

# Hagrid BLE Antenna Report

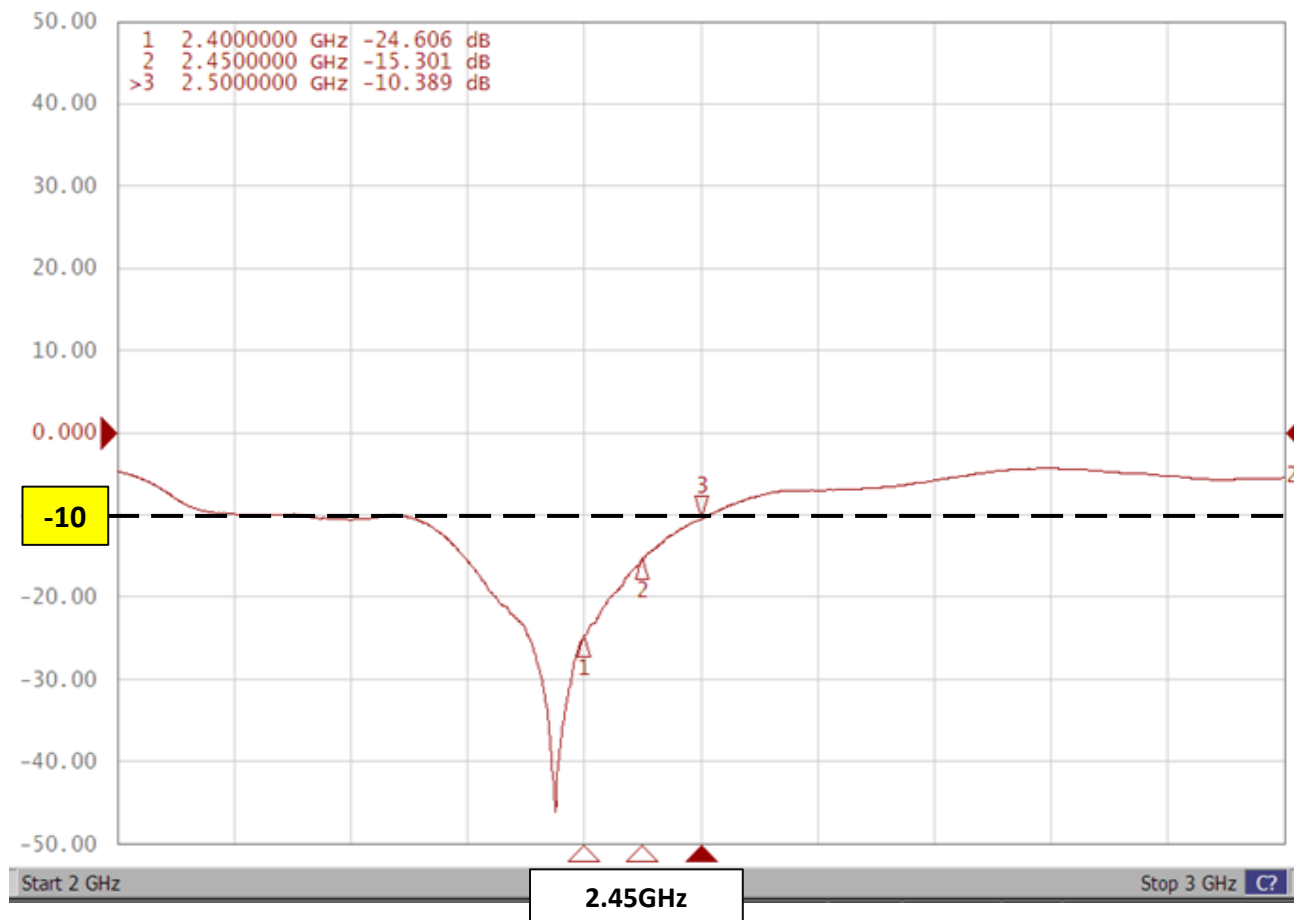
George  
2024/08/16

# Outline

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- Overview
- Return Loss
- Radiation Pattern & Efficiency
- Summary

