TEST REPORT

Report Number: R15110020-E3

Applicant	:	Sony Corporation 1-7-1 Konan Minato-ku Tokyo, 108-0075, Japan
FCC ID	:	PY7-13187R
EUT Description	:	GSM/WCDMA/LTE/5G Phone with BT, DTS/UNII a/b/g/n/ac/ax, GPS, WPT & NFC
Test Standard(s)	:	FCC 47 CFR PART 15 SUBPART C

Date Of Issue:
2024-03-14

Prepared by:
UL LLC
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Research Triangle Park, NC 27709 U.S.A.
TEL: (919)549-1400

CERT #0751.06

REVISION HISTORY

Rev.	Issue Date	Revisions	Revised By
V1	2024-03-14	Initial Issue	Brian Kiewra

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: Sony Corporation
1-7-1 Konan Minato-ku
Tokyo, 108-0075, Japan

EUT DESCRIPTION: GSM/WCDMA/LTE/5G Phone with BT, DTS/UNII a/b/g/n/ac/ax, GPS, WPT & NFC

SERIAL NUMBER: QV77008MLG, QV770077LQ, QV77008ULG, QV7700JFLQ

SAMPLE RECEIPT DATE: 2024-01-26

DATE TESTED: 2024-03-06 to 2024-03-08

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
FCC PART 15 SUBPART C	Complies

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

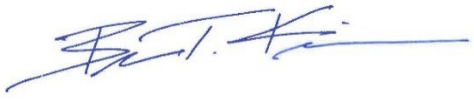
The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components.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

This document may not be altered or revised in any way unless done so by UL LLC and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL LLC 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 A2LA, NIST, any agency of the Federal Government, or any agency of the U.S. government.

Approved & Released
For UL LLC By:

Michael Antola
Staff Engineer
Consumer, Medical and IT Segment
UL LLC

Prepared By:



Brian Kiewra
Project Engineer
Consumer, Medical and IT Segment
UL LLC

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.10-2020, FCC CFR 47 Part 2, and FCC CFR 47 Part 15.

3. FACILITIES AND ACCREDITATION

UL LLC is accredited by A2LA, certification # 0751.06, for all testing performed within the scope of this report. Testing was performed at the locations noted below.

	Address	ISED CABID	ISED Company Number	FCC Registration
☐	Building: 12 Laboratory Dr RTP, NC 27709, U.S.A	US0067	2180C	825374
☒	Building: 2800 Perimeter Park Dr. Suite B Morrisville, NC 27560, U.S.A		27265	

4. DECISION RULES AND MEASUREMENT UNCERTAINTY

4.1. METROLOGICAL TRACEABILITY

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

4.2. DECISION RULES

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

4.3. MEASUREMENT UNCERTAINTY

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

PARAMETER	U_{Lab}
Radio Frequency (Spectrum Analyzer)	141.2 Hz
Occupied Channel Bandwidth	1.22%
RF output power, conducted	1.3 dB (PK) 0.45 dB (AV)
Power Spectral Density, conducted	2.47 dB
Unwanted Emissions, conducted	1.94 dB
All emissions, radiated	6.01 dB
Conducted Emissions (0.150-30MHz) - LISN	3.40 dB
Temperature	0.57°C
Humidity	3.39%
DC Supply voltages	1.70%

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

4.4. SAMPLE CALCULATION

RADIATED EMISSIONS

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

MAINS CONDUCTED EMISSIONS

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

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a GSM/WCDMA/LTE/5G Phone with BT, DTS/UNII a/b/g/n/ac/ax, GPS, WPT & NFC. This test report covers NFC testing.

5.2. MAXIMUM ELECTRIC FIELD STRENGTH

Testing was performed at a distance of 3m. The transmitter has a maximum peak radiated magnetic field strength as follows:

The maximum E-field reading at 30m is 14.39 dBuV/m.

5.3. SOFTWARE AND FIRMWARE

The software version used during testing was 0.220.

5.4. WORST-CASE CONFIGURATION AND MODE

The fundamental of the EUT was investigated under three orthogonal orientations X (Flatbed), Y (Landscape), and Z (Portrait). The Z (Portrait) orientation was determined to be the worst-case orientation.

In addition, Type A, B, F, and V at each supported data rate and with and without a tag were investigated to determine the worst case based on the highest power and spurious emissions. Type V, 26kbps and without tag was determined to be the worst case and therefore was selected for all final tests.

Although these tests were performed other than open area 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 ones of tests made in an open field based on KDB 414788.

5.5. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	**Manufacturer**	**Model**	**Serial Number**	**FCC ID**
Headphones	Sony	MDR-EX15AP	NA	NA
USB Cable	Sony	XQZ-UB1	NA	NA
AC Adapter	Sony	Type: AC-0540-JP	3223W09206247	NA

I/O CABLES

I/O Cable List						
Cable No.	**Port**	**# of Identical Ports**	**Connector Type**	**Cable Type**	**Cable Length (m)**	**Remarks**
1	USB	1	USB-C	Non-Shielded	<3m	Connected to power supply
2	3.5mm	1	3.5mm Audio	Non-Shielded	<1m	Connected to headphones

TEST SETUP

Test software on the EUT exercised the radio.

SETUP DIAGRAM

Please refer to R15110020-EP4 for setup diagram.

6. TEST AND MEASUREMENT EQUIPMENT

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

Test Equipment Used - Radiated Disturbance Emissions Test Equipment (Morrisville – Chamber 2)

Equipment ID	Description	Manufacturer/Brand	Model Number	Last Cal.	Next Cal.
0.009-30MHz					
135144	Active Loop Antenna	ETS-Lindgren	6502	2024-01-24	2025-01-24
85717	Hybrid Broadband Antenna	Sunol Sciences Corp.	JB1	2023-03-01	2024-03-31
Gain-Loss Chains					
91975	Gain-loss string: 0.009-30MHz	Various	Various	2023-06-06	2024-06-06
91978	Gain-loss string: 25-1000MHz	Various	Various	2023-06-06	2024-06-06
Receiver & Software					
197955	Spectrum Analyzer	Rohde & Schwarz	ESW44	2023-04-10	2024-04-10
SOFTEMI	EMI Software	UL	Version 9.5 (18 Oct 2021)		
Additional Equipment used					
200540	Environmental Meter	Fisher Scientific	15-077-963	2023-07-19	2025-07-19

Test Equipment Used - Wireless Conducted Measurement Equipment

Equipment ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
90416	Spectrum Analyzer	Keysight Technologies	N9030A	2023-06-09	2024-06-30
90411	Spectrum Analyzer	Keysight Technologies	N9030A	2023-08-02	2024-08-02
207726	Temp/Humid Chamber	Thermotron	SM-32-8200	2024-01-12	2025-01-12
-	DC Regulated Power Supply	Elektro-Automatik GmbH	PSI 9040-60 T	NA	NA
179892	Environmental Meter	Fisher Scientific	15-077-963	2023-07-26	2024-06-31
SOFTEMI	Antenna Port Software	UL	Version 2022.8.16	NA	NA

Test Equipment Used - Line-Conducted Emissions – Voltage (Morrisville – Conducted 1)

Equipment ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
CBL087	Coax cable, RG223, N-male to BNC-male, 20-ft.	Pasternack	PE3W06143-240	2023-04-04	2024-04-04
179892	Environmental Meter	Fisher Scientific	15-077-963	2023-07-26	2024-06-31
80391	LISN, 50-ohm/50-uH, 250uH 2-conductor, 25A	Fischer Custom Com.	FCC-LISN-50/250-25-2-01	2023-07-31	2024-07-31
75141	EMI Test Receiver 9kHz-7GHz	Rohde & Schwarz	ESCI 7	2023-08-01	2024-08-01
52859	Transient Limiter, 0.009-100MHz	Electro-Metrics	EM-7600	2023-04-04	2024-04-04
PS214	AC Power Source	Elgar	CW2501M	NA	NA
SOFTEMI	EMI Software	UL	Version 9.5 (18 Oct 2021)		
	Miscellaneous (if needed)				
84681	ANSI C63.4 1m extension cable.	UL	Per Annex B of ANSI C63.4	2023-09-18	2024-09-18

7. 20dB BANDWIDTH

LIMITS

§15.215 (c) Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§ 15.217 through 15.257 and in subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated.

TEST PROCEDURE

The transmitter output is connected to the spectrum analyzer. The RBW is set to 1-5% of the 20dB bandwidth. The VBW is set to 3 times the RBW. The sweep time is coupled. The spectrum analyzer internal 99% bandwidth function is utilized.

Note: Because the measured signal is CW-like, adjusting the RBW per C63.10 would not be practical since measured bandwidth will always follow the RBW and the result will be approximately twice the RBW.

