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2J Antennas



WillowBee SI328100009 - Coil Antenna
Dual-Band 868/915 Matching Validation

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VERSION HISTORY

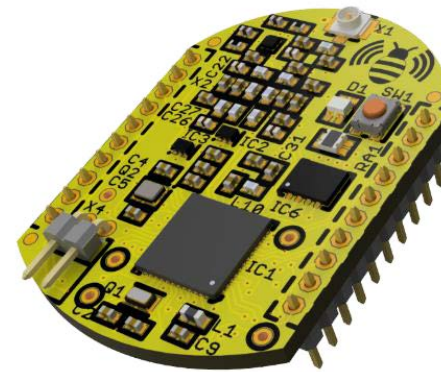
Version	Release Date	Editor	Changes	Approved by
1.0	11/15/2023	FG	Matching Validation	RM

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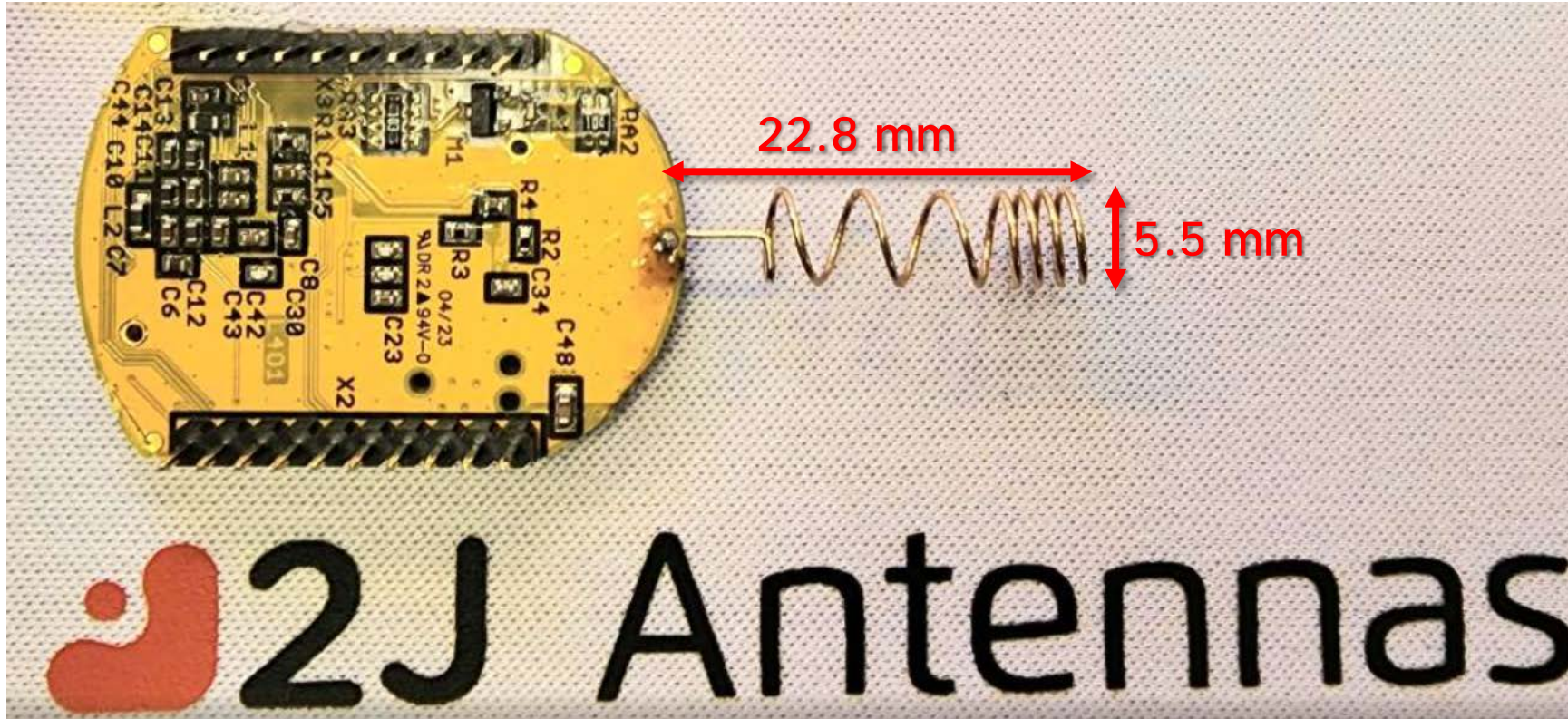
INTRODUCTION

- ▶ 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.

