TEST REPORT

Report Number. : 14644231-E1V2

Applicant	:	SMK Electronics Corporation US 1055 Tierra Del Rey Chula Vista, CA, CA, 91910-7875 US
Model	:	10.000186 (Representative), 10.000220, 10.000221, 10.000223
Brand	:	La-Z-Boy
FCC ID	:	QVEM0002
IC	:	3683B-M0002
EUT Description	:	Remote Controller
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:
2024-01-04

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	2023-07-06	Initial Issue	--
V2	2024-01-04	Maximum antenna gain updated	Henry Lau

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: SMK Electronics Corporation US
1055 Tierra Del Rey
Chula Vista, CA, CA, 91910-7875
US

EUT DESCRIPTION: Remote Controller

MODEL: 10.000186 (Representative), 10.000220, 10.000221, 10.000223

BRAND: La-Z-Boy

SERIAL NUMBER: SPL4 & FCC2

SAMPLE RECEIPT DATE: 2023-02-09

DATE TESTED: 2023-3-3 TO 2023-5-30

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:

Francisco de Anda
Staff Engineer
Consumer Technology Division
UL Verification Services Inc.

Prepared By:

Henry Lau
Senior Project Engineer
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 Applicable	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

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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}
Conducted Antenna Port Emission Measurement	1.940
Power Spectral Density	2.466
Time Domain Measurements Using SA	3.39
RF Power Measurement Direct Method Using Power Meter	0.450 Peak 1.300 Ave.
Radio Frequency (Spectrum Analyzer)	141.16 Hz
Occupied Bandwidth	1.22%
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	2.8 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

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

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

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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 a Remote Controller with BLE functionality.

6.2. MODEL DIFFERENCES

Models 10.000186, 10.000220, 10.000221, & 10.000223 have the same PCB. The only difference is the button quantities. Model 10000186 was tested to represent models 10.000220, 10.000221, & 10.000223.

6.3. 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	2.56	1.80

6.4. DESCRIPTION OF AVAILABLE ANTENNAS

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

The radio utilizes a PCB Trace Antenna, with a maximum gain of -0.15 dBi.

6.5. SOFTWARE AND FIRMWARE

The EUT firmware installed during testing was FW: 1.0.

The test utility software used during testing was Non_Signaling_Test_V2.0.

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6.6. 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.

The worst-case data rate is determined to be as follows, based on input from the manufacturer of the radio.
BLE: 1 Mbps.

6.7. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

SUPPORT TEST EQUIPMENT						
Description		**Manufacturer**	**Model**	**Serial Number**		**FCC ID/ DoC**
Laptop		Lenovo	Type 2DLT-S12D00	PF1H0N14		DoC
AC/DC Adapter		Lenovo	ADLX65VDC2A	8SSA10M113544D1SG8C40F1X		DoC
I/O CABLES						
Cable No.	**Port**	**# of Identical Ports**	**Connector Type**	**Cable Type**	**Cable Length (m)**	**Remarks**
1	AC	1	AC	Shielded	1	
2	DC	1	DC	Shielded	1	
3	USB to UART	1	USB Type A	Un-shielded	0.3	Laptop 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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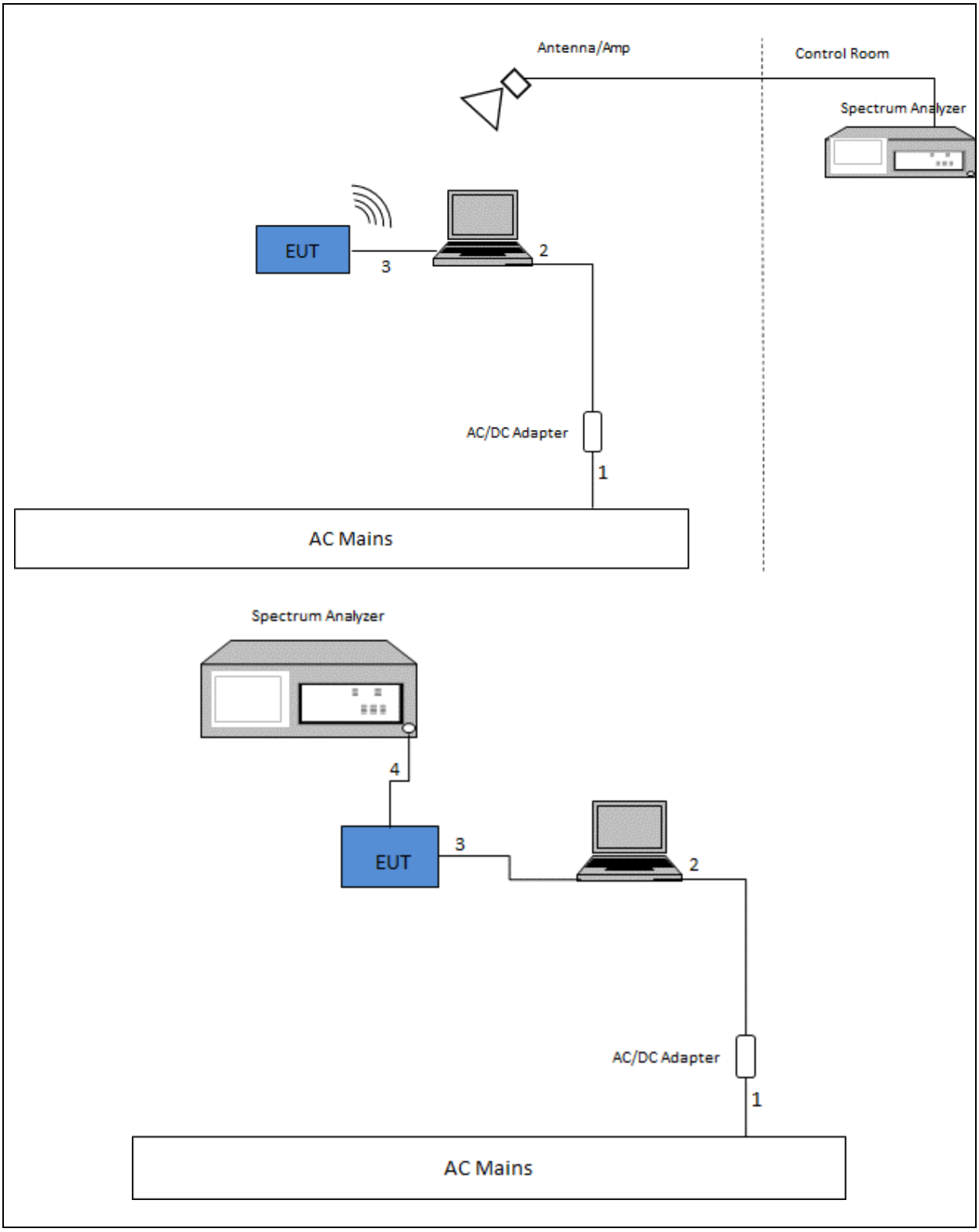
SETUP DIAGRAMS



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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)

Radiated emissions non-restricted frequency bands: ANSI C63.10 Subclause -11.11

Radiated emissions restricted frequency bands: ANSI C63.10 Subclause -11.12.1
Conducted emissions in restricted frequency bands: ANSI C63.10 Subclause -11.12.2

Band-edge: ANSI C63.10 Section 6.10

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

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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 J					
EMI Test Receiver	Rohde & Schwarz	ESW44	230547	2024-02-29	2023-02-15
Hybrid Antenna, 30Antenna, Broadband Hybrid, 30MHz to 2000MHzMHz to 3GHz	Sunol Sciences Corp.	JB3	80706	2023-07-28	2022-07-28
Amplifier, 9KHz to 1GHz, 32dB	SONOMA INSTRUMENT	310	170647	2023-11-11	2022-11-11
Antenna, Horn 1-18GHz	ETS-Lindgren	3117	222741	2023-08-31	2023-08-31
RF Filter Box, 1-18GHz	UL EMC	N/A	171875	2023-11-10	2023-11-10
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	2023-08-20	2022-08-20
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
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					
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
Spectrum Analyzer, PXA, 3Hz to 44GHz	Keysight Technologies Inc	N9030A	80396	2024-01-31	2023-01-27
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
Attenuator, 10dB	Mini-Circuits	VAT-10+	231192	Verify Before Use	
UL TEST SOFTWARE LIST					
Radiated Software	UL	UL EMC	Rev 9.5, 01 May 2023		
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	1.000	1.000	1.000	100.00	0.00	0.010

