



CERTIFICATION TEST REPORT

Report Number. : 4790541052-E4V2

Applicant : SAMSUNG ELECTRONICS CO., LTD.
129 SAMSUNG-RO, YEONGTONG-GU, SUWON-SI,
GYEONGGI-DO, 16677, KOREA

Model : SM-S918B/DS, SM-S918B

FCC ID : A3LSMS918B

EUT Description : GSM/WCDMA/LTE/5G NR Phone + BT/BLE, DTS/UNII a/b/g/n/ac/ax,
NFC, WPT and UWB.

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

Date Of Issue:

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Revision History

Rev.	Issue Date	Revisions	Revised By
V1	2022-10-28	Initial issue	Yeonhee Lim
V2	2022-11-09	Updated to address TCB's Question	Yeonhee Lim

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: SAMSUNG ELECTRONICS CO., LTD.

EUT DESCRIPTION: GSM/WCDMA/LTE/5G NR Phone + BT/BLE, DTS/UNII a/b/g/n/ac/ax, NFC, WPT and UWB.

MODEL NUMBER: SM-S918B/DS, SM-S918B

SERIAL NUMBER: R3CT7081T5L (CONDUCTED);
R3CT70824QW (RADIATED);

DATE TESTED: 2022-09-20 ~ 2022-10-12;

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:



Yeonhee Lim
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)
☐	Chamber 4(3m Full-anechoic chamber)
☐	Chamber 5(3m Full-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

Corrected Reading (dBuV) = Meter Reading (dBuV) + External Cable (dB) +
Cableloss (dB)

46.62 dBuV + 9.8 dB + 0.1 dB = 56.52 dBuV

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	3.02 dB
Radiated Disturbance, 30 MHz to 1 GHz	4.05 dB
Radiated Disturbance, 1 GHz to 18 GHz	5.78 dB
Radiated Disturbance, 18 GHz to 40 GHz	5.58 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 115:2007.

5. EQUIPMENT UNDER TEST

5.1. EUT DESCRIPTION

The EUT is a GSM/WCDMA/LTE/5G NR Phone + BT/BLE, DTS/UNII a/b/g/n/ac/ax and NFC, WPT and UWB. This test report addresses the DTS (BLE) operational mode.

This report covers the Samsung models SM-S918B/DS and SM-S918B.
These models are identical in hardware except SM-S918B has single SIM tray.
With some pre-scan, model SM-S918B/DS was set for final test.

5.2. MAXIMUM OUTPUT POWER

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

Frequency Range [MHz]	Mode	Power Mode	Output Power [dBm]	Output Power [mW]
2402 ~ 2480	1 Mbps (255pkt)	Peak	18.550	71.614
		Average	18.052	63.856
	2 Mbps (255pkt)	Peak	18.590	72.277
		Average	17.889	61.504

5.3. 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 ANT 1's maximum gain of -4.49 dBi and ANT 2's maximum gain of -8.38 dBi.

"Wi-Fi 1" and "Wi-Fi 2" as indicated in antenna specification are written as ANT 1 and ANT 2 in this report.

5.4. WORST-CASE CONFIGURATION AND MODE

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

Radiated emission above 1GHz was performed with the EUT set to transmit low/mid/high channels.

- Worst condition

	ANT1	ANT2
Axis	X	Z

Note : All radiated and power line conducted tests were performed attached with travel adapter for the worst case condition mode.

Power verification

The Output Power of all data rate are all investigated, the 1 Mbps(255 pkt) and 2 Mbps(255 pkt) power is the worst case for symbol rate. All tests were performed in these two modes.

1Mbps, 125k, and 500k differ only in coding method.

Compared to 1Mbps, 125k and 500k have low targets, so they are not marked separately.

Symbol Rate [Ms/s]	ANT.	Mode	Freq. [MHz]	Conducted Burst Avg [dBm]	Symbol Rate [Ms/s]	ANT.	Mode	Freq. [MHz]	Conducted Burst Avg [dBm]
1	ANT1	1Mbps 37pkt (High)	2402	15.612	2	ANT1	2Mbps 37pkt (High)	2402	15.297
			2440	16.420				2440	16.242
			2480	15.106				2480	15.041
	ANT2		2402	17.583		ANT2		2402	17.646
			2440	17.976				2440	17.773
			2480	16.571				2480	16.520
	ANT1	1Mbps 255pkt (High)	2402	15.620		ANT1	2Mbps 255pkt (High)	2402	15.486
			2440	16.437				2440	16.273
			2480	14.998				2480	14.967
	ANT2		2402	17.700		ANT2		2402	17.477
			2440	18.052				2440	17.889
			2480	16.515				2480	16.495

5.5. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
Charger	SAMSUNG	EP-TA800	R37R38J4A28SE3	N/A
Data Cable	SAMSUNG	EP-DN980	GH39-02111ABBE	N/A

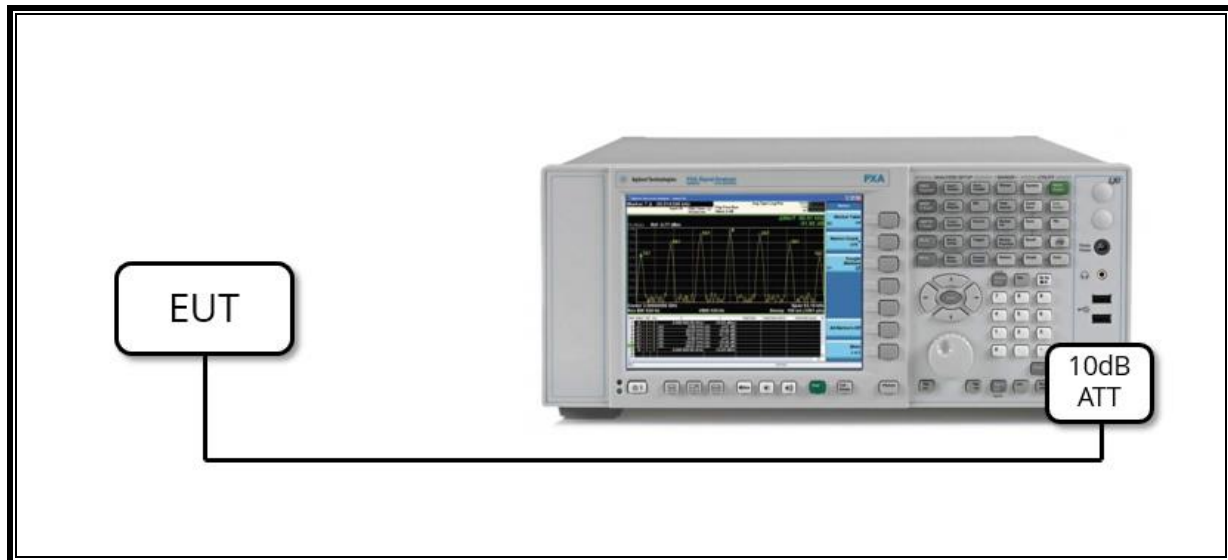
I/O CABLE

I/O Cable List						
Cable No.	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	DC Power	1	C Type	Shielded	1.0 m	N/A

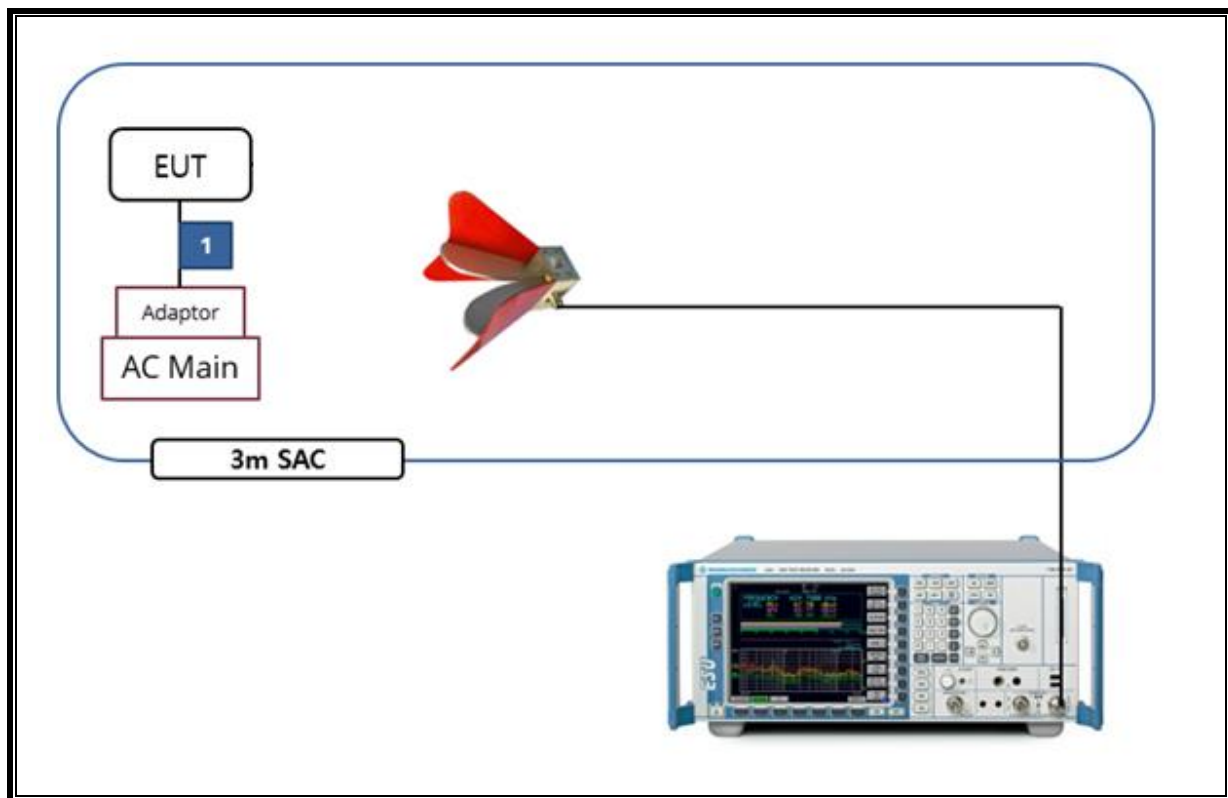
TEST SETUP

The EUT is a stand-alone unit during the tests.
Test software in hidden menu exercised the EUT to enable BLE 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	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	1876511	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	2023-01-18
Spectrum Analyzer, 44 GHz	KEYSIGHT	N9040B	MY60080268	2023-01-19
Average Power Sensor	Agilent / HP	U2000A	MY54270007	2023-08-03
Average Power Sensor	Agilent / HP	U2000A	MY54260010	2023-08-03
Attenuator	PASTERNAK	PE7087-10	A001	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	PASS
2.1051, 15.247(d)	Band Edge / Conducted Spurious Emission	-20 dBc		PASS
15.247 (b)(3)	TX conducted output power	< 30 dBm		PASS
15.247(e)	PSD	< 8 dBm/3kHz		PASS
15.207(a)	AC Power Line conducted emissions	Section 11	Power Line conducted	PASS
15.205, 15.209	Radiated Spurious Emission	< 54dBuV/m(Av)	Radiated	PASS

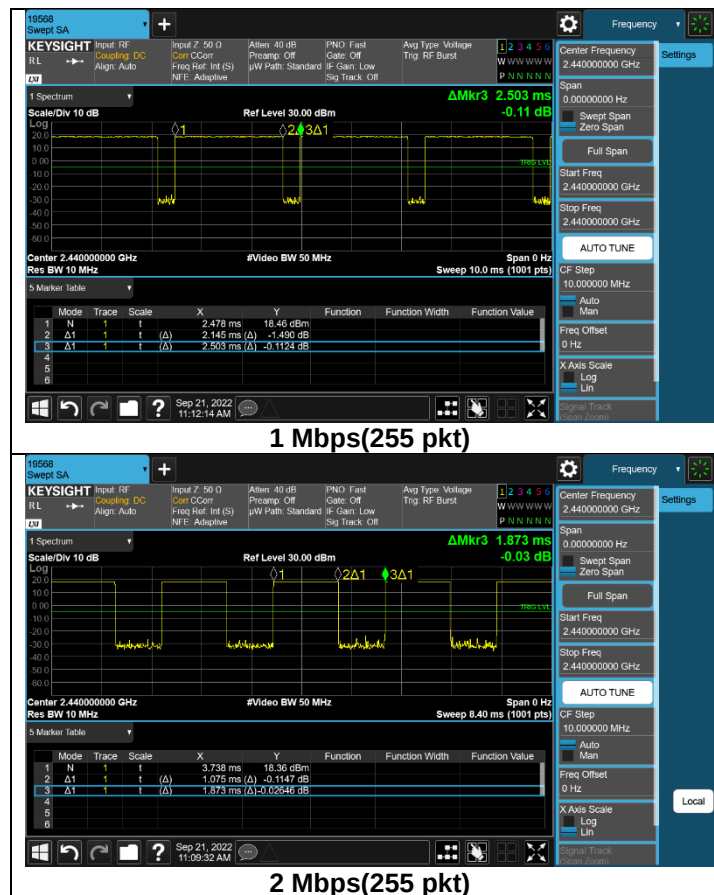
9. ANTENNA PORT TEST RESULTS

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]
2400 ~ 2483.5 MHz Bands						
1 Mbps [255pkt]	2.145	2.503	0.857	85.697	0.67	0.47
2 Mbps [255pkt]	1.075	1.873	0.574	57.395	2.41	0.93



9.2. 6 dB BANDWIDTH

LIMITS

FCC §15.247 (a) (2)

