

FXUB63.07.0150C

Specification

PATENT PENDING

Part No.	**FXUB63.07.0150C**
Product Name	LTE Wide Band Flex Antenna 698MHz -3000 MHz
Features	Patent Pending Ground Plane Independent 698-3000 MHz >45% Efficiency on All bands 5 dBi Peak Gain 96*21*0.2 mm size IPEX MHFHT (U.FL Compatible) RoHS Compliant

1. Introduction

The patent pending FXUB63 flexible wideband antenna has been designed to cover all working frequencies in the 698-3000 MHz spectrum, covering all Cellular, 2.4GHz Wi-Fi, ISM and AGPS. The antenna is delivered with a flexible body with excellent efficiencies on all bands, ground independent, with cable and connector for easy installation.

The FXUB63 flexible polymer antenna, at 96*21*0.2mm, is ultra thin and truly wideband with high efficiencies across the bands. It is assembled by a simple “peel and stick” process, attaching securely to non-metal surfaces via 3M adhesive. It enables designers to use only one antenna that covers all common LTE frequencies.

The FXUB63 antenna is a durable flexible polymer antenna that has a peak gain of 5dBi, an efficiency of more than 45% across the bands and is designed to be mounted directly onto a plastic or glass cover. It is an ideal choice for any device maker that needs to keep manufacturing costs down over the lifetime of a product. It is ground plane independent and delivered with a cable and connector for easy connecting to the wireless module or customer PCB.

Cables and Connectors are customizable. Like all such antennas, care should be taken to mount the antenna at least 10mm from metal components or surfaces, and ideally 20mm for best Radiation efficiency.

2. Specification

Band	700/850/900	1575	1700/1800/1900	2100	2400	2600
Standard	**CELL**	**GPS**	**CELL**	**CELL**	**ISM**	**CELL**
Frequency (MHz)	698-960	1575.42	1710-1990	1755-2170	2400-2500	2500-2690
Max VSWR	2:1	2:1	1.8:1	1.7:1	1.7:1	2.3:1
Max Return Loss (dB)	-10	-10	-11	-12	-12	-8
Peak Gain (dBi)	1	2.5	3.5	5	5	4.5
Efficiency (%)	50	75	78	65	75	75
Average Gain (dB)	-3	-2	-2	-2.5	-2	-2
Radiation Properties	Omni-directional					
Max Input Power (Watts)	5					
Polarization	Linear					
Impedance (Ohms)	50 Ohms					
	MECHANICAL					
Dimensions (mm)	96*21*0.2 mm					
Material	Flexible Polymer					
Connector and Cable	IPEX MHFHT(U.FL comp) and 1.37 mm mini coax					
Cable Length	150 mm					
	ENVIRONMENTAL					
Operation Temperature	-40°C to 85°C					
Storage Temperature	-40°C to 85°C					
Relative Humidity	40% to 95%					
RoHs Compliant	Yes					

* Antenna measured on plastic plate of 3 mm thickness.

3. Antenna Paramenters

3.1. Return Loss

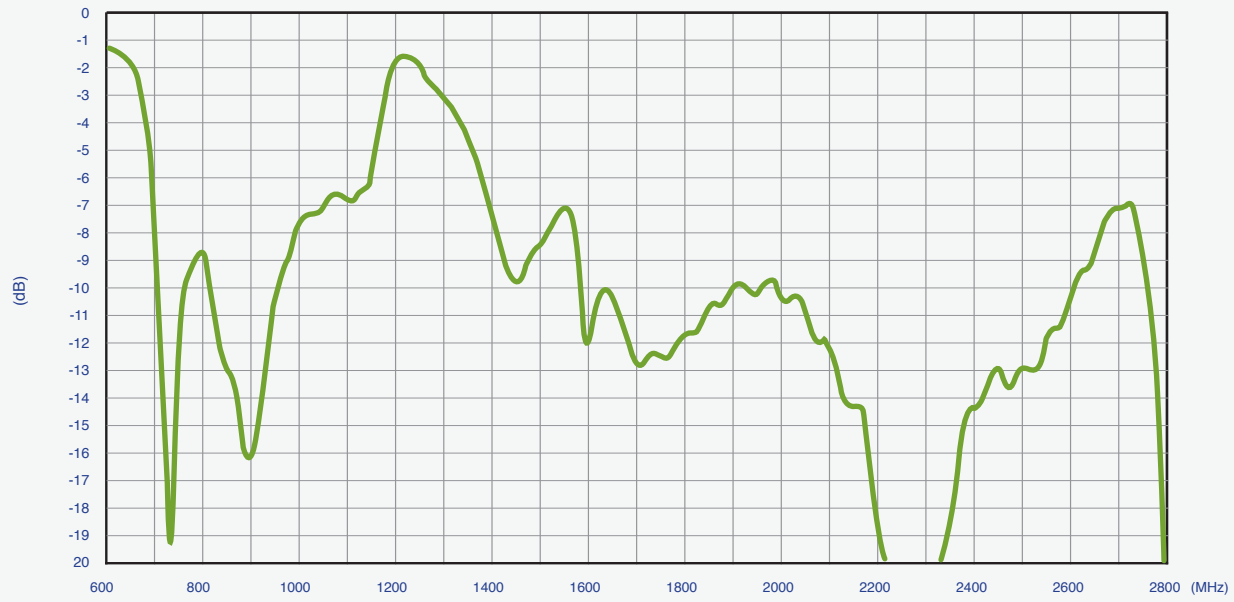


Figure 1. Return loss of FXUB63 Antenna.