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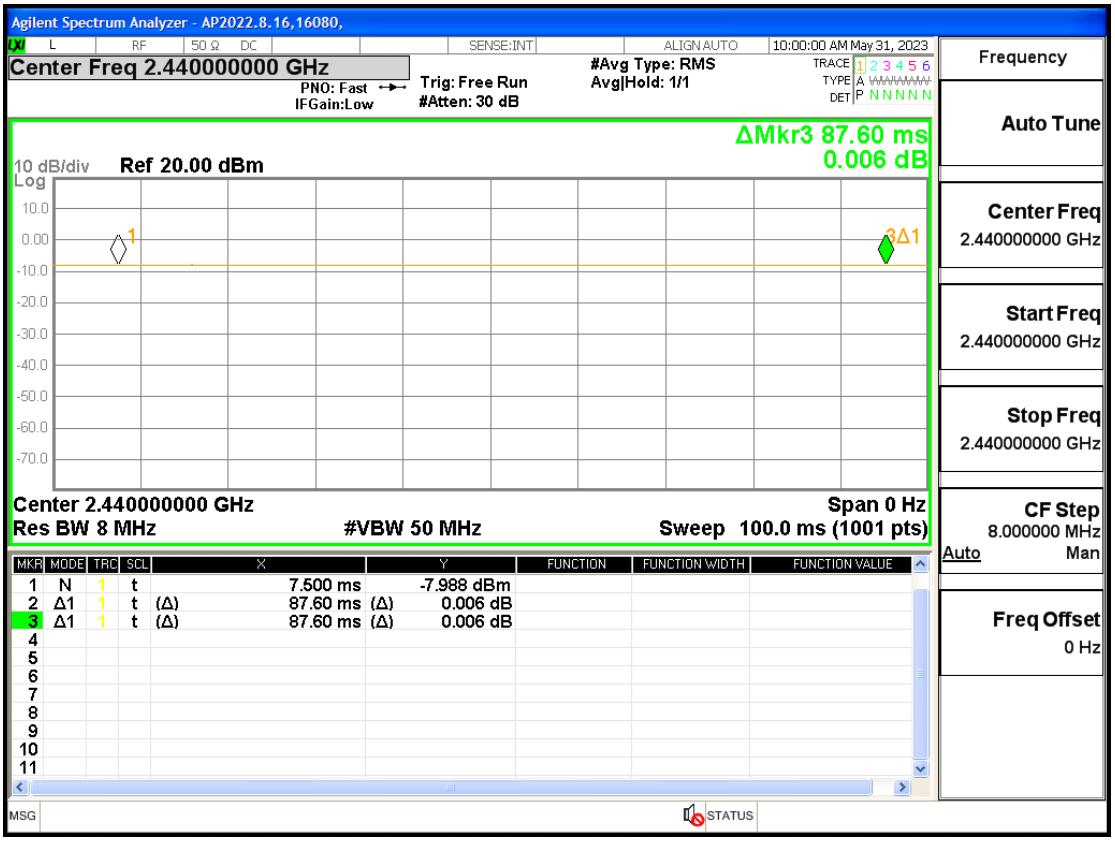
DUTY CYCLE PLOTS



DUTY CYCLE BLE

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9.2. 99% BANDWIDTH

LIMITS

None; for reporting purposes only.

RESULTS

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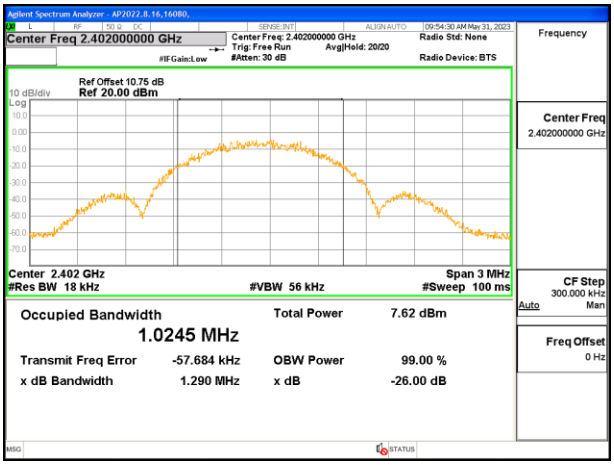
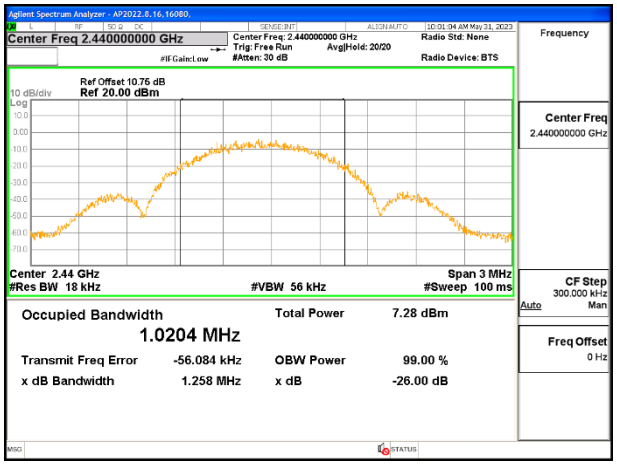
9.2.1. BLE (1Mbps)

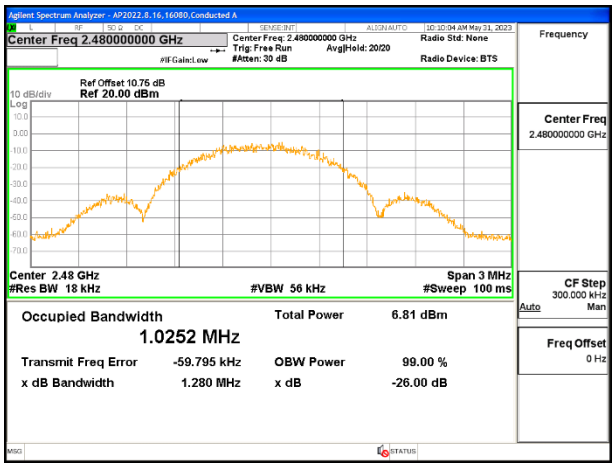
Channel	Frequency (MHz)	99% Bandwidth (MHz)
Low	2402	1.0245
Middle	2440	1.0204
High	2480	1.0252



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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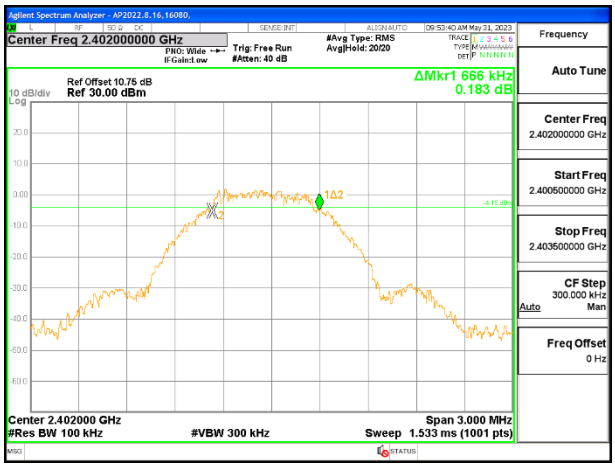
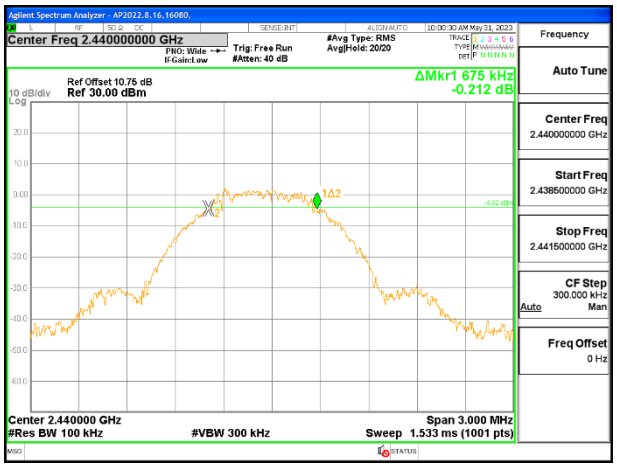
9.3.1. BLE (1Mbps)

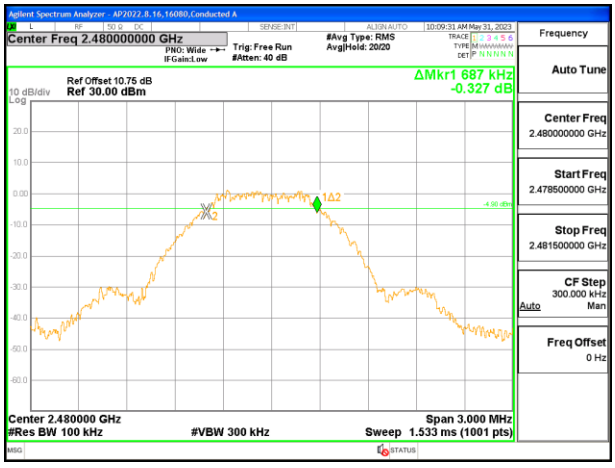
Channel	Frequency (MHz)	6 dB Bandwidth (MHz)	Minimum Limit (MHz)
Low	2402	0.666	0.5
Middle	2440	0.675	0.5
High	2480	0.687	0.5



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 10.75 dB (including 10 dB pad and 0.75 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:	2023-05-30

Channel	Frequency (MHz)	Peak Power Reading (dBm)	Limit (dBm)	Margin (dB)
Low	2402	2.56	30	-27.440
Middle	2440	2.36	30	-27.640
High	2480	2.11	30	-27.890

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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 10.75 dB (including 10 dB pad and 0.75 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:	2023-05-30

Channel	Frequency (MHz)	AV power (dBm)
Low	2402	2.36
Middle	2440	2.22
High	2480	1.83

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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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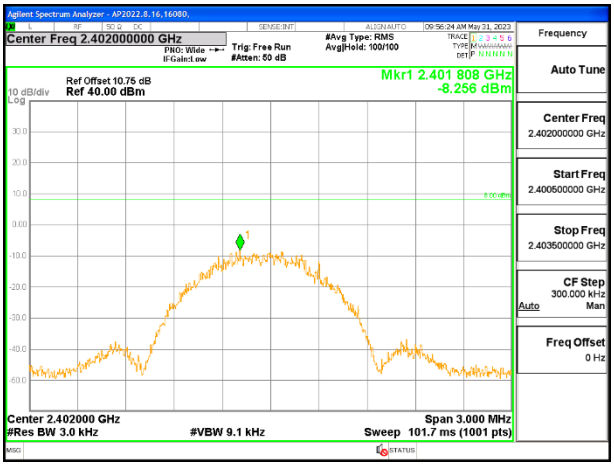
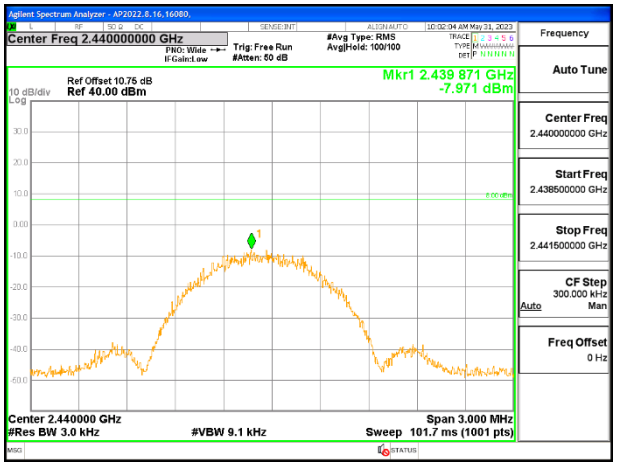
9.6.1. BLE (1Mbps)

