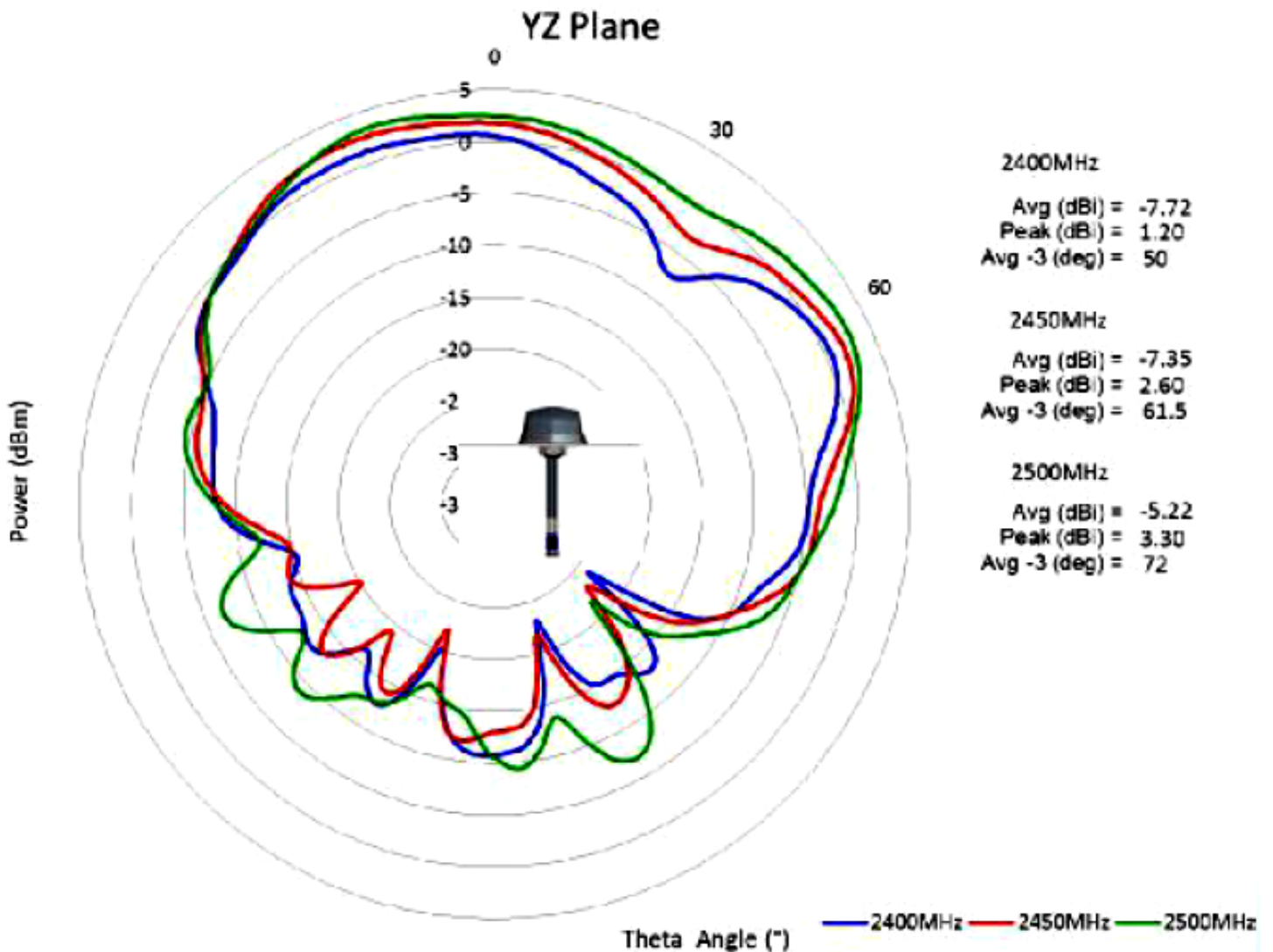
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WiFi3 YZ plane radiation pattern



