

EMC TEST REPORT

Project No.	LBE20210421	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 3, 2021	
EUT	Type of device	☒ All other Receivers subject to part15 ☒ Class B Personal Computers and peripherals ☒ Other Class B digital devices and peripherals ☒ FM Broadcast Receiver	
	Equipment authorization	☒ Certification ☐ Supplier's Declaration of Conformity	
	FCC ID	A3LSMA526JPN	
	Kind of product	Mobile Phone	
	Model No.	SC-53B	
	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	
Applied Standards		47 CFR Part 15, Subpart B, Class B / ANSI C63.4-2014	
Test Period		March 5, 2021 ~ March 12, 2021	
Issue date		March 17, 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 : Chang-Eun Park 		Reviewed by : Seon-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			

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1. Report Information

1.1 Revision history

No.	Date of Issue	Revised detailed information
Issue 0	March 17, 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
☒	Conducted Emission (Mains port)	47 CFR Part 15, Subpart B / ANSI C63.4-2014 (Class B)	Complied
☒	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	SC-53B	R3CNB0AGY9B	SAMSUNG	A3LSMA526JPN
B	Battery	EB-BG781ABY	-	SDI	-
C	Headset	EHS64AVFWE	-	CRESYN	-
D	Data Cable	EP-DR104	-	RF Tech	-
E	microSD Card	64GB	-	SANDISK	DoC
F	Laptop Computer	Latitude5580	1CHRYM2	Dell	DoC
			D3HRYM2	Dell	DoC
G	Laptop AC Adapter	LA65NM130	5D77	Dell	DoC
			5B3C	Dell	DoC
H	Mouse	AA-SM7PCPB	CNBA5903634ADV8J31O3050	SAMSUNG	DoC
		SNJ-B138	Z5F8353	SAMSUNG	DoC
I	Router	DIR-806A	RF0F1D8011501	D-Link	DoC
			RF0F1D8011504	D-Link	DoC
J	Travel Adapter	EP-TA800	R37N8HT12X8DK3	Dongyang E&P	-

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(GSM850 Center Frequency) + FM (Low Ch.)
2	Camera (front) + Charging (w/ TA) + FM (Mid Ch.)
3	Charging (w/ TA) + FM (High Ch.)
4	Video + Audio playback from internal memory data + Charging (w/ TA)
5	USB Data Communication with PC (from external memory data)

4.2.2 Radiated Emission

No.	Operating mode
1	Camera (rear) + Charging (w/ TA) + FM (Low ch.)
2	Camera (front) + FM (Mid ch.)
3	FM (High ch.)
4	Video + Audio playback from internal memory data(w/ Headset)
5	USB Data Communication with PC (from External memory data)

4.3 Details of Sampling

Customer selected, single unit.

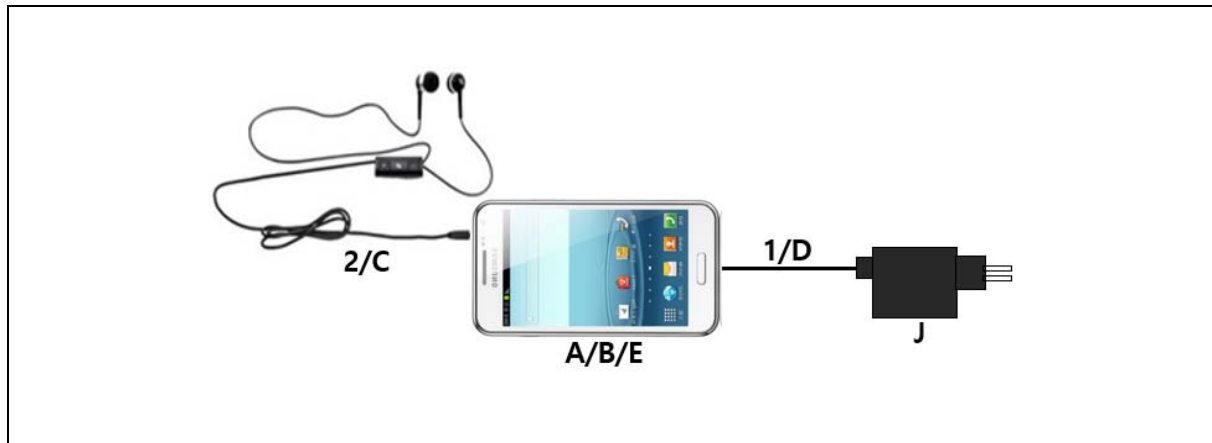
4.4 Used cable description

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:

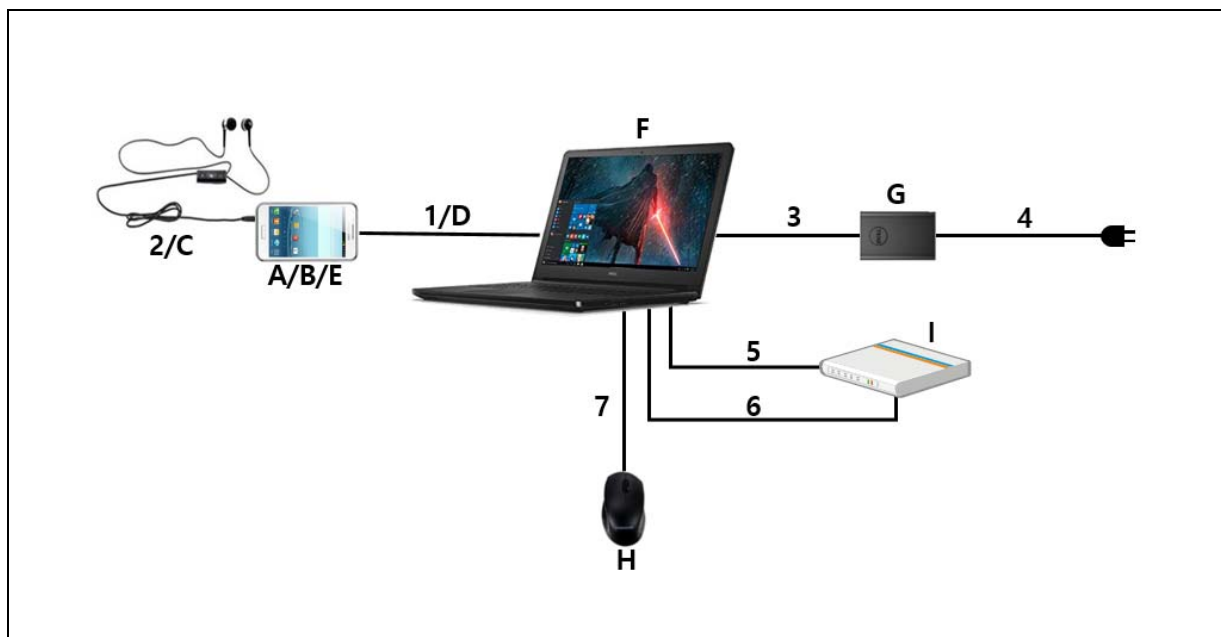
No.	Connected cable	Length [m]	Shielded [Y/N]	Note
1	Data Cable	0.8	Y	From EUT to Laptop Computer or TA
2	Headset	1.2	N	For EUT
3	Power	1.8	N	From Laptop Computer to AC Adapter
4	Power	1.5	N	For Laptop AC Adapter
5	LAN	1.5	N	From Laptop Computer to Router
6	USB	0.8	Y	From Laptop Computer to Router for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

4.5 Test arrangement

4.5.1 Conducted Emission

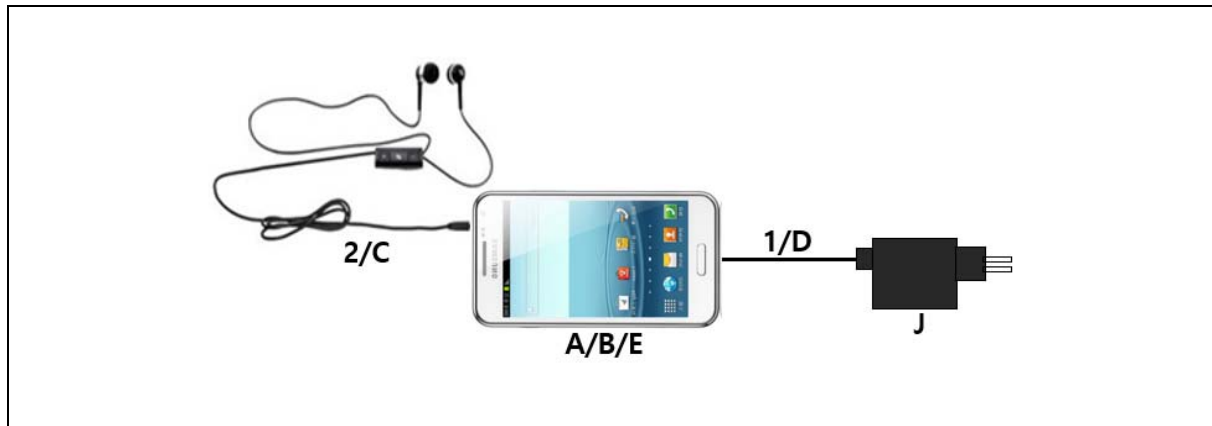


[Mode 1 - 4]