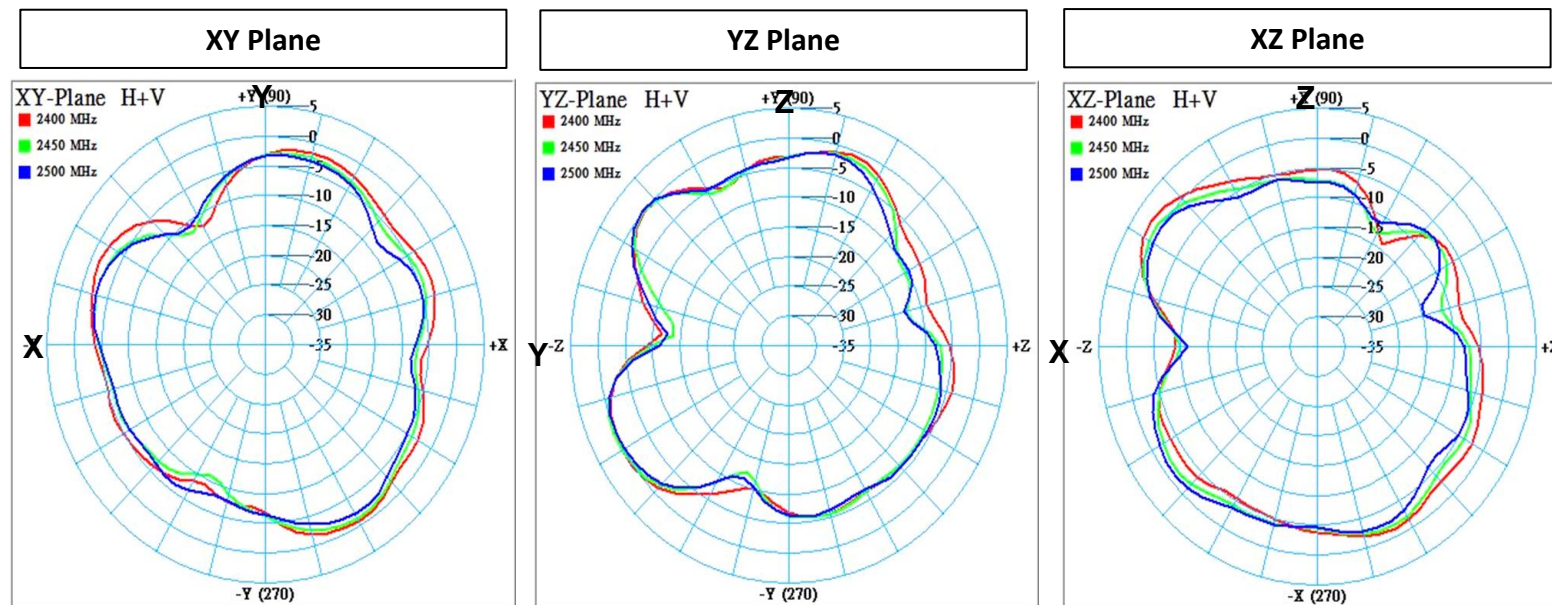
# Return Loss (Default Device)



Frequency	Return Loss
2.40 GHz	-24.6 dB
2.45 GHz	-15.3 dB
2.50 GHz	-10.3 dB

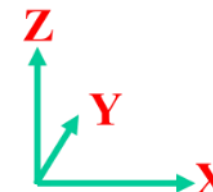
# Radiation Pattern & Efficiency

## Radiation Pattern



## Efficiency & Peak Gain

Condition	Efficiency (%)	Average Gain (dBi)	Peak Gain (dBi)
2.40 GHz	44%	-3.5dBi	1.04dBi
2.45 GHz	38%	-4.2dBi	0.76dBi
2.50 GHz	36%	-4.4dBi	0.59dBi



# Summary

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- This report proposed the optimized patterns based on the device environment.
- Evaluate the BLE pattern and the optimal efficiency is more than 40%.

Brand	LITEON
Manufacture	No. 392, Ruiguang Road, Neihu District, Taipei City
Model	Nordic nRF5340-QKAA-R
Frequency Range	2402MHz to 2480MHz
Antenna Gain(dBi)	2.4GHz Peak gain:1.04dBi
	2.45GHz Peak gain:0.76dBi
	2.5GHz Peak gain:0.59dBi
Antenna Type	Printed antenna