



USA | UK | SVK

2J Antennas



BiPOM Electronics, Inc.

WillowBee SI32810009 - Coil Antenna
Dual-Band 868/915 Matching Validation

VERSION HISTORY

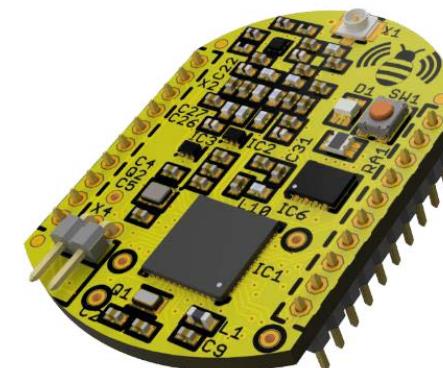
Version	Release Date	Editor	Changes	Approved by
1.0	11/15/2023	FG	Matching Validation	RM

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INTRODUCTION

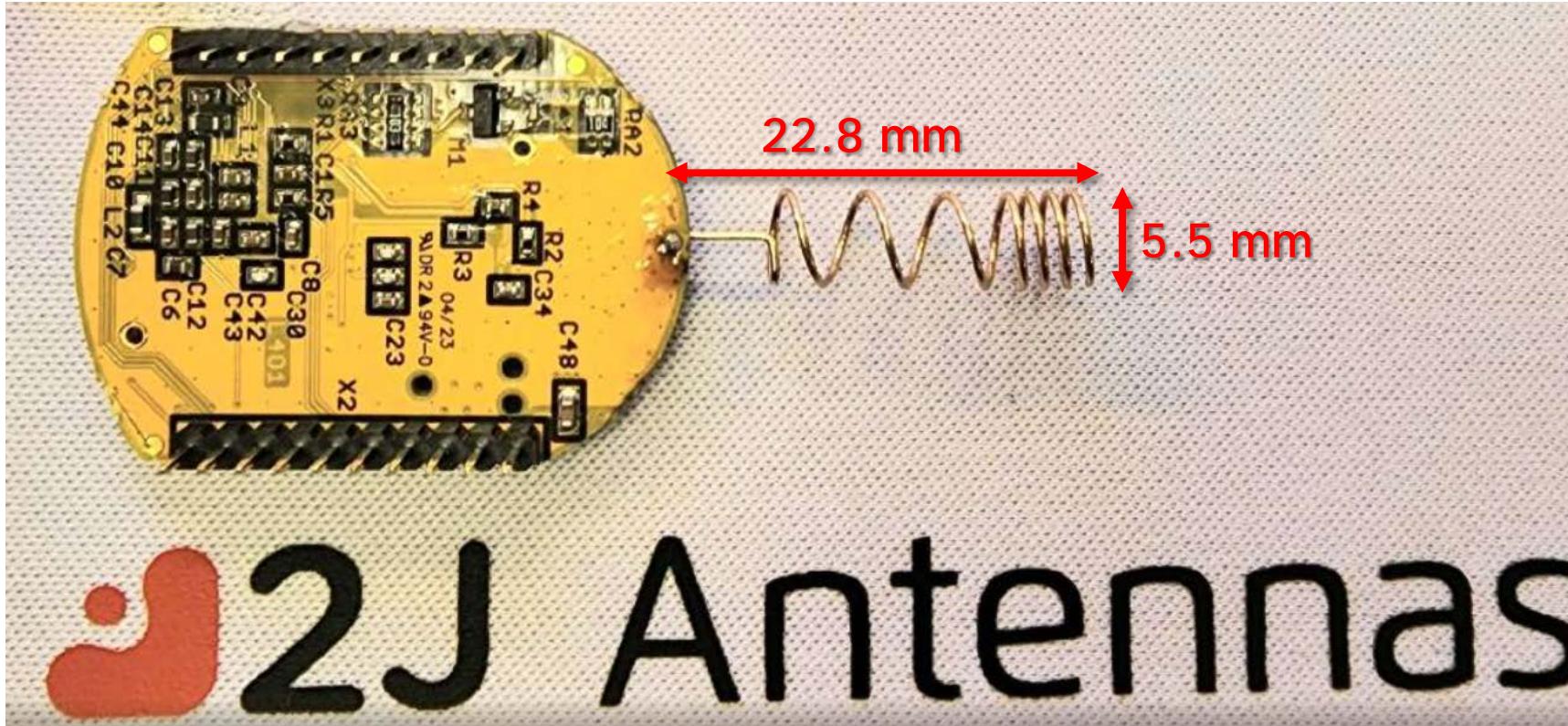
- ▶ WillowBee New version was submitted for an Matching Validation utilizing a SI328100009 -Coil Antenna.
- ▶ Antenna was received with Unknown Matching PI Network.
- ▶ Previous Matching was tested to see if any changes are required.
- ▶ IMP and OTA Comparison is presented.