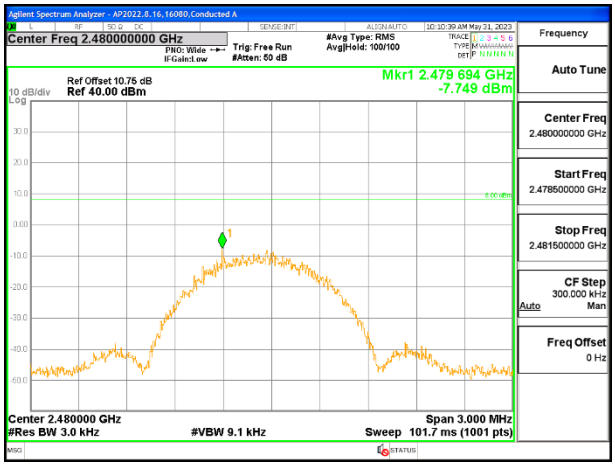
Channel	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Margin (dB)
Low	2402	-8.26	8	-16.26
Middle	2440	-7.97	8	-15.97
High	2480	-7.75	8	-15.75



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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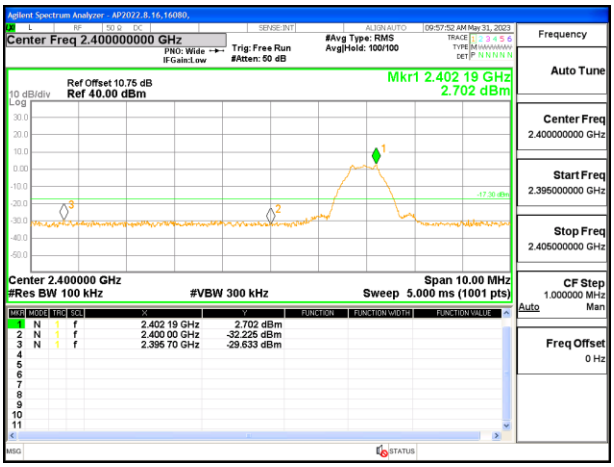
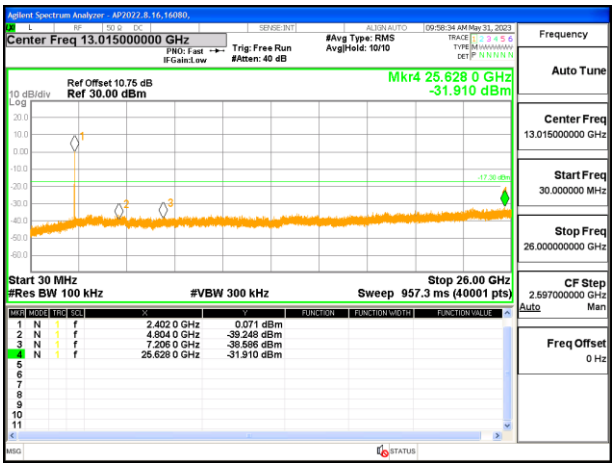
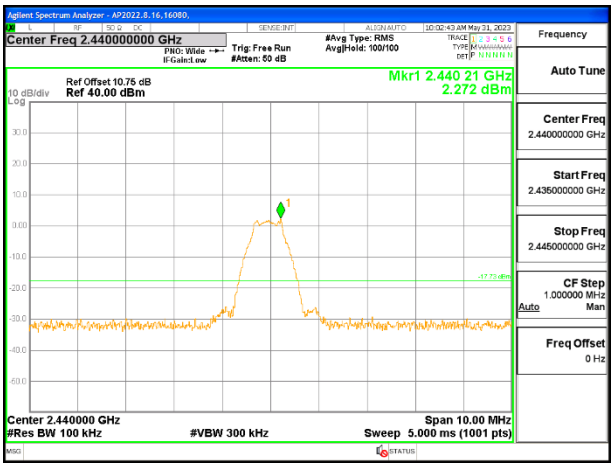
BLE (1Mbps)



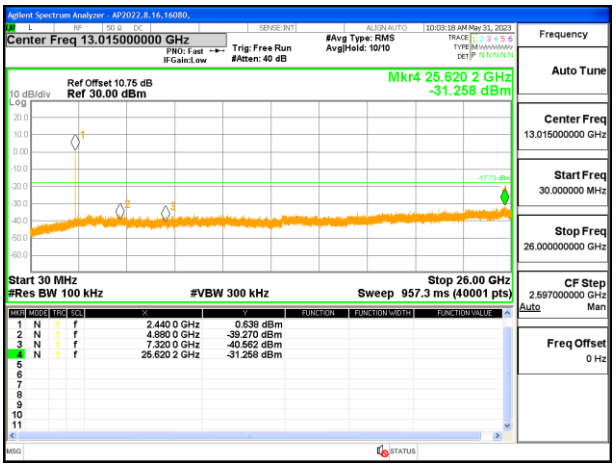
LOW CHANNEL BANDEDGE



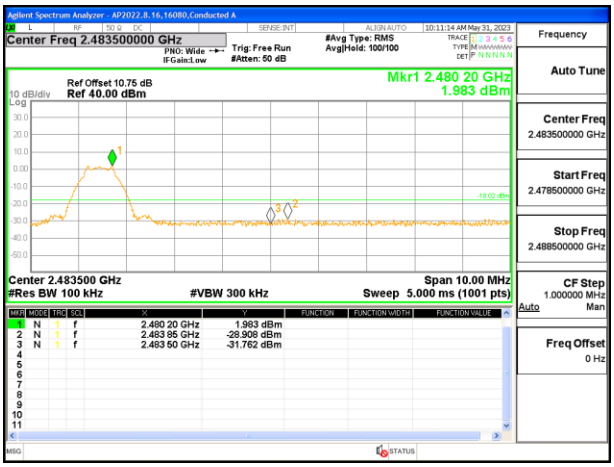
OUT-OF-BAND LOW CHANNEL



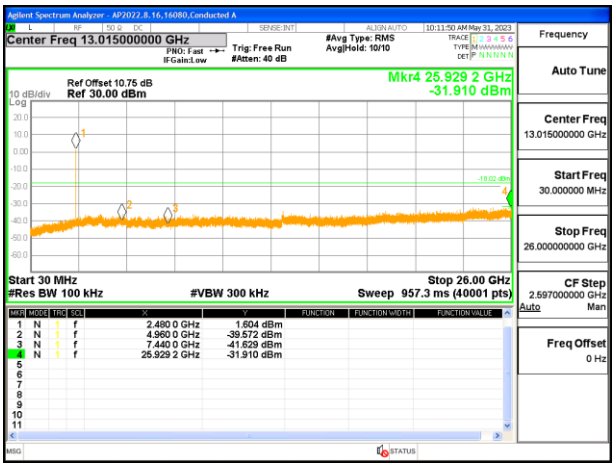
IN-BAND REFERENCE LEVEL



OUT-OF-BAND MID CHANNEL



HIGH CHANNEL BANDEDGE



OUT-OF-BAND HIGH CHANNEL

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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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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.

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.

KDB 558074 D01 15.247 Meas Guidance v05r02

Use of a duty cycle correction factor (DCCF) is permitted for calculating average radiated field strength emission levels for an FHSS device in 15.247. This DCCF can be applied when the field strength limit (e.g., within a Government Restricted band) and the conditions specified in Section 15.35(c) can be satisfied. The average radiated field strength is calculated by subtracting the DCCF from the maximum radiated field strength level as determined through measurement. The maximum radiated field strength level represents the worst-case (maximum amplitude) RMS measurement of the emission(s) during continuous transmission (i.e., not including any time intervals during which the transmitter is off or is transmitting at a reduced power level). It is also acceptable to apply the DCCF to a measurement performed with a peak detector instead of the specified RMS power averaging detector. Note that Section 15.35(c) specifies that the DCCF shall represent the worst-case (greatest duty cycle) over any 100 msec transmission period.

Note - For this test program, Peak detection was used. The DCCF was then subtracted from the peak value. The DCCF was calculated based on the worst case on-time of 22ms within 100ms or 4.4ms within 20ms specified by manufacturer.
Therefore, DCCF= 20log (22 / 100) = -13.15dB.

