
Model Name:

AI2501

Antenna Type	Antenna Supplier1	Antenna Supplier2
PIFA	INPAQ	ASAP

Antenna model name :AI2501

Ant #	RF	Brand	Model	Type
Ant0	WWAN TX/RX	AI2501_INPAQ/AI2501_ASAP	AI2501	PIFA
Ant1	WWAN TX/RX	AI2501_INPAQ/AI2501_ASAP	AI2501	PIFA
Ant2	WWAN TX/RX	AI2501_INPAQ/AI2501_ASAP	AI2501	PIFA
Ant3	GPS(L1+L5 RX) +WWAN RX	AI2501_INPAQ/AI2501_ASAP	AI2501	PIFA
Ant4	WLAN/BT TX	AI2501_INPAQ/AI2501_ASAP	AI2501	PIFA
Ant5	WLAN/BT TX	AI2501_INPAQ/AI2501_ASAP	AI2501	PIFA
Ant6	WWAN TX/RX	AI2501_INPAQ/AI2501_ASAP	AI2501	PIFA
Ant7	WWAN TX/RX	AI2501_INPAQ/AI2501_ASAP	AI2501	PIFA
Ant8	WWAN TX/RX	AI2501_INPAQ/AI2501_ASAP	AI2501	PIFA
Ant9	WWAN TX/RX	AI2501_INPAQ/AI2501_ASAP	AI2501	PIFA
WPC_NFC Ant(1st.)	WPC_NFC RX	WPC-L-P-RX-CF-005	INPAQ	Loop antenna
WPC_NFC Ant(2nd.)	WPC_NFC RX	LA9RF595-CS-H	ASAP	Loop antenna

Antenna manufacture (Supplier)

佳邦

江蘇省蘇州市相城區潘陽工業園春秋路5號

INPAQ TECHNOLOGY (SUZHOU) CO., LTD.

ADD: No.5, Chunqiu Road, Panyang Industrial Park, Huangdai Town, Xiangcheng Zone, Suzhou City, 215143 Jiangsu Province, China

立訊

广东省深圳市宝安区沙井街道蚝一西部三洋新工业区A栋2

Luxshare Precision Industry CO., LTD.

Block A2,sanyo New Industrial Zone West Haoyi Shajing Street
Baoan Shenzhen, China

WPC_NFC Antenna manufacture (Supplier)

佳邦

江蘇省蘇州市相城區潘陽工業園春秋路5號

INPAQ TECHNOLOGY (SUZHOU) CO., LTD.

ADD: No.5, Chunqiu Road, Panyang Industrial Park, Huangdai Town, Xiangcheng Zone, Suzhou City, 215143 Jiangsu Province, China

立訊

广东省深圳市宝安区沙井街道蚝一西部三洋新工业区A栋2

Luxshare Precision Industry CO., LTD.

Block A2,sanyo New Industrial Zone West Haoyi Shajing Street Baoan Shenzhen, China

Test LAB information

Company Name	ASUSTeK COMPUTER INC.
Company Addr	1F., No. 15, Lide Rd., Beitou Dist., Taipei City 112, Taiwan



Test environment

1. Antenna Type: PIFA Type
2. Test environment:

FIG1 : ETS MODEL 2090
MULTI-DEVICE
CONTROLLER



FIG1

FIG2 : KESIGHT E5063A
ENA Series Network
Analyzer
100KHz~8.5GHz



FIG2

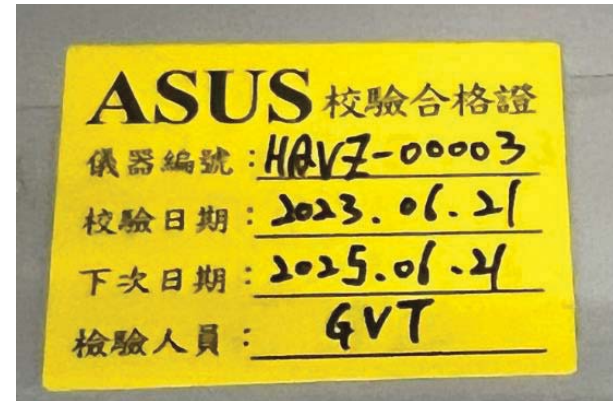
KESIGHT E5063A device of Calibration date

ASUS inspection certificate

Device Number : HQVZ-00003

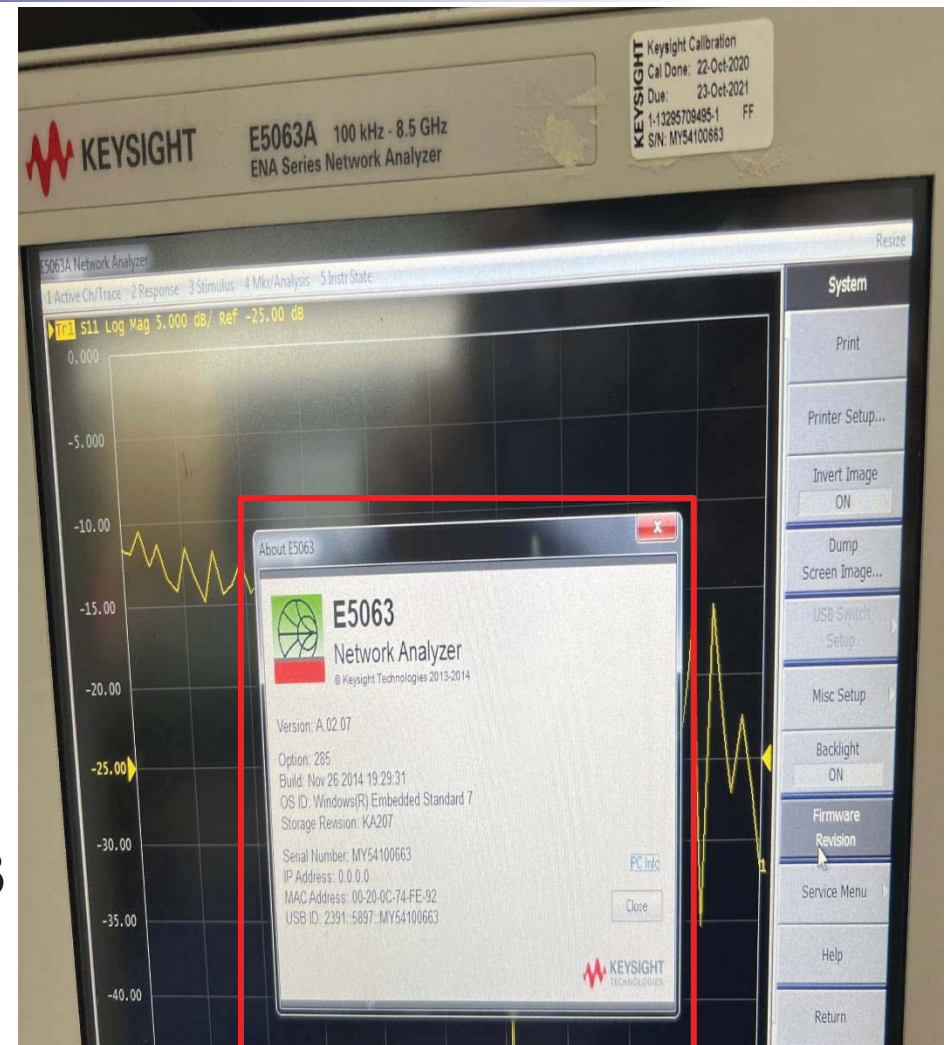
Calibration date : 2023.6.21

Next Calibration date : 2025.6.21



KESIGHT E5063A SW Version

- KESIGHT SW version: A.02.07
Option:285
Build: Nov 26 2014 19:29:31
OS ID : Windows(R) Embedded
Standard 7
Storage Revision: KA207
Serial Number : MY54100663
IP Address: 0.0.0.0
MAC Address: 00-20-0C-74-FE-92
USB ID: 2391::5897::MY54100663



Test environment

1. Antenna Type: PIFA Type
2. Test environment:

FIG3 : ETS
AMS-8500
Chamber

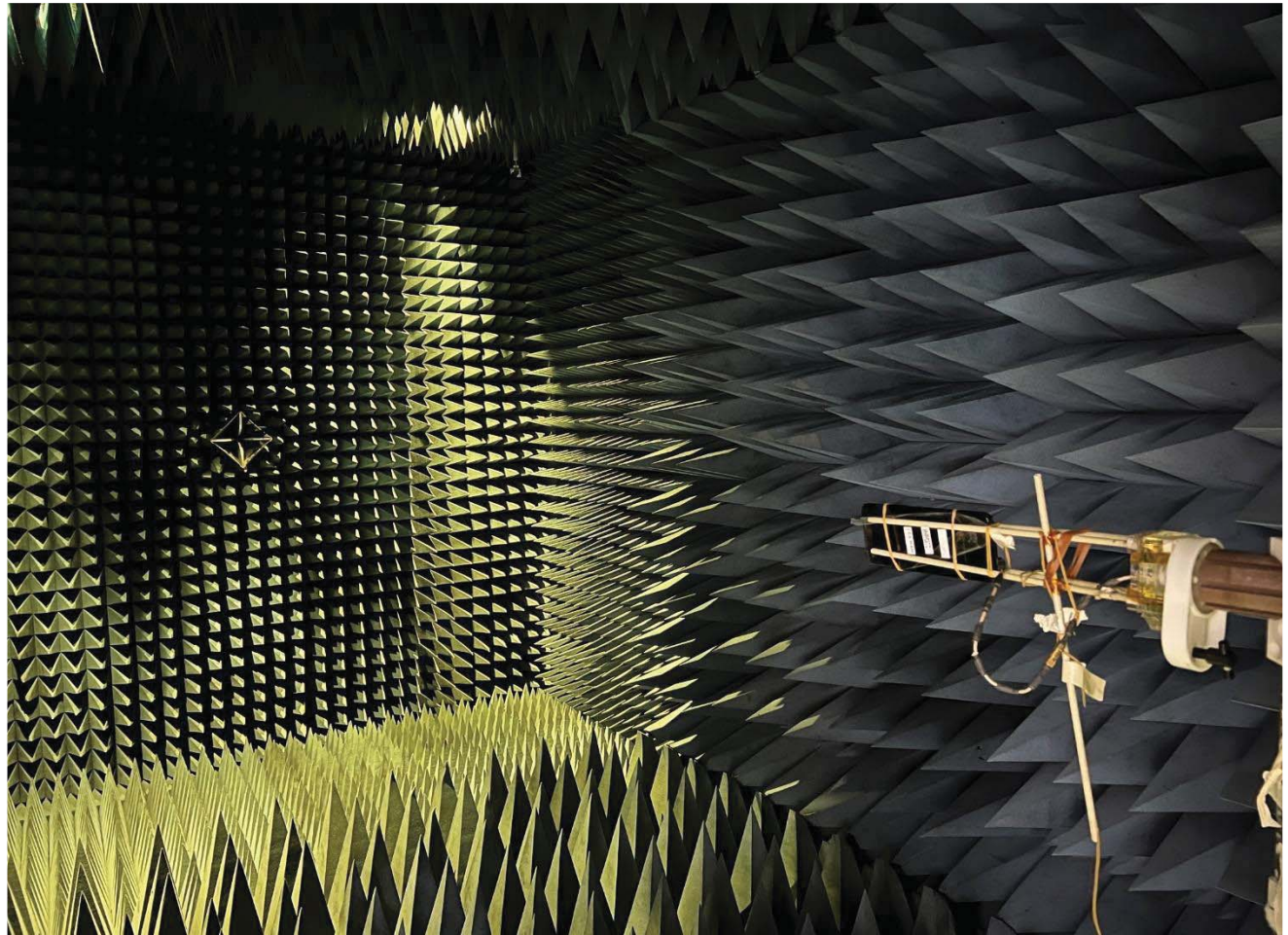


FIG3

ANT0 , ANT1 and ANT2

GSM

Mobile				
GSM Band(s)	GSM 850	ANT0	Antenna Gain (dBi)	-2.4
	P-GSM 900		Antenna Gain (dBi)	-2
	E-GSM 900		Antenna Gain (dBi)	-2
	DCS 1800	ANT1	Antenna Gain (dBi)	-1.5
	PCS 1900		Antenna Gain (dBi)	-0.2

UMTS

Mobile				
UMTS Band(s)	FDD 1	ANT1	Antenna Gain (dBi)	-0.2
	FDD 2		Antenna Gain (dBi)	-0.2
	FDD 4		Antenna Gain (dBi)	-1.5
	FDD 5	ANT0	Antenna Gain (dBi)	-2.4
	FDD 6		Antenna Gain (dBi)	-2.4
	FDD 8		Antenna Gain (dBi)	-2
	FDD 19		Antenna Gain (dBi)	-2.4
Mobile				
UMTS Band(s)	FDD 1	ANT2	Antenna Gain (dBi)	-1.5
	FDD 2		Antenna Gain (dBi)	-1.9
	FDD 4		Antenna Gain (dBi)	-1.9
	FDD 5		Antenna Gain (dBi)	-3.3
	FDD 6		Antenna Gain (dBi)	-3.3
	FDD 8		Antenna Gain (dBi)	-4.1
	FDD 19		Antenna Gain (dBi)	-3.3

WWAN UE –ANT0

ANT0	Antenna0 Gain (dBi)
FDD 1: EU, JP, Korea	
FDD 2: US	
FDD 3: EU, TW, JP	
FDD 4: US	
FDD 5: US	-2.4
FDD 6: JP	
FDD 7: EU	
FDD 8: EU, JP	-2
FDD 9: JP	
FDD 10:	
FDD 11: JP	
FDD 12: US	-1.6
FDD 13: US	
FDD 14: US	
FDD 17: US	-1.6
FDD 18: JP	-2.4
FDD 19: JP	-2.4
FDD 20: EU	-2.4
FDD 21: JP	
FDD 22:	
FDD 23:	
FDD 24:	
FDD 25: US	
FDD 26: US	-2.4
FDD 27:	
FDD 28: TW, JP	-1.6
FDD 29:	-1.6
FDD 30:	
FDD 32:	
FDD 66:	
FDD 71: US	-3.4
TDD 33:	
TDD 34:	
TDD 35:	
TDD 36:	
TDD 37:	
TDD 38: US, EU, China	
TDD 39:	
TDD 40: US, EU, China	
TDD 41: US, JP	
TDD 42: EU	
TDD 43: US, EU	
TDD 44:	
TDD 46:	
TDD 48: US	

Frequency Bands

WWAN UE –ANT1

ANT1	Antenna1 Gain (dBi)
FDD 1: EU, JP, Korea	-0.2
FDD 2: US	-0.2
FDD 3: EU, TW, JP	-1.5
FDD 4: US	-1.5
FDD 5: US	
FDD 6: JP	
FDD 7: EU	-2.5
FDD 8: EU, JP	
FDD 9: JP	
FDD 10:	
FDD 11: JP	
FDD 12: US	
FDD 13: US	
FDD 14: US	
FDD 17: US	
FDD 18: JP	
FDD 19: JP	
FDD 20: EU	
FDD 21: JP	
FDD 22:	
FDD 23:	
FDD 24:	
FDD 25: US	-0.2
FDD 26: US	
FDD 27:	
FDD 28: TW, JP	
FDD 29:	
FDD 30:	-1.5
FDD 32:	-5.1
FDD 66:	-0.2
FDD 71: US	
TDD 33:	
TDD 34:	-1.5
TDD 35:	
TDD 36:	
TDD 38: US, EU, China	-2.5
TDD 39:	-0.2
TDD 40: US, EU, China	-1.5
TDD 41: US, JP	-2.5
TDD 42: EU	
TDD 43: US, EU	
TDD 44:	
TDD 46:	
TDD 48: US	

Frequency Bands

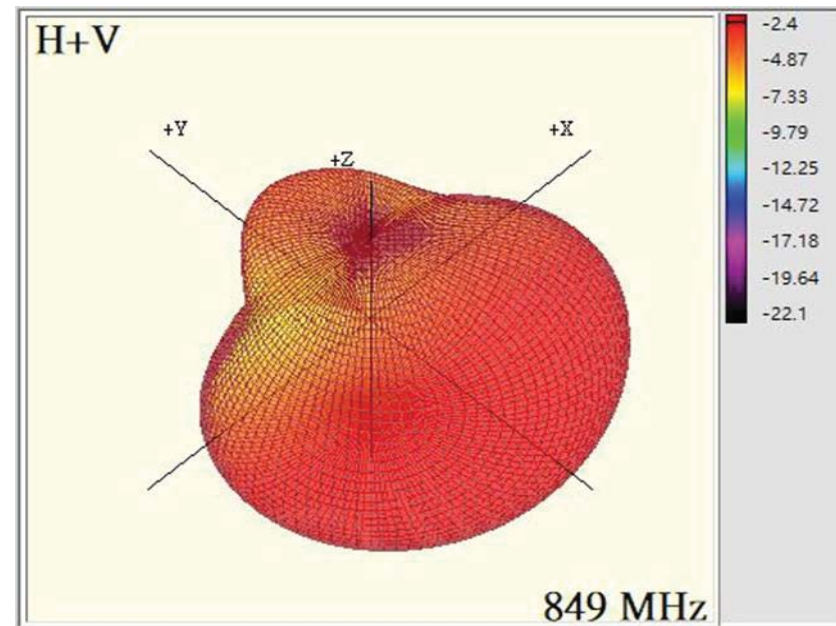
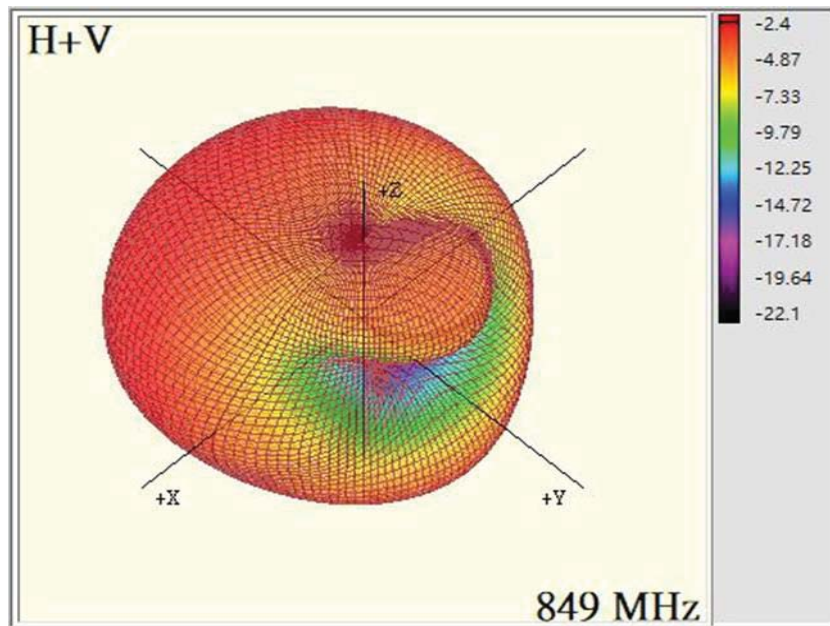
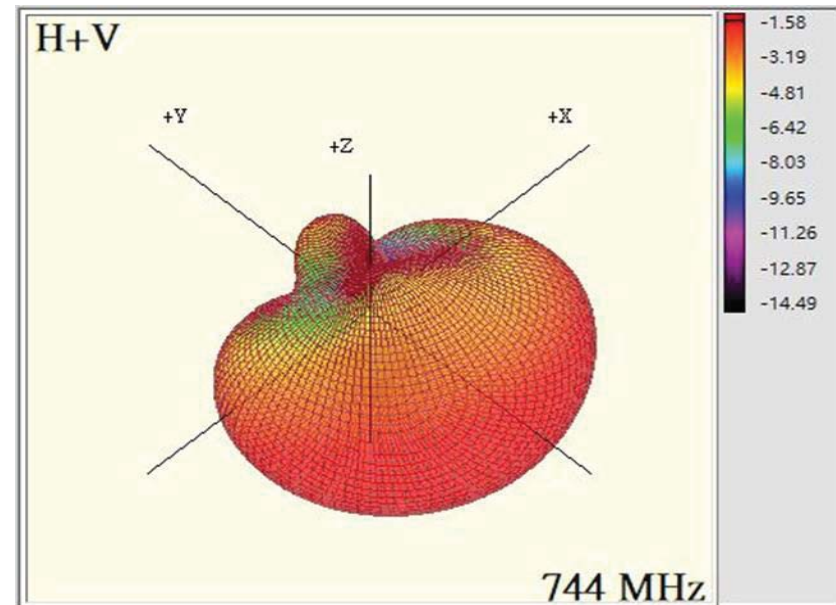
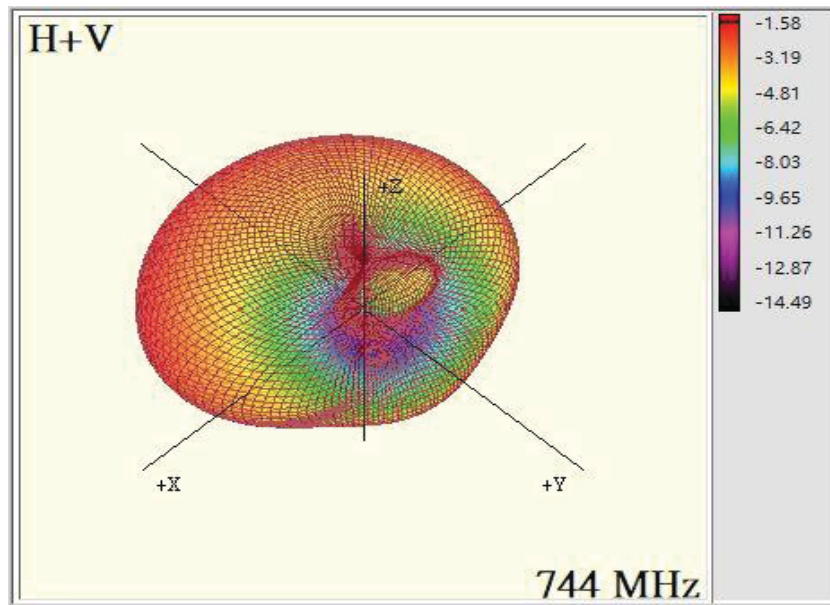
5G NR UE –ANT0

