

CERTIFICATION TEST REPORT

Report Number. : 4790793957-FR1V2

Applicant : Baekburn Inc.
#401, 305, Gongji-ro, Chuncheon-si, Gangwon-do, Republic of Korea

Model : BL0701BS

FCC ID : 2BAPM-BL0701BS

EUT Description : 100BURN Smart Scale

Test Standard(s) : FCC 47 CFR PART 15 SUBPART C

Date Of Issue:

2023-06-16

Prepared by:

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Revision History

Rev.	Issue Date	Revisions	Revised By
V1	2023-05-12	Initial issue	YeongHwan Hong
V2	2023-06-16	Updated to address TCB's question	YeongHwan Hong

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: Baekburn Inc.
EUT DESCRIPTION: 100BURN Smart Scale
MODEL NUMBER: BL0701BS
SERIAL NUMBER: N/A
DATE TESTED: 2023-04-14 ~ 2023-06-16;

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
CFR 47 Part 15 Subpart C	Complies

UL KOREA LTD. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL KOREA LTD. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL KOREA LTD. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL KOREA LTD. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by IAS, any agency of the Federal Government, or any agency of any government.

Approved & Released For
UL KOREA LTD. By:



Seokhwan Hong
Suwon Lab Engineer
UL KOREA LTD.

Tested By:



YeongHwan Hong
Suwon Lab Engineer
UL KOREA LTD.

2. TEST METHODOLOGY

1. FCC CFR 47 Part 2.
2. FCC CFR 47 Part 15.
3. KDB 558074 D01 15.247 Meas Guidance v05r02.
4. ANSI C63.10-2013.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 218 Maeyeong-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16675, Korea. Line conducted emissions are measured only at the 218 address. The following table identifies which facilities were utilized for radiated emission measurements documented in this report. Specific facilities are also identified in the test results sections.

218 Maeyeong-ro	
☒	Chamber 1(3m semi-anechoic chamber)
☐	Chamber 2(3m semi-anechoic chamber)
☒	Chamber 3(3m semi-anechoic chamber)

UL KOREA LTD. is accredited by IAS, Laboratory Code TL-637. The full scope of accreditation can be viewed at <https://www.iasonline.org/wp-content/uploads/2017/05/TL-637-cert-New.pdf>.

4. DECISION RULES AND MEASUREMENT UNCERTAINTY

4.1. METROLOGICAL TRACEABILITY

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

4.2. SAMPLE CALCULATION

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)

28.9 dBuV/m = 36.5 dBuV + 18.7 dB/m + 0.6 dB – 26.9 dB

AC Corrected Reading (dBuV) = Measured Voltage (dBuV) + Extension Cord
Loss (dB) + Cable Loss (dB)

44.72 dBuV = 34.72 dBuV + 9.9 dB + 0.1 dB

4.3. MEASUREMENT UNCERTAINTY

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

PARAMETER	UNCERTAINTY
Conducted Disturbance, 0.15 to 30 MHz	2.80 dB
Radiated Disturbance, 30 MHz to 1 GHz	3.92 dB
Radiated Disturbance, 1 GHz to 18 GHz	5.06 dB
Radiated Disturbance, 18 GHz to 40 GHz	6.02 dB

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

4.4. DECISION RULES

Decision rule for statement(s) of conformity is based on Procedure 2, Clause 4.4.3 in IEC Guide 115:2021.

5. EQUIPMENT UNDER TEST

5.1. EUT DESCRIPTION

The EUT is BLE. This test report addresses the DTS (BLE) operational mode.

Representative model	Derivative model	Difference
BL0701BS	BL0601BS, BL0602BS, BL0603BS, BL0702BS	All electrical, circuitry, and functions (RF performance and rating, etc.) are equivalent to the basic model except for the shape and color of the footrest.

5.2. EUT INFORMATION

Power Supply	3.0 Vdc
Frequency Range	2 402 MHz ~ 2 480 MHz
Channel Bandwidth	1 MHz
Modulation Type	GFSK
Antenna Specification	Max. -3.98 dBi

5.3. MAXIMUM OUTPUT POWER

Frequency Range[MHz]	Mode	Power Mode	Output Power [dBm]	Output Power [mW]	99% BW (MHz)	Emission Designator
2 402 ~ 2 480	1 Mbps (37pkt)	Peak	-3.510	0.446	1.0382	1M0F1D
		Average	-3.907	0.407		
	1Mbps (255 pkt)	Peak	-3.740	0.423	1.0387	1M0F1D
		Average	-3.983	0.400		

5.4. DESCRIPTION OF AVAILABLE ANTENNAS

An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

**The internal antenna was Permanently attached.
Therefore this E.U.T Complies with the requirement of §15.203.**

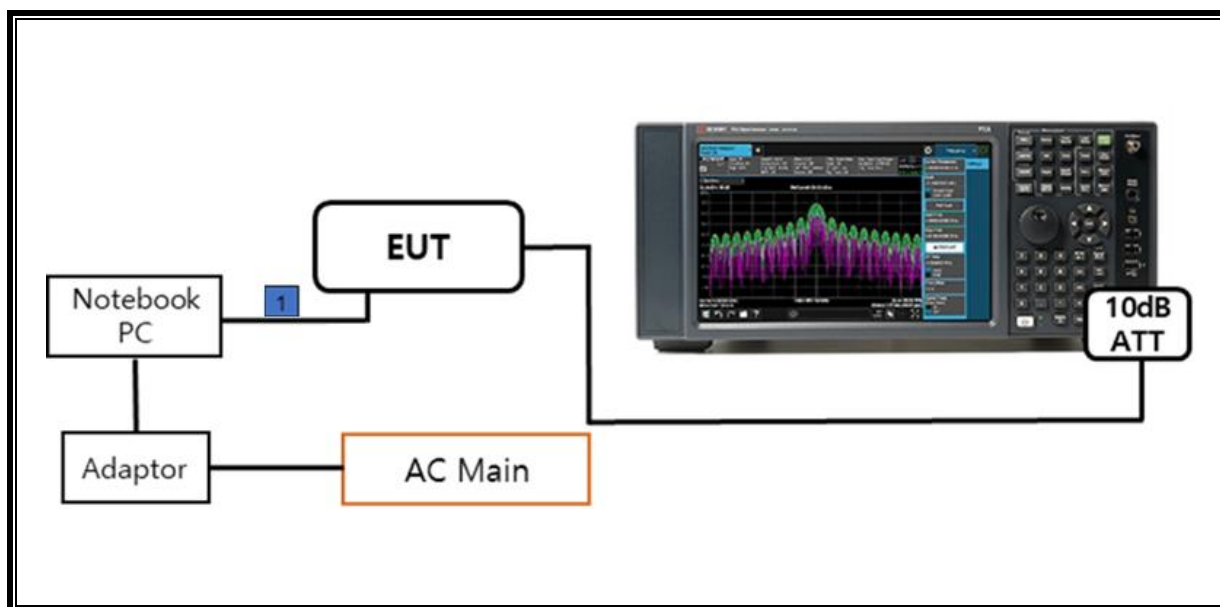
The radio utilizes an internal antennas with maximum gain of -3.98 dBi.

5.5. DESCRIPTION OF TEST SETUP

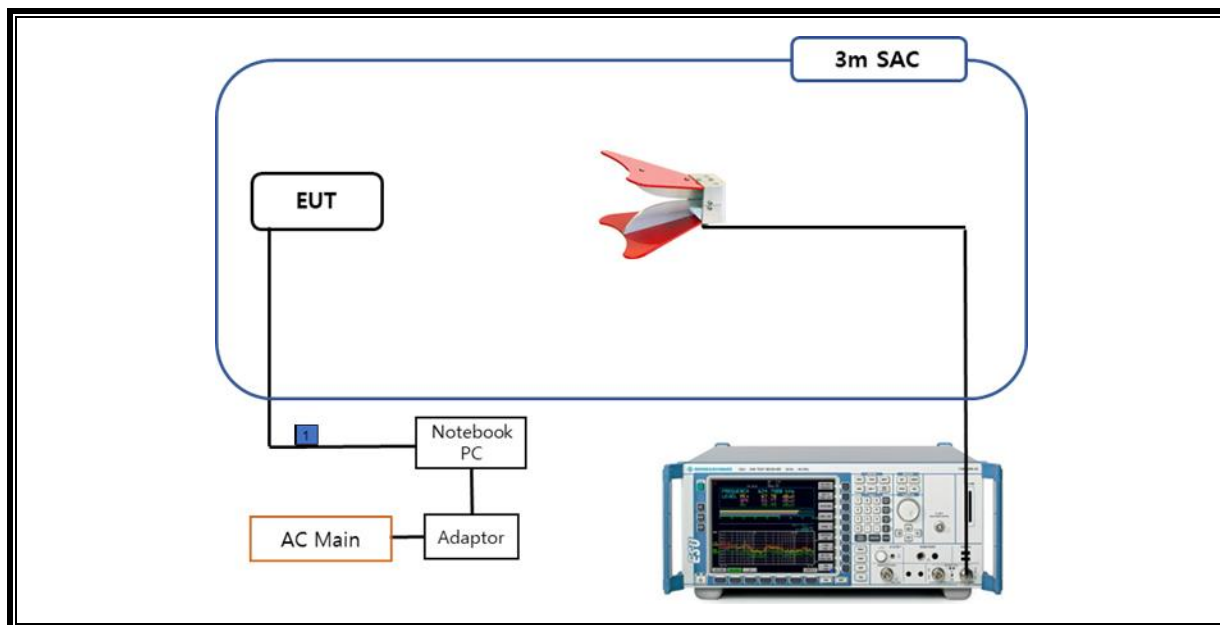
TEST SETUP

The EUT is a stand-alone unit during the tests.
Test software exercised the EUT to enable DTS mode.

