



FCC 47 CFR PART 15 SUBPART B

CERTIFICATION TEST REPORT

FOR

GSM/WCDMA/LTE Phone with BT, DTS/UNII a/b/g/n/ac and ANT+

MODEL NUMBER : SM-A305G/DS and SM-A305G

FCC ID: A3LSMA305G

REPORT NUMBER: 12678287-E8V1

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Prepared for

**SAMSUNG ELECTRONICS CO., LTD.
129 SAMSUNG-RO, YEONGTONG-GU, SUWON-SI,
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Prepared by

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ACCREDITED*

Testing
Laboratory

TL-637

Revision History

Rev.	Issue Date	Revisions	Revised By
V1	12/02/19	Initial issue	Sangyun Kim

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: SAMSUNG ELECTRONICS CO., LTD.

EUT DESCRIPTION: GSM/WCDMA/LTE Phone with BT, DTS/UNII a/b/g/n/ac and ANT+

MODEL NUMBER: SM-A305G/DS and SM-A305G

SERIAL NUMBER: R38KC0KX9NY

DATE TESTED: FEB 11, 2019 - FEB 12, 2019

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC PART 15 SUBPART B	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:



Changyoung Choi
Suwon Lab Engineer
UL Korea, Ltd.

Tested By:



Sangyun Kim
Suwon Lab Engineer
UL Korea, Ltd.

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.4-2014, FCC CFR 47 Part 2, FCC CFR 47 Part 15.

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 <http://www.iasonline.org/PDF/TL/TL-637.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:

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

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	2.32 dB
Radiated Disturbance, Below 1GHz	3.86 dB
Radiated Disturbance, Above 1 GHz	5.97 dB

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

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a GSM/WCDMA/LTE Phone with BT, DTS/UNII a/b/g/n/ac and ANT+.

GENERAL INFORMATION

Type of device	Class B personal computers and peripherals Other Class B digital devices & peripherals FM Broadcast Receiver
Personal Computer power requirements	100-240 VAC / 50-60 Hz, 5.5 A
Travel Adapter power requirements	100-240 VAC / 50-60 Hz, 0.5 A
List of frequencies generated or used by the EUT	30 GHz (5 th harmonic of the frequency of 5.8GHz WLAN)

5.2. PRELIMINARY TEST CONFIGURATIONS

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

5.3. MODE(S) OF OPERATION INVESTIGATED

Mode	Description
Test Case 1	Camera(Rear) + Charging + FM Radio Low Ch
Test Case 2	Camera(Rear) + Charging + FM Radio Mid Ch
Test Case 3	Camera(Front) + Charging + FM Radio High Ch
Test Case 4	Video and Audio Play + Charging
Test Case 5	USB Data Communication with PC
Test Case 6	Receiver Mode (Licensed Band within 30-960MHz)

Note: Receiver Mode (Licensed Band within 30-960MHz) radiated test result refer to WWAN test report Appendix A.

Receiver Mode (Licensed Band within 30-960MHz) AC mains line conducted test was tested to high power licensed band(GSM850).

5.4. MODIFICATIONS

No modifications were made during testing.

5.5. DETAILS OF TESTED SYSTEM

SUPPORT EQUIPMENT & PERIPHERALS

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID/DoC
PC	HP	C8N27AV	CZC4125J25	DoC
LCD monitor	Lenovo	L2250pwD	V6-57137	DoC
Micro SD card	Samsung	128G	-	DoC
Mouse	Logitech	U0026	1451HS05S6G8	DoC
Keyboard	Logitech	Y-U0009	1410MG00RVY8	DoC
Earphone	Samsung	-	-	-
Charger	Samsung	EP-TA200	R37KCFE0SZ1SE3	-

I/O CABLES

[DIAGRAM 1]

I/O Cable List						
Cable No	Port	# of identical ports	Connector Type	Cable Type	Cable Length(m)	Remarks
1	AC Power	1	Power	Direct	-	From Charger to AC Main
2	USB	1	Micro-USB	Shielded	1.5m	From Charger to EUT
3	Earphone	1	Mini-Jack	Shielded	0.8m	From EUT to Earphone

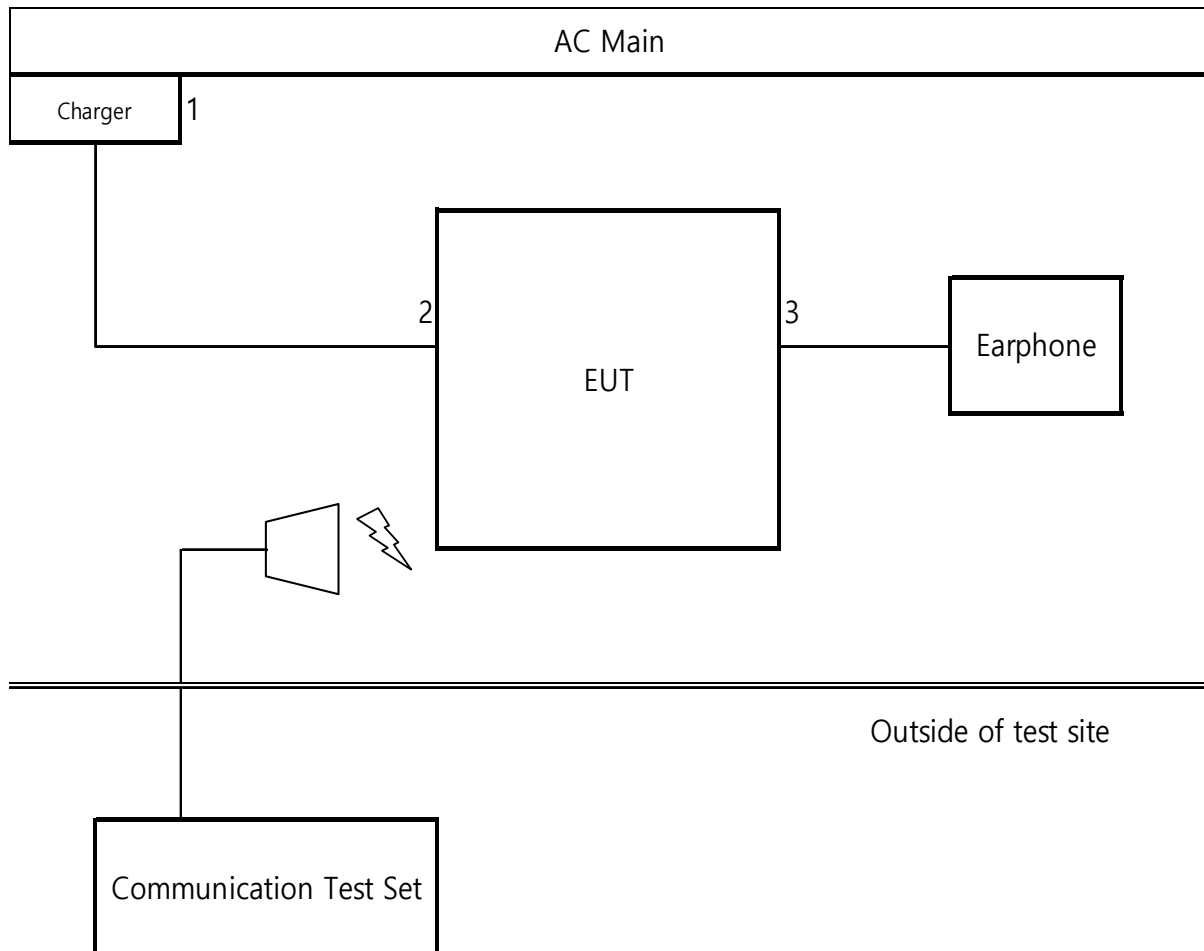
[DIAGRAM 2]

I/O Cable List						
Cable No	Port	# of identical ports	Connector Type	Cable Type	Cable Length(m)	Remarks
1	AC Power	1	Power	Unshielded	1.5m	From PC to AC Main
2	AC Power	1	Power	Unshielded	1.5m	From LCD Monitor to AC Main
3	D-SUB	1	D-SUB	Shielded	1.2m	From LCD Monitor to PC
4	USB	1	USB	Shielded	1.2m	From Keyboard to PC
5	USB	1	USB	Shielded	1.5m	From Mouse to PC
6	USB	1	USB	Shielded	0.6m	From EUT to PC
7	Audio	1	Mini-Jack	Shielded	1.2m	From EUT to Earphone
8	LAN	1	RJ-45	Shielded	0.8m	From PC to Ethernet(Outside of test site)

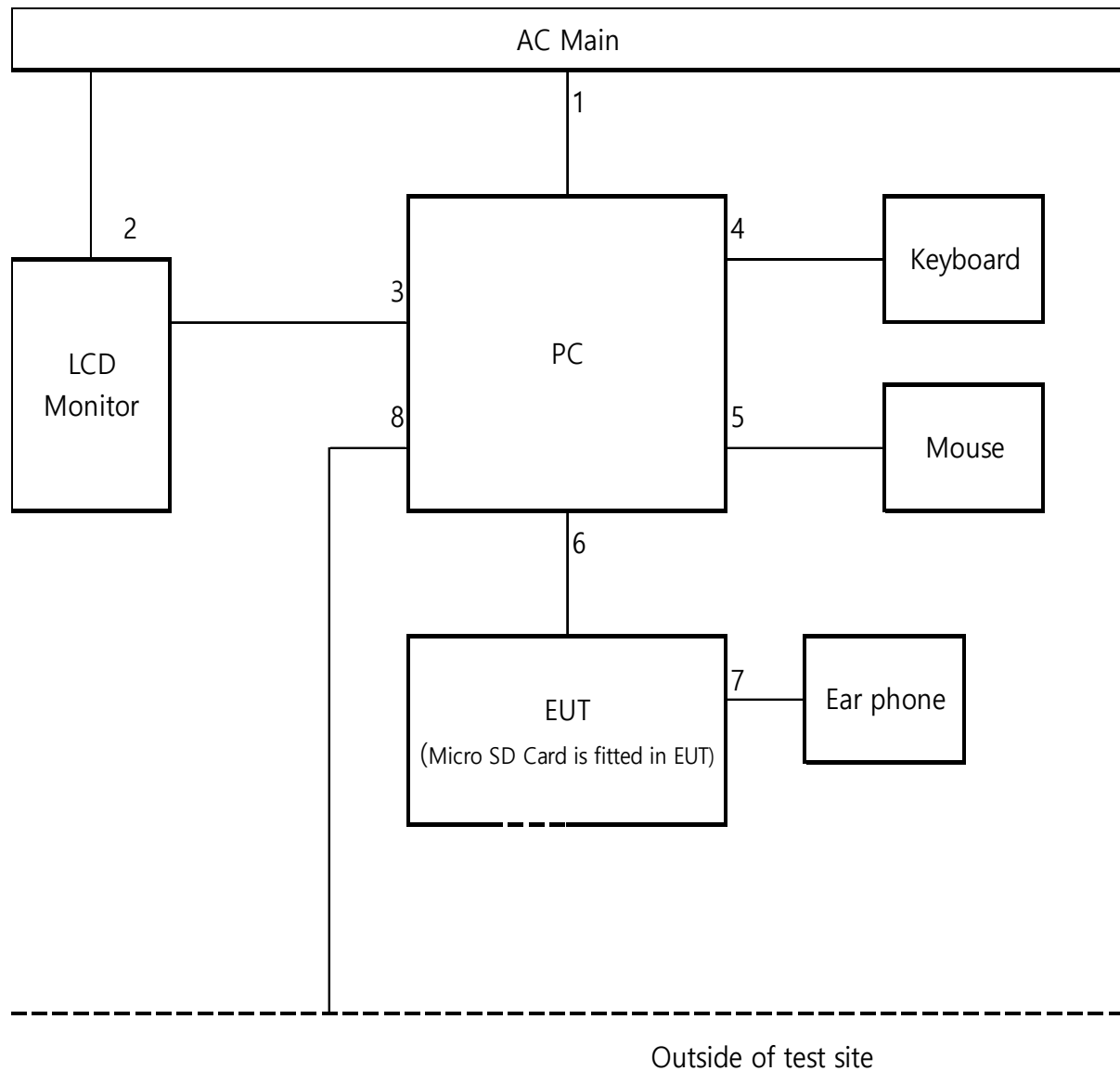
TEST SETUP

The EUT is installed in a typical configuration. Copy files from PC to EUT.

TEST SETUP DIAGRAM 1 for Test Case 1 to 4 and 6



TEST SETUP DIAGRAM 2 for Test case 5



TEST AND MEASUREMENT EQUIPMENT

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

Test Equipment List				
Description	Manufacturer	Model	S/N	Cal Due
Antenna, Bilog, 30MHz-1GHz	SCHWARZBECK	VULB9163	750	08-04-20
Antenna, Bilog, 30MHz-1GHz	SCHWARZBECK	VULB9163	749	08-04-20
Antenna, Bilog, 30MHz-1GHz	SCHWARZBECK	VULB9163	845	08-04-20
Antenna, Horn, 18 GHz	ETS	3115	00167211	08-04-20
Antenna, Horn, 18 GHz	ETS	3115	00161451	08-04-20
Antenna, Horn, 18 GHz	ETS	3117	00168724	08-04-20
Antenna, Horn, 18 GHz	ETS	3117	00168717	08-04-20
Antenna, Horn, 18 GHz	ETS	3117	00205959	08-04-20
Antenna, Horn, 40 GHz	ETS	3116C	00166155	12-04-19
Antenna, Horn, 40 GHz	ETS	3116C	00168645	12-04-19
Antenna, Horn, 40 GHz	ETS	3116C-PA	00168841	08-09-19
Preamplifier, 1000 MHz	Sonoma	310N	341282	08-07-19
Preamplifier, 1000 MHz	Sonoma	310N	351741	08-07-19
Preamplifier, 1000 MHz	Sonoma	310N	370599	08-07-19
Preamplifier, 18 GHz	Miteq	AFS42-00101800-25-S-42	1876511	08-07-19
Preamplifier, 18 GHz	Miteq	AFS42-00101800-25-S-42	1896138	08-07-19
Preamplifier, 18 GHz	Miteq	AFS42-00101800-25-S-42	2029169	08-07-19
EMI Test Receive, 40 GHz	R&S	ESU40	100439	08-06-19
EMI Test Receive, 40 GHz	R&S	ESU40	100457	08-06-19
EMI Test Receive, 44 GHz	R&S	ESW44	101590	08-06-19
EMI Test Receive, 3 GHz	R&S	ESR3	101832	08-06-19
Communications Test Set	R&S	CMW500	115331	08-07-19
LISN	R&S	ENV-216	101837	08-09-19
LISN	R&S	ENV-216	101837	08-09-19
UL Software				
Description	Manufacturer	Model	Version	
Radiated software	UL	UL EMC	Ver 9.5	
AC Line Conducted software	UL	UL EMC	Ver 9.5	

6. APPLICABLE LIMITS AND TEST RESULTS

6.1. RADIATED EMISSIONS

TEST PROCEDURE

ANSI C63.4: 2014

The highest clock frequency generated or used in the EUT is 5.8GHz therefore the frequency range was investigated from 30 MHz to 30 GHz.

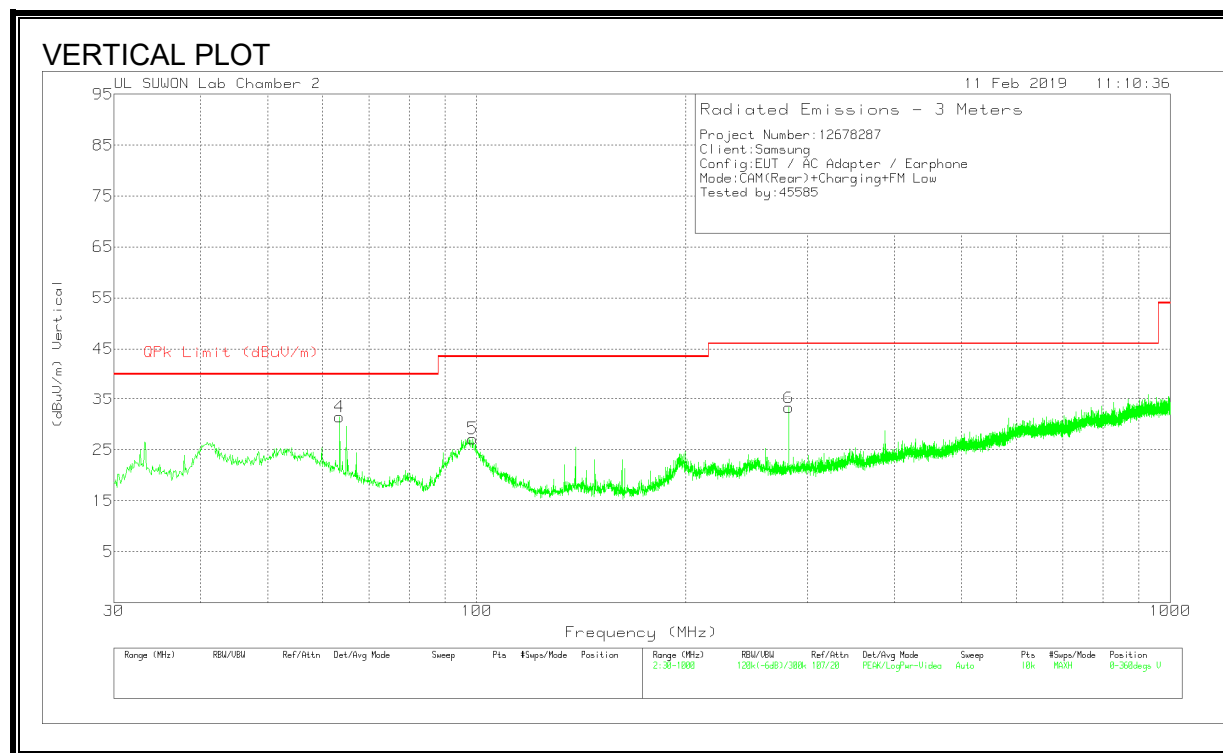
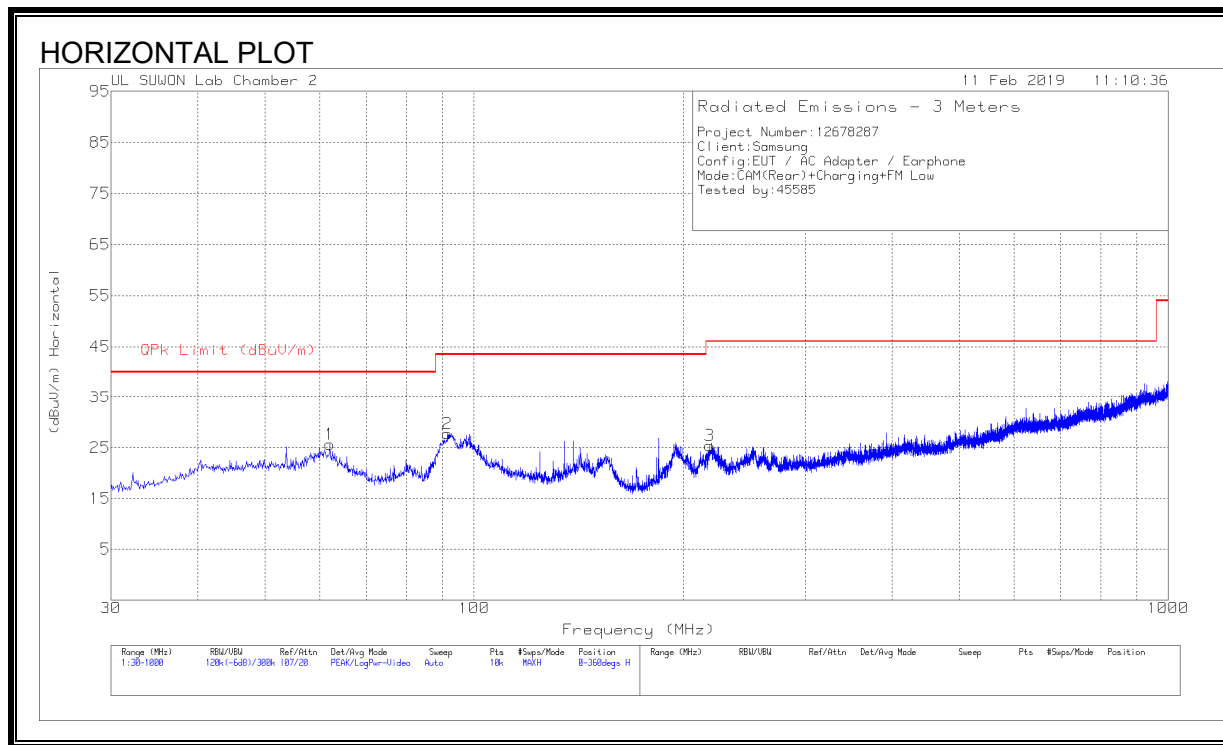
LIMIT

§15.109 (a) Except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

Limits for radiated disturbance of Class B ITE at measuring distance of 3 m	
Frequency range (MHz)	Quasi-peak limits (dB μ V/m)
30 to 88	40
88 to 216	43.5
216 to 960	46
Above 960 MHz	54
Note: The lower limit shall apply at the transition frequency.	

