
Antenna Reports

Company: Motorola Mobility LLC

Model name: Midframe

Issue date: 2024/11/28

Documented by: Wang Peng

Antenna Summary Table

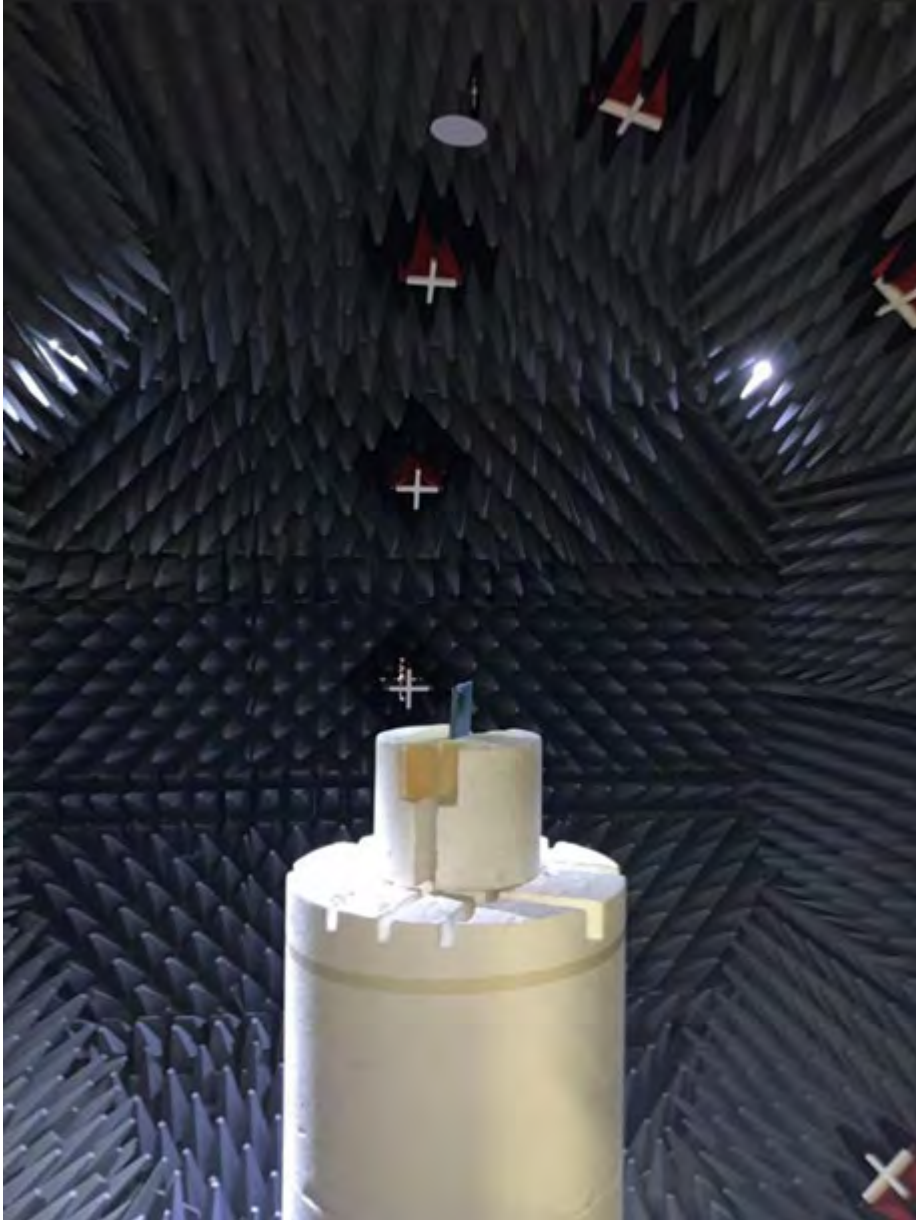
Check items	Information
Provided by lab	Motorola internal lab (GTS)
Manufacturer/ Brand name	Motorola
Model name (Part number)	Midframe
Test environment	Motorola Beijing RD team Lab with GTS2800 chamber
Test software	MaxSign Libra
List of calibrated test equipment	GTS RayZone2800 with calibrated date: On October 23, 2022 R&S ZNB 8 : On October 17, 2024
Antenna detail info.	ANT3: WiFi 2.4G (2.4~2.5GHz), PIFA type antenna. ANT4: WiFi 5G (5.15~5.85GHz)/6G(5.925~7.125GHz), Loop type antenna. ANT5: WiFi 5G (5.15~5.85GHz) /6G(5.925~7.125GHz), PIFA type antenna. ANT6: BT, WiFi 2.4G(2.4~2.5GHz), PIFA type antenna. NFC Antenna: Differential port to excite LDS coil + Ferrite sheet with dimension 23.7 mm *27.1mm * 0.12mm WLC antenna: Copper winding coil and dimension is 58mm x 58mm
Antenna gain test data	Included antenna frequency, gain pattern

Note: Antenna gain was measured in the anechoic chamber, 3D scan was exercised, and the highest numbers are reported in this document.

List of Test equipment

Equipment	Calibrate data	Due data	Remark
GTS RayZone2800	October 23,2022	October 22,2025	Self-monitor monthly to ensure the variation within 0.5dbduring the cycle

R&S ZNB 8	October 17,2024	October 16,2025	N/A
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WWAN Antenna Gain:

UMTS		Ant0	Ant1	Ant2	Ant9
UMTS Band(s)	FDD I	-2	-5	-5	-5
	FDD II	0	-4	-4	-6
	FDD IV	-1	-4	-3	-9
	FDD V	-6	-7		
	FDD VI				
	FDD VIII	-5	-7		

LTE		Antenna Peak Gain (dBi) (各频段TX max peak gain, 单位dBi)							
		Ant0	Ant1	Ant2	Ant4	Ant7	Ant8	Ant9	Ant10
Frequency Band	FDD 1: EU, JP, Korea,NCC	-2	-5	-5				-5	
	FDD 2: US	0	-4	-4				-6	
	FDD 3: EU, TW, JP,NCC	-1	-4	-3				-7	
	FDD 4: US	-1	-4	-3				-9	
	FDD 5: US,jp	-6	-7						
	FDD 7: EU,US,NCC	-3	-4	-3				-7	
	FDD 8: EU, JP,NCC	-5	-7						
	FDD 11: JP	-11	-9	-4					
	FDD 12: US	-4	-8						
	FDD 13: US	-5	-9						
	FDD 17: US	-4	-8						
	FDD 18: JP,US	-6	-7						
	FDD 19: JP,US	-6	-7						
	FDD 26: US, JP	-6	-7						
	FDD 28: TW, JP,EU,NCC	-4	-8						
	FDD 66:US	-1	-4	-3					-7
	TDD 38: US, EU, China,NCC	-3	-3	-3					-8
	TDD 39:	-1	-4	-5					-6
	TDD 41: US /EU/NCC(2496 - 2655 MHz)	-3	-4	-3					-7
	TDD 41: US/EU/NCC (2535 - 2655 MHz)	-3	-4	-3					-7
	TDD 41: JP (2545 - 2655 MHz)	-3	-4	-3					-7
TDD 42: EU,US				-2	0	-6		2	
5G NR sub-7.2GHz (38.101-1 /38.521-3) FR1		Antenna Peak Gain (dBi) (各频段TX max peak gain, 单位dBi)							
		ANT0	ANT1	ANT2	ANT4	ANT7	ANT8	ANT9	ANT10
Frequency Band	n1: EU, JP, Korea		-5	-5					
	n3: EU		-4	-3					
	n5: US	-6	-7						
	n28:	-4	-8						
	n41: US	-3	-4	-3					-7
	n66: US		-4	-3					
	n77 (Part27Q 3450-3550MHz)				-2	0	-6		1
	n77 (Part96 3550-3700MHz)				-2	-1	-6		2
	n77 (Part27O 3700-3980MHz)				-2	0	-5		3
	n77 (RSS-192 3450-3650MHz)				-2	0	-6		3
	n77 (RSS-197 3650-3700MHz)				-2	-1	-6		3
	n77 (EN301908-25 3300-4200MHz)				-2	-1	-6		3
	n78 (Part27Q 3450-3550MHz)				-2	0	-6		1
	n78 (Part96 3550-3700MHz)				-2	-1	-6		2
	n78 (Part27O 3700-3800MHz)				-2	-1	-6		2
	n78 (RSS-192 3450-3650MHz)				-2	0	-6		3
	n78 (RSS-197 3650-3700MHz)				-2	-1	-6		3
	n78 (EN301908-25 3300-3800MHz)				-2	-1	-6		1
	n78 (PLMN ALL 3300-3570MHz)				-2	0	-6		1

**WLAN+BT Antenna Gain:
Ant3**

GPS +BT/WLAN Peak Gain (dBi)	
2400~2483.5MHz	-5.9

Ant4

WLAN Peak Gain (dBi)			
5150~5250MHz	-7.2	5470~5725MHz	-6.6
5250~5350MHz	-6.8	5725~5850MHz	-7.4
UNII_5	-7	UNII_7	-7
UNII_6	-7.2	UNII_8	-7

Ant5

WLAN Peak Gain (dBi)			
5150~5250MHz	-7.7	5470~5725MHz	-7.5
5250~5350MHz	-7.6	5725~5850MHz	-7.4
UNII_5	-7	UNII_7	-6.8
UNII_6	-7.2	UNII_8	-7

Ant6

WLAN Peak Gain (dBi)			
2400~2483.5MHz	-6.8		

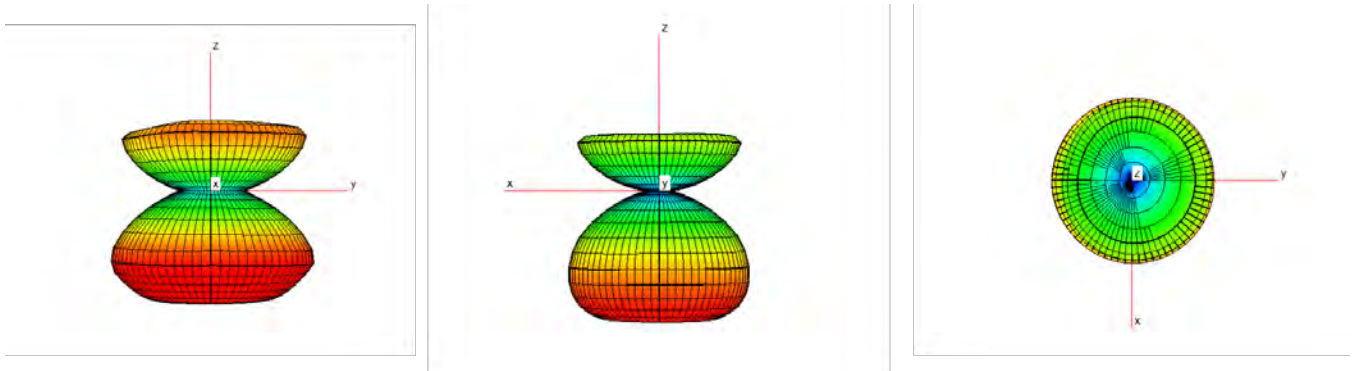
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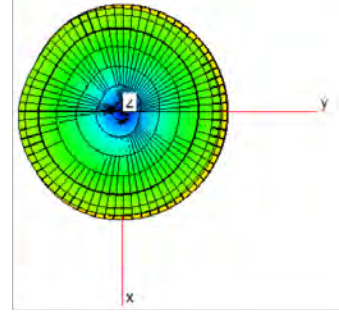
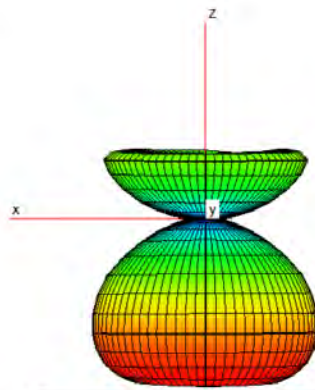
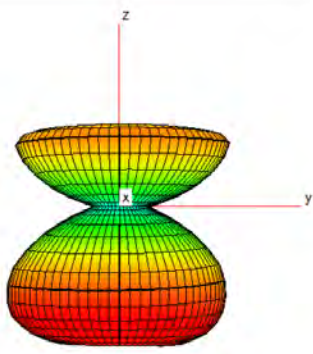
Antenna model name: Insert molding metal

