



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-A305F/DS and SM-A305F

FCC ID: A3LSMA305F

REPORT NUMBER: 12678282-E8V1

ISSUE DATE: FEB 12, 2019

Prepared for
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129 SAMSUNG-RO, YEONGTONG-GU, SUWON-SI,
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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-A305F/DS and SM-A305F
SERIAL NUMBER: R38M10ETYCP
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

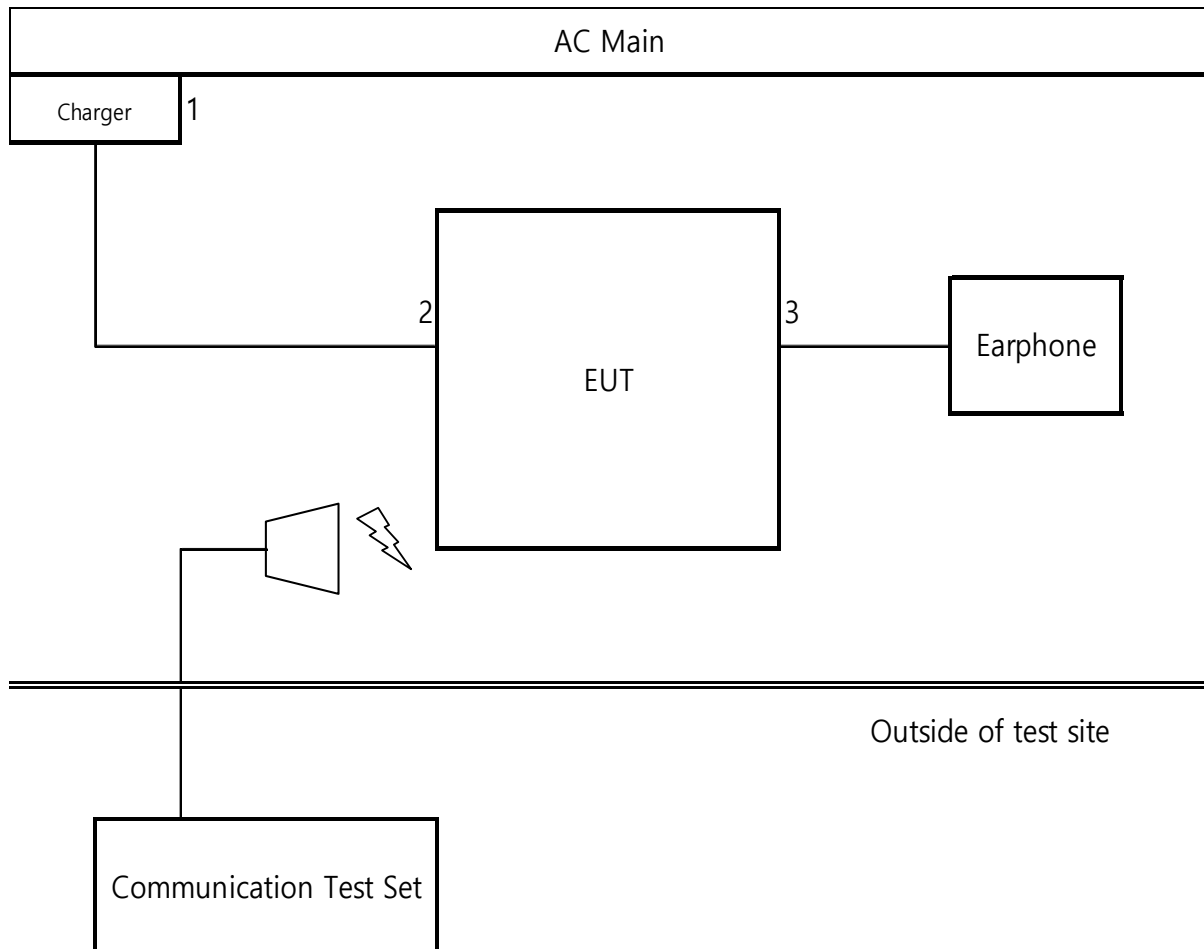
[DIAGRAM 2]

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)

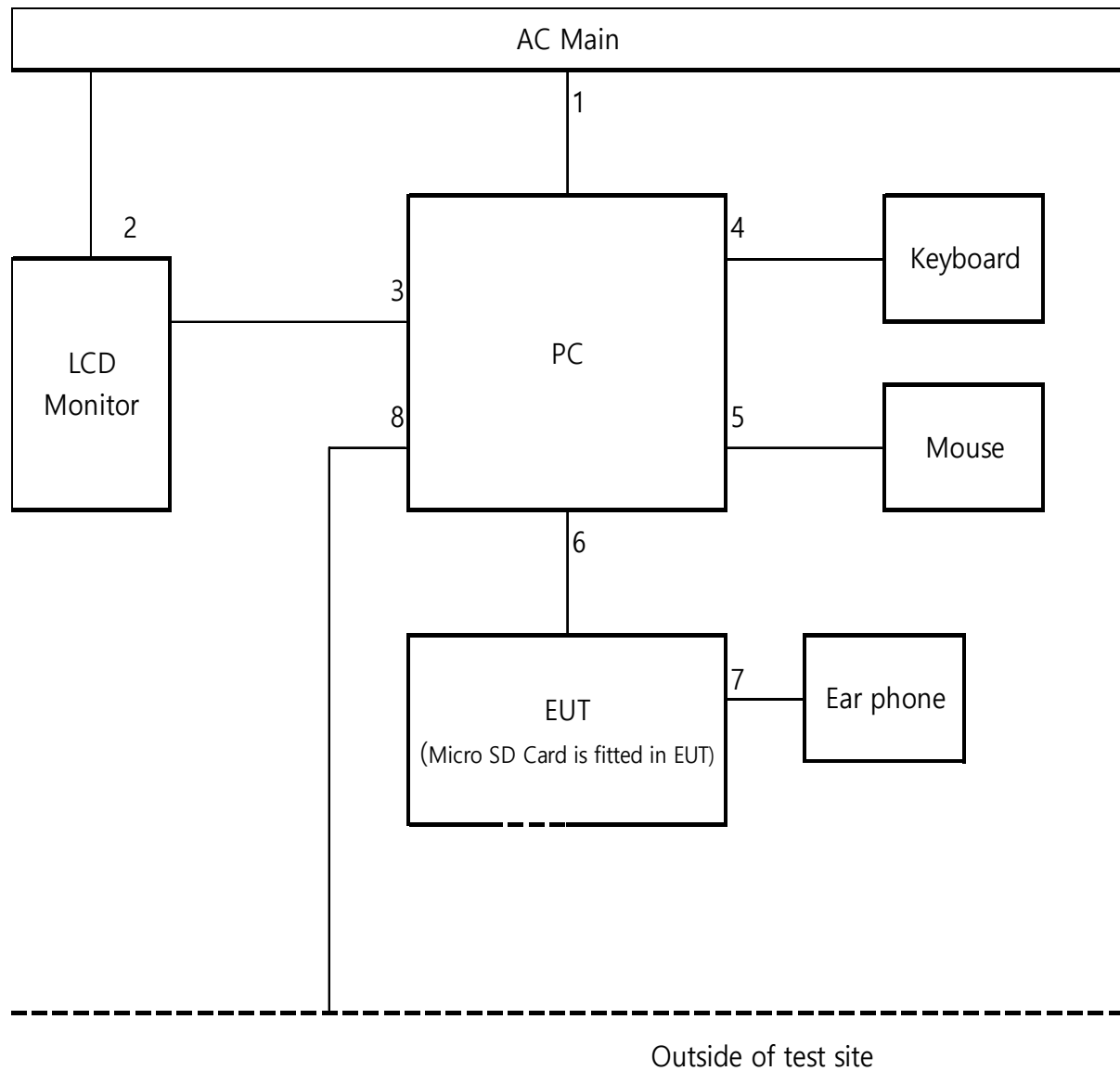
TEST SETUP

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.

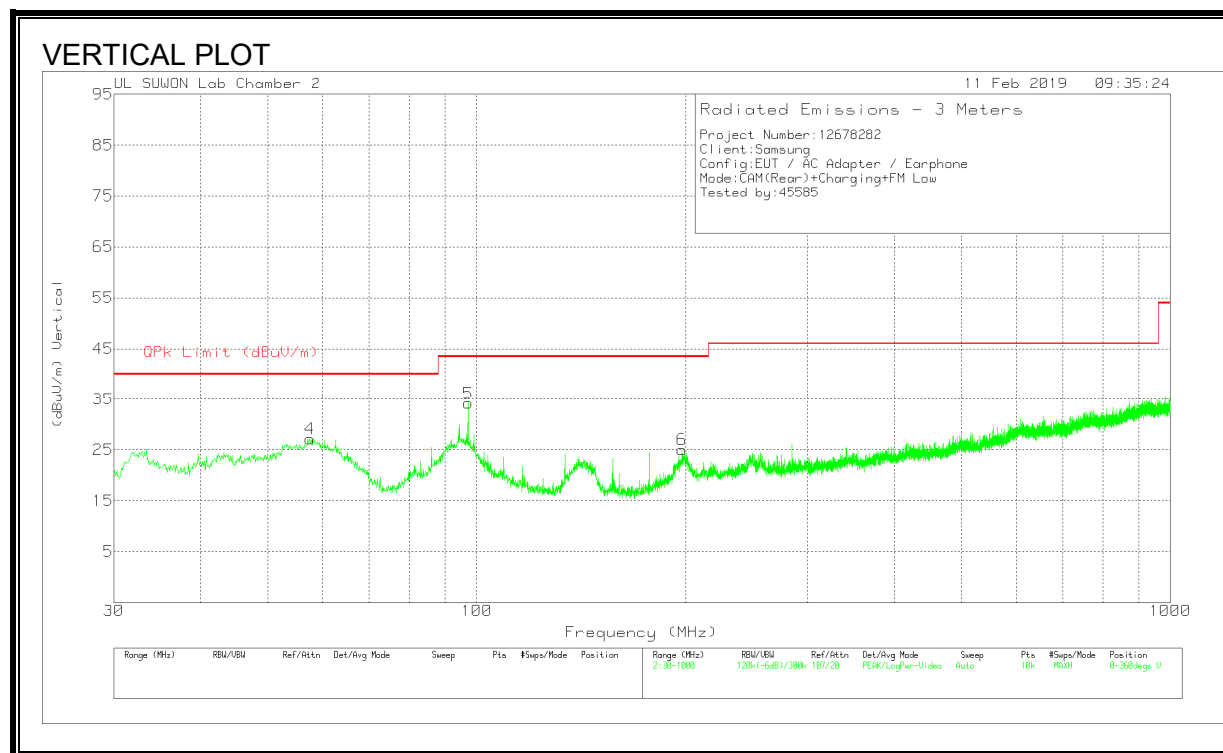
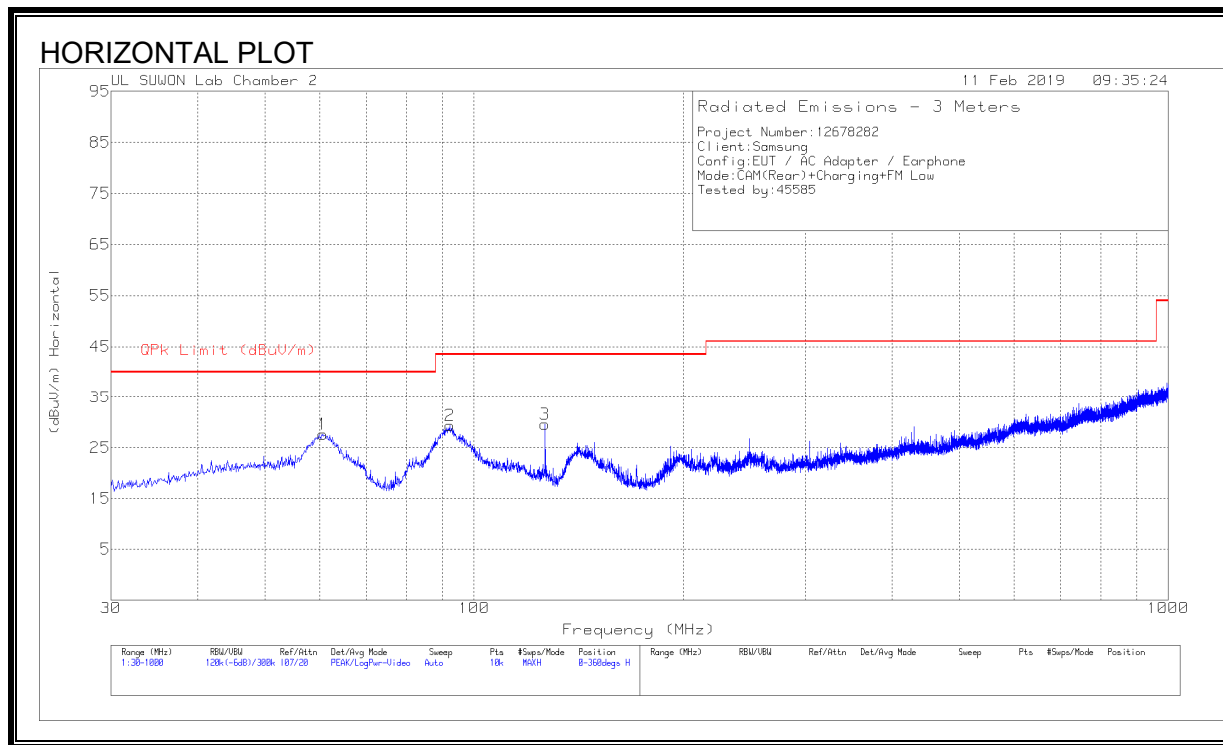
LIMIT

§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



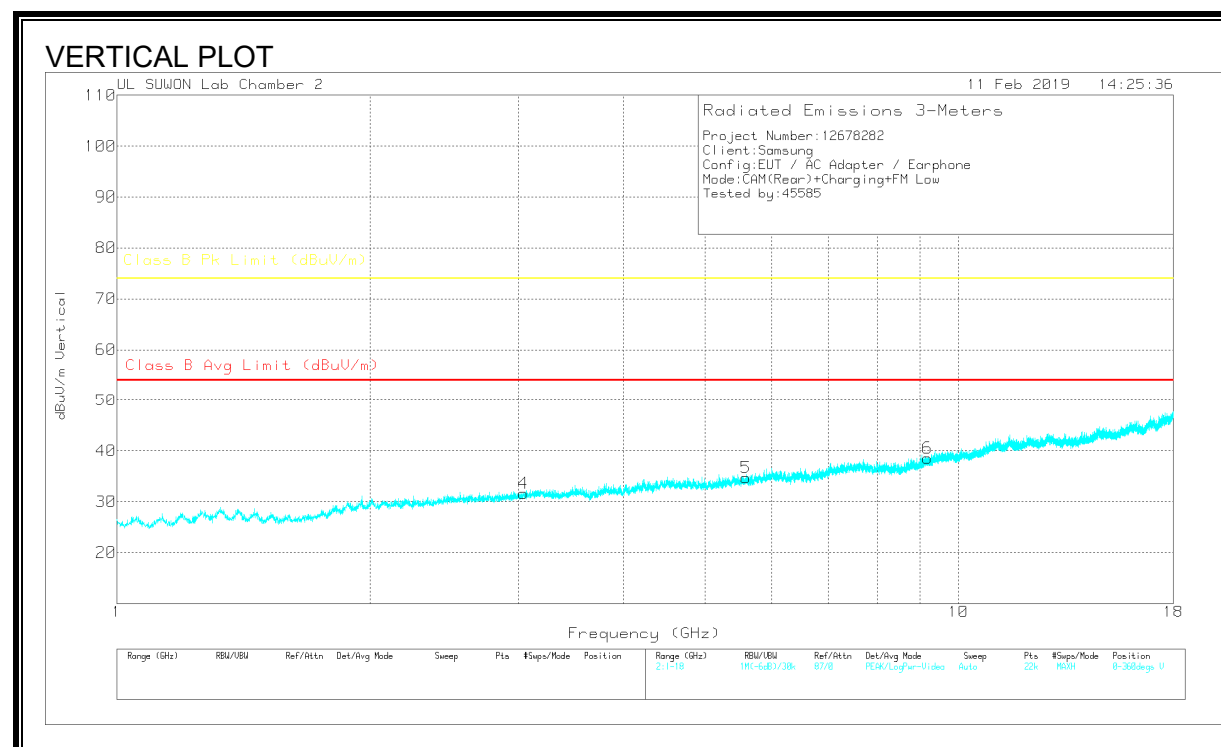
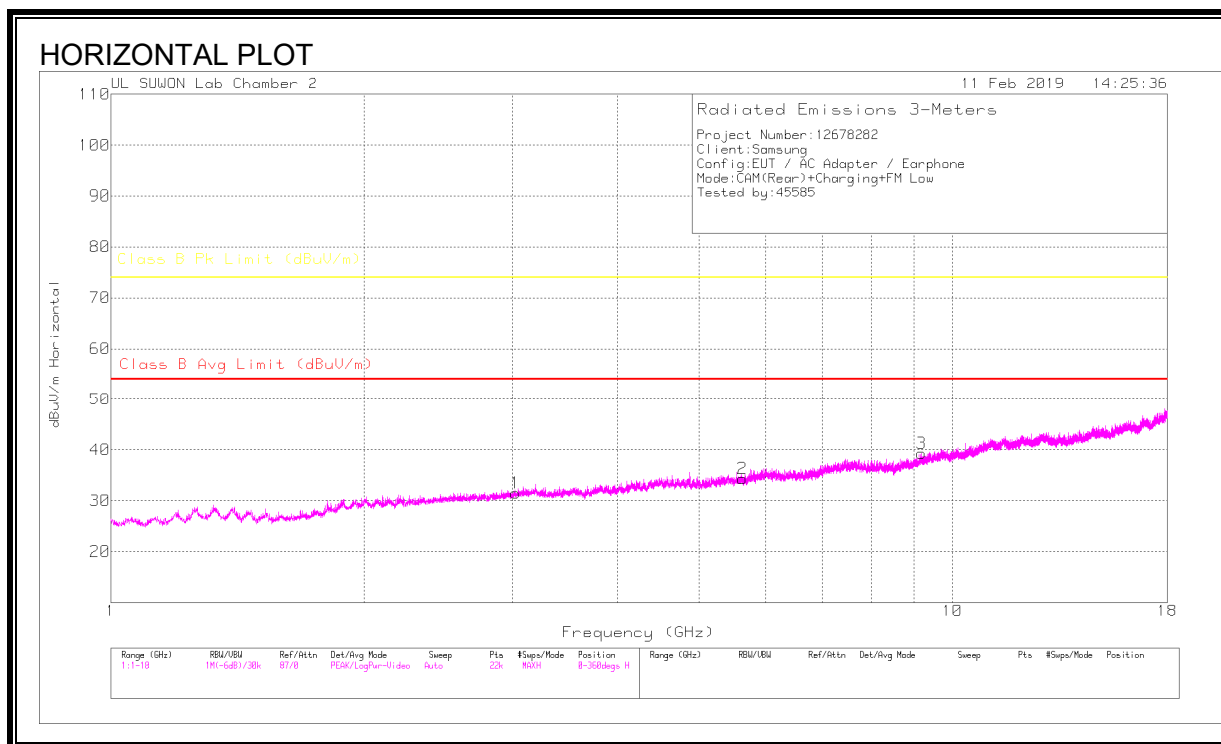
HORIZONTAL AND VERTICAL DATA

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	60.555	40.98	Pk	18.4	-31.7	27.68	40	-12.32	0-360	400	H
2	92.274	44.25	Pk	16.5	-31.4	29.35	43.52	-14.17	0-360	300	H
3	126.612	46.28	Pk	14.6	-31.3	29.58	43.52	-13.94	0-360	100	H
4	57.451	39.98	Pk	18.9	-31.8	27.08	40	-12.92	0-360	300	V
5	97.221	48.23	Pk	17.4	-31.5	34.13	43.52	-9.39	0-360	100	V
6	197.81	37.55	Pk	18.4	-30.9	25.05	43.52	-18.47	0-360	100	V

