TEST REPORT

Report Number. : 14554504-E1V4

Applicant	:	AliveCor Inc. 189 N. Bernardo Avenue, Ste 100 Mountain View, CA, 94043 US
Model	:	AC-027
Brand	:	Alivecor
FCC ID	:	2ASFFAC027
IC	:	25747-AC027
EUT Description	:	Impala
Test Standard(s)	:	FCC 47 CFR PART 15 SUBPART C ISED RSS-247 ISSUE 2 ISED RSS-GEN ISSUE 5 + A1 + A2

Date Of Issue:
2023-10-23

Prepared by:
UL VERIFICATION SERVICES
47173 Benicia Street
Fremont, CA 94538 U.S.A.
TEL: (510) 319-4000
FAX: (510) 661-0888

ACCREDITED
CERT #0751.05

REPORT REVISION HISTORY

Rev.	Issue Date	Revisions	Revised By
V1	2023-04-18	Initial Issue	--
V2	2023-04-19	Section 7 & 10.5 Updated	Henry Lau
V3	2023-06-15	Antenna gain updated	Henry Lau
V3	2023-10-23	Section 11 updated	Henry Lau

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: AliveCor Inc.
189 N. Bernardo Avenue, Ste 100
Mountain View, CA, 94043, US

EUT DESCRIPTION: Impala

MODEL: AC-027

BRAND: Alivecor

SERIAL NUMBER: Radiated: Proto 1
Conducted: DVT3982

SAMPLE RECEIPT DATE: 2023-3-21

DATE TESTED: 2023-3-23 to 2023-3-30

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
CFR 47 Part 15 Subpart C	Complies
ISED RSS-247 Issue 2	Complies
ISED RSS-GEN Issue 5 + A1 + A2	Complies

UL Verification Services Inc. tested the above equipment in accordance with the requirements set forth in the above standards. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. All samples tested were in good operating condition throughout the entire test program. Measurement Uncertainties are published for informational purposes only and were not taken into account unless noted otherwise.

This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. will constitute fraud and shall nullify the document.

Approved & Released For
UL Verification Services Inc. By:

Dan Coronia
Operations Leader
Consumer Technology Division
UL Verification Services Inc.

Prepared By:

Henry Lau
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Consumer Technology Division
UL Verification Services Inc.

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2. TEST RESULTS SUMMARY

This report contains data provided by the customer which can impact the validity of results. UL Verification Services Inc. is only responsible for the validity of results after the integration of the data provided by the customer.
Below is a list of the data provided by the customer:
1) Antenna gain and type (see section 6.3)
2) Cable loss

FCC Clause	ISED Clause	Requirement	Result	Comment
See Comment		Duty Cycle	Reporting purposes only	ANSI C63.10 Section 11.6.
-	RSS-GEN 6.7	99% OBW	Reporting purposes only	ANSI C63.10 Section 6.9.3.
15.247 (a) (2)	RSS-247 5.2 (a)	6dB BW	Complies	None.
15.247 (b) (3)	RSS-247 5.4 (d)	Output Power	Complies	None.
See Comment		Average power	Reporting purposes only	Per ANSI C63.10, Section 11.9.2.3.2.
15.247 (e)	RSS-247 5.2 (b)	PSD	Complies	None.
15.247 (d)	RSS-247 5.5	Conducted Spurious Emissions	Complies	None.
15.209, 15.205	RSS-GEN 8.9, 8.10	Radiated Emissions	Complies	None.
15.207	RSS-Gen 8.8	AC Mains Conducted Emissions	Not Required	EUT is battery powered

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3. TEST METHODOLOGY

The tests documented in this report were performed in accordance with FCC CFR 47 Part 2, FCC CFR 47 Part 15, ANSI C63.10-2013, KDB 558074 D01 15.247 Meas Guidance v05r02, KDB 414788 D01 Radiated Test Site v01r01, RSS-GEN Issue 5 + A1 + A2, and RSS-247 Issue 2.

4. FACILITIES AND ACCREDITATION

UL Verification Services Inc. is accredited by A2LA, Certificate Number 0751.05, for all testing performed within the scope of this report. Testing was performed at the locations noted below.

	Address	ISED CABID	ISED Company Number	FCC Registration
☒	Building 1: 47173 Benicia Street Fremont, CA 94538, U.S.A	US0104	2324A	550739
☐	Building 2: 47266 Benicia Street Fremont, CA 94538, U.S.A	US0104	2324A	550739
☒	Building 4: 47658 Kato Rd Fremont, CA 94538, U.S.A	US0104	2324A	550739

5. DECISION RULES AND MEASUREMENT UNCERTAINTY

5.1. METROLOGICAL TRACEABILITY

All test and measuring equipment utilized to perform the tests documented in this report are calibrated on a regular basis, with a maximum time between calibrations of one year or the manufacturers' recommendation, whichever is less, and where applicable is traceable to recognized national standards.

5.2. DECISION RULES

The Decision Rule is based on Simple Acceptance in accordance with ISO Guide 98-4:2012 Clause 8.2. (Measurement uncertainty is not taken into account when stating conformity with a specified requirement.)

5.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	U_{Lab}
Radio Frequency (Spectrum Analyzer)	141.16 Hz
Occupied Bandwidth	1.22%
Power Spectral Density	2.47 dB
RF Power Measurement Direct Method Using Power Meter	1.3 dB (PK) / 0.45 dB (AV)
Unwanted Emissions, Conducted	1.94 dB
Worst Case Conducted Disturbance, 9KHz to 0.15 MHz	3.78 dB
Worst Case Conducted Disturbance, 0.15 to 30 MHz	3.40 dB
Worst Case Radiated Disturbance, 9KHz to 30 MHz	2.87 dB
Worst Case Radiated Disturbance, 30 to 1000 MHz	6.01 dB
Worst Case Radiated Disturbance, 1000 to 18000 MHz	4.73 dB
Worst Case Radiated Disturbance, 18000 to 26000 MHz	4.51 dB
Worst Case Radiated Disturbance, 26000 to 40000 MHz	5.29 dB
Time Domain Measurements	3.39%
Temperature	0.57°C
Humidity	3.39%
DC Supply Voltages	0.57%

Uncertainty figures are valid to a confidence level of 95%.

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5.4. SAMPLE CALCULATION

RADIATED EMISSIONS

Where relevant, the following sample calculation is provided:
Field Strength (dBuV/m) = Measured Voltage (dBuV) + Antenna Factor (dB/m) + Cable Loss (dB) – Preamp Gain (dB)
36.5 dBuV + 18.7 dB/m + 0.6 dB – 26.9 dB = 28.9 dBuV/m

MAINS CONDUCTED EMISSIONS

Where relevant, the following sample calculation is provided:
Final Voltage (dBuV) = Measured Voltage (dBuV) + Cable Loss (dB) + Limiter Factor (dB) + LISN Insertion Loss.
36.5 dBuV + 0 dB +10.1 dB+ 0 dB = 46.6 dBuV

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6. EQUIPMENT UNDER TEST

6.1. EUT DESCRIPTION

The EUT is Impala, a device that records a diagnostic resting electrocardiogram (ECG) of a user, and transmits it over a Bluetooth low energy (BLE) wireless interface.

6.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum peak conducted output power as follows:

Frequency Range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
2402 - 2480	BLE	2.91	1.95

6.3. DESCRIPTION OF AVAILABLE ANTENNAS

The antenna(s) gain and type, as provided by the manufacturer' are as follows:

The radio utilizes an meander trace antenna, with a maximum gain of 1.28 dBi.

6.4. SOFTWARE AND FIRMWARE

The EUT firmware installed during testing was nRF5 SDK v17.0.2 DTM Direct Test Mode.

The test utility software used during testing was nRF Connect Direct Test Mode V2.0.4.

6.5. WORST-CASE CONFIGURATION AND MODE

Radiated emissions below 1GHz, above 18GHz, and power line conducted emission were performed with the EUT set to transmit at the channel with highest output power as worst-case scenario.

Band edge and radiated emissions between 1GHz and 18GHz were performed with the EUT set to transmit at the highest power on low, middle and high channels.

The fundamental of the EUT was investigated in three orthogonal orientations X,Y,Z, it was determined that X(Flatbed) orientation was worst-case orientation; therefore, all final radiated testing was performed with the EUT in X(Flatbed) orientation.

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6.6. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT & I/O CABLES

SUPPORT TEST EQUIPMENT				
Description	**Manufacturer**	**Model**	**Serial Number**	**FCC ID/ DoC**
Laptop	Lenovo	Yoga 9 141TL5	JVHFC1	DoC
AC/DC Adapter	Lenovo	ADLX65YCC3D	8SSA19R16874C2TJ	DoC

I/O CABLES (CONDUCTED TEST)						
Cable No.	**Port**	**# of Identical Ports**	**Connector Type**	**Cable Type**	**Cable Length (m)**	**Remarks**
1	AC	1	AC	Shielded	1	To support PC
2	DC	1	DC	Shielded	1	To support PC
3	USB to TTL	1	USB Type A	Un-shielded	0.3	PC to EUT
4	Antenna	1	SMA	Un-shielded	0.3	Antenna to analyzer

TEST SETUP

The EUT is connected to a test laptop during the tests. Test software exercised the radio card.

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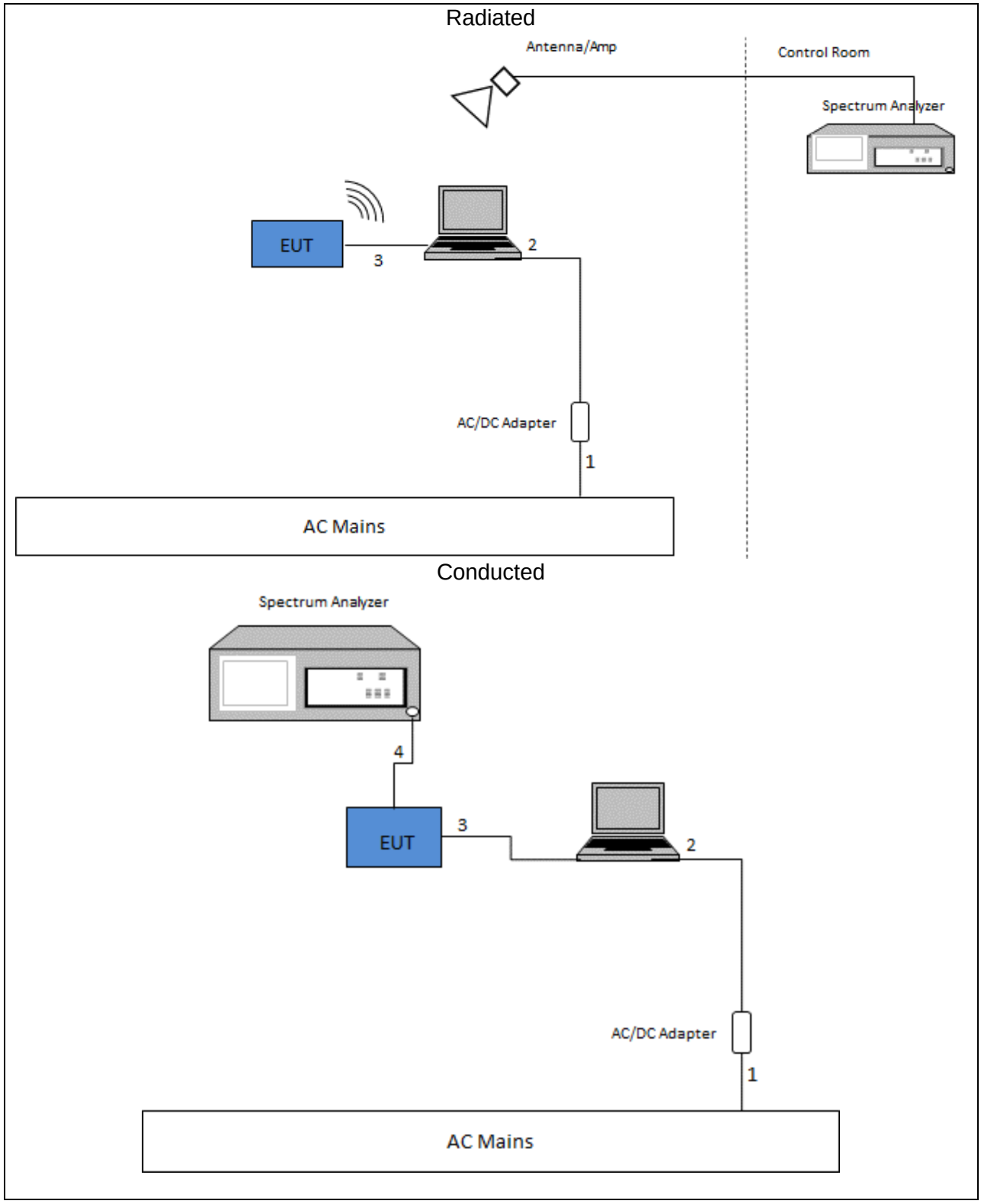
SETUP DIAGRAMS



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7. MEASUREMENT METHOD

On Time and Duty Cycle: ANSI C63.10 Section 11.6.

6 dB BW: ANSI C63.10 Subclause -11.8.1 RBW ≥ DTS BW

Occupied BW (99%): ANSI C63.10-2013 Section 6.9.3

Output Power: ANSI C63.10 Subclause -11.9.1.3 Method PKPM1 Peak-reading power meter
Output Power: ANSI C63.10 Subclause -11.9.2.3.2 Method AVGPM-G (Measurement using a gated RF average-reading power meter)

PSD: ANSI C63.10 Subclause -11.10.2 Method PKPSD (peak PSD)

Conducted Emissions non-restricted frequency bands: ANSI C63.10 Subclause -11.11

Radiated emissions restricted frequency bands: ANSI C63.10 Subclause -11.12.1

Band-edge: ANSI C63.10 Section 6.10

*AC Power Line Conducted Emissions: ANSI C63.10-2013, Section 6.2.

Radiated Spurious Emissions Below 30MHz: ANSI C63.10-2013 Section 6.4

***AC power line conducted emissions were not evaluated; the EUT is battery-powered**

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8. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

TEST EQUIPMENT LIST					
Description	**Manufacturer**	**Model**	**ID Num**	**Cal Due**	**Last Cal**
Chamber L					
EMI Test Receiver	Rohde & Schwarz	ESW44	191429	2024-02-29	2023-02-16
Antenna, Broadband Hybrid, 30MHz to 2000MHz	Sunol Sciences Corp.	JB1	80293	2023-08-09	2022-08-09
Amplifier, 10KHz to 1GHz, 32dB	SONOMA INSTRUMENT	310N	29654	2023-04-24	2022-04-24
Antenna, Horn 1-18GHz	ETS-Lindgren (Cedar Park, Texas)	3117	206806	2023-10-07	2022-10-07
RF Filter Box, 1-18GHz	UL EMC	N/A	171013	2023-06-24	2022-06-24
Antenna, Passive Loop 100KHz - 30MHz	ELECTRO-METRICS	EM-6872	170016	2023-07-19	2022-07-19
Antenna, Passive Loop 30Hz - 1MHz	ELECTRO-METRICS	EM-6871	170014	2023-07-19	2022-07-19
Chamber K					
EMI Test Receiver	Rohde & Schwarz	ESW44	225688	2024-02-29	2023-02-14
Antenna, Horn 18 to 26.5GHz	A.R.A.	MWH-1826/B	199659	2023-12-06	2022-12-06
Rf Amplifier, 18-26.5GHz, +5Vdc, 60dB min	AMPLICAL	AMP18G26.5-60	234683	2024-03-29	2023-03-18
General					
Power Meter, P-series single channel	Keysight Technologies Inc	N1911A	90757	2024-02-29	2023-02-03
Power Sensor, P - series, 50MHz to 18GHz, Wideband	Keysight Technologies Inc	N1921A	90419	2024-02-29	2023-02-03
Spectrum Analyzer, PXA, 3Hz to 44GHz	Keysight Technologies Inc	N9030A	80396	2024-01-31	2023-01-27
UL TEST SOFTWARE LIST					
Radiated Software	UL	UL EMC	Rev 9.5		
Antenna Port Software	UL	UL RF	AP2022.8.16		

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9. ANTENNA PORT TEST RESULTS

9.1. ON TIME AND DUTY CYCLE

LIMITS

None; for reporting purposes only.

PROCEDURE

KDB 558074 Zero-Span Spectrum Analyzer Method.