SETUP DIAGRAM FOR TESTS (CONDUCTED TEST SETUP)



SETUP DIAGRAM FOR TESTS (RADIATED TEST SETUP)



6. MEASUREMENT METHOD

6 dB BW : ANSI C63.10-2013, Section 11.8.2 Option 2

OUTPUT POWER : ANSI C63.10-2013, Section 11.9.1.1 RBW $\geq$ DTS bandwidth

POWER SPECTRAL DENSITY : ANSI C63.10-2013, Section 11.10.2 Method PKPSD (peak PSD)

Out-of-band Emissions (Conducted) : ANSI C63.10-2013, Section 11.11 Emissions in nonrestricted frequency bands

Out-of-band Emissions in Non-restricted Bands: ANSI C63.10-2013, Section 11.11 Emissions in nonrestricted frequency bands

Out-of-band Emissions in Restricted Bands : ANSI C63.10-2013, Section 11.12 Emissions in restricted frequency bands

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

7. 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	S/N	Cal Due
Antenna, Bilog, 30MHz-1GHz	SCHWARZBECK	VULB9163	750	2024-08-15
Antenna, Bilog, 30MHz-1GHz	SCHWARZBECK	VULB9163	749	2024-08-15
Antenna, Bilog, 30MHz-1GHz	SCHWARZBECK	VULB9163	845	2024-08-15
Antenna, Horn, 18 GHz	ETS	3115	00167211	2024-08-04
Antenna, Horn, 18 GHz	ETS	3115	00161451	2024-08-21
Antenna, Horn, 18 GHz	ETS	3117	00168724	2024-08-04
Antenna, Horn, 18 GHz	ETS	3117	00168717	2024-08-21
Antenna, Horn, 40 GHz	ETS	3116C	00166155	2024-08-02
Preamplifier	ETS	3115-PA	00167475	2023-08-04
Preamplifier	ETS	3116C-PA	00168841	2023-08-04
Preamplifier, 1000 MHz	Sonoma	310N	341282	2023-08-02
Preamplifier, 1000 MHz	Sonoma	310N	351741	2023-08-02
Preamplifier, 18 GHz	Miteq	AFS42-00101800-25-S-42	1896138	2023-08-01
Preamplifier, 18 GHz	Miteq	AFS42-00101800-25-S-42	2029169	2023-08-01
Spectrum Analyzer, 44 GHz	Agilent / HP	N9030A	MY54170614	2023-08-03
Spectrum Analyzer, 44 GHz	Agilent / HP	N9030A	MY54490312	2023-08-01
Spectrum Analyzer, 44 GHz	KEYSIGHT	N9030B	MY60070693	2024-01-09
Spectrum Analyzer, 44 GHz	KEYSIGHT	N9040B	MY60080268	2024-01-09
Average Power Sensor	Agilent / HP	U2000A	MY54270007	2023-08-03
Average Power Sensor	Agilent / HP	U2000A	MY54260010	2023-08-03
Attenuator	PASTERNAK	PE7087-10	A012	2023-08-03
Attenuator	PASTERNAK	PE7087-10	A008	2023-08-03
Attenuator	PASTERNAK	PE7004-10	2	2023-08-01
Attenuator	PASTERNAK	PE7087-10	A009	2023-08-03
EMI Test Receive, 40 GHz	R&S	ESU40	100439	2023-08-02
EMI Test Receive, 40 GHz	R&S	ESU40	100457	2023-07-29
EMI Test Receive, 3 GHz	R&S	ESR3	101832	2023-08-01
Low Pass Filter 5GHz	Micro-Tronics	LPS17541	009	2023-08-02
Low Pass Filter 5GHz	Micro-Tronics	LPS17541	015	2023-08-01
Low Pass Filter 5GHz	Micro-Tronics	LPS17541	020	2023-08-01
High Pass Filter 3GHz	Micro-Tronics	HPM17543	010	2023-08-02
High Pass Filter 3GHz	Micro-Tronics	HPM17543	020	2023-08-01
High Pass Filter 6GHz	Micro-Tronics	HPS17542	009	2023-08-02
High Pass Filter 6GHz	Micro-Tronics	HPS17542	021	2023-08-01
LISN	R&S	ENV-216	101837	2023-08-04
Antenna, Loop, 9kHz-30MHz	R&S	HFH2-Z2	100418	2023-10-06
UL Software				
Description	Manufacturer	Model	Version	
Radiated software	UL	UL EMC	Ver 9.5	
AC Line Conducted software	UL	UL EMC	Ver 9.5	

8. TEST RESULTS SUMMARY

FCC Part Section	Test Description	Test Limit	Test Condition	Test Result
15.247 (a)(2)	Occupied Bandwidth(6dB)	> 500kHz	Conducted	Complies
2.1051, 15.247(d)	Band Edge / Conducted Spurious Emission	-20 dBc		Complies
15.247 (b)(3)	TX conducted output power	< 30 dBm		Complies
15.247(e)	PSD	< 8 dBm/3kHz		Complies
15.207(a)	AC Power Line conducted emissions	Section 11	Power Line conducted	N/A ^{Note1}
15.205, 15.209	Radiated Spurious Emission	< 54dBuV/m(Av)	Radiated	Complies

Note: Tested with a new battery.

Note1: No ports apply to the standard.

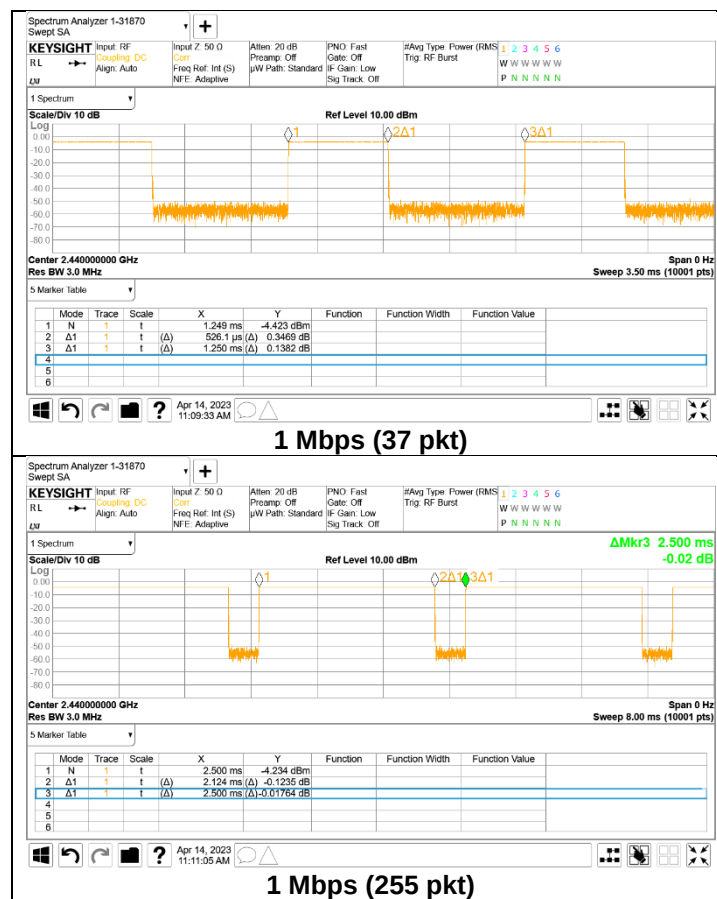
9. ANTENNA PORT TEST RESULTS

9.1. ON TIME AND DUTY CYCLE

LIMITS

None; for reporting purposes only.

Mode	On time [msec]	Period [msec]	Duty cycle x [Linear]	Duty Cycle [%]	Duty Cycle Correction Factor [dB]	1/T Minimum VBW [kHz]
2 400 ~ 2 483.5 MHz Bands						
1 Mbps [37pkt]	0.526	1.250	0.421	42.088	3.758	1.901
1 Mbps [255pkt]	2.124	2.500	0.850	84.960	0.708	0.471



9.2. 6 dB BANDWIDTH

LIMITS

FCC §15.247 (a) (2)

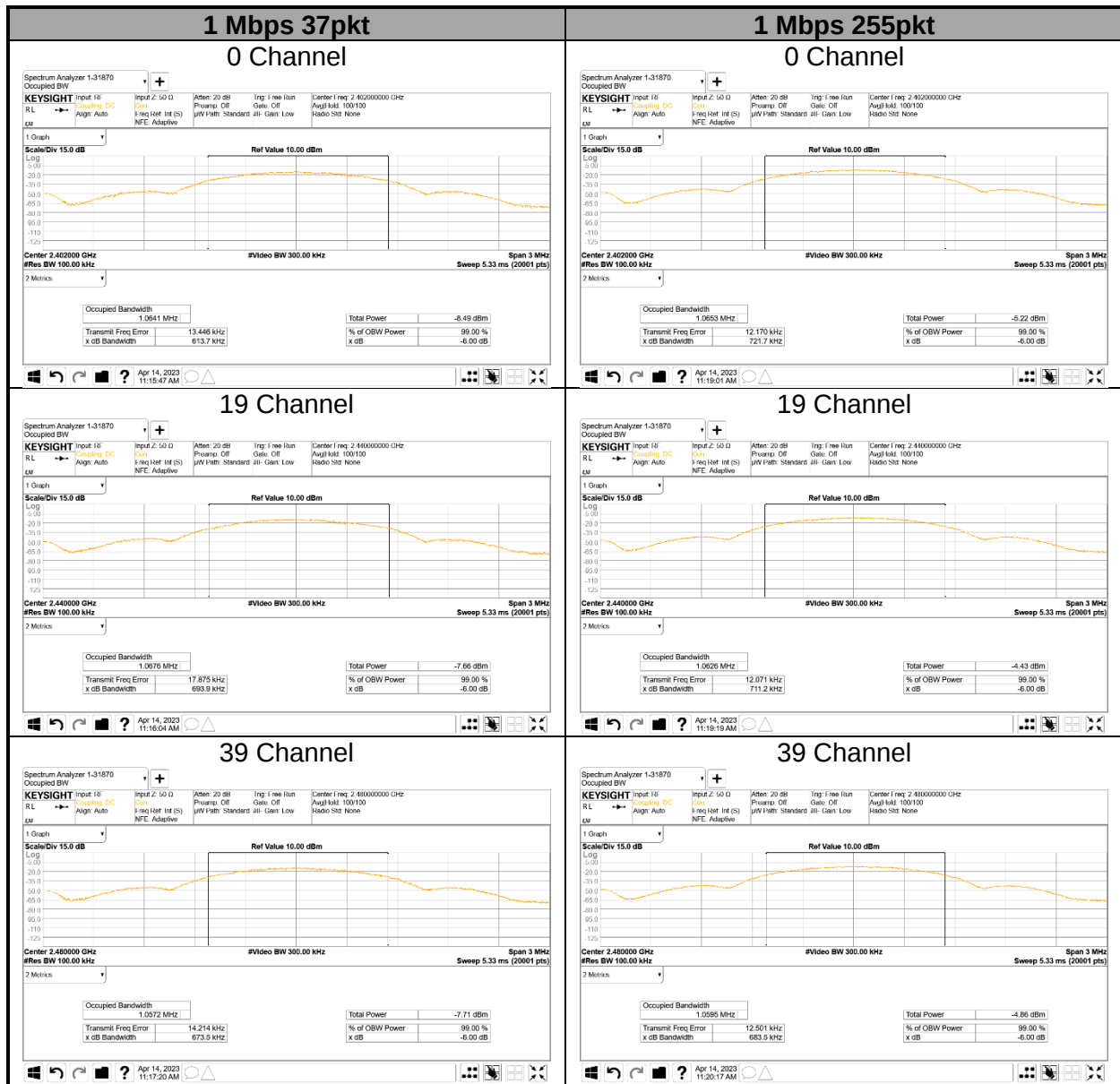
The minimum 6 dB bandwidth shall be at least 500 kHz.

