

CERTIFICATION TEST REPORT

Report Number. : U-4791479848-FR2V2

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

Model : WCF934M

FCC ID : A3LWCF934M

IC : 649E-WCF934M

EUT Description : DTS/UNII a/b/g/n/ac/ax module and BT/BLE

Test Standard(s) : FCC 47 CFR PART 15 SUBPART C
INDUSTRY CANADA RSS-247 Issue 3
INDUSTRY CANADA RSS-GEN Issue 5

Date Of Issue:

2025-02-07

Prepared by:

UL KOREA LTD.

26th floor, 152, Teheran-ro, Gangnam-gu Seoul, 06236, Korea

Uiwang Test Site: UL Korea, Ltd. Uiwang Laboratory
42, Obongsandan 1-ro, Uiwang-si, Gyeonggi-do, Republic of Korea,

TEL: (031) 389-9603

FAX: (031) 462-8355

Revision History

Rev.	Issue Date	Revisions	Revised By
V1	2025-02-04	Initial issue	Jaehyeok Bang
V2	2025-02-07	Updated to address TCB`s question	Jaehyeok Bang

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: SAMSUNG ELECTRONICS CO., LTD.

EUT DESCRIPTION: DTS/UNII a/b/g/n/ac/ax module and BT/BLE

MODEL NUMBER: WCF934M

SERIAL NUMBER: 4C573957D7D2, 4C573957D552, 4C573957D870 (CONDUCTED);
4C573957D760, 4C573957D5A8, 4C573957D91C (RADIATED);

DATE TESTED: 2025-01-06 - 2025-01-31

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
47 CFR Part 15 Subpart C	Complies
INDUSTRY CANADA RSS-247 Issue 3	Complies
INDUSTRY CANADA RSS-GEN Issue 5	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:



Changmin Kim
Senior Laboratory Engineer
UL Korea, Ltd.

Tested By:



Jaehyeok Bang
Laboratory Test Engineer
UL Korea, Ltd.

2. MANUFACTURER INFORMATION

Applicant Information

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

Manufacturer Information 1

Company Name: Chengdu Xuguang Technology Co., Ltd.
Address: No.86 2nd Section, Park Road, Longquanyi District, Chengdu City,
Sichuan Province, P.R.China

Manufacturer Information 2

Company Name: CHEMTROVINA COMPANY LIMITED
Address: Nhon Trach 2 – Loc Khang IZ, Hiep Phuoc Town, Nhon Trach
District,, Dong Nai Province, Vietnam

Manufacturer Information 3

Company Name: CHEMTRONICS CO., LTD.
Address: 35, Buk-ri, Namsa-myeon, Cheoin-gu, Yongin-si, Gyeonggi-do,
Korea

Manufacturer Information 4

Company Name: SJIT CO., LTD.
Address: #54-11, Dongtanhana 1 gil, Hwaseong-si, Gyeonggi-Do, Korea

Company Name: SJIT VINA Co., Ltd
Address: Lot X2, Ho Nai Industrial Zone, Ho Nai 3 Commune, Trang Bom
District, Dong Nai Province, Vietnam

3. TEST METHODOLOGY

1. FCC 47 CFR Part 2.
2. FCC 47 CFR Part 15.
3. KDB 558074 D01 15.247 Meas Guidance v05r02.
4. IC RSS-247 Issue 3.
5. IC RSS-Gen Issue 5.
6. ANSI C63.10-2020.

4. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 42, Obongsandan 1-ro, Uiwang-si, Gyeonggi-do, Republic of 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.

42, Obongsandan 1-ro	
☒	Chamber 1
☒	Chamber 2

Used ISED Test Site Reg. (SATELLITE company number): 32001
CAB Identifier: KR0161

UL Korea, Ltd. is accredited by IAS, Laboratory Code TL-1087. The full scope of accreditation can be viewed at <https://www.iasonline.org/wp-content/uploads/2022/05/TL-1087-Cert-New.pdf>

5. DECISION RULES AND MEASUREMENT UNCERTAINTY

5.1. 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.

5.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

$$\begin{aligned} \text{Field Strength (dBuV/m)} &= \text{Measured Voltage (dBuV)} + \text{Antenna Factor (dB/m)} + \\ &\text{Cable Loss (dB)} - \text{Preamp Gain (dB)} \\ 28.9 \text{ dBuV/m} &= 36.5 \text{ dBuV} + 18.7 \text{ dB/m} + 0.6 \text{ dB} - 26.9 \text{ dB} \end{aligned}$$

$$\begin{aligned} \text{AC Corrected Reading (dBuV)} &= \text{Measured Voltage (dBuV)} + \text{Extension Cord} \\ &\text{Loss (dB)} + \text{Cable Loss (dB)} \\ 44.72 \text{ dBuV} &= 34.72 \text{ dBuV} + 9.9 \text{ dB} + 0.1 \text{ dB} \end{aligned}$$

5.3. MEASUREMENT UNCERTAINTY

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

Common Items

PARAMETER	UNCERTAINTY
RF Output Power	0.94 dB
Power Spectral Density	0.85 dB
Occupied Bandwidth	0.07 %
Conducted Spurious Emissions	1.21 dB
AC Power Line Conducted Emissions	2.32 dB

Uncertainty figures are valid to a confidence level of 95%, k=2

Chamber 1

PARAMETER	UNCERTAINTY
Radiated Disturbance, 30 MHz to 1 GHz	3.64 dB
Radiated Disturbance, 1 GHz to 18 GHz	5.38 dB
Radiated Disturbance, Above 18 GHz	6.23 dB

Uncertainty figures are valid to a confidence level of 95%, k=2

Chamber 2

PARAMETER	UNCERTAINTY
Radiated Disturbance, 9 kHz to 30 MHz	1.66 dB
Radiated Disturbance, 1 GHz to 18 GHz	5.39 dB

Uncertainty figures are valid to a confidence level of 95%, k=2

5.4. DECISION RULES

Decision rule for statement(s) of conformity is based on Clause 4.3.3 in IEC Guide 115:2023.
Measurement Uncertainty is not applied when providing statements of conformity in accordance with IEC Guide 115:2023, 4.3.3

6. EQUIPMENT UNDER TEST

6.1. EUT DESCRIPTION

The EUT is a DTS/UNII a/b/g/n/ac/ax module and BT/BLE.
This test report addresses the DTS (BLE) operational mode.

Representative model	Software	Hardware Type	Difference
WCF934M	Same	Type1	Basic: PCB top IR LED
		Type2	PCB bottom IR LED
		Type3	PCB top IR LED / MIC removed
Note1. H/W changes that are not RF related. Spot-Check test was performed on Type2 and Type3. The hardware Type 1 was used for final testing and is representative of the test results in this report.			

6.2. MAXIMUM OUTPUT POWER

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

ANT0

Frequency Range[MHz]	Mode	Power Mode	Output Power	Output Power	Antenna gain	e.i.r.p ^{Note1}
			[dBm]	[mW]		[dBm]
2 402 - 2 480	1 Mbps (37 pkt)	Peak	12.400	17.378	-2.07	10.330
		Average	12.099	16.214	-2.07	10.029
	2 Mbps (255 pkt)	Peak	12.380	17.298	-2.07	10.310
		Average	11.852	15.318	-2.07	9.782

Note 1: e.i.r.p = Output Power[dBm] + Antenna gain[dBi]

6.3. 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 a internal antenna, with a maximum gain of: -2.07 dBi

“BT” as indicated in antenna specification are written as ANT0 in this report.

6.4. WORST-CASE CONFIGURATION AND MODE

The fundamentals of the EUT were investigated in three orthogonal orientations X, Y and Z. It was determined that below table's orientation was the worst-case orientation.

ANT0
X

Radiated and power line conducted tests were performed with EUT connected to test jig and laptop as the worst-case configuration. Radiated harmonics spurious 1~18 GHz Low/Mid/High channels, 18-26GHz were performed with the EUT set at the 1Tx 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.

All radiated and power line conducted tests were performed attached with test jig for the worst-case condition mode.

Power verification

The Output Power of all data rate are all investigated, the 1 Mbps (37 pkt) and 2 Mbps (255 pkt) power is the worst case for symbol rate. All tests were performed in these two modes.

Antenna	Symbol Rate [Ms/s]	Mode	Freq. [MHz]	Conducted Burst Avg [dBm]	Symbol Rate [Ms/s]	Mode	Freq. [MHz]	Conducted Burst Avg [dBm]
ANT0	1	1 Mbps 37 pkt	2 402	11.182	2	2 Mbps 37 pkt	2 402	11.036
			<u>2 440</u>	<u>12.099</u>			2 440	11.801
			2 480	11.807			2 480	11.525
		1 Mbps 255 pkt	2 402	11.344		2 Mbps 255 pkt	2 402	11.082
			2 440	12.094			<u>2 440</u>	<u>11.852</u>
			2 480	11.837			2 480	11.562
	1 Coded S=8	125 kbps 37 pkt	2 402	11.383	1 Coded S=2	500 kbps 37 pkt	2 402	11.275
			2 440	12.048			2 440	12.021
			2 480	11.832			2 480	11.731
		125 kbps 255 pkt	2 402	11.396		500 kbps 255 pk	2 402	11.330
			2 440	12.031			2 440	12.019
			2 480	11.761			2 480	11.774

6.5. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
Test Jig	MediaTek	-	-	N/A
Laptop	Lenovo	TP00136D	PF-4M6STB	N/A
Charger	Lenovo	ADLX45YCC3G	8SSA10R16915C2TJ	N/A

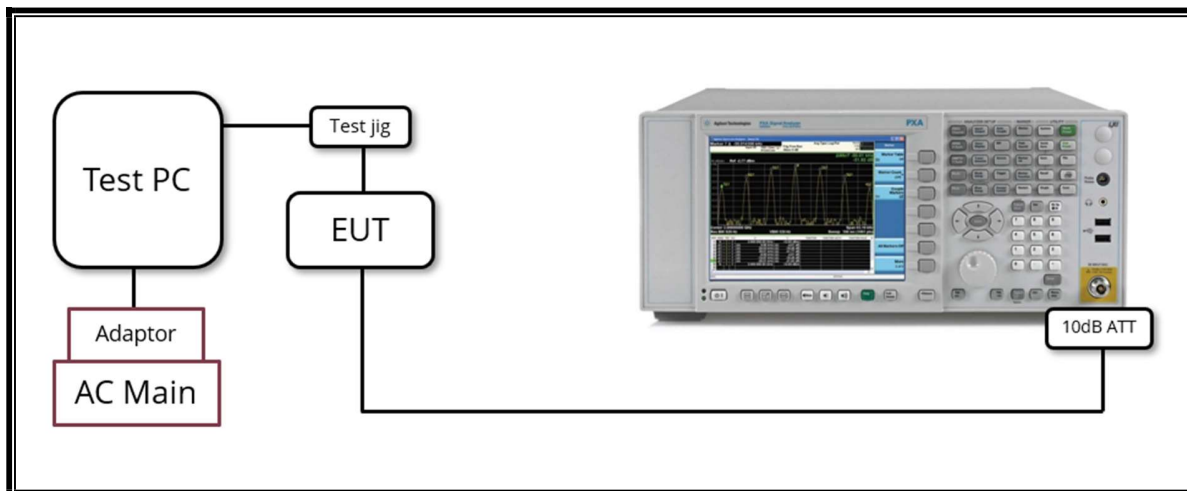
I/O CABLE

I/O Cable List						
Cable No.	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	DC Power and Data	1	24 pin	Unshielded	20 cm	N/A