ON TIME AND DUTY CYCLE RESULTS

Mode	ON Time B (msec)	Period (msec)	Duty Cycle x (linear)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/B Minimum VBW (kHz)
2.4GHz Band						
BLE 1mbps	0.392	0.625	0.626	62.63	2.03	2.553
BLE 2mbps	0.206	0.626	0.329	32.88	4.83	4.860

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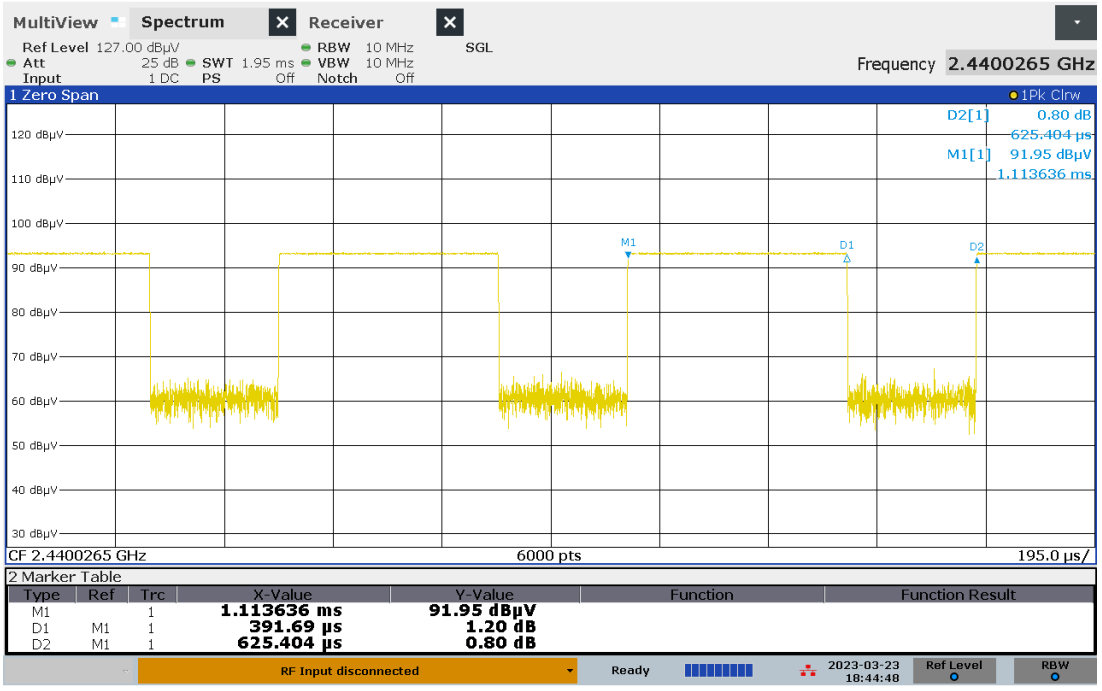
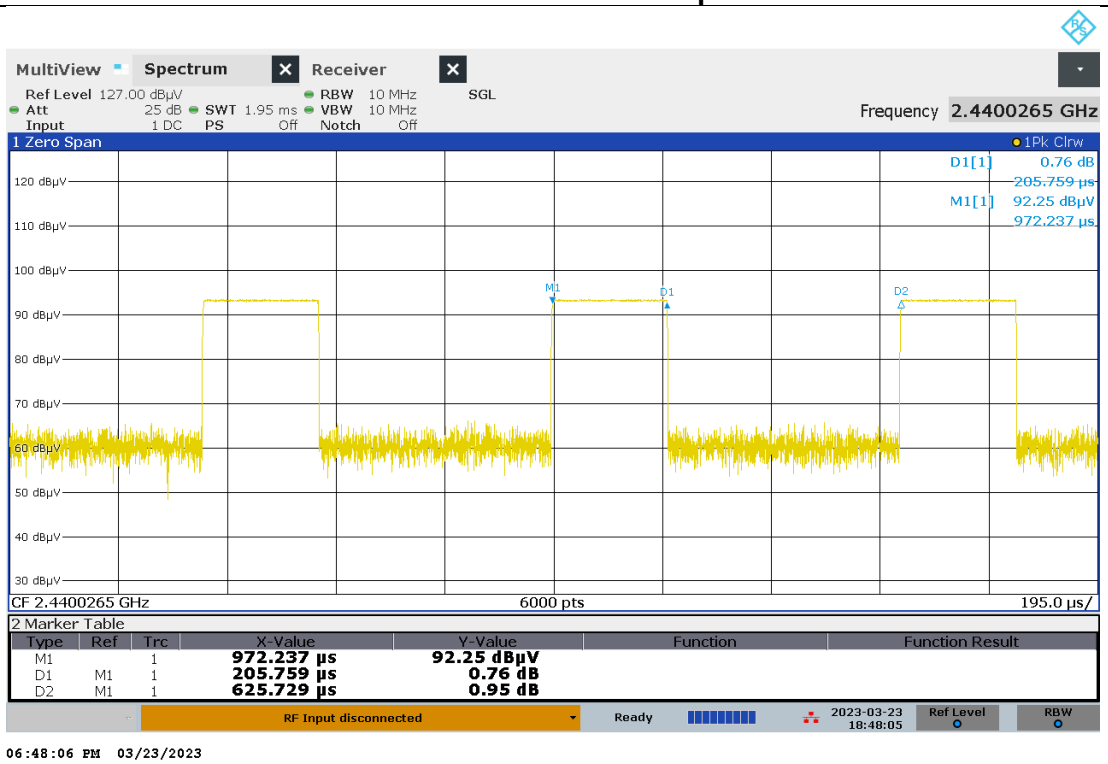
DUTY CYCLE PLOTS



DUTY CYCLE BLE 1mbps



DUTY CYCLE BLE 2mbps

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9.2. 99% BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

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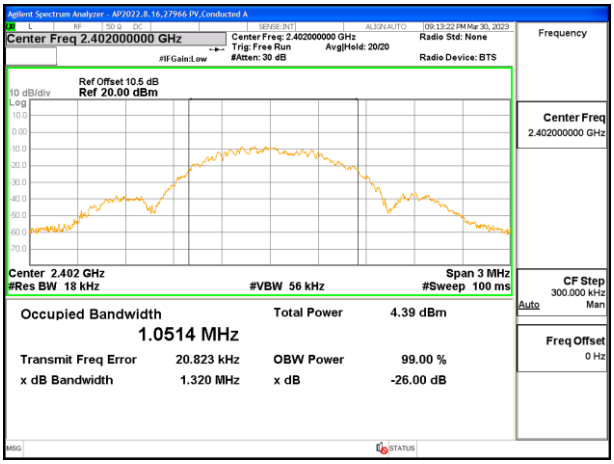
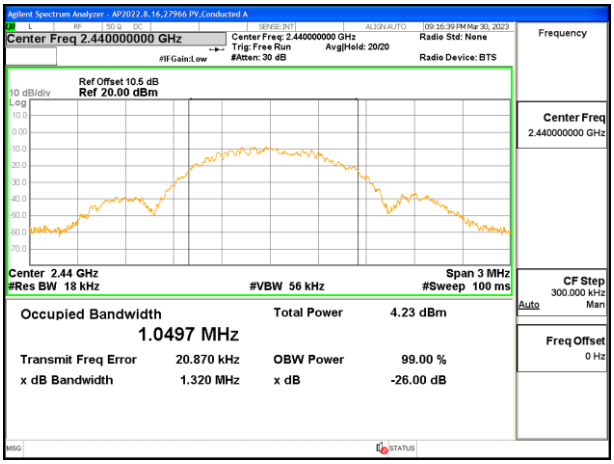
9.2.1. BLE (1Mbps)

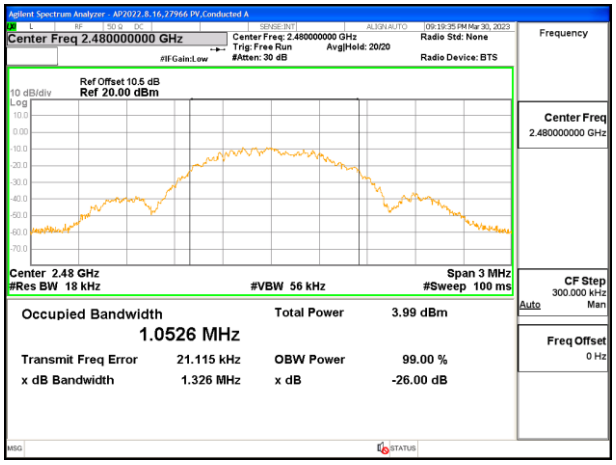
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2402	1.0514
Middle	2440	1.0497
High	2480	1.0526



LOW CHANNEL



MID CHANNEL



HIGH CHANNEL

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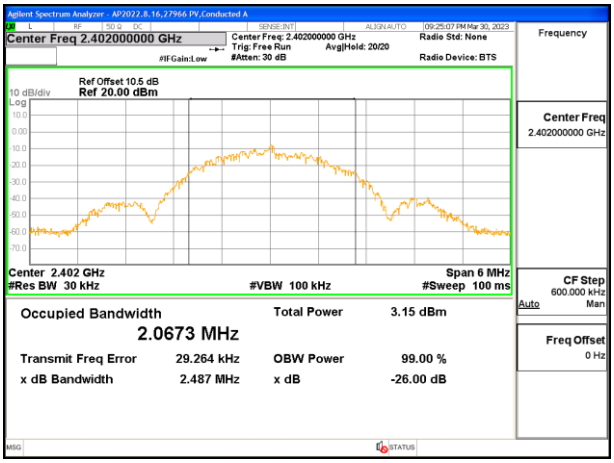
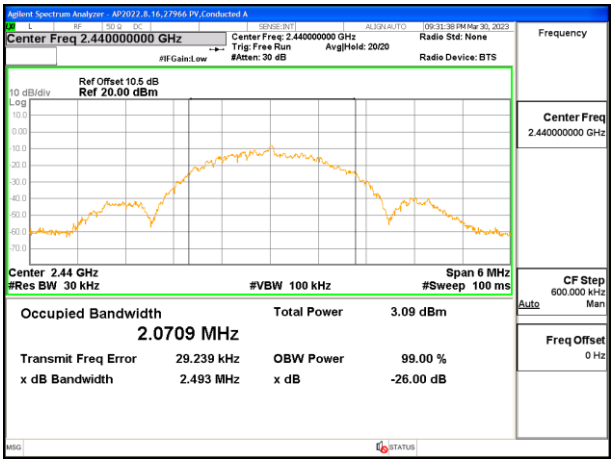
9.2.2. BLE (2Mbps)

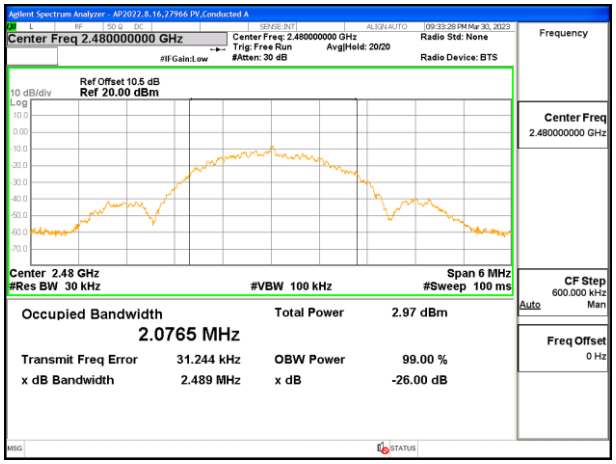
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2402	2.0673
Middle	2440	2.0709
High	2480	2.0765



LOW CHANNEL



MID CHANNEL



HIGH CHANNEL

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9.3. 6 dB BANDWIDTH

LIMITS

FCC §15.247 (a) (2)

RSS-247 5.2 (a)

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

RESULTS

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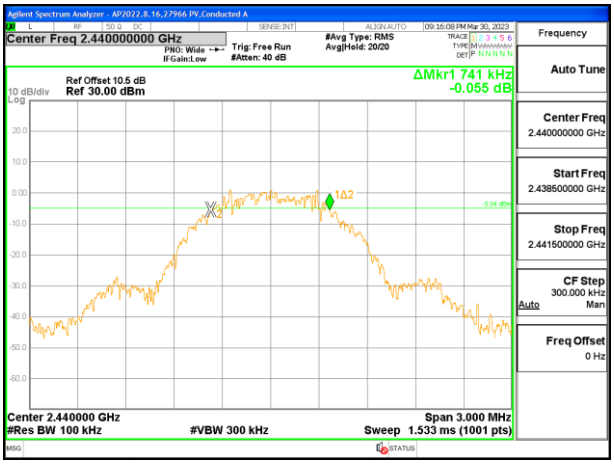
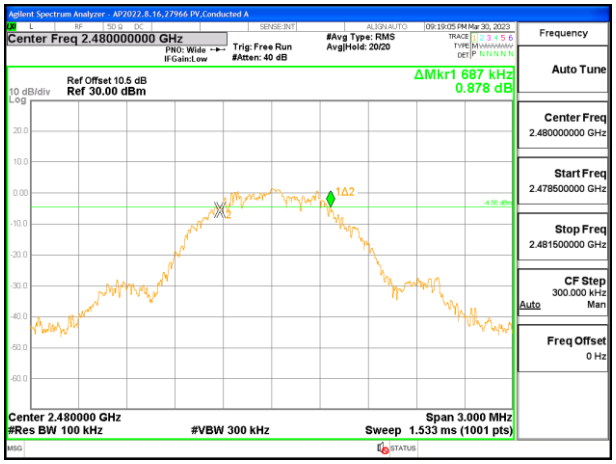
9.3.1. BLE (1Mbps)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2402	0.7290	0.5
Middle	2440	0.7410	0.5
High	2480	0.6870	0.5

LOW CHANNEL



MID CHANNEL



HIGH CHANNEL

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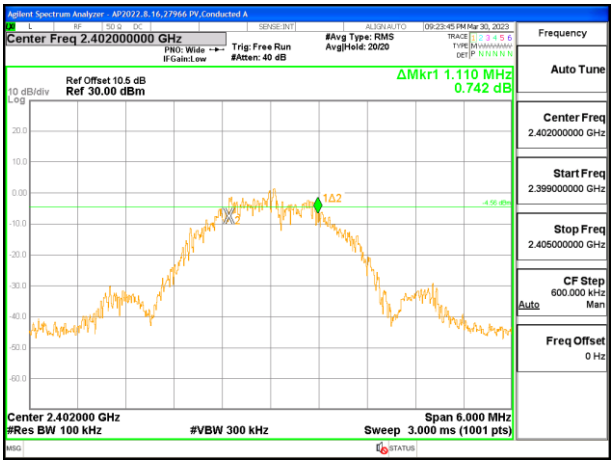
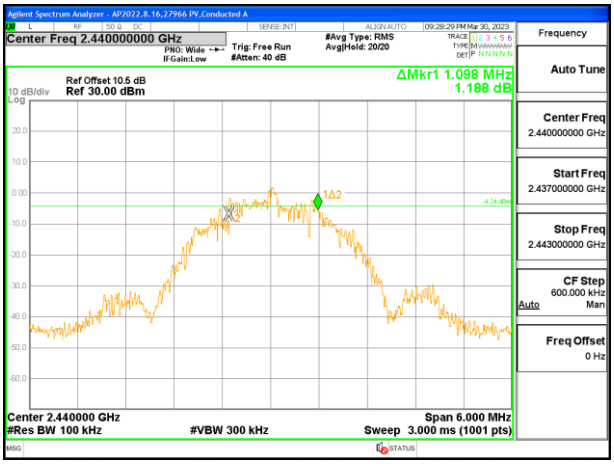
9.3.2. BLE (2Mbps)

Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2402	1.1100	0.5
Middle	2440	1.0980	0.5
High	2480	1.0920	0.5



LOW CHANNEL



MID CHANNEL

HIGH CHANNEL

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9.4. OUTPUT POWER

LIMITS

FCC §15.247 (b) (3)

RSS-247 5.4 (d)

The maximum antenna gain is less than or equal to 6 dBi, therefore the limit is 30 dBm.

TEST PROCEDURE

The transmitter output is connected to a power meter.

The cable assembly insertion loss of 10.5 dB (including 10 dB pad and 0.5 dB cable) was entered as an offset in the power meter to allow for a peak reading of power.

The power output was measured on the EUT antenna port using SMA cable with 10dB attenuator connected to a power meter via wideband average power sensor. Peak output power was read directly from power meter.

RESULTS

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9.4.1. BLE (1Mbps)

Tested By:	44352
Date:	2023-03-23

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2402	2.910	30	-27.090
Middle	2440	2.680	30	-27.320
High	2480	2.540	30	-27.460

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9.4.2. BLE (2Mbps)

Tested By:	44352
Date:	2023-03-23

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2402	2.880	30	-27.120
Middle	2440	2.690	30	-27.310
High	2480	2.580	30	-27.420

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9.5. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

The transmitter output is connected to a power meter.

The cable assembly insertion loss of 10.5 dB (including 10 dB pad and 0.5 dB cable) was entered as an offset in the power meter to allow for a gated average reading of power.

The power output was measured on the EUT antenna port using SMA cable with 10dB attenuator connected to a power meter via wideband average power sensor. Gated average output power was read directly from power meter.

