

EMC TEST REPORT

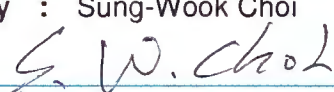

Project No.	LBE20210143	Issue No.	0
Applicant	Name of organization	Samsung Electronics Co., Ltd.	
	Address	(Maetan-dong) 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Korea	
	Date of receipt	March 05, 2021	
EUT	Type of device	<input checked="" type="checkbox"/> All other Receivers subject to part15 <input checked="" type="checkbox"/> Class B Personal Computers and peripherals <input checked="" type="checkbox"/> Other Class B digital devices and peripherals <input type="checkbox"/> FM Broadcast Receiver	
	Equipment authorization	<input checked="" type="checkbox"/> Certification <input type="checkbox"/> Supplier's Declaration of Conformity	
	FCC ID	A3LSMG780G	
	Kind of product	Mobile Phone	
	Model No.	SM-G780G/DS	
	Variant Model No.	Refer to clause 4.6	
	Manufacturer	SAMSUNG ELECTRONICS VIETNAM CO., LTD. Yenphong 1 - I.P YenTrung Commune, Yenphong Dist., Bac Ninh Province, Vietnam Samsung Electronics Vietnam Thai Nguyen Co., Ltd. Yen Binh Industrial Zone Pho Ten Dist., Thai Nguyen Province, Vietnam SAMSUNG ELECTRONICS CO., LTD. (GUMI) 302, 3 Gongdan 3-ro, Gumi-si, Gyengsangbuk-do, 39388, Republic of Korea SAMSUNG INDIA ELECTRONICS PVT LTD (SIEL-N) B-1 Sector-81, Phase-II NOIDA U.P. INDIA	
Applied Standards		47 CFR Part 15, Subpart B, Class B / ANSI C63.4-2014	
Test Period		March 05, 2021 ~ March 09, 2021	
Issue date		March 11, 2021	
Test result : Complied The equipment under test has found to be compliant with the applied standards. (Refer to the attached test result for more detail.)			
Tested by : Sung-Wook Choi 		Reviewed by : Sun-Ho Kim 	
The test results in this report only apply to the tested sample. This report must not be reproduced, except in full, without written permission from Global CS center.			
Samsung Electronics Co., Ltd., Global CS Center (Maetan dong) 129, Samsung-ro, Yeongtong-Gu, Suwon-Si, Gyeonggi-Do 16677, Korea			

Table of contents

1. Report Information

1.1 Revision history	3
----------------------------	---

2. Summary of test results

2.1 Emission	3
--------------------	---

3. General Information

3.1 Test facility	3
-------------------------	---

4. Test Configuration

4.1 Test Peripherals	4
4.2 EUT operating mode	5
4.3 Details of Sampling	5
4.4 Used cable description	6
4.5 Test arrangement	7
4.6 EUT Description	10
4.7 EUT Frequencies	10
4.8 Test configuration and condition	11
4.9 Measurement uncertainty	11

5. Result of individual tests

5.1 Conducted emission	12
5.2 Radiated emission	17

1. Report Information

1.1 Revision history

No.	Date of Issue	Revised detailed information
Issue 0	March 11, 2021	There are no revisions and this version is basic test report.

※ Remark

Compliance with Part 15B requirements for the receiver part of the licensed transmitter (equipment code CXX) is covered by other test report.

2. Summary of test results

2.1 Emission

The EUT has been tested according to the following specifications:

Applied	Test type	Applied standard	Result
<input checked="" type="checkbox"/>	Conducted emission (Mains port)	47 CFR Part 15 Subpart B / ANSI C63.4-2014 (Class B)	Complied
<input checked="" type="checkbox"/>	Radiated emission		Complied

3. General Information

3.1 Test facility

The Global CS Center is located on Samsung Electronics Co., Ltd. at (Maetan-dong) 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Korea.

All testing are performed in Semi-anechoic chambers conforming to the site attenuation characteristics defined by ANSI C63.4, CISPR 32, CISPR 16-1-4 and Shielded rooms. And all antennas are properly calibrated using ANSI C63.5:2017.

The Global CS Center is an ISO/IEC 17025 accredited testing laboratory by the National Radio Research Agency with designation No. KR0004. for EMC testing.

4. Test Setup configuration

4.1 Test Peripherals

The cables used for these peripherals are either permanently attached by the peripheral manufacturer or coupled with an assigned cable as defined below.

The following is a listing of the EUT and peripherals utilized during the performance of EMC test:

Mark	Description	Model No.	Serial No.	Manufacturer / Trademark	FCC ID
A	Mobile Phone	SM-G780G/DS	-	SAMSUNG	A3LSMA326U
B	Battery	EB-BG781ABY	-	SDI	-
C	Headset	YBD-19HS	-	ALMUS	-
D	Data Cable	EP-DF700	-	KSD	-
E	Micro SD Card	64GB	-	SAMSUNG	DoC
F	Laptop Computer	Latitude5580	1WYRYM2	Dell	DoC
			D3HRYM2	Dell	DoC
G	Laptop AC Adapter	LA65NM130	5DEA	Dell	DoC
			5B3C	Dell	DoC
H	Mouse	AA-SM7PCPB	CN57BA5903634ADV 8JJCD4371	SAMSUNG	DoC
		SNJ-B138	Z5F8353	SAMSUNG	DoC
I	Router	DIR-806A	RF0F1D8018454	D-Link	DoC
			RF0F1D8011504	D-Link	DoC
J	Travel Adapter	EP-TA200	R37M15D6BN1SE3	SOLU-M	-
K	DP Monitor	27UD88	711NTQD8H004	LG	DoC
L	DP Monitor AC Adapter	LCAP31	EH8NN629490055062	LG	DoC
M	DP Cable	JCA141	BW2K1709000770	J5CREATE	DoC

4.2 EUT operating mode

To achieve compliance applied standard specification including CXX, JAB and JBP requirement, the following mode(s) were made during compliance testing:

4.2.1 Conducted Emission

No.	Operating mode
1	Camera (rear) + Charging (w/ TA) + Cellular receiver (LTE FDD26)
2	Camera (front) + Charging (w/ TA)
3	Video + Audio playback from internal memory data + Charging (w/ TA)
4	USB Data Communication with PC (from External memory data)

4.2.2 Radiated Emission

No.	Operating mode
1	Camera (rear) + Charging (w/ TA)
2	Camera (front)
3	Video + Audio playback from internal memory data(w/ Headset)
4	Video + Audio playback from internal memory data + Display out (w/ USB to Direct DP cable)
5	USB Data Communication with PC (from External memory data)

4.3 Details of Sampling

Customer selected, single unit.

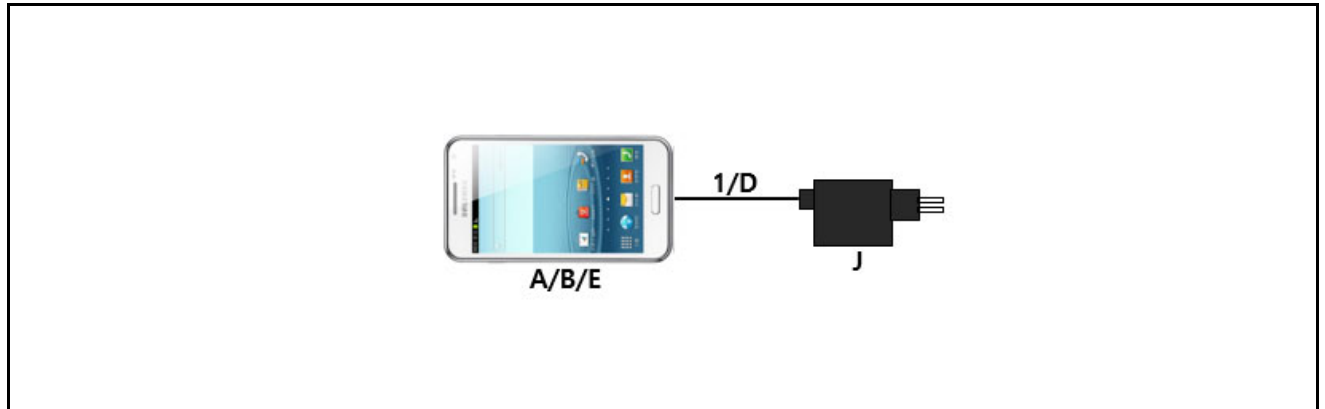
4.4 Used cable description

The EUT is configured, installed, arranged and operated in a manner consistent with typical applications. Interface cables/loads/devices are connected to at least one of each type of interface port of the EUT, and where practical, each cable shall be terminated in a device typical of actual usage. The type(s) of interconnecting cables to be used and the interface port (of the EUT) to which these were connected:

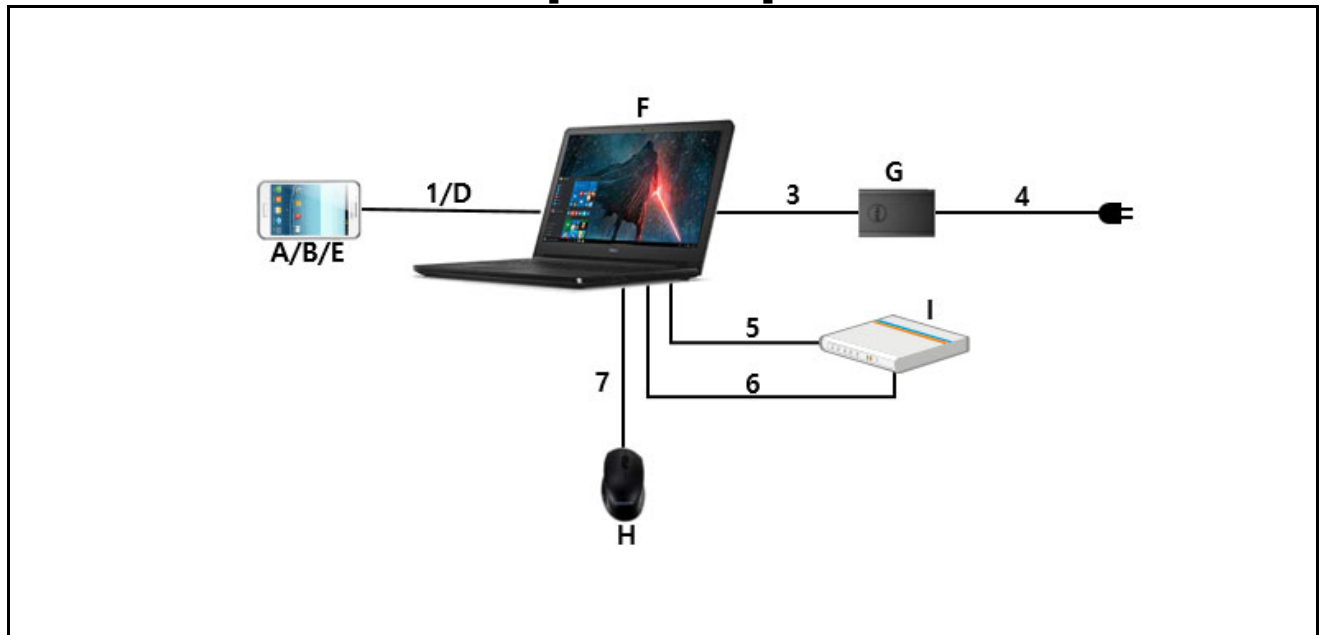
No.	Connected cable	Length [m]	Shielded [Y/N]	Note
1	Data Cable	1.0	Y	From EUT to Laptop Computer or TA
2	Headset	1.2	N	For EUT
3	Power	1.8	N	From Laptop Computer to AC Adapter
4	Power	1.5	N	For Laptop AC Adapter
5	LAN	1.5	N	From Laptop Computer to Router
6	USB	0.8	Y	From Laptop Computer to Router for DC Power
7	USB	1.8	Y	From Laptop Computer to Mouse
8	DP Cable	1.1	Y	From DP Monitor to EUT
9	Power	1.2	N	From DP Monitor to DP Monitor AC Adapter
10	Power	1.8	N	For DP Monitor AC Adapter