RESULTS

Type A (CE Mode)

Mode Kbps	Frequency (MHz)	20dB Bandwidth (KHz)
848	13.56	1817
424	13.56	1736
212	13.56	870
106	13.56	438

Type B (CE Mode)

Mode Kbps	Frequency (MHz)	20dB Bandwidth (KHz)
848	13.56	28.11
424	13.56	8.166
212	13.56	8.351
106	13.56	8.460

Type F (CE Mode)

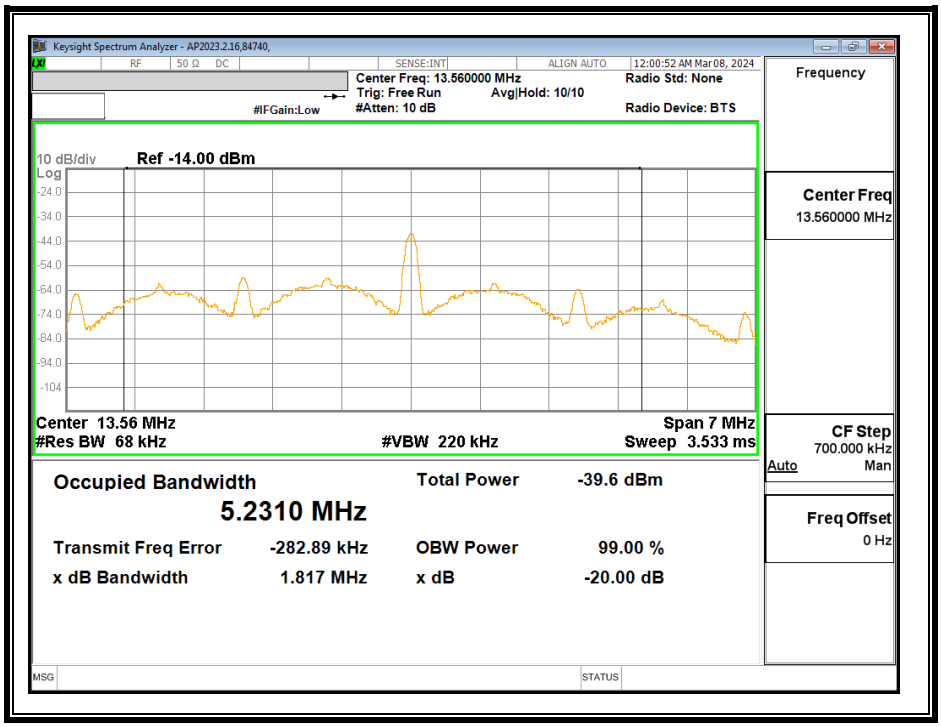
Mode Kbps	Frequency (MHz)	20dB Bandwidth (KHz)
424	13.56	27.48
212	13.56	27.49

Type V (CE Mode)

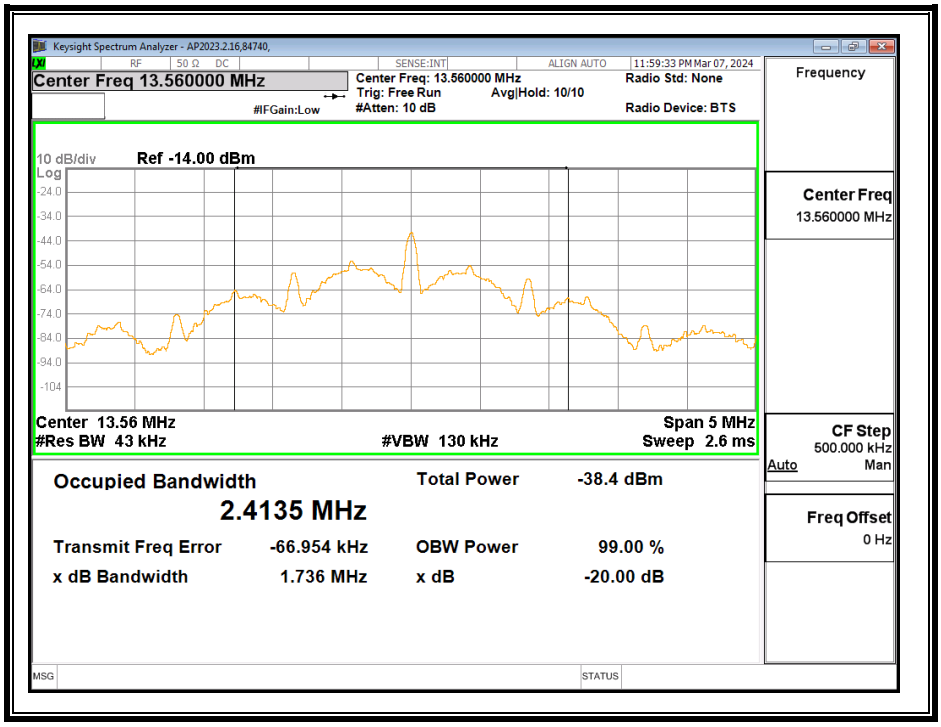
Mode Kbps	Frequency (MHz)	20dB Bandwidth (KHz)
26	13.56	119.7

7.1. Type A (CE Mode)

848kbps



424kbps



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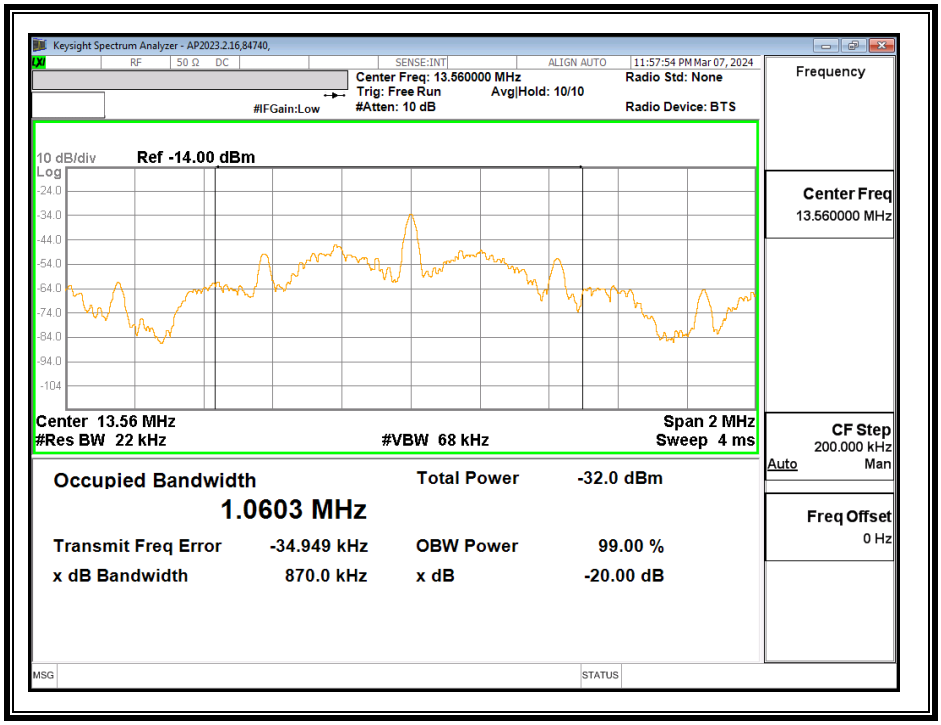
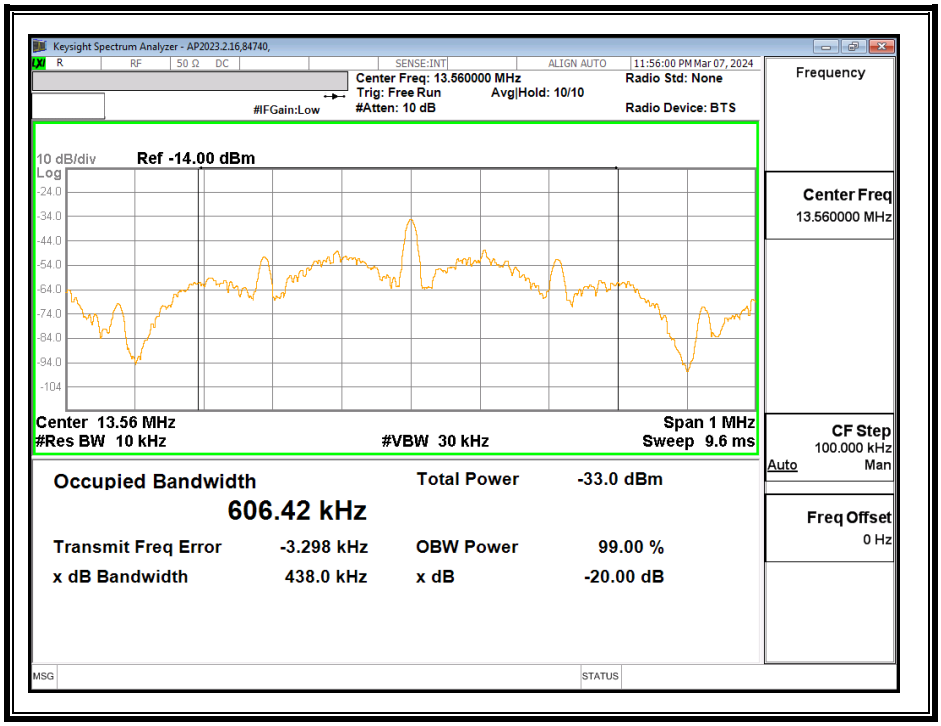
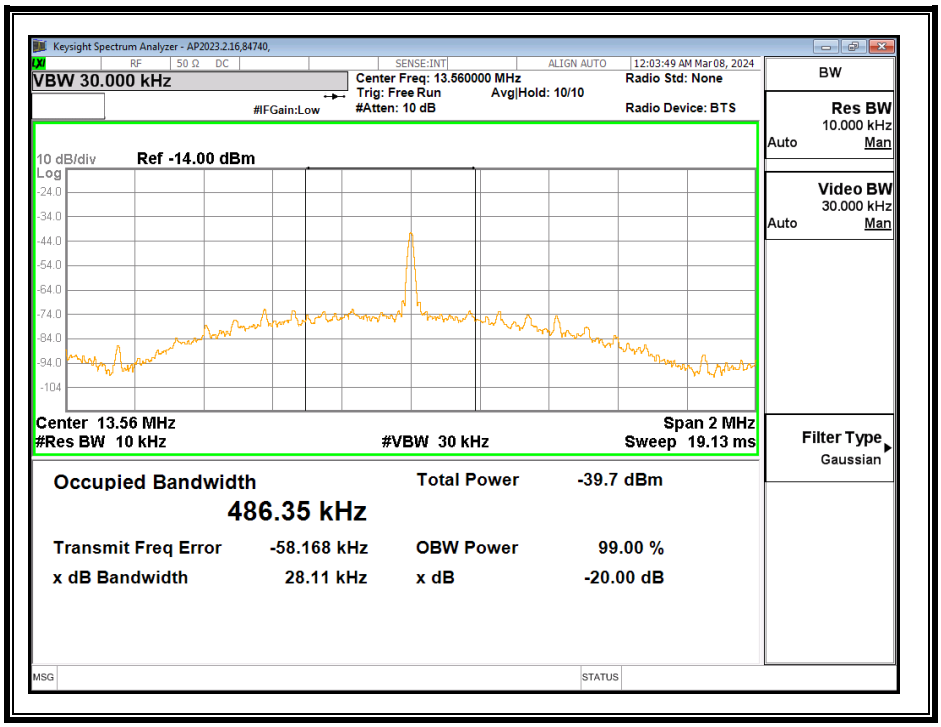


