CERTIFICATION TEST REPORT

Report Number. : 4790136529-E9V2

Applicant	:	SAMSUNG ELECTRONICS CO., LTD. 129 SAMSUNG-RO, YEONGTONG-GU, SUWON-SI, GYEONGGI-DO, 16677, KOREA
Model	:	SM-N985F1/DS, SM-N985F1
FCC ID	:	A3LSMN985F1
EUT Description	:	GSM/WCDMA/LTE Phone + BT/BLE, DTS/UNII a/b/g/n/ac/ax, NFC, WPT and UWB
Test Standard(s)	:	FCC 47 CFR PART 15 SUBPART C

Date Of Issue:
2021-11-19

Prepared by:
UL Korea, Ltd.
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Suwon Test Site: UL Korea, Ltd. Suwon Laboratory
218 Maeyeong-ro, Yeongtong-gu,
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TEL: (031) 337-9902
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IAS ACCREDITED
Testing Laboratory
TL-637

Revision History

Rev.	Issue Date	Revisions	Revised By
V1	2021-11-12	Initial issue	Dexter(Hyunsik) Yun
V2	2021-11-19	Updated to address TCB's question	Dexter(Hyunsik) Yun

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME:	SAMSUNG ELECTRONICS CO., LTD.
EUT DESCRIPTION:	GSM/WCDMA/LTE Phone + BT/BLE, DTS/UNII a/b/g/n/ac/ax, NFC, WPT and UWB
MODEL NUMBER:	SM-N985F1/DS, SM-N985F1
SERIAL NUMBER:	R3CR90Y67XD (RADIATED, Original); R38R900W1SZ (RADIATED, Spot-Check)
DATE TESTED:	2021-11-04 ~ 2021-11-05(Original); 2021-11-04 ~ 2021-11-12(Spot-Check);

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
CFR 47 Part 15 Subpart C	Pass

UL Verification Services Inc. 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 Verification Services Inc. 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 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. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of any government.

Approved & Released For
UL Korea, Ltd. By:

Seokhwan Hong
Suwon Lab Engineer
UL Korea, Ltd.

Tested By:

Dexter(Hyunsik) Yun
Suwon Lab Engineer
UL Korea, Ltd.

1.1. INTRODUCTION OF TEST DATA REUSE

This report referenced from the FCC ID: A3LSMN986B1 DCD WPT(FCC CFR 47 Part 15C). And the applicant takes full responsibility that the test data as referenced in this report represent compliance for this FCC ID.

1.2. DIFFERENCE

The FCC ID: A3LSMN985F1 shares the same enclosure and circuit board as FCC ID: A3LSMN986B1. The WPT antennas and surrounding circuitry and layout are identical between these two units.

After confirming through preliminary radiated emissions that the performance of the FCC ID: A3LSMN986B1 remains representative of FCC ID: A3LSMN985F1. The test data of FCC ID: A3LSMN986B1 being submitted for this application to cover WPT features.

1.3. SPOT CHECK VERIFICATION DATA

(Worst case of the fundamental and radiated spurious emissions)

Band	Test Item	Mode	Frequency	Test Limit	Original model	Spot check model	Deviation	Remark
					SM-N986B1/DS Results	SM-N985F1/DS Results		
					FCC ID : A3LSMN986B1	FCC ID : A3LSMN985F1		
WPT (S-pen and Power sharing)	FUND(Pen)	Phone Across_S-Pen_TA	0.560 MHz	32.74 dBuV/m	15.40 dBuV/m	14.67 dBuV/m	-0.73 dB	
	FUND(Share)	Phone Across_S-Pen_TA	0.110 MHz	46.80 dBuV/m	4.25 dBuV/m	3.29 dBuV/m	-0.96 dB	
	RSE(Pen)	Phone Across_S-Pen_TA	1.650 MHz	23.24 dBuV/m	4.74 dBuV/m	5.92 dBuV/m	1.18 dB	
	RSE(Share)	Phone Across_S-Pen_TA	0.330 MHz	37.22 dBuV/m	-16.37 dBuV/m	-16.97 dBuV/m	-0.60 dB	

Comparison of two models, upper deviation is within 3 dB range and all test results are under FCC Technical Limits.

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1.4. REFERENCE DETAIL

Reference application that contains the reused reference data in the individual test reports:

Equipment Class	Reference FCC ID (Parent)	Application Type	Reference Test report number	Exhibit Type	Variant Test Report Number	Data Re-used
PCE	A3LSMN986B1	Original Grant	4790136523-E3	Test Report	4790136529-E3	All
DTS	A3LSMN986B1	Original Grant	4790136523-E4 (802.11b/g/n/ax)	Test Report	4790136529-E4 (802.11b/g/n/ax)	All
			4790136523-E5 Bluetooth LE	Test Report	4790136529-E5 Bluetooth LE	All
DSS	A3LSMN986B1	Original Grant	4790136523-E6 (Bluetooth)	Test Report	4790136529-E6 (Bluetooth)	All
DXX	A3LSMN986B1	Original Grant	4790136523-E7 (NFC)	Test Report	4790136529-E7 (NFC)	All
NII	A3LSMN986B1	Original Grant	4790136523-E8 (802.11a/n/ac/ax)	Test Report	4790136529-E8 (802.11a/n/ac/ax)	All
DCD	A3LSMN986B1	Original Grant	4790136523-E9 (WPT)	Test Report	4790136529-E9 (WPT)	All
UWB	A3LSMN986B1	Original Grant	4790136523-E10 (UWB)	Test Report	4790136529-E10 (UWB)	All

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2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with following methods.

