TEST REPORT

Report Number: 15605547-E8V2

Applicant	:	SAMSUNG ELECTRONICS CO., LTD. 129 SAMSUNG-RO, YEONGTONG-GU SUWON-SI, GYEONGGI-DO, 16677, KOREA
Model	:	SM-X620
FCC ID	:	A3LSMX620
IC		649E-SMX620
EUT Description	:	BT/BLE Tablet + DTS/UNII a/b/g/n/ac/ax and Digitizer
Test Standard(s)	:	FCC 47 CFR PART 15 SUBPART C ISED RSS-247 ISSUE 3 ISED RSS-GEN ISSUE 5 + A1 + A2 ISED RSS-210 ISSUE 11

Date Of Issue:
2025-03-06

Prepared by:
UL VERIFICATION SERVICES INC.
47173 Benicia Street
Fremont, CA 94538 U.S.A.
TEL: (510) 319-4000
FAX: (510) 661-0888

ACCREDITED
CERT #0751.05

REVISION HISTORY

Rev.	Issue Date	Revisions	Revised By
V1	2025-02-25	Initial Issue	---
V2	2025-03-06	Updated Cover Page and Section 1	Glenn Escano

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UL VERIFICATION SERVICES INC.
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COMPANY NAME: SAMSUNG ELECTRONICS CO., LTD.
129 SAMSUNG-RO, YEONGTONG-GU
SUWON-SI, GYEONGGI-DO, 16677, KOREA

EUT DESCRIPTION: BT/BLE Tablet + DTS/UNII a/b/g/n/ac/ax and Digitizer

MODEL: SM-X620

SERIAL NUMBER: R32XC0045X8

SAMPLE RECEIPT DATE: 2024-12-16

DATE TESTED: 2025-02-03 TO 2025-02-06

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
CFR 47 Part 15 Subpart C	Complies
ISED RSS-247 ISSUE 3	Complies
ISED RSS-GEN ISSUE 5 + A1 + A2	Complies
ISED RSS-210 ISSUE 11	Complies

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

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

This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. will constitute fraud and shall nullify the document.

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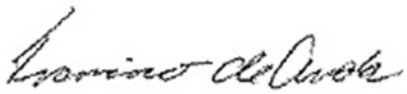
Approved & Released For
UL Verification Services Inc. By:



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

Prepared By:

Gerardo Abrego
Senior Test Engineer
Consumer Technology Division
UL Verification Services Inc.

Reviewed By:

Henry Lau
Project Engineer
Consumer Technology Division
UL Verification Services Inc.

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2. TEST RESULTS SUMMARY

This report contains data provided by the customer which can impact the validity of results. UL Verification Services Inc. is only responsible for correctly integrating customer-provided data with measurements performed by UL Verification Services Inc.

Below is a list of the data provided by the customer:

1) Antenna gain and type (see section 6.3)

FCC Clause	ISED Clause	Requirement	Result	Comment
15.209,15.205	RSS-GEN 8.9, 8.10	Radiated Emissions	Pass	None.
15.207	RSS-Gen 8.8	AC Mains Conducted Emissions	Pass	None.

3. TEST METHODOLOGY

The tests documented in this report were performed in accordance with

- FCC CFR 47 Part 2
- FCC CFR 47 Part 15
- ANSI C63.10-2020
- KDB 414788 D01 Radiated Test Site
- RSS-247 Issue 3
- RSS-GEN Issue 5 + A1 + A2
- RSS-210 Issue 11

4. FACILITIES AND ACCREDITATION

UL Verification Services Inc. is accredited by A2LA, Certificate Number 0751.05, for all testing performed within the scope of this report. Testing was performed at the locations noted below.

	Address	ISED CABID	ISED Company Number	FCC Registration
☐	Building 1: 47173 Benicia Street, Fremont, CA 94538, USA	US0104	2324A	550739
☐	Building 2: 47266 Benicia Street, Fremont, CA 94538, USA			
☐	Building 3: 843 Auburn Court, Fremont, CA 94538, USA			
☒	Building 4: 47658 Kato Rd, Fremont, CA 94538, USA			
☐	Building 5: 47670 Kato Rd, Fremont, CA 94538, USA			