DEVICE VIEW

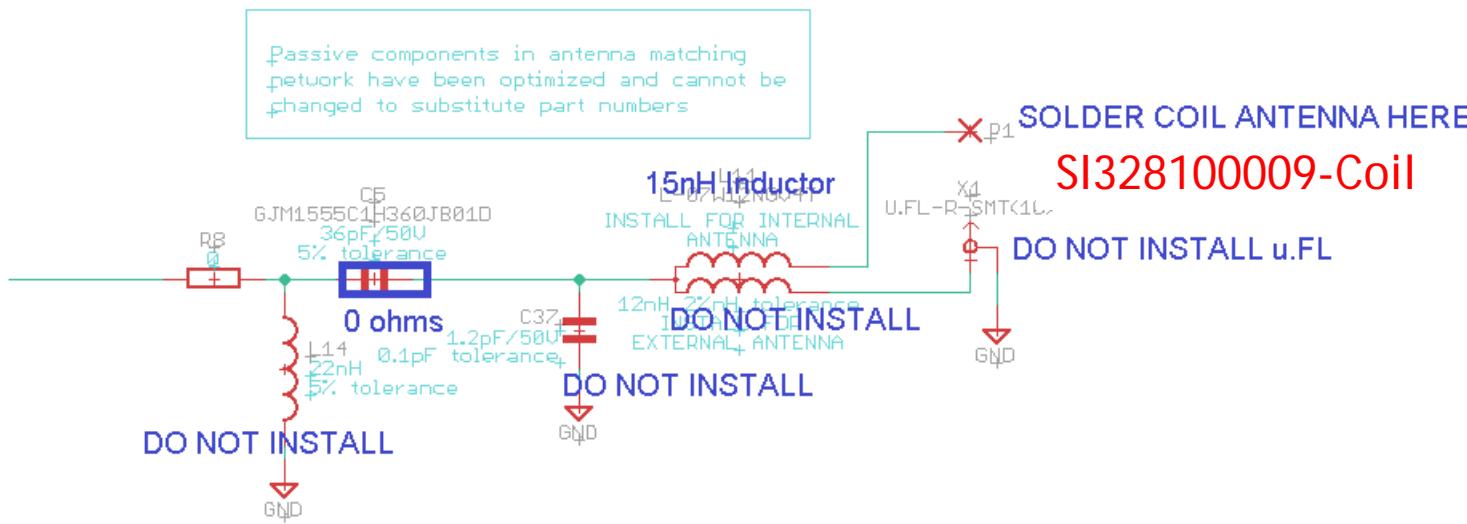
SI32810009-Coil

Coil Monopole Antenna
Thru-hole
22.8 x Ø 5.5 mm

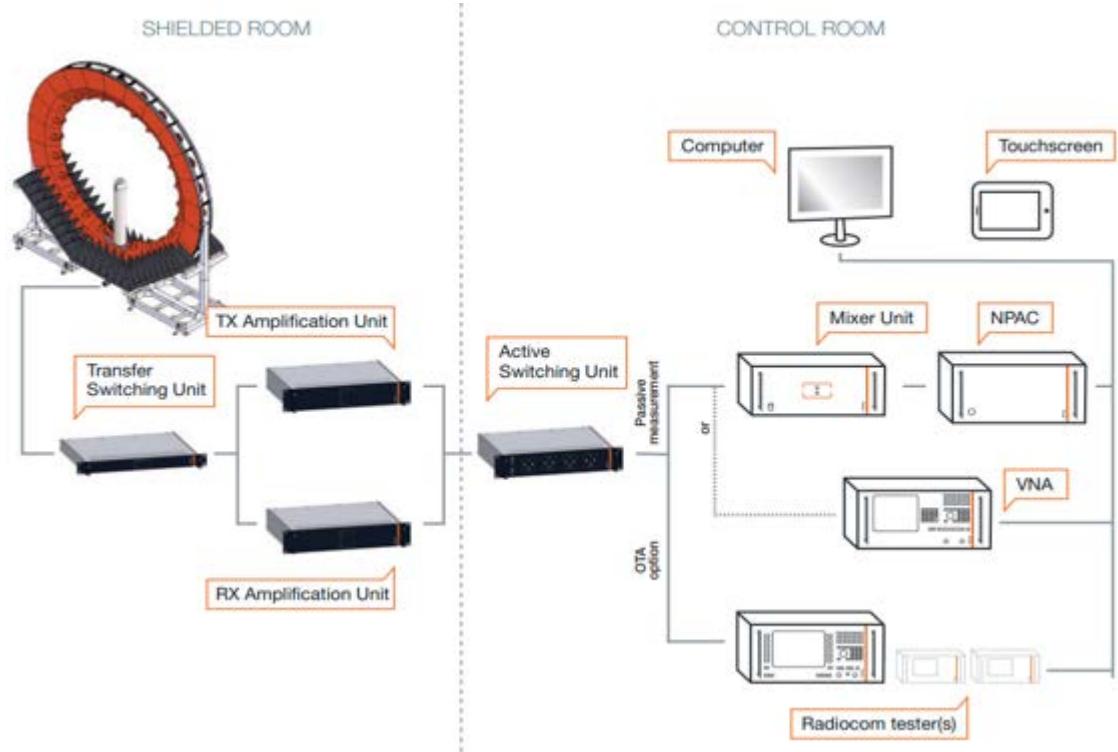


MATCHING NETWORK FOR COIL ANTENNA

