

Test Report C-3864D

Equipment Under Test:	CoreLinc Receiver
Requirement(s):	15.247, RSS-247
Test Date(s):	12/08/2024-1/24/2025, 4/11/2025
Prepared for:	Lincoln Electric Attn: Laurent Majerus 22801 Saint Clair Ave Cleveland, OH 4117

Report Issued by: Mitchell Freund, EMC Test Engineer	
Signature: 	Date: 04/14/2025
Report Reviewed by: Adam Alger, Manager EMC Laboratory	
Signature: 	Date: 04/14/2025
Report Constructed by: Mitchell Freund, EMC Test Engineer	
Signature: 	Date: 01/27/2025

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Company: Lincoln Electric	Page 1 of 32	Name: CoreLinc Receiver
Report: TR3864D		Model: K5784-1
Quote: NBO-05-2024-007308-1		Serial: P-WRLS-R-C0-001

CONTENTS

Contents.....	2
Ezurio Test Services in Review	3
1 Test Report Summary	4
2 Client Information.....	5
2.1 Equipment Under Test (EUT) Information.....	5
2.2 Product Description.....	5
2.3 Modifications Incorporated for Compliance	5
2.4 Additional Information	5
2.5 Additional Information	6
3 References	7
4 Uncertainty Summary	8
5 Test Data	9
5.1 Antenna Port Conducted Emissions	9
5.2 Radiated Emissions	22
5.3 AC Mains Conducted Emissions.....	30
6 Revision History	32

Ezurio Test Services in Review

The Ezurio laboratory located at W66 N220 Commerce Court Cedarburg, Wisconsin, 53012 USA is recognized through the following organizations:



A2LA – American Association for Laboratory Accreditation

Accreditation based on ISO/IEC 17025:2017 with Electrical (EMC) Scope

A2LA Certificate Number: 1255.01

Scope of accreditation includes all test methods listed herein unless otherwise noted



Federal Communications Commission (FCC) – USA

Accredited Test Firm Registration Number: 953492

Recognition of two 3 meter Semi-Anechoic Chambers



Innovation, Science and Economic Development Canada

Accredited U.S. Identification Number: US0218

Recognition of two 3 meter Semi-Anechoic Chambers

Company: Lincoln Electric	Page 3 of 32	Name: CoreLinc Receiver
Report: TR3864		Model: K5784-1
Quote: NBO-05-2024-007308-1		Serial: P-WRLS-R-C0-001

1 TEST REPORT SUMMARY

During **12/08/2024-1/24/2025** and **4/11/2025** the Equipment Under Test (EUT), **CoreLinc Receiver**, as provided by **Lincoln Electric** was tested to the following requirements:

FCC 15.247 / RSS-247, DTS

Requirement	Description	Specification	Method	Compliant
FCC: 15.247 (a)(2) IC: RSS-247 5.2 (a)	Digital Modulation System 6 dB bandwidth	500 kHz	ANSI C63.10	Yes
FCC: 2.1049 IC: RSS-GEN 6.7	Occupied Bandwidth	Reported	ANSI C63.10	Yes
FCC: 15.247 (b)(3) IC: RSS-247 5.4 (d)	Maximum Conducted Output Power	30 dBm	ANSI C63.10	Yes
FCC: 15.247 (e) IC: RSS-247 5.2 (b)	Digital Modulation System Power Spectral Density	8 dBm / 3 kHz	ANSI C63.10	Yes
FCC: 15.247 (d) IC: RSS-247 5.5	RF Spurious Emissions at the Transmitter Antenna Terminal	20 dBc	ANSI C63.10	Yes
FCC: 15.247 (d) IC: RSS-GEN 8.10	Spurious Radiated Emissions in Restricted Bands	FCC 15.209 RSS-GEN 8.9	ANSI C63.10	Yes
FCC: 2.1055 (d) IC: RSS-GEN 6.11	Frequency Stability	Reported	ANSI C63.10	Yes
FCC: 15.247 (b) IC: RSS-GEN 7.2	AC Mains Conducted Emissions	FCC 15.207 RSS-GEN 8.8	ANSI C63.10	Yes

Notice:

The results relate only to the item tested as configured and described in this report. Any additional configurations, modes of operation, or modifications made to the equipment under test after the specified test date(s) are at the decision of the client and may not apply to the data seen in this test report.

The decision rule for Pass / Fail assessment to the specification or standard listed in this test report has been agreed upon by the client and laboratory to be as follows:

Measurement Type	Rule
Emissions – Amplitude	1 dB below specified limit
Emissions – Frequency	1% less than the specification
Immunity	Tested at specified level

Company: Lincoln Electric	Page 4 of 32	Name: CoreLinc Receiver
Report: TR3864		Model: K5784-1
Quote: NBO-05-2024-007308-1		Serial: P-WRLS-R-C0-001

2 CLIENT INFORMATION

Company Name	Lincoln Electric
Contact Person	Laurent Majerus
Address	22801 Saint Clair Ave Cleveland, OH 4117

2.1 Equipment Under Test (EUT) Information

The following information has been supplied by the client

Product Name	CoreLinc Receiver
Model Number	K5784-1
Serial Number	P-WRLS-R-C0-001
FCC ID	2AJY8-LER00057841
IC ID	22017-LER00057841

2.2 Product Description

Receiver for wireless welding remote control.

2.3 Modifications Incorporated for Compliance

Client understands modifications.

2.4 Additional Information

120 VAC to 42 VDC power supply, Channels: Low Channel = 902.2 MHz, Middle Channel = 915 MHz, and High Channel is 927.8 MHz, programmed with TI Smart RF Studio 7 using a client provided laptop and a TI XDS110 Debug Probe. The receiver operates in continuous mode and duty cycling is not enabled. For testing purposes, a 42V power supply provided by the client was used.

Power supply information: Manufacturer: Mean Well, Part Number: OWA-60U-42.

The nominal input voltage the unit is designed to work with is 40VDC @ 0.04A (~1.6W). The maximum input voltage the unit will be exposed to is 42VDC @ 0.05A (~2.1W). The unit is designed to handle voltage transients up to 55VDC.

Company: Lincoln Electric	Page 5 of 32	Name: CoreLinc Receiver
Report: TR3864		Model: K5784-1
Quote: NBO-05-2024-007308-1		Serial: P-WRLS-R-C0-001

2.5 Additional Information

Power Setting: 14 Low

Max Power Setting: 20 High

Company: Lincoln Electric	Page 6 of 32	Name: CoreLinc Receiver
Report: TR3864		Model: K5784-1
Quote: NBO-05-2024-007308-1		Serial: P-WRLS-R-C0-001

3 REFERENCES

Publication	Edition	Date	AMD 1	AMD 2
eCFR		2024		
RSS-247	3.0	2023		
ANSI C63.10		2020		
RSS-GEN	5.0	2018	2019	2021

4 UNCERTAINTY SUMMARY

Using the guidance of the following publications the calculated measurement uncertainty represents an expanded uncertainty expressed at approximately the 95 % confidence level, using a coverage factor of $k = 2$.

References
CISPR 16-4-1
CISPR 16-4-2
CISPR 32
ANSI C63.23
A2LA P103
A2LA P103c
ETSI TR 100-028

Measurement Type	Configuration	Uncertainty $\pm$
Radiated Emissions	Biconical Antenna	5.0 dB
Radiated Emissions	Log Periodic Antenna	5.3 dB
Radiated Emissions	Horn Antenna	4.7 dB
AC Line Conducted Emissions	Artificial Mains Network	3.4 dB
Telecom Conducted Emissions	Asymmetric Artificial Network	4.9 dB
Disturbance Power Emissions	Absorbing Clamp	4.1 dB
Radiated Immunity	3 Volts/meter	2.2 dB
Conducted Immunity	CDN/EM/BCI	2.4/3.5/3.4 dB
EFT Burst/Surge	Peak pulse voltage	164 volts
ESD Immunity	15 kV level	1377 Volts

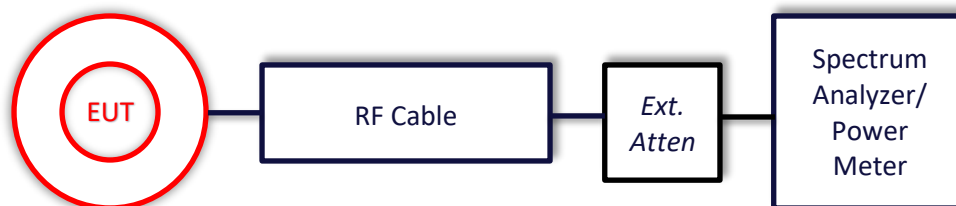
Parameter	ETSI U.C. $\pm$	U.C. $\pm$
Radio Frequency, from F0	1×10^{-7}	0.55×10^{-7}
Occupied Channel Bandwidth	5 %	2 %
RF conducted Power (Power Meter)	1.5 dB	1.2 dB
RF conducted emissions (Spectrum Analyzer)	3.0 dB	1.7 dB
All emissions, radiated	6.0 dB	5.3 dB
Temperature	1° C	0.65° C
Humidity	5 %	2.9 %
Supply voltages	3 %	1 %

5 TEST DATA

5.1 Antenna Port Conducted Emissions

Description of Measurement	The direct measurement of emissions at the antenna port of the EUT is achieved by use of a RF connection to a spectrum analyzer or power meter. The cable and attenuator factors are loaded into the analyzer or power meter allowing for direct measurement readings without the need for further corrections.
Example Calculations	Measurement (dBm) + Cable factor (dB) + External Attenuator (dB) = Corrected Reading (dBm) Margin (dB) = Limit (dBm) – Corrected Reading (dBm)

Block Diagram



5.1.1 6 dB and 99% Occupied Bandwidth

Operator	Mitchell Freund	QA	Anthony Smith
Temperature	21.5°C	R.H. %	32.60%
Test Date	12/9/2024	Location	Bench
Requirement	FCC 15.247 (a)(2) RSS-247 Clause 5.2(a)	Method	ANSI C63.10 Sec. 11.8.2 ANSI C63.10 Sec. 9.4

Limits: The minimum 6 dB bandwidth shall be at least 500 kHz.