Antenna type: IFA

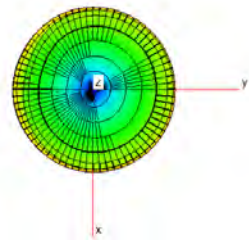
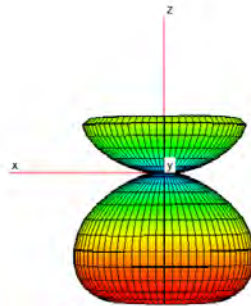
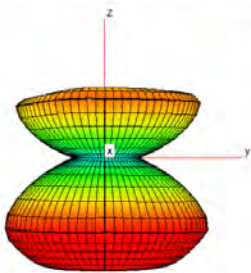
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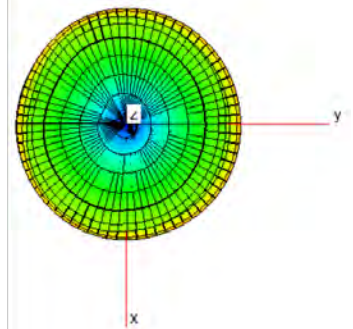
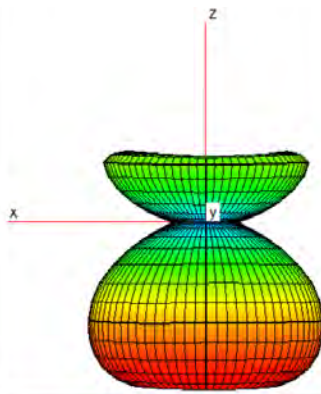
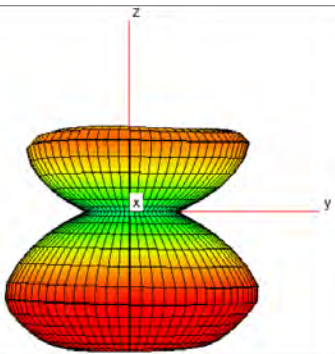
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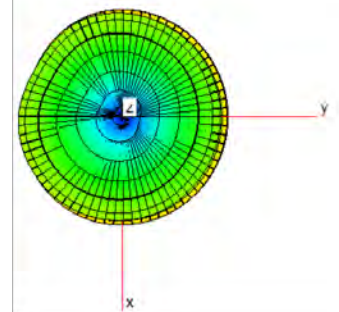
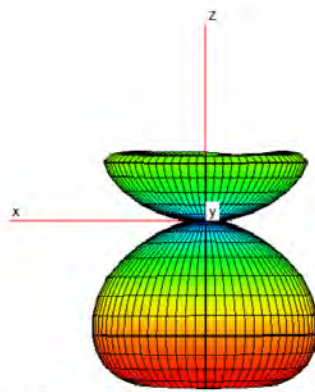
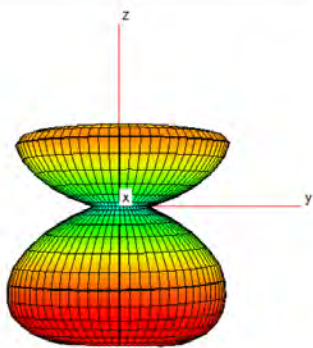
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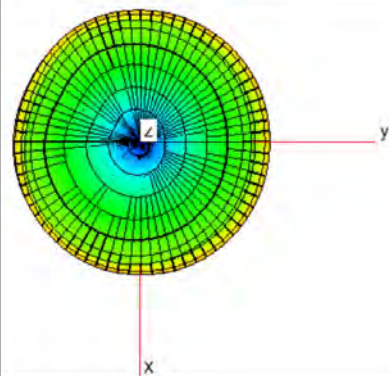
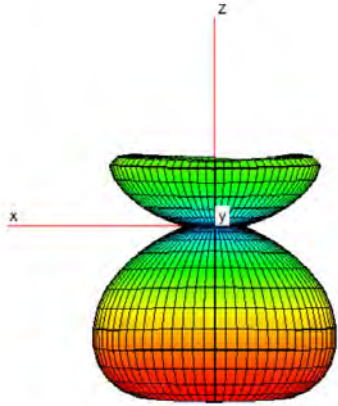
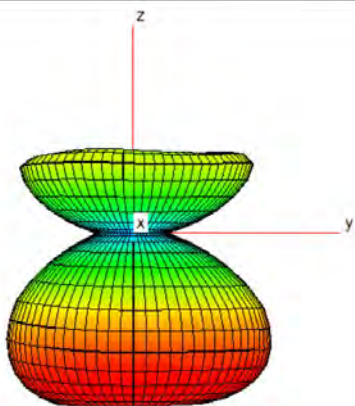
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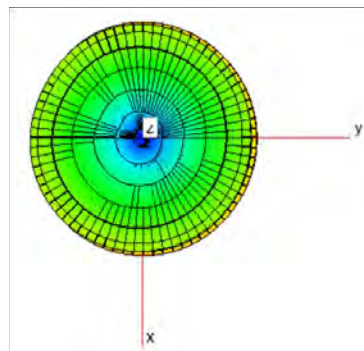
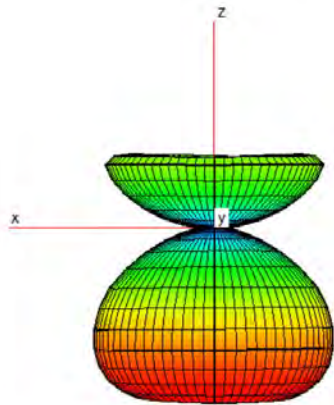
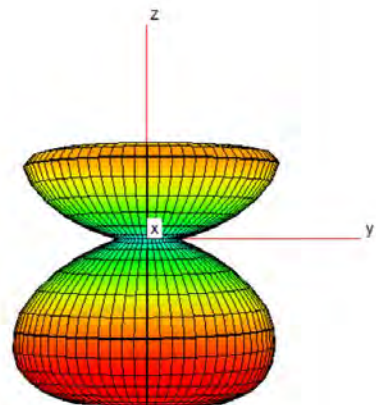
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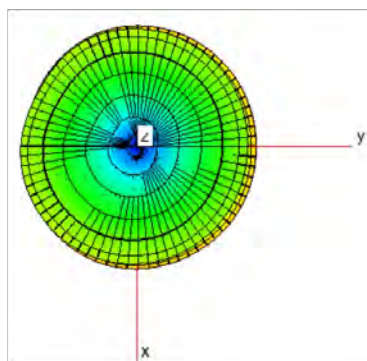
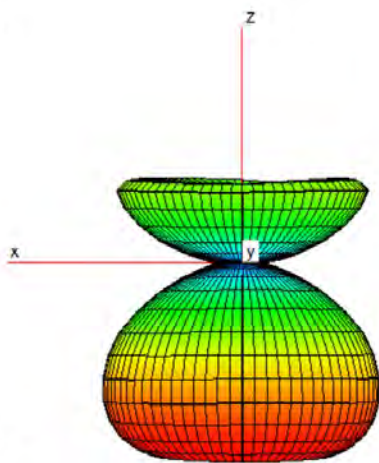
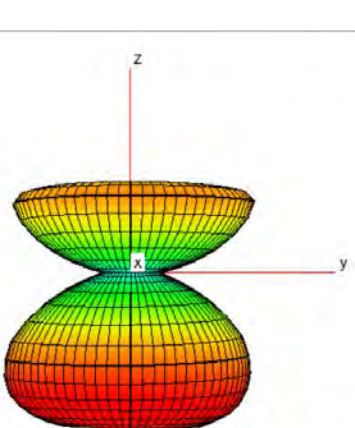
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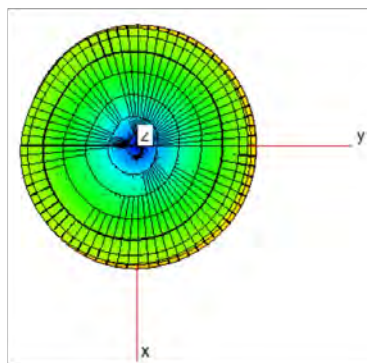
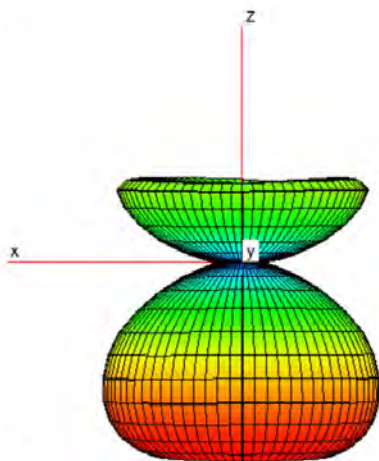
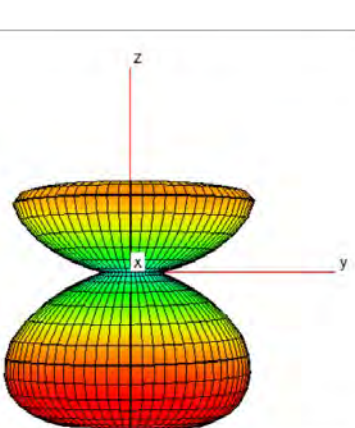
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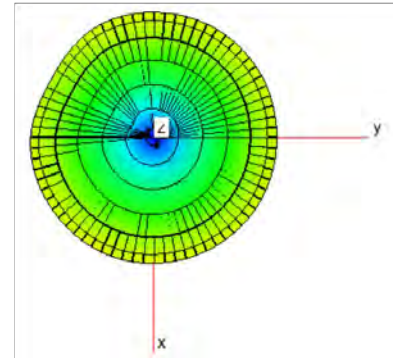
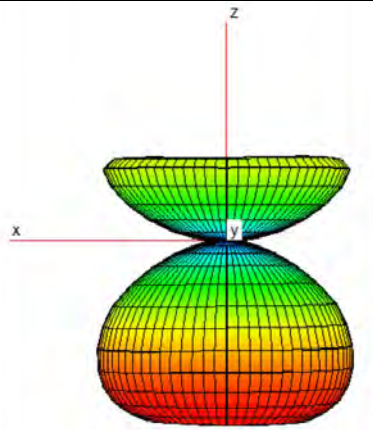
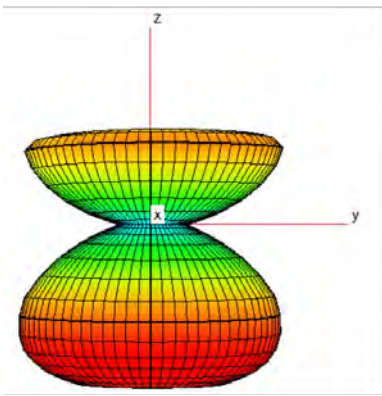
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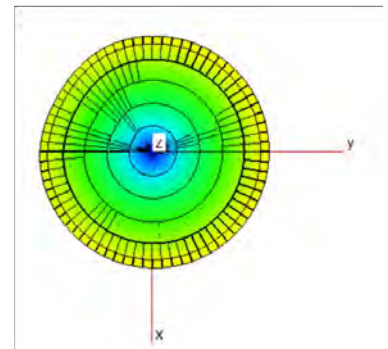
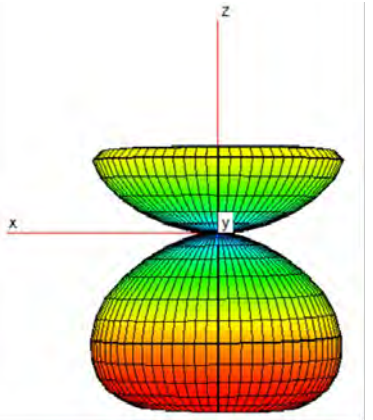
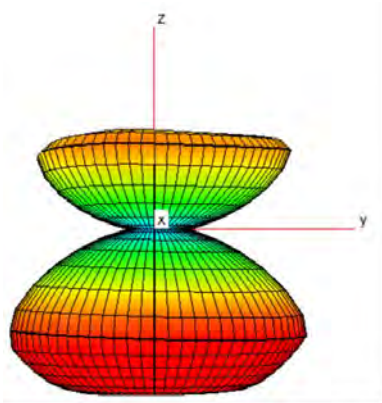
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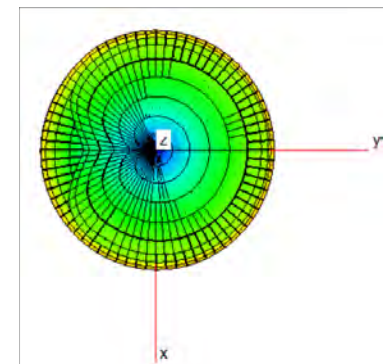
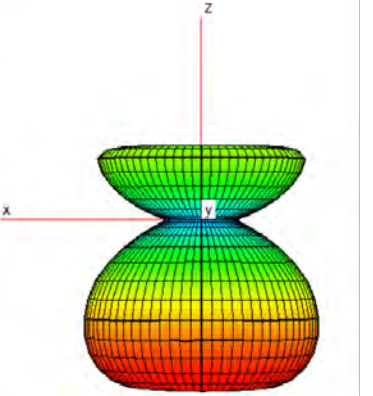
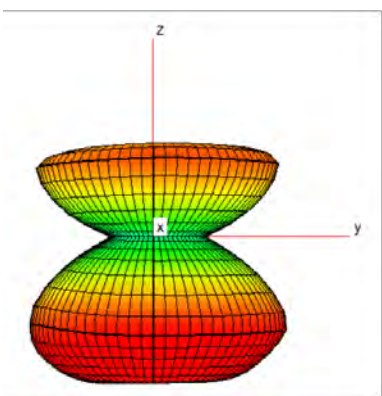
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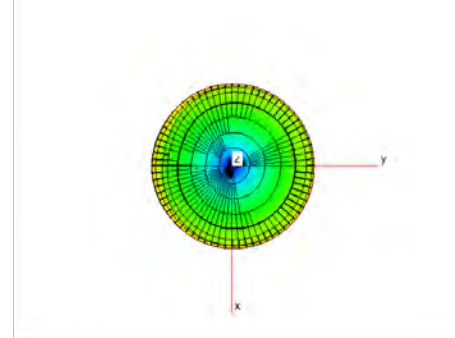
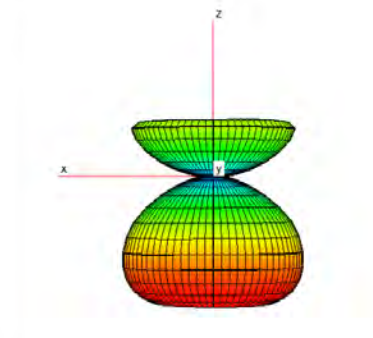
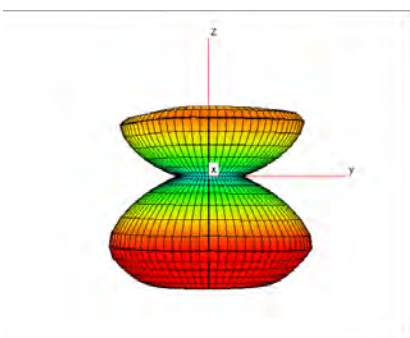
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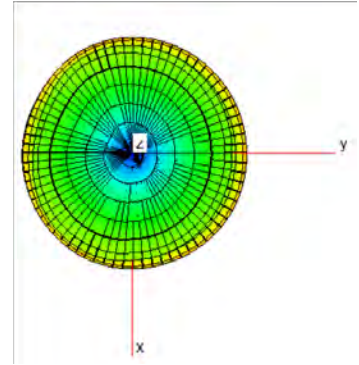
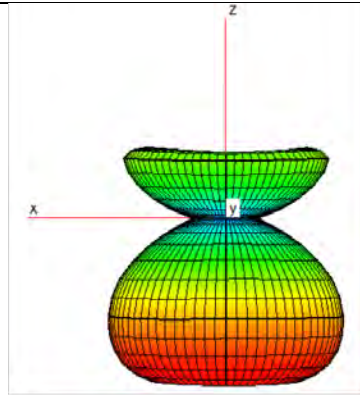
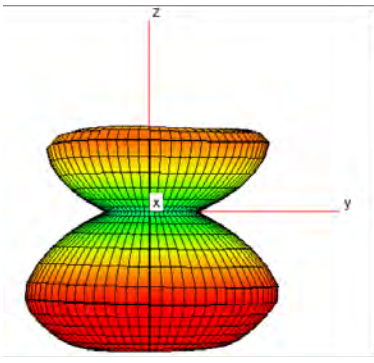
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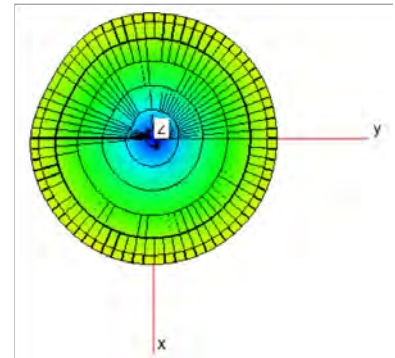
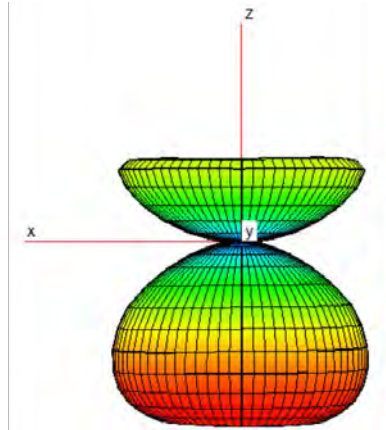
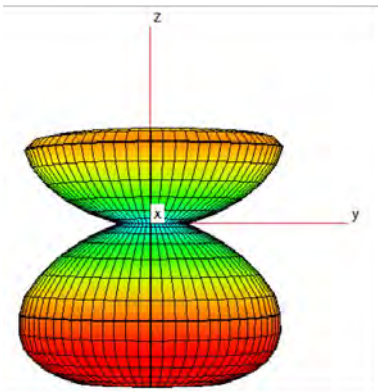
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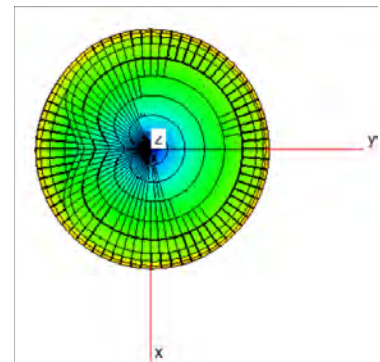
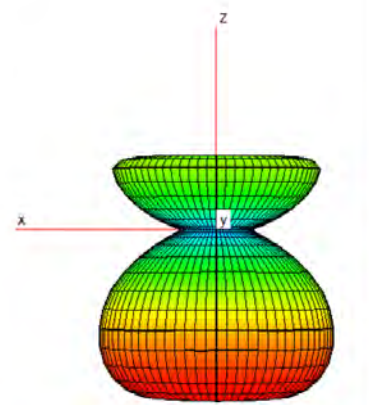
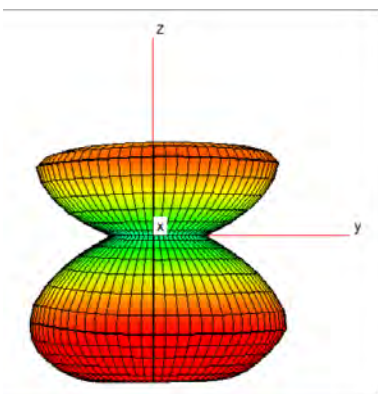
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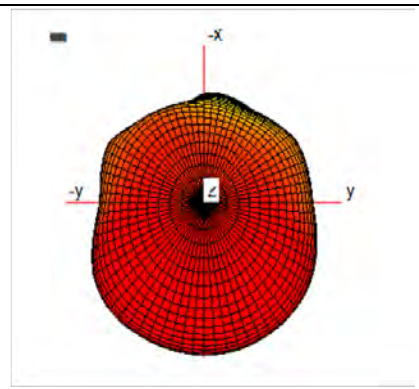
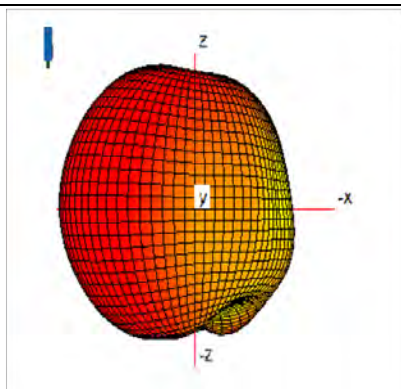
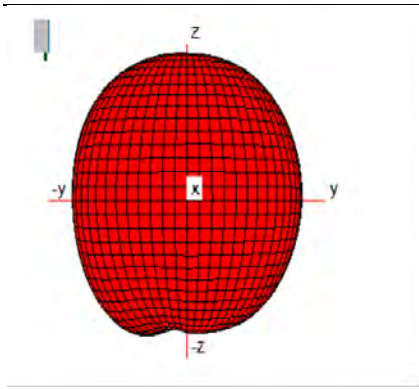
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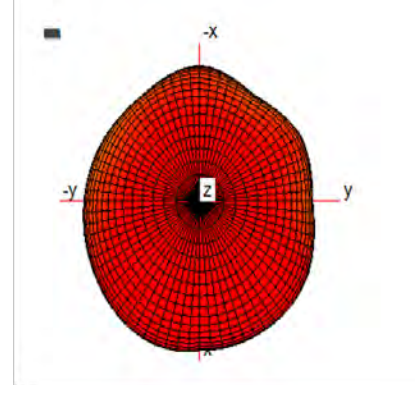
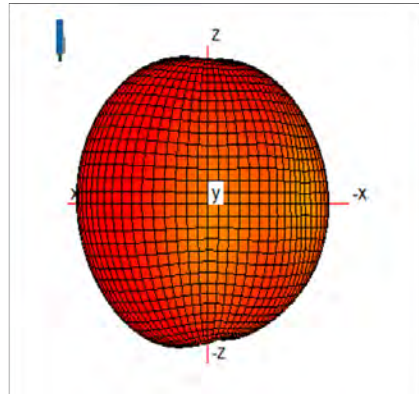
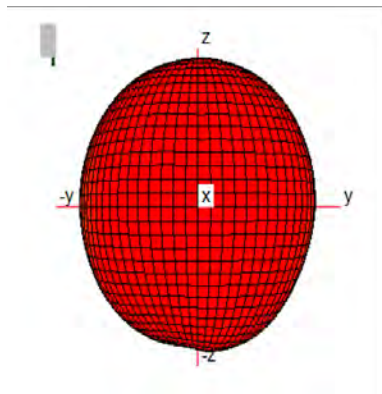
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Antenna model name: Insert molding metal

