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FTVARM088

Dual-Band Low Frequency Range (LFR-US) and WiFi Antenna

Custom Built to Serve Your Unique Requirements

Features:

Frequency Band: 902-928 MHz, 2400-2480 MHz
Type: Linear
Dimensions: 38.79 x 16.42 x 0.40 mm
RoHs compliant

Fig. 1: [Antenna]

Suggested Applications:

- LFR[US], LoRa [US], WiFi

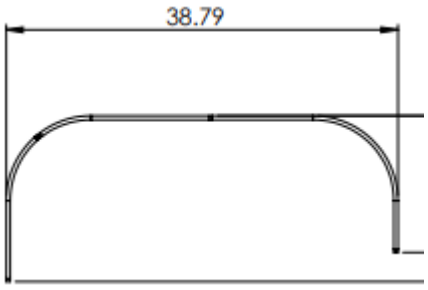

Fig. 2: [Antenna]

PN: FTVARM088 Version 1.0

Status: Released

Performance & Specifications

Antenna Performance						
Parameters	**Results (LFR-US)**			**Results (WiFi)**		
Frequency (GHz)	**0.9061**	**0.916**	**0.9258**	**2.400**	**2.442**	**2.478**
Efficiency (dB)	-2.85	-2.60	-2.71	-2.12	-1.70	-2.34
Peak Gain (dBi)	-0.13	-0.29	0.21	2.66	3.20	2.54
VSWR	< 1.5			<1.5		

General Specifications			
Antenna Type	**Nominal Impedance**	**Power Handling**	**Polarization**
LFR &WiFi	50 Ω	10 W	Linear

Mechanical Specifications	
Dimensions (L x W x H)	**Material**
38.79 x 16.42 x 0.40 mm	Stamp Metal