Test Parameters

Frequency	902.2 – 927.8 MHz	Setup	Antenna Port
RBW	100kHz	VBW	120kHz
Detector(s)	Peak	Settings	Max Hold

Instrumentation

Asset #	Description	Manufacturer	Model #	Serial #	Date	Due Date	Status
EE 960085	Analyzer - EMI Receiver	Agilent	N9038A	MY51210148	4/9/2024	4/9/2025	Active Calibration
AA 960173	Cable	A.H. Systems, Inc.	SAC-26G-1	388	6/13/2024	6/12/2025	Active Verification

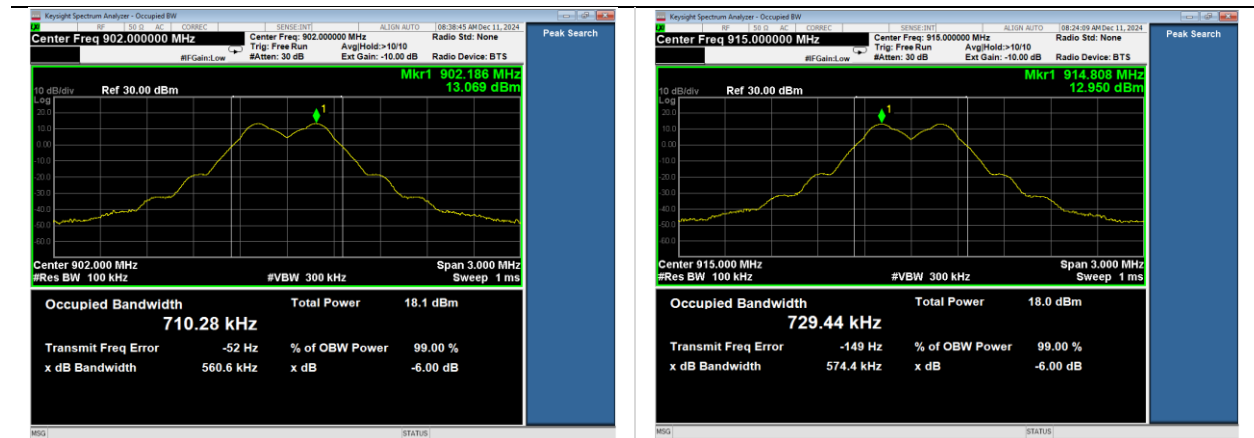
EUT Parameters

Input Power	120 VAC to 42 VDC power supply	Mode	Sub 1 GHz Tx
Frequency	902.2 – 927.8 MHz	Channel	Low, Mid, High

Table

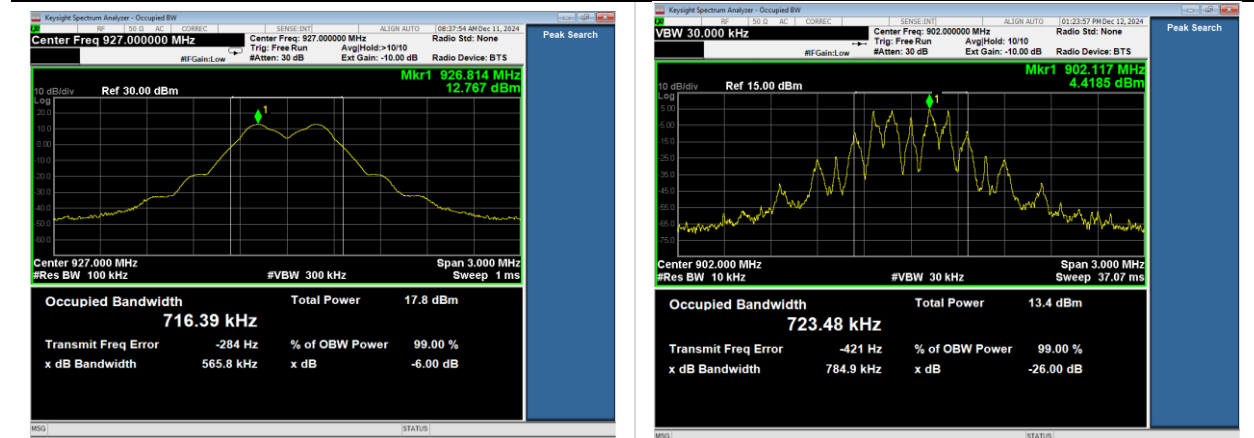
Channel	Mode	99% OBW (kHz)	6dB DTS BW (kHz)	Limit (kHz)	Margin (kHz)
Low	Mod. Tx	723.5	561	500	61
Mid	Mod. Tx	726.6	574	500	74
High	Mod. Tx	720.9	566	500	66

Plots



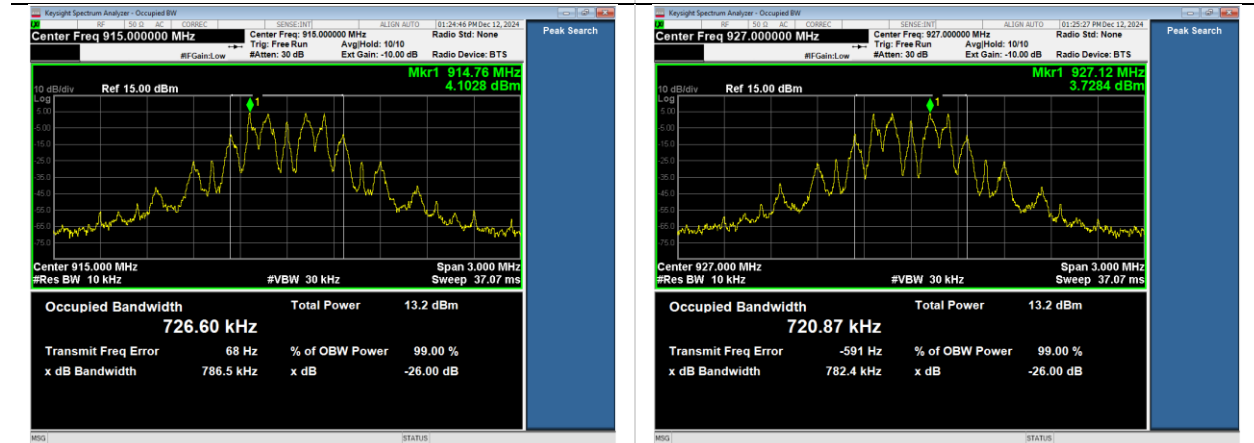
6 dB DTS BW, Low (902.2 MHz) WB-DSSS, 30kbps (480kps), 2925 kHz Deviation, 2 GFSK, 784 kHz Rx Bandwidth, FEC = 1:2, DSSS 1:8

6 dB DTS BW, Mid (915 MHz) WB-DSSS, 30kbps (480kps), 2925 kHz Deviation, 2 GFSK, 784 kHz Rx Bandwidth, FEC = 1:2, DSSS 1:8



6 dB DTS BW, High (927.8 MHz) WB-DSSS, 30kbps (480kps), 2925 kHz Deviation, 2 GFSK, 784 kHz Rx Bandwidth, FEC = 1:2, DSSS 1:8

99% Occupied BW, Low (902.2 MHz) WB-DSSS, 30kbps (480kps), 2925 kHz Deviation, 2 GFSK, 784 kHz Rx Bandwidth, FEC = 1:2, DSSS 1:8



99% Occupied BW, Mid (915 MHz) WB-DSSS, 30kbps (480kps), 2925 kHz Deviation, 2 GFSK, 784 kHz Rx Bandwidth, FEC = 1:2, DSSS 1:8

99% Occupied BW, High (927.8 MHz) WB-DSSS, 30kbps (480kps), 2925 kHz Deviation, 2 GFSK, 784 kHz Rx Bandwidth, FEC = 1:2, DSSS 1:8

Company: Lincoln Electric		Name: CoreLinc Receiver
Report: TR3864	Page 12 of 32	Model: K5784-1
Quote: NBO-05-2024-007308-1		Serial: P-WRLS-R-C0-001

5.1.2 RF Output Power

Operator	Mitchell Freund	QA	Anthony Smith
Temperature	21.5°C	R.H. %	32.60%
Test Date	12/9/2024	Location	Bench
Requirement	FCC 15.247(b)(3) RSS-247 Clause 5.4(d)	Method	ANSI C63.10 Sec. 11.9.1.1

Limits: The maximum peak conducted output power of the intentional radiator shall not exceed 1 Watt

Test Parameters

Frequency	902.2-927.8 MHz	Setup	Antenna Port
RBW	820 kHz	VBW	2.7 MHz
Detector(s)	Peak	Settings	Max hold