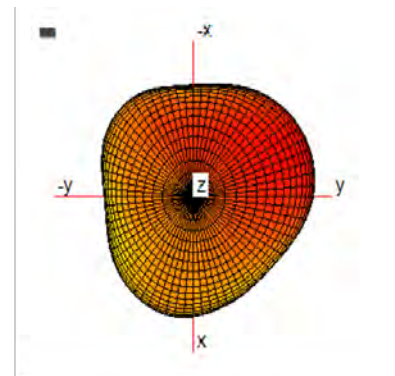
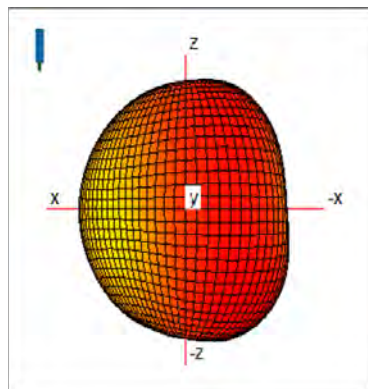
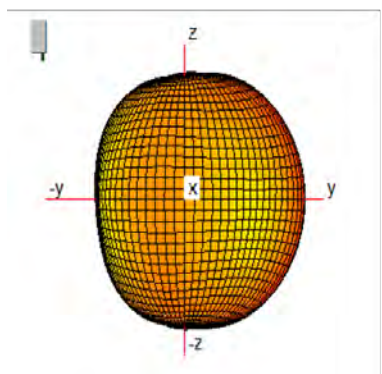
Antenna type: IFA



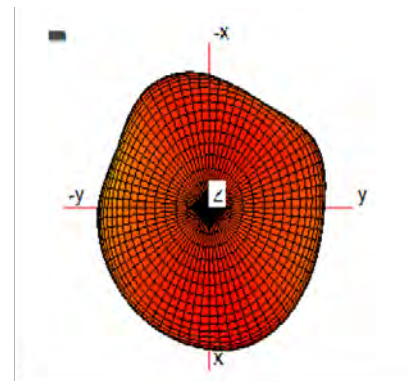
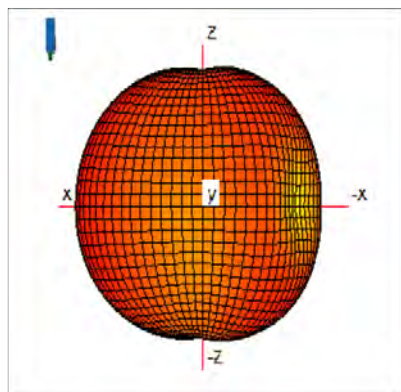
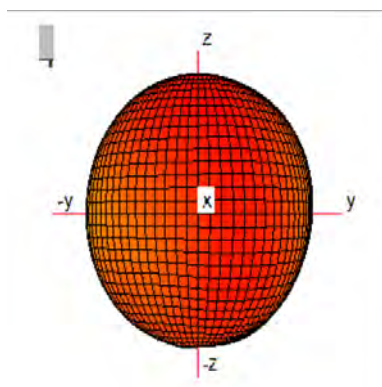
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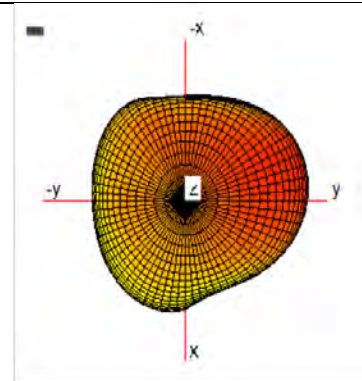
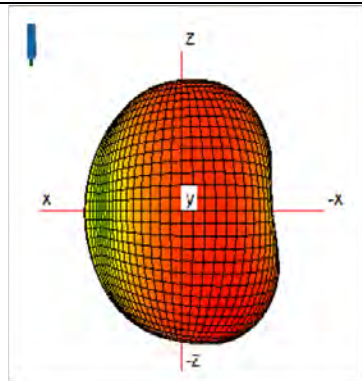
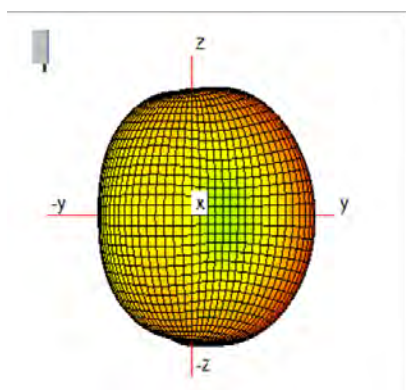
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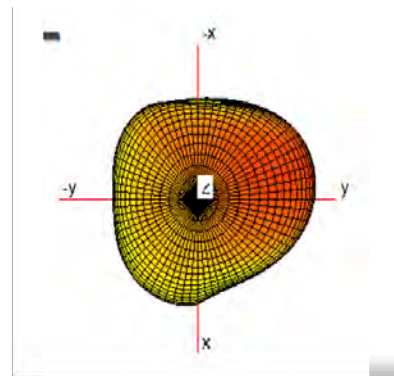
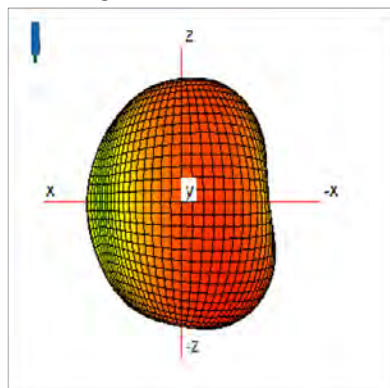
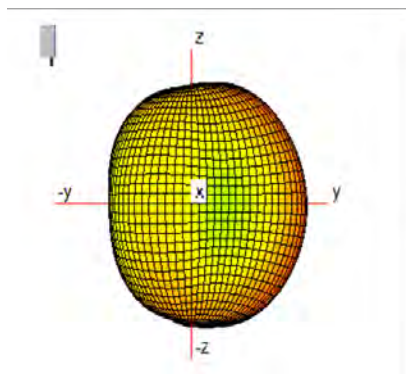
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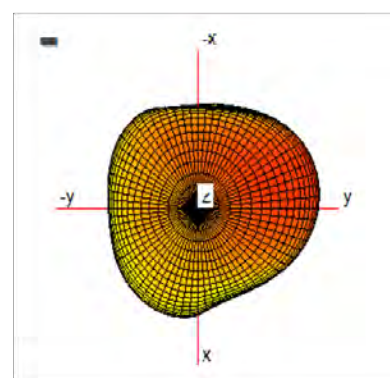
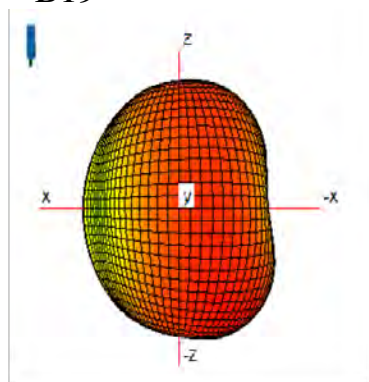
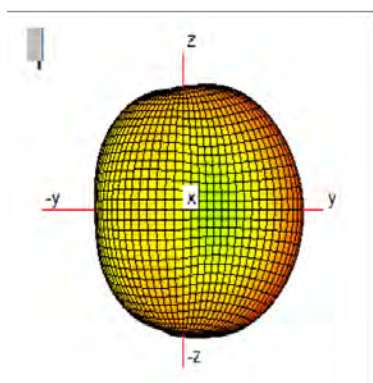
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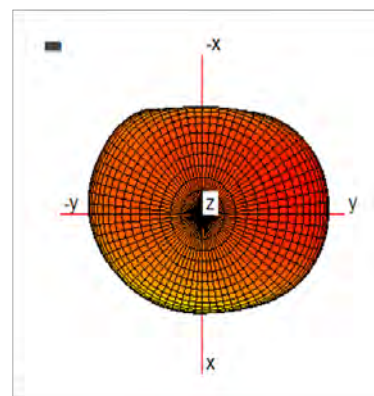
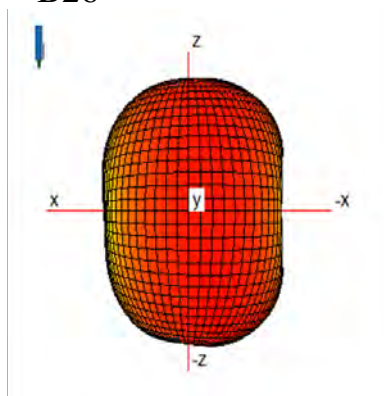
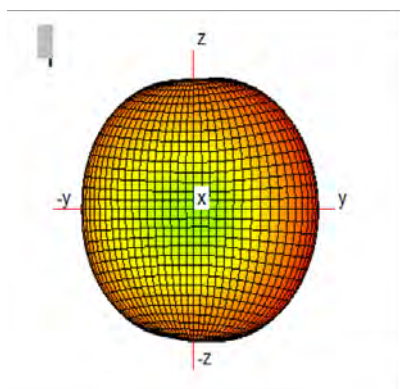
B18