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5. DECISION RULES AND MEASUREMENT UNCERTAINTY

5.1. METROLOGICAL TRACEABILITY

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

5.2. DECISION RULES

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

5.3. MEASUREMENT UNCERTAINTY

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

PARAMETER	U_{Lab}
Radio Frequency (Spectrum Analyzer)	141.16 Hz
Worst Case Conducted Disturbance, 9KHz to 0.15 MHz	3.78 dB
Worst Case Conducted Disturbance, 0.15 to 30 MHz	3.40 dB
Worst Case Radiated Disturbance, 9KHz to 30 MHz (E-field)	2.84 dB
Worst Case Radiated Disturbance, 9KHz to 30 MHz (H-field)	2.87 dB
Worst Case Radiated Disturbance, 30 to 1000 MHz	6.01 dB
Time Domain Measurements	3.39%
Temperature	0.57°C
Relative Humidity	3.39%

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

5.4. SAMPLE CALCULATION

RADIATED EMISSIONS

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

MAINS CONDUCTED EMISSIONS

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

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6. EQUIPMENT UNDER TEST

6.1. EUT DESCRIPTION

The EUT is a BT/BLE Tablet + DTS/UNII a/b/g/n/ac/ax and Digitizer.

This test report addresses the Digitizer(DCD) operational modes.

6.2. MAXIMUM E-FIELD STRENGTH

Frequency Range (KHz)	Worst-Case (KHz)	E-Field (30m distance) FCC (dBuV/m)
531.25-593.75	562.5	3.60

6.3. DESCRIPTION OF AVAILABLE ANTENNAS

The antenna type, as provided by the manufacturer' are as follows:

The radio utilizes a coil antenna that is 287 x 196.99 mm x 0.144t (con't: 0.2t).

6.4. WORST-CASE CONFIGURATION AND MODE

Radiated emissions below 30MHz, and power line conducted emission were performed with the EUT set to transmit at the channel with highest output power as worst-case scenario.

The fundamental of the EUT was investigated in three orthogonal orientations X,Y,Z, it was determined that Z orientation was worst-case orientation; therefore, all final radiated testing was performed with the EUT in Z orientation.

The EUT has 3 fundamental frequencies: 531.25 kHz, 562. 5 kHz, and 593.75 kHz. 562.5 kHz fundamental is the worst case therefore testing was performed on this frequency.

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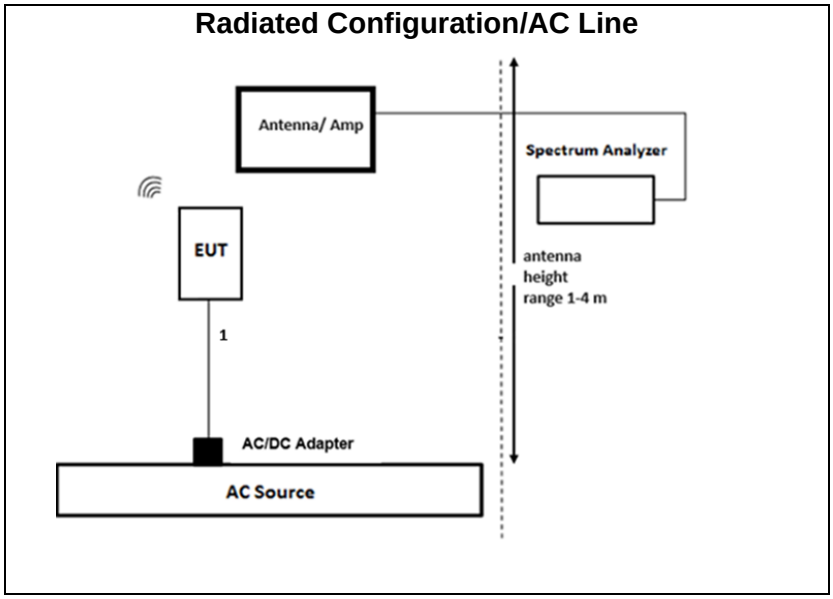
6.5. DESCRIPTION OF TEST SETUP

SUPPORT TEST EQUIPMENT						
Description		**Manufacturer**	**Model**	**Serial Number**		**FCC ID/ DoC**
AC Adapter		Samsung	EP-TA800	R37WBAA004BDKA		N/A
S-Pen		Samsung	N/A	N/A		N/A
Keyboard		Samsung	DX625	N/A		N/A
I/O CABLES (AC LINE CONDUCTED TEST)						
Cable No.	**Port**	**# of Identical Ports**	**Connector Type**	**Cable Type**	**Cable Length (m)**	**Remarks**
1	USB-C	1	USB-C	Shielded	1	N/A

TEST SETUP

The EUT is a stand-alone device configured and tested in a worst-case setup.
Worst case is using Y orientation with AC charger attached to the EUT.
Test software exercised the radio card.

