



AOS (Antenna Optimisation Service)

Customer: Systemloco

Project: T1B

Report: SZ23-023-R01

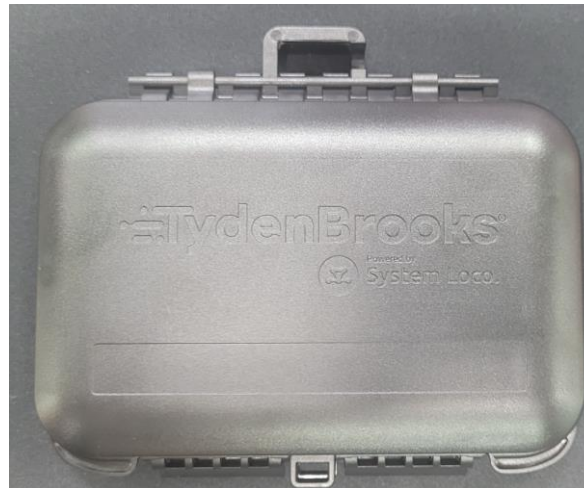
30 MAY 2023



Introduction

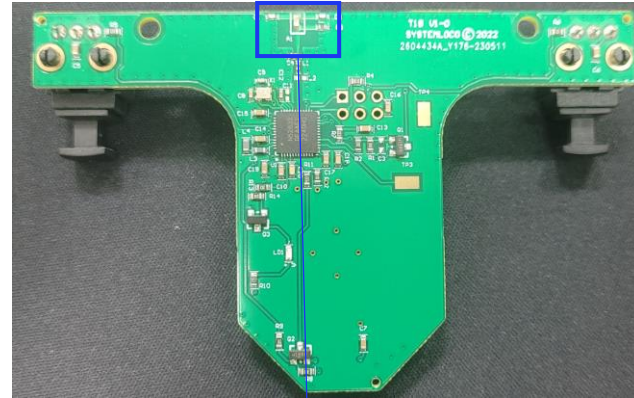
- Systemloco provided the T1B device that utilizes SIRIUSa ceramic antenna.
- This report shows the performance with the optimal matching circuit for the device fully assembled.

Antenna Requirements	
Application	Wi-Fi
Frequency Range (MHz)	2400 - 2500
Solution used	SIRIUSa

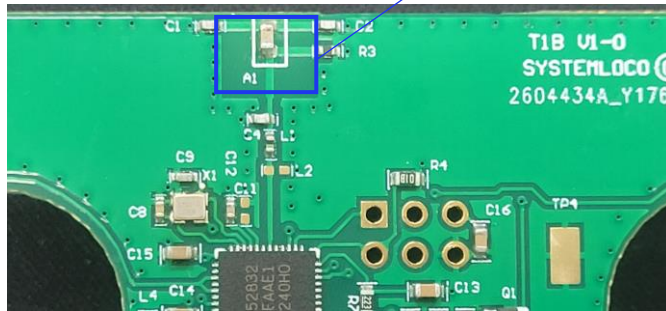


Test Setup

- The antenna was matched for the full assembled device.

