

V700

LTE (main and diversity), WIFI/BT and GNSS ANTENNAS GAIN MEASUREMENT REPORT

REPORT NO: 001

MODEL NO: WGA00925, WGA00725, WGA00735, WGA00745,
WGA00755, WGA00825, WGA01025

TESTED DATE: 2023.01.24

ISSUED: 2023.01.24

MANUFACTURER: Motorola Solutions Inc.

ADDRESS: 500 W Monroe St Ste 4400, Chicago, IL 60661

ISSUED BY: Motorola Solutions Schaumburg

ADDRES: Motorola Solutions, 2000 Progress Pkwy, Schaumburg, IL 60196

TEST LOCATION: Motorola Solutions, 2000 Progress Pkwy, Schaumburg, IL 60196

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RELEASE CONTROL RECORD

REPORT NO.	REASON FOR CHANGE	DATE ISSUED
001	Initial release	2023.02.03
002	Adding model numbers, p#2 – Alex Babaladze	2023.5.16

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General Information

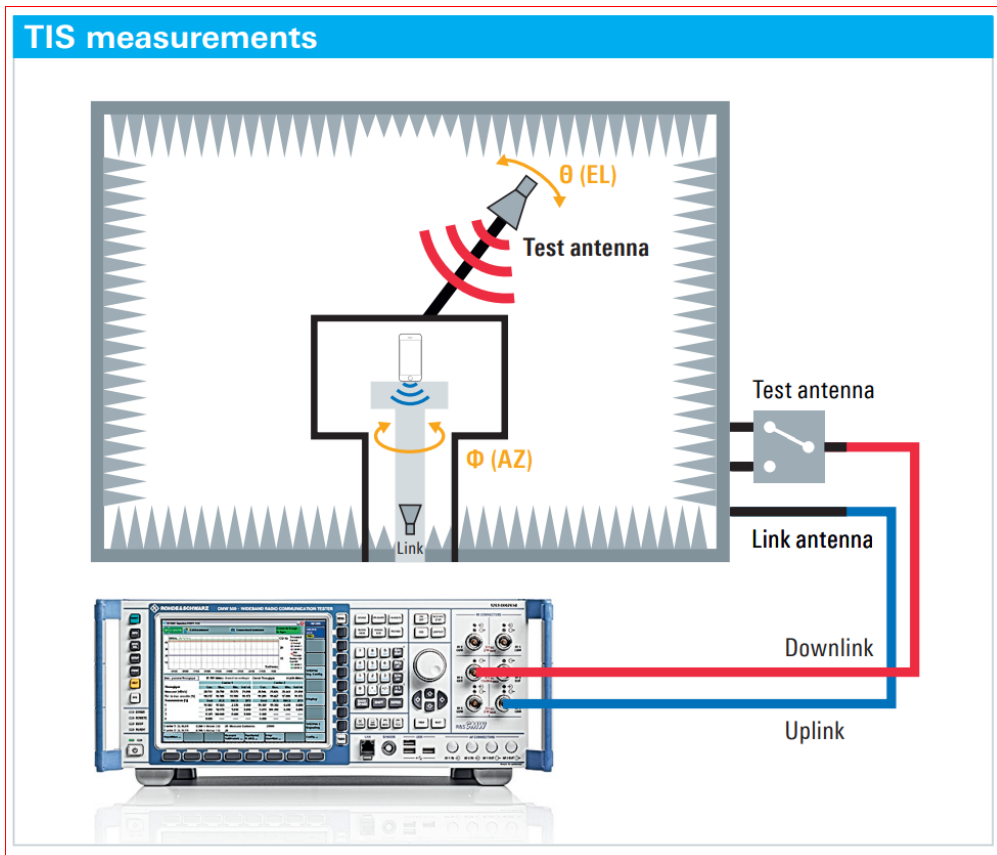
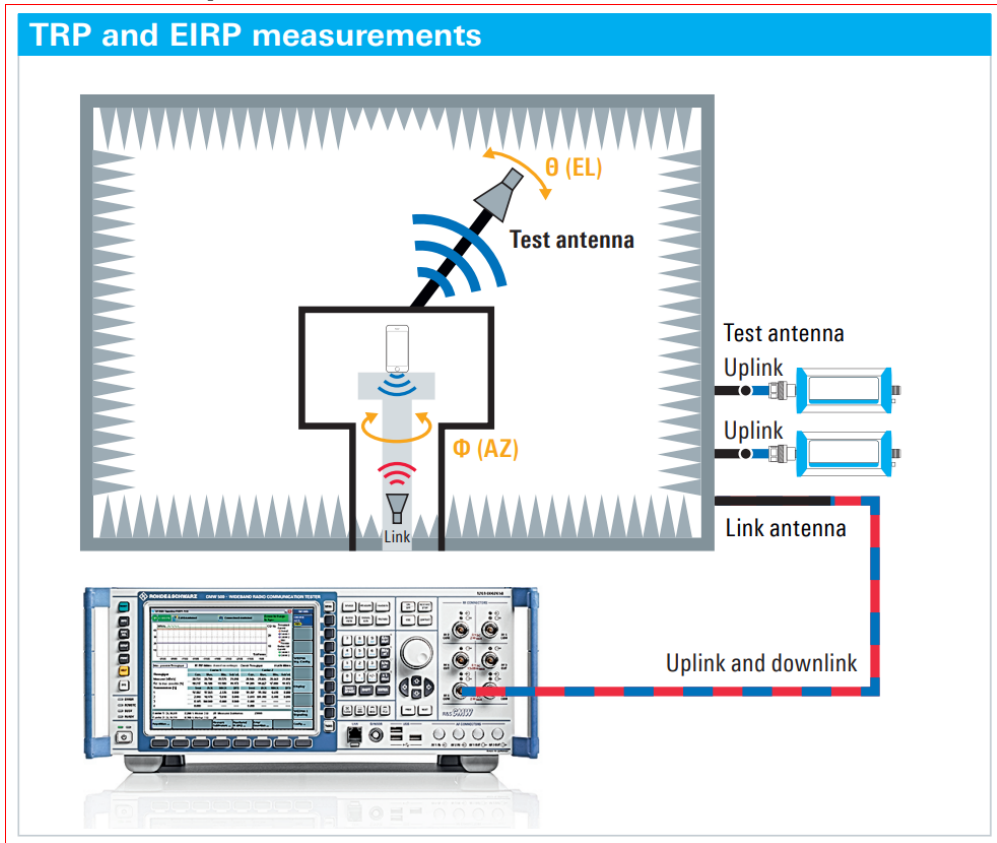
APPLICANT: Motorola Solutions, Inc
MANUFACTURER: Motorola Solutions, Inc
MODEL NO: WGA00925, WGA00725, WGA00735, WGA00745,
WGA00755, WGA00825, WGA01025,
SERIAL NUMBER/IMEI: BWL7-000827/358026261619335
HARDWARE VERSION: Proto 4
SOFTWARE VERSION: MSI Production Build 408
PRODUCT TYPE: Body Worn Camera
LTE main ANTENNA: WGP02926-101
LTE diversity ANTENNA: WGP02926-103
WiFi 2.4GHz ANTENNA: WGP02926-105
GNSS ANTENNA: WGP02926-104