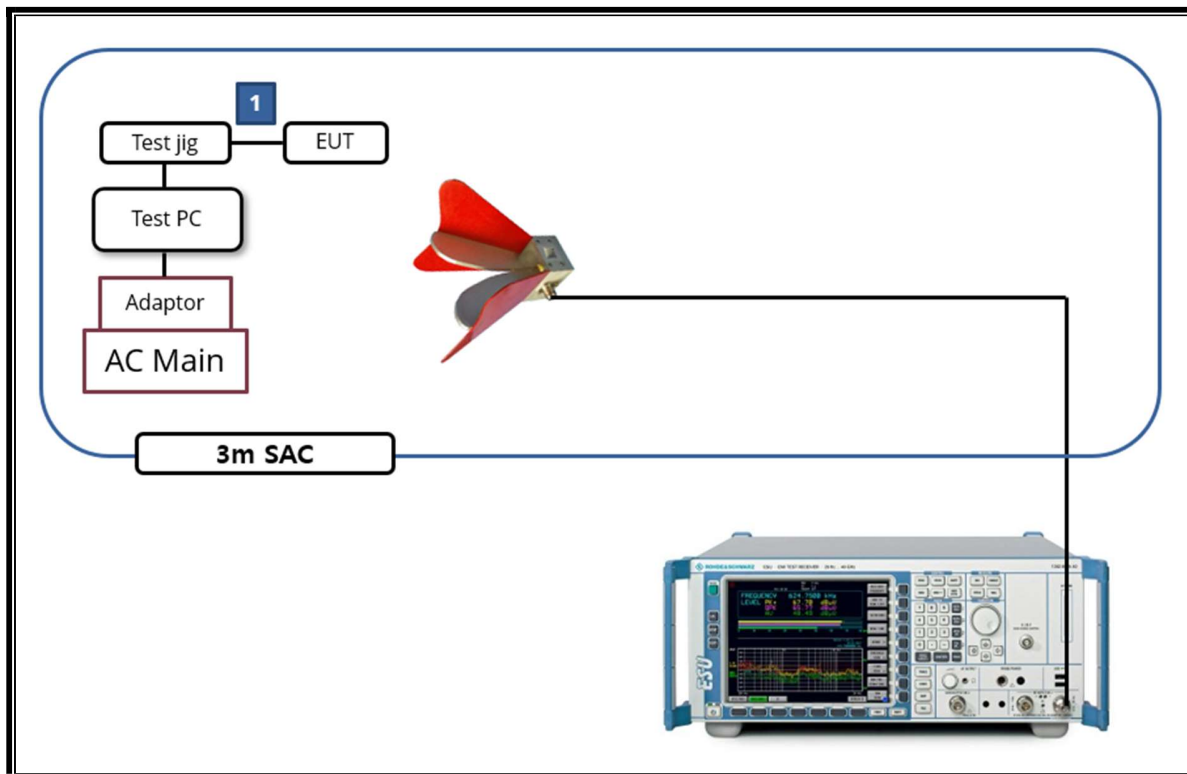
TEST SETUP

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

SETUP DIAGRAM FOR TESTS (CONDUCTED TEST SETUP)



SETUP DIAGRAM FOR TESTS (RADIATED TEST SETUP)



7. MEASUREMENT METHOD

6 dB BW : ANSI C63.10-2020, Section 11.8.2 Option 2

OUTPUT POWER : ANSI C63.10-2020, Section 11.9.1.1 $RBW \geq$ DTS bandwidth

POWER SPECTRAL DENSITY : ANSI C63.10-2020, Section 11.10.2 Method PKPSD (peak PSD)

Out-of-band Emissions (Conducted) : ANSI C63.10-2020, Section 11.11 Emissions in nonrestricted frequency bands

Out-of-band Emissions in Non-restricted Bands: ANSI C63.10-2020, Section 11.11 Emissions in nonrestricted frequency bands

Out-of-band Emissions in Restricted Bands : ANSI C63.10-2020, Section 11.12 Emissions in restricted frequency bands

AC Power Line Conducted Emission : ANSI C63.10-2020, Section 6.2

8. TEST AND MEASUREMENT EQUIPMENT

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

Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due date
Spectrum Analyzer	KEYSIGHT	N9030B	MY57143717	2024-07-23	2025-07-23
Power Sensor	Rohde & Schwarz	NRP50S	101284	2024-07-23	2025-07-23
EMI Test Receiver	Rohde & Schwarz	ESW44	103297	2024-07-18	2025-07-18
EMI Test Receiver	Rohde & Schwarz	ESW44	103313	2024-01-29	2025-01-29
				2025-01-22	2026-01-22
EMI Test Receiver	Rohde & Schwarz	ESW44	103350	2024-04-08	2025-04-08
EMI Test Receiver	Rohde & Schwarz	ESR7	102328	2024-01-29	2025-01-29
				2025-01-22	2026-01-22
2 Line LISN	Rohde & Schwarz	EVN216	102638	2024-01-30	2025-01-30
				2025-01-23	2026-01-23
Signal Generator	Rohde & Schwarz	SMB100A	184060	2024-07-18	2025-07-18
Loop Antenna	TESEQ	HLA 6121	65111	2023-08-01	2025-08-01
TRILOG BROADBAND ANTENNA	Schwarzbeck	VULB 9163	01670	2023-10-17	2025-10-17
Double-Ridged Guide Antenna	ETS LINDGREN	3117	00261223	2024-09-24	2025-09-24
Double-Ridged Guide Antenna	ETS LINDGREN	3117	00261463	2024-09-20	2025-09-20
DOUBLE-RIDGED WAVEGUIDE HORN ANTENNA	ETS LINDGREN	3116C	00261440	2024-09-20	2025-09-20
Amplifier	ETS LINDGREN	3116C-PA	00261440	2024-09-20	2025-09-20
Signal Conditioning Unit	Rohde & Schwarz	SCU01F	100316	2024-03-22	2025-03-22
Amplifier	EXYNOD	ELNA03-40D	631509	2024-07-18	2025-07-18
Amplifier	BNZ	BZR-01001800-231040-182020	28452	2024-04-08	2025-04-08
Amplifier	BNZ	BZR-01001800-231040-181515	31049	2024-07-18	2025-07-18
Attenuator	Centric RF	C040-10	N/A	2024-01-11	2025-01-11
				2025-01-10	2026-01-10
Attenuator	EXYNOD	RLAN-210-18G	10A001	2024-04-08	2025-04-08
Fixed Attenuator	PASTERNAK	PE7087-10	2241	2024-07-18	2025-07-18
Low Pass Filter	Micro-Tronics	LPS17541	019	2024-07-18	2025-07-18
Low Pass Filter	Micro-Tronics	LPS17541	050	2024-04-08	2025-04-08
High Pass Filter	Micro-Tronics	HPM50107	G115	2024-07-18	2025-07-18
High Pass Filter	Micro-Tronics	HPM17543	021	2024-07-18	2025-07-18
High Pass Filter	Micro-Tronics	HPS17542	020	2024-07-18	2025-07-18
High Pass Filter	Micro-Tronics	HPM17543	051	2024-04-08	2025-04-08
High Pass Filter	Micro-Tronics	HPS17542	051	2024-04-08	2025-04-08
Humidity/Baro/Temp DATA RECORDER	Lutron	MHB-382SD	AL.92208	2024-07-23	2025-07-23
Humidity/Baro/Temp DATA RECORDER	Lutron	MHB-382SD	AM.00223	2024-01-11	2025-01-11
				2025-01-02	2026-01-02
Humidity/Baro/Temp DATA RECORDER	Lutron	MHB-382SD	AM.00227	2024-01-11	2025-01-11
				2025-01-02	2026-01-02
Digital Multimeter	Fluke Corporation	17B+	51260820WS	2024-07-18	2025-07-18
Measurement Software					
Description	Manufacturer	Model	Version		
Radiated software	UL	UL EMC	Ver 9.5		
AC Line Conducted Software	Rohde & Schwarz	EMC32	Ver 11.10.00		

9. TEST RESULTS SUMMARY

FCC Part Section	IC Part Section	Test Description	Test Limit	Test Condition	Test Result
15.247 (a)(2)	RSS-247 5.2(a)	Occupied Bandwidth (6dB & 99%)	> 500kHz	Conducted	Complies
2.1051, 15.247(d)	RSS-247 5.5	Band Edge / Conducted Spurious Emission	-20 dBc		Complies
15.247 (b)(3)	RSS-247 5.4(d)	TX conducted output power	< 30 dBm		Complies
15.247(e)	RSS-247 5.2(b)	PSD	< 8 dBm/3kHz		Complies
15.207(a)	RSS-GEN Clause 8.8	AC Power Line conducted emissions	Section 12	Power Line conducted	Complies
15.205, 15.209	RSS-GEN Clause 8.9 & 8.10	Radiated Spurious Emission	< 54dBuV/m(Av)	Radiated	Complies

10. ANTENNA PORT TEST RESULTS

10.1. ON TIME AND DUTY CYCLE

LIMITS

None; for reporting purposes only.

Mode	On time [msec]	Period [msec]	Duty Cycle [%]	Duty Cycle Correction Factor [dB]	1/T Minimum VBW [kHz]
2 400 ~ 2 483.5 MHz Bands					
1 Mbps [37 pkt]	0.381	0.625	60.880	2.16	2.63
2 Mbps [255 pkt]	1.068	1.874	56.990	2.44	0.94



10.2. 6 dB & 99% BANDWIDTH

LIMITS

6dB Bandwidth:

FCC §15.247 (a) (2), RSS-247 5.2 (a)

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

Occupied Bandwidth:

None; for reporting purposes only.

RESULTS

10.2.1. TEST DATA

Mode	Antenna	Channel	Frequency [MHz]	6 dB Bandwidth [kHz]	Minimum Limit [kHz]	99% Bandwidth [kHz]
1 Mbps (37 pkt)	ANT0	0	2 402	697.7	500.0	1 033.8
		19	2 440	697.1		1 033.6
		39	2 480	681.3		1 033.9
2 Mbps (255 pkt)		0	2 402	1 166.0		2 055.2
		19	2 440	1 230.0		2 057.4
		39	2 480	1 174.0		2 057.6
Worst				681.3		

10.2.2. 6 dB BANDWIDTH PLOTS



10.2.3. 99% BANDWIDTH PLOTS



10.3. 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

Peak power is measured using ANSI C63.10(2020) under section 11.9.1.1 utilizing spectrum analyzer(RBW $\geq$ DTS bandwidth).