Pk - Peak detector

RADIATED EMISSIONS 1GHz to 18GHz



HORIZONTAL AND VERTICAL DATA

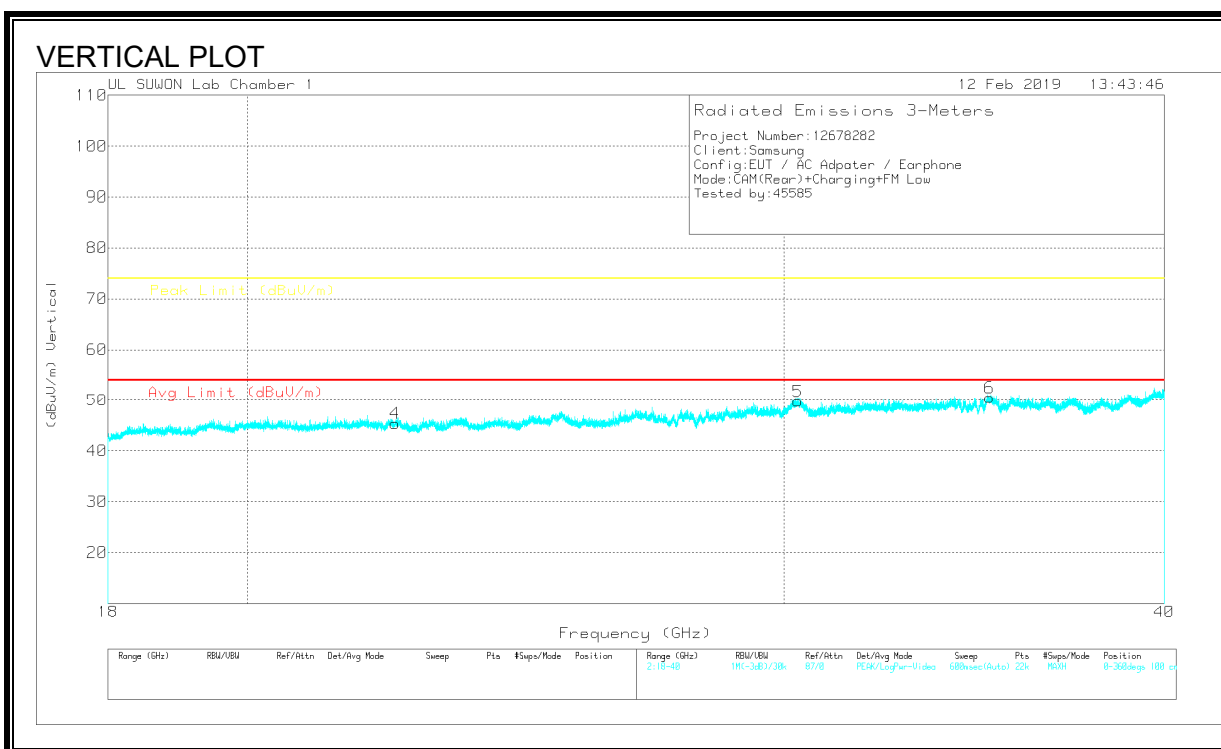
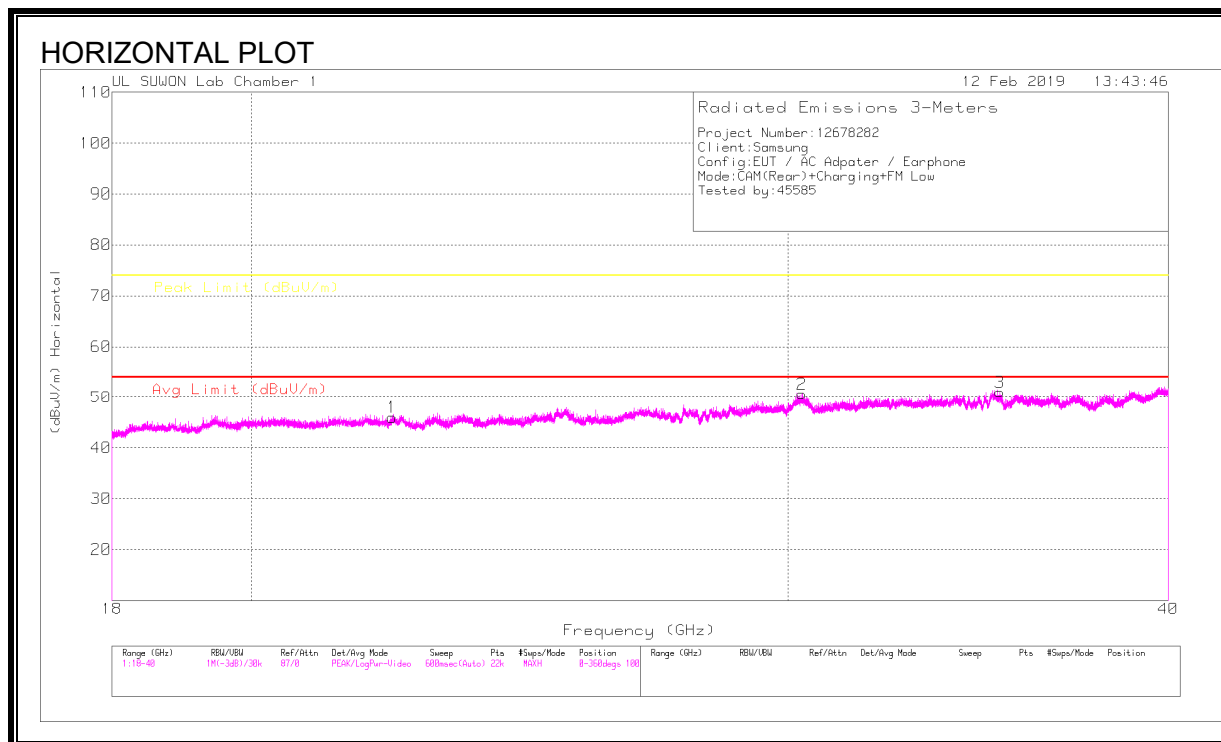
Trace Markers

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	3.028	28.99	PK	32.6	-30.1	31.49	-	-	74	-42.51	0-360	100	H
2	5.631	27.77	PK	34.6	-28	34.37	-	-	74	-39.63	0-360	100	H
3	9.185	25.72	PK	36.6	-23	39.32	-	-	74	-34.68	0-360	100	H
4	3.043	29.11	PK	32.6	-30.1	31.61	-	-	74	-42.39	0-360	100	V
5	5.592	27.9	PK	34.6	-27.8	34.7	-	-	74	-39.3	0-360	100	V
6	9.18	25.02	PK	36.6	-23.1	38.52	-	-	74	-35.48	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

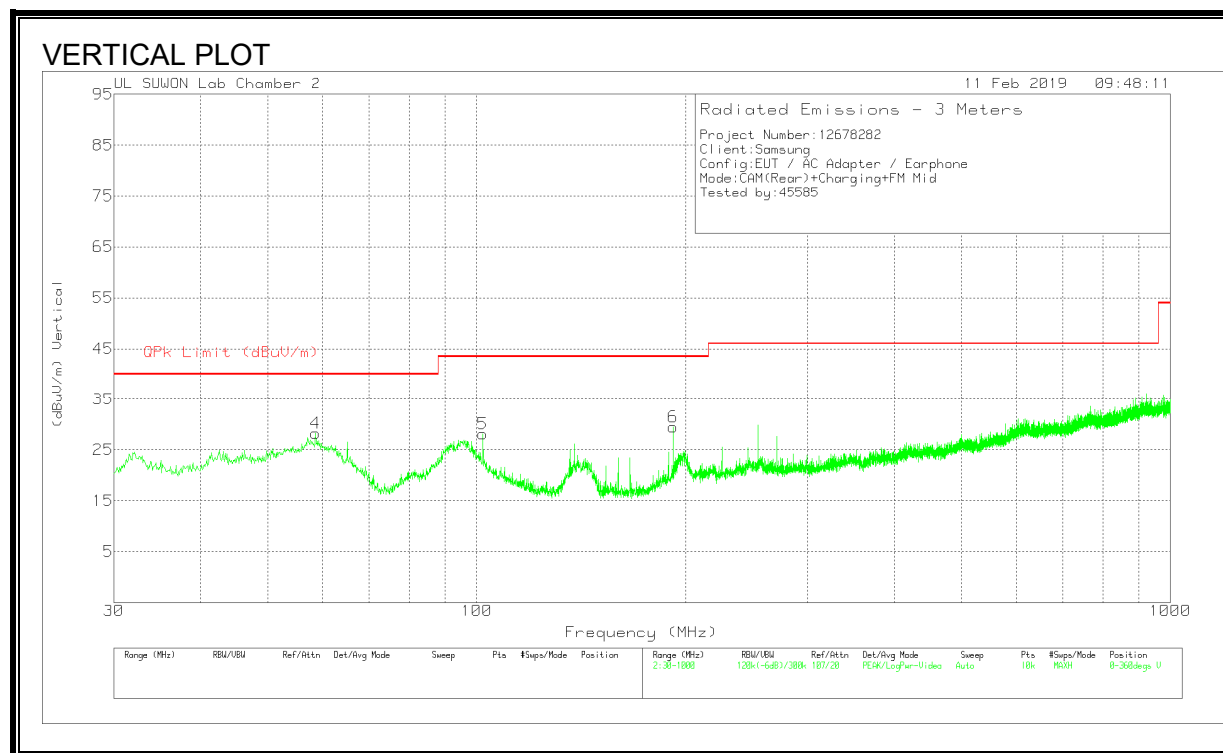
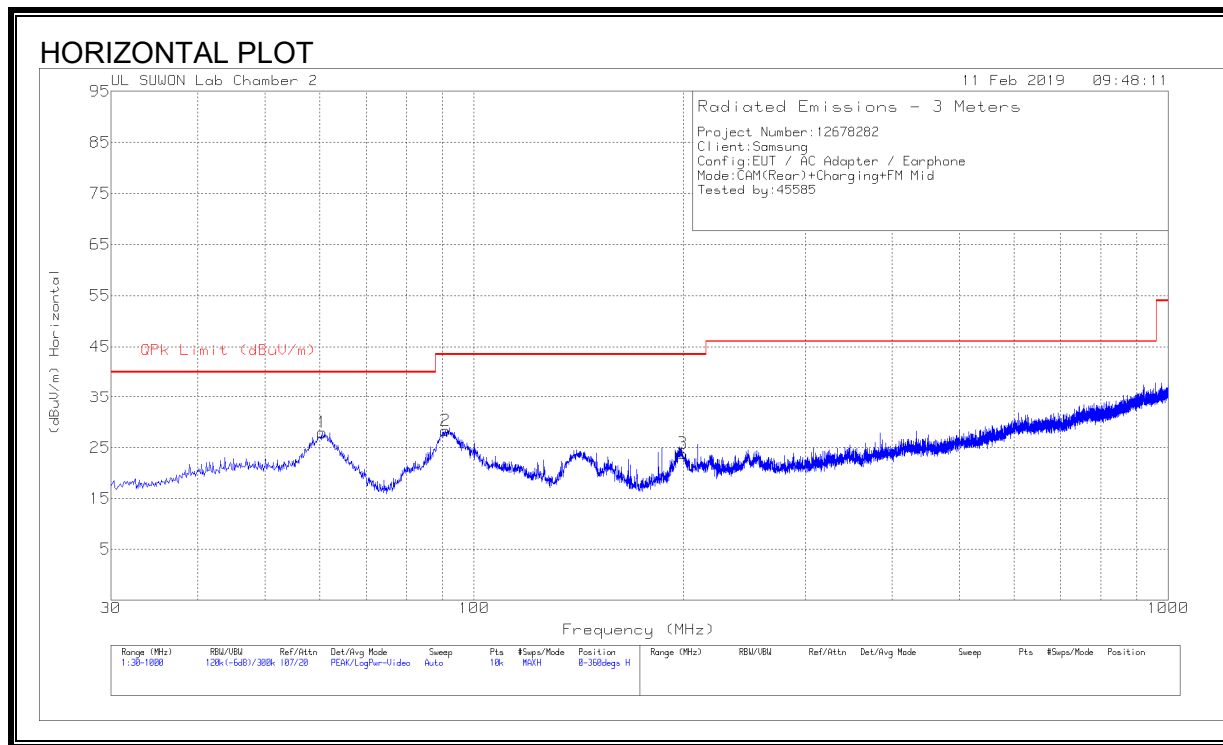
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3116C-PA	18-40GHz[dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	22.248	17.97	PK	11.4	16.6	45.97	-	-	74	-28.03	0-360	100	H
2	30.327	16.83	PK	14.1	19.7	50.63	-	-	74	-23.37	0-360	100	H
3	35.217	17.09	PK	12.6	21.4	51.09	-	-	74	-22.91	0-360	100	H
4	22.358	17.33	PK	11.4	16.6	45.33	-	-	74	-28.67	0-360	100	V
5	30.325	16.02	PK	14.1	19.7	49.82	-	-	74	-24.18	0-360	100	V
6	35.049	16.43	PK	12.7	21.4	50.53	-	-	74	-23.47	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



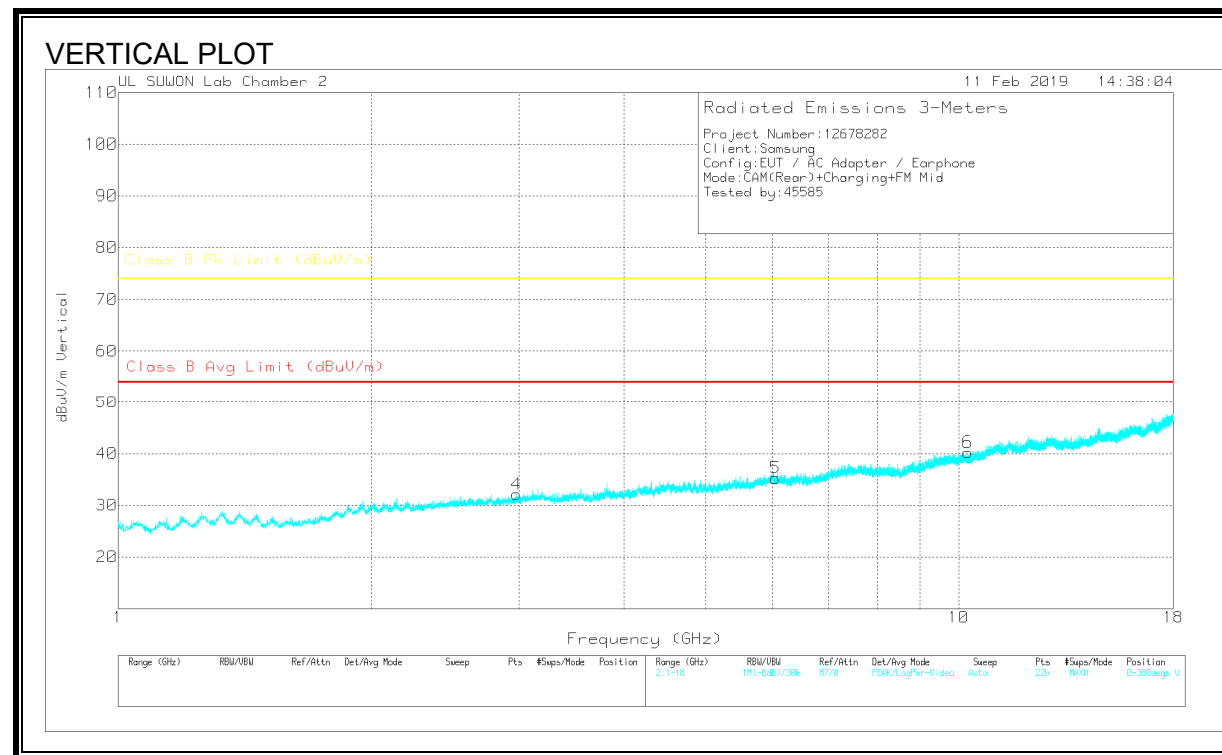
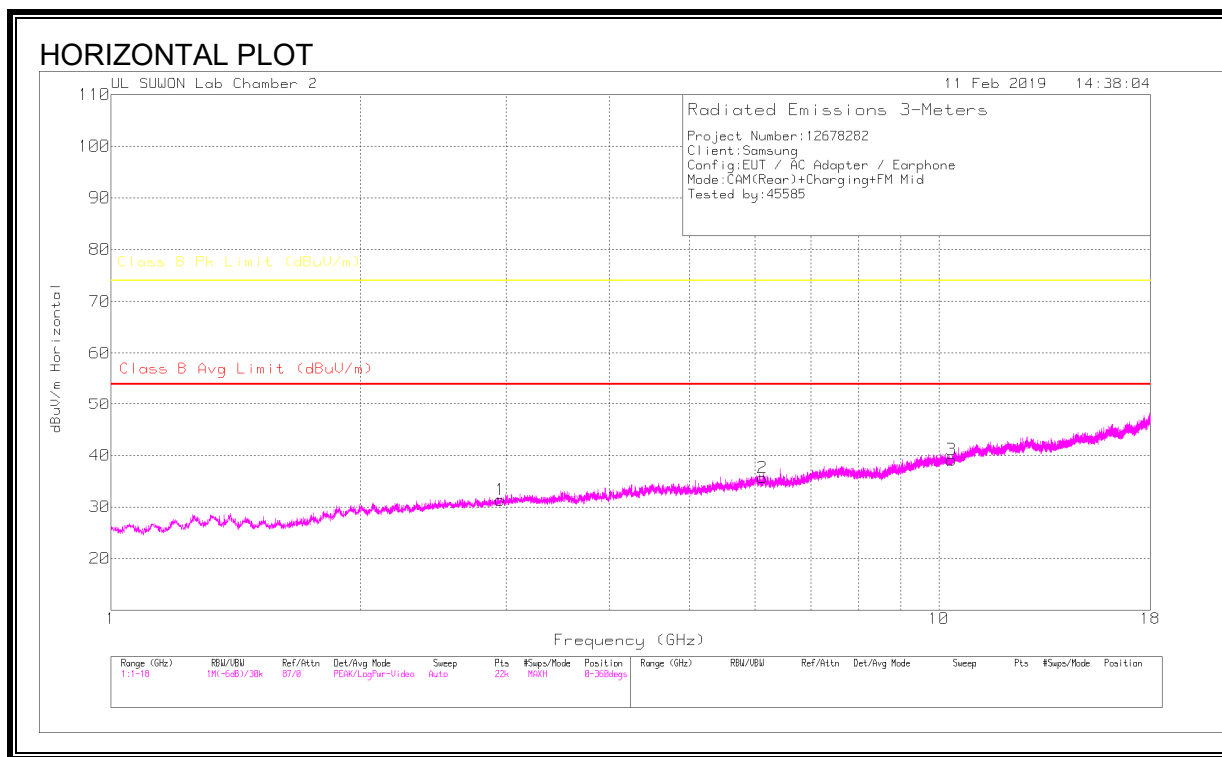
HORIZONTAL AND VERTICAL DATA

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	60.458	41.25	Pk	18.4	-31.7	27.95	40	-12.05	0-360	400	H
2	91.013	43.86	Pk	16	-31.5	28.36	43.52	-15.16	0-360	300	H
3	199.6045	36.65	Pk	18.1	-30.9	23.85	43.52	-19.67	0-360	100	H
4	58.615	41.09	Pk	18.8	-31.7	28.19	40	-11.81	0-360	300	V
5	102.071	41.67	Pk	17.8	-31.4	28.07	43.52	-15.45	0-360	300	V
6	191.99	42.85	Pk	17.5	-30.9	29.45	43.52	-14.07	0-360	100	V