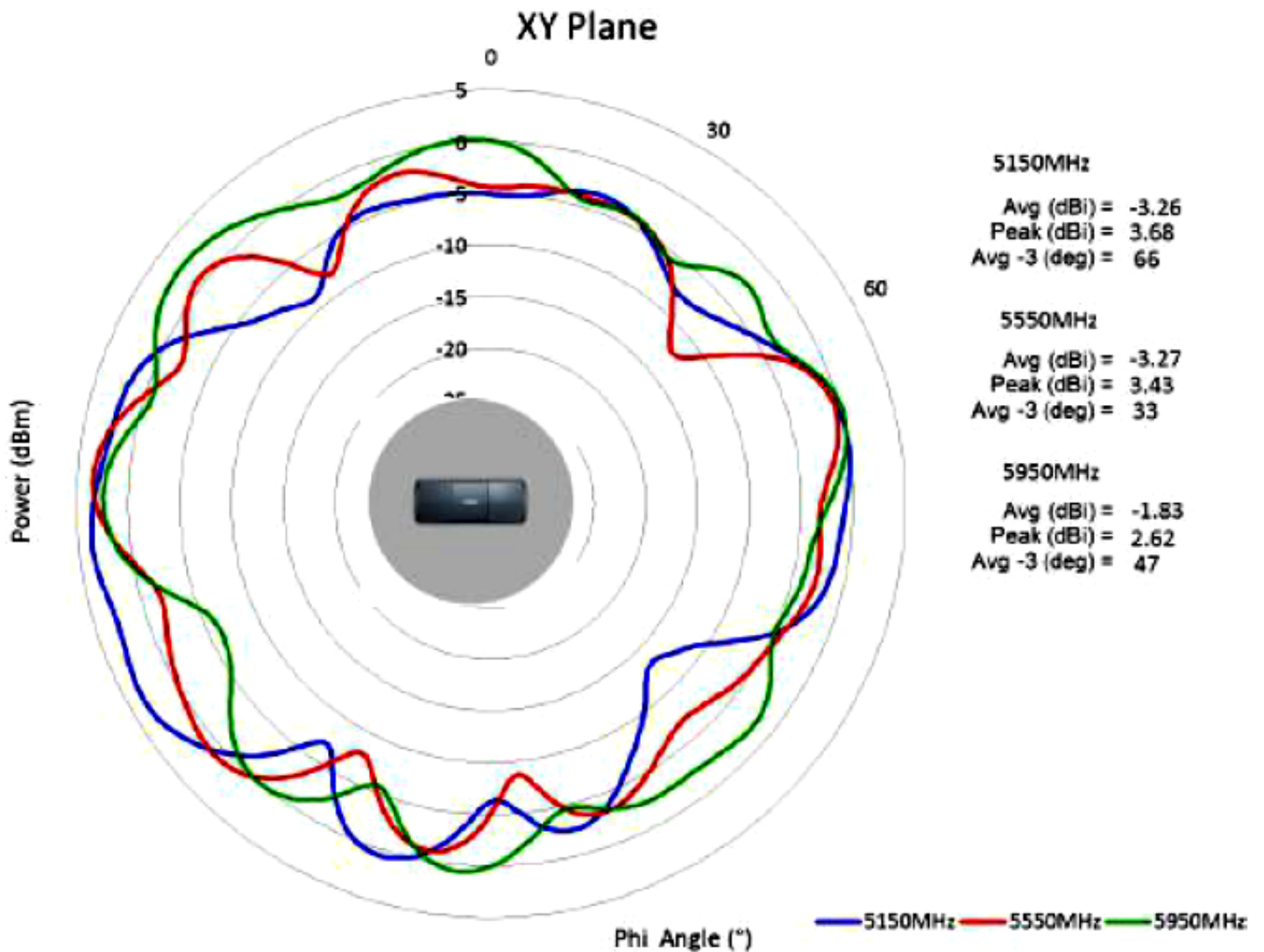
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WiFi1 XY plane radiation pattern



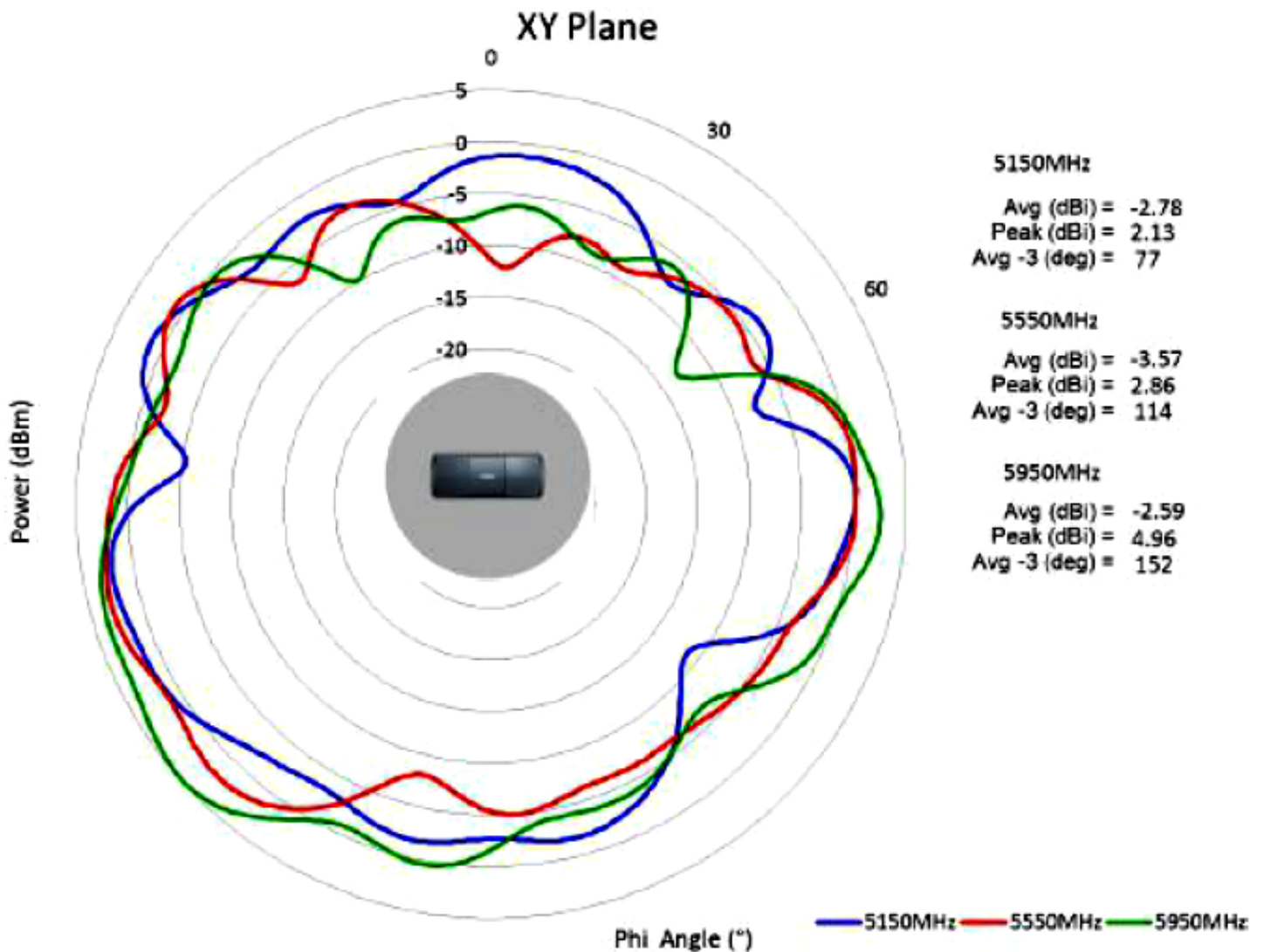
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WiFi2 XY plane radiation pattern