1. FCC CFR 47 Part 2.
2. FCC CFR 47 Part 15.
3. ANSI C63.10-2013.
4. 680106 D01 RF Exposure Wireless Charging Apps v03.

3. FACILITIES AND ACCREDITATION

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

218 Maeyeong-ro
☐ Chamber 1
☒ Chamber 2
☐ Chamber 3

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

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

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

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

Field Strength (dBuV/m) = Measured Voltage (dBuV) + Antenna Factor (dB/m) + Cable Loss (dB) – Preamp Gain (dB)

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

4.3. MEASUREMENT UNCERTAINTY

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

PARAMETER	UNCERTAINTY
Conducted Disturbance, 0.15 to 30 MHz	3.02 dB
Radiated Disturbance, 9 kHz to 30 MHz	1.72 dB
Radiated Disturbance, 30 MHz to 1 GHz	4.05 dB

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

4.4. DECISION RULE

Decision rule for statement(s) of conformity is based on Procedure 2, Clause 4.4.3 in IEC Guide 115:2007.

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5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

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

This report covers the Samsung models SM-N986B1/DS, SM-N986B1.
These models are identical in hardware except SM-N986B1/DS is supported dual SIM tray and SM-N986B1 has single SIM tray.
All series model was same hardware thus, SM-N986B1/DS(Dual SIM tray) was set for final test.

5.2. MAXIMUM E-FIELD STRENGTH

- Power sharing mode

Fundamental Frequency (KHz)	Mode	E field (300m distance) FCC (dBuV/m)
110 - 148	Charging	4.25

- S-pen charging mode

Fundamental Frequency (KHz)	Mode	E field (30m distance) FCC (dBuV/m)
590 - 625	Charging	15.40

5.3. PRELIMINARY TEST CONFIGURATIONS

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

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

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

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5.4. WORST-CASE CONFIGURATION AND MODE

Mode 1	Test Case	Description
Power sharing mode (S-pen is fully charged condition)	1	Charging from EUT to Phone
	2	Charging from EUT(Charging from TA) to Phone
	3	Charging from EUT to Phone (Cross position)
	4	Charging from EUT(Charging from TA) to Phone (Cross position)
	5	Charging from EUT to Wearable device
	6	Charging from EUT(Charging from TA) to Wearable device

Mode 2	Test Case	Description
S-pen Charging mode	7	Charging from EUT to S-Pen
	8	Charging from EUT(Charging from TA) to S-Pen

Mode 3	Test Case	Description
Simutaneous charging mode(Power sharing and S-pen charging)	9	Charging from EUT to Phone (Cross position) and Charging from EUT to S-Pen
	10	Charging from EUT to Phone (Cross position) and Charging from EUT to S-Pen(EUT was Charging from TA)

For radiated test, test case 1/3/5/7/9, the EUT can operate the power sharing mode when battery level is over 30%. Because test results are not different between fully charged status and battery level 30% status(EUT condition), test were performed fully charged condition.

Also according to current client device's(Phone and Wearable device) battery level, test results are different.Because the test results were worst when the battery level was 1%~20%, tests were performed when the battery level was 1%~20%.(Client device)
For S-pen, both fully charged and non-fully charged condition were investigated, test case 7/8/9 were performed non-fully charged condition as worst case.

During radiated test for test case 1/3/5/7/9, the EUT didn't connected AC adapter, but for AC line conducted test for all test case was performed with connected with AC adapter.

For power sharing mode, test results of case 3 is worst and S-pen Charging mode, test results of case 8 is worst, so this test report described test case 3, test case 8 and test case 10.

5.5. MODIFICATIONS

No modifications were made during testing.

5.6. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT & PERIPHERALS

Support Equipment List				
Description	**Manufacturer**	**Model**	**Serial Number**	**FCC ID**
Charger	SAMSUNG	EP-TA800	R37R38J4A28SE3	N/A
Data Cable	SAMSUNG	EP-DG980	GH39-0206ABBE	N/A
Mobile Phone	SAMSUNG	SM-G986B	R3CMB0C70XN	A3LSMG986B
Wearable Device	SAMSUNG	SM-R835	RFAM90ZXFTF	A3LSMR835

I/O CABLES

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

TEST SETUP

The EUT is installed in a typical configuration. Charging from EUT.