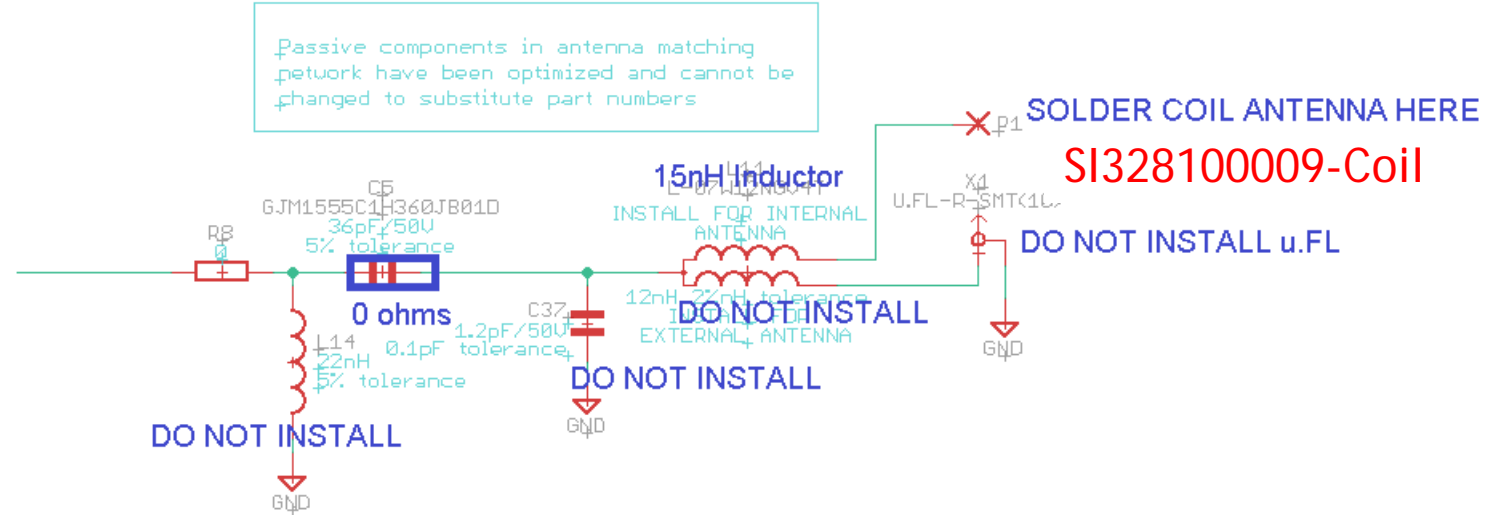


DEVICE VIEW

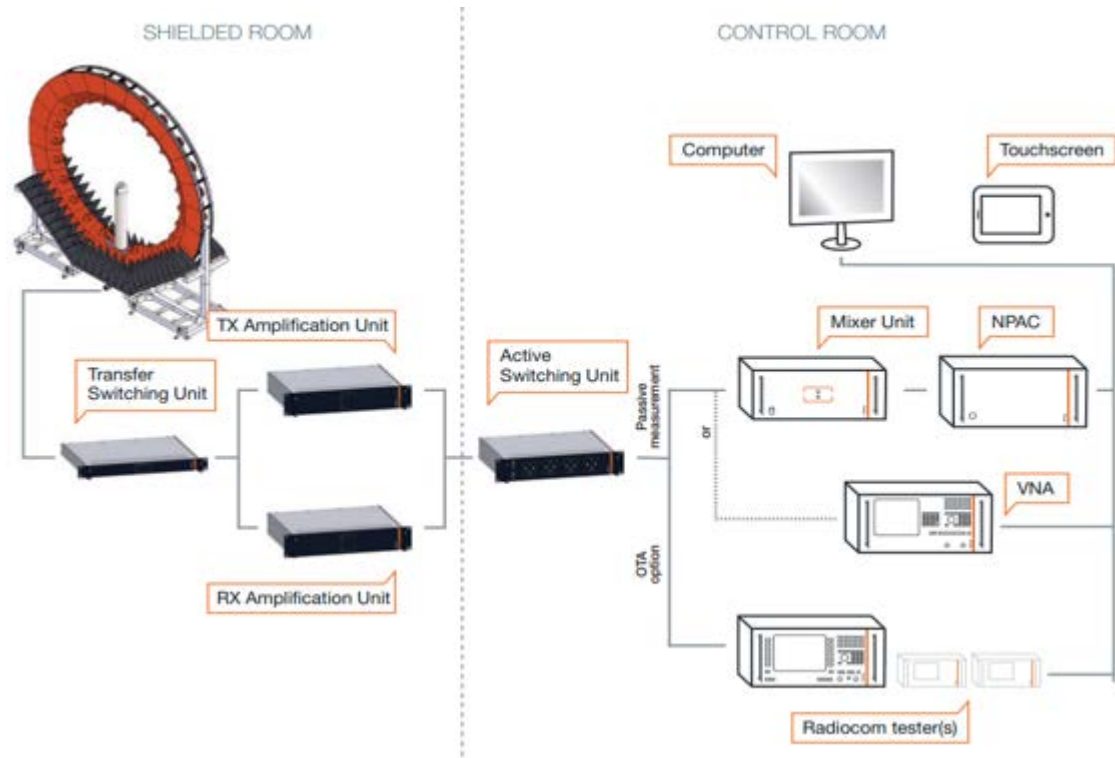
SI328100009-Coil
Coil Monopole Antenna
Thru-hole
22.8 x Ø 5.5 mm