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

RESULTS

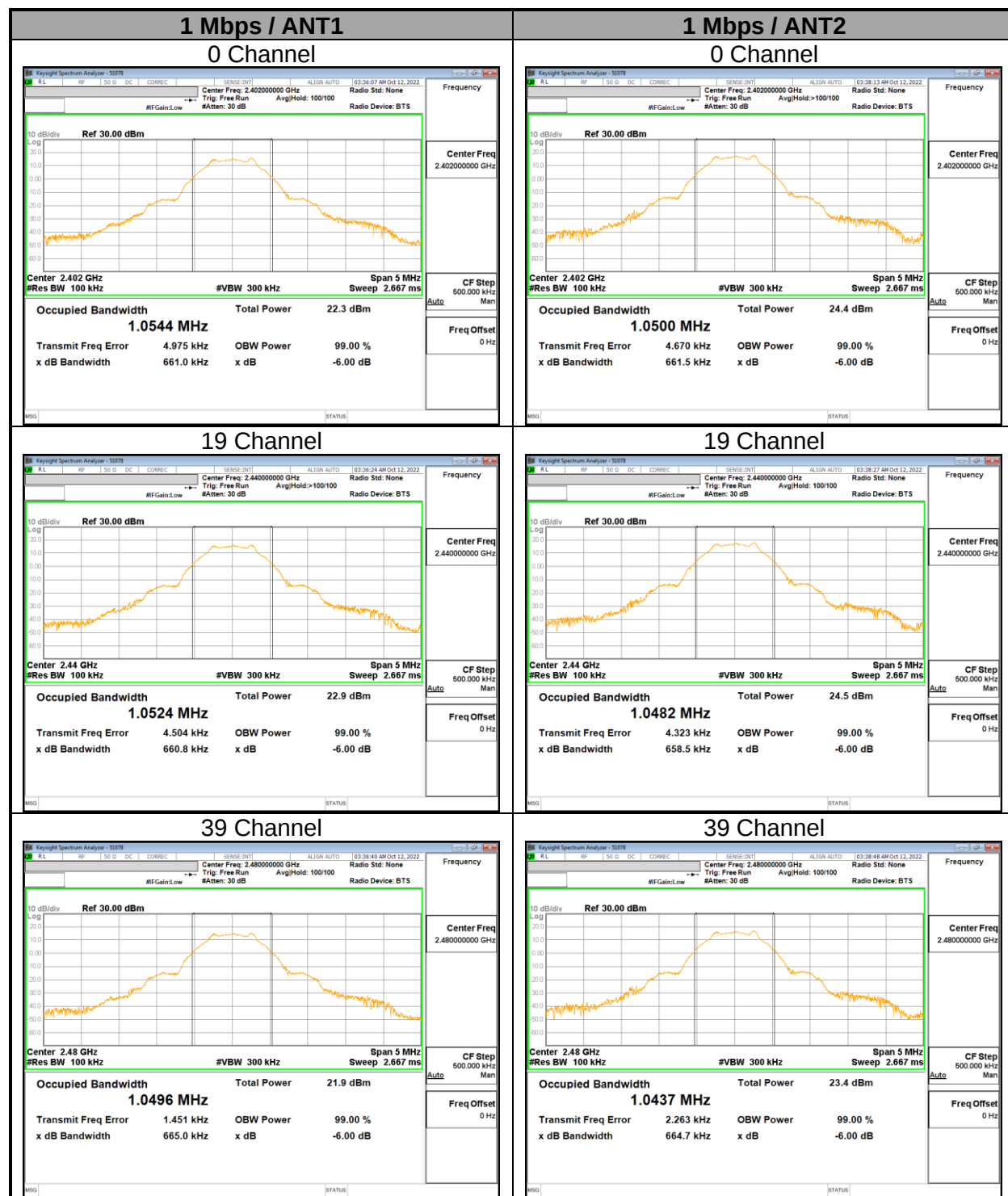
9.2.1. 1 Mbps

Antenna	Channel	Frequency [MHz]	6 dB Bandwidth [kHz]	Minimum Limit [kHz]
ANT1	0	2402	661.0	500.0
	19	2440	660.8	
	39	2480	665.0	
ANT2	0	2402	661.5	
	19	2440	658.5	
	39	2480	664.7	
Worst			658.5	

9.2.2. 2 Mbps

Antenna	Channel	Frequency [MHz]	6 dB Bandwidth [kHz]	Minimum Limit [kHz]
ANT1	0	2402	1 146.0	500.0
	19	2440	1 144.0	
	39	2480	1 131.0	
ANT2	0	2402	1 147.0	
	19	2440	1 141.0	
	39	2480	1 145.0	
Worst			1 131.0	

9.2.3. 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

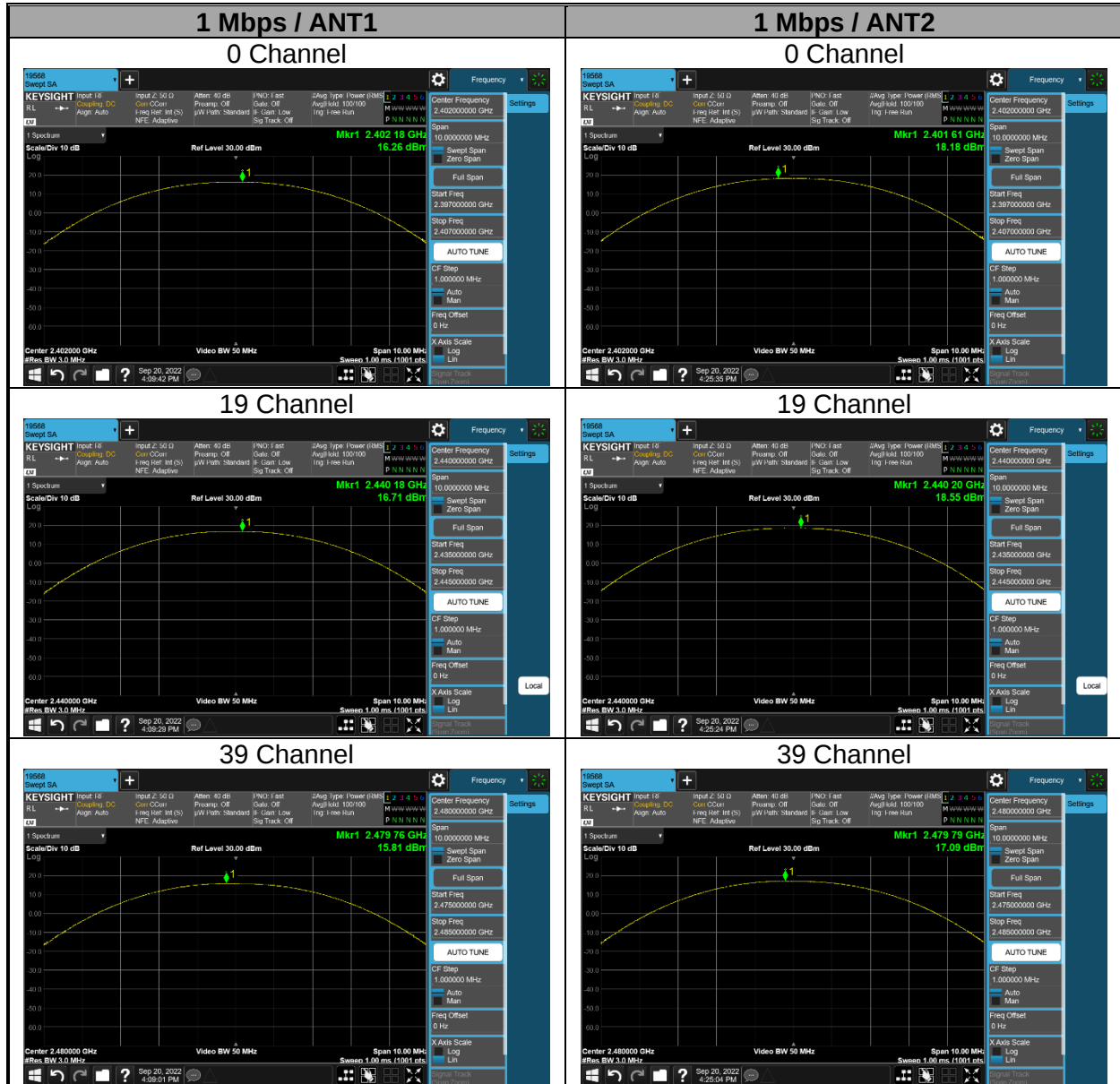
9.3.1. 1 Mbps

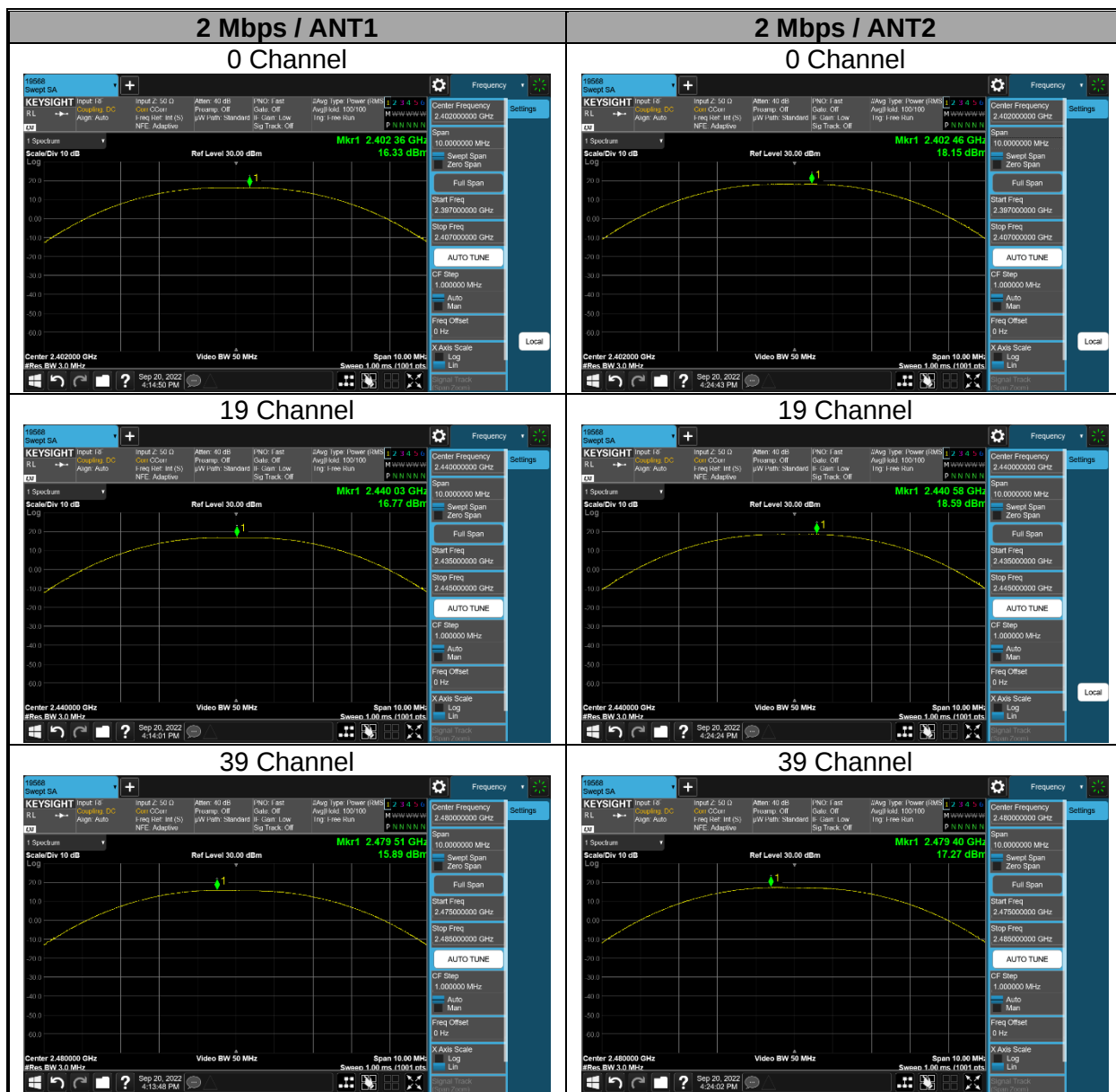
Antenna	Channel	Frequency [MHz]	Peak Output Power [dBm]	Limit [dBm]	Margin [dB]
ANT1	0	2402	16.260	30.000	-13.740
	19	2440	16.710		-13.290
	39	2480	15.810		-14.190
ANT2	0	2402	18.180		-11.820
	19	2440	18.550		-11.450
	39	2480	17.090		-12.910
Worst			18.550		-11.450

9.3.2. 2 Mbps

Antenna	Channel	Frequency [MHz]	Peak Output Power [dBm]	Limit [dBm]	Margin [dB]
ANT1	0	2402	16.330	30.000	-13.670
	19	2440	16.770		-13.230
	39	2480	15.890		-14.110
ANT2	0	2402	18.150		-11.850
	19	2440	18.590		-11.410
	39	2480	17.270		-12.730
Worst			18.590		-11.410

9.3.3. 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. 1 Mbps

Antenna	Channel	Frequency [MHz]	Average Output Power [dBm]	Average Output Power [mW]
ANT1	0	2402	15.620	36.475
	19	2440	16.437	44.025
	39	2480	14.998	31.608
ANT2	0	2402	17.700	58.884
	19	2440	18.052	63.856
	39	2480	16.515	44.823

9.4.2. 2 Mbps

Antenna	Channel	Frequency [MHz]	Average Output Power [dBm]	Average Output Power [mW]
ANT1	0	2402	15.486	35.367
	19	2440	16.273	42.394
	39	2480	14.967	31.383
ANT2	0	2402	17.477	55.937
	19	2440	17.889	61.504
	39	2480	16.495	44.617

9.5. 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.