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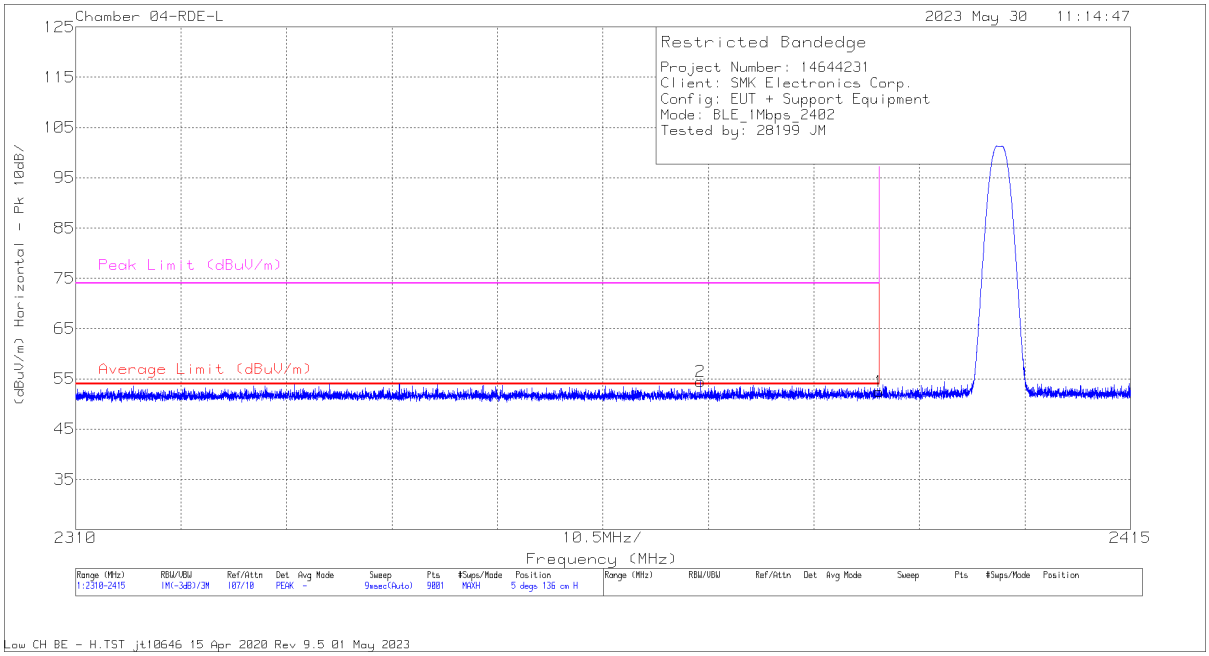
10.2. TRANSMITTER ABOVE 1 GHz

10.2.1. BLE (1Mbps)

Antenna 1

BANDEDGE (LOW CHANNEL)

HORIZONTAL RESULT



Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	206806 ACF (dB) 3mH	AMP/CBL	DC Corr	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2390	39.29	Pk	32	-18.8	0	52.49	-	-	74	-21.51	5	136	H
	* 2390	39.29	Pk	32	-18.8	-13.15	39.34	54	-14.66	-	-	5	136	H
2	* 2372.197	41.22	Pk	32	-18.8	0	54.42	-	-	74	-19.58	5	136	H
	* 2372.197	41.22	Pk	32	-18.8	-13.15	41.27	54	-12.73	-	-	5	136	H

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

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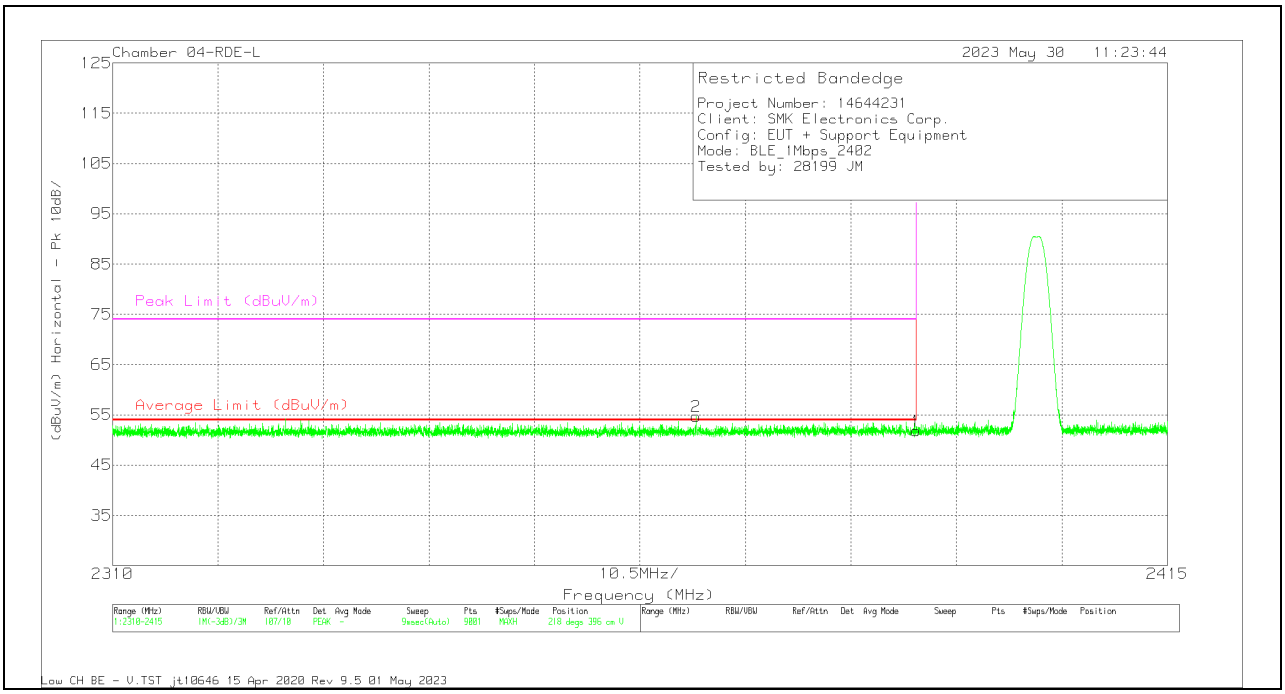
VERTICAL RESULT



Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	206806 ACF (dB) 3mH	AMP/CBL	DC Corr	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2390	38.58	Pk	32	-18.8	0	51.78	-	-	74	-22.22	218	396	V
	* 2390	38.58	Pk	32	-18.8	-13.15	38.63	54	-15.37	-	-	218	396	V
2	* 2368.067	41.45	Pk	32	-18.8	0	54.65	-	-	74	-19.35	218	396	V
	* 2368.067	41.45	Pk	32	-18.8	-13.15	41.5	54	-12.5	-	-	218	396	V

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

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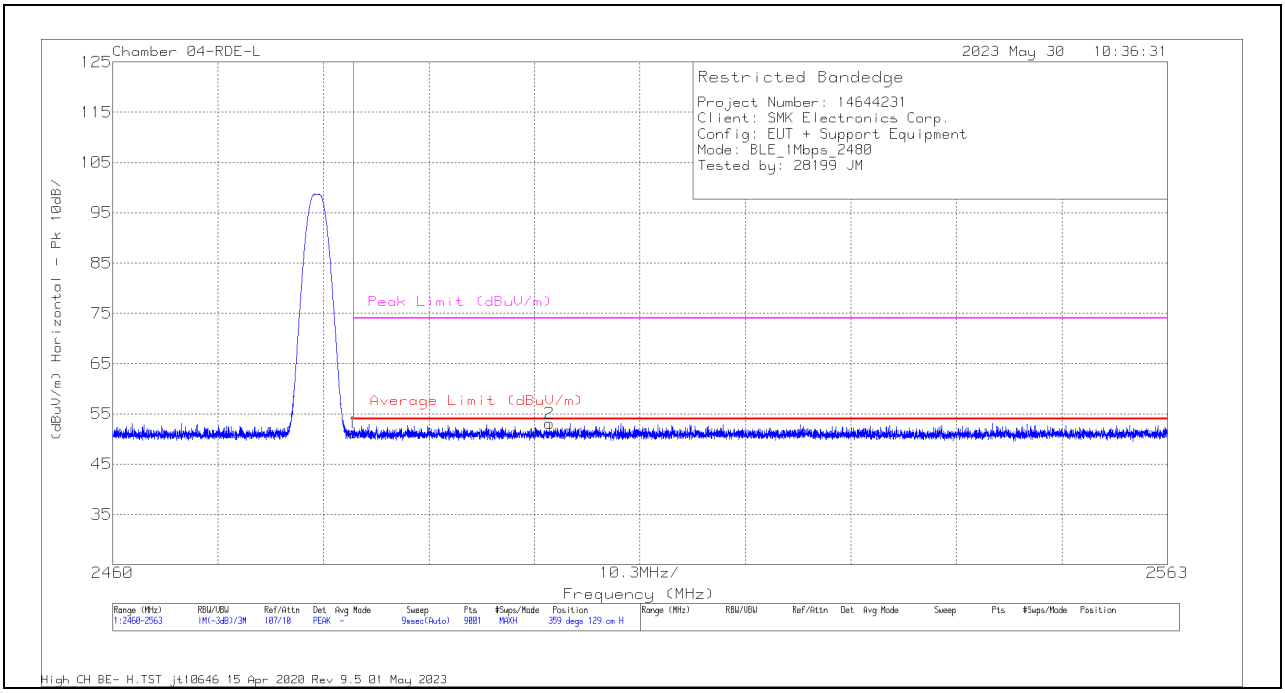
BANDEDGE (HIGH CHANNEL)

HORIZONTAL RESULT



Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	206806 ACF (dB) 3mH	AMP/CBL	DC Corr	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2483.5	37.82	Pk	32	-18.6	0	51.22	-	-	74	-22.78	359	129	H
	* 2483.5	37.82	Pk	32	-18.6	-13.15	38.07	54	-15.93	-	-	359	129	H
2	2502.675	39.59	Pk	32	-18.5	0	53.09	-	-	74	-20.91	359	129	H
	2502.675	39.59	Pk	32	-18.5	-13.15	39.94	54	-14.06	-	-	359	129	H