RESULTS

10.3.1. TEST DATA

Mode	Antenna	Channel	Frequency [MHz]	Peak Output Power [dBm]	Limit [dBm]	Margin [dB]
1 Mbps (37 pkt)	ANT0	0	2 402	11.79	30.00	-18.21
		19	2 440	12.40		-17.60
		39	2 480	12.19		-17.81
2 Mbps (255 pkt)		0	2 402	11.60		-18.40
		19	2 440	12.38		-17.62
		39	2 480	11.92		-18.08
Worst				12.40	-17.60	

10.3.2. PEAK POWER PLOTS



10.4. 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

10.4.1. TEST DATA

Mode	Antenna	Channel	Frequency [MHz]	Average Output Power [dBm]	Average Output Power [mW]
1 Mbps (37 pkt)	ANT0	0	2 402	11.182	13.128
		19	2 440	12.099	16.214
		39	2 480	11.807	15.160
2 Mbps (255 pkt)		0	2 402	11.082	12.829
		19	2 440	11.852	15.318
		39	2 480	11.562	14.328

10.5. 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

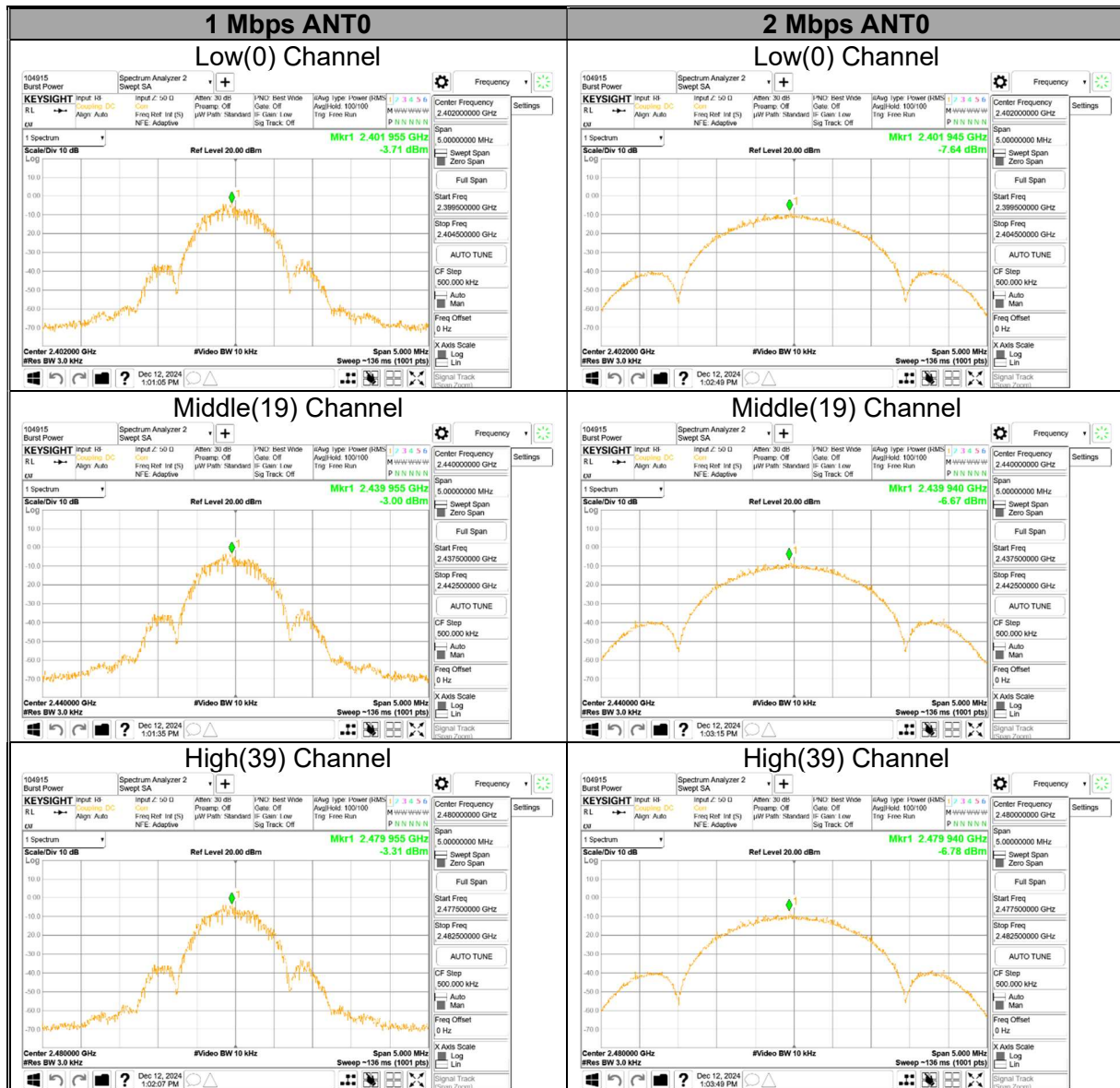
ANSI C63.10-2020, Section 11.10.2 Method PKPSD (peak PSD)

RESULTS

10.5.1. TEST DATA

Mode	Antenna	Channel	Frequency [MHz]	PSD [dBm/3kHz]	Limit [dBm/3kHz]	Margin [dB]
1 Mbps (37 pkt)	ANT0	0	2 402	-3.71	8.00	-11.71
		19	2 440	-3.00		-11.00
		39	2 480	-3.31		-11.31
2 Mbps (255 pkt)		0	2 402	-7.64		-15.64
		19	2 440	-6.67		-14.67
		39	2 480	-6.78		-14.78
Worst				-3.00	-11.00	

10.5.2. PSD TEST PLOTS



10.6. CONDUCTED SPURIOUS EMISSIONS

LIMITS

FCC §15.247 (d), RSS-247 5.5

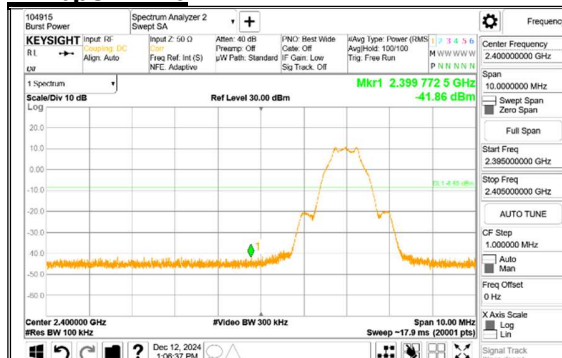
Output power was measured based on the use of a peak measurement.
Therefore, spurious emissions are required to be 20 dBc.

RESULTS

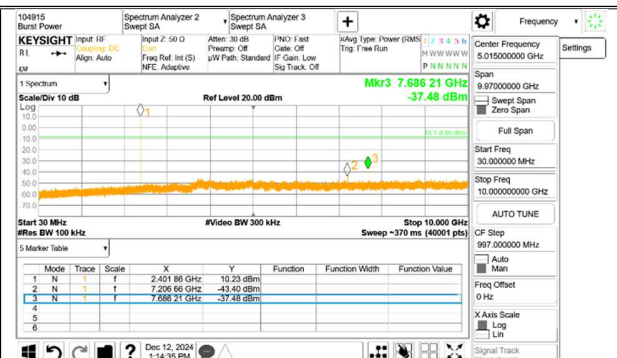
See the following pages.

10.6.1. Test plot

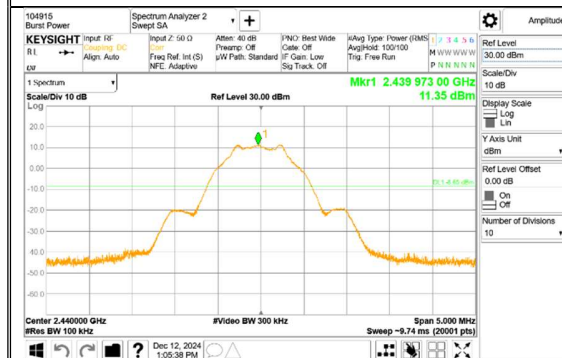
1 Mbps ANT0



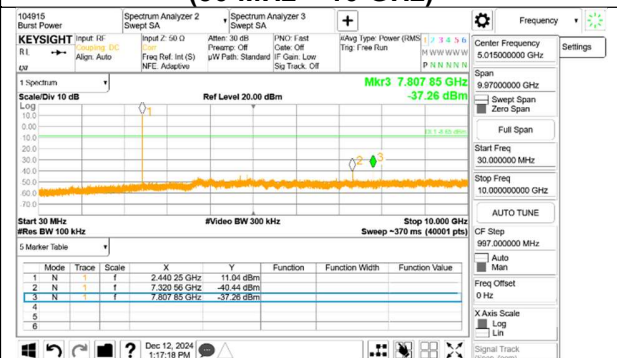
LOW(0) CHANNEL BANDEDGE



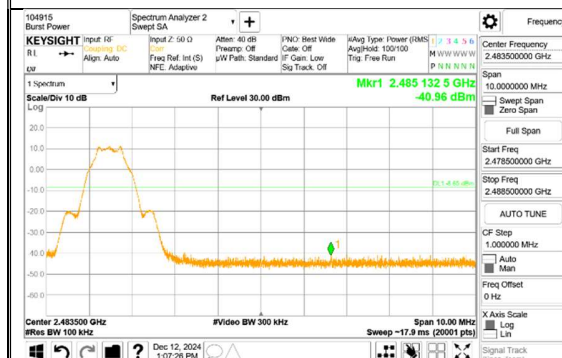
OUT-OF-BAND LOW(0) CHANNEL (30 MHz - 10 GHz)



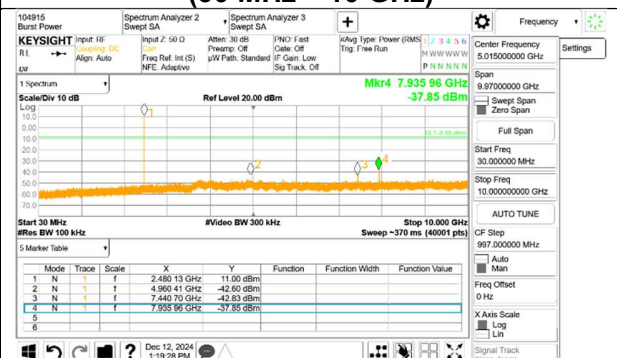
MIDDLE(19) CHANNEL REFERENCE



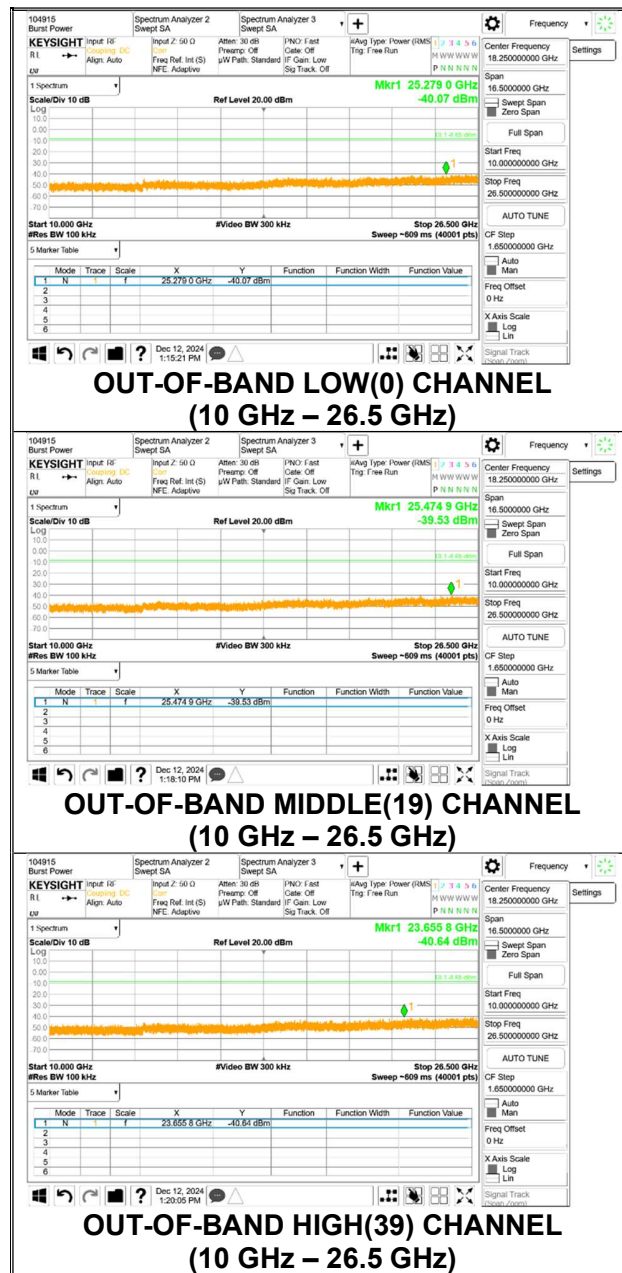
OUT-OF-BAND MIDDLE(19) CHANNEL (30 MHz - 10 GHz)