3.2. VSWR

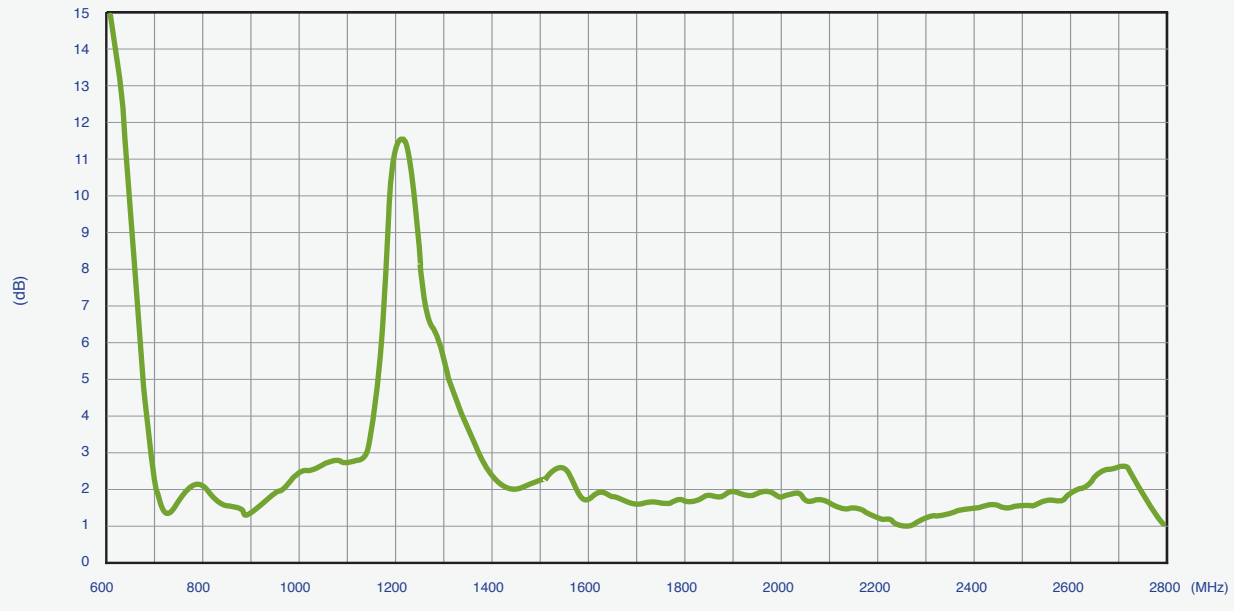


Figure 2. VSWR of FXUB63 Antenna.