SETUP DIAGRAMS



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7. MEASUREMENT METHOD

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

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

AC Power Line Conducted Emissions: ANSI C63.10, Section 6.2.

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

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8. TEST AND MEASUREMENT EQUIPMENT

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

TEST EQUIPMENT LIST					
Description	**Manufacturer**	**Model**	**ID Num**	**Cal Due**	**Last Cal**
Antenna, Passive Loop 100KHz - 30MHz	ELECTRO METRICS	EM-6872	219910	2025-05-31	2023-05-31
Amplifier,9KHz to 1GHz, 32dB	SONOMA INSTRUMENT	310	170647	2025-03-31	2024-03-25
EMI TEST RECEIVER, with B8 option	Rohde & Schwarz	ESW44	245268	2025-02-28	2024-02-15
AC Line Conducted					
LISN	Fischer Custom Communications, Inc	FCC-LISN-50/250-25-2-01-480V	175765	2026-01-31	2025-01-28
EMI TEST RECEIVER	Rohde & Schwarz	ESR	171646	2025-02-28	2024-02-27
Transient Limiter	TE	TBFL1	207996	2025-09-30	2024-09-24
UL TEST SOFTWARE LIST					
Radiated Software	UL	UL EMC	Ver 2024-08-15, 2023-03, 2023-05-01		
AC Line Conducted Software	UL	UL EMC	Rev 9.5, 2023-03		

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9. RADIATED TEST RESULTS

9.1. LIMITS AND PROCEDURE

LIMITS

FCC §15.205 and §15.209

RSS-GEN, Section 8.9 and 8.10.

Frequency Range (MHz)	Field Strength Limit (uV/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m
0.009-0.490	2400/F(kHz) @ 300 m	-
0.490-1.705	24000/F(kHz) @ 30 m	-
1.705 - 30	30 @ 30m	-
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

TEST PROCEDURE

The EUT is placed on a non-conducting table 80 cm above the ground plane for measurement below 1GHz; 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 30MHz, the resolution bandwidth 9kHz to 150kHz is set to 300Hz, video bandwidth is set to 1kHz. 150kHz to 30MHz, the resolution bandwidth is set to 10kHz, video bandwidth is set to 30kHz.

For below 30MHz testing, investigation was done on three antenna orientations (parallel, perpendicular, and ground-parallel), parallel and perpendicular are the worst orientations, therefore testing was performed on these two orientations only.

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.

Base on FCC 15.31 (f) (2): measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field.

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KDB 414788 Open Field Site(OFS) and Chamber Correlation Justification

OFS and chamber correlation testing had been performed and chamber measured test result is the worst-case test result.

NOTE: The limits in CFR 47, Part 15, Subpart C, paragraph 15.209(a), are identical to those in RSS-Gen section 8.9, Table 6, since the measurements are performed in terms of magnetic field strength and converted to electric field strength levels (as reported in the table), using the free space impedance of 377 Ohms. For example, the measurement at frequency X kHz resulted in a level of Y dBuV/m, which is equivalent to Y – 51.5 = Z dBuA/m, which has the same margin, W dB, to the corresponding RSS-Gen Table 6 limit as it has to 15.209(a) limit.