	ANT0	Antenna Gain0 (dBi)
Frequency Bands	n1: EU, JP, Korea	
	n2: US	
	n3: EU	
	n5: US	-2.4
	n7: EU	
	n8: EU	-2
	n12: US	-1.6
	n13: US	
	n18	-2.4
	n20: EU	-2.4
	n25: US	
	n26:	-2.4
	n28:	-1.6
	n66: US	
	n70: US	
	n71: US	-3.4
	n34:	
	n38: US, EU, China	
	n39: China	
	n40: US, EU, China	
	n41: US	
	n51: EU	
	n75	
	n76	
	n77	
	n78	
	n79	
	n80	
	n81	
	n82	
	n83	
	n84	
	n86	

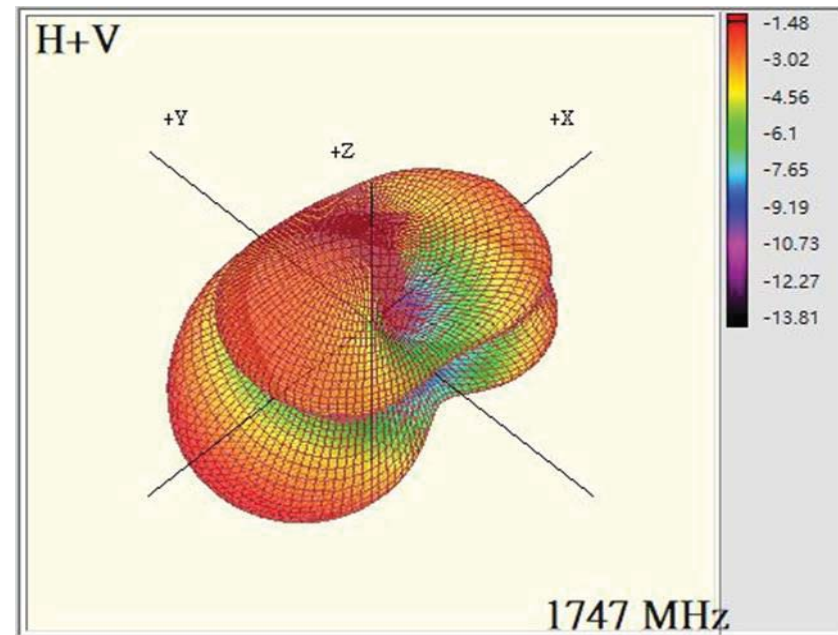
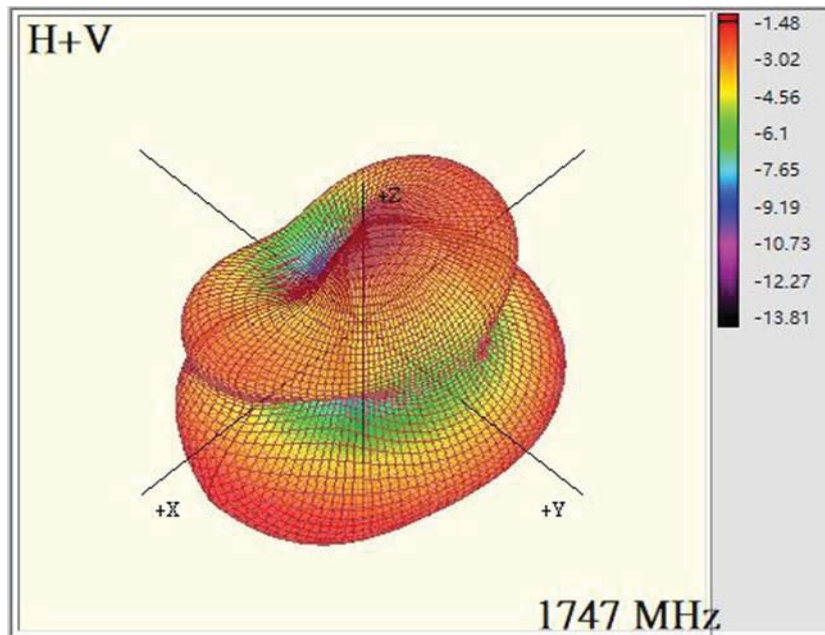
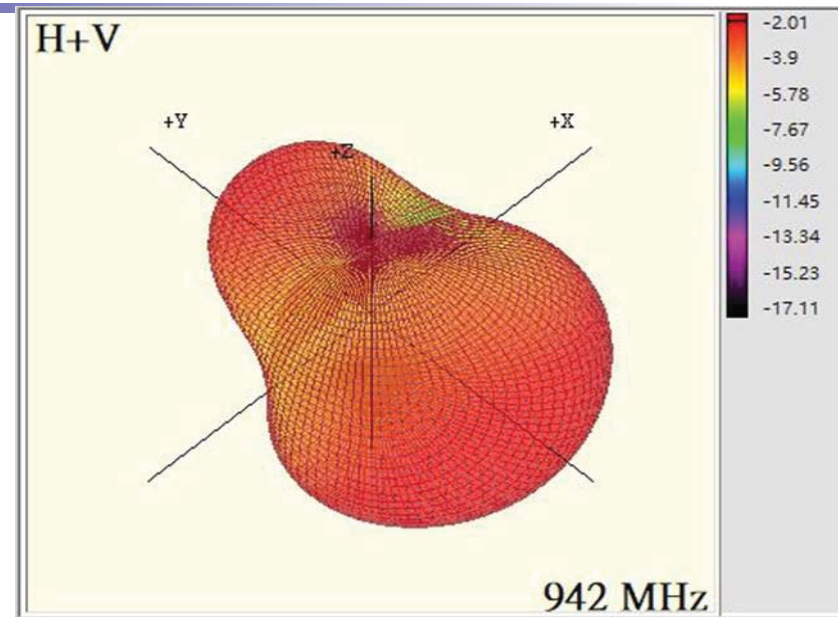
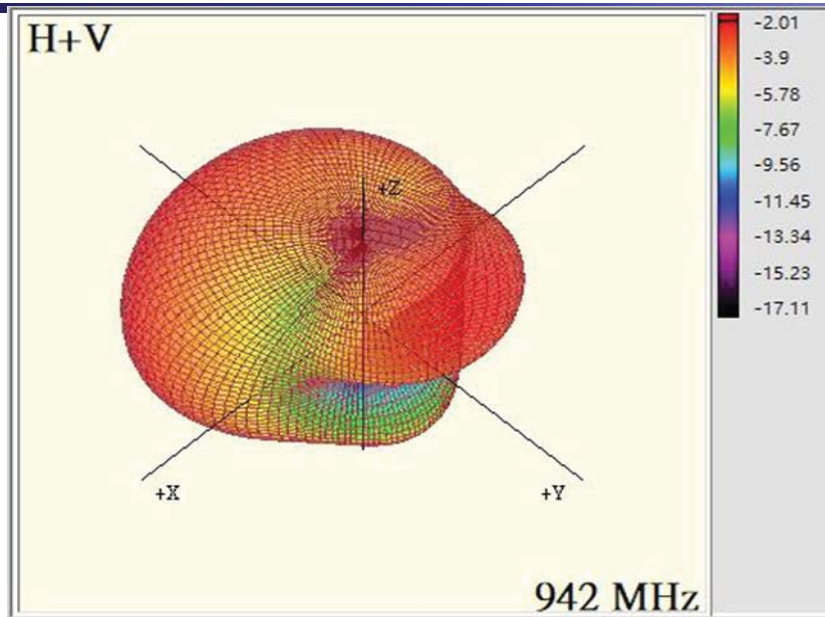
5G NR UE –ANT1

	ANT1	Antenna Gain1 (dBi)
Frequency Bands	n1: EU, JP, Korea	-0.2
	n2: US	-0.2
	n3: EU	-1.5
	n5: US	
	n7: EU	-2.5
	n8: EU	
	n12: US	
	n13: US	
	n18	
	n20: EU	
	n25: US	-0.2
	n26:	
	n28:	
	n66: US	-1.5
	n70: US	
	n71: US	
	n34:	-1.5
	n38: US, EU, China	-2.5
	n39: China	-0.2
	n40: US, EU, China	-1.5
	n41: US	-2.5
	n66:	
	n75	
	n76	
	n77	
	n78	
	n79	
	n80	
	n81	
	n82	
	n83	
	n84	
	n86	

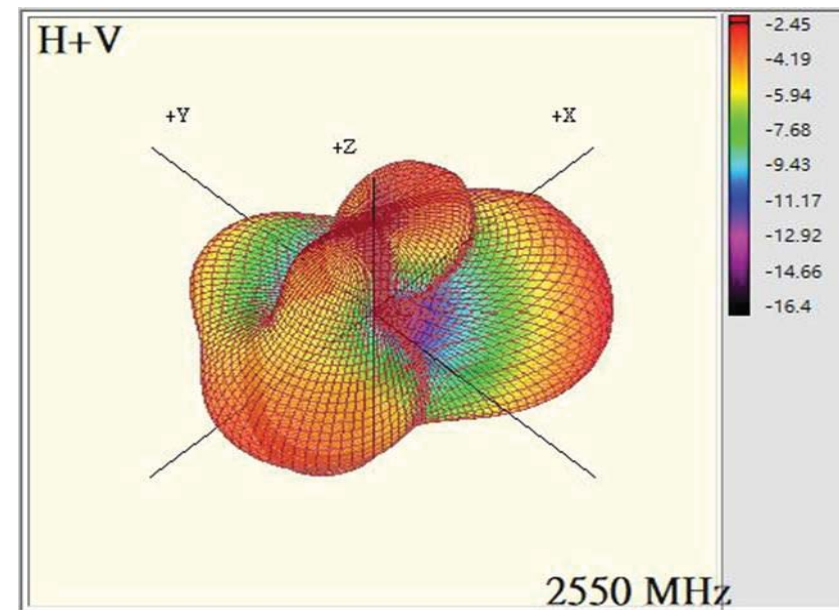
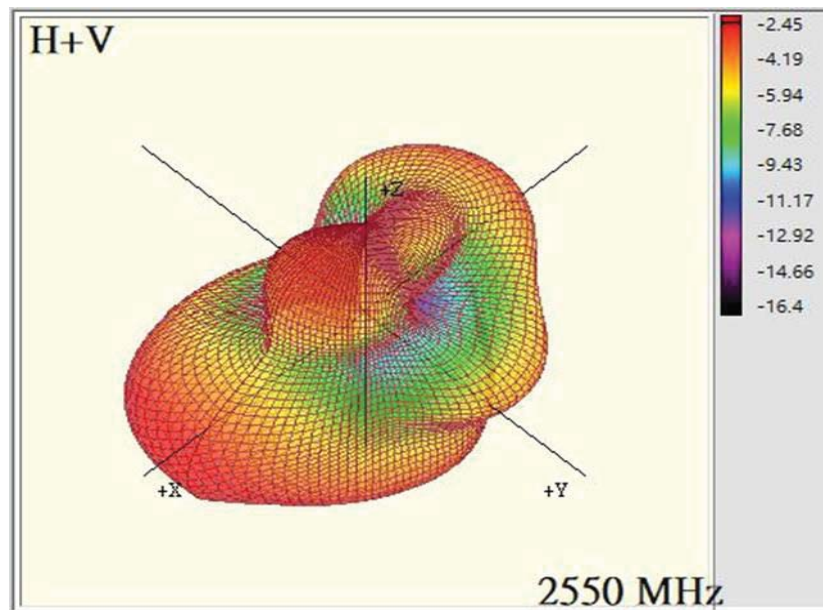
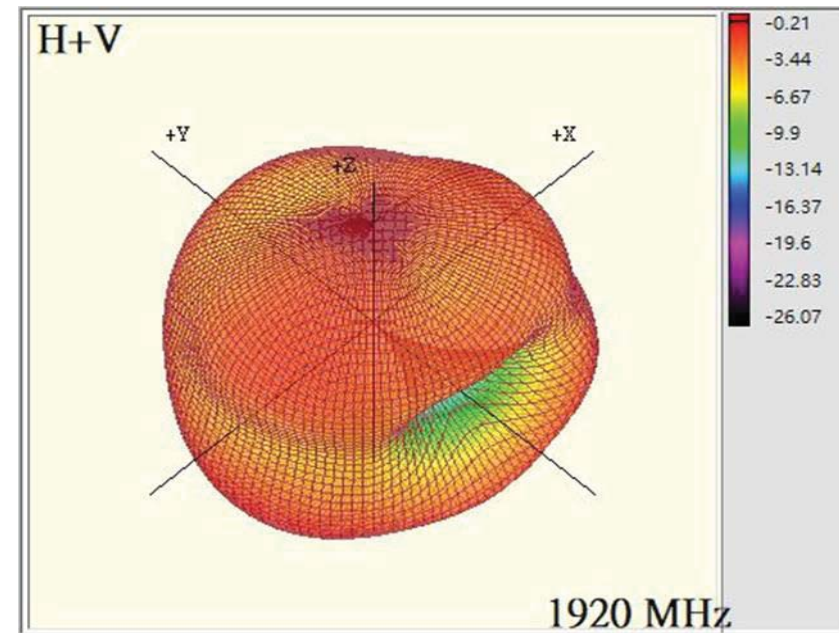
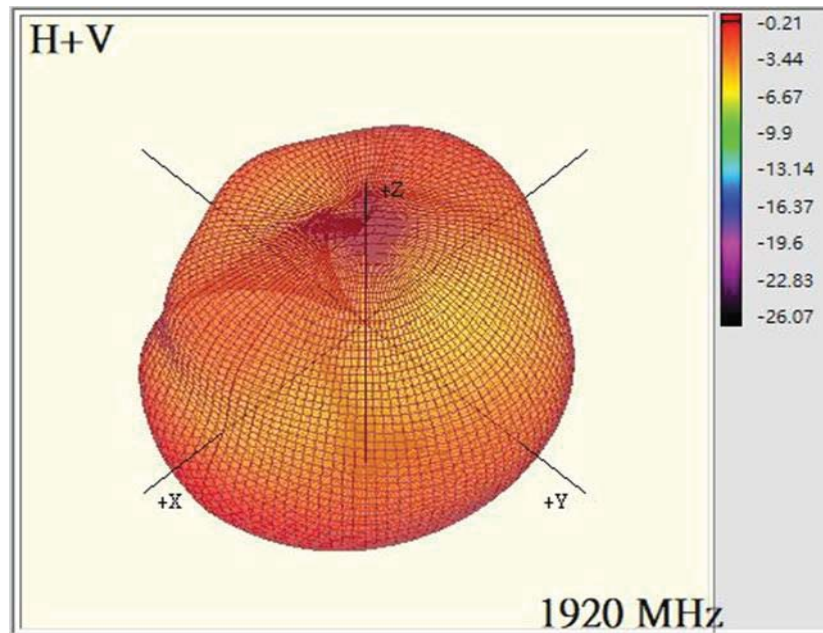
ANT0 Pattern



ANT0 Pattern



ANT1 Pattern



WWAN UE –ANT2

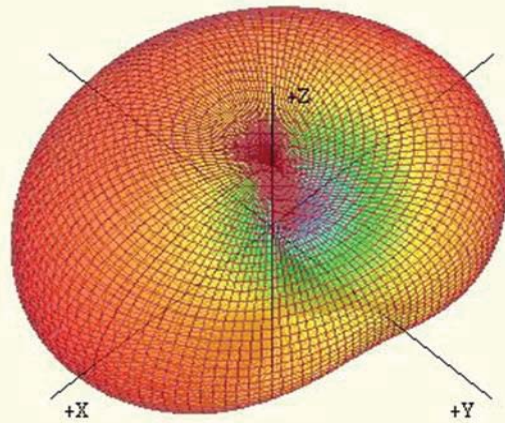
	ANT2	Antenna2 Gain (dBi)
Frequency Bands	FDD 1: EU, JP, Korea	-1.5
	FDD 2: US	-1.9
	FDD 3: EU, TW, JP	-1.9
	FDD 4: US	-1.9
	FDD 5: US	-3.3
	FDD 6: JP	
	FDD 7: EU	-1.1
	FDD 8: EU, JP	-4.1
	FDD 9: JP	
	FDD 10:	
	FDD 11: JP	
	FDD 12: US	-4.8
	FDD 13: US	
	FDD 14: US	
	FDD 17: US	-4.8
	FDD 18: JP	-3.3
	FDD 19: JP	-3.3
	FDD 20: EU	-5.1
	FDD 21: JP	
	FDD 22:	
	FDD 23:	
	FDD 24:	
	FDD 25: US	-1.9
	FDD 26: US	-3.3
	FDD 27:	
	FDD 28: TW, JP	-4.8
	FDD 29:	-4.8
	FDD 30:	-0.7
	FDD 32:	-3.8
	FDD 66:	-1.9
	FDD 71: US	-9.9
	TDD 33:	
	TDD 34:	-1.5
	TDD 35:	
	TDD 36:	
	TDD 37:	
	TDD 38: US, EU, China	-1.1
	TDD 39:	-1.9
	TDD 40: US, EU, China	-0.7
	TDD 41: US, JP	-1.1
	TDD 42: EU	
	TDD 43: US, EU	
	TDD 44:	
	TDD 46:	
	TDD 48: US	

