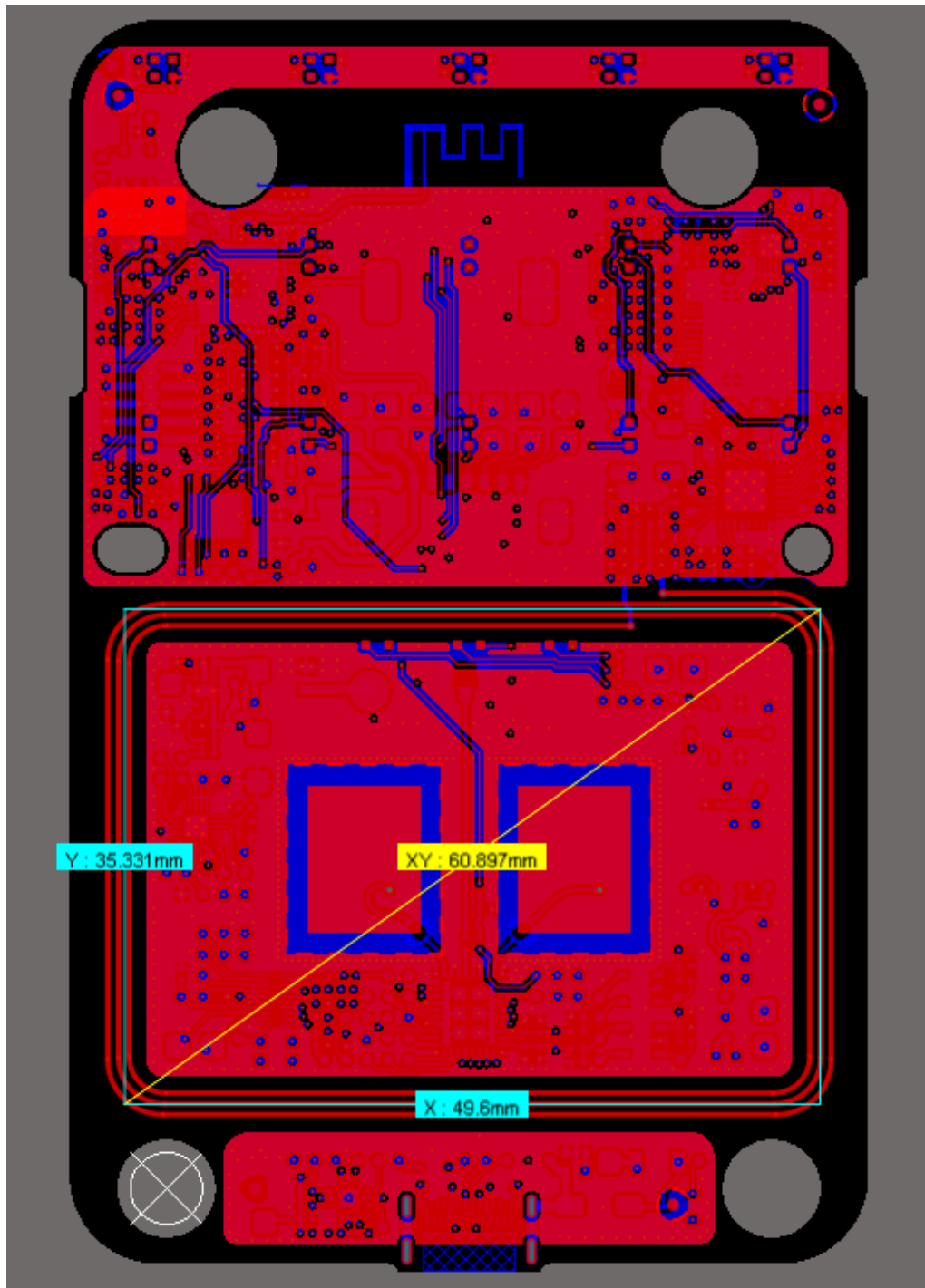


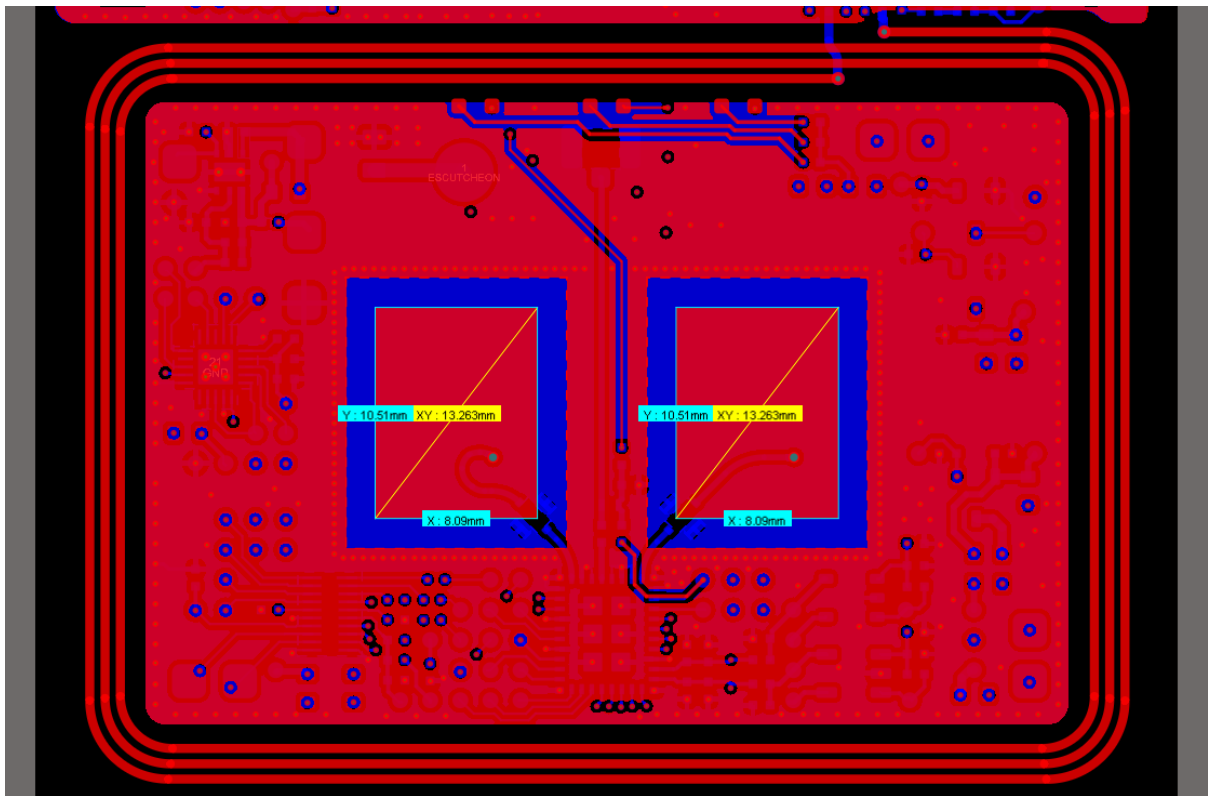
### NFC Smart coil Antenna Dimensions



The Coil Antenna is dimensioned X-axis 49.6mm and Y- axis 35.331mm

Antenna gain is not required as all measurements were performed radiated.