The above equipment has been tested by **Motorola Solutions Schaumburg**

PREPARED BY: Seoungwon You

APPROVED BY: Gaby Bitton

1 Measurement Setup



Overview of the WPTC-Xs antenna measurement system from Rohde & Schwarz.

2 Test Procedure

Device Under Test mounted on Antenna Chamber turntable. Measurements, including conducted power, TRP, and Peak EIRP and obtained by the MVG SG24 test system across low, mid and hi portions of the frequency band and across a 360 degree sphere. Peak antenna gain is determined from the maximum EIRP measured across the sphere with respect to the conducted power.

3 Test Lab Environment Conditions

Temperature	20°C to 30°C
Humidity	30% to 70%

4 Test Equipment List

Type of Equipment	Model Number	Serial Number	Calibration Due Date
Antenna Chamber	R&S WPTC-XS & TS8991		N/A
Call Box	R&S CMW500	126857	Jan, 2023

5 Device Configuration

5.1 Bands and Protocols Supported by Each Antenna

Antenna Label	Bands and Protocols for Which the Antenna Is Connected to RF front end
WGP02926-101	LTE Main – Bands 2,4,5,12,13,14,25,26,66
WGP02926-103	LTE Diversity – Bands 2,4,5,12,13,14,25,26,66
WGP02926-104	GNSS Antenna
WGP02926-105	BT, 2.4GHz WiFi