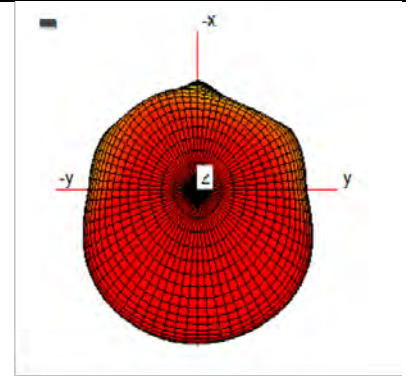
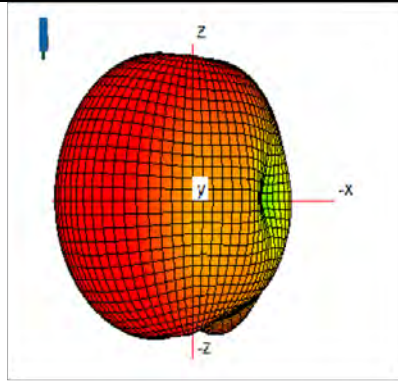
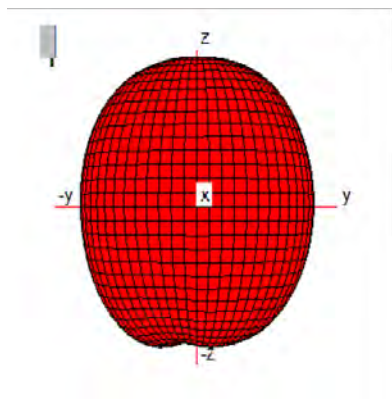
B19



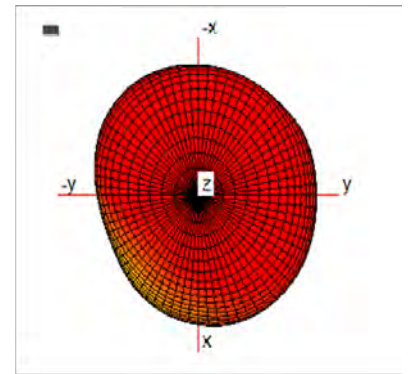
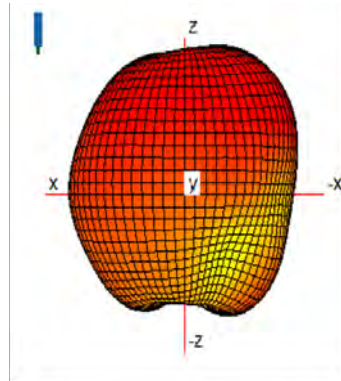
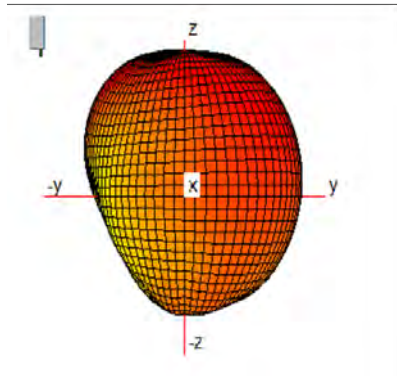
B26



B28



B39



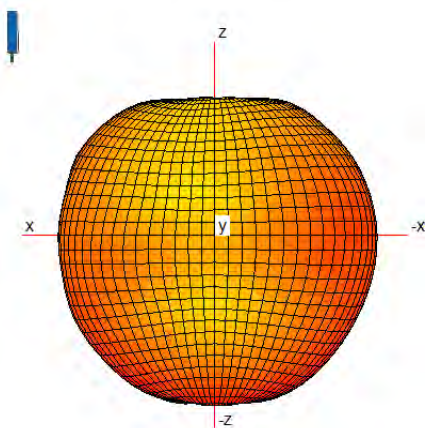
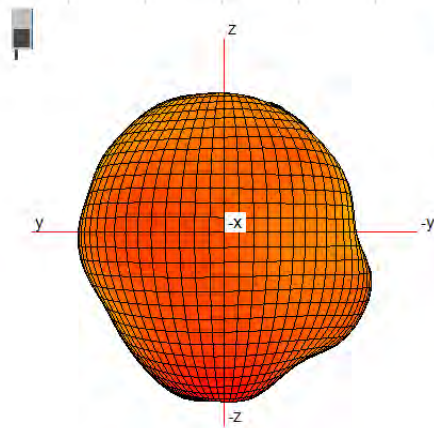
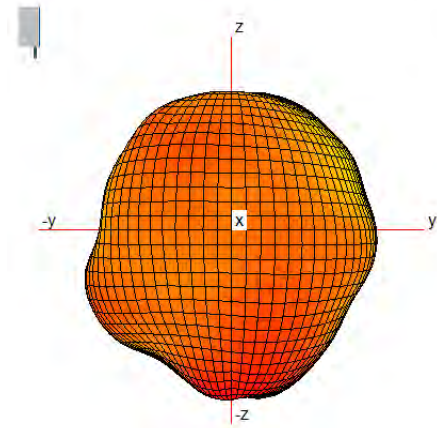
B41

ANT2

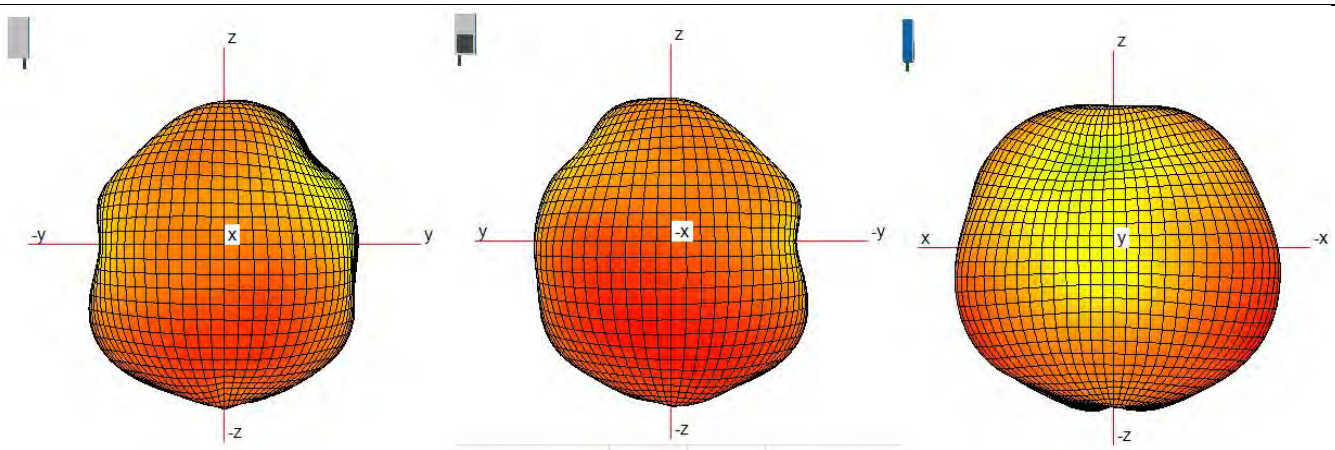
Antenna model name: Insert molding metal