MATCHING NETWORK FOR COIL ANTENNA

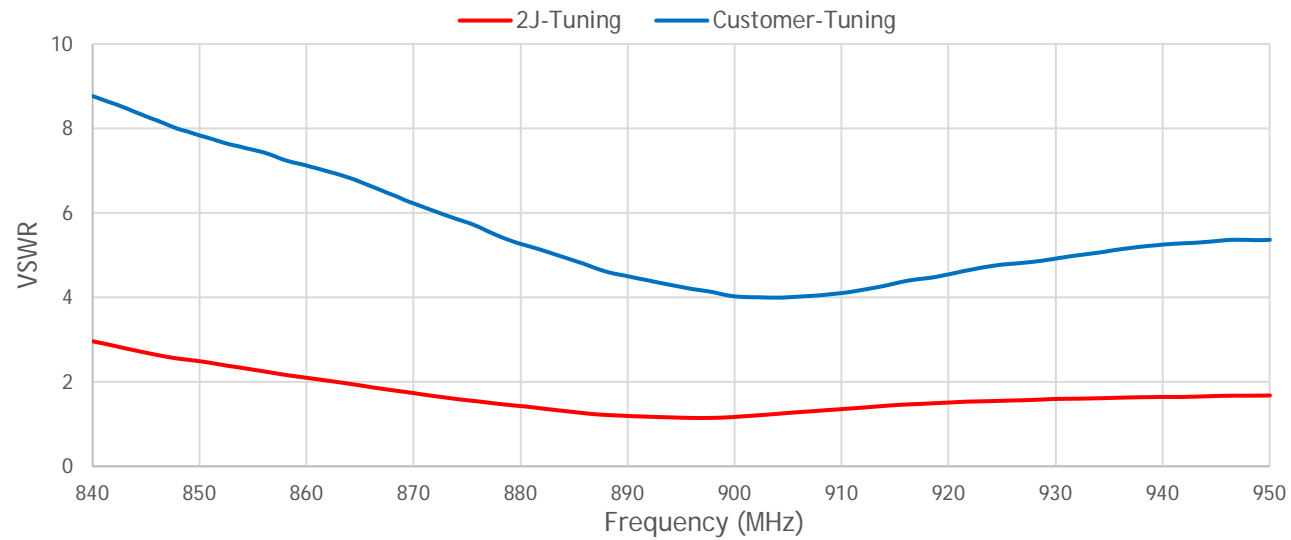
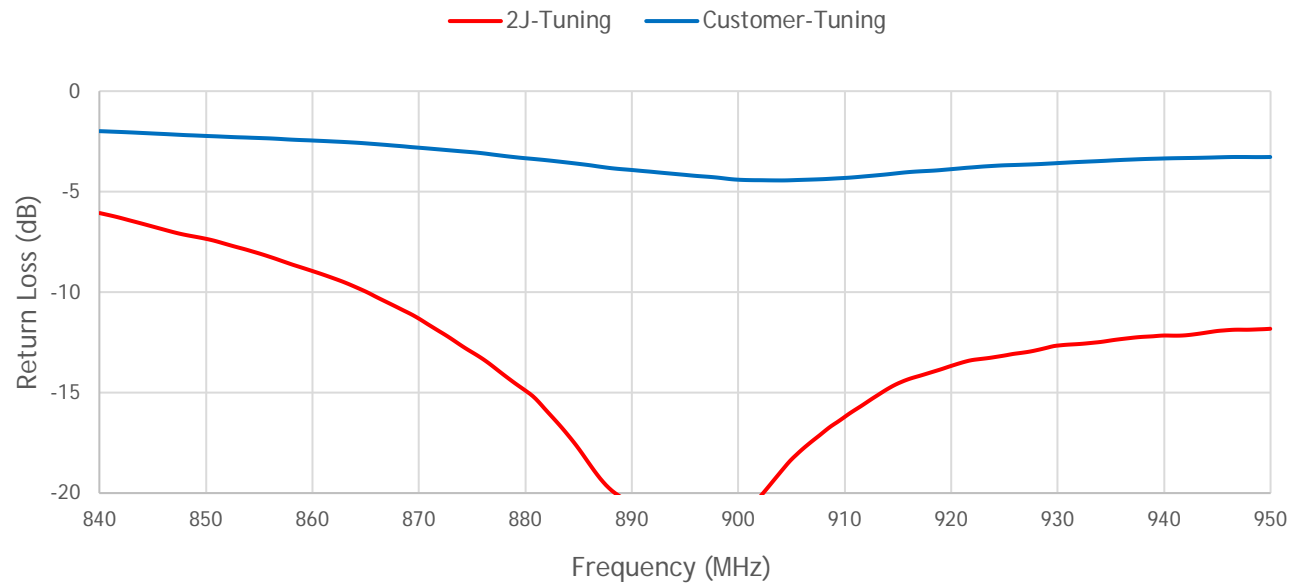