5G NR UE –ANT2

	ANT2	Antenna Gain2 (dBi)
Frequency Bands	n1: EU, JP, Korea	-1.5
	n2: US	-1.9
	n3: EU	-1.9
	n5: US	-3.3
	n7: EU	-1.1
	n8: EU	-4.1
	n12: US	-4.8
	n13: US	
	n18	-3.3
	n20: EU	-5.1
	n25: US	-1.9
	n26:	-3.3
	n28:	-4.8
	n66: US	-1.9
	n70: US	
	n71: US	-9.9
	n34:	-1.5
	n38: US, EU, China	-1.1
	n39: China	-1.9
	n40: US, EU, China	-0.7
	n41: US	-1.1
	n51: EU	
	n75	
	n76	
	n77	
	n78	
	n79	
	n80	
	n81	
	n82	
	n83	
	n84	
	n86	

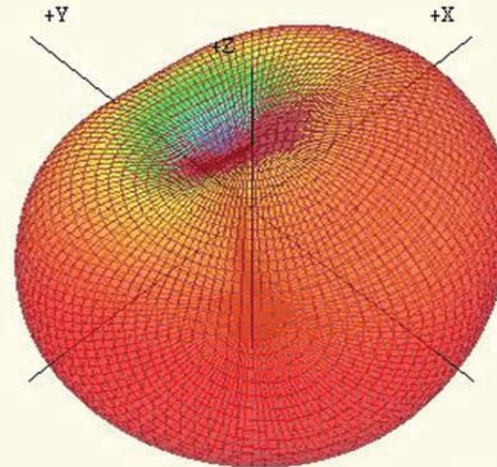
ANT2 Pattern

H+V



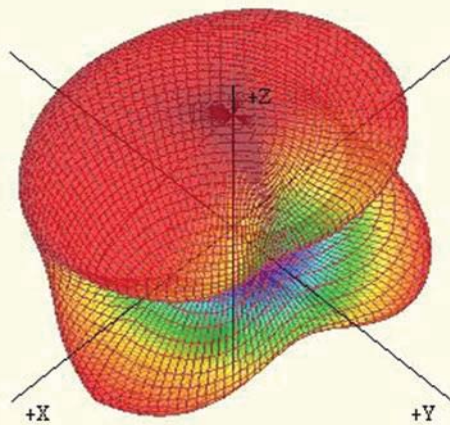
849 MHz

H+V



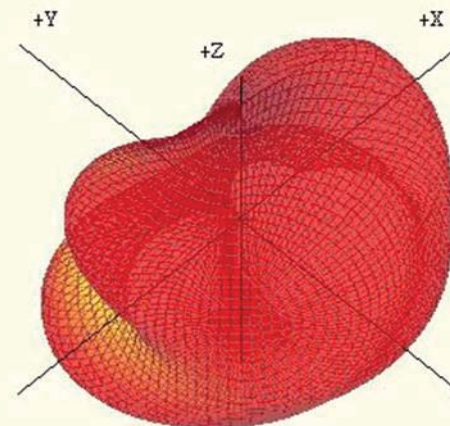
849 MHz

H+V



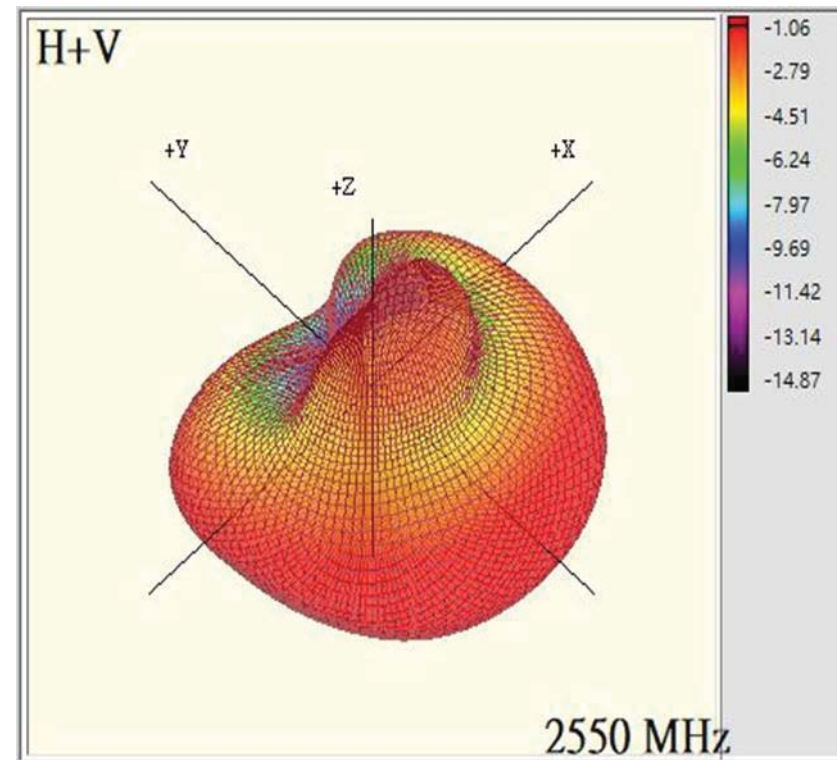
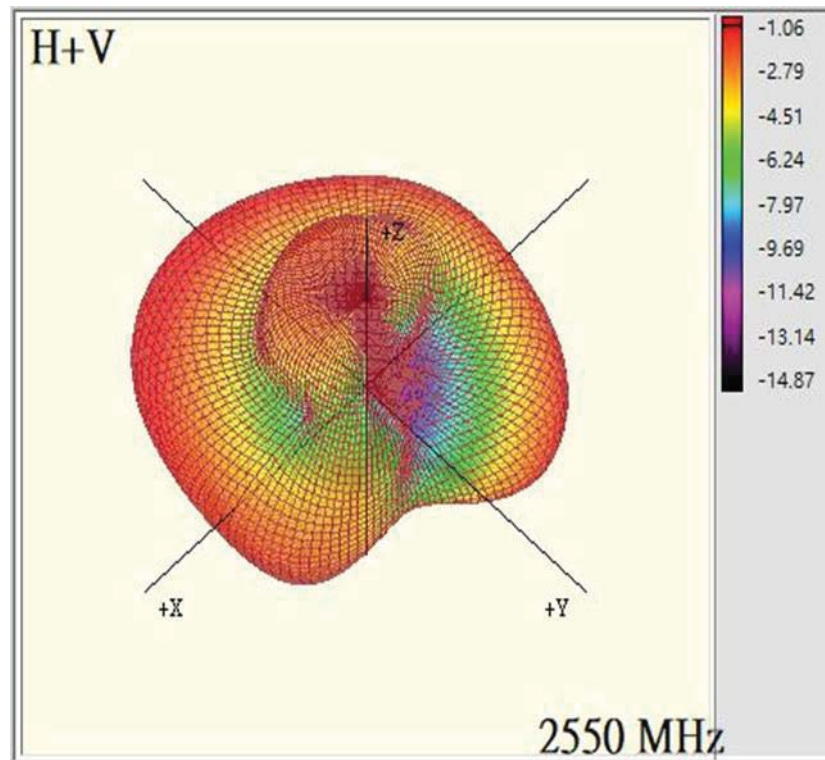
1747 MHz

H+V



1747 MHz

ANT2 Pattern



ANT7

WWAN UE –ANT7

ANT7	Antenna7 Gain (dBi)
FDD 1: EU, JP, Korea	-4.3
FDD 2: US	-5.1
FDD 3: EU, TW, JP	-6.6
FDD 4: US	-6.6
FDD 5: US	
FDD 6: JP	
FDD 7: EU	-5.5
FDD 8: EU, JP	
FDD 9: JP	
FDD 10:	
FDD 11: JP	
FDD 12: US	
FDD 13: US	
FDD 14: US	
FDD 17: US	
FDD 18: JP	
FDD 19: JP	
FDD 20: EU	
FDD 21: JP	
FDD 22:	
FDD 23:	
FDD 24:	
FDD 25: US	-5.1
FDD 26: US	
FDD 27:	
FDD 28: TW, JP	
FDD 29:	
FDD 30:	
FDD 32:	
FDD 66:	-6.6
FDD 71: US	
TDD 33:	
TDD 34:	
TDD 35:	
TDD 36:	
TDD 37:	
TDD 38: US, EU, China	
TDD 39:	
TDD 40: US, EU, China	
TDD 41: US, JP	
TDD 42: EU	-2.15
TDD 43: US, EU	-0.94
TDD 44:	
TDD 46:	
TDD 48: US	-0.94

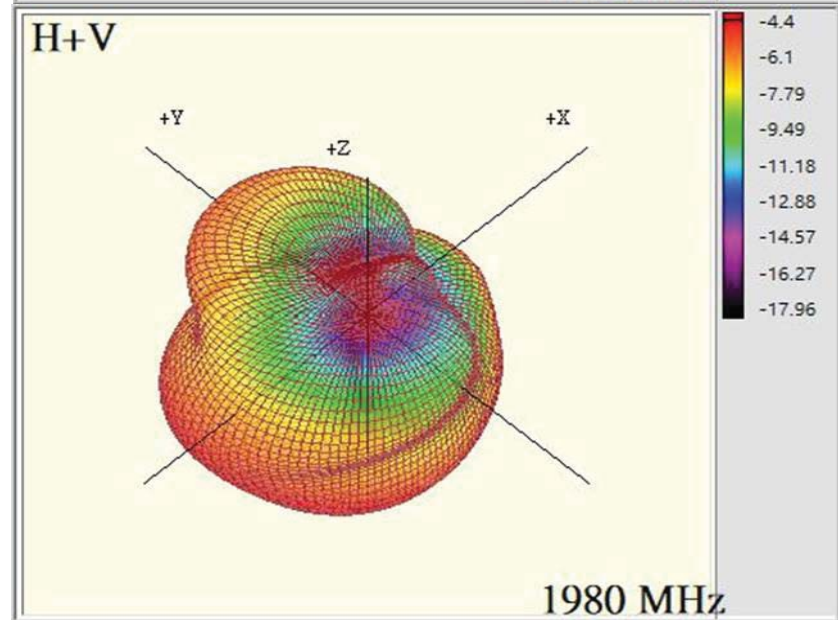
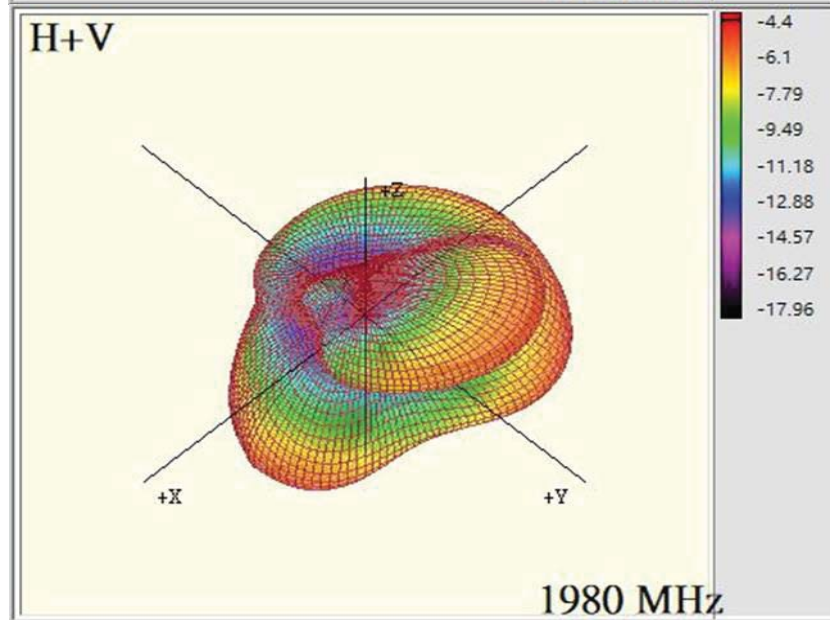
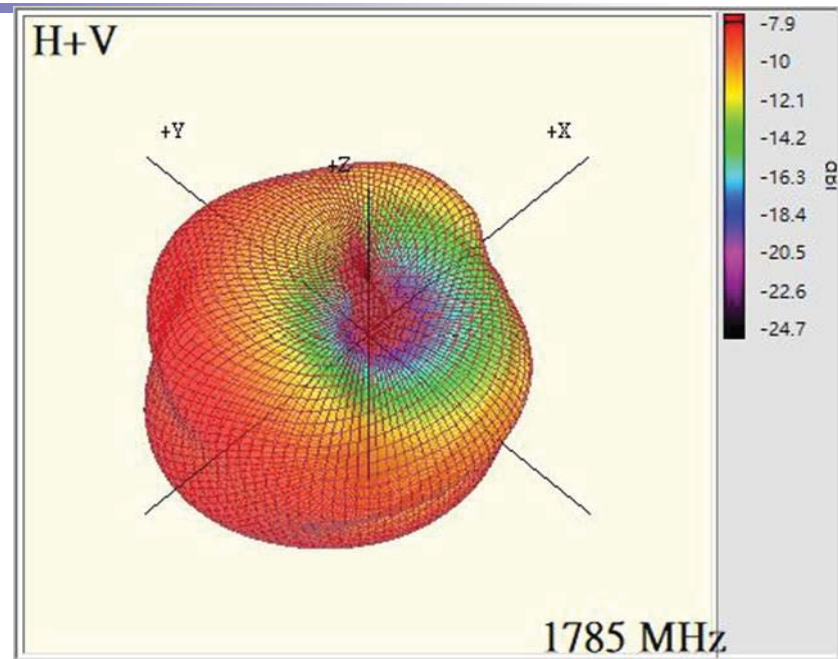
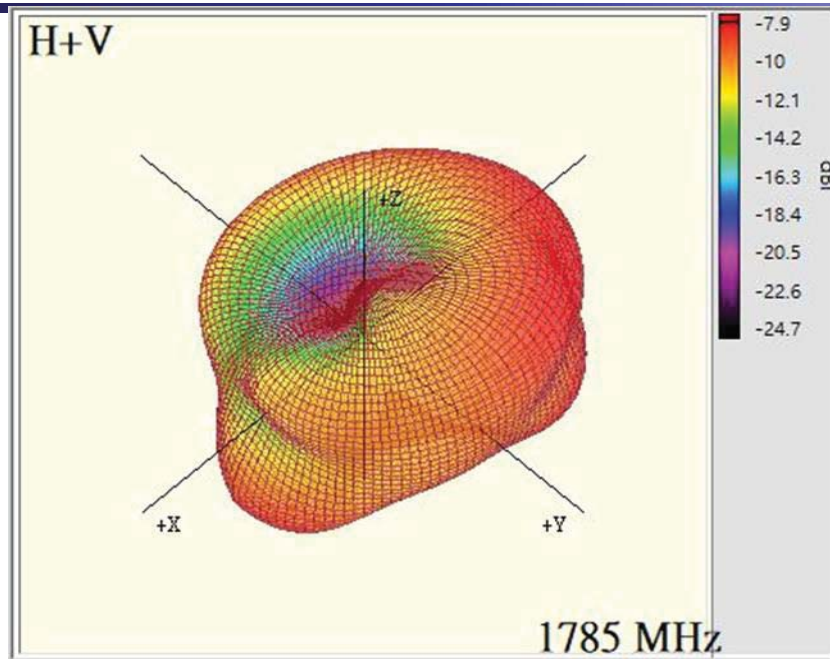
Frequency Bands