Instrumentation

Asset #	Description	Manufacturer	Model #	Serial #	Date	Due Date	Status
EE 960085	Analyzer - EMI Receiver	Agilent	N9038A	MY51210148	4/9/2024	4/9/2025	Active Calibration
AA 960173	Cable	A.H. Systems, Inc.	SAC-26G-1	388	6/13/2024	6/12/2025	Active Verification

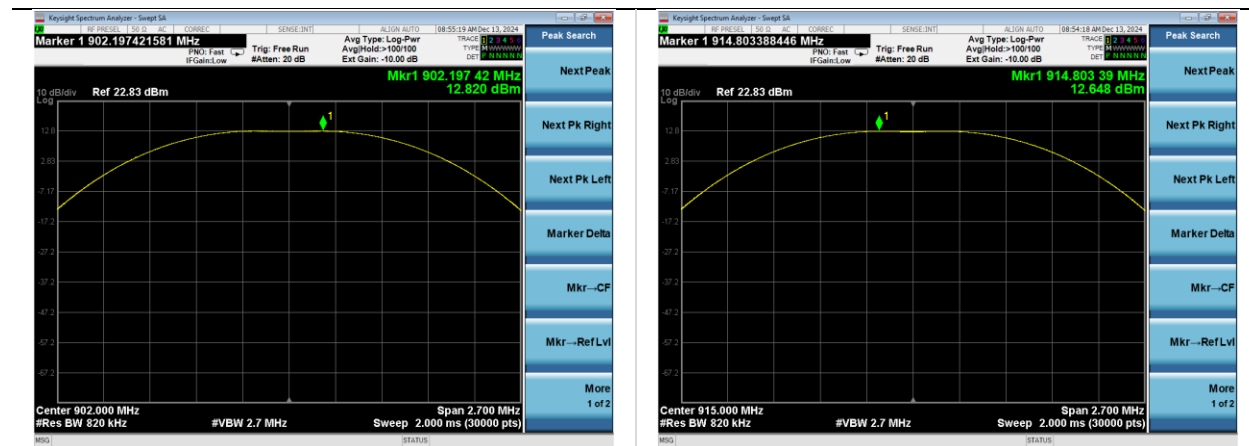
EUT Parameters

Input Power	120 VAC to 42 VDC power supply	Mode	Sub 1 GHz Tx
Frequency	902.2-927.8 MHz	Channel	Low, Mid, High

Tables

Channel	Mode	Pk Output Power (dBm)	Limit (dBm)	Margin (dB)
Low	Mod. Tx	12.8	30	17.2
Mid	Mod. Tx	12.6	30	17.4
High	Mod. Tx	12.5	30	17.5

Plots



Low (902 MHz) WB-DSSS, 30kbps (480kps), 2925 kHz Deviation, 2 GFSK, 784 kHz Rx Bandwidth, FEC = 1:2, DSSS 1:8

Mid (915 MHz) WB-DSSS, 30kbps (480kps), 2925 kHz Deviation, 2 GFSK, 784 kHz Rx Bandwidth, FEC = 1:2, DSSS 1:8



High (927 MHz) WB-DSSS, 30kbps (480kps), 2925 kHz Deviation, 2 GFSK, 784 kHz Rx Bandwidth, FEC = 1:2, DSSS 1:8

5.1.3 Power Spectral Density

Operator	Mitchell Freund	QA	Anthony Smith
Temperature	21.5°C	R.H. %	32.60%
Test Date	12/9/2024	Location	Bench
Requirement	FCC 15.247(e) RSS-247 Clause 5.2(b)	Method	ANSI C63.10 Sec. 11.10.2

Limits: PSD shall not be greater than 8 dBm in any 3kHz band.

Test Parameters

Frequency	902.2-927.8 MHz	Detectors(s)	Peak
RBW	3 kHz	VBW	10 kHz

Instrumentation

Asset #	Description	Manufacturer	Model #	Serial #	Date	Due Date	Status
EE 960085	Analyzer - EMI Receiver	Agilent	N9038A	MY51210148	4/9/2024	4/9/2025	Active Calibration
AA 960173	Cable	A.H. Systems, Inc.	SAC-26G-1	388	6/13/2024	6/12/2025	Active Verification

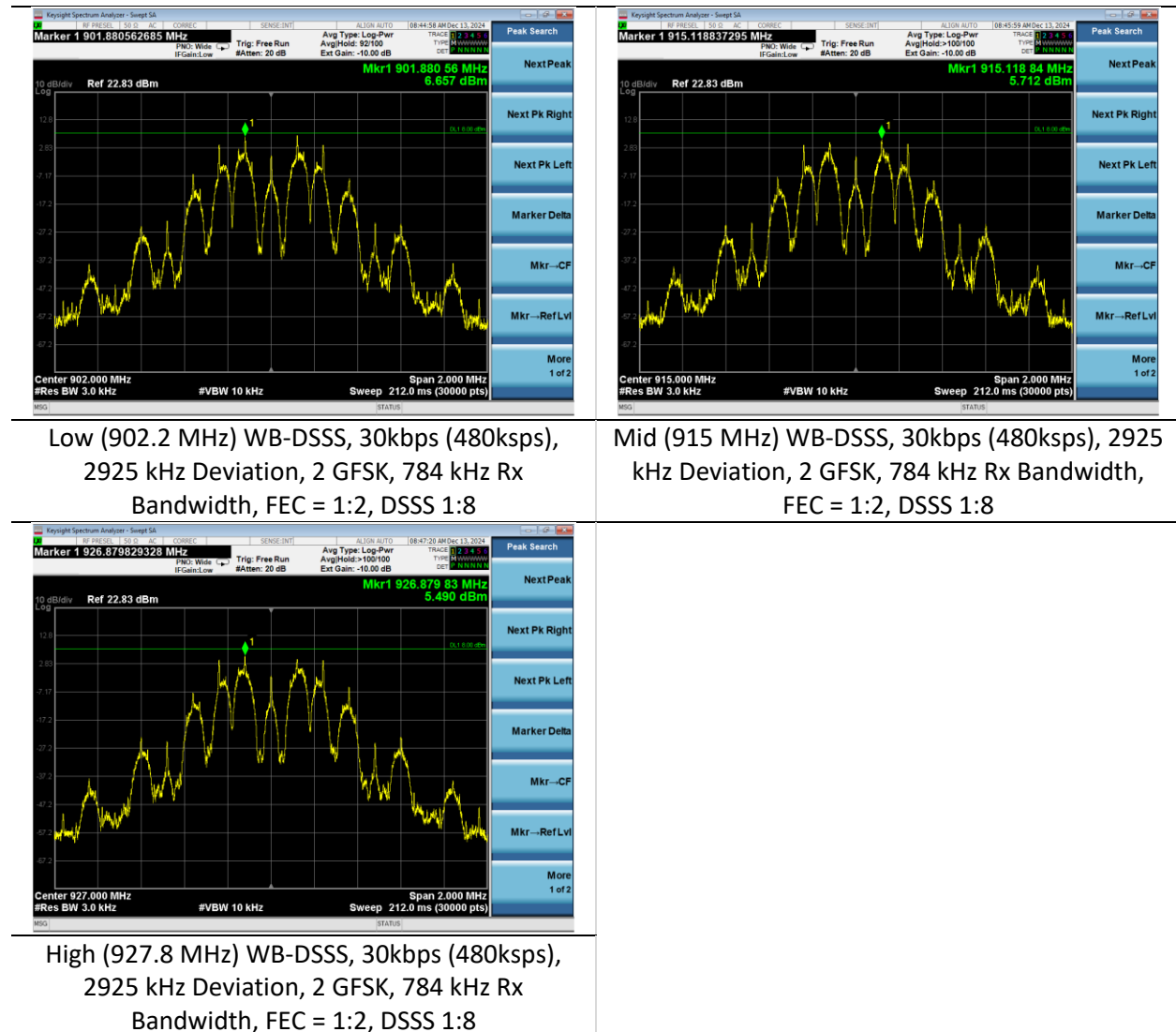
EUT Parameters

Input Power	120 VAC to 42 VDC power supply	Mode	Sub 1 GHz Tx
Frequency	902.2-927.8 MHz	Channel	Low, Mid, High

Table

Channel	Mode	Pk PSD (dBm)	Limit (dBm/3kHz)	Margin (dB)
Low	Mod. Tx	6.7	8	1.3
Mid	Mod. Tx	5.7	8	2.3
High	Mod. Tx	5.5	8	2.5

Plots



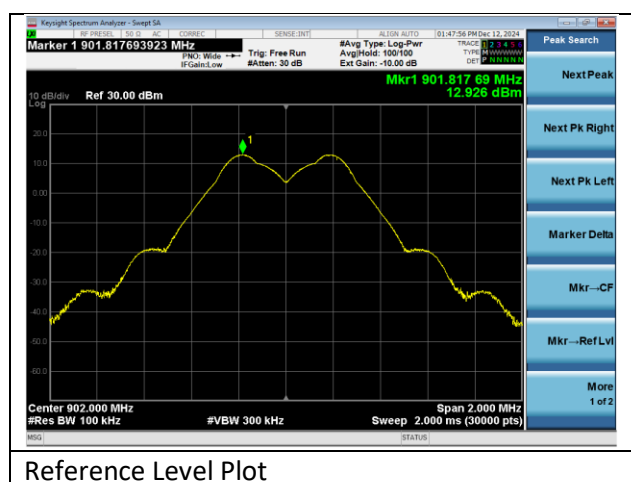
5.1.4 Out-of-Band Emissions

Operator	Mitchell Freund	QA	Anthony Smith
Temperature	21.5°C	R.H. %	32.60%
Test Date	12/9/2024, 1/24/2025	Location	Bench
Requirement	FCC 15.247(d) RSS-247 Clause 5.5	Method	ANSI C63.10 Sec. 11.11