TEST PROCEDURE

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

RESULTS

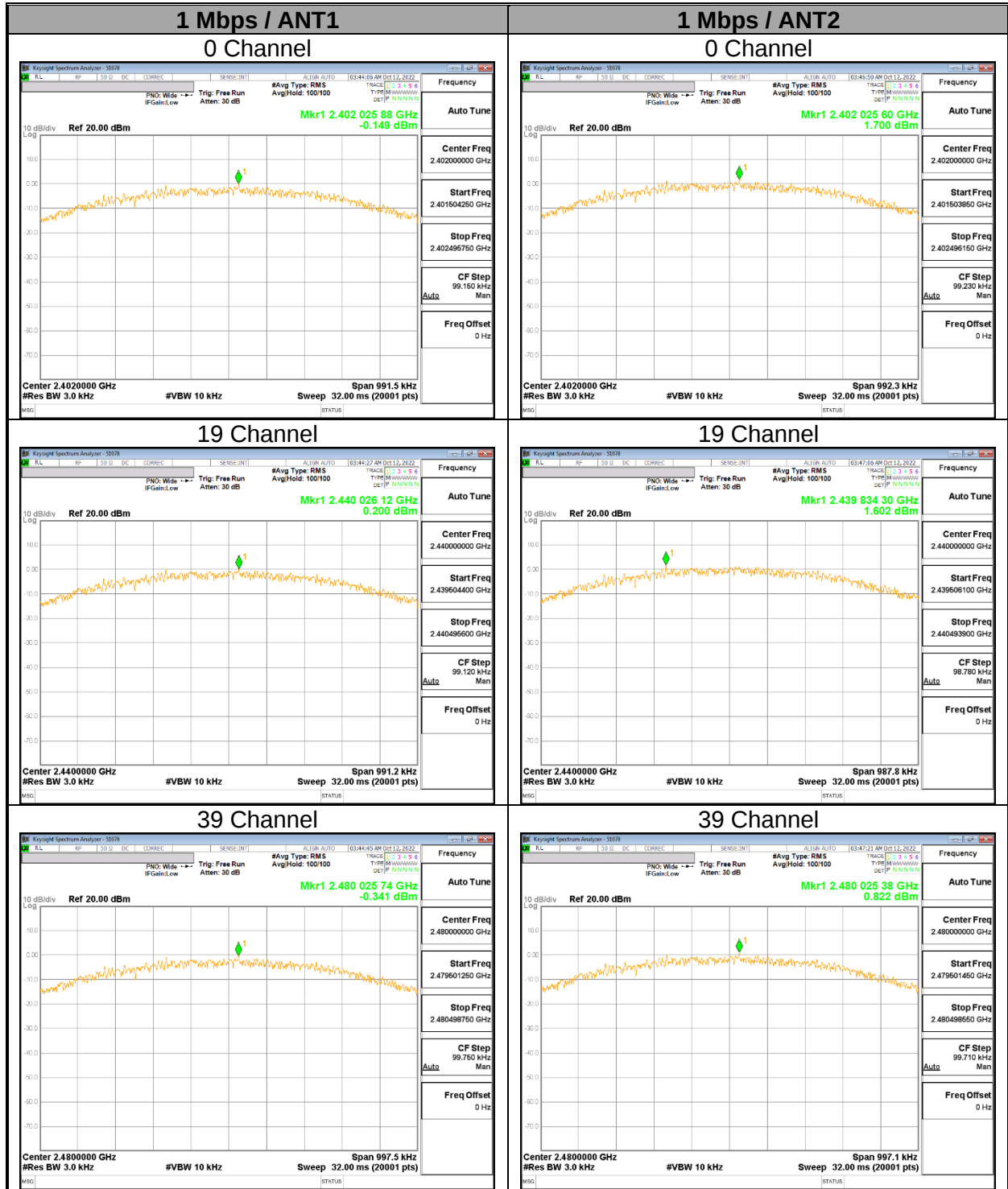
9.5.1. 1 Mbps

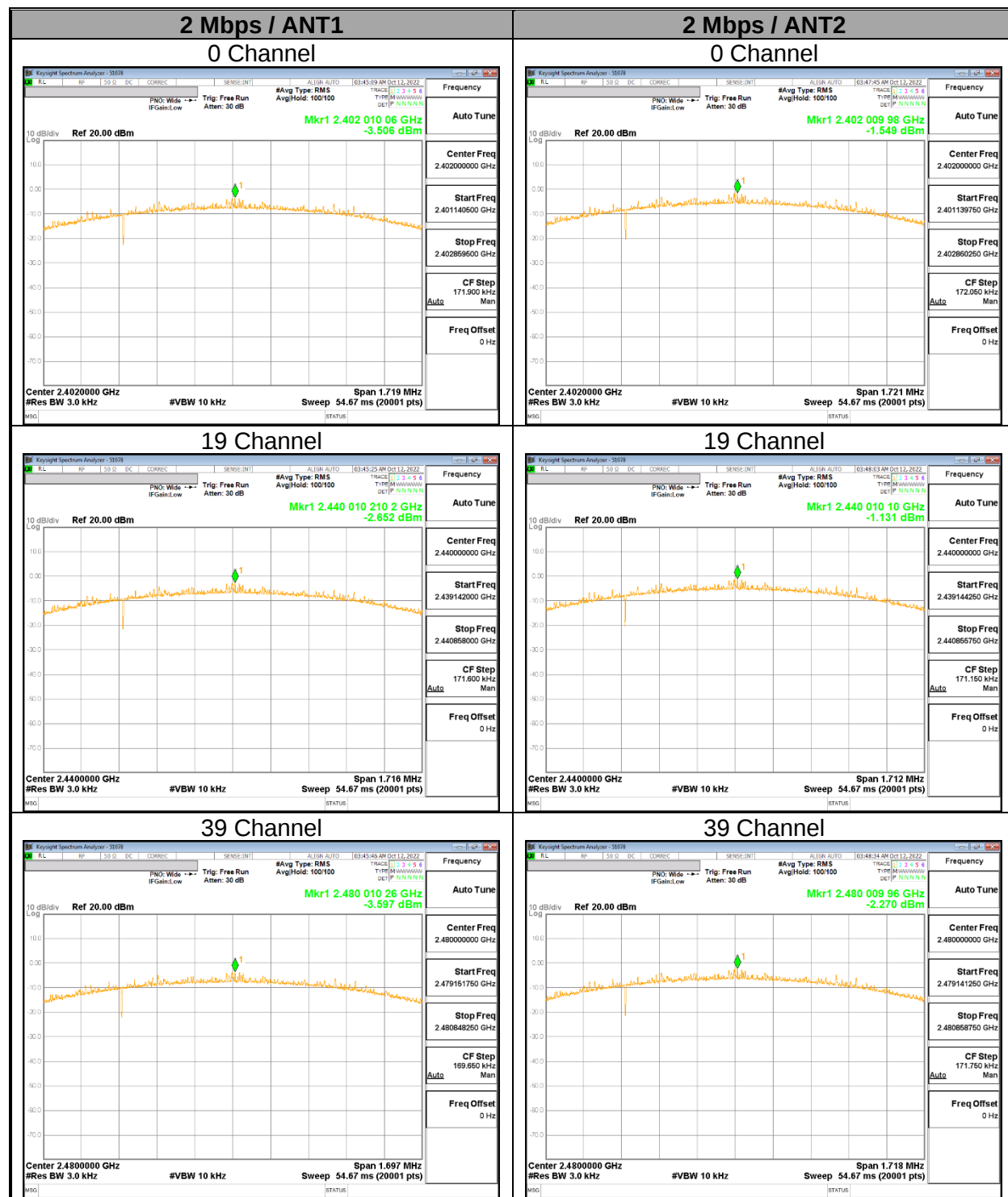
Antenna	Channel	Frequency [MHz]	PSD [dBm/3kHz]	Limit [dBm/3kHz]	Margin [dB]
ANT1	0	2402	-0.149	8.00	-8.149
	19	2440	0.200		-7.800
	39	2480	-0.341		-8.341
ANT2	0	2402	1.700		-6.300
	19	2440	1.602		-6.398
	39	2480	0.822		-7.178
Worst			1.700		-6.300

9.5.2. 2 Mbps

Antenna	Channel	Frequency [MHz]	PSD [dBm/3kHz]	Limit [dBm/3kHz]	Margin [dB]
ANT1	0	2402	-3.506	8.00	-11.506
	19	2440	-2.652		-10.652
	39	2480	-3.597		-11.597
ANT2	0	2402	-1.549		-9.549
	19	2440	-1.131		-9.131
	39	2480	-2.270		-10.270
Worst			-1.131		-9.131

9.5.3. PSD TEST PLOTS





9.6. CONDUCTED SPURIOUS EMISSIONS

LIMITS

FCC §15.247 (d)