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

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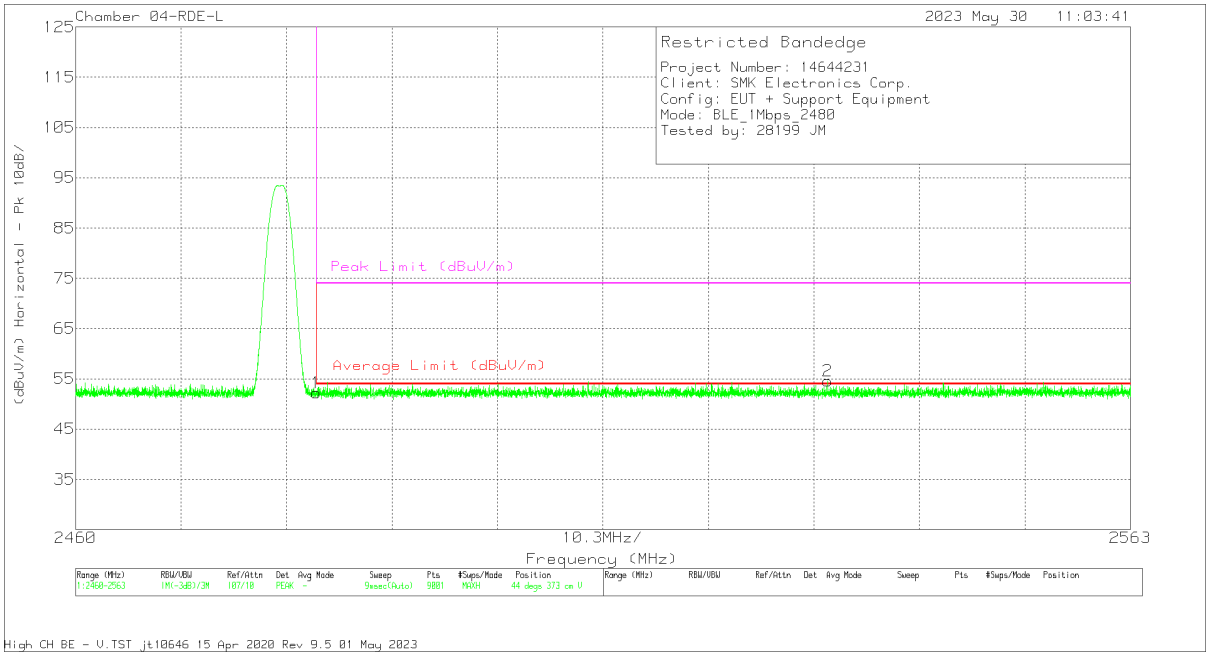
VERTICAL RESULT



Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	206806 ACF (dB) 3mH	AMP/CBL	DC Corr	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2483.5	38.8	Pk	32	-18.6	0	52.2	-	-	74	-21.8	44	373	V
	* 2483.5	38.8	Pk	32	-18.6	-13.15	39.05	54	-14.95	-	-	44	373	V
2	2533.448	41.08	Pk	32	-18.5	0	54.58	-	-	74	-19.42	44	373	V
	2533.448	41.08	Pk	32	-18.5	-13.15	41.43	54	-12.57	-	-	44	373	V

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

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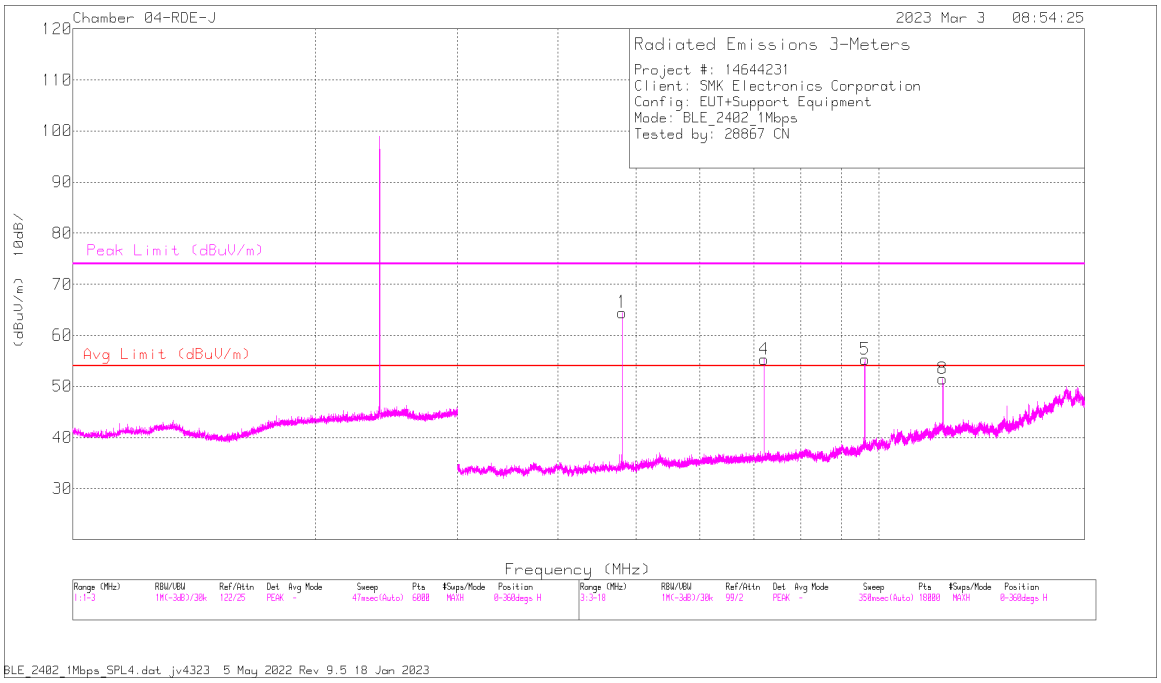
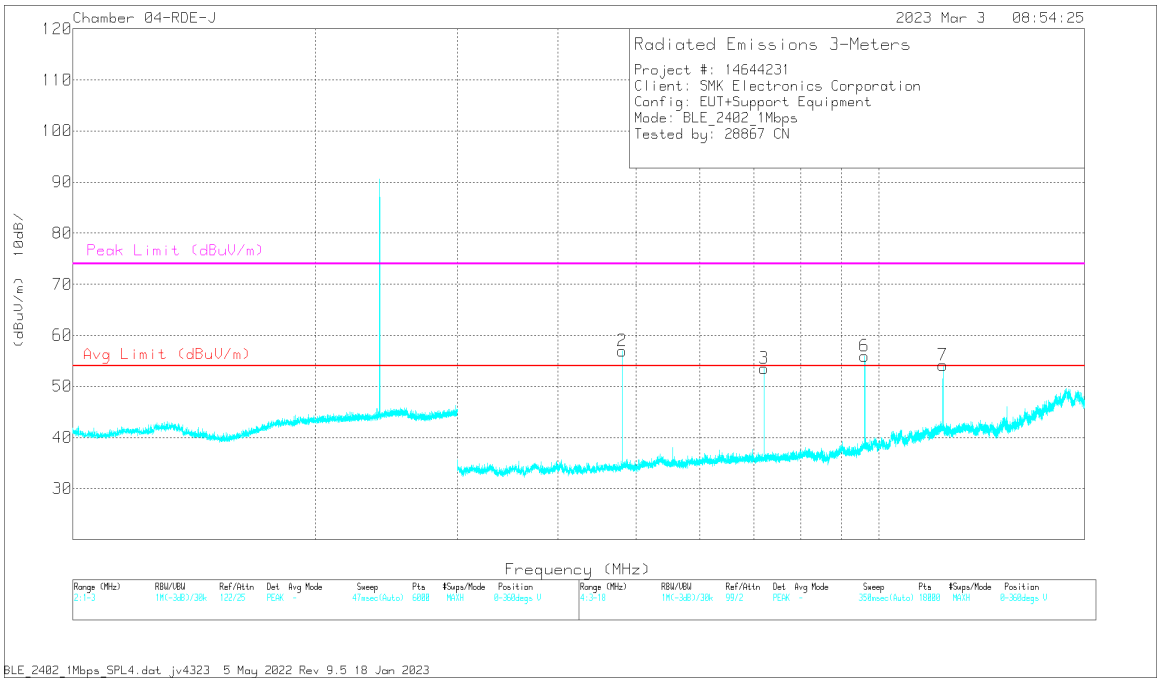
HARMONICS AND SPURIOUS EMISSIONS

LOW CHANNEL RESULTS



HORIZONTAL



VERTICAL

RADIATED EMISSIONS

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	222741 ACF(dB) - 3mH	Amp/Cbl/Fltr (dB)	DC Corr	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4803.425	76.72	PK2	34	-44.5	0	66.22	-	-	74	-7.78	317	189	H
	* 4803.425	76.72	PK2	34	-44.5	-13.15	53.07	54	-0.93	-	-	317	189	H
4	7206.607	63.16	PK2	35.8	-40.4	0	58.56	-	-	-	-	285	158	H
5	9608.815	63.08	PK2	36.7	-35.9	0	63.88	-	-	-	-	333	330	H
8	* 12008.396	58.84	PK2	38.7	-37.9	0	59.64	-	-	74	-14.36	300	110	H
	* 12008.396	58.84	PK2	38.7	-37.9	-13.15	46.49	54	-7.51	-	-	300	110	H
2	* 4803.436	67.78	PK2	34	-44.5	0	57.28	-	-	74	-16.72	344	147	V
	* 4803.436	67.78	PK2	34	-44.5	-13.15	44.13	54	-9.87	-	-	344	147	V
3	7206.376	63.55	PK2	35.8	-40.4	0	58.95	-	-	-	-	306	118	V
6	9608.612	59.3	PK2	36.7	-35.9	0	60.1	-	-	-	-	6	205	V
7	* 12011.033	58.04	PK2	38.7	-38	0	58.74	-	-	74	-15.26	72	132	V
	* 12011.033	58.04	PK2	38.7	-38	-13.15	45.59	54	-8.41	-	-	72	132	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK2 - KDB558074 Method: Maximum Peak