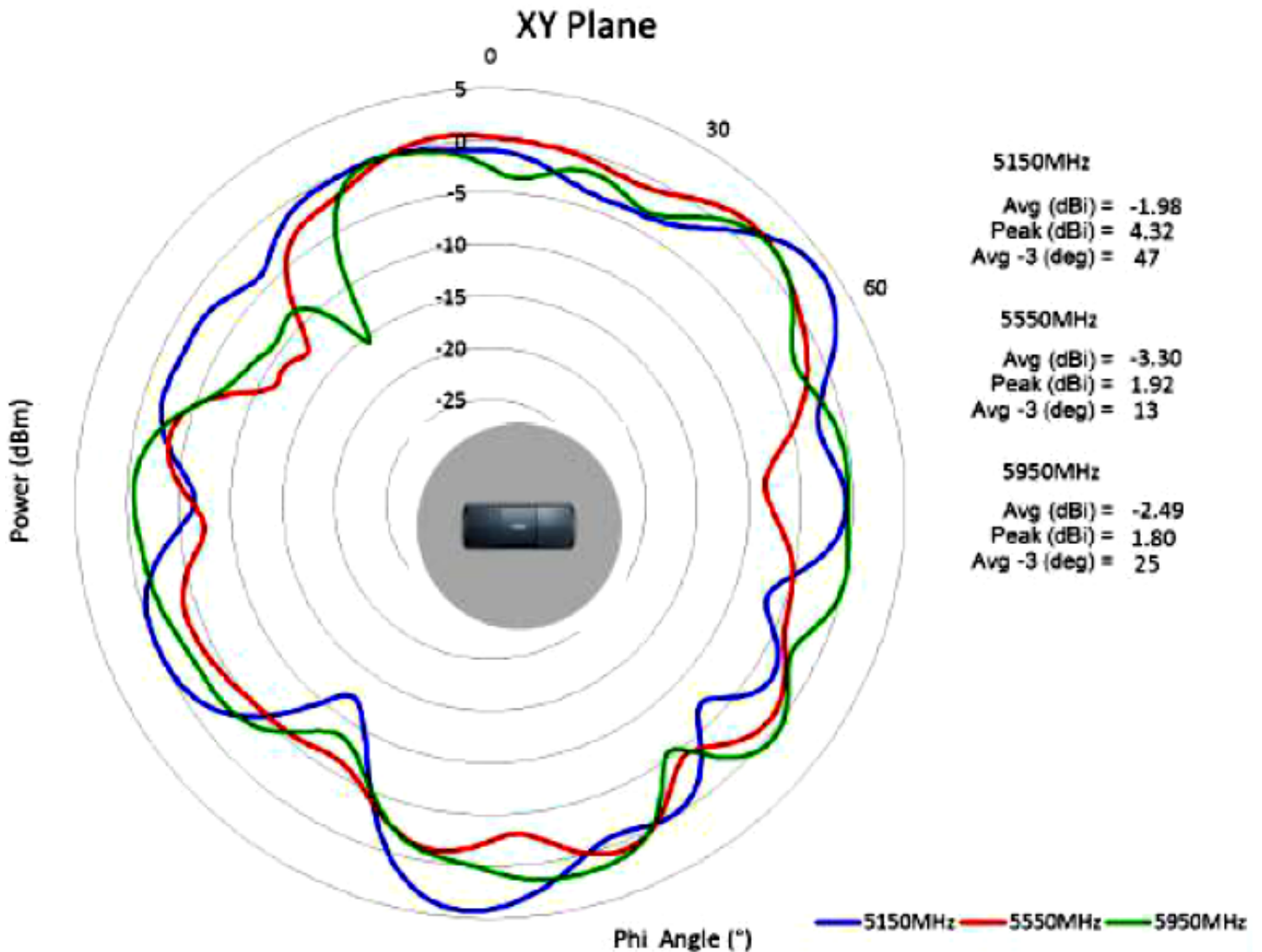
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WiFi3 XY plane radiation pattern