RESULTS

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9.5.1. BLE (1Mbps)

Tested By:	44352
Date:	2023-03-23

Channel	Frequency (MHz)	AV power (dBm)
Low	2402	2.64
Middle	2440	2.47
High	2480	2.32

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9.5.2. BLE (2Mbps)

Tested By:	44352
Date:	2023-03-23

Channel	Frequency (MHz)	AV power (dBm)
Low	2402	2.67
Middle	2440	2.47
High	2480	2.34

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9.6. POWER SPECTRAL DENSITY

LIMITS

FCC §15.247 (e)

RSS-247 (5.2) (b)

The power spectral density conducted from the transmitter to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

RESULTS

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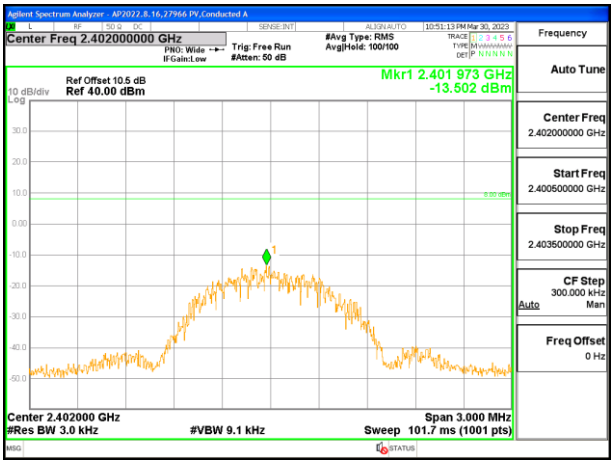
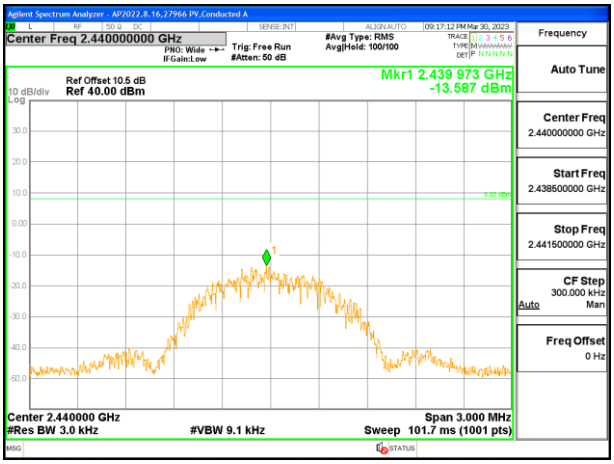
9.6.1. BLE (1Mbps)

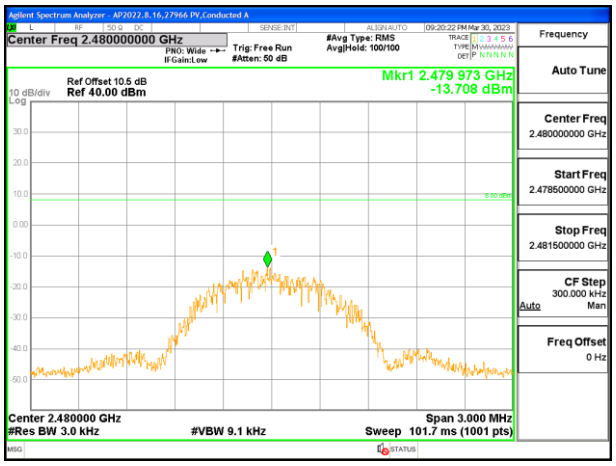
Channel	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Low	2402	-13.50	8	-21.50
Middle	2440	-13.59	8	-21.59
High	2480	-13.71	8	-21.71



LOW CHANNEL



MID CHANNEL



HIGH CHANNEL

UL VERIFICATION SERVICES
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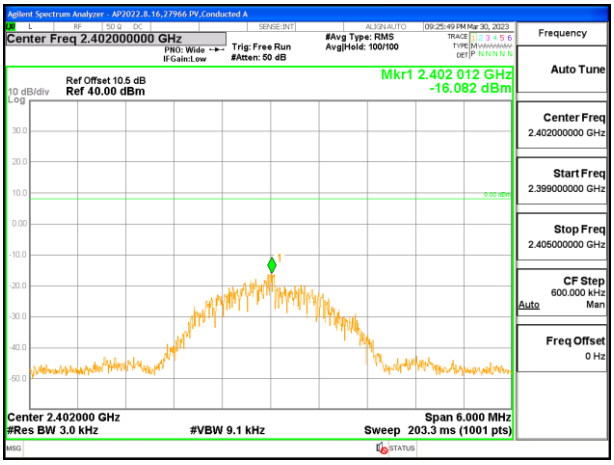
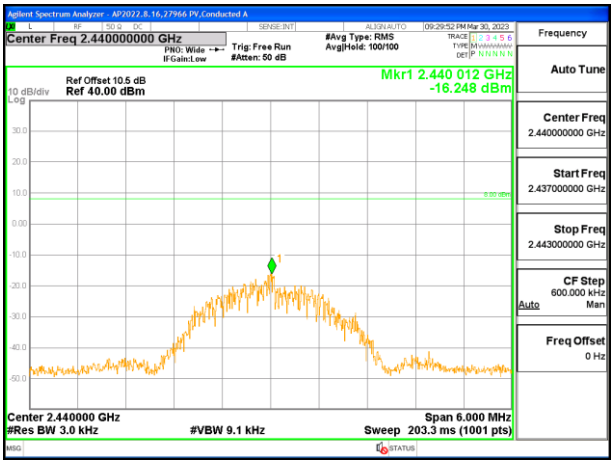
9.6.2. BLE (2Mbps)

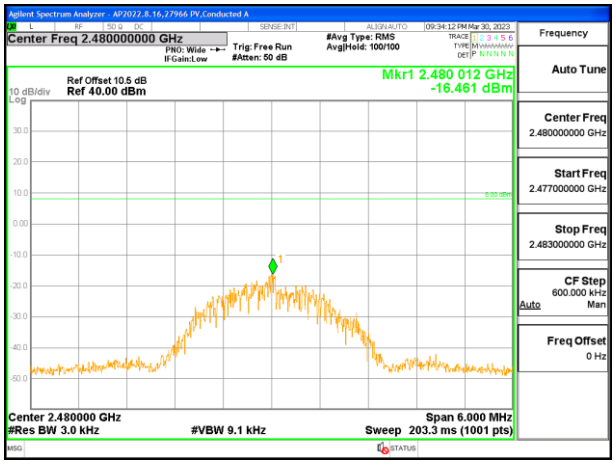
Channel	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Low	2402	-16.08	8	-24.08
Middle	2440	-16.25	8	-24.25
High	2480	-16.46	8	-24.46



LOW CHANNEL



MID CHANNEL



HIGH CHANNEL

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9.7. CONDUCTED SPURIOUS EMISSIONS

LIMITS

FCC §15.247 (d)

RSS-247 5.5

Output power was measured based on the use of a peak measurement, therefore the required attenuation is 20 dB.

9.7.1. RESULTS

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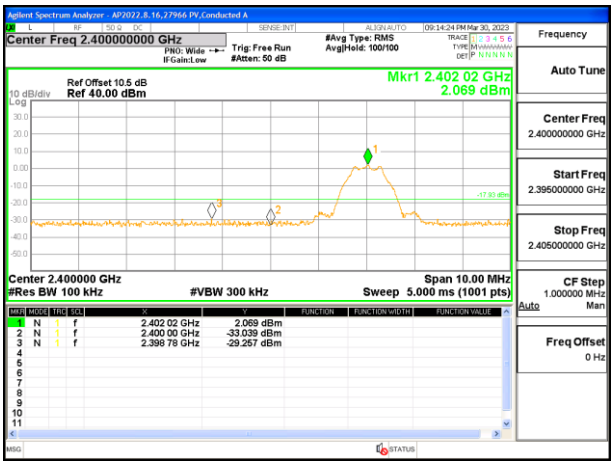
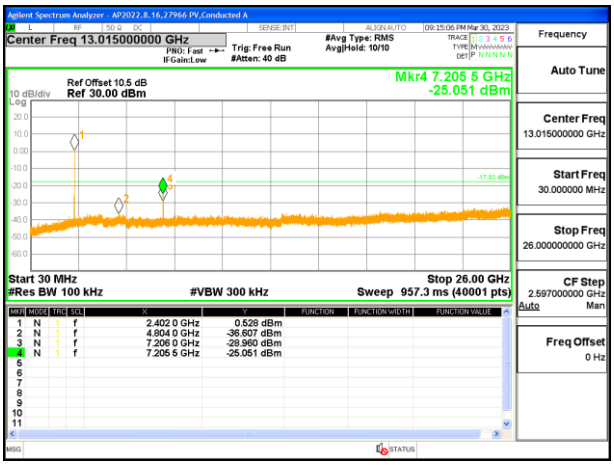
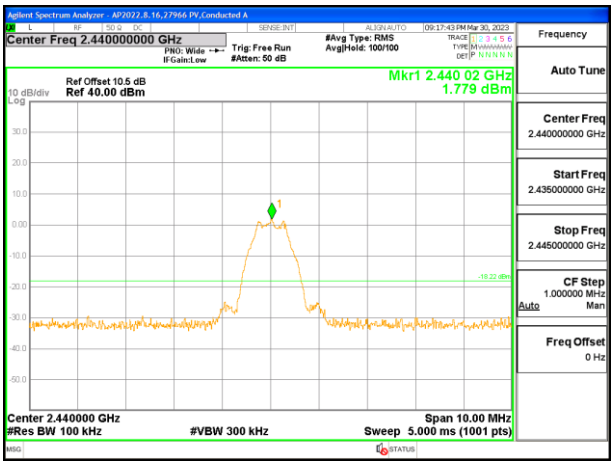
BLE (1Mbps)



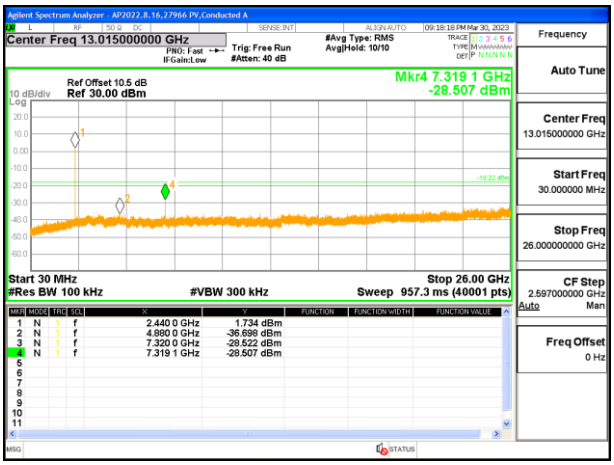
LOW CHANNEL BANDEDGE



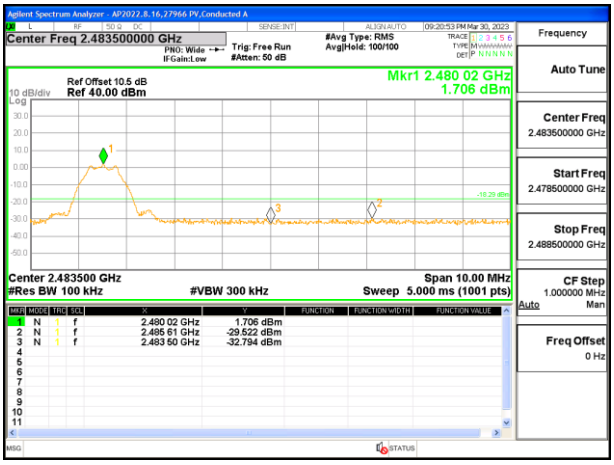
OUT-OF-BAND LOW CHANNEL



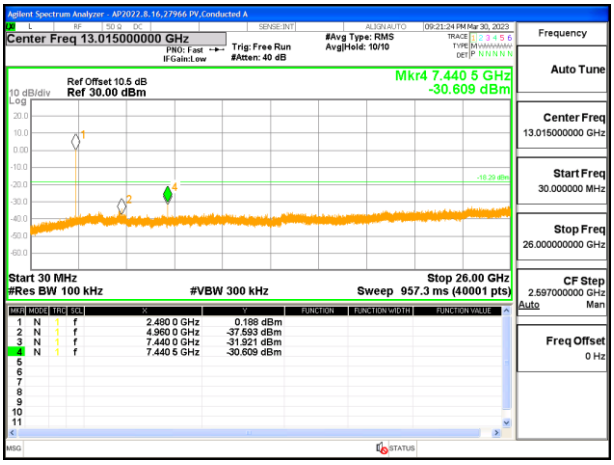
IN-BAND REFERENCE LEVEL



OUT-OF-BAND MID CHANNEL



HIGH CHANNEL BANDEDGE



OUT-OF-BAND HIGH CHANNEL

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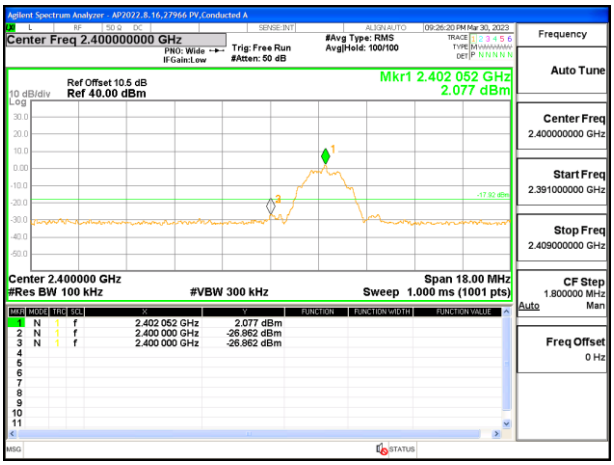
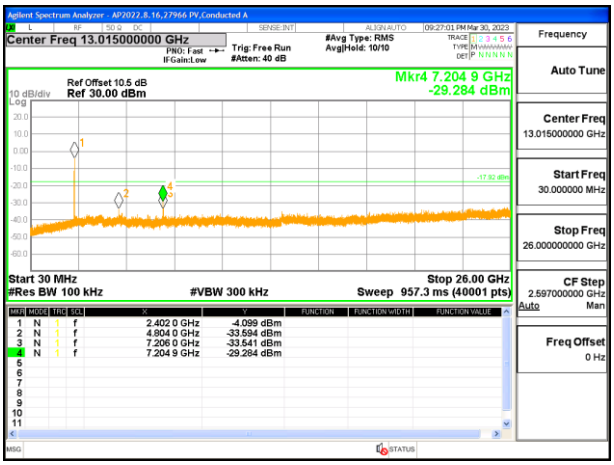
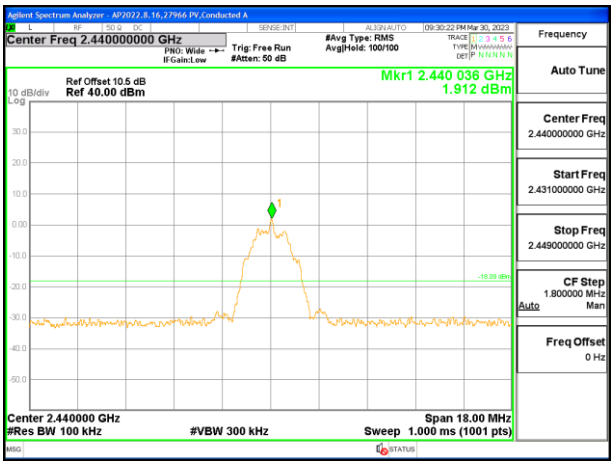
BLE (2Mbps)



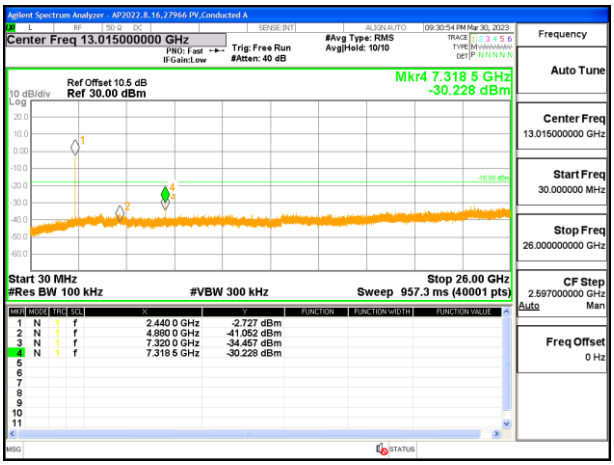
LOW CHANNEL BANDEDGE



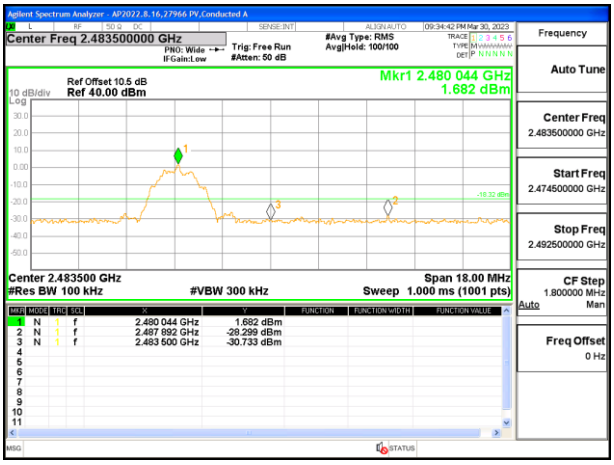
OUT-OF-BAND LOW CHANNEL



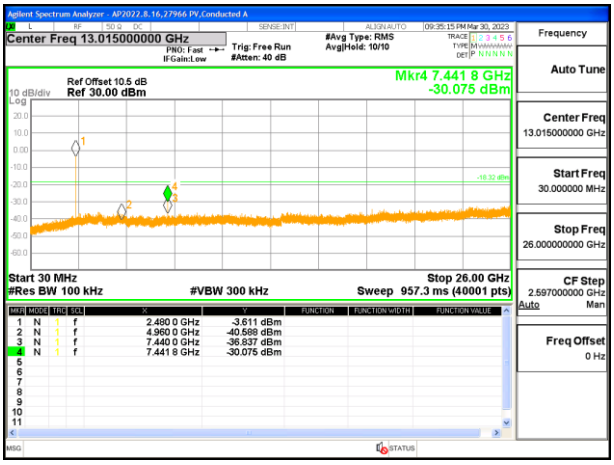
IN-BAND REFERENCE LEVEL



OUT-OF-BAND MID CHANNEL



HIGH CHANNEL BANDEDGE



OUT-OF-BAND HIGH CHANNEL

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10. RADIATED TEST RESULTS

10.1. LIMITS AND PROCEDURE

LIMITS

FCC §15.205 and §15.209

RSS-GEN, Section 8.9 and 8.10.

Frequency Range (MHz)	Field Strength Limit (uV/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m
0.009-0.490	2400/F(kHz) @ 300 m	-
0.490-1.705	24000/F(kHz) @ 30 m	-
1.705 - 30	30 @ 30m	-
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

TEST PROCEDURE

The EUT is placed on a non-conducting table 80 cm above the ground plane for measurement below 1GHz; 1.5 m above the ground plane for measurement above 1GHz. The antenna to EUT distance is 3 meters. The EUT is configured in accordance with ANSI C63.10. The EUT is set to transmit in a continuous mode.

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements in the 30-1000MHz range, 9kHz for peak and/or quasi-peak detection measurements in the 0.15-30MHz range and 200Hz for peak and/or quasi-peak detection measurements in the 9 to 150kHz range. Peak detection is used unless otherwise noted as quasi-peak or average (9-90kHz and 110-490kHz).

For pre-scans above 1 GHz the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 30 KHz for peak measurements.

For final measurements above 1 GHz the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 3 MHz for peak measurements and as applicable for average measurements.

The spectrum from 1 GHz to 18 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in each applicable band. Below 1GHz and above 18GHz emissions, the channel with the highest output power was tested.

The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized in both the vertical and the horizontal positions.

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2D antenna use - For below 30MHz testing, investigation was done on three antenna orientations (parallel, perpendicular, and ground-parallel), parallel and perpendicular are the worst orientations, therefore testing was performed on these two orientations only.

Base on FCC 15.31 (f) (2): measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field.

KDB 414788 Open Field Site(OFS) and Chamber Correlation Justification

OFS and chamber correlation testing had been performed and chamber measured test result is the worst case test result.