RESULTS Test Case 1

RADIATED EMISSIONS 30 TO 1000 MHz



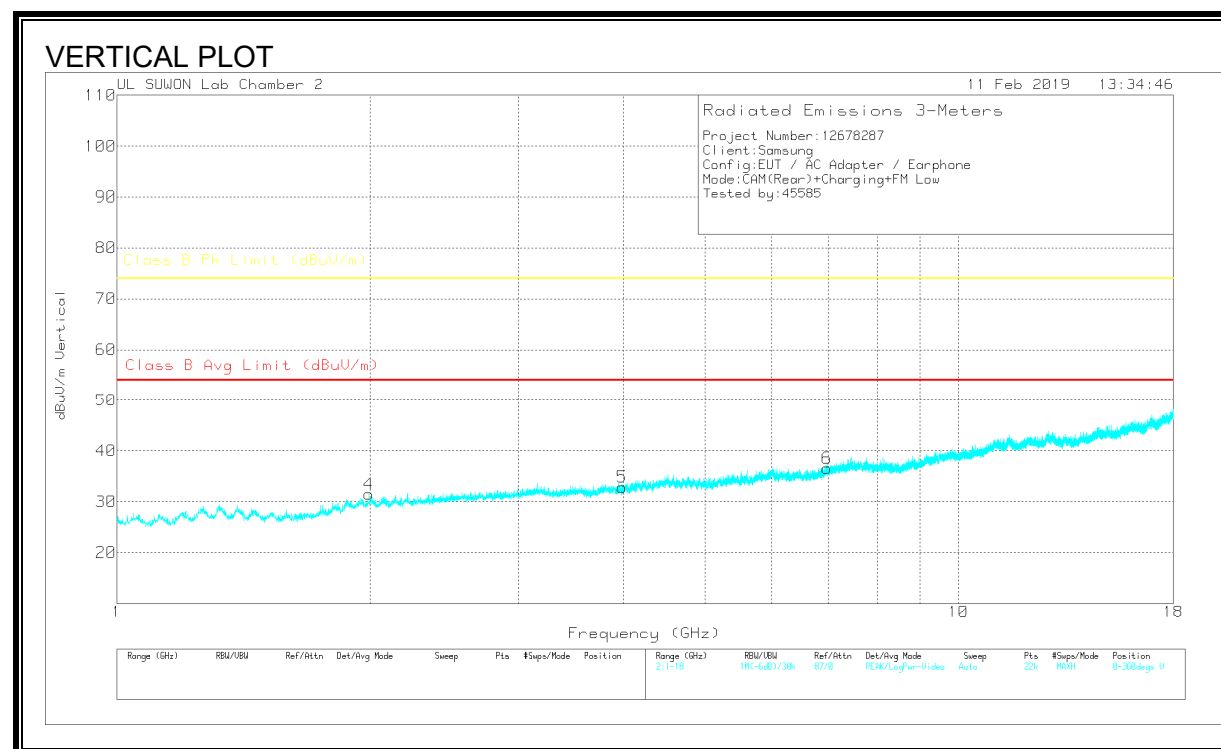
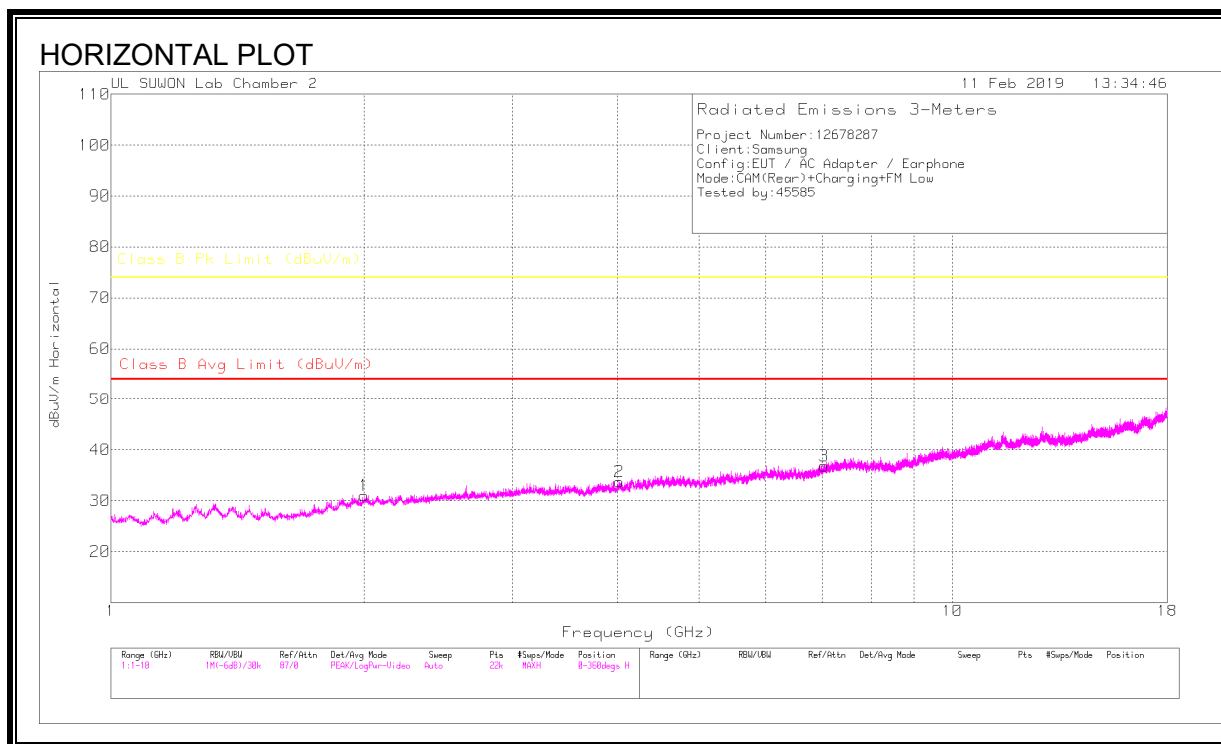
HORIZONTAL AND VERTICAL DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Below_1G[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	62.01	39.37	Pk	18	-31.7	25.67	40	-14.33	0-360	400	H
2	91.595	43	Pk	16.3	-31.5	27.8	43.52	-15.72	0-360	300	H
3	218.665	38.87	Pk	17.3	-30.8	25.37	46.02	-20.65	0-360	100	H
4	63.465	45.49	Pk	17.7	-31.7	31.49	40	-8.51	0-360	100	V
5	98.773	40.89	Pk	17.7	-31.4	27.19	43.52	-16.33	0-360	100	V
6	281.909	44.87	Pk	18.9	-30.5	33.27	46.02	-12.75	0-360	100	V

Pk - Peak detector

RADIATED EMISSIONS 1GHz to 18GHz



HORIZONTAL AND VERTICAL DATA

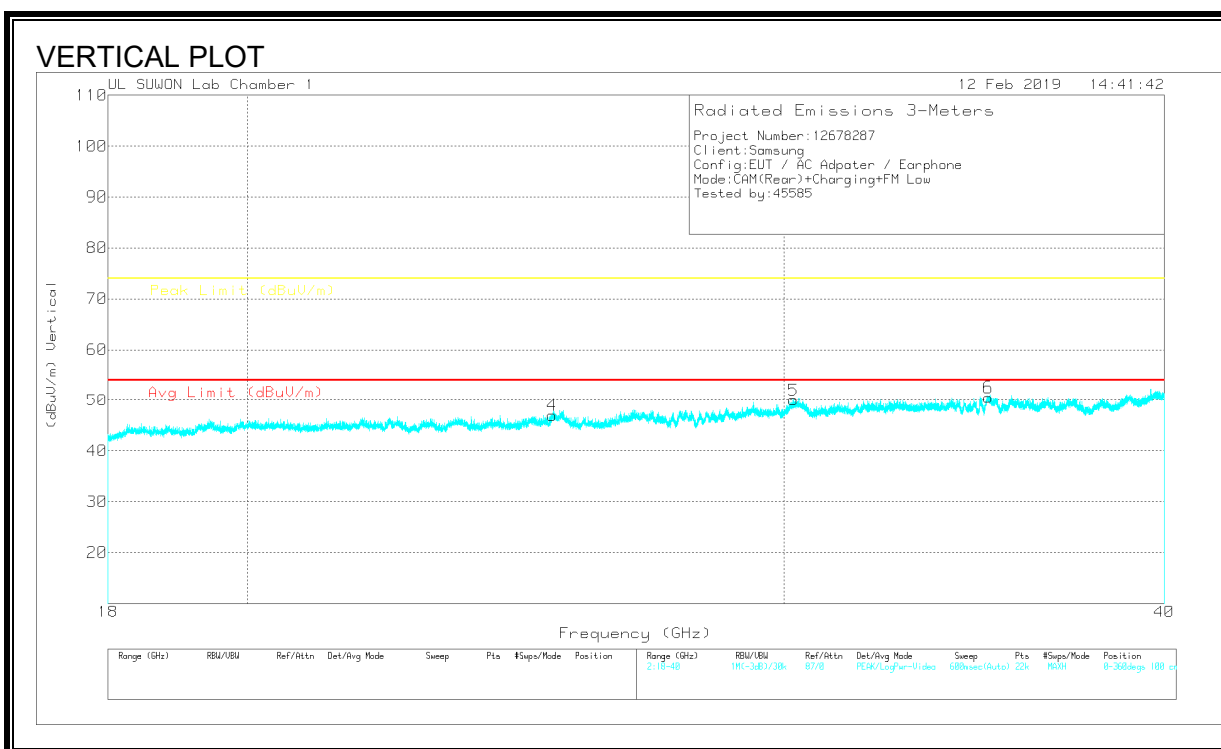
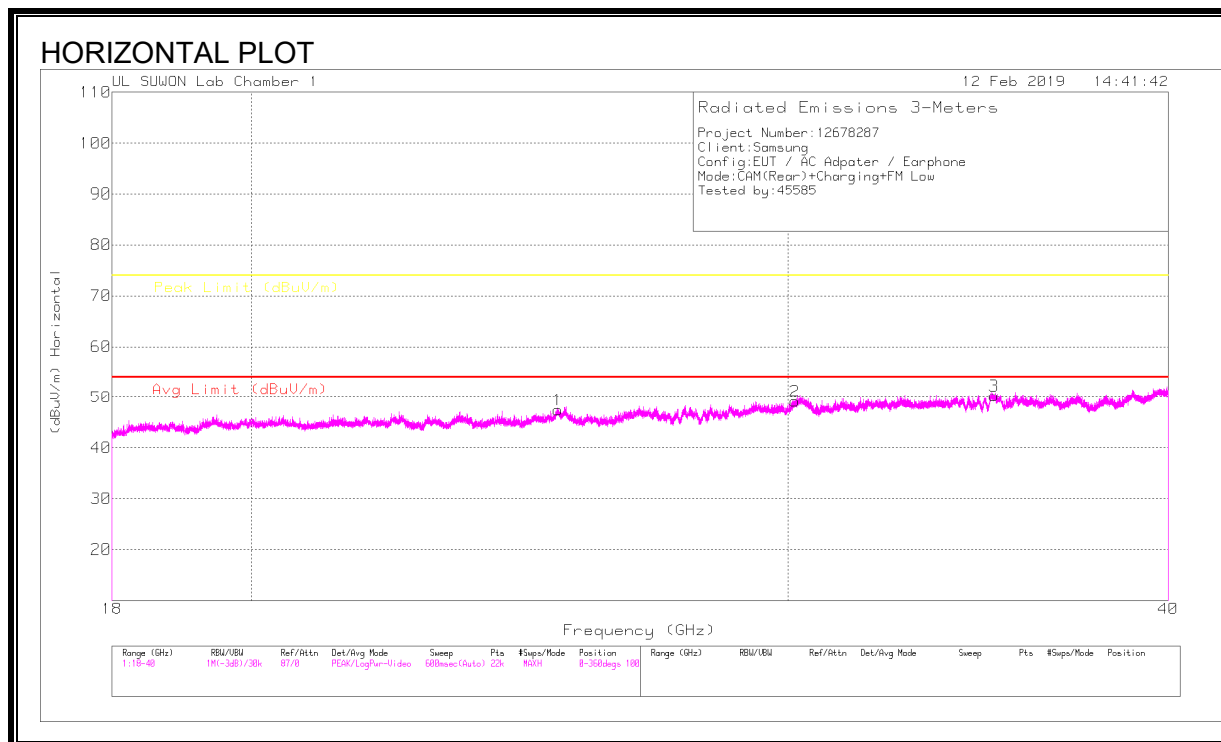
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	1-18GHz[dB]	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.998	30.82	PK	31.2	-31	31.02	-	-	74	-42.98	0-360	200	H
2	4.015	29.57	PK	33.4	-29.2	33.77	-	-	74	-40.23	0-360	100	H
3	7.032	26.71	PK	35.9	-25.8	36.81	-	-	74	-37.19	0-360	200	H
4	1.991	31.3	PK	31.2	-31	31.5	-	-	74	-42.5	0-360	100	V
5	3.986	28.99	PK	33.4	-29.5	32.89	-	-	74	-41.11	0-360	100	V
6	6.981	26.91	PK	35.8	-26.1	36.61	-	-	74	-37.39	0-360	100	V

PK – Peak Detector

Note: Only peak measurement was performed. Because peak measurement result of unwanted emission is less than average limit (54dBuV/m).

RADIATED EMISSIONS 18GHz to 30GHz



HORIZONTAL AND VERTICAL DATA

Trace Markers

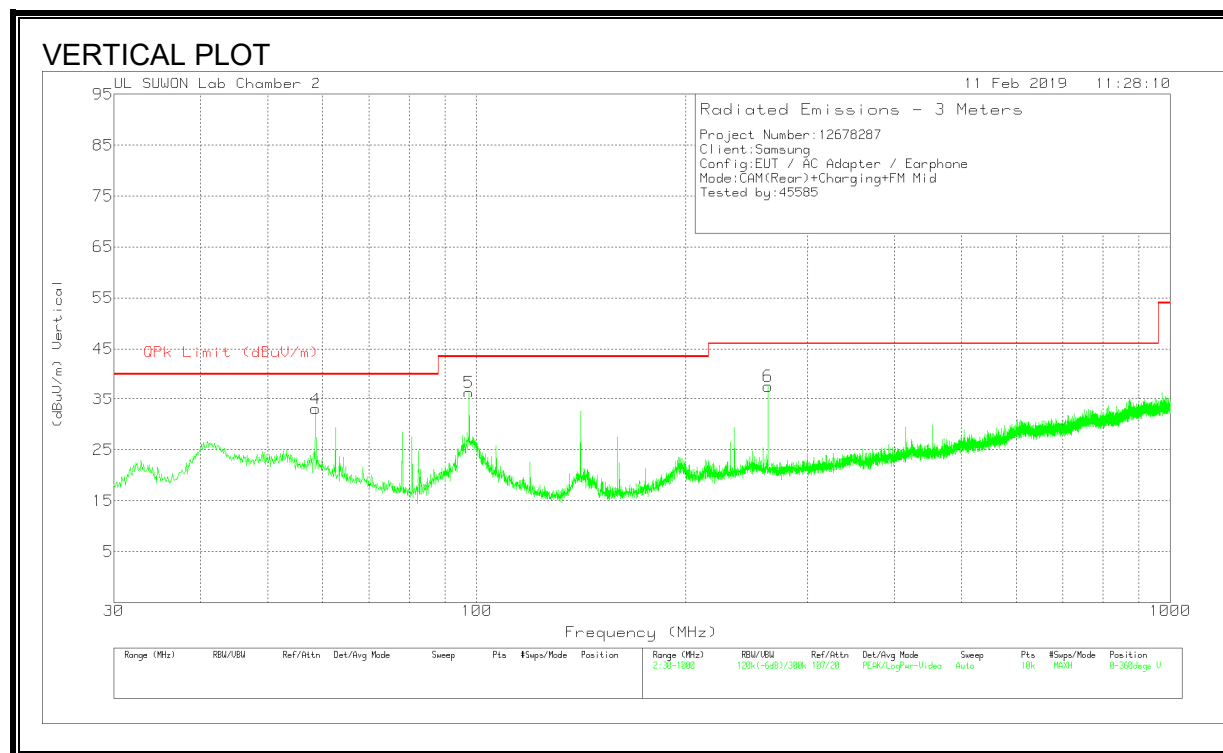
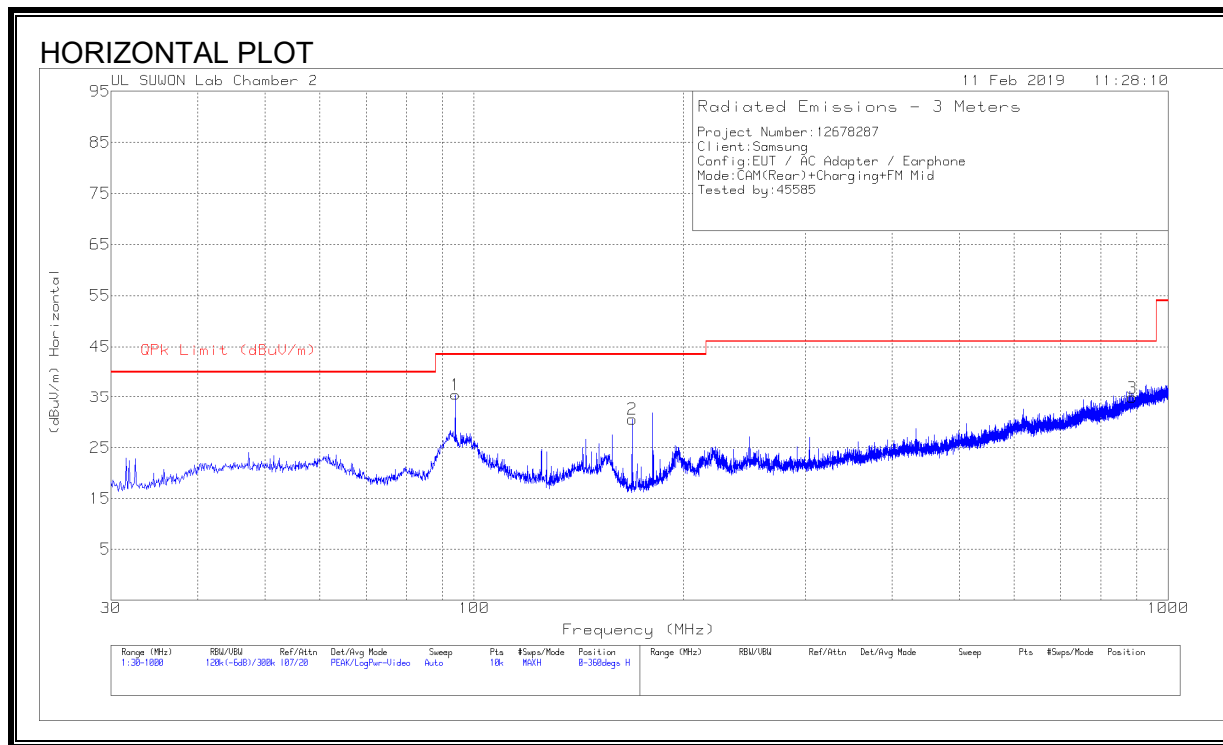
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3116C-PA	18-40GHz[dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	25.218	20.55	PK	9.1	17.8	47.45	-	-	74	-26.55	0-360	100	H
2	30.162	15.51	PK	14.1	19.6	49.21	-	-	74	-24.79	0-360	100	H
3	35.07	16.34	PK	12.7	21.3	50.34	-	-	74	-23.66	0-360	100	H
4	25.181	20.1	PK	9.1	17.8	47	-	-	74	-27	0-360	100	V
5	30.222	16.27	PK	14.1	19.7	50.07	-	-	74	-23.93	0-360	100	V
6	35.017	16.6	PK	12.7	21.3	50.6	-	-	74	-23.4	0-360	100	V

PK – Peak Detector

Note: Only peak measurement was performed. Because peak measurement result of unwanted emission is less than average limit (54dBuV/m).