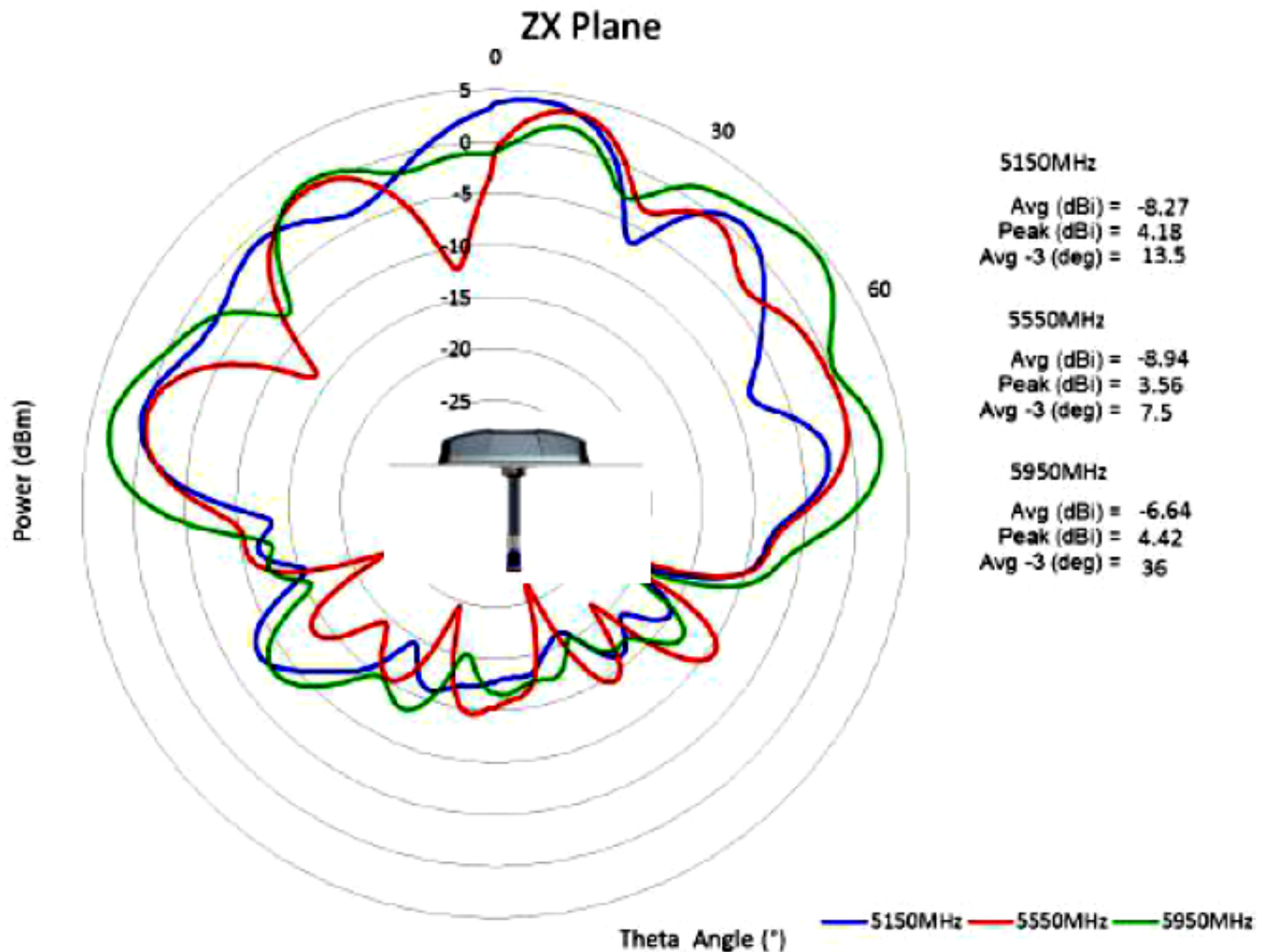
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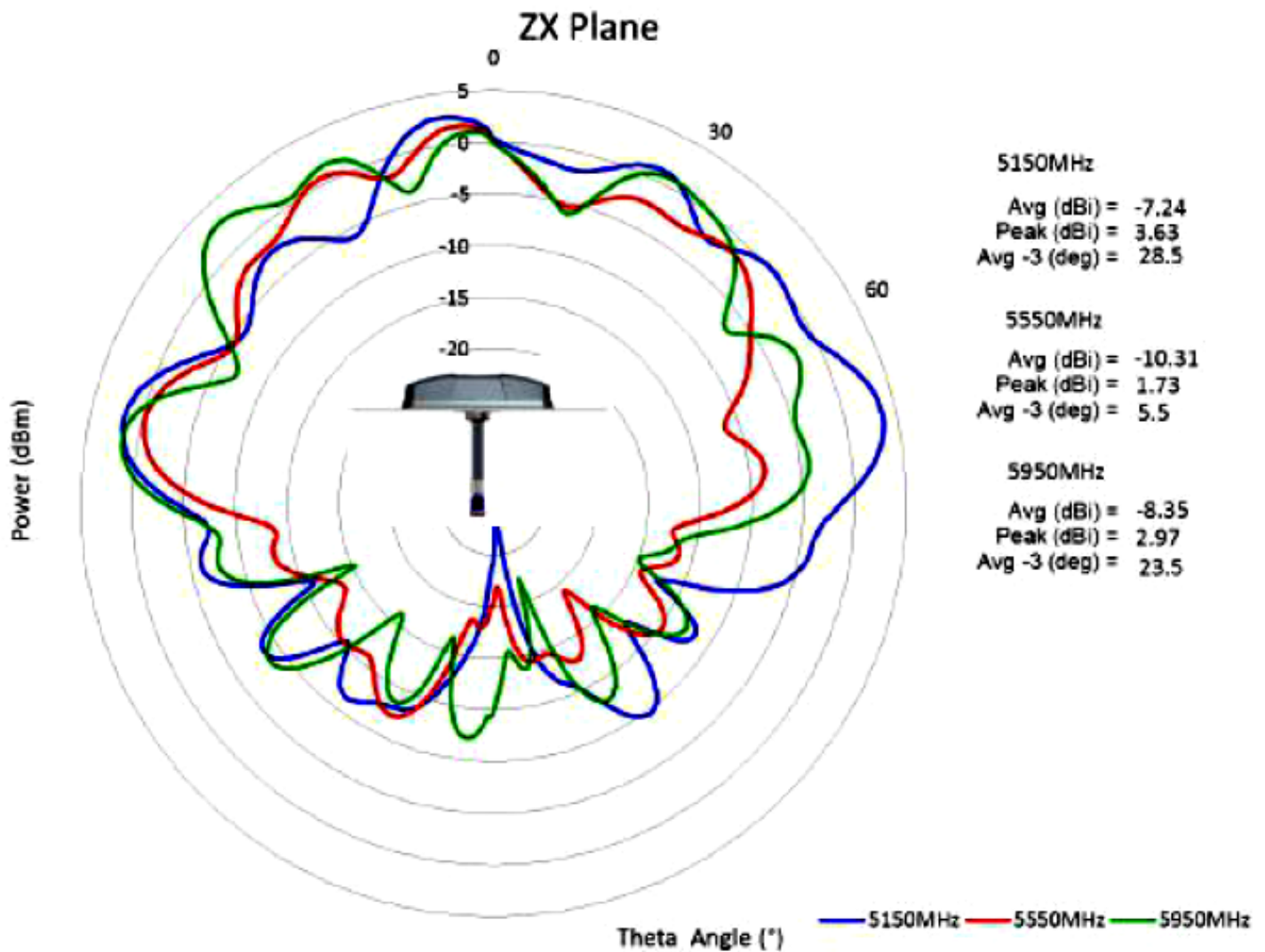
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WiFi1 ZX plane radiation pattern