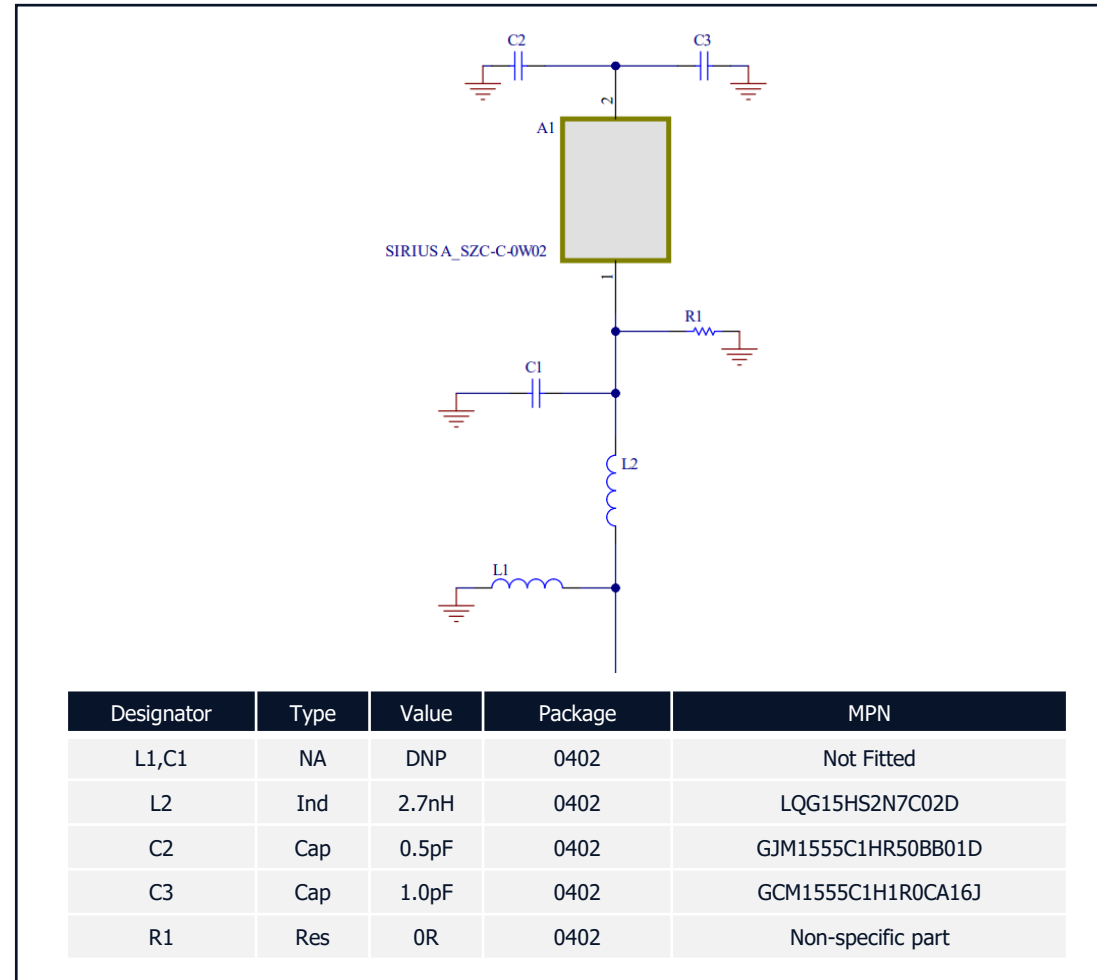


SIRIUSa



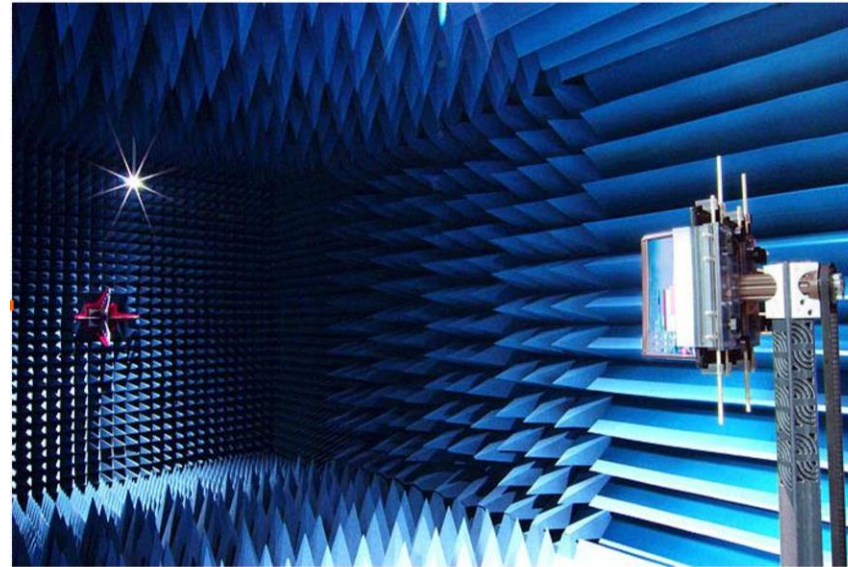
Matching Circuits

- The optimal matching circuit for SIRIUSa within the fully assembled device.



Test Equipment

Equipment	Model/Type	Calibration due date
Network Analyser	Rhode&Schwarz ZNB-8	02/2024
Calibration Kit	Rhode&Schwarz ZV-Z132	02/2024
Chamber	AMS-8500	CTIA Approved IST