NOTE: The limits in CFR 47, Part 15, Subpart C, paragraph 15.209(a), are identical to those in RSS-Gen section 8.9, Table 6, since the measurements are performed in terms of magnetic field strength and converted to electric field strength levels (as reported in the table), using the free space impedance of 377 Ohms. For example the measurement at frequency X kHz resulted in a level of Y dBuV/m, which is equivalent to Y – 51.5 = Z dBuA/m, which has the same margin, W dB, to the corresponding RSS-Gen Table 6 limit as it has to 15.209(a) limit.

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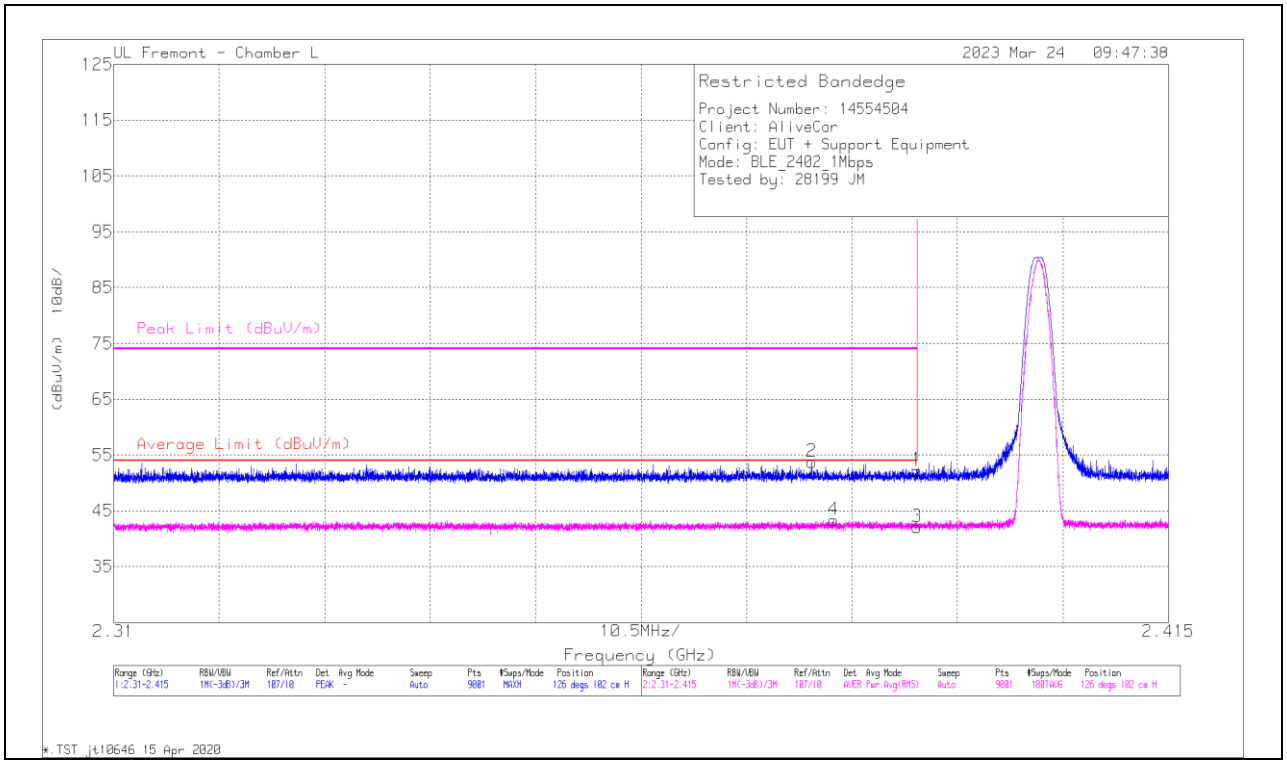
10.2. TRANSMITTER ABOVE 1 GHz

10.2.1. BLE (1Mbps)

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	Horn 1mH	Amp/Cbl/Pad (dB)	DCCF (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	39.81	Pk	32.5	-20.1	0	52.21	-	-	74	-21.79	126	102	H
2	* 2.379489	41.42	Pk	32.5	-20.1	0	53.82	-	-	74	-20.18	126	102	H
3	* 2.39	27.64	RMS	32.5	-20.1	2.03	42.07	54	-11.93	-	-	126	102	H
4	* 2.381694	28.86	RMS	32.5	-20.1	2.03	43.29	54	-10.71	-	-	126	102	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection

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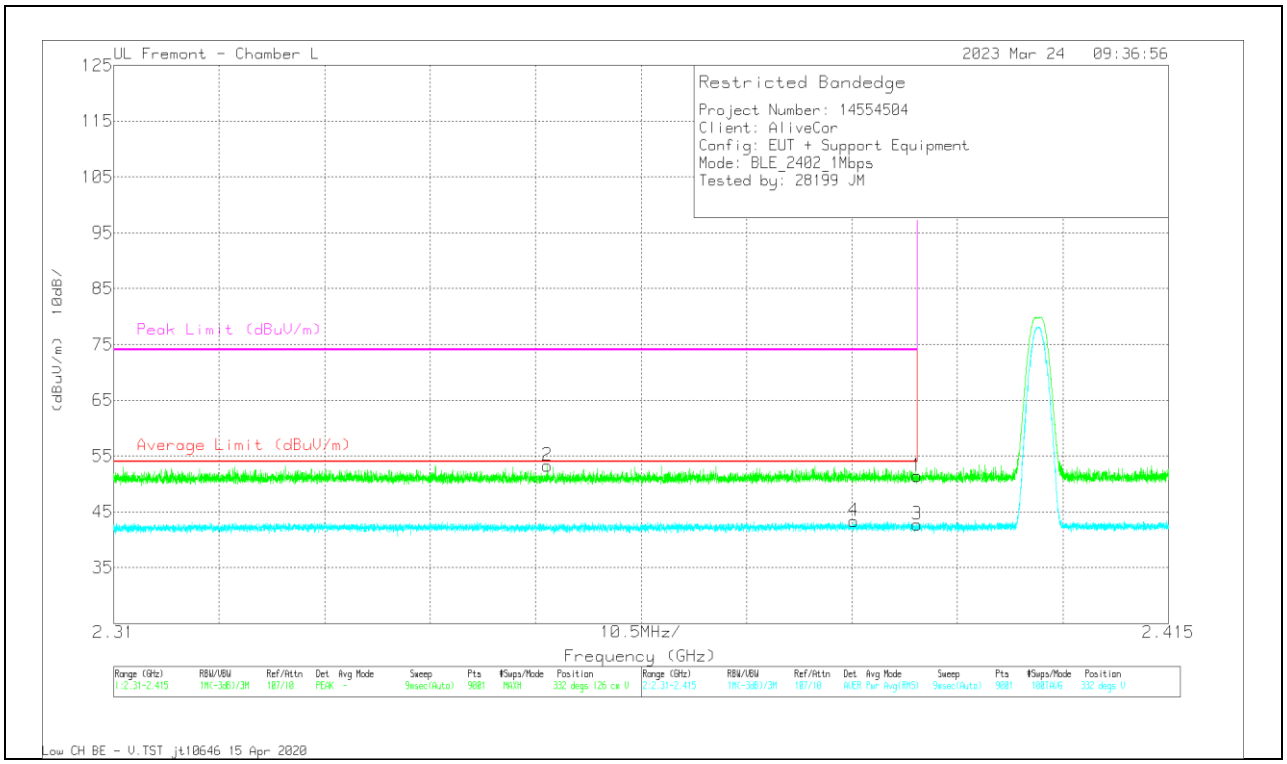
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	Horn 1mH	Amp/Cbl/Pad (dB)	DCCF (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	39.01	Pk	32.5	-20.1	0	51.41	-	-	74	-22.59	332	126	V
2	* 2.353145	40.98	Pk	32.5	-20.2	0	53.28	-	-	74	-20.72	332	126	V
3	* 2.39	28.3	RMS	32.5	-20.1	2.03	42.73	54	-11.27	-	-	332	126	V
4	* 2.383665	28.93	RMS	32.5	-20.1	2.03	43.36	54	-10.64	-	-	332	126	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection

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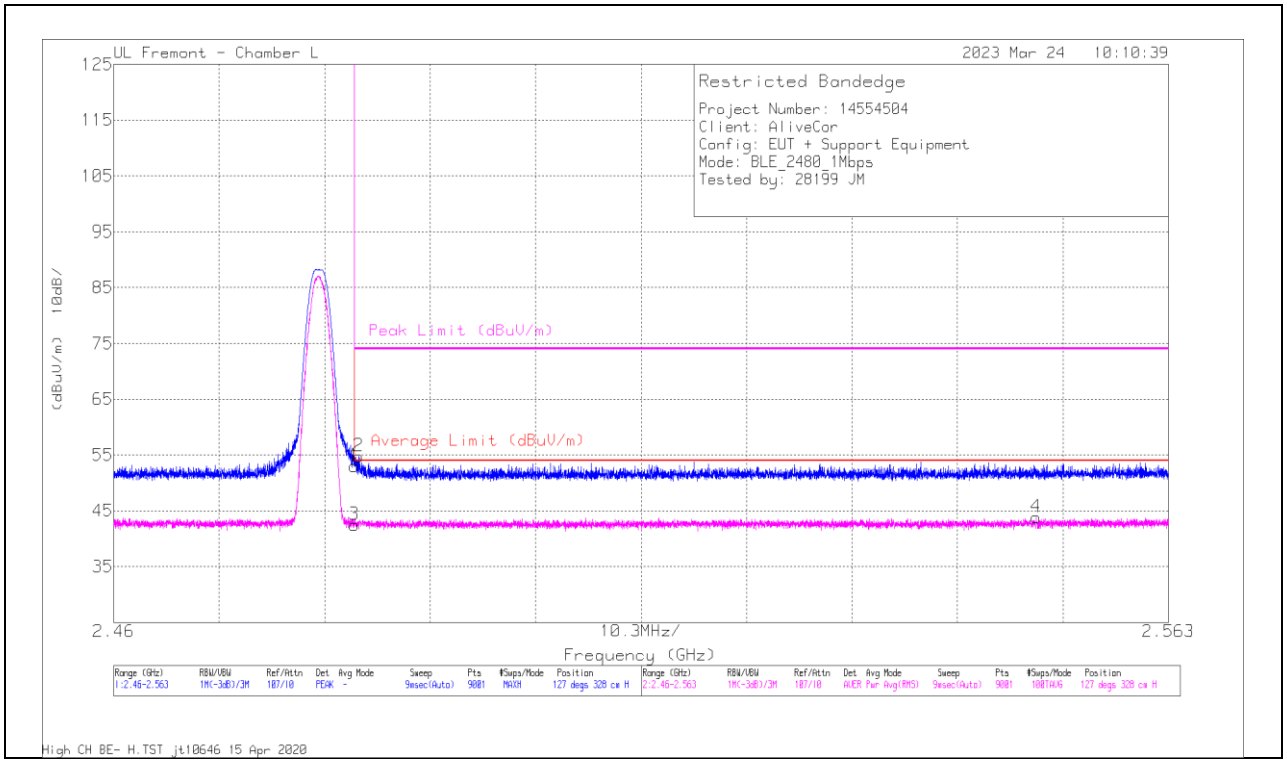
BANDEDGE (HIGH CHANNEL)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	Horn 1mH	Amp/Cbl/Pad (dB)	DCCF (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.4835	40.45	Pk	32.5	-19.9	0	53.05	-	-	74	-20.95	127	328	H
2	* 2.483952	42.12	Pk	32.5	-19.9	0	54.72	-	-	74	-19.28	127	328	H
3	* 2.4835	27.83	RMS	32.5	-19.9	2.03	42.46	54	-11.54	-	-	127	328	H
4	2.550099	29.07	RMS	32.5	-19.8	2.03	43.8	54	-10.2	-	-	127	328	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection

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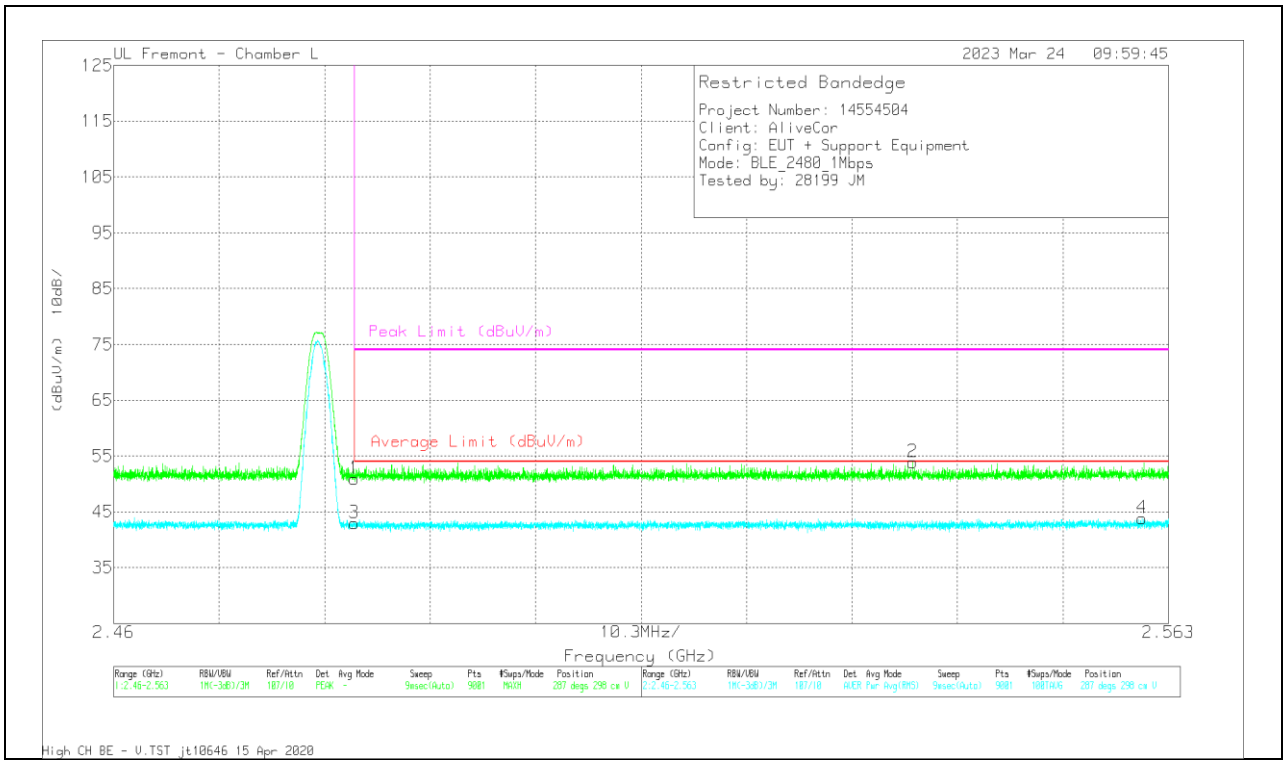
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	Horn 1mH	Amp/Cbl/Pad (dB)	DCCF (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.4835	38.26	Pk	32.5	-19.9	0	50.86	-	-	74	-23.14	287	298	V
2	2.538037	41.28	Pk	32.5	-19.9	0	53.88	-	-	74	-20.12	287	298	V
3	* 2.4835	28.35	RMS	32.5	-19.9	2.03	42.98	54	-11.02	-	-	287	298	V
4	2.560444	29.09	RMS	32.5	-19.8	2.03	43.82	54	-10.18	-	-	287	298	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection