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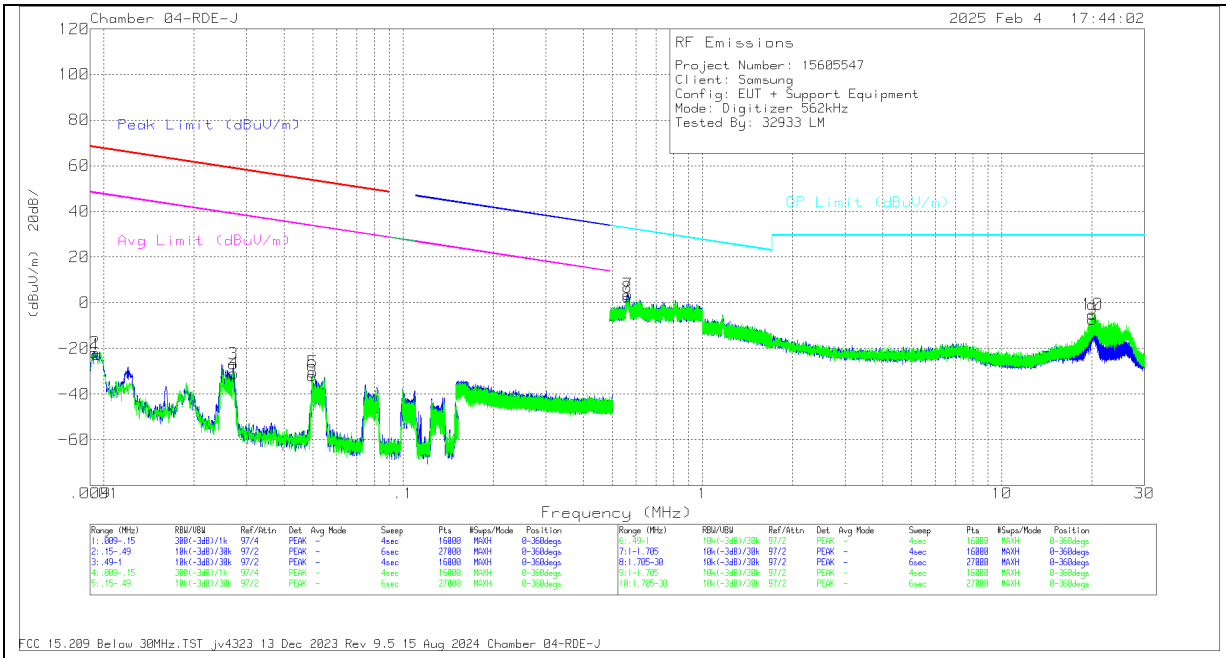
SPURIOUS EMISSIONS BELOW 30 MHz (WORST-CASE CONFIGURATION)



ANTENNA- TWO ORIENTATIONS FACE ON/FACE OFF

Below 30MHz Data

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (ACF) (dB/m)	CBL/AMP (dB)	Dist Corr 300m (dB)	Corrected Reading (dBuV/m)	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
2	.0094	27.47	Pk	61	-30.2	-80	-21.73	68.16	-89.89	48.16	-69.89	0-360	Face Off
1	.0095	26.7	Pk	60.9	-30.2	-80	-22.6	68.03	-90.63	48.03	-70.63	0-360	Face On
3	.0271	26.7	Pk	58.3	-31.8	-80	-26.8	58.94	-85.74	38.94	-65.74	0-360	Face On
4	.0272	22.64	Pk	58.3	-31.8	-80	-30.86	58.89	-89.75	38.89	-69.75	0-360	Face Off
6	.0497	22.62	Pk	57.1	-31.7	-80	-31.98	53.66	-85.64	33.66	-65.64	0-360	Face Off
5	.0499	24.36	Pk	57.1	-31.7	-80	-30.24	53.63	-83.87	33.63	-63.87	0-360	Face On

Pk - Peak detector

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (ACF) (dB/m)	CBL/AMP (dB)	Dist Corr 30m (dB) 40Log	Corrected Reading (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
8	.5622	18.23	Pk	56.3	-32.1	-40	2.43	32.61	-30.18	0-360	Face Off
7	.5632	19.4	Pk	56.3	-32.1	-40	3.6	32.59	-28.99	0-360	Face On

Pk - Peak detector
Marker 7 & 8 are the fundamental signal

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	Loop Antenna (ACF) (dB/m)	CBL/AMP (dB)	Dist Corr 30m (dB) 40Log	Corrected Reading (dBuV/m)	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Polarity
9	20.1205	30.09	Pk	34.5	-31.9	-40	-7.31	29.5	-36.81	0-360	Face On
10	20.1404	32.3	Pk	34.5	-32	-40	-5.2	29.5	-34.7	0-360	Face Off

Pk - Peak detector

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10. AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

RSS-Gen 8.8

Frequency of Emission (MHz)	Conducted Limit (dBµV)	
	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