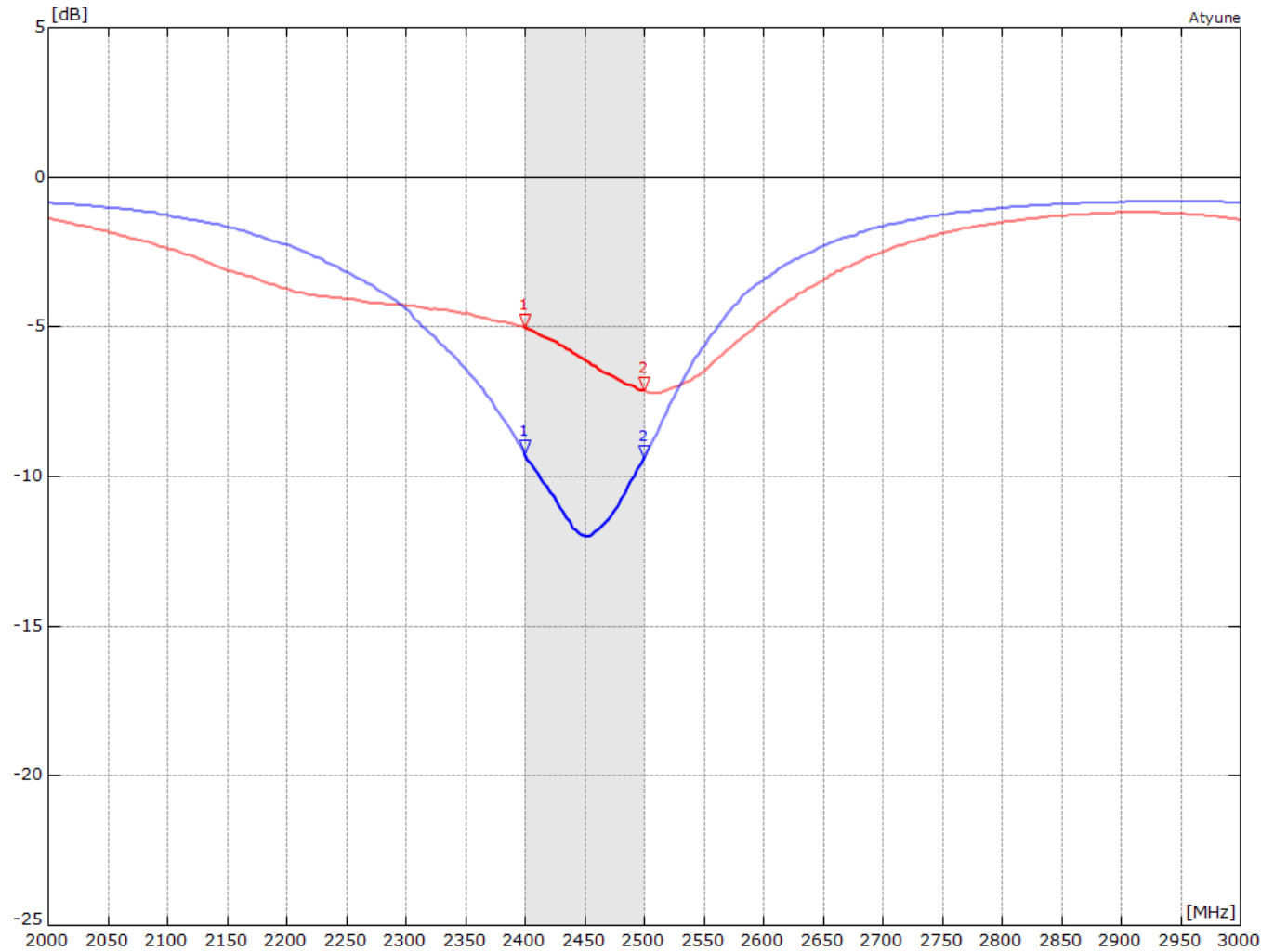
Result Summary

SIRIUSa	
Frequency Range (MHz)	2400-2500
Peak Efficiency (%)	75.5
Avg Efficiency (%)	68.9
Peak Gain (dBi)	2.13

Part Number	SZC-C-0W02
Name	SIRIUSa
Dimensions	1.6 x 0.8 x 0.8 (mm)
Required Clearance area	6.0 x 5.0 (mm)
Weight	<0.1g
Antenna Type	Surface Mount Device



