

FTLRAF064-C075W Antenna Specification

Field Theory
1029 Butterfield Rd,
Vernon Hills, IL 60061
Email: info@fieldtheoryinc.com



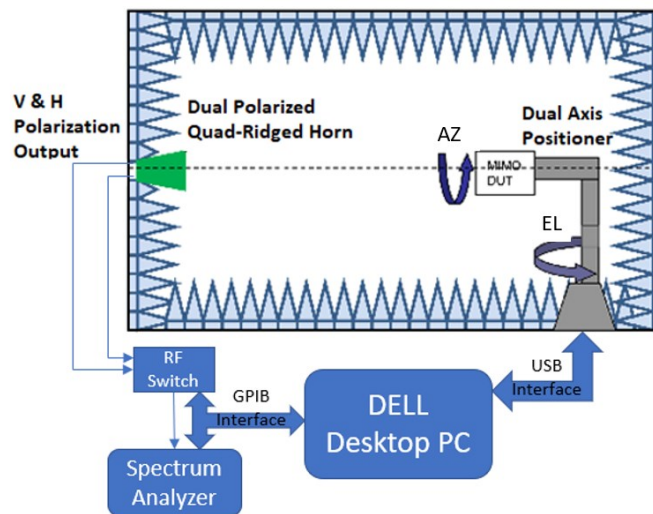
TEST METHOD

Passive antenna measurement within a 5-meter anechoic antenna chamber equipped with a quad-ridged horn receiver antenna and an EL-AZ positioner with laser positioner.

Measured in Device.

SITE / EQUIPMENT INFORMATION

Lab Name: Field Theory Consulting
Lab Address: 1029 Butterfield Rd, Vernon Hills, IL 60061
Size: 5-meter



Equipment	Manufacturer	Model No.	Serial No.	last Cal.	Due Date
Spectrum Analyzer	Rohde & Schwarz	FSW13	1312.8000K13-101325-bs	02/2024	02/2026
Quad-Ridge Horn Antenna	ETS-Lindgreen	3164-10	217936	2/06/2024	02/05/2025
5 Meter Anechoic Chamber	Braden Shielding Systems	NA	F70331	NA	NA
RF Cable	ENS Microwave	S160-160-MKS-MKS	3042020	2/06/2024	02/05/2025
RF Cable	ENS Microwave	S160-120-MKS-MKS	12042018	2/06/2024	02/05/2025
RF Cable	ENS Microwave	EMC1-K1K1-72	1GVT4 19002201	2/06/2024	02/05/2025
RF Cable	ENS Microwave	EMC1-K1K1-72	1GVT4 19002202	2/06/2024	02/05/2025
RF Cable	ENS Microwave	EMC1-K1K1-216	1GVT4 19002202 001	2/06/2024	02/05/2025
RF Cable	ENS Microwave	EMC1-K1K1-216	1GVT4 19002202 002	2/06/2024	02/05/2025
DUT Positioner	DE LCC	D6025	NA	NA	NA
RF Switch	Mini-Circuits	RC-1SPDT-A18	1810010005	2/06/2024	02/05/2025

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PHOTO



FORMULA AND CALCULATIONS

Gain:

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

Efficiency:

$$\varepsilon = \frac{\pi}{2NM} \sum_N \sum_M \frac{S_{21}^2(\theta_M, \phi_N)}{P_L G_T} \cos(\phi_N)$$