6 Evaluation Summary

6.1 Conducted Power, TRP, EIRP

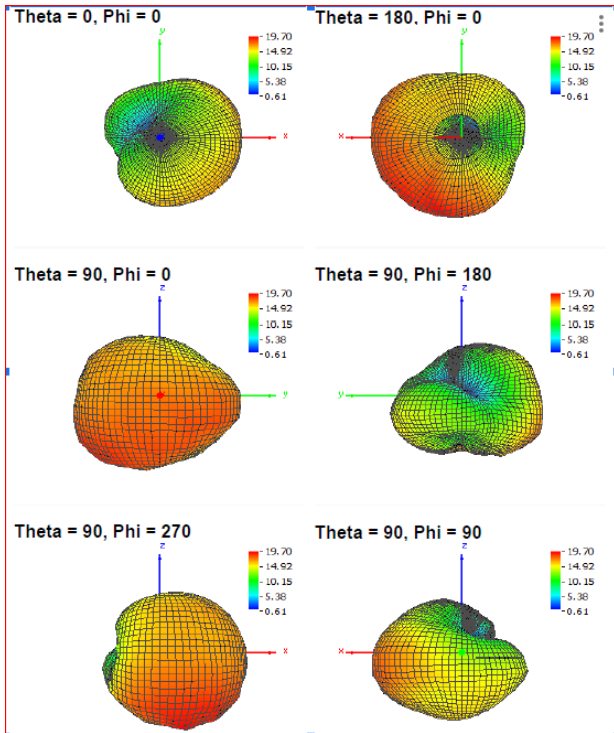
Protocol	Frequency (MHz)	BW (MHz)	Rate (Mbps)	Conducted Power	TRP	EIRP	Peak Gain = EIRP – Conducted Power
LTE B12	722.5	5MHz	N/A	23dBm	15.5dBm	18.91dBm	-4.09dBi
LTE B13/B14	772.5	10MHz/5MHz	N/A	23dBm	17.1dBm	20.25dBm	-2.75dBi
LTE B5/B26	854	10MHz	N/A	23dBm	15.5dBm	18.64dBm	-4.63dBi
LTE B2/B25	1922.5	10MHz	N/A	23dBm	16.5dBm	23.1dBm	0.1dBi
LTE B4/B66	1745	10MHz	N/A	23dBm	17.3dBm	22.66dBm	-0.34dBi
LTE Diversity				N/A	N/A	N/A	
GNSS				N/A	N/A	N/A	
802.11g	2412	20	1	17dBm	14.87dBm	19.7dBm	2.7dBi
	2437	20	1	17dBm	14.76dBm	19.52dBm	2.52dBi
	2462	20	1	17dBm	14.77dBm	19.46dBm	2.46dBi

Measurement uncertainty for transmit parameters and antenna gain is as listed below, corresponding to 95% confidence level.

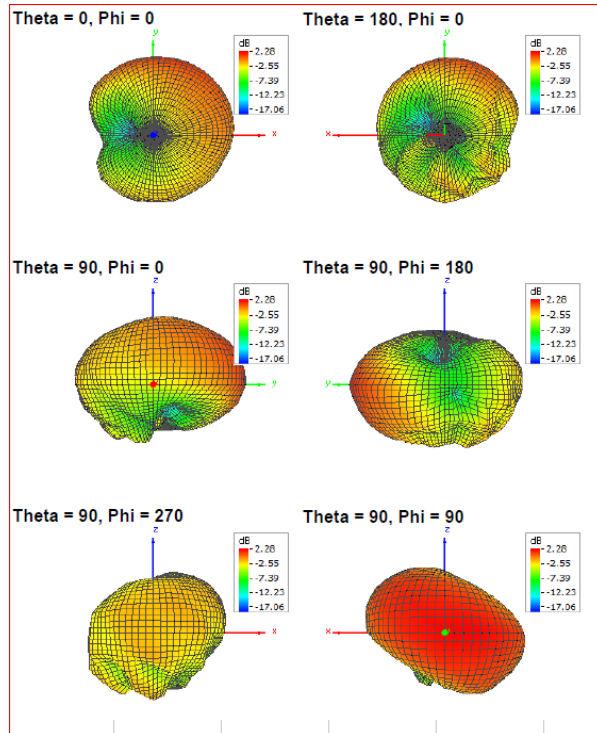
	Measurement Uncertainty (dB)
Test Configuration	LTE/WLAN 700-2800 MHz
Free Space	+/-1dB for TRP and +/-1.5dB for TIS