S-Parameters

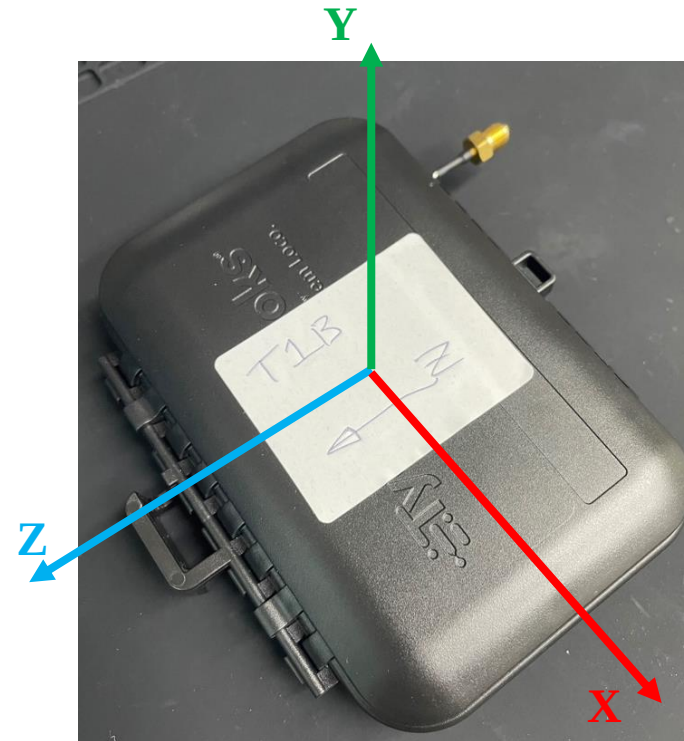
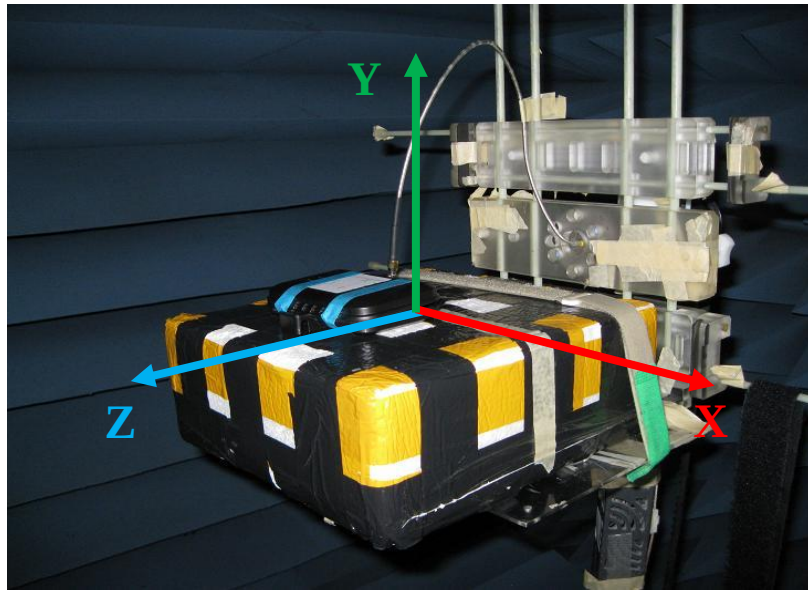