4.5 Test arrangement

4.5.1 Conducted Emission

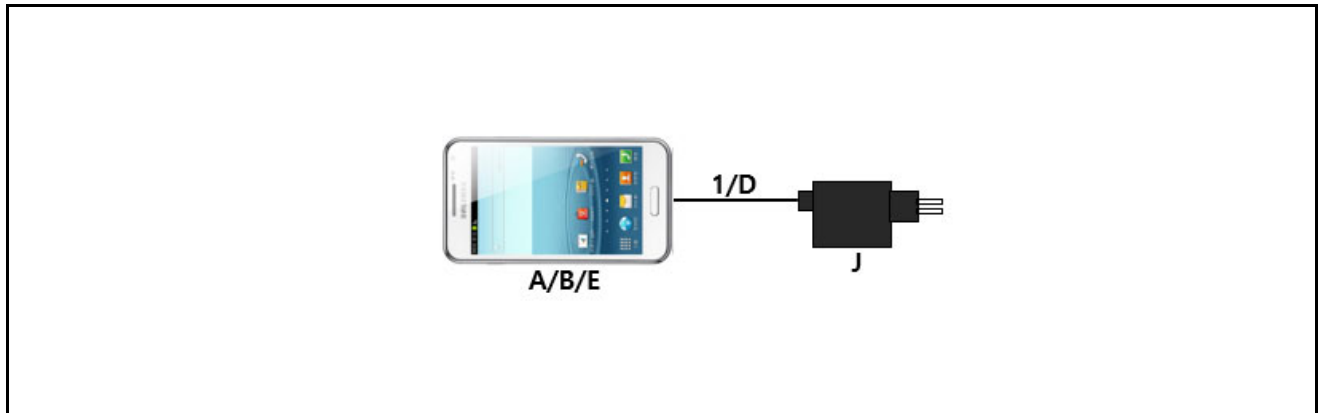


[Mode 1 - 3]

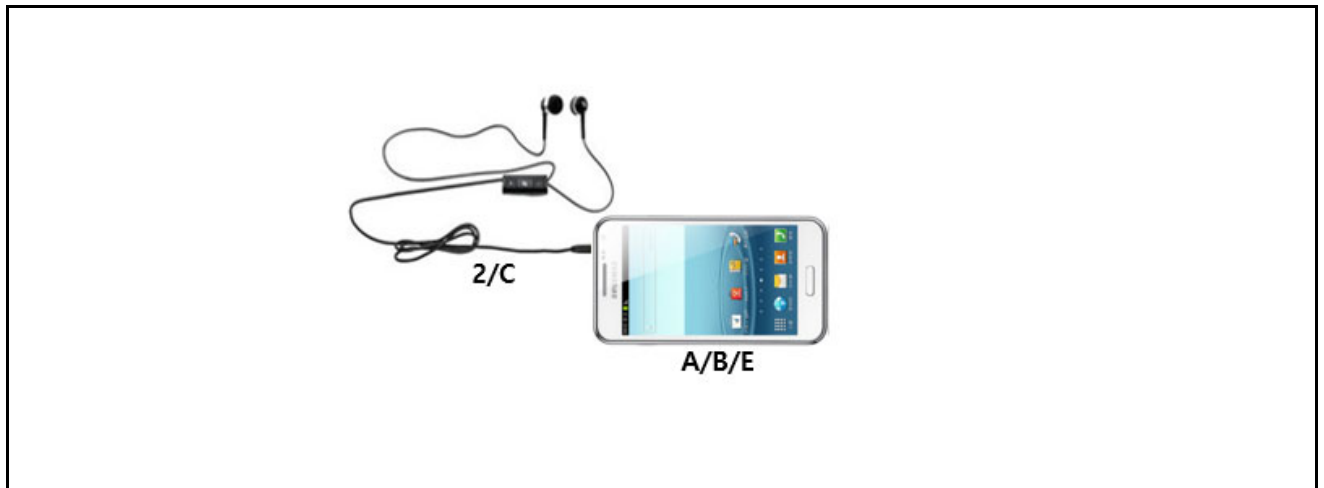


[Mode 4]

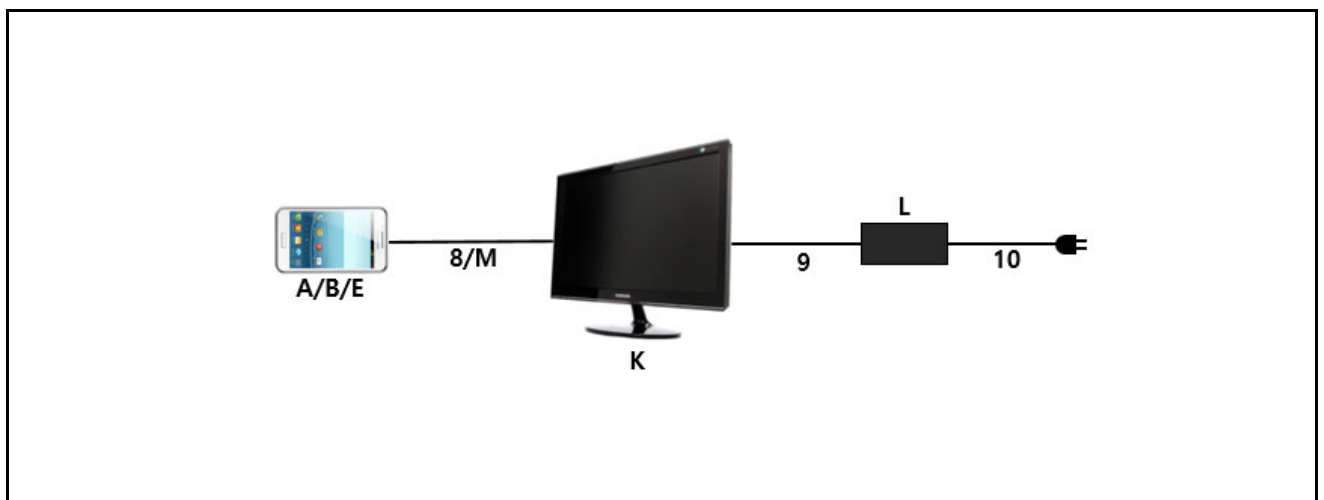
4.5.2 Radiated Emission



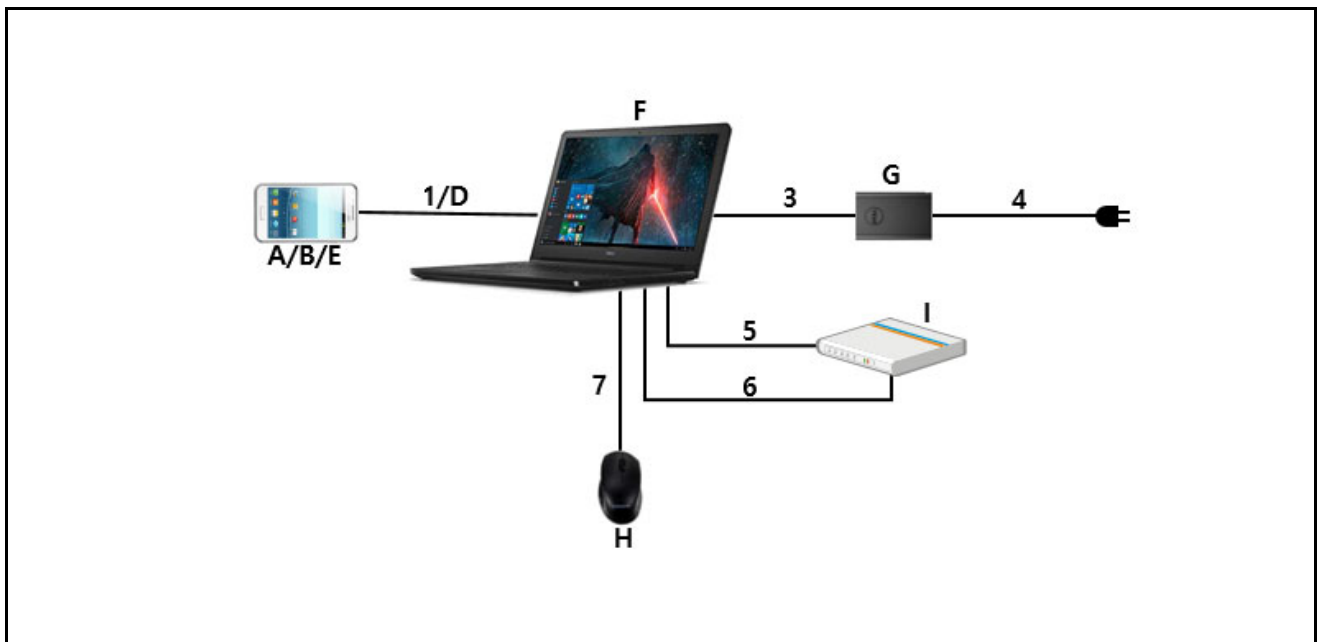
[Mode 1]



[Mode 2 - 3]



[Mode 4]



[Mode 5]

4.6 EUT Description

The EUT is a bar type Mobile Phone which can operate on GSM850/900/1800/1900, WCDMA FDD1/2/4/5/8, LTE FDD 1/2/3/4/5/7/8/12/13/17/20/26/28/32/66, LTE TDD 38/40/41, 5G NR n1/3/7/8/41/78 and incorporates a Bluetooth, Wi-Fi, Camera, GNSS, NFC, Wireless Charging, DP, Audio and Video.

4.6.1 The variant models

- SM-G780G/DMS, SM-G780G

4.7 EUT Frequencies

The highest frequencies (Generated and used)	Frequency [MHz]
Wi-Fi	5 825

4.8 Test configuration and condition

The system was configured for testing in a typical fashion that a customer would normally use. Cables were attached to each of the available I/O Ports. Where applicable, peripherals were attached to the I/O cables. All the external I/O ports are exercised, as well as internal and the external SD card, by writing and reading arbitrary data or charging with TA.