Pk - Peak detector

RADIATED EMISSIONS 1GHz to 18GHz



HORIZONTAL AND VERTICAL DATA

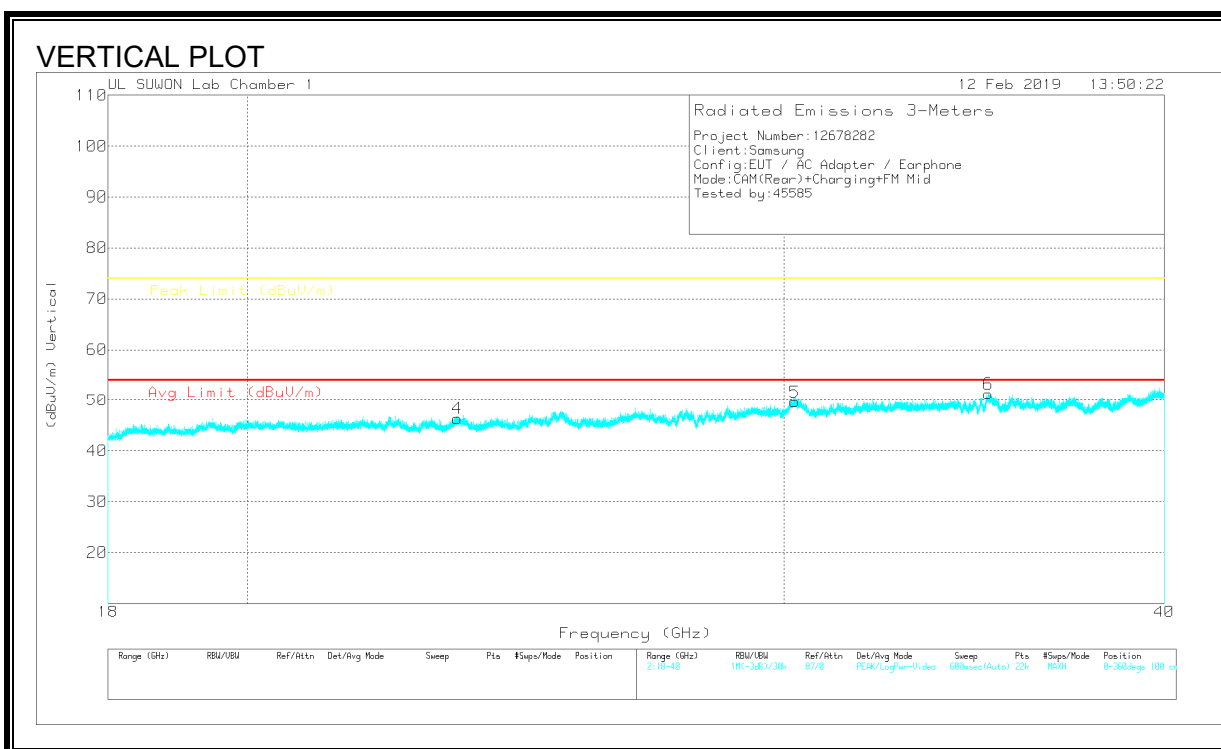
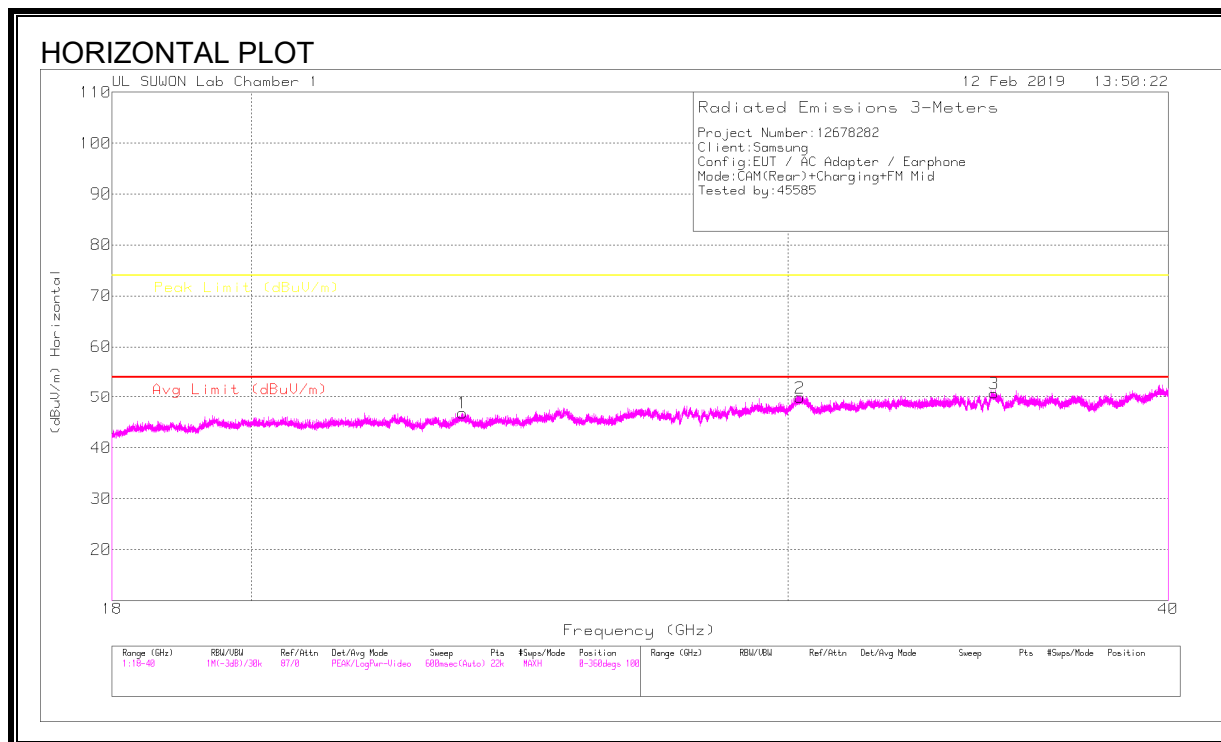
Trace Markers

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	2.956	29.36	PK	32.3	-30.3	31.36	-	-	74	-42.64	0-360	200	H
2	6.126	27.56	PK	35.1	-27	35.66	-	-	74	-38.34	0-360	200	H
3	10.354	23.36	PK	37.5	-21.7	39.16	-	-	74	-34.84	0-360	200	H
4	2.98	29.92	PK	32.4	-30.2	32.12	-	-	74	-41.88	0-360	100	V
5	6.055	27.45	PK	35.1	-27.3	35.25	-	-	74	-38.75	0-360	100	V
6	10.248	24.41	PK	37.5	-21.7	40.21	-	-	74	-33.79	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

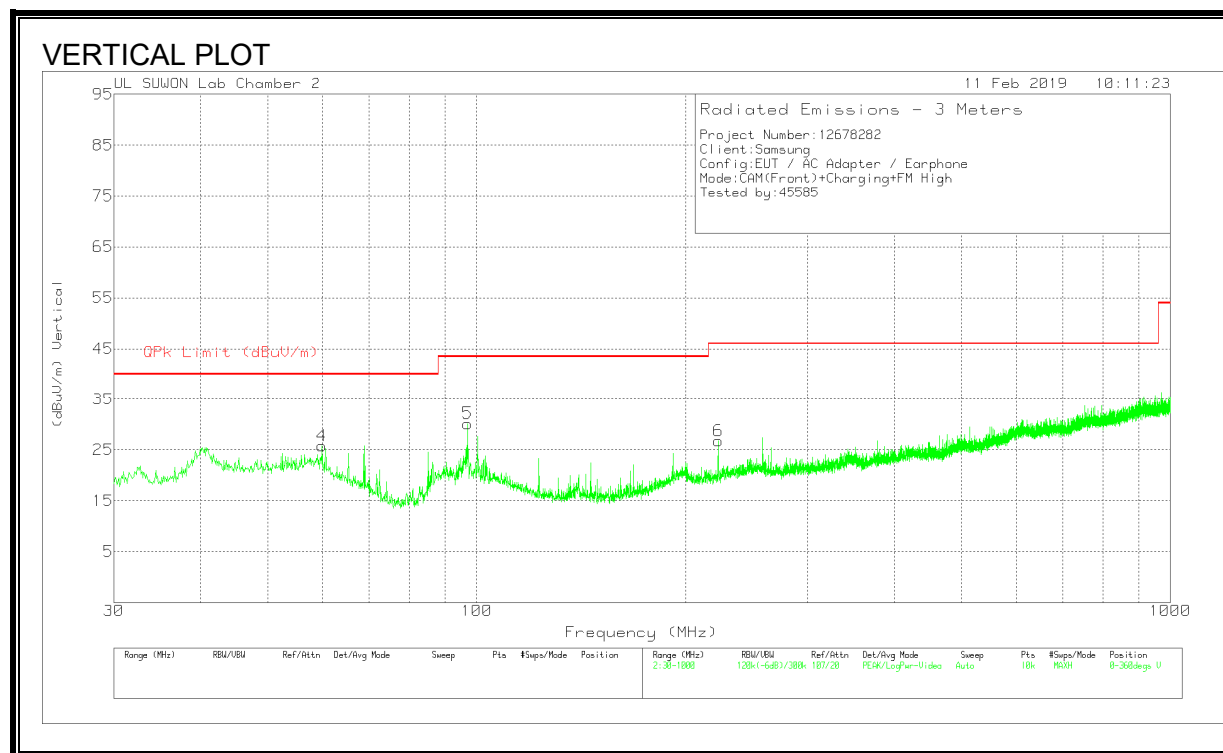
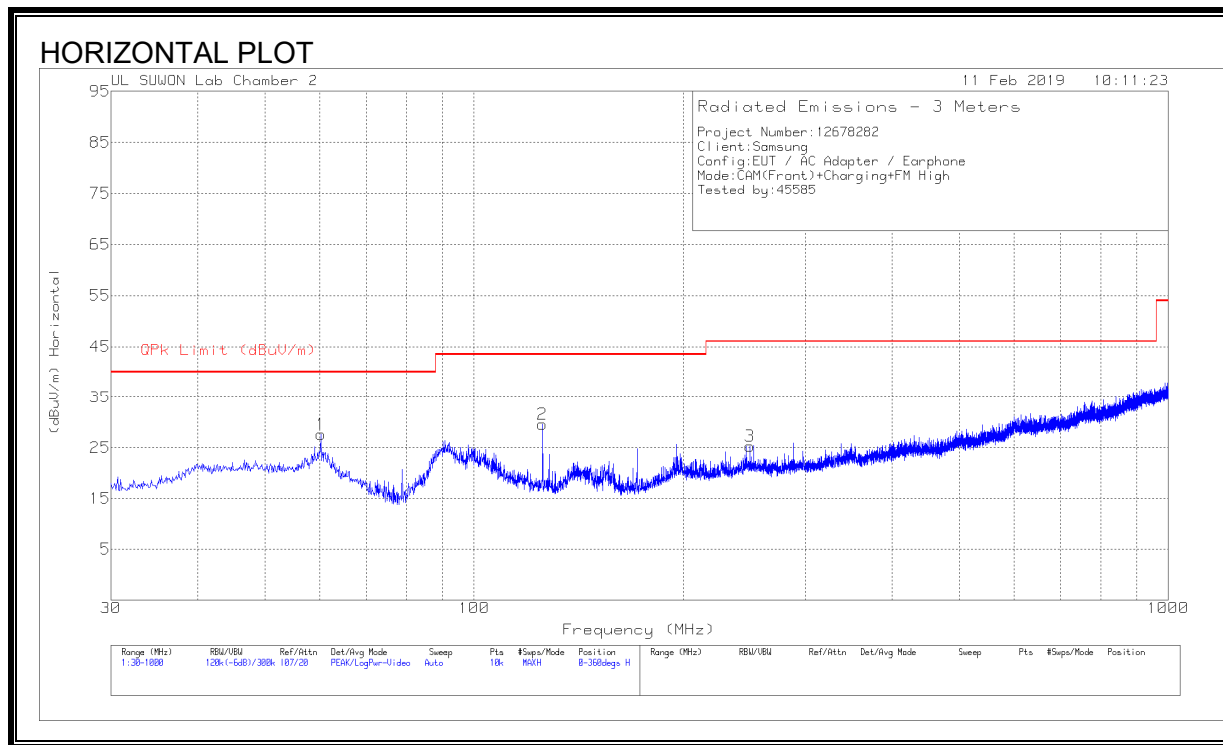
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3116C-PA	18-40GHz[dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	23.465	18.89	PK	10.9	17	46.79	-	-	74	-27.21	0-360	100	H
2	30.284	16.14	PK	14.1	19.7	49.94	-	-	74	-24.06	0-360	100	H
3	35.064	16.75	PK	12.7	21.3	50.75	-	-	74	-23.25	0-360	100	H
4	23.444	18.39	PK	10.9	17	46.29	-	-	74	-27.71	0-360	100	V
5	30.254	15.84	PK	14.1	19.7	49.64	-	-	74	-24.36	0-360	100	V
6	35.015	17.34	PK	12.7	21.3	51.34	-	-	74	-22.66	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



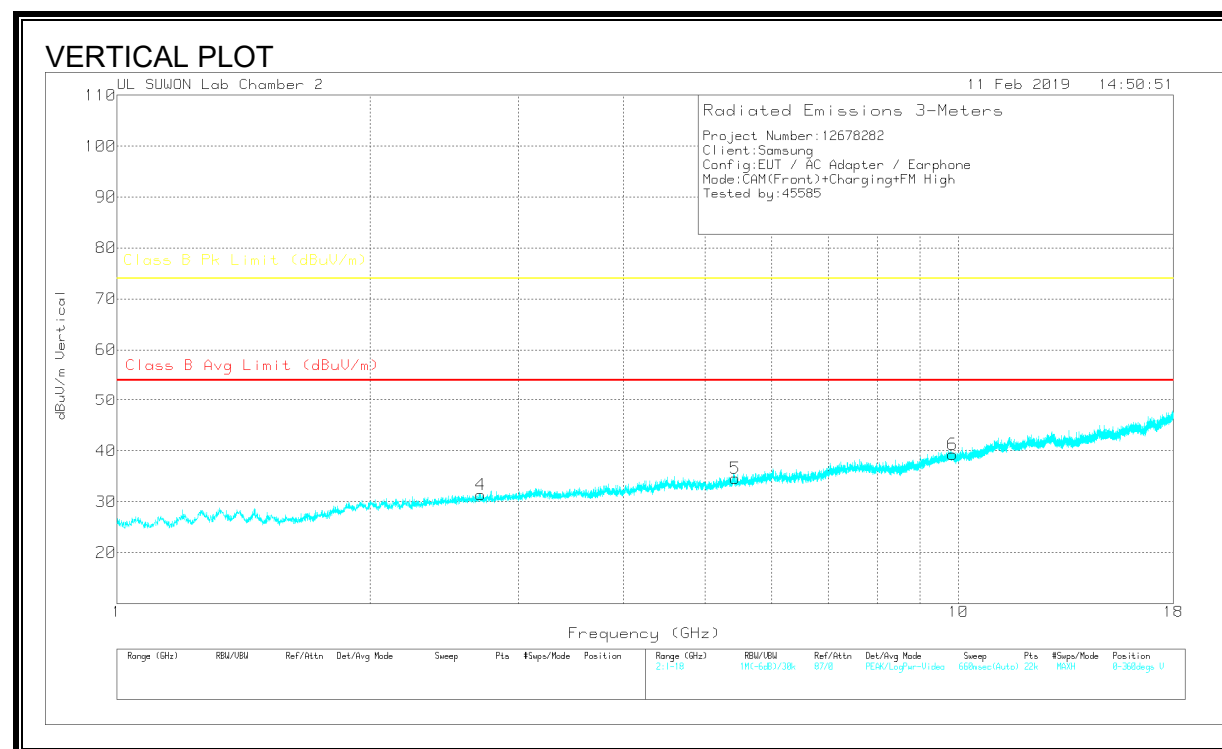
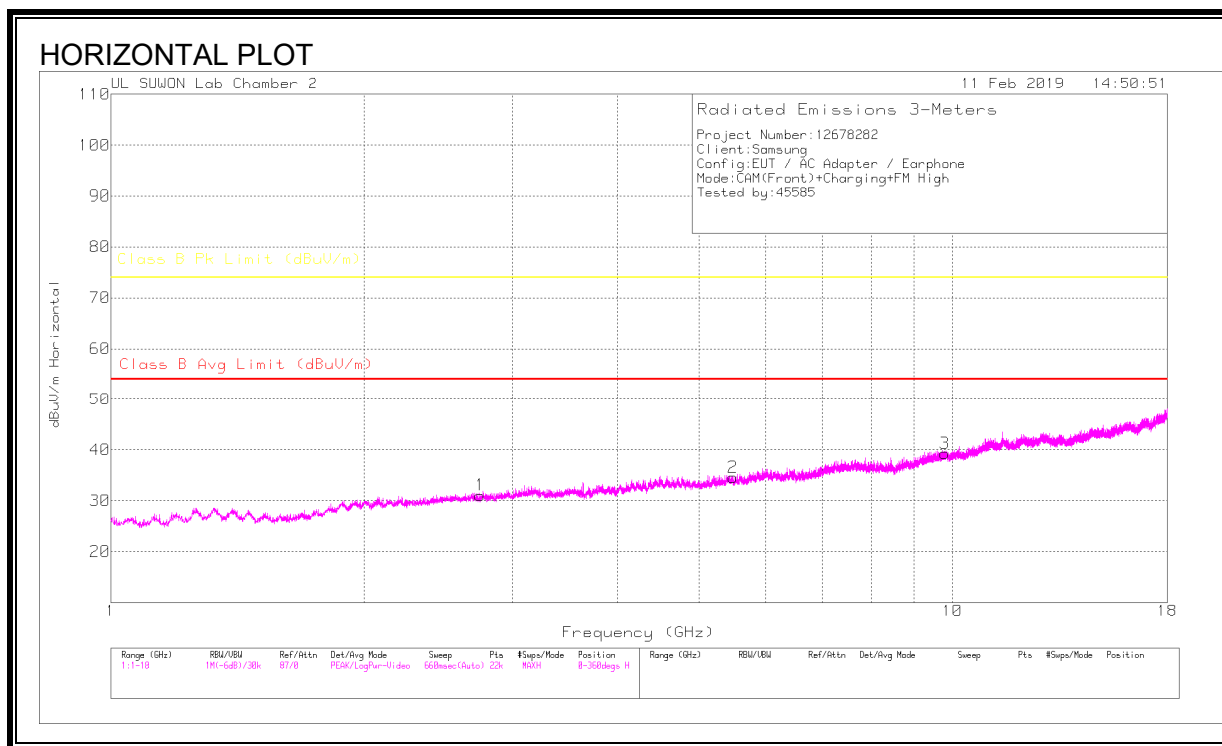
HORIZONTAL AND VERTICAL DATA

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	60.167	40.79	Pk	18.5	-31.7	27.59	40	-12.41	0-360	400	H
2	125.545	46.3	Pk	14.6	-31.3	29.6	43.52	-13.92	0-360	300	H
3	249.705	36.87	Pk	19	-30.6	25.27	46.02	-20.75	0-360	100	H
4	59.876	38.96	Pk	18.5	-31.7	25.76	40	-14.24	0-360	100	V
5	97.027	44.16	Pk	17.4	-31.4	30.16	43.52	-13.36	0-360	200	V
6	222.933	39.91	Pk	17.7	-30.8	26.81	46.02	-19.21	0-360	100	V