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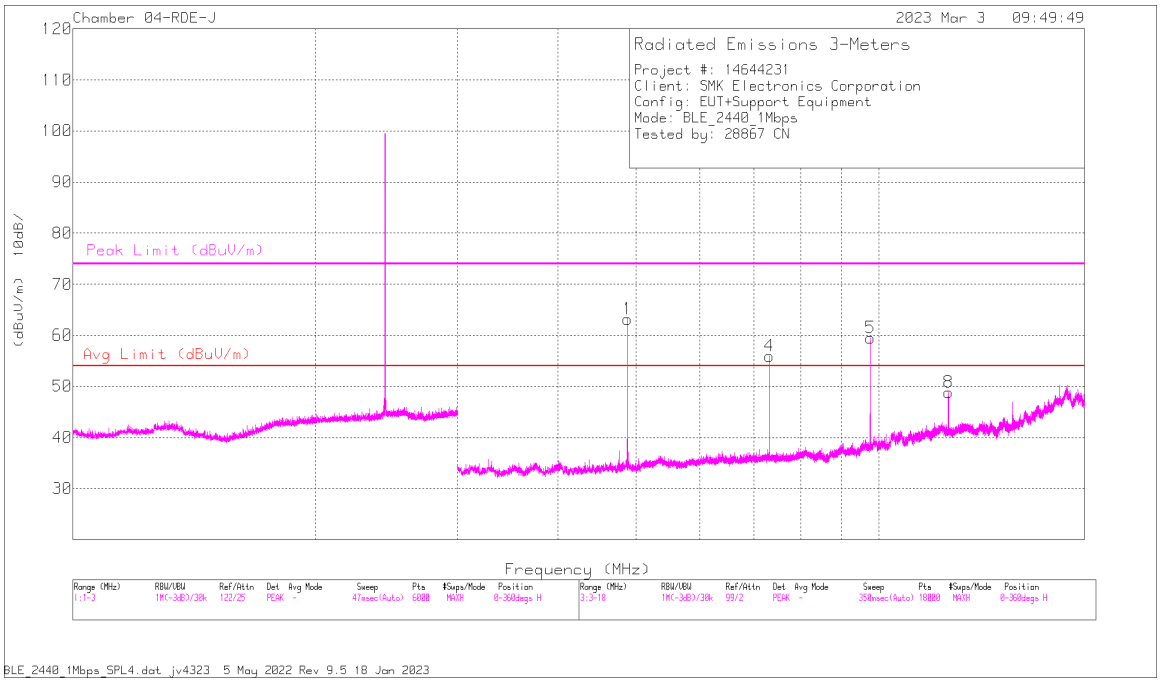
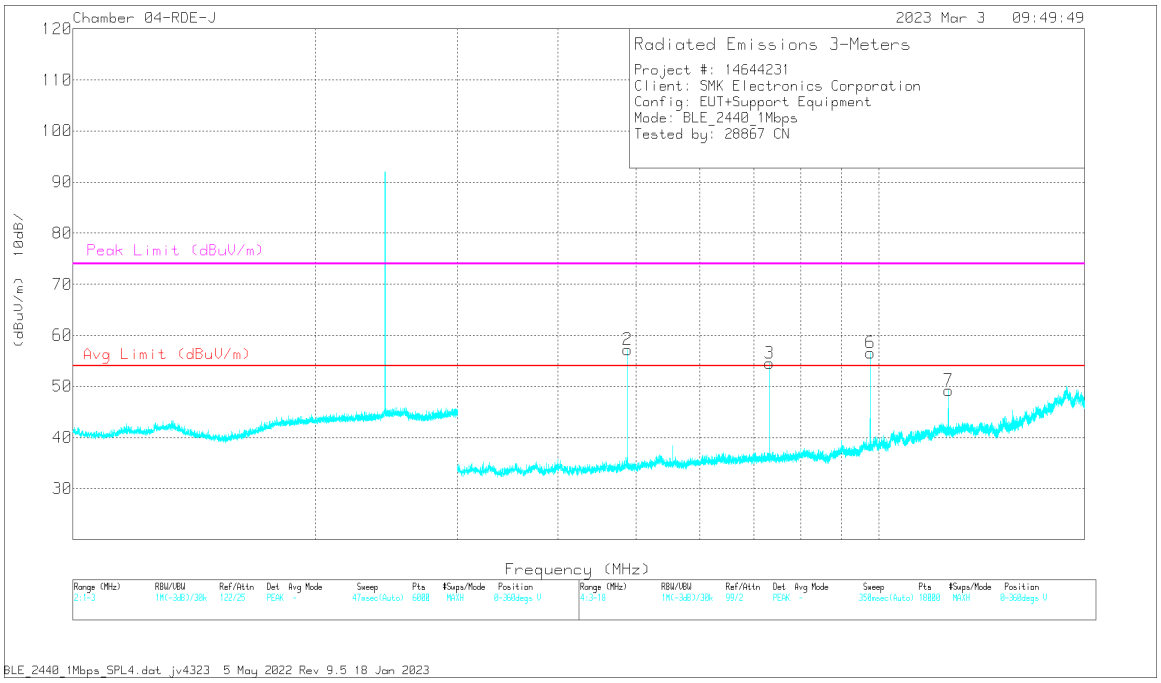
MID CHANNEL RESULTS



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	222741 ACF(dB) - 3mH	Amp/Cbl/Fltr (dB)	DCCF	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4879.378	74.85	PK2	34	-43.7	0	65.15	-	-	74	-8.85	18	144	H
	* 4879.378	74.85	PK2	34	-43.7	-13.15	52	54	-2	-	-	18	144	H
4	* 7319.16	63.59	PK2	35.8	-40.4	0	58.99	-	-	74	-15.01	290	273	H
	* 7319.16	63.59	PK2	35.8	-40.4	-13.15	45.84	54	-8.16	-	-	290	273	H
5	9760.765	65.05	PK2	36.8	-36	0	65.85	-	-	-	-	332	117	H
8	* 12200.812	55.67	PK2	38.8	-37.7	0	56.77	-	-	74	-17.23	76	128	H
	* 12200.812	55.67	PK2	38.8	-37.7	-13.15	43.62	54	-10.38	-	-	76	128	H
2	* 4880.427	69.79	PK2	34	-43.7	0	60.09	-	-	74	-13.91	22	129	V
	* 4880.427	69.79	PK2	34	-43.7	-13.15	46.94	54	-7.06	-	-	22	129	V
3	* 7319.119	63.89	PK2	35.8	-40.4	0	59.29	-	-	74	-14.71	305	119	V
	* 7319.119	63.89	PK2	35.8	-40.4	-13.15	46.14	54	-7.86	-	-	305	119	V
6	9758.823	60.47	PK2	36.8	-36.1	0	61.17	-	-	-	-	5	206	V
7	* 12200.975	56.19	PK2	38.8	-37.7	0	57.29	-	-	74	-16.71	304	284	V
	* 12200.975	56.19	PK2	38.8	-37.7	-13.15	44.14	54	-9.86	-	-	304	284	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK2 - KDB558074 Method: Maximum Peak

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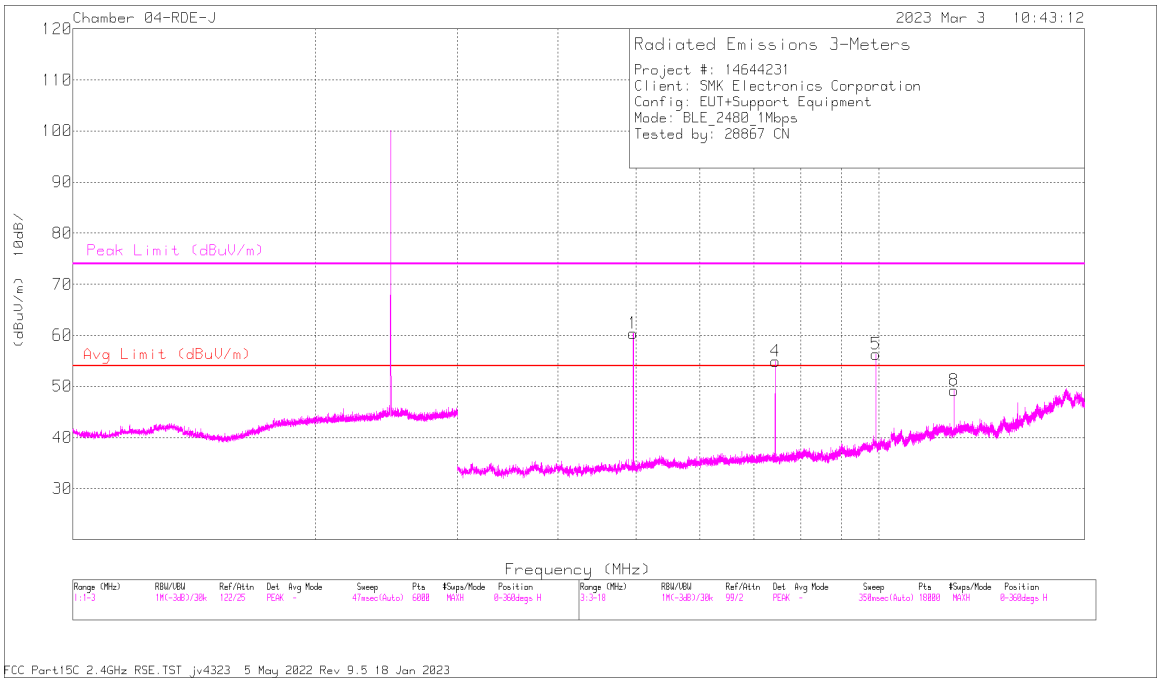
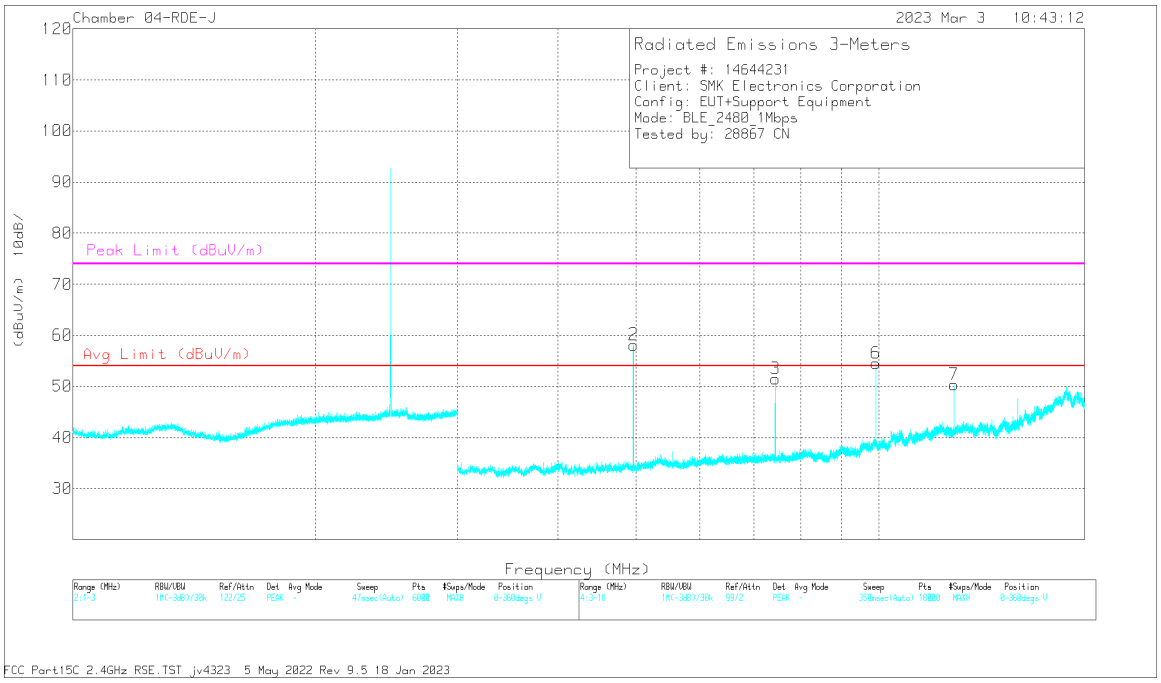
HIGH CHANNEL RESULTS