RESULTS

9.2.1. Test data

Mode	Antenna	Channel	Frequency [MHz]	6 dB Bandwidth [kHz]	Minimum Limit [kHz]
1 Mbps (37pkt)	ANT1	0	2 402	613.7	500.0
		19	2 440	693.9	500.0
		39	2 480	673.5	500.0
1 Mbps (255pkt)	ANT1	0	2 402	721.7	500.0
		19	2 440	711.2	500.0
		39	2 480	683.5	500.0
Worst				613.7	500.00

9.2.2. 6 dB BANDWIDTH PLOTS



9.3. OUTPUT POWER

LIMITS

FCC §15.247 (b) (3)

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

TEST PROCEDURE

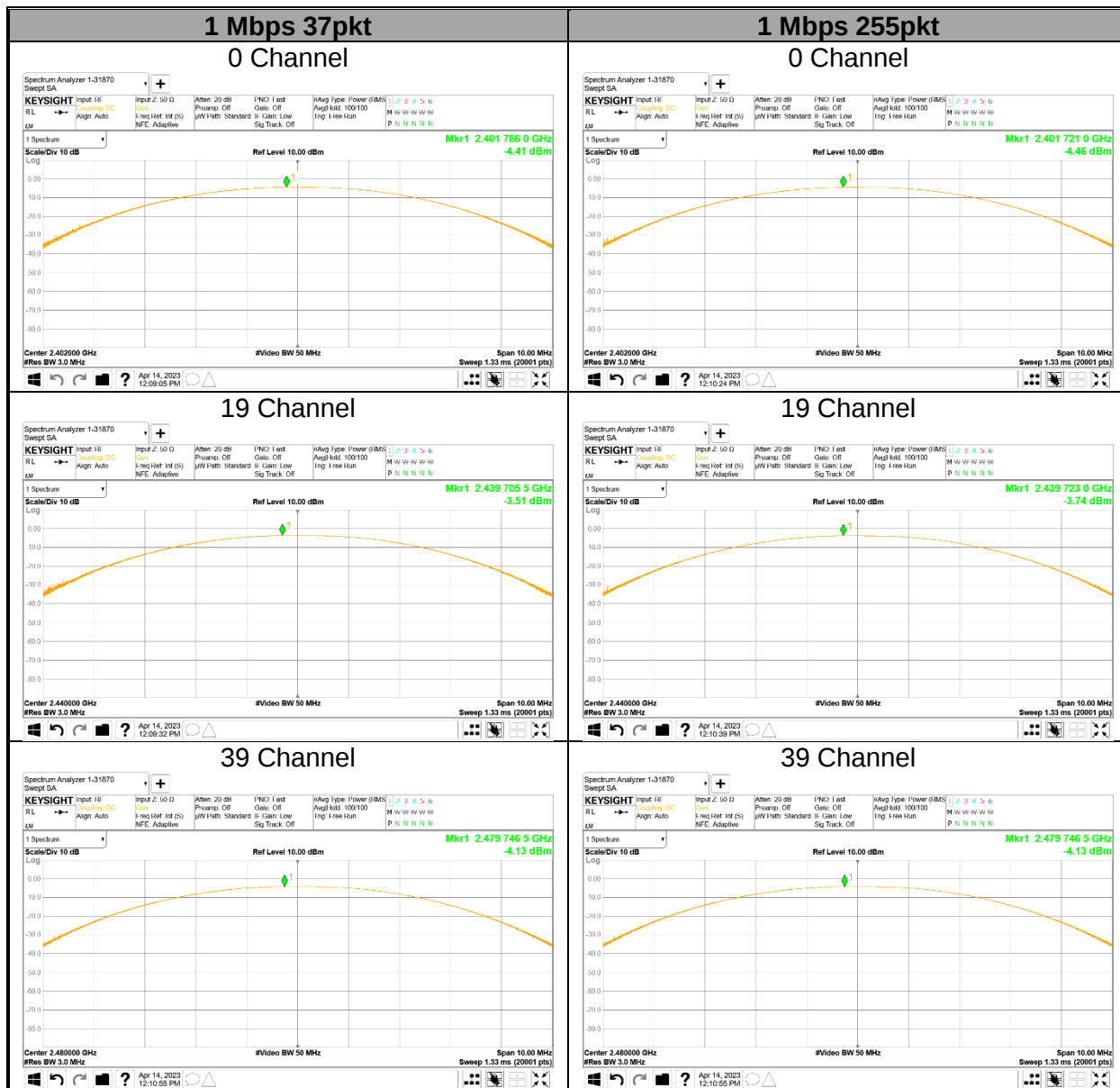
Peak power is measured using ANSI C63.10(2013) under section 11.9.1.1 utilizing spectrum analyzer(RBW $\geq$ DTS bandwidth).

RESULTS

9.3.1. Test data

Mode	Antenna	Channel	Frequency [MHz]	Peak Output Power [dBm]	Limit [dBm]	Margin [dB]
1 Mbps (37pkt)	ANT1	0	2 402	-4.410	30.000	-34.410
		19	2 440	-3.510		-33.510
		39	2 480	-4.030		-34.030
1 Mbps (255pkt)	ANT1	0	2 402	-4.460		-34.460
		19	2 440	-3.740		-33.740
		39	2 480	-4.133		-34.133
Worst				-3.510		-33.510

9.3.2. PEAK POWER PLOTS



9.4. AVERAGE POWER

LIMITS

None; for reporting purposes only.

TEST PROCEDURE

Measurements perform using a wideband RF frame average power sensor.
The cable assembly insertion loss and duty cycle correction factor were entered as an offset in the power meter to allow for direct reading of power.

RESULTS

9.4.1. Test data

Mode	Antenna	Channel	Frequency [MHz]	Average Output Power [dBm]	Average Output Power [mW]
1 Mbps (37pkt)	ANT1	0	2 402	-4.659	0.342
		19	2 440	-3.907	0.407
		39	2 480	-4.254	0.375
1 Mbps (255pkt)	ANT1	0	2 402	-4.702	0.339
		19	2 440	-3.983	0.400
		39	2 480	-4.333	0.369

9.5. POWER SPECTRAL DENSITY

LIMITS

FCC §15.247 (e)

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.

TEST PROCEDURE

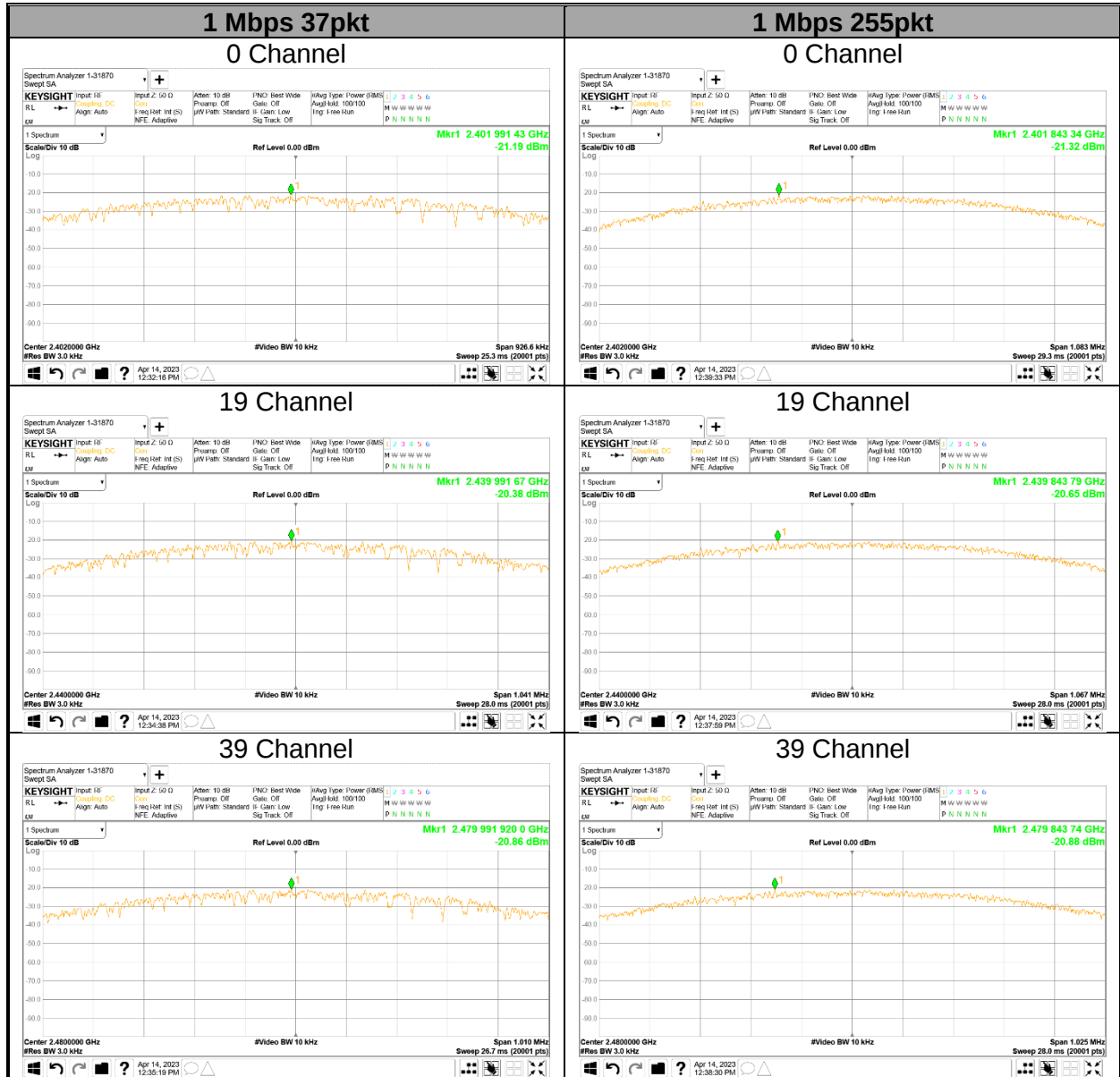
ANSI C63.10-2013, Section 11.10.2 Method PKPSD (peak PSD)