3.3 Peak Gain

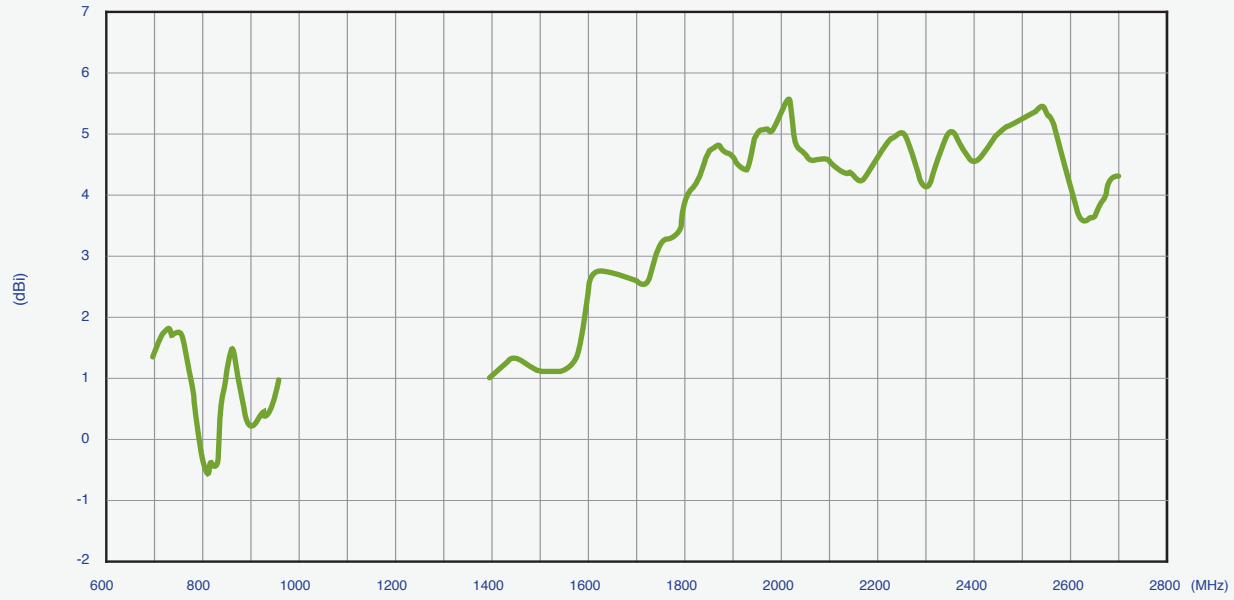


Figure 3. Peak Gain of FXUB63 Antenna

3.4 Efficiency

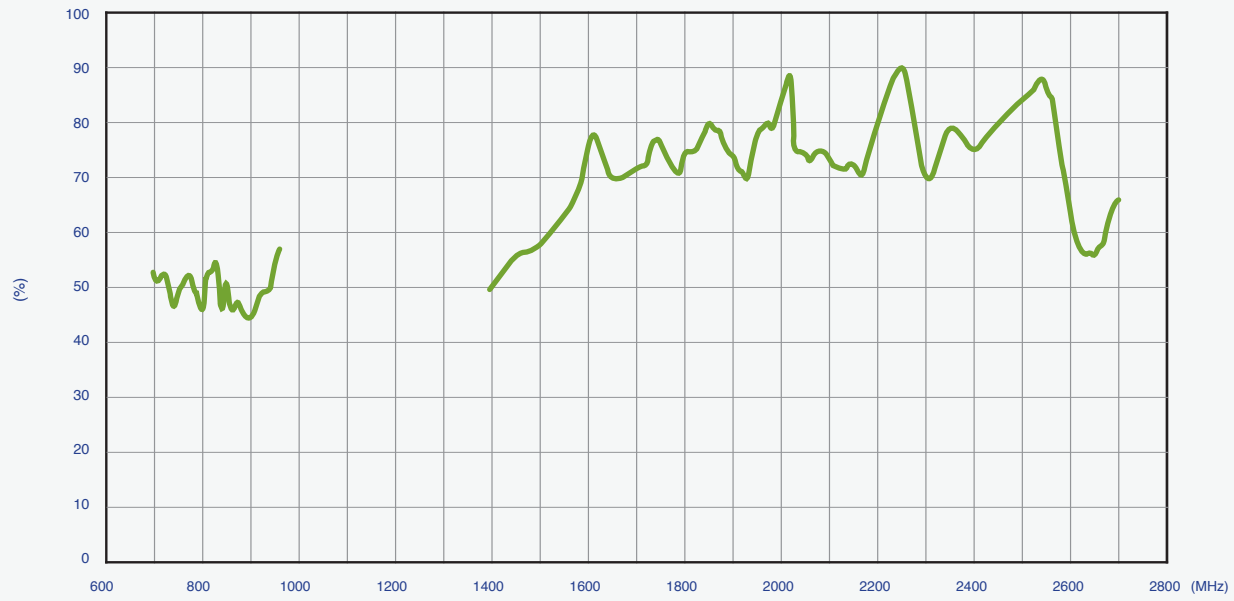


Figure 4. Efficiency of FXUB63 Antenna

3.5 Average Gain

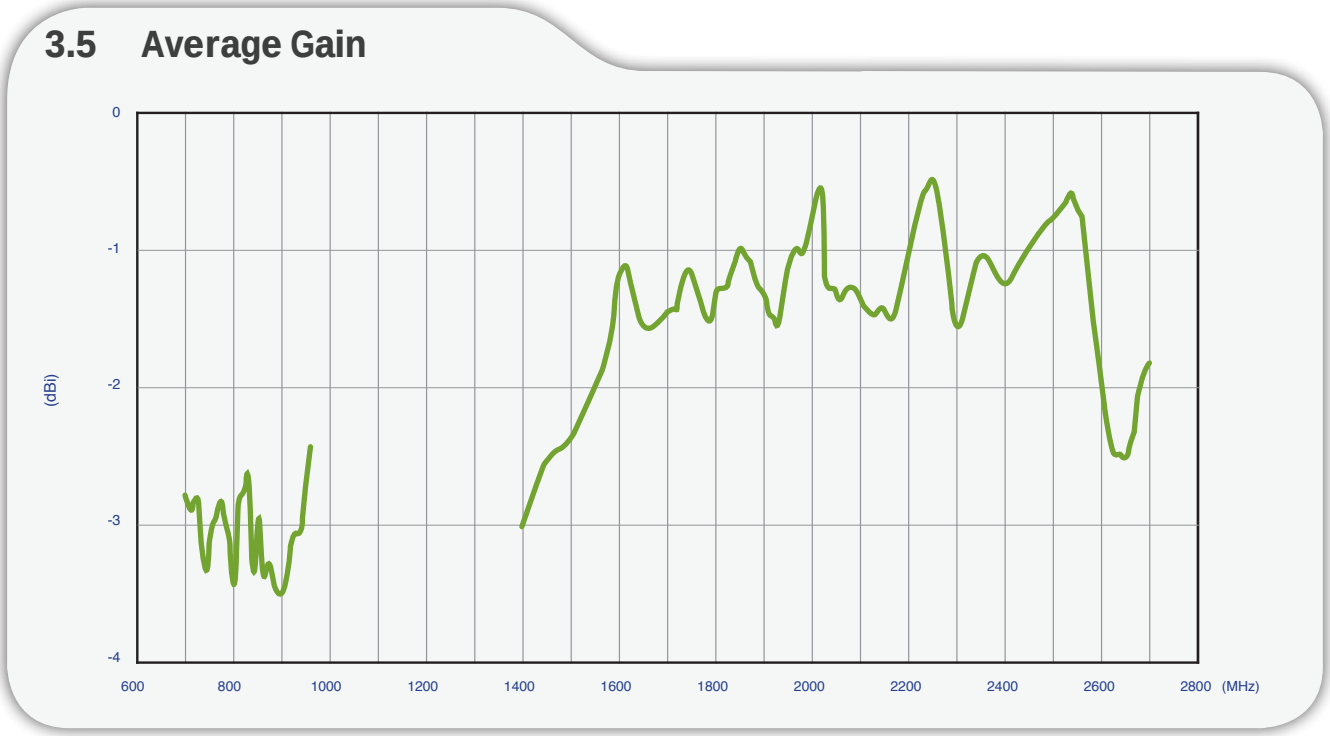


Figure 5. Average Gain of FXUB63 Antenna

3.6. Radiation Pattern