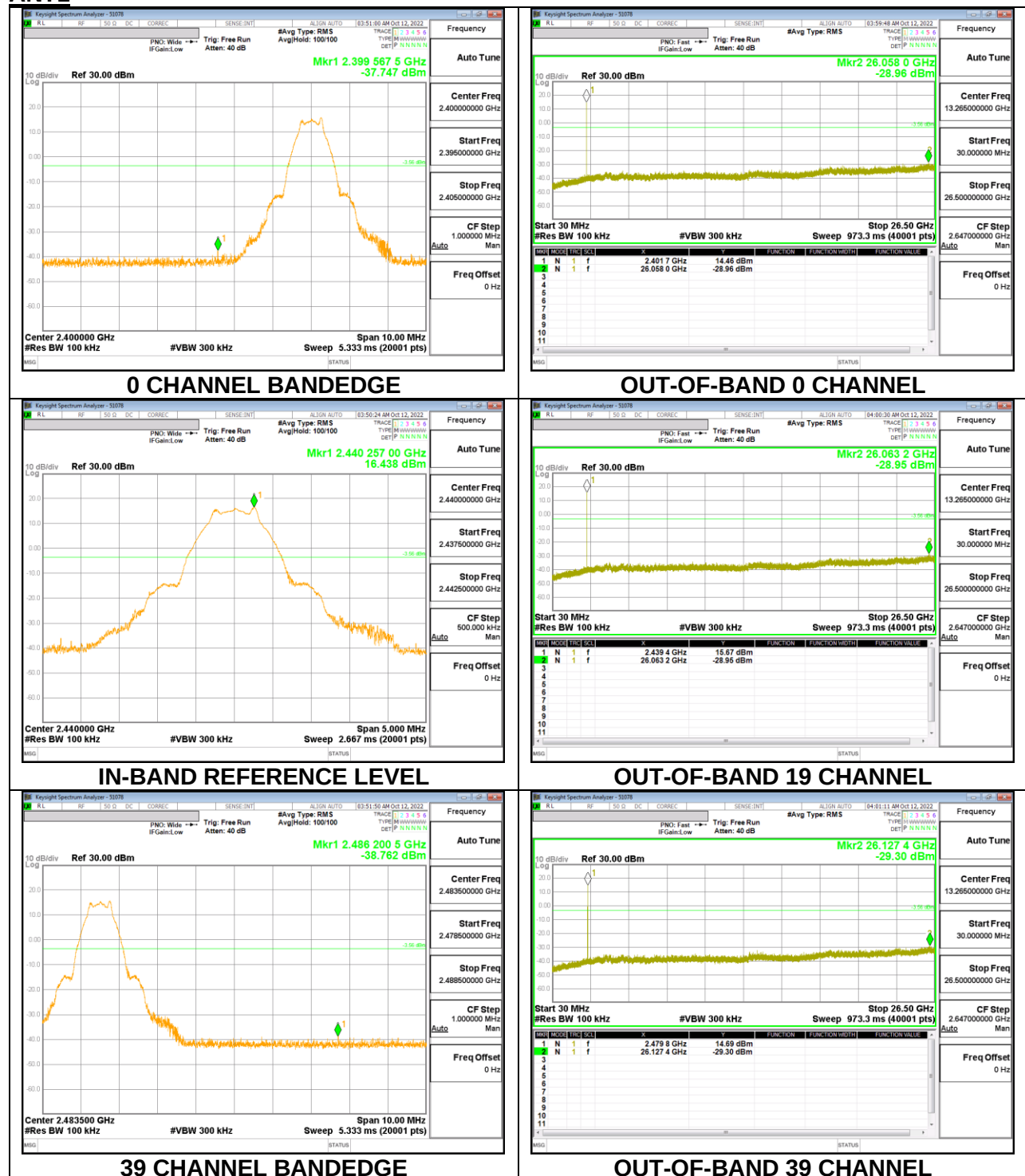
RSS-247 5.5

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

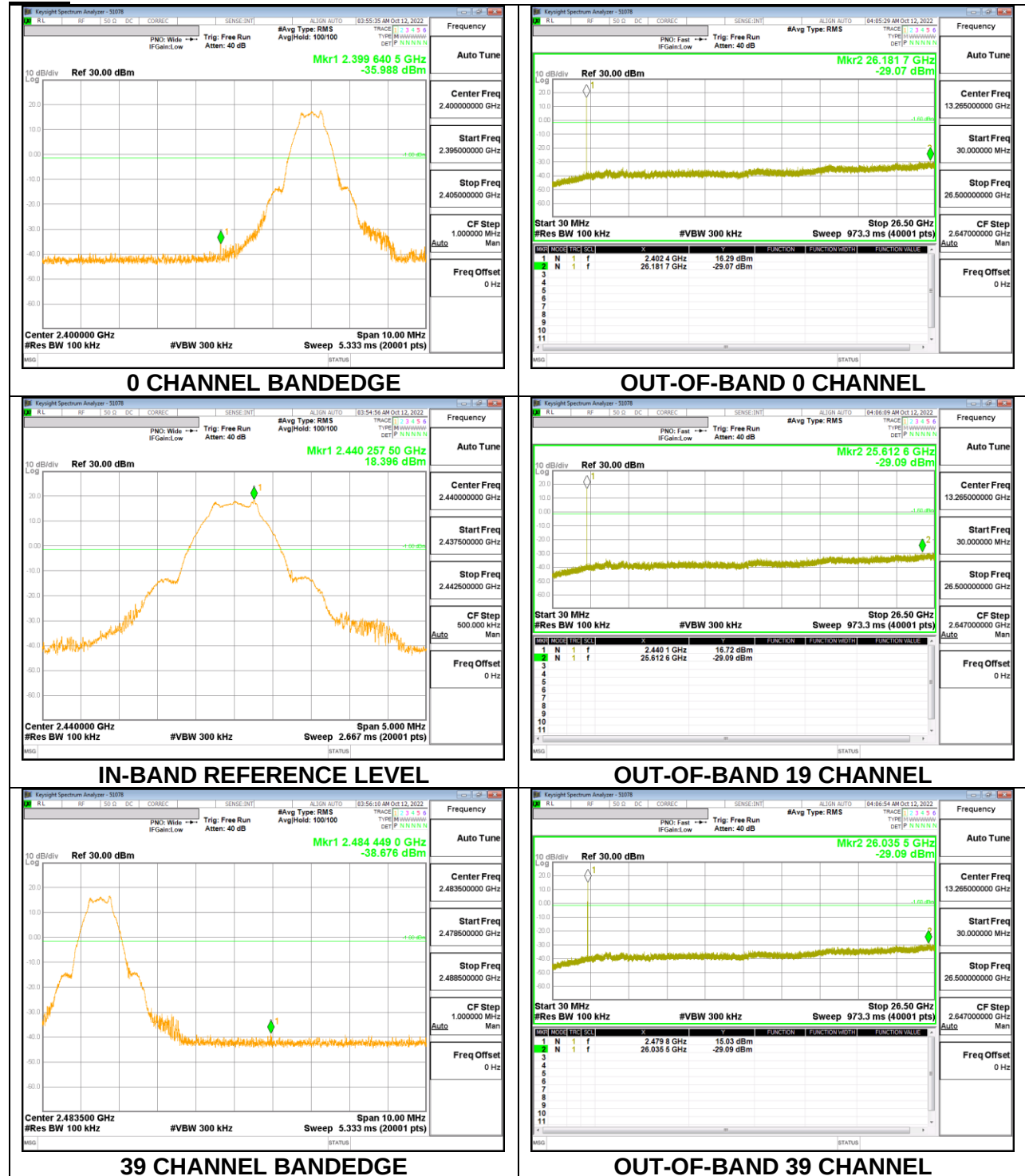
RESULTS

9.6.1. 1 Mbps

ANT1

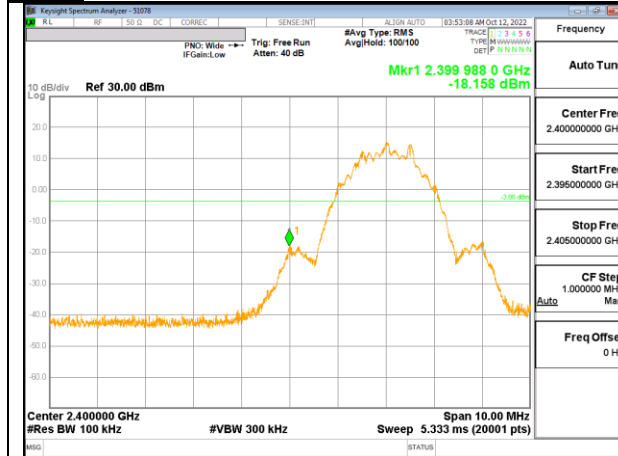


ANT2

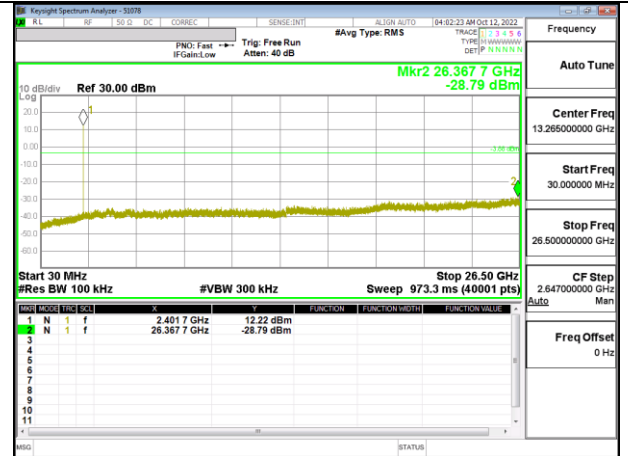


9.6.2. 2 Mbps

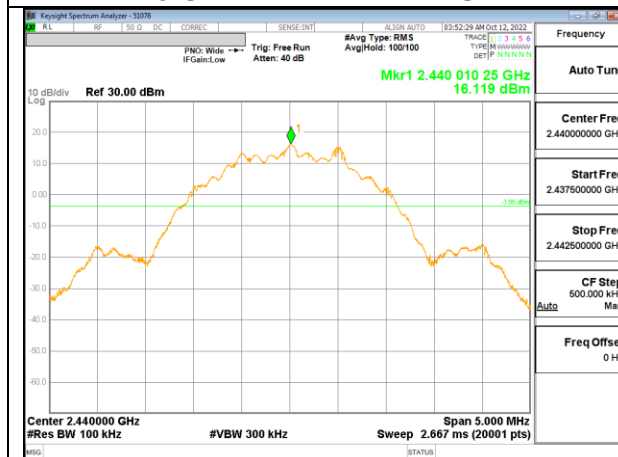
ANT1



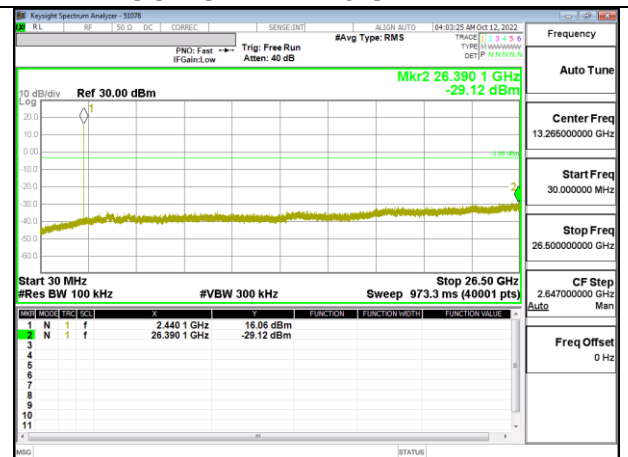
0 CHANNEL BANDEDGE



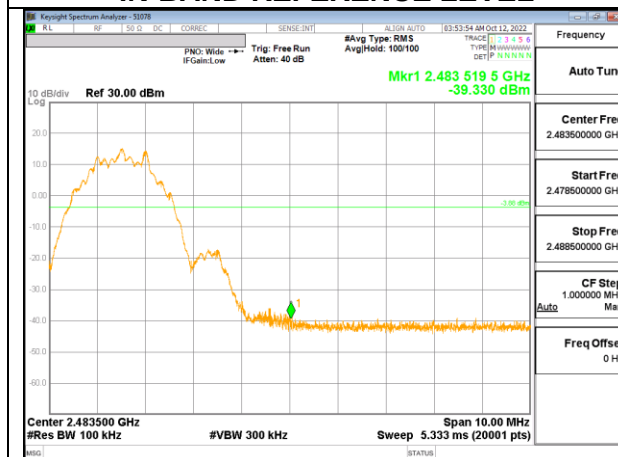
OUT-OF-BAND 0 CHANNEL



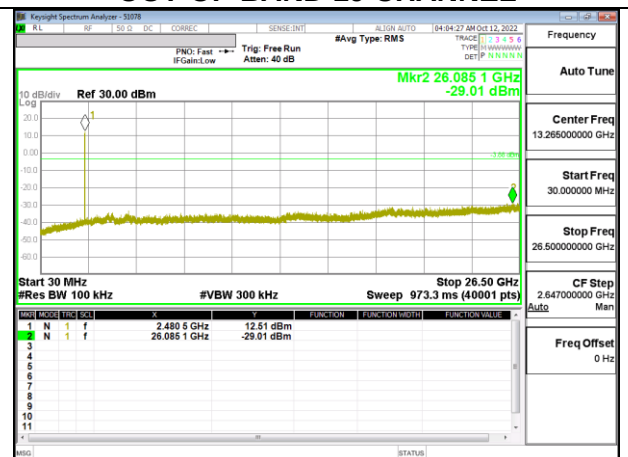
IN-BAND REFERENCE LEVEL



OUT-OF-BAND 19 CHANNEL

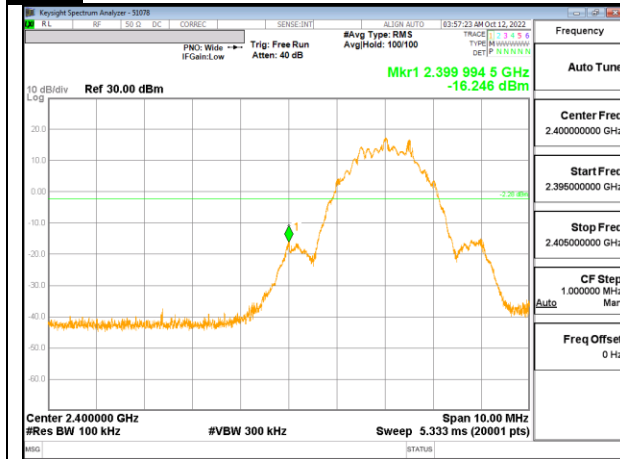


39 CHANNEL BANDEDGE

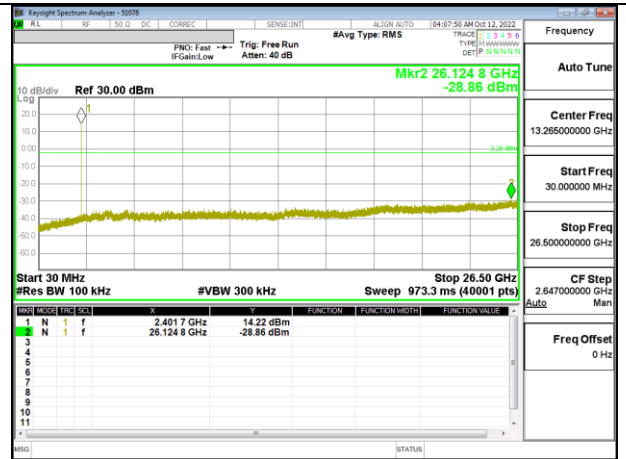


OUT-OF-BAND 39 CHANNEL

ANT2



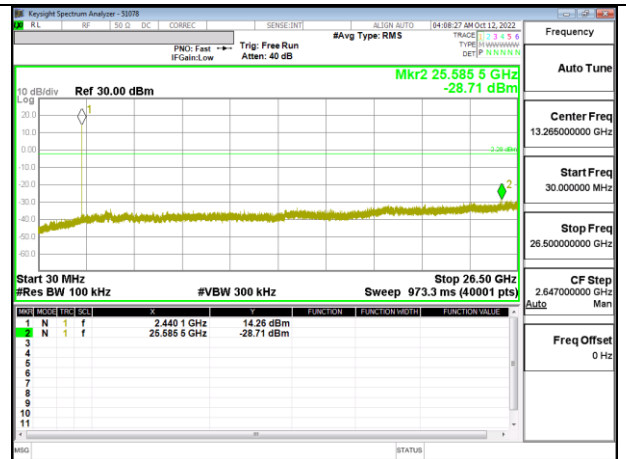
0 CHANNEL BANDEDGE



OUT-OF-BAND 0 CHANNEL



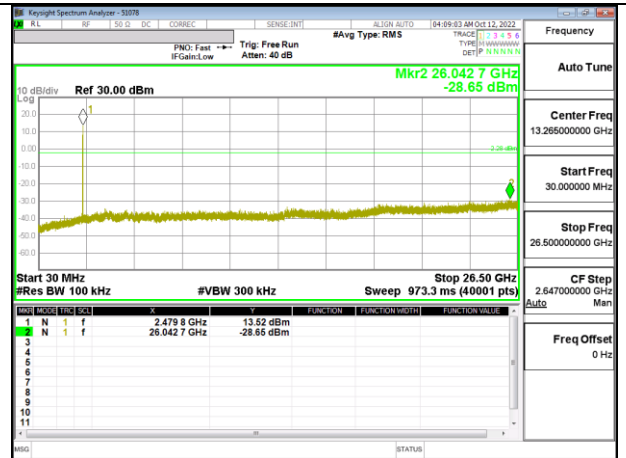
IN-BAND REFERENCE LEVEL



OUT-OF-BAND 19 CHANNEL



39 CHANNEL BANDEDGE



OUT-OF-BAND 39 CHANNEL

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 = $10\log(1/0.857) = 0.670$ dB (Spectrum Analyzer round it up to 0.67 dB) and for 2 Mbps, DCF = $10\log(1/0.574) = 2.411$ dB (Spectrum Analyzer round it up to 2.41 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 are 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.

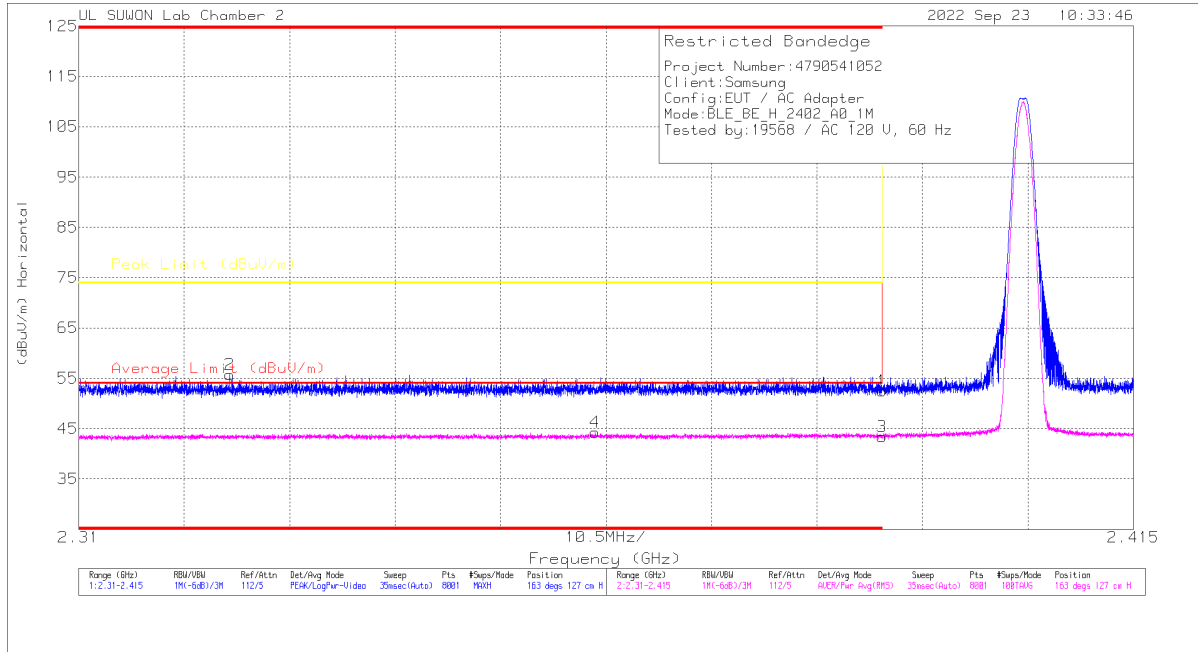
10.2. TRANSMITTER ABOVE 1 GHz

10.2.1. 1 Mbps

ANT1

BANDEDGE (0 CHANNEL)