106kbps



7.2. Type B (CE Mode)

848kbps



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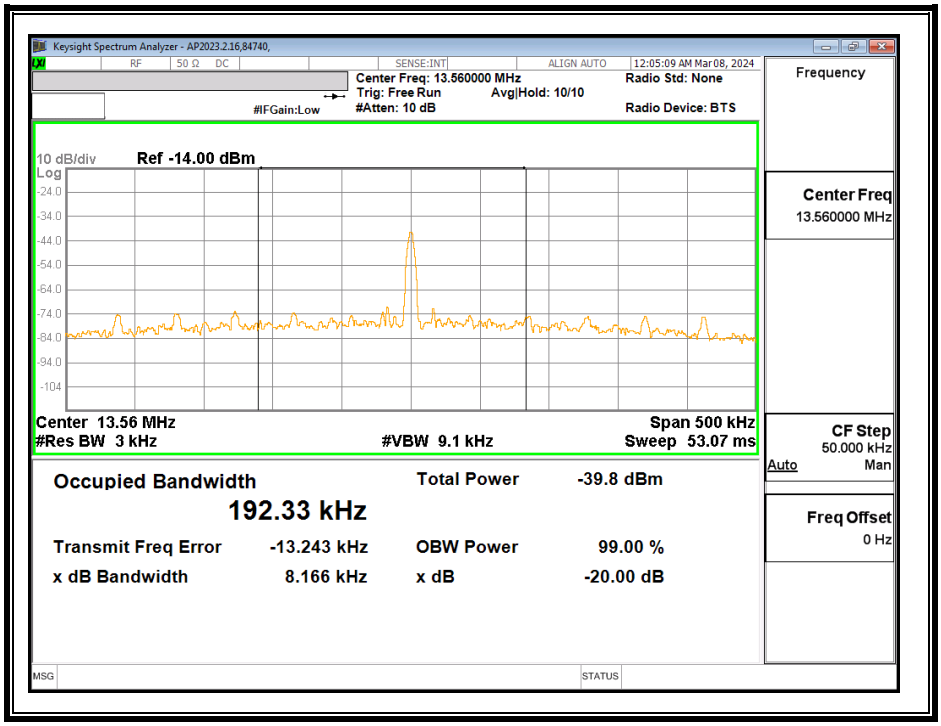
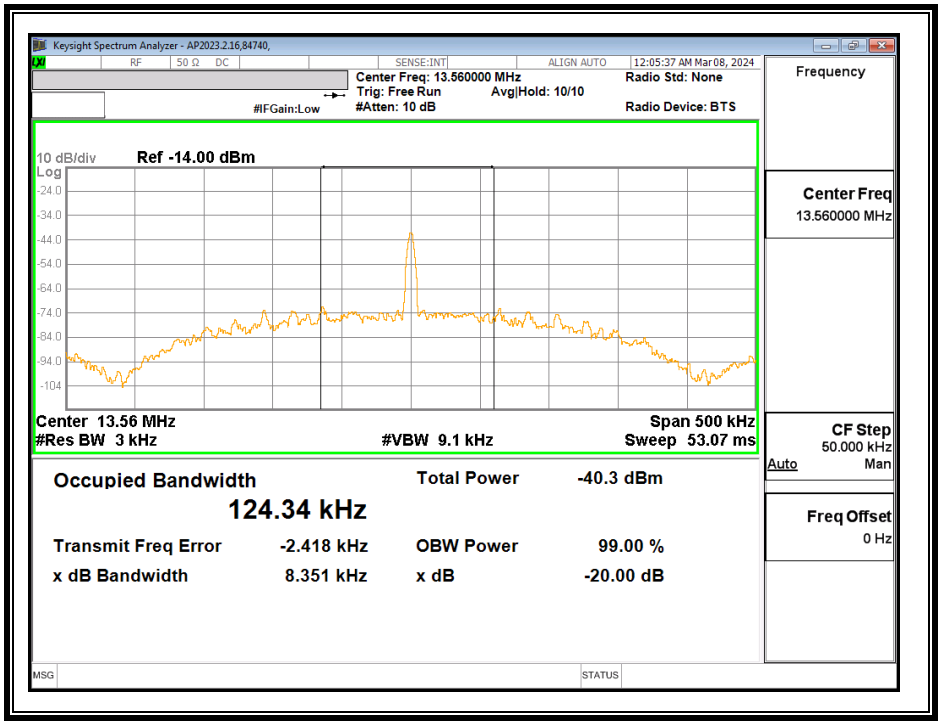
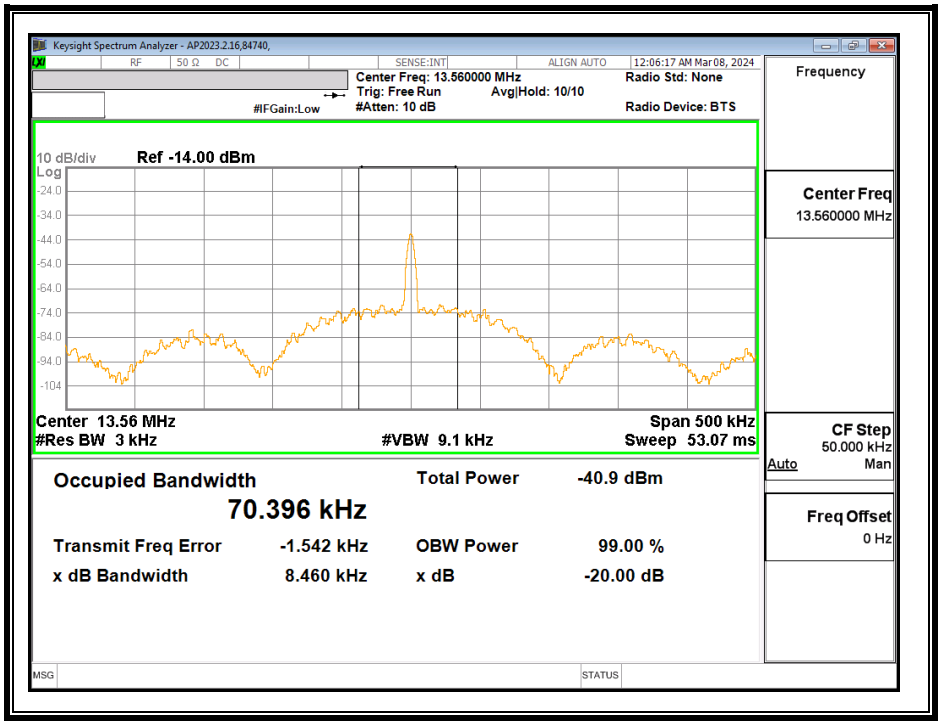