Antenna type: Loop

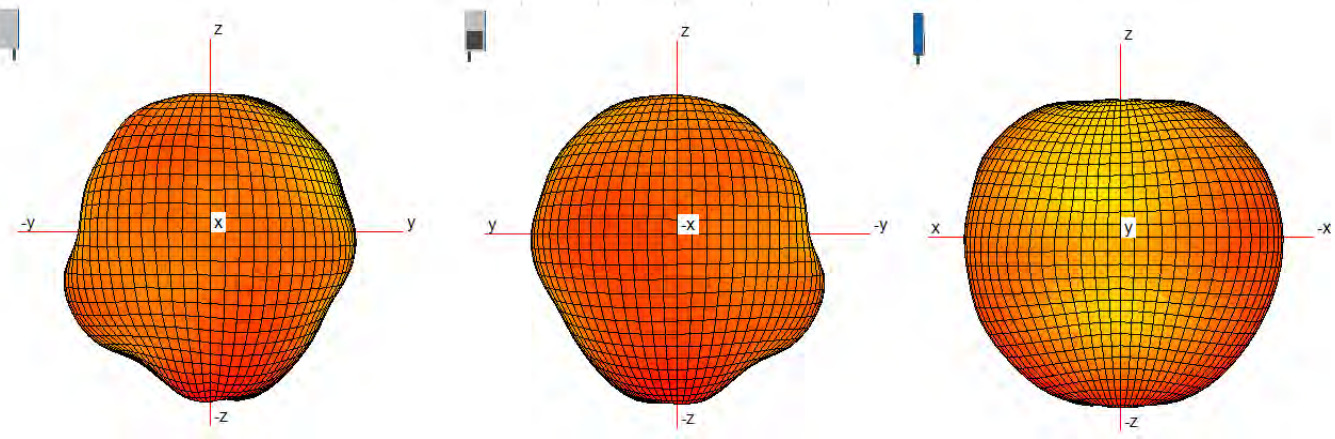
B1



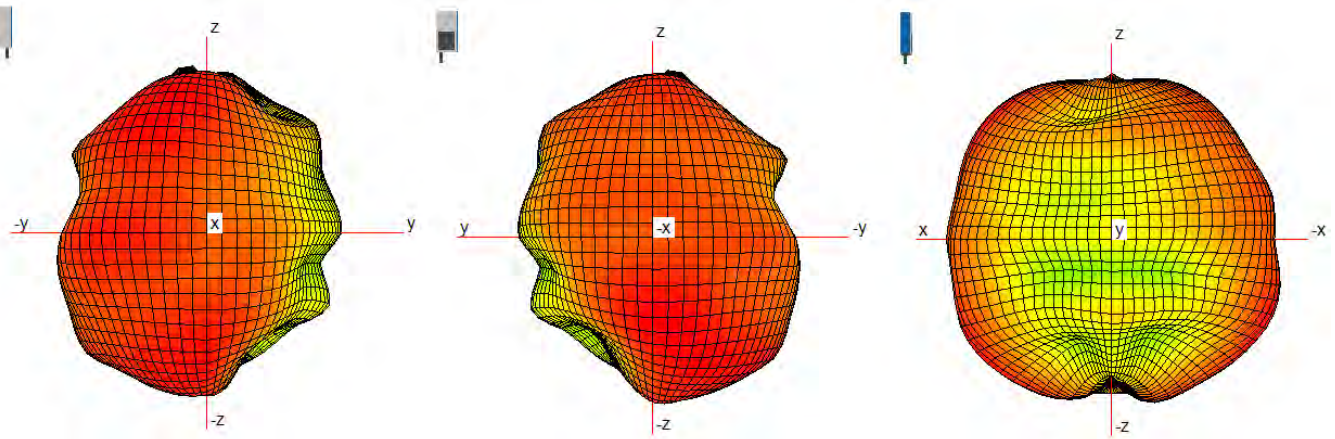
B3



B39



B41



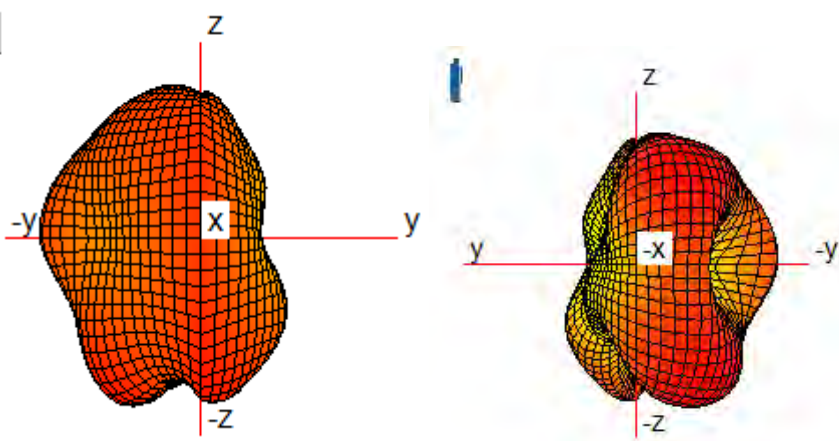
ANT3

Antenna model name: Insert molding metal

Antenna type: IFA

(Rear view– Front view)

WIFI 2.4G (2450 MHz)



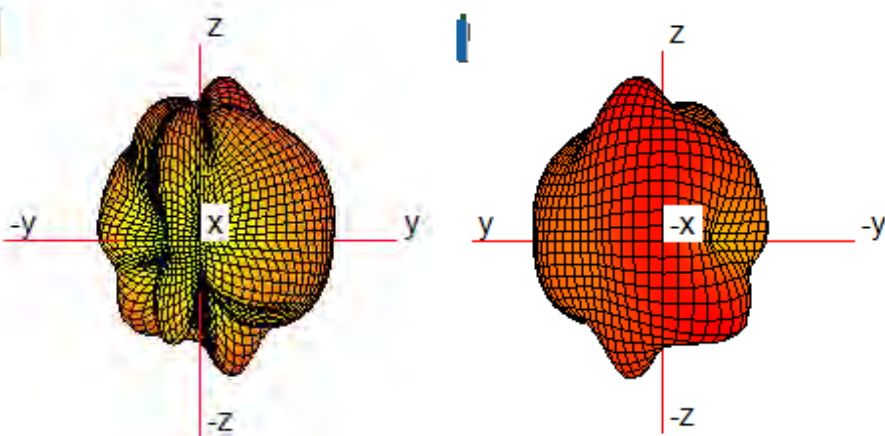
ANT4

Antenna model name: Insert molding metal

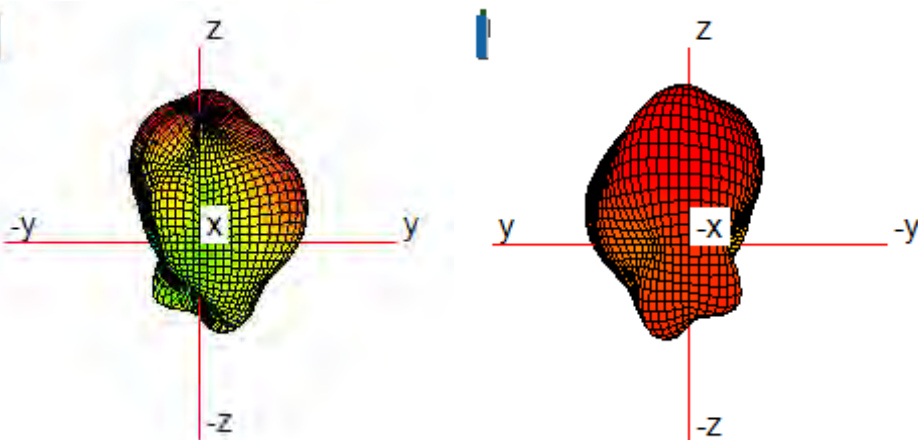
Antenna type: IFA

(Rear view– Front view)

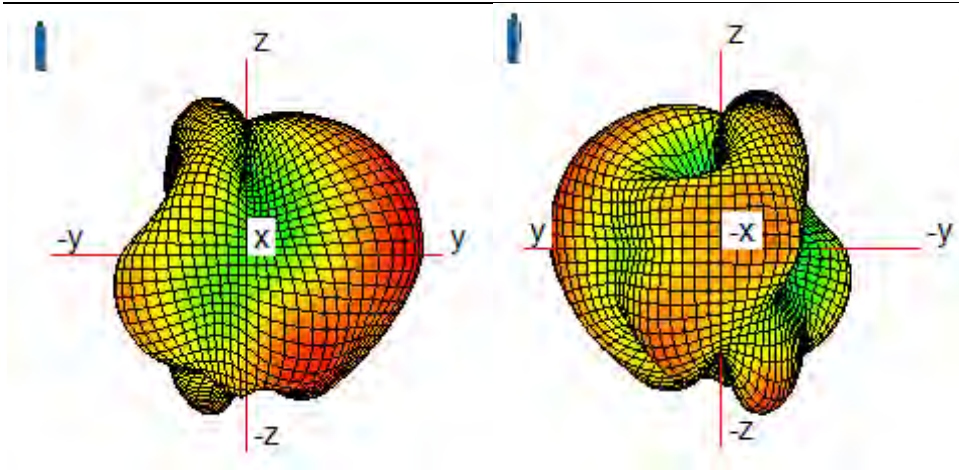
NR (3300 MHz)



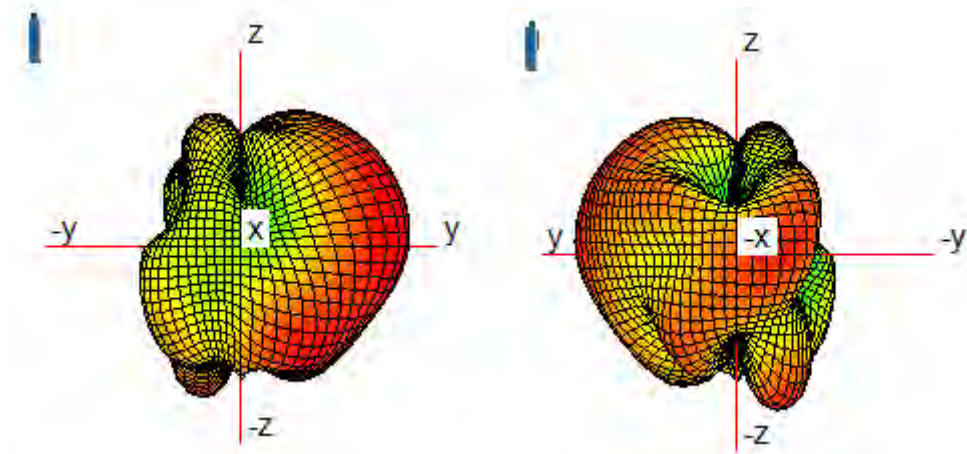
NR (4000 MHz)



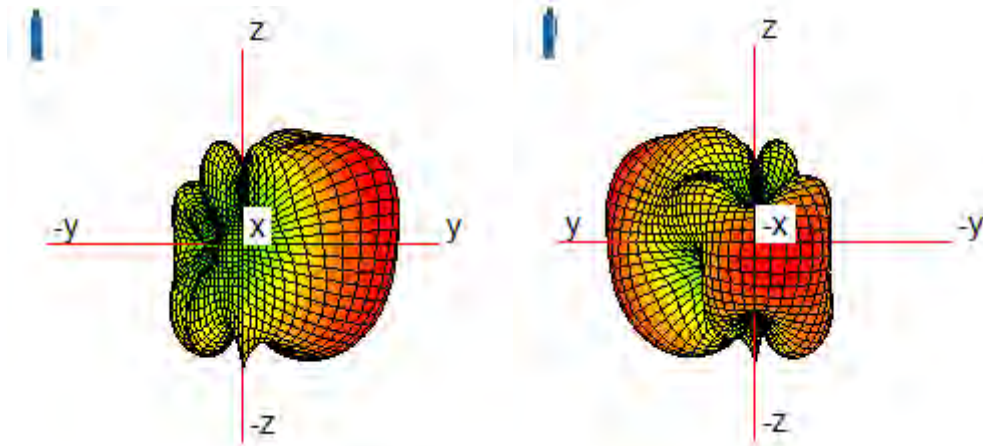
WIFI 5G (5200 MHz)



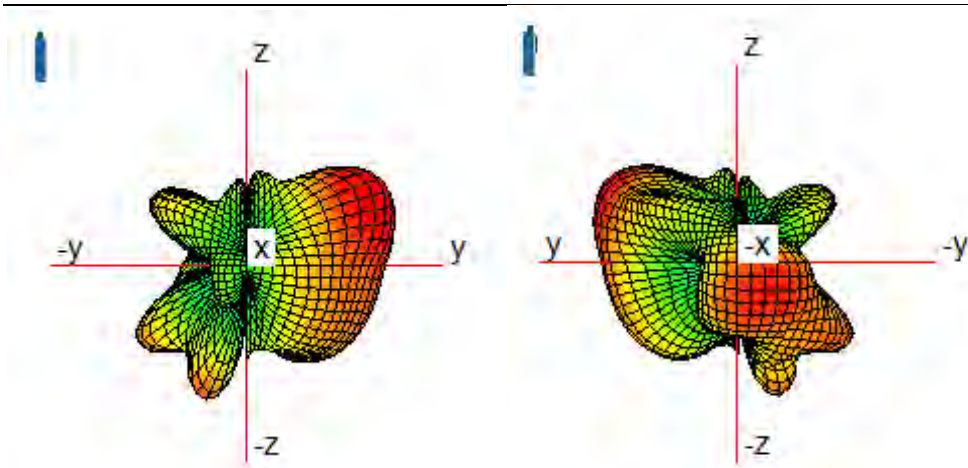
WIFI 5G (5300 MHz)



WIFI 5G (5500 MHz)



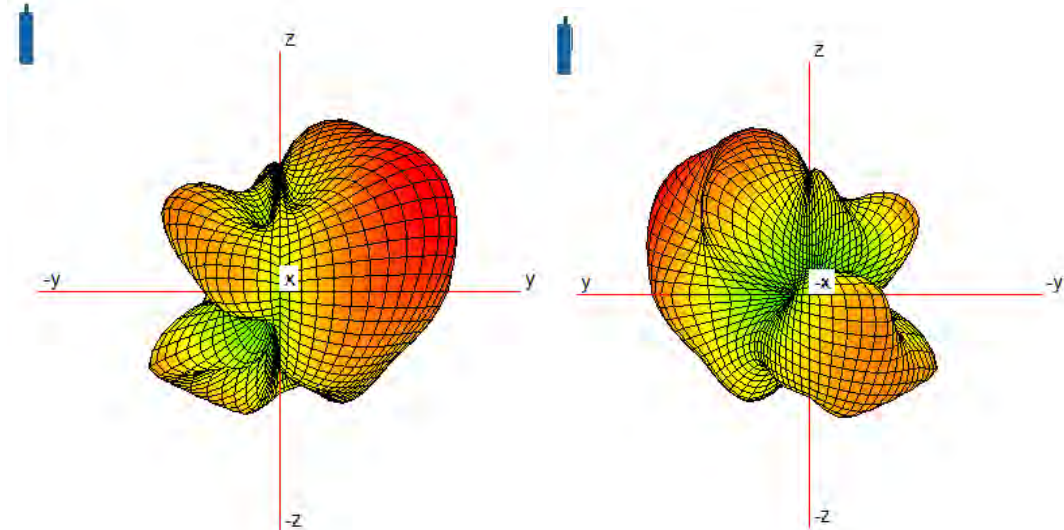
WIFI 5G (5800 MHz)