The EUT was investigated in three orientations and the worst case orientation is reported.

RX mode(850MHz) testing was performed with the LTE FDD26 RX Test mode at center frequency. All licensed communication (850MHz) RX mode, GSM/WCDMA/LTE, test results are not significantly different.

The video and audio were repetitively played with the earphone connected.

The video and music were played on monitor through Display Out function using direct DP Cable or DP converter.

The camera of the EUT was operated continuously.

Power source for the EUT operating was supplied by CVCF made by the Pacific Corp.

- Test Voltage : AC 120 V, 60 Hz

4.9 Measurement uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus: (According to CISPR 16-4-2 and UKAS M3003)

4.9.1 Emission

Test type		Measurement uncertainty (C.L. approximately 95 %, $k = 2$)
Conducted Emission	AC Mains	2.83 dB
Radiated Emission (Below 1 GHz)	Horizontal	4.08 dB
	Vertical	4.58 dB
Radiated Emission (Above 1 GHz)	Horizontal	5.21 dB
	Vertical	5.22 dB

* Remark

- 1) The values for uncertainty of conducted and radiated emissions are less than the Corresponding values of U_{CISPR} given in CISPR 16-4-2. Therefore no adjustment of measurement results is necessary when comparing them with the relevant limits.

5. Results of individual test

5.1 Conducted Emission

The EUT is connected to a LISN via travel adapter. If the EUT is connected to the Laptop Computer USB port, the Laptop AC adapter is connected to a LISN.

Both conducted lines are measured in Quasi-Peak and CISPR-Average mode, including the worst-case data points for each tested configuration. The EUT measured in accordance with the methods described in standards.

Limits for Conducted emission at the mains ports of Class B ITE

Frequency range Limits [MHz]	Resolution Bandwidth [kHz]	Limits [dB(μV)]	
		Quasi-peak	Average
0.15 to 0.50	9	66 to 56	56 to 46
0.50 to 5	9	56	46
5 to 30	9	60	50
NOTE 1 The lower limit shall apply at the transition frequency.			
NOTE 2 The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.			

5.1.1 Test instrumentation

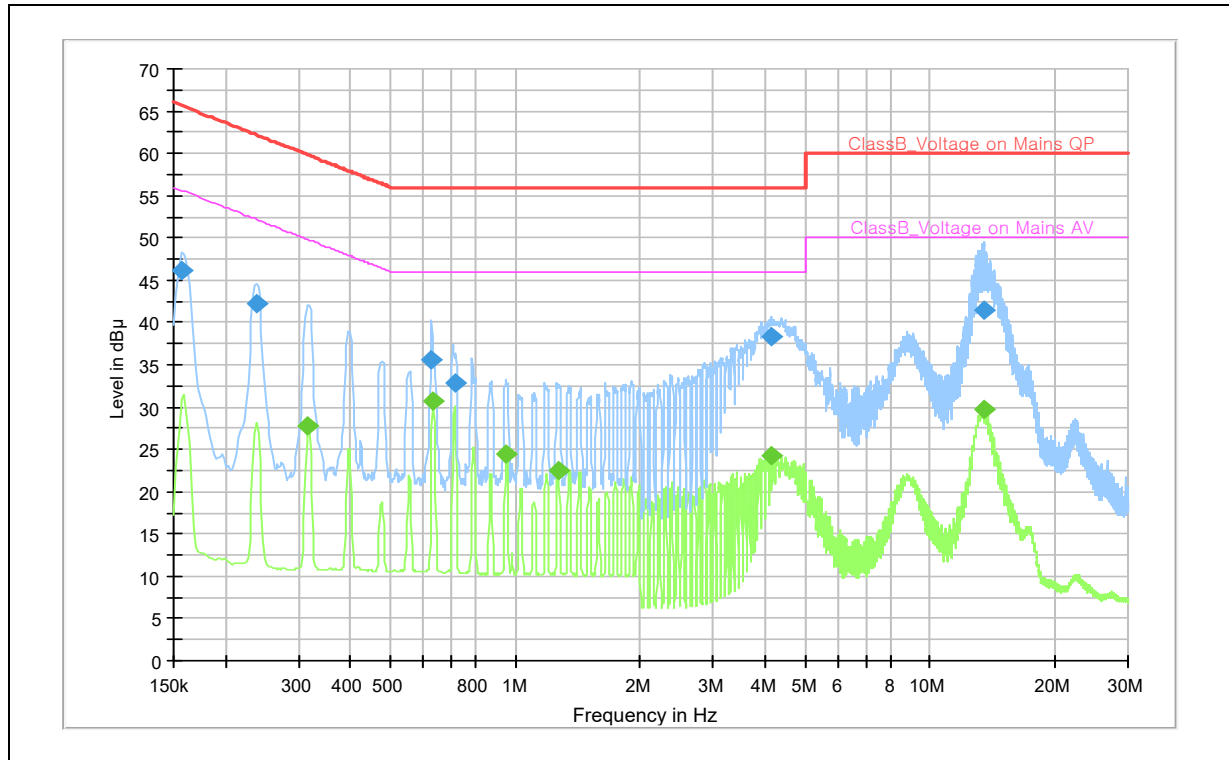
EMC No.	Test Instrument	Model name	Manufacturer	Serial No.	Next Calibration	
					Date	Interval (Month)
E5I-006	LTE Communicator	CMW500	R&S	132728	2021-04-06	12
E5I-015	EMI Test Receiver	ESU8	R&S	100481	2021-07-01	12
E5I-127	LISN	ENV216	R&S	102061	2021-07-29	12
-	Test software	EMC32	R&S	Ver 9.26.01	-	-

5.1.2 Temperature and humidity condition

Test date	2021-03-08 ~ 2021-03-09	Test engineer	Sung-Wook Choi
Climate condition	Ambient temperature	(23.5 ± 0.5) °C	Limit (15.0 to 35.0) °C
	Relative humidity	(43.2 ± 0.5) % R.H.	Limit (25.0 to 75.0) % R.H.
	Atmospheric pressure	(102.4 ± 0.5) kPa	Limit (86.0 to 106.0) kPa
Test place	Shield Room (SR8)		

5.1.3 Test results

☐ Operating Mode 1: AC Mains



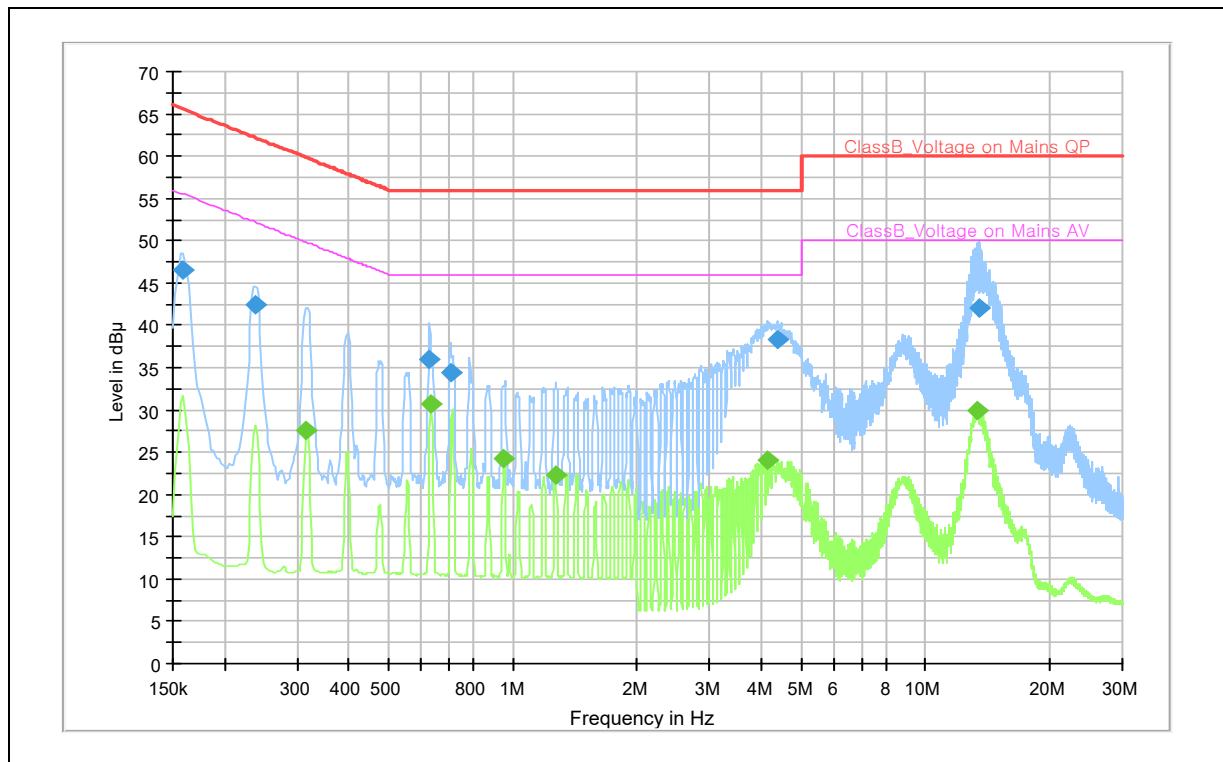
Note 1) Two graphs measured for both Live(L1) and Neutral(N) of the LISN are combined into one graph.