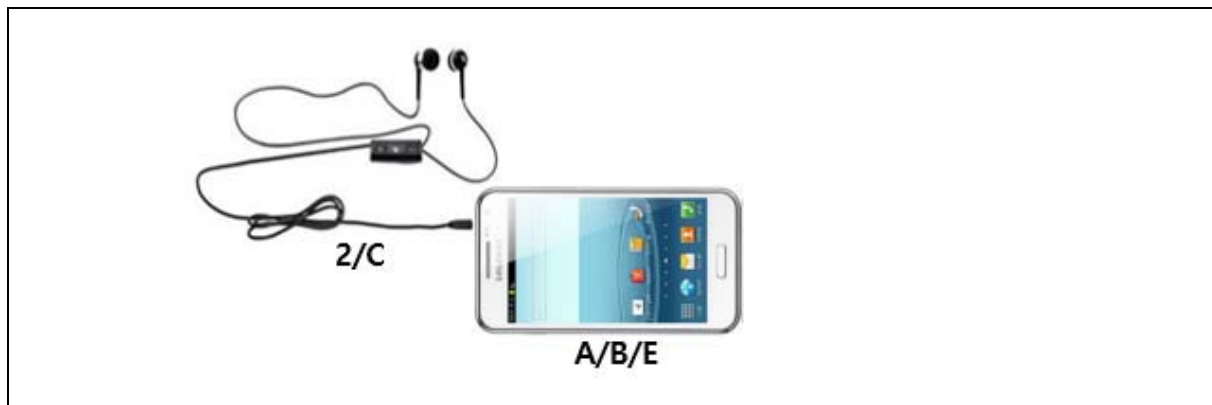


[Mode 5]

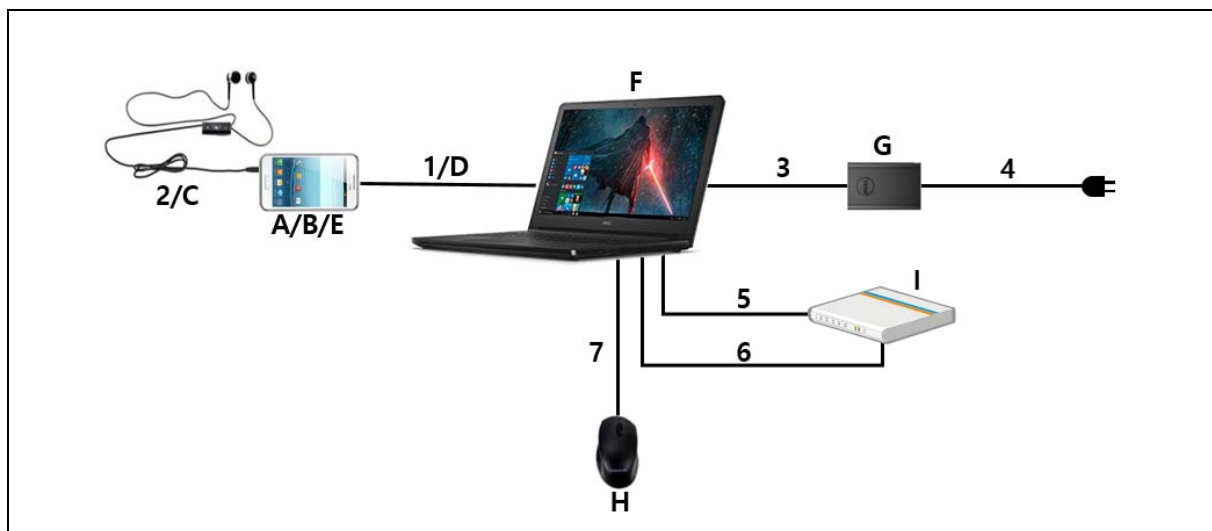
4.5.2 Radiated Emission



[Mode 1]



[Mode 2 - 4]



[Mode 5]

4.6 EUT Description

The EUT is a bar type mobile phone which can operate on GSM850/900/1800/1900, WCDMA FDD1/5, LTE FDD1/3/5/12/19/21, LTE TDD 38/39/41/42, 5G NR n77/n78 bands and incorporates a camera, Bluetooth, Wi-Fi, GNSS, NFC, Audio, Video and FM Radio.

4.6.1 The variant models

- None

4.7 EUT Frequencies

The highest frequencies (Generated and used)	Frequency [MHz]
Wi-Fi	5 835

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 GSM850 RX Test mode at center frequency. All licensed communication (850MHz) RX mode, GSM/WCDMA/LTE, test results are not significantly different.

The FM radio mode radiated testing was performed with the Low/Mid/High channel.

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

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	3.97 dB
	Vertical	4.39 dB
Radiated Emission (Above 1 GHz)	Horizontal	5.21 dB
	Vertical	5.21 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

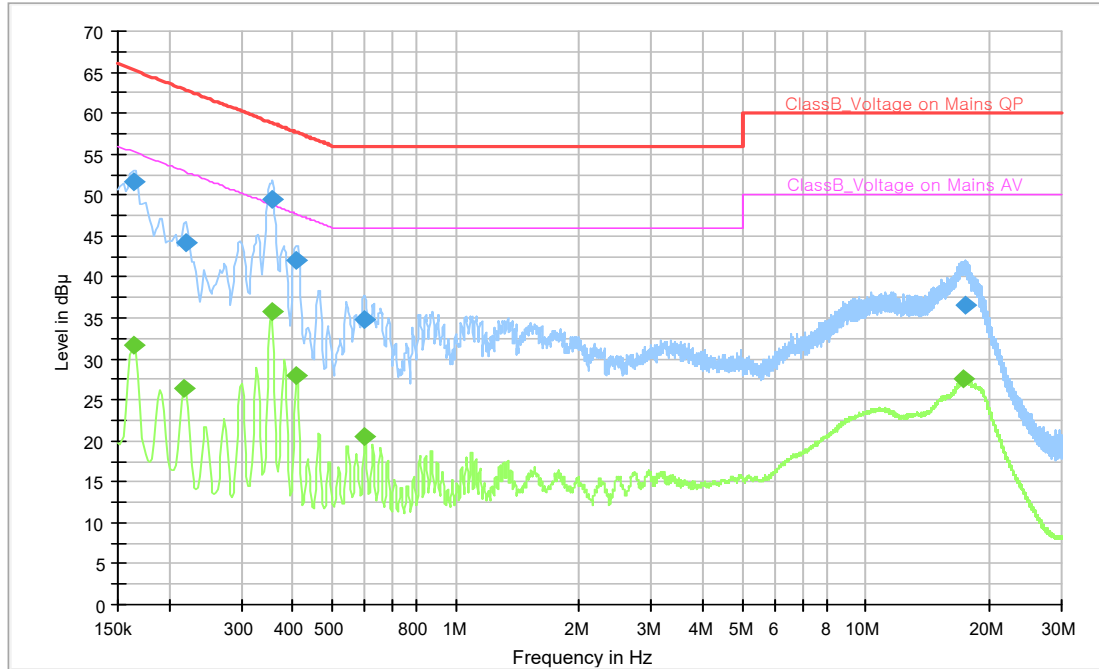
EMC No.	Test Instrument	Model name	Manufacturer	Serial No.	Next Calibration	
					Date	Interval (Month)
E5I-127	Two-Line V-Network	ENV216	R&S	102061	2021-07-29	12
E5I-015	EMI Test Receiver	ESU8	R&S	100481	2021-07-01	12
E5I-023	Signal Generator	SMB100A	R&S	175857	2022-02-03	12
E5I-109	Universal Radio Communicator	CMU200	R&S	110431	2021-12-07	12
-	Test software	EMC32	R&S	Ver 9.26.01	-	-

5.1.2 Temperature and humidity condition

Test date	2021-03-12	Test engineer	Chang-Eun Park
Climate condition	Ambient temperature	23.4 °C	Limit (15.0 to 35.0) °C
	Relative humidity	41.2 % R.H.	Limit (25.0 to 75.0) % R.H.
	Atmospheric pressure	100.9 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:

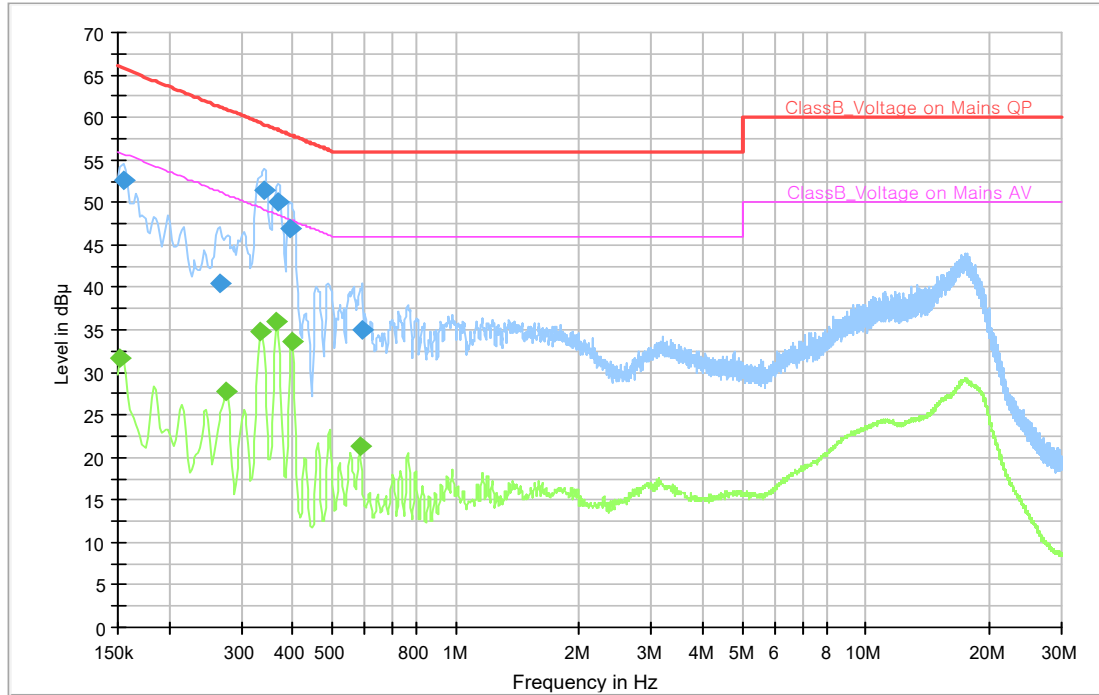
Frequency (MHz)	QP (dBμV)	CAV (dBμV)	Limit (dBμV)	Margin (dB)	Line	Corr. (dB)
0.164	---	31.65	55.28	23.63	N	10.2
0.164	51.62	---	65.28	13.67	N	10.2
0.218	---	26.40	52.91	26.51	N	10.0
0.220	44.12	---	62.83	18.70	N	9.9
0.355	---	35.88	48.85	12.97	N	10.1
0.357	49.50	---	58.80	9.30	N	10.1
0.409	42.04	---	57.67	15.63	N	10.2
0.409	---	28.04	47.67	19.63	N	10.2
0.600	34.84	---	56.00	21.16	N	10.2
0.600	---	20.53	46.00	25.47	N	10.2
17.234	---	27.52	50.00	22.48	N	10.6
0.164	---	31.65	55.28	23.63	N	10.2

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



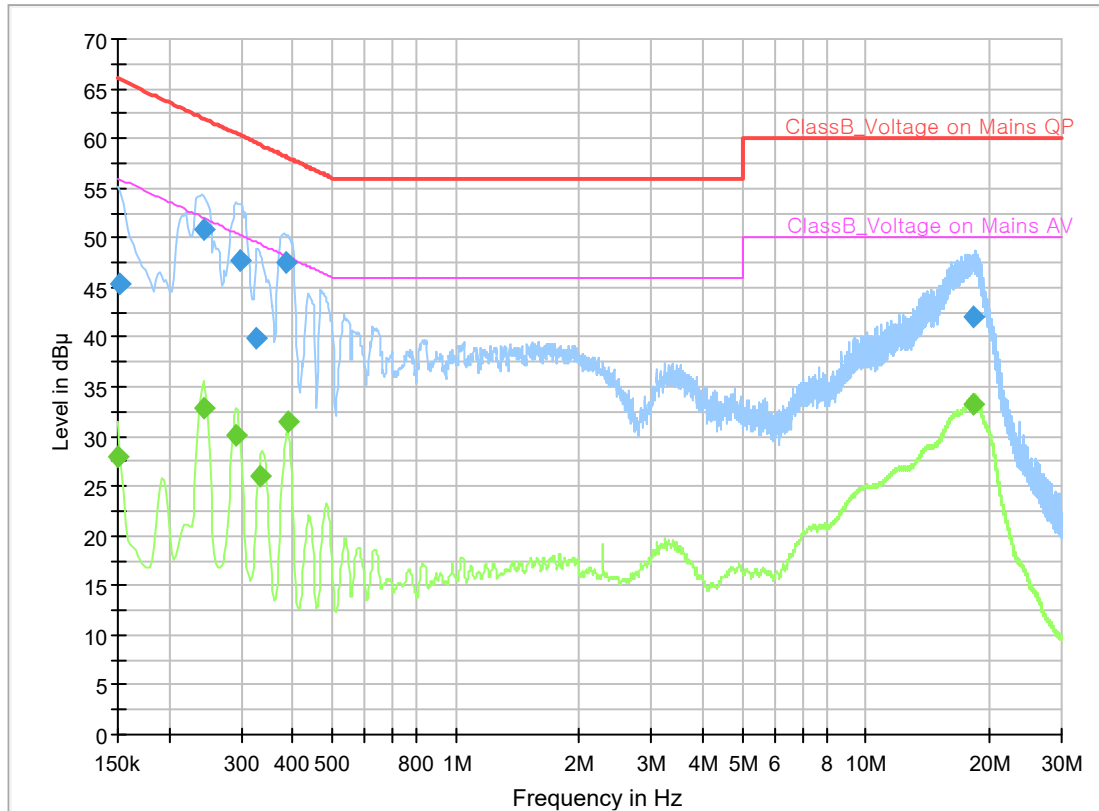
Note 1) Two graphs measured for both Live(L1) and Neutral(N) of the LISN are combined into one graph.

QP / CAV final measurement results table:

Frequency (MHz)	QP (dBμV)	CAV (dBμV)	Limit (dBμV)	Margin (dB)	Line	Corr. (dB)
0.152	---	31.64	55.88	24.24	L1	10.0
0.155	52.58	---	65.75	13.17	N	10.0
0.265	40.53	---	61.28	20.75	N	9.9
0.276	---	27.81	50.94	23.12	L1	9.9
0.335	---	34.87	49.34	14.47	N	10.1
0.341	51.46	---	59.17	7.72	N	10.1
0.366	---	36.03	48.59	12.56	N	10.2
0.368	50.06	---	58.54	8.48	N	10.2
0.395	46.85	---	57.95	11.10	N	10.2
0.398	---	33.61	47.91	14.30	N	10.2
0.582	---	21.24	46.00	24.76	N	10.2
0.591	34.93	---	56.00	21.07	N	10.2

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:

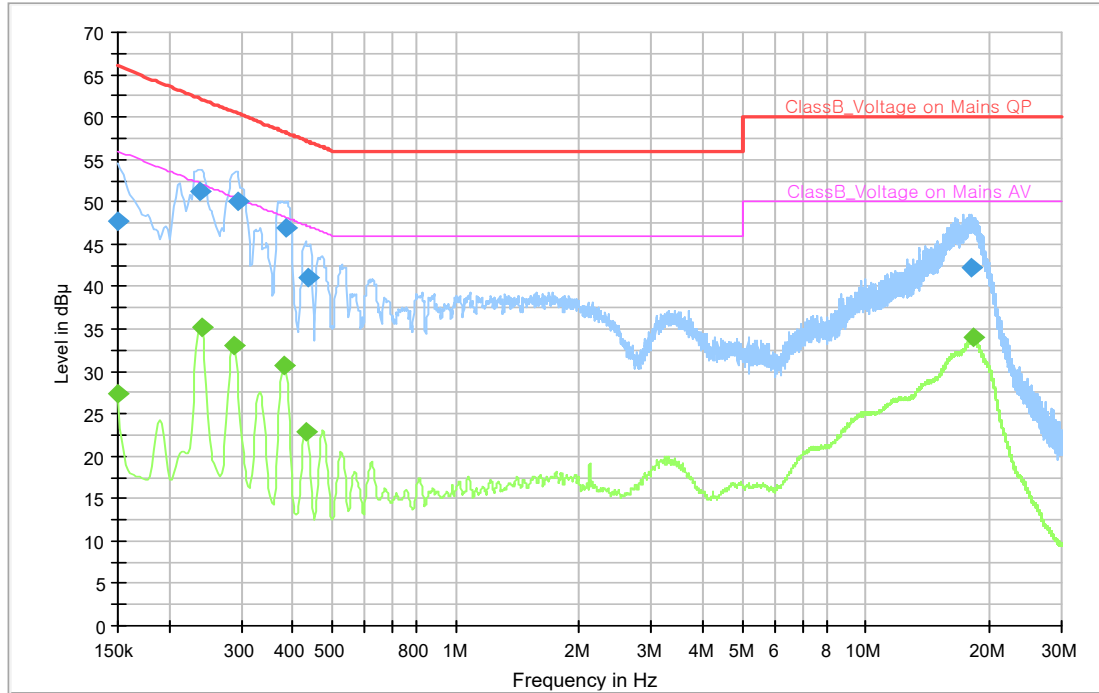
Frequency (MHz)	QP (dBμV)	CAV (dBμV)	Limit (dBμV)	Margin (dB)	Line	Corr. (dB)
0.150	---	27.94	56.00	28.06	N	9.9
0.152	45.34	---	65.88	20.54	L1	10.0
0.242	50.87	---	62.02	11.15	N	9.9
0.245	---	32.94	51.94	19.00	N	9.9
0.292	---	30.13	50.47	20.35	N	10.0
0.299	47.70	---	60.28	12.59	N	10.0
0.328	39.89	---	59.51	19.62	N	10.1
0.335	---	25.97	49.34	23.37	N	10.1
0.386	47.60	---	58.14	10.55	N	10.2
0.389	---	31.57	48.10	16.52	N	10.2
18.242	42.01	---	60.00	17.99	N	10.6
18.353	---	33.20	50.00	16.80	N	10.6

