



F2 Labs
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ANTENNA MEASUREMENTS

Manufacturer: LSI Industries, Inc.
10000 Alliance Road
Cincinnati, Ohio 45242 USA

Applicant: Same as Above

Antenna: IPEX Custom

Testing Commenced: 2023-03-29

Testing Ended: 2023-03-29

Note: Test report reflects antenna measurements to support PCII for FCC ID: 2AWNNBMD341 for this custom antenna.

Evaluation Conducted by:

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Report Reviewed by:

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1 ADMINISTRATIVE INFORMATION

1.1 Measurement Location:

F2 Labs in Middlefield, Ohio. Site description and attenuation data are on file with the FCC's Sampling and Measurement Branch at the FCC Laboratory in Columbia, MD.

1.2 Measurement Procedure:

All measurements were performed according to ANSI C63.10 and recommended FCC procedure of measurement.

1.3 Document History

Document Number	Description	Issue Date	Approved By
F2P26688A-05E	First Issue	2023-05-20	K. Littell



2 EUT INFORMATION AND DATA

2.1 Equipment Under Test:

Antenna: IPEX Custom

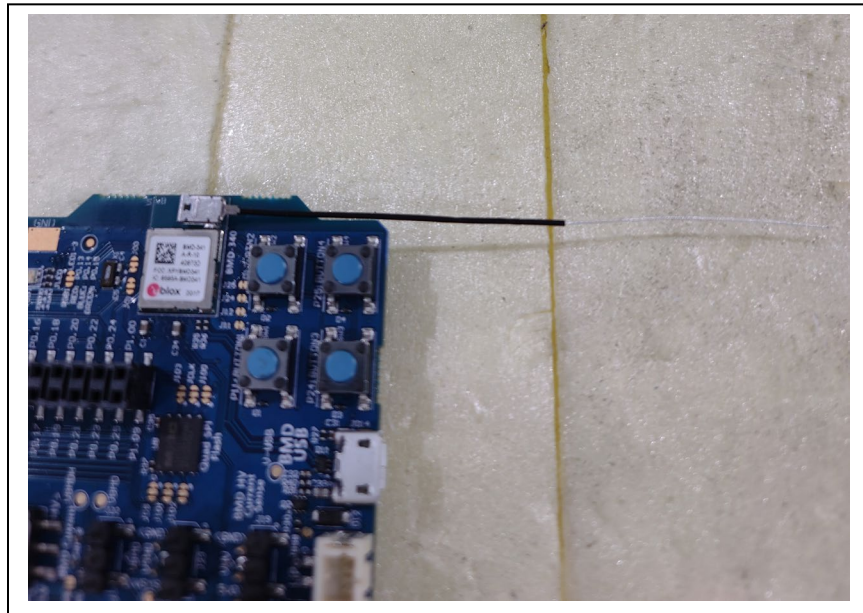
Monopole, -2.5dBi Gain

Note: The gain was determined using the method stated in ANSI C63.10;

$$P(\text{dBm}) = E(\text{dBuV/m}) + 20\text{LOG}(d) - G - 104.77$$

$$97.5 + 20\text{LOG}(3) - 4.74 - 104.77 = -2.5\text{DBI}$$

Radiated power – Conducted power = Gain (dBi)



2.2 Accessories:

Device	Manufacturer	Model Number	Serial Number
Stand-alone Bluetooth 5 Low Energy FCC ID 2AWNNBMD341	LSI Industries, Inc.	BMD-341	408730