RESULTS

9.5.1. Test data

Mode	Antenna	Channel	Frequency [MHz]	PSD [dBm/3kHz]	Limit [dBm/3kHz]	Margin [dB]
1 Mbps (37pkt)	ANT1	0	2 402	-21.19	8	-29.19
		19	2 440	-20.38		-28.38
		39	2 480	-20.86		-28.86
1 Mbps (255 pkt)	ANT1	0	2 402	-21.32		-29.32
		19	2 440	-20.65		-28.65
		39	2 480	-20.88		-28.88
Worst				-20.38		-28.38

9.5.2. PSD TEST PLOTS



9.6. CONDUCTED SPURIOUS EMISSIONS

LIMITS

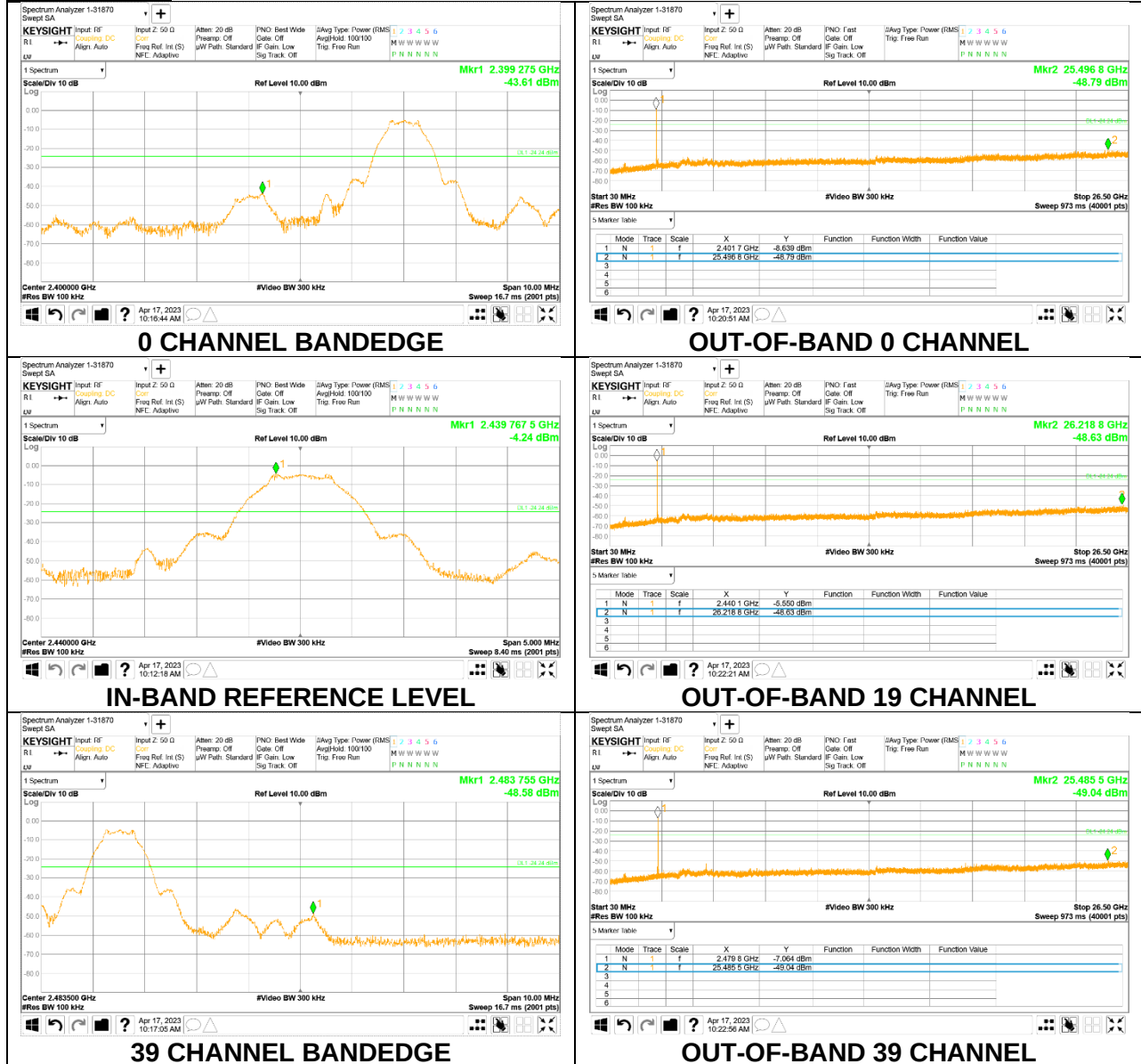
FCC §15.247 (d)

Output power was measured based on the use of a peak measurement.
Therefore, spurious emissions are required to be 20 dBc.

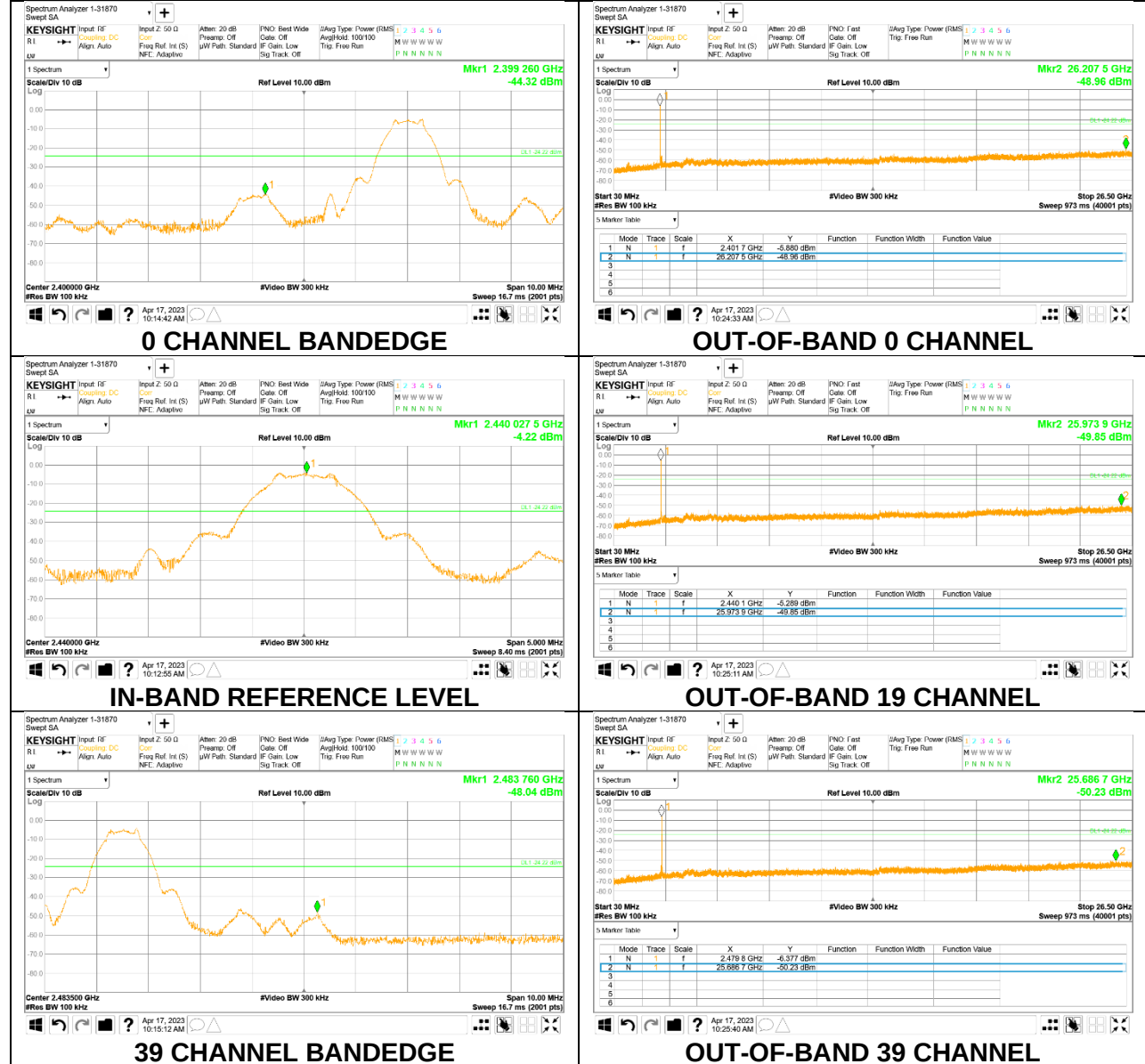
RESULTS

9.6.1. Test plot

1 Mbps 37pkt



1 Mbps 255pkt



10. RADIATED TEST RESULTS

10.1. LIMITS AND PROCEDURE

LIMITS

FCC §15.205 and §15.209

Limits for radiated disturbance of an intentional radiator		
Frequency range (MHz)	Limits (μV/m)	Measurement Distance (m)
0.009 – 0.490	2400 / F (kHz)	300
0.490 – 1.705	24000 / F (kHz)	30
1.705 – 30.0	30	30
30 – 88	100**	3
88 - 216	150**	3
216 – 960	200**	3
Above 960	500	3

** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g. §§ 15.231 and 15.241.

TEST PROCEDURE

The EUT is placed on a non-conducting table 80 cm above the ground plane for below 1GHz and 150 cm for 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. Peak detection is used unless otherwise noted as quasi-peak.

For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 3 MHz for peak measurements and add duty cycle factor for average measurements. (Restricted band-edge, Final detection of spurious harmonic emissions)
Duty cycle factor = $10 \log(1/x)$. For this sample: For 1 Mbps, DCF = $10\log(1/0.421) = 3.758$ dB (Spectrum Analyzer round it up to 3.76 dB).