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



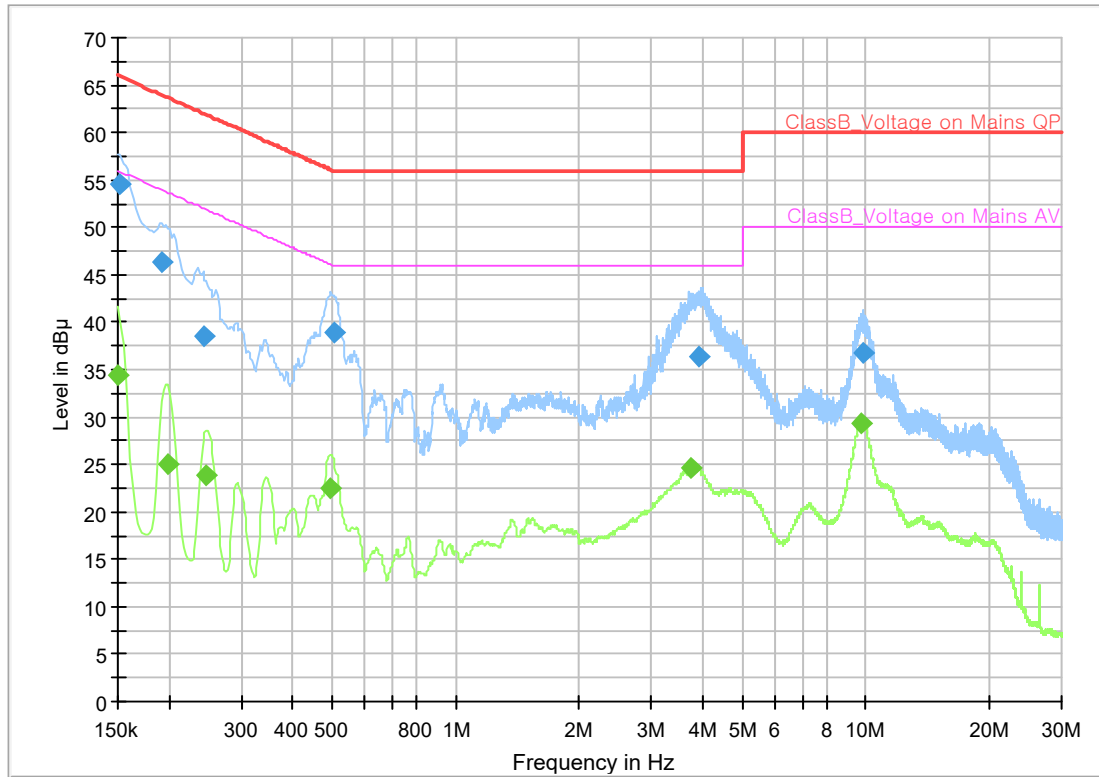
Note 1) Two graphs measured for both Live(L1) and Neutral(N) of the LISN are combined into one graph.

QP / CAV final measurement results table:

Frequency (MHz)	QP (dBμV)	CAV (dBμV)	Limit (dBμV)	Margin (dB)	Line	Corr. (dB)
0.150	---	27.29	56.00	28.71	N	9.9
0.150	47.75	---	66.00	18.25	L1	9.9
0.238	51.32	---	62.17	10.86	N	9.9
0.240	---	35.26	52.10	16.84	N	9.9
0.287	---	33.10	50.60	17.51	N	10.0
0.294	50.09	---	60.41	10.32	N	10.0
0.382	---	30.65	48.24	17.59	N	10.2
0.384	46.98	---	58.19	11.22	N	10.2
0.431	---	22.92	47.23	24.31	N	10.2
0.438	41.05	---	57.10	16.05	N	10.2
18.132	42.29	---	60.00	17.71	N	10.6
18.326	---	33.94	50.00	16.06	N	10.6

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 5: 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	---	34.32	56.00	21.68	N	9.9
0.152	54.53	---	65.88	11.35	L1	10.0
0.193	46.26	---	63.92	17.65	L1	10.1
0.200	---	25.10	53.63	28.53	N	10.0
0.242	38.54	---	62.02	23.48	N	9.9
0.247	---	23.77	51.87	28.09	L1	9.8
0.494	---	22.47	46.10	23.63	L1	10.2
0.506	38.96	---	56.00	17.04	L1	10.2
3.759	---	24.57	46.00	21.43	L1	10.0
3.923	36.33	---	56.00	19.67	N	10.0
9.778	---	29.29	50.00	20.71	L1	10.1
9.843	36.73	---	60.00	23.27	L1	10.1

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 $D_2 = \text{Limit at } D_1 + 20\text{Log}(D_1 / D_2)$

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-023	Signal Generator	SMB100A	R&S	175857	2022-02-03	12
E5I-021	EMI Test Receiver	ESU40	R&S	100376	2022-02-04	12
E5I-016	EMI Test Receiver	ESU8	R&S	100482	2021-06-04	12
E5I-072	BiLog Antenna	CBL6112D	TESEQ	36009	2022-05-15	24
E5I-120	BiLog Antenna	CBL6112D	TESEQ	36997	2022-05-15	24
E5I-073	Preamplifier	310N	SONOMA	332016	2021-05-07	12
E5I-074	Preamplifier	310N	SONOMA	332017	2021-05-07	12
E5I-035	Horn Antenna	HF907	R&S	100506	2021-08-30	24
E5I-040	Preamplifier	SCU-18	R&S	10210	2021-04-06	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	-	-

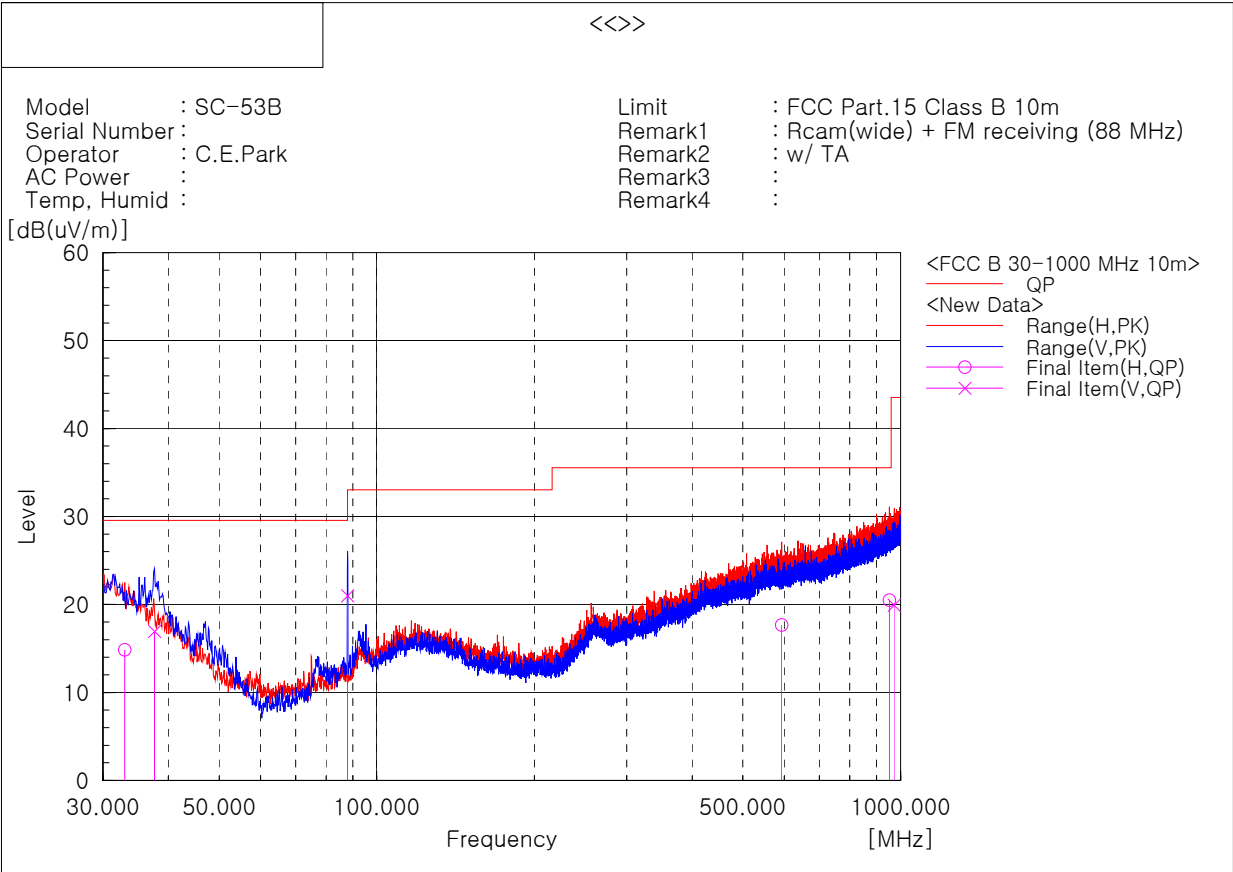
5.2.2 Temperature and humidity condition