QP / CAV final measurement results table:

Frequency (MHz)	QP (dBμV)	CAV (dBμV)	Limit (dBμV)	Margin (dB)	Line	Corr. (dB)
0.157	46.15	---	65.63	19.49	N	10.1
0.238	42.31	---	62.17	19.86	N	9.9
0.317	---	27.68	49.80	22.12	N	10.1
0.629	35.54	---	56.00	20.46	L1	10.2
0.634	---	30.79	46.00	15.21	N	10.2
0.713	32.76	---	56.00	23.24	L1	10.1
0.953	---	24.38	46.00	21.62	N	10.0
1.268	---	22.52	46.00	23.48	N	10.0
4.148	---	24.29	46.00	21.71	N	10.0
4.157	38.24	---	56.00	17.76	N	10.0
13.434	---	29.77	50.00	20.23	L1	10.3
13.459	41.53	---	60.00	18.47	L1	10.3

Note 2) Level (QP and/or CAV) = Meter Reading (QP and/or CAV) + Corr. (LISN Insertion Loss + Cable Loss)
 Margin (QP and/or CAV) = Limit – Level (QP and/or CAV)
 QP = Quasi-Peak, CAV = CISPR-Average, Corr. = Correction Factor

☐ Operating Mode 2: AC Mains



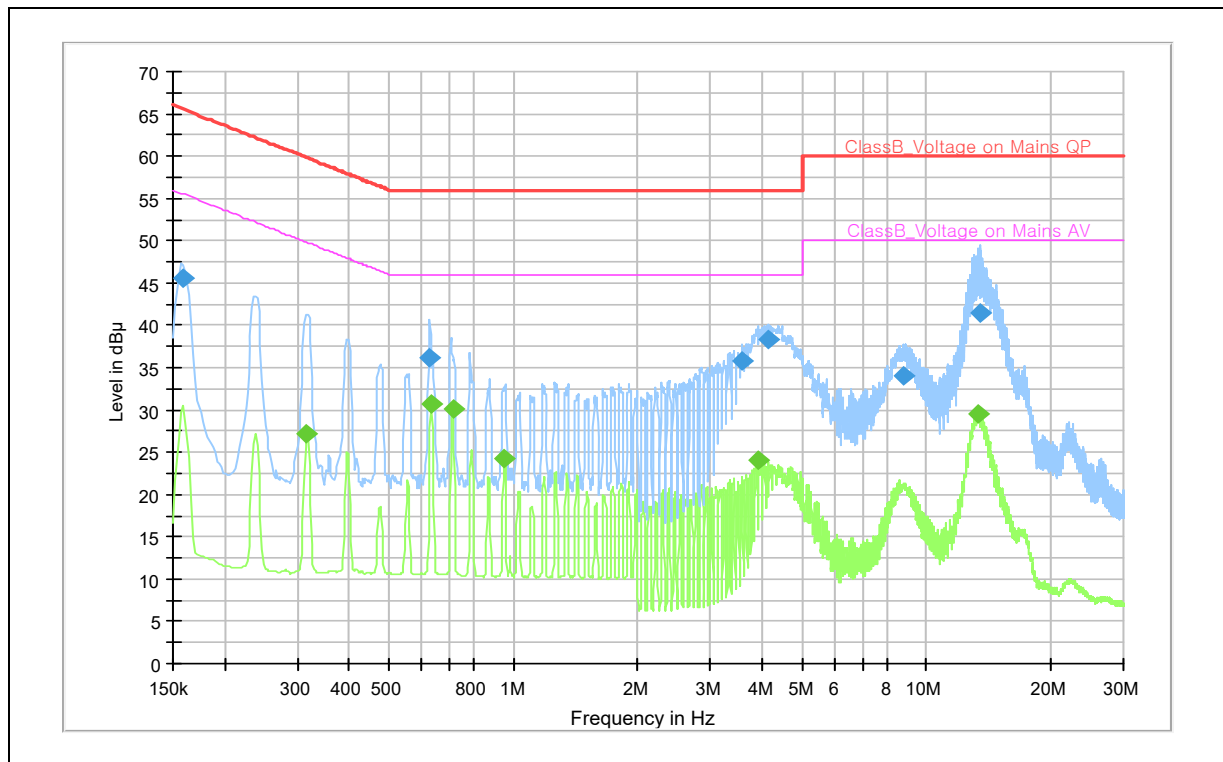
Note 1) Two graphs measured for both Live(L1) and Neutral(N) of the LISN are combined into one graph.

QP / CAV final measurement results table:

Frequency (MHz)	QP (dBμV)	CAV (dBμV)	Limit (dBμV)	Margin (dB)	Line	Corr. (dB)
0.159	46.48	---	65.52	19.04	N	10.1
0.238	42.36	---	62.17	19.82	N	9.9
0.317	---	27.55	49.80	22.25	N	10.1
0.629	36.04	---	56.00	19.96	L1	10.2
0.634	---	30.70	46.00	15.30	N	10.2
0.708	34.45	---	56.00	21.55	L1	10.1
0.953	---	24.20	46.00	21.80	N	10.0
1.268	---	22.37	46.00	23.63	N	10.0
4.146	---	23.96	46.00	22.04	N	10.0
4.391	38.25	---	56.00	17.75	N	10.0
13.360	---	29.86	50.00	20.14	L1	10.3
13.454	41.98	---	60.00	18.02	L1	10.3

Note 2) Level (QP and/or CAV) = Meter Reading (QP and/or CAV) + Corr. (LISN Insertion Loss + Cable Loss)
 Margin (QP and/or CAV) = Limit – Level (QP and/or CAV)
 QP = Quasi-Peak, CAV = CISPR-Average, Corr. = Correction Factor

□ Operating Mode 3: AC Mains



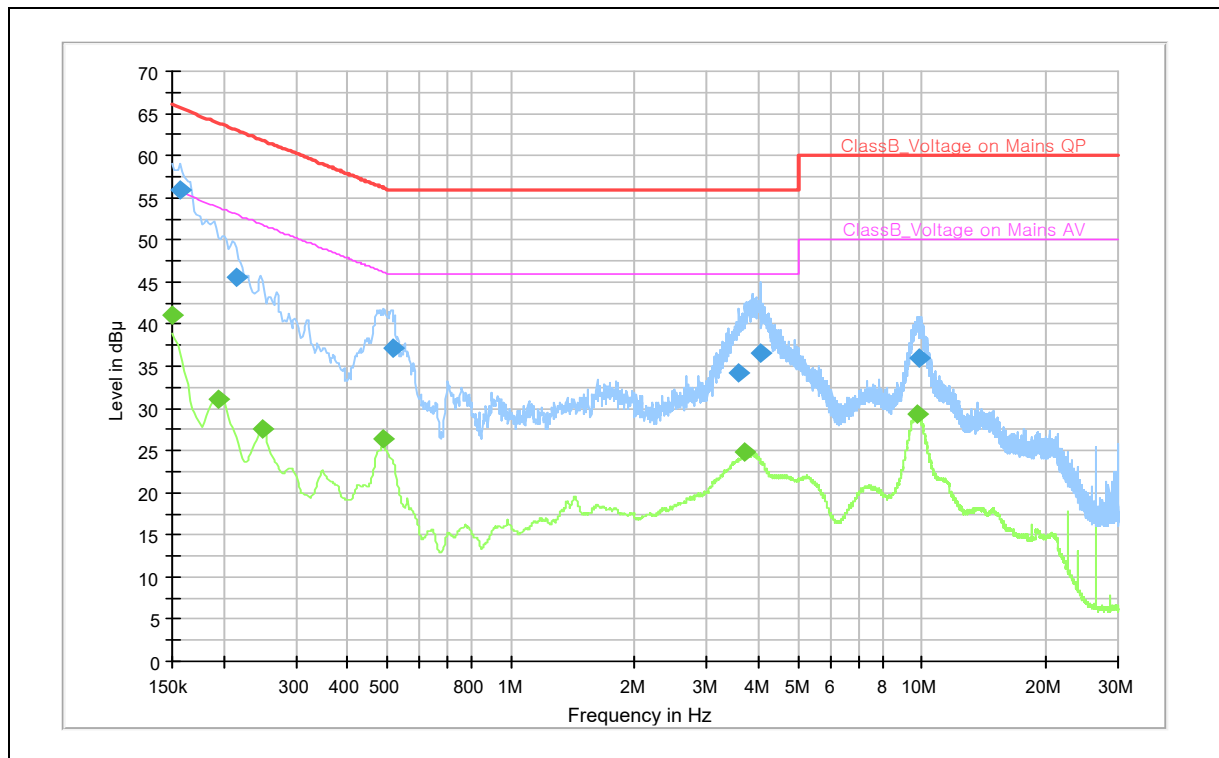
Note 1) Two graphs measured for both Live(L1) and Neutral(N) of the LISN are combined into one graph.

QP / CAV final measurement results table:

Frequency (MHz)	QP (dBμV)	CAV (dBμV)	Limit (dBμV)	Margin (dB)	Line	Corr. (dB)
0.159	45.54	---	65.52	19.98	N	10.1
0.317	---	27.25	49.80	22.54	N	10.1
0.627	36.10	---	56.00	19.90	L1	10.2
0.634	---	30.67	46.00	15.33	N	10.2
0.713	---	30.07	46.00	15.93	N	10.1
0.951	---	24.27	46.00	21.73	N	10.0
3.593	35.73	---	56.00	20.27	N	10.0
3.903	---	24.07	46.00	21.93	N	10.0
4.151	38.36	---	56.00	17.64	N	10.0
8.804	34.11	---	60.00	25.89	N	10.2
13.355	---	29.48	50.00	20.52	L1	10.3
13.450	41.40	---	60.00	18.60	L1	10.3

Note 2) Level (QP and/or CAV) = Meter Reading (QP and/or CAV) + Corr. (LISN Insertion Loss + Cable Loss)
 Margin (QP and/or CAV) = Limit – Level (QP and/or CAV)
 QP = Quasi-Peak, CAV = CISPR-Average, Corr. = Correction Factor

□ Operating Mode 4: AC Mains



Note 1) Two graphs measured for both Live(L1) and Neutral(N) of the LISN are combined into one graph.

QP / CAV final measurement results table:

Frequency (MHz)	QP (dBμV)	CAV (dBμV)	Limit (dBμV)	Margin (dB)	Line	Corr. (dB)
0.150	---	41.01	56.00	14.99	L1	9.8
0.157	56.02	---	65.63	9.62	L1	10.0
0.195	---	31.06	53.82	22.76	L1	10.0
0.215	45.50	---	63.00	17.50	L1	9.9
0.249	---	27.55	51.79	24.24	L1	9.7
0.490	---	26.40	46.17	19.78	L1	10.1
0.515	37.16	---	56.00	18.84	L1	10.1
3.597	34.14	---	56.00	21.86	L1	9.8
3.719	---	24.76	46.00	21.24	N	9.8
4.043	36.50	---	56.00	19.50	N	9.8
9.722	---	29.40	50.00	20.60	L1	9.8
9.800	35.89	---	60.00	24.11	L1	9.8

Note 2) Level (QP and/or CAV) = Meter Reading (QP and/or CAV) + Corr. (LISN Insertion Loss + Cable Loss)
 Margin (QP and/or CAV) = Limit – Level (QP and/or CAV)
 QP = Quasi-Peak, CAV = CISPR-Average, Corr. = Correction Factor

5.2 Radiated Emission

The following data lists the significant emission frequencies, measured levels, correction factors (for antenna and cables), orientation of table, polarization and height of antenna, the corrected reading, the limit, and the amount of margin.

Peak measurements were made over the changeable frequency range 30 MHz to 1 GHz at a measurement distance of 10 m for the following antenna and turntable arrangements:

Antenna Height [cm]	Antenna Polarisation	Resolution Bandwidth [kHz]	Video Bandwidth [kHz]	Turntable position [degrees]
100 ~ 400	Horizontal, Vertical	120	300	Continuous

Measurements within 6 dB of the limit were then maximized by adjusting turntable position. Final measurements were made using quasi-peak detector.

Peak/CISPR-Average measurements were made over the changeable frequency range 1 GHz to 40 GHz or 5th harmonics of the highest frequency generated or used in the device or on which the device operates or tunes at a measurement distance of 3 m for the following antenna and turntable arrangements. The measurements above 1 GHz were performed with the bore-sighting antenna aimed at the EUT.

Antenna Height [cm]	Antenna Polarisation	Resolution Bandwidth [MHz]	Video Bandwidth [MHz]	Turntable position
100 ~ 400	Horizontal, Vertical	1	3	Continuous

Measurements within 6 dB of the limit were then maximized by adjusting turntable position. Final measurements were made using peak and CISPR-average detectors.