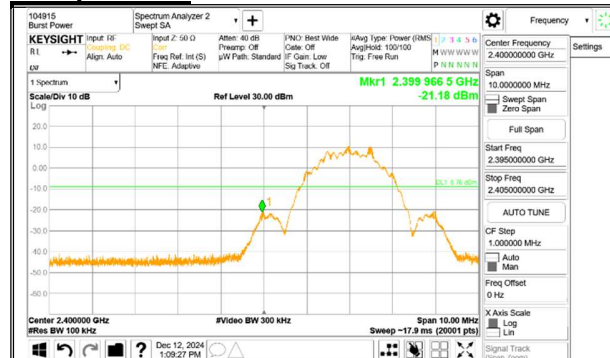
HIGH(39) CHANNEL BANDEDGE



OUT-OF-BAND HIGH(39) CHANNEL (30 MHz - 10 GHz)



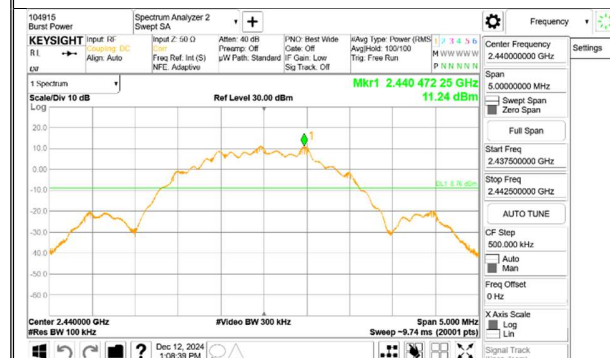
2 Mbps ANT0



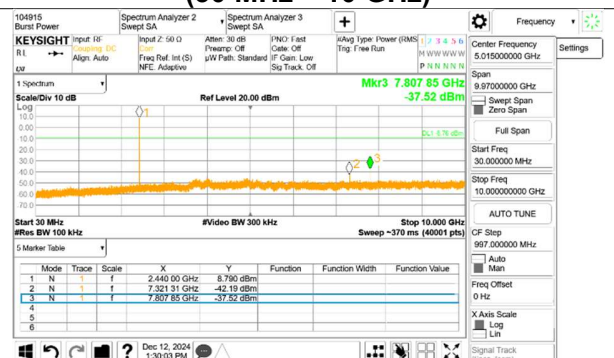
LOW(0) CHANNEL BANDEDGE



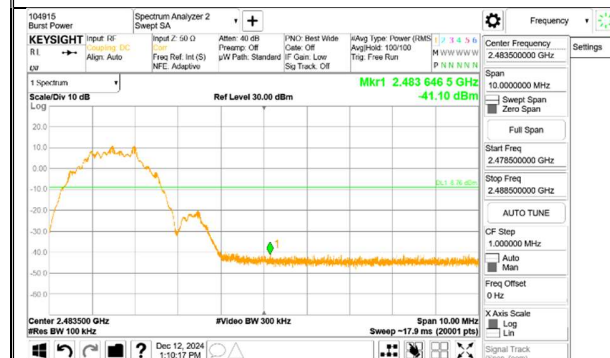
OUT-OF-BAND LOW(0) CHANNEL
(30 MHz - 10 GHz)



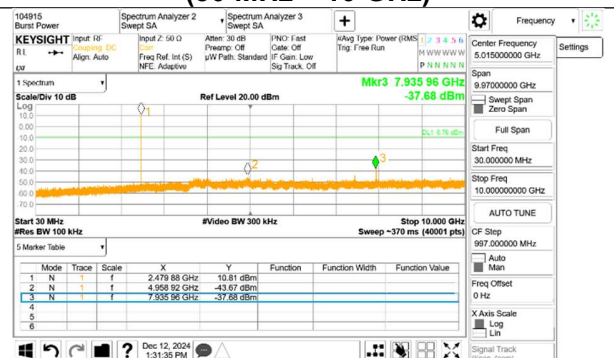
MIDDLE(19) CHANNEL REFERENCE



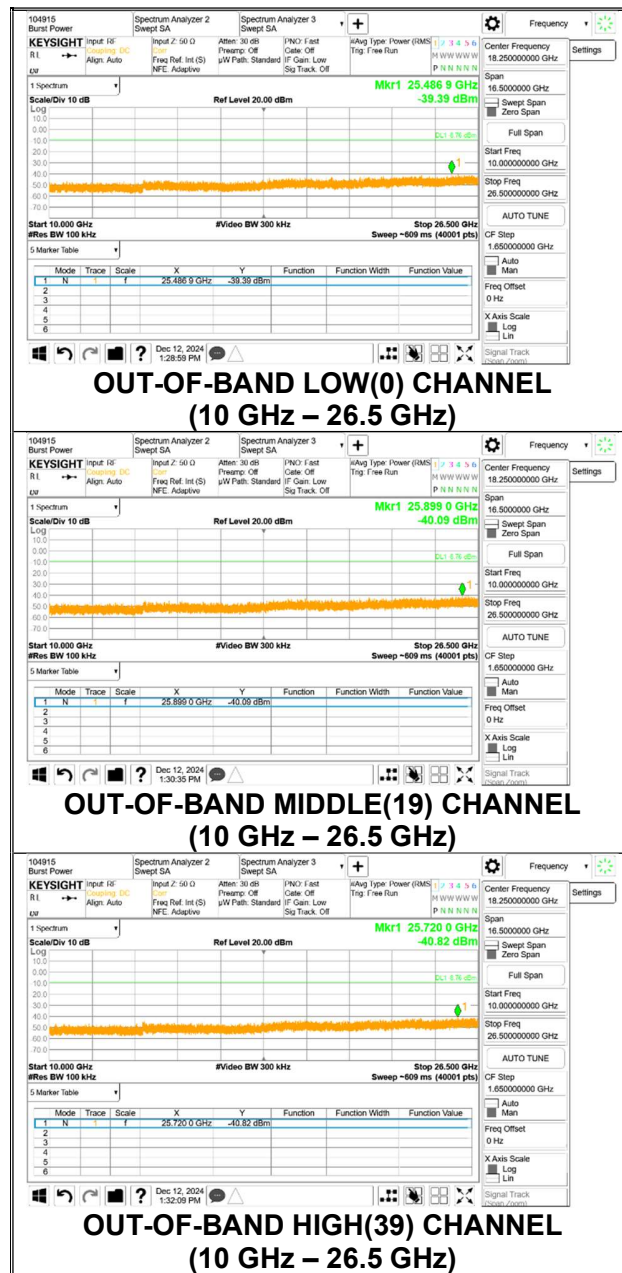
OUT-OF-BAND MIDDLE(19) CHANNEL
(30 MHz - 10 GHz)



HIGH(39) CHANNEL BANDEDGE



OUT-OF-BAND HIGH(39) CHANNEL
(30 MHz - 10 GHz)



11. RADIATED TEST RESULTS

11.1. LIMITS AND PROCEDURE

LIMITS

IC RSS-GEN (8.9) & (8.10) / 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.

RSS-Gen (8.9)

Frequency (MHz)	Field strength (μV/m at 3 m)
30 – 88	100
88 – 216	150
216 – 960	200
Above 960	500

Frequency (MHz)	Magnetic field strength (H-Field) (μA/m)	Measurement Distance (m)
0.009–0.490 ^{Note 1}	6.37/F (F in kHz)	300
0.490–1.705	63.7/F (F in kHz)	30
1.705–30.0	0.08	30
Note 1: The emission limits for the ranges 9-90 kHz and 110-490 kHz are based on measurements employing a linear average detector.		

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 377Ω. For example, the measurement 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 be 15.209(a) limit.

RSS-Gen (8.10) / FCC Part 15.205 (a): Restricted frequency bands

MHz	MHz	MHz	MHz	GHz	GHz
0.009 ~ 0.110	8.41425 ~ 8.41475	108 ~ 121.94	1300 ~ 1427	4.5 ~ 5.15	14.47 ~ 14.5
0.495 ~ 0.505	12.29 ~ 12.293	123 ~ 138	1435 ~ 1626.5	5.35 ~ 5.46	15.35 ~ 16.2
2.1735 ~ 2.1905	12.51975 ~ 12.52025	149.9 ~ 150.05	1645.5 ~ 1646.5	7.25 ~ 7.75	17.7 ~ 21.4
4.125 ~ 4.128	12.57675 ~ 12.57725	156.52475 ~	1660 ~ 1710	8.025 ~ 8.5	22.01 ~ 23.12
4.17725 ~ 4.17775	13.36 ~ 13.41	156.52525	1718.8 ~ 1722.2	9.0 ~ 9.2	23.6 ~ 24.0
4.20725 ~ 4.20775	16.42 ~ 16.423	156.7 ~ 156.9	2200 ~ 2300	9.3 ~ 9.5	31.2 ~ 31.8
6.215 ~ 6.218	16.69475 ~ 16.69525	162.0125 ~	2310 ~ 2390	10.6 ~ 12.7	36.43 ~ 36.5
6.26775 ~ 6.26825	16.80425 ~ 16.80475	167.17	2483.5 ~ 2500	13.25 ~ 13.4	Above 38.6
6.31175 ~ 6.31225	25.5 ~ 25.67	167.72 ~ 173.2	2655 ~ 2900		
8.291 ~ 8.294	37.5 ~ 38.25	240 ~ 285	3260 ~ 3267		
8.362 ~ 8.366	73 ~ 74.6	322 ~ 335.4	3332 ~ 3339		
8.37625 ~ 8.38675	74.8 ~ 75.2	399.90 ~ 410	3345.8 ~ 3358		
		608 ~ 614	3600 ~ 4400		
		960 ~ 1240			

▪ RSS-Gen 8.10 : Certain frequency bands listed in table 7 and in bands above 38.6 GHz are designated for licence-exempt applications. These frequency bands and the requirements that apply to related devices are set out in the 200 and 300 series of RSSs.