Limits:

Reference Level (Worse Case PSD):

12.9 dBm – 20 dBc = -7.1 dBm Limit



Reference Level Plot

Test Parameters

Frequency	30-10000 MHz	Setup	Antenna Port
RBW	100kHz	VBW	300kHz
Detectors	Peak		
Example Calculations	Correction Factor = 20 log (1/D), where D is the duty cycle		

Instrumentation

Asset #	Description	Manufacturer	Model #	Serial #	Date	Due Date	Status
EE 960085	Analyzer - EMI Receiver	Agilent	N9038A	MY51210148	4/9/2024	4/9/2025	Active Calibration
AA 960173	Cable	A.H. Systems, Inc.	SAC-26G-1	388	6/13/2024	6/12/2025	Active Verification

EUT Parameters

Input Power	120 VAC to 42 VDC power supply	Mode	Sub 1 GHz Tx
Frequency	902.2-927.8 MHz	Channel	Low, Mid, High

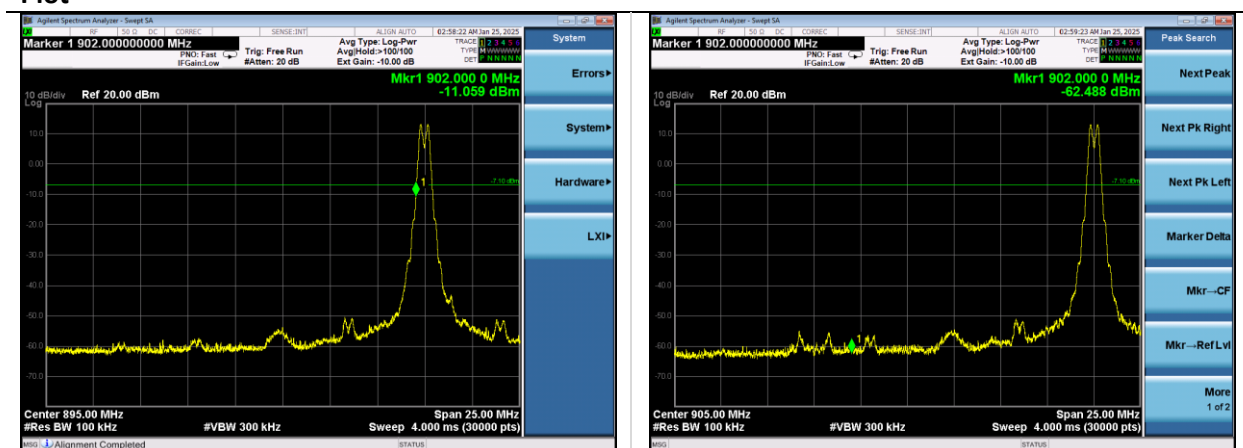
Table

Channel	Mode	Frequency (MHz)	Peak Reading (dBm)	Peak Limit (dBm)	Peak Margin (dB)
Low	Mod. Tx	1808	-28.1	-7.1	21.0
Mid	Mod. Tx	1825	-28.1	-7.1	20.7
High	Mod. Tx	1854	-28.2	-7.1	20.8

Band Edge Table

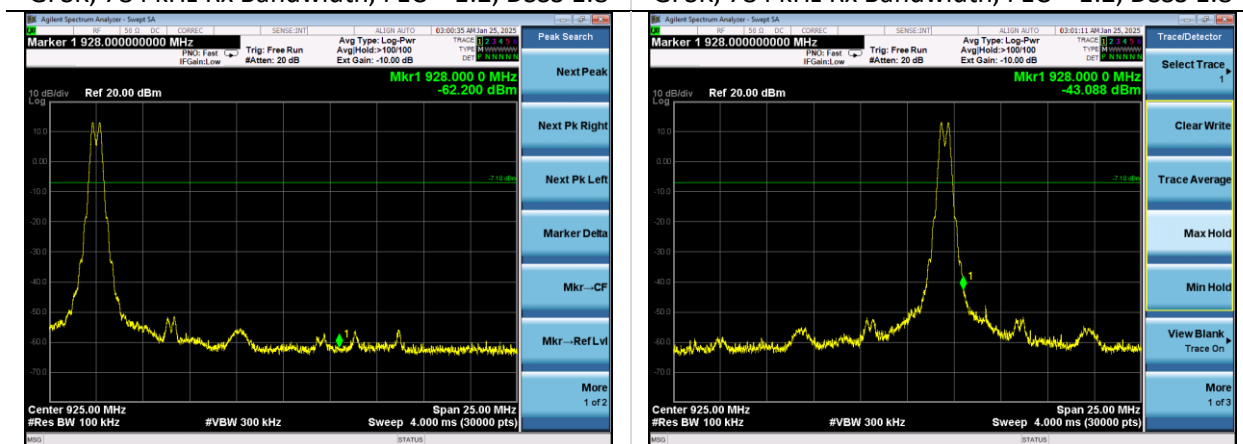
Channel	Measurement Type	Frequency (MHz)	Measurement (dBm)	Limit (dBm)	Margin (dB)
L	Peak	902.0	-11.1	-7.1	4.0
M	Peak	902.0	-62.5	-7.1	55.4
M	Peak	928.0	-62.2	-7.1	55.1
H	Peak	928.0	-43.1	-7.1	36.0

Plot



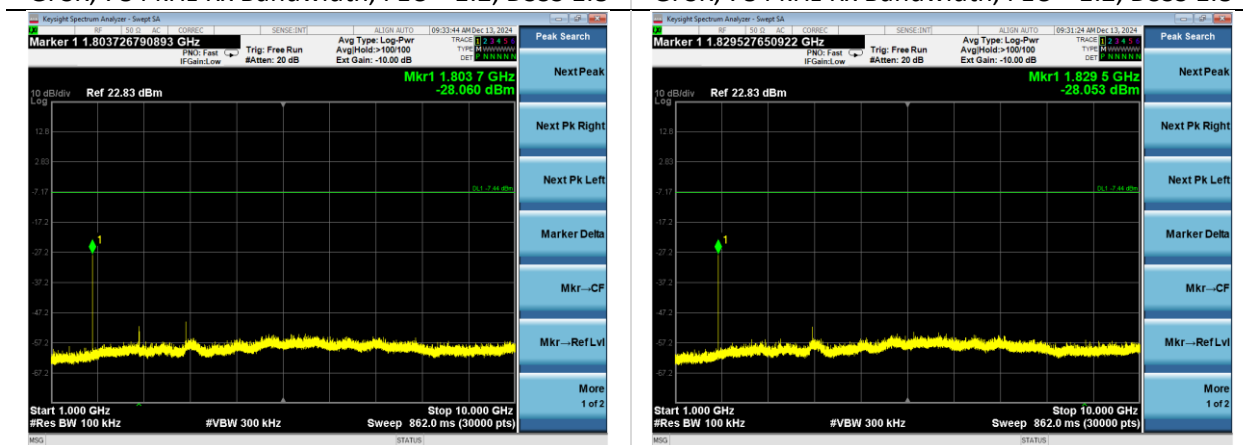
Lower Band Edge Low Channel (902.2 MHz) WB-DSSS, 30kbps (480ksps), 2925 kHz Deviation, 2 GFSK, 784 kHz Rx Bandwidth, FEC = 1:2, DSSS 1:8

Lower Band Edge Mid Channel (915 MHz) WB-DSSS, 30kbps (480ksps), 2925 kHz Deviation, 2 GFSK, 784 kHz Rx Bandwidth, FEC = 1:2, DSSS 1:8



Upper Band Edge Mid Channel (915 MHz) WB-DSSS, 30kbps (480ksps), 2925 kHz Deviation, 2 GFSK, 784 kHz Rx Bandwidth, FEC = 1:2, DSSS 1:8

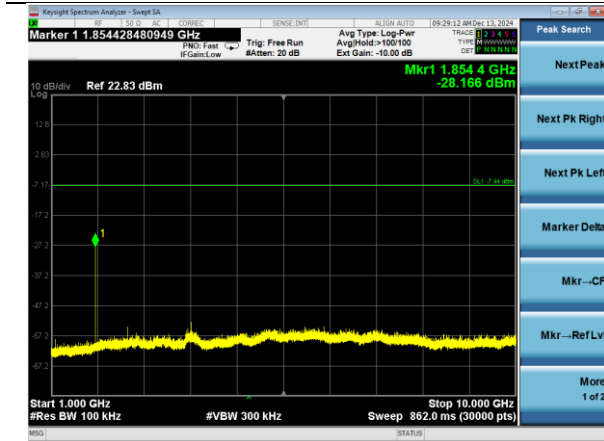
Upper Band Edge High Channel (927.8 MHz) WB-DSSS, 30kbps (480ksps), 2925 kHz Deviation, 2 GFSK, 784 kHz Rx Bandwidth, FEC = 1:2, DSSS 1:8