RESULTS Test Case 2

RADIATED EMISSIONS 30 TO 1000 MHz



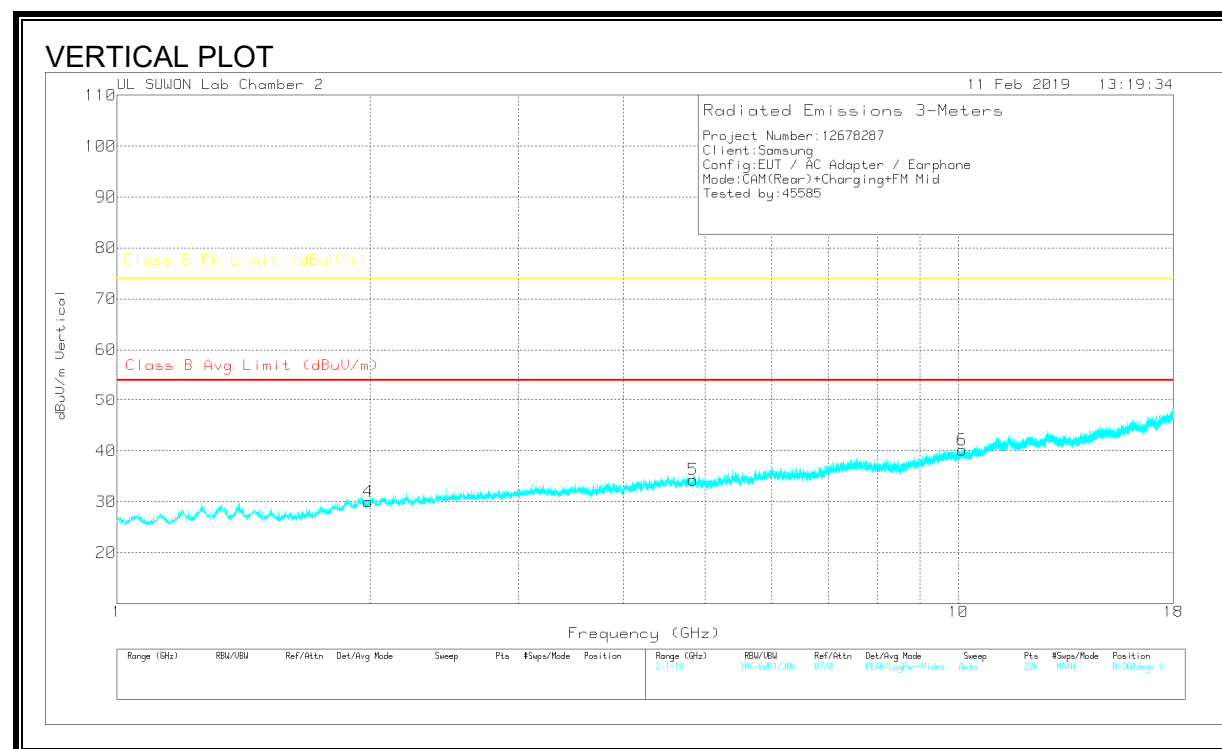
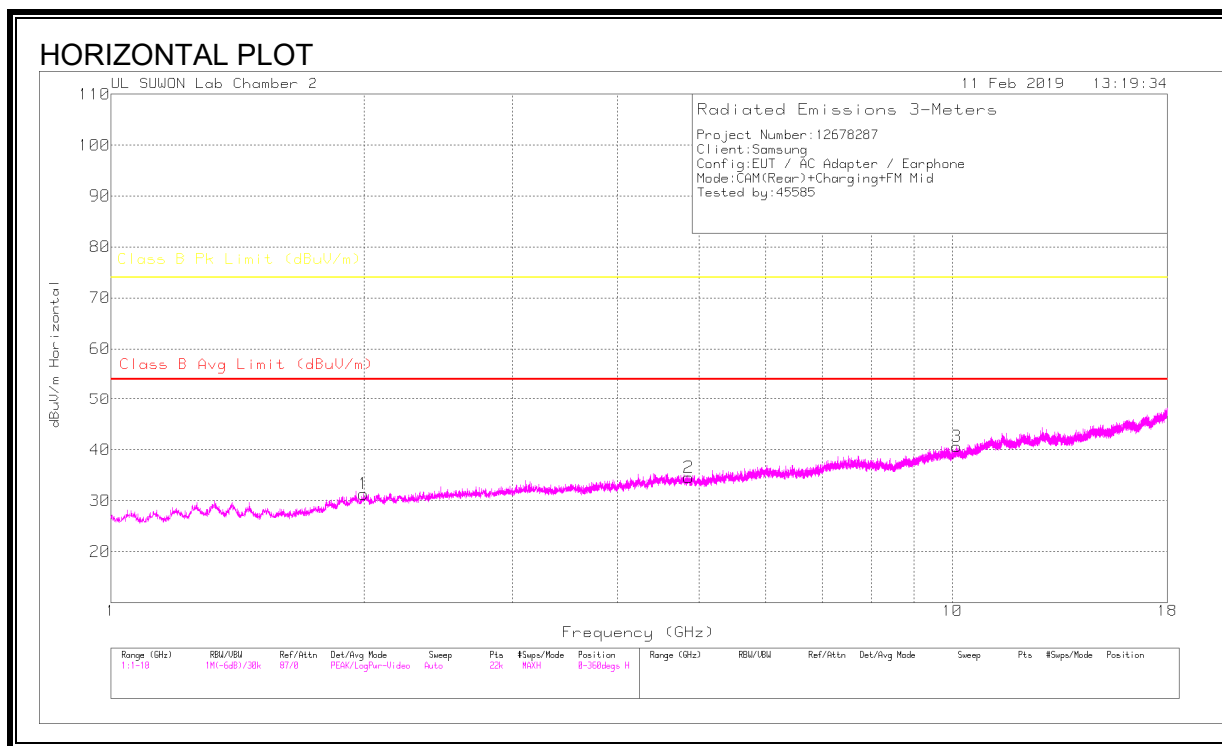
HORIZONTAL AND VERTICAL DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Below_1G[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	94.02	50.07	Pk	16.9	-31.4	35.57	43.52	-7.95	0-360	300	H
2	168.904	46.72	Pk	14.9	-31	30.62	43.52	-12.9	0-360	100	H
3	887.868	35.4	Pk	28	-28.5	34.9	46.02	-11.12	0-360	400	H
4	58.615	46	Pk	18.8	-31.7	33.1	40	-6.9	0-360	200	V
5	97.512	50.35	Pk	17.5	-31.4	36.45	43.52	-7.07	0-360	100	V
6	263.091	49.55	Pk	18.7	-30.6	37.65	46.02	-8.37	0-360	200	V

Pk - Peak detector

RADIATED EMISSIONS 1GHz to 18GHz



HORIZONTAL AND VERTICAL DATA

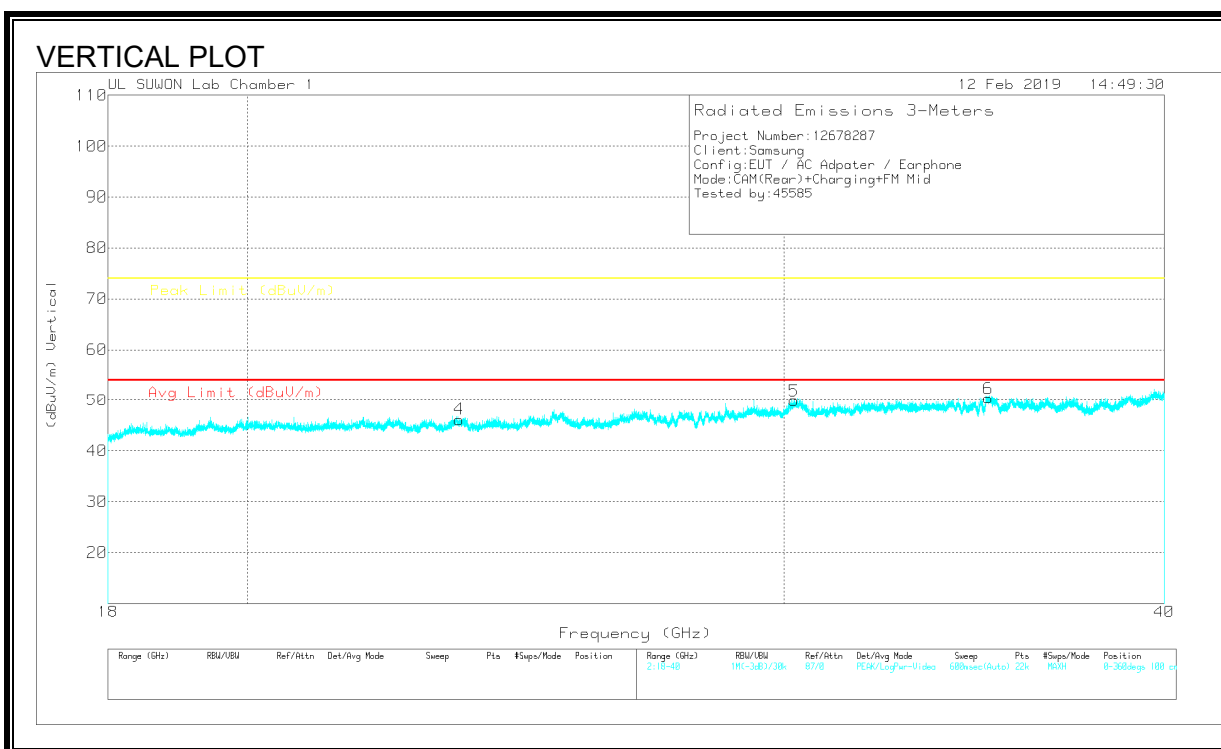
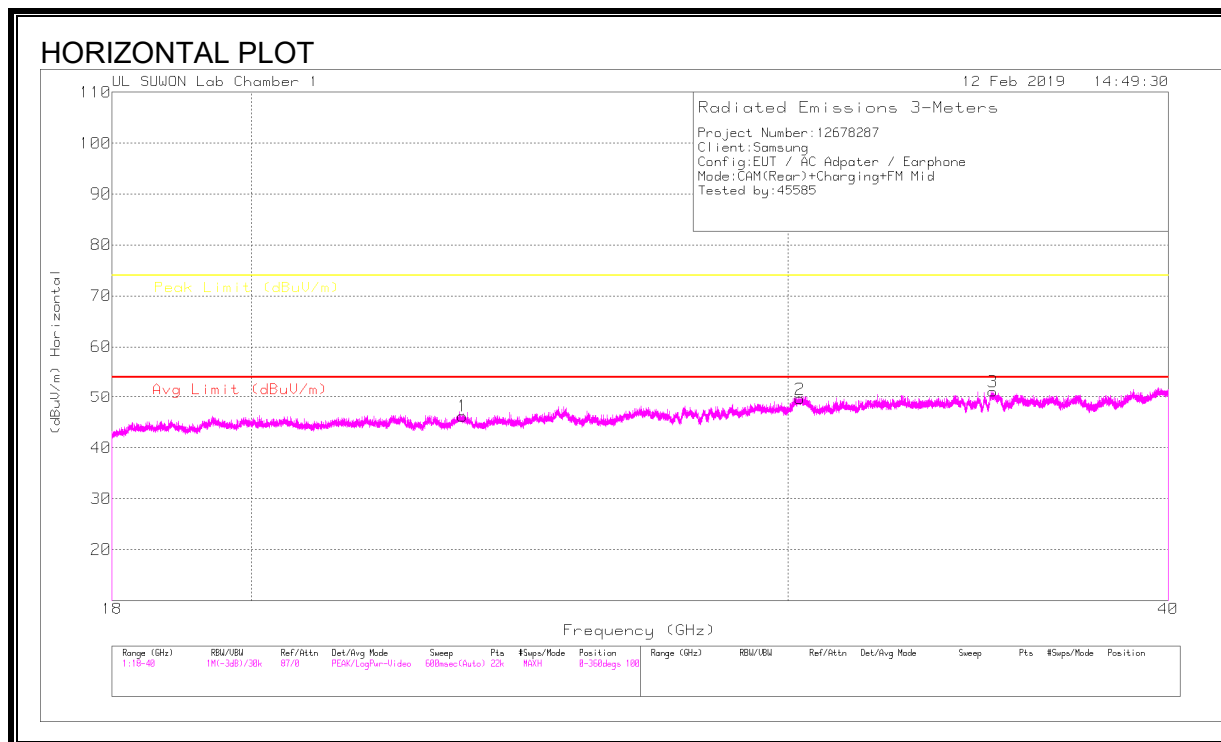
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	1-18GHz[dB]	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.994	31.11	PK	31.2	-31	31.31	-	-	74	-42.69	0-360	200	H
2	4.859	28.54	PK	34	-28	34.54	-	-	74	-39.46	0-360	100	H
3	10.109	24.47	PK	37.5	-21.3	40.67	-	-	74	-33.33	0-360	100	H
4	1.989	29.86	PK	31.2	-31	30.06	-	-	74	-43.94	0-360	200	V
5	4.841	28.28	PK	34	-28	34.28	-	-	74	-39.72	0-360	100	V
6	10.097	24.03	PK	37.5	-21.4	40.13	-	-	74	-33.87	0-360	200	V

PK – Peak Detector

Note: Only peak measurement was performed. Because peak measurement result of unwanted emission is less than average limit (54dBuV/m).

RADIATED EMISSIONS 18GHz to 30GHz



HORIZONTAL AND VERTICAL DATA

Trace Markers

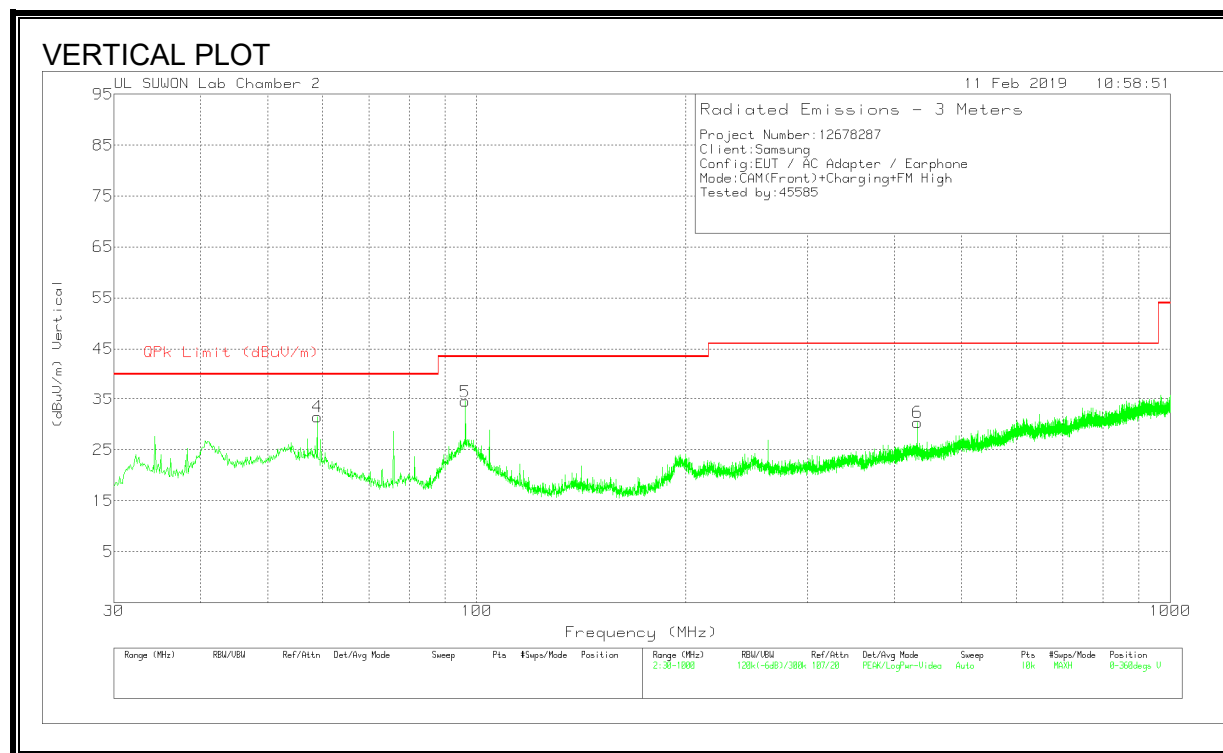
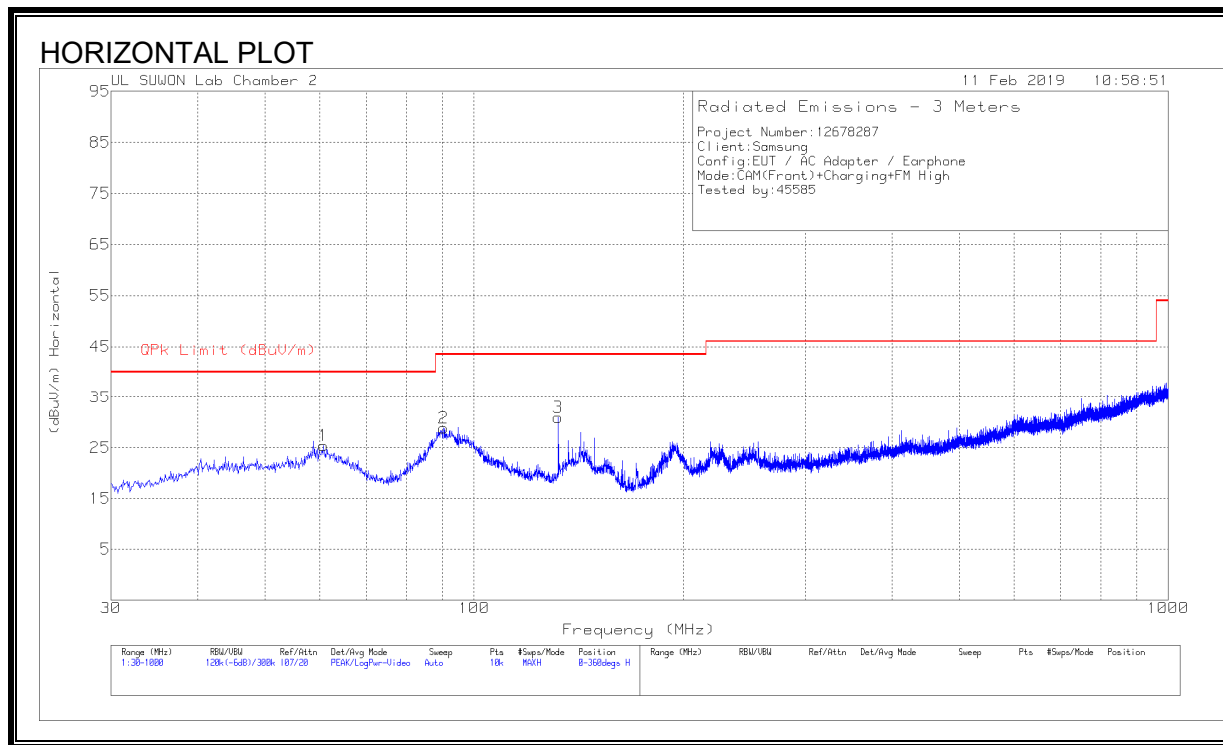
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3116C-PA	18-40GHz[dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	23.461	18.27	PK	10.9	17	46.17	-	-	74	-27.83	0-360	100	H
2	30.275	15.85	PK	14.1	19.7	49.65	-	-	74	-24.35	0-360	100	H
3	35.033	17.13	PK	12.7	21.3	51.13	-	-	74	-22.87	0-360	100	H
4	23.472	18.25	PK	10.9	17	46.15	-	-	74	-27.85	0-360	100	V
5	30.23	16.16	PK	14.1	19.7	49.96	-	-	74	-24.04	0-360	100	V
6	35.021	16.43	PK	12.7	21.3	50.43	-	-	74	-23.57	0-360	100	V

PK – Peak Detector

Note: Only peak measurement was performed. Because peak measurement result of unwanted emission is less than average limit (54dBuV/m).