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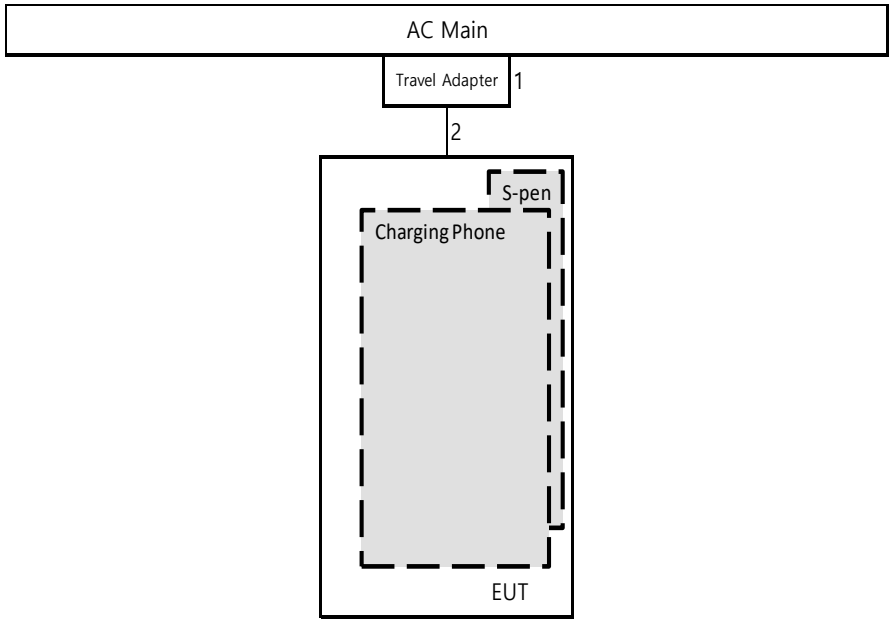
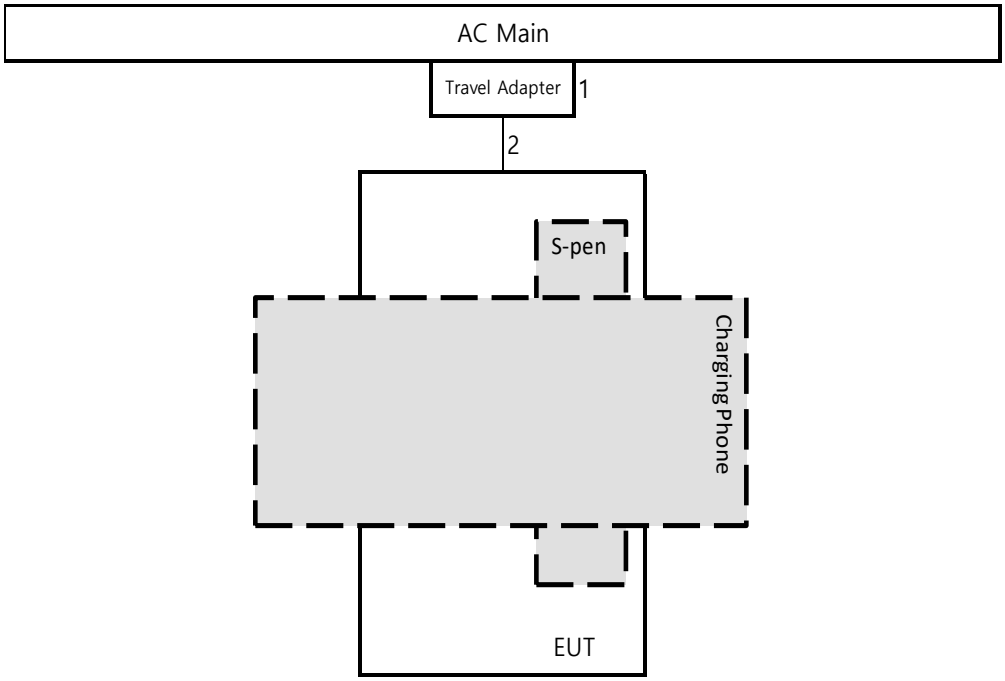
TEST SETUP DIAGRAM

NOTE : Test case 1/3/5/7/9, EUT did not connected with Travel adapter(AC Main) in below set-up diagram for radiated test.

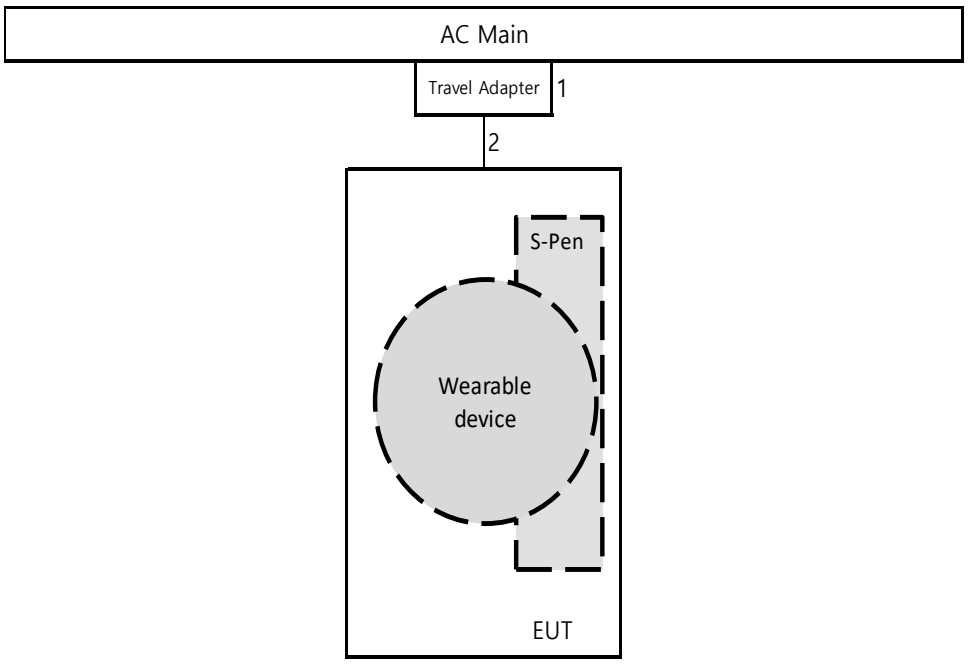
- Test Case1 and 2 : Charging Phone(S-pen is fully charged condition)



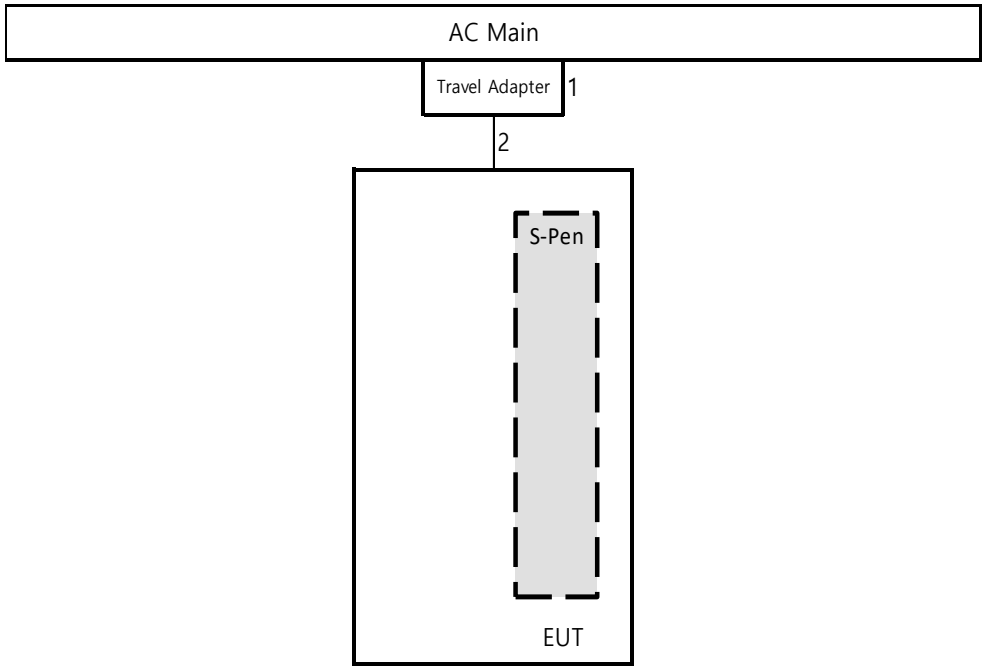
- Test Case 3 and 4 : Charging Phone(Cross position, S-pen is fully charged condition)