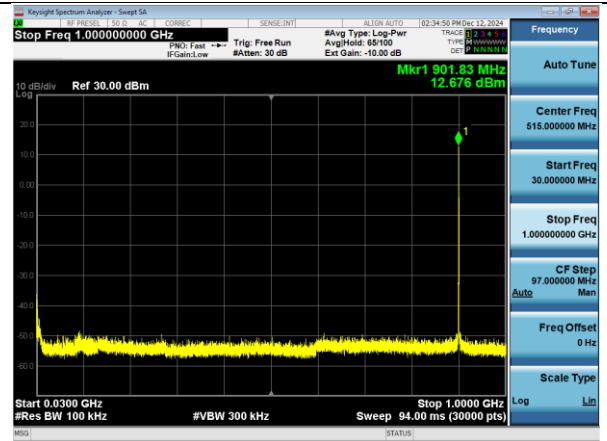
1-10 GHz Low (902.2 MHz) WB-DSSS, 30kbps (480ksps), 2925 kHz Deviation, 2 GFSK, 784 kHz Rx Bandwidth, FEC = 1:2, DSSS 1:8

1-10 GHz Mid (915 MHz) WB-DSSS, 30kbps (480ksps), 2925 kHz Deviation, 2 GFSK, 784 kHz Rx Bandwidth, FEC = 1:2, DSSS 1:8

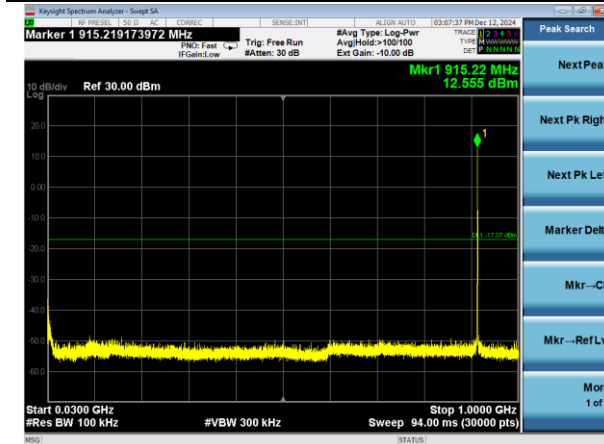
Company: Lincoln Electric		Name: CoreLinc Receiver
Report: TR3864		Model: K5784-1
Quote: NBO-05-2024-007308-1		Serial: P-WRLS-R-C0-001



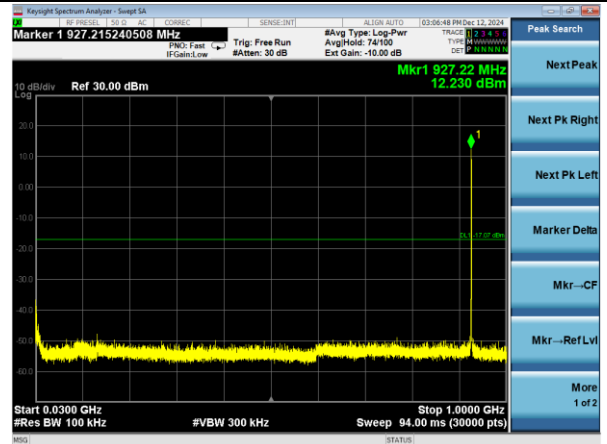
1-10 GHz High (927.8 MHz) WB-DSSS, 30kbps (480ksp), 2925 kHz Deviation, 2 GFSK, 784 kHz Rx Bandwidth, FEC = 1:2, DSSS 1:8



30-1000 MHz Low (902.2 MHz) WB-DSSS, 30kbps (480ksp), 2925 kHz Deviation, 2 GFSK, 784 kHz Rx Bandwidth, FEC = 1:2, DSSS 1:8



30-1000 MHz Mid (915 MHz) WB-DSSS, 30kbps (480ksp), 2925 kHz Deviation, 2 GFSK, 784 kHz Rx Bandwidth, FEC = 1:2, DSSS 1:8



30-1000 MHz High (927.8 MHz) WB-DSSS, 30kbps (480ksp), 2925 kHz Deviation, 2 GFSK, 784 kHz Rx Bandwidth, FEC = 1:2, DSSS 1:8

5.1.5 Frequency Stability

Operator	Mitchell Freund	QA	Adam Alger
Temperature	20.2°C	R.H. %	14.8%
Test Date	1/14/2025	Location	Bench
Requirement	2.1055(d) RSS-GEN Clause 6.11	Method	ANSI C63.10 Sec. 6.8.2

Test Parameters

Frequency (MHz)	902.2-927.8	Voltage (V)	42.0, 35.7, and 48.3
RBW	300 Hz	VBW	300kHz
Detector(s)	Peak	Settings	Max Hold

Instrumentation

Asset #	Description	Manufacturer	Model #	Serial #	Date	Due Date	Status
AA 960172	Cable	A.H. Systems, Inc.	SAC-26G- 1	387	6/13/2024	6/12/2025	Active Verification
EE 960088	Analyzer - EMI Receiver	Agilent	N9038A	MY51210138	12/10/2024	12/10/2025	Active Calibration
EE 960076	DC Power Supply	GW Instek	GPS- 3030DD	EJ810519	12/12/2024	12/12/2025	Active Verification

Table

Freq (Hz)	Voltage (V)	Channel
901999956.7	42.0	Low
914999602.2	42.0	Mid
926999325.9	42.0	High
901999180.5	35.7	Low
914999281.1	35.7	Mid
926999727.5	35.7	High
901999056.3	48.3	Low
914998288.1	48.3	Mid
926998290.9	48.3	High

5.2 Radiated Emissions

Description of Measurement	The frequency spectrum is investigated for intentional and / or unintentional signals emanating from the EUT by use of a standardized test site and measurement antenna. The antenna, cable, pre-amp, and other necessary measurement system correction factors are loaded onto the EMI receiver / spectrum analyzer when the measurements are performed allowing the data to be gathered and reported as corrected values. The maximum emissions from the EUT are determined by turn-table azimuth rotation (360°) and scanning of the measurement antenna. Maximized levels are noted at degree values of azimuth, measurement antenna height, and measurement antenna polarity.
Example Calculations	Measurement (dBμV) + Cable factor (dB) + Other (dB) + Antenna Factor (dB/m) = Corrected Reading (dBμV/m) Margin (dB) = Limit (dBμV/m) - Corrected Reading (dBμV/m) Example at 4000 MHz: Reading = 40 dBμV + 3.4 dB + 0.9 dB + 6.5 dB/m = 50.8 dBμV/m Average Limit = 20 log (500) = 54 dBμV/m Margin = 54 dBμV/m - 50.8 dBμV/m = 3.2 dB

Block Diagram



5.2.1 Sub-GHz Full Radio Testing

Operator	Mitchell Freund, Jon Dilley	QA	Anthony Smith, Adam Alger
Temperature	20.7°C, 21.2°C	R.H. %	31.6 %, 29.1%
Test Date	12/16/2024, 4/11/2025	Location	Chamber 3, Chamber 5
Requirement	15.247	Method	C63.10 Sec. 11.12.1

Limits:

Frequency (MHz)	Field Strength (microvolts/meter)	Field Distance (meters)
0.009-0.490	2400/F(kHz)	300
0.190-1.705	24000/F(kHz)	30
1.705-30	30	30

Frequency (MHz)	Quasi-Peak Limit (dBμV/m)	Average Limit (dBμV/m)	Peak Limit (dBμV/m)
30-88	40.0	-	-
88-216	43.5	-	-
216-960	46.0	-	-
960-1000	54.0	-	-
1000-10000	-	54.0	74.0

Test Parameters

Frequency	9kHz-10000 MHz	Distance	3 Meters
Detector(s)	Peak, Average, Quasi-Peak	Table height	80 cm < 1GHz 150 cm > 1GHz
RBW	200Hz < 150kHz 9kHz < 30MHz 120kHz < 1GHz 1MHz > 1GHz	VBW	2kHz < 150kHz 90kHz, 30MHz 1.2MHz < 1GHz 3MHz > 1GHz

Instrumentation

Company: Lincoln Electric	Page 23 of 32	Name: CoreLinc Receiver
Report: TR3864		Model: K5784-1
Quote: NBO-05-2024-007308-1		Serial: P-WRLS-R-C0-001

Asset #	Description	Manufacturer	Model #	Serial #	Date	Due Date	Status
AA 960158	Antenna - Double Ridge Horn	ETS Lindgren	3117	109300	2/7/2024	2/7/2025	Active Calibration
LSC-300	Cable	Chamber 3 Emissions	-	-	1/5/2024	1/5/2025	Active Verification
AA 960211	Antenna - Low Noise Amplifier	Mini-Circuits	ZVA-213X-S+	977711030	2/7/2024	2/7/2025	Active Calibration
EE 960203	Analyzer - EMI Receiver	Keysight	N9038A	MY56400072	4/10/2024	4/10/2025	Active Calibration
AA 960150	Antenna - Biconical	ETS Lindgren	3110B	0003-3346	12/9/2024	12/9/2025	Active Calibration
AA 960215	Antenna - LPDA	A.H. Systems, Inc.	SAS-512-2	706	7/18/2024	7/18/2025	Active Calibration
AA 960155	Filter - High Pass Filter 900 MHz	KWM	HPF-L-14185	7272-03	4/10/2024	4/10/2025	Active Calibration
AA 960206	Antenna - Loop	A.H. Systems, Inc.	SAS-565-H	2758	8/31/2023	8/31/2025	Active Calibration

EUT Parameters

Input Power	120 VAC to 42 VDC power supply	Mode	Tx
Notes	Power Level 14 Low		

Table

Frequency (kHz)	Antenna Polarity	Height (cm)	Azimuth (degree)	Quasi-Peak Reading @ 3m (dBμV/m)	Quasi-Peak Reading @ 300m limit distance (dBμV/m)	Quasi-Peak Limit (dBμV/m)	Quasi-Peak Margin (dB)	Note
49.7	Skew	100	0	75.9	4.1	33.7	29.6	Noisefloor
131.3	Skew	100	0	57.0	-23.0	25.2	48.2	Noisefloor
49.7	Parallel	100	0	75.8	-4.2	33.7	37.9	Noisefloor
131.2	Parallel	100	0	58.0	-22.0	25.2	47.2	Noisefloor
49.7	Perpendicular	100	0	75.8	-4.2	33.7	37.9	Noisefloor
131.3	Perpendicular	100	0	57.1	-22.9	25.2	48.1	Noisefloor

*No emissions from EUT below 30 MHz. Plots show ambient emissions. All emissions are greater than 20 dB from the limit.