RESULTS Test Case 3

RADIATED EMISSIONS 30 TO 1000 MHz



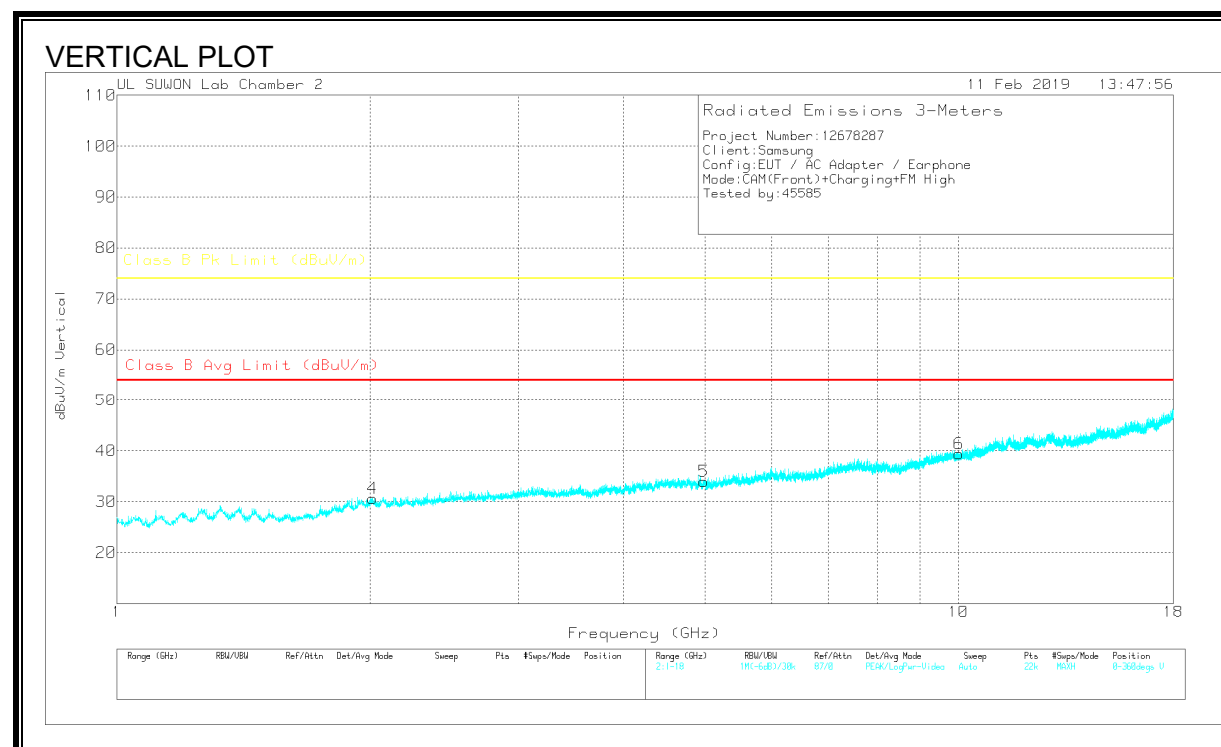
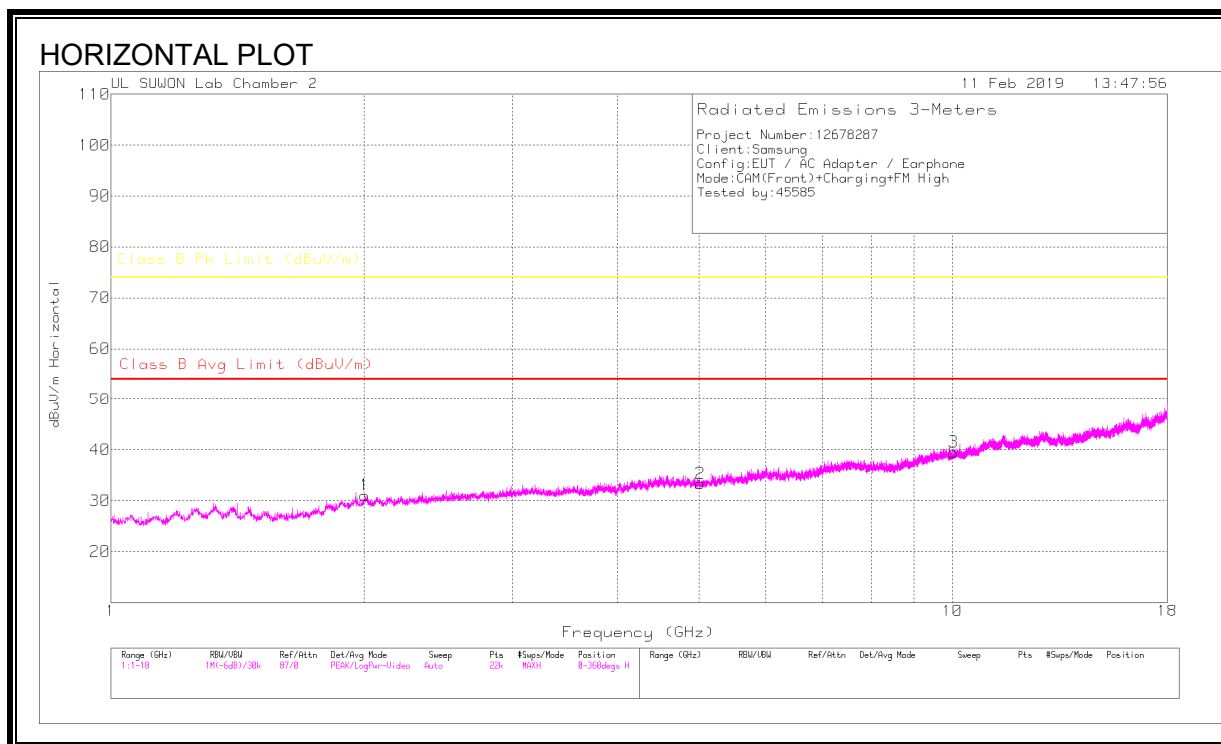
HORIZONTAL AND VERTICAL DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Below_1G[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	60.652	38.65	Pk	18.4	-31.7	25.35	40	-14.65	0-360	400	H
2	90.334	44.59	Pk	15.8	-31.5	28.89	43.52	-14.63	0-360	200	H
3	132.238	48.03	Pk	14.1	-31.2	30.93	43.52	-12.59	0-360	100	H
4	58.906	44.59	Pk	18.7	-31.8	31.49	40	-8.51	0-360	200	V
5	96.348	48.68	Pk	17.4	-31.5	34.58	43.52	-8.94	0-360	300	V
6	431.968	38.55	Pk	22.1	-30.3	30.35	46.02	-15.67	0-360	100	V

Pk - Peak detector

RADIATED EMISSIONS 1GHz to 18GHz



HORIZONTAL AND VERTICAL DATA

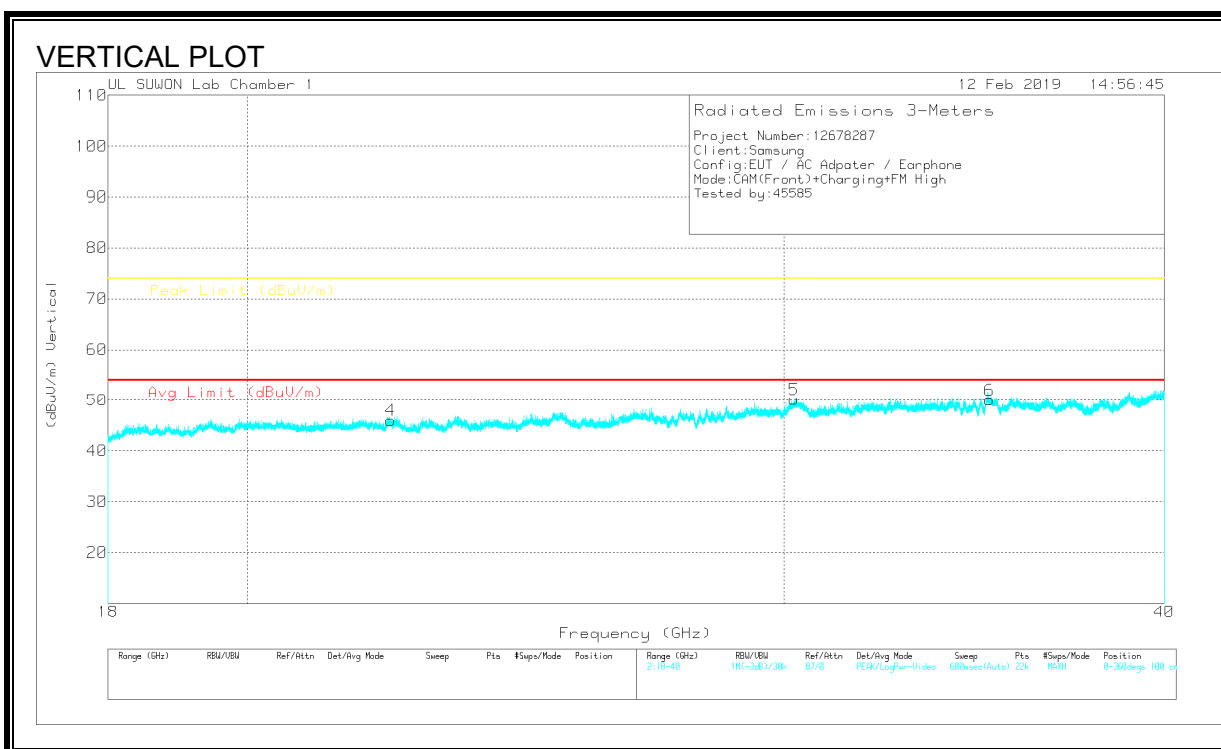
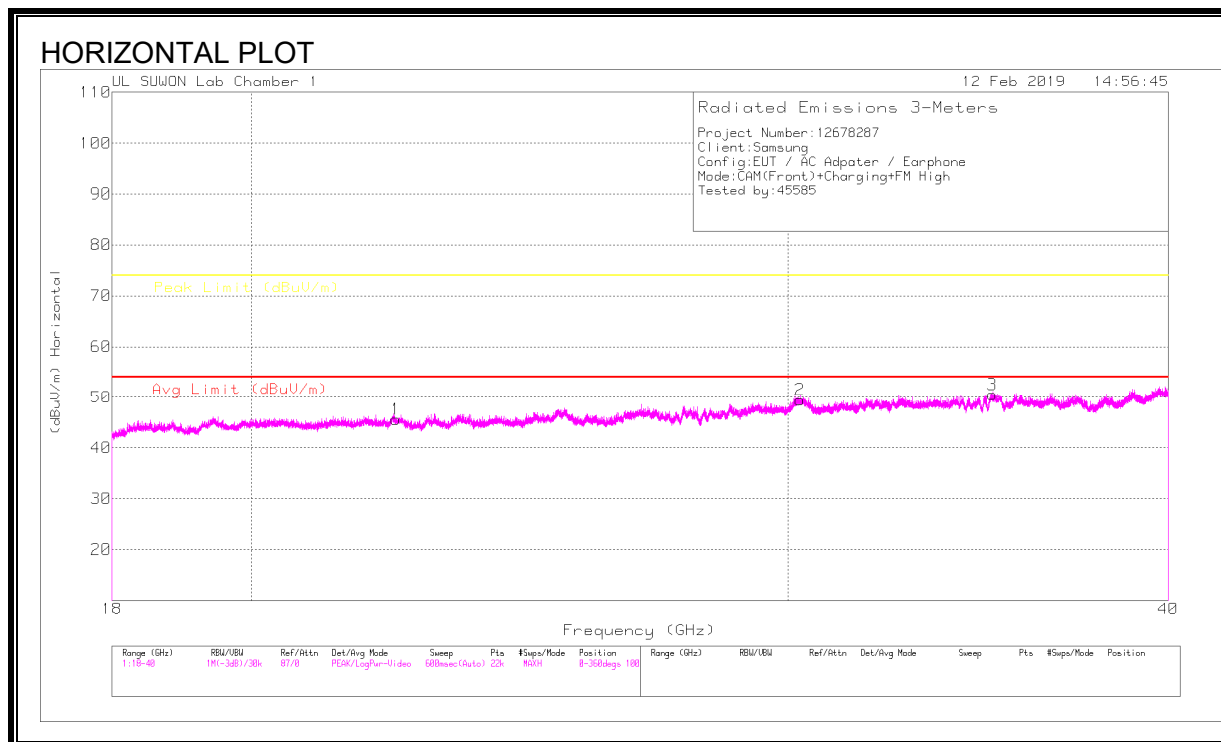
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	1-18GHz[dB]	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.004	30.86	PK	31.2	-31	31.06	-	-	74	-42.94	0-360	200	H
2	5.018	27.57	PK	34.1	-28.3	33.37	-	-	74	-40.63	0-360	200	H
3	10.023	23.97	PK	37.5	-21.9	39.57	-	-	74	-34.43	0-360	200	H
4	2.011	30.44	PK	31.2	-31	30.64	-	-	74	-43.36	0-360	200	V
5	4.978	28.19	PK	34.1	-28.3	33.99	-	-	74	-40.01	0-360	200	V
6	10.006	23.96	PK	37.5	-22.1	39.36	-	-	74	-34.64	0-360	100	V

PK – Peak Detector

Note: Only peak measurement was performed. Because peak measurement result of unwanted emission is less than average limit (54dBuV/m).

RADIATED EMISSIONS 18GHz to 30GHz



HORIZONTAL AND VERTICAL DATA

Trace Markers

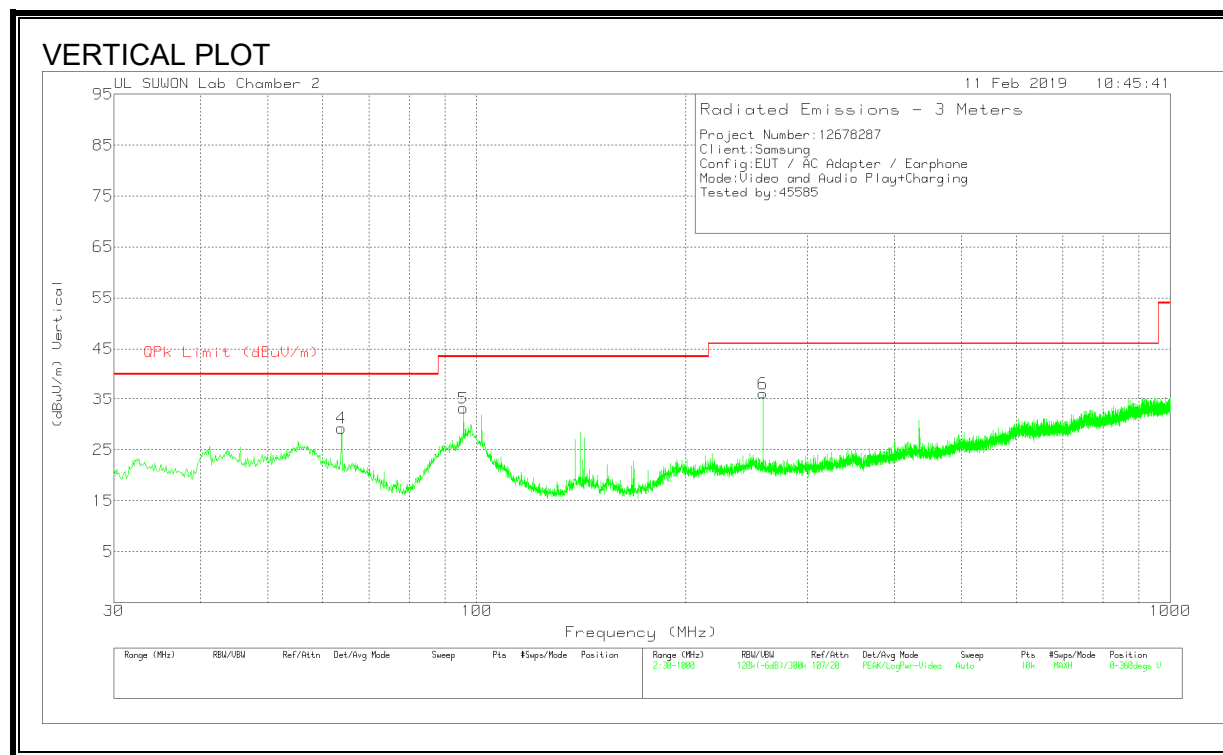
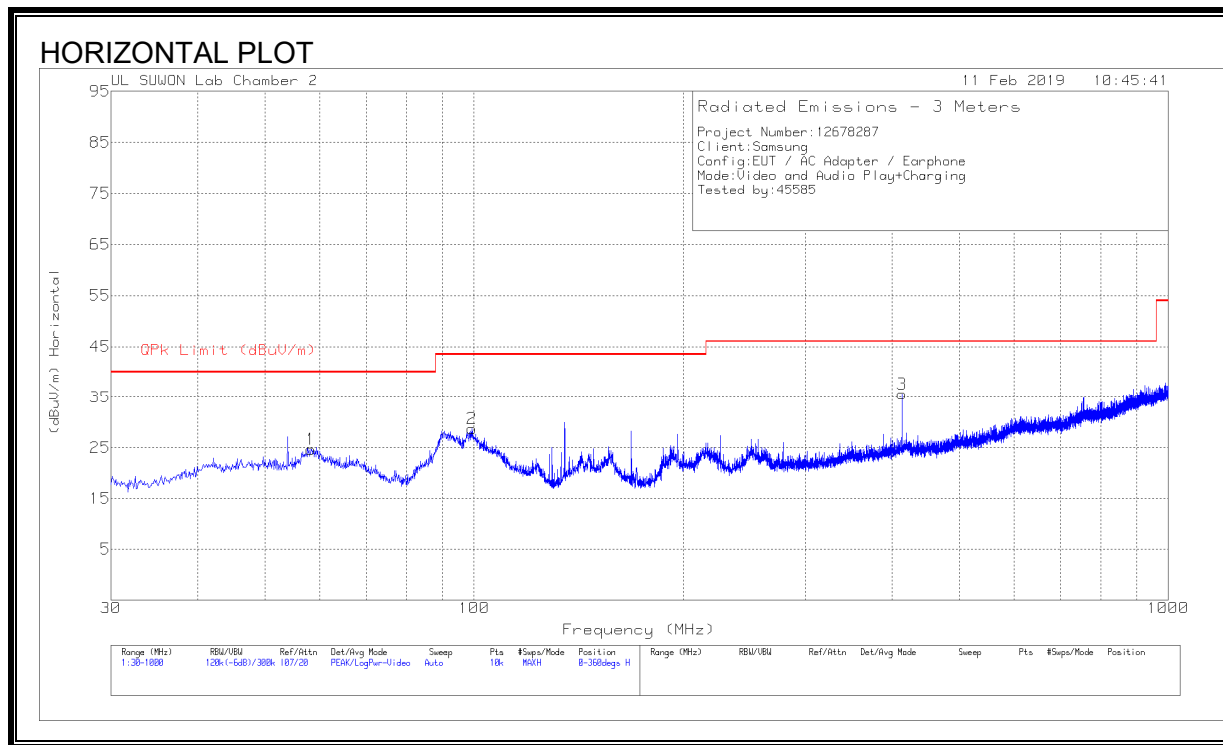
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3116C-PA	18-40GHz[dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	22.306	17.47	PK	11.4	16.7	45.57	-	-	74	-28.43	0-360	100	H
2	30.274	15.69	PK	14.1	19.7	49.49	-	-	74	-24.51	0-360	100	H
3	35.013	16.49	PK	12.7	21.3	50.49	-	-	74	-23.51	0-360	100	H
4	22.285	17.9	PK	11.4	16.7	46	-	-	74	-28	0-360	100	V
5	30.24	16.34	PK	14.1	19.7	50.14	-	-	74	-23.86	0-360	100	V
6	35.046	16.05	PK	12.7	21.3	50.05	-	-	74	-23.95	0-360	100	V

PK – Peak Detector

Note: Only peak measurement was performed. Because peak measurement result of unwanted emission is less than average limit (54dBuV/m).