HORIZONTAL RESULT



Trace Markers

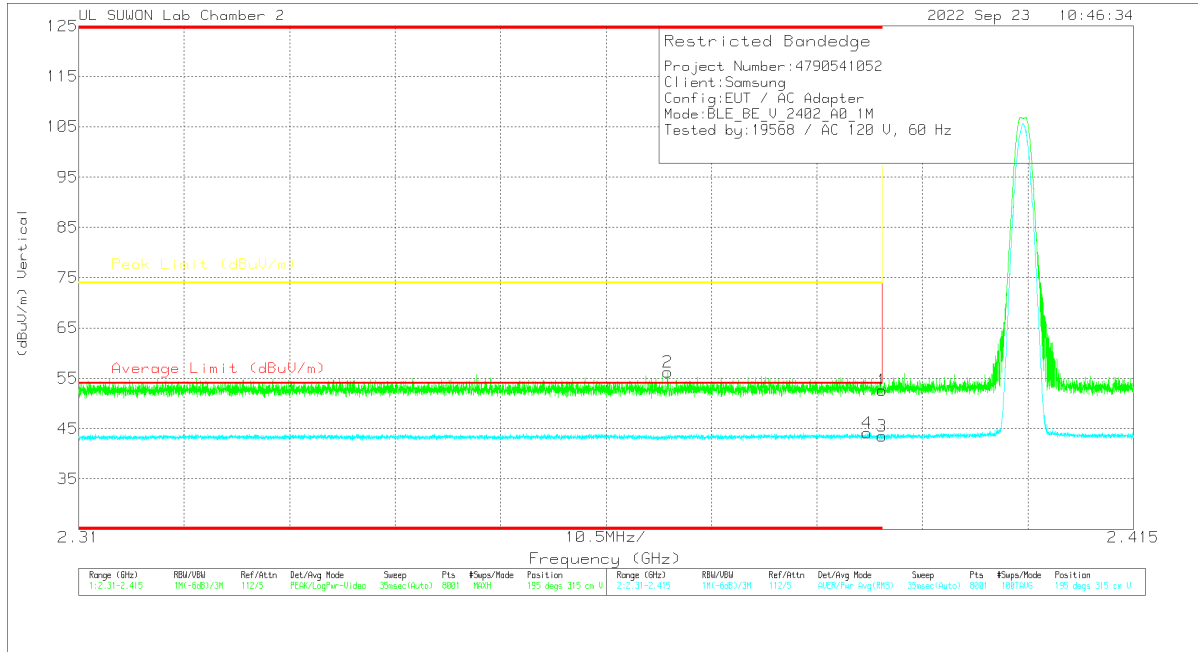
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	10dB_ATT(dB)	DC Cor (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	40.46	PK	31.7	-19.7	0	52.46	-	-	74	-21.54	163	127	H
2	* 2.32502	43.69	PK	31.6	-19.6	0	55.69	-	-	74	-18.31	163	127	H
3	* 2.39	30.68	RMS	31.7	-19.7	67	43.35	54	-10.65	-	-	163	127	H
4	* 2.36142	31.48	RMS	31.6	-19.5	67	44.25	54	-9.75	-	-	163	127	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_00168724	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	* 2.39	40.59	PK	31.7	-19.7	0	52.59	-	-	74	-21.41	195	315	V
2	* 2.36862	44.19	PK	31.7	-19.7	0	56.19	-	-	74	-17.81	195	315	V
3	* 2.39	30.81	RMS	31.7	-19.7	67	43.48	54	-10.52	-	-	195	315	V
4	* 2.3885	31.39	RMS	31.7	-19.6	67	44.16	54	-9.84	-	-	195	315	V

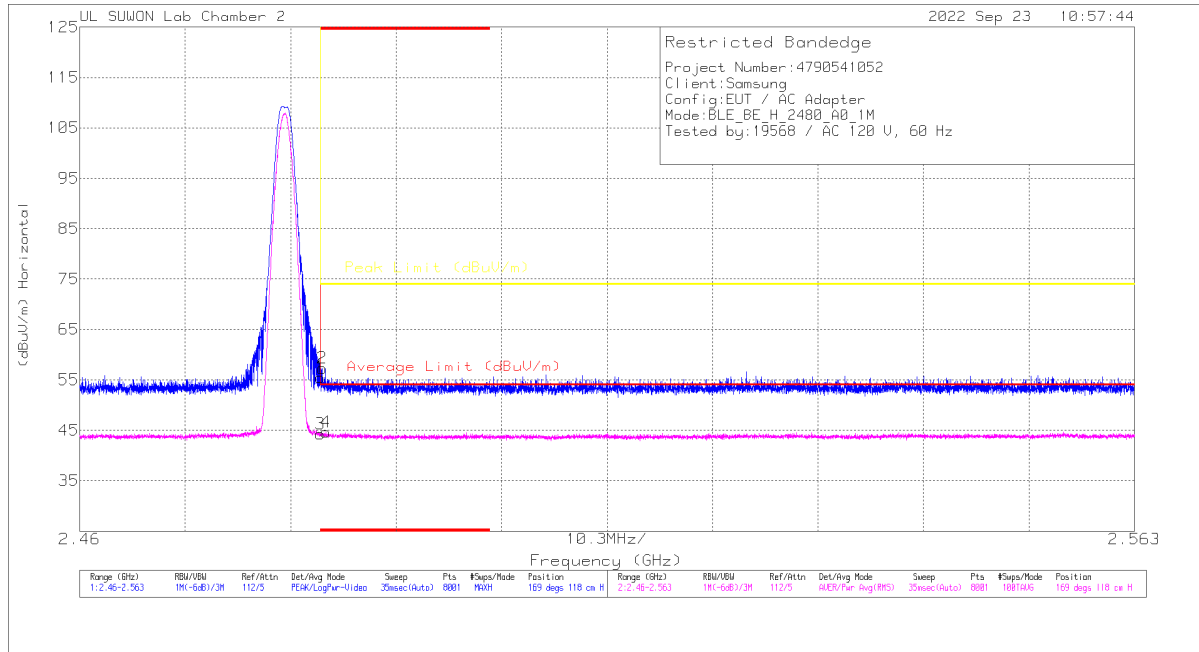
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

PK - Peak detector

RMS - RMS detection

BANDEDGE (39 CHANNEL)

HORIZONTAL RESULT

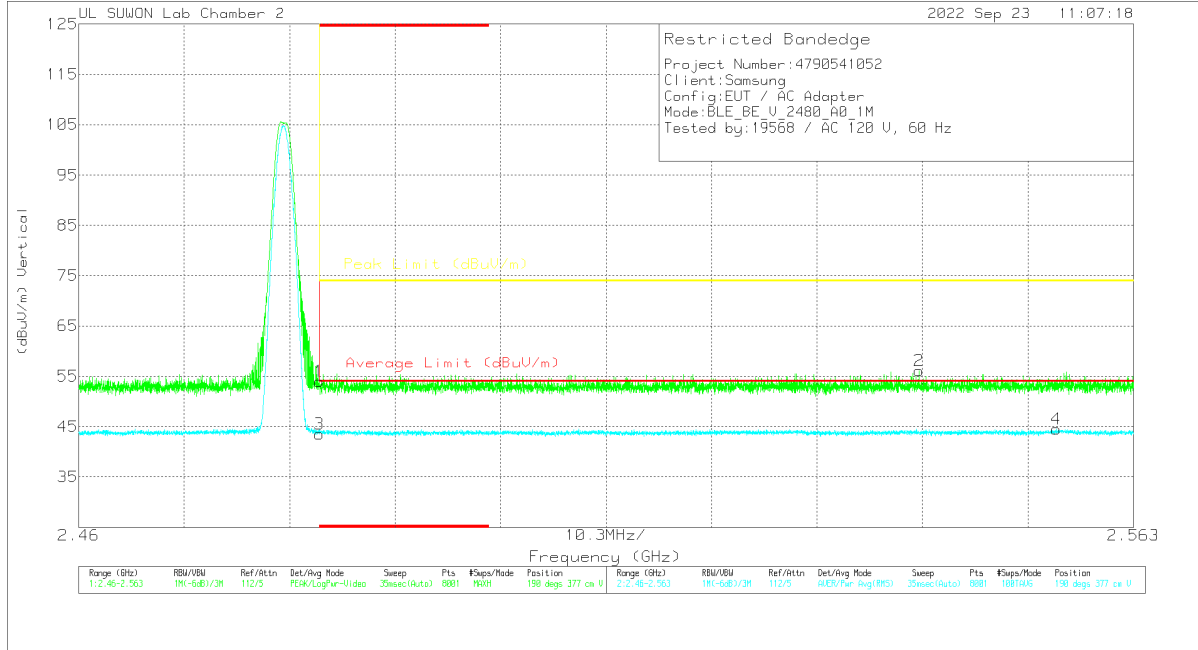


Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	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	* 2.48351	43.25	Pk	31.9	-19.6	0	55.55	-	-	74	-18.45	169	118	H
2	* 2.48369	45	Pk	31.9	-19.6	0	57.3	-	-	74	-16.7	169	118	H
3	* 2.48351	31.33	RMS	31.9	-19.6	67	44.3	54	-9.7	-	-	169	118	H
4	* 2.48405	31.63	RMS	31.9	-19.6	67	44.6	54	-9.4	-	-	169	118	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_00168724	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	* 2.48351	41.75	PK	31.9	-19.6	0	54.05	-	-	74	-19.95	190	377	V
2	2.54208	43.56	PK	32	-19.4	0	56.16	-	-	74	-17.84	190	377	V
3	* 2.48351	30.53	RMS	31.9	-19.6	67	43.5	54	-10.5	-	-	190	377	V
4	2.55547	31.17	RMS	32	-19.3	67	44.54	54	-9.46	-	-	190	377	V

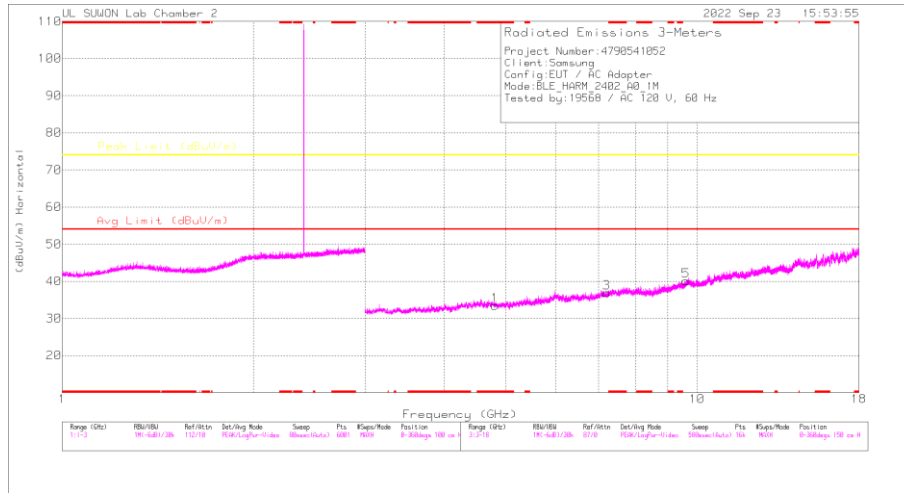
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

PK - Peak detector

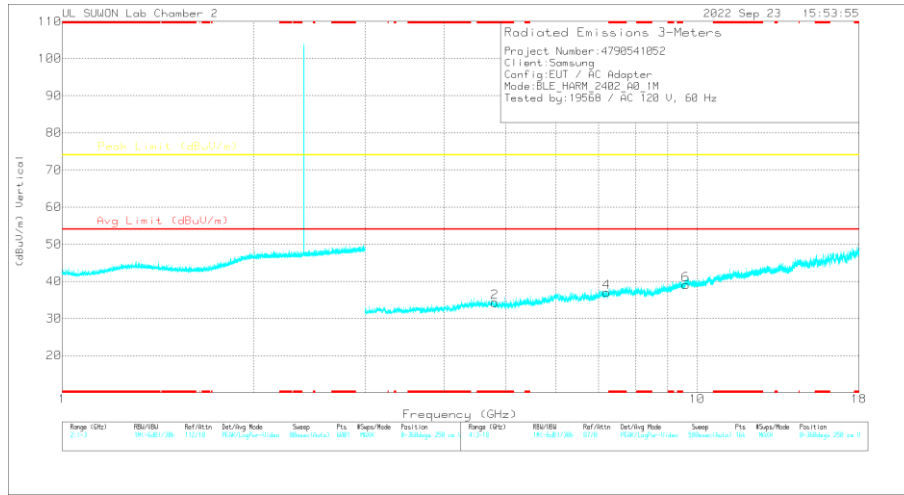
RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS

0 CHANNEL RESULTS



HORIZONTAL



VERTICAL

Radiated Emissions

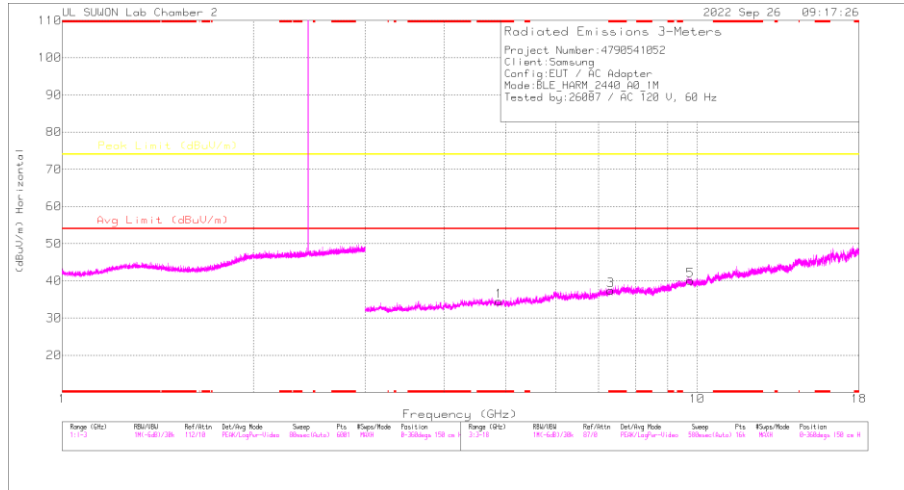
Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	3GHz_HP[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.78312	28.91	PK2	34	-27.5	0	35.41	-	-	74	-38.59	0	100	H
* 4.78141	29.23	PK2	34	-27.5	0	35.73	-	-	74	-38.27	0	100	V
7.22609	25.31	PK2	35.7	-25.2	0	35.81	-	-	74	-38.19	0	100	H
7.23055	26.83	PK2	35.7	-25.2	0	37.33	-	-	74	-36.67	0	100	V
9.58577	22.16	PK2	36.9	-21.5	0	37.56	-	-	74	-36.44	0	100	H
9.62614	27.38	PK2	37	-21.1	0	43.28	-	-	74	-30.72	0	100	V