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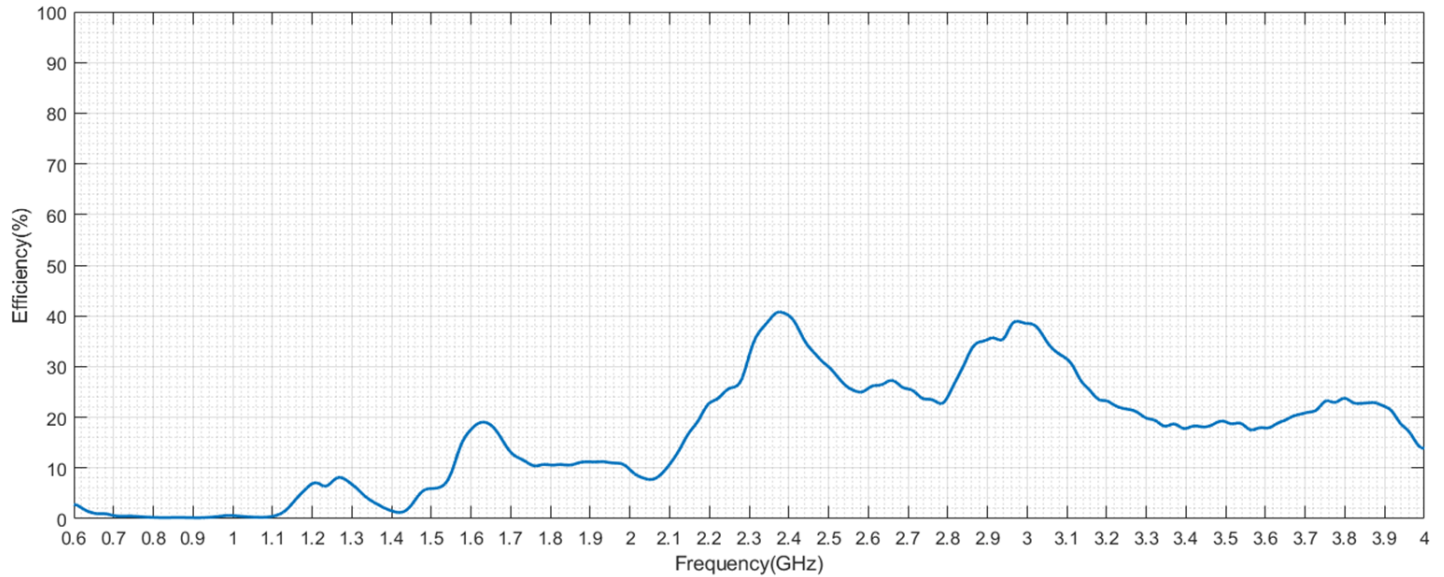
Parameters		Performance		
Frequency (MHz)	2.4020	2.4360	2.4785	
Efficiency (%)	39.9	35.6	31.4	
Peak Gain (dBi)	1.3	0.5	0.03	
VSWR			≤ 2	
Polarization			Linear	
Impedance (ohms)			50	
Max Input Power (W)			10	