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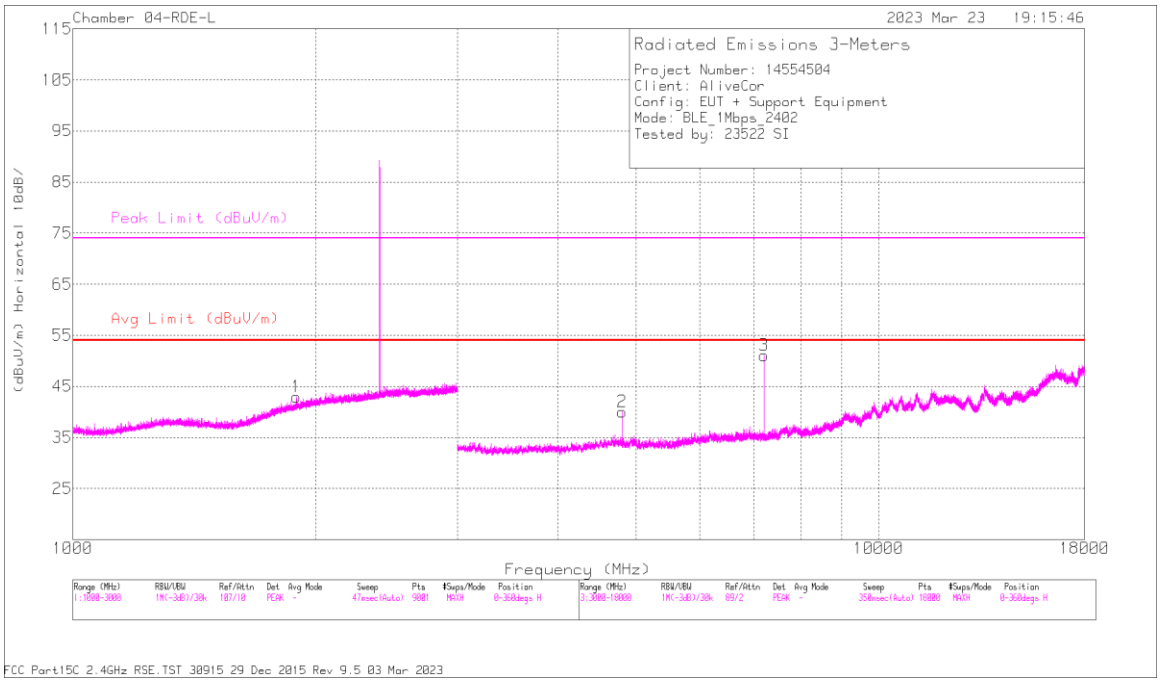
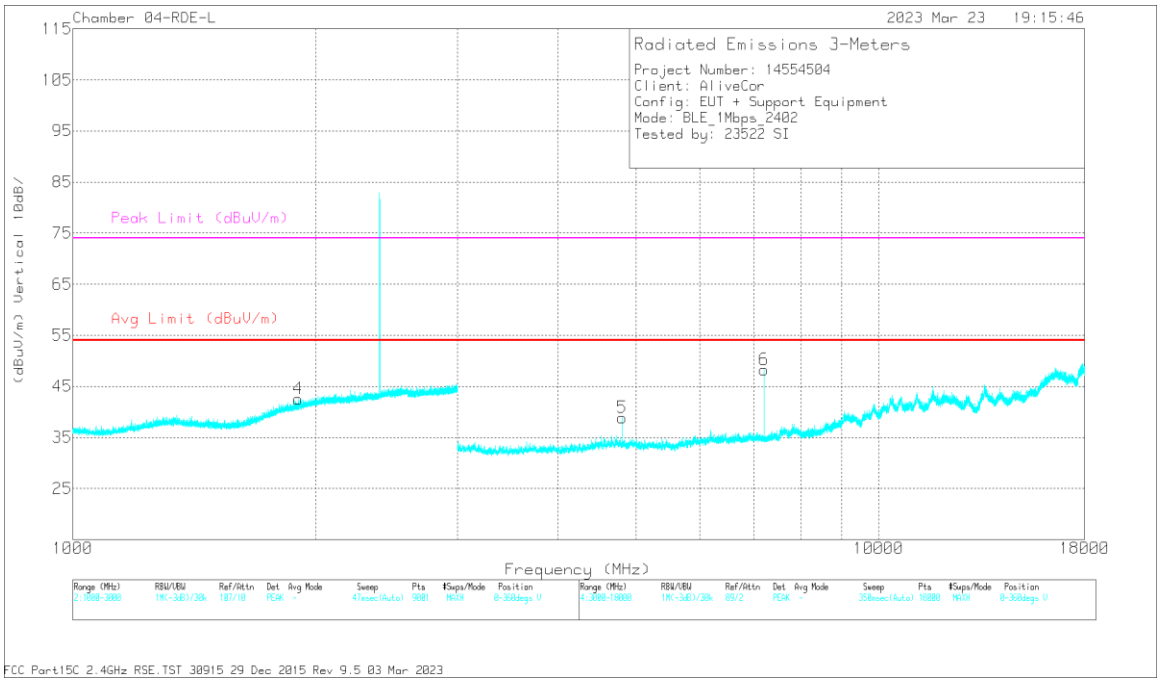
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL RESULTS



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Range 1: Horizontal 1000 - 3000MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Horn 1mH	Amp/Cbl/Pad (dB)	DCCF (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1897.086	41.59	PK2	31.3	-21.3	0	51.59	-	-	-	-	100	392	H
	1894.507	30.4	MAv1	31.3	-21.3	2.03	42.43	-	-	-	-	100	392	H

Range 2: Vertical 1000 - 3000MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Horn 1mH	Amp/Cbl/Pad (dB)	DCCF (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	1902.479	41.89	PK2	31.4	-21.3	0	51.99	-	-	-	-	358	102	V
	1902.923	29.93	MAv1	31.4	-21.3	2.03	42.06	-	-	-	-	358	102	V

Range 3: Horizontal 3000 - 18000MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Horn 1mH	Amp/Cbl/Fltr (dB)	DCCF (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 4804.609	39.52	PK2	34.5	-26.5	0	47.52	-	-	74	-26.48	43	127	H
	* 4803.65	30.23	MAv1	34.5	-26.5	2.03	40.26	54	-13.74	-	-	43	127	H
3	7205.253	39.43	PK2	35.9	-23	0	52.33	-	-	-	-	205	115	H
	7205.434	32.98	MAv1	35.9	-23	2.03	47.91	-	-	-	-	205	115	H

Range 4: Vertical 3000 - 18000MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Horn 1mH	Amp/Cbl/Fltr (dB)	DCCF (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
5	* 4804.04	38.42	PK2	34.5	-26.5	0	46.42	-	-	74	-27.58	3	368	V
	* 4803.959	27.85	MAv1	34.5	-26.5	2.03	37.88	54	-16.12	-	-	3	368	V
6	7205.357	39.15	PK2	35.9	-23	0	52.05	-	-	-	-	139	148	V
	7205.322	32.41	MAv1	35.9	-23	2.03	47.34	-	-	-	-	139	148	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK2 - KDB558074 Method: Maximum Peak
MAv1 - KDB558074 Option 1 Maximum RMS Average

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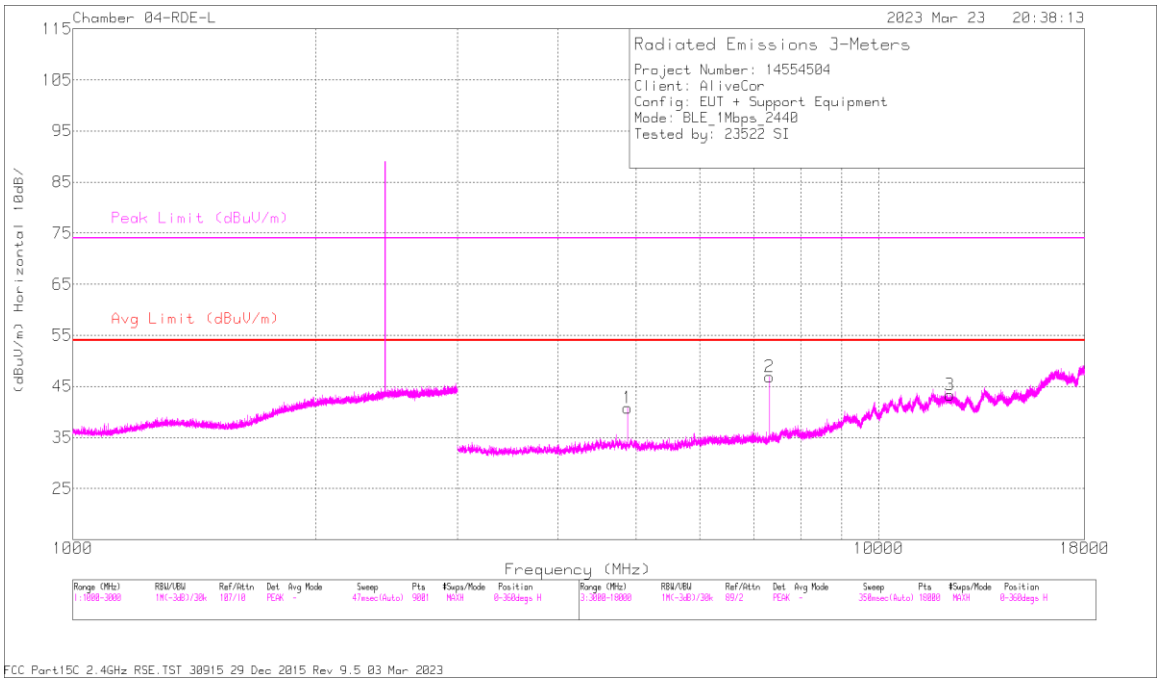
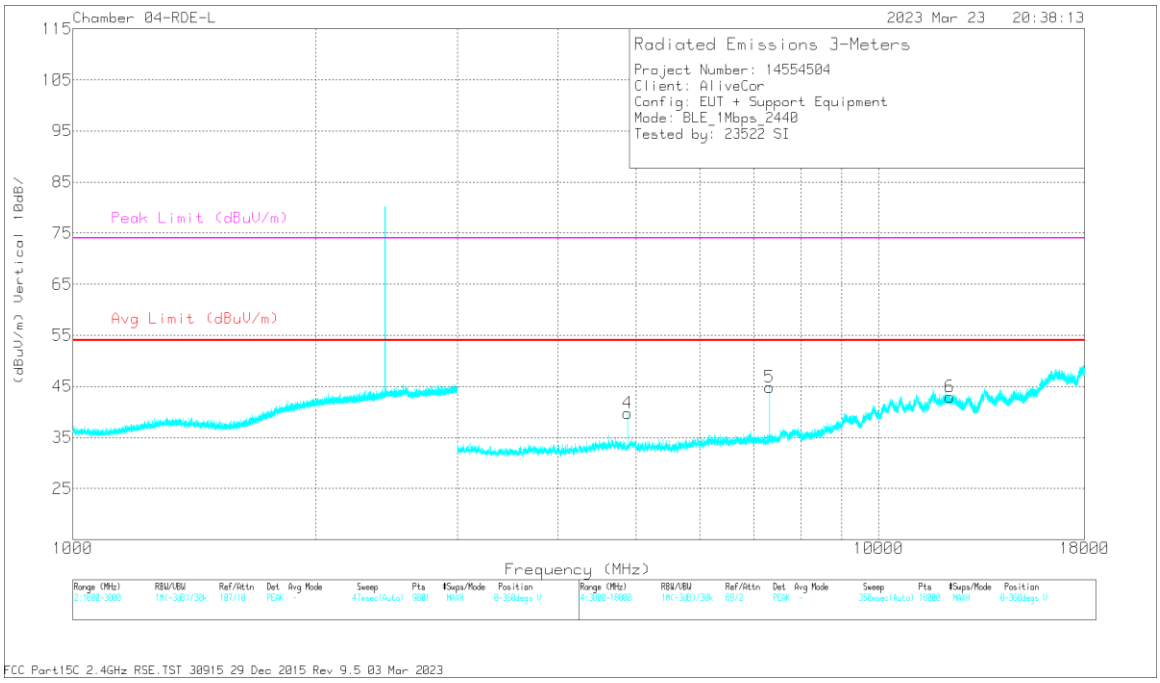
MID CHANNEL RESULTS



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Range 3: Horizontal 3000 - 18000MHz														
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Horn 1mH	Amp/Cbl/Fltr (dB)	DCCF (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4880.229	38.15	PK2	34.4	-26.4	0	46.15	-	-	74	-27.85	66	110	H
	* 4879.738	29.59	MAv1	34.4	-26.4	2.03	39.62	54	-14.38	-	-	66	110	H
2	* 7320.108	39.66	PK2	35.9	-22.8	0	52.76	-	-	74	-21.24	208	349	H
	* 7319.519	31.51	MAv1	35.9	-22.7	2.03	46.74	54	-7.26	-	-	208	349	H
3	* 12246.119	32.35	PK2	39.2	-18.1	0	53.45	-	-	74	-20.55	61	339	H
	* 12248.003	20.8	MAv1	39.2	-18.1	2.03	43.93	54	-10.07	-	-	61	339	H

Range 4: Vertical 3000 - 18000MHz														
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Horn 1mH	Amp/Cbl/Fltr (dB)	DCCF (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	* 4879.65	39.15	PK2	34.4	-26.4	0	47.15	-	-	74	-26.85	346	101	V
	* 4879.711	29.73	MAv1	34.4	-26.4	2.03	39.76	54	-14.24	-	-	346	101	V
5	* 7320.75	38.28	PK2	35.9	-22.8	0	51.38	-	-	74	-22.62	136	102	V
	* 7319.474	30.72	MAv1	35.9	-22.7	2.03	45.95	54	-8.05	-	-	136	102	V
6	* 12255.816	32.9	PK2	39.2	-18	0	54.1	-	-	74	-19.9	349	374	V
	* 12255.098	20.62	MAv1	39.2	-18	2.03	43.85	54	-10.15	-	-	349	374	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK2 - KDB558074 Method: Maximum Peak
MAv1 - KDB558074 Option 1 Maximum RMS Average

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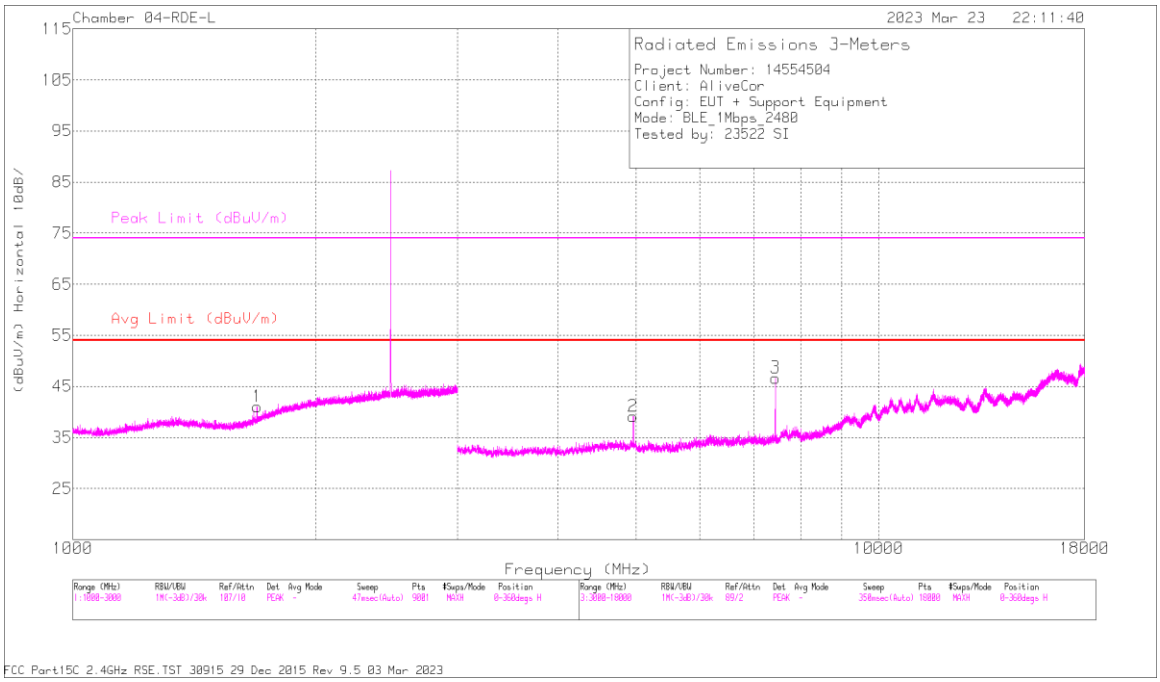
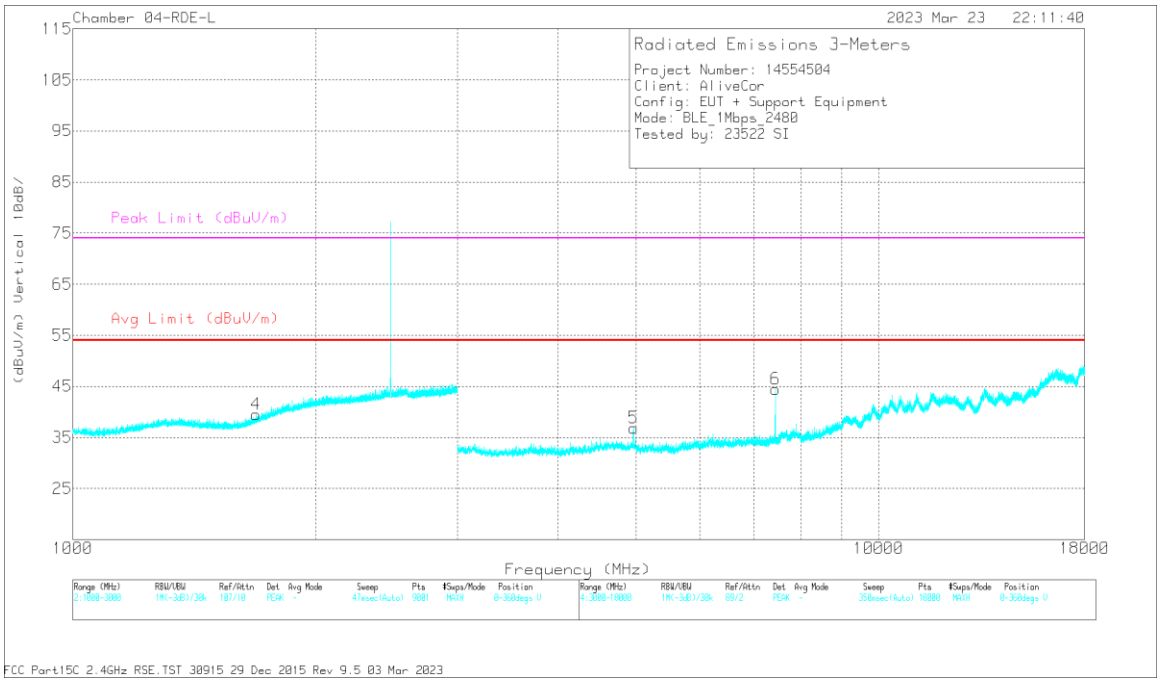
HIGH CHANNEL RESULTS



HORIZONTAL



VERTICAL

UL VERIFICATION SERVICES
47173 Benicia Street, Fremont, CA 94538; USA TEL:(510) 319-4000 FAX:(510) 661-0888

RADIATED EMISSIONS

Range 1: Horizontal 1000 - 3000MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Horn 1mH	Amp/Cbl/Pad (dB)	DCCF (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 1697.437	42.36	PK2	29.4	-22	0	49.76	-	-	74	-24.24	314	290	H
	* 1695.475	30.21	MAv1	29.3	-21.9	2.03	39.64	54	-14.36	-	-	314	290	H

Range 2: Vertical 1000 - 3000MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Horn 1mH	Amp/Cbl/Pad (dB)	DCCF (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	* 1690.104	41.7	PK2	29.3	-22	0	49	-	-	74	-25	342	373	V
	* 1688.766	30.23	MAv1	29.2	-22	2.03	39.46	54	-14.54	-	-	342	373	V