5G NR UE –ANT7

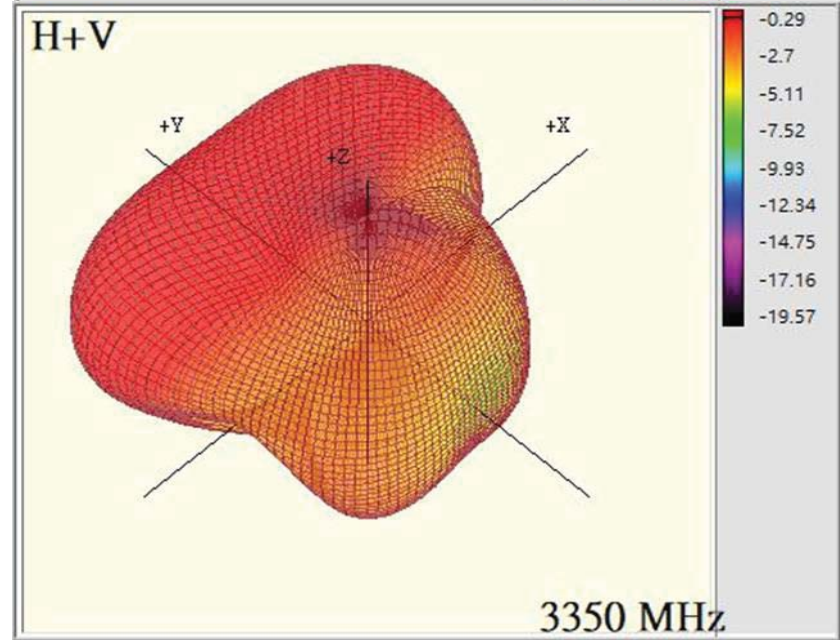
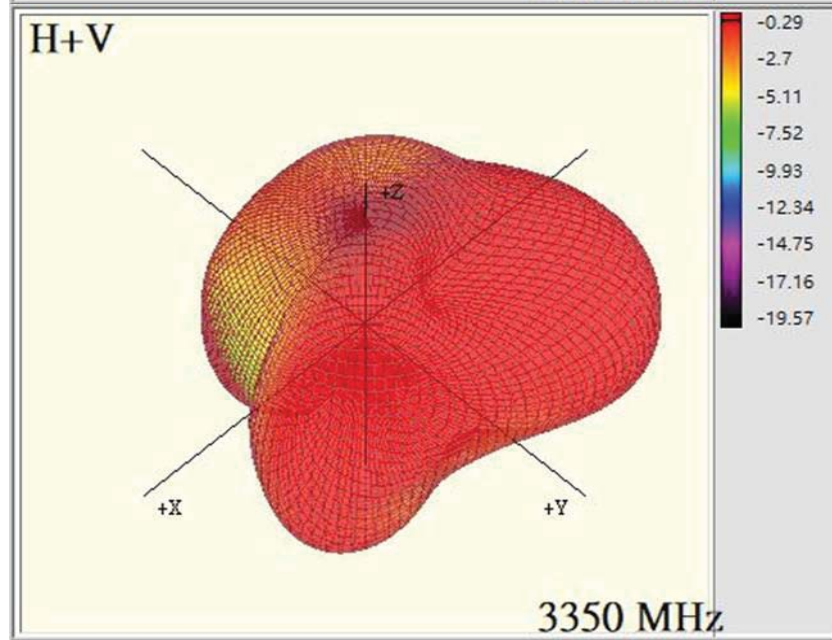
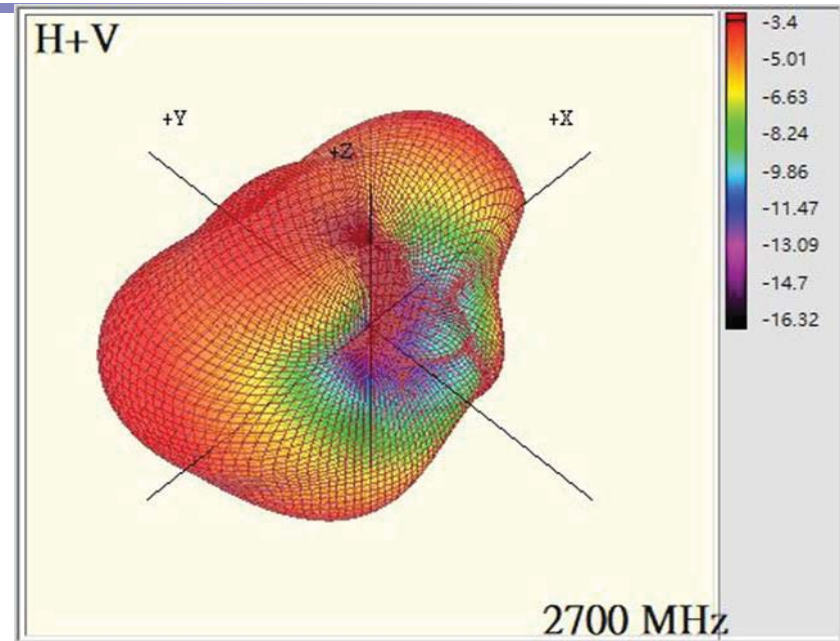
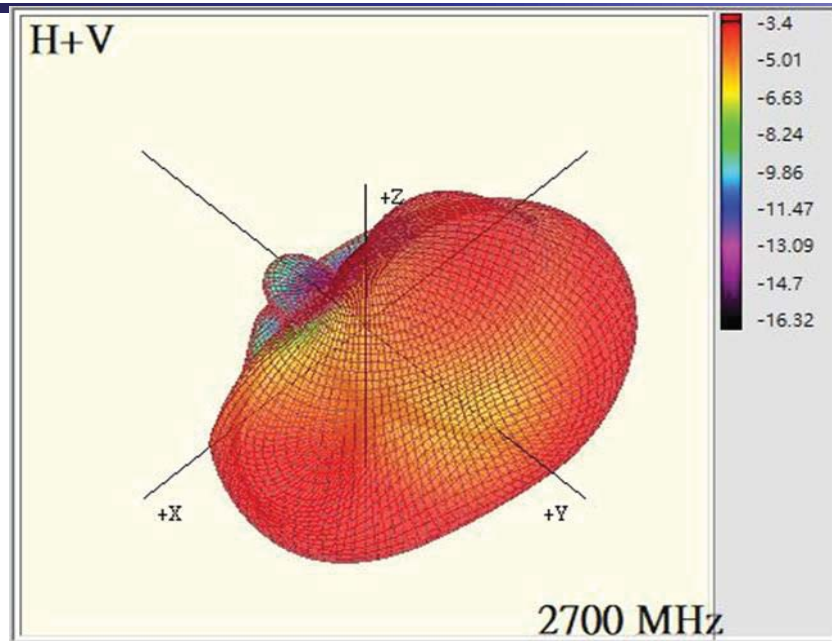
ANT7	Antenna Gain7 (dBi)
n77 (Part96 3550-3700MHz) JP	-0.94
n77 (RSS-192 3450-3650MHz) JP	-0.94
n77 (RSS-197 3650-3700MHz) JP	-0.94
n77 (EN301908-25 3300-4200MHz) JP	-0.29
n78 (Part27Q 3450-3550MHz) JP	-2.15
n78 (Part96 3550-3700MHz) JP	-0.94
n78 (Part27O 3700-3800MHz) JP	-0.86
n78 (RSS-192 3450-3650MHz) JP	-0.94
n78 (RSS-197 3650-3700MHz) JP	-0.94
n78 (EN301908-25 3300-3800MHz) JP	-0.29
n78 (PLMN ALL 3300-3570MHz) JP	-0.29
n79	-2.24

	ANT7	Antenna Gain7 (dBi)
Frequency Bands	n1: EU, JP, Korea	-4.3
	n2: US	-5.1
	n3: EU	-6.6
	n5: US	
	n7: EU	-5.5
	n8: EU	
	n12: US	
	n13: US	
	n18	
	n20: EU	
	n25: US	-5.1
	n26:	
	n28:	
	n66: US	
	n70: US	
	n71: US	
	n30:	
	n38: US, EU, China	
	n39: China	
	n40: US, EU, China	
	n41: US	
	n48	-0.94
	n75	
	n76	
	n77(Part27Q 3450-3550MHz) US,JP	-2.15
	n77 (Part27O 3700-3980MHz) US, JP	-0.86

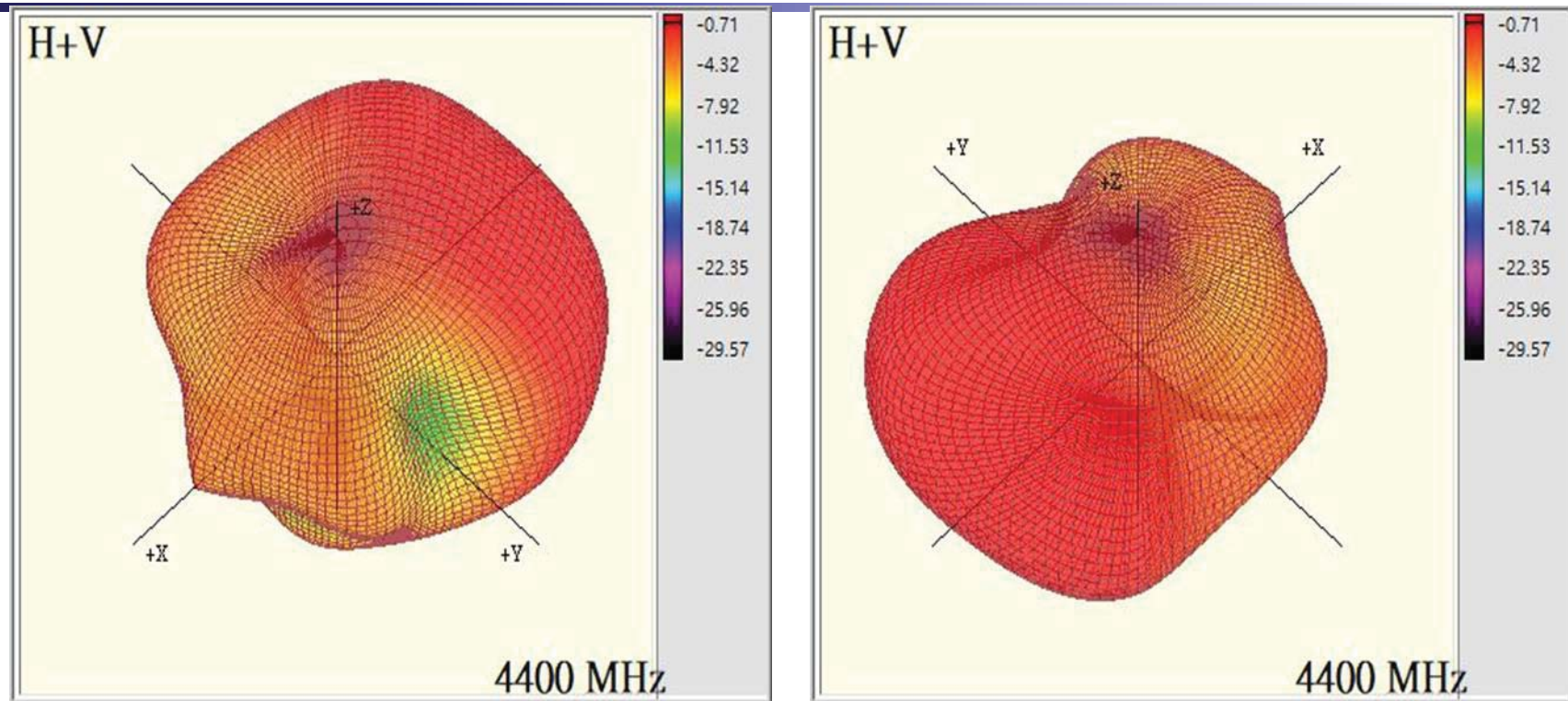
ANT7 Pattern



ANT7 Pattern



ANT7 Pattern

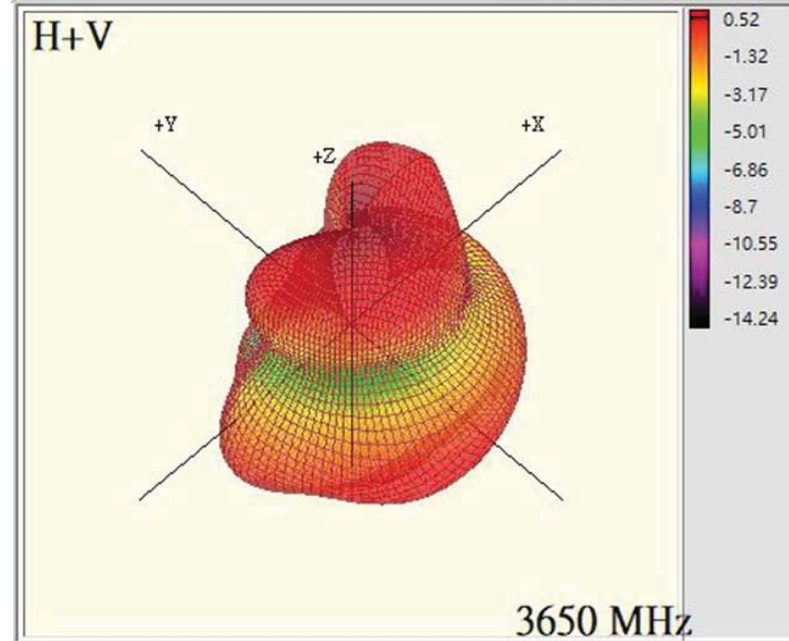
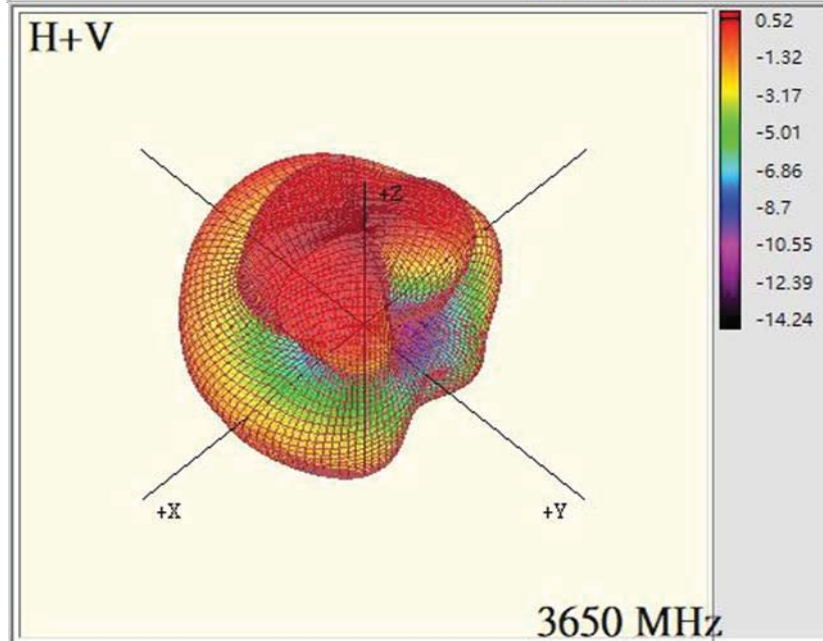
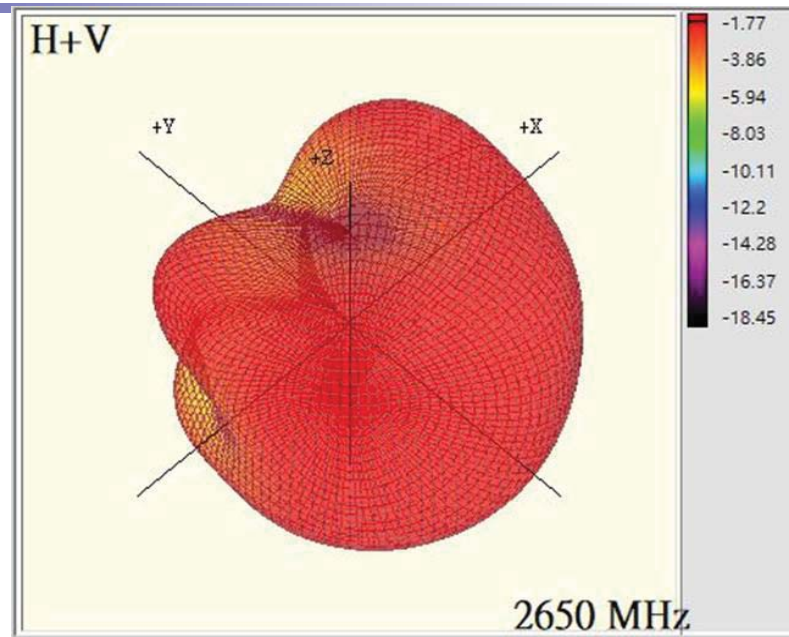
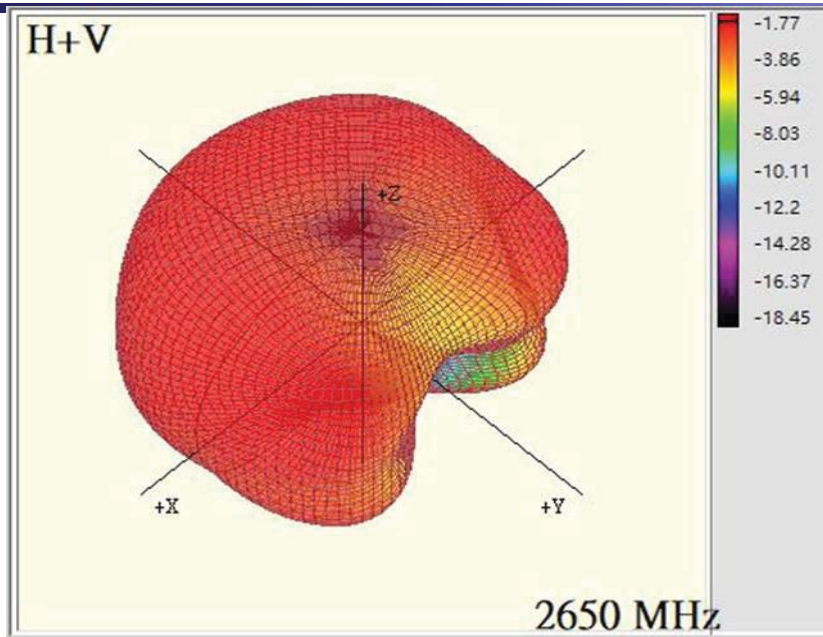


ANT8

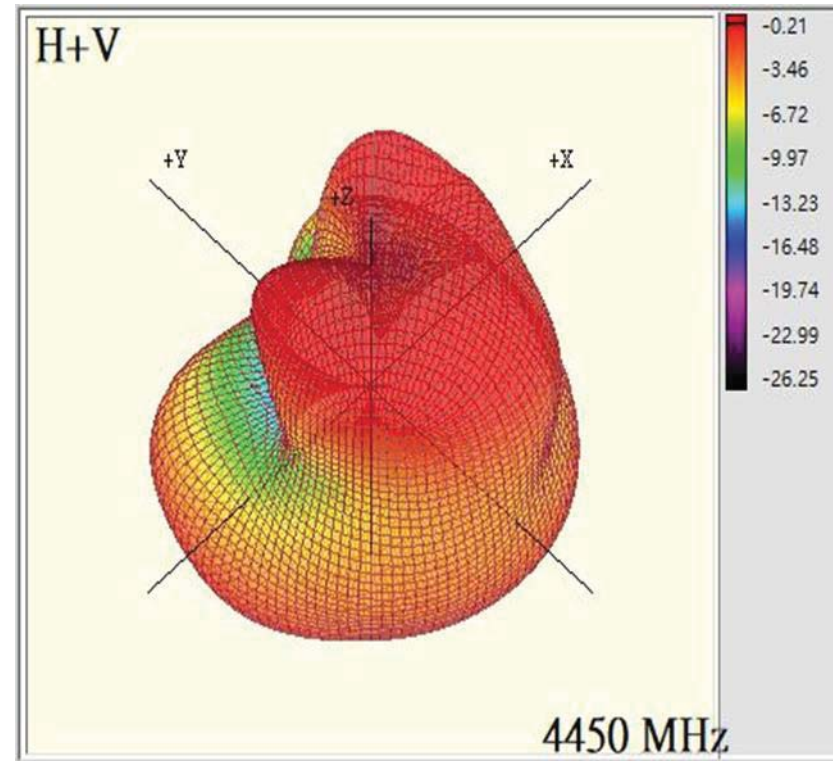
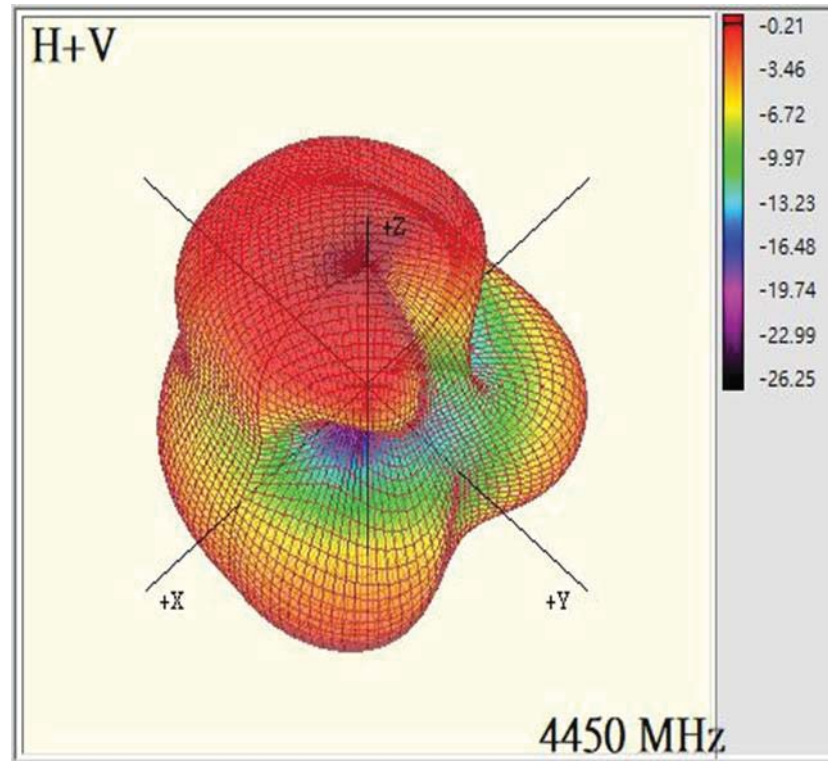
WWAN UE –ANT8