▪ FCC Part 15.205(b) : The field strength of emissions appearing within these frequency bands shall not exceed the limits shown in §15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in §15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in §15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in §15.35 apply to these measurements.

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 = $10\log(1/0.609) = 2.155$ dB
(Spectrum Analyzer round it up to 2.16 dB) and for 2 Mbps, DCF = $10\log(1/0.570) = 2.442$ dB
(Spectrum Analyzer round it up to 2.44 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.

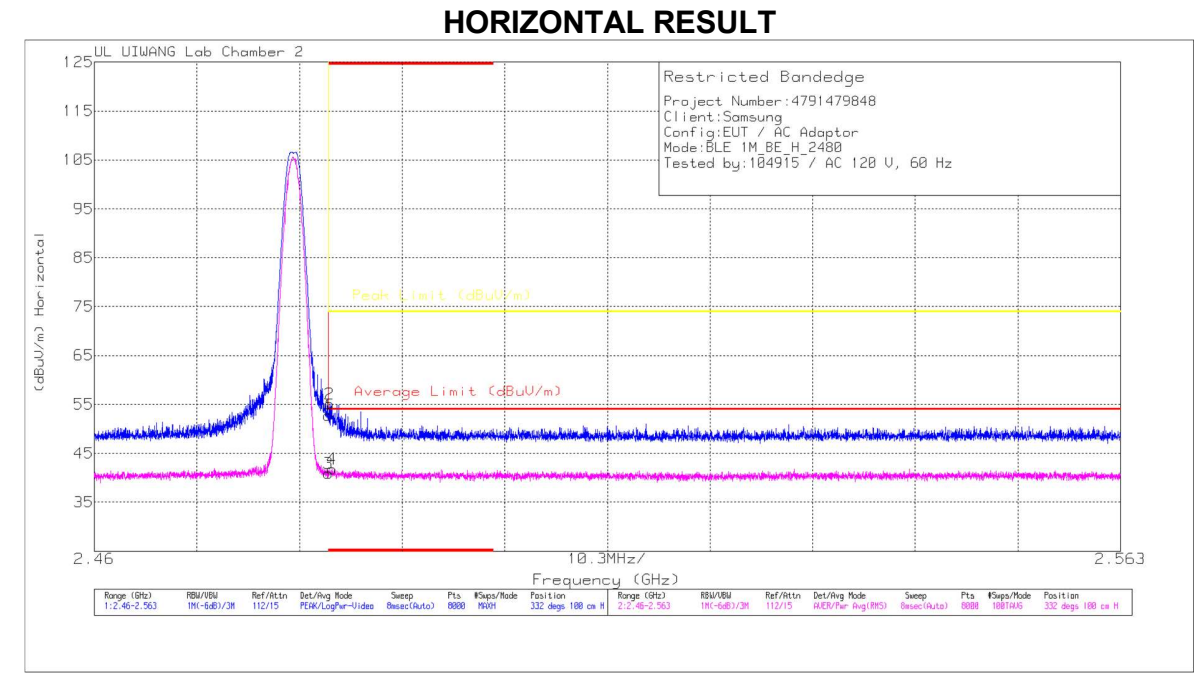
Note: Emission was pre-scanned from 9kHz to 30MHz; No emissions were detected which was at least 20dB below the specification limit (consider distance correction factor).
Per FCC part 15.31(o), test results were not reported.

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.

11.2. TRANSMITTER ABOVE 1 GHz

11.2.1. LE 1Mbps

BANDEDGE (WORST CASE: 2480 MHz, ANT 0)



Trace Markers

Marker	Frequency (GHz)	Marker Reading (dBu/m)	Det	CH2 RF 1-180_317_240220 Amplitude (dBm)	FR2 PL 1-180_1048_245409 (dBm)	CH2 CL 1-400_Thru_240617 Level (dB)	DC Corr (dB)	Corrected Reading (dBu/m)	Average Limit (dBu/m)	Margin (dB)	Peak Limit (dBu/m)	PK Margin (dB)	Altitude (deg)	Height (m)	Polarity
1	* 2.4835	47.92	PK	32.2	-34.1	6.7	0	52.72	-	-	74	-21.28	332	100	H
2	* 2.4836	50.29	PK	32.2	-34.1	6.7	0	55.09	-	-	74	-18.91	332	100	H
3	* 2.4835	33.83	RMS	32.2	-34.1	6.7	2.16	40.69	54	-13.11	-	-	332	100	H
4	* 2.4837	34.88	RMS	32.2	-34.1	6.7	2.16	41.84	54	-12.16	-	-	332	100	H

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

BANDEDGE TEST DATA

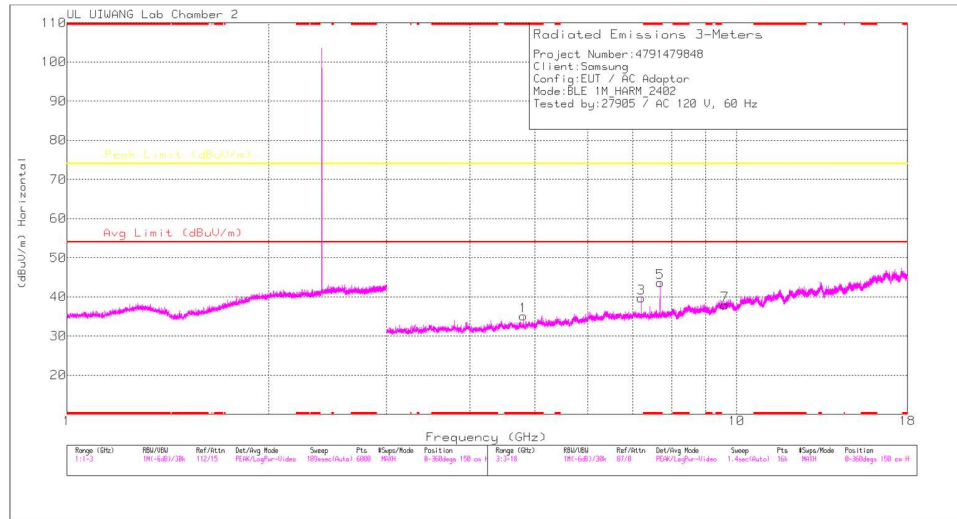
Freq. [MHz]	Antenna	Frequency [GHz]	Reading [dBuV]	Detector Mode	ANT Factor [dB/m]	FB Gain [dB]	Loss [dB]	DC Corr [dB]	Result dBuV/m	AV Limit dBuV/m	AV Margin [dB]	PK Limit dBuV/m	PK Margin [dB]	Azimuth [Degs]	Height [cm]	Polarity
2402	ANT0	* 2.39	44.60	Pk	31.90	-34.10	6.60	0.00	49.00	-	-	74.00	-25.00	312	100	H
		* 2.36894	46.63	Pk	31.80	-34.00	6.60	0.00	51.03	-	-	74.00	-22.97	312	100	H
		* 2.39	33.64	RMS	31.90	-34.10	6.60	2.16	40.20	54.00	-13.80	-	-	312	100	H
		* 2.36634	34.89	RMS	31.80	-34.00	6.60	2.16	41.45	54.00	-12.55	-	-	312	100	H
		* 2.39	44.81	Pk	31.90	-34.10	6.60	0.00	49.21	-	-	74.00	-24.79	167	358	V
		* 2.33379	46.35	Pk	31.70	-33.90	6.50	0.00	50.65	-	-	74.00	-23.35	167	358	V
		* 2.39	34.00	RMS	31.90	-34.10	6.60	2.16	40.56	54.00	-13.44	-	-	167	358	V
		* 2.38514	34.86	RMS	31.90	-34.10	6.60	2.16	41.42	54.00	-12.58	-	-	167	358	V
		* 2.4835	47.92	Pk	32.20	-34.10	6.70	0.00	52.72	-	-	74.00	-21.28	332	100	H
2480	ANT0	* 2.4836	50.29	Pk	32.20	-34.10	6.70	0.00	55.09	-	-	74.00	-18.91	332	100	H
		* 2.4835	33.93	RMS	32.20	-34.10	6.70	2.16	40.89	54.00	-13.11	-	-	332	100	H
		* 2.48387	34.88	RMS	32.20	-34.10	6.70	2.16	41.84	54.00	-12.16	-	-	332	100	H
		* 2.4835	45.54	Pk	32.20	-34.10	6.70	0.00	50.34	-	-	74.00	-23.66	250	372	V
		* 2.48371	49.84	Pk	32.20	-34.10	6.70	0.00	54.64	-	-	74.00	-19.36	250	372	V
		* 2.4835	33.37	RMS	32.20	-34.10	6.70	2.16	40.33	54.00	-13.67	-	-	250	372	V
		2.507	34.52	RMS	32.20	-34.00	6.80	2.16	41.68	54.00	-12.32	-	-	250	372	V

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

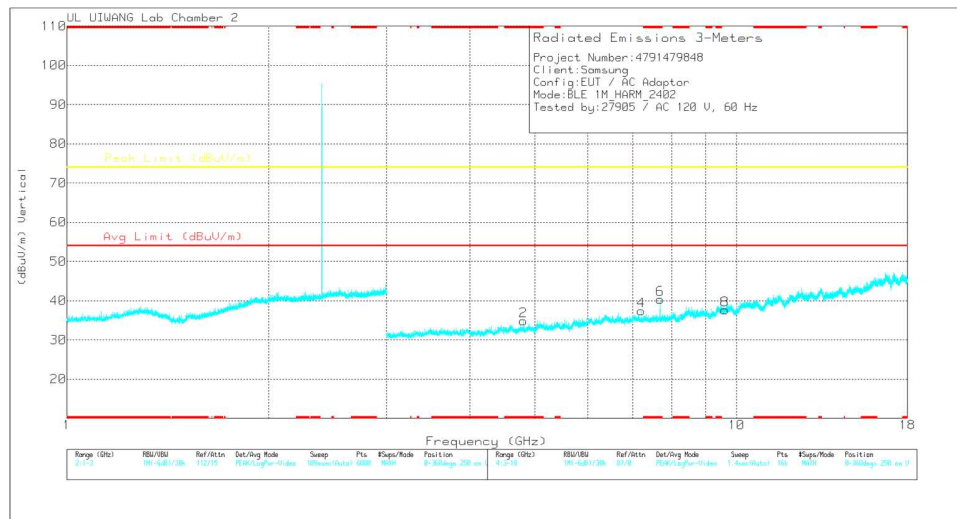
Pk - Peak detector

RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS (WORST CASE: 2402 MHz, ANT 0)