Limits for Radiated emission of Class B ITE at a measuring distance of 3 m and 10 m

Frequency range Limits [MHz]	Field Strength		
	3 m [$\mu\text{V/m}$]	3 m [dB($\mu\text{V/m}$)]	10 m [dB($\mu\text{V/m}$)]
30 to 88	100	40.0	29.5
88 to 216	150	43.5	33.0
216 to 960	200	46.0	35.5
Above 960	500	54.0	43.5

Note) Distance correction formula from $D_1(3\text{m})$ to $D_2(10\text{m})$
: Limit at D_2 = Limit at D_1 + $20\text{Log}(D_1/D_2)$

Results checked manually; and points close to the limit line were re-measured.

5.2.1 Test instrumentation

EMC No.	Test Instrument	Model name	Manufacturer	Serial No.	Next Calibration	
					Date	Interval (Month)
E5I-020	EMI Test Receiver	ESU40	R&S	100375	2021-09-14	12
E5I-018	EMI Test Receiver	ESU8	R&S	100484	2021-05-22	12
E5I-069	BiLog Antenna	CBL6112D	TESEQ	35382	2021-08-30	24
E5I-071	BiLog Antenna	CBL6112D	TESEQ	35384	2021-08-30	24
E5I-075	Preamplifier	310N	SONOMA	332018	2021-05-28	12
E5I-076	Preamplifier	310N	SONOMA	332019	2021-05-28	12
E5I-036	Horn Antenna	HF907	R&S	100507	2022-04-23	24
E5I-039	Signal Conditioning Unit	SCU-18	R&S	10211	2022-01-21	12
E4I-A-056	Horn Antenna	QWH-SL-18-40-K-HG-R	Steatite Antenna	19715	2021-04-23	24
E5I-042	Signal Conditioning Unit	SCU-40A	R&S	10004	2021-09-09	12
-	Test software	EP7RE	TOYO	Ver 5.8.2	-	-
-	Test software	EMC32	R&S	Ver 9.25.00	-	-

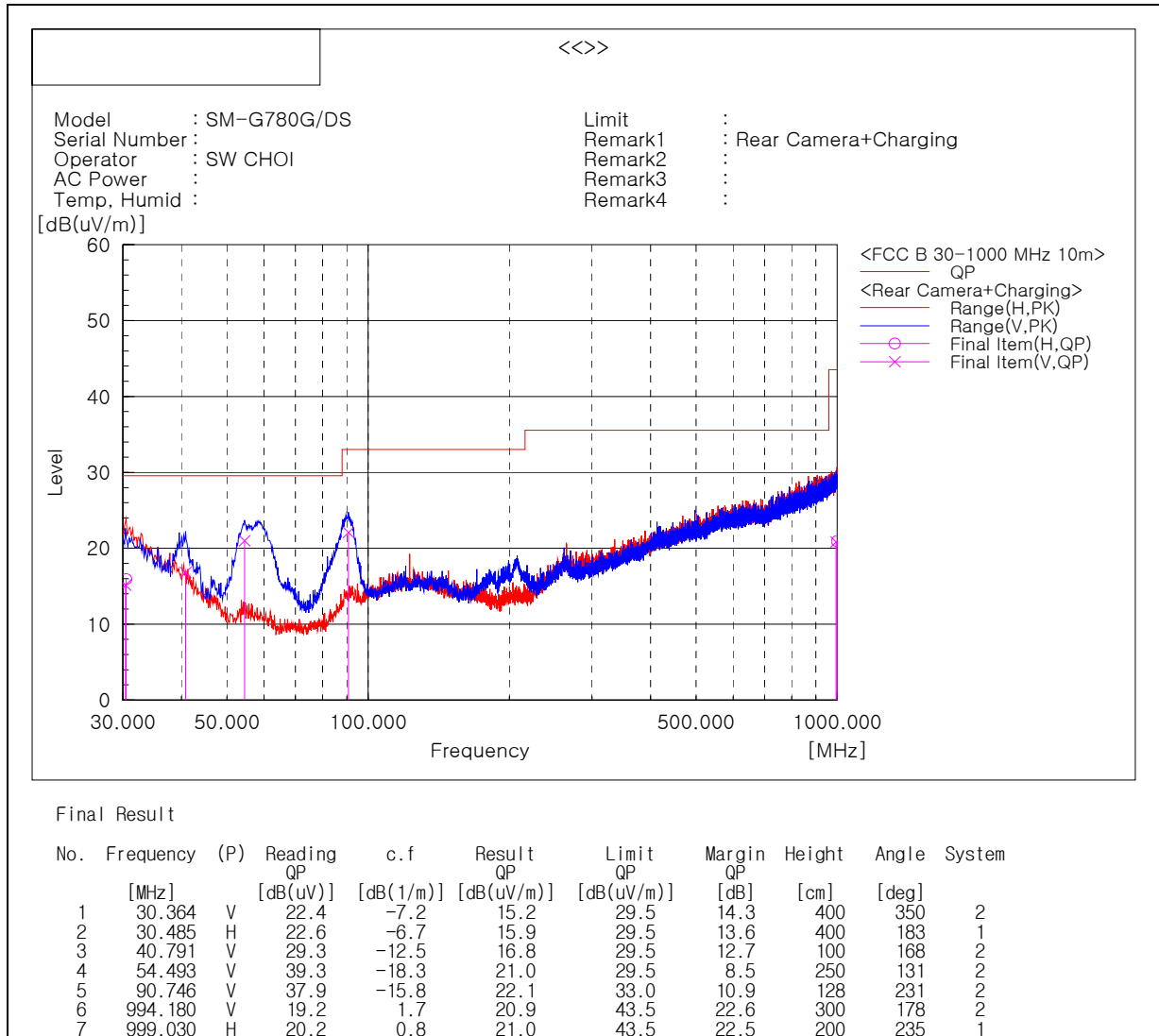
5.2.2 Temperature and humidity condition

Test date	2021-03-05	Test engineer	Sung-Wook Choi
Climate condition	Ambient temperature	(23.0 ± 0.5) °C	Limit (15.0 to 35.0) °C
	Relative humidity	(38.6 ± 0.5) % R.H.	Limit (25.0 to 75.0) % R.H.
	Atmospheric pressure	(102.3 ± 0.5) kPa	Limit (86.0 to 106.0) kPa
Test place	Semi-Anechoic Chamber (SAC4)		

5.2.3 Test results

☐ Operating Mode 1

- Frequencies below 1 GHz



Note1) Receiving antenna polarization : Horizontal, Vertical

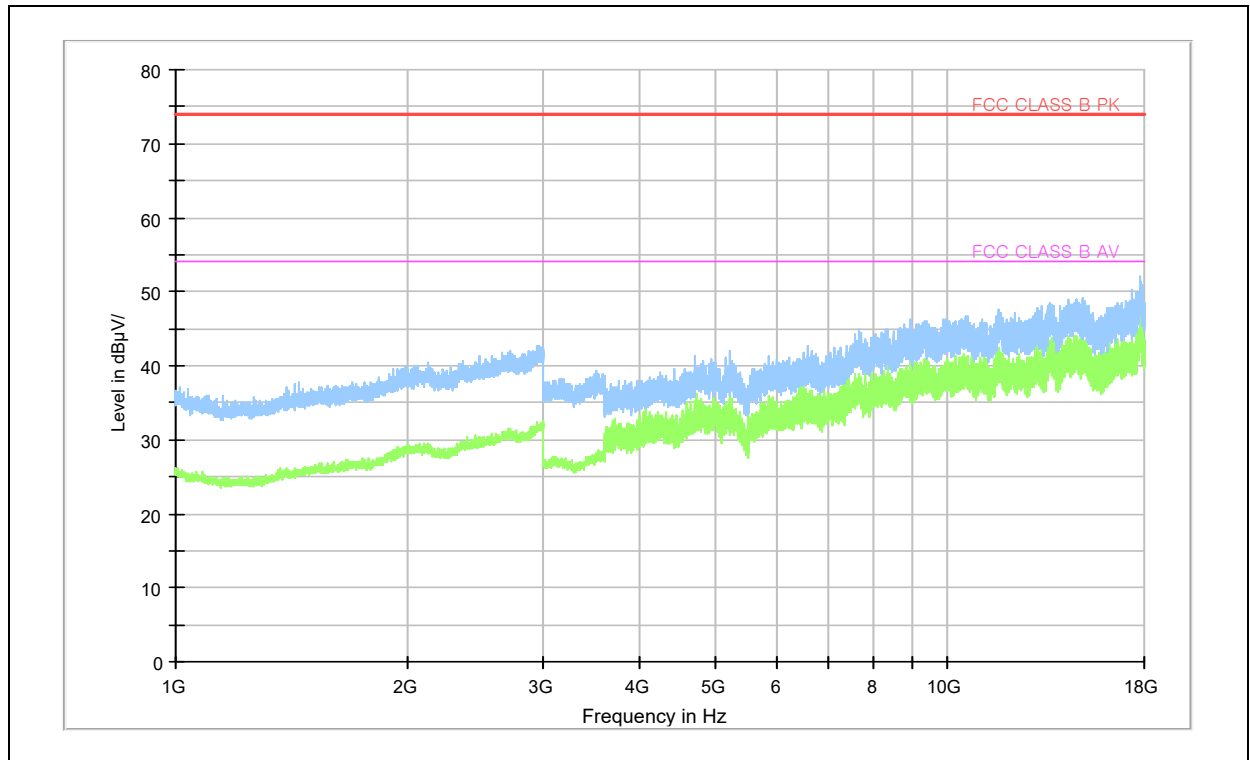
Test Distance : 10 m, Antenna Height : 1 to 4 meters

Result (QP) = Reading (QP) + c.f (Antenna Factor + Cable Loss - Amp. Gain)

Margin (QP) = Limit - Level (QP)

QP = Quasi-Peak, c.f = Correction Factor

- Frequencies above 1 GHz



Note 1) We have also tested from 18 GHz to 30 GHz and found no emissions.