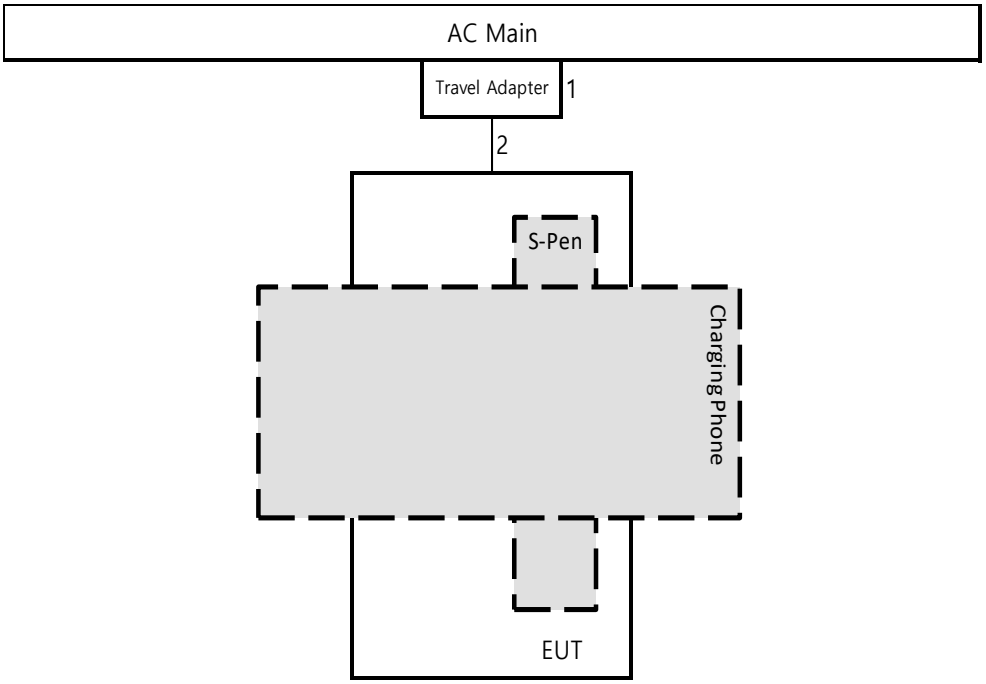
- Test Case 5 and 6 : Charging Wearable device(S-pen is fully charged condition)



- Test Case 7 and 8 : S-Pen Charging



- Test case 9 and 10 : Simutaneous charging (Power sharing and S-pen charging)



6. TEST AND MEASUREMENT EQUIPMENT

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

Test Equipment List				
Description	**Manufacturer**	**Model**	**S/N**	**Cal Due**
Antenna, Bilog, 30MHz-1GHz	SCHWARZBECK	VULB9163	845	2022-08-13
Antenna, Bilog, 30MHz-1GHz	SCHWARZBECK	VULB9163	749	2022-08-13
Preamplifier, 1000 MHz	Sonoma	310N	341282	2022-08-02
Preamplifier, 1000 MHz	Sonoma	310N	351741	2022-08-02
Spectrum Analyzer, 7 GHz	Agilent / HP	N9010A	MY54200580	2022-08-02
EMI Test Receive, 3 GHz	R&S	ESR3	101832	2022-08-02
DC Power Supply	Agilent / HP	E3640A	MY54226395	2022-08-02
Temperature Chamber	ESPEC	SH-642	93001109	2022-08-02
LISN	R&S	ENV216	101837	2022-08-05
Antenna, Loop, 9kHz-30MHz	R&S	HFH2-Z2	100418	2023-10-06
UL Software				
Description	**Manufacturer**	**Model**	**Version**	
Radiated software	UL	UL EMC	Ver 9.5	
AC Line Conducted software	UL	UL EMC	Ver 9.5	

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7. APPLICABLE LIMITS AND TEST RESULTS

7.1. RADIATED EMISSIONS

TEST PROCEDURE

ANSI C63.10: 2013

The highest clock frequency generated or used in the EUT is 600 kHz therefore the frequency range was investigated from 9 kHz to 30 MHz.

LIMIT

FCC §15.209 (a)
ICES-001 Section 6.2, IC RSS-216 6.2.2, and IC RSS-GEN Sections 8.9 and 8.10.