6.2 Antenna patterns

2.4GHz WIFI

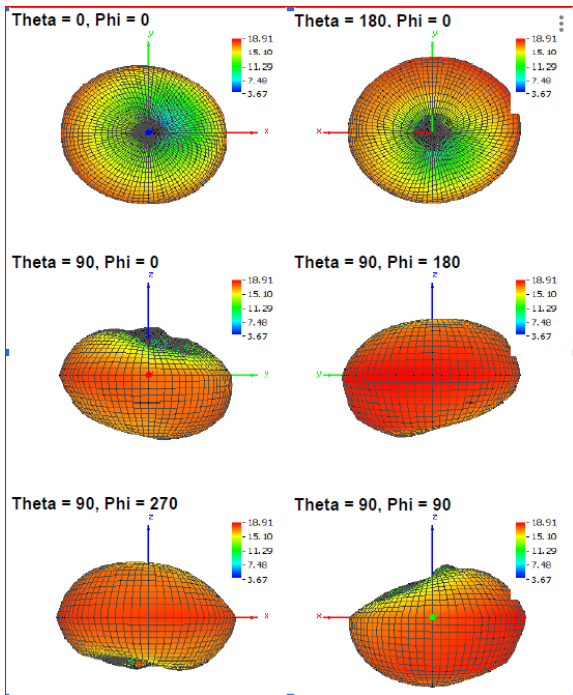


GNSS

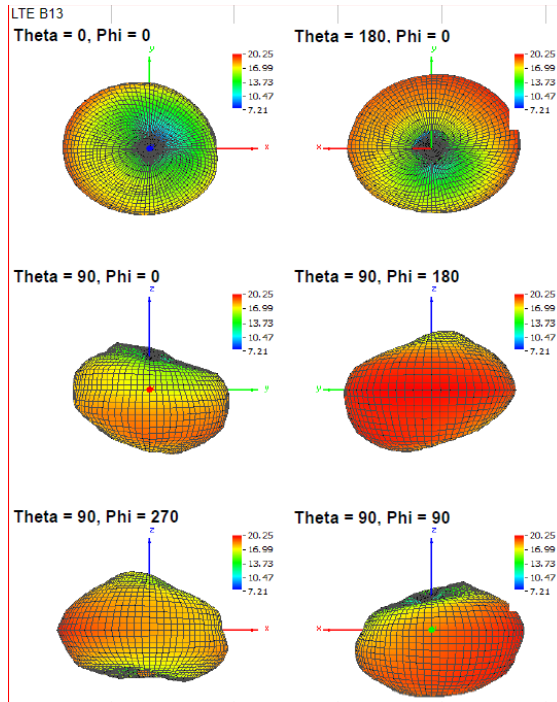


LTE main

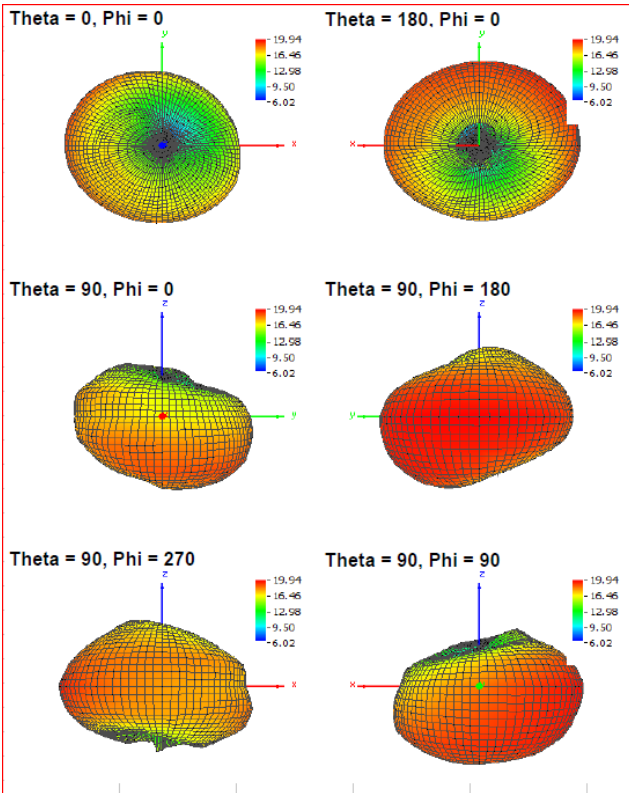