Note 2) Receiving antenna polarization : Horizontal, Vertical

Test Distance : 3 m, Antenna Height : 1 to 4 meters

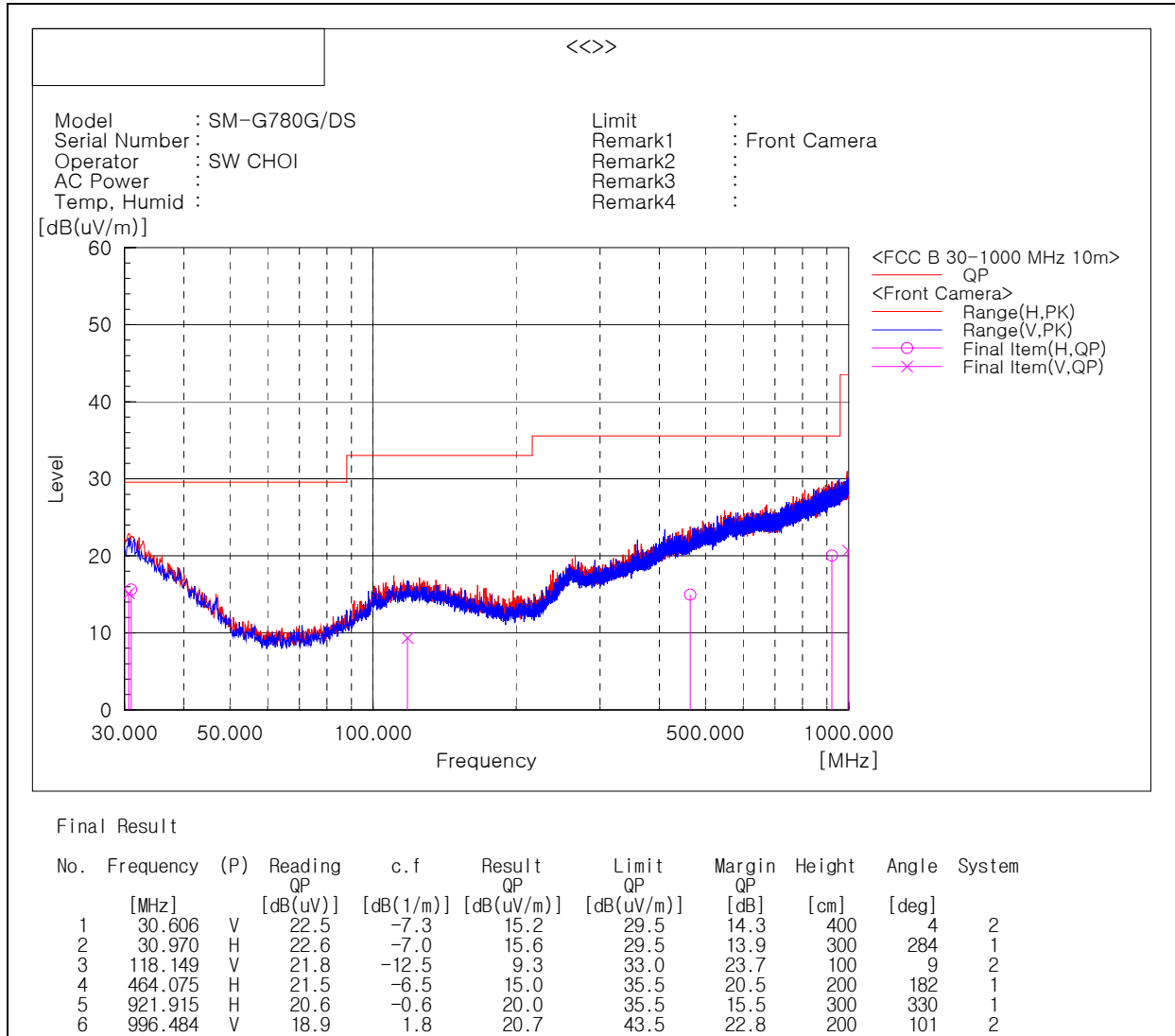
Level (PK and/or CAV) = Reading (PK and/or CAV) + Corr. (Antenna Factor + Cable Loss - Amp. Gain)

Margin (PK and/or CAV) = Limit – Level (PK and/or CAV)

PK = Peak, CAV = CISPR-Average, Corr. = Correction Factor

☐ Operating Mode 2

- Frequencies below 1 GHz



Note1) Receiving antenna polarization : Horizontal, Vertical

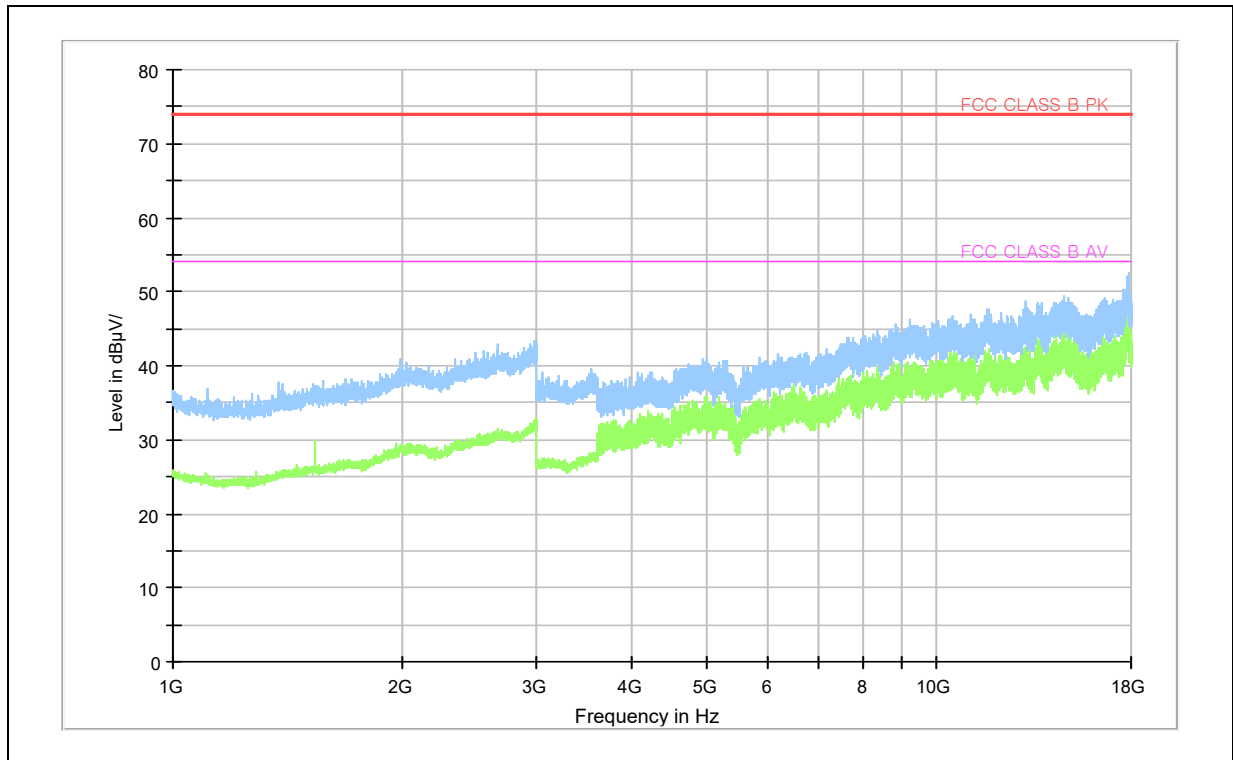
Test Distance : 10 m, Antenna Height : 1 to 4 meters

Result (QP) = Reading (QP) + c.f (Antenna Factor + Cable Loss - Amp. Gain)

Margin (QP) = Limit - Level (QP)

QP = Quasi-Peak, c.f = Correction Factor

- Frequencies above 1 GHz



Note 1) We have also tested from 18 GHz to 30 GHz and found no emissions.

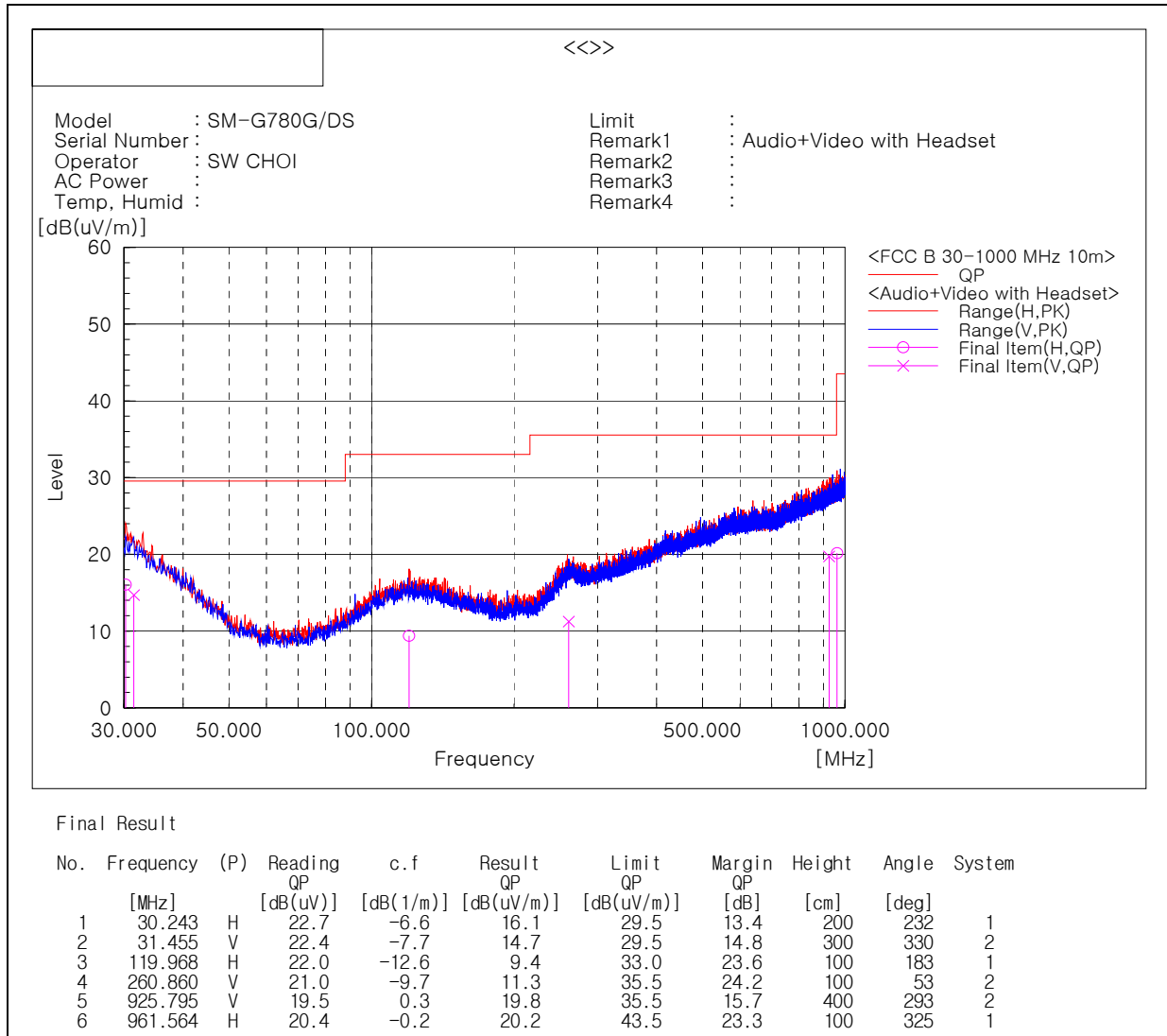
Note 2) Receiving antenna polarization : Horizontal, Vertical