212kbps

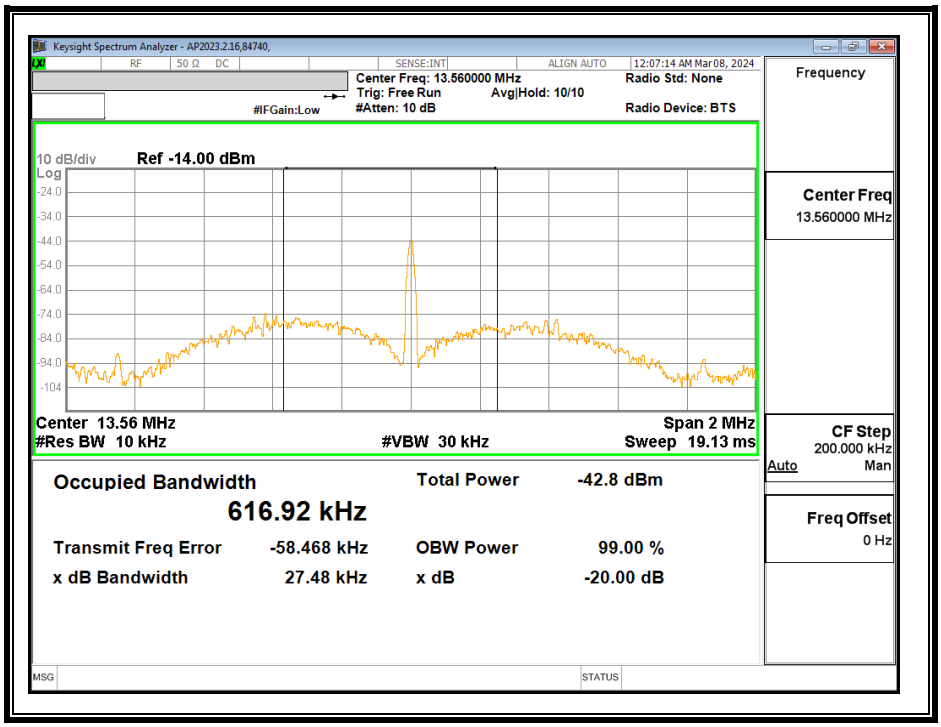


106kbps

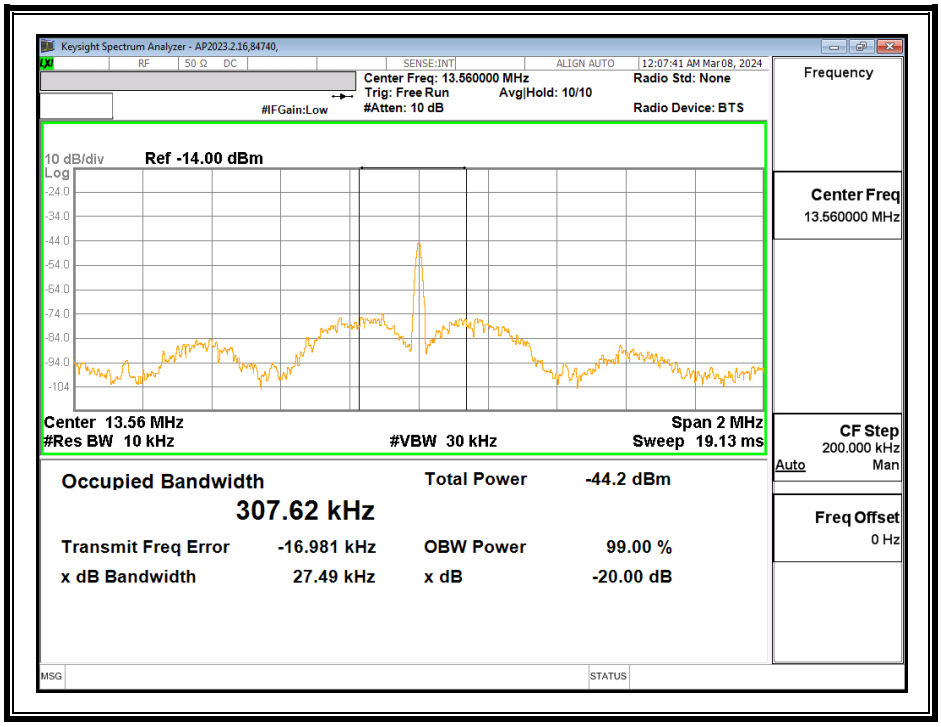


7.3. Type F (CE Mode)

424kbps

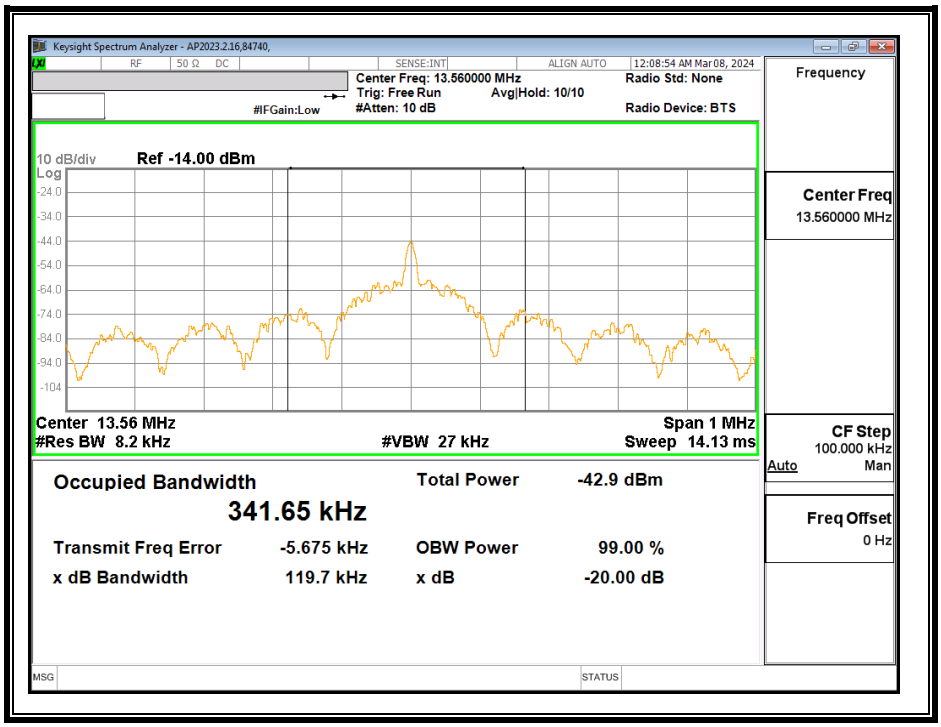


212kbps



7.4. Type V (CE Mode)

26kbps



8. RADIATED EMISSION TEST RESULTS

8.1. LIMITS AND PROCEDURE

LIMIT

§15.225

(a) The field strength of any emissions within the band 13.553–13.567 MHz shall not exceed 15,848 microvolts/ meter at 30 meters.

(b) Within the bands 13.410–13.553 MHz and 13.567–13.710 MHz, the field strength of any emissions shall not exceed 334 microvolts/meter at 30 meters.

(c) Within the bands 13.110–13.410 MHz and 13.710–14.010 MHz the field strength of any emissions shall not exceed 106 microvolts/meter at 30 meters.

(d) The field strength of any emissions appearing outside of the 13.110– 14.010 MHz and shall not exceed the general radiated emission limits in § 15.209 as follows:
§15.209 (a) Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

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.
§15.209 (b) In the emission table above, the tighter limit applies at the band edges.

Formula for converting the filed strength from uV/m to dBuV/m is:
Limit (dBuV/m) = 20 log limit (uV/m)

§15.209 (d) The emission limits shown the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emissions limits in these three bands are based on measurements employing an average detector.

§15.209 (e) The provisions in §§ 15.31, 15.33, and 15.35, measuring emissions at distances other than the distances specified in the above table, determining the frequency range over which radiated emissions are to be measured, and limiting peak emissions apply to all devices operated under this part.

TEST PROCEDURE

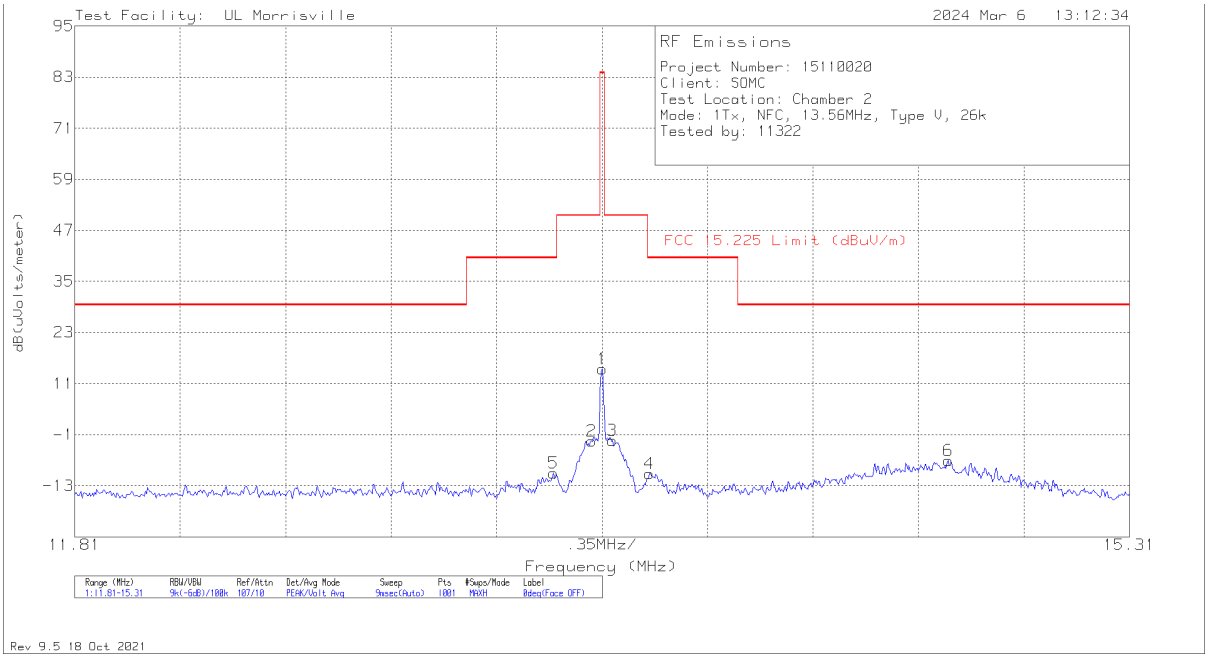
ANSI C63.10, 2020

The EUT is an intentional radiator that incorporates a digital device, the highest fundamental frequency generated or used in the device is 13.56 MHz; therefore, the frequency range was investigated from 0.15 MHz to the 10th harmonic of the highest fundamental frequency, or 1000 MHz, whichever is greater.