Efficiency

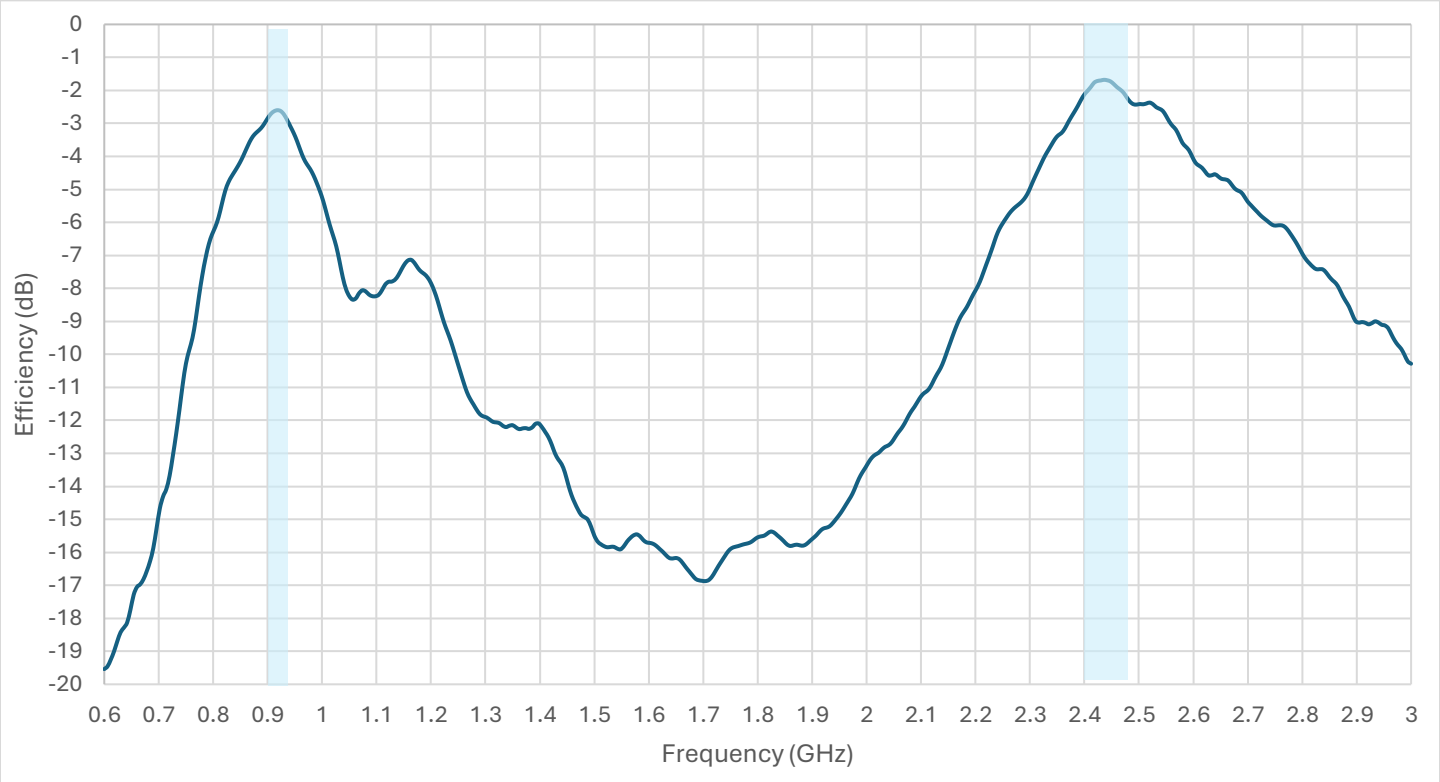

Fig 3. Typical Performance Efficiency

1D Gain Radiation Patterns

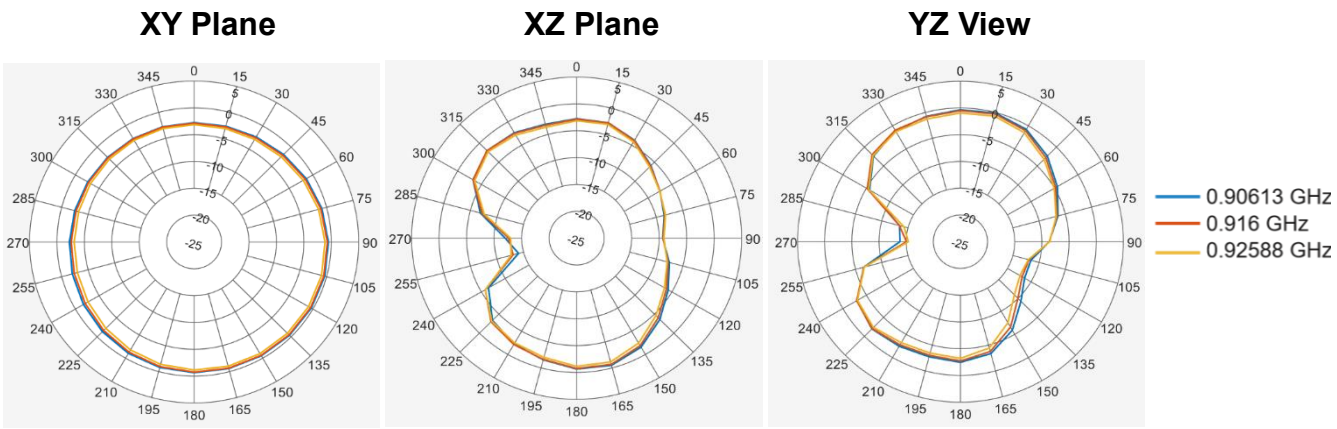

Fig. 4-6: 1D Gain Radiation Patterns for LFR[US]