Pk - Peak detector

RADIATED EMISSIONS 1GHz to 18GHz



HORIZONTAL AND VERTICAL DATA

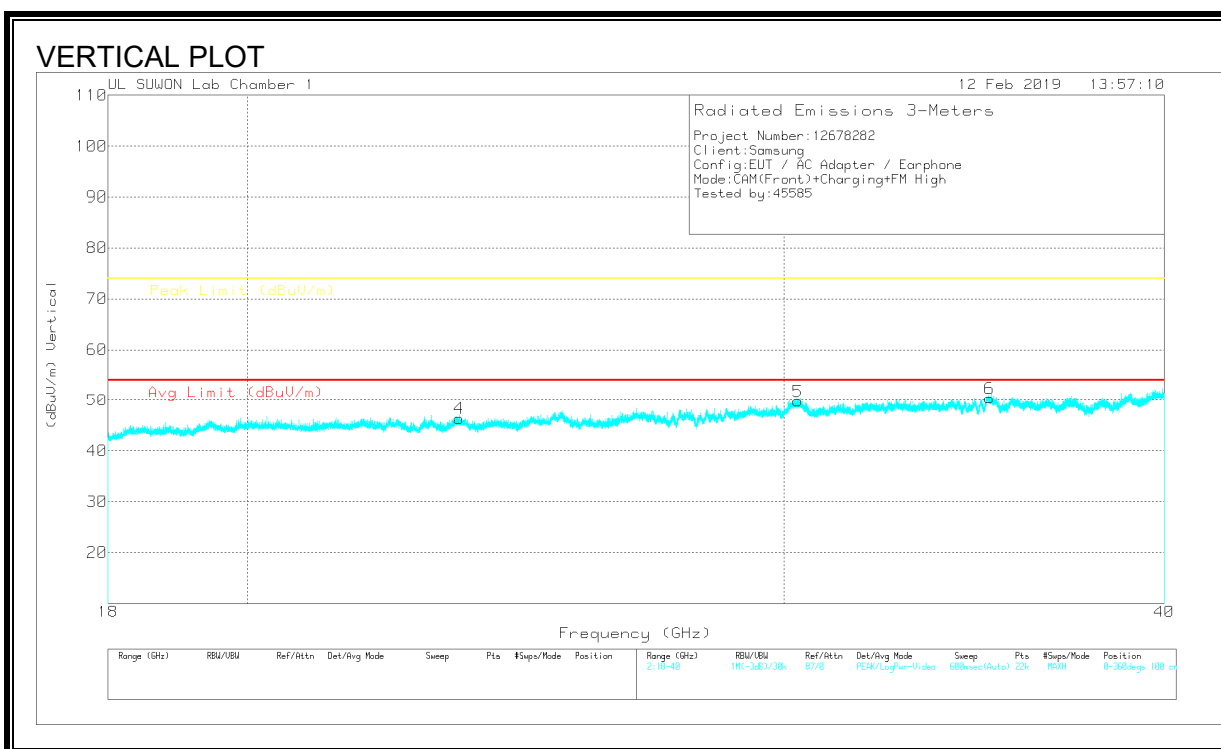
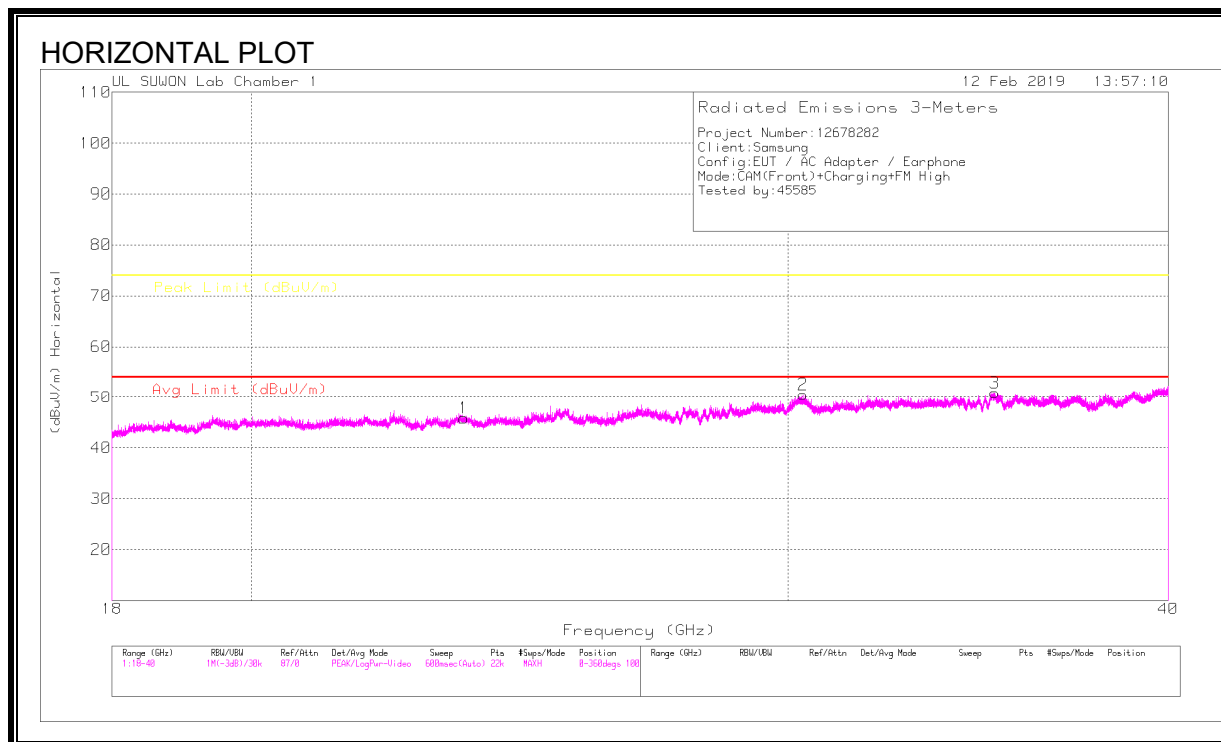
Trace Markers

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	2.746	28.96	PK	32.1	-30	31.06	-	-	74	-42.94	0-360	200	H
2	5.484	27.72	PK	34.6	-27.7	34.62	-	-	74	-39.38	0-360	100	H
3	9.786	24.03	PK	37.3	-22.1	39.23	-	-	74	-34.77	0-360	100	H
4	2.706	29.52	PK	32.1	-30.3	31.32	-	-	74	-42.68	0-360	100	V
5	5.428	27.89	PK	34.5	-27.8	34.59	-	-	74	-39.41	0-360	100	V
6	9.836	23.86	PK	37.3	-21.9	39.26	-	-	74	-34.74	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

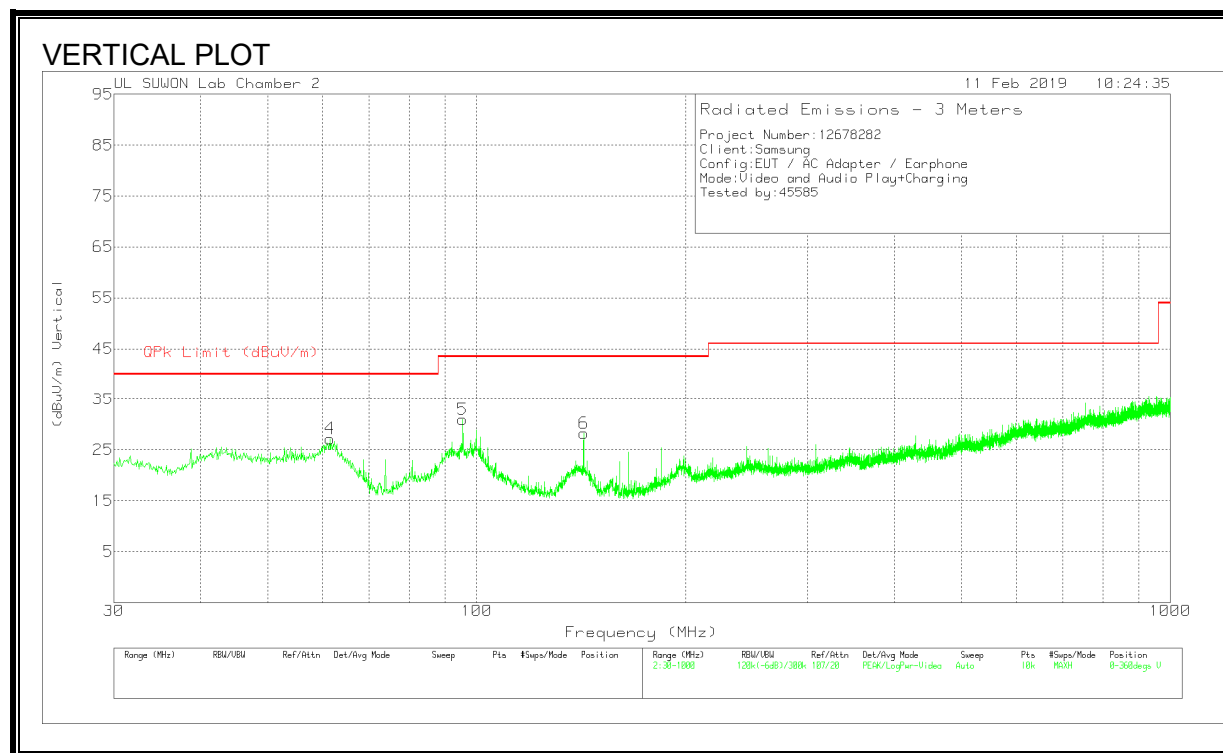
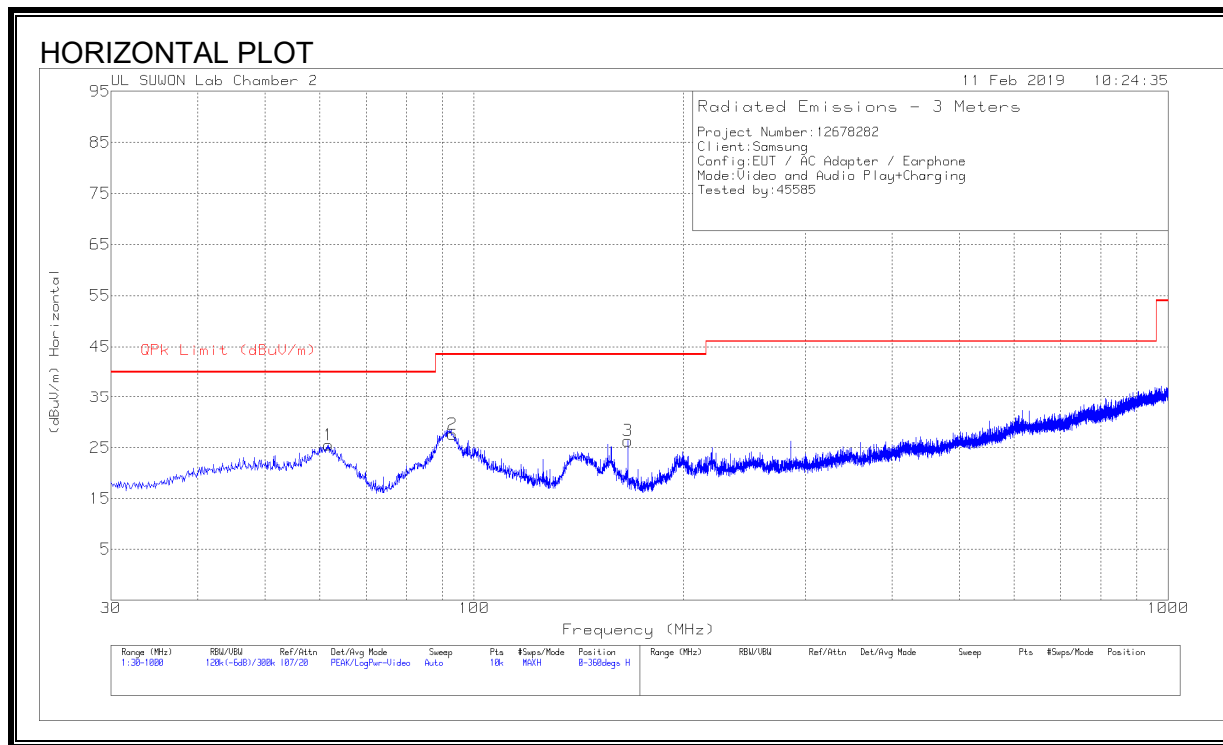
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3116C-PA	18-40GHz[dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	23.483	17.88	PK	10.9	17.1	45.88	-	-	74	-28.12	0-360	100	H
2	30.35	16.8	PK	14.1	19.7	50.6	-	-	74	-23.4	0-360	100	H
3	35.081	16.89	PK	12.7	21.3	50.89	-	-	74	-23.11	0-360	100	H
4	23.471	18.45	PK	10.9	17	46.35	-	-	74	-27.65	0-360	100	V
5	30.317	15.97	PK	14.1	19.7	49.77	-	-	74	-24.23	0-360	100	V
6	35.05	16.39	PK	12.7	21.3	50.39	-	-	74	-23.61	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



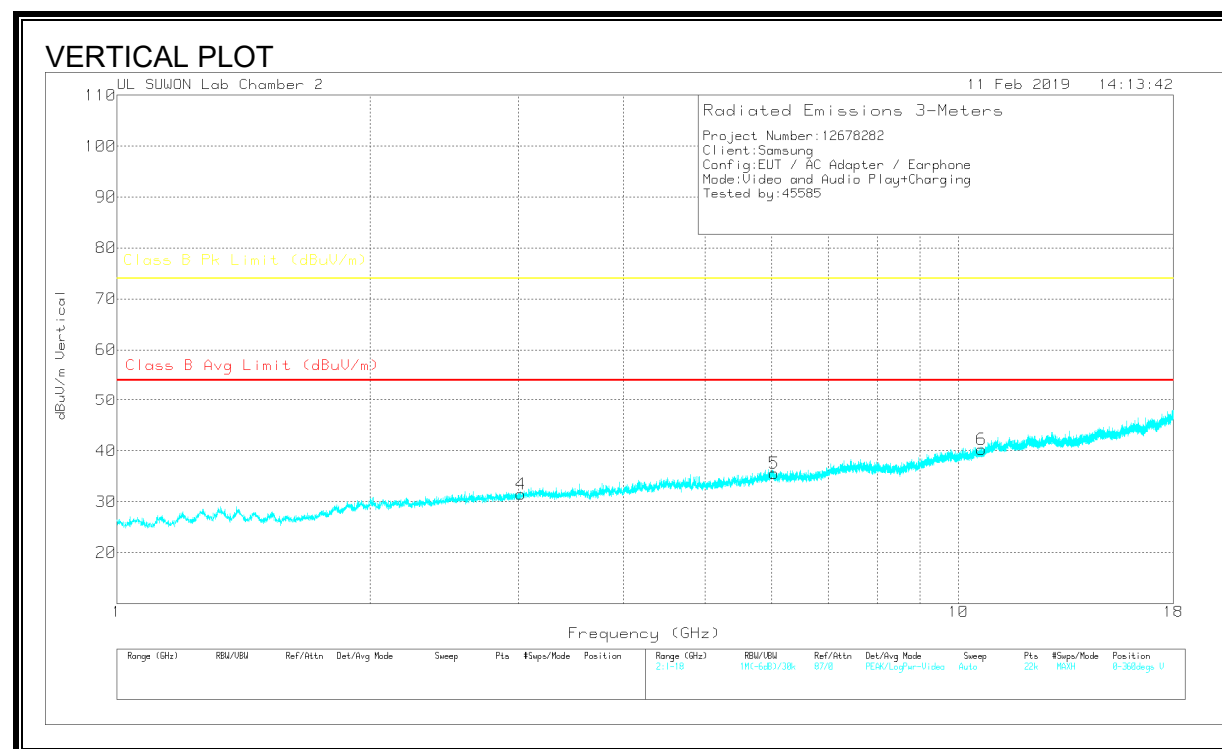
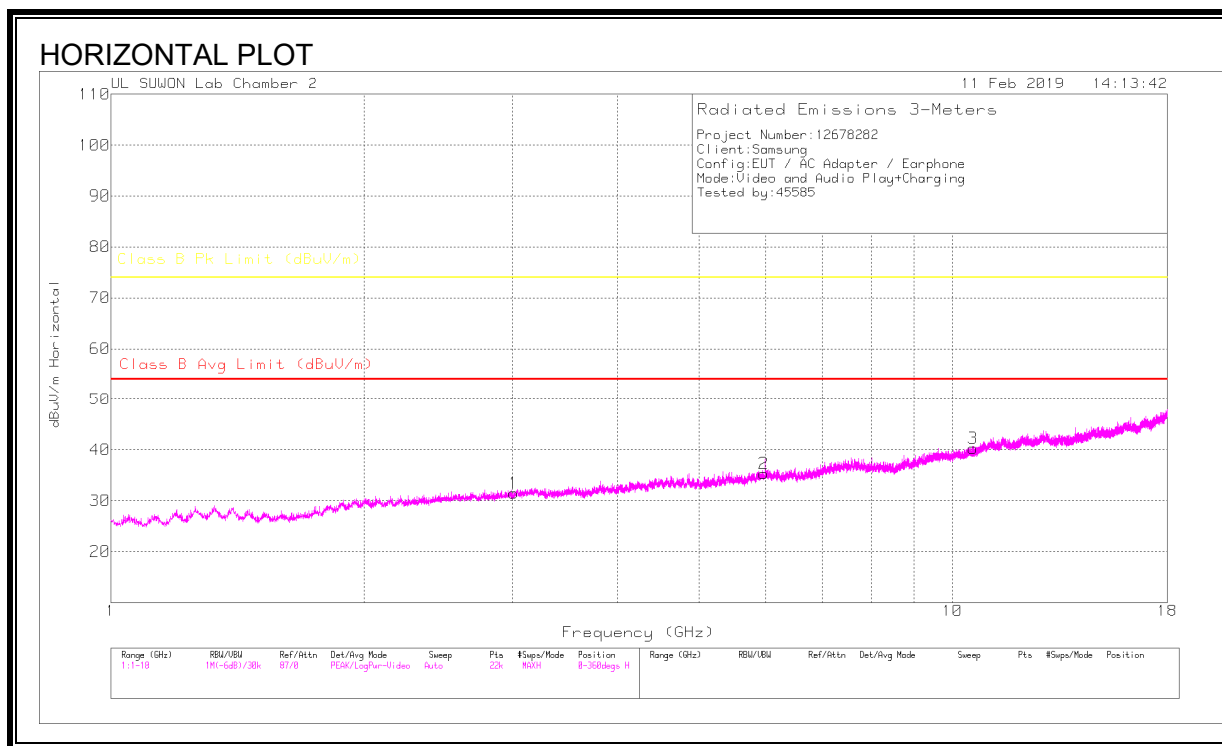
HORIZONTAL AND VERTICAL DATA

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	61.719	39.09	Pk	18.1	-31.7	25.49	40	-14.51	0-360	400	H
2	93.147	42.38	Pk	16.7	-31.4	27.68	43.52	-15.84	0-360	300	H
3	166.576	42.43	Pk	14.9	-31	26.33	43.52	-17.19	0-360	200	H
4	61.525	40.79	Pk	18.1	-31.7	27.19	40	-12.81	0-360	100	V
5	95.475	45.18	Pk	17.3	-31.5	30.98	43.52	-12.54	0-360	200	V
6	142.714	45.3	Pk	14.1	-31.2	28.2	43.52	-15.32	0-360	100	V