8.2. FUNDAMENTAL AND SPURIOUS EMISSIONS (0.009 - 30 MHz)

8.2.1. Type V (CE Mode)

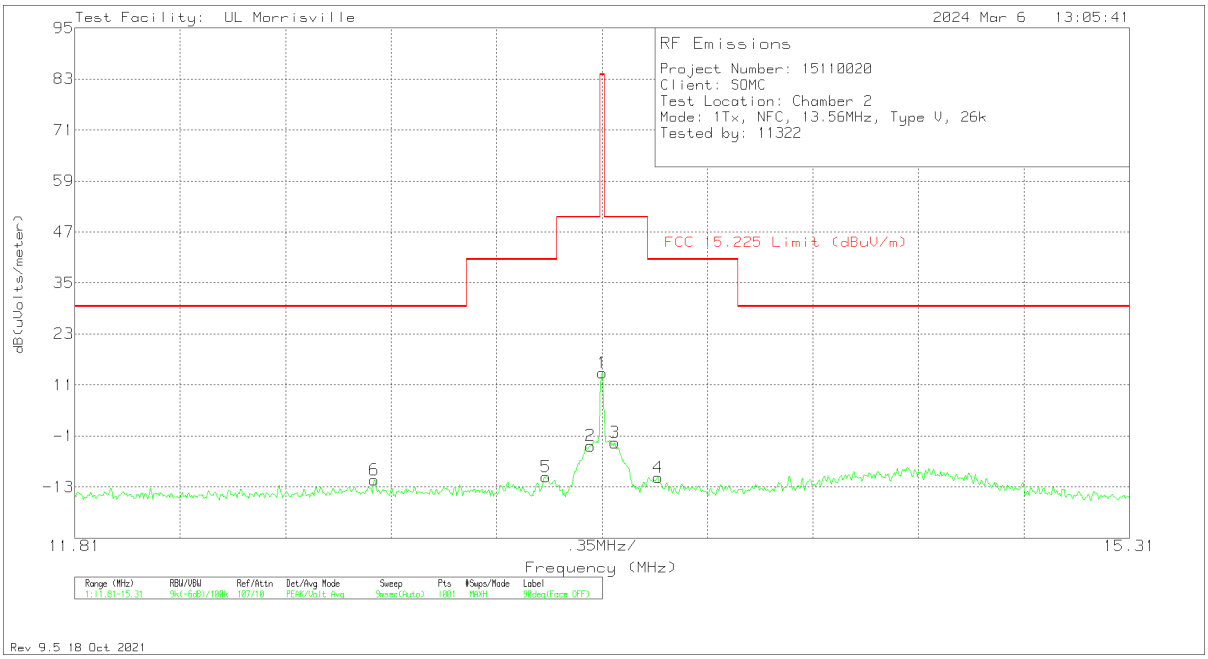
FUNDAMENTAL 26kbps – Face On, 0 Deg



Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	135144 (dBuV/m)	Gain/Loss (dB)	Dist. Corr. Factor (dB)	Corrected Reading (dBuV/m)	FCC 15.225 Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Loop Angle
5	13.399	18.61	Pk	10.7	.6	-40	-10.09	40.5	-50.59	206	0 degs
2	13.525	26.12	Pk	10.7	.6	-40	-2.58	50.5	-53.08	206	0 degs
1	13.56	43.09	Pk	10.7	.6	-40	14.39	84	-69.61	206	0 degs
3	13.595	26.31	Pk	10.7	.6	-40	-2.39	50.5	-52.89	206	0 degs
4	13.7175	18.52	Pk	10.7	.6	-40	-10.18	40.5	-50.68	206	0 degs
6	14.708	21.54	Pk	10.7	.7	-40	-7.06	29.5	-36.56	206	0 degs

Pk - Peak detector

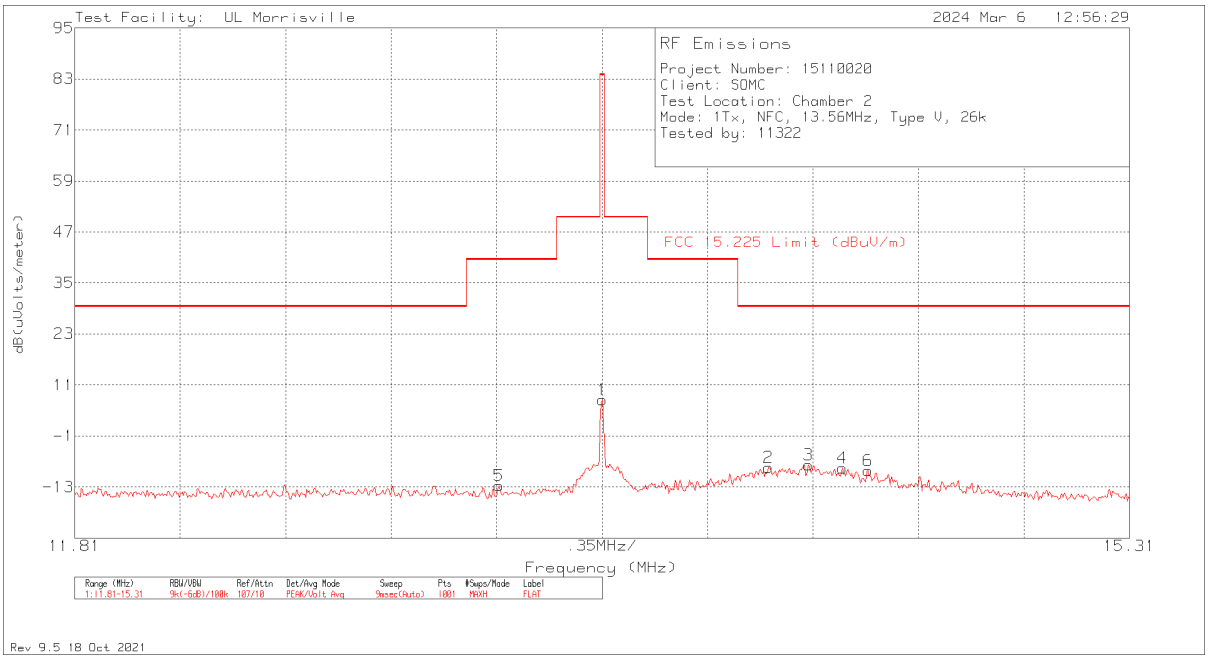
FUNDAMENTAL 26kbps – Face Off, 90 Deg



Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	135144 (dBuV/m)	Gain/Loss (dB)	Dist. Corr. Factor (dB)	Corrected Reading (dBuV/m)	FCC 15.225 Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Loop Angle
6	12.804	17.23	Pk	10.8	.6	-40	-11.37	29.5	-40.87	97	90 degs
5	13.3745	18.07	Pk	10.7	.6	-40	-10.63	40.5	-51.13	97	90 degs
2	13.5215	25.37	Pk	10.7	.6	-40	-3.33	50.5	-53.83	97	90 degs
1	13.56	42.47	Pk	10.7	.6	-40	13.77	84	-70.23	97	90 degs
3	13.602	26.11	Pk	10.7	.6	-40	-2.59	50.5	-53.09	97	90 degs
4	13.7455	17.99	Pk	10.7	.6	-40	-10.71	40.5	-51.21	97	90 degs

Pk - Peak detector

FUNDAMENTAL 26kbps – Horizontal, Flat

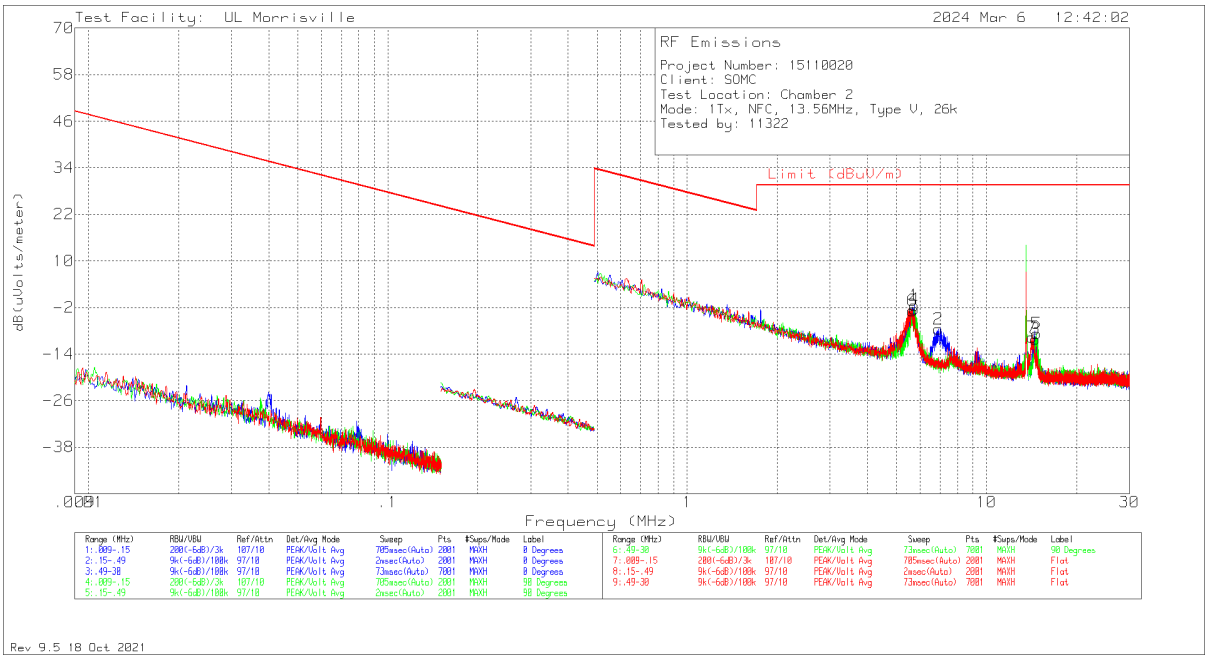


Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	135144 (dBuV/m)	Gain/Loss (dB)	Dist. Corr. Factor (dB)	Corrected Reading (dBuV/m)	FCC 15.225 Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Loop Angle
5	13.217	16.02	Pk	10.7	.6	-40	-12.68	40.5	-53.18	274	Flat
1	13.56	36.14	Pk	10.7	.6	-40	7.44	84	-76.56	274	Flat
2	14.113	20.23	Pk	10.7	.7	-40	-8.37	29.5	-37.87	274	Flat
3	14.246	20.73	Pk	10.7	.7	-40	-7.87	29.5	-37.37	274	Flat
4	14.358	19.99	Pk	10.7	.7	-40	-8.61	29.5	-38.11	274	Flat
6	14.442	19.39	Pk	10.7	.7	-40	-9.21	29.5	-38.71	274	Flat

Pk - Peak detector

SPURIOUS EMISSION 26kbps

Note: All measurements were made at a test distance of 3 m. The measured data was extrapolated from the test distance (3m) to the specification distance (300 m from 9-490 kHz and 30 m from 490 kHz – 30 MHz) to clearly show the relative levels of fundamental and spurious emissions and demonstrate compliance with the requirement that the level of any spurious emissions be below the level of the intentionally transmitted signal. The extrapolation factor for the limits were 40*Log (test distance / specification distance).