LTE B12



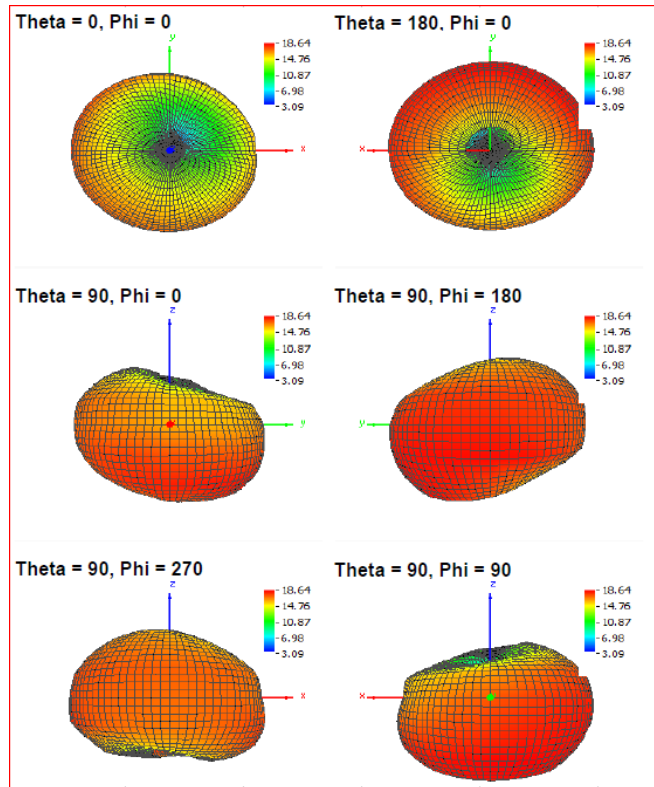
LTE B13



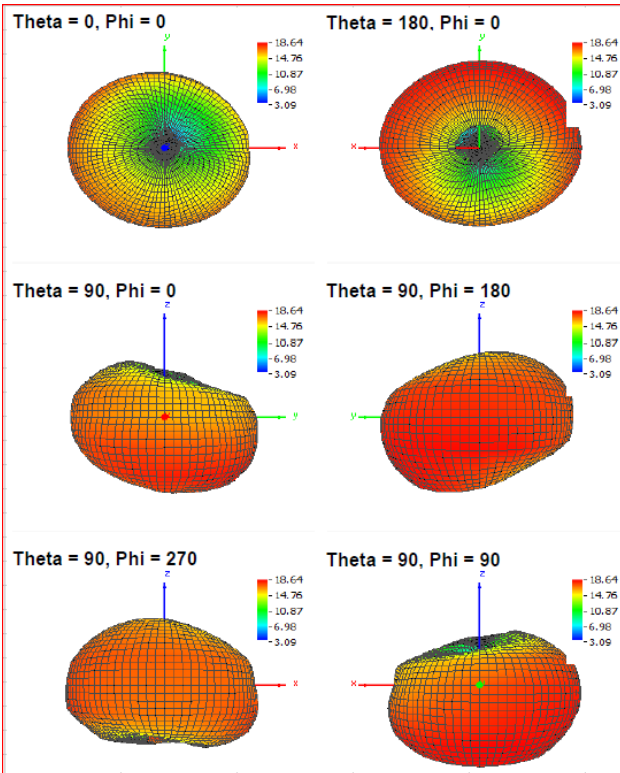
LTE B14



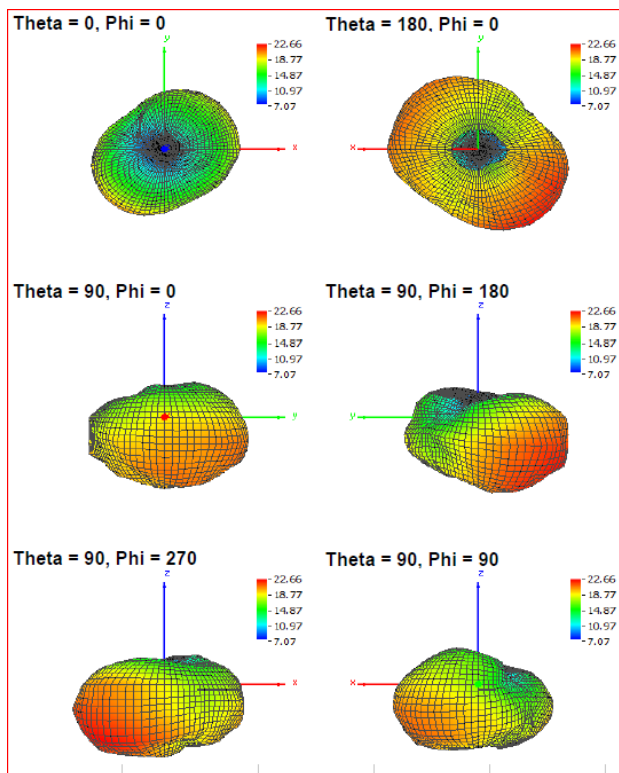
LTE B5/B26