RESULTS Test Case 4

RADIATED EMISSIONS 30 TO 1000 MHz



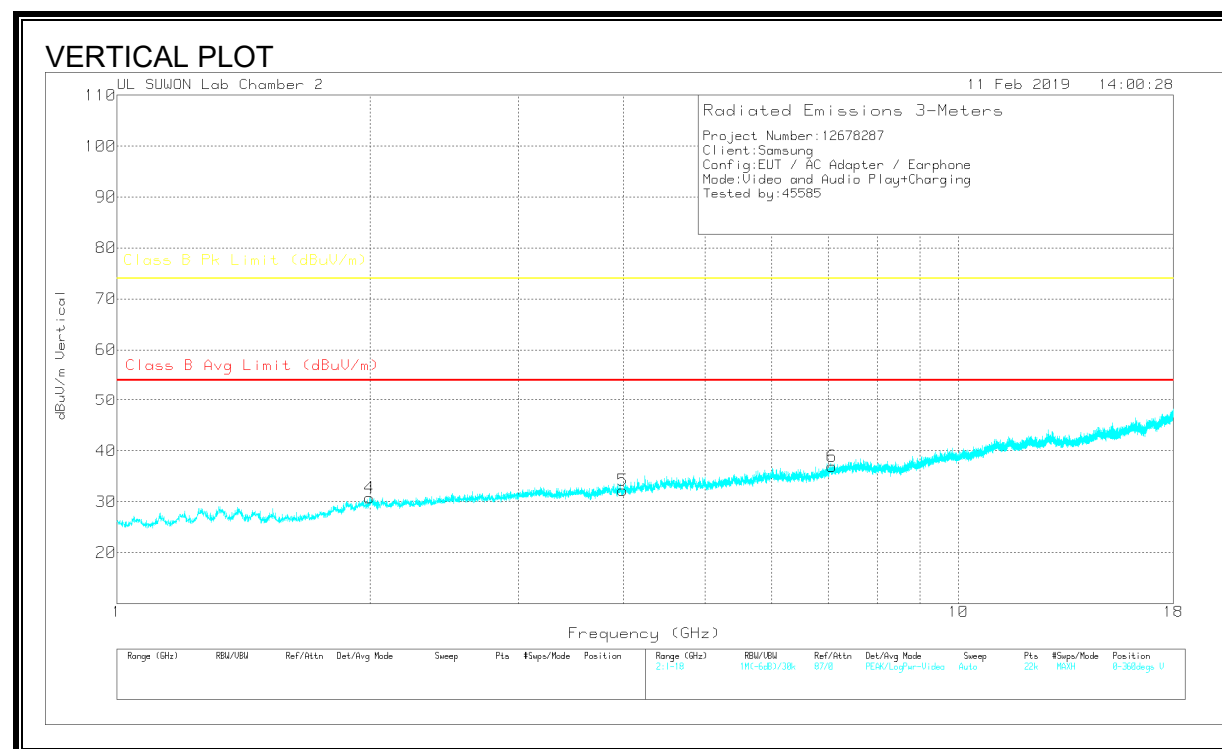
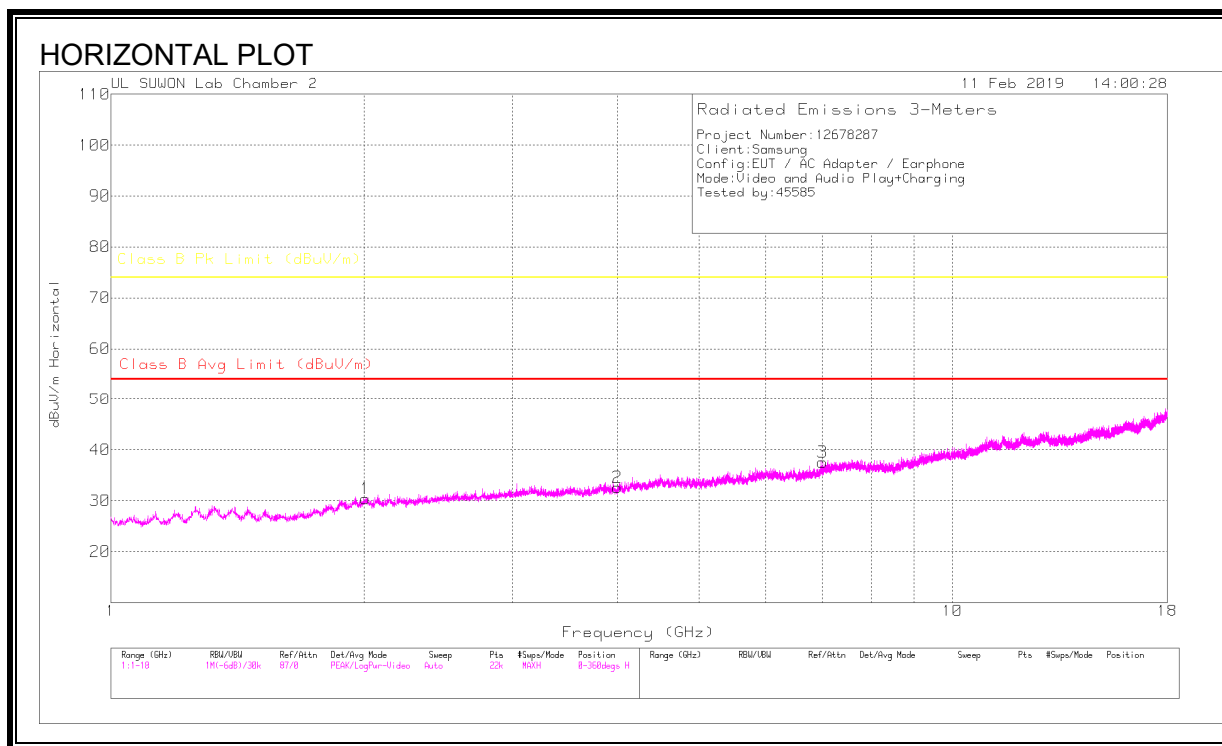
HORIZONTAL AND VERTICAL DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Below_1G[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	58.227	37.6	Pk	18.8	-31.7	24.7	40	-15.3	0-360	400	H
2	99.355	42.46	Pk	17.7	-31.4	28.76	43.52	-14.76	0-360	300	H
3	413.441	43.9	Pk	21.9	-30.1	35.7	46.02	-10.32	0-360	100	H
4	63.853	43.31	Pk	17.6	-31.7	29.21	40	-10.79	0-360	100	V
5	95.669	47.26	Pk	17.3	-31.4	33.16	43.52	-10.36	0-360	100	V
6	258.726	47.91	Pk	18.9	-30.6	36.21	46.02	-9.81	0-360	100	V

Pk - Peak detector

RADIATED EMISSIONS 1GHz to 18GHz



HORIZONTAL AND VERTICAL DATA

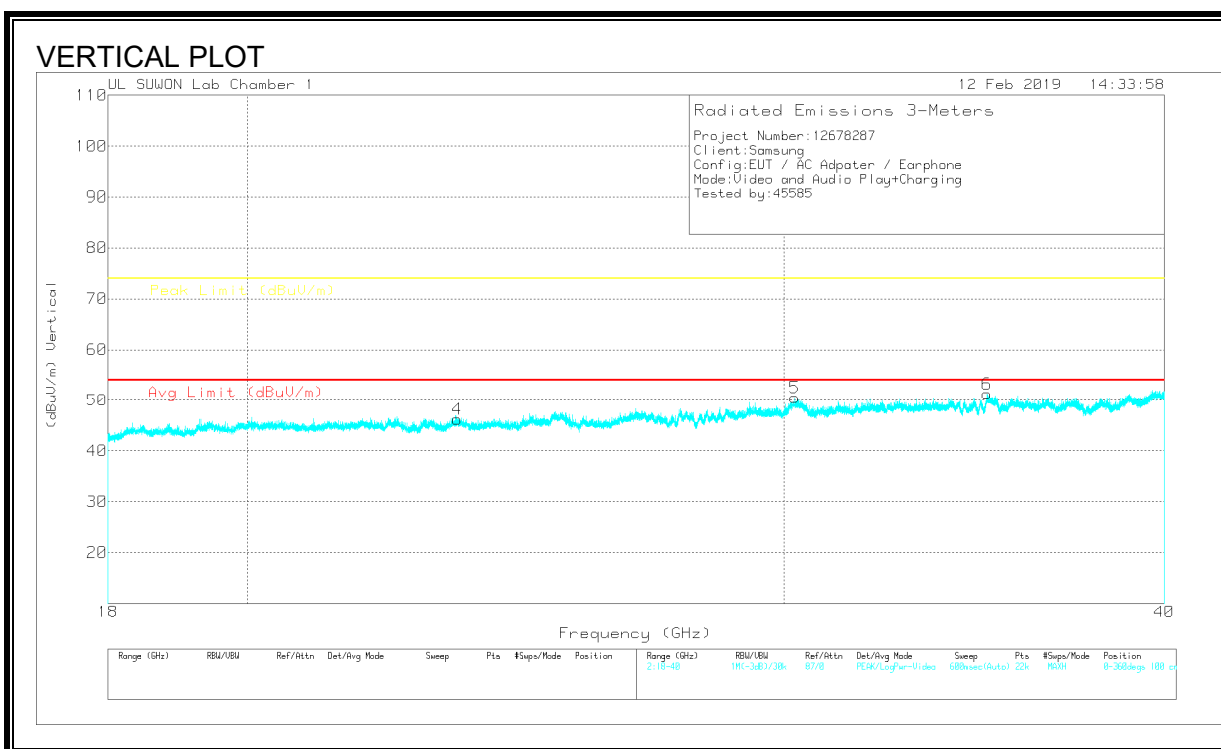
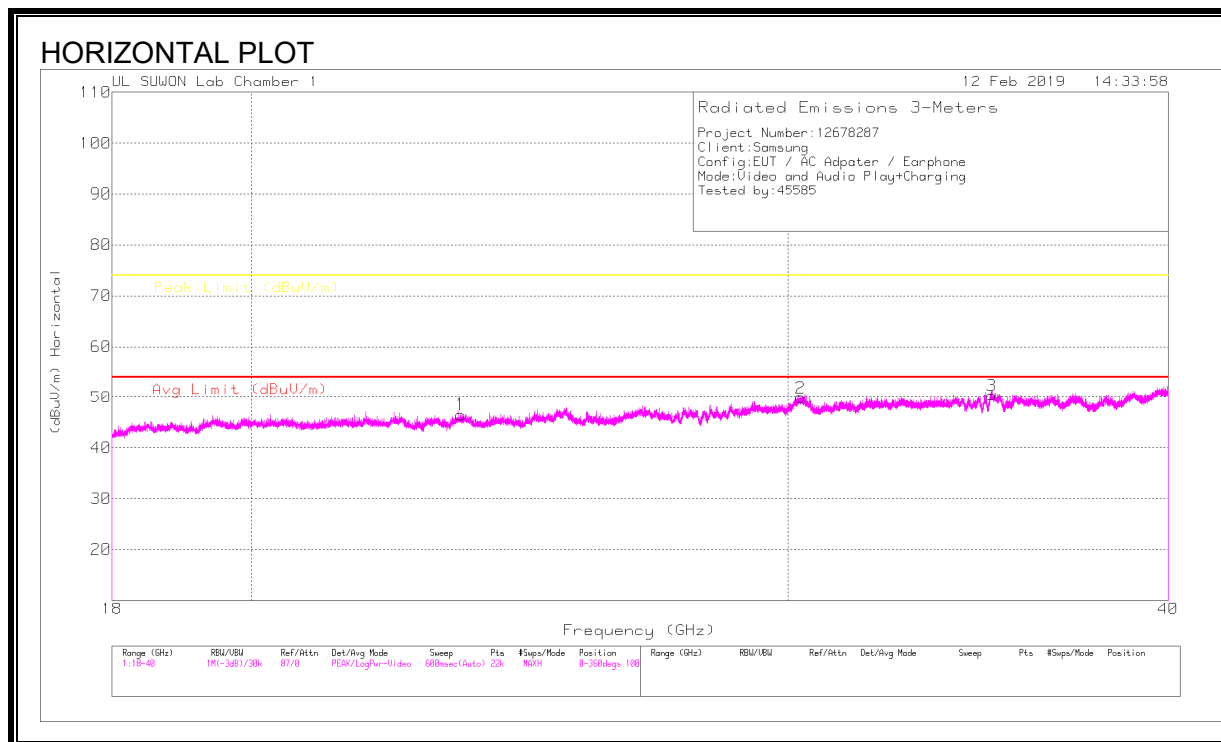
Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	1-18GHz[dB]	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	2.007	30.3	PK	31.2	-31.1	30.4	-	-	74	-43.6	0-360	100	H
2	4	28.47	PK	33.4	-29.3	32.57	-	-	74	-41.43	0-360	200	H
3	7.008	27.78	PK	35.8	-26	37.58	-	-	74	-36.42	0-360	200	H
4	1.997	30.7	PK	31.2	-31.1	30.8	-	-	74	-43.2	0-360	200	V
5	3.987	28.29	PK	33.4	-29.4	32.29	-	-	74	-41.71	0-360	100	V
6	7.071	26.6	PK	35.9	-25.6	36.9	-	-	74	-37.1	0-360	200	V

PK – Peak Detector

Note: Only peak measurement was performed. Because peak measurement result of unwanted emission is less than average limit (54dBuV/m).

RADIATED EMISSIONS 18GHz to 30GHz



HORIZONTAL AND VERTICAL DATA

Trace Markers

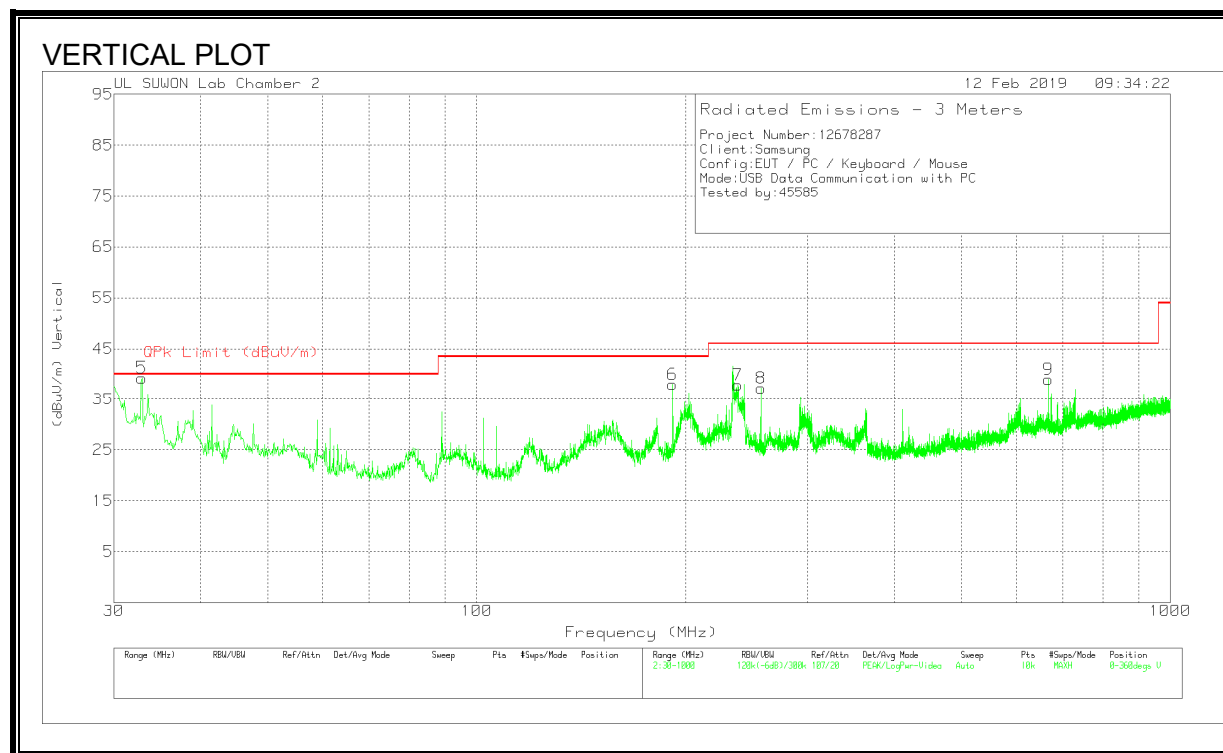
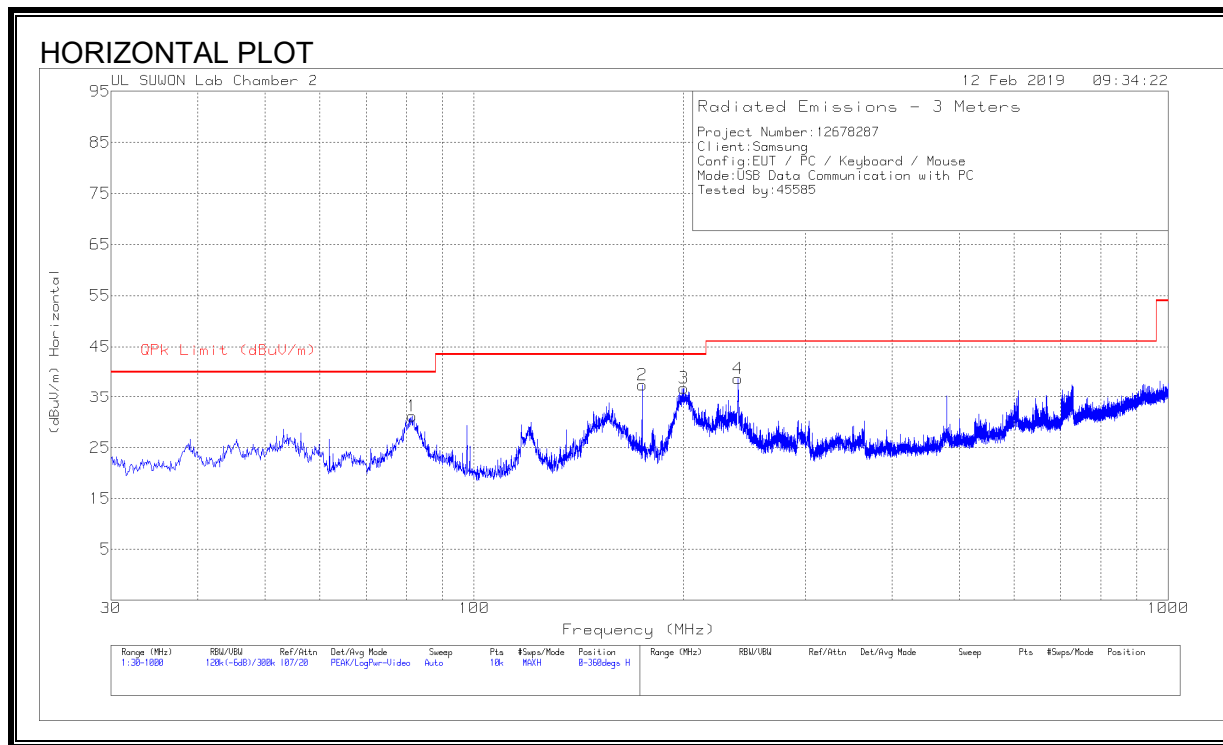
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3116C-PA	18-40GHz[dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	23.434	18.62	PK	10.9	17	46.52	-	-	74	-27.48	0-360	100	H
2	30.295	16.07	PK	14.1	19.7	49.87	-	-	74	-24.13	0-360	100	H
3	34.994	16.38	PK	12.7	21.3	50.38	-	-	74	-23.62	0-360	100	H
4	23.441	18.3	PK	10.9	17	46.2	-	-	74	-27.8	0-360	100	V
5	30.253	16.72	PK	14.1	19.7	50.52	-	-	74	-23.48	0-360	100	V
6	34.979	17.28	PK	12.7	21.3	51.28	-	-	74	-22.72	0-360	100	V

PK – Peak Detector

Note: Only peak measurement was performed. Because peak measurement result of unwanted emission is less than average limit (54dBuV/m).