Range 3: Horizontal 3000 - 18000MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Horn 1mH	Amp/Cbl/Fltr (dB)	DCCF (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 4960.736	38.19	PK2	34.4	-25.4	0	47.19	-	-	74	-26.81	348	125	H
	* 4960	29.03	MAv1	34.4	-25.4	2.03	40.06	54	-13.94	-	-	348	125	H
3	* 7440.114	36.78	PK2	36	-22.5	0	50.28	-	-	74	-23.72	254	131	H
	* 7439.4	29.26	MAv1	36	-22.5	2.03	44.79	54	-9.21	-	-	254	131	H

Range 4: Vertical 3000 - 18000MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Horn 1mH	Amp/Cbl/Fltr (dB)	DCCF (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
5	* 4960.385	37.43	PK2	34.4	-25.4	0	46.43	-	-	74	-27.57	3	101	V
	* 4959.672	27.21	MAv1	34.4	-25.4	2.03	38.24	54	-15.76	-	-	3	101	V
6	* 7439.329	39.89	PK2	36	-22.5	0	53.39	-	-	74	-20.61	304	372	V
	* 7439.431	32.7	MAv1	36	-22.5	2.03	48.23	54	-5.77	-	-	304	372	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK2 - KDB558074 Method: Maximum Peak
MAv1 - KDB558074 Option 1 Maximum RMS Average

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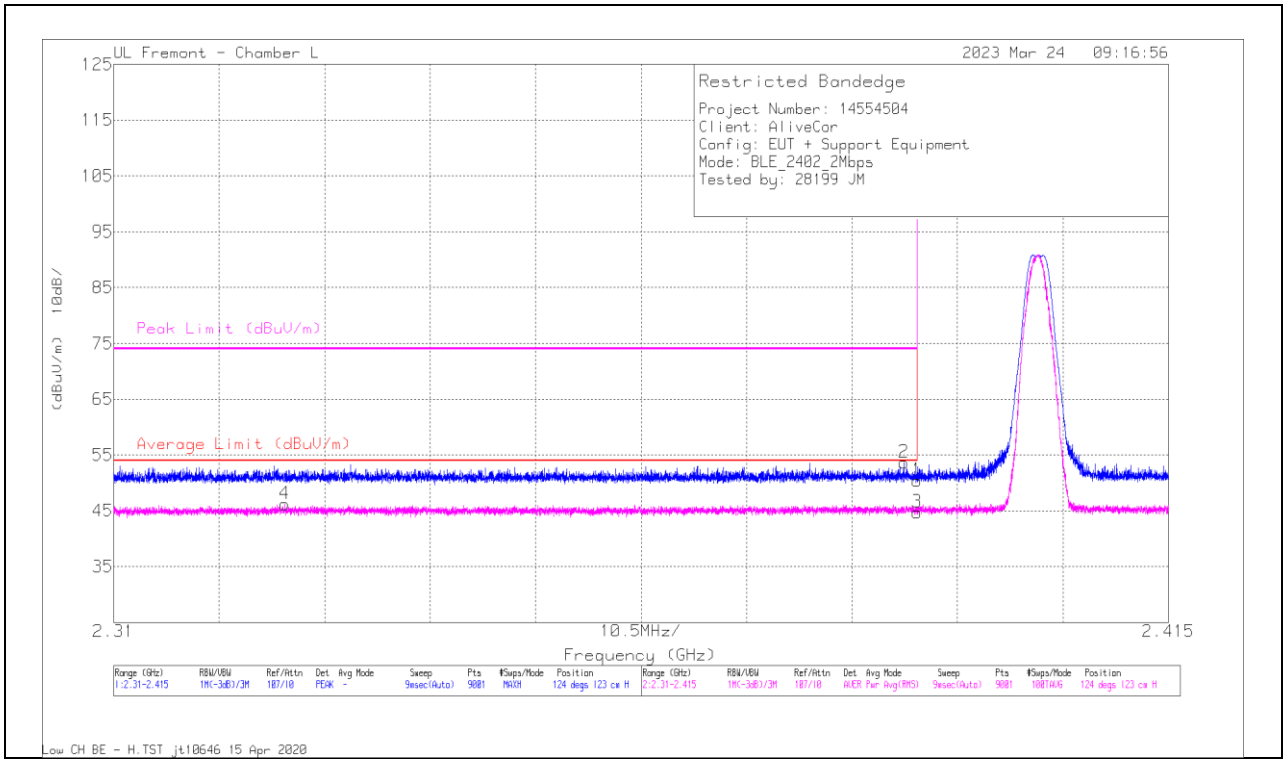
10.2.2. BLE (2Mbps)

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	Horn 1mH	Amp/Cbl/Pad (dB)	DCCF (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	37.99	Pk	32.5	-20.1	0	50.39	-	-	74	-23.61	124	123	H
2	* 2.388647	41.19	Pk	32.5	-20.1	0	53.59	-	-	74	-20.41	124	123	H
3	* 2.39	27.43	RMS	32.5	-20.1	4.83	44.66	54	-9.34	-	-	124	123	H
4	* 2.327022	29.14	RMS	32.4	-20.2	4.83	46.17	54	-7.83	-	-	124	123	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection

UL VERIFICATION SERVICES
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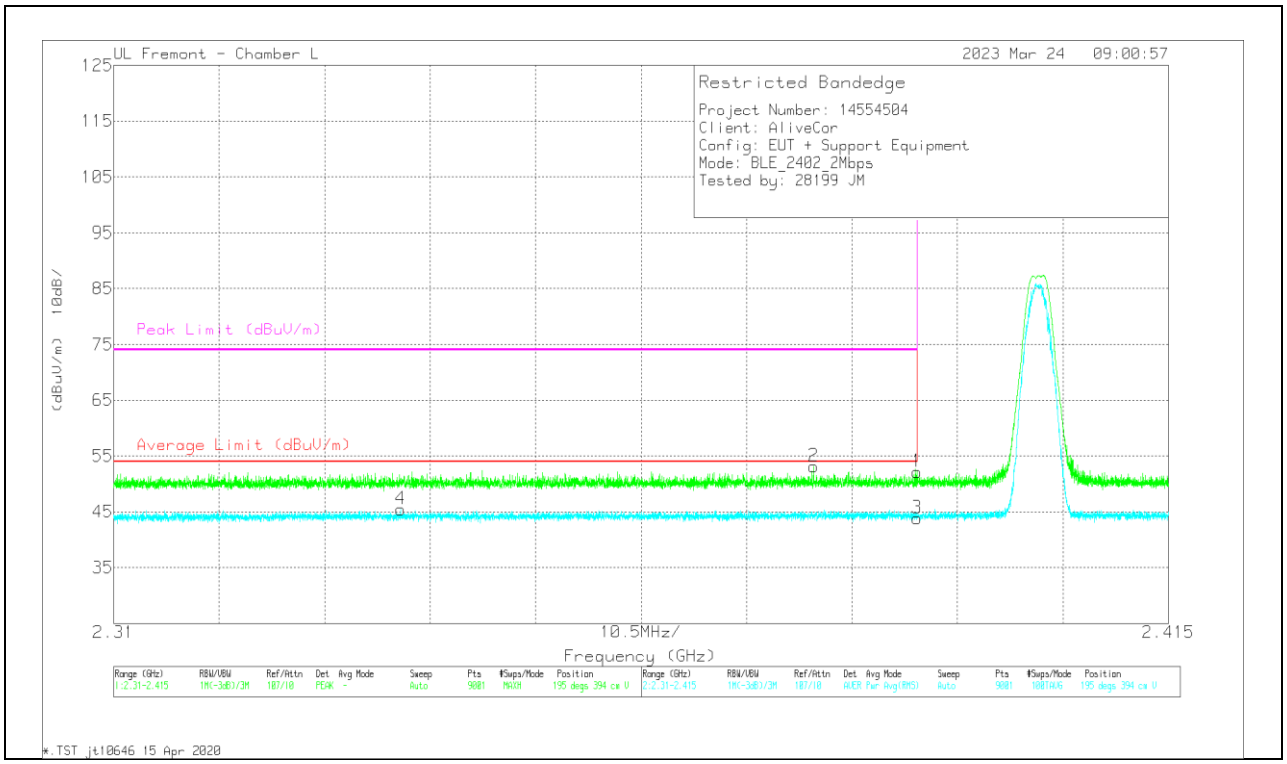
VERTICAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	Horn 1mH	Amp/Cbl/Pad (dB)	DCCF (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	39.75	Pk	32.5	-20.1	0	52.15	-	-	74	-21.85	195	394	V
2	* 2.379664	40.79	Pk	32.5	-20.1	0	53.19	-	-	74	-20.81	195	394	V
3	* 2.39	26.63	RMS	32.5	-20.1	4.83	43.86	54	-10.14	-	-	195	394	V
4	* 2.338549	28.37	RMS	32.5	-20.2	4.83	45.5	54	-8.5	-	-	195	394	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection

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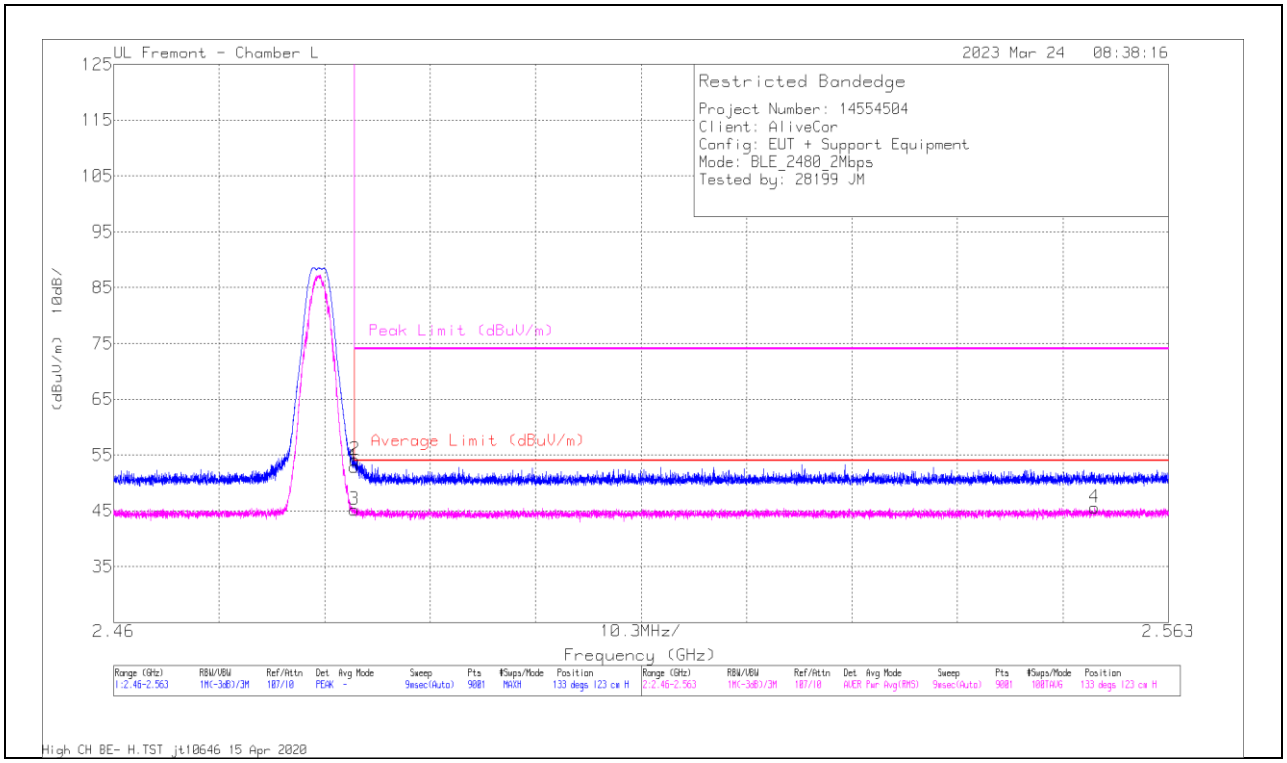
BANDEDGE (HIGH CHANNEL)

HORIZONTAL RESULT



Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	Horn 1mH	Amp/Cbl/Pad (dB)	DCCF (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.4835	40.32	Pk	32.5	-19.9	0	52.92	-	-	74	-21.08	133	123	H
2	* 2.483552	41.57	Pk	32.5	-19.9	0	54.17	-	-	74	-19.83	133	123	H
3	* 2.4835	27.73	RMS	32.5	-19.9	4.83	45.16	54	-8.84	-	-	133	123	H
4	2.555775	28.01	RMS	32.5	-19.8	4.83	45.54	54	-8.46	-	-	133	123	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection

UL VERIFICATION SERVICES
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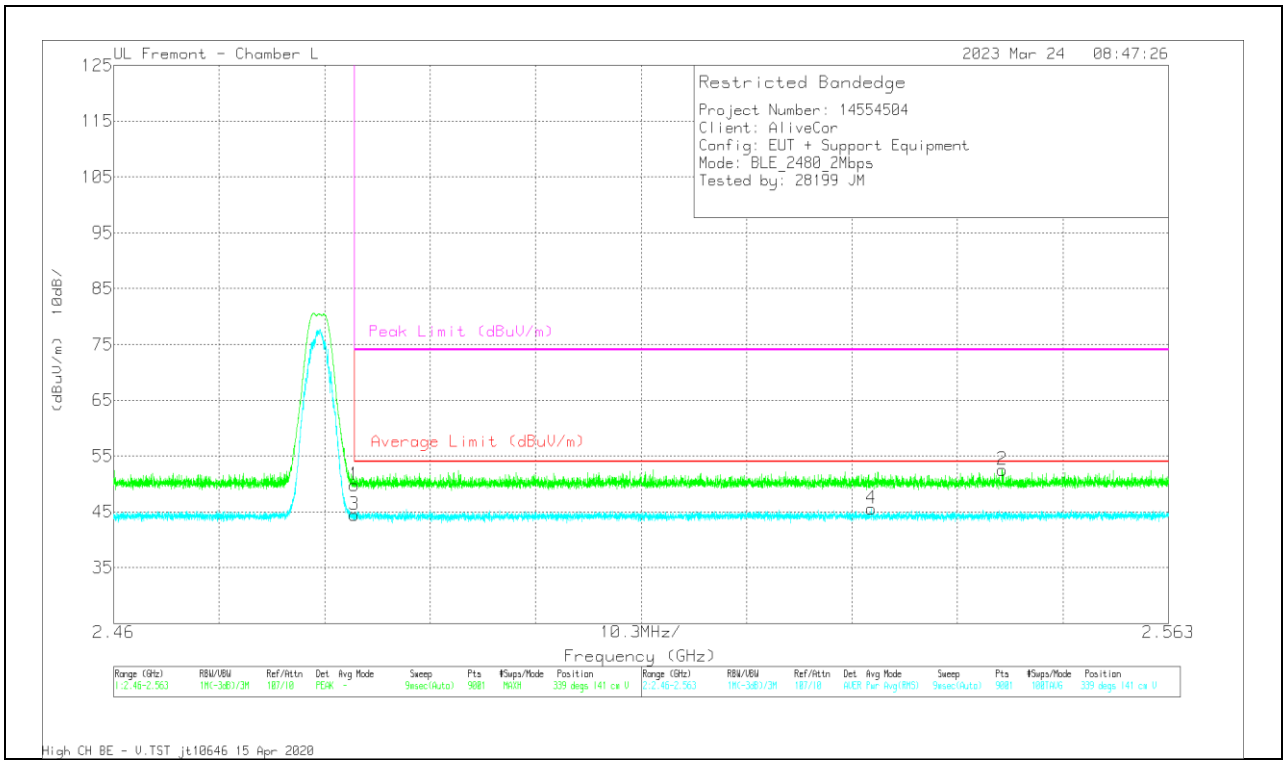
VERTICAL RESULT



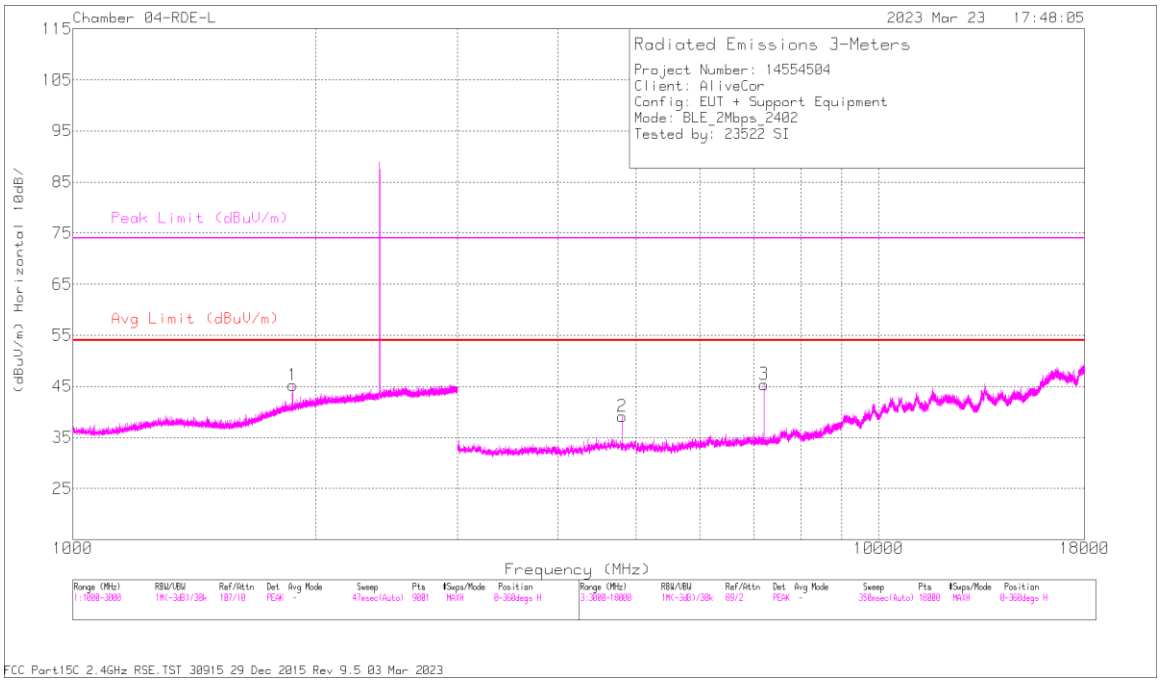
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	Horn 1mH	Amp/Cbl/Pad (dB)	DCCF (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.4835	37.16	Pk	32.5	-19.9	0	49.76	-	-	74	-24.24	339	141	V
2	2.546757	39.98	Pk	32.5	-19.9	0	52.58	-	-	74	-21.42	339	141	V
3	* 2.4835	26.99	RMS	32.5	-19.9	4.83	44.42	54	-9.58	-	-	339	141	V
4	2.533974	28.15	RMS	32.5	-19.9	4.83	45.58	54	-8.42	-	-	339	141	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector
RMS - RMS detection