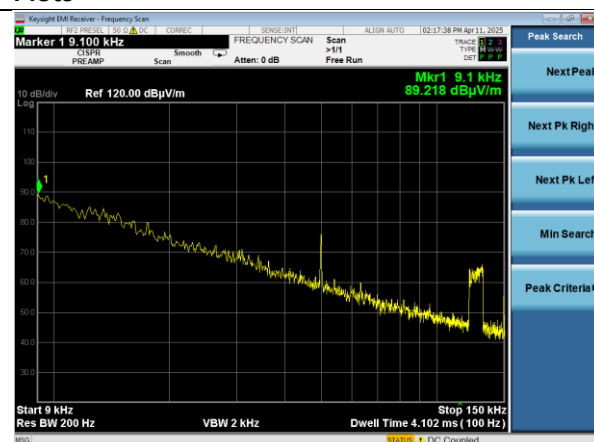
*Measurement corrected to limit distance per ANSI C63.10 Section 6.4.

Company: Lincoln Electric	Page 24 of 32	Name: CoreLinc Receiver
Report: TR3864		Model: K5784-1
Quote: NBO-05-2024-007308-1		Serial: P-WRLS-R-C0-001

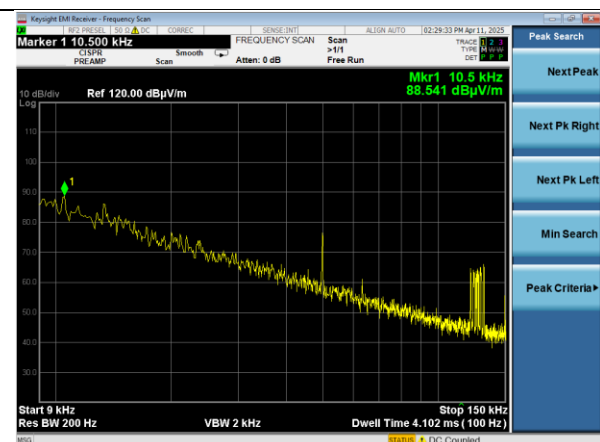
Frequency (MHz)	Antenna Polarity	Height (cm)	Azimuth (degree)	Quasi-Peak Reading (dBμV/m)	Quasi-Peak Limit (dBμV/m)	Quasi-Peak Margin (dB)	Note
768.1	Horizontal	146	110	28.1	46.0	17.9	Side
753.6	Vertical	112	98	28.2	46.0	17.8	Side
993.3	Vertical	100	224	29.9	54.0	24.1	Side
985.4	Horizontal	121	45	29.9	54.0	24.1	Side
186.7	Horizontal	139	99	29.9	43.5	13.6	Side
100.8	Vertical	220	25	28.2	43.5	15.3	Side

Frequency (MHz)	Antenna Polarity	Height (cm)	Azimuth (degree)	Average Reading (dBμV/m)	Average Limit (dBμV/m)	Average Margin (dB)	Peak Reading (dBμV/m)	Peak Limit (dBμV/m)	Peak Margin (dB)	Note
2781.6	V	168	160	43.9	54.0	10.1	47.5	74.0	26.5	Flat
2781.2	V	159	256	42.6	54.0	11.4	47.6	74.0	26.4	Upright
1854.2	H	168	159	49.6	54.0	4.4	52.1	74.0	21.9	Flat
1854.7	V	150	64	52.5	54.0	1.5	54.6	74.0	19.4	Flat
1854.5	H	232	147	52.1	54.0	1.9	54.1	74.0	19.9	Upright
1853.9	V	150	265	51.9	54.0	2.1	54.2	74.0	19.8	Upright
1854.7	H	258	184	52.5	54.0	1.5	52.5	74.0	21.5	Side
1854.2	V	150	158	51.6	54.0	2.4	53.6	74.0	20.4	Side

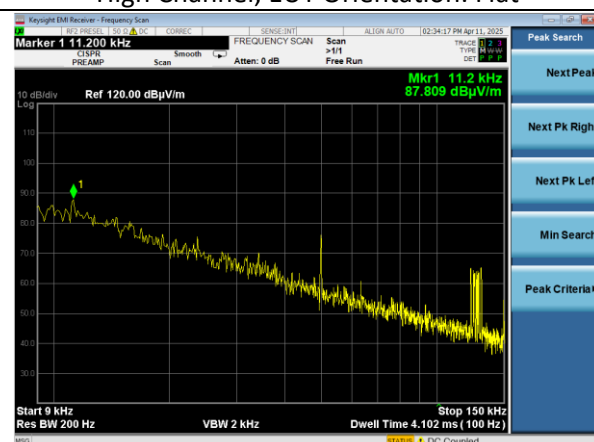
Plots



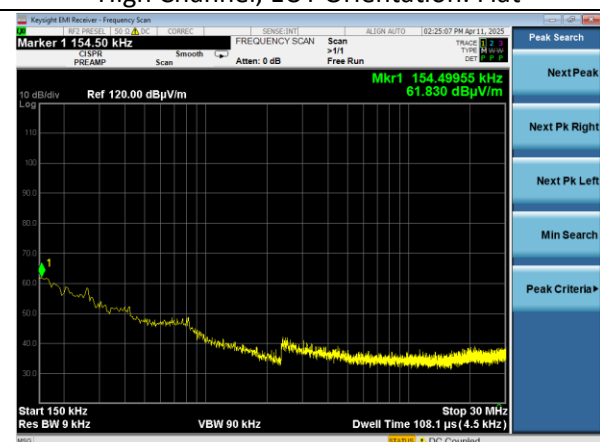
9kHz-150kHz Antenna Orientation: Perpendicular
High Channel, EUT Orientation: Flat



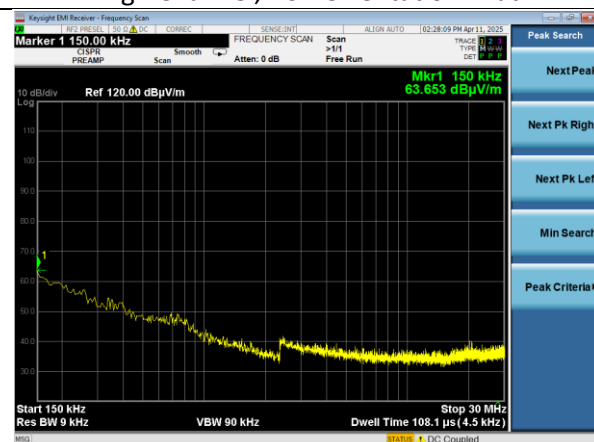
9kHz-150kHz Antenna Orientation: Parallel
High Channel, EUT Orientation: Flat



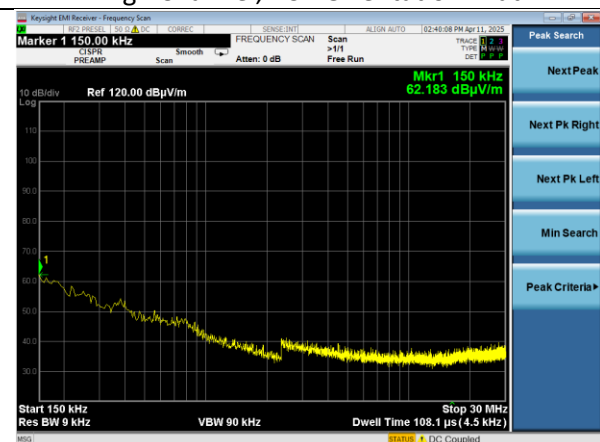
9kHz-150kHz Antenna Orientation: Skew
High Channel, EUT Orientation: Flat



0.15-30 MHz Antenna Orientation: Perpendicular
High Channel, EUT Orientation: Flat