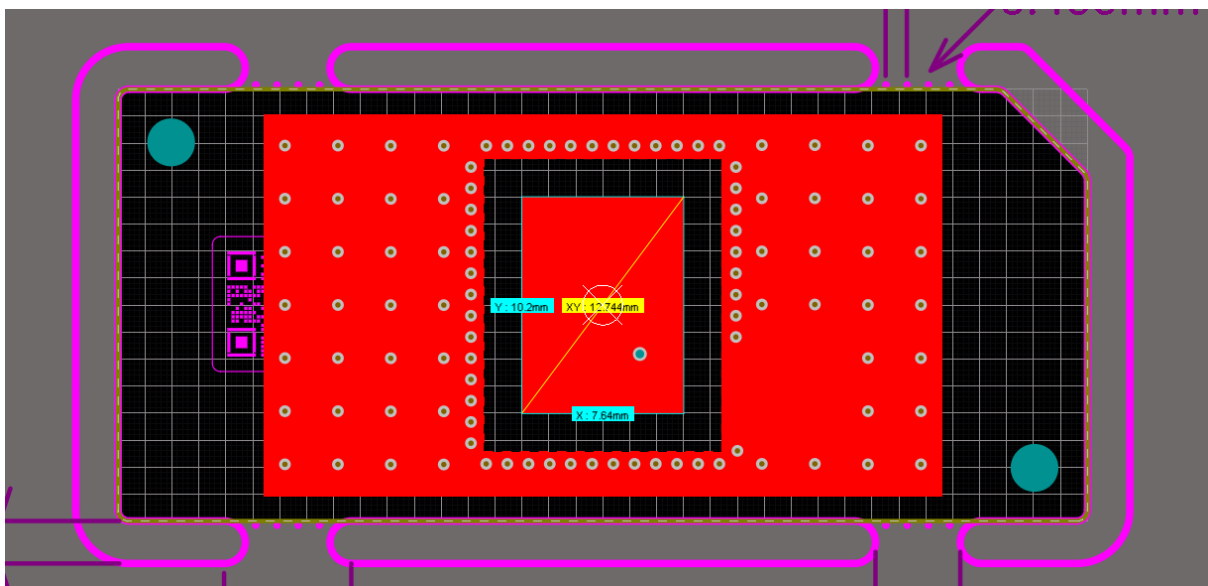
### UWB Patch Antenna (ANT1 TX/RX, ANT2 RX Only)



2 X patch Antenna X-Axis 8.09mm Y-axis 10.51mm

Antenna gain is not required as all measurements were performed radiated.

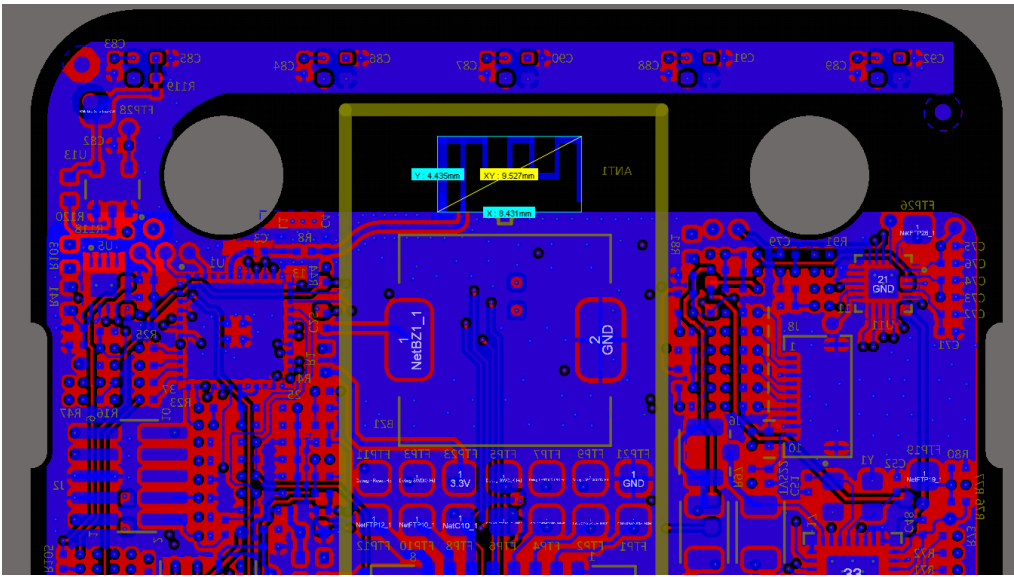
### Inside Board Patch Antenna (ANT3, RX ONLY)



Patch Antenna X-axis 7.64mm & Y-axis 10.2mm

Antenna gain is not required as all measurements were performed radiated.