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Efficiency



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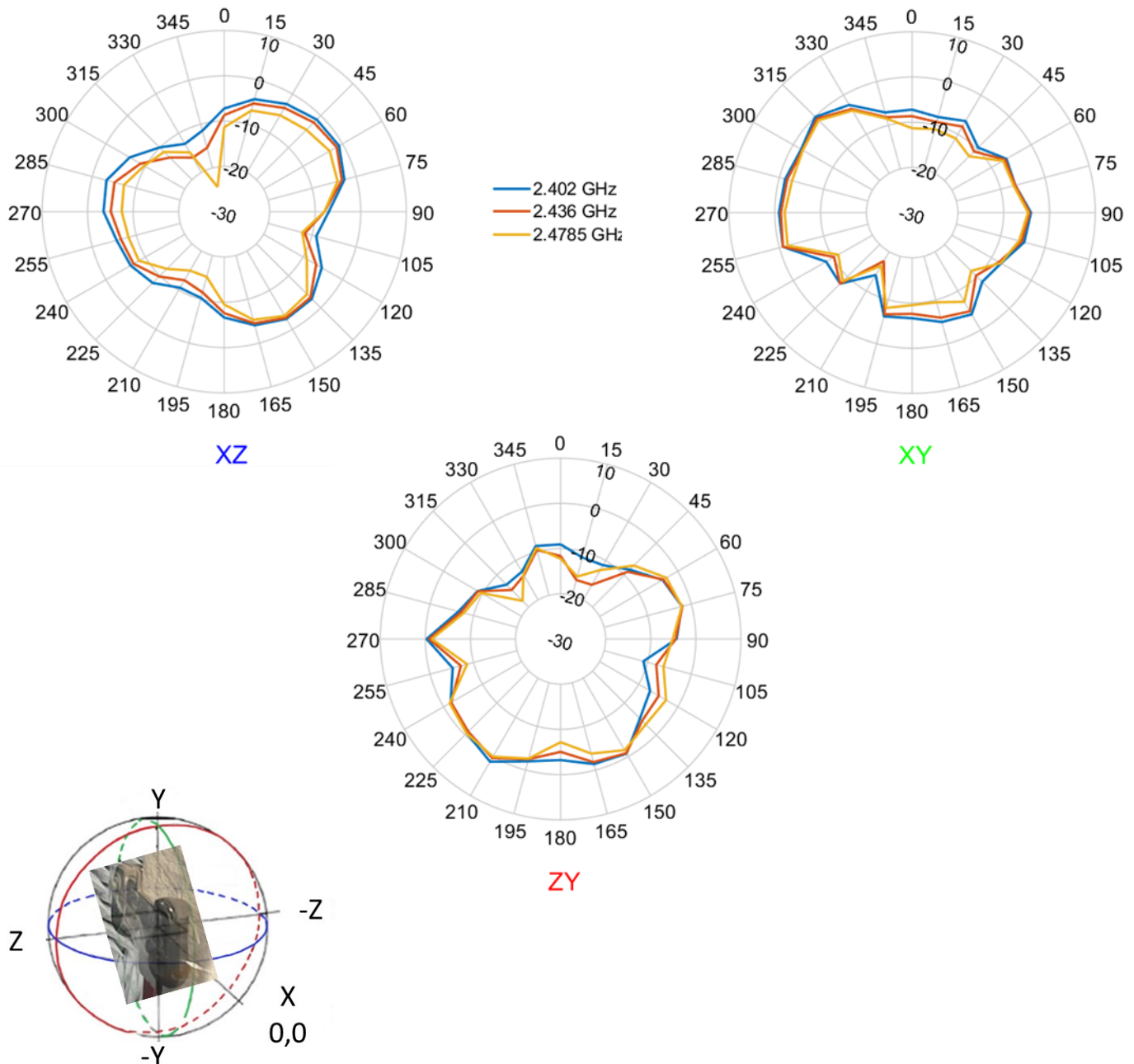
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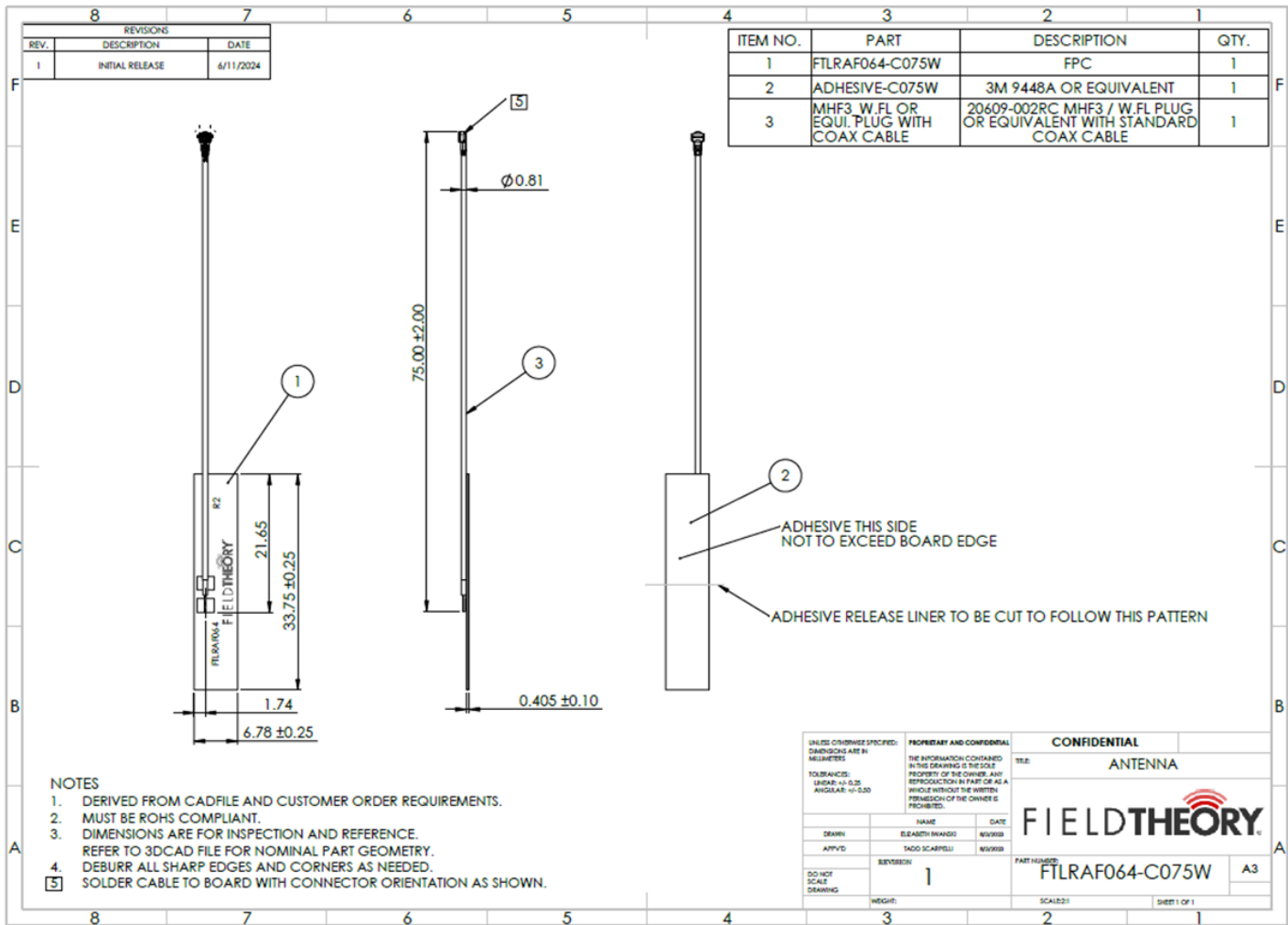
1D Gain Radiation Patterns



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