LTE B2/B25



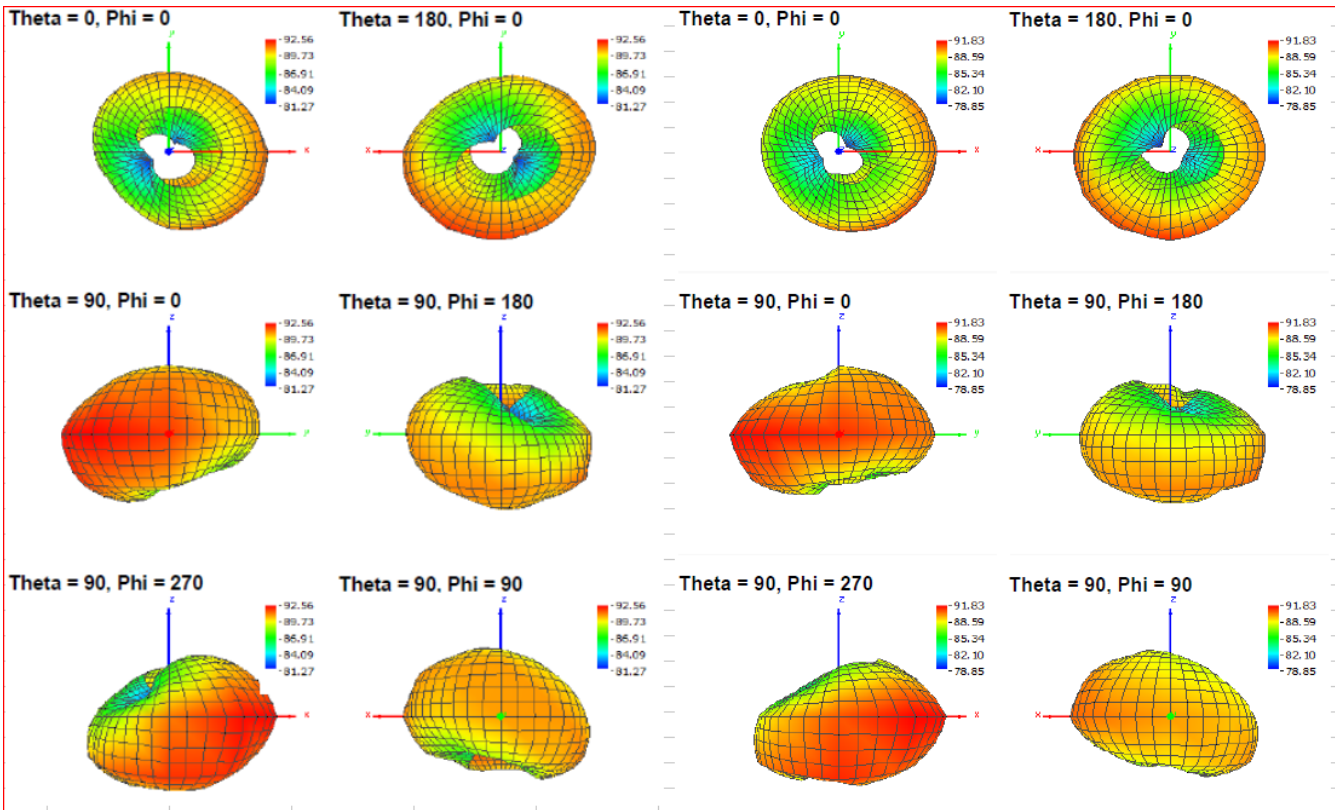
LTE B4/B66



LTE Diversity

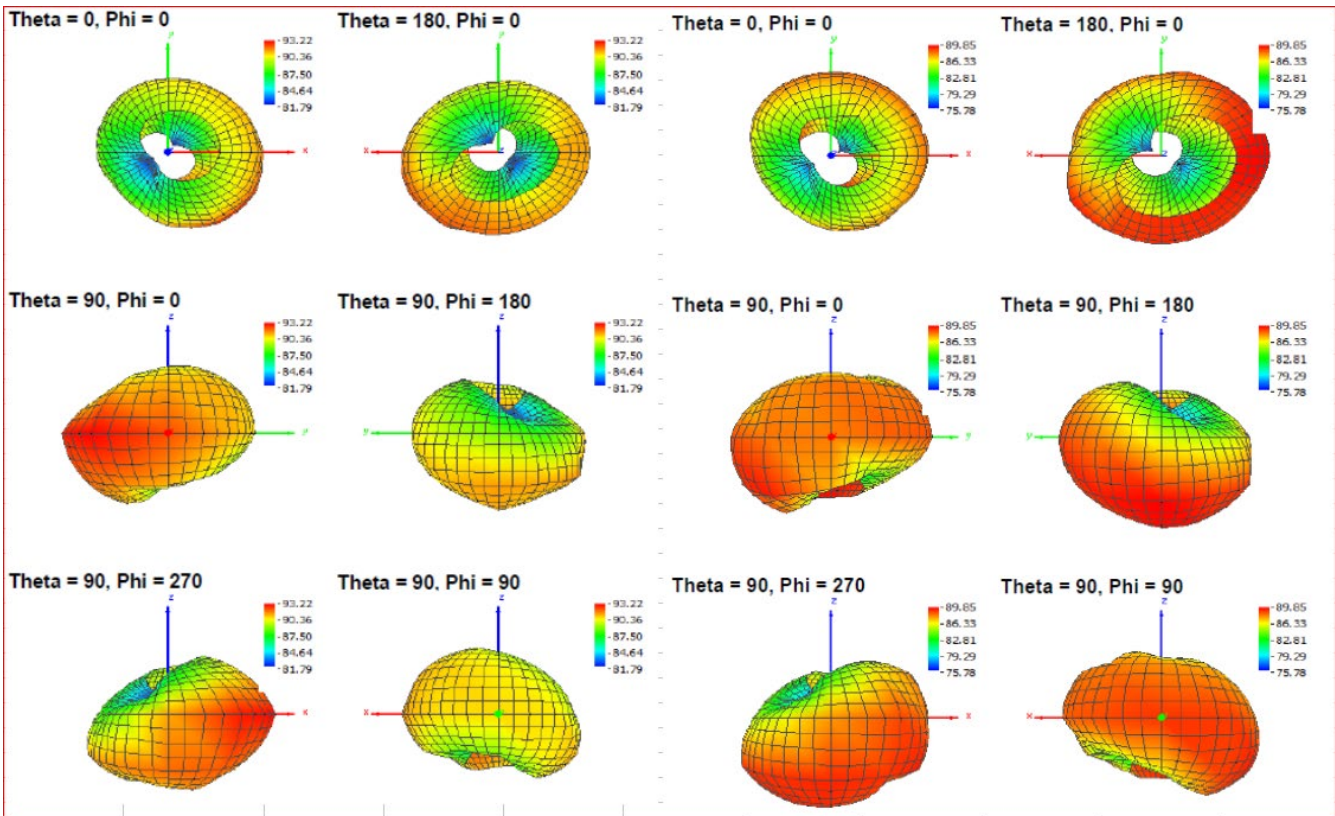
LTE B12

LTE B13