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

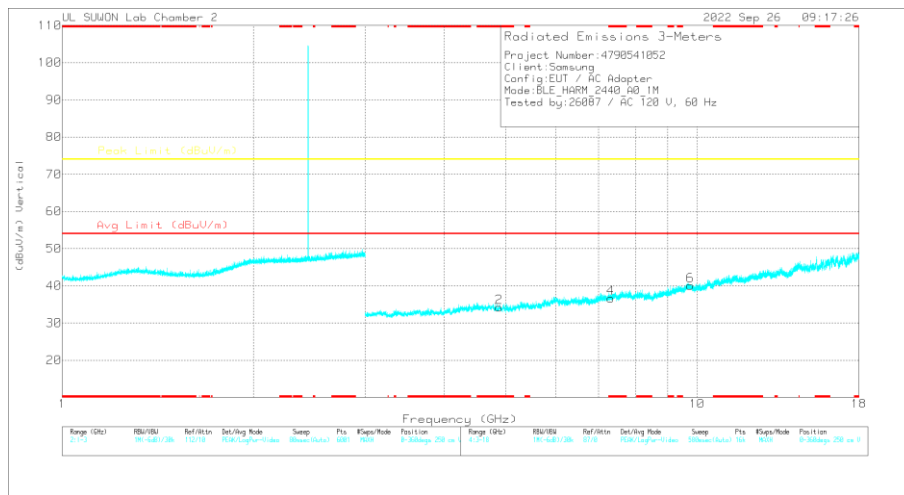
PK2 - KDB558074 Method: Maximum Peak

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

19 CHANNEL RESULTS



HORIZONTAL



VERTICAL

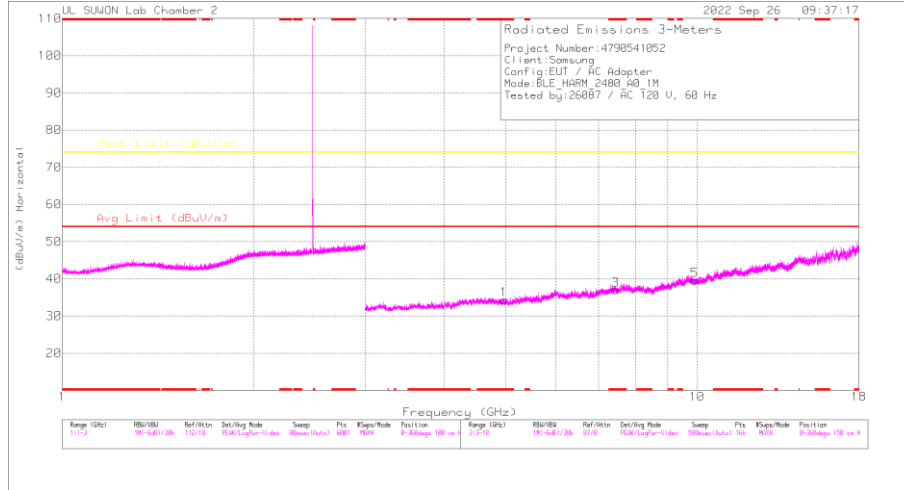
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	3GHz_HP[dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.87963	27.56	PK2	34	-27.7	33.86	-	-	74	-40.14	0	100	H
* 4.8804	30.7	PK2	34	-27.6	37.1	-	-	74	-36.9	0	100	V
* 7.32141	27.05	PK2	35.7	-24.5	38.25	-	-	74	-35.75	0	100	H
* 7.32067	28.94	PK2	35.7	-24.5	40.14	-	-	74	-33.86	0	100	V
9.76083	25.09	PK2	37.1	-21	41.19	-	-	74	-32.81	0	100	H
9.76208	26.51	PK2	37.1	-21	42.61	-	-	74	-31.39	0	100	V

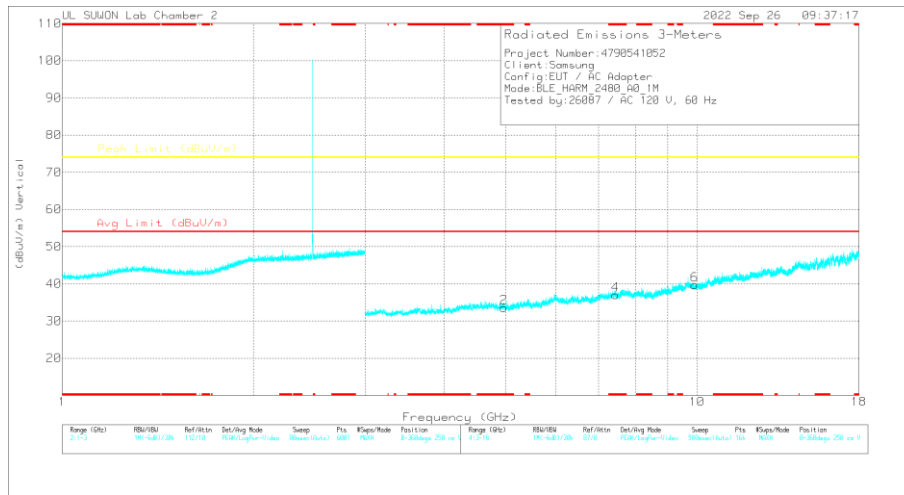
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK2 - KDB558074 Method: Maximum Peak

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

39 CHANNEL RESULTS



HORIZONTAL



VERTICAL

Radiated Emissions

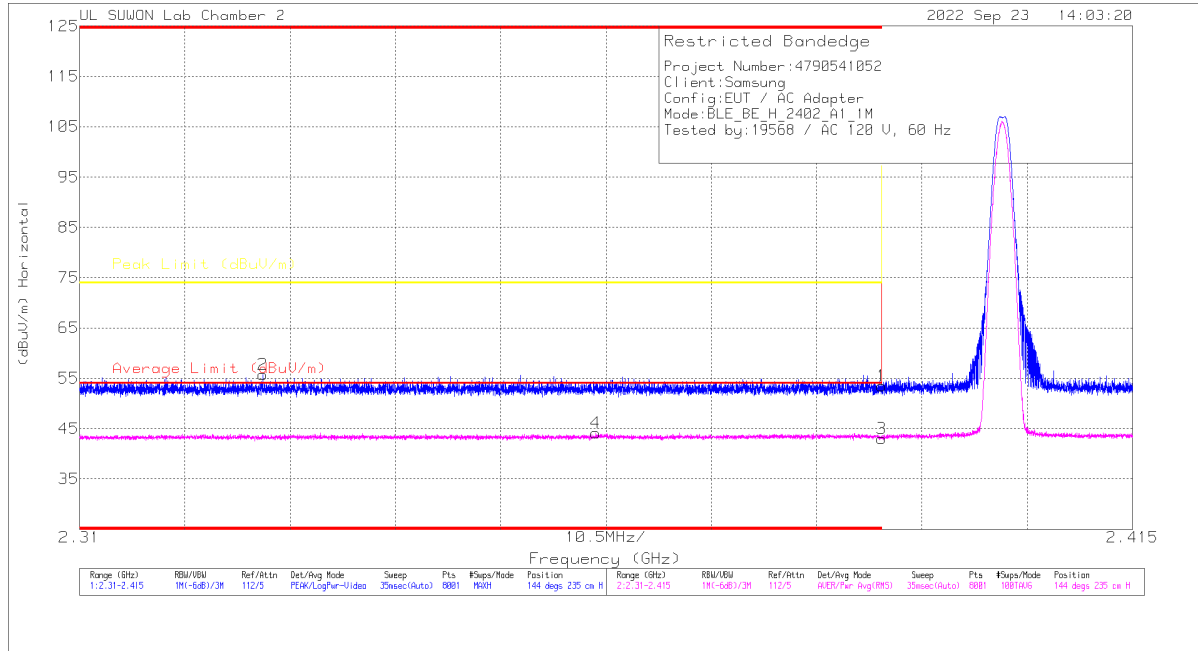
Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	3GHz_HP[dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.95936	30.25	PK2	34	-27	37.25	-	-	74	-36.75	0	100	H
* 4.96184	28.88	PK2	34	-27	35.88	-	-	74	-38.12	0	100	V
* 7.43967	24.79	PK2	35.7	-23.7	36.79	-	-	74	-37.21	0	100	H
* 7.44148	28.08	PK2	35.7	-23.7	40.08	-	-	74	-33.92	0	100	V
9.92086	24.82	PK2	37.3	-21.1	41.02	-	-	74	-32.98	0	100	H
9.92086	23.68	PK2	37.3	-21.1	39.88	-	-	74	-34.12	0	100	V

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

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

ANT2
BANDEDGE (0 CHANNEL)

HORIZONTAL RESULT

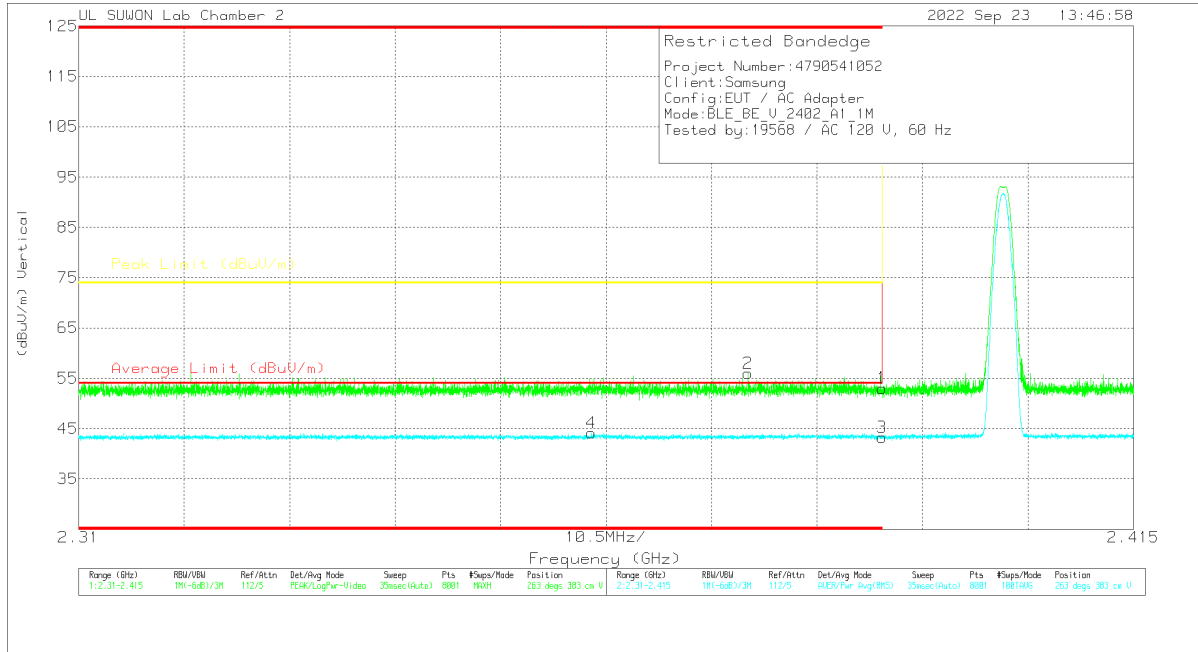


Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	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	* 2.39	41.44	Pk	31.7	-19.7	0	53.44	-	-	74	-20.56	144	235	H
2	* 2.32824	43.73	Pk	31.6	-19.6	0	55.73	-	-	74	-18.27	144	235	H
3	* 2.39	30.95	RMS	31.7	-19.7	67	43.02	54	-10.98	-	-	144	235	H
4	* 2.36148	31.43	RMS	31.6	-19.5	67	44.2	54	-9.8	-	-	144	235	H

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

VERTICAL RESULT

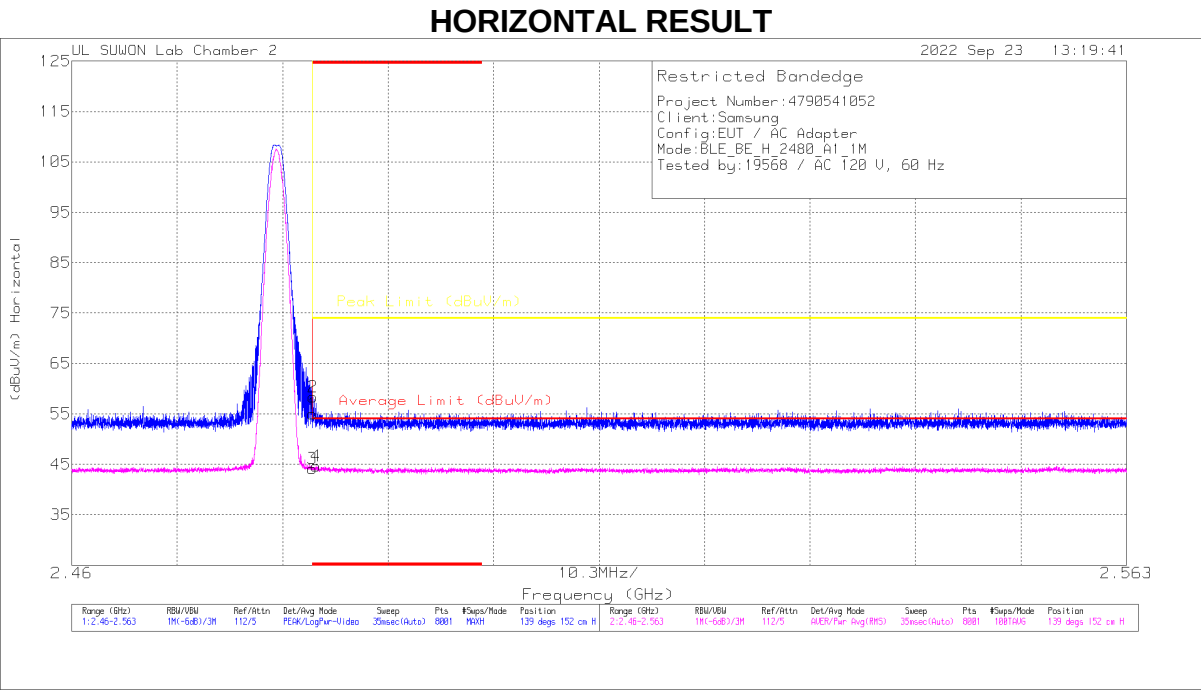


Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	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	* 2.39	41.06	PK	31.7	-19.7	0	53.06	-	-	74	-20.94	263	383	V
2	* 2.37664	43.87	PK	31.7	-19.6	0	55.97	-	-	74	-18.03	263	383	V
3	* 2.39	30.55	RMS	31.7	-19.7	67	43.22	54	-10.78	-	-	263	383	V
4	* 2.36106	31.37	RMS	31.6	-19.5	67	44.14	54	-9.86	-	-	263	383	V