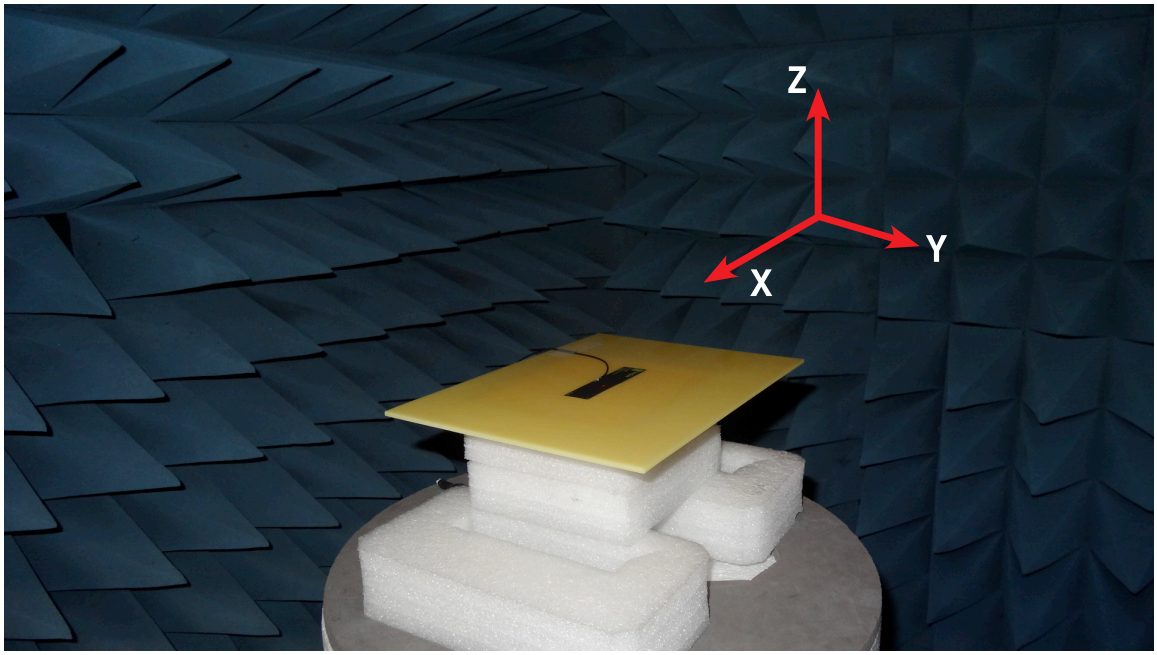


Figure 6. Radiation Pattern Reference of FXUB63 Antenna

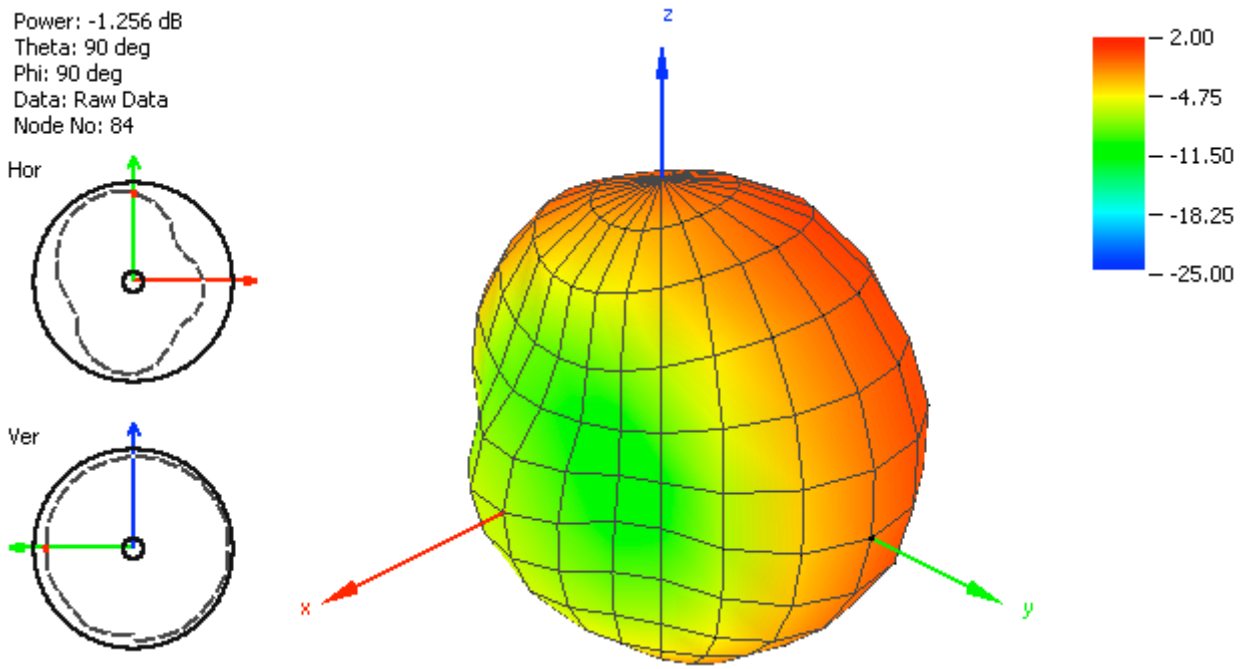


Figure 7. Radiation Pattern at 750 MHz of FXUB63 Antenna

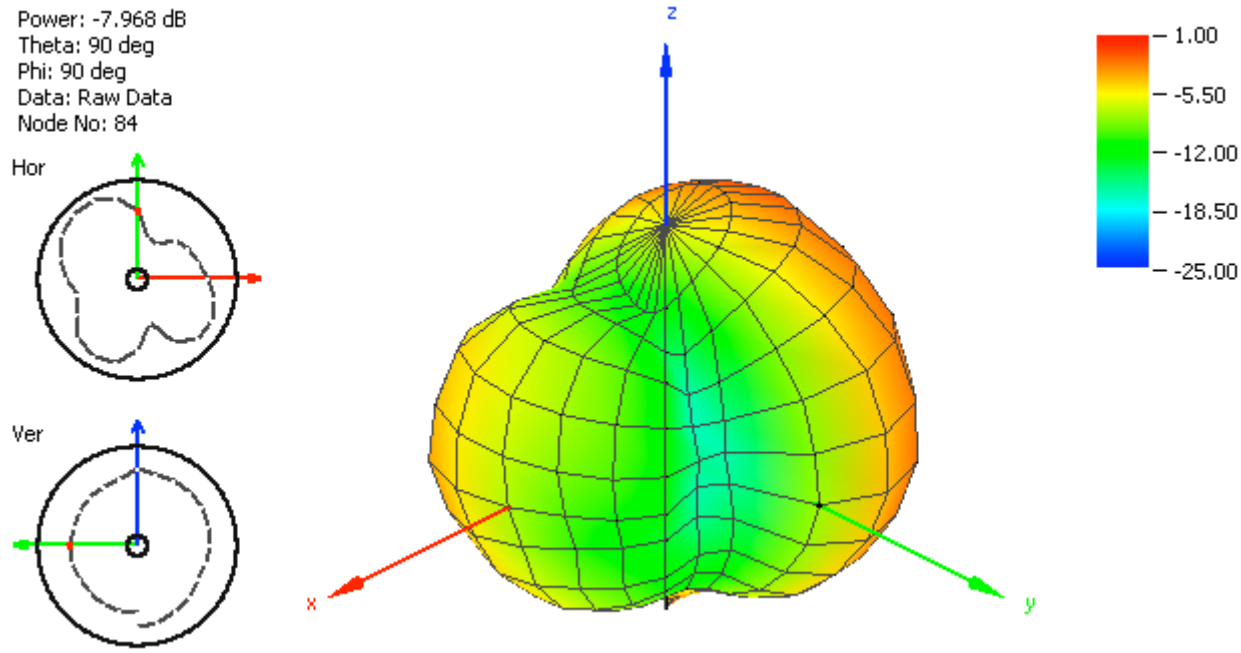


Figure 8. Radiation Pattern at 850 MHz of FXUB63 Antenna.