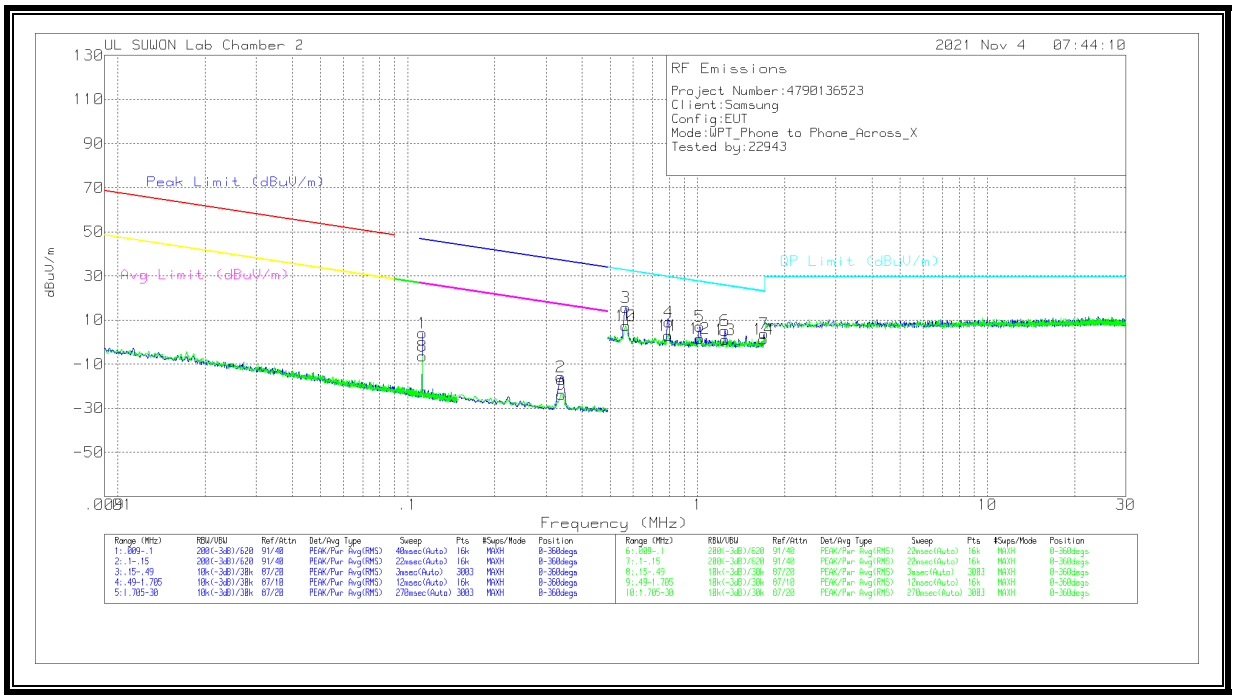
Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (m)
0.009–0.490	2400/F(kHz)	300
0.490–1.705	24000/F(kHz)	30
1.705–30.0	30	30
30–88	100	3
88 to 216	150	3
216 to 960	200	3
Above 960 MHz	500	3
Note: The lower limit shall apply at the transition frequency.		

RESULTS

The EUT belongs to Test Case 4 and 8 and 10.

Although these tests were performed other than open field test site, adequate comparison measurements were confirmed against 300 m open field 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 D01.

RADIATED EMISSIONS 9 KHz to 30 MHz(Power sharing mode Test Case 3)



TEST DATA

Trace Markers

[Face On]

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	HFH2-Z2_Loop Antenna	Cable Loss	Dist Corr 300m	Corrected Reading dBuV/m	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
**1	.1124	64.35	Pk	19.8	.1	-80	4.25	46.61	-42.36	26.61	-22.36	0-360
2	.33775	44.48	Pk	19.7	.1	-80	-15.72	37.04	-52.76	17.04	-32.76	0-360

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	HFH2-Z2_Loop Antenna	Cable Loss	Dist Corr 30m	Corrected Reading dBuV/m	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
3	.56448	35.91	Pk	19.7	.1	-40	15.71	32.57	-16.86	0-360
4	.79476	29.11	Pk	19.8	.2	-40	9.11	29.61	-20.5	0-360
5	1.01717	27.22	Pk	19.8	.2	-40	7.22	27.47	-20.25	0-360
6	1.24286	25.14	Pk	19.8	.2	-40	5.14	25.74	-20.6	0-360
7	1.69711	23.9	Pk	19.8	.2	-40	3.9	23.04	-19.14	0-360

[Face Off]

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	HFH2-Z2_Loop Antenna	Cable Loss	Dist Corr 300m	Corrected Reading dBuV/m	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
**8	.11242	53.75	Pk	19.8	.1	-80	-6.35	46.61	-52.96	26.61	-32.96	0-360
9	.33854	36.42	Pk	19.7	.1	-80	-23.78	37.02	-60.8	17.02	-40.8	0-360

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	HFH2-Z2_Loop Antenna	Cable Loss	Dist Corr 30m	Corrected Reading dBuV/m	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
10	.56524	27.55	Pk	19.7	.1	-40	7.35	32.56	-25.21	0-360
11	.79233	23.12	Pk	19.8	.2	-40	3.12	29.64	-26.52	0-360
12	1.01774	21.63	Pk	19.8	.2	-40	1.63	27.47	-25.84	0-360
13	1.24548	21.22	Pk	19.8	.2	-40	1.22	25.72	-24.5	0-360
14	1.68947	21.29	Pk	19.8	.2	-40	1.29	23.08	-21.79	0-360

Pk - Peak detector

** Fundamental

Note : Radiated test were investigated with three receiving antenna axes: Face-on, Face-off and horizontal (parallel to the ground plane) and the worse orientations of Face-on and Face-off were set for final test.