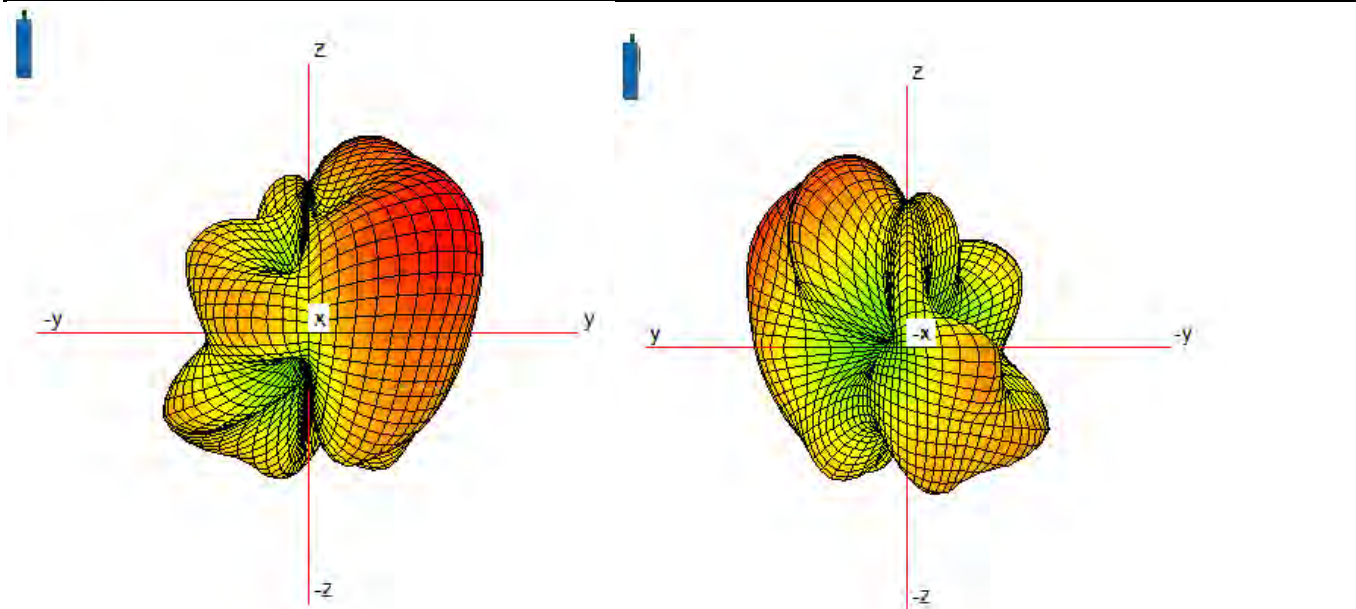
WIFI 6E (UNII-5)



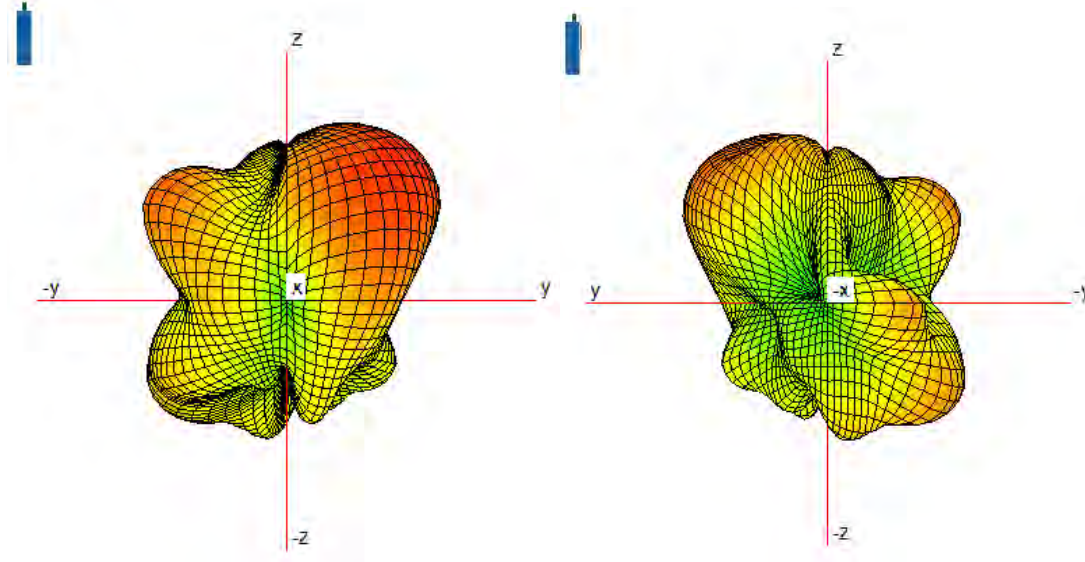
WIFI 6E (UNII-6)



WIFI 6E (UNII-7)



WIFI 6E (UNII-8)



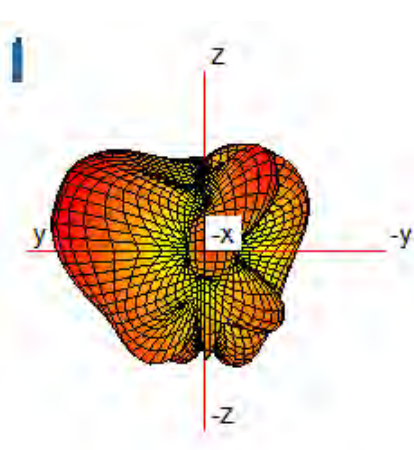
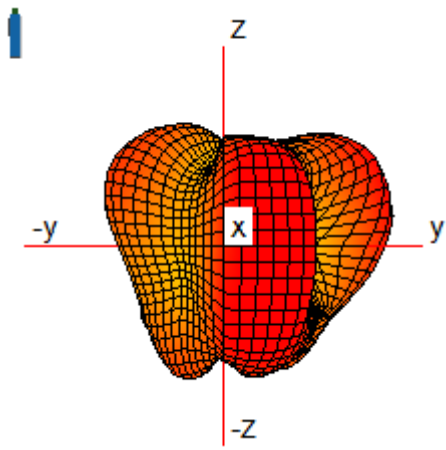
ANT5

Antenna model name: Insert molding metal

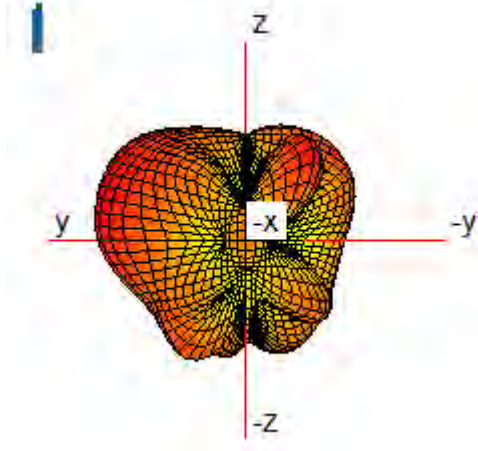
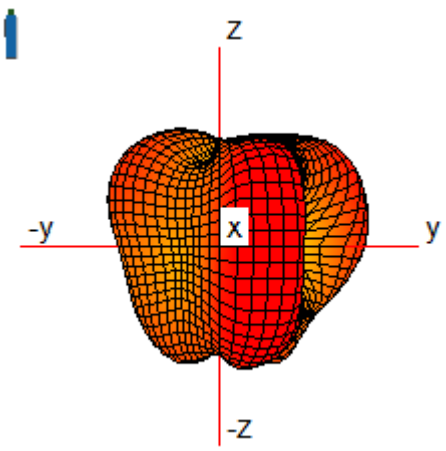
Antenna type: IFA

(Rear view– Front view)

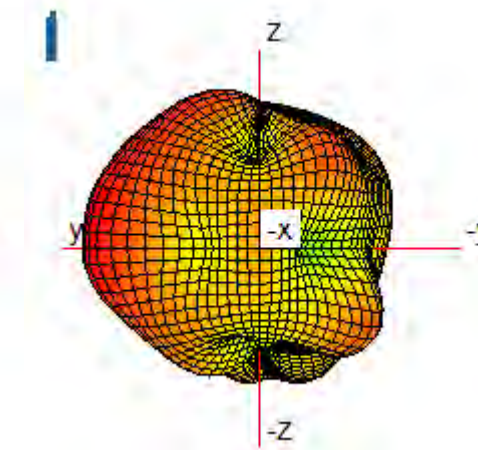
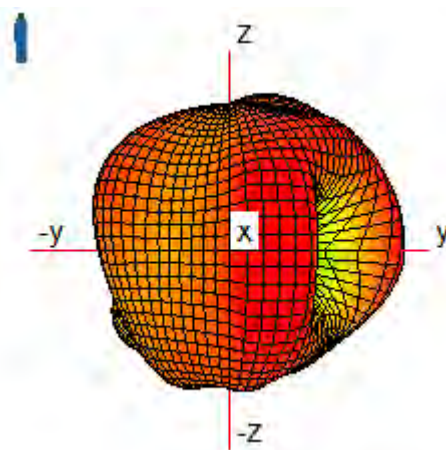
WIFI 5G (5200 MHz)



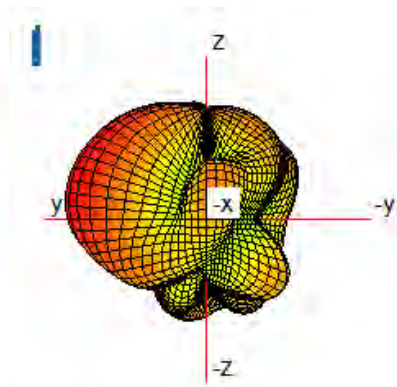
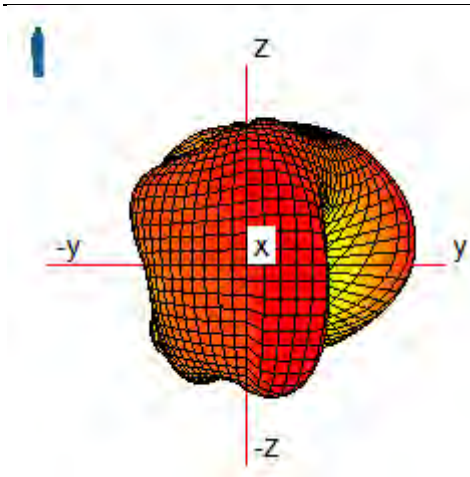
WIFI 5G (5300 MHz)



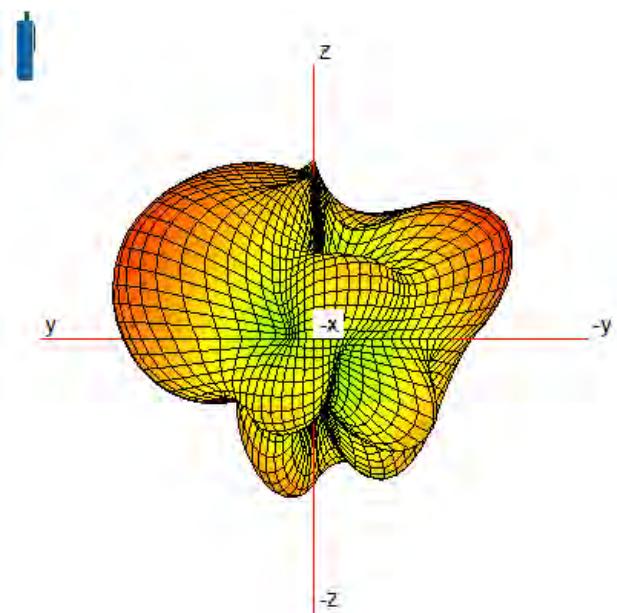
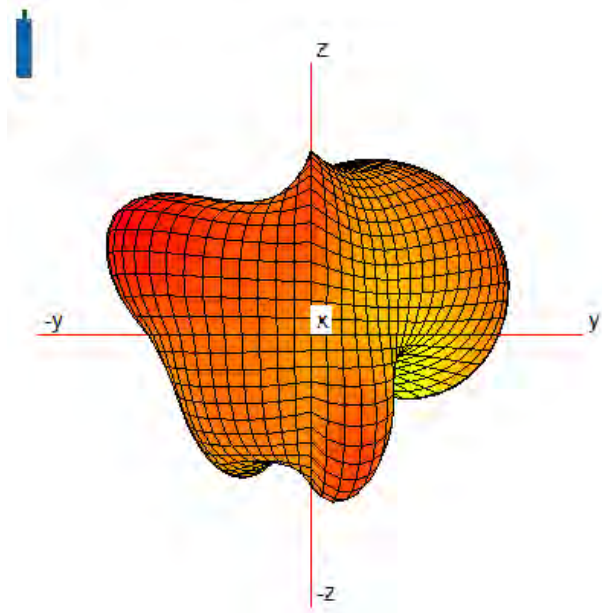
WIFI 5G (5500 MHz)



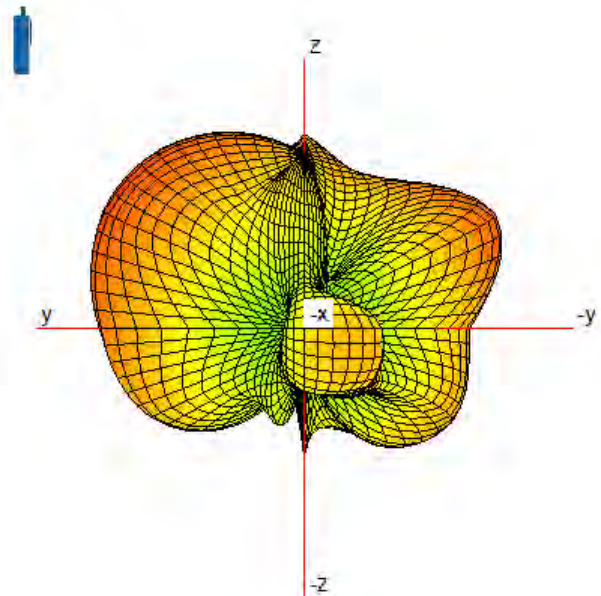
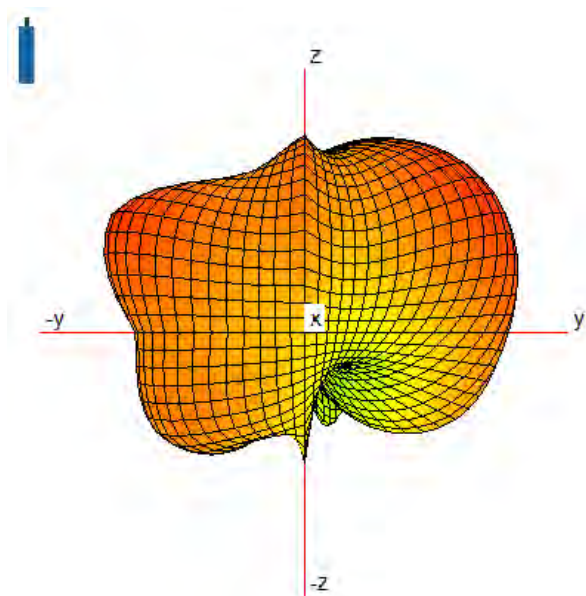
WIFI 5G (5800 MHz)