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WiFi2 ZX plane radiation pattern

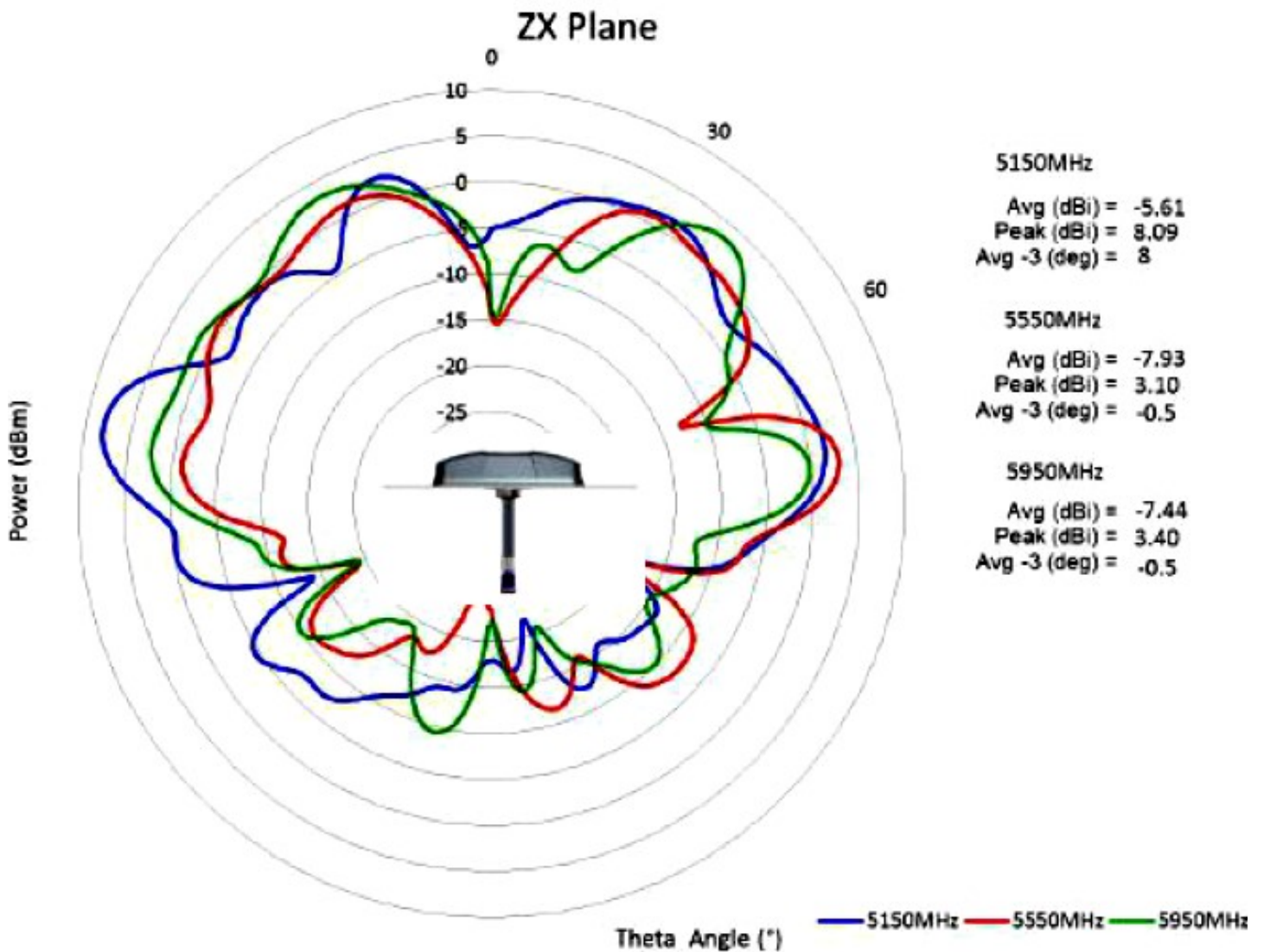
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