Pk - Peak detector

RADIATED EMISSIONS 1GHz to 18GHz



HORIZONTAL AND VERTICAL DATA

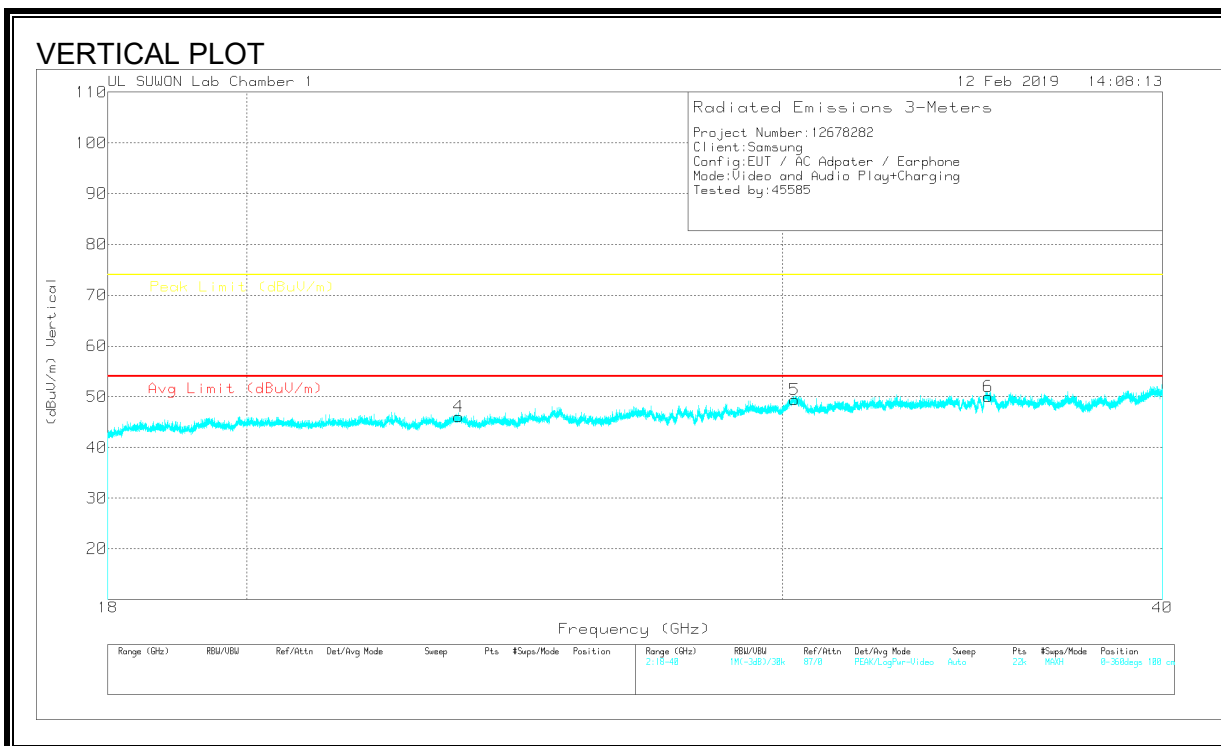
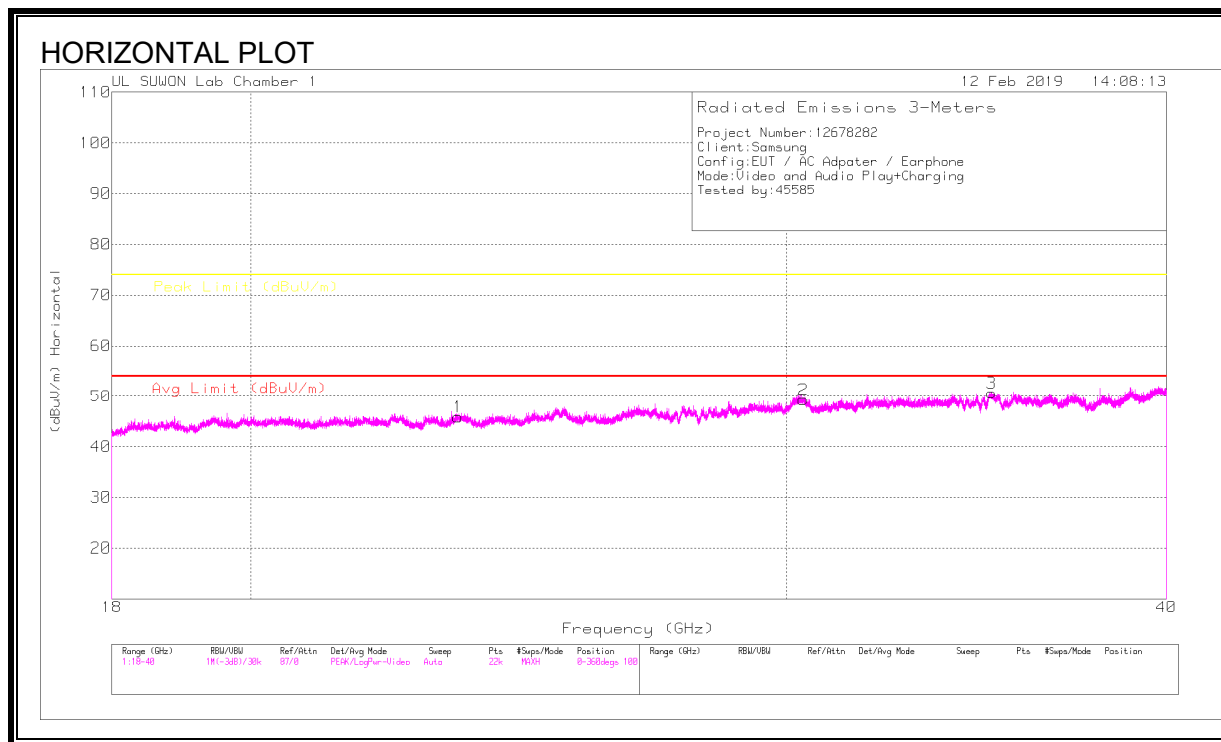
Trace Markers

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	3.008	29.2	PK	32.5	-30.2	31.5	-	-	74	-42.5	0-360	100	H
2	5.97	27.8	PK	35	-27.5	35.3	-	-	74	-38.7	0-360	100	H
3	10.575	23.62	PK	37.8	-21.2	40.22	-	-	74	-33.78	0-360	200	H
4	3.02	29.06	PK	32.6	-30.2	31.46	-	-	74	-42.54	0-360	200	V
5	6.042	27.85	PK	35.1	-27.4	35.55	-	-	74	-38.45	0-360	200	V
6	10.646	24.01	PK	37.8	-21.5	40.31	-	-	74	-33.69	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

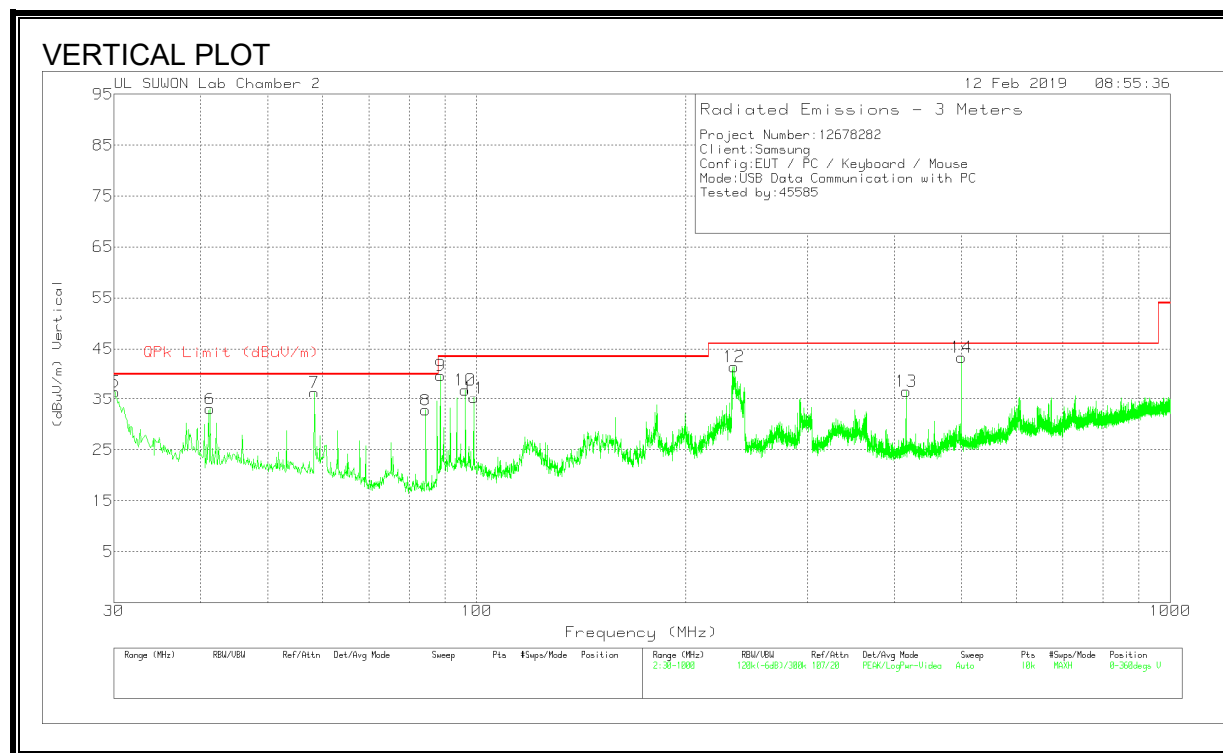
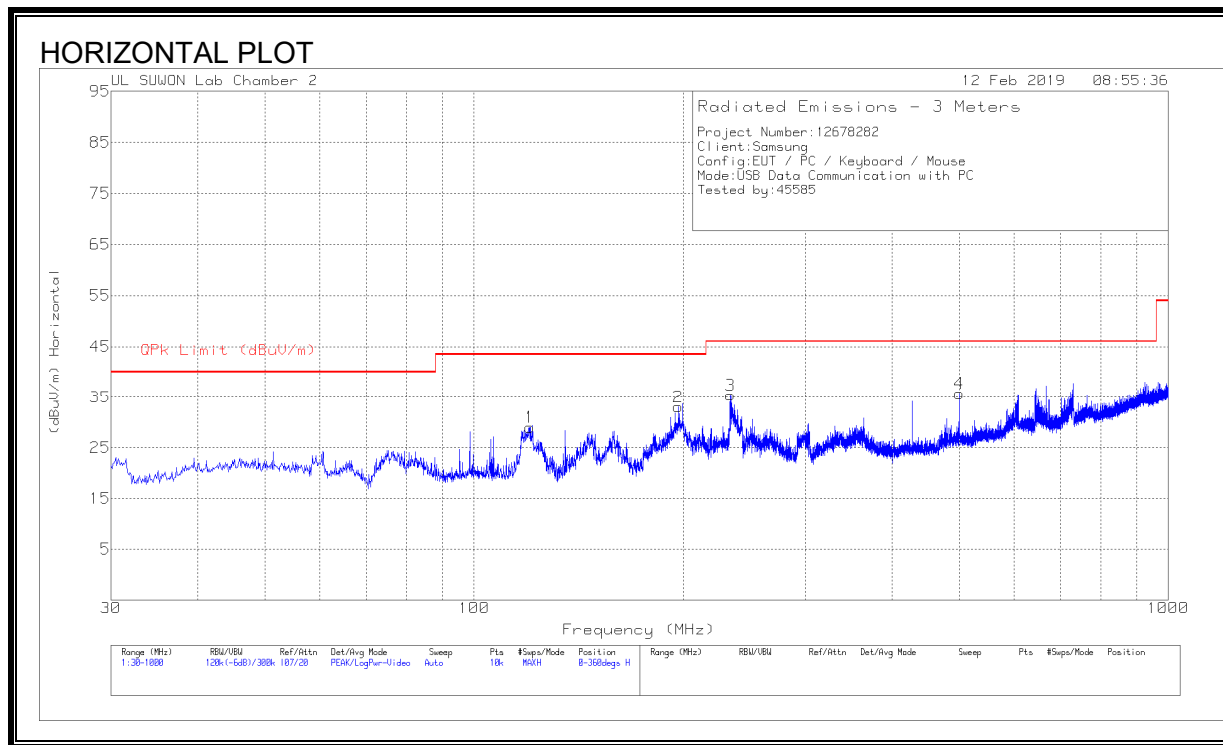
Marker	Frequency (GHz)	Meter Reading (dBuV)	Det	3116C-PA	18-40GHz[dB]	Corrected Reading (dBuV/m)	Avg Limit (dBuV/m)	Margin (dB)	Peak Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	23.394	17.74	PK	11	17.1	45.84	-	-	74	-28.16	0-360	100	H
2	30.383	15.56	PK	14.1	19.7	49.36	-	-	74	-24.64	0-360	100	H
3	35.035	16.72	PK	12.7	21.3	50.72	-	-	74	-23.28	0-360	100	H
4	23.478	18.23	PK	10.9	17	46.13	-	-	74	-27.87	0-360	100	V
5	30.274	15.66	PK	14.1	19.7	49.46	-	-	74	-24.54	0-360	100	V
6	35.063	16.07	PK	12.7	21.3	50.07	-	-	74	-23.93	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	120.404	45.02	Pk	15.3	-31.3	29.02	43.52	-14.5	0-360	200	H
2	197.034	45.68	Pk	18.3	-30.9	33.08	43.52	-10.44	0-360	100	H
3	233.991	47.93	Pk	18.2	-30.7	35.43	46.02	-10.59	0-360	100	H
4	500.062	42.33	Pk	23.4	-30	35.73	46.02	-10.29	0-360	200	H
5	30.097	52.58	Pk	15.9	-32	36.48	40	-3.52	0-360	100	V
6	41.252	45.97	Pk	19	-31.9	33.07	40	-6.93	0-360	100	V
7	58.324	49.3	Pk	18.8	-31.7	36.4	40	-3.6	0-360	200	V
8	84.417	50.87	Pk	13.4	-31.5	32.77	40	-7.23	0-360	100	V
9	88.685	56.16	Pk	15.1	-31.5	39.76	43.52	-3.76	0-360	100	V
10	96.251	51	Pk	17.4	-31.5	36.9	43.52	-6.62	0-360	200	V
11	99.064	48.99	Pk	17.7	-31.4	35.29	43.52	-8.23	0-360	100	V
12	234.864	53.94	Pk	18.2	-30.7	41.44	46.02	-4.58	0-360	200	V
13	415.866	45	Pk	22	-30.4	36.6	46.02	-9.42	0-360	100	V
14	500.062	50.24	Pk	23.4	-30.3	43.34	46.02	-2.68	0-360	100	V

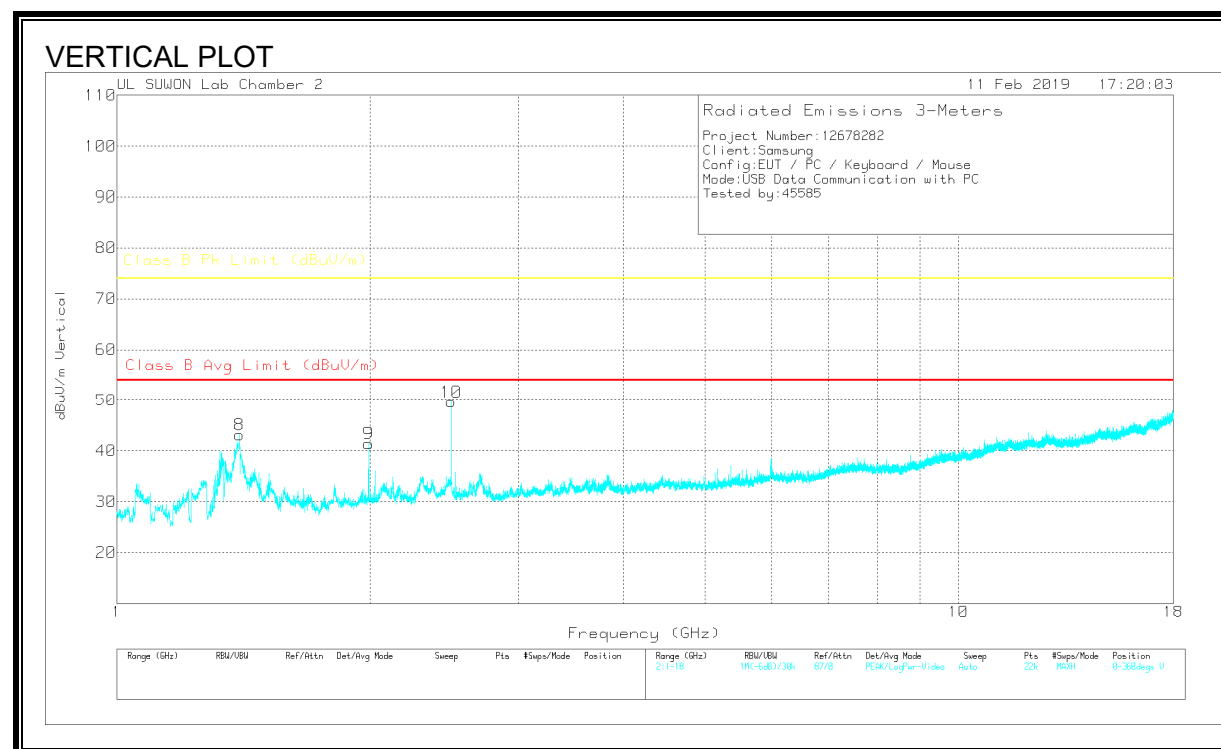
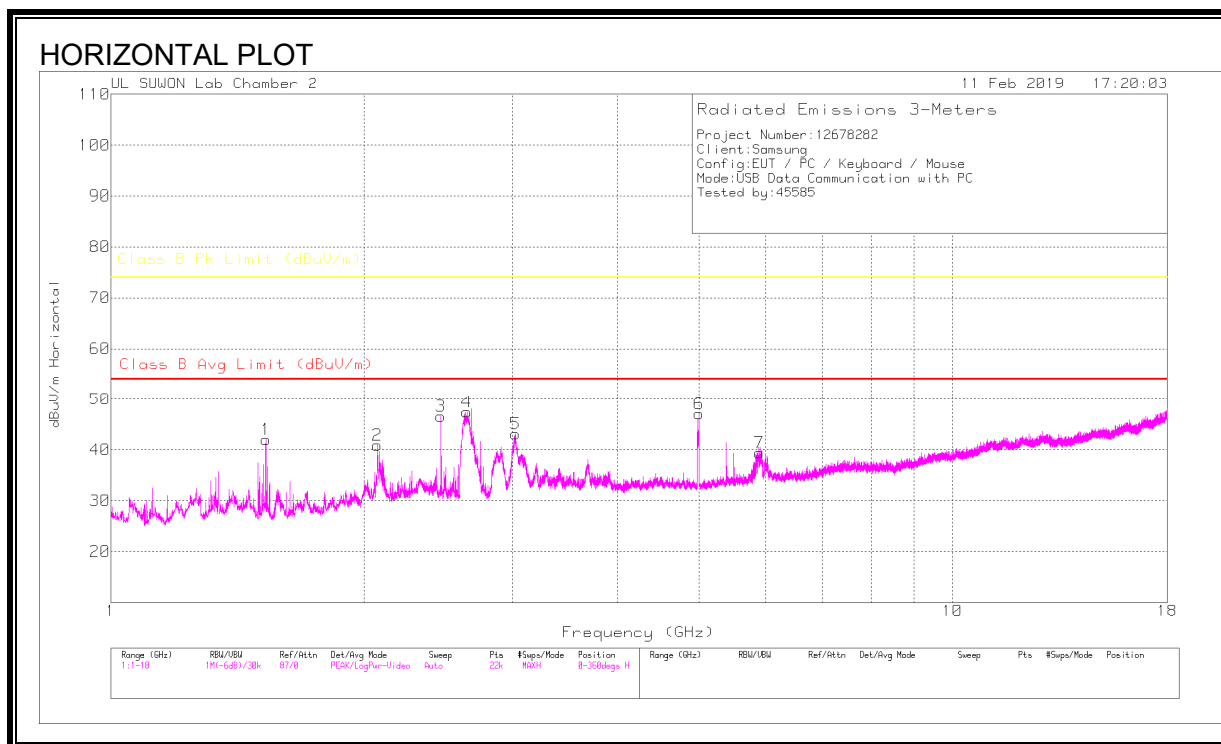
Pk - Peak detector