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	CH2 AF 1- 18G_3117_240620 Antenna Factor(dBm)	FBS PL 1- 18G_3GHP_240409 Gain(dB)	CH2 CL 1- 40G_Thru_240617 Loss(dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Altitude (Deg)	Height (m)	Polarity
* 4.80344	44.06	PK2	33.9	-42.7	9.7	0	44.96	-	-	74	-29.04	62	122	H
* 4.80369	33.72	MAV1	33.9	-42.7	9.7	2.16	36.78	54	-17.22	74	-29.09	62	122	H
* 4.80328	44.01	PK2	33.9	-42.7	9.7	0	44.91	-	-	74	-29.09	340	286	V
* 4.80367	33.38	MAV1	33.9	-42.7	9.7	2.16	36.44	54	-17.56	74	-	340	286	V
7.20527	42.9	PK2	35.7	-40.9	11.6	0	49.3	-	-	74	-24.7	60	111	H
7.20516	44.44	PK2	35.7	-40.9	11.6	0	50.84	-	-	74	-23.16	187	390	V
* 7.68629	42.8	PK2	35.7	-40.3	12	0	50.2	-	-	74	-23.8	50	105	H
* 7.68632	36.08	MAV1	35.7	-40.3	12	2.16	45.94	54	-8.36	74	-	50	105	H
* 7.68634	40.9	PK2	35.7	-40.3	12	0	48.3	-	-	74	-25.7	315	111	V
* 7.68629	32.26	MAV1	35.7	-40.3	12	2.16	41.82	54	-12.18	74	-	315	111	V
9.60753	37.09	PK2	36.7	-39.3	13.6	0	48.09	-	-	74	-25.91	334	112	H
9.60781	36.22	PK2	36.7	-39.3	13.6	0	47.22	-	-	74	-26.78	270	326	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 TEST DATA

Freq. [MHz]	Antenna	Frequency [GHz]	Reading [dBuV]	Detector Mode	ANT Factor [dB/m]	FB Gain [dB]	Loss [dB]	DC Corr [dB]	Result [dBuV/m]	AV Limit [dBuV/m]	AV Margin [dB]	PK Limit [dBuV/m]	PK Margin [dB]	Azimuth [Degs]	Height [cm]	Polarity
2402	ANT0	* 4.80344	44.06	PK2	33.90	-42.70	9.70	0.00	44.96	-	-	74.00	-29.04	62	122	H
		* 4.80368	33.72	MAv1	33.90	-42.70	9.70	2.16	36.78	54.00	-17.22	-	-	62	122	H
		* 4.80328	44.01	PK2	33.90	-42.70	9.70	0.00	44.91	-	-	74.00	-29.09	340	286	V
		* 4.80367	33.38	MAv1	33.90	-42.70	9.70	2.16	36.44	54.00	-17.56	-	-	340	286	V
		7.205	42.90	PK2	35.70	-40.90	11.60	0.00	49.30	-	-	74.00	-24.70	60	111	H
		7.205	44.44	PK2	35.70	-40.90	11.60	0.00	50.84	-	-	74.00	-23.16	187	390	V
		* 7.68629	42.80	PK2	35.70	-40.30	12.00	0.00	50.20	-	-	74.00	-23.80	50	105	H
		* 7.68632	36.08	MAv1	35.70	-40.30	12.00	2.16	45.64	54.00	-8.36	-	-	50	105	H
		* 7.68634	40.90	PK2	35.70	-40.30	12.00	0.00	48.30	-	-	74.00	-25.70	315	111	V
		* 7.68629	32.26	MAv1	35.70	-40.30	12.00	2.16	41.82	54.00	-12.18	-	-	315	111	V
		9.608	37.09	PK2	36.70	-39.30	13.60	0.00	48.09	-	-	74.00	-25.91	334	112	H
		9.608	36.22	PK2	36.70	-39.30	13.60	0.00	47.22	-	-	74.00	-26.78	270	326	V
		* 4.87967	44.09	PK2	33.90	-42.40	9.70	0.00	45.29	-	-	74.00	-28.71	70	103	H
		* 4.88029	33.57	MAv1	33.90	-42.40	9.70	2.16	36.93	54.00	-17.07	-	-	70	103	H
2440	ANT0	* 7.31921	45.37	PK2	35.60	-40.40	11.70	0.00	52.27	-	-	74.00	-21.73	133	108	H
		* 7.31926	30.20	MAv1	35.60	-40.40	11.70	2.16	39.26	54.00	-14.74	-	-	133	108	H
		7.808	42.11	PK2	35.70	-40.20	12.10	0.00	49.71	-	-	74.00	-24.29	46	108	H
		9.758	36.11	PK2	36.80	-38.20	13.60	0.00	48.31	-	-	74.00	-25.69	337	112	H
		* 4.87949	43.42	PK2	33.90	-42.40	9.70	0.00	44.62	-	-	74.00	-29.38	137	137	V
		* 4.87949	32.47	MAv1	33.90	-42.40	9.70	2.16	35.83	54.00	-18.17	-	-	137	137	V
		* 7.31904	42.79	PK2	35.60	-40.40	11.70	0.00	49.69	-	-	74.00	-24.31	184	390	V
		* 7.31931	28.32	MAv1	35.60	-40.40	11.70	2.16	37.38	54.00	-16.62	-	-	184	390	V
		7.808	40.62	PK2	35.70	-40.20	12.10	0.00	48.22	-	-	74.00	-25.78	158	377	V
		9.760	35.59	PK2	36.80	-38.20	13.60	0.00	47.79	-	-	74.00	-26.21	158	382	V
		* 4.95938	49.25	PK2	33.90	-42.60	9.80	0.00	50.35	-	-	74.00	-23.65	310	103	H
		* 4.95946	40.79	MAv1	33.90	-42.60	9.80	2.16	44.05	54.00	-9.95	-	-	310	103	H
		* 7.43921	41.58	PK2	35.70	-40.60	11.80	0.00	48.48	-	-	74.00	-25.52	66	103	H
		* 7.4393	30.38	MAv1	35.70	-40.60	11.80	2.16	39.44	54.00	-14.56	-	-	66	103	H
2480	ANT0	7.936	41.97	PK2	35.70	-39.90	12.20	0.00	49.97	-	-	74.00	-24.03	50	110	H
		9.920	35.91	PK2	36.90	-38.50	13.90	0.00	48.21	-	-	74.00	-25.79	341	112	H
		* 4.95948	46.53	PK2	33.90	-42.60	9.80	0.00	47.63	-	-	74.00	-26.37	132	100	V
		* 4.96014	37.15	MAv1	33.90	-42.60	9.80	2.16	40.41	54.00	-13.59	-	-	132	100	V
		* 7.44079	43.38	PK2	35.70	-40.60	11.80	0.00	50.28	-	-	74.00	-23.72	192	346	V
		* 7.43904	29.05	MAv1	35.70	-40.60	11.80	2.16	38.11	54.00	-15.89	-	-	192	346	V
		7.936	40.54	PK2	35.70	-39.90	12.20	0.00	48.54	-	-	74.00	-25.46	145	344	V
		9.920	35.43	PK2	36.90	-38.50	13.90	0.00	47.73	-	-	74.00	-26.27	264	380	V

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

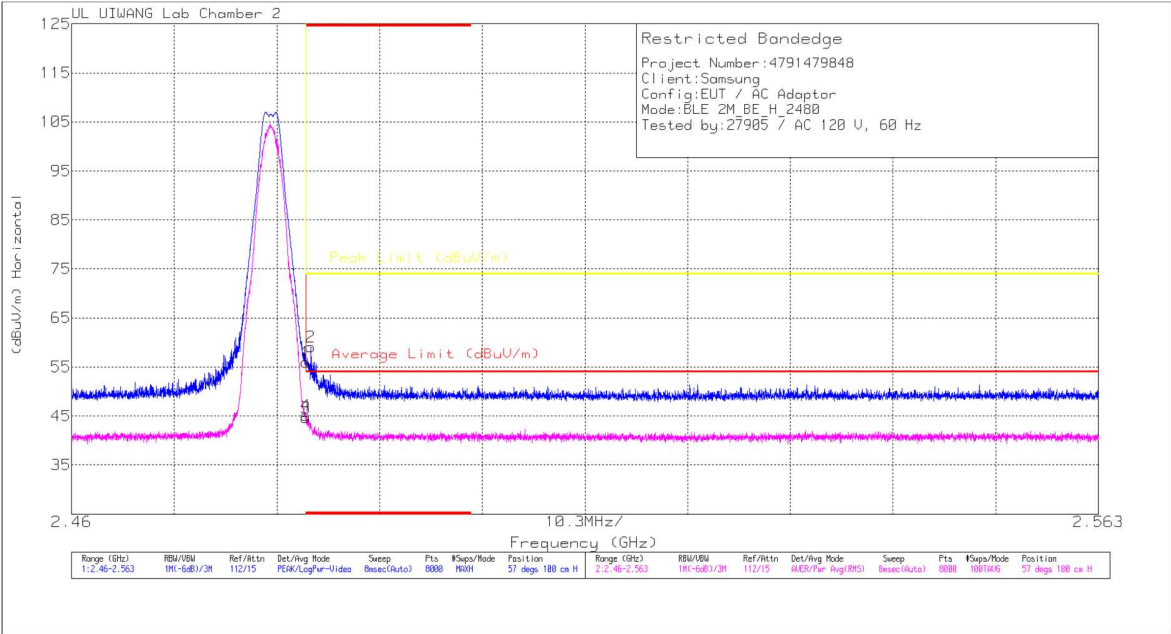
PK2 - KDB558074 Method: Maximum Peak

MAv1 - KDB558074 Option 1 Maximum RMS Average

11.2.2. LE 2Mbps

BANDEDGE (WORST CASE: 2480 MHz, ANT 0

HORIZONTAL RESULT



Trace Markers

Marker	Frequency (GHz)	Marker Reading (dBuV)	Det	CH2_A_F_1: 150_3017_248000 Antenna Factor (dBm)	FB2_R_1: 180_1000_248000 Gain (dB)	CH2_CL_1: 400_1000_248017 Loss (dB)	DC Corr (dB)	Corrected Reading (dBuV/m)	Average Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	PK Margin (dB)	Azimuth (deg)	Height (cm)	Polarity
1	* 2.4835	51.24	Pk	32.2	-34.1	6.7	0	59.11	-	-	74	-17.85	57	100	H
2	* 2.48398	54.31	Pk	32.2	-34.1	6.7	0	59.11	-	-	74	-14.89	57	100	H
3	* 2.4835	37.39	RMS	32.2	-34.1	6.7	2.44	44.63	54	-9.37	-	-	57	100	H
4	* 2.48351	37.81	RMS	32.2	-34.1	6.7	2.44	45.15	54	-8.85	-	-	57	100	H