WiFi3 ZX plane radiation pattern



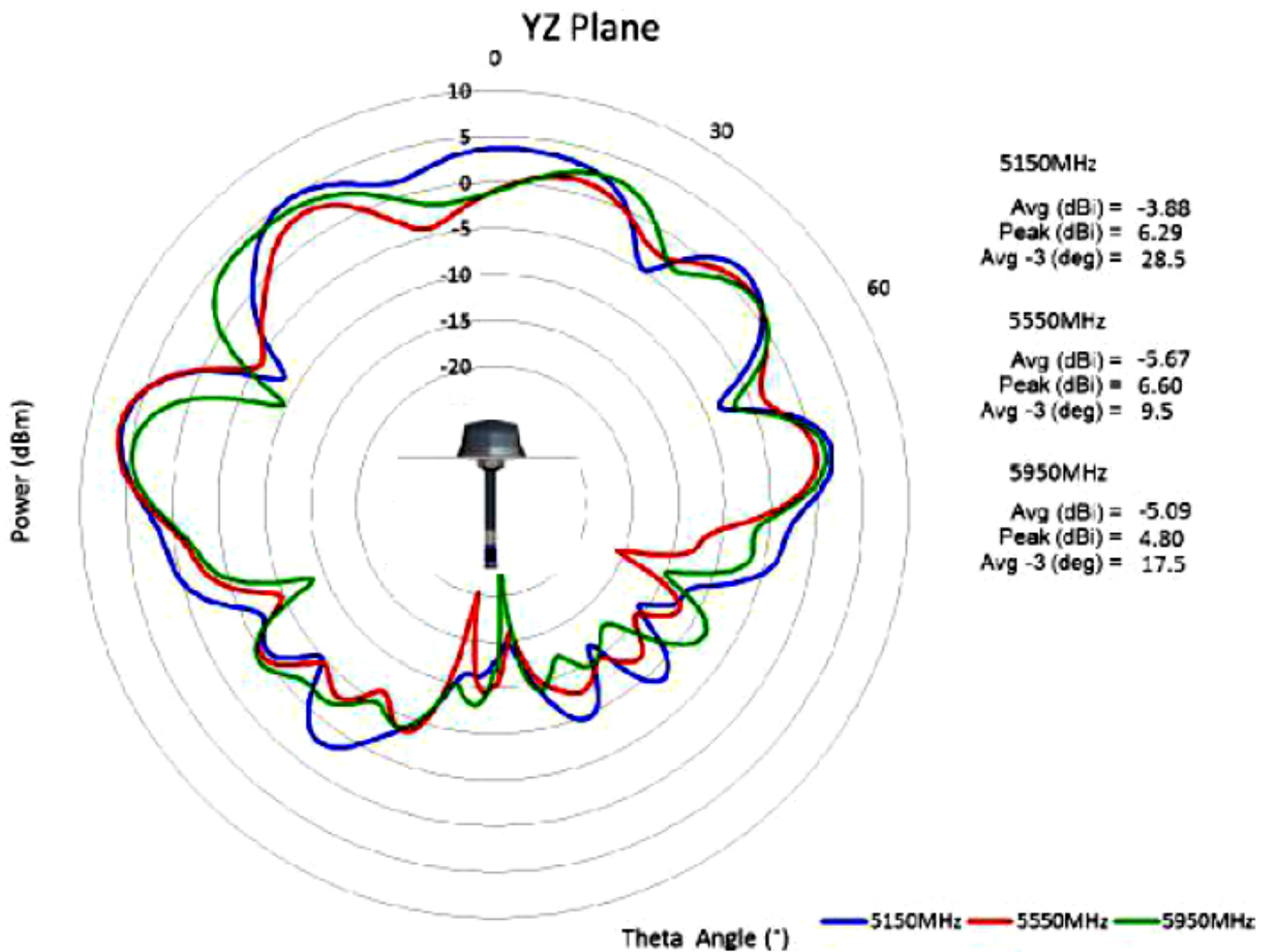
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CHARTS