Test date	2021-03-05 / 2021-03-09	Test engineer	Chang-Eun Park
Climate condition	Ambient temperature	22.1 °C	Limit (15.0 to 35.0) °C
	Relative humidity	43.7 % R.H.	Limit (25.0 to 75.0) % R.H.
	Atmospheric pressure	101.4 kPa	Limit (86.0 to 106.0) kPa
Test place	Semi-Anechoic Chamber (SAC5)		

5.2.3 Test results

□ Operating Mode 1

- Frequencies below 1 GHz



Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(uV)]	c.f [dB(1/m)]	Result QP [dB(uV/m)]	Limit QP [dB(uV/m)]	Margin QP [dB]	Height [cm]	Angle [deg]	System
1	33.031	H	23.0	-8.1	14.9	29.5	14.6	100	134	1
2	37.639	V	25.8	-8.9	16.9	29.5	12.6	100	298	2
3	87.958	V	36.9	-15.9	21.0	29.5	8.5	112	108	2
4	592.964	H	21.8	-4.1	17.7	35.5	17.8	200	74	1
5	951.985	H	20.4	0.1	20.5	35.5	15.0	300	348	1
6	972.112	V	18.9	1.0	19.9	43.5	23.6	400	359	2

* Radiated emissions (Rx frequency 87.958 MHz) from the transceiver shall be ignored

Note1) Receiving antenna polarization : Horizontal, Vertical

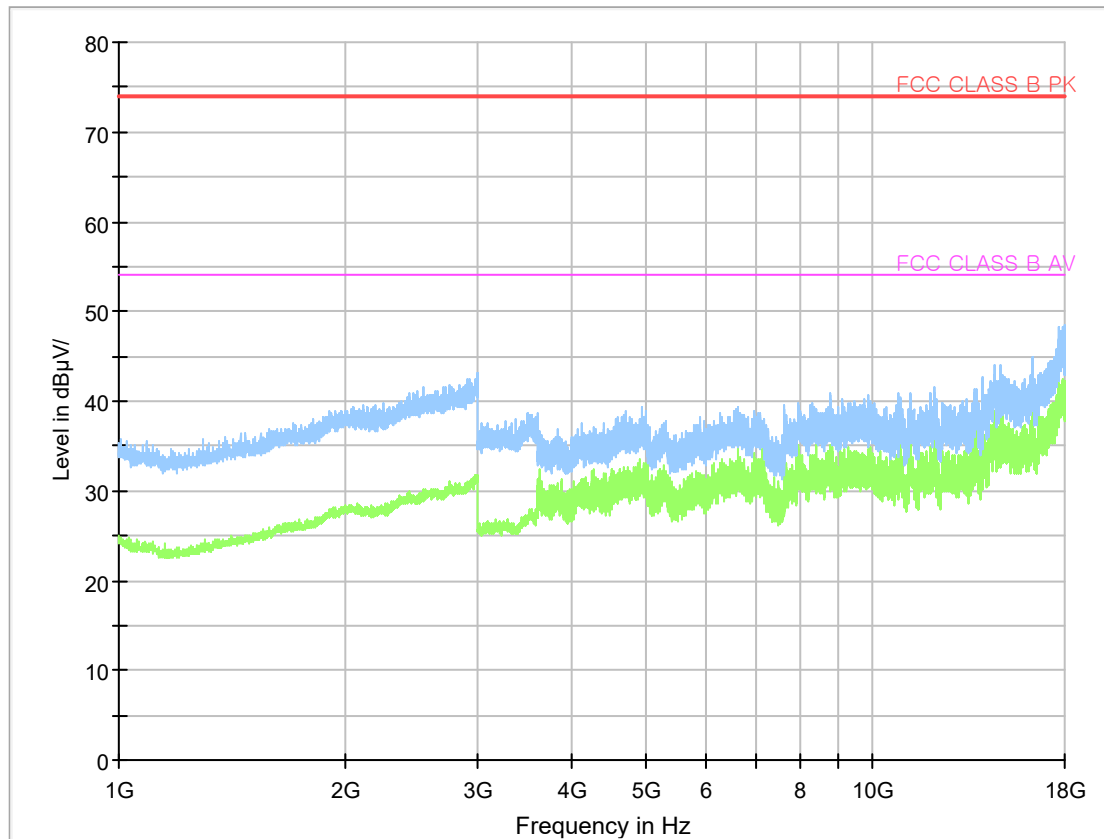
Test Distance : 10 m, Antenna Height : 1 to 4 meters

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

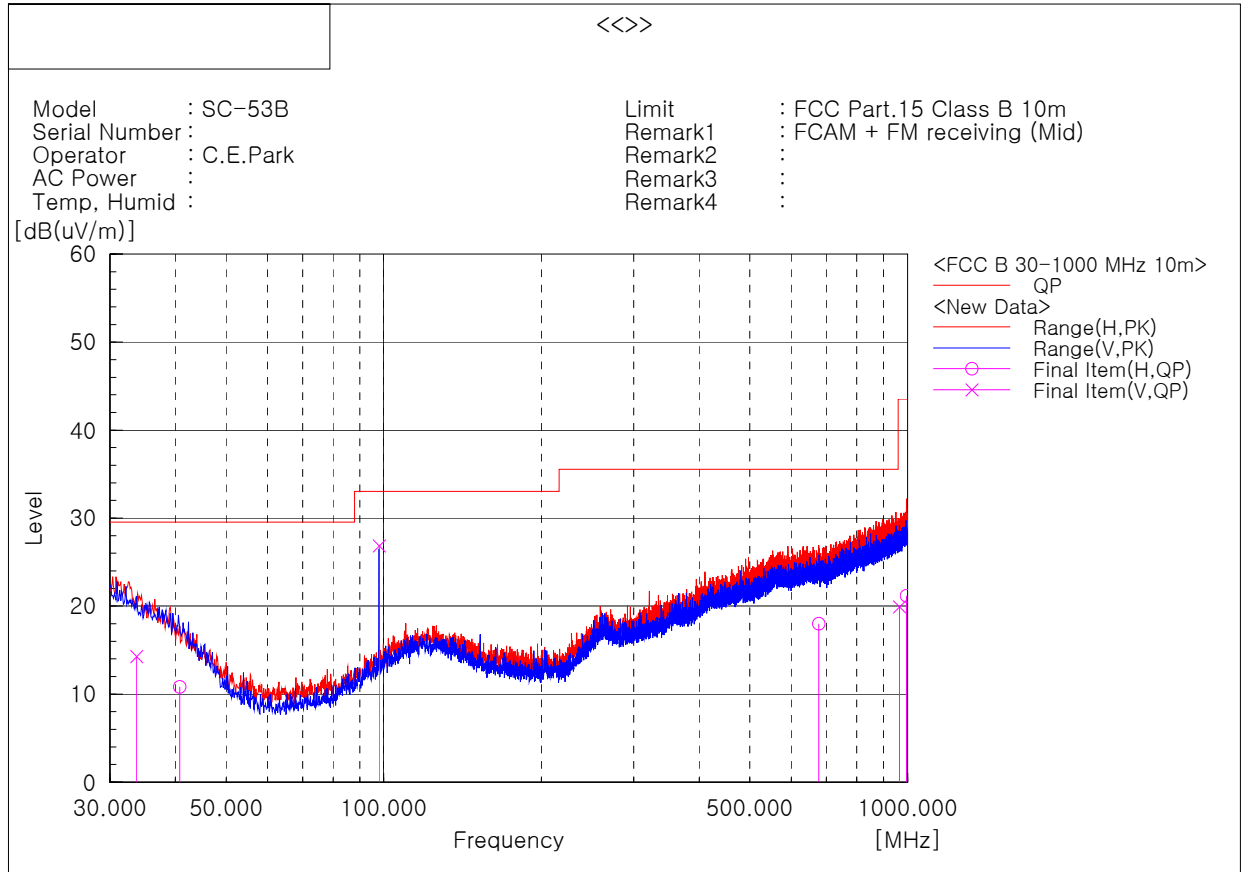
Level (PK and/or CAV) = Reading (PK and/or CAV) + Corr. (Antenna Factor + Cable Loss - Amp. Gain)