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

BANDEDGE TEST DATA

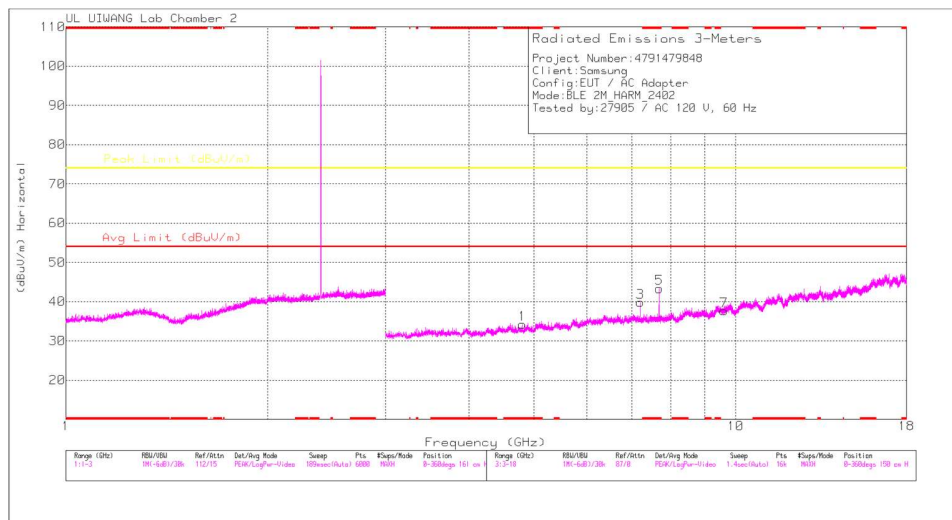
Freq. [MHz]	Antenna	Frequency [GHz]	Reading [dBuV]	Detector Mode	ANT Factor [dB/m]	FB Gain [dB]	Loss [dB]	DC Corr [dB]	Result [dBuV/m]	AV Limit [dBuV/m]	AV Margin [dB]	PK Limit [dBuV/m]	PK Margin [dB]	Azimuth [Degs]	Height [cm]	Polarity
2402	ANT0	* 2.39	44.05	Pk	31.90	-34.10	6.60	0.00	48.45	-	-	74.00	-25.55	334	100	H
		* 2.31654	46.57	Pk	31.70	-34.00	6.50	0.00	50.77	-	-	74.00	-23.23	334	100	H
		* 2.39	33.53	RMS	31.90	-34.10	6.60	2.44	40.37	54.00	-13.63	-	-	334	100	H
		* 2.38821	34.66	RMS	31.90	-34.10	6.60	2.44	41.50	54.00	-12.50	-	-	334	100	H
		* 2.39	43.78	Pk	31.90	-34.10	6.60	0.00	48.18	-	-	74.00	-25.82	248	371	V
		* 2.3544	46.51	Pk	31.80	-34.00	6.50	0.00	50.81	-	-	74.00	-23.19	248	371	V
		* 2.39	32.94	RMS	31.90	-34.10	6.60	2.44	39.78	54.00	-14.22	-	-	248	371	V
		* 2.34298	34.85	RMS	31.80	-33.90	6.50	2.44	41.69	54.00	-12.31	-	-	248	371	V
		* 2.4835	51.24	Pk	32.20	-34.10	6.70	0.00	56.04	-	-	74.00	-17.96	57	100	H
		* 2.48398	54.31	Pk	32.20	-34.10	6.70	0.00	59.11	-	-	74.00	-14.89	57	100	H
2480	ANT0	* 2.4835	37.39	RMS	32.20	-34.10	6.70	2.44	44.63	54.00	-9.37	-	-	57	100	H
		* 2.48351	37.91	RMS	32.20	-34.10	6.70	2.44	45.15	54.00	-8.85	-	-	57	100	H
		* 2.4835	44.22	Pk	32.20	-34.10	6.70	0.00	49.02	-	-	74.00	-24.98	178	309	V
		2.562	45.72	Pk	32.20	-34.00	6.90	0.00	50.82	-	-	74.00	-23.18	178	309	V
		* 2.4835	33.70	RMS	32.20	-34.10	6.70	2.44	40.94	54.00	-13.06	-	-	178	309	V
		2.540	34.74	RMS	32.20	-34.00	6.80	2.44	42.18	54.00	-11.82	-	-	178	309	V

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

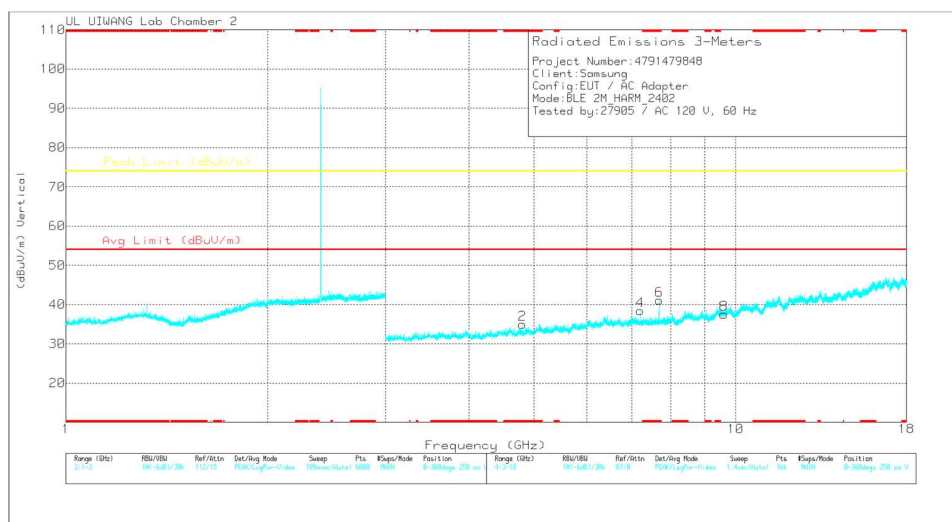
Pk - Peak detector

RMS - RMS detection

HARMONICS AND SPURIOUS EMISSIONS (WORST CASE: 2402 MHz, ANT 0)



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	CH2 AF 1- 18G_3117_240200 Antenna Factor(dB/m)	FBS PL 1- 18G_3GHP_240409 Gain(dB)	CH2 CL 1- 40G_Thru_240617 Loss(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
* 4.80274	43.88	PK2	33.9	-42.7	9.7	0	44.78	-	-	74	-29.22	118	284	H
* 4.80301	32.85	MAV1	33.9	-42.7	9.7	2.44	36.19	54	-17.81	-	-	118	284	H
* 4.8046	43.81	PK2	33.9	-42.6	9.7	0	44.81	-	-	74	-29.19	19	255	V
* 4.80303	32.05	MAV1	33.9	-42.7	9.7	2.44	35.39	54	-18.61	-	-	19	255	V
7.20705	43.41	PK2	35.7	-40.9	11.6	0	49.81	-	-	74	-24.19	147	129	H
7.20742	41.95	PK2	35.7	-40.9	11.6	0	48.35	-	-	74	-25.65	188	387	V
* 7.68545	42.76	PK2	35.7	-40.3	12	0	50.16	-	-	74	-23.84	124	114	H
* 7.6863	35.41	MAV1	35.7	-40.3	12	2.44	45.25	54	-8.75	-	-	124	114	H
* 7.68624	40.79	PK2	35.7	-40.3	12	0	48.19	-	-	74	-25.81	190	387	V
* 7.68614	33.03	MAV1	35.7	-40.3	12	2.44	42.87	54	-11.13	-	-	190	387	V
9.60562	37.49	PK2	36.7	-39.3	13.6	0	48.49	-	-	74	-25.51	62	109	H
9.60879	37.46	PK2	36.7	-39.3	13.6	0	48.46	-	-	74	-25.54	0	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 TEST DATA

Freq. [MHz]	Antenna	Frequency [GHz]	Reading [dBuV]	Detector Mode	ANT Factor [dB/m]	FB Gain [dB]	Loss [dB]	DC Corr [dB]	Result dBuV/m	AV Limit dBuV/m	AV Margin [dB]	PK Limit dBuV/m	PK Margin [dB]	Azimuth [Degs]	Height [cm]	Polarity
2402	ANT0	* 4.80274	43.88	PK2	33.90	-42.70	9.70	0.00	44.78	-	-	74.00	-29.22	118	284	H
		* 4.80301	32.85	MAv1	33.90	-42.70	9.70	2.44	36.19	54.00	-17.81	-	-	118	284	H
		* 4.8046	43.81	PK2	33.90	-42.60	9.70	0.00	44.81	-	-	74.00	-29.19	19	255	V
		* 4.80303	32.05	MAv1	33.90	-42.70	9.70	2.44	35.39	54.00	-18.61	-	-	19	255	V
		7.207	43.41	PK2	35.70	-40.90	11.60	0.00	49.81	-	-	74.00	-24.19	147	129	H
		7.207	41.95	PK2	35.70	-40.90	11.60	0.00	48.35	-	-	74.00	-25.65	188	387	V
		* 7.68645	42.76	PK2	35.70	-40.30	12.00	0.00	50.16	-	-	74.00	-23.84	124	114	H
		* 7.6863	35.41	MAv1	35.70	-40.30	12.00	2.44	45.25	54.00	-8.75	-	-	124	114	H
		* 7.68624	40.79	PK2	35.70	-40.30	12.00	0.00	48.19	-	-	74.00	-25.81	190	387	V
		* 7.68614	33.03	MAv1	35.70	-40.30	12.00	2.44	42.87	54.00	-11.13	-	-	190	387	V
		9.606	37.49	PK2	36.70	-39.30	13.60	0.00	48.49	-	-	74.00	-25.51	62	109	H
		9.609	37.46	PK2	36.70	-39.30	13.60	0.00	48.46	-	-	74.00	-25.54	0	100	V
		* 4.88086	43.69	PK2	33.90	-42.40	9.70	0.00	44.89	-	-	74.00	-29.11	147	106	H
		* 4.88011	32.67	MAv1	33.90	-42.40	9.70	2.44	36.31	54.00	-17.69	-	-	147	106	H
2440	ANT0	* 4.87901	42.83	PK2	33.90	-42.40	9.70	0.00	44.03	-	-	74.00	-29.97	205	105	V
		* 4.87939	31.33	MAv1	33.90	-42.40	9.70	2.44	34.97	54.00	-19.03	-	-	205	105	V
		* 7.32123	40.77	PK2	35.60	-40.40	11.70	0.00	47.67	-	-	74.00	-26.33	290	118	H
		* 7.32113	28.90	MAv1	35.60	-40.40	11.70	2.44	38.24	54.00	-15.76	-	-	290	118	H
		* 7.31841	41.92	PK2	35.60	-40.40	11.70	0.00	48.82	-	-	74.00	-25.18	190	390	V
		* 7.3212	28.75	MAv1	35.60	-40.40	11.70	2.44	38.09	54.00	-15.91	-	-	190	390	V
		7.808	42.64	PK2	35.70	-40.20	12.10	0.00	50.24	-	-	74.00	-23.76	128	113	H
		7.808	40.54	PK2	35.70	-40.20	12.10	0.00	48.14	-	-	74.00	-25.86	228	108	V
		9.760	36.08	PK2	36.80	-38.20	13.60	0.00	48.28	-	-	74.00	-25.72	0	100	H
		9.760	36.53	PK2	36.80	-38.20	13.60	0.00	48.73	-	-	74.00	-25.27	0	100	V
		* 4.96079	48.72	PK2	33.90	-42.60	9.80	0.00	49.82	-	-	74.00	-24.18	143	105	H
		* 4.96091	39.93	MAv1	33.90	-42.60	9.80	2.44	43.47	54.00	-10.53	-	-	143	105	H
2480	ANT0	* 4.96099	48.66	PK2	33.90	-42.60	9.80	0.00	49.76	-	-	74.00	-24.24	11	385	V
		* 4.9608	40.24	MAv1	33.90	-42.60	9.80	2.44	43.78	54.00	-10.22	-	-	11	385	V
		* 7.44119	43.34	PK2	35.70	-40.60	11.80	0.00	50.24	-	-	74.00	-23.76	218	110	H
		* 7.43868	29.96	MAv1	35.70	-40.60	11.80	2.44	39.30	54.00	-14.70	-	-	218	110	H
		* 7.43828	41.26	PK2	35.70	-40.60	11.80	0.00	48.16	-	-	74.00	-25.84	290	111	V
		* 7.43837	28.63	MAv1	35.70	-40.60	11.80	2.44	37.97	54.00	-16.03	-	-	290	111	V
		7.936	41.99	PK2	35.70	-39.90	12.20	0.00	49.99	-	-	74.00	-24.01	129	110	H
		7.936	40.12	PK2	35.70	-39.90	12.20	0.00	48.12	-	-	74.00	-25.88	228	116	V
		9.920	35.39	PK2	36.90	-38.50	13.90	0.00	47.69	-	-	74.00	-26.31	0	100	H
		9.920	35.70	PK2	36.90	-38.50	13.90	0.00	48.00	-	-	74.00	-26.00	0	100	V