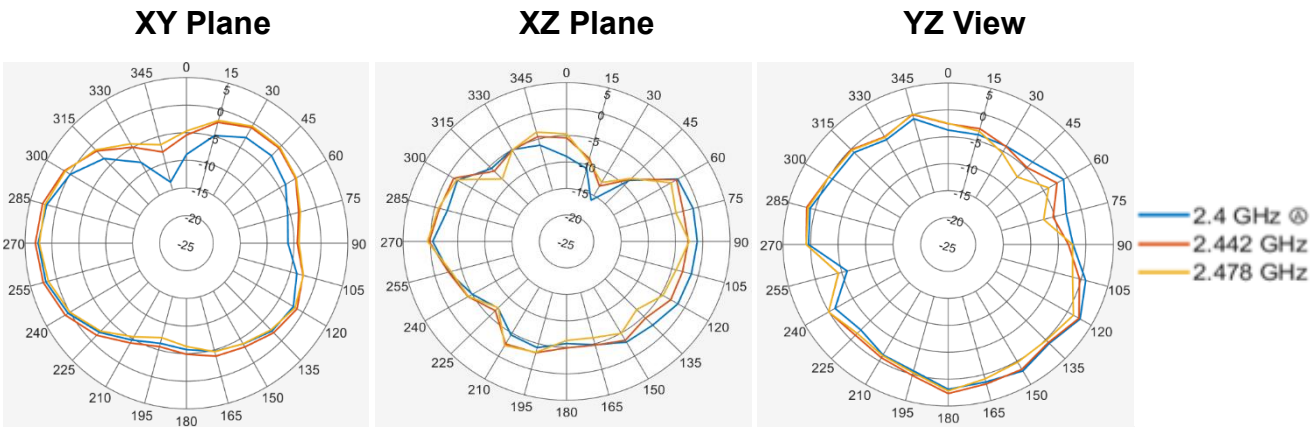

Fig. 7-9: 1D Gain Radiation Patterns for LFR[US]