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



Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(uV)]	c.f [dB(1/m)]	Result QP [dB(uV/m)]	Limit QP [dB(uV/m)]	Margin QP [dB]	Height [cm]	Angle [deg]	System
1	33.759	V	21.9	-7.6	14.3	29.5	15.2	289	68	2
2	40.791	H	23.1	-12.3	10.8	29.5	18.7	104	74	1
3	98.021	V	40.9	-14.1	26.8	33.0	6.2	135	341	2
4	677.111	H	21.6	-3.6	18.0	35.5	17.5	327	38	1
5	965.080	V	19.0	0.9	19.9	43.5	23.6	243	156	2
6	995.635	H	20.0	1.2	21.2	43.5	22.3	338	226	1

* Radiated emissions (Rx frequency 98.021 MHz) from the transceiver shall be ignored

Note1) Receiving antenna polarization : Horizontal, Vertical

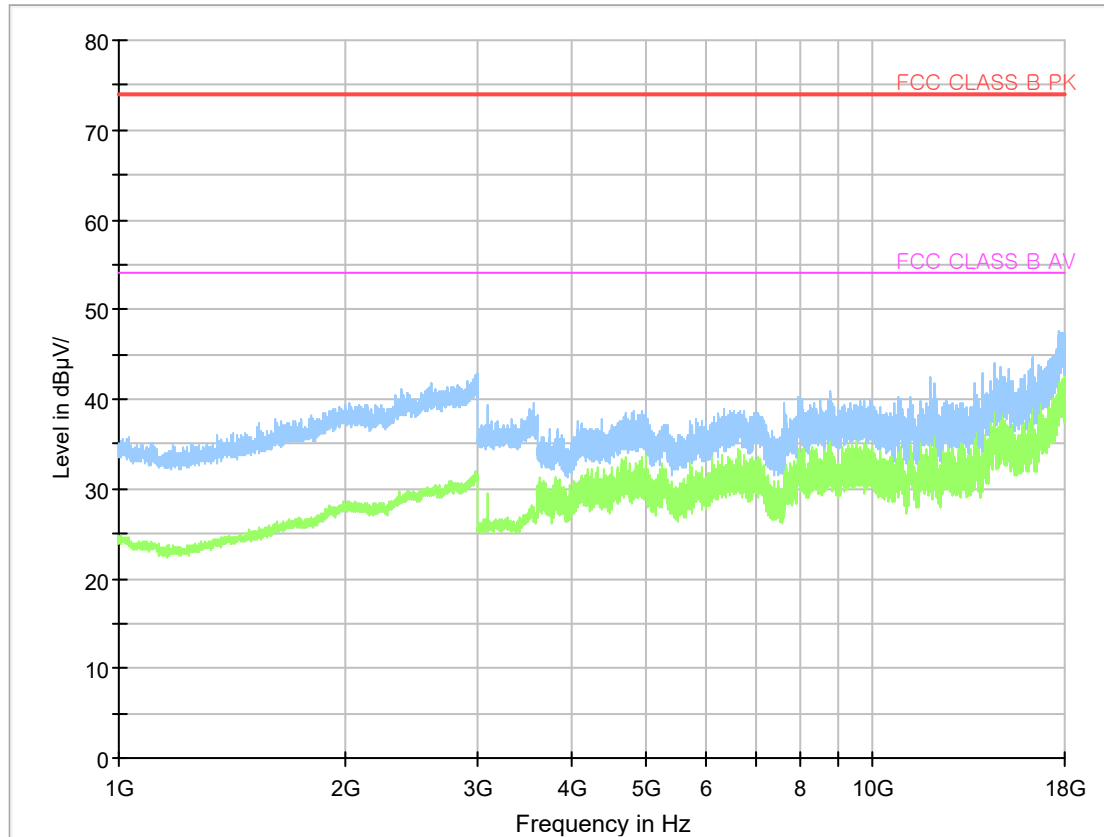
Test Distance : 10 m, Antenna Height : 1 to 4 meters

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

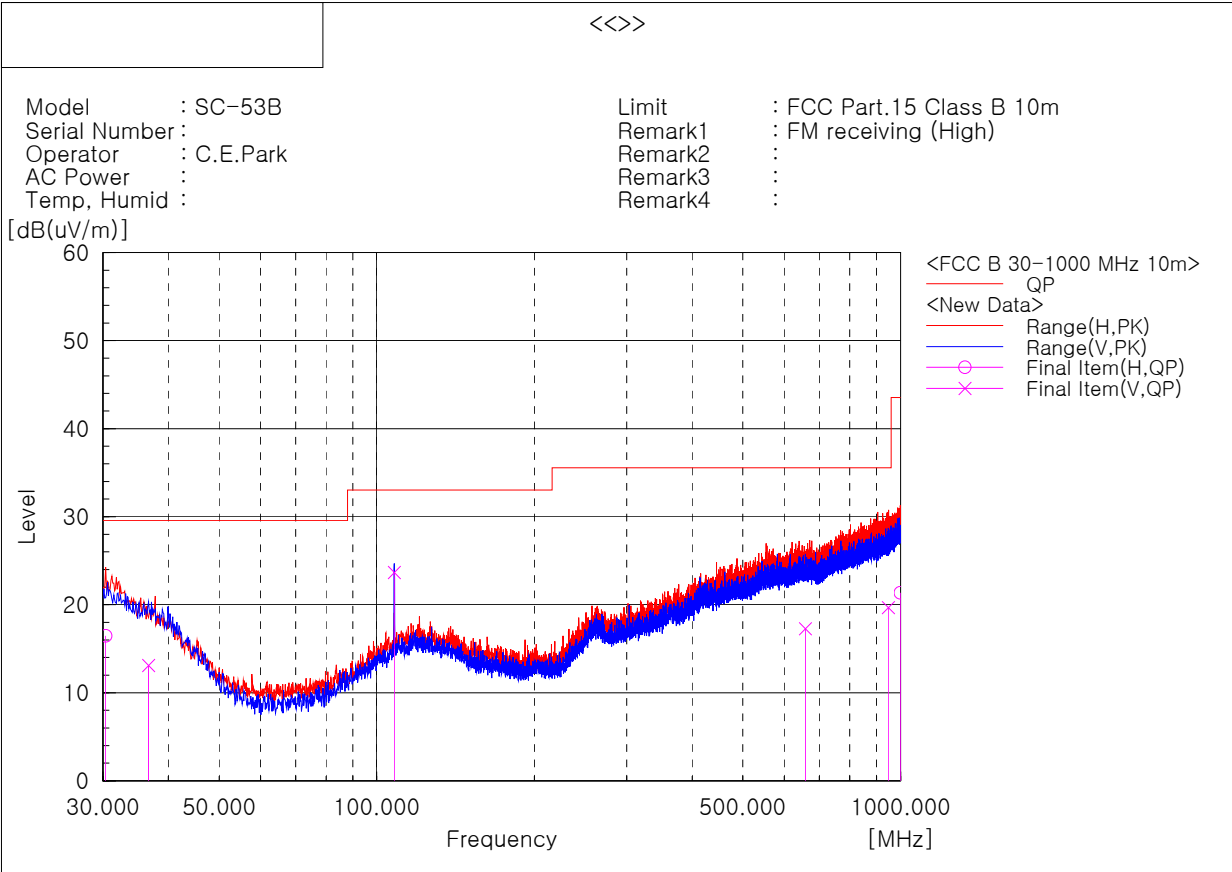
Level (PK and/or CAV) = Reading (PK and/or CAV) + Corr. (Antenna Factor + Cable Loss - Amp. Gain)

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



Final Result

No.	Frequency (P)	Reading	c.f	Result	Limit	Margin	Height	Angle	System
	[MHz]	QP [dB(uV)]	[dB(1/m)]	QP [dB(uV/m)]	QP [dB(uV/m)]	QP [dB]	[cm]	[deg]	
1	30.364	H 23.4	-6.9	16.5	29.5	13.0	103	170	1
2	36.669	V 21.6	-8.5	13.1	29.5	16.4	102	326	2
3	107.964	V 36.2	-12.5	23.7	33.0	9.3	129	298	2
4	657.833	V 20.4	-3.1	17.3	35.5	18.2	228	54	2
5	948.105	V 19.2	0.5	19.7	35.5	15.8	117	107	2
6	998.545	H 20.2	1.2	21.4	43.5	22.1	103	74	1

* Radiated emissions (Rx frequency 107.964 MHz) from the transceiver shall be ignored