Pre-scans to detect harmonic and spurious emissions, the resolution bandwidth is set to 1 MHz; the video bandwidth is set to 30 kHz for peak measurements.

The spectrum from 1 GHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in the 2.4 GHz band.
(From 30MHz to 1GHz, test was performed with the EUT set to transmit at the channel with highest output power)

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.

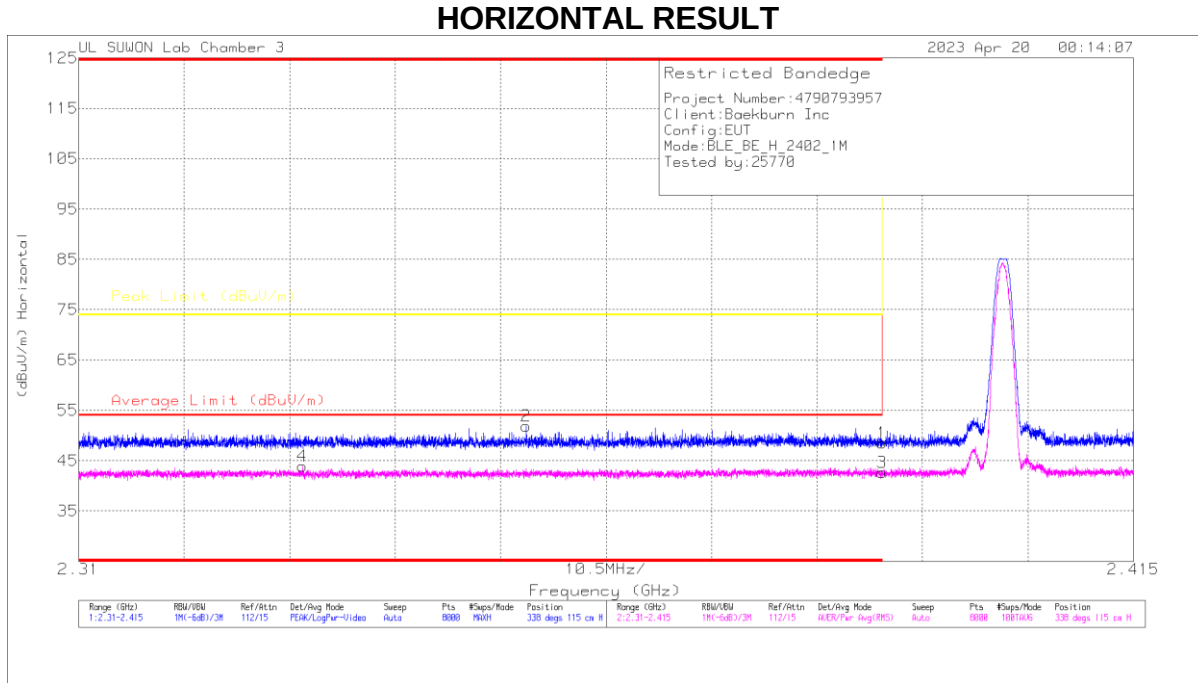
Note : Emission was pre-scanned from 9kHz to 30MHz; No emissions were detected which was at least 20dB below the specification limit (consider distance correction factor).
Per FCC part 15.31(o), test results were not reported.

Although these tests were performed other than open field test site, adequate comparison measurements were confirmed against 30 m open area test site.
Therefore sufficient tests were made to demonstrate that the alternative site produces results that correlate with the one of tests made in an open field based on KDB 414788.

10.2. TRANSMITTER ABOVE 1 GHz

10.2.1. 1 Mbps 37pkt

BANDEDGE (0 CHANNEL)

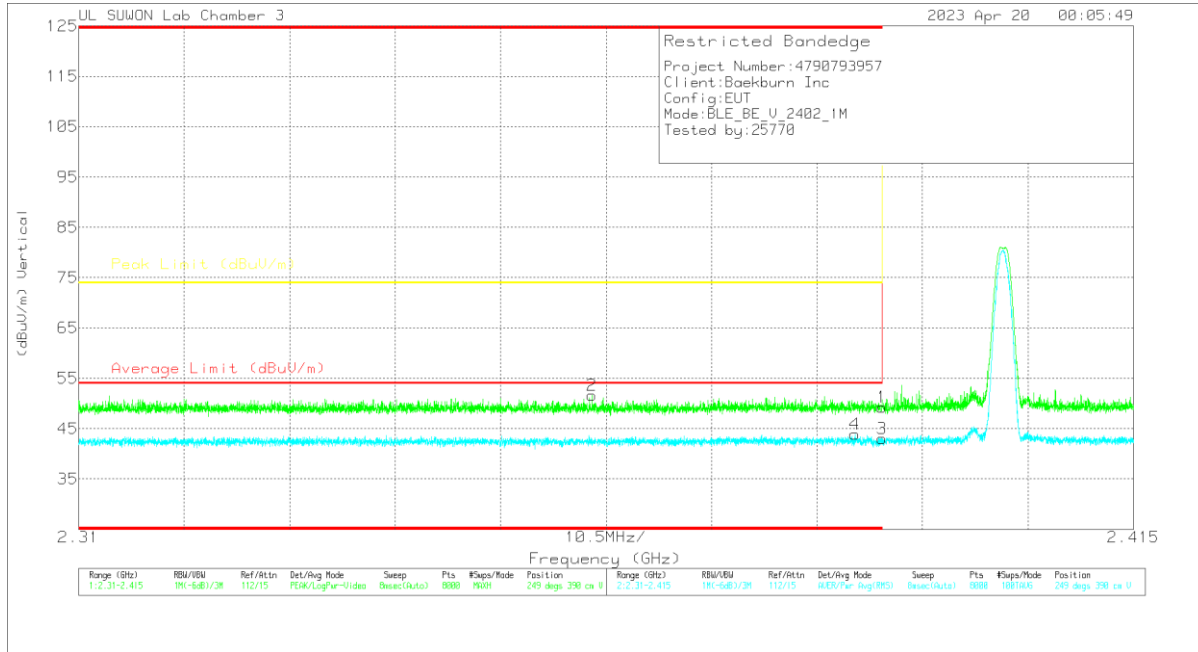


Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00218957	10dB_ATT(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Altitude (m)	Height (m)	Polarity
1	* 2.39	41.49	PK	32.1	-25.1	0	48.49	-	-	74	-25.51	338	115	H
2	* 2.35455	44.95	PK	32	-25.1	0	51.85	-	-	74	-22.15	338	115	H
3	* 2.39	31.89	RMS	32.1	-25.1	3.76	42.65	54	-11.35	-	-	338	115	H
4	* 2.33225	33.39	RMS	31.9	-25.2	3.76	43.85	54	-10.15	-	-	338	115	H

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

VERTICAL RESULT



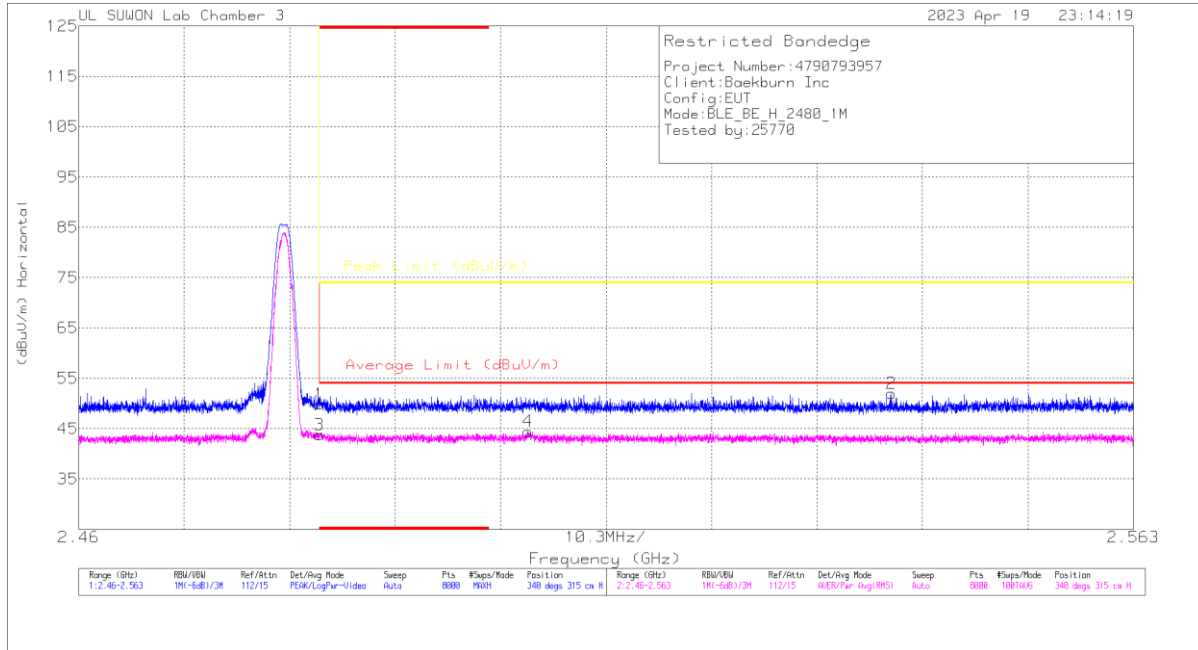
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00218957	10dB_ATT(dB)	DC Cor (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	42.29	PK	32.1	-25.1	0	49.29	-	-	74	-24.71	249	390	V
2	* 2.36108	44.69	PK	32	-25.1	0	51.59	-	-	74	-22.41	249	390	V
3	* 2.39	32.25	RMS	32.1	-25.1	3.76	43.01	54	-10.99	-	-	249	390	V
4	* 2.38727	33.14	RMS	32.1	-25.1	3.76	43.9	54	-10.1	-	-	249	390	V

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

BANDEDGE (39 CHANNEL)