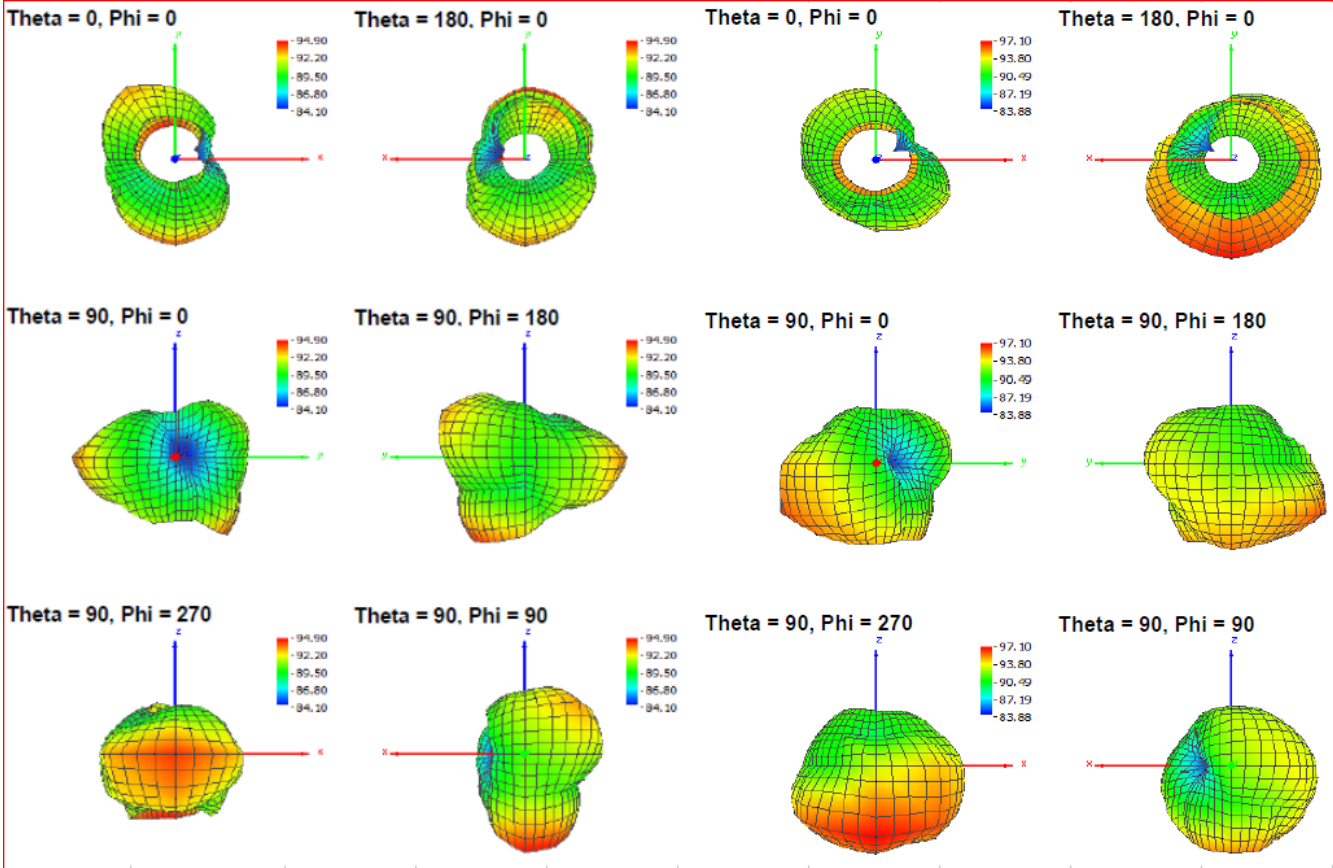
LTE B14

LTE B5/B26



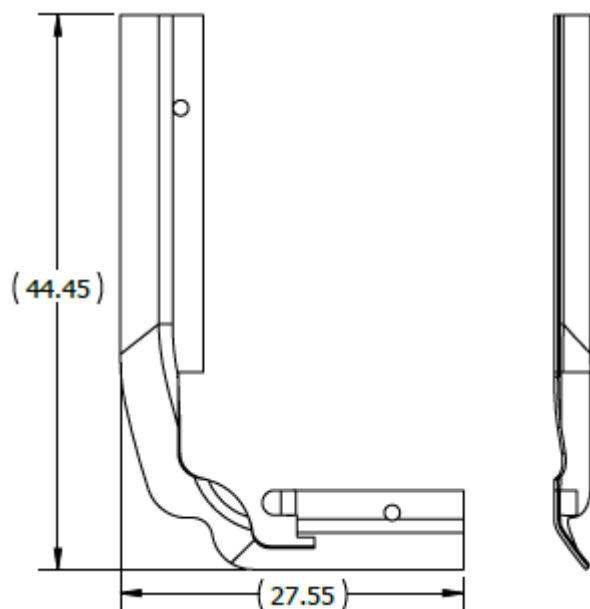
LTE B2/B25

LTE B4/B66

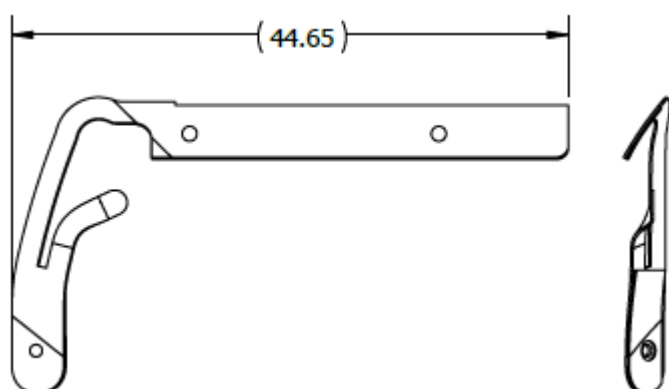


7 Antenna Photographs / drawings

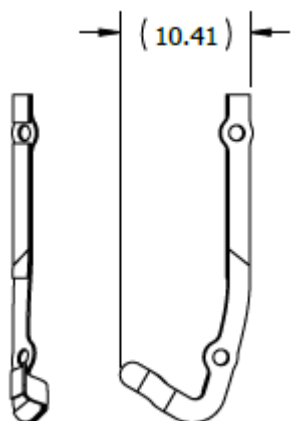
Part Number: WGP02926-101



Part Number: WGP02926-103



Part Number: WGP02926-104



Part Number: WGP02926-105