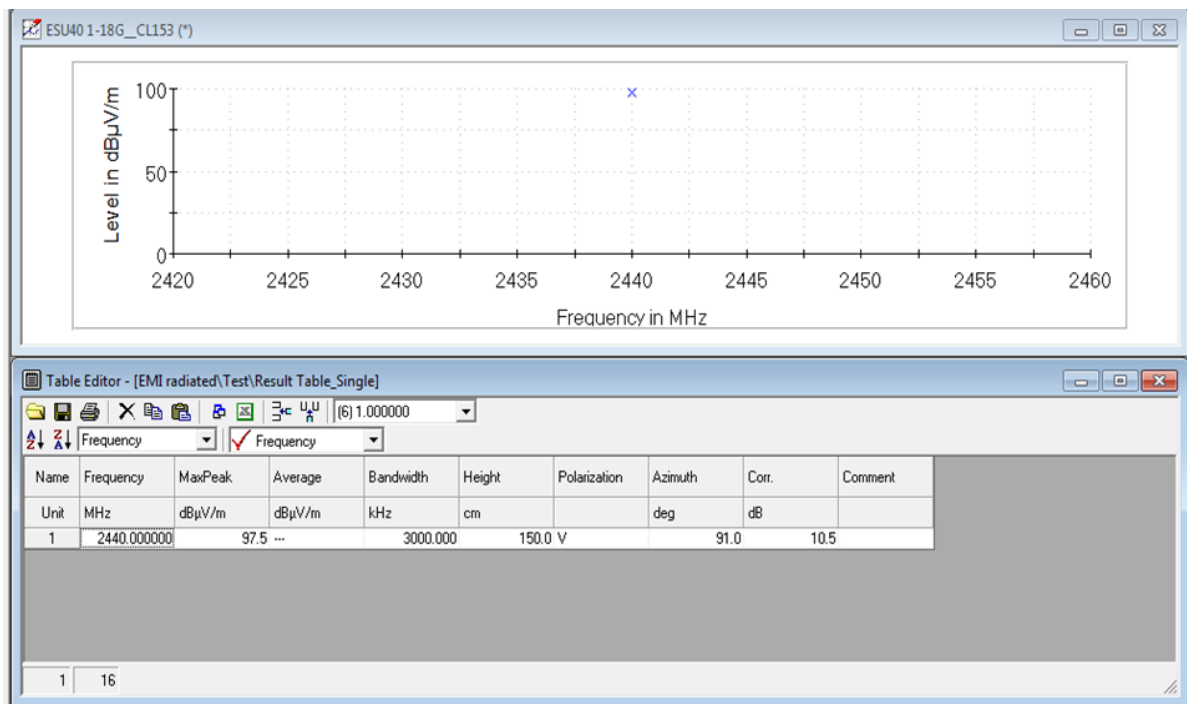
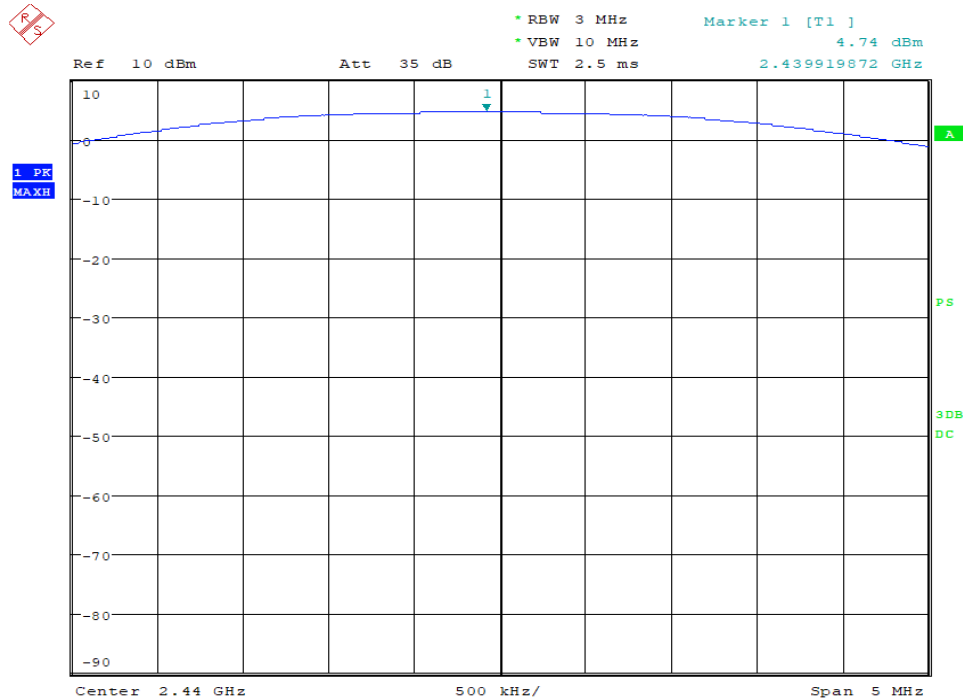
**3 LIST OF MEASUREMENT INSTRUMENTATION**

Equipment Type	Asset Number	Manufacturer	Model	Serial Number	Calibration Due Date
Shielded Chamber	CL166-E	AlbatrossProjects	B83117-DF435-T261	US140023	2023-08-22
Temp/Hum. Recorder	CL232	Extech	445814	01	2023-05-19
Receiver	CL151	Rohde & Schwarz	ESU40	100319	2024-04-10
Horn Antenna	CL098	Emco	3115	9809-5580	2024-01-19
Pre-Amplifier	CL153	Agilent	83006-69007	MY57280115	2023-12-16
Software:	EMC 32, Version 8.53.0		Software Verified: 2023-03-29		



4 Measurements

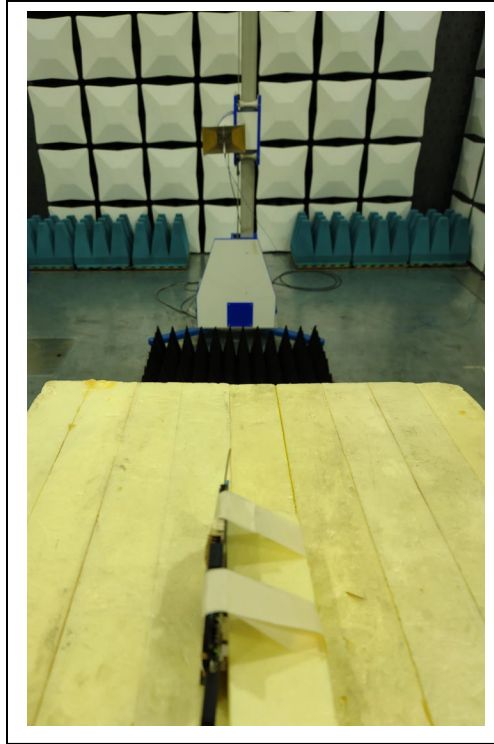
New conducted scan for one of the channels showed the 4.74 dBm conducted power when we switched to a 3 MHz RBW. The field strength was done using a 3 MHz RBW and also a Peak detector, with measurement of 97.5 dBuV/m.





5 EUT SETUP PHOTOGRAPH(S)

Radiated Measurement Test Setup



Conducted Measurement Test Setup