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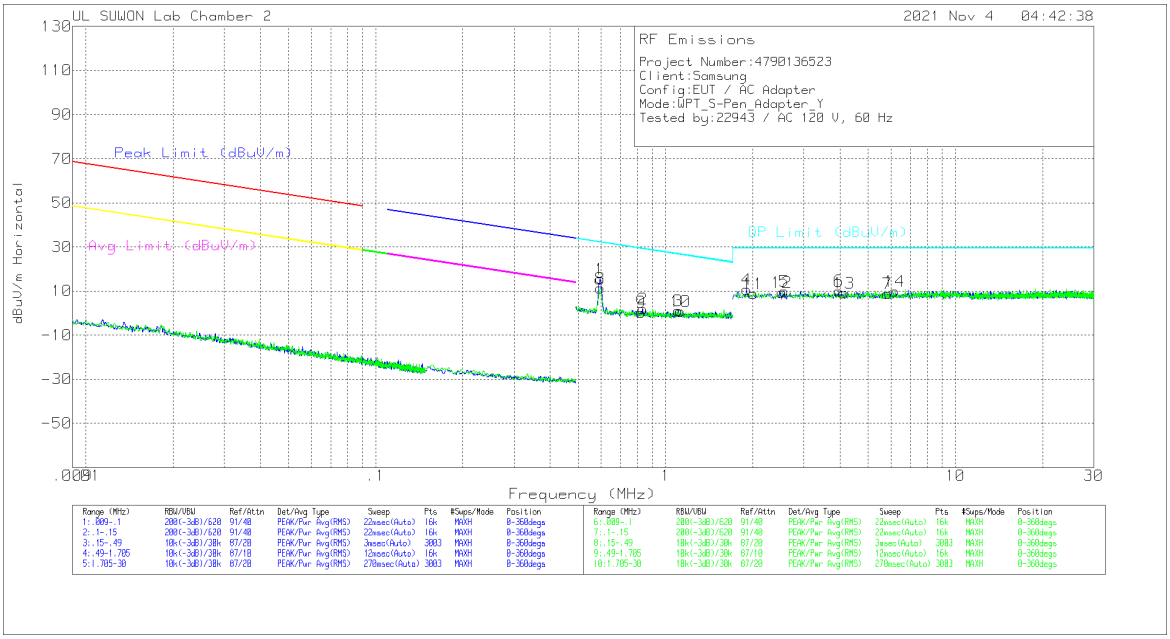
RADIATED EMISSIONS 9 KHz to 30 MHz(S-pen charging mode_Test case 8)



TEST DATA

Trace Markers

[Face On]

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	HFH2-Z2_Loop Antenna	Cable Loss	Dist Corr 30m	Corrected Reading dBuV/m	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
**1	.59446	35.6	Pk	19.7	.1	-40	15.4	32.13	-16.73	0-360
2	.83398	21.94	Pk	19.8	.2	-40	1.94	29.19	-27.25	0-360
3	1.1056	21.22	Pk	19.8	.2	-40	1.22	26.75	-25.53	0-360
4	1.90293	30.63	Pk	19.8	.2	-40	10.63	29.5	-18.87	0-360
5	2.56268	29.64	Pk	19.9	.3	-40	9.84	29.5	-19.66	0-360
6	3.967	29.86	Pk	19.9	.3	-40	10.06	29.5	-19.44	0-360
7	5.82373	28.58	Pk	19.8	.4	-40	8.78	29.5	-20.72	0-360

[Face Off]

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	HFH2-Z2_Loop Antenna	Cable Loss	Dist Corr 30m	Corrected Reading dBuV/m	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
**8	.59636	31.4	Pk	19.7	.1	-40	11.2	32.1	-20.9	0-360
9	.82315	20.41	Pk	19.8	.2	-40	.41	29.31	-28.9	0-360
10	1.12749	20.76	Pk	19.8	.2	-40	.76	26.58	-25.82	0-360
11	2.0066	28.78	Pk	19.9	.2	-40	8.88	29.5	-20.62	0-360
12	2.51555	29.1	Pk	19.9	.3	-40	9.3	29.5	-20.2	0-360
13	4.12723	28.87	Pk	19.8	.3	-40	8.97	29.5	-20.53	0-360
14	6.18188	29.74	Pk	19.8	.4	-40	9.94	29.5	-19.56	0-360

Pk - Peak detector

** Fundamental

Note 1: Radiated test were investigated with three receiving antenna axes: Face-on, Face-off and horizontal (parallel to the ground plane) and the worse orientations of Face-on and Face-off were set for final test.

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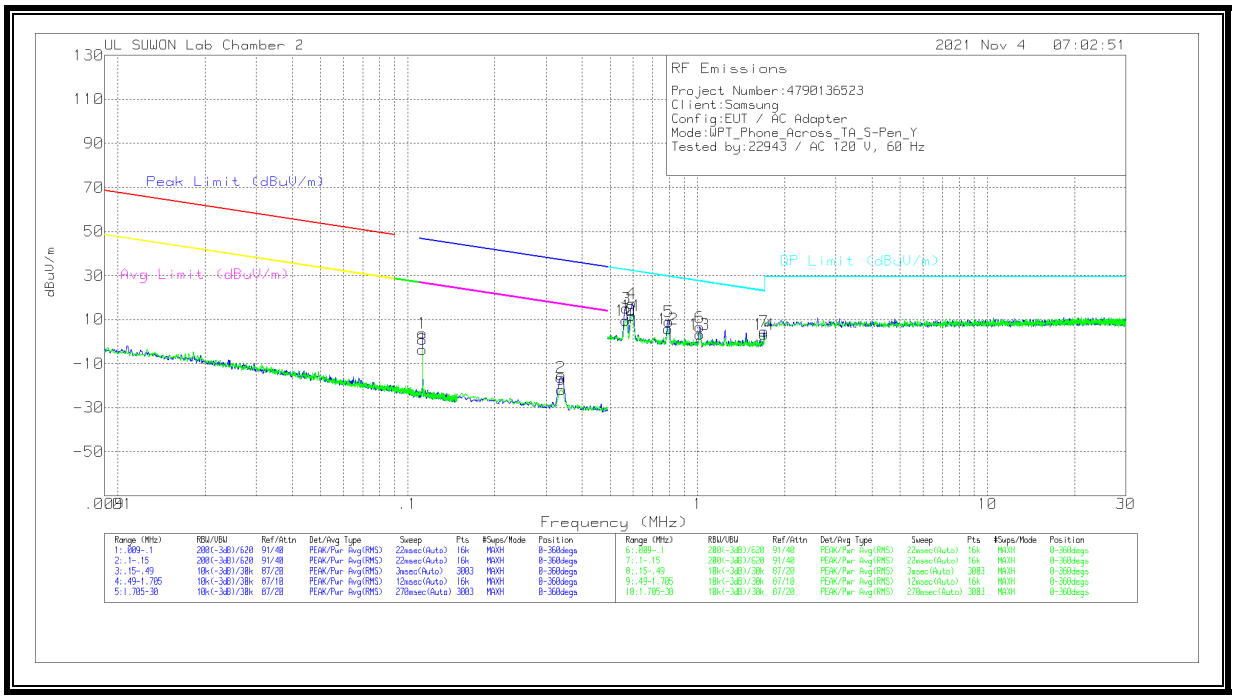
RADIATED EMISSIONS 9 KHz to 30 MHz(Simutaneous charging mode Test Case 10)