HORIZONTAL RESULT



Trace Markers

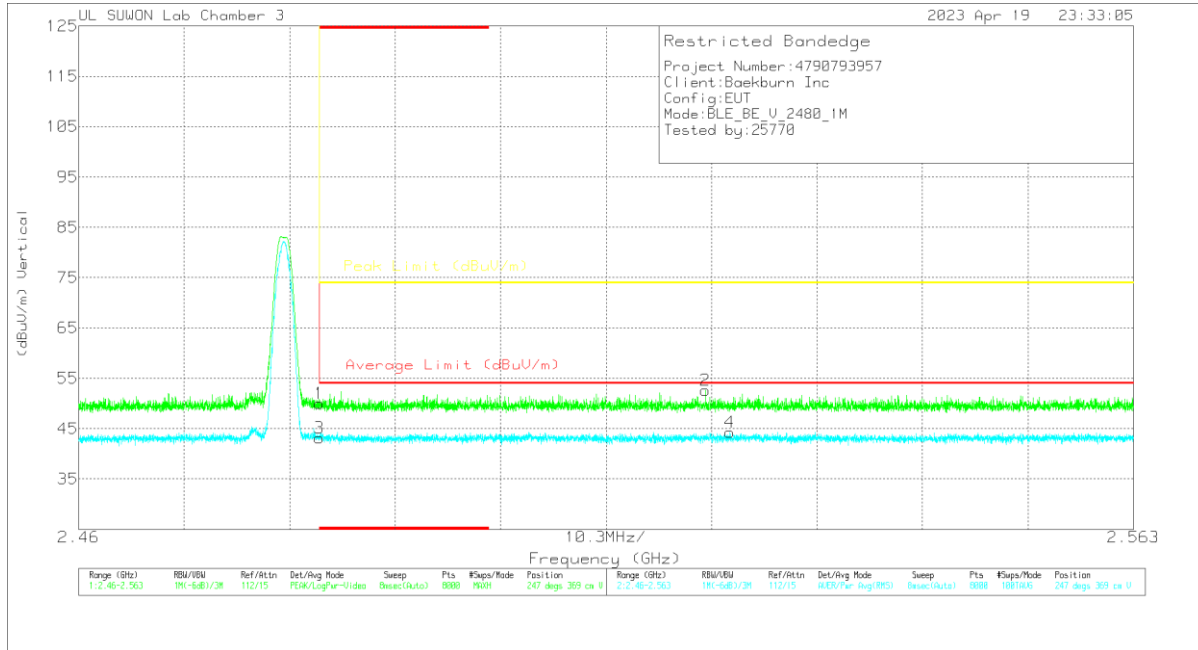
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00218957	10dB_ATT(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Pk Margin (dB)	Altitude (Degs)	Height (cm)	Polarity
1	* 2.4835	42.52	PK	32.4	-25	0	49.92	-	-	74	-24.08	340	315	H
2	2.53935	44.63	PK	32.4	-25	0	52.03	-	-	74	-21.97	340	315	H
3	* 2.4835	32.64	RMS	32.4	-25	3.76	43.8	54	-10.2	-	-	340	315	H
4	2.50385	33.2	RMS	32.4	-24.9	3.76	44.46	54	-9.54	-	-	340	315	H

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

PK - Peak detector

RMS - RMS detection

VERTICAL RESULT



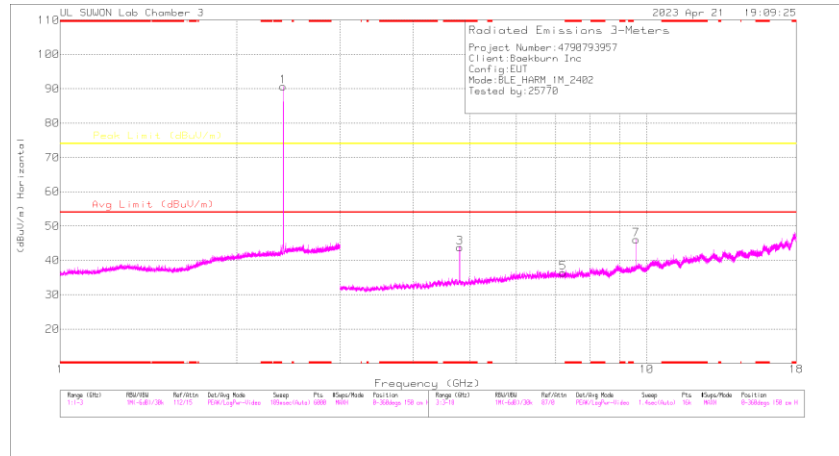
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00218957	10dB_ATT(dB)	DC Corr (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	42.58	PK	32.4	-25	0	49.98	-	-	74	-24.02	247	369	V
2	2.52119	45.17	PK	32.4	-24.9	0	52.67	-	-	74	-21.33	247	369	V
3	* 2.4835	32.01	RMS	32.4	-25	3.76	43.17	54	-10.83	-	-	247	369	V
4	2.52361	33.07	RMS	32.4	-24.9	3.76	44.33	54	-9.67	-	-	247	369	V

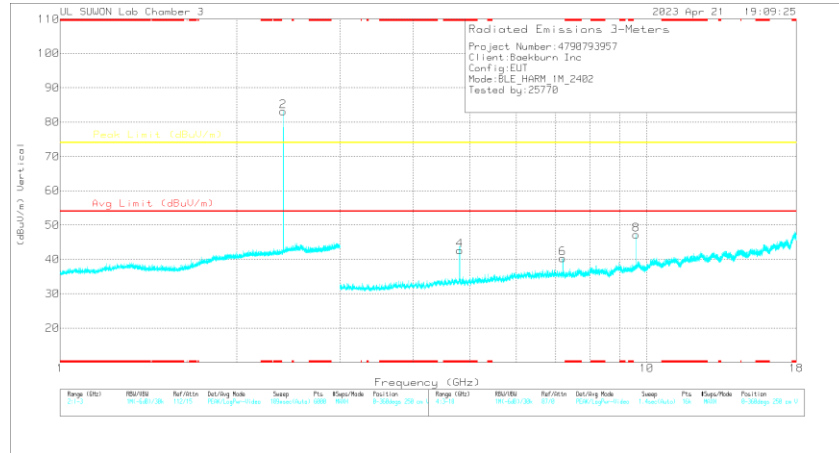
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK - Peak detector
RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS (1 GHz to 18 GHz)

0 CHANNEL RESULTS



HORIZONTAL



VERTICAL

Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00218957	10dB_ATT(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
**2.4019	83.72	PK	32.1	-25.1	0	90.72	-	-	-	-	0-360	100	H
**2.40223	76.17	PK	32.1	-25.1	0	83.17	-	-	-	-	0-360	250	V

** Fundamental

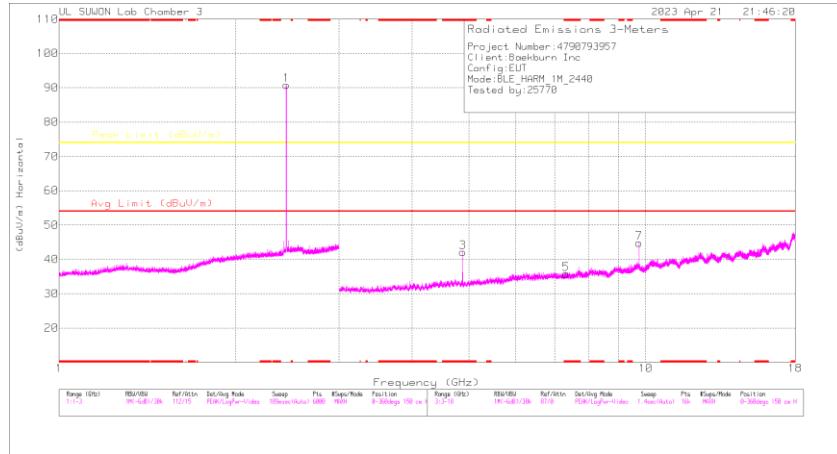
Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00218957	3GHz_HP(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.80347	44.08	PK2	34.3	-30.1	0	48.28	-	-	74	-25.72	148	100	H
* 4.80359	33.59	MAV1	34.3	-30.1	3.76	41.55	54	-12.45	-	-	148	100	H
* 4.80348	45.49	PK2	34.3	-30.1	0	49.69	-	-	74	-24.31	306	101	V
* 4.80376	35.89	MAV1	34.3	-30.1	3.76	43.85	54	-10.15	-	-	306	101	V
7.1998	35.81	PK2	35.8	-25.9	0	45.71	-	-	74	-28.29	122	101	H
7.20004	24.5	MAV1	35.8	-25.9	3.76	38.16	-	-	-	-	122	101	H
7.20002	36.3	PK2	35.8	-25.9	0	46.2	-	-	74	-27.8	22	101	V
7.2	25.99	MAV1	35.8	-25.9	3.76	39.65	-	-	-	-	22	101	V
9.60211	36.93	PK2	36.7	-21.8	0	51.83	-	-	74	-22.17	109	100	H
9.60211	28.7	MAV1	36.7	-21.8	3.76	47.36	-	-	-	-	109	100	H
9.60211	39.26	PK2	36.7	-21.8	0	54.16	-	-	74	-19.84	40	100	V
9.60209	32.3	MAV1	36.7	-21.8	3.76	50.96	-	-	-	-	40	100	V

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

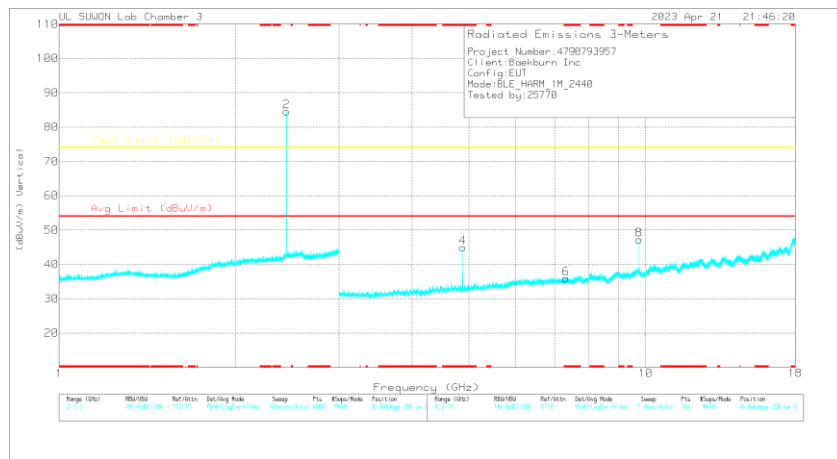
PK2 - KDB558074 Method: Maximum Peak

MAV1 - KDB558074 Option 1 Maximum RMS Average

19 CHANNEL RESULTS



HORIZONTAL



VERTICAL

Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00218957	10dB_ATT(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Altitude (Degs)	Height (cm)	Polarity
**2.44024	83.66	PK	32.3	-25.1	0	90.85	-	-	-	-	0-360	100	H
**2.44024	77.39	PK	32.3	-25.1	0	84.59	-	-	-	-	0-360	111	V