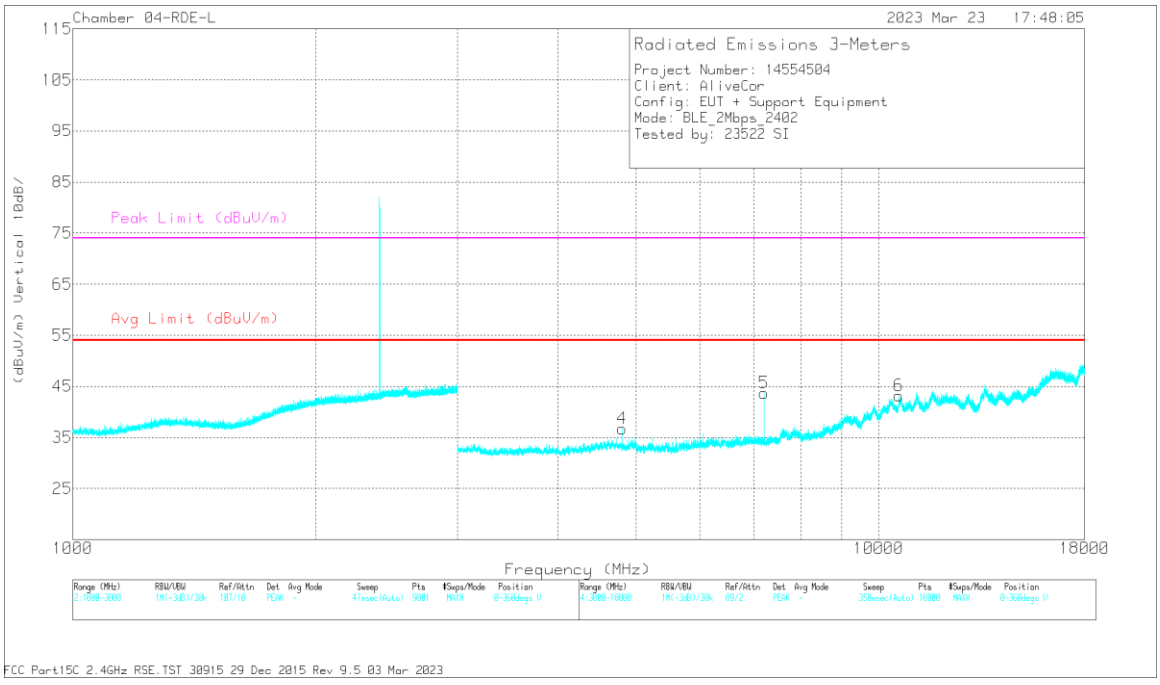
UL VERIFICATION SERVICES
47173 Benicia Street, Fremont, CA 94538; USA TEL:(510) 319-4000 FAX:(510) 661-0888

HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL RESULTS



HORIZONTAL



VERTICAL

UL VERIFICATION SERVICES
47173 Benicia Street, Fremont, CA 94538; USA TEL:(510) 319-4000 FAX:(510) 661-0888

RADIATED EMISSIONS

Range 1: Horizontal 1000 - 3000MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Horn 1mH	Amp/Cbl/Pad (dB)	DCCF (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1874.907	42.22	PK2	31.2	-21.4	0	52.02	-	-	-	-	245	285	H
	1873.103	30.32	MAv1	31.2	-21.4	4.83	44.95	-	-	-	-	245	285	H

Range 3: Horizontal 3000 - 18000MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Horn 1mH	Amp/Cbl/Fltr (dB)	DCCF (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 4803.864	39.22	PK2	34.5	-26.5	0	47.22	-	-	74	-26.78	44	168	H
	* 4803.959	28.47	MAv1	34.5	-26.5	4.83	41.3	54	-12.7	-	-	44	168	H
3	7204.672	40.38	PK2	35.9	-23	0	53.28	-	-	-	-	204	101	H
	7204.564	31.64	MAv1	35.9	-23	4.83	49.37	-	-	-	-	204	101	H

Range 4: Vertical 3000 - 18000MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Horn 1mH	Amp/Cbl/Fltr (dB)	DCCF (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
4	* 4802.767	38.14	PK2	34.5	-26.5	0	46.14	-	-	74	-27.86	2	393	V
	* 4804.141	26.52	MAv1	34.5	-26.5	4.83	39.35	54	-14.65	-	-	2	393	V
5	7207.547	38.97	PK2	35.9	-23	0	51.87	-	-	-	-	119	373	V
	7204.574	28.97	MAv1	35.9	-23	4.83	46.7	-	-	-	-	119	373	V
6	10592.379	31.86	PK2	38.4	-17.1	0	53.16	-	-	-	-	198	363	V
	10590.475	20.3	MAv1	38.4	-17.1	4.83	46.43	-	-	-	-	198	363	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK2 - KDB558074 Method: Maximum Peak
MAv1 - KDB558074 Option 1 Maximum RMS Average

UL VERIFICATION SERVICES
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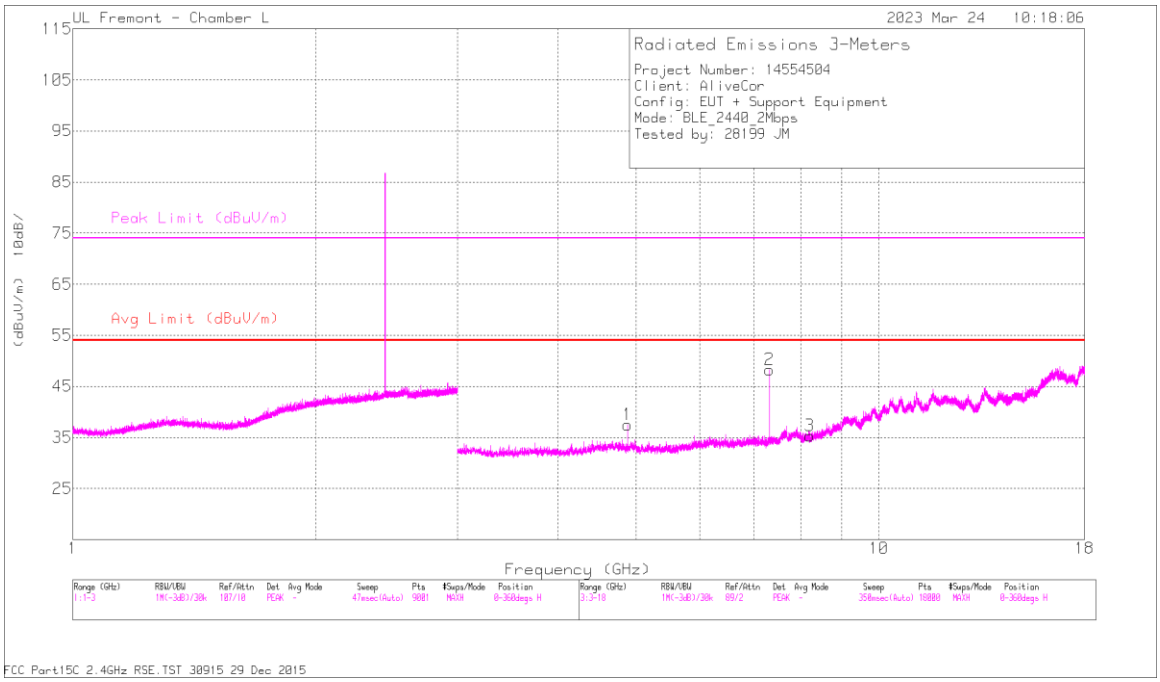
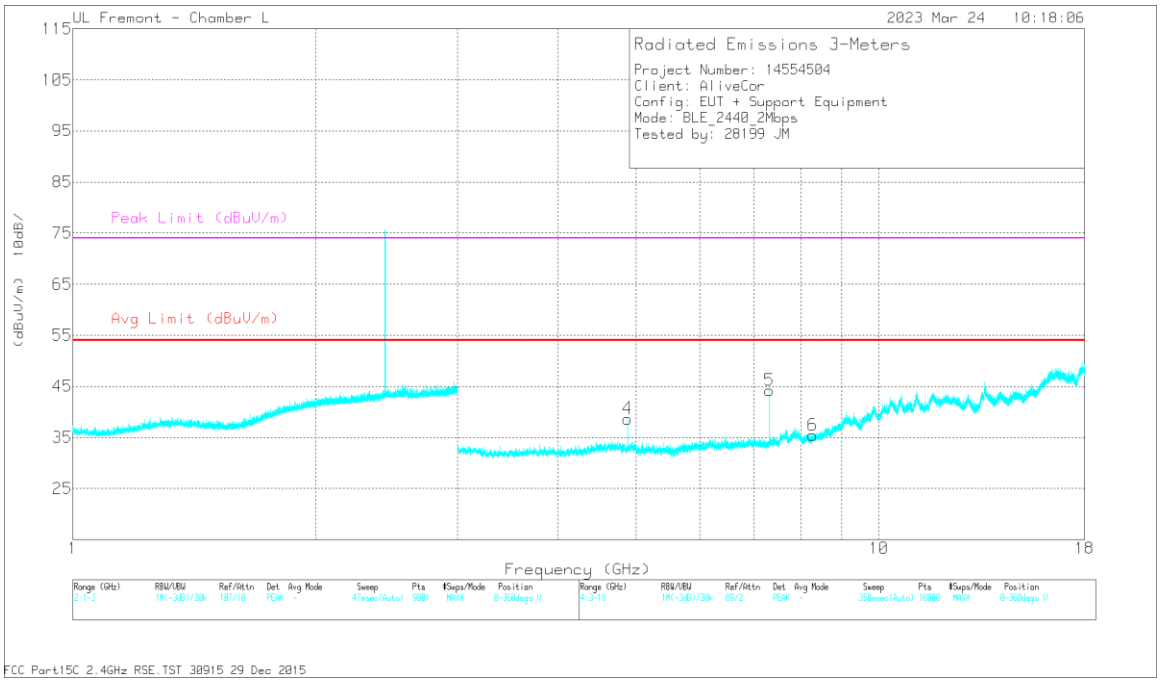
MID CHANNEL RESULTS



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	Horn 1mH	Amp/Cbl/Fltr (dB)	DCCF (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4.881096	38.68	PK2	34.4	-26.4	0	46.68	-	-	74	-27.32	156	101	H
	* 4.878971	27.81	MAv1	34.4	-26.4	4.83	40.64	54	-13.36	-	-	156	101	H
2	* 7.321562	40.61	PK2	35.9	-22.8	0	53.71	-	-	74	-20.29	352	116	H
	* 7.318496	31.56	MAv1	35.9	-22.7	4.83	49.59	54	-4.41	-	-	352	116	H
3	* 8.217691	30.73	PK2	36.1	-21.3	0	45.53	-	-	74	-28.47	157	101	H
	* 8.218396	19.2	MAv1	36.1	-21.3	4.83	38.83	54	-15.17	-	-	157	101	H
4	* 4.880858	39.27	PK2	34.4	-26.4	0	47.27	-	-	74	-26.73	283	103	V
	* 4.879169	28.32	MAv1	34.4	-26.4	4.83	41.15	54	-12.85	-	-	283	103	V
5	* 7.321439	38.09	PK2	35.9	-22.8	0	51.19	-	-	74	-22.81	317	389	V
	* 7.321532	27.81	MAv1	35.9	-22.8	4.83	45.74	54	-8.26	-	-	317	389	V
6	* 8.277374	32.29	PK2	36.1	-21.3	0	47.09	-	-	74	-26.91	0	347	V
	* 8.276677	20.72	MAv1	36.1	-21.3	4.83	40.35	54	-13.65	-	-	0	347	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK2 - KDB558074 Method: Maximum Peak
MAv1 - KDB558074 Option 1 Maximum RMS Average

UL VERIFICATION SERVICES
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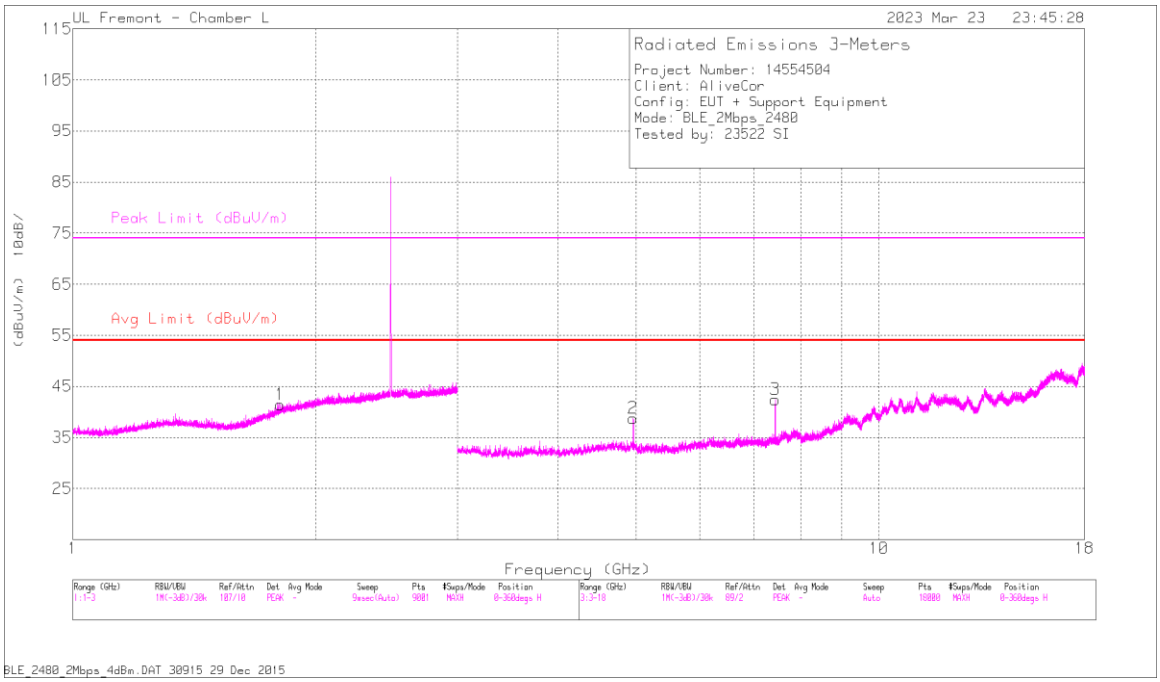
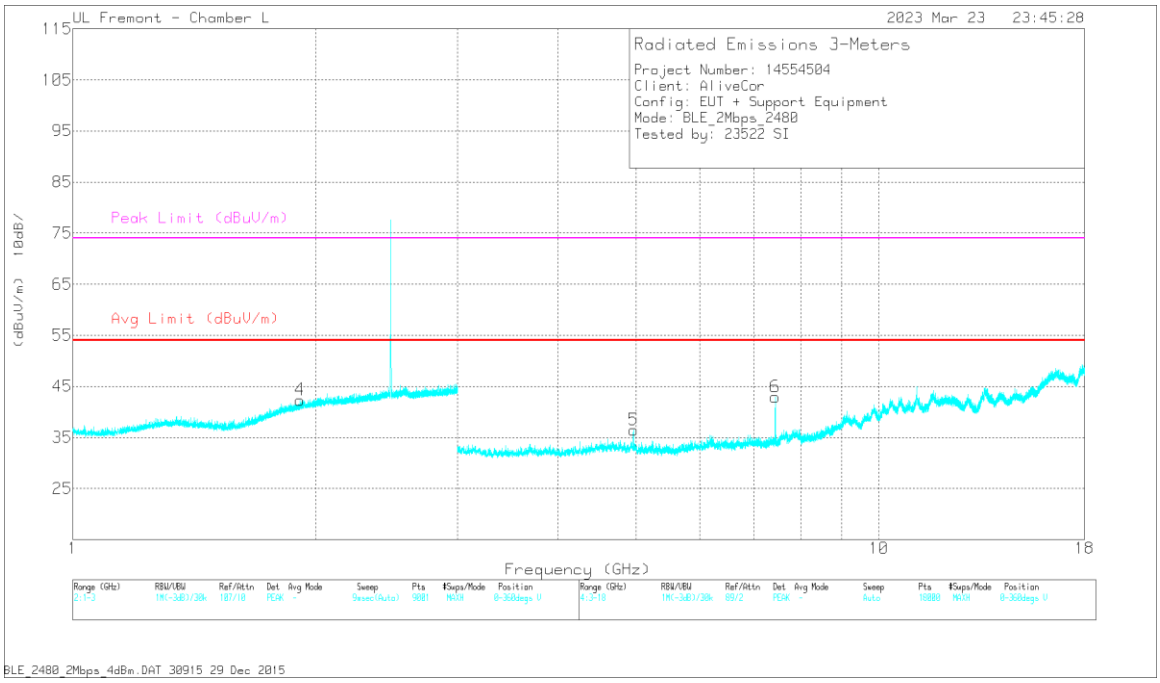
HIGH CHANNEL RESULTS