HORIZONTAL



VERTICAL

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RADIATED EMISSIONS

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	222741 ACF(dB) - 3mH	Amp/Cbl/Fltr (dB)	DC Corr	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 4960.338	72.33	PK2	34.1	-44.3	0	62.13	-	-	74	-11.87	15	141	H
	* 4960.338	72.33	PK2	34.1	-44.3	-13.15	48.98	54	-5.02	-	-	15	141	H
4	* 7439.041	64.58	PK2	35.8	-40	0	60.38	-	-	74	-13.62	63	160	H
	* 7439.041	64.58	PK2	35.8	-40	-13.15	47.23	54	-6.77	-	-	63	160	H
5	9920.87	60.53	PK2	37	-33.9	0	63.63	-	-	-	-	32	218	H
8	* 12400.774	55.72	PK2	38.9	-37.5	0	57.12	-	-	74	-16.88	298	233	H
	* 12400.774	55.72	PK2	38.9	-37.5	-13.15	43.97	54	-10.03	-	-	298	233	H
2	* 4960.349	70.29	PK2	34.1	-44.3	0	60.09	-	-	74	-13.91	20	160	V
	* 4960.349	70.29	PK2	34.1	-44.3	-13.15	46.94	54	-7.06	-	-	20	160	V
3	* 7439.134	61.58	PK2	35.8	-40	0	57.38	-	-	74	-16.62	311	364	V
	* 7439.134	61.58	PK2	35.8	-40	-13.15	44.23	54	-9.77	-	-	311	364	V
6	9920.836	61.5	PK2	37	-33.9	0	64.6	-	-	-	-	171	307	V
7	* 12398.706	55.88	PK2	38.9	-37.5	0	57.28	-	-	74	-16.72	81	119	V
	* 12398.706	55.88	PK2	38.9	-37.5	-13.15	44.13	54	-9.87	-	-	81	119	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK2 - KDB558074 Method: Maximum Peak

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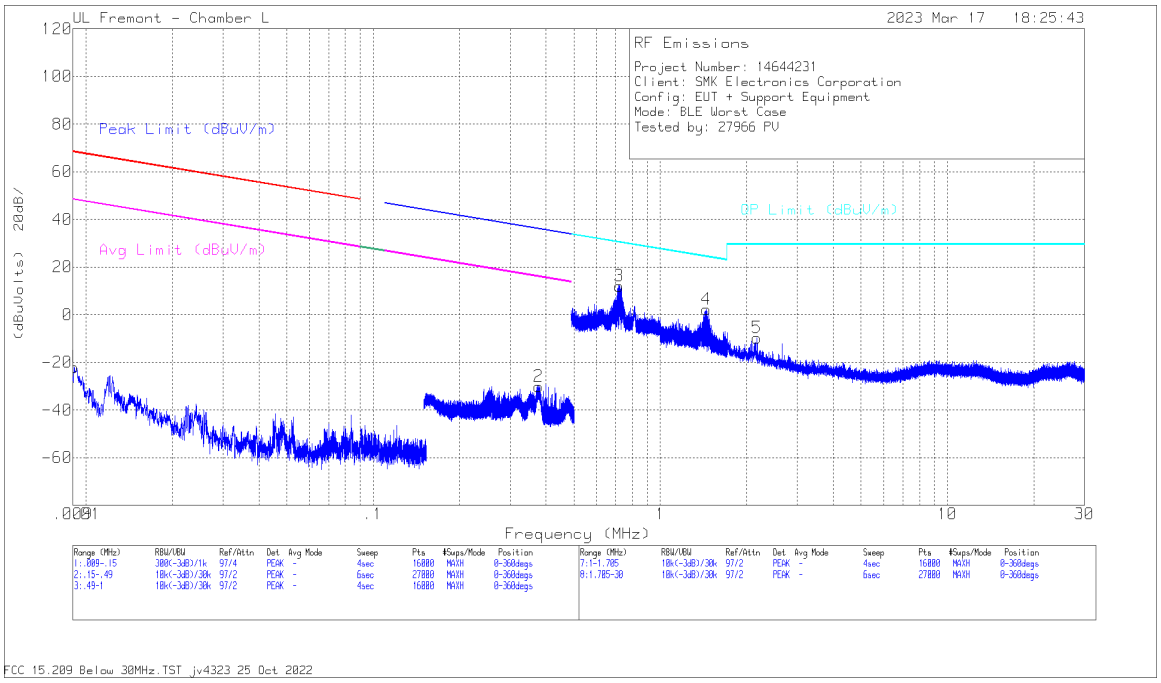
10.3. WORST CASE BELOW 30MHZ

SPURIOUS EMISSIONS BELOW 30 MHz (WORST-CASE CONFIGURATION)



ANTENNA- TWO ORIENTATIONS FACE ON/FACE OFF

Below 30MHz Data

Face	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)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
Face On	1	.0091	25.82	Pk	61	-28.7	-80	-21.88	68.41	-90.29	48.41	-70.29	-	-	0-360
	2	.3774	25.96	Pk	56	-32	-80	-30.04	36.07	-66.11	16.07	-46.11	-	-	0-360
	3	.7194	27.93	Pk	56.1	-31.9	-40	12.13	-	-	-	-	30.47	-18.34	0-360
	4	1.4463	29.7	Pk	44.4	-31.9	-40	2.2	-	-	-	-	24.43	-22.23	0-360
	5	2.1735	21.01	Pk	41	-31.8	-40	-9.79	-	-	-	-	29.5	-39.29	0-360
Face Off	6	.0094	27.27	Pk	60.7	-28.8	-80	-20.83	68.15	-88.98	48.15	-68.98	-	-	0-360
	7	.3772	24.18	Pk	56	-32	-80	-31.82	36.08	-67.9	16.08	-47.9	-	-	0-360
	8	.7229	24.96	Pk	56.1	-31.9	-40	9.16	-	-	-	-	30.43	-21.27	0-360
	9	1.4447	25.96	Pk	44.4	-31.9	-40	-1.54	-	-	-	-	24.43	-25.97	0-360
	10	2.1357	19.4	Pk	41.1	-31.9	-40	-11.4	-	-	-	-	29.5	-40.9	0-360