RESULTS Test Case 5

RADIATED EMISSIONS 30 TO 1000 MHz



HORIZONTAL AND VERTICAL DATA

Trace Markers

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Below_1G[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	81.41	50.06	Pk	12.7	-31.5	31.26	40	-8.74	0-360	200	H
2	174.627	53.43	Pk	15.1	-31	37.53	43.52	-5.99	0-360	200	H
3	200.429	49.78	Pk	18	-30.9	36.88	43.52	-6.64	0-360	100	H
4	240.199	50.94	Pk	18.5	-30.7	38.74	46.02	-7.28	0-360	100	H
5	32.91	55.61	Pk	15.6	-31.9	39.31	40	-.69	0-360	300	V
6	191.699	51.48	Pk	17.4	-30.9	37.98	43.52	-5.54	0-360	100	V
7	238.162	50.15	Pk	18.4	-30.7	37.85	46.02	-8.17	0-360	200	V
8	256.883	48.8	Pk	19.1	-30.6	37.3	46.02	-8.72	0-360	100	V
9	666.805	43.66	Pk	25.5	-30.1	39.06	46.02	-6.96	0-360	100	V

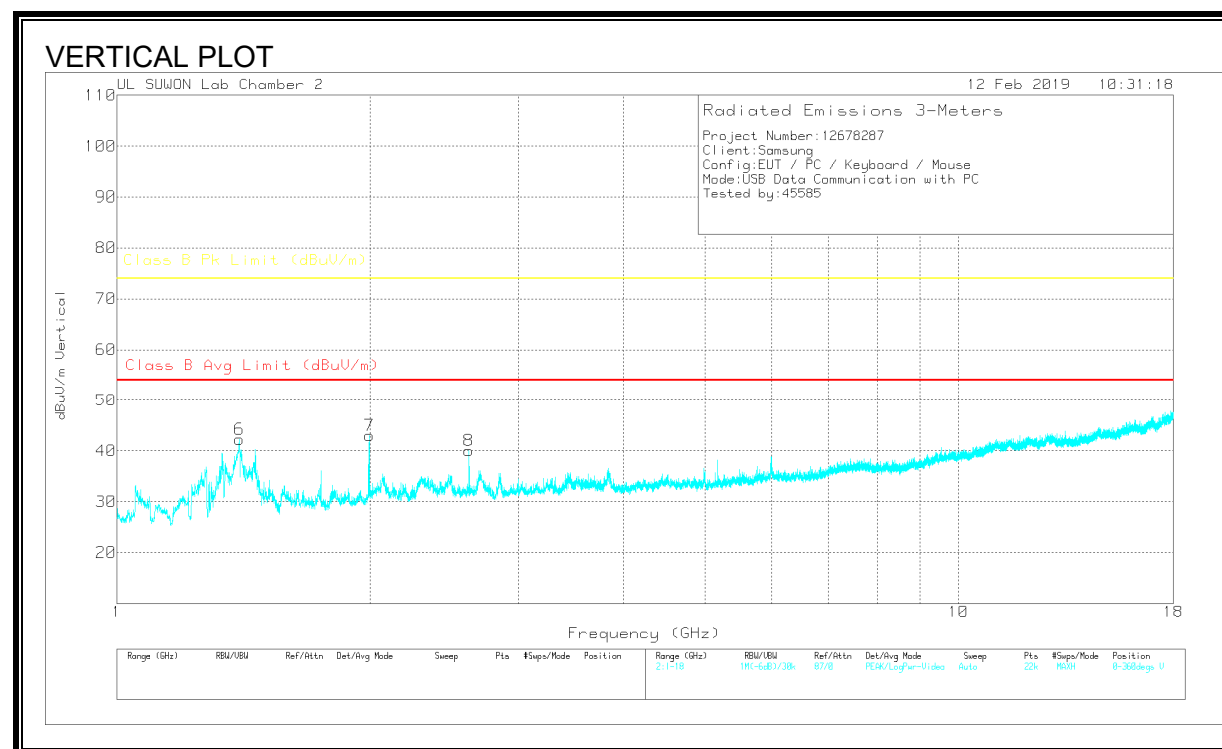
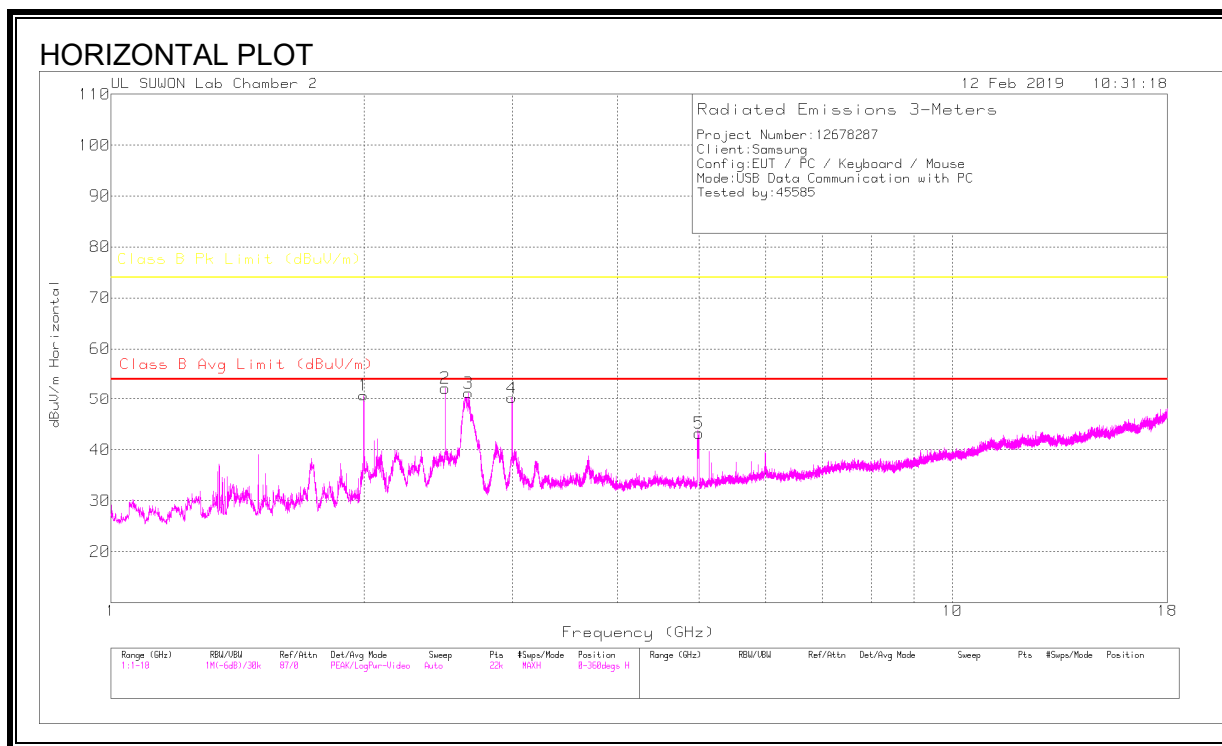
Pk - Peak detector

Radiated Emissions

Frequency (MHz)	Meter Reading (dBuV)	Det	VULB9163_749	Below_1G[dB]	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
240.139	42.44	Qp	18.5	-30.7	30.24	46.02	-15.78	360	117	H
30	50.03	Qp	15.9	-32	33.93	40	-6.07	360	101	V
201.5866	42.07	Qp	17.8	-30.8	29.07	43.52	-14.45	360	100	V
240.017	44.49	Qp	18.5	-30.7	32.29	46.02	-13.73	360	272	V
642.8749	33.19	Qp	25.2	-30.1	28.29	46.02	-17.73	360	100	V

Qp - Quasi-Peak detector

RADIATED EMISSIONS 1GHz to 18GHz



HORIZONTAL AND VERTICAL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	1-18GHz[dB]	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	1.997	50.75	PK	31.2	-31.1	50.85	-	-	74	-23.15	0-360	100	H
2	2.494	50.56	PK	31.9	-30.2	52.26	-	-	74	-21.74	0-360	200	H
3	2.661	49.46	PK	32.1	-30.3	51.26	-	-	74	-22.74	0-360	200	H
4	2.997	48.13	PK	32.5	-30.3	50.33	-	-	74	-23.67	0-360	200	H
5	4.999	37.49	PK	34.1	-28.3	43.29	-	-	74	-30.71	0-360	100	H
6	1.397	44.54	PK	29.4	-31.7	42.24	-	-	74	-31.76	0-360	200	V
7	1.994	42.74	PK	31.2	-31	42.94	-	-	74	-31.06	0-360	100	V
8	2.62	38.25	PK	32.1	-30.3	40.05	-	-	74	-33.95	0-360	200	V

PK – Peak Detector

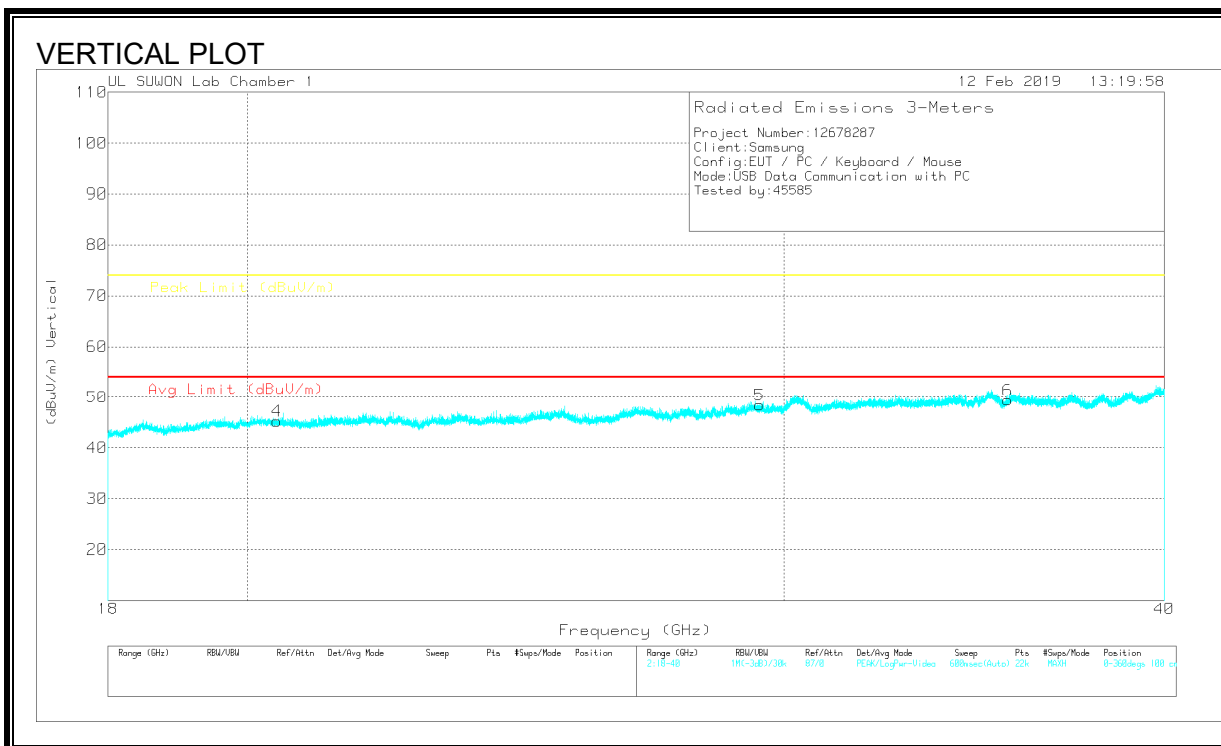
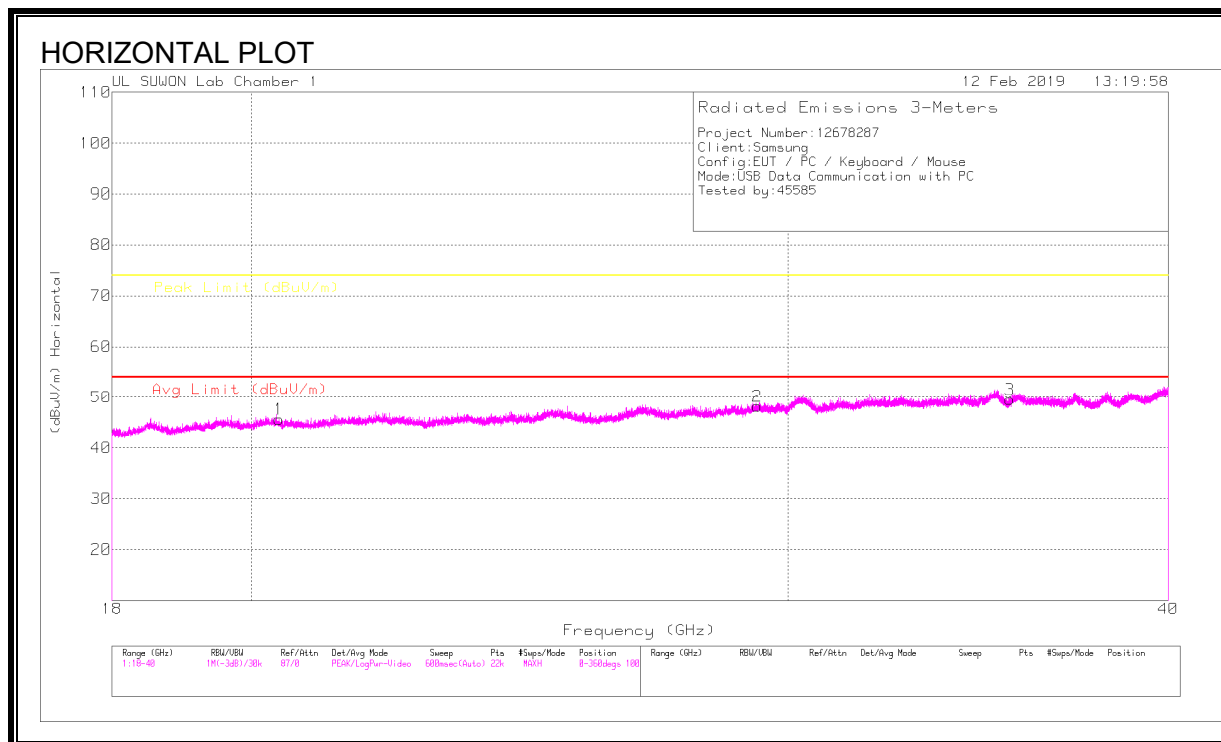
Radiated Emissions

Frequency (GHz)	Meter Reading (dBuV)	Det	3117_00168724	1-18GHz[dB]	Corrected Reading dBuV/m	Class B Avg Limit (dBuV/m)	Margin (dB)	Class B Pk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1.997	65.98	Pk	31.2	-31.1	66.08	-	-	74	-7.92	0	109	H
1.997	26.02	Ca	31.2	-31.1	26.12	54	-27.88	-	-	0	109	H
2.495	60	Pk	31.9	-30.2	61.7	-	-	74	-12.3	0	147	H
2.495	28.74	Ca	31.9	-30.2	30.44	54	-23.56	-	-	0	147	H
2.66	47.91	Pk	32.1	-30.3	49.71	-	-	74	-24.29	0	118	H
2.66	37.95	Ca	32.1	-30.3	39.75	54	-14.25	-	-	0	118	H
3.015	47.07	Pk	32.5	-30.2	49.37	-	-	74	-24.63	0	158	H
3.015	24.53	Ca	32.5	-30.2	26.83	54	-27.17	-	-	0	158	H
4.989	48.56	Pk	34.1	-28.3	54.36	-	-	74	-19.64	0	200	H
4.989	23.91	Ca	34.1	-28.3	29.71	54	-24.29	-	-	0	200	H
1.399	50.42	Pk	29.4	-31.7	48.12	-	-	74	-25.88	0	313	V
1.399	31.08	Ca	29.4	-31.7	28.78	54	-25.22	-	-	0	313	V
1.998	52.41	Pk	31.2	-31	52.61	-	-	74	-21.39	0	327	V
1.998	25.5	Ca	31.2	-31	25.7	54	-28.3	-	-	0	327	V
2.666	45.5	Pk	32.1	-30.2	47.4	-	-	74	-26.6	0	208	V
2.666	32.8	Ca	32.1	-30.2	34.7	54	-19.3	-	-	0	208	V

Pk - Peak detector

Ca - CISPR average detection

RADIATED EMISSIONS 18GHz to 30GHz



HORIZONTAL AND VERTICAL DATA

Trace Markers

Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3116C-PA	18-40GHz[dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	20.425	20.95	PK	8.8	15.8	45.55	-	-	74	-28.45	0-360	100	H
2	29.314	15.33	PK	13.5	19.4	48.23	-	-	74	-25.77	0-360	100	H
3	35.49	15.79	PK	12.3	21.5	49.59	-	-	74	-24.41	0-360	100	H
4	20.456	20.51	PK	8.8	15.9	45.21	-	-	74	-28.79	0-360	100	V
5	29.457	15.41	PK	13.6	19.4	48.41	-	-	74	-25.59	0-360	100	V
6	35.534	15.6	PK	12.3	21.5	49.4	-	-	74	-24.6	0-360	100	V

PK – Peak Detector

Note: Only peak measurement was performed. Because peak measurement result of unwanted emission is less than average limit (54dBuV/m).

6.2. AC MAINS LINE CONDUCTED EMISSIONS

TEST PROCEDURE

ANSI C63.4: 2014

LIMIT

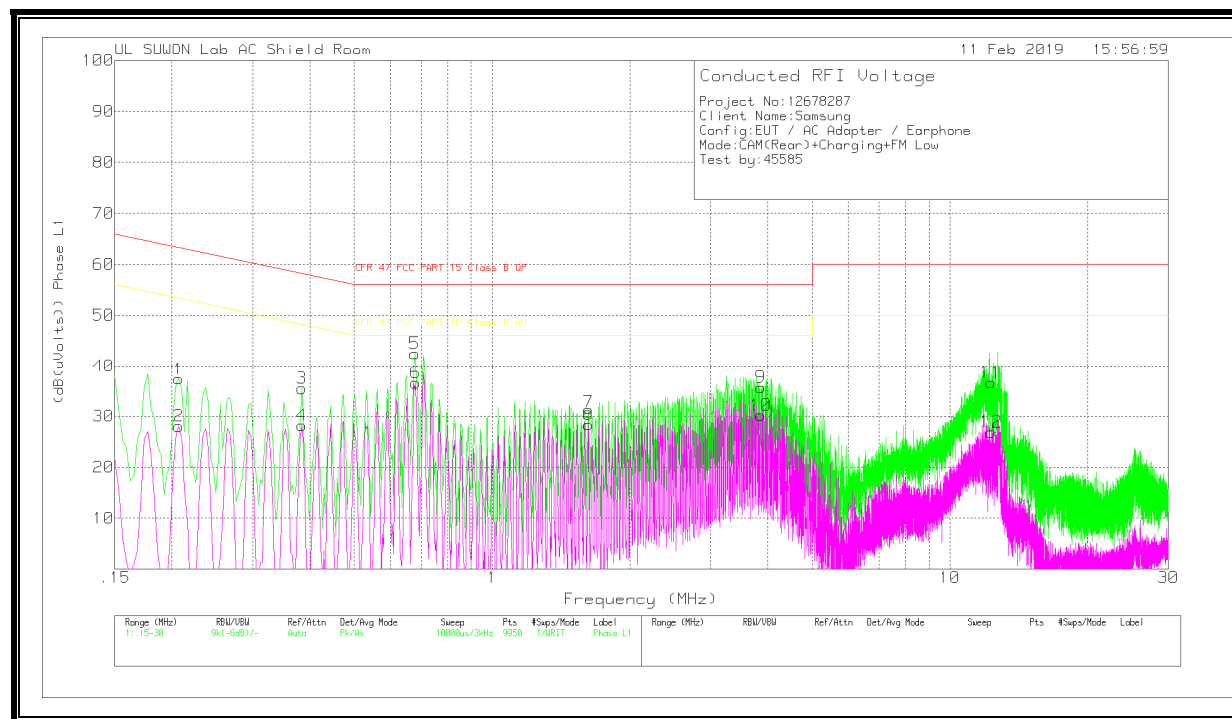
§15.107 (a) Except for Class A digital devices, for equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50 μ H/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 (dB μ V)	
	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.		

RESULTS

6 WORST EMISSIONS Test Case 1

Line-L1 .15 - 30MHz



LINE 1 RESULTS

Trace Markers

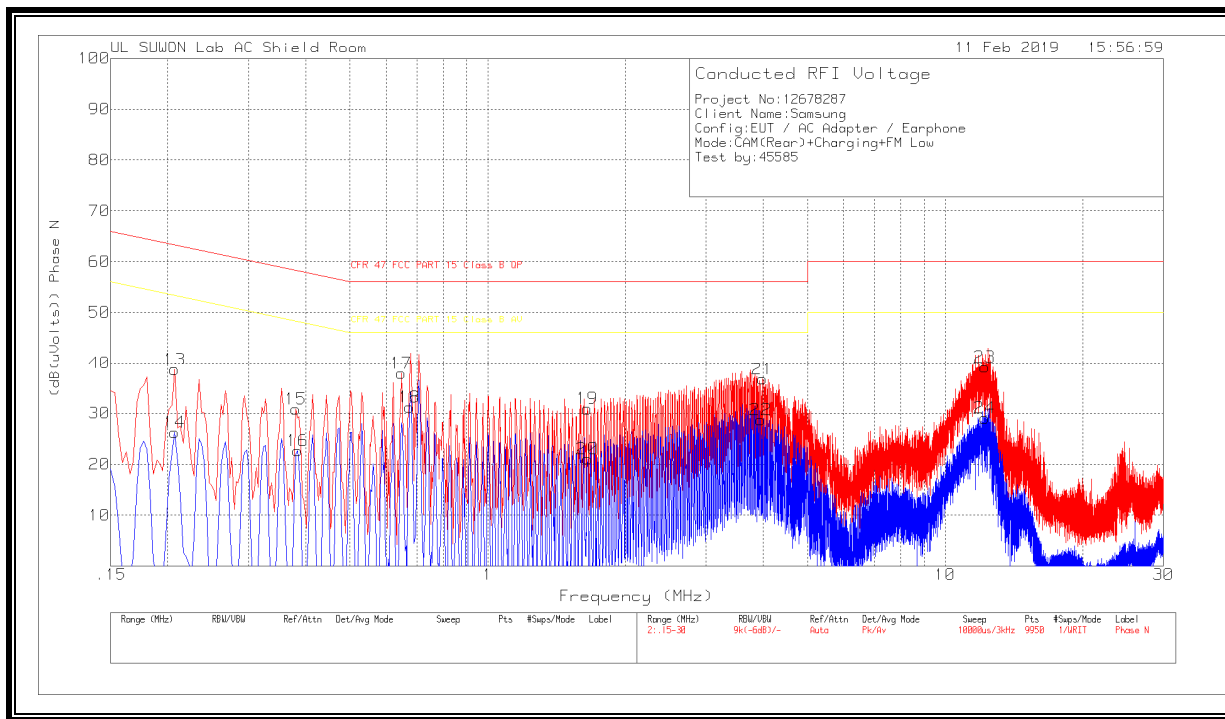
Range 1: Phase L1 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	ENV216_10183 6_With ex- cord_L1	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	.207	27.3	Pk	9.9	.2	37.4	63.32	-25.92	-	-
2	.207	17.95	Av	9.9	.2	28.05	-	-	53.32	-25.27
3	.384	25.38	Pk	9.9	.2	35.48	58.19	-22.71	-	-
4	.384	18.14	Av	9.9	.2	28.24	-	-	48.19	-19.95
5	.678	32.38	Pk	9.9	.2	42.48	56	-13.52	-	-
6	.681	26.49	Av	9.9	.2	36.59	-	-	46	-9.41
7	1.623	20.69	Pk	9.8	.3	30.79	56	-25.21	-	-
8	1.623	18.24	Av	9.8	.3	28.34	-	-	46	-17.66
9	3.867	25.6	Pk	9.8	.3	35.7	56	-20.3	-	-
10	3.861	20.07	Av	9.8	.3	30.17	-	-	46	-15.83
11	12.288	26.27	Pk	10.1	.3	36.67	60	-23.33	-	-
12	12.306	16.51	Av	10.1	.3	26.91	-	-	50	-23.09