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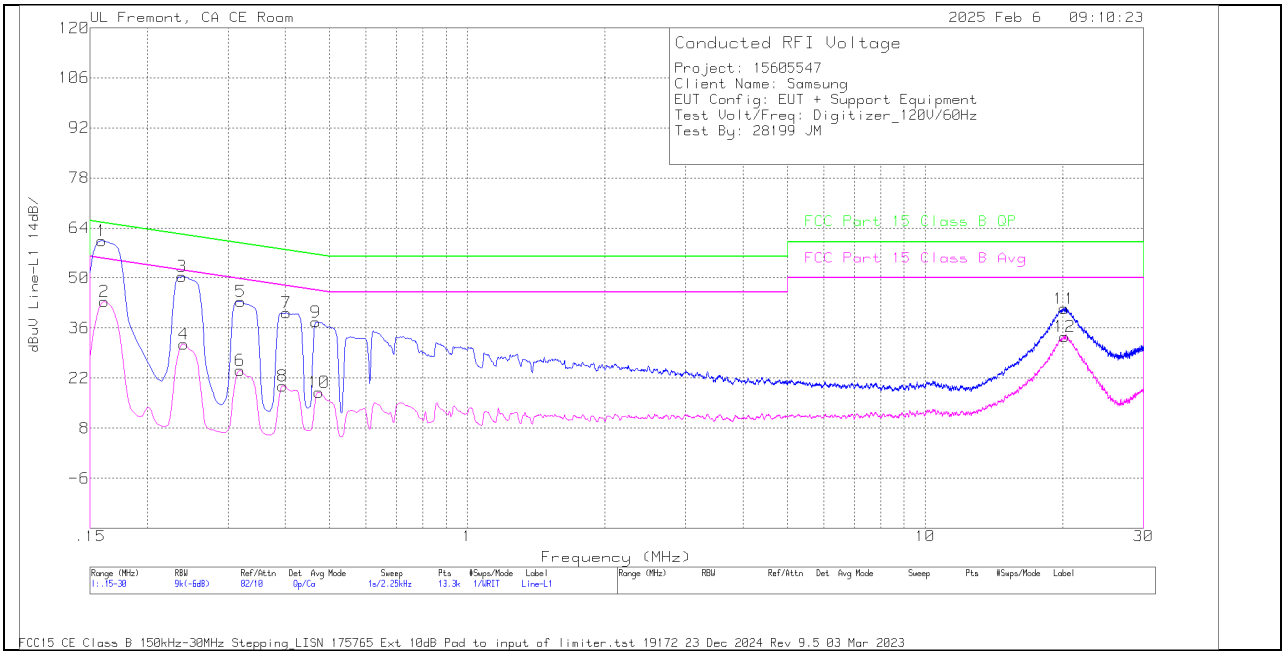
LINE 1 RESULTS



Range 1: Line-L1 .15 - 30MHz												
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN (dB)	CBL (dB)	CBL (dB)	10dB Atten (dB)	Corrected Reading dBuV	FCC Part 15 Class B QP	QP Margin (dB)	FCC Part 15 Class B Avg	Av(CISPR)Margin (dB)
2	.1613	24.38	Ca	.1	.4	8.5	10	43.38	-	-	55.4	-12.02
4	.24	13.35	Ca	0	-.1	8.2	10	31.45	-	-	52.1	-20.65
6	.3188	6.13	Ca	0	-.2	8.2	10	24.13	-	-	49.74	-25.61
8	.3953	1.92	Ca	0	-.5	8.3	10	19.72	-	-	47.95	-28.23
10	.474	-.49	Ca	0	.1	8.4	10	18.01	-	-	46.44	-28.43
12	20.1525	14.61	Ca	.1	.5	8.4	10	33.61	-	-	50	-16.39
1	.159	41.37	Qp	.1	.4	8.5	10	60.37	65.52	-5.15	-	-
3	.2378	32.3	Qp	0	-.1	8.2	10	50.4	62.17	-11.77	-	-
5	.3199	25.36	Qp	0	-.2	8.2	10	43.36	59.71	-16.35	-	-
7	.402	22.41	Qp	0	-.5	8.3	10	40.21	57.81	-17.6	-	-
9	.4673	19.02	Qp	0	.1	8.6	10	37.72	56.56	-18.84	-	-
11	20.1413	22.62	Qp	.1	.4	8.3	10	41.42	60	-18.58	-	-