WiFi1 YZ plane radiation pattern



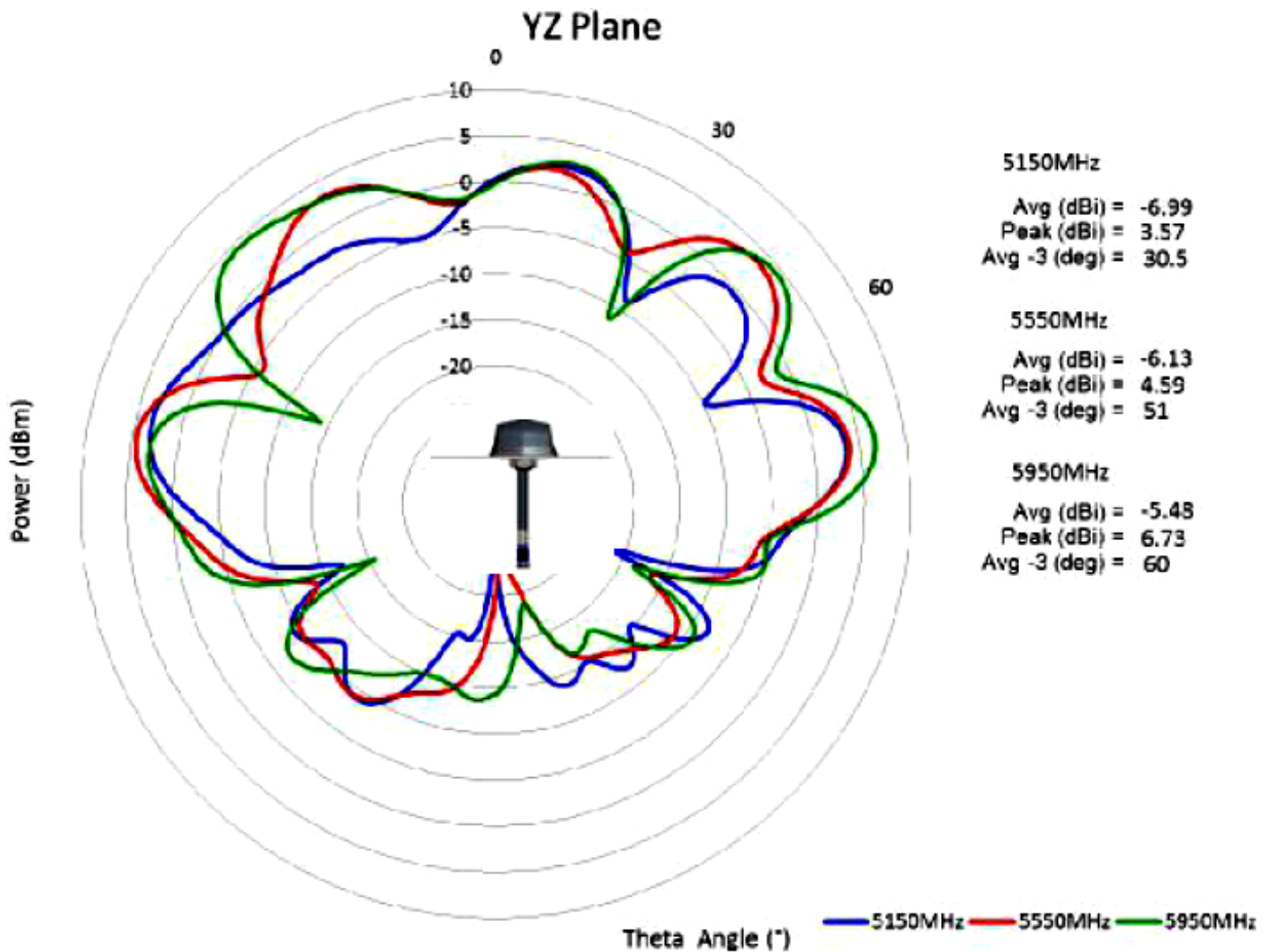
RBDM-XXXXX

IP67 Multiband Antenna
with Direct Mount



Series: Brick

CHARTS