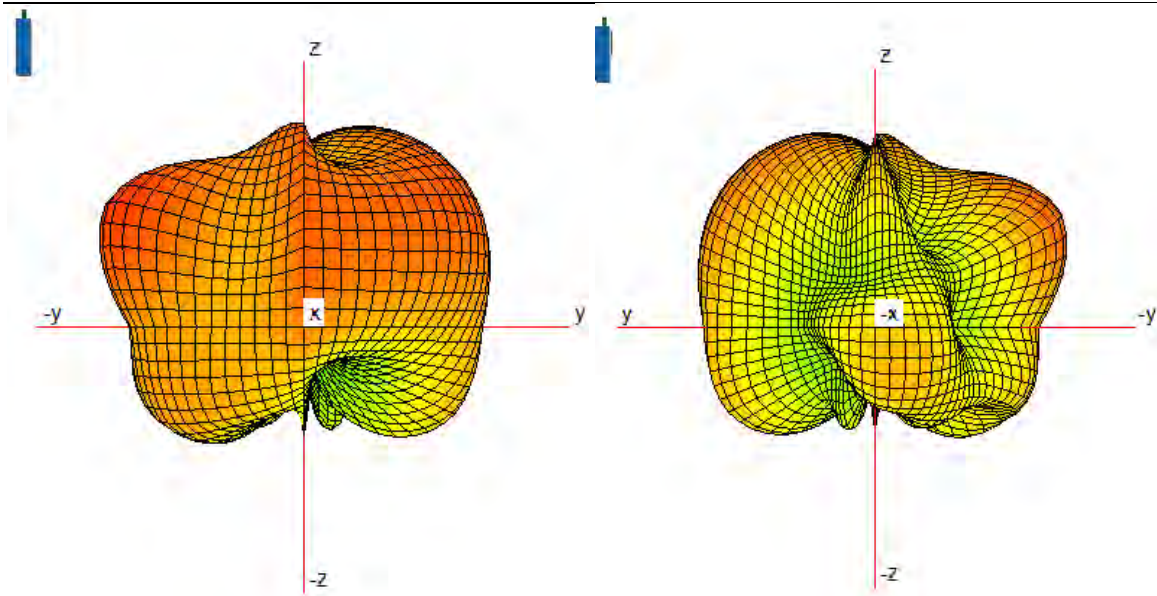
WIFI 6E (UNII-5)



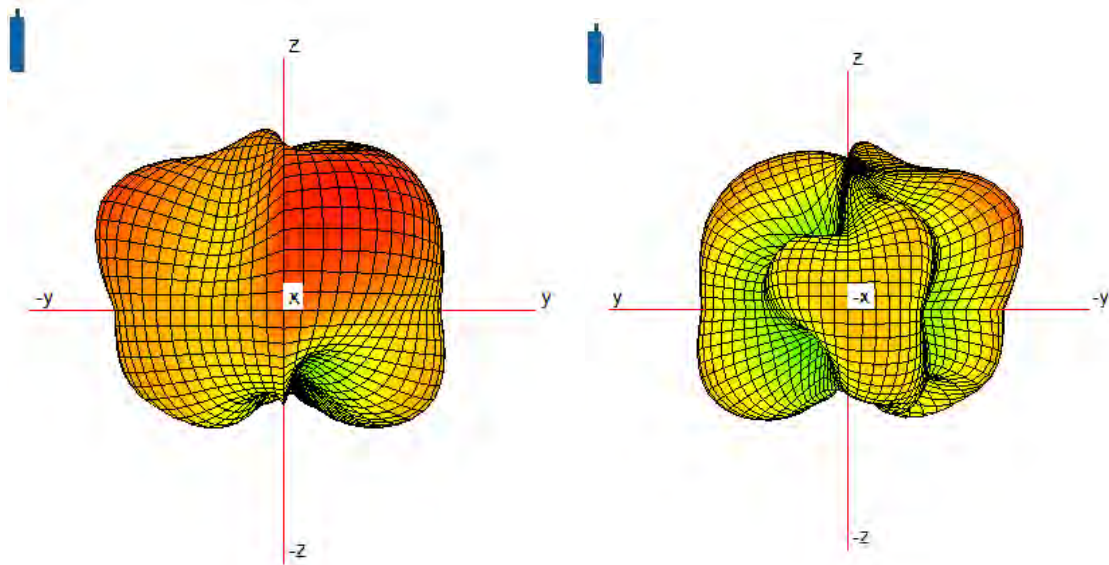
WIFI 6E (UNII-6)



WIFI 6E (UNII-7)



WiFi 6E (UNII-8)



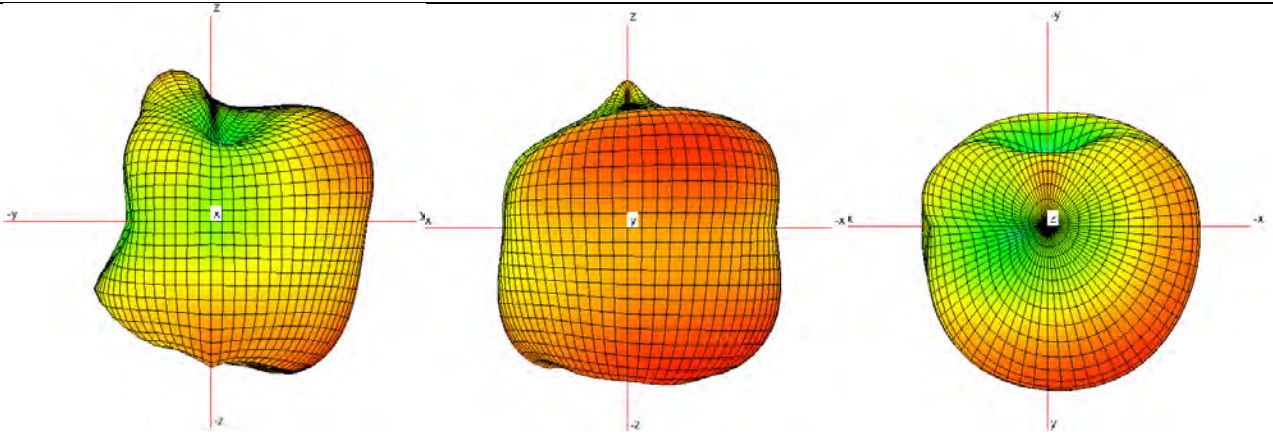
ANT6

Antenna model name: Insert molding metal

Antenna type: IFA

(Rear view– Front view)

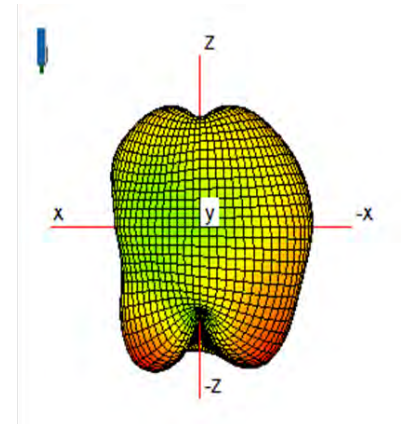
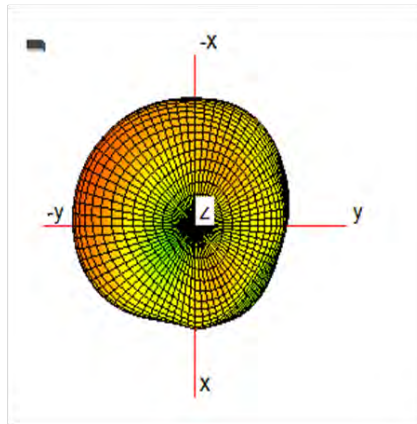
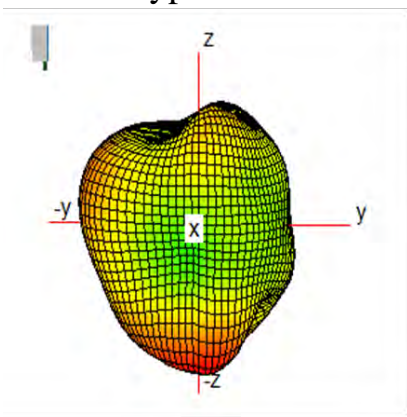
WiFi 2.4G (2450 MHz)



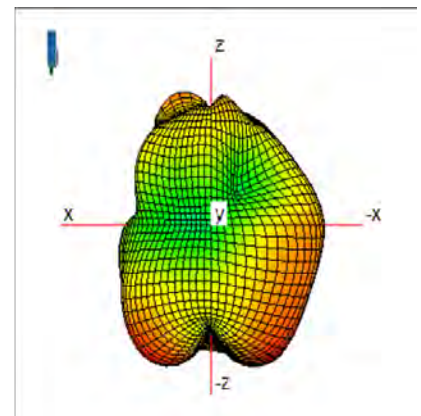
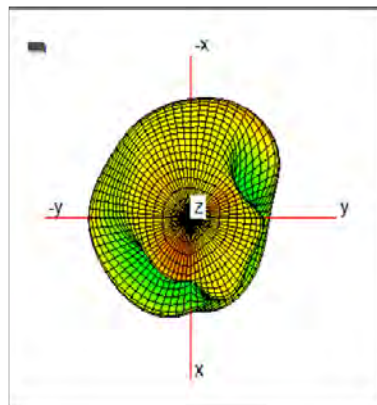
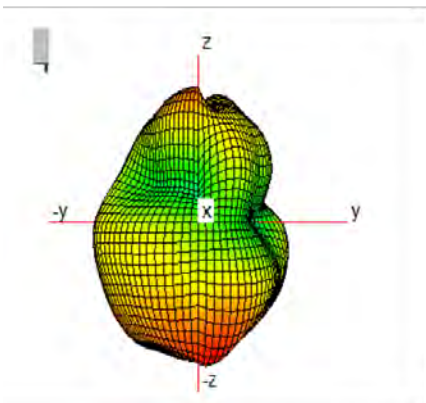
ANT7

Antenna model name: Insert molding metal

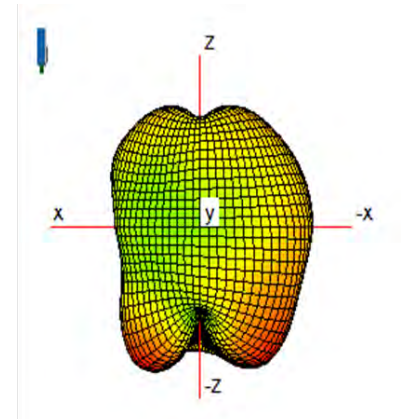
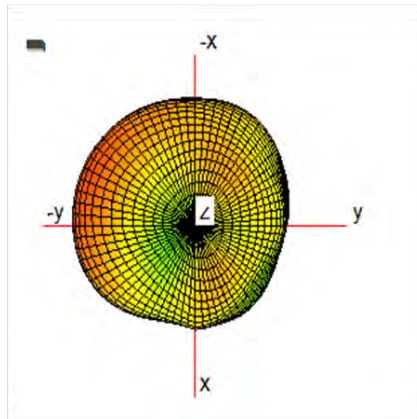
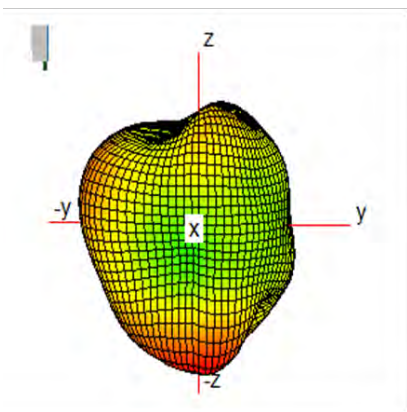
Antenna type: IFA