	ANT8	Antenna8 Gain (dBi)
Frequency Bands	FDD 1: EU, JP, Korea	
	FDD 2: US	
	FDD 3: EU, TW, JP	
	FDD 4: US	
	FDD 5: US	
	FDD 6: JP	
	FDD 7: EU	
	FDD 8: EU, JP	
	FDD 9: JP	
	FDD 10:	
	FDD 11: JP	
	FDD 12: US	
	FDD 13: US	
	FDD 14: US	
	FDD 17: US	
	FDD 18: JP	
	FDD 19: JP	
	FDD 20: EU	
	FDD 21: JP	
	FDD 22:	
	FDD 23:	
	FDD 24:	
	FDD 25: US	
	FDD 26: US	
	FDD 27:	
	FDD 28: TW, JP	
	FDD 29:	
	FDD 30:	
	FDD 32:	
	FDD 66:	
	FDD 71: US	
	TDD 33:	
	TDD 34:	
	TDD 35:	
	TDD 36:	
	TDD 37:	
	TDD 38: US, EU, China	
	TDD 39:	
	TDD 40: US, EU, China	
	TDD 41: US, JP	-1.8
	TDD 42: EU	-2.4
	TDD 43: US, EU	-0.4
	TDD 44:	
	TDD 46:	
	TDD 48: US	0.2

ANT8 Pattern



ANT8 Pattern

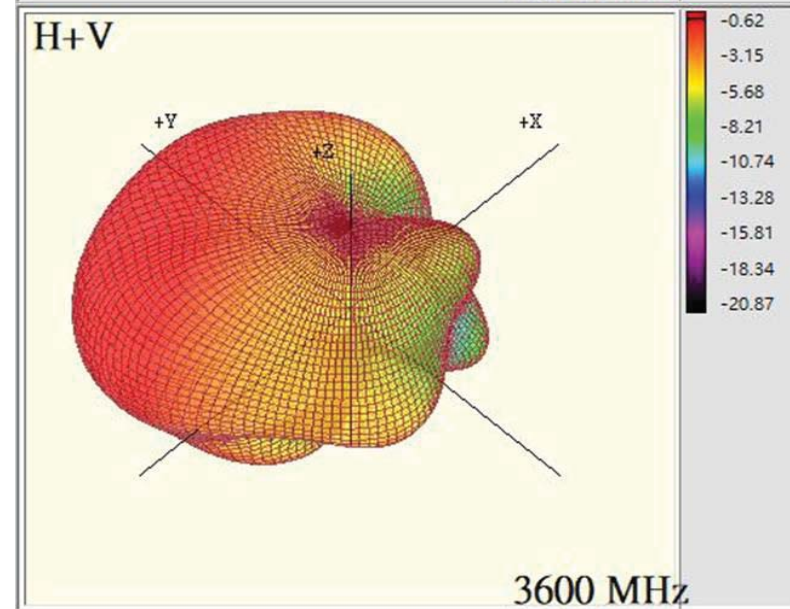
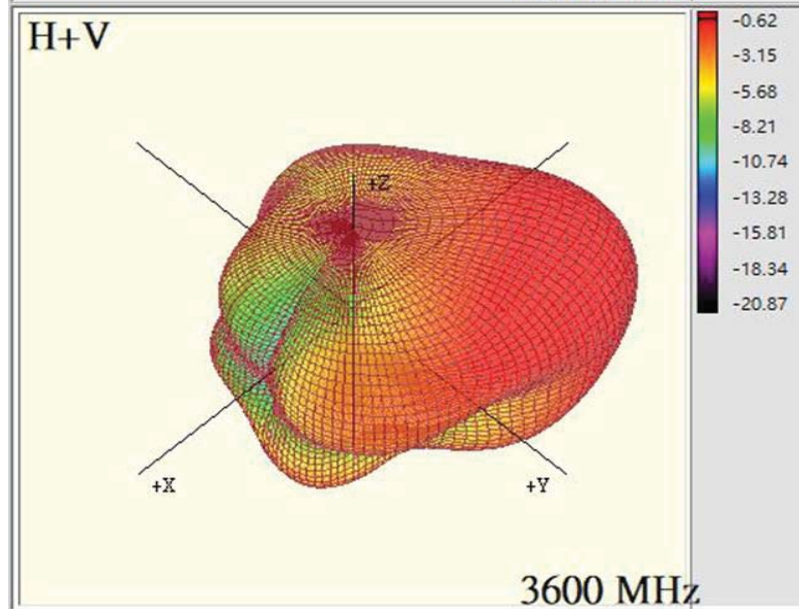
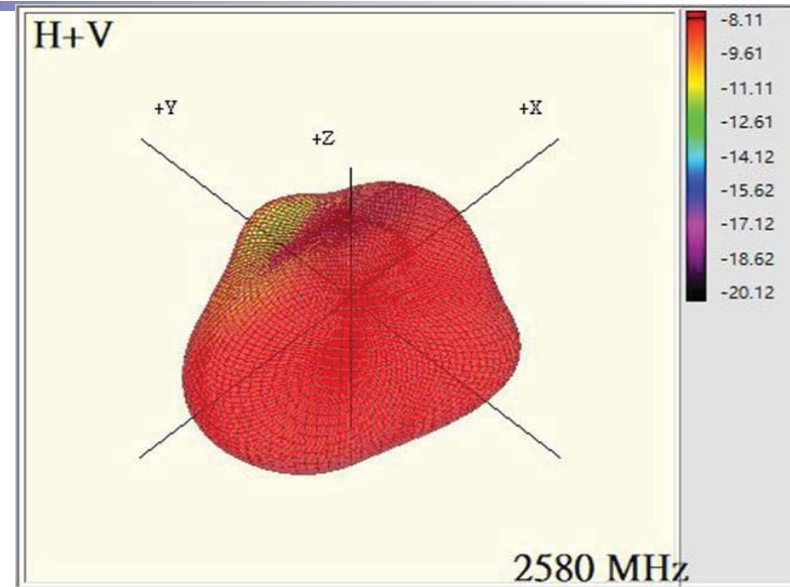
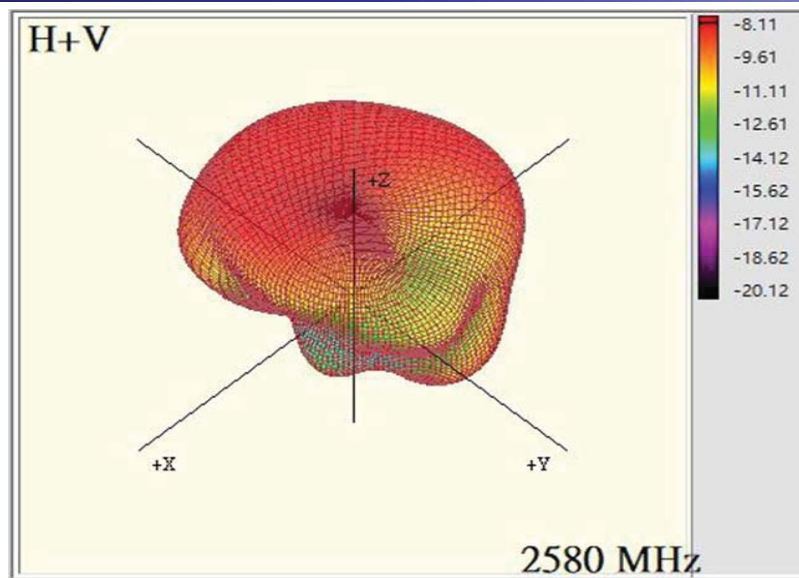


ANT9

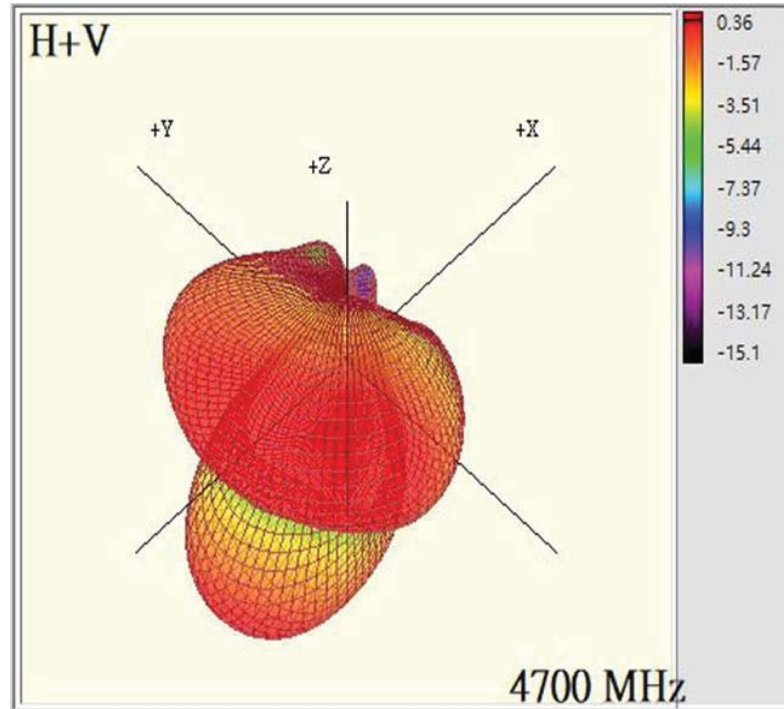
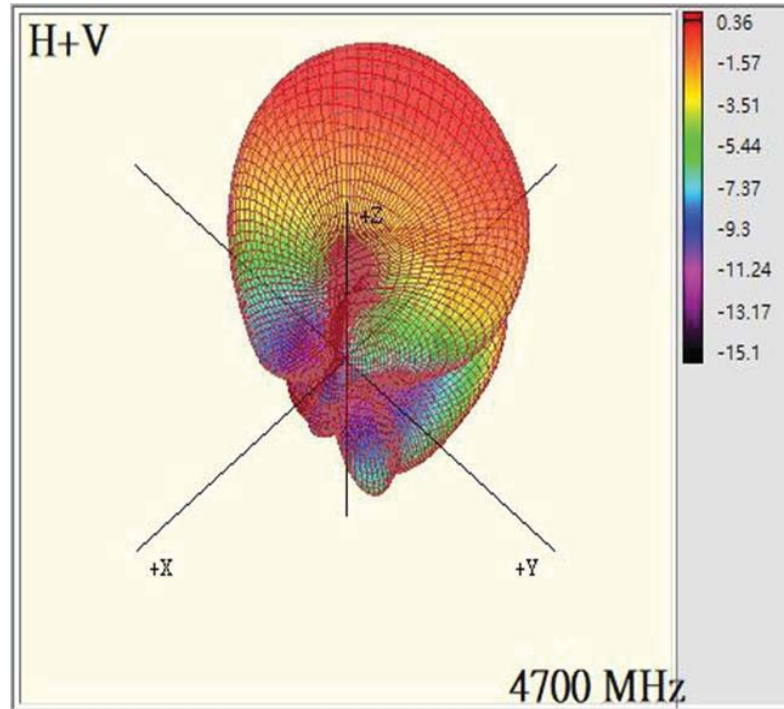
WWAN UE –ANT9

	ANT9	Antenna9 Gain (dBi)
Frequency Bands	FDD 1: EU, JP, Korea	
	FDD 2: US	
	FDD 3: EU, TW, JP	
	FDD 4: US	
	FDD 5: US	
	FDD 6: JP	
	FDD 7: EU	
	FDD 8: EU, JP	
	FDD 9: JP	
	FDD 10:	
	FDD 11: JP	
	FDD 12: US	
	FDD 13: US	
	FDD 14: US	
	FDD 17: US	
	FDD 18: JP	
	FDD 19: JP	
	FDD 20: EU	
	FDD 21: JP	
	FDD 22:	
	FDD 23:	
	FDD 24:	
	FDD 25: US	
	FDD 26: US	
	FDD 27:	
	FDD 28: TW, JP	
	FDD 29:	
	FDD 30:	
	FDD 32:	
	FDD 66:	
	FDD 71: US	
	TDD 33:	
	TDD 34:	
	TDD 35:	
	TDD 36:	
	TDD 37:	
	TDD 38: US, EU, China	
	TDD 39:	
	TDD 40: US, EU, China	
	TDD 41: US, JP	-8.1
	TDD 42: EU	-0.6
	TDD 43: US, EU	-0.6
	TDD 44:	
	TDD 46:	
	TDD 48: US	-0.6

ANT9 Pattern



ANT9 Pattern

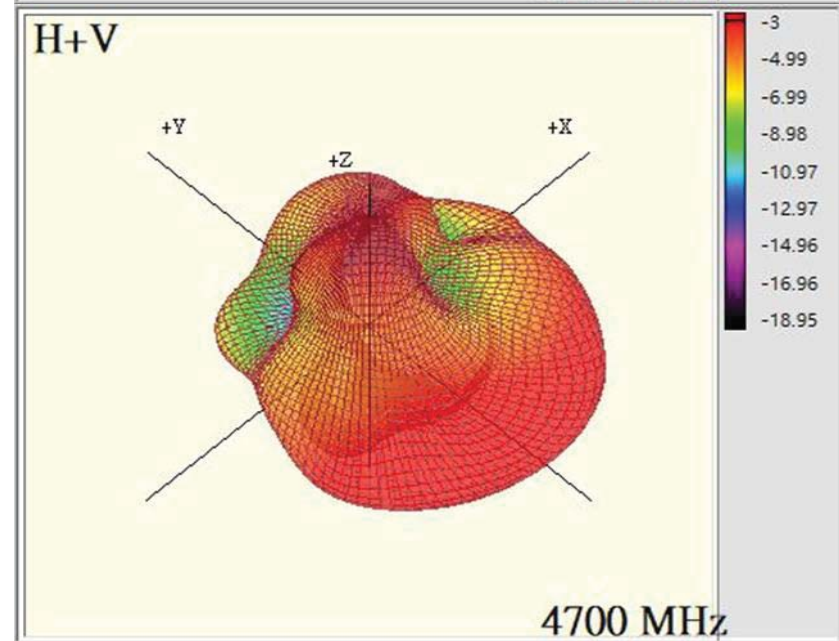
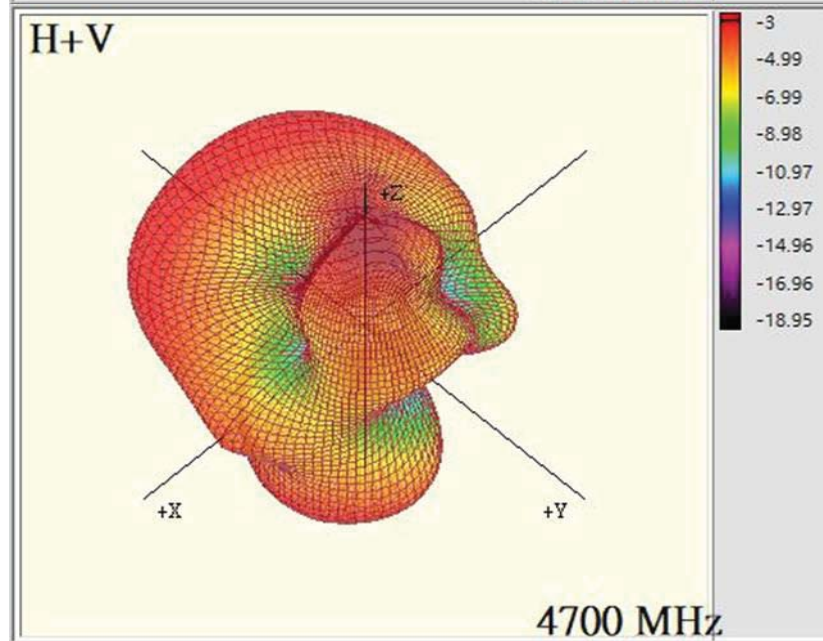
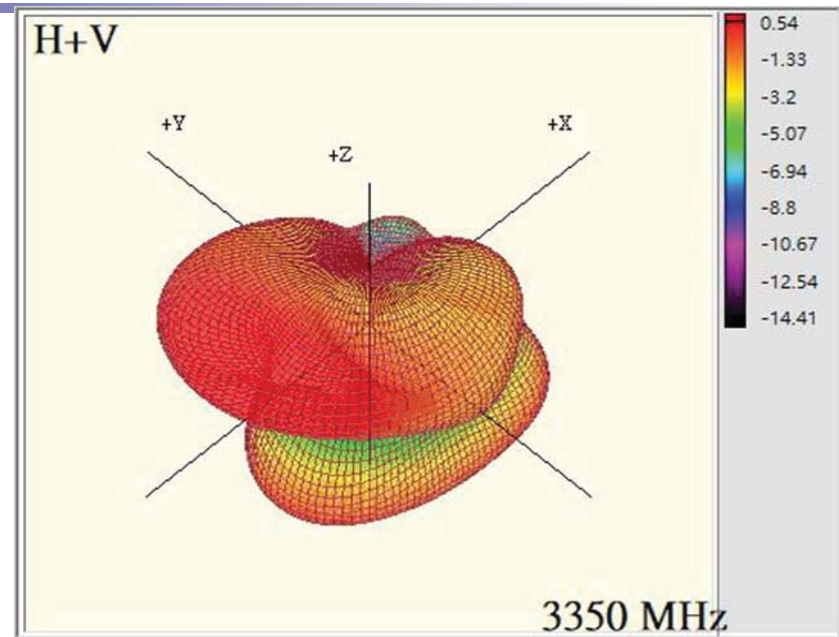
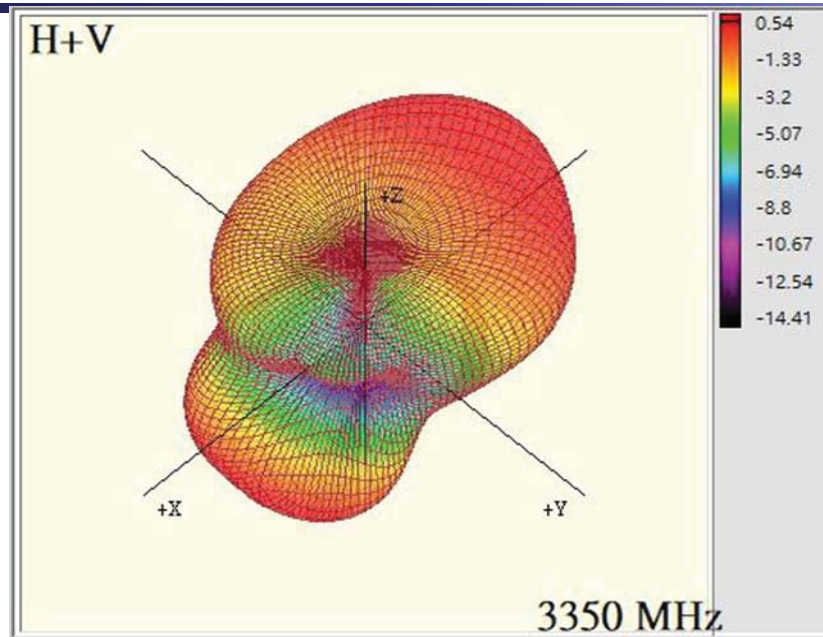


ANT6

WWAN UE –ANT6

ANT6	Antenna6 Gain (dBi)
Frequency Bands	FDD 1: EU, JP, Korea
	FDD 2: US
	FDD 3: EU, TW, JP
	FDD 4: US
	FDD 5: US
	FDD 6: JP
	FDD 7: EU
	FDD 8: EU, JP
	FDD 9: JP
	FDD 10:
	FDD 11: JP
	FDD 12: US
	FDD 13: US
	FDD 14: US
	FDD 17: US
	FDD 18: JP
	FDD 19: JP
	FDD 20: EU
	FDD 21: JP
	FDD 22:
	FDD 23:
	FDD 24:
	FDD 25: US
	FDD 26: US
	FDD 27:
	FDD 28: TW, JP
	FDD 29:
	FDD 30:
	FDD 32:
	FDD 66:
	FDD 71: US
	TDD 33:
	TDD 34:
	TDD 35:
	TDD 36:
	TDD 37:
	TDD 38: US, EU, China
	TDD 39:
	TDD 40: US, EU, China
	TDD 41: US, JP
	TDD 42: EU -1.3
	TDD 43: US, EU -1.7
	TDD 44:
	TDD 46:
	TDD 48: US -2.0