Note1) Receiving antenna polarization : Horizontal, Vertical

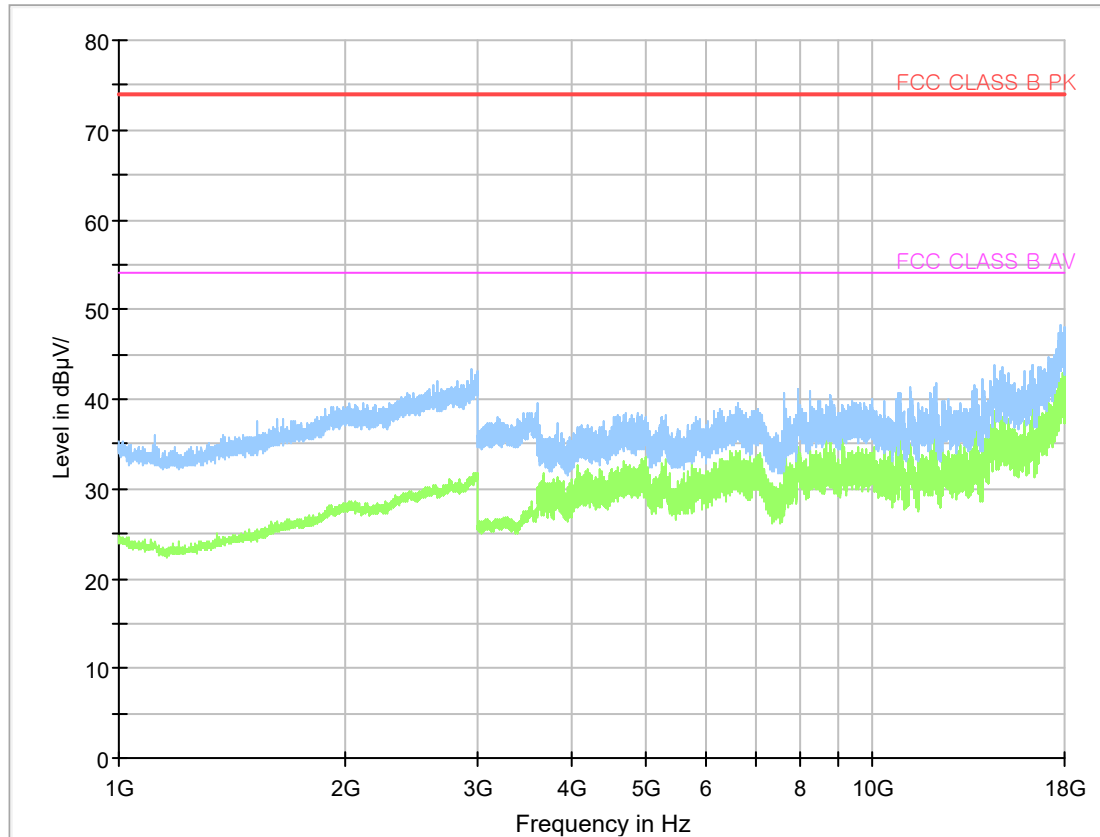
Test Distance : 10 m, Antenna Height : 1 to 4 meters

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

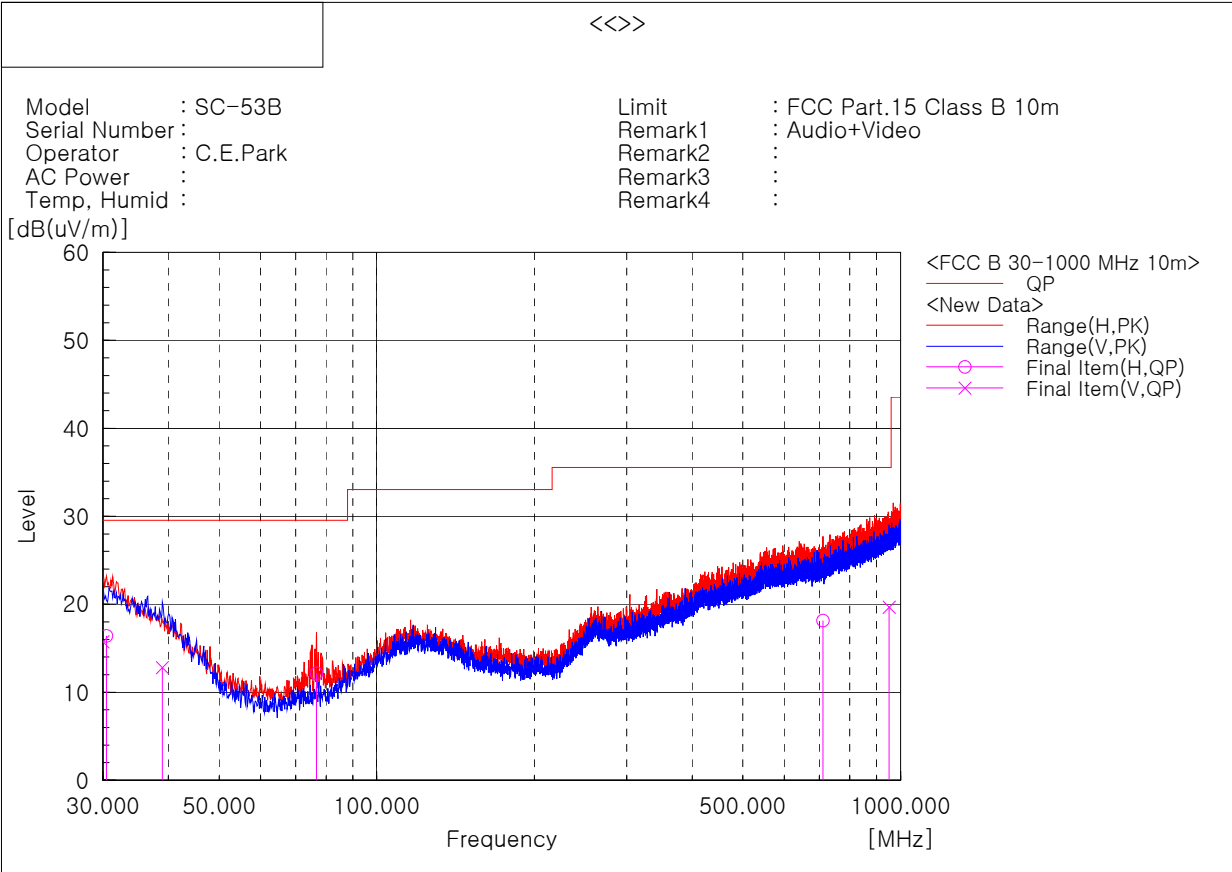
Level (PK and/or CAV) = Reading (PK and/or CAV) + Corr. (Antenna Factor + Cable Loss - Amp. Gain)

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



Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(uV)]	c.f [dB(1/m)]	Result QP [dB(uV/m)]	Limit QP [dB(uV/m)]	Margin QP [dB]	Height [cm]	Angle [deg]	System
1	30.000	V	22.3	-6.6	15.7	29.5	13.8	232	102	2
2	30.485	H	23.3	-6.9	16.4	29.5	13.1	109	276	1
3	38.973	V	22.4	-9.6	12.8	29.5	16.7	316	298	2
4	76.681	H	30.2	-18.1	12.1	29.5	17.4	381	331	1
5	710.940	H	21.7	-3.5	18.2	35.5	17.3	260	334	1
6	951.015	V	19.1	0.6	19.7	35.5	15.8	399	24	2

Note1) Receiving antenna polarization : Horizontal, Vertical

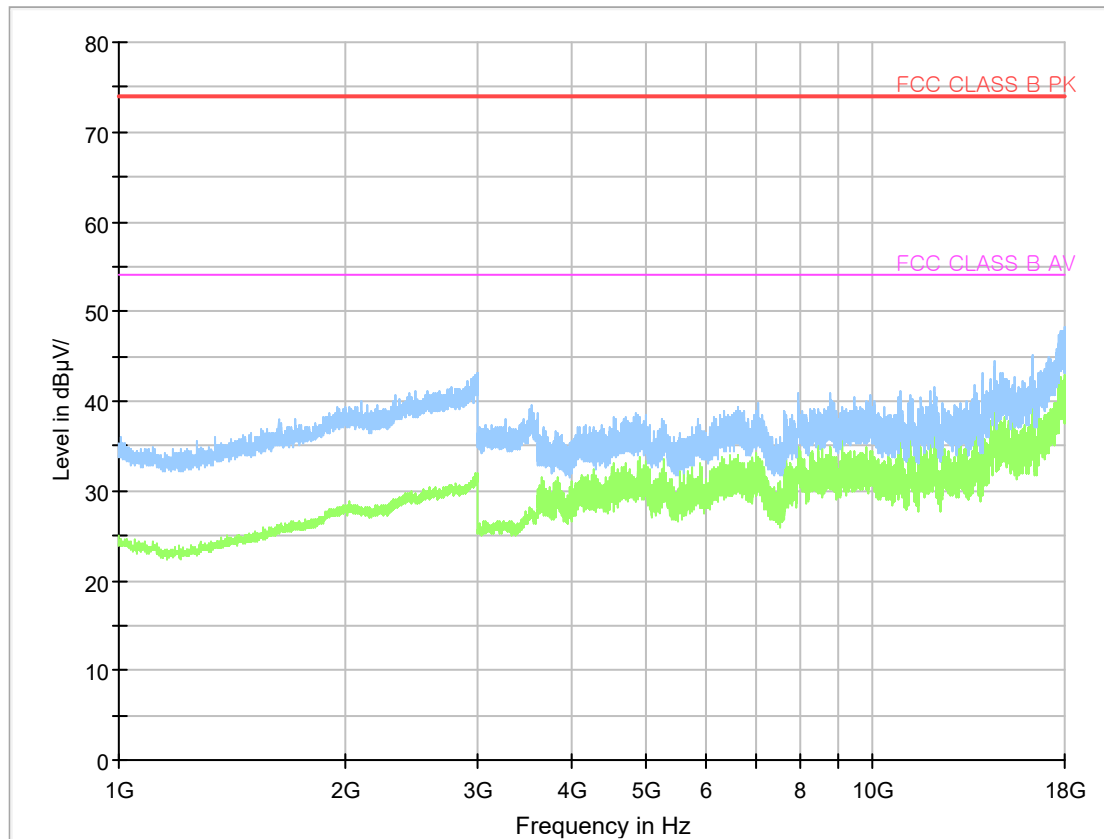
Test Distance : 10 m, Antenna Height : 1 to 4 meters