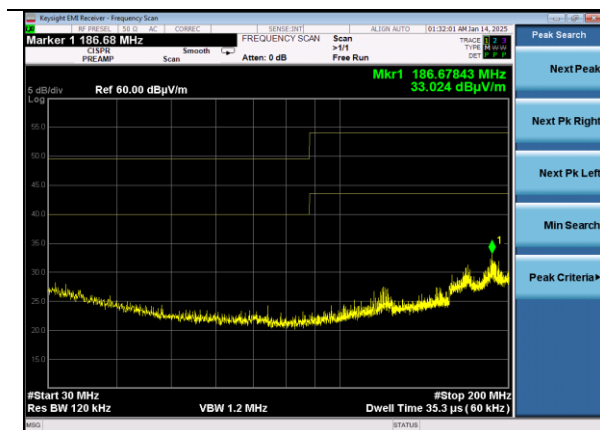


0.15-30 MHz Antenna Orientation: Parallel
High Channel, EUT Orientation: Flat

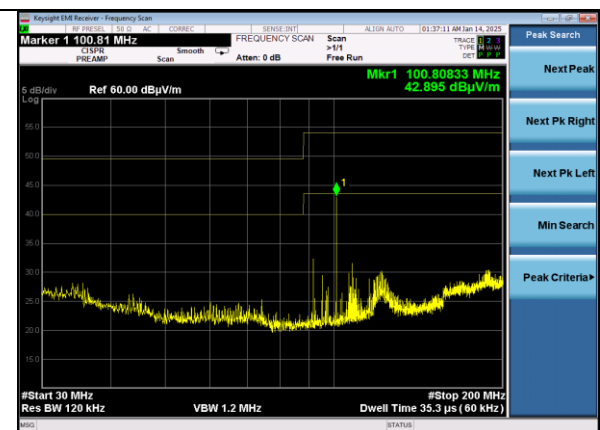


0.15-30 MHz Antenna Orientation: Skew
High Channel, EUT Orientation: Flat

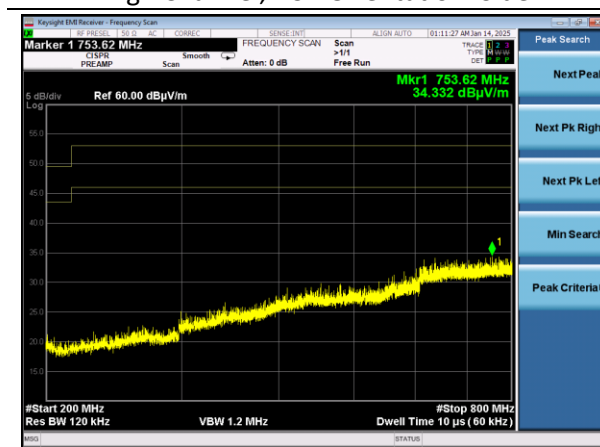
Company: Lincoln Electric	Page 26 of 32	Name: CoreLinc Receiver
Report: TR3864		Model: K5784-1
Quote: NBO-05-2024-007308-1		Serial: P-WRLS-R-C0-001



30-200 MHz Horizontal
High Channel, EUT Orientation: Side



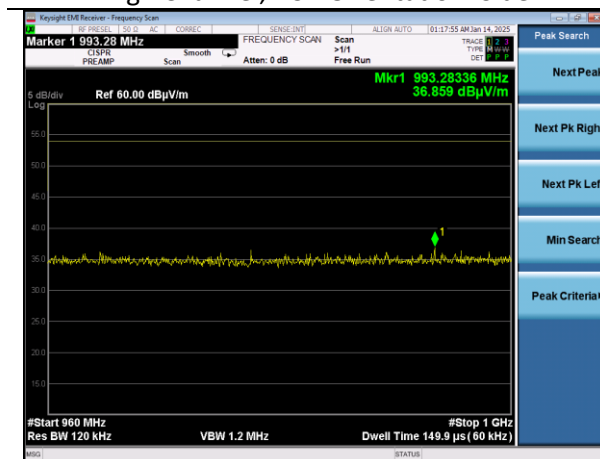
30-200 MHz Vertical
High Channel, EUT Orientation: Side



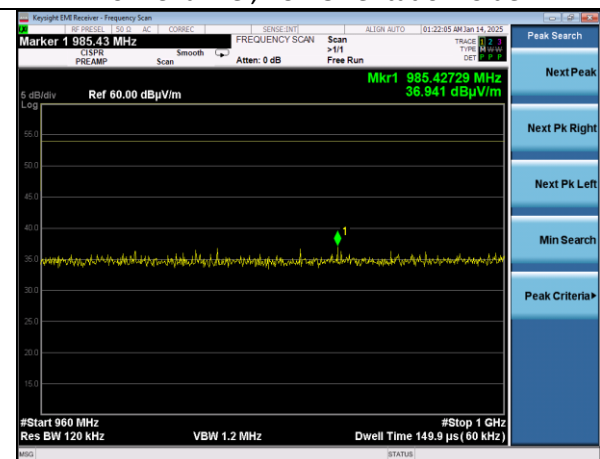
200-800 MHz Horizontal
High Channel, EUT Orientation: Side



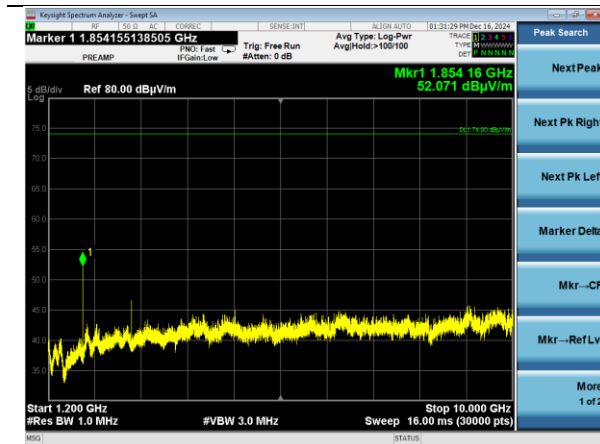
200-800 MHz Horizontal
Low Channel, EUT Orientation: Side



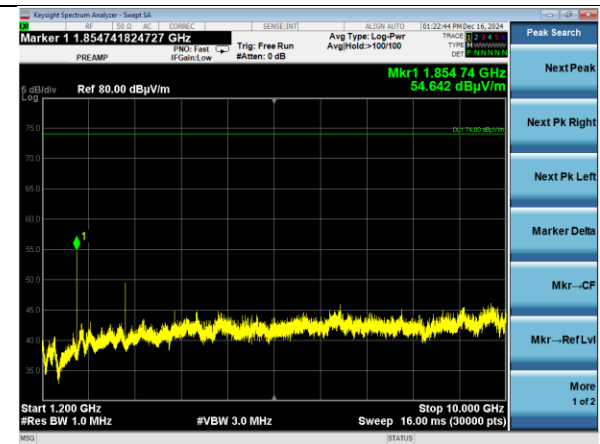
960-1000 MHz Vertical
Low Channel, EUT Orientation: Side



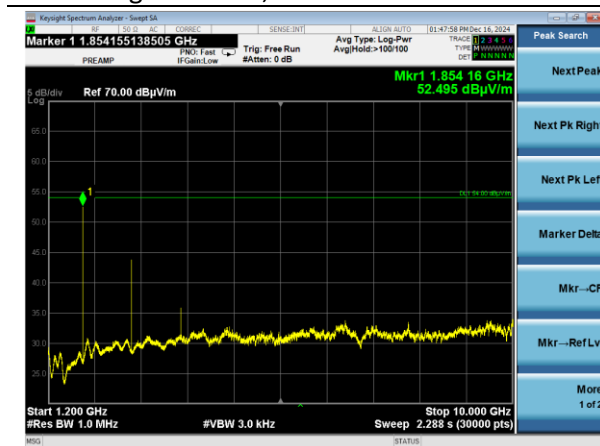
960-1000 MHz Horizontal
High Channel, EUT Orientation: Side



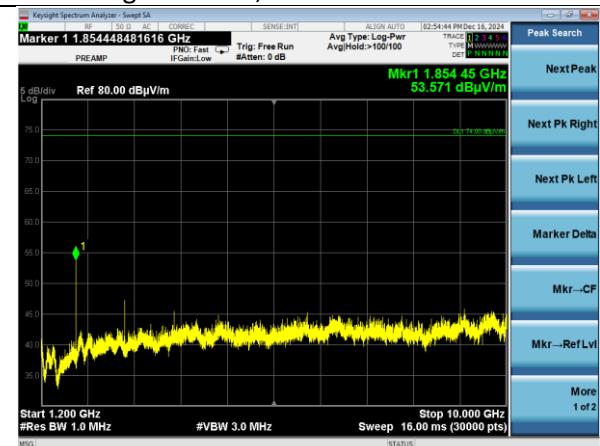
1.2-10 GHz Horizontal
High Channel, EUT Orientation: Flat



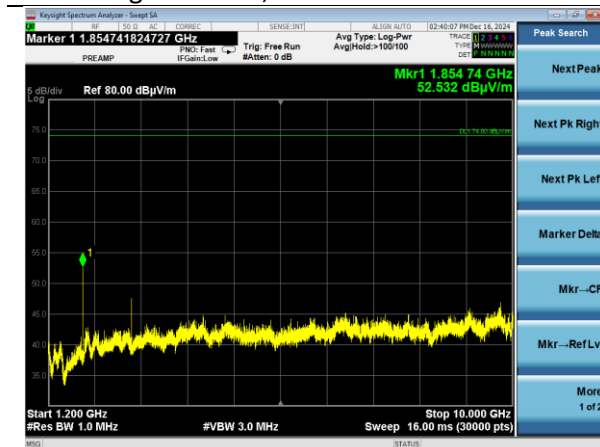
1.2-10 GHz Vertical
High Channel, EUT Orientation: Flat