Passive components in antenna matching network have been optimized and cannot be changed to substitute part numbers

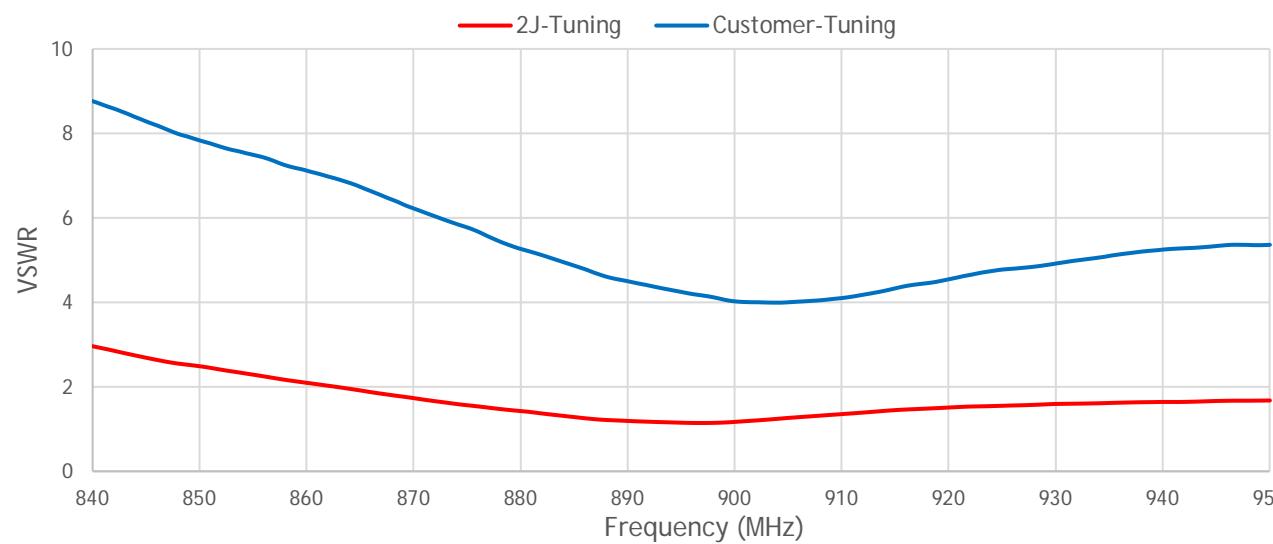
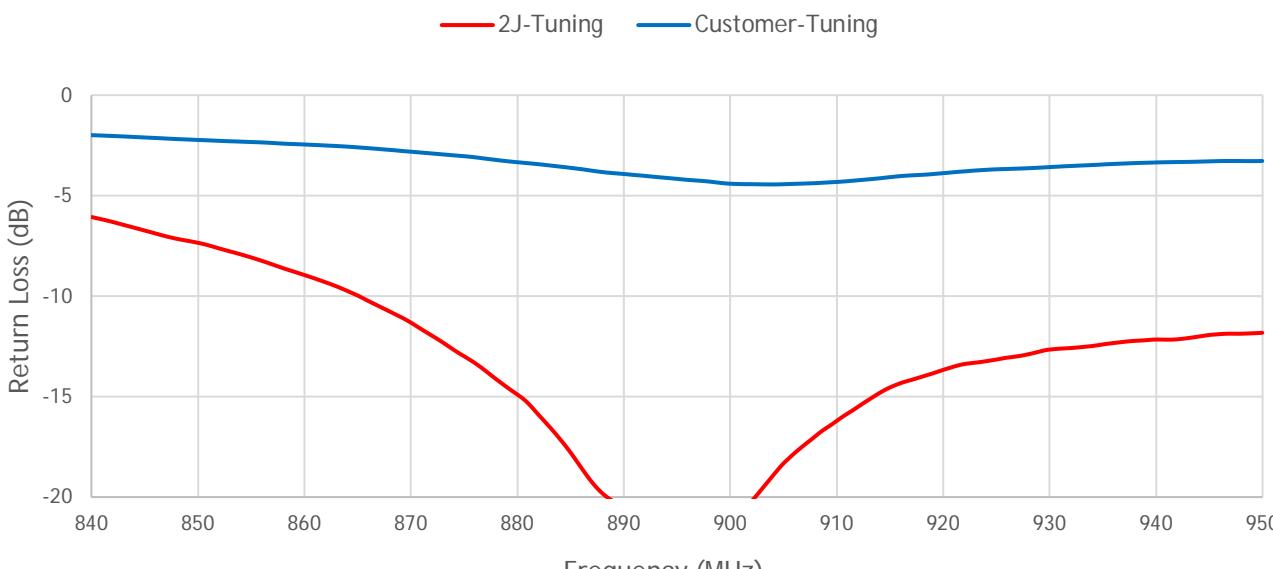