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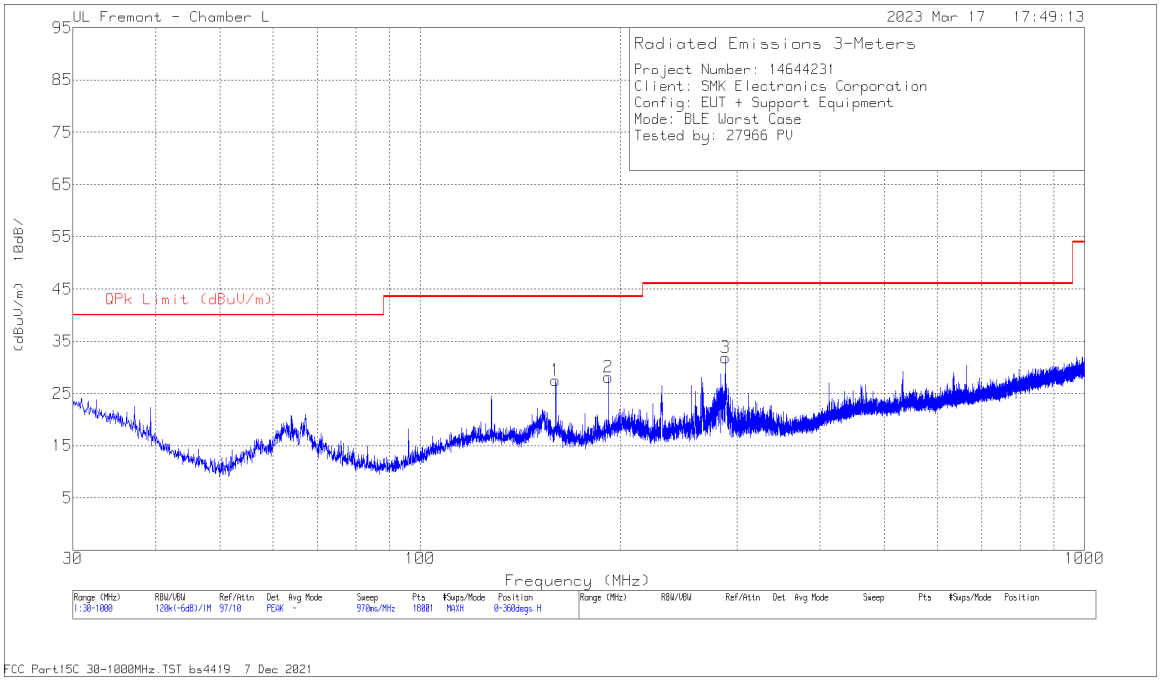
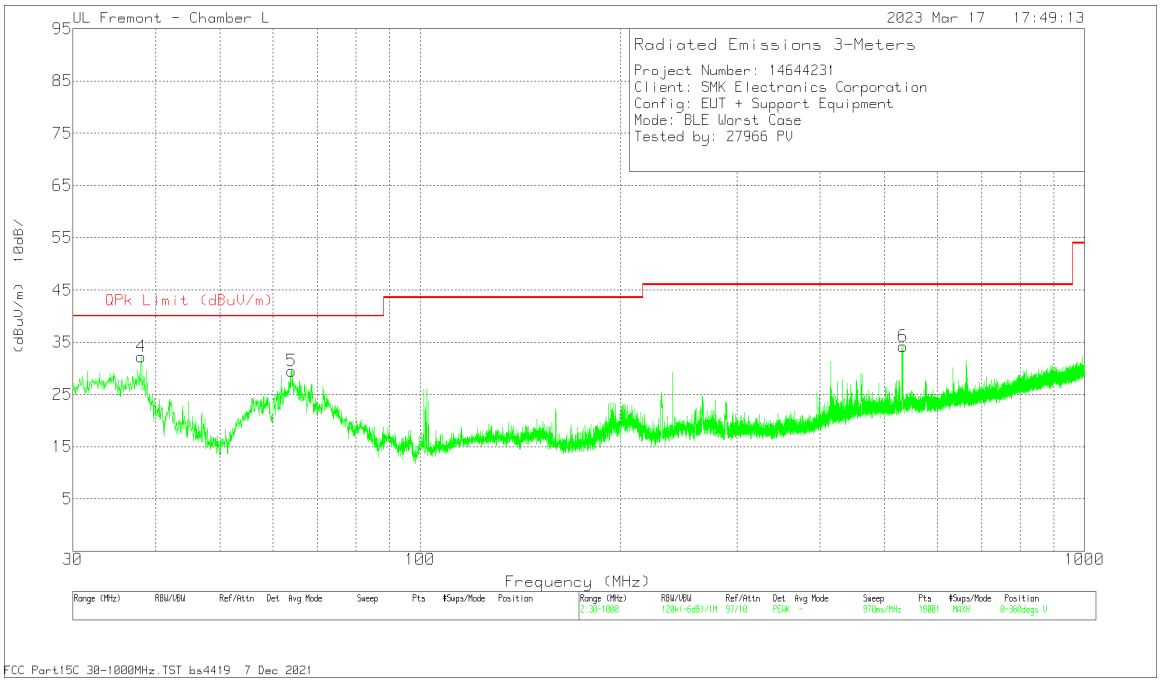
10.4. WORST CASE BELOW 1 GHZ

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	80293 ACF (dB)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	159.98	39.73	Pk	18	-30.2	27.53	43.52	-15.99	0-360	200	H
2	191.99	40.67	Pk	17.4	-30	28.07	43.52	-15.45	0-360	98	H
3	287.967	42.22	Pk	19.1	-29.5	31.82	46.02	-14.2	0-360	98	H
4	38.0827	47.33	Pk	21.2	-31.3	37.23	40	-2.77	185	120	V
5	64.004	46.72	Pk	13.8	-31	29.52	40	-10.48	0-360	98	V
6	532.515	38.9	Pk	23.7	-28.4	34.2	46.02	-11.82	0-360	98	V

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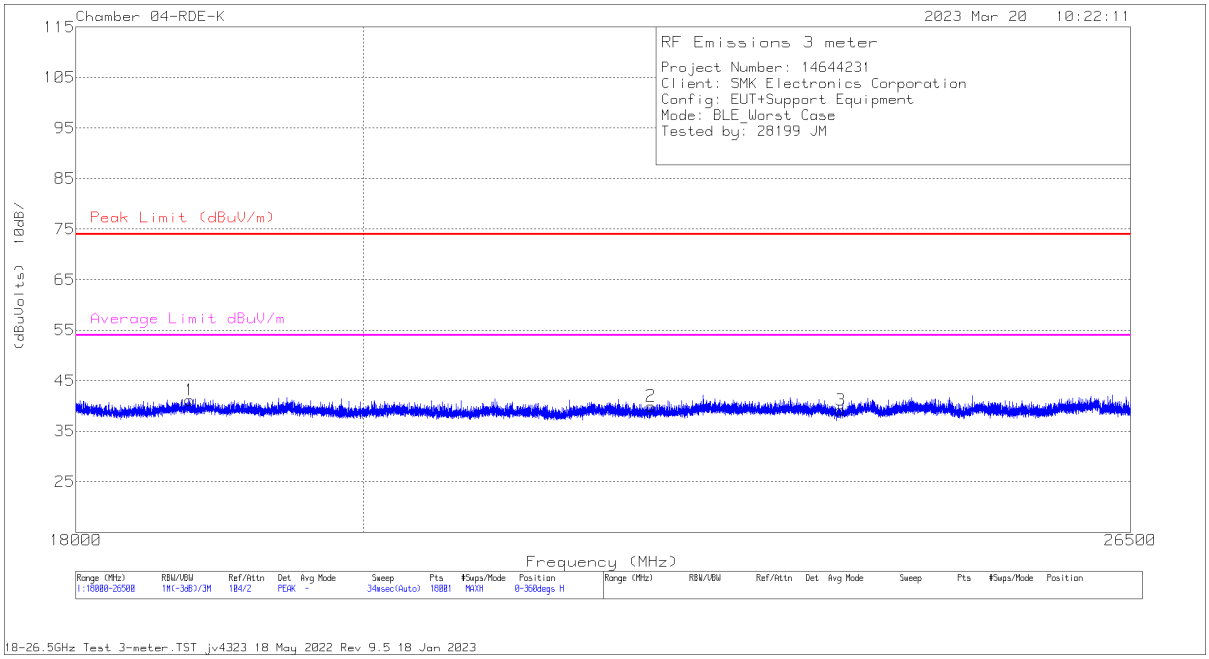
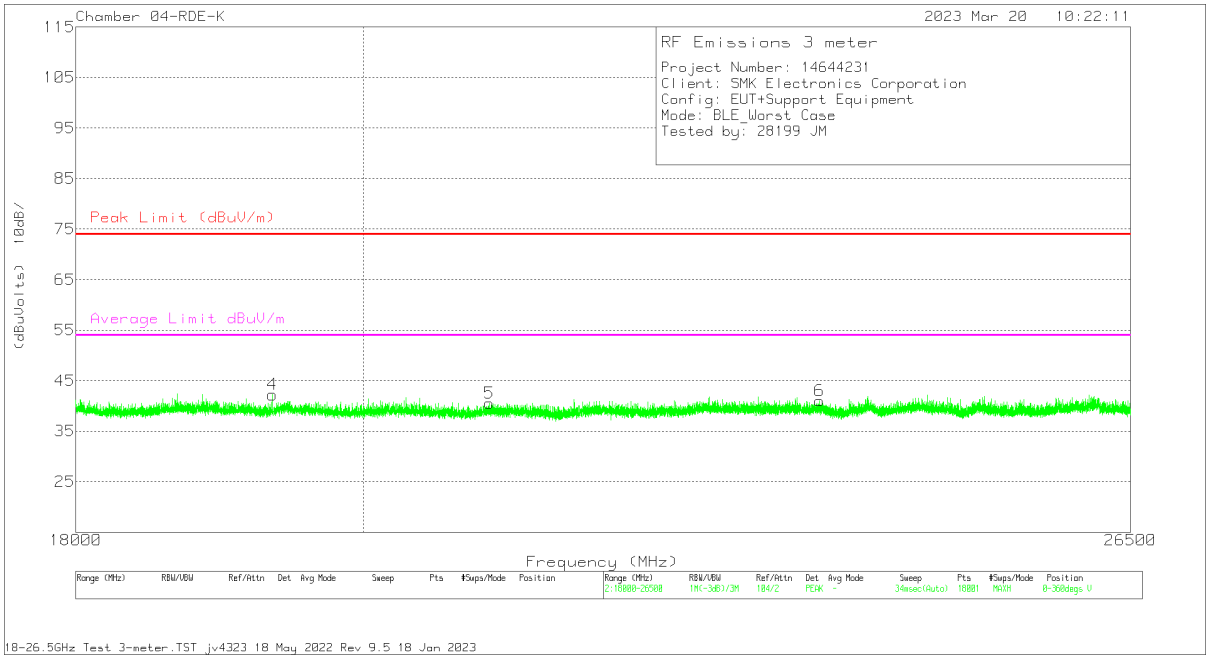
10.1. WORST CASE Above 18 GHZ

SPURIOUS EMISSION 18 TO 26 GHz (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	* 18769.722	52.23	Pk	33.5	-62.8	18.2	41.13	74	-32.87	54	-12.87	0-360	101	H
2	* 22227.804	49.88	Pk	33	-62.6	19.7	39.98	74	-34.02	54	-14.02	0-360	200	H
3	* 23830.053	47.96	Pk	33.3	-62.5	20.4	39.16	74	-34.84	54	-14.84	0-360	200	H
4	* 19346.777	53.02	Pk	33.4	-62.7	18.5	42.22	74	-31.78	54	-11.78	0-360	200	V
5	* 20948.082	49.33	Pk	33.1	-61.1	19.2	40.53	74	-33.47	54	-13.47	0-360	101	V
6	* 23643.053	50.29	Pk	33.2	-62.7	20.3	41.09	74	-32.91	54	-12.91	0-360	200	V

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

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END OF TEST REPORT

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