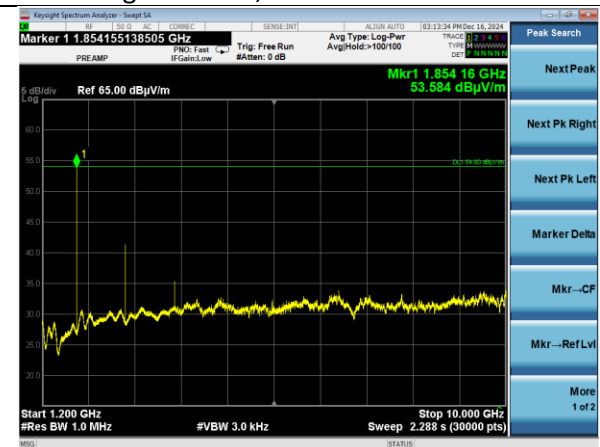
1.2-10 GHz Vertical Average
High Channel, EUT Orientation: Flat



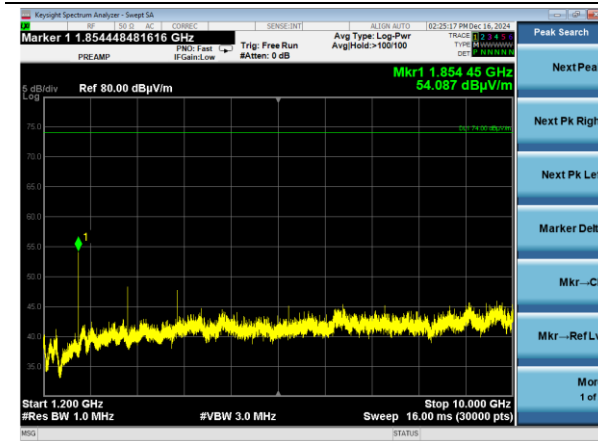
1.2-10 GHz Vertical
High Channel, EUT Orientation: Flat



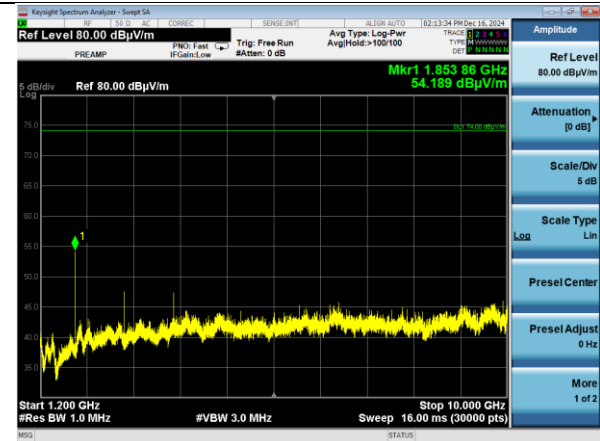
1.2-10 GHz Vertical
High Channel, EUT Orientation: Flat



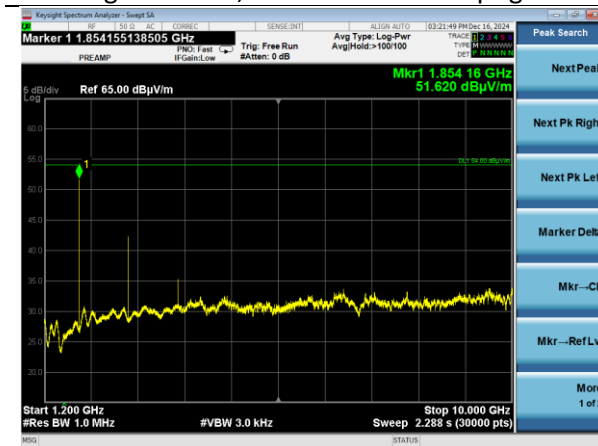
1.2-10 GHz Vertical Average
High Channel, EUT Orientation: Side



1.2-10 GHz Horizontal
High Channel, EUT Orientation: Upright



1.2-10 GHz Vertical
High Channel, EUT Orientation: Upright



1.2-10 GHz Vertical Average
High Channel, EUT Orientation: Upright

Company: Lincoln Electric	Page 29 of 32	Name: CoreLinc Receiver
Report: TR3864		Model: K5784-1
Quote: NBO-05-2024-007308-1		Serial: P-WRLS-R-C0-001

5.3 AC Mains Conducted Emissions

Operator	Mitchell Freund	QA	Dylan Rosenfeldt
Temperature	21.4°C	R.H. %	28.90%
Test Date	4/11/2025	Location	Conducted Bench
Requirement	15.207	Method	ANSI C63.10 Section 6.2

Table:

Frequency (MHz)	Quasi-Peak Limit (dBμV)	Average Limit (dBμV)
0.15-0.5	66.0-56.0*	56.0 to 46.0*
0.5-5	56.0	46.0
5-30	60.0	50.0

**Decreases with the logarithm of the frequency

Test Parameters

Frequency	0.15 – 30 MHz	Distance	N/A
Detector(s)	Average, Peak, QP	Table height	80 cm
RBW	9kHz	VBW	62kHz

Instrumentation

Asset #	Description	Manufacturer	Model #	Serial #	Date	Due Date	Status
LSC-200	Cable	Micro-Coax	UFB311A-0-1440-70U70U	64639 224071-003	1/29/2025	1/29/2026	Active Verification
EE 960162	LISN	COM-POWER	LI-215A	191969	4/8/2024	4/8/2025	Active Calibration
EE 960088	Analyzer - EMI Receiver	Agilent	N9038A	MY51210138	12/10/2024	12/10/2025	Active Calibration

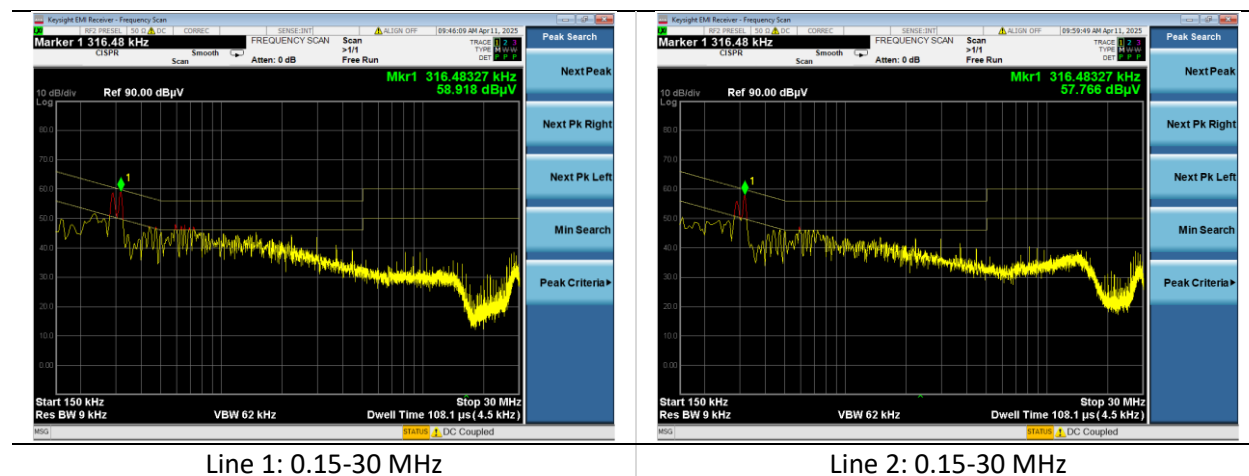
EUT Parameters

Input Power	120 VAC to 42 VDC power supply	Mode	Tx
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Table

Line	Frequency (MHz)	Peak Reading (dBμV)	Quasi-Peak Reading (dBμV)	Quasi-Peak Limit (dBμV)	Quasi-Peak Margin (dB)	Average Reading (dBμV)	Average Limit (dBμV)	Average Margin (dB)
1	0.316	58.9	56.2	59.8	3.6	34.9	50.5	15.7
1	0.289	58.7	55.8	60.5	4.7	34.9	56.0	21.1
1	0.469	47.6	44.7	56.5	11.8	23.2	46.5	23.4
1	0.653	47.7	44.4	56.0	11.6	34.8	46.0	11.2
1	2.2	44.4	42.6	56.0	13.4	39.2	56.0	16.8
1	8.9	39.2	37.5	60.0	22.5	35.7	50.0	14.3
2	0.316	57.8	54.9	59.8	4.9	36.7	49.8	13.1
2	0.289	55.8	54.4	60.5	6.1	33.5	50.5	17.1
2	0.627	46.1	43.5	56.0	12.5	21.2	46.0	24.8
2	2.2	43.9	42.4	56.0	13.6	39.1	46.0	6.9
2	0.689	46.2	41.5	56.0	14.5	17.8	46.0	28.2
2	8.1	40.3	42.5	60.0	17.5	39.6	50.0	10.4

Plots



6 REVISION HISTORY

Version	Date	Notes	Person
0.0	12/31/2024	Initial Draft	Mitchell Freund
1.0	1/27/2025	Final Draft	Mitchell Freund
2.0	3/12/2025	TCB Comments Addressed	Mitchell Freund
3.0	3/27/2025	TCB Comments Addressed	Mitchell Freund
4.0	4/11/2025	TCB Comments Addressed	Mitchell Freund

END OF REPORT