ANT6 Pattern



BT and WLAN Test environment

1. Antenna Type: PIFA Type
2. Test environment:

FIG1 : ETS. LINDGREN
EMCenter
CONTROLLER



FIG1

FIG2 : KESIGHT E5063A
ENA Series Network
Analyzer
100KHz~8.5GHz

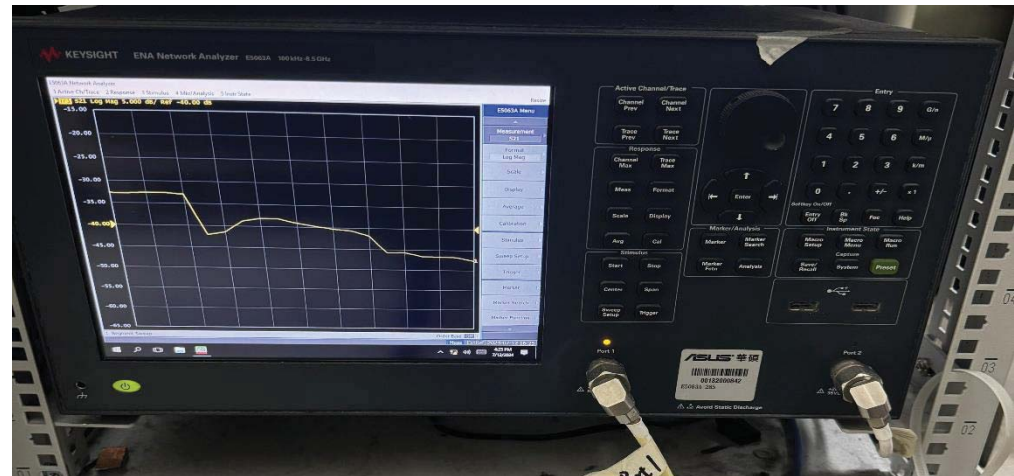


FIG2

BT and WLAN Test environment

1. Antenna Type: PIFA Type
2. Test environment:

FIG3 : ETS
AMS-8923-127
Chamber

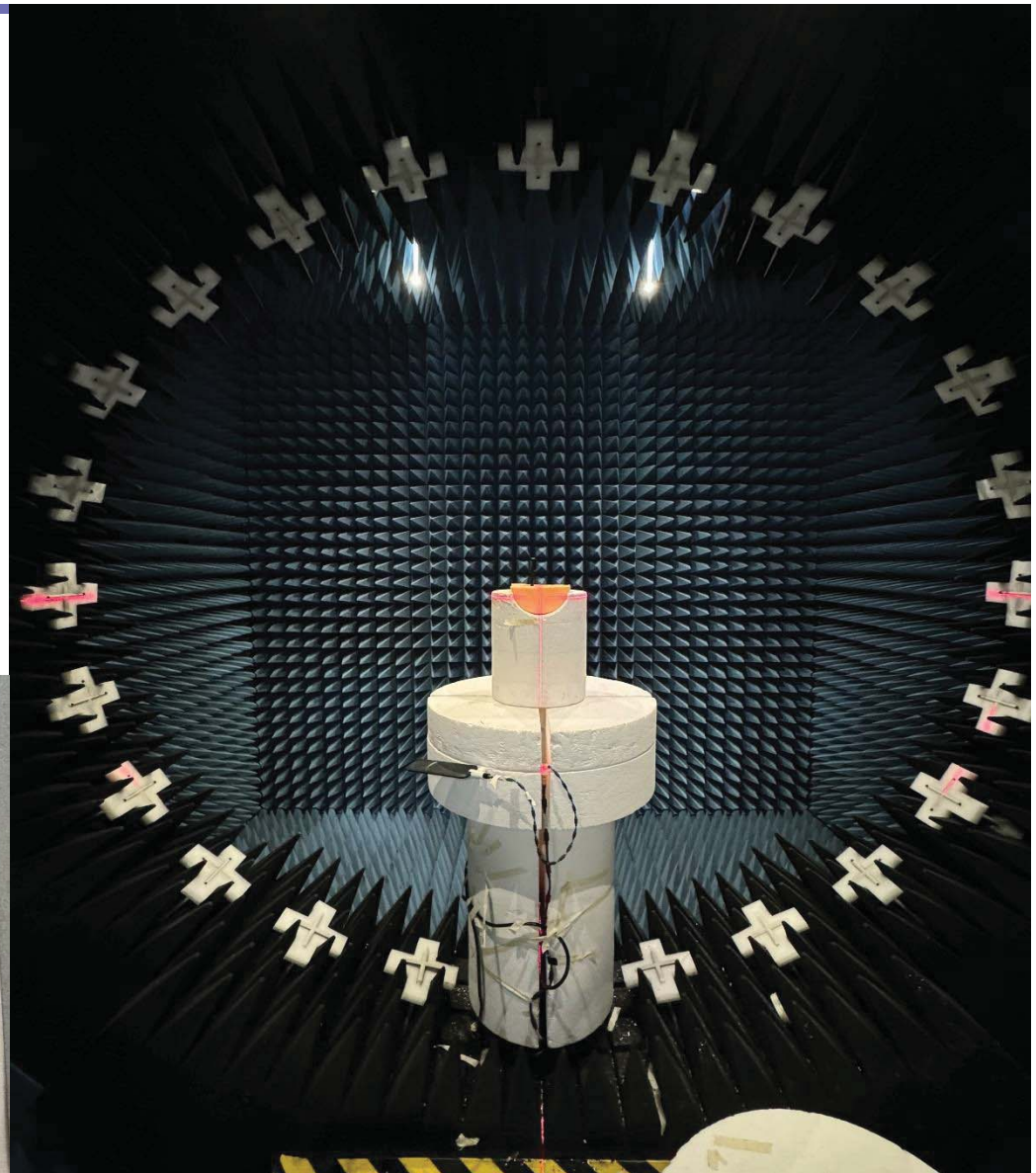


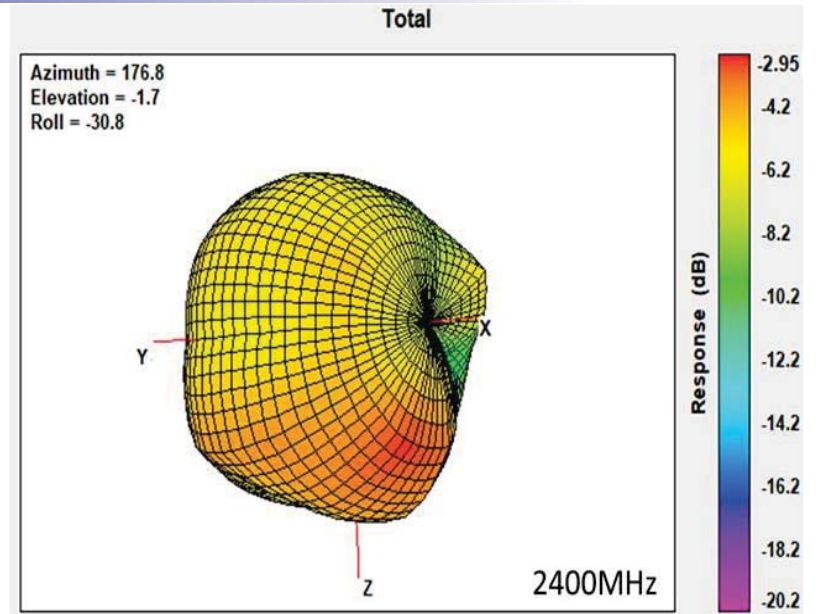
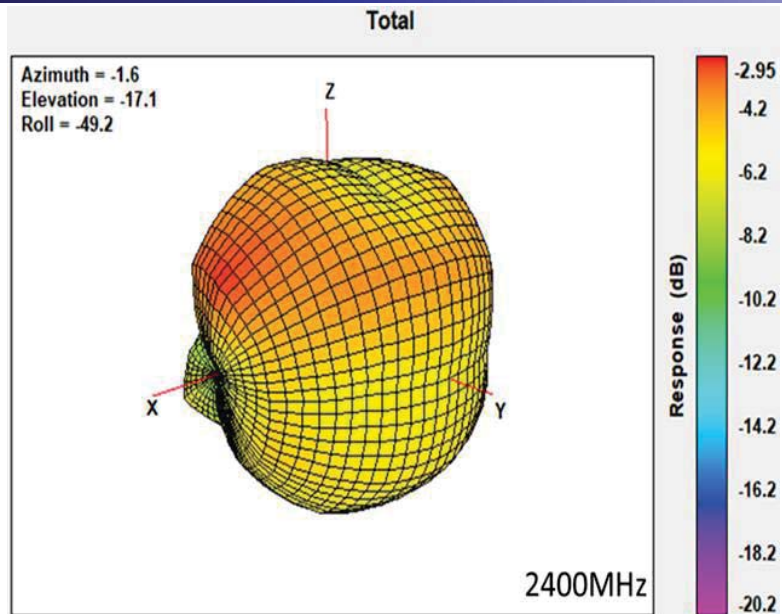
FIG3

Bluetooth Antenna

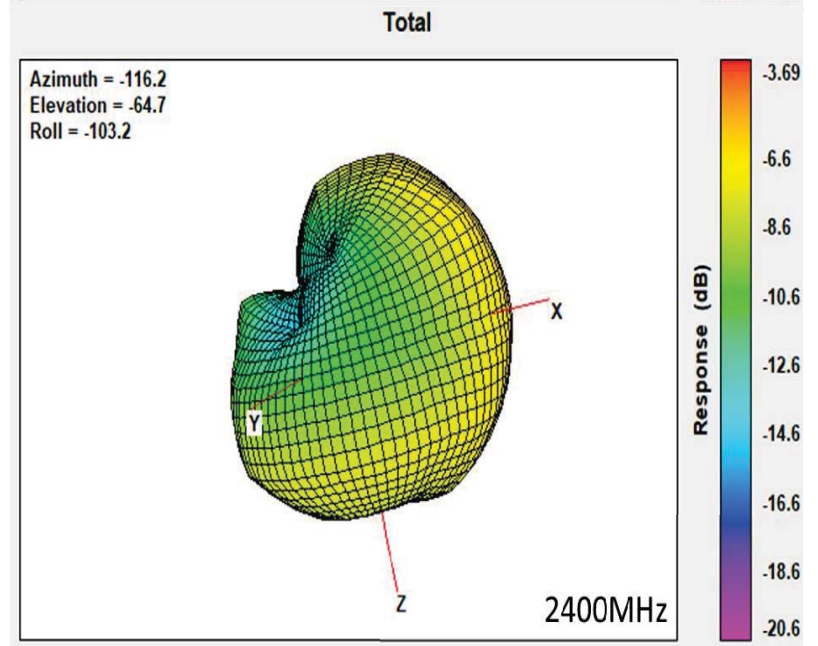
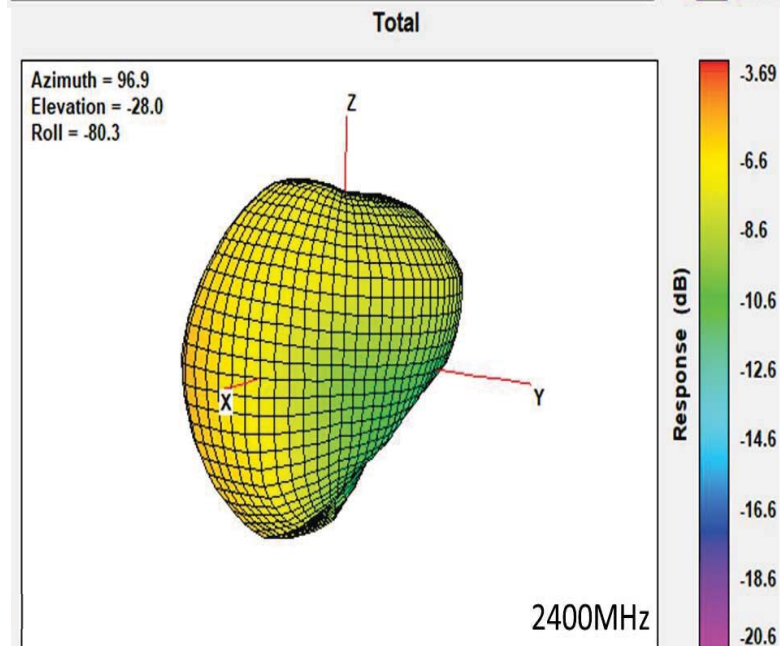
Antenna Information									
1	Ant. Type	PIFA	Peak Gain	-2.95	2	Ant. Type	PIFA	Peak Gain	-3.69
	connector		Model No.	Antenna5		connector		Model No.	Antenna4

Bluetooth Pattern

ANT5



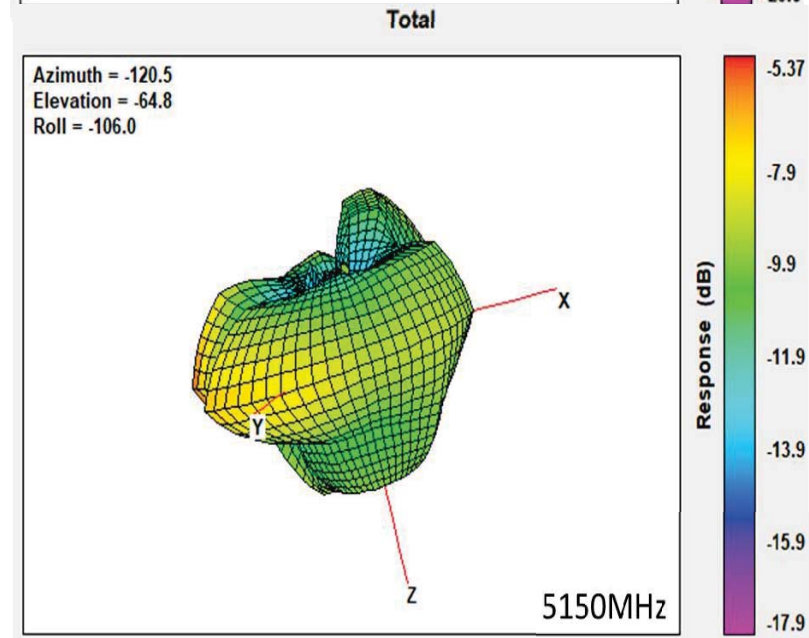
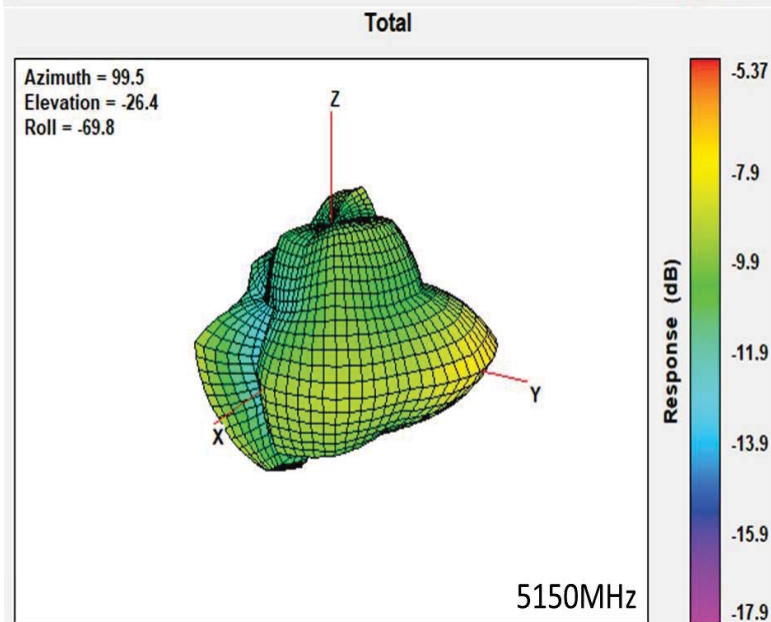
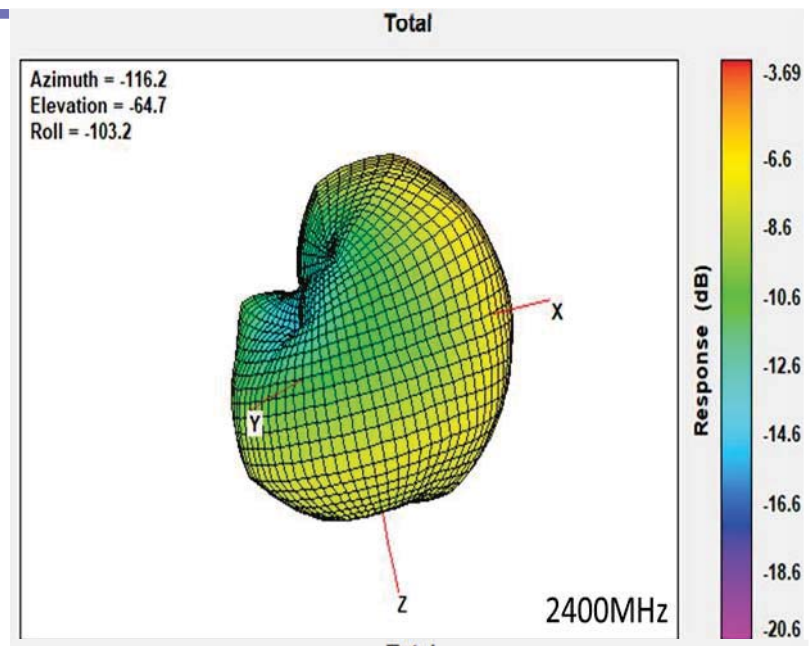
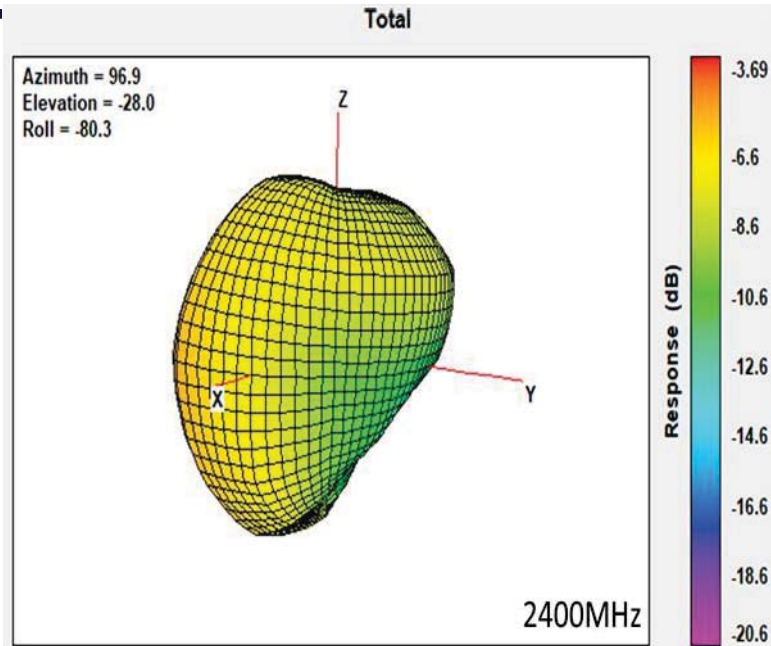
ANT4