HORIZONTAL



VERTICAL

UL VERIFICATION SERVICES
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RADIATED EMISSIONS

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	Horn 1mH	Amp/Cbl/Pad (dB)	DCCF (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.810181	41.55	PK2	30.8	-21.5	0	50.85	-	-	-	-	8	350	H
	1.809732	30.06	MAv1	30.8	-21.5	4.83	44.19	-	-	-	-	8	350	H
2	1.913043	40.9	PK2	31.4	-21.3	0	51	-	-	-	-	106	114	V
	1.913246	29.74	MAv1	31.4	-21.3	4.83	44.67	-	-	-	-	106	114	V
3	* 4.958984	38.32	PK2	34.4	-25.4	0	47.32	-	-	74	-26.68	349	326	H
	* 4.959258	27.1	MAv1	34.4	-25.4	4.83	40.93	54	-13.07	-	-	349	326	H
4	* 7.440213	38.76	PK2	36	-22.5	0	52.26	-	-	74	-21.74	257	117	H
	* 7.438547	29.08	MAv1	36	-22.5	4.83	47.41	54	-6.59	-	-	257	117	H
5	* 4.961386	36.39	PK2	34.4	-25.5	0	45.29	-	-	74	-28.71	2	102	V
	* 4.960073	25.38	MAv1	34.4	-25.4	4.83	39.21	54	-14.79	-	-	2	102	V
6	* 7.441507	36.96	PK2	36	-22.5	0	50.46	-	-	74	-23.54	139	104	V
	* 7.438751	26.57	MAv1	36	-22.5	4.83	44.9	54	-9.1	-	-	139	104	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK2 - KDB558074 Method: Maximum Peak
MAv1 - KDB558074 Option 1 Maximum RMS Average

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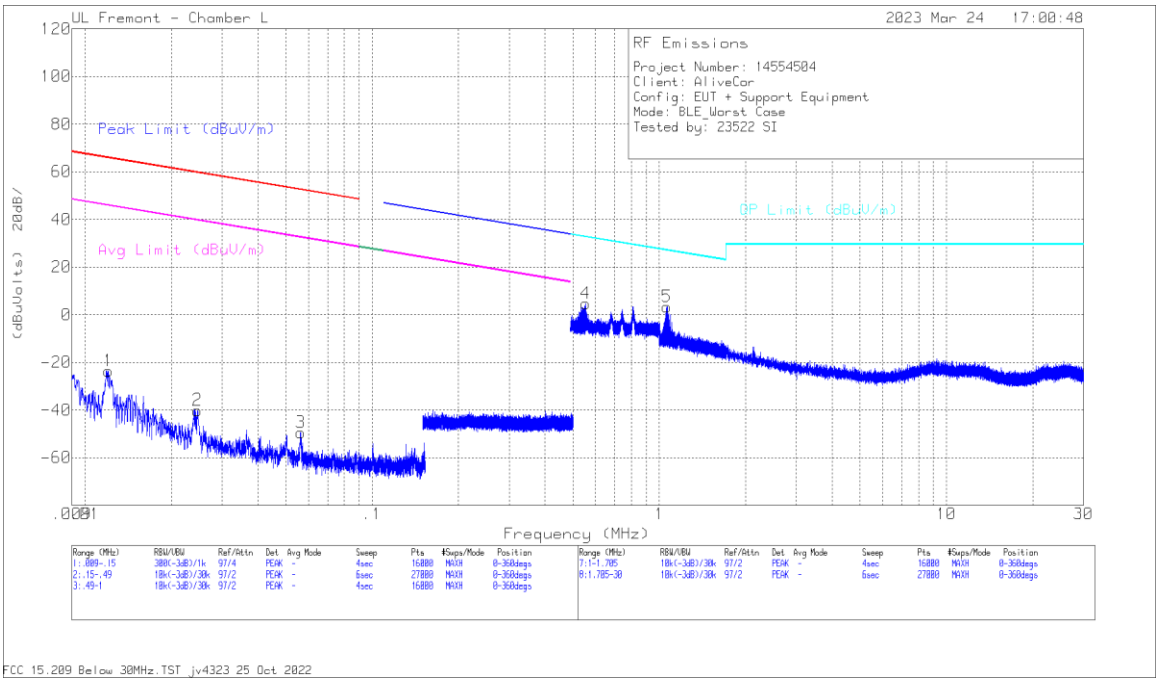
10.3. WORST CASE BELOW 30MHZ

SPURIOUS EMISSIONS BELOW 30 MHz (WORST-CASE CONFIGURATION)



ANTENNA- TWO ORIENTATIONS FACE ON/FACE OFF

Below 30MHz Data

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna E (ACF)	Amp/Cbl (dB)	Dist Corr 300m	Corrected Reading (dBuVolts)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
1	.0121	26.01	Pk	59.9	-29.5	-80	-23.59	65.96	-89.55	45.96	-69.55	0-360
2	.0247	12.91	Pk	58.3	-31.3	-80	-40.09	59.75	-99.84	39.75	-79.84	0-360
3	.0563	6.09	Pk	56.4	-31.9	-80	-49.41	52.57	-101.98	32.57	-81.98	0-360
6	.0091	27.32	Pk	61	-28.7	-80	-20.38	68.38	-88.76	48.38	-68.76	0-360
7	.0249	7.56	Pk	58.3	-31.4	-80	-45.54	59.66	-105.2	39.66	-85.2	0-360

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna E (ACF)	Amp/Cbl (dB)	Dist Corr 30m (dB) 40Log	Corrected Reading (dBuVolts)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
4	.5547	20.58	Pk	56	-31.9	-40	4.68	32.73	-28.05	0-360
8	.6796	16.93	Pk	56.1	-31.9	-40	1.13	30.97	-29.84	0-360
9	.8095	19.08	Pk	56.1	-31.9	-40	3.28	29.45	-26.17	0-360
5	1.0622	28.84	Pk	46.5	-31.9	-40	3.44	27.1	-23.66	0-360
10	1.0594	22.9	Pk	46.5	-31.9	-40	-2.5	27.12	-29.62	0-360

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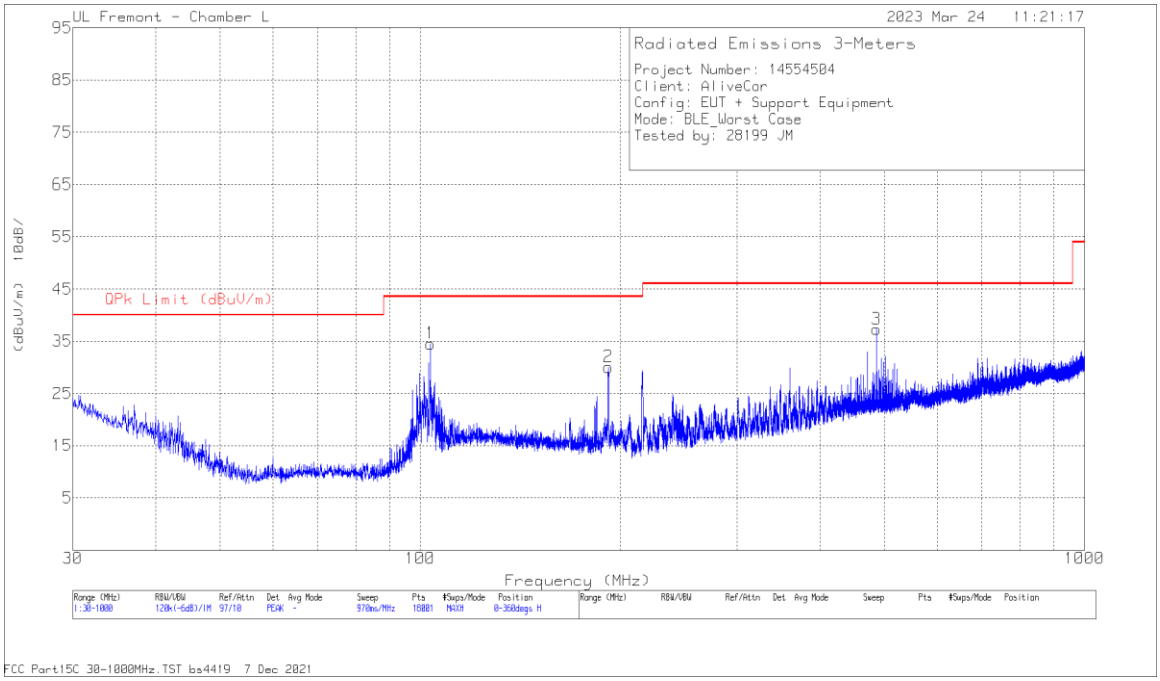
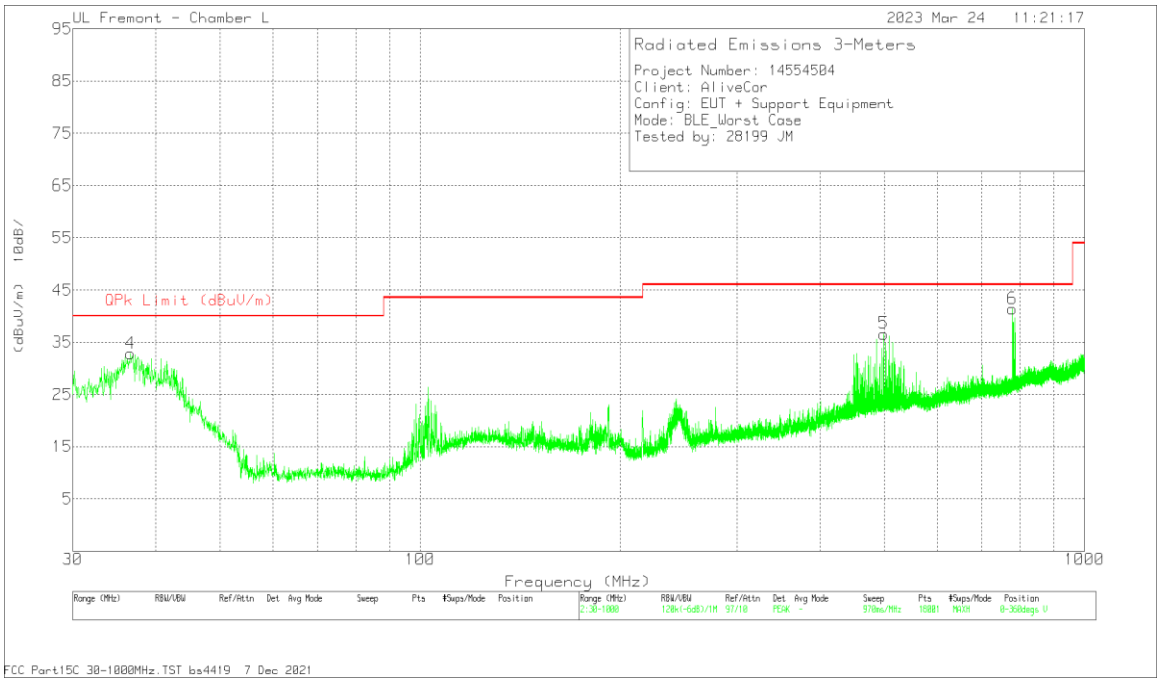
10.4. WORST CASE BELOW 1 GHZ

SPURIOUS EMISSIONS 30 TO 1000 MHz (WORST-CASE CONFIGURATION)



HORIZONTAL



VERTICAL

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Below 1GHz Data

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	80813 ACF (dB)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	103.612	47.91	Pk	17.3	-30.7	34.51	43.52	-9.01	0-360	295	H
2	191.936	42.44	Pk	17.6	-30	30.04	43.52	-13.48	0-360	98	H
3	485.847	42.3	Pk	23.9	-28.9	37.3	46.02	-8.72	0-360	201	H
4	36.6284	41.91	Pk	22.2	-31.3	32.81	40	-7.19	0-360	98	V
5	498.834	41.22	Pk	24	-28.6	36.62	46.02	-9.4	0-360	98	V
6	778.332	27.26	Qp	27.4	-28.1	26.56	46.02	-19.46	358	348	V

Pk - Peak detector
Qp - Quasi-Peak detector

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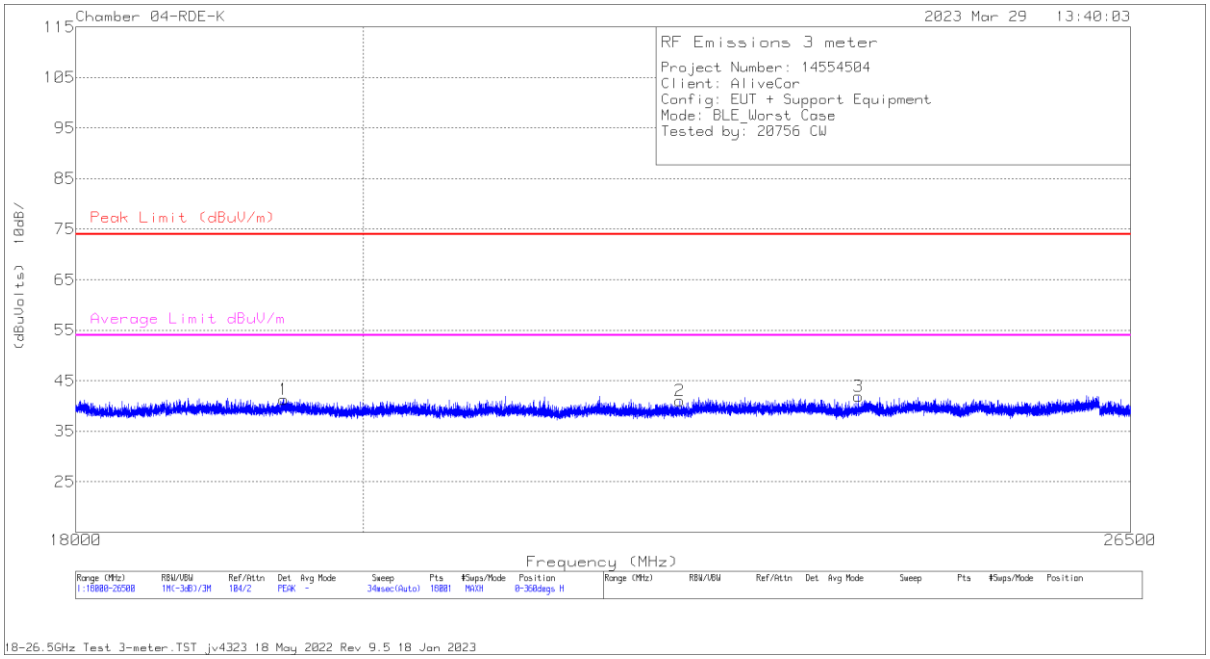
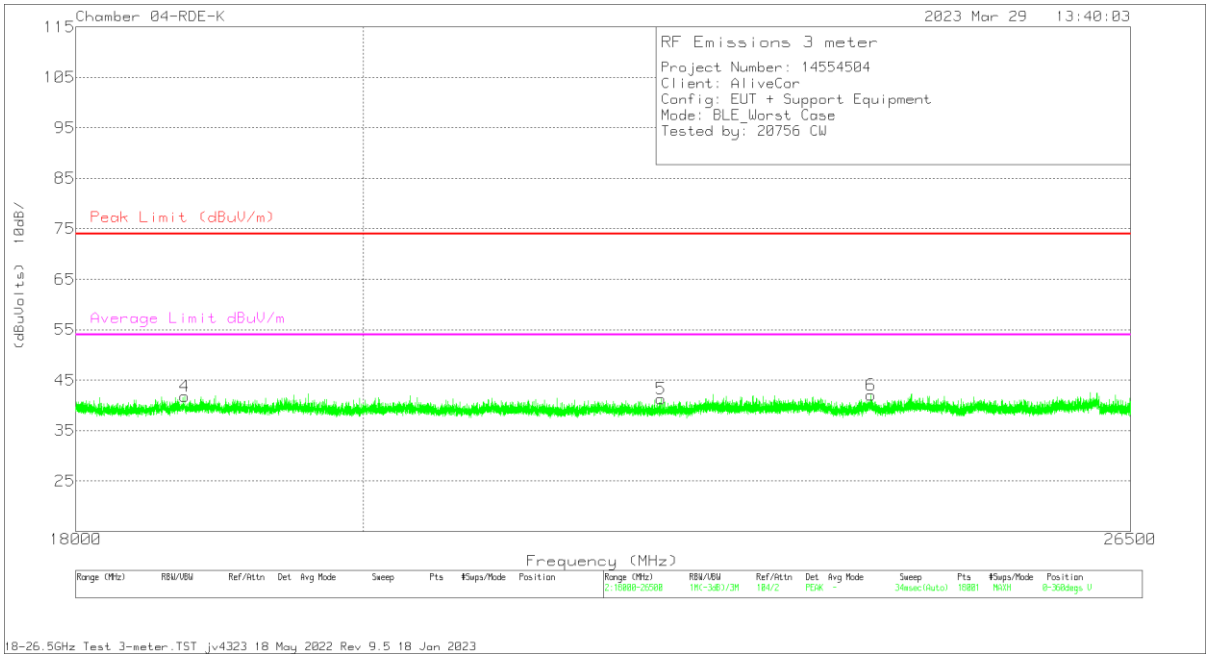
10.5. WORST CASE ABOVE 18 GHZ

SPURIOUS EMISSIONS 18000 TO 26000 MHz (WORST-CASE CONFIGURATION)



HORIZONTAL



VERTICAL

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Above 18GHz Data

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	199659 ACF (dB)	234683 Amp/Cbl (dB)	Cables (dB)	Corrected Reading (dBuVolts)	Peak Limit (dBuV/m)	PK Margin (dB)	Average Limit dBuV/m	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 19425.638	52.19	Pk	33.4	-62.8	18.5	41.29	74	-32.71	54	-12.71	0-360	200	H
2	* 22465.331	50.78	Pk	33.1	-62.6	19.8	41.08	74	-32.92	54	-12.92	0-360	101	H
3	* 23985.414	50.84	Pk	33.3	-62.6	20.4	41.94	74	-32.06	54	-12.06	0-360	200	H
4	* 18733.833	52.84	Pk	33.5	-62.8	18.2	41.74	74	-32.26	54	-12.26	0-360	101	V
5	* 22309.026	51.14	Pk	33	-62.6	19.7	41.24	74	-32.76	54	-12.76	0-360	101	V
6	24094.969	50.61	Pk	33.3	-62.4	20.5	42.01	74	-31.99	54	-11.99	0-360	101	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
Pk - Peak detector

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