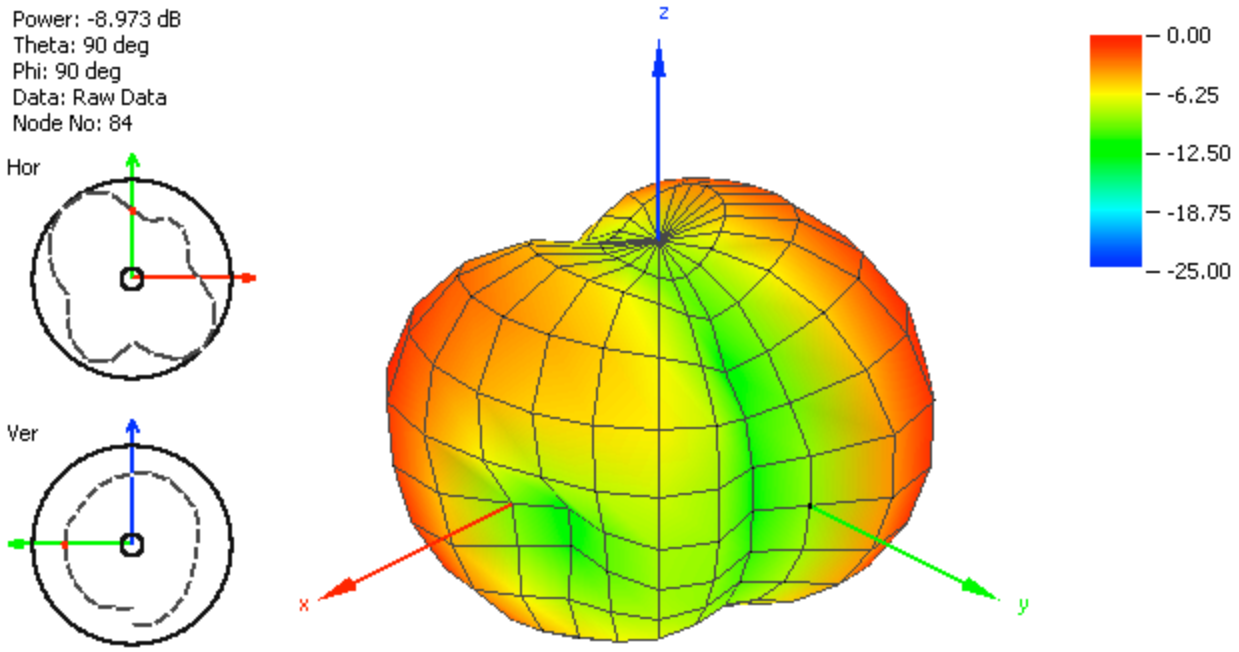


Figure 9. Radiation Pattern at 925 MHz of FXUB63 Antenna

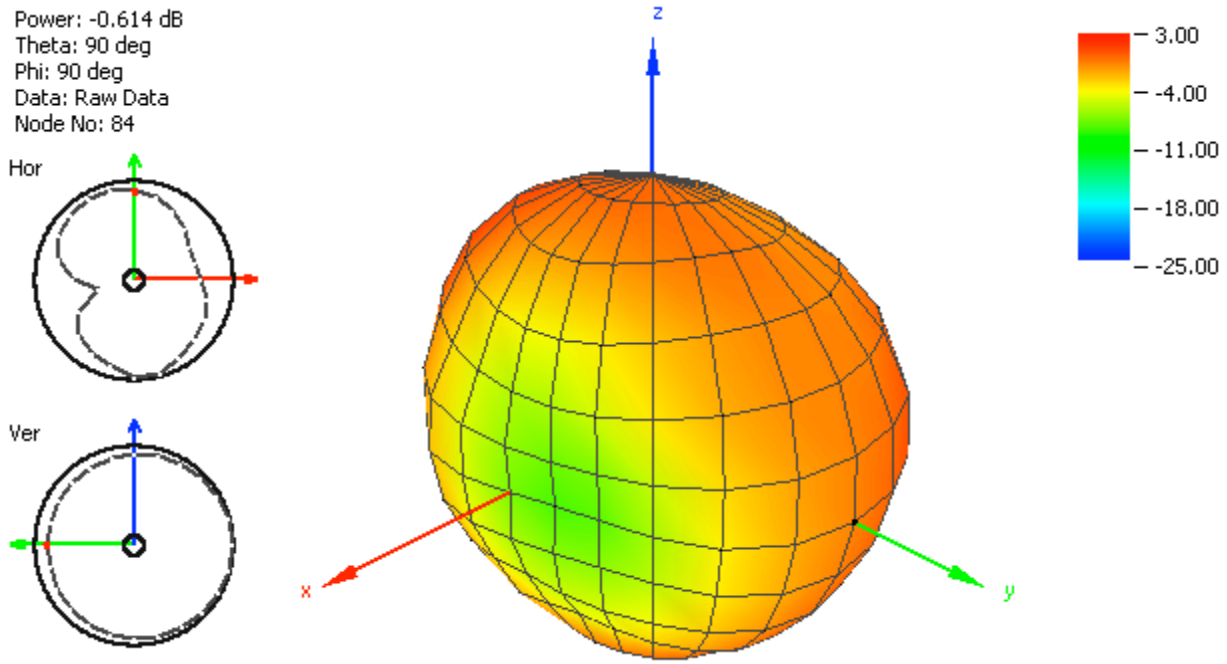


Figure 10. Radiation Pattern at 1400 MHz of FXUB63 Antenna

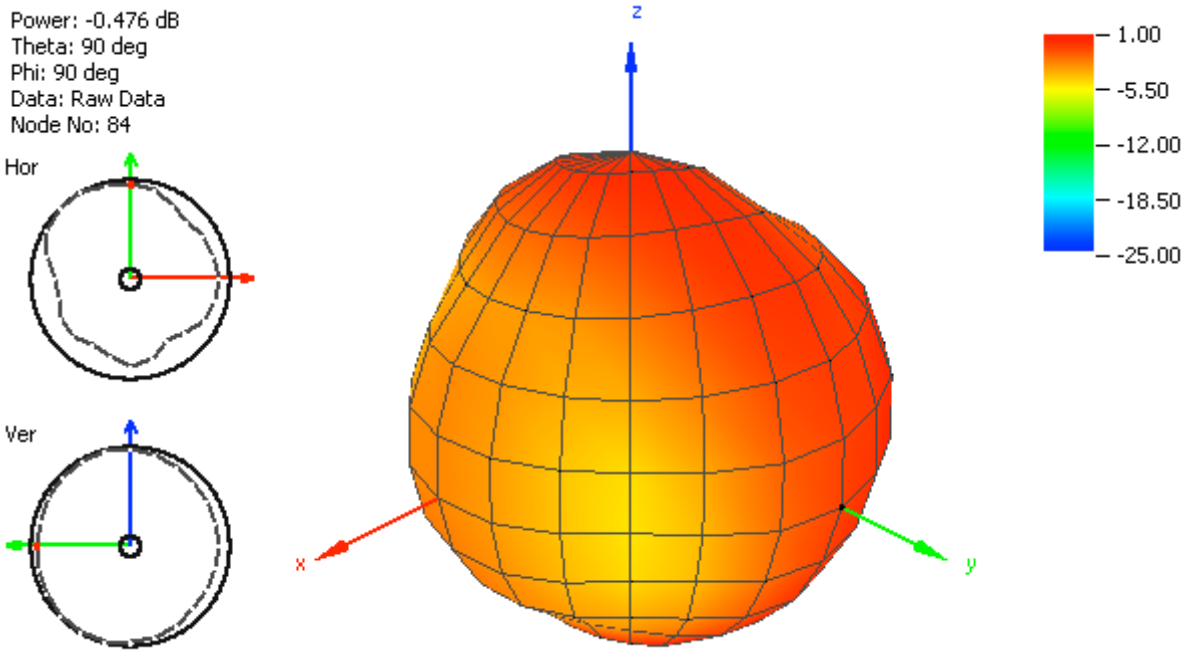


Figure 11. Radiation Pattern at 1575 MHz of FXUB63 Antenna.