N77



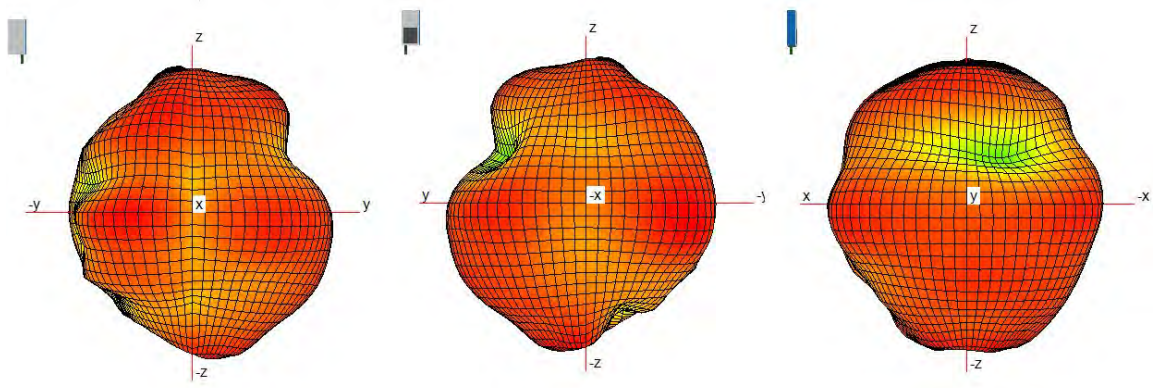
N78



ANT8

Antenna model name: Insert molding metal

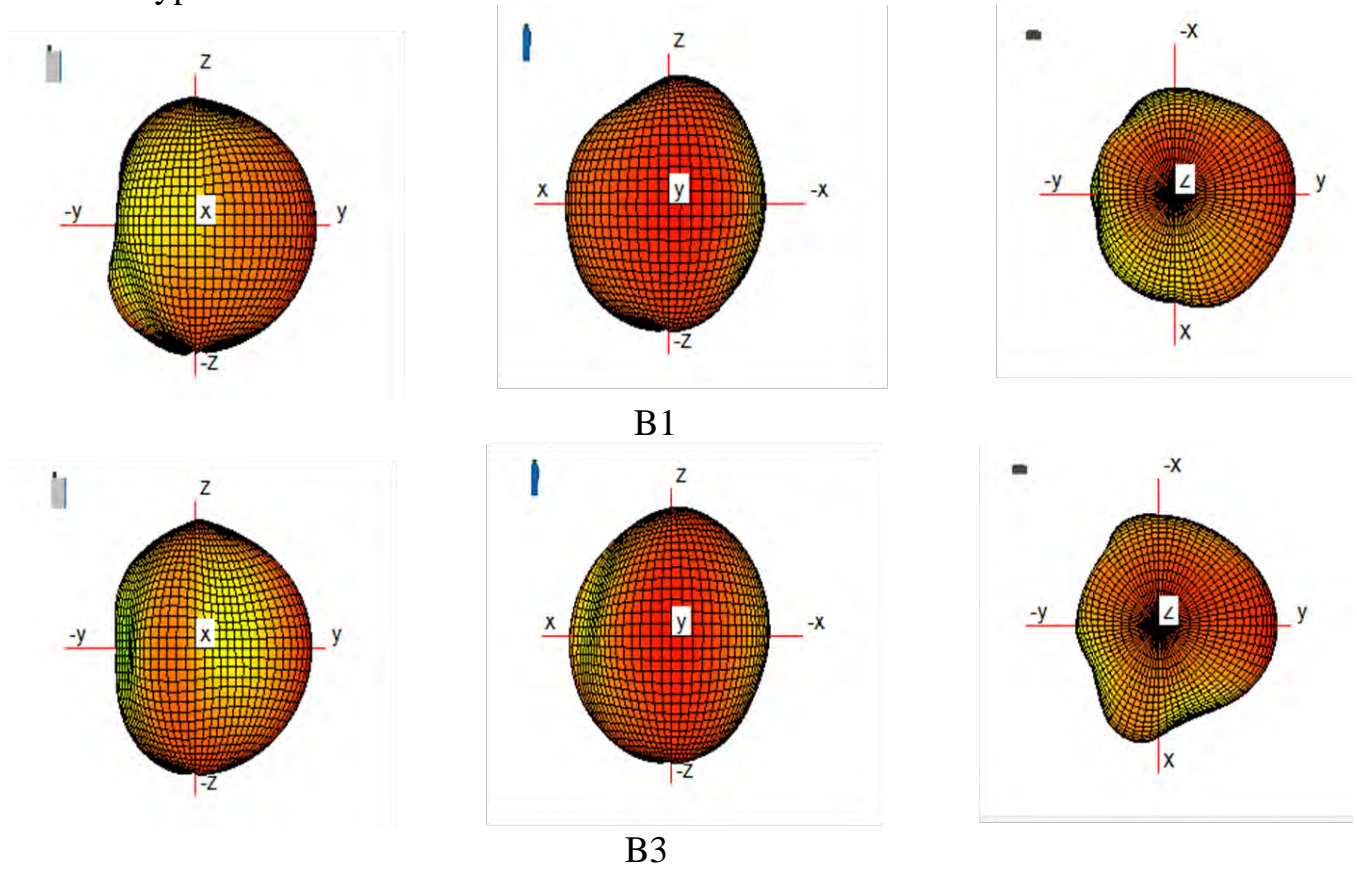
Antenna type: IFA

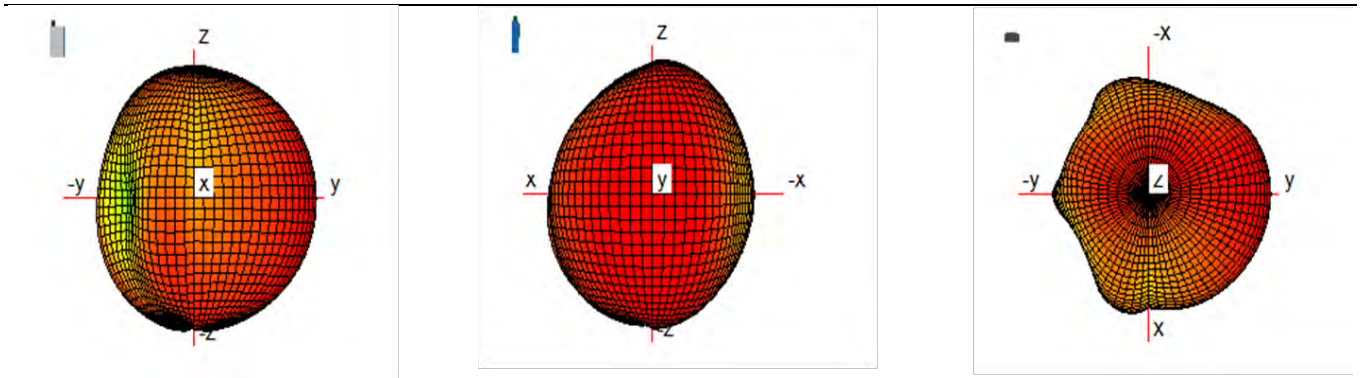


ANT9

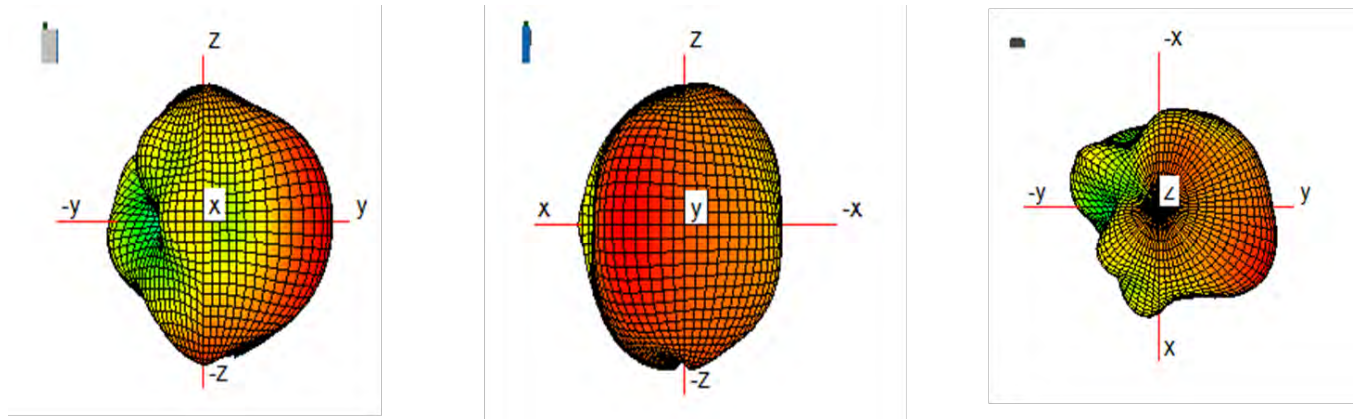
Antenna model name: Insert molding metal

Antenna type: IFA





B39

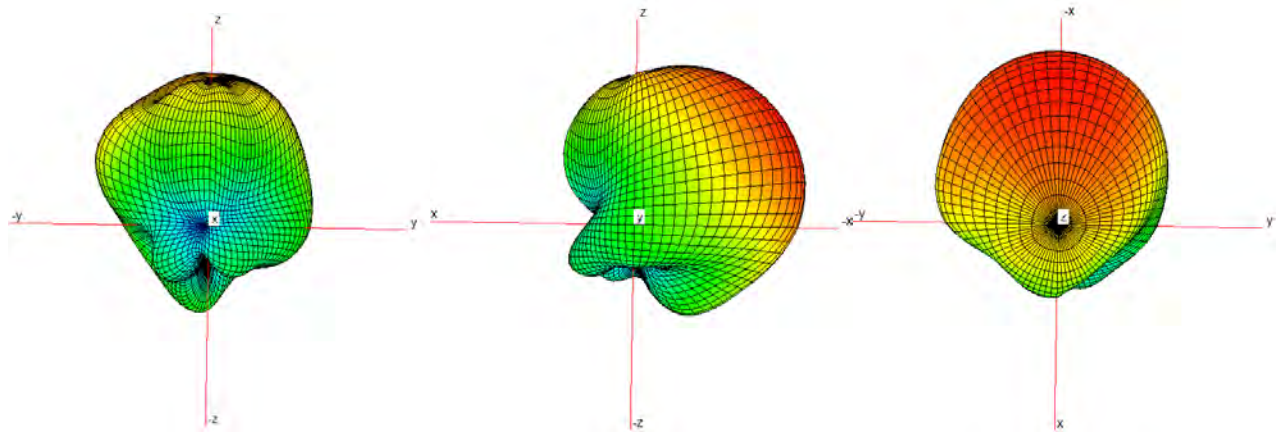


B41

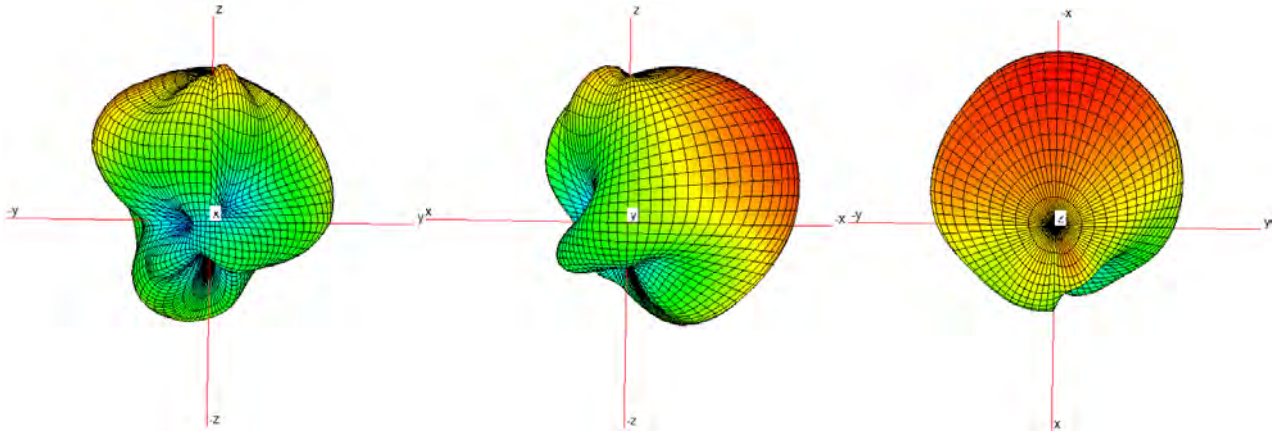
ANT10

Antenna model name: Insert molding metal

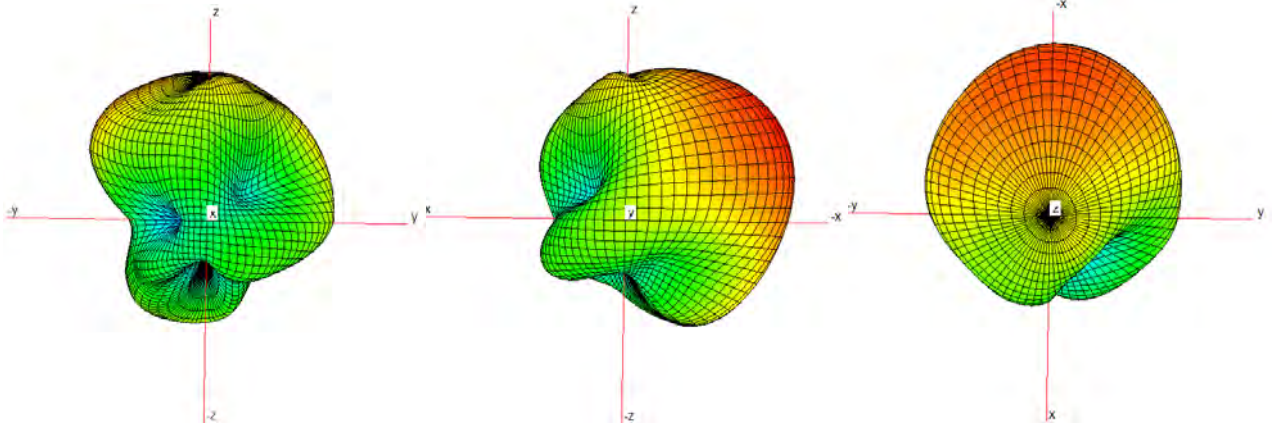
Antenna type: IFA



N77(3900MHz)



N78(3600MHz)



B42(3500MHz)