2D & 3D Gain Radiation Patterns

915 MHz

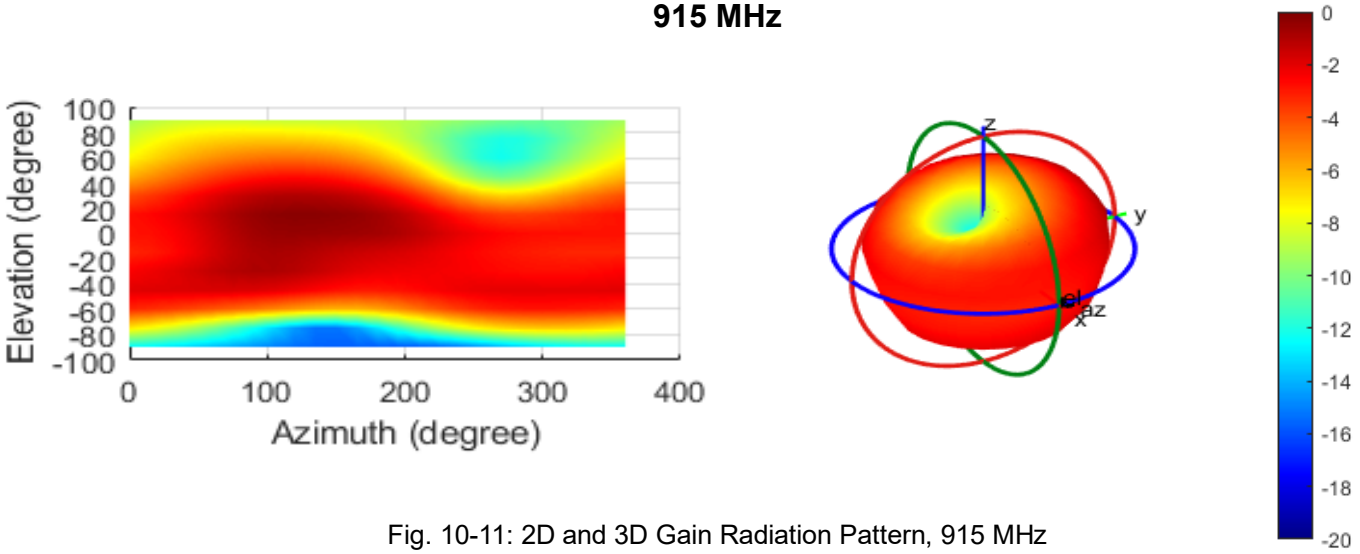

Fig. 10-11: 2D and 3D Gain Radiation Pattern, 915 MHz

2442 MHz

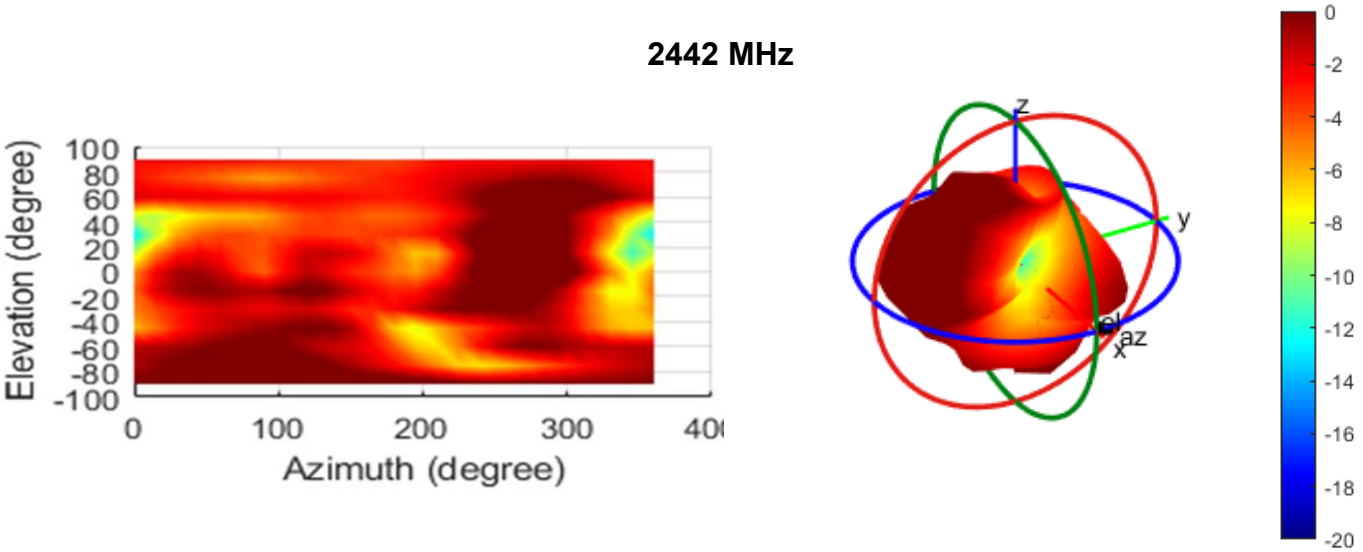

Fig. 12-13: 2D and 3D Gain Radiation Pattern, 2442 MHz

Test Conditions

Results were collected from a passive antenna measurement within a 5-meter fully anechoic antenna chamber equipped with a dual-pol quad-ridged horn receiver antenna and an EL-AZ positioner with laser positioner.

Test Conducted	Passive
DUT SN/PN	Prototype units

Formula & Calculations

Gain: $$G_{AUT} = \frac{[S_{21}{}^2]}{[G_{REF}]}\left(\frac{\lambda}{4\pi d}\right)^{-2}$$

Efficiency: $$\varepsilon = \frac{\pi}{2NM}\sum_{N}\sum_{M}\frac{S_{21}^2(\theta_M,\phi_N)}{P_L G_T}Cos(\phi_N)$$

Test Equipment Calibration Status

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Due Date
Network Analyzer	Anritsu	MS46122B	2135304	8/25/2024	8/25/2025
Quad-Ridge Horn Antenna	ETS-Lindgreen	3164-10	217936	8/25/2024	8/25/2025
5 Meter Anechoic Chamber	Braden Shielding Systems	NA	F70331	NA	NA
RF Cable	ENS Microwave	S160-160-MKS-MKS	3042020	8/25/2024	8/25/2025
RF Cable	ENS Microwave	S160-120-MKS-MKS	12042018	8/25/2024	8/25/2025
RF Cable	ENS Microwave	EMC1-K1K1-72	1GVT4 19002201	8/25/2024	8/25/2025
RF Cable	ENS Microwave	EMC1-K1K1-72	1GVT4 19002202	8/25/2024	8/25/2025
RF Cable	ENS Microwave	EMC1-K1K1-216	1GVT4 19002202 001	8/25/2024	8/25/2025
RF Cable	ENS Microwave	EMC1-K1K1-216	1GVT4 19002202 002	8/25/2024	8/25/2025
DUT Positioner	DE LCC	D6025	NA	NA	NA
RF Switch	Mini-Circuits	RC-1SPDT-A18	1810010005	8/25/2024	8/25/2025

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Mechanical Drawing