Qp - Quasi-Peak detector
Ca - CISPR average detection

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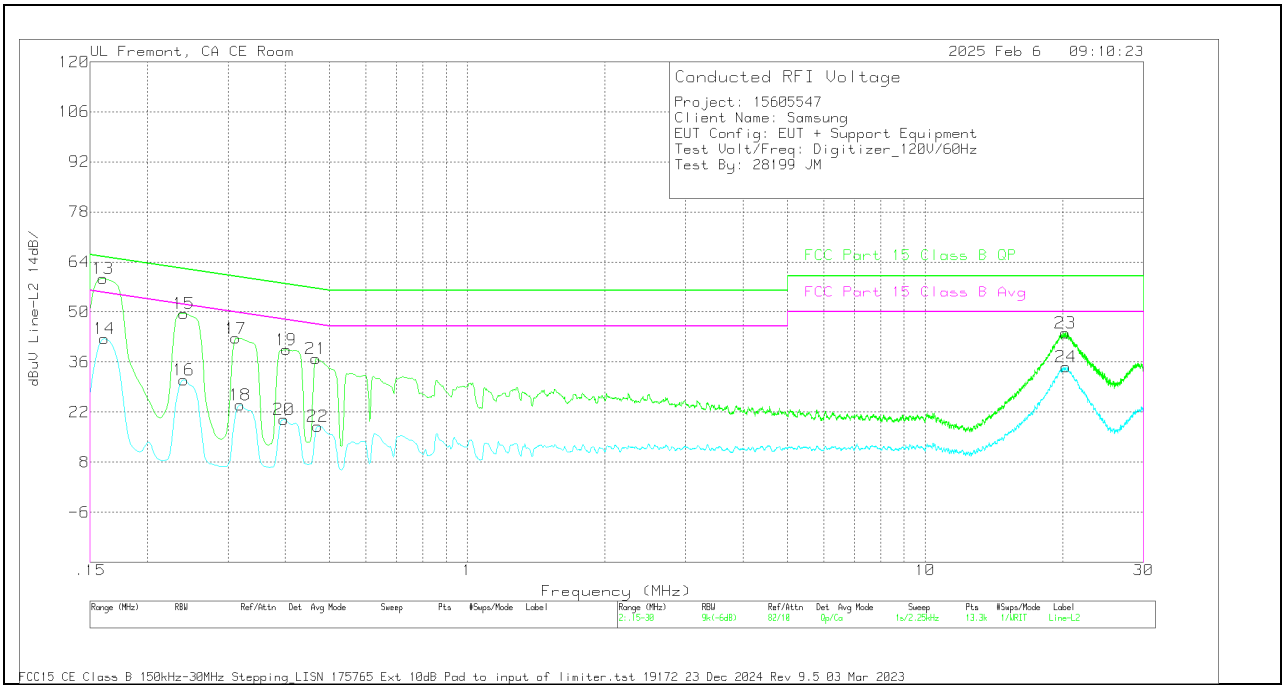
LINE 2 RESULTS



Range 2: Line-L2 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN (dB)	CBL (dB)	CBL (dB)	10dB Atten (dB)	Corrected Reading dBuV	FCC Part 15 Class B QP	QP Margin (dB)	FCC Part 15 Class B Avg	Av(CISPR)Margin (dB)
14	.1613	23.76	Ca	.1	.2	8.5	10	42.56	-	-	55.4	-12.84
16	.24	12.6	Ca	0	.2	8.2	10	31	-	-	52.1	-21.1
18	.3188	5.79	Ca	0	0	8.2	10	23.99	-	-	49.74	-25.75
20	.3975	1.69	Ca	0	-.1	8.3	10	19.89	-	-	47.91	-28.02
22	.4718	-.64	Ca	0	.2	8.5	10	18.06	-	-	46.48	-28.42
24	20.2853	15.48	Ca	.1	.4	8.7	10	34.68	-	-	50	-15.32
13	.1601	40.56	Qp	.1	.2	8.5	10	59.36	65.46	-6.1	-	-
15	.24	31.22	Qp	0	.2	8.2	10	49.62	62.1	-12.48	-	-
17	.312	24.54	Qp	0	0	8.1	10	42.64	59.92	-17.28	-	-
19	.402	21.28	Qp	0	-.1	8.3	10	39.48	57.81	-18.33	-	-
21	.4673	18.1	Qp	0	.2	8.6	10	36.9	56.56	-19.66	-	-
23	20.265	25.18	Qp	.1	.3	8.5	10	44.08	60	-15.92	-	-

Qp - Quasi-Peak detector
Ca - CISPR average detection

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11. SETUP PHOTOS

Please refer to 15605547-EP1 for setup photos

END OF TEST REPORT

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