SIRIUSa – S11 as received
SIRIUSa - Matched

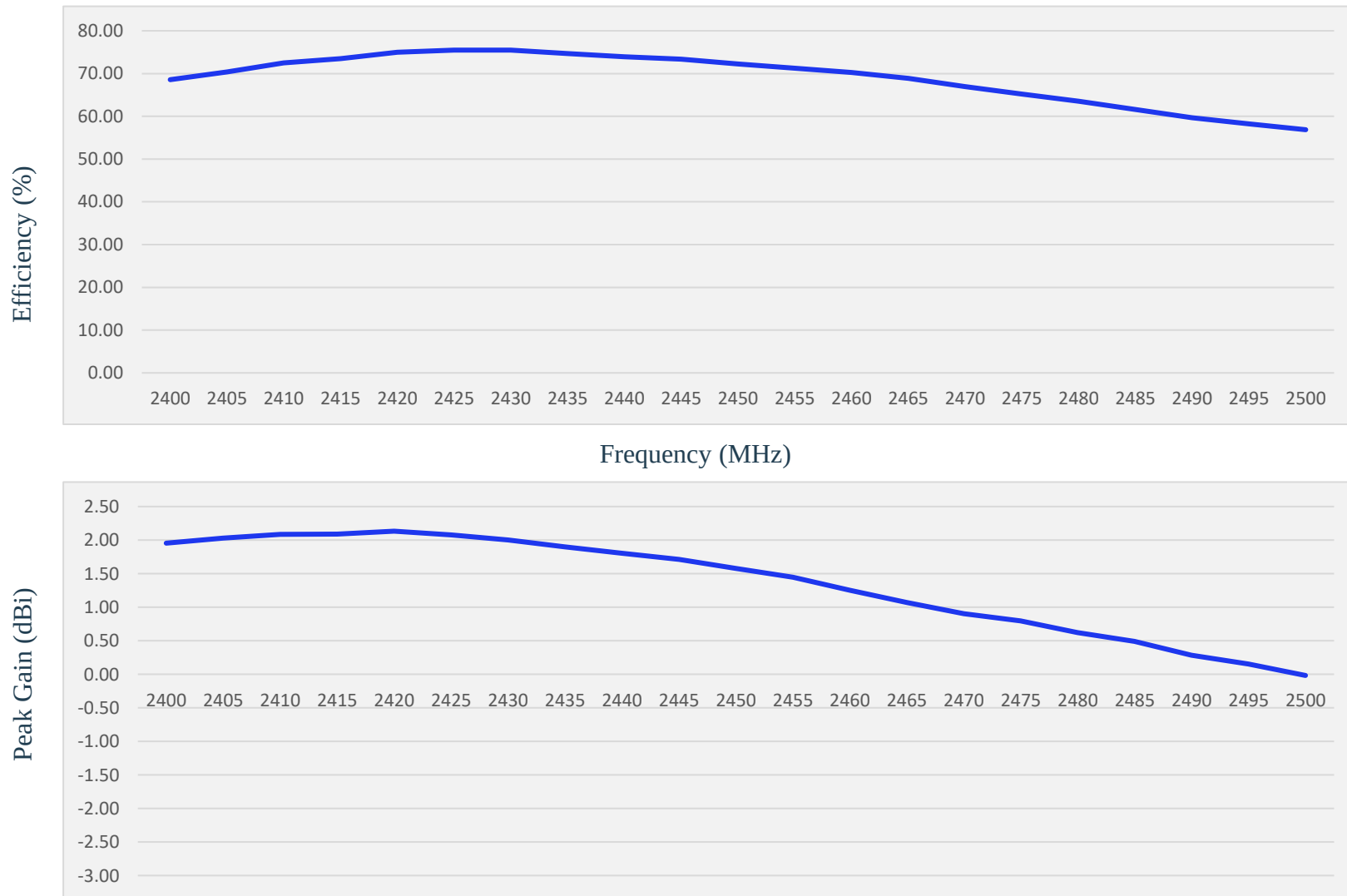


Chamber Test Setup

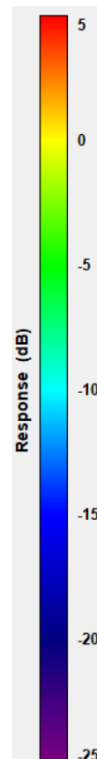
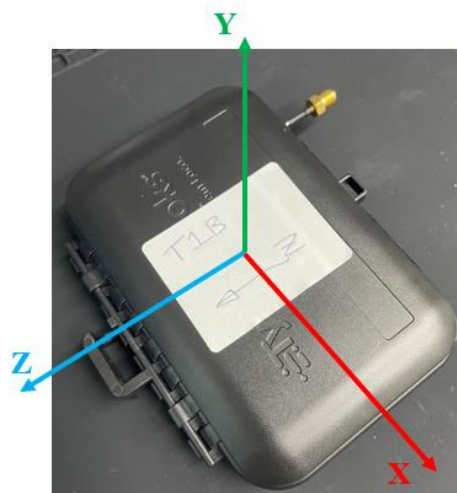
- The device was placed in the chamber as shown. The antenna under test used the required RF choke to prevent cable radiation which can give false high performance and incorrect radiation pattern data.



Antenna Efficiency / Peak Gain

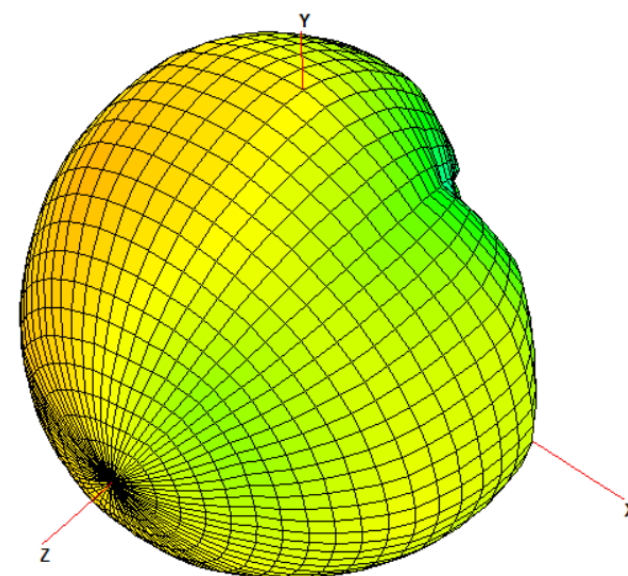


3D Radiation Pattern



SIRIUSa

Pattern at 2450MHz





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Synzen, 4F, No.58, Zhouzi St,
Neihu Dist., Taipei City, Taipei,
11493.

Contact: Sales@synzen.com.tw