BLE PIFA Antenna Dimensions



The BLE Antenna is dimensioned X- axis 8.431mm and Y-axis 4.435mm

BLE Antenna Study

Date: October 28, 2024

Location: Willow Run Test Labs., Inc.

Engineer: John Nantz

Equipment:

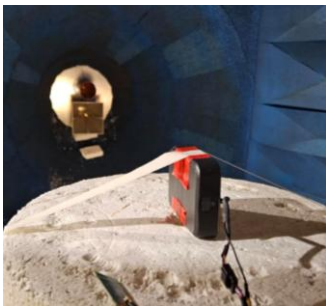
Description	Manufacturer	Calibration Info.
Semi-anechoic Tapered Chamber	Willow Run Test Labs., Inc.	On use
FSV30 Signal Analyzer	Rohde & Schwarz	April 2025
Quad Ridge Horn	Singer A6100	August 2025
CAB018WHT 3.5mm Coax	WRTL	March 2025

Max gain: Horizontal Polarization: 1.3 dBi, Vertical Polarization: 0.1 dBi

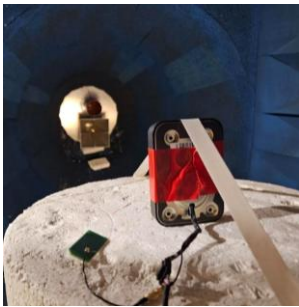
YX Cut



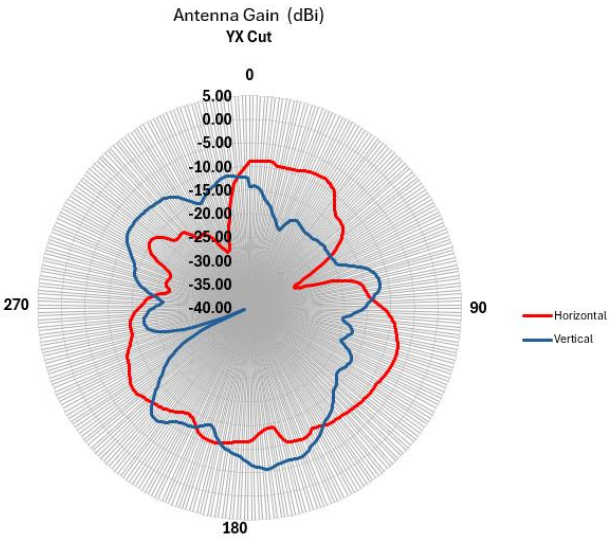
YZ Cut



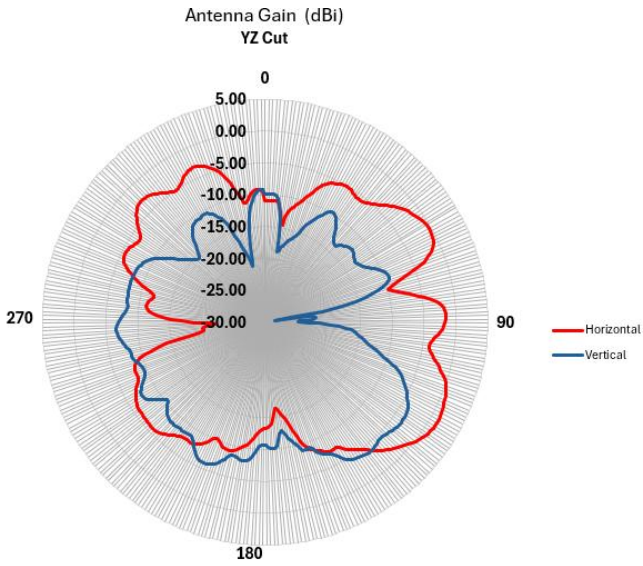
ZX Cut



Parameter	Gain (dBi)	
	Horizontal	Vertical
Min	-29.48	-38.83
Max	-7.27	-5.59



Parameter	Gain (dBi)	
	Horizontal	Vertical
Min	-22.14	-28.51
Max	1.32	-3.43



Parameter	Gain (dBi)	
	Horizontal	Vertical
Min	-33.77	-27.98
Max	-6.05	0.09