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

BANDEDGE (39 CHANNEL)

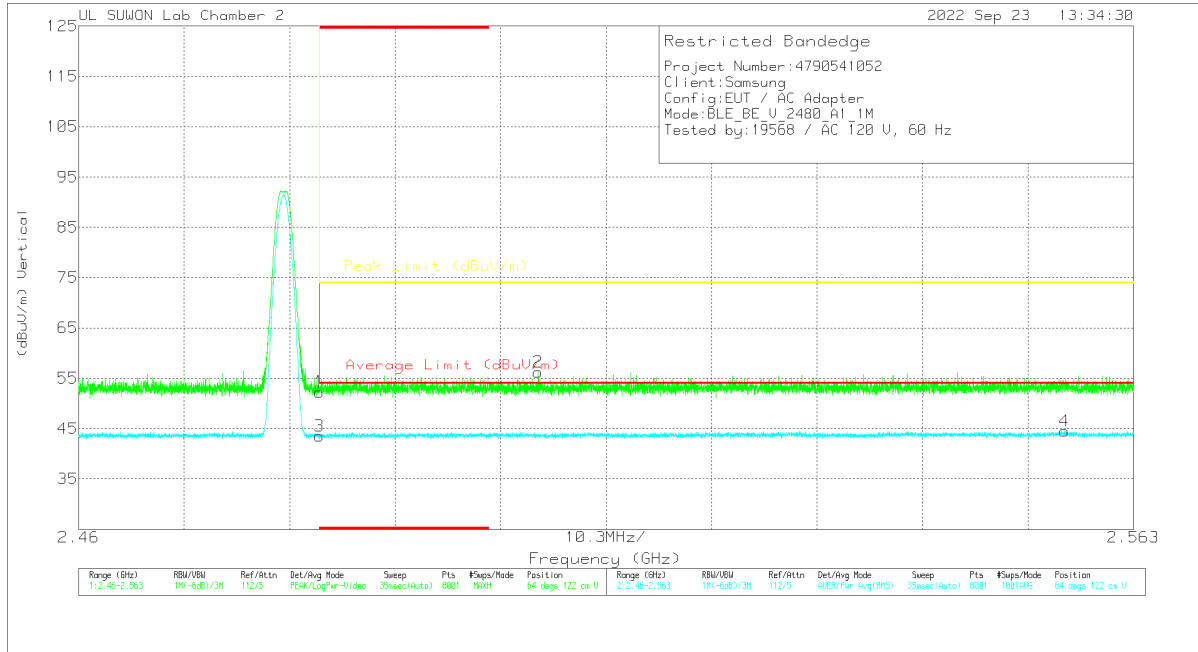


Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	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	* 2.48351	42.68	Pk	31.9	-19.6	0	54.98	-	-	74	-19.02	139	152	H
2	* 2.48355	46.1	Pk	31.9	-19.6	0	58.4	-	-	74	-15.6	139	152	H
3	* 2.48351	31.22	RMS	31.9	-19.6	67	44.19	54	-9.81	-	-	139	152	H
4	* 2.48387	31.65	RMS	31.9	-19.6	67	44.62	54	-9.38	-	-	139	152	H

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

VERTICAL RESULT



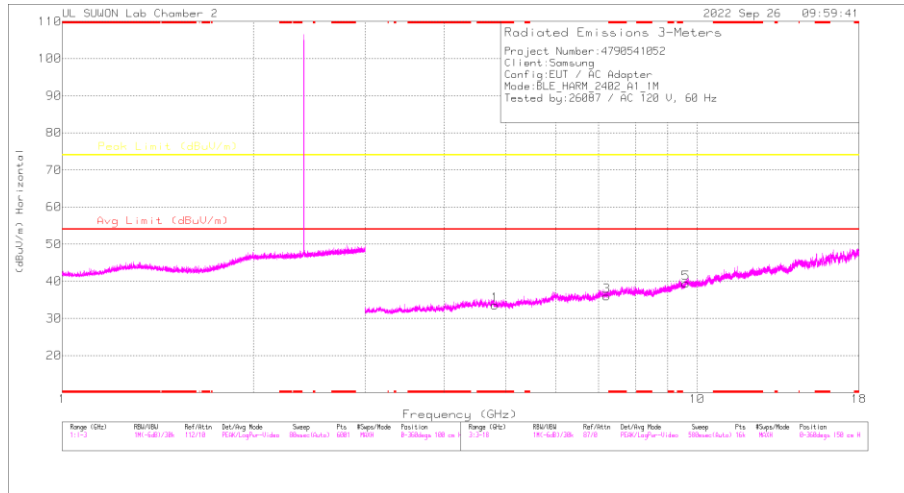
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	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	* 2.48351	40.01	PK	31.9	-19.6	0	52.31	-	-	74	-21.69	64	122	V
2	2.50488	43.99	PK	31.9	-19.6	0	56.29	-	-	74	-17.71	64	122	V
3	* 2.48351	30.6	RMS	31.9	-19.6	67	43.57	54	-10.43	-	-	64	122	V
4	2.55628	31.19	RMS	32	-19.3	67	44.56	54	-9.44	-	-	64	122	V

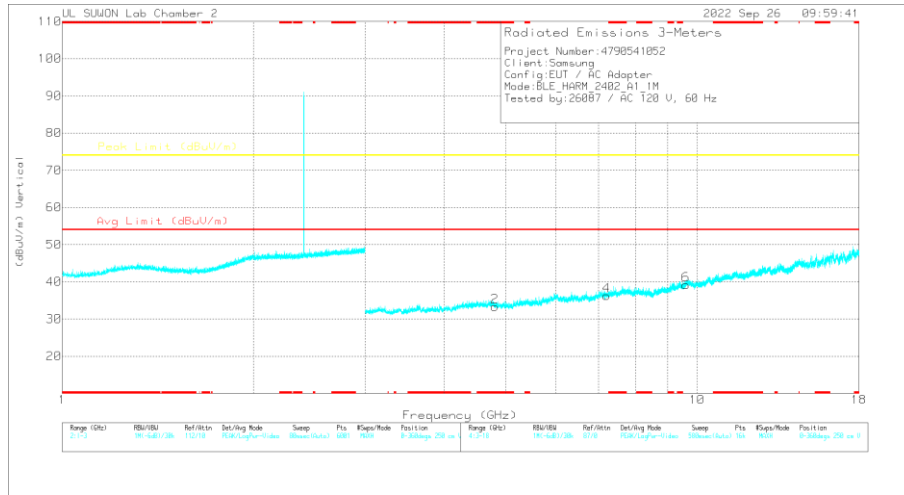
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK - Peak detector
RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS

0 CHANNEL RESULTS



HORIZONTAL



VERTICAL

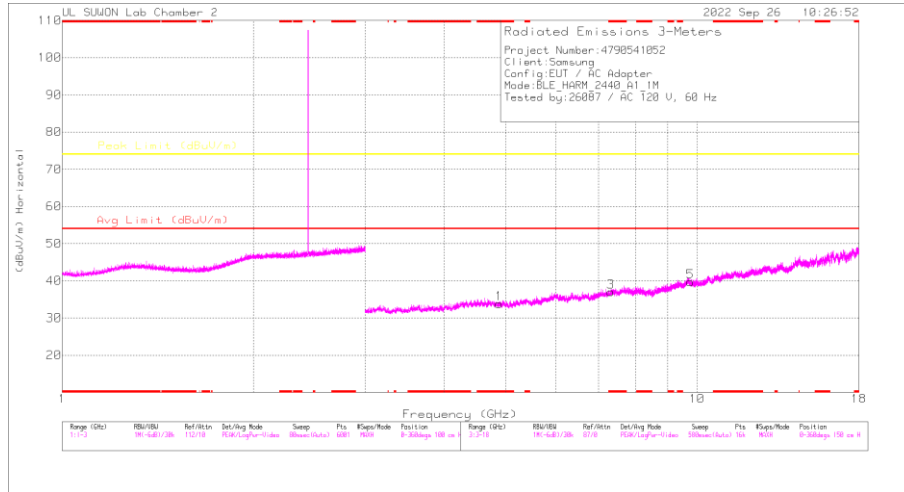
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	3GHz_HP[dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.80539	27.48	PK2	34	-27.7	33.78	-	-	74	-40.22	0	100	H
* 4.80617	29.4	PK2	34	-27.7	35.7	-	-	74	-38.3	0	100	V
7.20714	27.32	PK2	35.7	-25.1	37.92	-	-	74	-36.08	0	100	H
7.20657	27.62	PK2	35.7	-25	38.32	-	-	74	-35.68	0	100	V
9.60782	19.47	PK2	36.9	-21.3	35.07	-	-	74	-38.93	0	100	H
9.60782	26.9	PK2	36.9	-21.3	42.5	-	-	74	-31.5	0	100	V

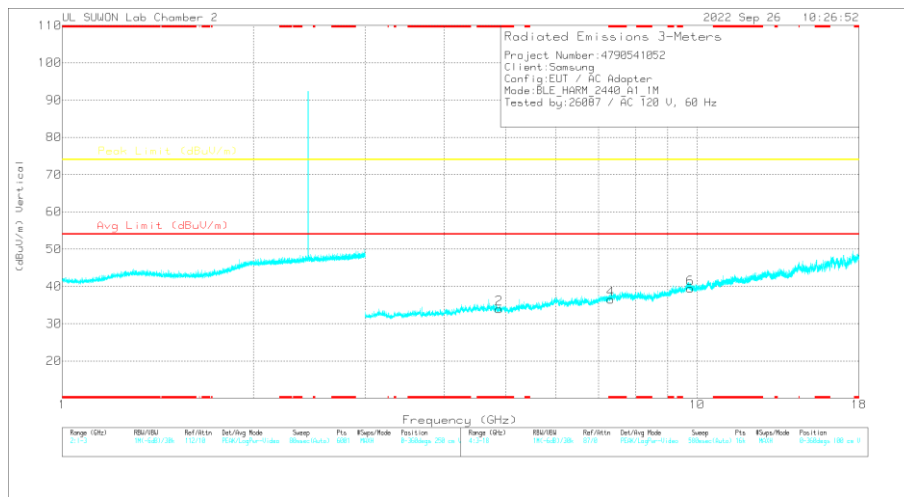
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK2 - KDB558074 Method: Maximum Peak

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

19 CHANNEL RESULTS



HORIZONTAL



VERTICAL

Radiated Emissions

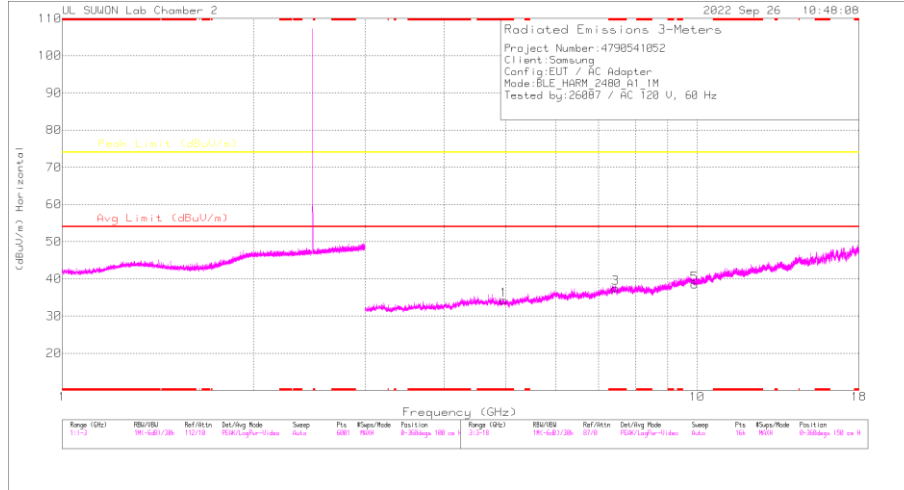
Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	3GHz_HP[dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.88131	27.34	PK2	34	-27.6	33.74	-	-	74	-40.26	0	100	H
* 4.87926	29.33	PK2	34	-27.7	35.63	-	-	74	-38.37	0	100	V
* 7.32113	26.95	PK2	35.7	-24.5	38.15	-	-	74	-35.85	0	100	H
* 7.32022	27.15	PK2	35.7	-24.6	38.25	-	-	74	-35.75	0	100	V
9.76033	24.96	PK2	37.1	-21	41.06	-	-	74	-32.94	0	100	H
9.76092	25.04	PK2	37.1	-21	41.14	-	-	74	-32.86	0	100	V