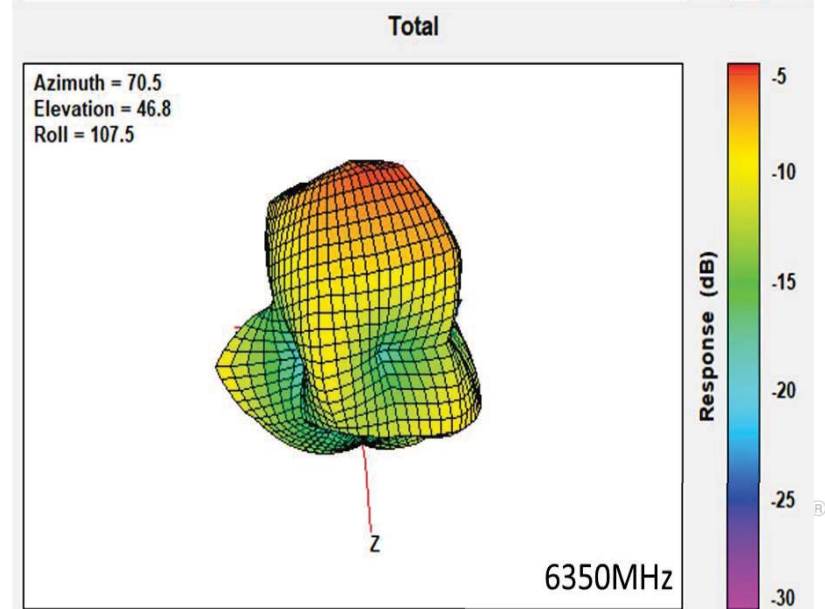
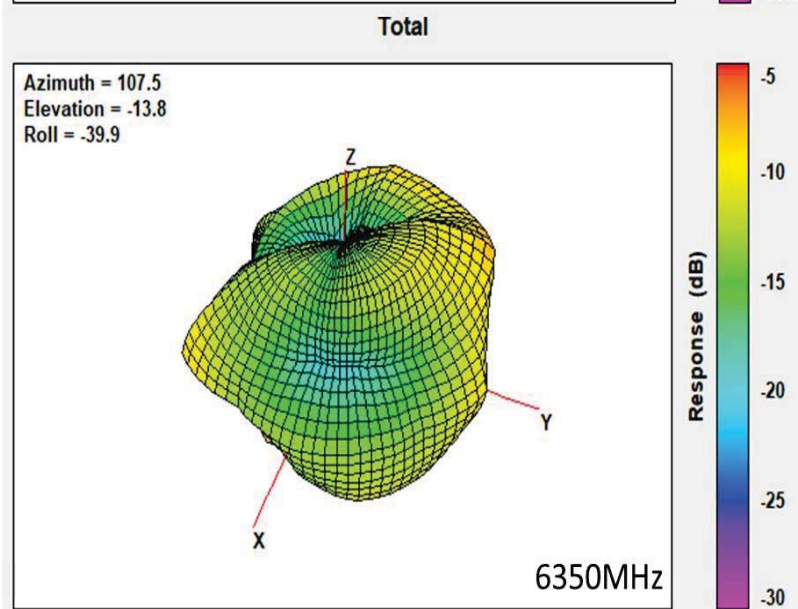
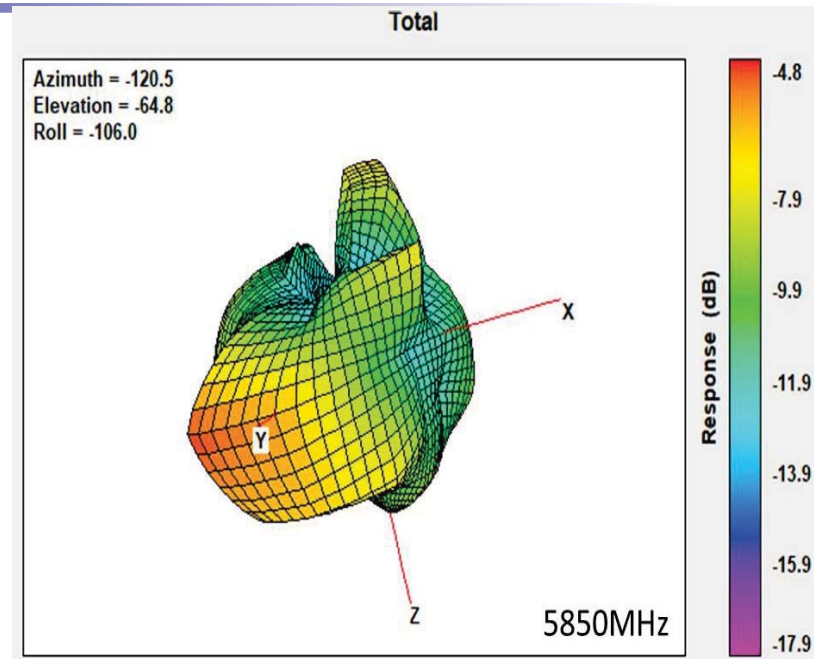
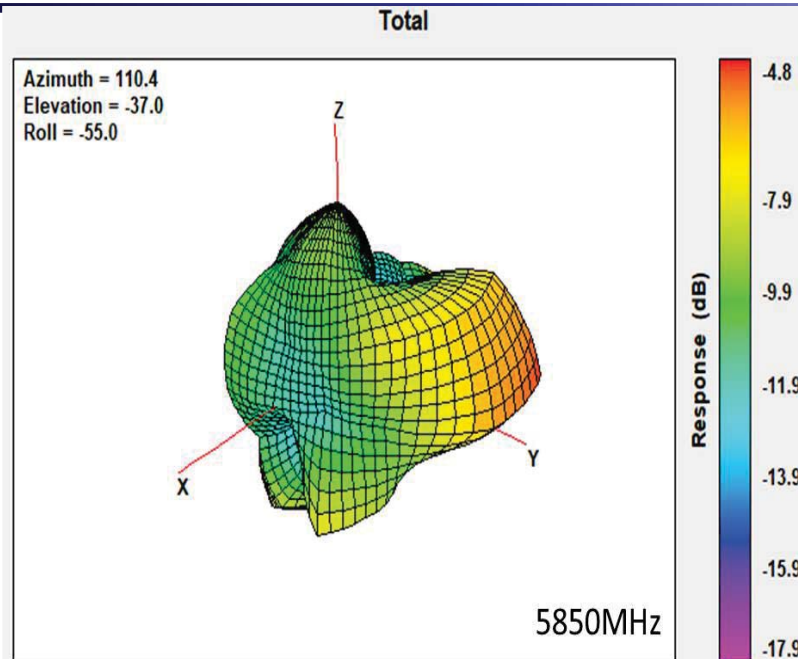
WLAN Antenna

1	Ant. Type	PIFA	connector	
	Model No.	Antenna4		
	Peak Gain (dBi)			
	2400~2483.5 MHz	-3.69	5850~5925M Hz	-4.89
	5150~5250M Hz	-5.37	5925~6425M Hz	-4.7
	5250~5350M Hz	-4.51	6425~6525M Hz	-4.59
	5470~5725M Hz	-4.69	6525~6875M Hz	-3.88
2	5725~5850M Hz	-4.8	6875~7125M Hz	-4.41
	Ant. Type	PIFA	connector	
	Model No.	Antenna5		
	Peak Gain (dBi)			
	2400~2483.5 MHz	-2.95	5850~5925M Hz	-3.62
	5150~5250M Hz	-2.91	5925~6425M Hz	-4.64
	5250~5350M Hz	-2.59	6425~6525M Hz	-7.9
	5470~5725M Hz	-2.41	6525~6875M Hz	-4.96
	5725~5850M Hz	-2.7	6875~7125M Hz	-4.47

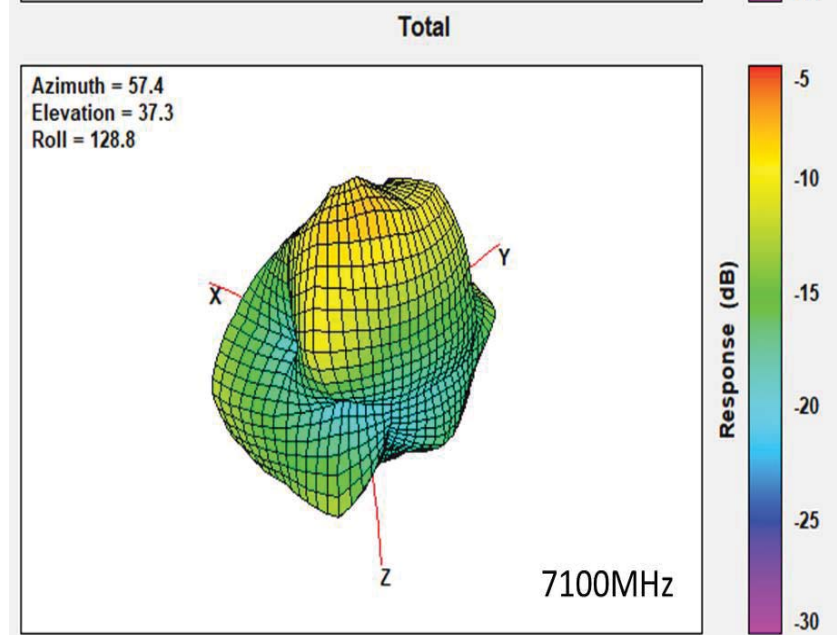
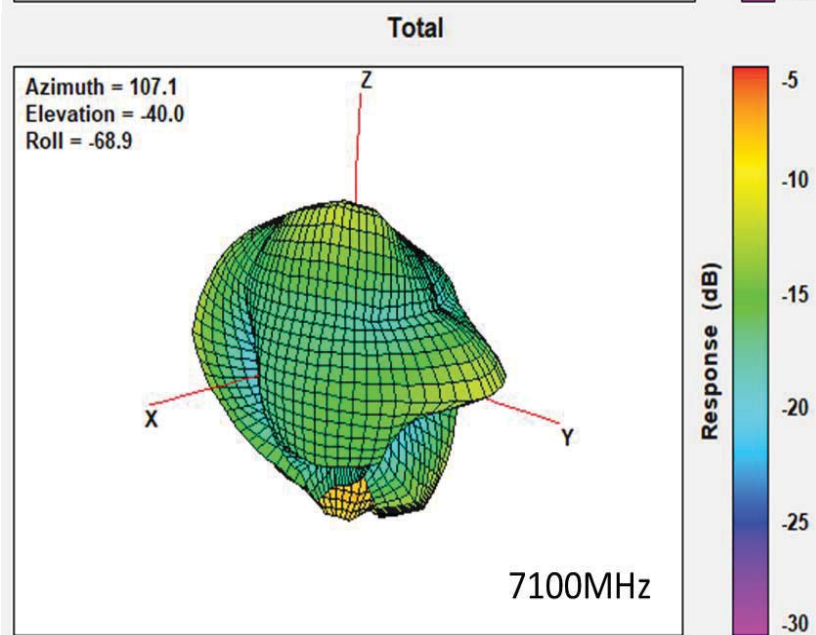
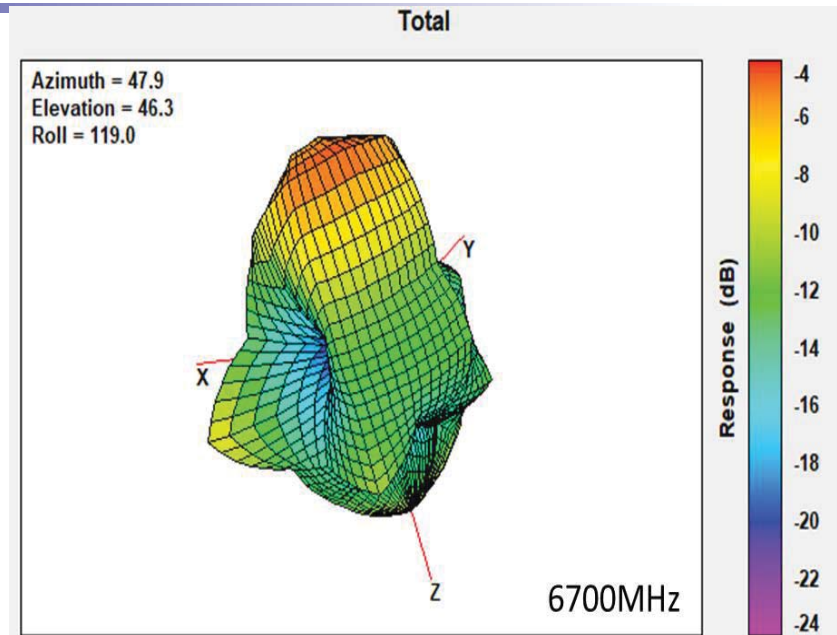
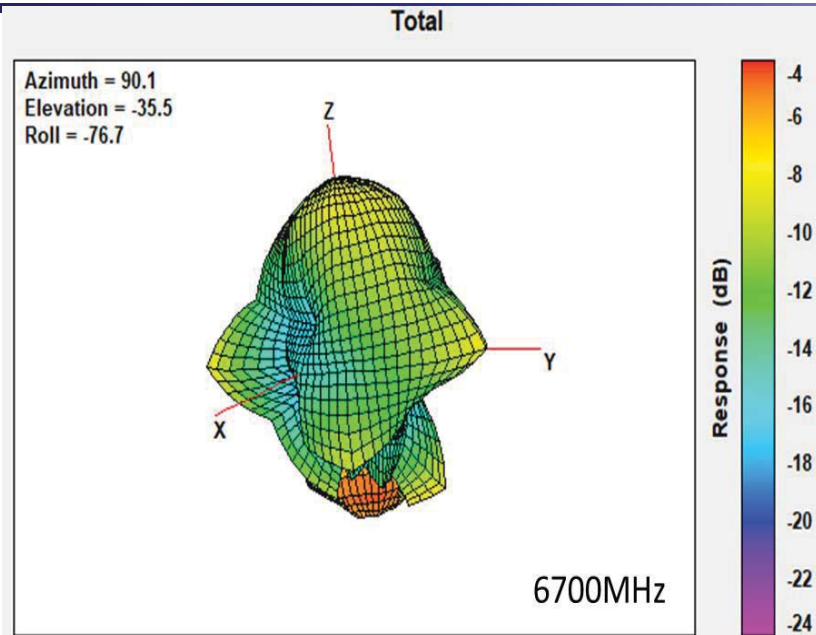
WIFI ANT4 Pattern



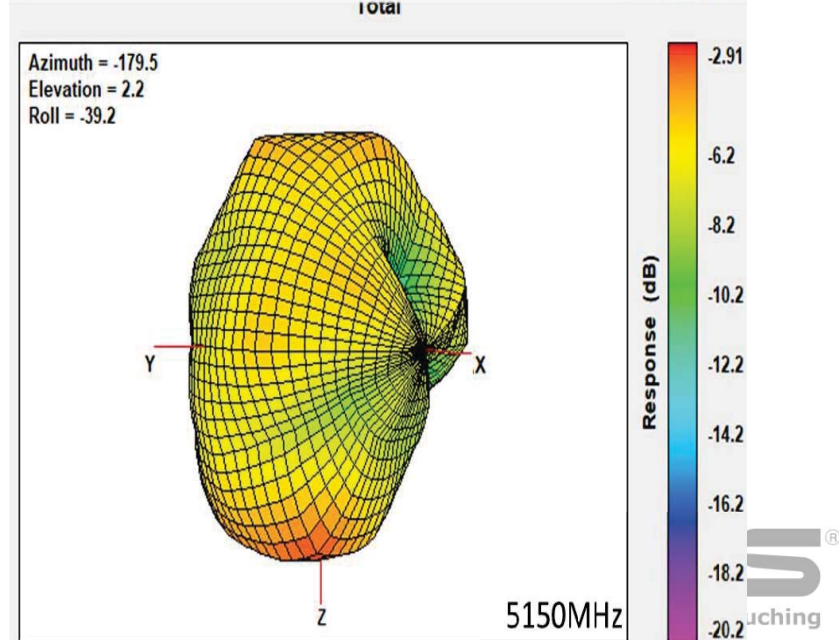
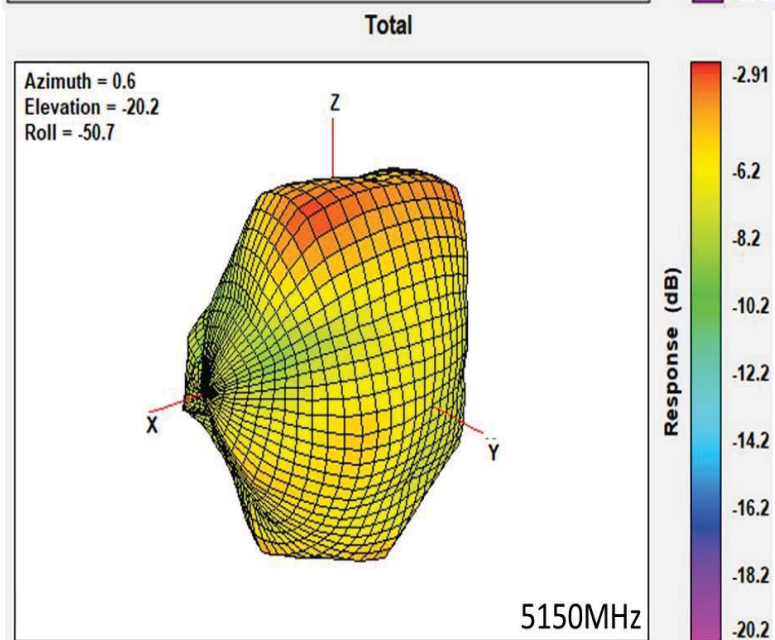
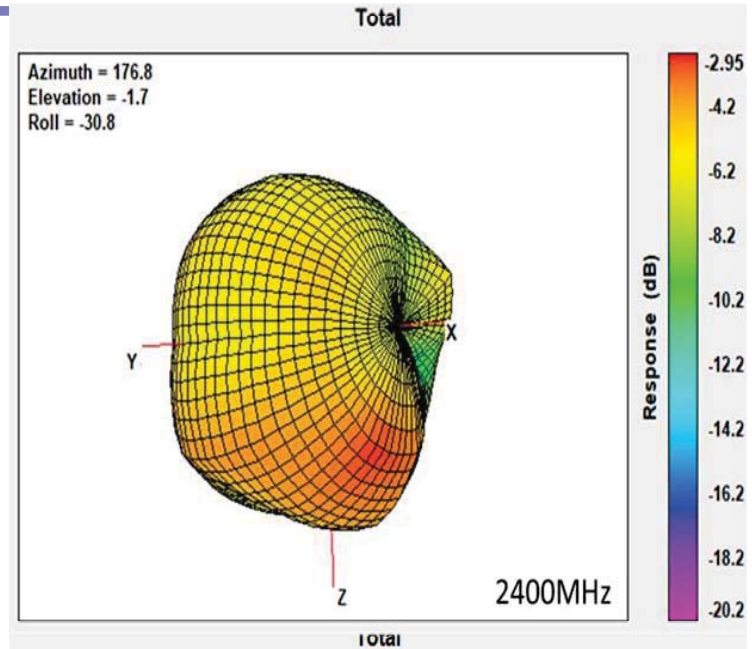
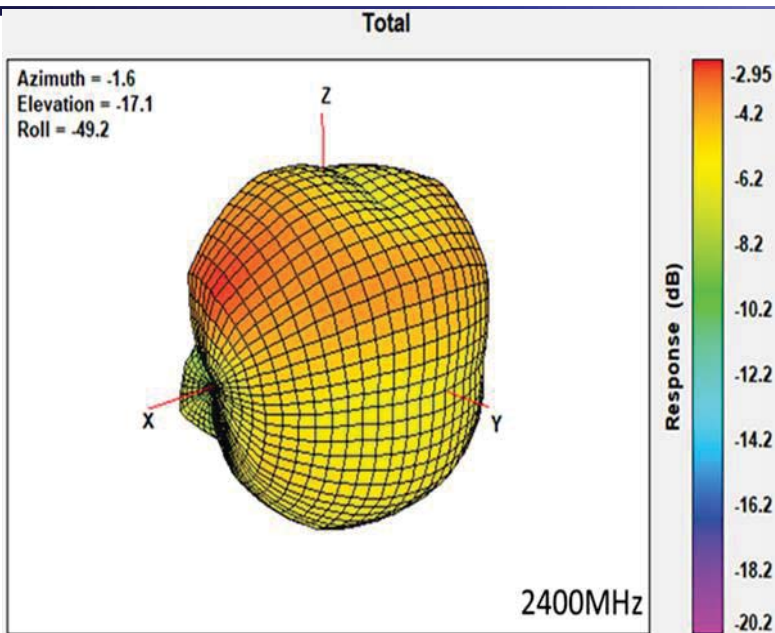
WIFI ANT4 Pattern