Pk - Peak detector

Av - Average detection

Line-L2 .15 - 30MHz



LINE 2 RESULTS

Trace Markers

Range 2: Phase N .15 - 30MHz

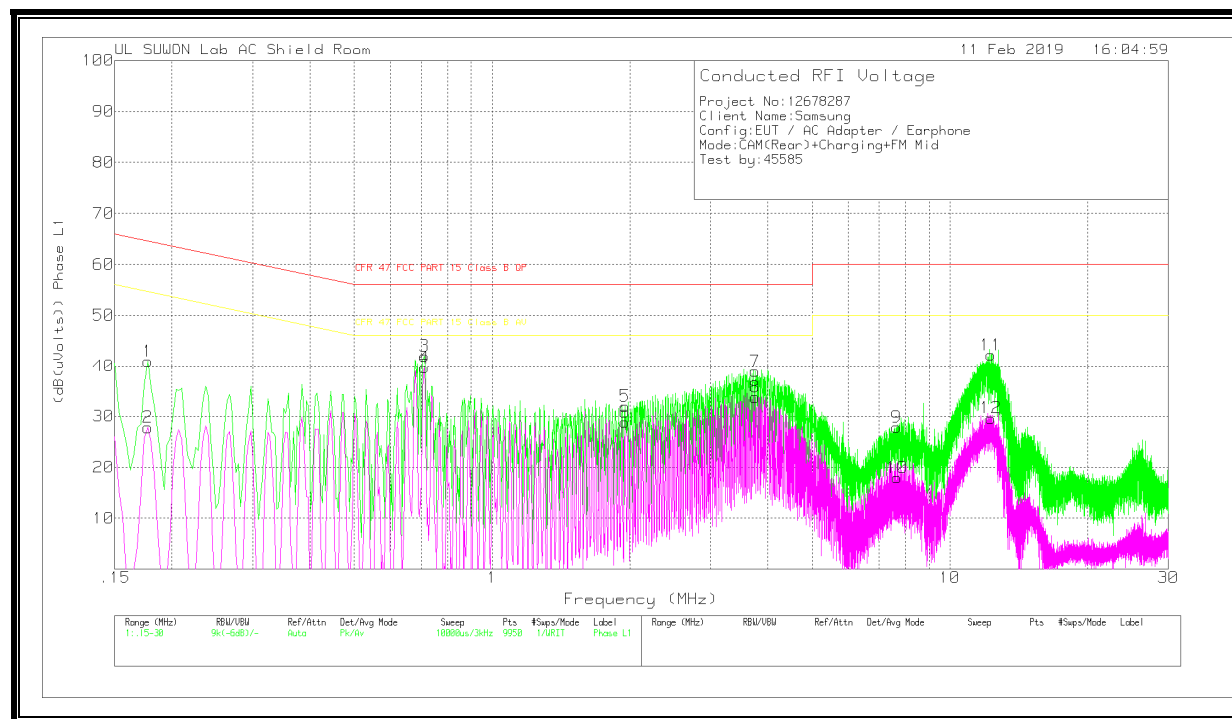
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	ENV216_10183 6_With ex- cord_N	CABLELOSS(dB)	Corrected Reading (dB(uVolts))	CFR 47 FCC PART 15 Class B QP	Margin (dB)	CFR 47 FCC PART 15 Class B AV	Margin (dB)
13	.207	28.68	Pk	9.8	.2	38.68	63.32	-24.64	-	-
14	.207	16.26	Av	9.8	.2	26.26	-	-	53.32	-27.06
15	.381	21.34	Pk	9.3	.2	30.84	58.26	-27.42	-	-
16	.384	13.12	Av	9.3	.2	22.62	-	-	48.19	-25.57
17	.648	27.82	Pk	9.9	.2	37.92	56	-18.08	-	-
18	.675	21.11	Av	9.9	.2	31.21	-	-	46	-14.79
19	1.65	20.9	Pk	9.7	.3	30.9	56	-25.1	-	-
20	1.653	11.05	Av	9.7	.3	21.05	-	-	46	-24.95
21	3.984	26.66	Pk	9.8	.3	36.76	56	-19.24	-	-
22	3.954	18.64	Av	9.8	.3	28.74	-	-	46	-17.26
23	12.21	28.76	Pk	10.1	.3	39.16	60	-20.84	-	-
24	12.207	18.65	Av	10.1	.3	29.05	-	-	50	-20.95

Pk - Peak detector

Av - Average detection

6 WORST EMISSIONS Test Case 2

Line-L1 .15 - 30MHz



LINE 1 RESULTS

Trace Markers

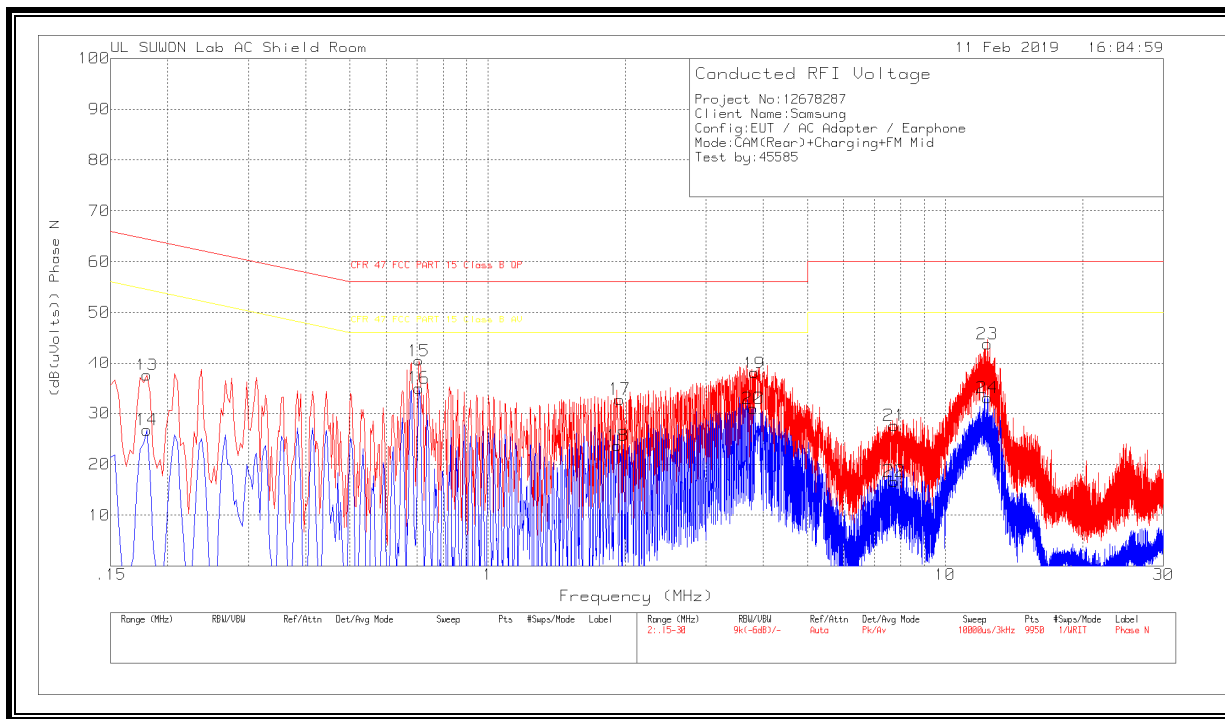
Range 1: Phase L1 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	ENV216_10183 6_With ex- cord_L1	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	.177	30.77	Pk	10	.2	40.97	64.63	-23.66	-	-
2	.177	17.6	Av	10	.2	27.8	-	-	54.63	-26.83
3	.711	31.9	Pk	9.9	.2	42	56	-14	-	-
4	.711	29.53	Av	9.9	.2	39.63	-	-	46	-6.37
5	1.95	21.87	Pk	9.8	.3	31.97	56	-24.03	-	-
6	1.95	18.79	Av	9.8	.3	28.89	-	-	46	-17.11
7	3.75	28.81	Pk	9.8	.3	38.91	56	-17.09	-	-
8	3.75	23.64	Av	9.8	.3	33.74	-	-	46	-12.26
9	7.644	17.66	Pk	9.9	.3	27.86	60	-32.14	-	-
10	7.671	7.77	Av	9.9	.3	17.97	-	-	50	-32.03
11	12.288	31.79	Pk	10.1	.3	42.19	60	-17.81	-	-
12	12.288	19.25	Av	10.1	.3	29.65	-	-	50	-20.35

Pk - Peak detector

Av - Average detection

Line-L2 .15 - 30MHz



LINE 2 RESULTS

Trace Markers

Range 2: Phase N .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	ENV216_10183 6_With ex- cord_N	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	.18	27.36	Pk	10	.2	37.56	64.49	-26.93	-	-
14	.18	16.5	Av	10	.2	26.7	-	-	54.49	-27.79
15	.708	30.39	Pk	9.9	.2	40.49	56	-15.51	-	-
16	.708	24.84	Av	9.9	.2	34.94	-	-	46	-11.06
17	1.947	22.71	Pk	9.7	.3	32.71	56	-23.29	-	-
18	1.923	13.62	Av	9.7	.3	23.62	-	-	46	-22.38
19	3.825	27.91	Pk	9.8	.3	38.01	56	-17.99	-	-
20	3.807	20.84	Av	9.8	.3	30.94	-	-	46	-15.06
21	7.734	17.42	Pk	9.9	.3	27.62	60	-32.38	-	-
22	7.734	6.44	Av	9.9	.3	16.64	-	-	50	-33.36
23	12.357	33.43	Pk	10.1	.3	43.83	60	-16.17	-	-
24	12.36	22.63	Av	10.1	.3	33.03	-	-	50	-16.97

Pk - Peak detector

Av - Average detection

LINE 1 RESULTS

Trace Markers

Range 1: Phase L1 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	ENV216_10183 6_With ex-cord_L1	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	.195	36.13	Pk	9.9	.2	46.23	63.82	-17.59	-	-
2	.195	21.89	Av	9.9	.2	31.99	-	-	53.82	-21.83
3	.351	29.65	Pk	9.9	.2	39.75	58.94	-19.19	-	-
4	.351	16.77	Av	9.9	.2	26.87	-	-	48.94	-22.07
5	.72	33.56	Pk	9.9	.2	43.66	56	-12.34	-	-
6	.723	22.19	Av	9.9	.2	32.29	-	-	46	-13.71
7	2.484	27.14	Pk	10	.3	37.44	56	-18.56	-	-
8	2.484	17.97	Av	10	.3	28.27	-	-	46	-17.73
9	4.095	32.16	Pk	9.8	.3	42.26	56	-13.74	-	-
10	4.104	22.24	Av	9.8	.3	32.34	-	-	46	-13.66
11	12.654	38.97	Pk	10.1	.3	49.37	60	-10.63	-	-
12	12.663	26.33	Av	10.1	.3	36.73	-	-	50	-13.27

Pk - Peak detector

Av - Average detection

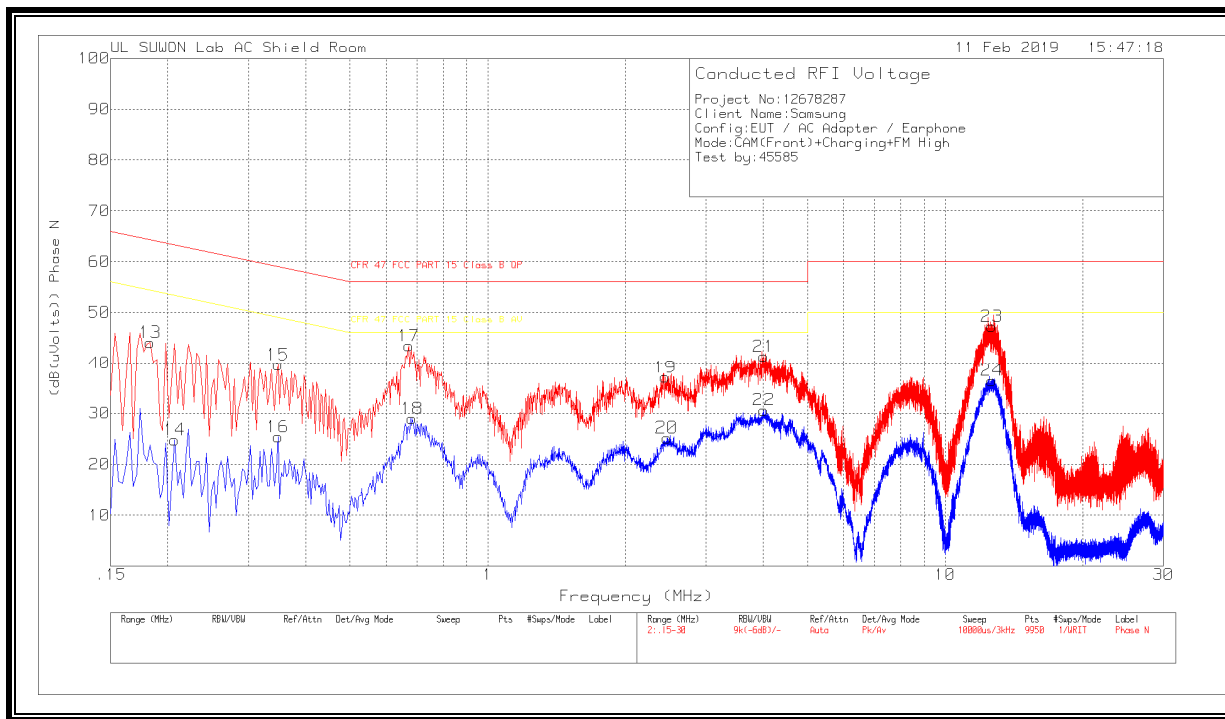
Quasi-Peak Emissions

Range 1: Phase L1 .15 - 30MHz

Frequency (MHz)	Meter Reading (dBuV)	Det	ENV216_101836 _With ex-cord_L1	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)
12.6542	32.47	Qp	10.1	.3	42.87	60	-17.13	-	-
12.6632	32.51	Qp	10.1	.3	42.91	60	-17.09	-	-

Qp - Quasi-Peak detector

Line-L2 .15 - 30MHz



LINE 2 RESULTS

Trace Markers

Range 2: Phase N .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	ENV216_101836_With ex-cord_N	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	.183	33.88	Pk	10	.2	44.08	64.35	-20.27	-	-
14	.207	14.79	Av	9.8	.2	24.79	-	-	53.32	-28.53
15	.348	29.64	Pk	9.8	.2	39.64	59.01	-19.37	-	-
16	.348	15.39	Av	9.8	.2	25.39	-	-	49.01	-23.62
17	.672	33.31	Pk	9.9	.2	43.41	56	-12.59	-	-
18	.684	18.87	Av	9.9	.2	28.97	-	-	46	-17.03
19	2.445	27.13	Pk	9.7	.3	37.13	56	-18.87	-	-
20	2.463	15.18	Av	9.7	.3	25.18	-	-	46	-20.82
21	4.014	31.22	Pk	9.8	.3	41.32	56	-14.68	-	-
22	4.017	20.54	Av	9.8	.3	30.64	-	-	46	-15.36
23	12.654	36.87	Pk	10.1	.3	47.27	60	-12.73	-	-
24	12.657	26.05	Av	10.1	.3	36.45	-	-	50	-13.55

Pk - Peak detector

Av - Average detection

Quasi-Peak Emissions

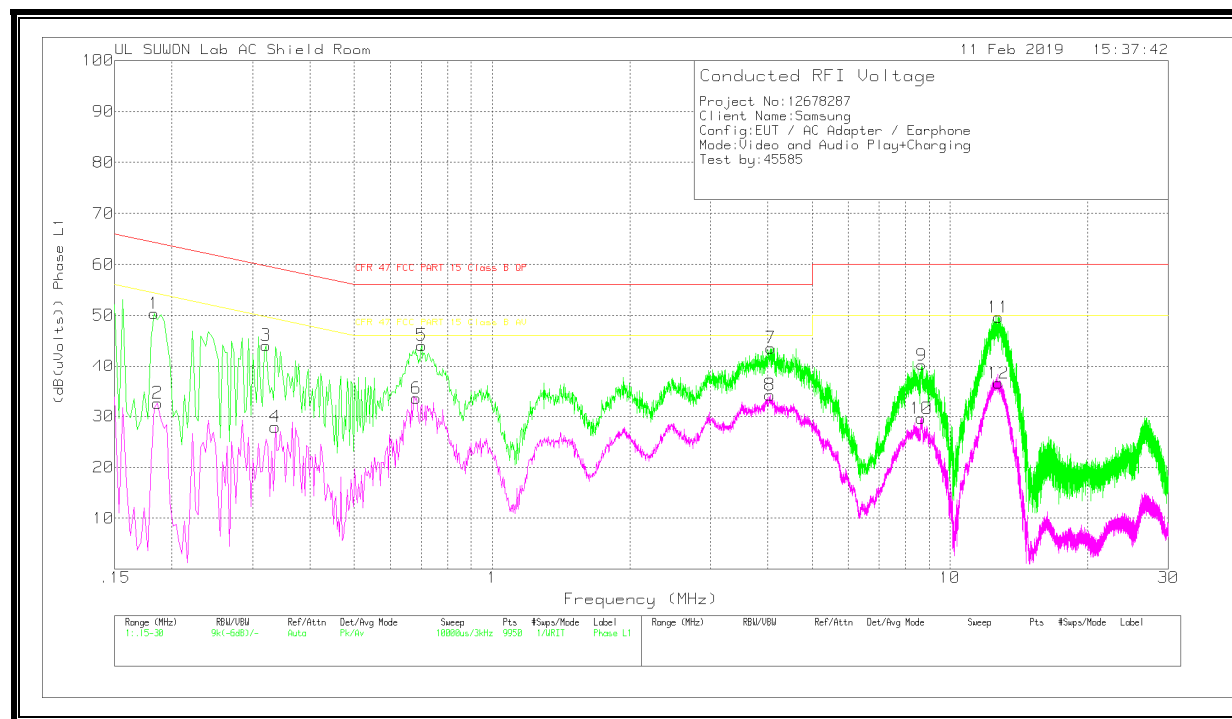
Range 2: Phase N .15 - 30MHz

Frequency (MHz)	Meter Reading (dBuV)	Det	ENV216_101836_With ex-cord_N	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)
12.6533	31.3	Qp	10.1	.3	41.7	60	-18.3	-	-
12.6563	30.87	Qp	10.1	.3	41.27	60	-18.73	-	-

Qp - Quasi-Peak detector

6 WORST EMISSIONS Test Case 4

Line-L1 .15 - 30MHz



LINE 1 RESULTS

Trace Markers

Range 1: Phase L1 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	ENV216_10183 6_With ex-cord_L1	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	.183	40.13	Pk	10	.2	50.33	64.35	-14.02	-	-
2	.186	22.4	Av	10	.2	32.6	-	-	54.21	-21.61
3	.321	34.1	Pk	9.8	.2	44.1	59.68	-15.58	-	-
4	.336	17.92	Av	9.8	.2	27.92	-	-	49.3	-21.38
5	.702	34.01	Pk	9.9	.2	44.11	56	-11.89	-	-
6	.684	23.44	Av	9.9	.2	33.54	-	-	46	-12.46
7	4.059	33.52	Pk	9.8	.3	43.62	56	-12.38	-	-
8	4.044	24.09	Av	9.8	.3	34.19	-	-	46	-11.81
9	8.667	29.94	Pk	9.9	.4	40.24	60	-19.76	-	-
10	8.661	19.29	Av	9.9	.4	29.59	-	-	50	-20.41
11	12.765	39.21	Pk	10.1	.3	49.61	60	-10.39	-	-
12	12.768	26.12	Av	10.1	.3	36.52	-	-	50	-13.48