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
500.0632	41.05	Qp	23.4	-30	34.45	46.02	-11.57	360	161	H
30.0741	49.24	Qp	15.9	-32	33.14	40	-6.86	360	100	V
41.3874	28.93	Qp	19.1	-31.9	16.13	40	-23.87	360	100	V
59.7394	32.45	Qp	18.6	-31.7	19.35	40	-20.65	360	101	V
92.8126	31.23	Qp	16.6	-31.5	16.33	43.52	-27.19	360	101	V
235.042	40.37	Qp	18.2	-30.7	27.87	46.02	-18.15	360	214	V
421.871	28.14	Qp	22.1	-30.4	19.84	46.02	-26.18	360	123	V
500.0291	38.51	Qp	23.4	-30.3	31.61	46.02	-14.41	360	101	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	1.528	44.86	PK	28.5	-31.4	41.96	-	-	74	-32.04	0-360	100	H
2	2.072	40.42	PK	31.3	-30.8	40.92	-	-	74	-33.08	0-360	100	H
3	2.467	45.12	PK	31.8	-30.3	46.62	-	-	74	-27.38	0-360	100	H
4	2.648	45.74	PK	32.1	-30.4	47.44	-	-	74	-26.56	0-360	200	H
5	3.026	40.61	PK	32.6	-30.1	43.11	-	-	74	-30.89	0-360	100	H
6	4.998	41.29	PK	34.1	-28.3	47.09	-	-	74	-26.91	0-360	100	H
7	5.896	32.01	PK	34.9	-27.5	39.41	-	-	74	-34.59	0-360	100	H
8	1.399	45.4	PK	29.4	-31.7	43.1	-	-	74	-30.9	0-360	200	V
9	1.991	41.22	PK	31.2	-31	41.42	-	-	74	-32.58	0-360	200	V
10	2.495	48.01	PK	31.9	-30.2	49.71	-	-	74	-24.29	0-360	100	V

PK – Peak Detector

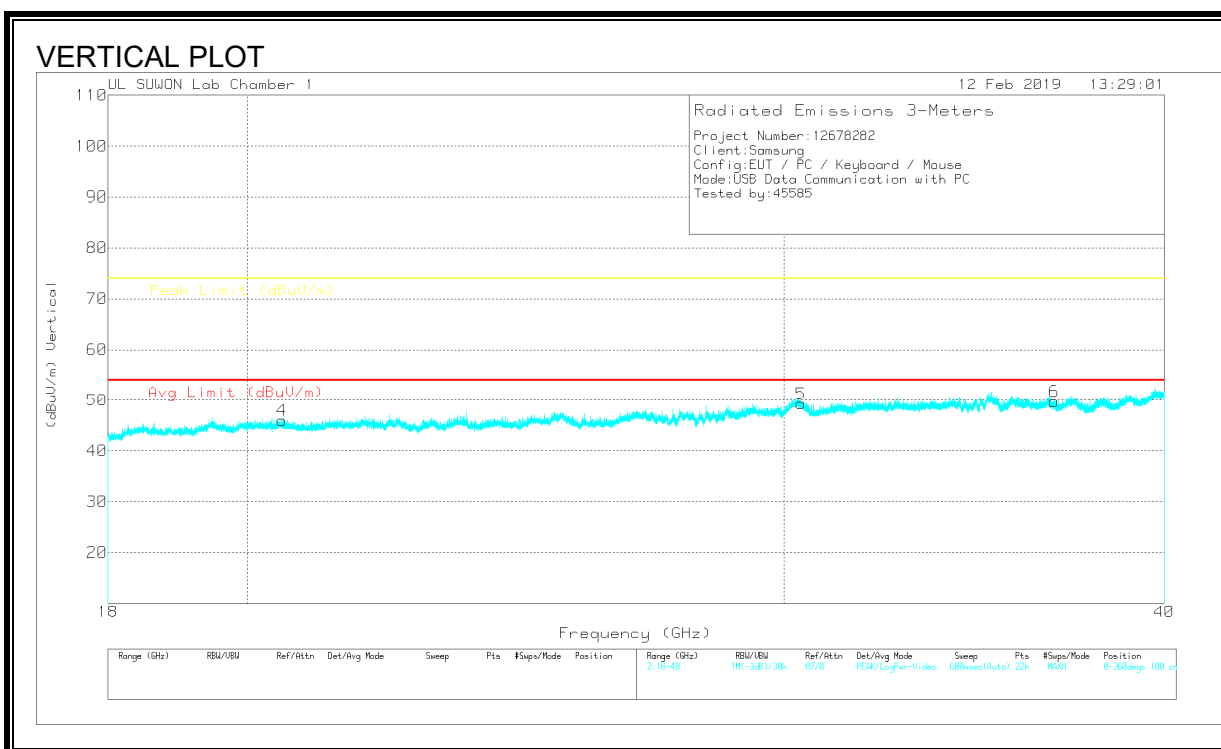
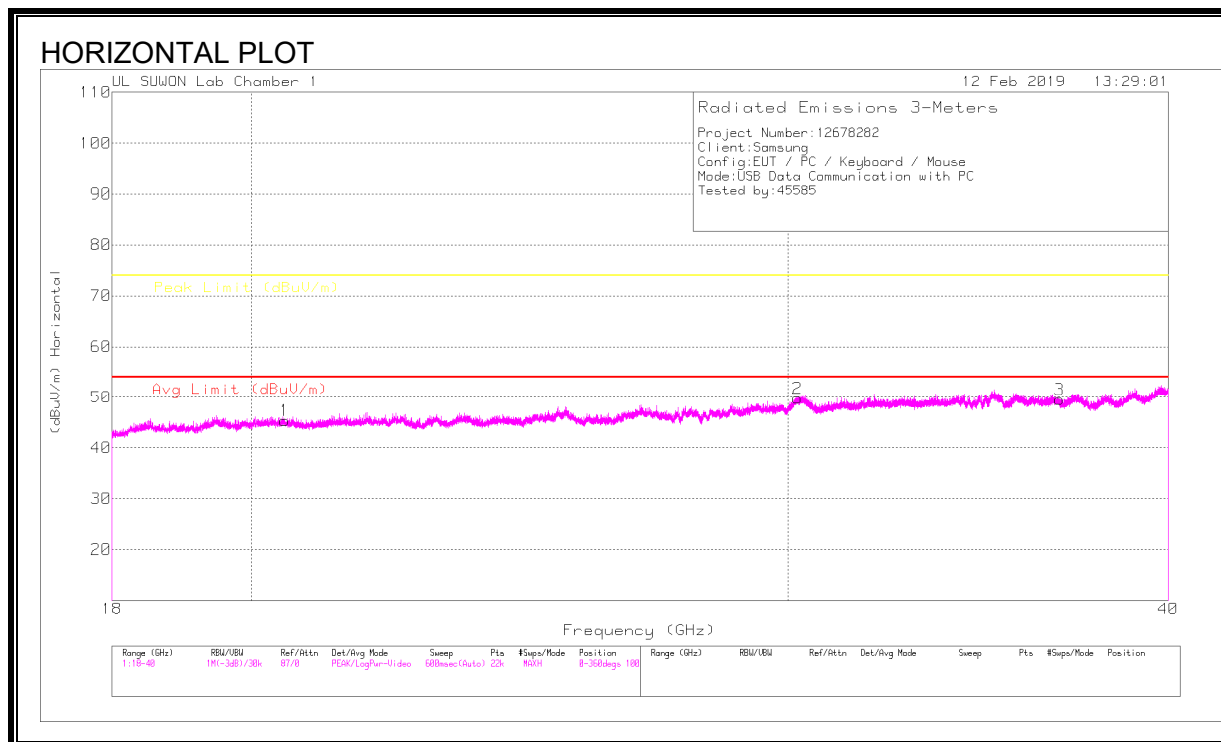
Radiated Emissions

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
1.531	61.6	Pk	28.5	-31.5	58.6	-	-	74	-15.4	0	141	H
1.531	26.4		28.5	-31.5	23.4	54	-30.6	-	-	0	141	H
2.085	45.6	Pk	31.3	-30.8	46.1	-	-	74	-27.9	0	163	H
2.085	29.04		31.3	-30.8	29.54	54	-24.46	-	-	0	163	H
2.496	64.16	Pk	31.9	-30.2	65.86	-	-	74	-8.14	0	152	H
2.496	30.96		31.9	-30.2	32.66	54	-21.34	-	-	0	152	H
3.025	55.4	Pk	32.6	-30.2	57.8	-	-	74	-16.2	0	191	H
3.025	24.81		32.6	-30.2	27.21	54	-26.79	-	-	0	191	H
5.011	53.92	Pk	34.1	-28.3	59.72	-	-	74	-14.28	0	145	H
5.011	23.77		34.1	-28.3	29.57	54	-24.43	-	-	0	145	H
5.881	35.65	Pk	34.9	-27.4	43.15	-	-	74	-30.85	0	305	H
5.881	23.64		34.9	-27.4	31.14	54	-22.86	-	-	0	305	H
1.399	48.46	Pk	29.4	-31.7	46.16	-	-	74	-27.84	0	253	V
1.399	29.17		29.4	-31.7	26.87	54	-27.13	-	-	0	253	V
1.996	51.24	Pk	31.2	-31	51.44	-	-	74	-22.56	0	144	V
1.996	26.69		31.2	-31	26.89	54	-27.11	-	-	0	144	V
2.467	48.05	Pk	31.8	-30.3	49.55	-	-	74	-24.45	0	101	V
2.467	24.26		31.8	-30.3	25.76	54	-28.24	-	-	0	101	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	20.511	20.51	PK	8.9	15.9	45.31	-	-	74	-28.69	0-360	100	H
2	30.222	16.03	PK	14.1	19.7	49.83	-	-	74	-24.17	0-360	100	H
3	36.846	16.37	PK	11.3	21.9	49.57	-	-	74	-24.43	0-360	100	H
4	20.531	21.04	PK	9	15.9	45.94	-	-	74	-28.06	0-360	100	V
5	30.399	15.55	PK	14.1	19.7	49.35	-	-	74	-24.65	0-360	100	V
6	36.803	16.54	PK	11.3	21.9	49.74	-	-	74	-24.26	0-360	100	V

PK – Paek 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

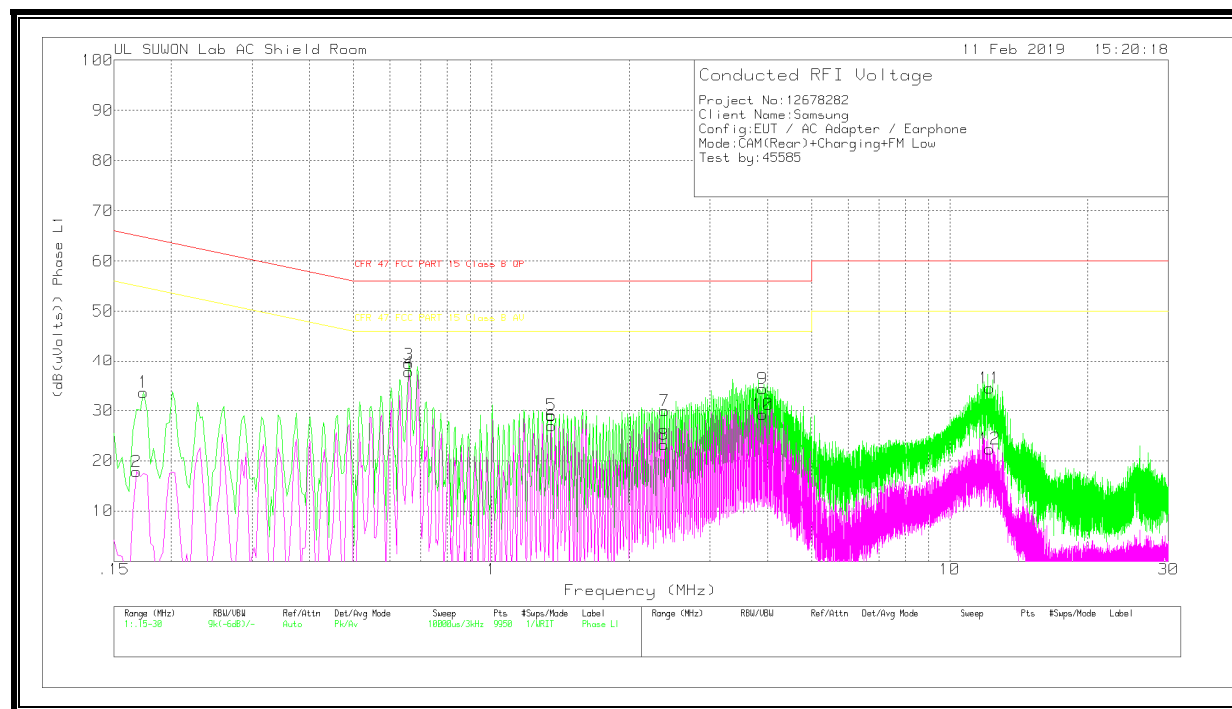
§15.107 (a) Except for Class A digital devices, for equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits 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

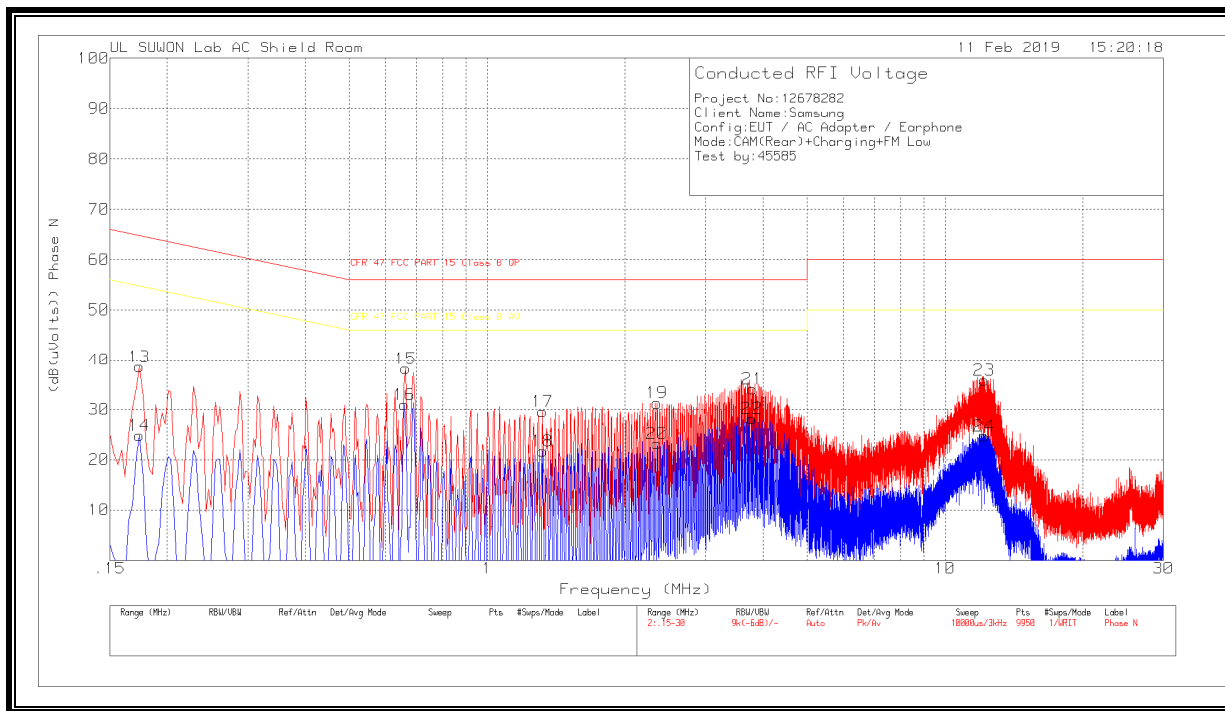
Range 1: Phase L1 .15 - 30MHz

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	.174	23.46	Pk	10	.2	33.66	64.77	-31.11	-	-
2	.168	7.7	Av	10	.1	17.8	-	-	55.06	-37.26
3	.66	29.31	Pk	9.9	.2	39.41	56	-16.59	-	-
4	.66	27.63	Av	9.9	.2	37.73	-	-	46	-8.27
5	1.35	18.99	Pk	9.8	.3	29.09	56	-26.91	-	-
6	1.35	16.86	Av	9.8	.3	26.96	-	-	46	-19.04
7	2.385	19.79	Pk	9.9	.3	29.99	56	-26.01	-	-
8	2.379	13.06	Av	9.9	.3	23.26	-	-	46	-22.74
9	3.903	24.29	Pk	9.8	.3	34.39	56	-21.61	-	-
10	3.903	19.13	Av	9.8	.3	29.23	-	-	46	-16.77
11	12.225	24.03	Pk	10.1	.3	34.43	60	-25.57	-	-
12	12.225	12	Av	10.1	.3	22.4	-	-	50	-27.6

Pk - Peak detector

Av - Average detection

Line-L2 .15 - 30MHz



LINE 2 RESULTS

Trace Markers

Range 2: Phase N .15 - 30MHz

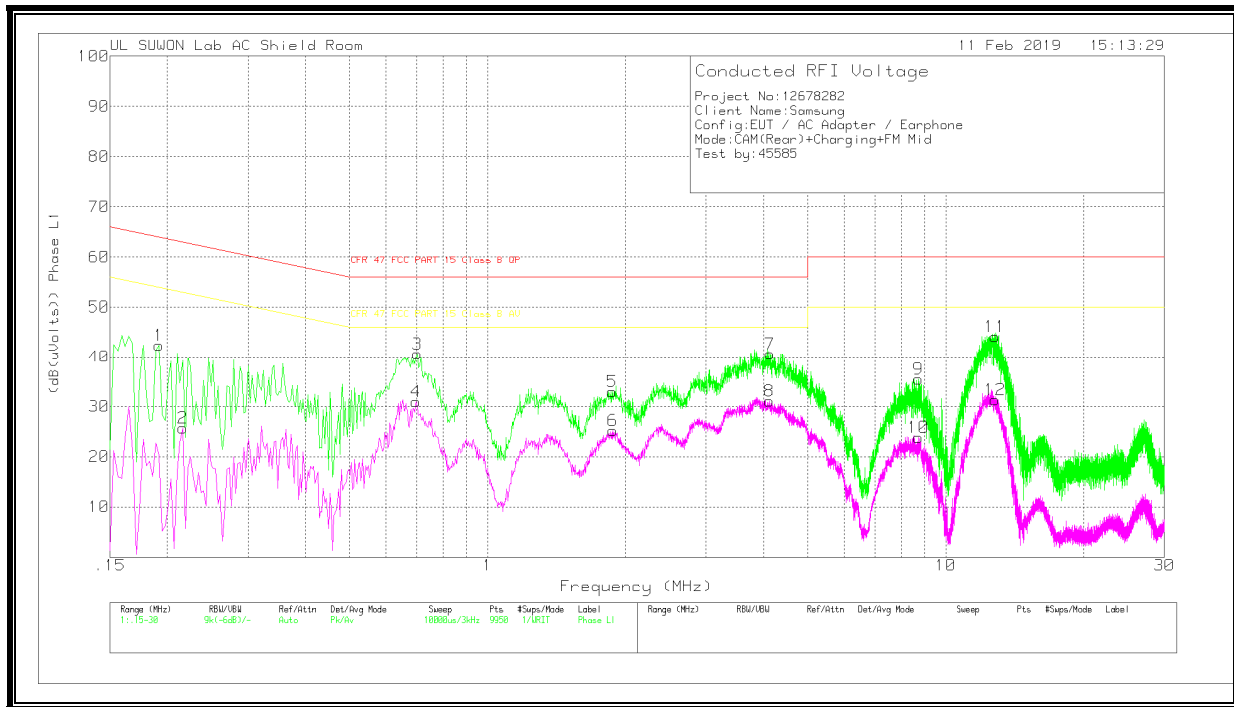
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	ENV216_10183 6_With ex- cord_N	CABLELOSS(dB)	Corrected Reading (dB(uVolts))	CFR 47 FCC PART 15 Class B QP	Margin (dB)	CFR 47 FCC PART 15 Class B AV	Margin (dB)
13	.174	28.45	Pk	10	.2	38.65	64.77	-26.12	-	-
14	.174	14.59	Av	10	.2	24.79	-	-	54.77	-29.98
15	.663	28.1	Pk	9.9	.2	38.2	56	-17.8	-	-
16	.66	20.92	Av	9.9	.2	31.02	-	-	46	-14.98
17	1.32	19.53	Pk	9.8	.3	29.63	56	-26.37	-	-
18	1.32	11.62	Av	9.8	.3	21.72	-	-	46	-24.28
19	2.352	21.29	Pk	9.7	.3	31.29	56	-24.71	-	-
20	2.352	13.25	Av	9.7	.3	23.25	-	-	46	-22.75
21	3.795	24.04	Pk	9.8	.3	34.14	56	-21.86	-	-
22	3.789	18.15	Av	9.8	.3	28.25	-	-	46	-17.75
23	12.186	25.42	Pk	10.1	.3	35.82	60	-24.18	-	-
24	12.186	14.3	Av	10.1	.3	24.7	-	-	50	-25.3