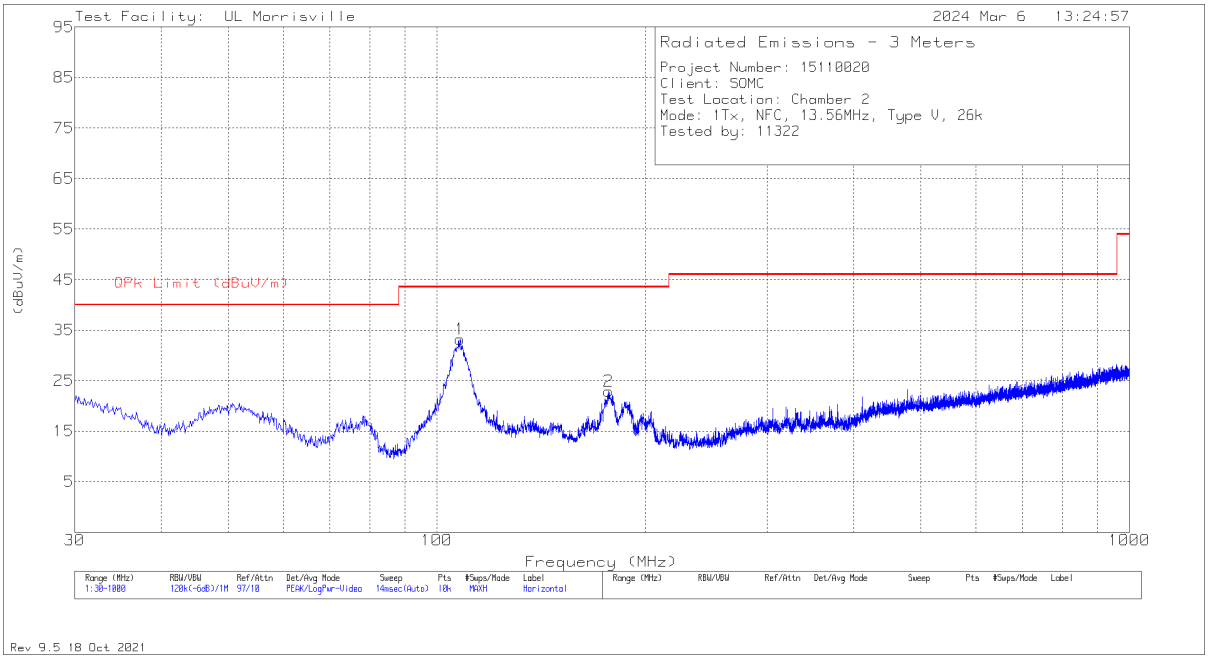
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	135144 (dBuV/m)	Gain/Loss (dB)	Dist. Corr. Factor (dB)	Corrected Reading (dBuV/m)	QP/AV Limit (dBuV/m)	PK Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Loop Angle
6	5.66303	25.6	Pk	11.2	.4	-40	-2.8	29.54	-	-32.34	0-360	Flat
1	5.7347	26.96	Pk	11.2	.4	-40	-1.44	29.54	-	-30.98	0-360	0 degs
4	5.73892	26.07	Pk	11.2	.4	-40	-2.33	29.54	-	-31.87	0-360	90 degs
2	6.91097	20.79	Pk	11.1	.5	-40	-7.61	29.54	-	-37.15	0-360	0 degs
7	14.20886	18.88	Pk	10.7	.7	-40	-9.72	29.54	-	-39.26	0-360	Flat
3	14.56722	18.47	Pk	10.7	.7	-40	-10.13	29.54	-	-39.67	0-360	0 degs
5	14.70635	19.96	Pk	10.7	.7	-40	-8.64	29.54	-	-38.18	0-360	90 degs

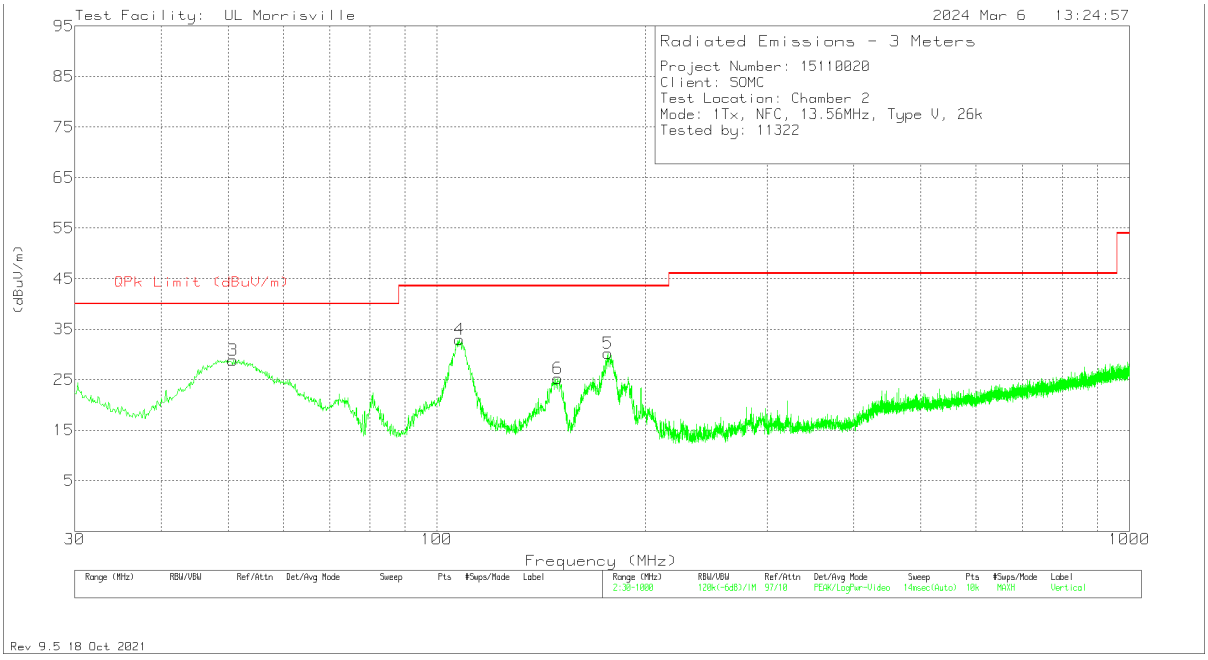
Pk - Peak detector

8.3. TX SPURIOUS EMISSION 30 TO 1000 MHz

8.3.1. Type V (CE Mode)

SPURIOUS EMISSION 26kbps





Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	85717 (dB/m)	Gain/Loss (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	* ** 108.085	46.31	Pk	17.8	-30.9	33.21	43.52	-10.31	0-360	299	H
3	50.758	46.47	Pk	13.6	-31.2	28.87	40	-11.13	0-360	101	V
4	107.697	45.97	Pk	17.8	-30.8	32.97	43.52	-10.55	0-360	101	V
6	149.407	37.34	Pk	18.4	-30.5	25.24	43.52	-18.28	0-360	101	V
5	176.47	42.99	Pk	17.5	-30.3	30.19	43.52	-13.33	0-360	101	V
2	177.149	35.65	Pk	17.5	-30.3	22.85	43.52	-20.67	0-360	199	H

* - indicates frequency in CFR47 Pt 15 / IC RSS-Restricted Band
** - indicates frequency in Taiwan NCC LP0002 Restricted Band
Pk - Peak detector

9. FREQUENCY STABILITY

LIMIT

§15.225 (e) The frequency tolerance of the carrier signal shall be maintained within ±0.01% of the operating frequency, over a temperature variation of -20 degrees to +50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from the minimum to the maximum of the rated supply voltage at a temperature of 20 degrees C. For battery operated equipment, the equipment tests shall be performed using a new battery.

TEST PROCEDURE

ANSI C63.10-2020 Clause 6.8

RESULTS

No non-compliance noted.