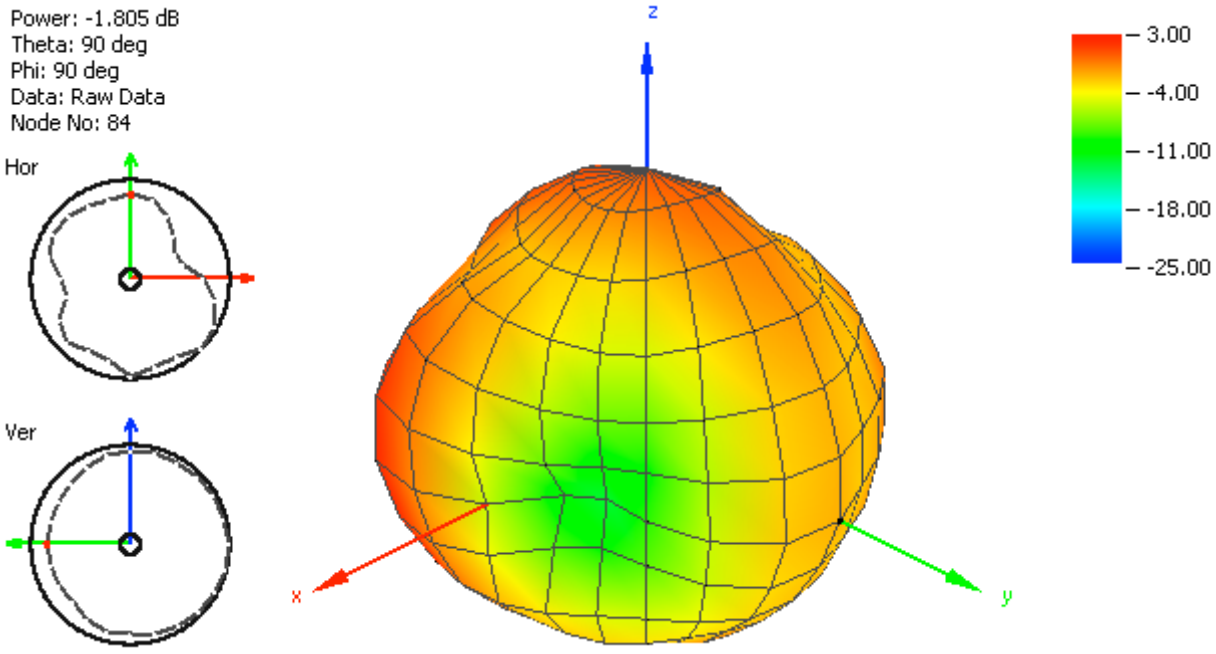


Figure 12. Radiation Pattern at 1750 MHz of FXUB63 Antenna.

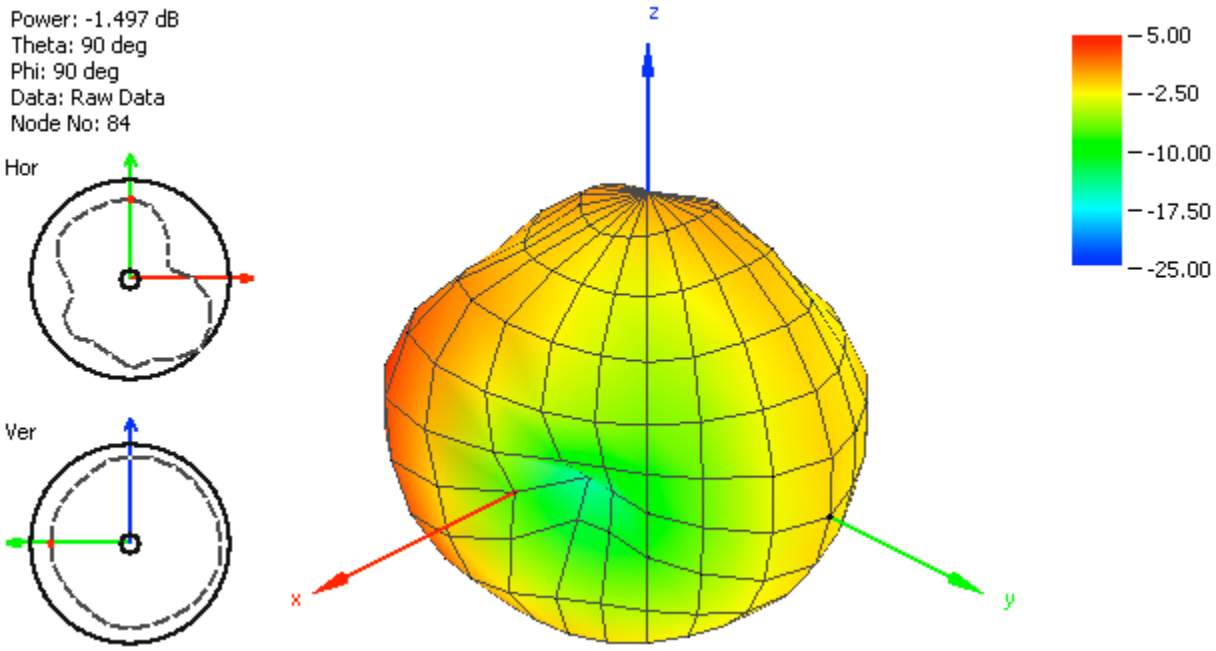


Figure 13. Radiation Pattern at 1850 MHz of FXUB63 Antenna.