Pk - Peak detector

Av - Average detection

6 WORST EMISSIONS Test Case 2

Line-L1 .15 - 30MHz



LINE 1 RESULTS

Trace Markers

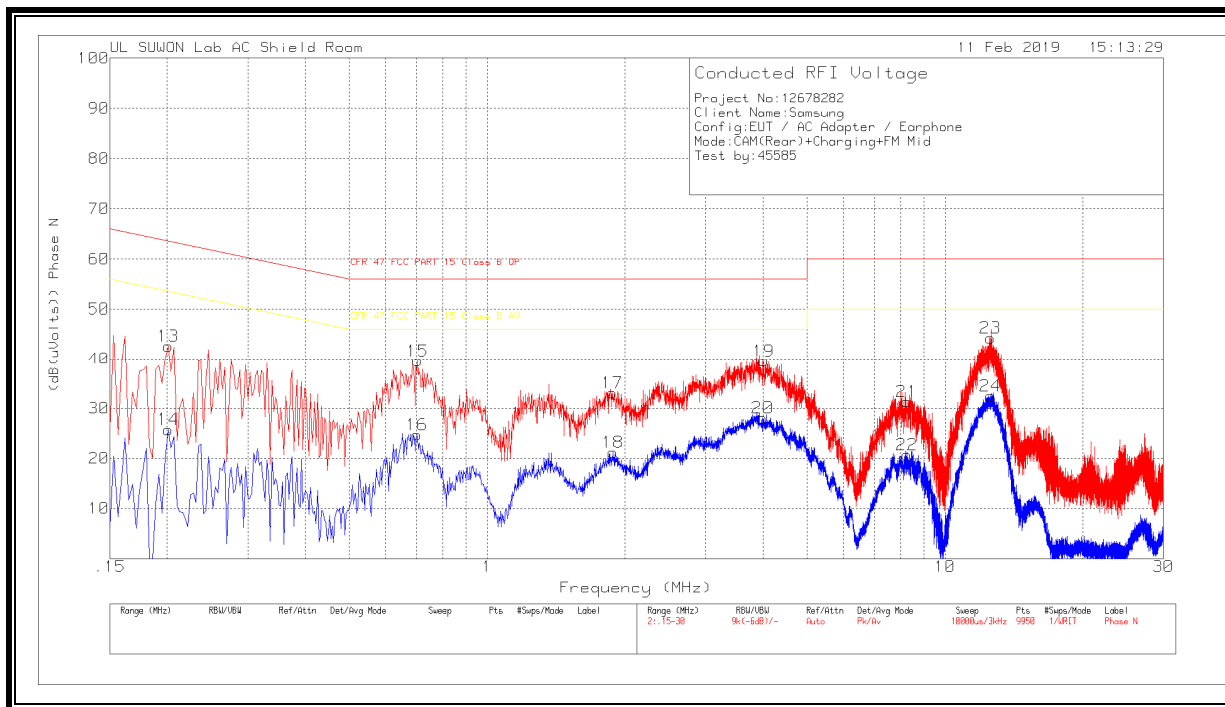
Range 1: Phase L1 .15 - 30MHz

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	.192	32.11	Pk	10	.2	42.31	63.95	-21.64	-	-
2	.216	15.72	Av	9.8	.2	25.72	-	-	52.97	-27.25
3	.702	30.46	Pk	9.9	.2	40.56	56	-15.44	-	-
4	.699	20.88	Av	9.9	.2	30.98	-	-	46	-15.02
5	1.872	22.87	Pk	9.8	.3	32.97	56	-23.03	-	-
6	1.875	15.13	Av	9.8	.3	25.23	-	-	46	-20.77
7	4.128	30.49	Pk	9.8	.3	40.59	56	-15.41	-	-
8	4.125	20.96	Av	9.8	.3	31.06	-	-	46	-14.94
9	8.7	25.15	Pk	9.9	.4	35.45	60	-24.55	-	-
10	8.7	13.55	Av	9.9	.4	23.85	-	-	50	-26.15
11	12.798	33.56	Pk	10.1	.4	44.06	60	-15.94	-	-
12	12.798	20.9	Av	10.1	.4	31.4	-	-	50	-18.6

Pk - Peak detector

Av - Average detection

Line-L2 .15 - 30MHz



LINE 2 RESULTS

Trace Markers

Range 2: Phase N .15 - 30MHz

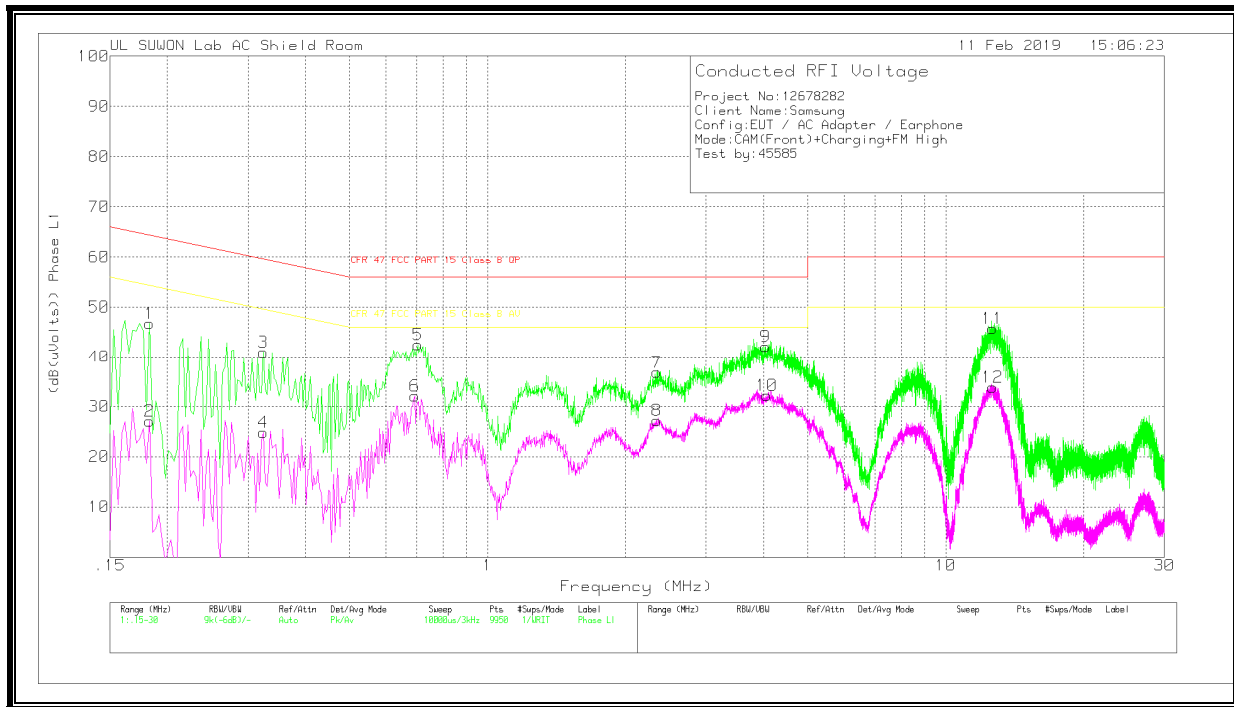
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	ENV216_10183 6_With ex- cord_N	CABLELOSS(dB)	Corrected Reading (dB(uVolts))	CFR 47 FCC PART 15 Class B QP	Margin (dB)	CFR 47 FCC PART 15 Class B AV	Margin (dB)
13	.201	32.54	Pk	9.9	.2	42.64	63.57	-20.93	-	-
14	.201	15.68	Av	9.9	.2	25.78	-	-	53.57	-27.79
15	.705	29.46	Pk	9.9	.2	39.56	56	-16.44	-	-
16	.702	14.58	Av	9.9	.2	24.68	-	-	46	-21.32
17	1.878	23.15	Pk	9.7	.3	33.15	56	-22.85	-	-
18	1.884	11.25	Av	9.7	.3	21.25	-	-	46	-24.75
19	4.017	29.47	Pk	9.8	.3	39.57	56	-16.43	-	-
20	3.999	17.94	Av	9.8	.3	28.04	-	-	46	-17.96
21	8.247	21.16	Pk	9.9	.3	31.36	60	-28.64	-	-
22	8.247	10.46	Av	9.9	.3	20.66	-	-	50	-29.34
23	12.555	33.85	Pk	10.1	.3	44.25	60	-15.75	-	-
24	12.585	22.05	Av	10.1	.3	32.45	-	-	50	-17.55

Pk - Peak detector

Av - Average detection

6 WORST EMISSIONS Test Case 3

Line-L1 .15 - 30MHz



LINE 1 RESULTS

Trace Markers

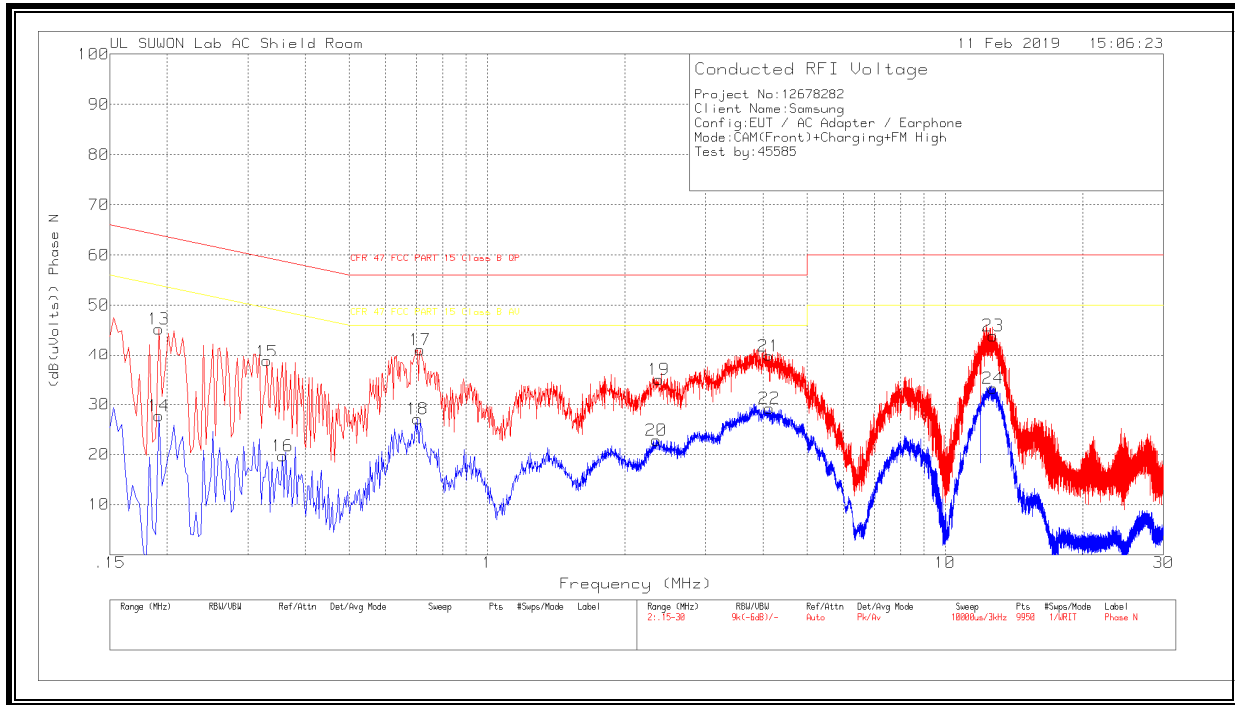
Range 1: Phase L1 .15 - 30MHz

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	36.55	Pk	10	.2	46.75	64.35	-17.6	-	-
2	.183	16.93	Av	10	.2	27.13	-	-	54.35	-27.22
3	.324	31	Pk	9.8	.2	41	59.6	-18.6	-	-
4	.324	14.82	Av	9.8	.2	24.82	-	-	49.6	-24.78
5	.705	32.33	Pk	9.9	.2	42.43	56	-13.57	-	-
6	.693	21.98	Av	9.9	.2	32.08	-	-	46	-13.92
7	2.34	26.61	Pk	9.9	.3	36.81	56	-19.19	-	-
8	2.34	17.07	Av	9.9	.3	27.27	-	-	46	-18.73
9	4.047	32	Pk	9.8	.3	42.1	56	-13.9	-	-
10	4.065	22.12	Av	9.8	.3	32.22	-	-	46	-13.78
11	12.66	35.36	Pk	10.1	.3	45.76	60	-14.24	-	-
12	12.657	23.46	Av	10.1	.3	33.86	-	-	50	-16.14

Pk - Peak detector

Av - Average detection

Line-L2 .15 - 30MHz



LINE 2 RESULTS

Trace Markers

Range 2: Phase N .15 - 30MHz

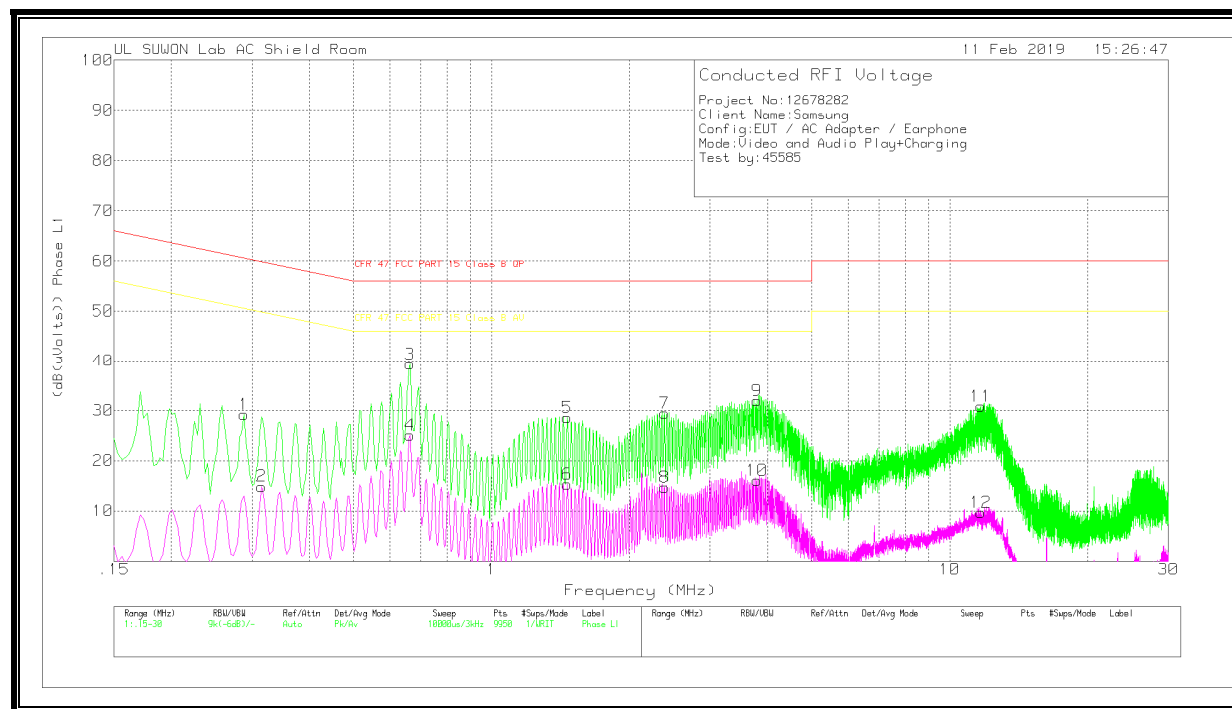
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	ENV216_10183 6_With ex- cord_N	CABLELOSS(dB)	Corrected Reading (dB(uVolts))	CFR 47 FCC PART 15 Class B QP	Margin (dB)	CFR 47 FCC PART 15 Class B AV	Margin (dB)
13	.192	35.08	Pk	9.9	.2	45.18	63.95	-18.77	-	-
14	.192	17.6	Av	9.9	.2	27.7	-	-	53.95	-26.25
15	.33	28.7	Pk	9.8	.2	38.7	59.45	-20.75	-	-
16	.357	9.78	Av	9.7	.2	19.68	-	-	48.8	-29.12
17	.714	31	Pk	9.9	.2	41.1	56	-14.9	-	-
18	.705	17.04	Av	9.9	.2	27.14	-	-	46	-18.86
19	2.37	24.98	Pk	9.7	.3	34.98	56	-21.02	-	-
20	2.343	12.82	Av	9.7	.3	22.82	-	-	46	-23.18
21	4.122	29.78	Pk	9.8	.3	39.88	56	-16.12	-	-
22	4.14	19.18	Av	9.8	.3	29.28	-	-	46	-16.72
23	12.738	33.52	Pk	10.1	.3	43.92	60	-16.08	-	-
24	12.714	22.85	Av	10.1	.3	33.25	-	-	50	-16.75