WiFi2 YZ plane radiation pattern



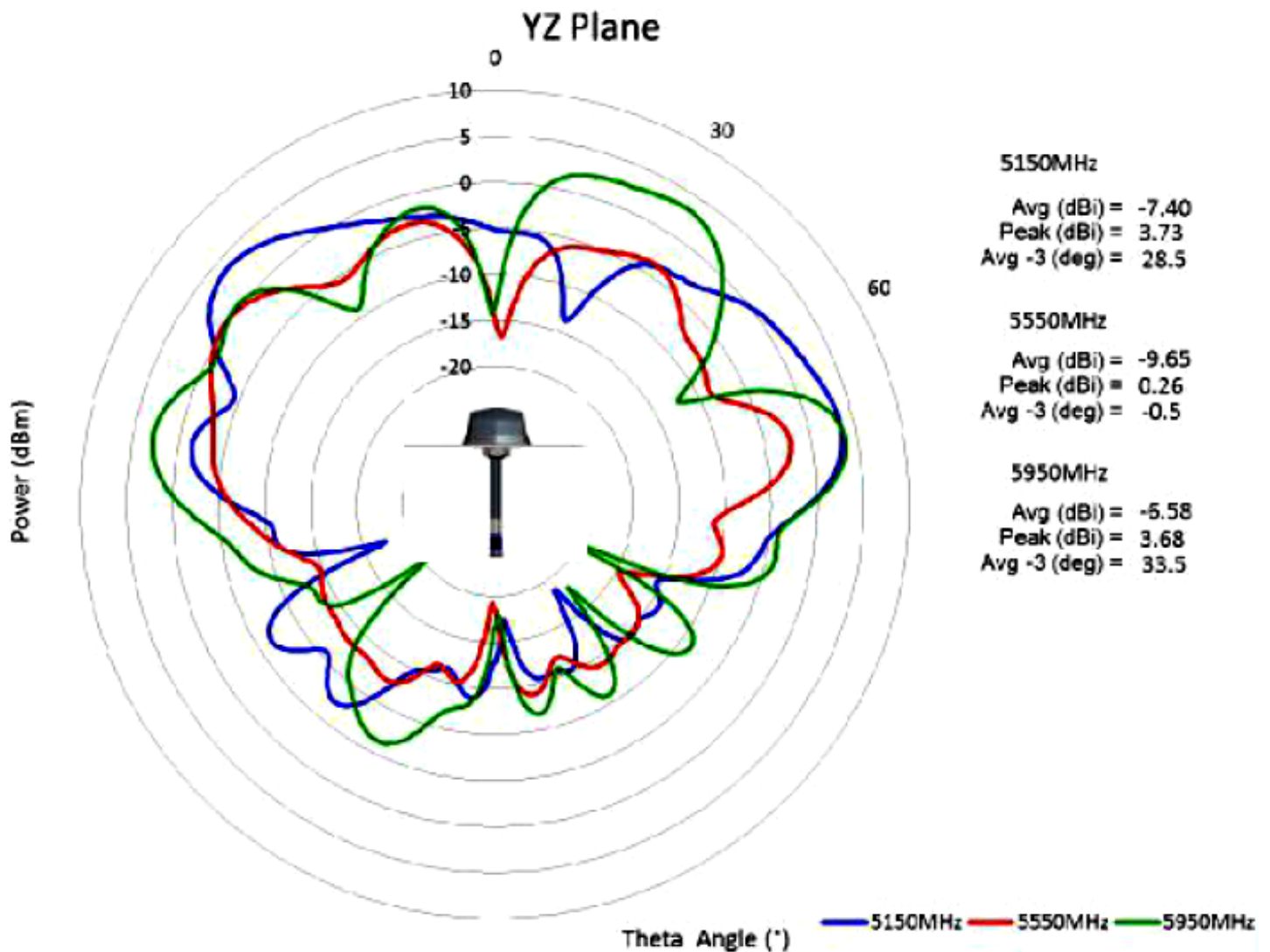
RBDM-XXXXX

IP67 Multiband Antenna
with Direct Mount



Series: Brick

CHARTS



WiFi3 YZ plane radiation pattern