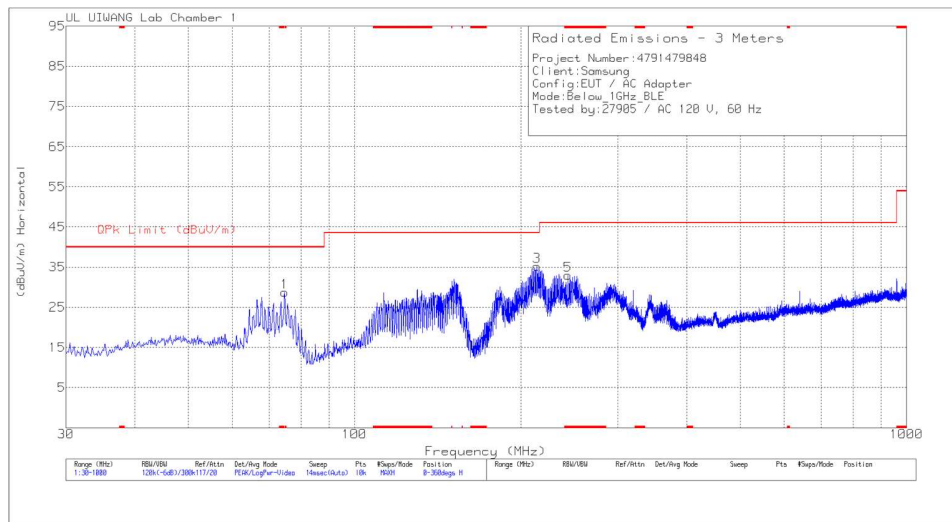
* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band

PK2 - KDB558074 Method: Maximum Peak

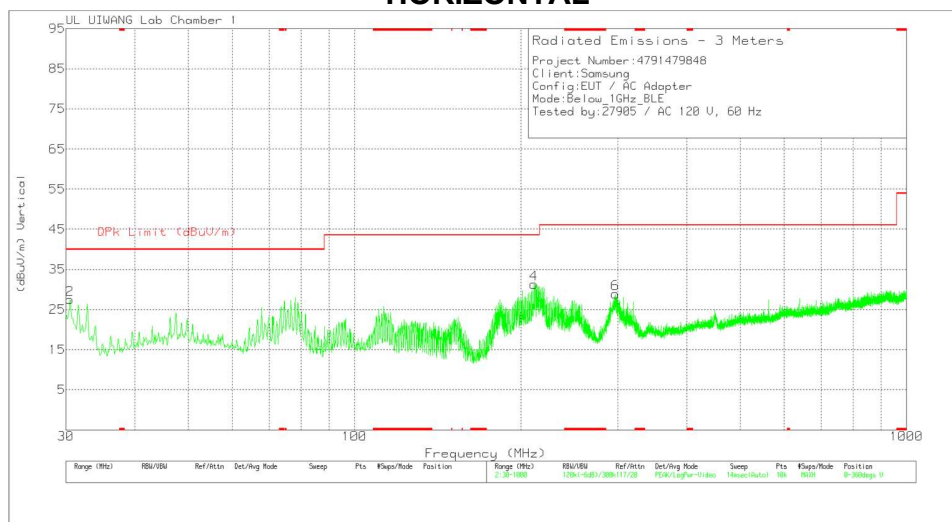
MAv1 - KDB558074 Option 1 Maximum RMS Average

11.3. 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	VULB 9163 Antenna Factor (dB/m)	1Cham 30M-1000M AMP/ELNA 03-40D Gain (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	74.7216	55.01	Pk	13.4	-39.7	28.71	40	-11.29	0-360	100	H
2	30.4851	51.68	Pk	15.8	-40	27.48	40	-12.52	0-360	100	V
3	214.028	57.56	Pk	16.6	-39	35.16	43.52	-8.36	0-360	100	H
4	211.5057	53.79	Pk	16.5	-39	31.29	43.52	-12.23	0-360	100	V
5	* 243.422	53.46	Pk	18.4	-38.9	32.96	46.02	-13.06	0-360	100	H
6	296.4865	48.62	Pk	19	-38.7	28.92	46.02	-17.1	0-360	100	V

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

12. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a), RSS-GEN Clause 8.8

Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

* Decreases with the logarithm of the frequency.

TEST PROCEDURE

The EUT is placed on a non-conducting table 40 cm from the vertical ground plane and 80 cm above the horizontal ground plane. The EUT is configured in accordance with ANSI C63.10.

The receiver is set to a resolution bandwidth of 9 kHz. Peak detection is used unless otherwise noted as quasi-peak or average.

Line conducted data is recorded for both NEUTRAL and HOT lines.

RESULTS

See the following pages.

12.1. AC Power Line

LINE 1 RESULTS

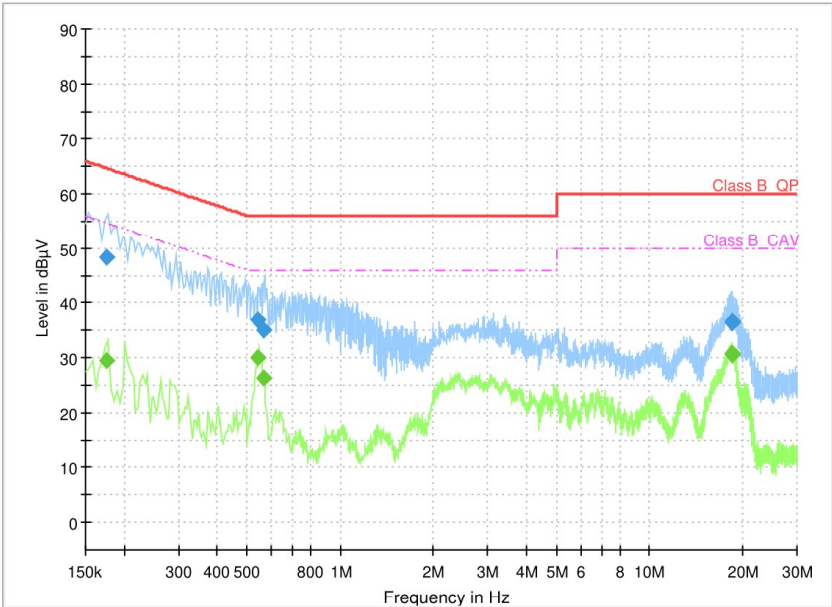
AC LINE BLE-L

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Test Report

Common Information

Project No: 479147984
Test Description: Shielded Room#1, Conducted Emission
Test Standard: FCC Part 15 Subpart C
Model Name: WCF934M
Test Voltage: AC 120 V, 60 Hz
Test Mode: AC Line BLE
Opearator: 27905
Line: LINE



Final Result

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.175630	48.22	---	64.69	16.47	9.000	L1	ON	9.9
0.175630	---	29.55	54.69	25.14	9.000	L1	ON	9.9
0.541700	36.83	---	56.00	19.17	9.000	L1	ON	9.8
0.541700	---	30.11	46.00	15.89	9.000	L1	ON	9.8
0.565850	34.94	---	56.00	21.06	9.000	L1	ON	9.8
0.565850	---	26.29	46.00	19.71	9.000	L1	ON	9.8
18.454060	36.72	---	60.00	23.29	9.000	L1	ON	10.0
18.454060	---	30.78	50.00	19.22	9.000	L1	ON	10.0
18.543570	36.49	---	60.00	23.51	9.000	L1	ON	10.0
18.543570	---	30.45	50.00	19.55	9.000	L1	ON	10.0

LINE 2 RESULTS

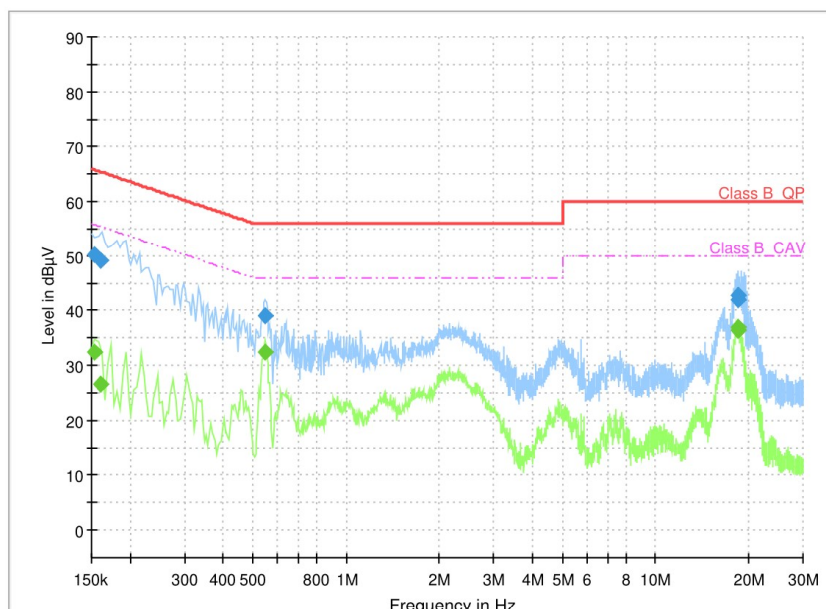
AC LINE BLE-N

1 / 1

Test Report

Common Information

Project No: 479147984
Test Description: Shielded Room#1, Conducted Emission
Test Standard: FCC Part 15 Subpart C
Model Name: WCF934M
Test Voltage: AC 120 V, 60 Hz
Test Mode: AC Line BLE
Operator: 27905
Line: NEUTRAL



Final Result

Frequency (MHz)	QuasiPeak (dBµV)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.152890	50.19	---	65.84	15.65	9.000	N	ON	9.7
0.152890	---	32.48	55.84	23.36	9.000	N	ON	9.7
0.160860	49.07	---	65.42	16.35	9.000	N	ON	9.8
0.160860	---	26.70	55.42	28.72	9.000	N	ON	9.8
0.546160	39.04	---	56.00	16.96	9.000	N	ON	9.9
0.546160	---	32.43	46.00	13.57	9.000	N	ON	9.9
18.443390	42.72	---	60.00	17.28	9.000	N	ON	10.0
18.443390	---	37.01	50.00	12.99	9.000	N	ON	10.0
18.480510	41.88	---	60.00	18.12	9.000	N	ON	10.0
18.480510	---	36.33	50.00	13.67	9.000	N	ON	10.0

END OF TEST REPORT