Test Distance : 3 m, Antenna Height : 1 to 4 meters

Level (PK and/or CAV) = Reading (PK and/or CAV) + Corr. (Antenna Factor + Cable Loss - Amp. Gain)

Margin (PK and/or CAV) = Limit – Level (PK and/or CAV)

PK = Peak, CAV = CISPR-Average, Corr. = Correction Factor

☐ Operating Mode 3**- Frequencies below 1 GHz**

Note1) Receiving antenna polarization : Horizontal, Vertical

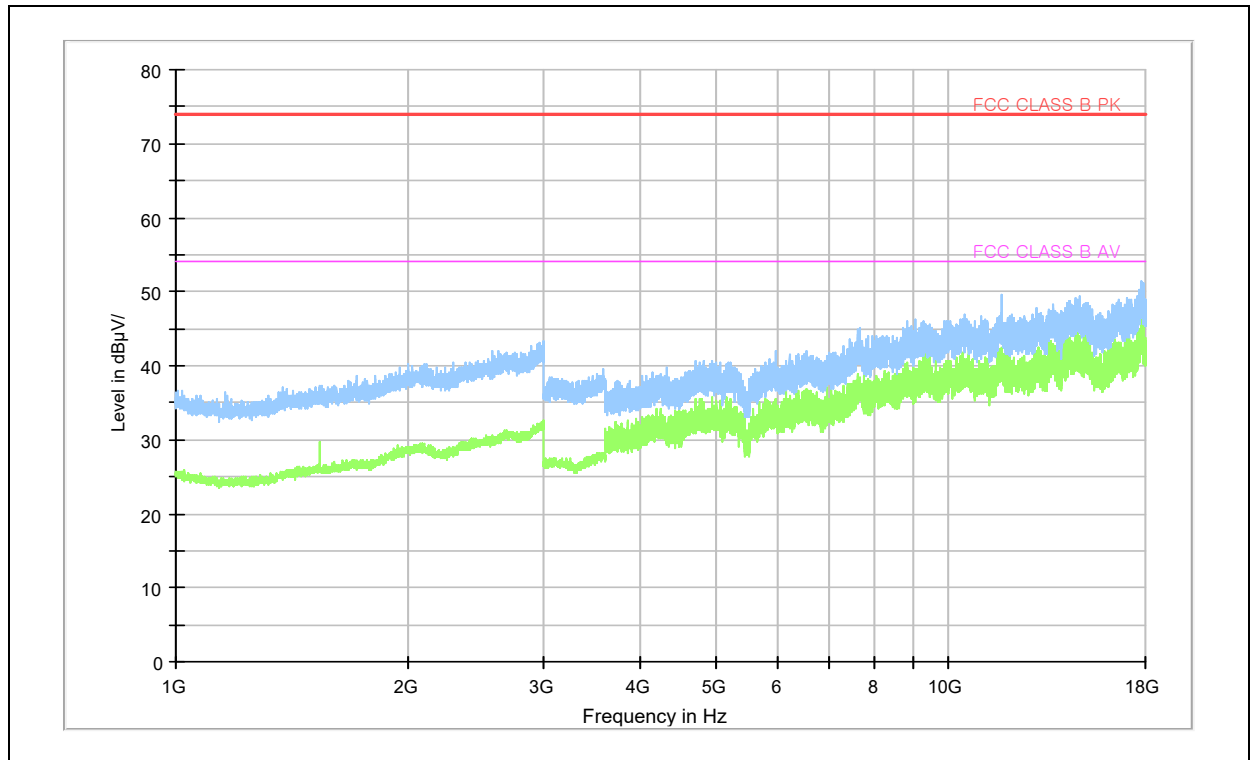
Test Distance : 10 m, Antenna Height : 1 to 4 meters

Result (QP) = Reading (QP) + c.f (Antenna Factor + Cable Loss - Amp. Gain)

Margin (QP) = Limit - Level (QP)

QP = Quasi-Peak, c.f = Correction Factor

- Frequencies above 1 GHz



Note 1) We have also tested from 18 GHz to 30 GHz and found no emissions.

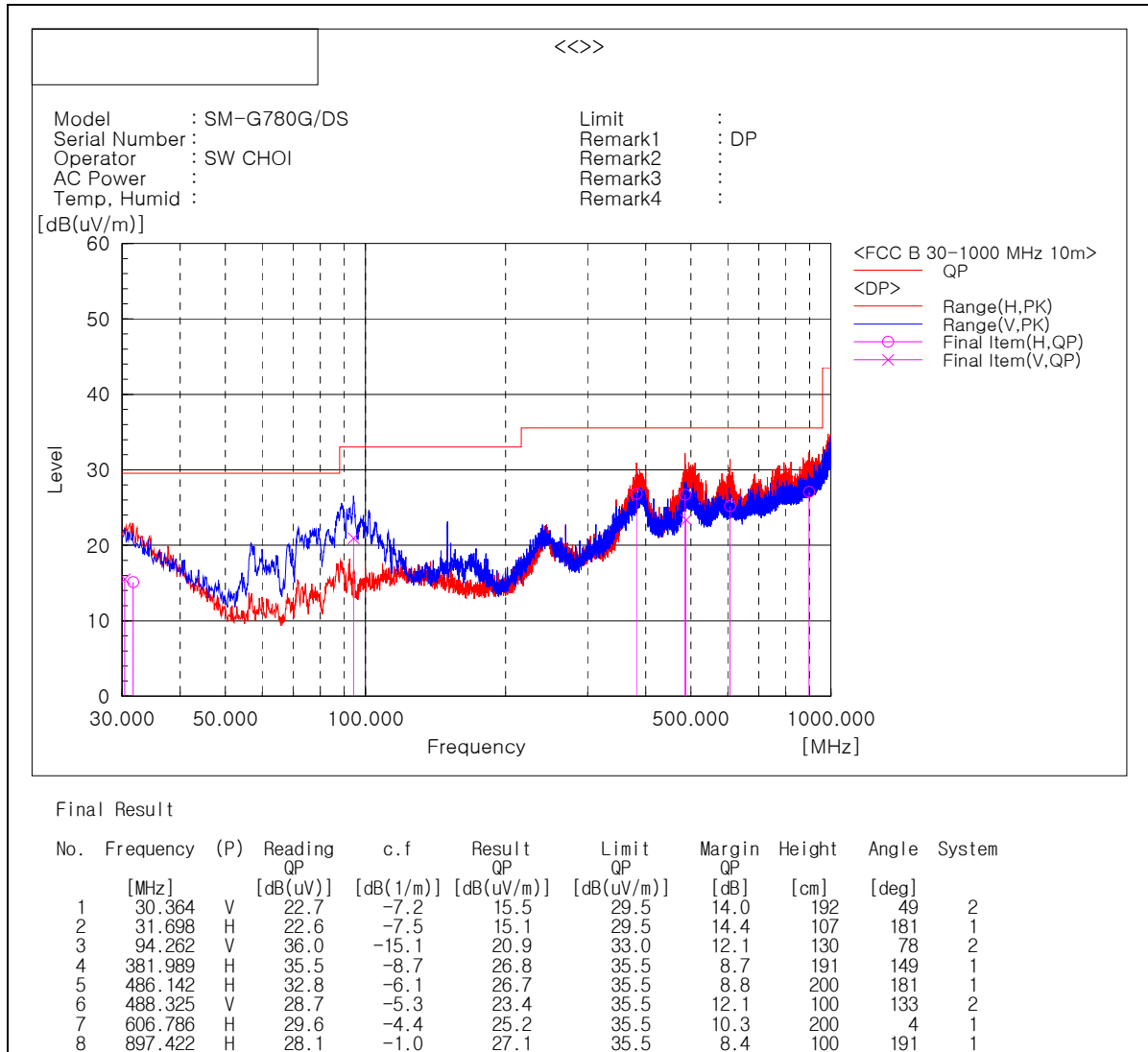
Note 2) Receiving antenna polarization : Horizontal, Vertical

Test Distance : 3 m, Antenna Height : 1 to 4 meters

Level (PK and/or CAV) = Reading (PK and/or CAV) + Corr. (Antenna Factor + Cable Loss - Amp. Gain)

Margin (PK and/or CAV) = Limit – Level (PK and/or CAV)

PK = Peak, CAV = CISPR-Average, Corr. = Correction Factor

☐ Operating Mode 4**- Frequencies below 1 GHz**

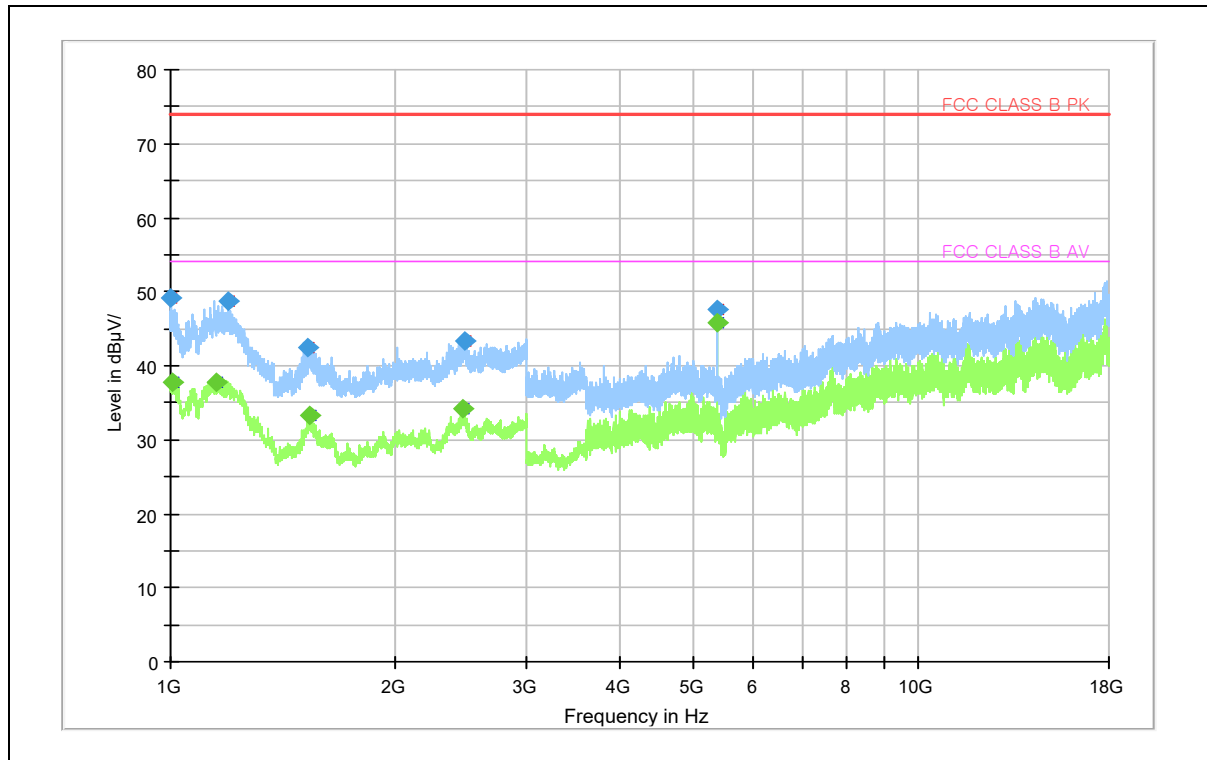
Note1) Receiving antenna polarization : Horizontal, Vertical