** Fundamental

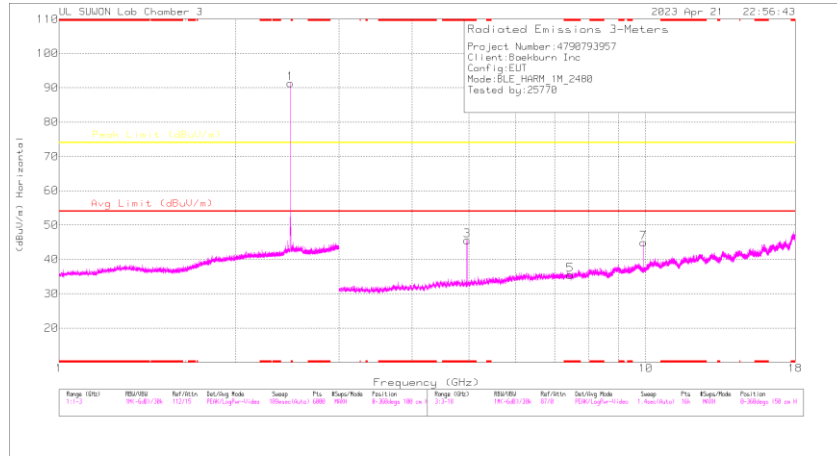
Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00218957	3GHz_HP(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Altitude (Degs)	Height (cm)	Polarity
* 4.87963	49.13	PK2	34.2	-30.8	0	52.53	-	-	74	-21.47	74	286	H
* 4.87959	40.14	MAV1	34.2	-30.8	3.76	47.3	54	-6.7	-	-	74	286	H
* 4.88033	47.29	PK2	34.2	-30.9	0	50.59	-	-	74	-23.41	88	111	V
* 4.87985	38.73	MAV1	34.2	-30.9	3.76	45.79	54	-8.21	-	-	88	111	V
* 7.31446	35.71	PK2	35.8	-25.5	0	46.01	-	-	74	-27.99	124	101	H
* 7.31396	24.36	MAV1	35.8	-25.5	3.76	38.42	54	-15.58	-	-	124	101	H
* 7.31404	36.22	PK2	35.8	-25.5	0	46.52	-	-	74	-27.48	24	106	V
* 7.31387	24.89	MAV1	35.8	-25.5	3.76	38.95	54	-15.05	-	-	24	106	V
9.75409	37.29	PK2	36.9	-21.2	0	52.99	-	-	74	-21.01	108	100	H
9.75407	30.06	MAV1	36.9	-21.2	3.76	49.52	-	-	-	-	108	100	H
9.75409	37.17	PK2	36.9	-21.2	0	52.87	-	-	74	-21.13	23	103	V
9.75399	30.15	MAV1	36.9	-21.2	3.76	49.61	-	-	-	-	23	103	V

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

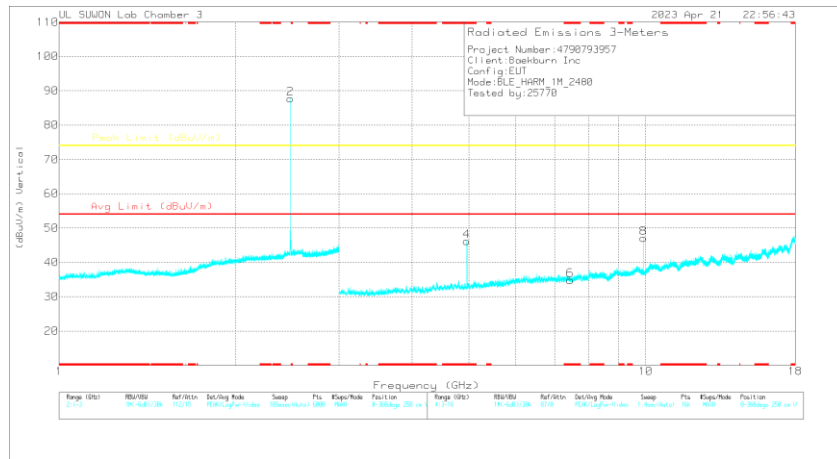
PK2 - KDB558074 Method: Maximum Peak

MAV1 - KDB558074 Option 1 Maximum RMS Average

39 CHANNEL RESULTS



HORIZONTAL



VERTICAL

Note: Emission was scanned up to 26GHz; No emissions were detected above the noise floor which was at least 20dB below the specification limit.

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00218957	10dB_ATT(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Altitude (Degs)	Height (cm)	Polarity
**2.48025	83.91	PK	32.4	-25	0	91.31	-	-	-	-	0-360	150	H
**2.47991	80.34	PK	32.4	-25	0	87.74	-	-	-	-	0-360	250	V

** Fundamental

Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00218957	3GHz_HP(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Altitude (Degs)	Height (cm)	Polarity
* 4.95949	47.34	PK2	34.3	-30.5	0	51.14	-	-	74	-22.86	37	280	H
* 4.96036	38.57	MAV1	34.3	-30.5	3.76	46.13	54	-7.87	-	-	37	280	H
* 4.95944	48.04	PK2	34.3	-30.5	0	51.84	-	-	74	-22.16	85	103	V
* 4.95972	40.01	MAV1	34.3	-30.5	3.76	47.57	54	-6.43	-	-	85	103	V
* 7.4341	36.05	PK2	35.7	-25	0	46.75	-	-	74	-27.25	117	100	H
* 7.43406	24.29	MAV1	35.7	-25	3.76	38.75	54	-15.25	-	-	117	100	H
* 7.43398	35.88	PK2	35.7	-25	0	46.58	-	-	74	-27.42	48	100	V
* 7.43394	25.06	MAV1	35.7	-25	3.76	39.52	54	-14.48	-	-	48	100	V
9.91408	37.61	PK2	37.1	-21.3	0	53.41	-	-	74	-20.59	132	100	H
9.91406	29.71	MAV1	37.1	-21.3	3.76	49.27	-	-	-	-	132	100	H
9.91393	37.82	PK2	37.1	-21.3	0	53.62	-	-	74	-20.38	44	100	V
9.91401	30.77	MAV1	37.1	-21.3	3.76	50.33	-	-	-	-	44	100	V

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

PK2 - KDB558074 Method: Maximum Peak

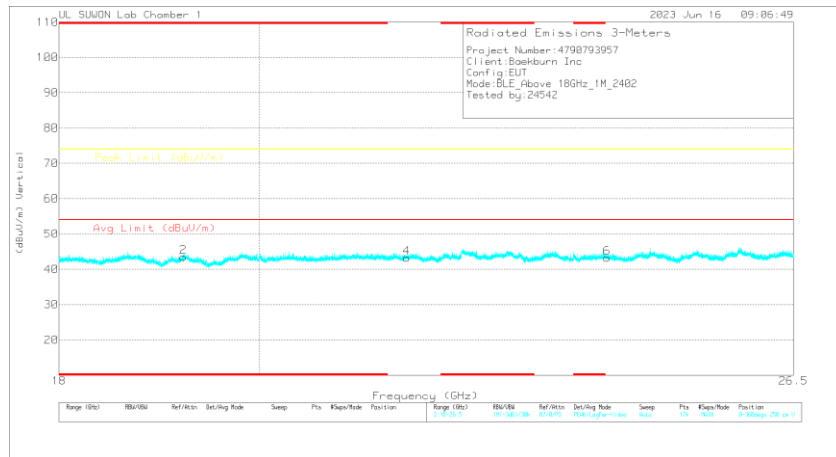
MAV1 - KDB558074 Option 1 Maximum RMS Average

HARMONICS AND SPURIOUS EMISSIONS (18 GHz to 26 GHz)

0 CHANNEL RESULTS



HORIZONTAL



VERTICAL

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3116C-PA(Combine)	Above 18G[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 19.21643	23.2	PK	4.7	15.7	0	43.6	-	-	74	-30.4	0-360	150	H
3	21.61829	16.63	PK	9.9	16.8	0	43.33	-	-	74	-30.67	0-360	100	H
5	24.02015	16.52	PK	9.5	17.7	0	43.72	-	-	74	-30.28	0-360	150	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK - Peak Detector

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3116C-PA(Combine)	18-40GHz[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 19.21643	23.34	PK	4.7	15.4	0	43.44	-	-	74	-30.56	0-360	250	V
4	21.61829	16.86	PK	9.9	16.5	0	43.26	-	-	74	-30.74	0-360	250	V
6	24.02015	16.34	PK	9.5	17.4	0	43.24	-	-	74	-30.76	0-360	250	V

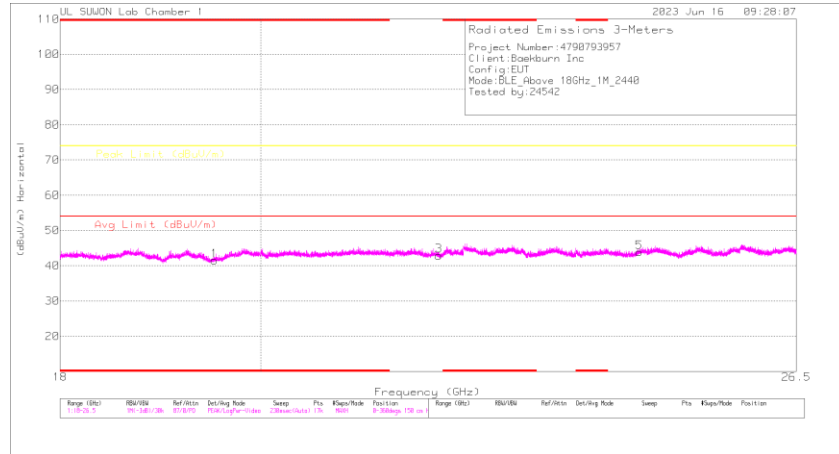
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK - Peak Detector