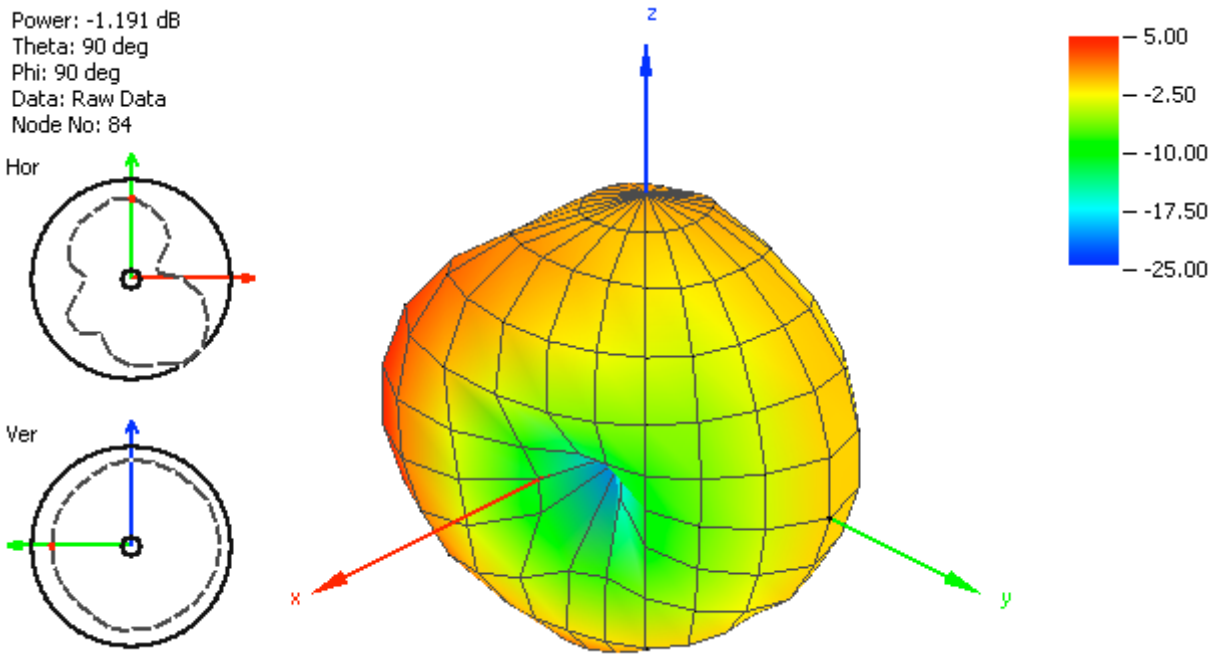


Figure 14. Radiation Pattern at 1950 MHz of FXUB63 Antenna

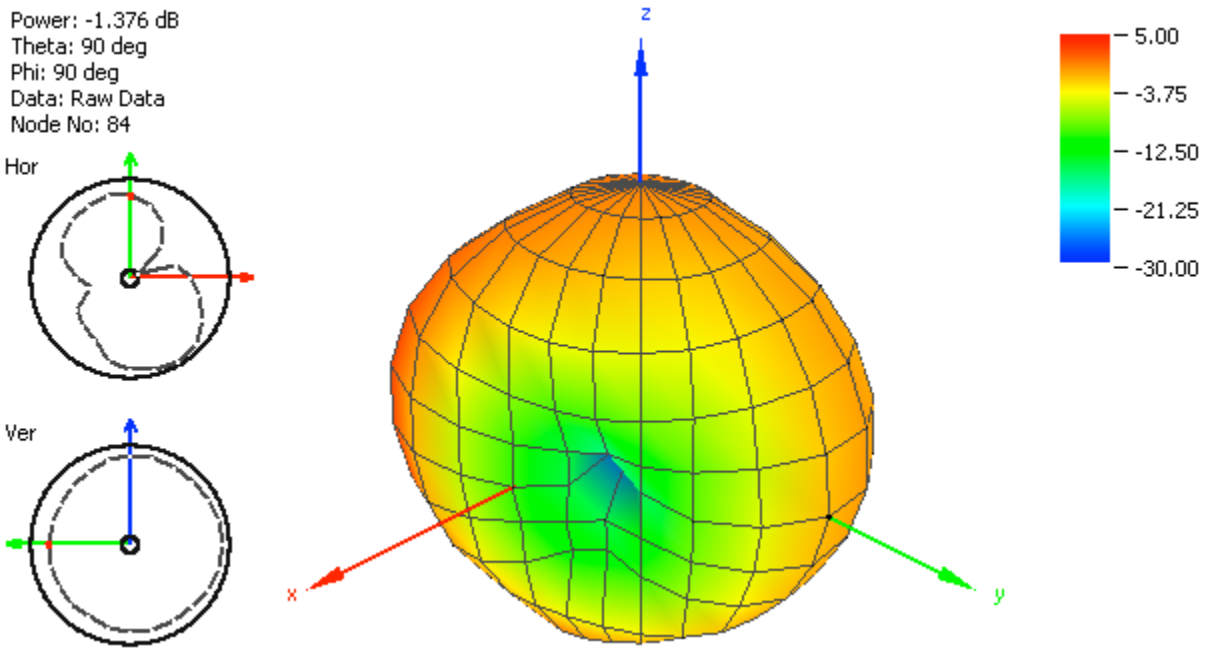


Figure 15. Radiation Pattern at 2100 MHz of FXUB63 Antenna.