Test Distance : 10 m, Antenna Height : 1 to 4 meters

Result (QP) = Reading (QP) + c.f (Antenna Factor + Cable Loss - Amp. Gain)

Margin (QP) = Limit - Level (QP)

QP = Quasi-Peak, c.f = Correction Factor

- Frequencies above 1 GHz

Frequency (MHz)	PK (dBμV/m)	CAV (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
1 002.800	49.07	---	74.00	24.93	104.0	H	180.0	7.5
1 004.000	---	37.74	54.00	16.26	109.0	H	185.0	7.5
1 151.200	---	37.75	54.00	16.25	110.0	V	224.0	6.8
1 192.400	48.73	---	74.00	25.27	102.0	V	209.0	7.2
1 524.400	42.43	---	74.00	31.57	100.0	H	240.0	9.9
1 533.600	---	33.19	54.00	20.81	105.0	H	240.0	10.0
2 464.800	---	34.20	54.00	19.80	108.0	H	52.0	14.2
2 472.800	43.45	---	74.00	30.55	101.0	H	133.0	14.2
5 400.000	---	45.87	54.00	8.13	107.0	H	123.0	7.3
5 400.000	47.71	---	74.00	26.29	100.0	H	123.0	7.3

Note 1) We have also tested from 18 GHz to 30 GHz and found no emissions.

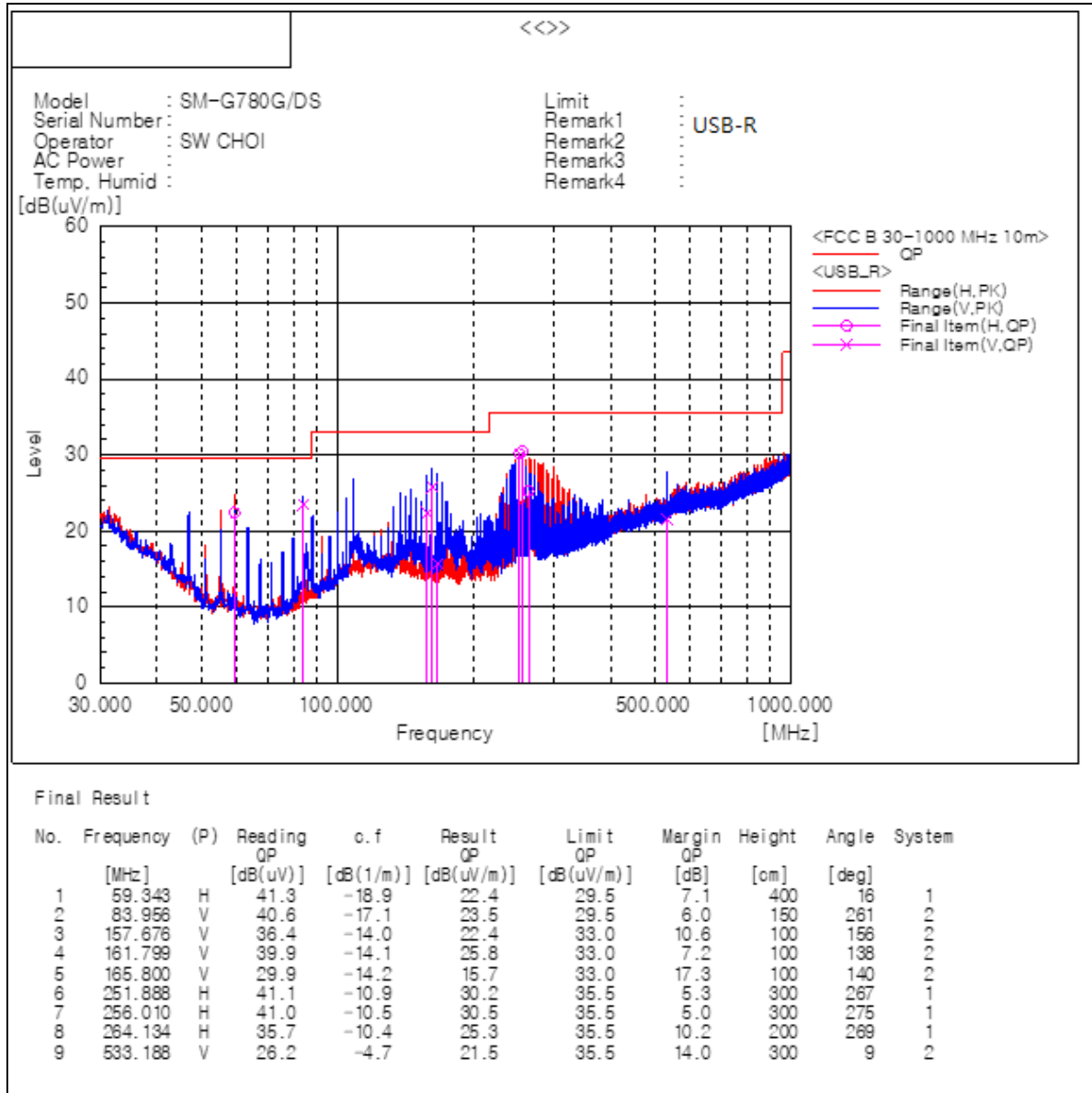
Note 2) Receiving antenna polarization : Horizontal, Vertical

Test Distance : 3 m, Antenna Height : 1 to 4 meters

Level (PK and/or CAV) = Reading (PK and/or CAV) + Corr. (Antenna Factor + Cable Loss - Amp. Gain)

Margin (PK and/or CAV) = Limit – Level (PK and/or CAV)

PK = Peak, CAV = CISPR-Average, Corr. = Correction Factor

☐ Operating Mode 5**- Frequencies below 1 GHz**

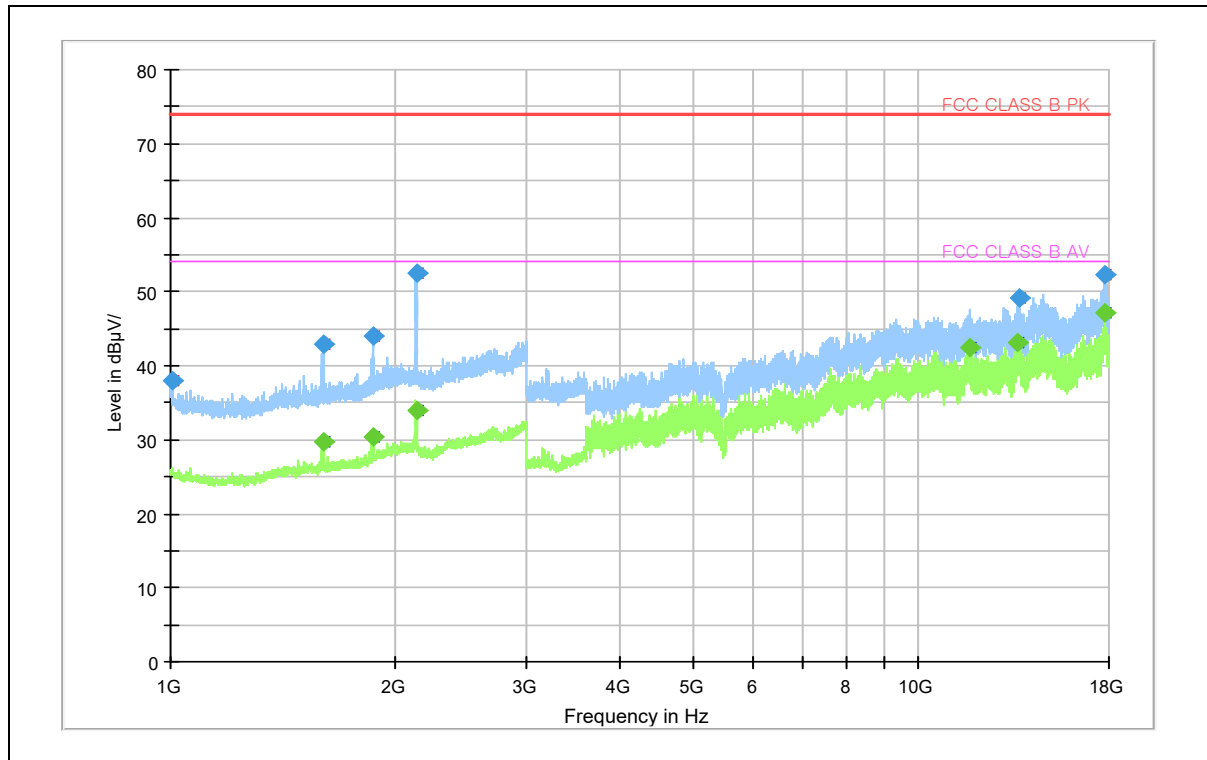
Note1) Receiving antenna polarization : Horizontal, Vertical

Test Distance : 10 m, Antenna Height : 1 to 4 meters

Result (QP) = Reading (QP) + c.f (Antenna Factor + Cable Loss - Amp. Gain)

Margin (QP) = Limit - Level (QP)

QP = Quasi-Peak, c.f = Correction Factor

- Frequencies above 1 GHz

Frequency (MHz)	PK (dBμV/m)	CAV (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
1 006.800	38.01	---	74.00	35.99	101.0	H	250.0	7.4
1 598.800	---	29.75	54.00	24.25	103.0	V	122.0	10.2
1 598.800	42.81	---	74.00	31.19	100.0	V	122.0	10.2
1 862.000	---	30.31	54.00	23.69	105.0	V	0.0	11.8
1 862.400	44.00	---	74.00	30.00	101.0	V	0.0	11.8
2 132.800	---	34.06	54.00	19.94	100.0	V	143.0	13.0
2 133.600	52.47	---	74.00	21.53	108.0	V	349.0	13.0
11 700.000	---	42.38	54.00	11.62	102.0	H	66.0	22.9
13 597.000	---	43.09	54.00	10.91	110.0	V	336.0	27.0
13 636.500	49.14	---	74.00	24.86	104.0	V	174.0	26.8
17 801.000	52.19	---	74.00	21.81	106.0	H	210.0	36.2
17 831.000	---	47.14	54.00	6.86	101.0	V	97.0	35.6

Note 1) We have also tested from 18 GHz to 30 GHz and found no emissions.

Note 2) Receiving antenna polarization : Horizontal, Vertical

Test Distance : 3 m, Antenna Height : 1 to 4 meters

Level (PK and/or CAV) = Reading (PK and/or CAV) + Corr. (Antenna Factor + Cable Loss - Amp. Gain)

Margin (PK and/or CAV) = Limit – Level (PK and/or CAV)

PK = Peak, CAV = CISPR-Average, Corr. = Correction Factor