MEASUREMENT SETUP

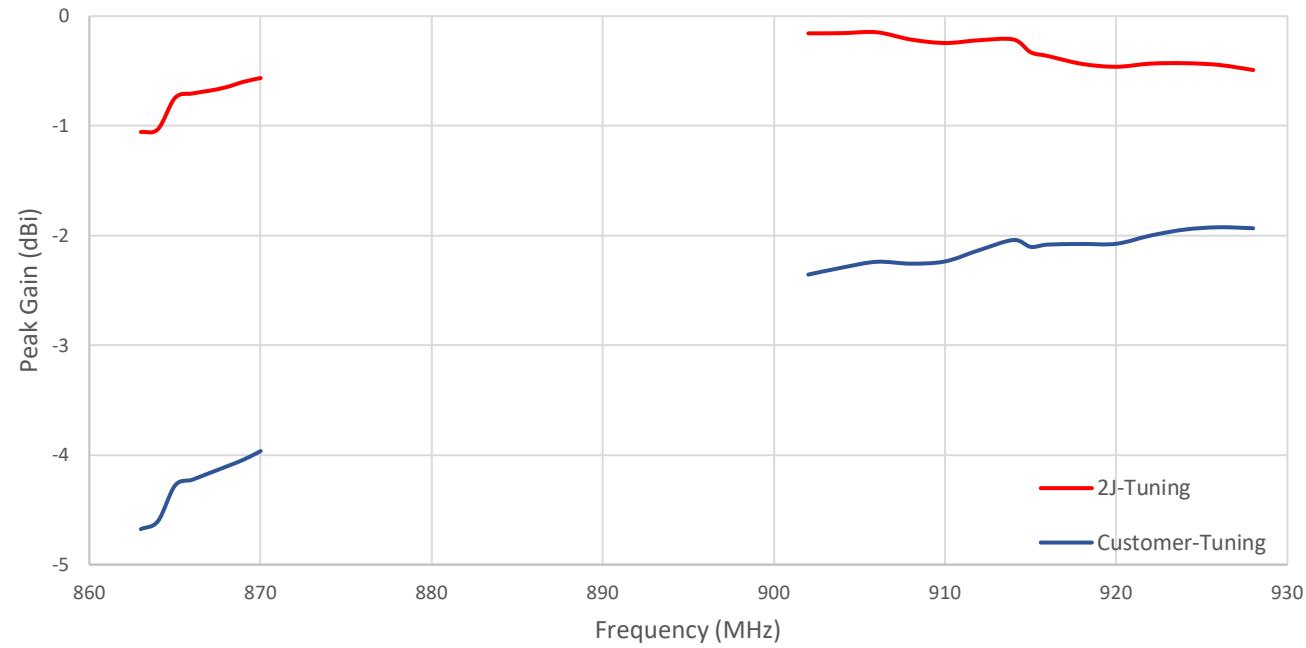


Measurement setup inside of Satimo StarGate 24

IMPEDANCE PERFORMANCE COMPARISON



PEAK GAIN PERFORMANCE COMPARISON



CONCLUSIONS

- Thru-Hole Monopole SI328100009-Coil Antenna from 2J did not need any change on previous tuning.
- Only one series inductor is enough to achieve tuning and matching on antenna TX Line.
- With current Design, presented solution can be implemented with no additional changes on matching circuit, keeping great performance for such a small form factor.
- No change was noted on the location of inductor, can be placed anywhere on Tx Line, it will not affect matching or OTA performance.
- Please keep integration guidelines from previous report.
- Please remember not populating SMD component to UFL Connector, since that will affect antenna tuning.