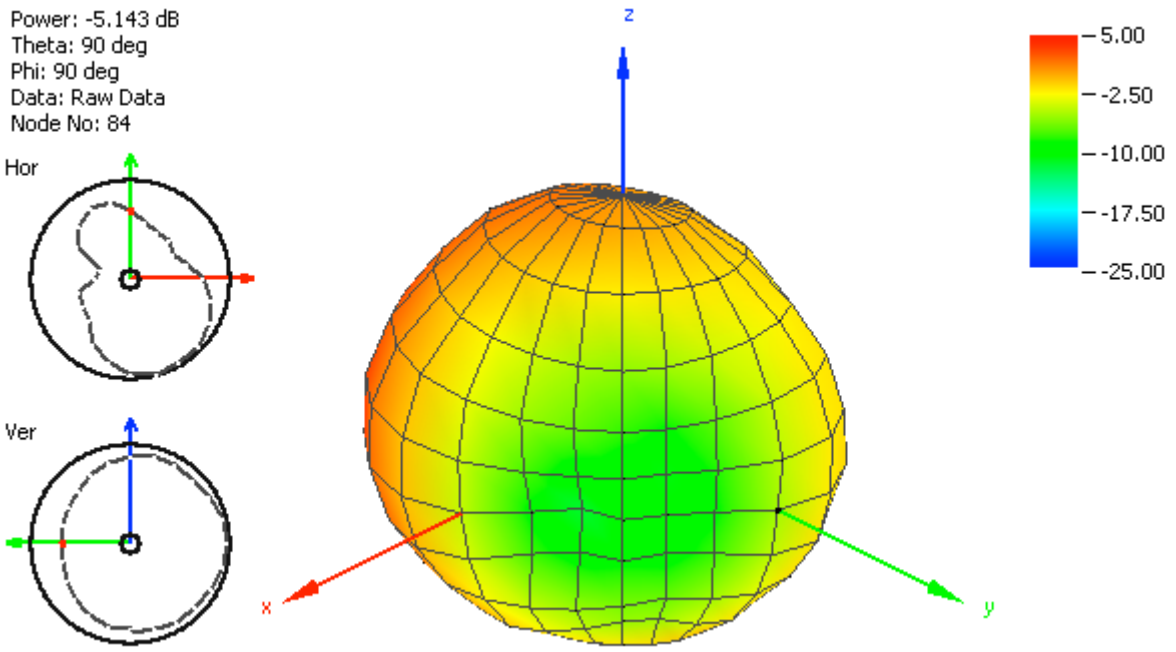


Figure 16. Radiation Pattern at 2450 MHz of FXUB63 Antenna

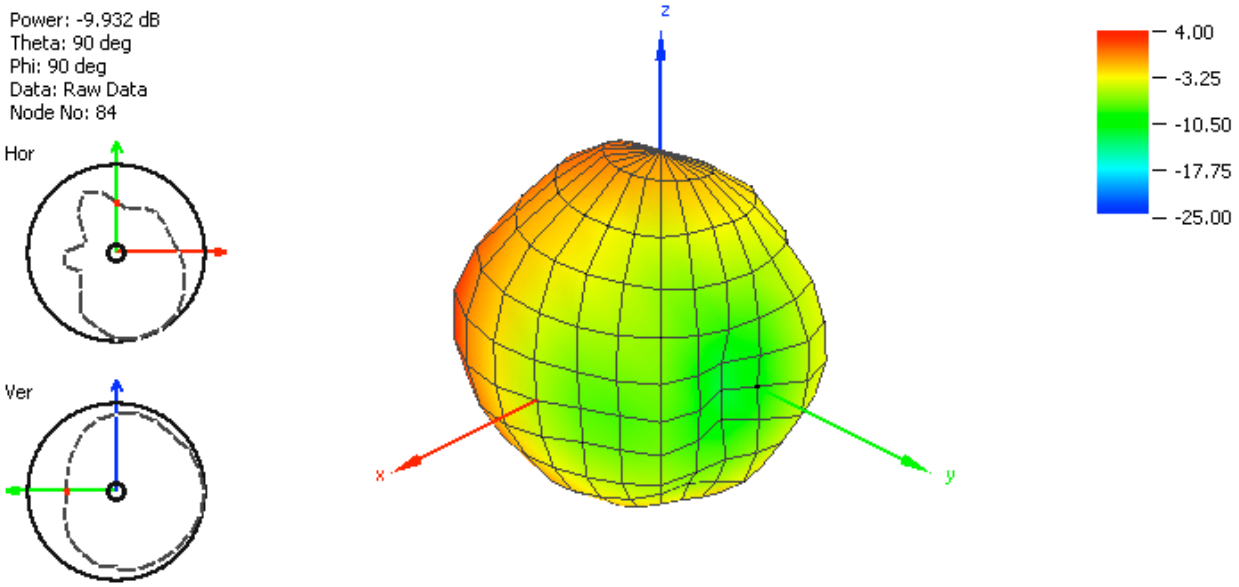
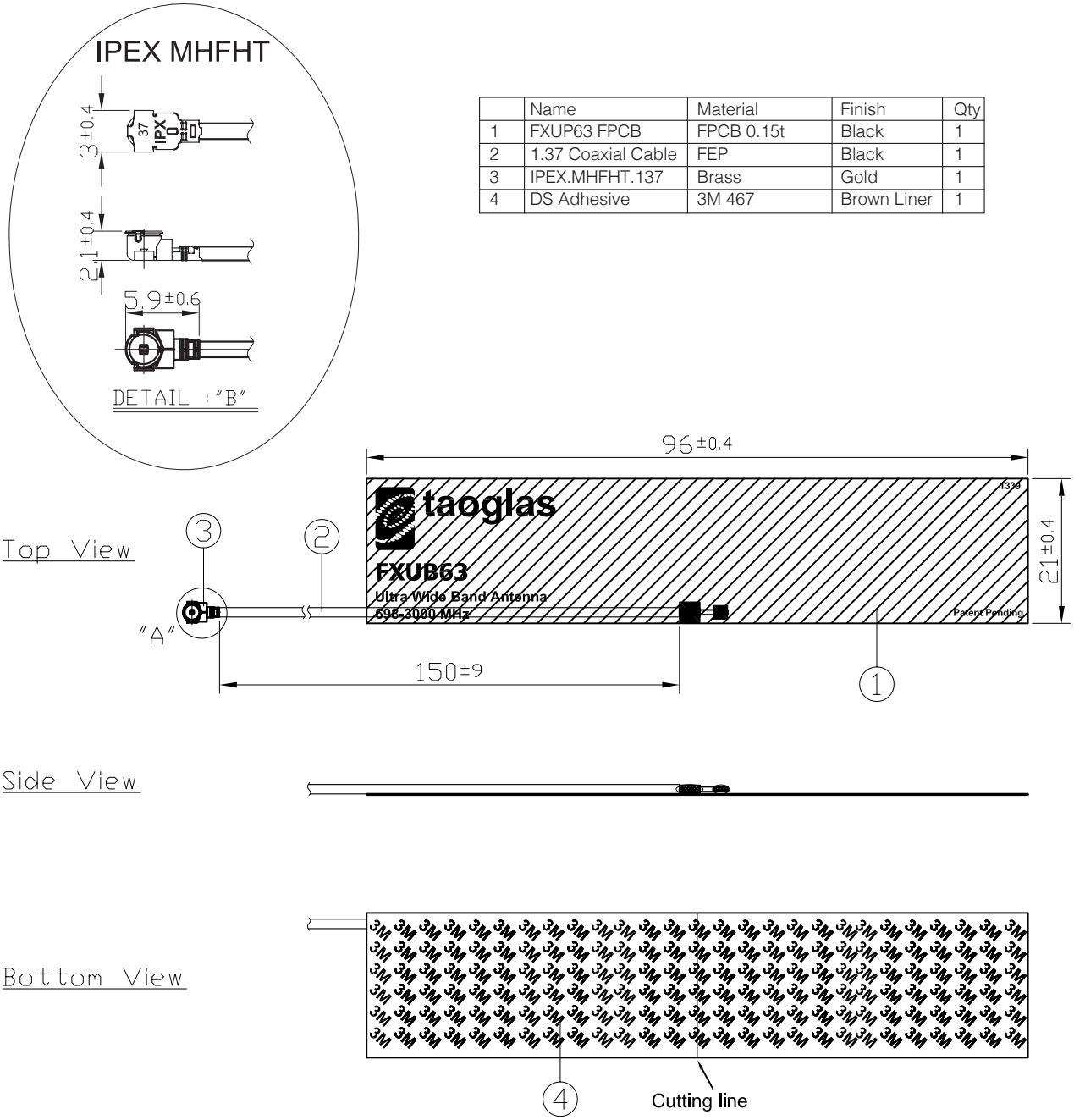


Figure 17. Radiation Pattern at 2600 MHz of FXUB63 Antenna.

4. Mechanical Drawing



	Name	Material	Finish	Qty
1	FXUP63 FPCB	FPCB 0.15t	Black	1
2	1.37 Coaxial Cable	FEP	Black	1
3	IPEX.MHFHT.137	Brass	Gold	1
4	DS Adhesive	3M 467	Brown Liner	1

Figure 18. Mechanical drawing of FXUB63 Antenna

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