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

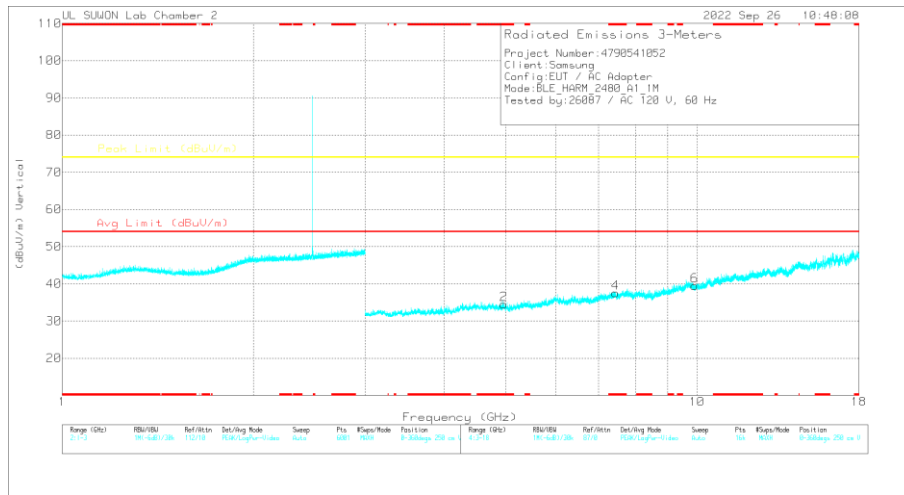
PK2 - KDB558074 Method: Maximum Peak

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

39 CHANNEL RESULTS



HORIZONTAL



VERTICAL

Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	3GHz_HP[dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
* 4.96152	26.14	PK2	34	-27	33.14	-	-	74	-40.86	360	100	H
* 4.96172	28.87	PK2	34	-27	35.87	-	-	74	-38.13	360	100	V
* 7.44011	25.57	PK2	35.7	-23.7	37.57	-	-	74	-36.43	360	100	H
* 7.44053	20.37	PK2	35.7	-23.7	32.37	-	-	74	-41.63	360	100	V
9.91938	27.22	PK2	37.3	-21.1	43.42	-	-	74	-30.58	360	100	H
9.91881	23.91	PK2	37.3	-21.1	40.11	-	-	74	-33.89	360	100	V

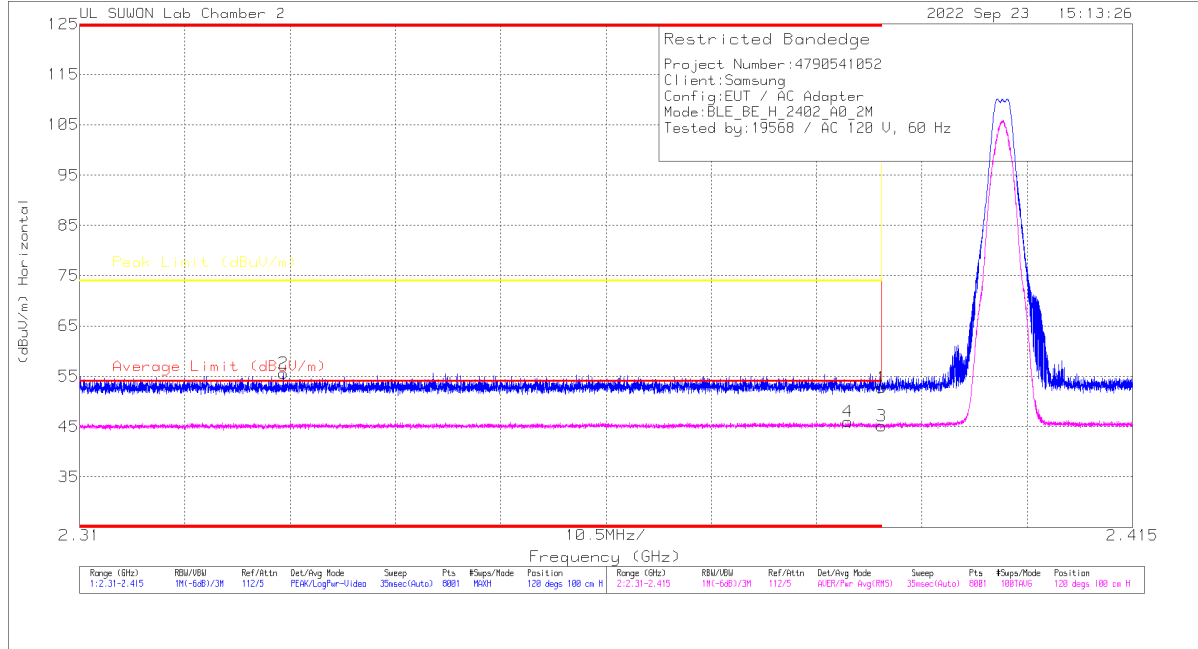
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
PK2 - KDB558074 Method: Maximum Peak

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

10.2.2. 2 Mbps

ANT1
BANDEDGE (0 CHANNEL)

HORIZONTAL RESULT



Trace Markers

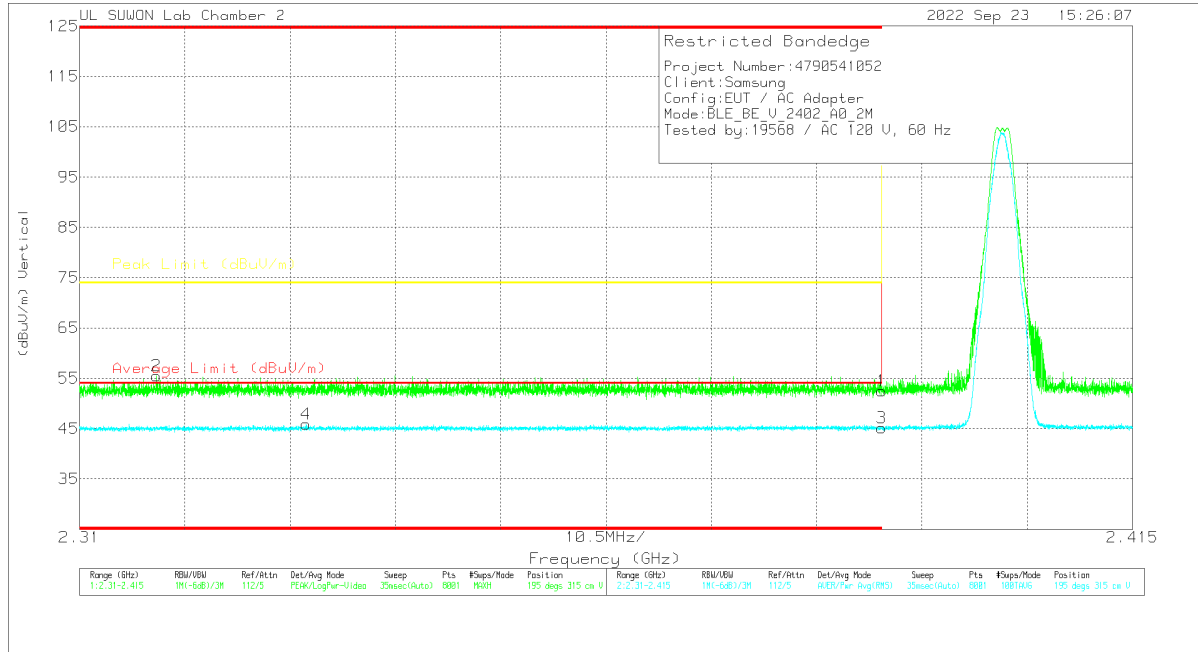
Marker	Frequency (GHz)	Marker Reading (dBuV)	Det	3117_00168724	10dB_ATT[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.39	40.74	PK	31.7	-19.7	0	52.74	-	-	74	-21.26	120	100	H
2	* 2.3303	43.61	PK	31.6	-19.6	0	55.61	-	-	74	-18.39	120	100	H
3	* 2.39	30.68	RMS	31.7	-19.7	2.41	45.09	54	-8.01	-	-	120	100	H
4	* 2.38664	31.46	RMS	31.7	-19.6	2.41	45.97	54	-8.03	-	-	120	100	H

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

PK - Peak detector

RMS - RMS detection

VERTICAL RESULT



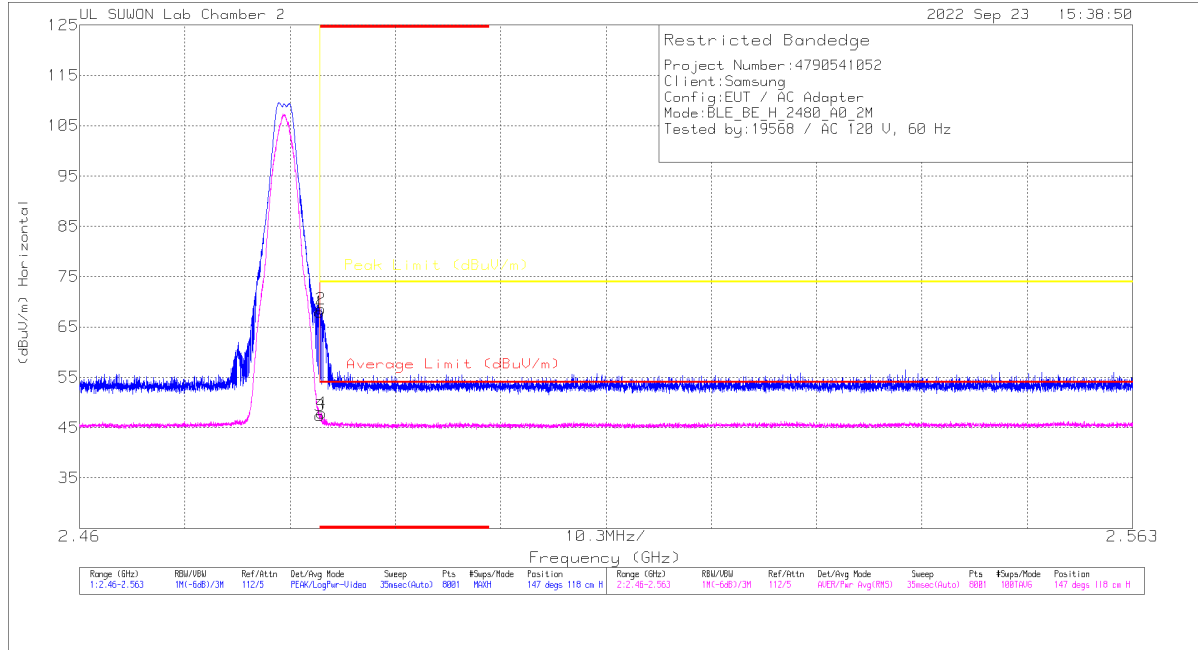
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	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	* 2.39	40.46	PK	31.7	-19.7	0	52.46	-	-	74	-21.54	195	315	V
2	* 2.31764	43.49	PK	31.6	-19.6	0	55.49	-	-	74	-18.51	195	315	V
3	* 2.39	30.75	RMS	31.7	-19.7	2.41	45.16	54	-8.84	-	-	195	315	V
4	* 2.3326	31.36	RMS	31.6	-19.6	2.41	45.87	54	-8.13	-	-	195	315	V

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

BANDEDGE (39 CHANNEL)

HORIZONTAL RESULT



Trace Markers

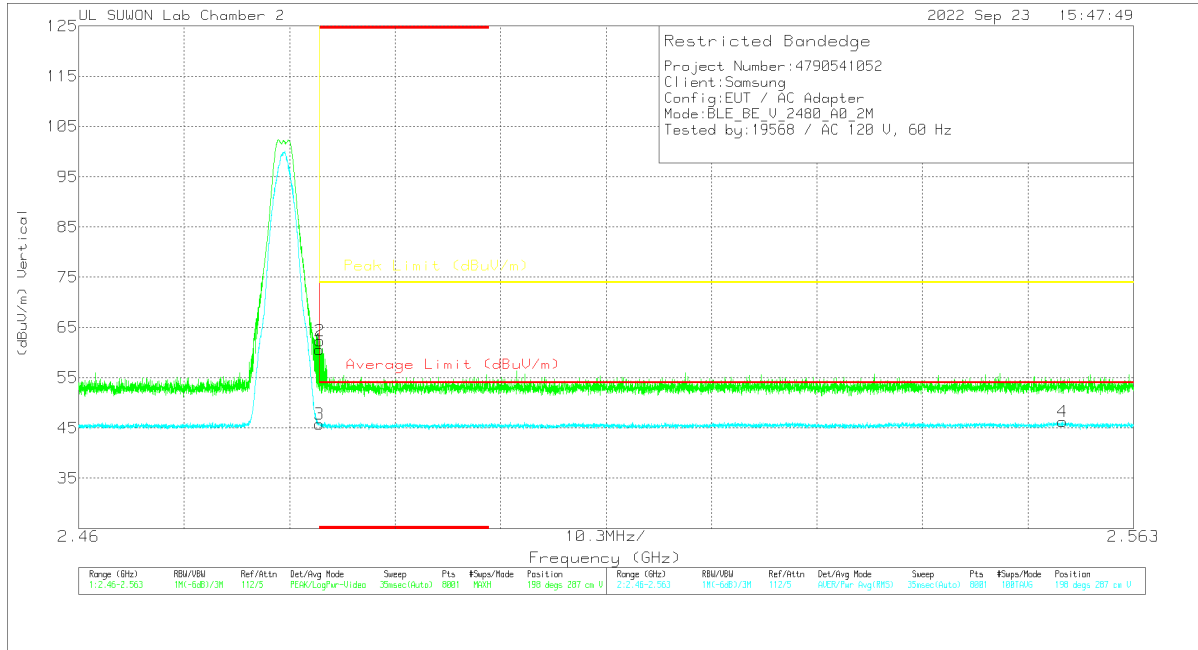
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	10dB_ATT[dB]	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* 2.48351	55.7	PK	31.9	-19.6	0	68.53	-	-	74	-6	147	118	H
2	* 2.48364	56.23	PK	31.9	-19.6	0	68.53	-	-	74	-5.47	147	118	H
3	* 2.48351	32.65	RMS	31.9	-19.6	2.41	47.36	54	-6.64	-	-	147	118	H
4	* 2.48365	33.14	RMS	31.9	-19.6	2.41	47.85	54	-6.15	-	-	147	118	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_00160724	10dB_ATT[dB]	DC Cor (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Altitude (Degs)	Height (cm)	Polarity
1	* 2.48351	48.27	PK	31.9	-19.6	0	60.57	-	-	74	-13.43	198	287	V
2	* 2.48356	50.03	PK	31.9	-19.6	0	62.33	-	-	74	-11.67	198	287	V
3	* 2.48351	31.11	RMS	31.9	-19.6	2.41	45.82	54	-8.18	-	-	198	287	V
4	2.55606	31.12	RMS	32	-19.3	2.41	46.23	54	-7.77	-	-	198	287	V

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