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

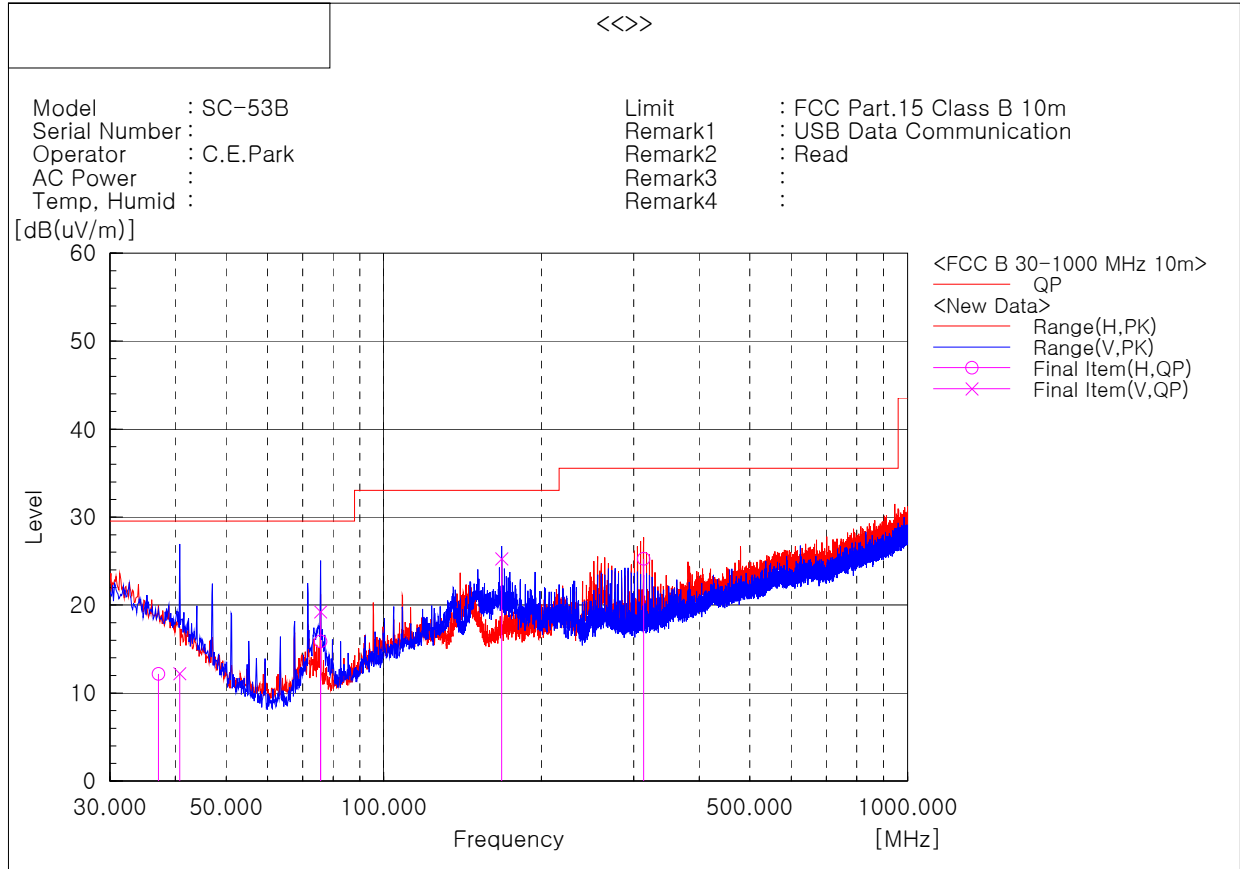
Level (PK and/or CAV) = Reading (PK and/or CAV) + Corr. (Antenna Factor + Cable Loss - Amp. Gain)

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

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

☐ Operating Mode 5

- Frequencies below 1 GHz



Final Result

No.	Frequency [MHz]	(P)	Reading QP [dB(uV)]	c.f [dB(1/m)]	Result QP [dB(uV/m)]	Limit QP [dB(uV/m)]	Margin QP [dB]	Height [cm]	Angle [deg]	System
1	37.154	H	22.4	-10.2	12.2	29.5	17.3	102	336	1
2	40.791	V	22.8	-10.6	12.2	29.5	17.3	168	71	2
3	75.711	H	34.1	-18.2	15.9	29.5	13.6	398	190	1
4	75.711	V	37.3	-18.1	19.2	29.5	10.3	155	89	2
5	167.983	V	39.4	-14.1	25.3	33.0	7.7	100	284	2
6	313.361	H	35.5	-10.2	25.3	35.5	10.2	202	260	1

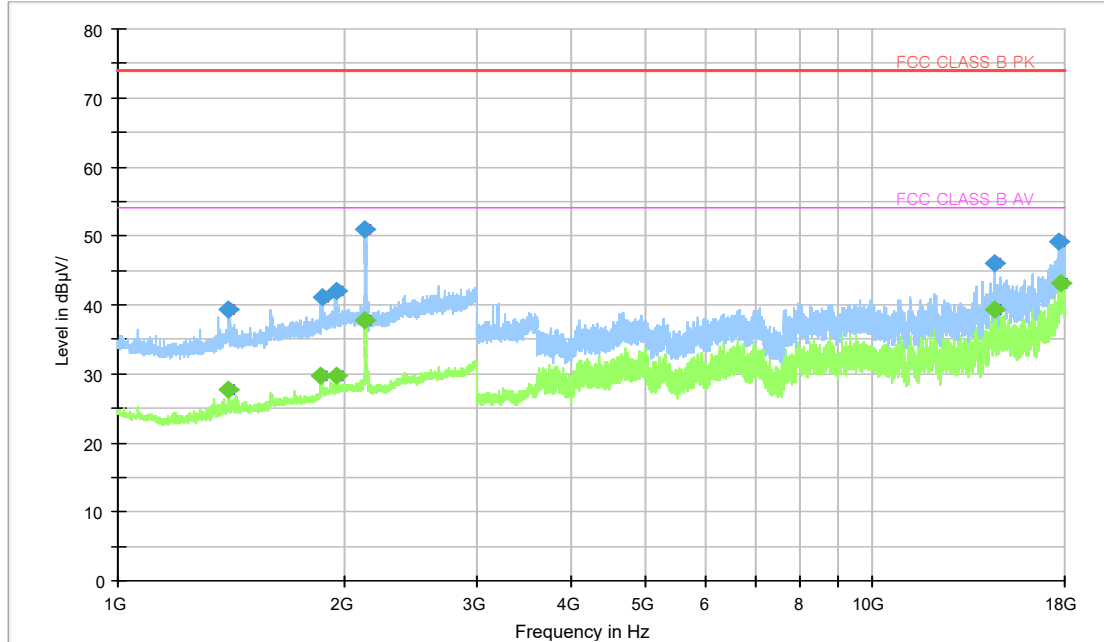
Note1) Receiving antenna polarization : Horizontal, Vertical

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)
1 400.000	39.28	---	74.00	34.72	101.0	H	1.0	7.6
1 404.500	---	27.67	54.00	26.33	108.0	H	0.0	7.6
1 859.000	---	29.68	54.00	24.32	108.0	V	22.0	10.5
1 864.500	41.17	---	74.00	32.83	113.0	V	1.0	10.6
1 949.500	---	29.67	54.00	24.33	116.0	V	19.0	11.4
1 949.500	41.96	---	74.00	32.04	100.0	V	19.0	11.4
2 127.000	51.03	---	74.00	22.97	102.0	V	19.0	11.6
2 129.000	---	37.79	54.00	16.21	105.0	V	28.0	11.6
14 487.000	---	39.33	54.00	14.67	100.0	H	210.0	29.2
14 492.000	46.12	---	74.00	27.88	101.0	V	191.0	29.2
17 704.000	49.09	---	74.00	24.91	129.0	H	55.0	37.9
17 736.000	---	43.15	54.00	10.85	106.0	V	108.0	38.0

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