9.1. TYPE V 26kbps, WITHOUT TAG

Reference Frequency: EUT Channel 13.56 MHz @ 20ºC Limit: ± 100 ppm = 1.356 kHz										
Power Supply	Envir. Temp	Frequency Deviation Measureed with Time Elapse								
(Vdc)	(ºC)	Startup (MHz)	Delta (ppm)	@ 2 mins (MHz)	Delta (ppm)	@ 5 mins (MHz)	Delta (ppm)	@ 10 mins (MHz)	Delta (ppm)	Limit (ppm)
3.89	50	13.5599500	3.214	13.5599454	3.549	13.5599439	3.660	13.5599416	3.833	± 100
3.89	40	13.5599495	3.247	13.5599483	3.336	13.5599486	3.317	13.5599490	3.288	± 100
3.89	30	13.5599678	1.898	13.5599662	2.016	13.5599671	1.949	13.5599686	1.842	± 100
3.89	***20***	***13.5599935***	***0.000***	***13.5599902***	***0.248***	***13.5599873***	***0.460***	***13.5599842***	***0.690***	***± 100***
3.89	10	13.5600049	-0.835	13.5600074	-1.019	13.5600140	-1.510	13.5600211	-2.033	± 100
3.89	0	13.5600472	-3.954	13.5600484	-4.043	13.5600516	-4.282	13.5600558	-4.588	± 100
3.89	-10	13.5600741	-5.942	13.5600742	-5.949	13.5600762	-6.097	13.5600777	-6.207	± 100
3.89	-20	13.5600832	-6.613	13.5600834	-6.628	13.5600834	-6.624	13.5600824	-6.554	± 100
4.28	20	13.5599903	0.238	13.5599829	0.786	13.5599808	0.941	13.5599801	0.990	± 100
3.69	20	13.5599817	0.871	13.5599803	0.972	13.5599800	0.997	13.5599795	1.036	± 100

Tested by: 84740
Test date: 2024-03-08

10. AC MAINS LINE CONDUCTED EMISSIONS

LIMITS

§15.207

(a) Except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50μH/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the band edges.

Frequency range (MHz)	Limits (dBμV)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50
Notes: 1. The lower limit shall apply at the transition frequencies 2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.		

TEST PROCEDURE

ANSI C63.10:2020

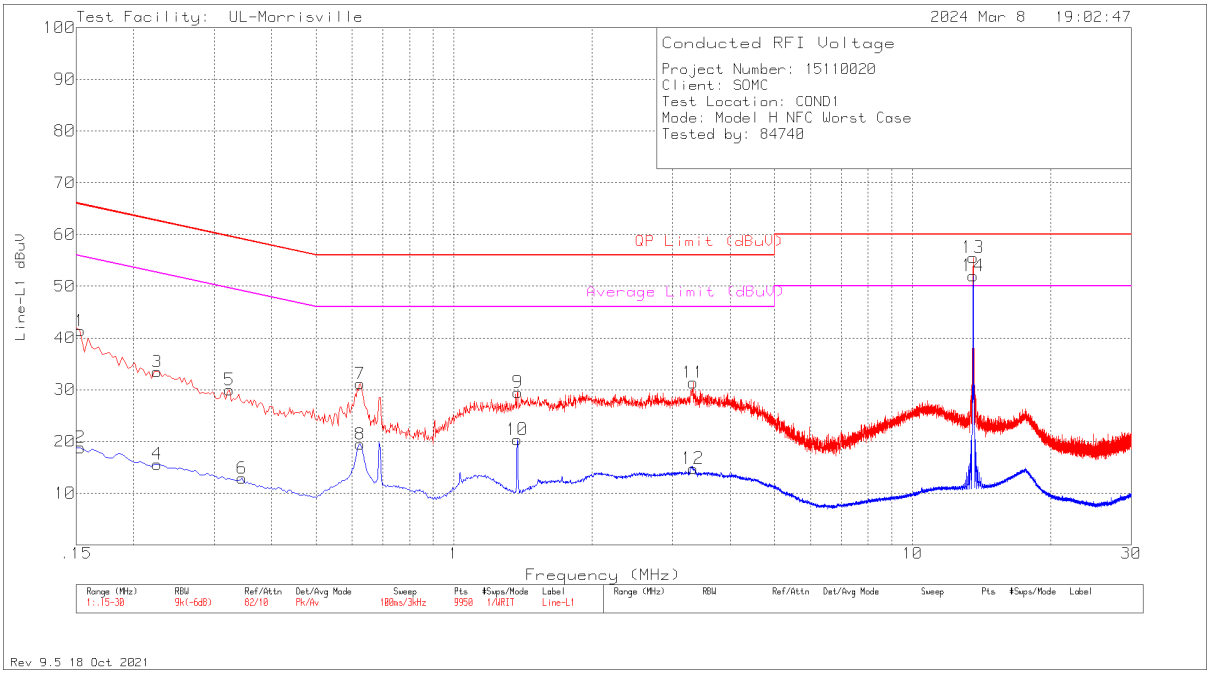
RESULTS

No non-compliance noted:

10.1. TYPE V 26kbps

10.1.1. NORMAL OPERATION

LINE 1 RESULTS

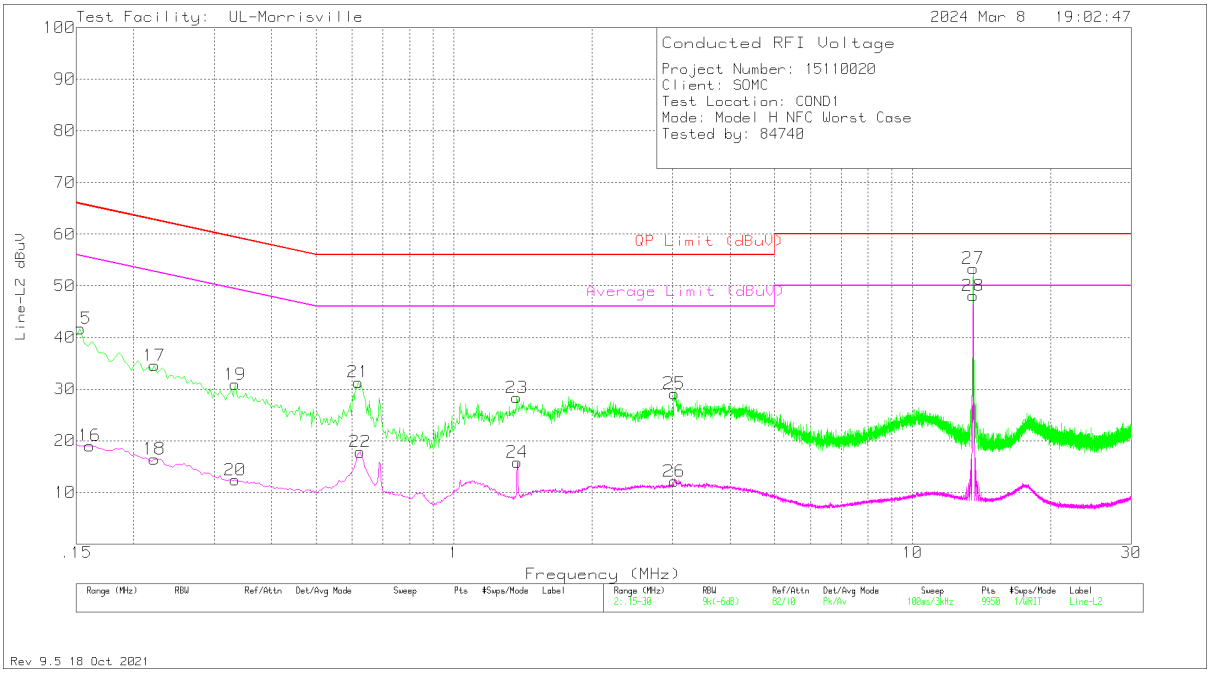


Range 1: Line-L1 .15 - 30MHz										
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN VDF (dB)	Cbl/Limiter (dB)	Corrected Reading dBuV	QP Limit (dBuV)	Margin (dB)	Average Limit (dBuV)	Margin (dB)
1	.153	31.29	Pk	.3	9.8	41.39	65.84	-24.45	-	-
2	.153	8.71	Av	.3	9.8	18.81	-	-	55.84	-37.03
3	.225	23.45	Pk	.2	9.8	33.45	62.63	-29.18	-	-
4	.225	5.62	Av	.2	9.8	15.62	-	-	52.63	-37.01
5	.324	20.06	Pk	.1	9.8	29.96	59.6	-29.64	-	-
6	.345	2.97	Av	.1	9.8	12.87	-	-	49.08	-36.21
7	.624	21.24	Pk	.1	9.8	31.14	56	-24.86	-	-
8	.624	9.56	Av	.1	9.8	19.46	-	-	46	-26.54
9	1.377	19.59	Pk	.1	9.8	29.49	56	-26.51	-	-
10	1.374	10.43	Av	.1	9.8	20.33	-	-	46	-25.67
11	3.324	21.46	Pk	.1	9.8	31.36	56	-24.64	-	-
12	3.321	4.85	Av	.1	9.8	14.75	-	-	46	-31.25
13	13.56	45.35	Pk	.2	10	55.55	60	-4.45	-	-
14	13.56	41.82	Av	.2	10	52.02	-	-	**50**	**2.02**

Pk - Peak detector
Av - Average detection

Note: 13.56MHz is a fundamental frequency of the EUT. Data under the following section indicate that when the antenna terminal is terminated the fundamental amplitude is lowered below the limit line.