TEST DATA

Trace Markers

[Face On]

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	HFH2-Z2_Loop Antenna	Cable Loss	Dist Corr 300m	Corrected Reading dBuV/m	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
*1	.11245	63.85	Pk	19.8	.1	-80	3.75	46.61	-42.86	26.61	-22.86	0-360
2	.33798	43.83	Pk	19.7	.1	-80	-16.37	37.03	-53.4	17.03	-33.4	0-360

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	HFH2-Z2_Loop Antenna	Cable Loss	Dist Corr 30m	Corrected Reading dBuV/m	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
3	.56676	35.24	Pk	19.7	.1	-40	15.04	32.54	-17.5	0-360
**4	.59416	37.51	Pk	19.7	.1	-40	17.31	32.13	-14.82	0-360
5	.79468	29.08	Pk	19.8	.2	-40	9.08	29.61	-20.53	0-360
6	1.01645	26.6	Pk	19.8	.2	-40	6.6	27.48	-20.88	0-360
7	1.69787	24.74	Pk	19.8	.2	-40	4.74	23.04	-18.3	0-360

[Face Off]

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	HFH2-Z2_Loop Antenna	Cable Loss	Dist Corr 300m	Corrected Reading dBuV/m	Peak Limit (dBuV/m)	Margin (dB)	Avg Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
*8	.11249	56.51	Pk	19.8	.1	-80	-3.59	46.61	-50.2	26.61	-30.2	0-360
9	.33831	38.43	Pk	19.7	.1	-80	-21.77	37.02	-58.79	17.02	-38.79	0-360

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	HFH2-Z2_Loop Antenna	Cable Loss	Dist Corr 30m	Corrected Reading dBuV/m	QP Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)
10	.56524	29.96	Pk	19.7	.1	-40	9.76	32.56	-22.8	0-360
**11	.59207	32.03	Pk	19.7	.1	-40	11.83	32.16	-20.33	0-360
12	.79104	25.89	Pk	19.8	.2	-40	5.89	29.65	-23.76	0-360
13	1.01869	23.28	Pk	19.8	.2	-40	3.28	27.46	-24.18	0-360
14	1.69471	23.36	Pk	19.8	.2	-40	3.36	23.05	-19.69	0-360

Pk - Peak detector

*Power Sharing Fundamental
**S-Pen Fundamental

Note 1 : Radiated test were investigated with three receiving antenna axes: Face-on, Face-off and horizontal (parallel to the ground plane) and the worse orientations of Face-on and Face-off were set for final test.

Note 2 : Marker 2 and 9 result was power sharing fundamental 3rd harmonic.
It's was not interferience to S-pen fundamental frequency.

7.2. AC MAINS LINE CONDUCTED EMISSIONS

TEST PROCEDURE

ANSI C63.10: 2013

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.

LIMIT

FCC §15.207 (a)

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
*Decreases with the logarithm of the frequency.		

RESULTS

The EUT belongs to Test Case 10.

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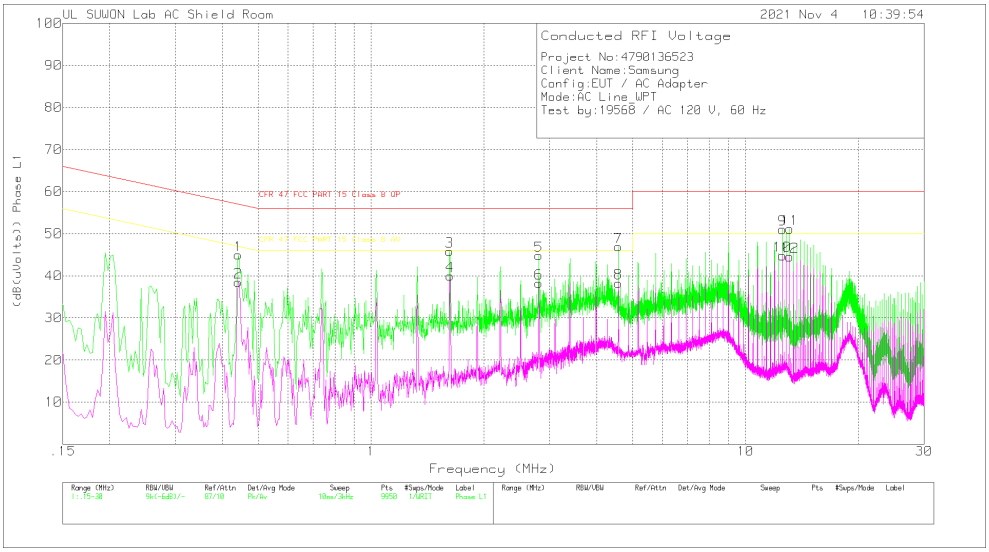
6 WORST EMISSIONS(Power sharing mode Test Case 10)

Line-L1 .15 - 30MHz



LINE 1 RESULTS

Range 1: Phase L1 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	101836_With EX_L1[dB]	CABLELOSS(dB)	Corrected Reading (dB(uVolts))	CFR 47 FCC PART 15 Class B QP	Margin (dB)	CFR 47 FCC PART 15 Class B AV	Margin (dB)
1	.441	34.95	Pk	9.8	.2	44.95	57.04	-12.09	-	-
2	.441	28.53	Av	9.8	.2	38.53	-	-	47.04	-8.51
3	1.62	35.84	Pk	9.7	.3	45.84	56	-10.16	-	-
4	1.623	29.99	Av	9.7	.3	39.99	-	-	46	-6.01
5	2.802	34.83	Pk	9.7	.3	44.83	56	-11.17	-	-
6	2.802	28.29	Av	9.7	.3	38.29	-	-	46	-7.71
7	4.572	36.92	Pk	9.7	.3	46.92	56	-9.08	-	-
8	4.572	28.29	Av	9.7	.3	38.29	-	-	46	-7.71
9	12.54	40.83	Pk	9.9	.3	51.03	60	-8.97	-	-
10	12.54	34.61	Av	9.9	.3	44.81	-	-	50	-5.19
11	13.128	40.87	Pk	9.9	.4	51.17	60	-8.83	-	-
12	13.128	34.26	Av	9.9	.4	44.56	-	-	50	-5.44