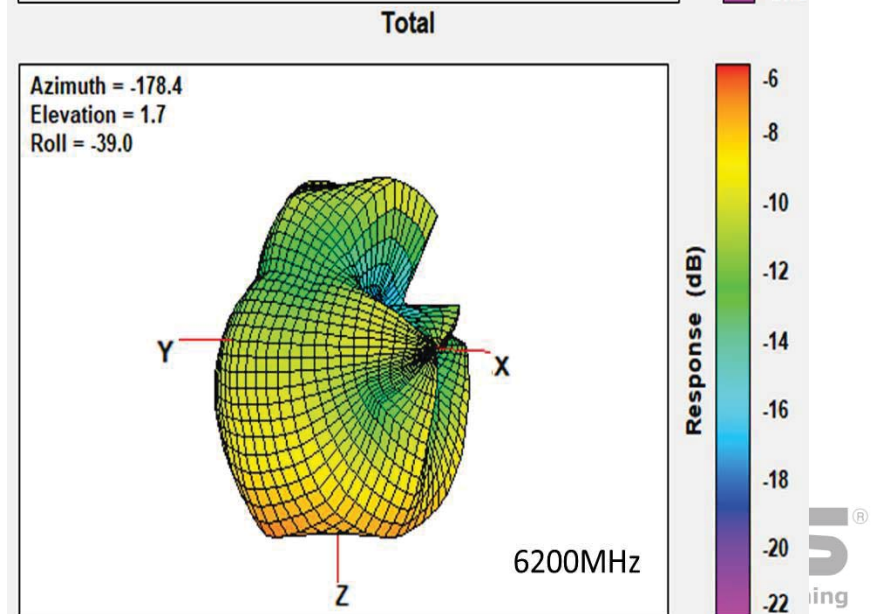
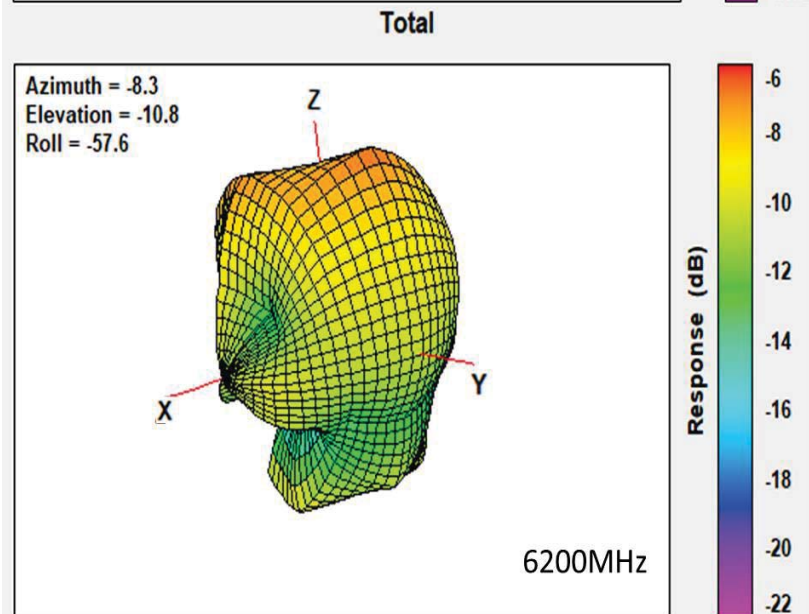
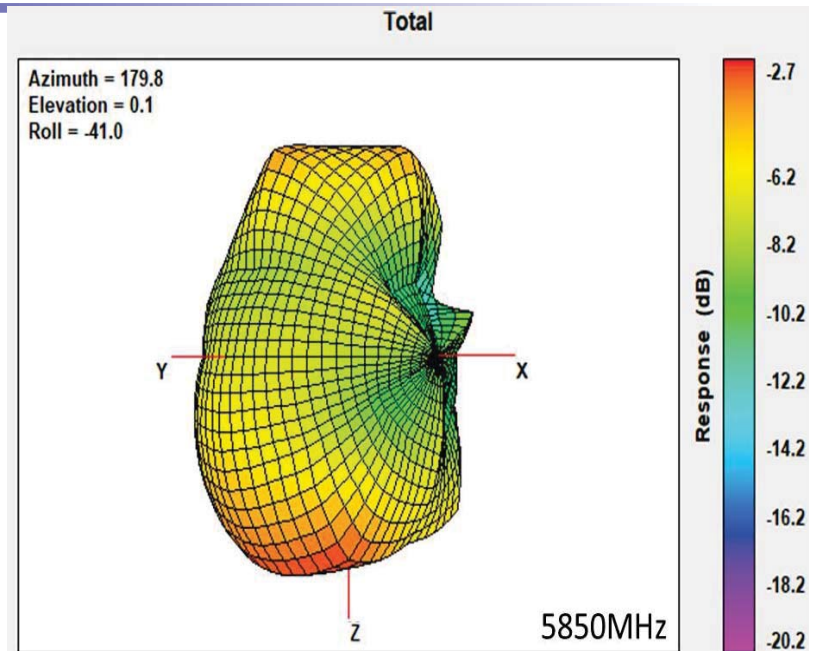
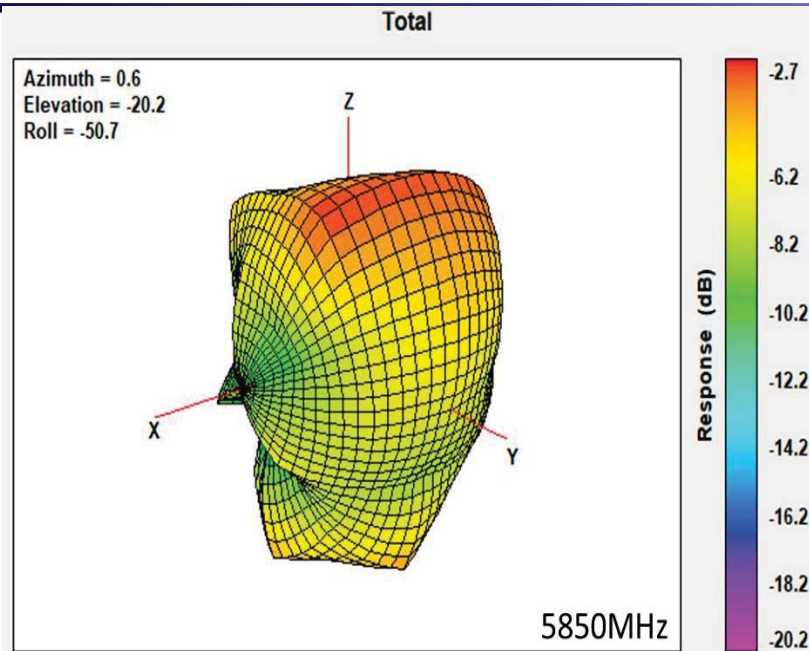
WIFI ANT4 Pattern



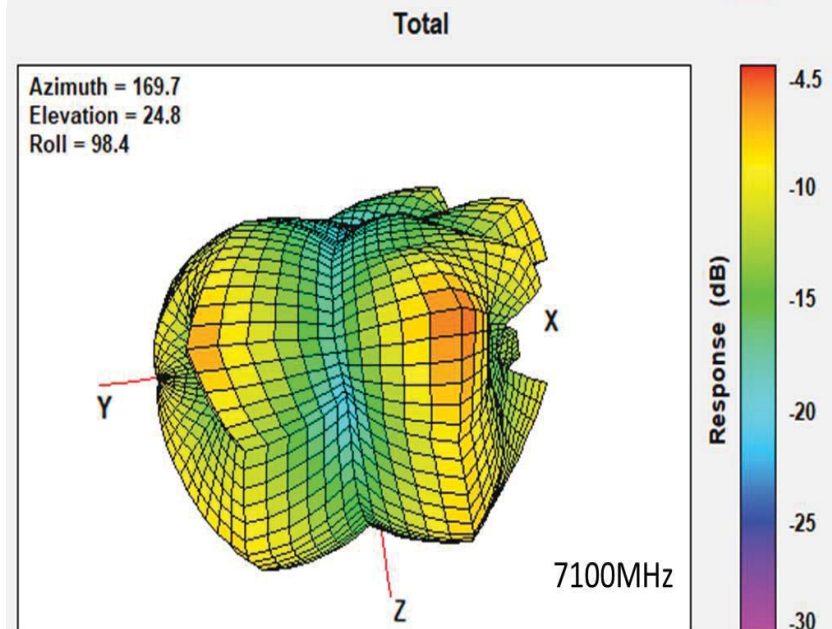
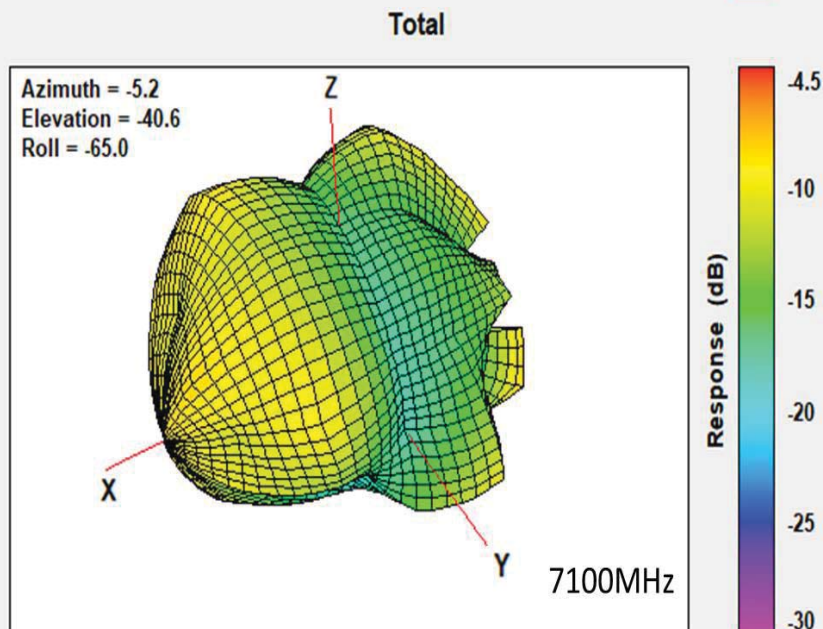
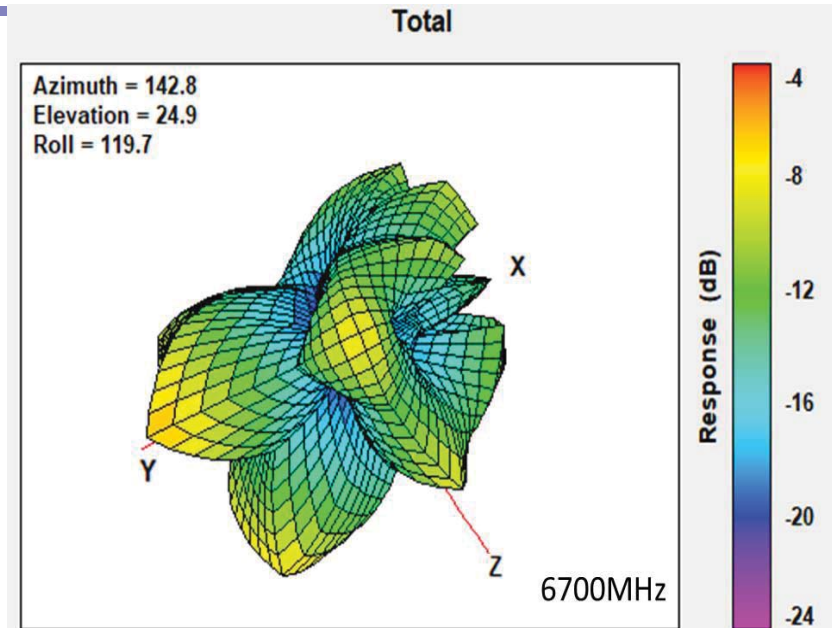
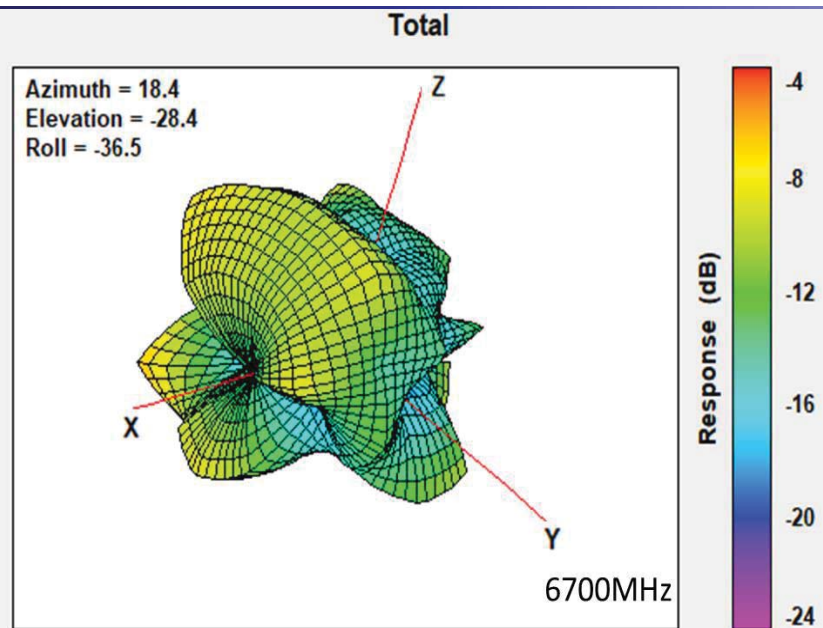
WIFI ANT5 Pattern



WIFI ANT5 Pattern



WIFI ANT5 Pattern



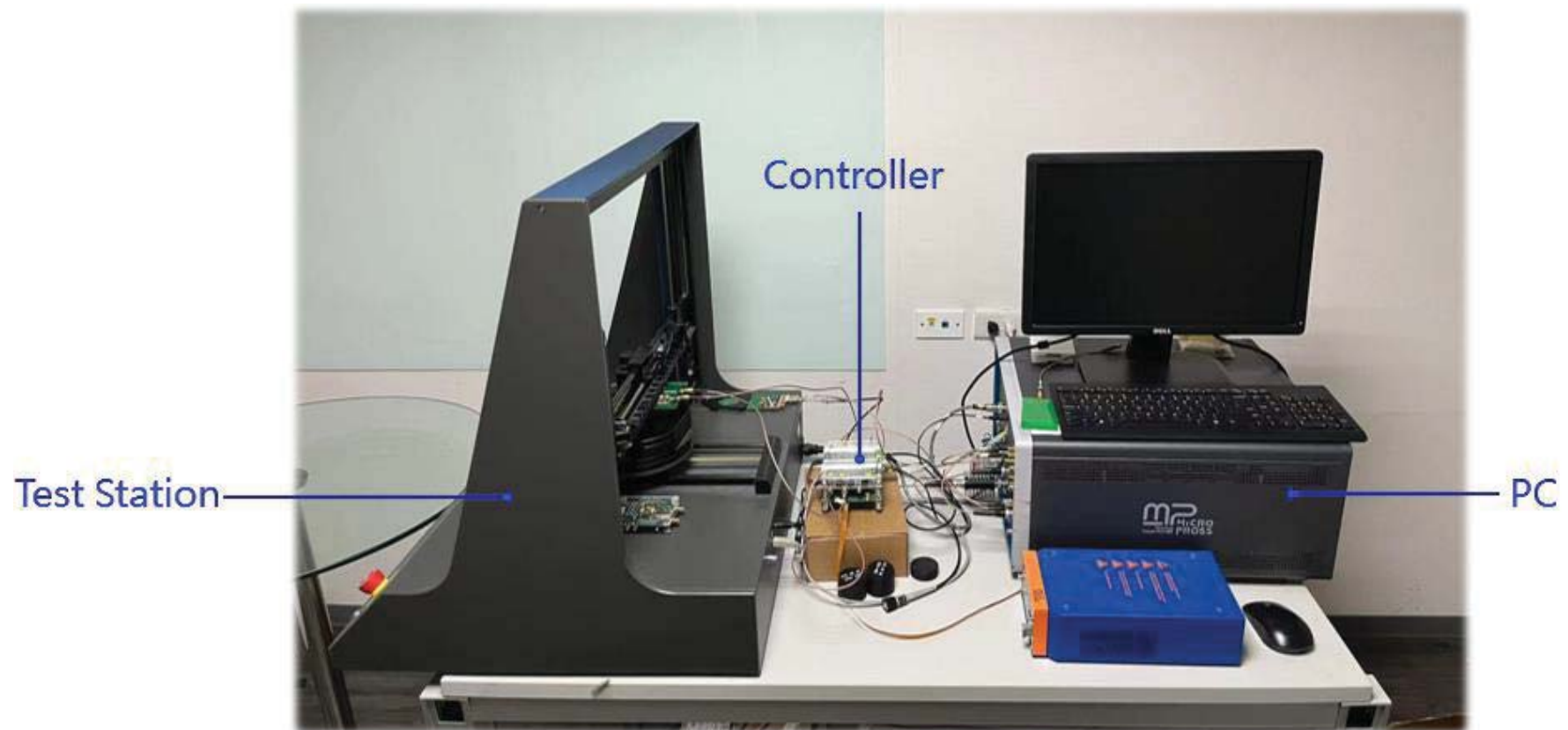
NFC Antenna

1. Antenna Type: Loop antenna
2. Antenna Dimension(mm): 38.2 x 19.1 x 0.3(L x W x H)
3. Manufacturer: INPAQ(1st.) / ASAP(2nd.)
4. Manufacturer P/N: WPC-L-P-RX-CF-005(1st.) / LA9RF595-CS-H(2nd.)
5. Test equipment: Micropross-CTS



備註 : Only radiated measurements are used to show compliance with NCC limits for fundamental and spurious emissions .

NFC Test Environment



NFC Test Environment