LINE 2 RESULTS



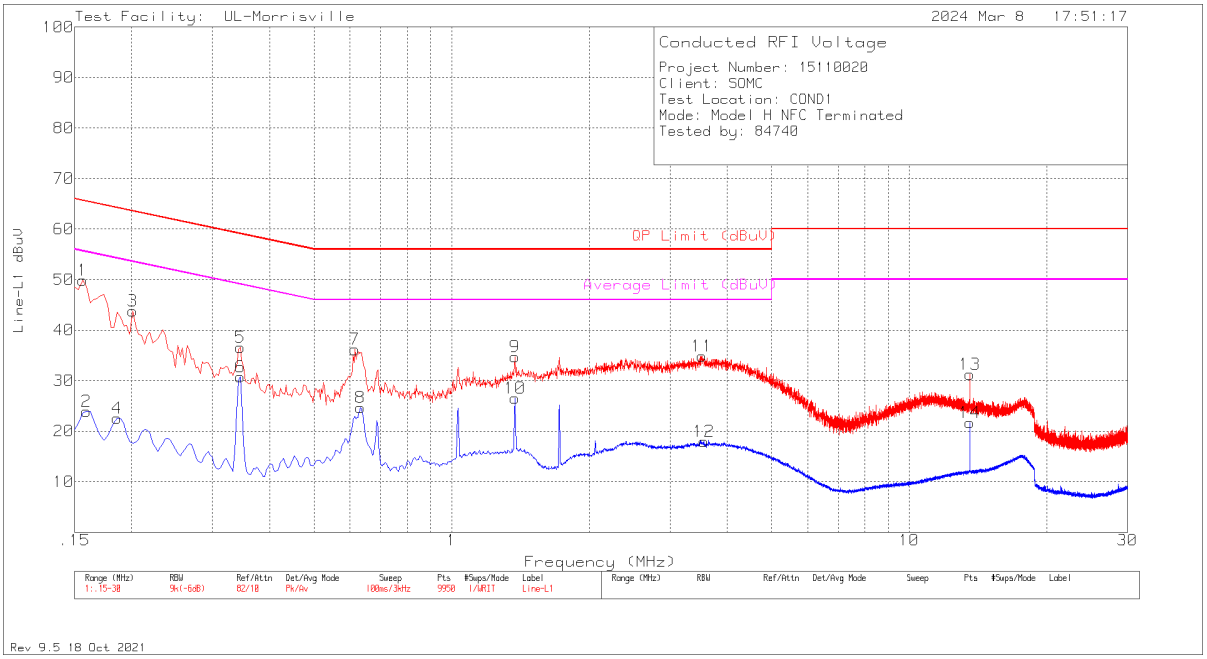
Range 2: Line-L2 .15 - 30MHz										
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN VDF (dB)	Cbl/Limiter (dB)	Corrected Reading dBuV	QP Limit (dBuV)	Margin (dB)	Average Limit (dBuV)	Margin (dB)
15	.153	31.61	Pk	.3	9.8	41.71	65.84	-24.13	-	-
16	.1605	8.94	Av	.3	9.8	19.04	-	-	55.44	-36.4
17	.222	24.57	Pk	.2	9.8	34.57	62.74	-28.17	-	-
18	.222	6.47	Av	.2	9.8	16.47	-	-	52.74	-36.27
19	.333	21.01	Pk	.1	9.8	30.91	59.38	-28.47	-	-
20	.333	2.49	Av	.1	9.8	12.39	-	-	49.38	-36.99
21	.618	21.45	Pk	.1	9.8	31.35	56	-24.65	-	-
22	.624	7.95	Av	.1	9.8	17.85	-	-	46	-28.15
23	1.371	18.45	Pk	.1	9.8	28.35	56	-27.65	-	-
24	1.374	5.95	Av	.1	9.8	15.85	-	-	46	-30.15
25	3.021	19.21	Pk	.1	9.8	29.11	56	-26.89	-	-
26	3.021	2.25	Av	.1	9.8	12.15	-	-	46	-33.85
27	13.56	43.15	Pk	.2	10	53.35	60	-6.65	-	-
28	13.56	37.89	Av	.2	10	48.09	-	-	50	-1.91

Pk - Peak detector
Av - Average detection

Note: 13.56MHz is a fundamental frequency of the EUT. Data under the following section indicate that when the antenna terminal is terminated the fundamental amplitude is lowered below the limit line.

10.1.2. NORMAL OPERATION WITH ANTENNA PORT TERMINATED

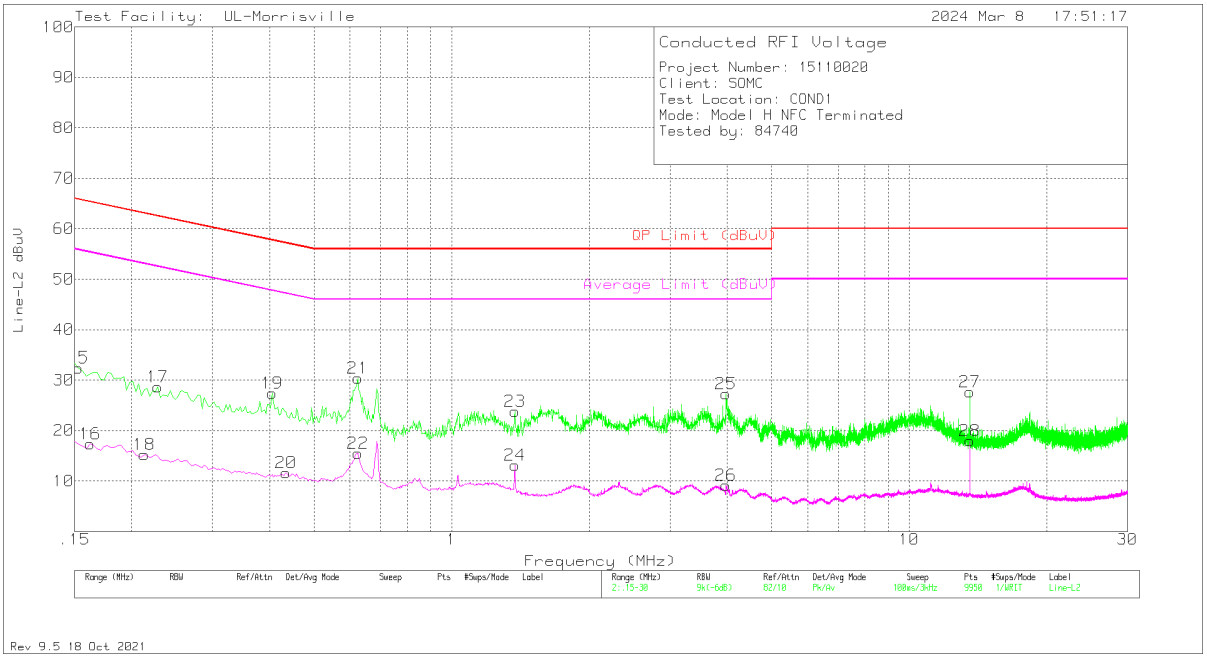
LINE 1 RESULTS



Range 1: Line-L1 .15 - 30MHz										
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN VDF (dB)	Cbl/Limiter (dB)	Corrected Reading dBuV	QP Limit (dBuV)	Margin (dB)	Average Limit (dBuV)	Margin (dB)
1	.156	39.79	Pk	.3	9.8	49.89	65.67	-15.78	-	-
2	.159	13.85	Av	.3	9.8	23.95	-	-	55.52	-31.57
3	.201	33.75	Pk	.2	9.8	43.75	63.57	-19.82	-	-
4	.186	12.55	Av	.2	9.8	22.55	-	-	54.21	-31.66
5	.345	26.68	Pk	.1	9.8	36.58	59.08	-22.5	-	-
6	.345	20.87	Av	.1	9.8	30.77	-	-	49.08	-18.31
7	.615	26.26	Pk	.1	9.8	36.16	56	-19.84	-	-
8	.633	14.76	Av	.1	9.8	24.66	-	-	46	-21.34
9	1.374	24.84	Pk	.1	9.8	34.74	56	-21.26	-	-
10	1.374	16.67	Av	.1	9.8	26.57	-	-	46	-19.43
11	3.525	24.91	Pk	.1	9.8	34.81	56	-21.19	-	-
12	3.558	8.02	Av	.1	9.8	17.92	-	-	46	-28.08
13	13.56	21.09	Pk	.2	10	31.29	60	-28.71	-	-
14	13.56	11.51	Av	.2	10	21.71	-	-	50	-28.29

Pk - Peak detector
Av - Average detection

LINE 2 RESULTS



Range 2: Line-L2 .15 - 30MHz										
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN VDF (dB)	Cbl/Limiter (dB)	Corrected Reading dBuV	QP Limit (dBuV)	Margin (dB)	Average Limit (dBuV)	Margin (dB)
15	.153	22.33	Pk	.3	9.8	32.43	65.84	-33.41	-	-
16	.162	7.23	Av	.3	9.8	17.33	-	-	55.36	-38.03
17	.228	18.6	Pk	.2	9.8	28.6	62.52	-33.92	-	-
18	.213	5.29	Av	.2	9.8	15.29	-	-	53.09	-37.8
19	.405	17.46	Pk	.1	9.8	27.36	57.75	-30.39	-	-
20	.435	1.74	Av	.1	9.8	11.64	-	-	47.16	-35.52
21	.624	20.46	Pk	.1	9.8	30.36	56	-25.64	-	-
22	.624	5.61	Av	.1	9.8	15.51	-	-	46	-30.49
23	1.374	13.94	Pk	.1	9.8	23.84	56	-32.16	-	-
24	1.374	3.25	Av	.1	9.8	13.15	-	-	46	-32.85
25	3.978	17.29	Pk	.1	9.9	27.29	56	-28.71	-	-
26	3.978	-.84	Av	.1	9.9	9.16	-	-	46	-36.84
27	13.563	17.48	Pk	.2	10	27.68	60	-32.32	-	-
28	13.56	7.73	Av	.2	10	17.93	-	-	50	-32.07

Pk - Peak detector
Av - Average detection

11. SETUP PHOTOS

Please refer to R15110020-EP4 for setup photos.

END OF TEST REPORT