Pk - Peak detector

Av - Average detection

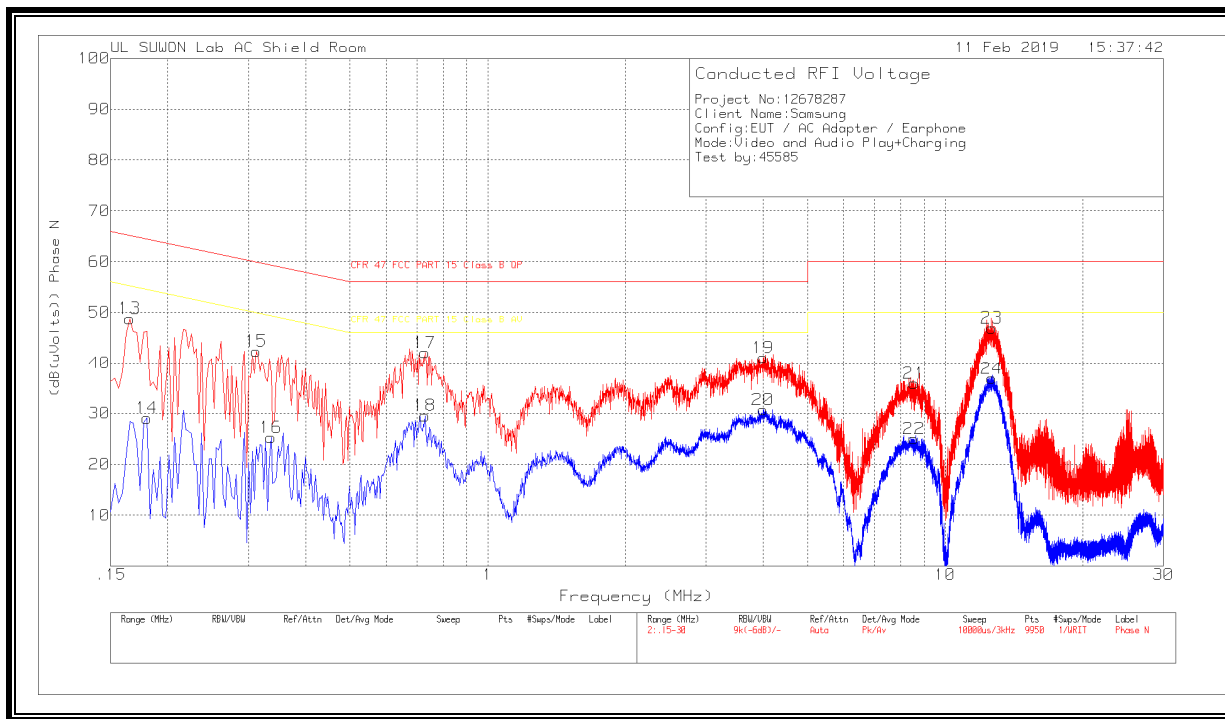
Quasi-Peak Emissions

Range 1: Phase L1 .15 - 30MHz

Frequency (MHz)	Meter Reading (dBuV)	Det	ENV216_101836 _With ex-cord_L1	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)
12.7643	31.5	Qp	10.1	.3	41.9	60	-18.1	-	-
12.7673	31.52	Qp	10.1	.3	41.92	60	-18.08	-	-

Qp - Quasi-Peak detector

Line-L2 .15 - 30MHz



LINE 2 RESULTS

Trace Markers

Range 2: Phase N .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	ENV216_101836_With ex-cord_N	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	.165	38.71	Pk	10	.1	48.81	65.21	-16.4	-	-
14	.18	18.84	Av	10	.2	29.04	-	-	54.49	-25.45
15	.312	32.37	Pk	9.8	.2	42.37	59.92	-17.55	-	-
16	.336	15.23	Av	9.8	.2	25.23	-	-	49.3	-24.07
17	.729	31.98	Pk	9.9	.2	42.08	56	-13.92	-	-
18	.729	19.43	Av	9.9	.2	29.53	-	-	46	-16.47
19	3.999	30.97	Pk	9.8	.3	41.07	56	-14.93	-	-
20	3.996	20.61	Av	9.8	.3	30.71	-	-	46	-15.29
21	8.553	25.69	Pk	9.9	.3	35.89	60	-24.11	-	-
22	8.55	14.83	Av	9.9	.3	25.03	-	-	50	-24.97
23	12.648	36.55	Pk	10.1	.3	46.95	60	-13.05	-	-
24	12.645	26.47	Av	10.1	.3	36.87	-	-	50	-13.13

Pk - Peak detector

Av - Average detection

Quasi-Peak Emissions

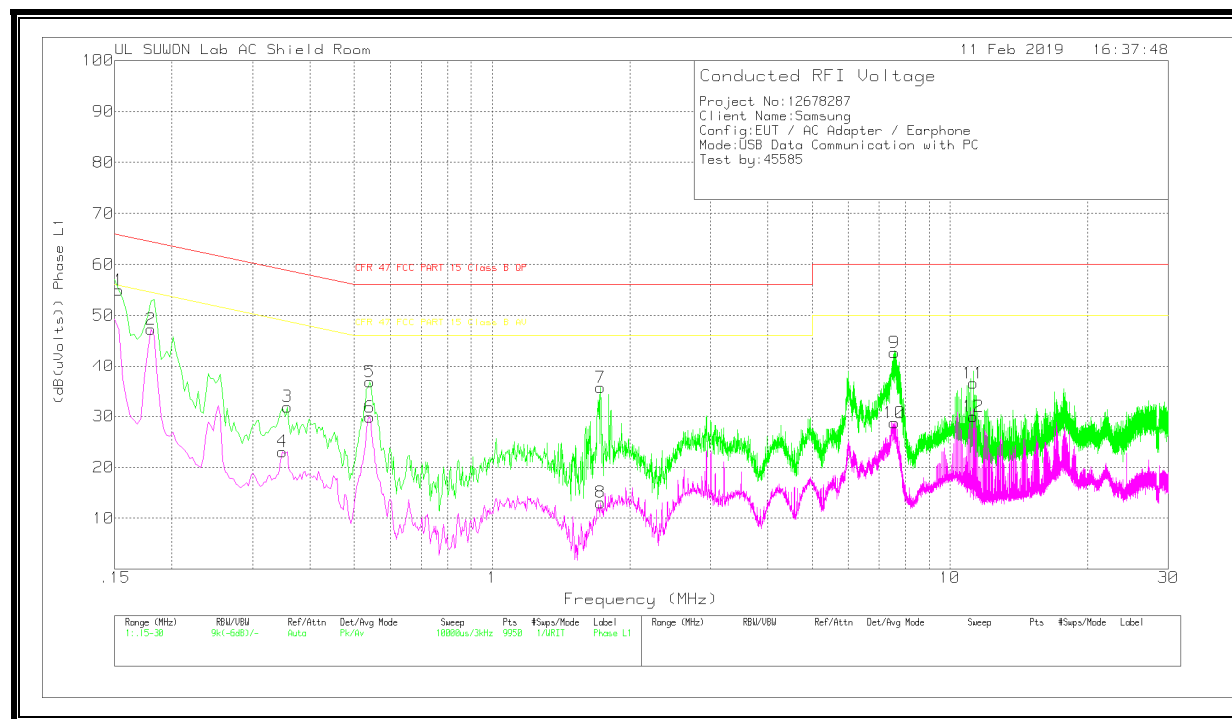
Range 2: Phase N .15 - 30MHz

Frequency (MHz)	Meter Reading (dBuV)	Det	ENV216_101836_With ex-cord_N	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)
12.6488	30.77	Qp	10.1	.3	41.17	60	-18.83	-	-
12.6443	30.49	Qp	10.1	.3	40.89	60	-19.11	-	-

Qp - Quasi-Peak detector

6 WORST EMISSIONS Test Case 5

Line-L1 .15 - 30MHz



LINE 1 RESULTS

Trace Markers

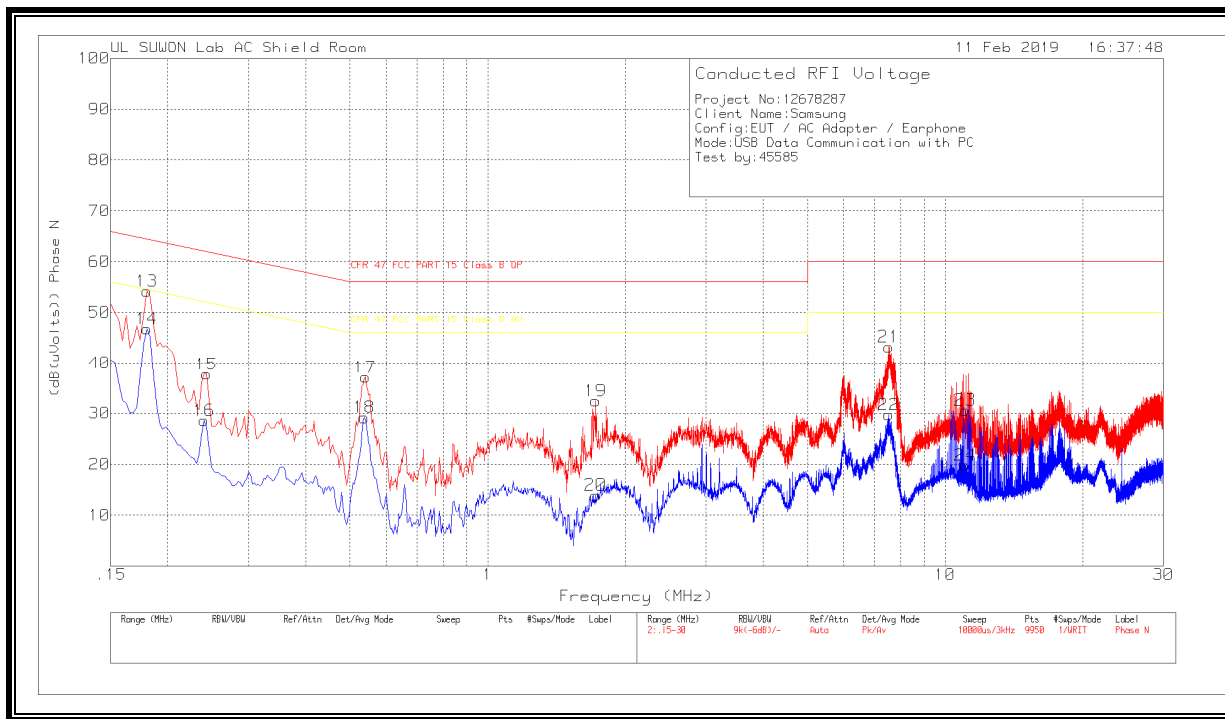
Range 1: Phase L1 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	ENV216_10183 6_With ex- cord_L1	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	.153	45.06	Pk	9.8	.1	54.96	65.84	-10.88	-	-
2	.18	37.04	Av	10	.2	47.24	-	-	54.49	-7.25
3	.357	21.77	Pk	9.9	.2	31.87	58.8	-26.93	-	-
4	.348	12.98	Av	9.9	.2	23.08	-	-	49.01	-25.93
5	.54	26.7	Pk	9.9	.2	36.8	56	-19.2	-	-
6	.54	19.73	Av	9.9	.2	29.83	-	-	46	-16.17
7	1.725	25.56	Pk	9.8	.3	35.66	56	-20.34	-	-
8	1.725	2.98	Av	9.8	.3	13.08	-	-	46	-32.92
9	7.563	32.46	Pk	9.9	.3	42.66	60	-17.34	-	-
10	7.563	18.53	Av	9.9	.3	28.73	-	-	50	-21.27
11	11.238	26.08	Pk	10.1	.3	36.48	60	-23.52	-	-
12	11.238	19.52	Av	10.1	.3	29.92	-	-	50	-20.08

Pk - Peak detector

Av - Average detection

Line-L2 .15 - 30MHz



LINE 2 RESULTS

Trace Markers

Range 2: Phase N .15 - 30MHz

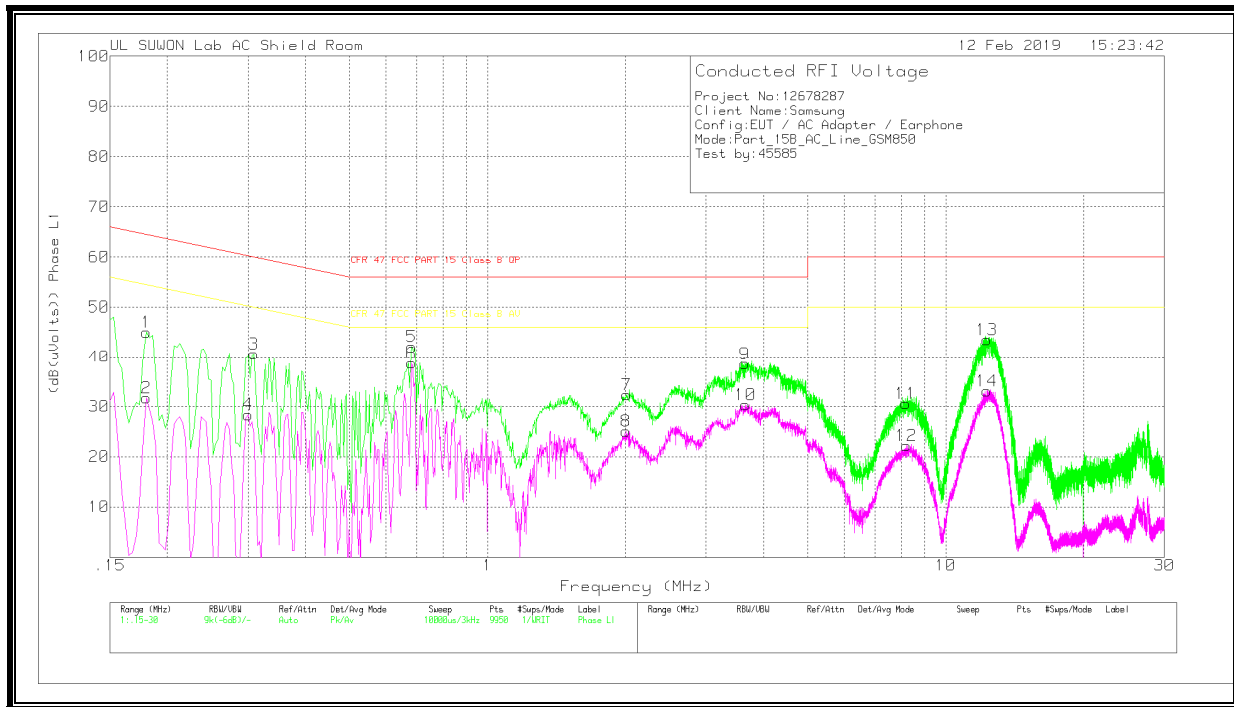
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	ENV216_10183 6_With ex- cord_N	CABLELOSS(dB)	Corrected Reading (dB(uVolts))	CFR 47 FCC PART 15 Class B QP	Margin (dB)	CFR 47 FCC PART 15 Class B AV	Margin (dB)
13	.18	43.96	Pk	10	.2	54.16	64.49	-10.33	-	-
14	.18	36.57	Av	10	.2	46.77	-	-	54.49	-7.72
15	.243	27.86	Pk	9.7	.2	37.76	61.99	-24.23	-	-
16	.24	18.68	Av	9.7	.2	28.58	-	-	52.1	-23.52
17	.54	27.01	Pk	9.9	.2	37.11	56	-18.89	-	-
18	.537	19.07	Av	9.9	.2	29.17	-	-	46	-16.83
19	1.722	22.39	Pk	9.7	.3	32.39	56	-23.61	-	-
20	1.722	3.92	Av	9.7	.3	13.92	-	-	46	-32.08
21	7.521	33.02	Pk	9.9	.3	43.22	60	-16.78	-	-
22	7.521	19.49	Av	9.9	.3	29.69	-	-	50	-20.31
23	11.079	20.22	Pk	10.1	.3	30.62	60	-29.38	-	-
24	11.064	9.38	Av	10.1	.3	19.78	-	-	50	-30.22

Pk - Peak detector

Av - Average detection

6 WORST EMISSIONS Test Case 6

Line-L1 .15 - 30MHz



LINE 1 RESULTS

Trace Markers

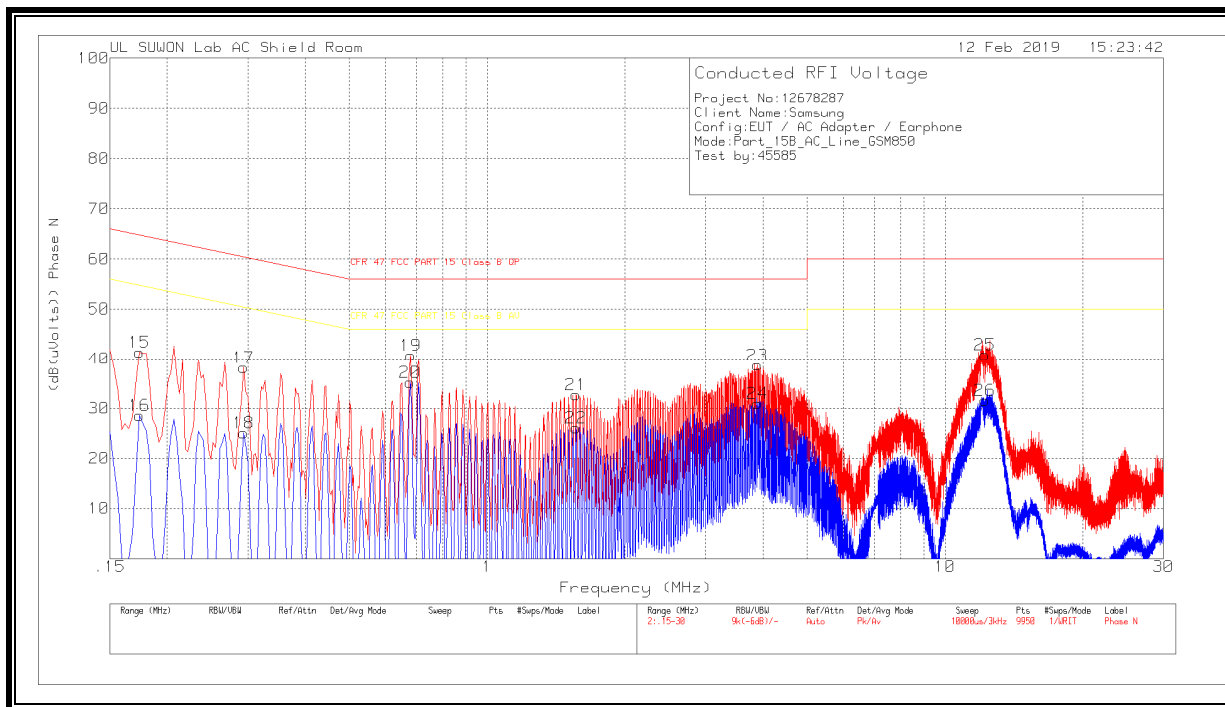
Range 1: Phase L1 .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	ENV216_10183 6_With ex- cord_L1	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	.18	34.84	Pk	10	.2	45.04	64.49	-19.45	-	-
2	.18	21.47	Av	10	.2	31.67	-	-	54.49	-22.82
3	.309	30.58	Pk	9.8	.2	40.58	60	-19.42	-	-
4	.3	18.41	Av	9.8	.2	28.41	-	-	50.24	-21.83
5	.684	31.95	Pk	9.9	.2	42.05	56	-13.95	-	-
6	.684	28.64	Av	9.9	.2	38.74	-	-	46	-7.26
7	2.013	22.26	Pk	9.8	.3	32.36	56	-23.64	-	-
8	2.007	14.97	Av	9.8	.3	25.07	-	-	46	-20.93
9	3.642	28.44	Pk	9.9	.3	38.64	56	-17.36	-	-
10	3.651	20.13	Av	9.9	.3	30.33	-	-	46	-15.67
11	8.172	20.37	Pk	9.9	.3	30.57	60	-29.43	-	-
12	8.193	12	Av	9.9	.3	22.2	-	-	50	-27.8
13	12.285	33.12	Pk	10.1	.3	43.52	60	-16.48	-	-
14	12.279	22.75	Av	10.1	.3	33.15	-	-	50	-16.85

Pk - Peak detector

Av - Average detection

Line-L2 .15 - 30MHz



LINE 2 RESULTS

Trace Markers

Range 2: Phase N .15 - 30MHz

Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	ENV216_10183 6_With ex- cord_N	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)
15	.174	31.2	Pk	10	.2	41.4	64.77	-23.37	-	-
16	.174	18.4	Av	10	.2	28.6	-	-	54.77	-26.17
17	.294	28.38	Pk	9.7	.2	38.28	60.41	-22.13	-	-
18	.294	15.14	Av	9.7	.2	25.04	-	-	50.41	-25.37
19	.681	30.69	Pk	9.9	.2	40.79	56	-15.21	-	-
20	.678	25.11	Av	9.9	.2	35.21	-	-	46	-10.79
21	1.563	22.69	Pk	9.7	.3	32.69	56	-23.31	-	-
22	1.563	16.14	Av	9.7	.3	26.14	-	-	46	-19.86
23	3.897	28.66	Pk	9.8	.3	38.76	56	-17.24	-	-
24	3.897	20.91	Av	9.8	.3	31.01	-	-	46	-14.99
25	12.228	30.51	Pk	10.1	.3	40.91	60	-19.09	-	-
26	12.231	21.24	Av	10.1	.3	31.64	-	-	50	-18.36

Pk - Peak detector

Av - Average detection