Radiated Emissions

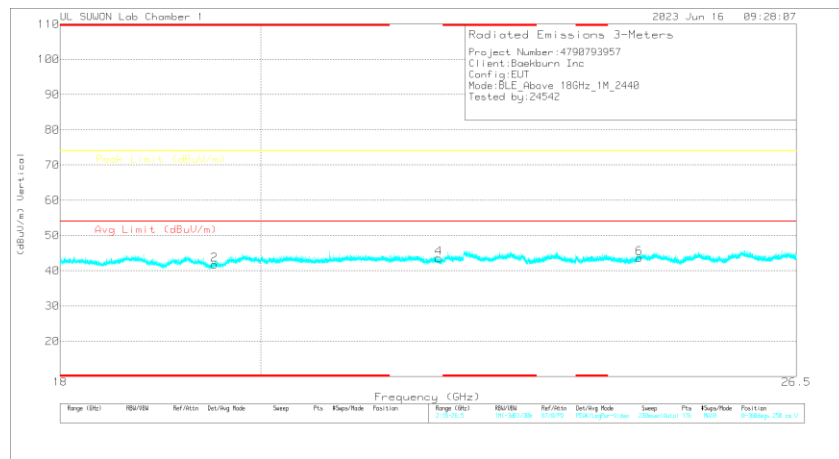
Frequency (GHz)	Meter Reading (dBuV)	Det	3116C-PA(Combine)	Above 18G[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 19.22165	33.71	PK2	4.7	15.8	0	54.21	-	-	74	-19.79	0	100	H
* 19.21013	33.95	PK2	4.7	15.4	0	54.05	-	-	74	-19.95	0	100	V
21.61825	28.74	PK2	9.9	16.8	0	55.44	-	-	74	-18.56	0	100	H
21.61222	28.3	PK2	9.9	16.5	0	54.7	-	-	74	-19.3	0	100	V
24.02377	27.95	PK2	9.5	17.7	0	55.15	-	-	74	-18.85	0	100	H
24.01717	28.15	PK2	9.5	17.4	0	55.05	-	-	74	-18.95	0	100	V

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

19 CHANNEL RESULTS



HORIZONTAL



VERTICAL

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3116C-PA(Combine)	Above 18G[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 19.52091	-20.62	PK	5	15.9	0	41.52	-	-	74	-32.48	0-360	150	H
3	21.96077	16	PK	10	16.9	0	42.9	-	-	74	-31.1	0-360	100	H
5	24.40063	16.77	PK	9.1	18	0	43.87	-	-	74	-30.13	0-360	100	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK - Peak Detector

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3116C-PA(Combine)	18-40GHz[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 19.52091	21	PK	5	15.7	0	41.7	-	-	74	-32.3	0-360	250	V
4	21.96077	17.05	PK	10	16.5	0	43.55	-	-	74	-30.45	0-360	250	V
6	24.40063	16.89	PK	9.1	17.6	0	43.59	-	-	74	-30.41	0-360	250	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK - Peak Detector

Radiated Emissions

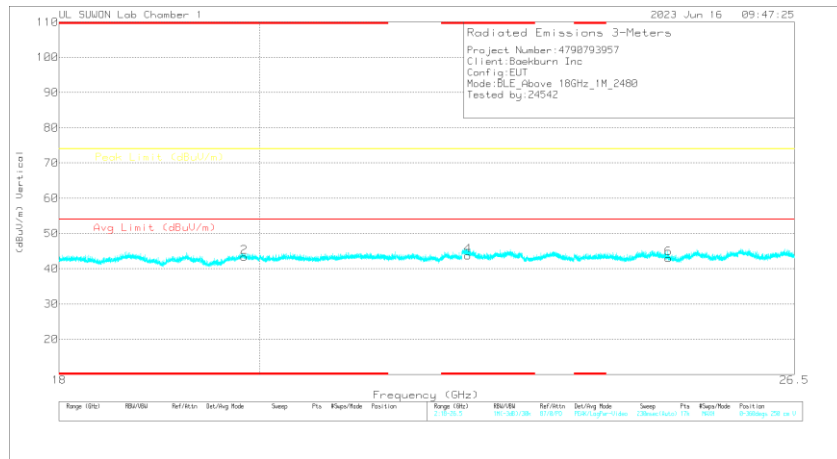
Frequency (GHz)	Meter Reading (dBuV)	Det	3116C-PA(Combine)	Above 18G[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 19.52762	33.02	PK2	5.1	15.9	0	54.02	-	-	74	-19.98	0	100	H
* 19.52064	33.34	PK2	5	15.7	0	54.04	-	-	74	-19.96	0	100	V
21.96236	28.05	PK2	10	16.9	0	54.95	-	-	74	-19.05	0	100	H
21.96254	28.43	PK2	10	16.5	0	54.93	-	-	74	-19.07	0	100	V
24.39742	27.75	PK2	9.1	17.9	0	54.75	-	-	74	-19.25	0	100	H
24.39879	28.19	PK2	9.1	17.5	0	54.79	-	-	74	-19.21	0	100	V

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

39 CHANNEL RESULTS



HORIZONTAL



VERTICAL

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3116C-PA(Combine)	Above 18G[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 19.84089	21.35	PK	6.3	16	0	43.05	-	-	74	-30.35	0-360	150	H
3	* 22.32075	16.82	PK	10.6	17.1	0	44.52	-	-	74	-29.48	0-360	100	H
5	24.80061	17.27	PK	8.2	18.1	0	43.57	-	-	74	-30.43	0-360	150	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK - Peak Detector

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3116C-PA(Combine)	18-40GHz[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
2	* 19.84089	21.34	PK	6.3	15.7	0	43.34	-	-	74	-30.66	0-360	250	V
4	* 22.32075	16.37	PK	10.6	16.8	0	43.77	-	-	74	-30.23	0-360	250	V
6	24.80061	16.99	PK	8.2	17.8	0	42.99	-	-	74	-31.01	0-360	250	V

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK - Peak Detector

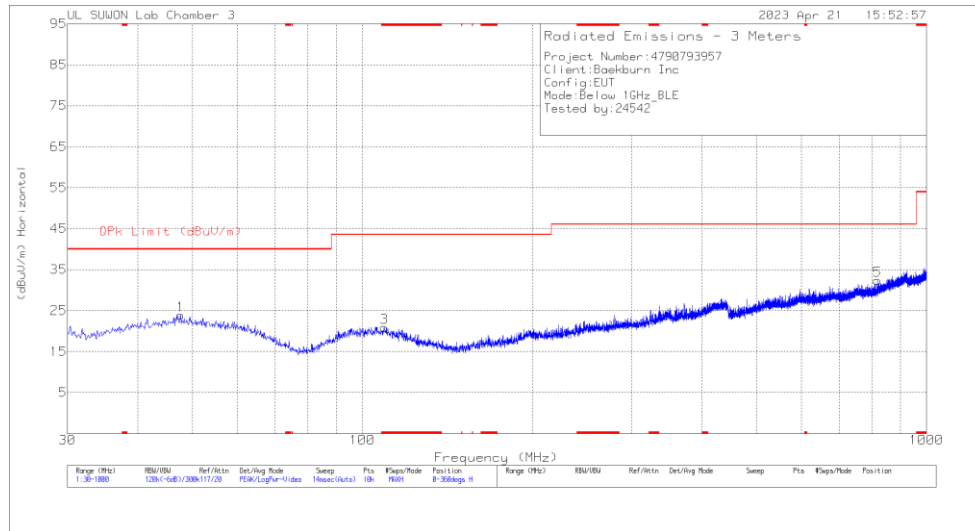
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	3116C-PA(Combine)	Above 18G[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 19.83904	32.37	PK2	6.3	16	0	54.67	-	-	74	-19.33	0	100	H
* 19.839	32.43	PK2	6.3	15.8	0	54.53	-	-	74	-19.47	0	100	V
* 22.32595	28.35	PK2	10.6	17.1	0	56.05	-	-	74	-17.95	0	100	H
* 22.32155	27.88	PK2	10.6	16.8	0	55.28	-	-	74	-18.72	0	100	V
24.80451	30.07	PK2	8.2	18	0	56.27	-	-	74	-17.73	0	100	H
24.79979	28.86	PK2	8.2	17.8	0	54.86	-	-	74	-19.14	0	100	V

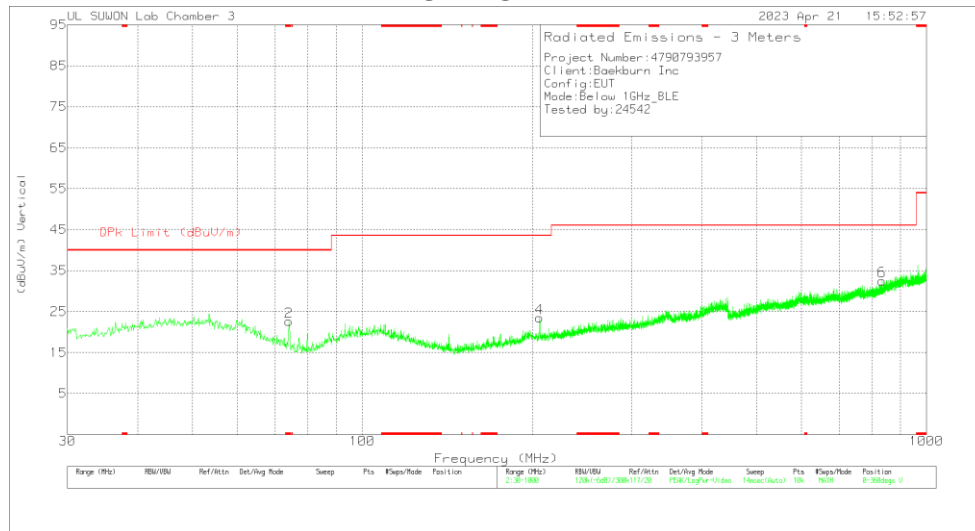
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK2 - KDB558074 Method: Maximum Peak

10.3. WORST CASE BELOW 1 GHz

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



HORIZONTAL



VERTICAL

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_845	Below_1G(dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	47.6558	35.93	Pk	19.8	-31.9	23.83	40	-16.17	0-360	300	H
3	* 109.3542	34.9	Pk	17.4	-31.4	20.9	43.52	-22.62	0-360	300	H
5	819.0793	34.86	Pk	26	-28.5	32.36	46.02	-13.66	0-360	300	H
2	* 74.1396	40.88	Pk	13.3	-31.6	22.58	40	-17.42	0-360	100	V
4	206.1702	38	Pk	16.3	-30.8	23.5	43.52	-20.02	0-360	300	V
6	834.795	34.63	Pk	26.3	-28.4	32.53	46.02	-13.49	0-360	100	V

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

END OF TEST REPORT