Pk - Peak detector
Av - Average detection

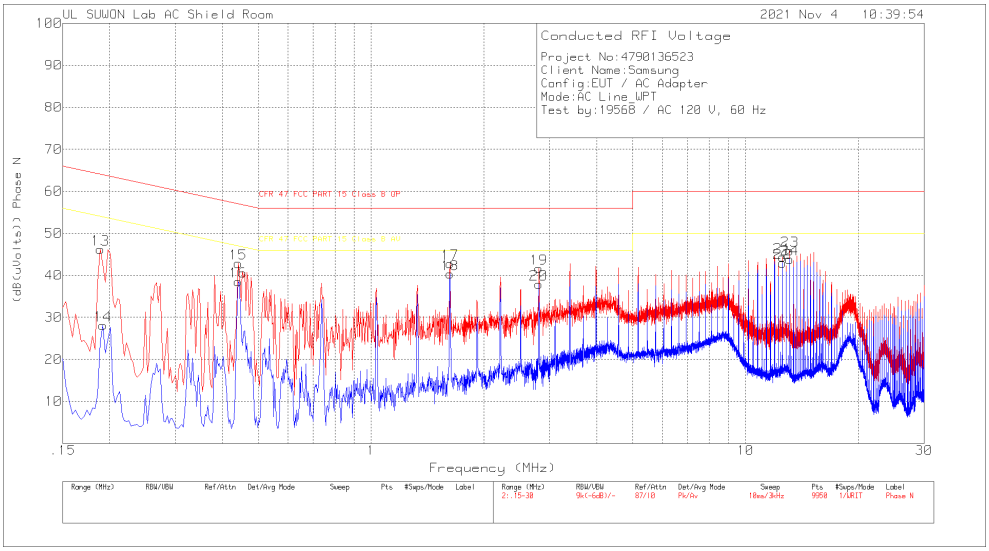
Quasi-Peak Emissions

Range 1: Phase L1 .15 - 30MHz

Frequency (MHz)	Meter Reading (dBuV)	Det	101836_With EX_L1[dB]	CABLELOSS(dB)	Corrected Reading (dB(uVolts))	CFR 47 FCC PART 15 Class B QP	Margin (dB)	CFR 47 FCC PART 15 Class B AV	Margin (dB)
.44175	32.52	Qp	9.8	.2	42.52	57.03	-14.51	-	-
1.62315	33.49	Qp	9.7	.3	43.49	56	-12.51	-	-
2.80275	31.51	Qp	9.7	.3	41.51	56	-14.49	-	-
4.57275	32.15	Qp	9.7	.3	42.15	56	-13.85	-	-
12.5408	36.28	Qp	9.9	.3	46.48	60	-13.52	-	-
13.1288	37.02	Qp	9.9	.4	47.32	60	-12.68	-	-

Qp - Quasi-Peak detector

Line-L2 .15 - 30MHz



Trace Markers

Range 2: Phase N .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	101836_With EX_N[dB]	CABLELOSS(dB)	Corrected Reading (dB(uVolts))	CFR 47 FCC PART 15 Class B QP	Margin (dB)	CFR 47 FCC PART 15 Class B AV	Margin (dB)
13	.189	36.11	Pk	9.9	.2	46.21	64.08	-17.87	-	-
14	.192	18.03	Av	9.9	.2	28.13	-	-	53.95	-25.82
15	.441	32.74	Pk	9.9	.2	42.84	57.04	-14.2	-	-
16	.441	28.44	Av	9.9	.2	38.54	-	-	47.04	-8.5
17	1.623	32.78	Pk	9.7	.3	42.78	56	-13.22	-	-
18	1.623	30.32	Av	9.7	.3	40.32	-	-	46	-5.68
19	2.805	31.64	Pk	9.7	.3	41.64	56	-14.36	-	-
20	2.802	27.92	Av	9.7	.3	37.92	-	-	46	-8.08
21	12.54	34.04	Pk	10	.3	44.34	60	-15.66	-	-
22	12.54	32.68	Av	10	.3	42.98	-	-	50	-7.02
23	13.131	35.49	Pk	10	.4	45.89	60	-14.11	-	-
24	13.131	33.43	Av	10	.4	43.83	-	-	50	-6.17

Pk - Peak detector
Av - Average detection

Quasi-Peak Emissions

Range 2: Phase N .15 - 30MHz

Frequency (MHz)	Meter Reading (dBuV)	Det	101836_With EX_N[dB]	CABLELOSS(dB)	Corrected Reading (dB(uVolts))	CFR 47 FCC PART 15 Class B QP	Margin (dB)	CFR 47 FCC PART 15 Class B AV	Margin (dB)
.18975	30.27	Qp	9.9	.2	40.37	64.05	-23.68	-	-
.19215	32.92	Qp	9.9	.2	43.02	63.94	-20.92	-	-
.44175	30.23	Qp	9.9	.2	40.33	57.03	-16.7	-	-
1.62315	31.24	Qp	9.7	.3	41.24	56	-14.76	-	-
2.80275	29.28	Qp	9.7	.3	39.28	56	-16.72	-	-
12.5402	34.25	Qp	10	.3	44.55	60	-15.45	-	-
13.1303	34.9	Qp	10	.4	45.3	60	-14.7	-	-

Qp - Quasi-Peak detector

END OF TEST REPORT