Pk - Peak detector

Av - Average detection

6 WORST EMISSIONS Test Case 4

Line-L1 .15 - 30MHz



LINE 1 RESULTS

Trace Markers

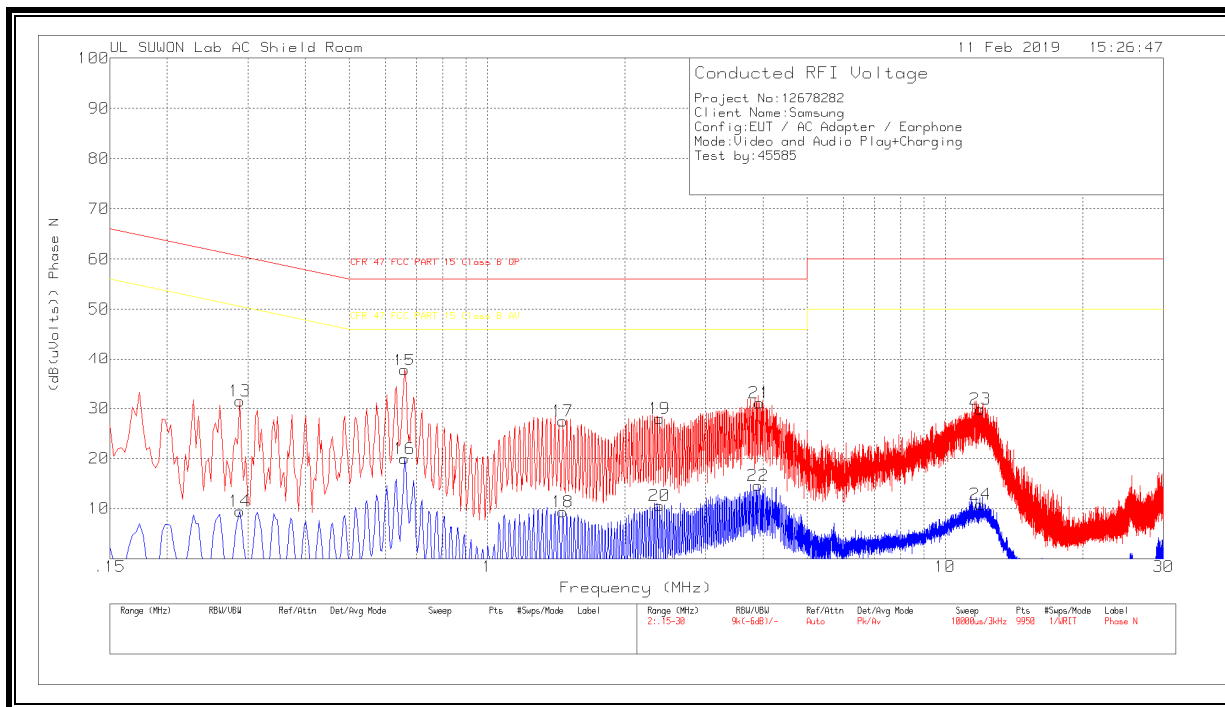
Range 1: Phase L1 .15 - 30MHz

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	.288	19.18	Pk	9.8	.2	29.18	60.58	-31.4	-	-
2	.315	4.9	Av	9.8	.2	14.9	-	-	49.84	-34.94
3	.663	29.24	Pk	9.9	.2	39.34	56	-16.66	-	-
4	.663	14.95	Av	9.9	.2	25.05	-	-	46	-20.95
5	1.464	18.49	Pk	9.8	.3	28.59	56	-27.41	-	-
6	1.464	5.25	Av	9.8	.3	15.35	-	-	46	-30.65
7	2.385	19.3	Pk	9.9	.3	29.5	56	-26.5	-	-
8	2.385	4.47	Av	9.9	.3	14.67	-	-	46	-31.33
9	3.795	21.9	Pk	9.8	.3	32	56	-24	-	-
10	3.792	5.97	Av	9.8	.3	16.07	-	-	46	-29.93
11	11.7	20.43	Pk	10.1	.3	30.83	60	-29.17	-	-
12	11.676	-.64	Av	10.1	.3	9.76	-	-	50	-40.24

Pk - Peak detector

Av - Average detection

Line-L2 .15 - 30MHz



LINE 2 RESULTS

Trace Markers

Range 2: Phase N .15 - 30MHz

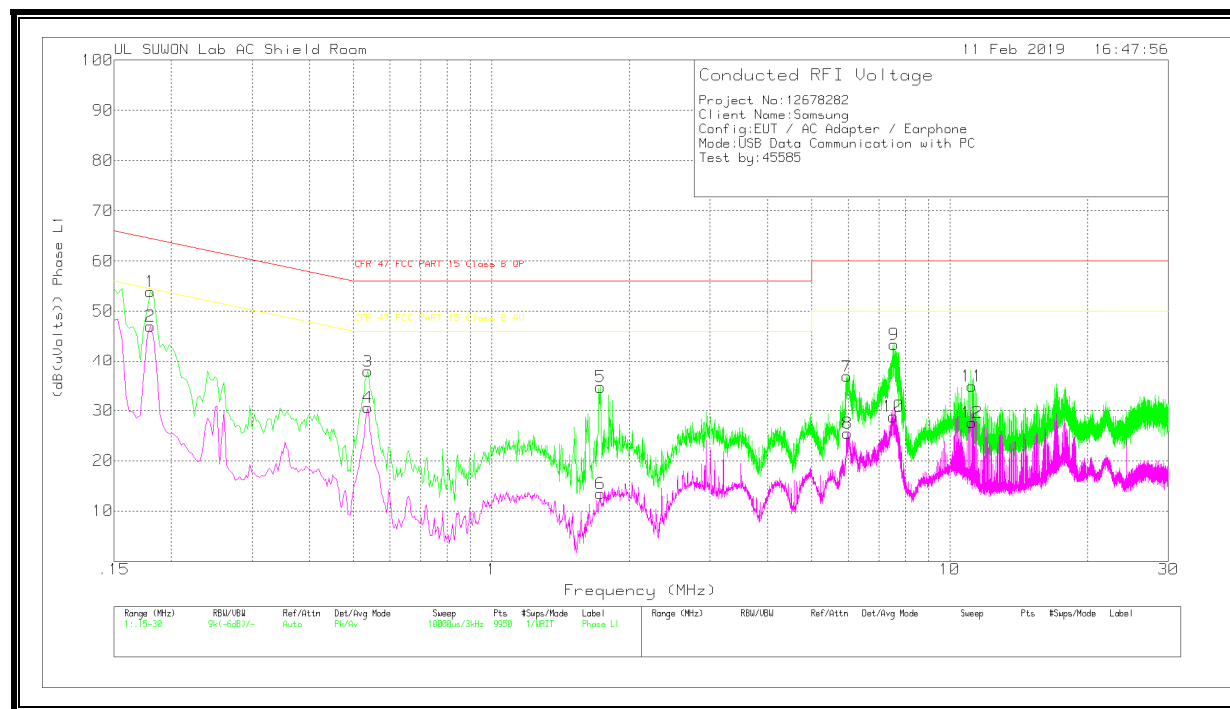
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	ENV216_10183 6_With ex- cord_N	CABLELOSS(dB)	Corrected Reading (dB(uVolts))	CFR 47 FCC PART 15 Class B QP	Margin (dB)	CFR 47 FCC PART 15 Class B AV	Margin (dB)
13	.288	21.58	Pk	9.7	.2	31.48	60.58	-29.1	-	-
14	.288	-.5	Av	9.7	.2	9.4	-	-	50.58	-41.18
15	.66	27.58	Pk	9.9	.2	37.68	56	-18.32	-	-
16	.66	9.92	Av	9.9	.2	20.02	-	-	46	-25.98
17	1.461	17.45	Pk	9.7	.3	27.45	56	-28.55	-	-
18	1.464	-.7	Av	9.7	.3	9.3	-	-	46	-36.7
19	2.382	17.92	Pk	9.7	.3	27.92	56	-28.08	-	-
20	2.379	.61	Av	9.7	.3	10.61	-	-	46	-35.39
21	3.933	21	Pk	9.8	.3	31.1	56	-24.9	-	-
22	3.903	4.48	Av	9.8	.3	14.58	-	-	46	-31.42
23	11.952	19.4	Pk	10.1	.3	29.8	60	-30.2	-	-
24	11.952	.44	Av	10.1	.3	10.84	-	-	50	-39.16

Pk - Peak detector

Av - Average detection

6 WORST EMISSIONS Test Case 5

Line-L1 .15 - 30MHz



LINE 1 RESULTS

Trace Markers

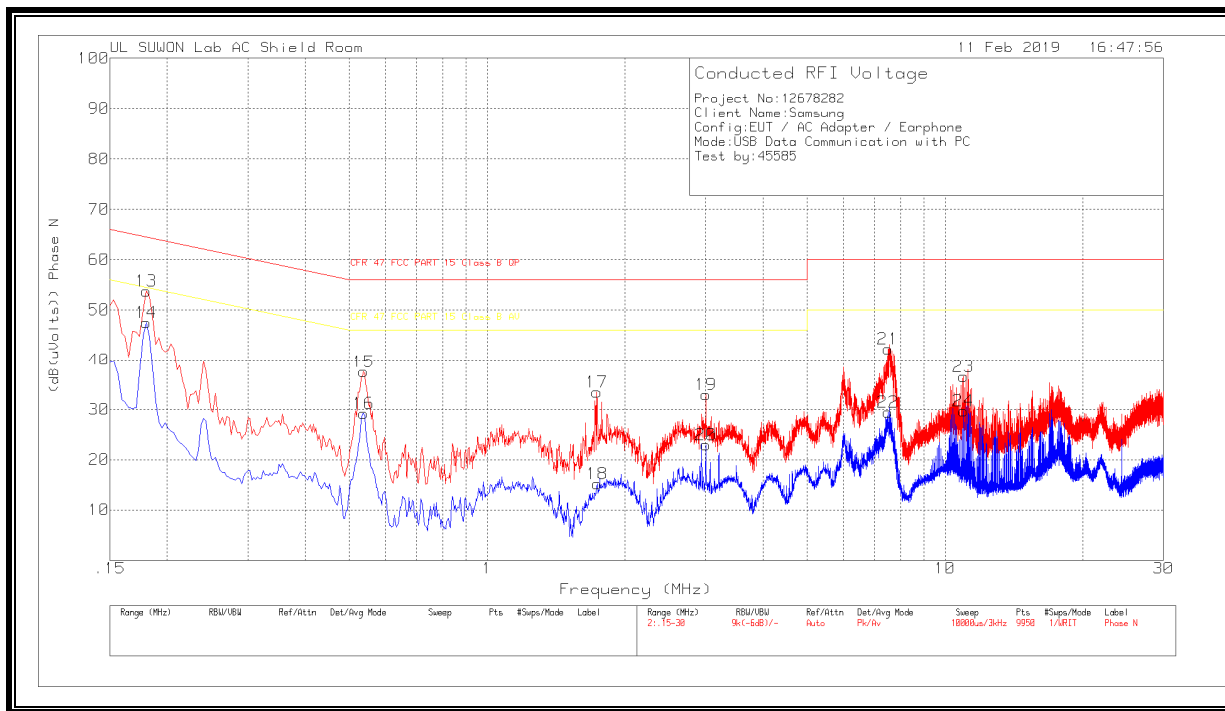
Range 1: Phase L1 .15 - 30MHz

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	.18	43.63	Pk	10	.2	53.83	64.49	-10.66	-	-
2	.18	36.74	Av	10	.2	46.94	-	-	54.49	-7.55
3	.537	27.77	Pk	9.9	.2	37.87	56	-18.13	-	-
4	.537	20.46	Av	9.9	.2	30.56	-	-	46	-15.44
5	1.7295	24.57	Pk	9.8	.3	34.67	56	-21.33	-	-
6	1.728	3.4	Av	9.8	.3	13.5	-	-	46	-32.5
7	5.967	26.79	Pk	9.8	.3	36.89	60	-23.11	-	-
8	5.976	15.38	Av	9.8	.3	25.48	-	-	50	-24.52
9	7.548	33.15	Pk	9.9	.3	43.35	60	-16.65	-	-
10	7.542	18.59	Av	9.9	.3	28.79	-	-	50	-21.21
11	11.169	24.58	Pk	10	.3	34.88	60	-25.12	-	-
12	11.172	17.27	Av	10	.3	27.57	-	-	50	-22.43

Pk - Peak detector

Av - Average detection

Line-L2 .15 - 30MHz



LINE 2 RESULTS

Trace Markers

Range 2: Phase N .15 - 30MHz

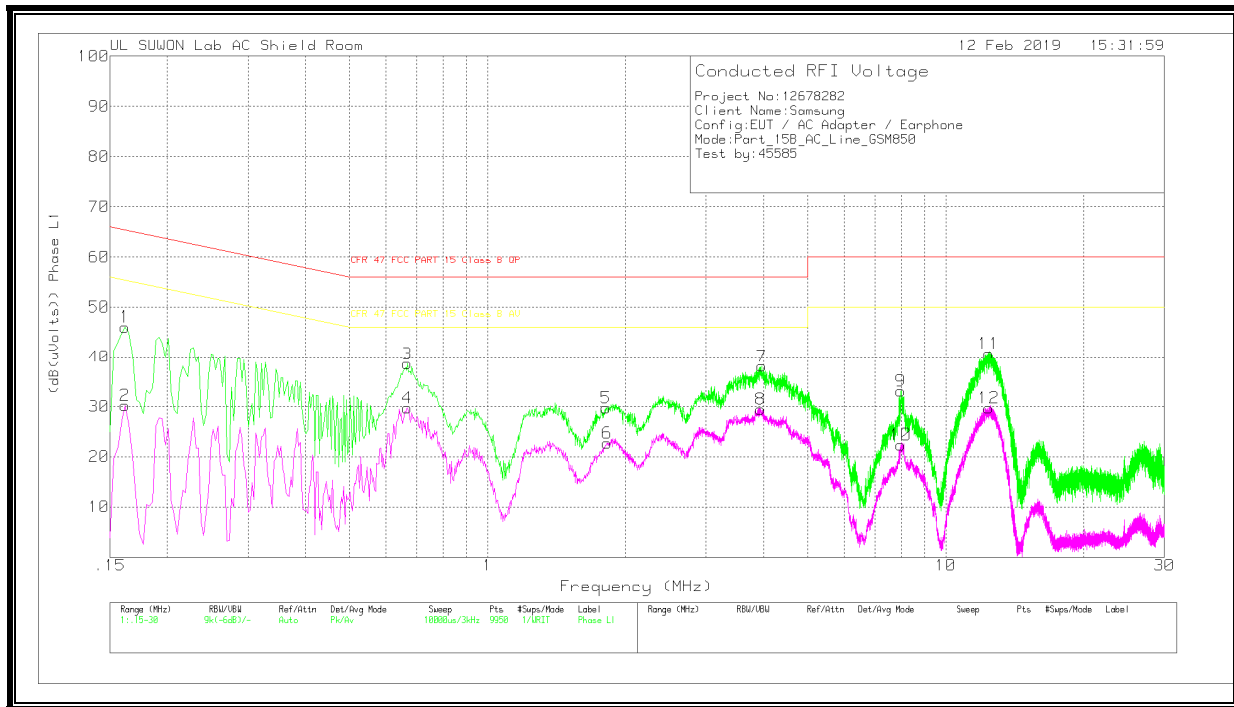
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	ENV216_10183 6_With ex- cord_N	CABLELOSS(dB)	Corrected Reading (dB(uVolts))	CFR 47 FCC PART 15 Class B QP	Margin (dB)	CFR 47 FCC PART 15 Class B AV	Margin (dB)
13	.18	43.53	Pk	10	.2	53.73	64.49	-10.76	-	-
14	.18	37.3	Av	10	.2	47.5	-	-	54.49	-6.99
15	.537	27.47	Pk	9.9	.2	37.57	56	-18.43	-	-
16	.537	19.15	Av	9.9	.2	29.25	-	-	46	-16.75
17	1.737	23.42	Pk	9.7	.3	33.42	56	-22.58	-	-
18	1.74	5.16	Av	9.7	.3	15.16	-	-	46	-30.84
19	3.006	22.98	Pk	9.7	.3	32.98	56	-23.02	-	-
20	3.006	12.92	Av	9.7	.3	22.92	-	-	46	-23.08
21	7.518	32.04	Pk	9.9	.3	42.24	60	-17.76	-	-
22	7.512	19.31	Av	9.9	.3	29.51	-	-	50	-20.49
23	10.974	26.27	Pk	10	.3	36.57	60	-23.43	-	-
24	10.974	19.4	Av	10	.3	29.7	-	-	50	-20.3

Pk - Peak detector

Av - Average detection

6 WORST EMISSIONS Test Case 6

Line-L1 .15 - 30MHz



LINE 1 RESULTS

Trace Markers

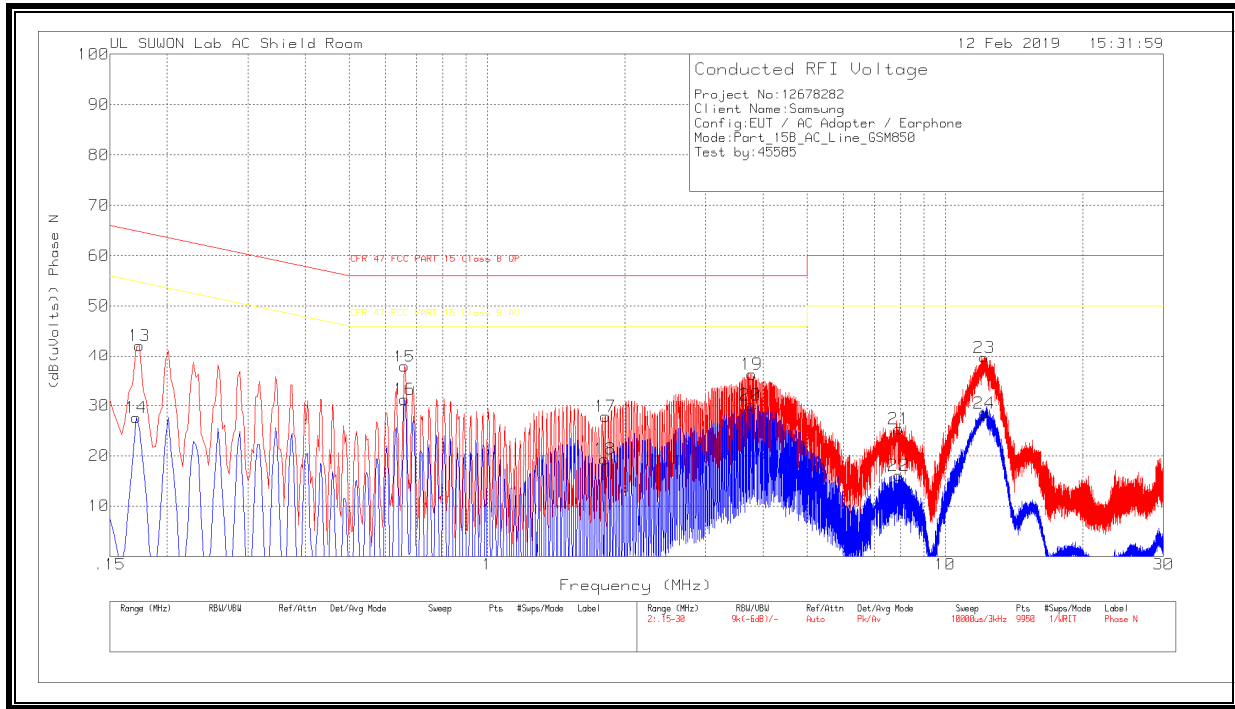
Range 1: Phase L1 .15 - 30MHz

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	.162	35.95	Pk	10	.1	46.05	65.36	-19.31	-	-
2	.162	20.08	Av	10	.1	30.18	-	-	55.36	-25.18
3	.669	28.48	Pk	9.9	.2	38.58	56	-17.42	-	-
4	.669	19.58	Av	9.9	.2	29.68	-	-	46	-16.32
5	1.815	19.65	Pk	9.8	.3	29.75	56	-26.25	-	-
6	1.824	12.57	Av	9.8	.3	22.67	-	-	46	-23.33
7	3.972	28.04	Pk	9.8	.3	38.14	56	-17.86	-	-
8	3.948	19.37	Av	9.8	.3	29.47	-	-	46	-16.53
9	7.974	22.87	Pk	9.9	.3	33.07	60	-26.93	-	-
10	7.986	12.2	Av	9.9	.3	22.4	-	-	50	-27.6
11	12.399	30.28	Pk	10.1	.3	40.68	60	-19.32	-	-
12	12.399	19.29	Av	10.1	.3	29.69	-	-	50	-20.31

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	.174	31.92	Pk	10	.2	42.12	64.77	-22.65	-	-
14	.171	17.35	Av	10	.2	27.55	-	-	54.91	-27.36
15	.66	27.78	Pk	9.9	.2	37.88	56	-18.12	-	-
16	.66	21.13	Av	9.9	.2	31.23	-	-	46	-14.77
17	1.812	17.85	Pk	9.7	.3	27.85	56	-28.15	-	-
18	1.809	9.31	Av	9.7	.3	19.31	-	-	46	-26.69
19	3.786	26.18	Pk	9.8	.3	36.28	56	-19.72	-	-
20	3.759	20.03	Av	9.8	.3	30.13	-	-	46	-15.87
21	7.917	15.1	Pk	9.9	.3	25.3	60	-34.7	-	-
22	7.917	5.87	Av	9.9	.3	16.07	-	-	50	-33.93
23	12.18	29.34	Pk	10.1	.3	39.74	60	-20.26	-	-
24	12.168	18.11	Av	10.1	.3	28.51	-	-	50	-21.49

Pk - Peak detector

Av - Average detection