MEASUREMENT SETUP

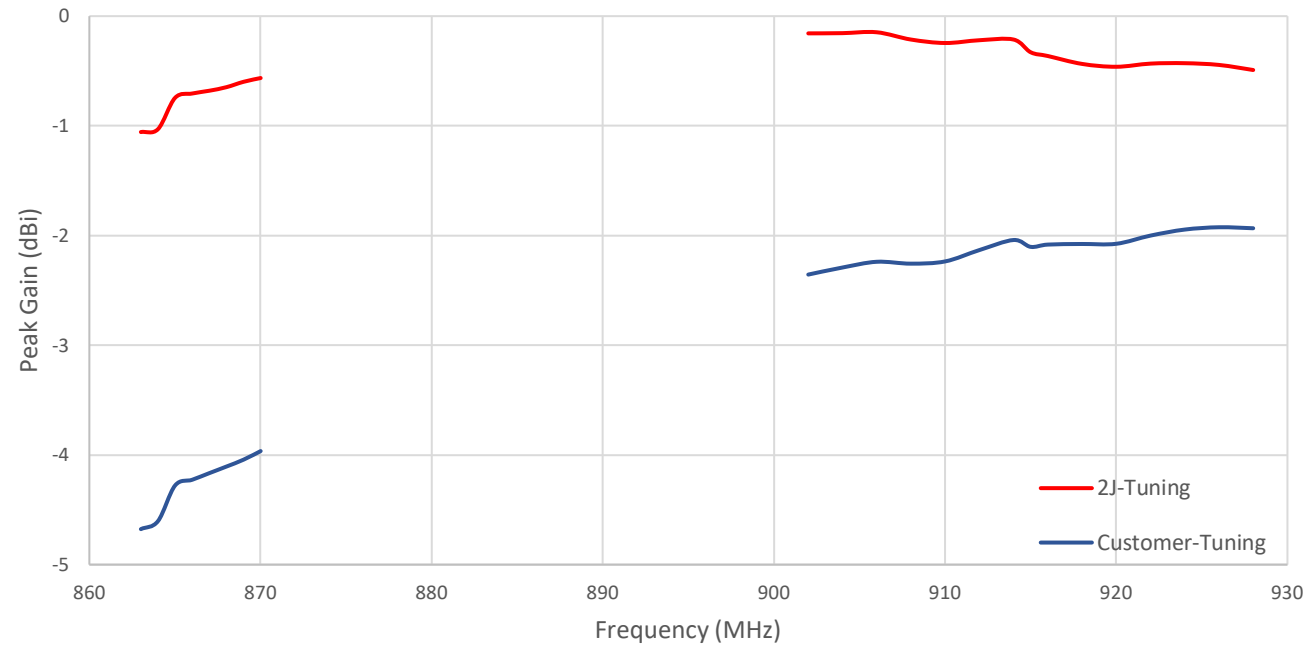


Measurement setup inside of Satimo StarGate 24

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.