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EMI TEST REPORT
FCC CERTIFICATION

Applicant: **SAMSUNG Electronics Co., Ltd.** **129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Korea**	**Date of Issue: July 24, 2020** **Test Report No. HCT-EM-2007-FC009-R1** **Test Site: HCT CO., LTD.**

FCC ID : A3LSMT878U

Rule Part(s) / Standard(s)	:	47 CFR PART 15 Subpart B Class B ANSI C63.4-2014
Product Name	:	Tablet
Model Name	:	SM-T878U
Date of Test	:	June 24, 2020 to July 03, 2020

The device bearing the trade name and model specified above, has been shown to comply with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in ANSI C63.4-2014. (See Test Report if any modifications were made for compliance)
I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.
HCT certifies that no party to application has been denial the FCC benefits pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C 862

Tested By	***Reviewed***
Ki-Min Lee **Test Engineer** **EMC Team** **Certification Division**	**Kyoung-Hee Yoon** **Technical Manager** **EMC Team** **Certification Division**

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REVISION HISTORY

The revision history for this document is shown in table.

Report No.	Issue Date	Information About Changes
0	July 14, 2020	Initial Release
1	July 24, 2020	Revised the Frequency Band

This Test Report is not related to the accredited test result by (KS Q) ISO/IEC 17025 and KOLAS (Korea Laboratory Accreditation Scheme), which signed the ILAC-MRA.
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1. GENERAL INFORMATION

1.1 Description of EUT

FCC ID	A3LSMT878U
Model Name	SM-T878U
Product Name	Tablet
Frequency Band	WCDMA B2/4/5, LTE 2/4/5/7/12/13/14/25/26/29/30/41/46/66/71, Sub6 (n5/n25(n2)/41/66/71), mmWave (n260/261), BT, WLAN a/b/g/n/ac/ax (RSDB, MIMO), WPT
Power Supply	Travel adaptor: Input: AC (100 to 240) V, (50 to 60) Hz, 0.5 A Output: DC 5.0 V, 2.0 A or DC 9.0 V, 1.67 A

1.2 Tested System Details

All equipment descriptions used in the tested system (including inserted cards) are:

Device Type	Model Name	Serial Number	Manufacturer
EUT	SM-T878U	-	SAMSUNG
Notebook PC	ProBook6560b	5CB2053MXF	HP
Notebook PC Adaptor	Series PPP009L-E	-	LITE-ON TECHNOLOGY (CHANGZHOU)
Gateway	DIR-806M	-	D-Link
Gateway Adaptor	AMS1-0501200FK	-	D-Link
Serial Mouse	Serial 2 Button mouse	02031069	Radio Shack
RJ45 cable	-	-	-
LED Monitor	27UD88	-	LG Electronics
Monitor Adapter	LCAP31	-	LG Electronics
DP cable	CDP2DPMM1MW	-	STARTECH
S-pen	EJ-PT870	-	WACOM
Keyboard	EF-DT870	-	SAMSUNG
TA	EP-TA200	-	RFTECH
Data Cable	EP-DT725BBE	-	KSDCO
Earphone	GHSS028-K8	-	BUJEON
Micro SD Card	-	-	SAMSUNG

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1.3 Cable Description

Product Name	Port	Power Cord Shielded (Y/N)	I/O Cable Shielded (Y/N)	Length (m)
EUT	USB Type C	Y	Y	(P,D) 1.0
	Earphone (Type C)	N/A	N	(D) 1.3
	Pogo Pin	N/A	N/A	(D) -
Notebook PC	RJ 45	N/A	N	(D) 1.6
	Serial(Mouse)	N/A	Y	(D) 1.8
	DC IN	N	N/A	(P) 1.8
Gateway	DC IN	N	N/A	(P) 1.8
LED Monitor	DC IN	N	N/A	(P) 1.8
	DP port	N/A	Y	(D) 1.2

* The marked “(D)” means the data cable and “(P)” means the power cable.

1.4 Noise Suppression Parts on Cable. (I/O Cable)

Product Name	Port	Ferrite Bead (Y/N)	Location	Metal Hood (Y/N)	Location
EUT	USB Type C	N	N/A	Y	Both End
	Earphone (Type C)	N	N/A	Y	EUT End
	Pogo Pin	N/A	N/A	N/A	N/A
Notebook PC	RJ 45	N	N/A	N	N/A
	Serial(Mouse)	N	N/A	Y	Notebook End
LED Monitor	DP port	N	N/A	Y	Both End

1.5 Test Facility

Test site is located at 74, SEOICHEON-RO, 578BEON-GIL, MAJANG-MYEON, ICHEON-SI, GYEONGGI-DO, SOUTH KOREA. Those measurement facilities are constructed in conformance with the requirements of ANSI C63.4-2014. The Normalized site attenuations (30 MHz to 1 GHz) and Site validation (1 GHz to 18 GHz) were performed in accordance with the standard in ANSI C63.4-2014

Measurement Facilities	Registration Number
Radiated Field strength measurement facility 3 m Semi Anechoic chamber	KR0032
Radiated Field strength measurement facility 10 m Semi Anechoic chamber #1	
Radiated Field strength measurement facility 10 m Semi Anechoic chamber #2	

1.6 Calibration of Measuring Instrument

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturers recommendations for utilizing calibration equipment, which is traceable to recognized national standards.
Especially, all antenna for measurement is calibrated in accordance with the requirements of C63.5:2017

1.7 Measurement Uncertainty

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.4-2014.
All measurement uncertainty values are shown with a coverage factor of $k = 2$ to indicate a 95 % level of confidence. The measurement data shown herein meets or exceeds the U_{CISPR} measurement uncertainty values specified in CISPR 16-4-2 and, thus, can be compared directly to specified limits to determine compliance.

Parameter	Expanded Uncertainty (dB)
Conducted Emission (0.15 MHz to 30 MHz)	1.8 dB
Radiated Emissions (30 MHz to 1 GHz)	4.8 dB
Radiated Emissions (1 GHz to 18 GHz)	5.4 dB
Radiated Emissions (18 GHz to 40 GHz)	5.7 dB

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2. LIST OF TEST EQUIPMENT

	Type	Model Name	Manufacturer	Serial Number	Calibration Cycle	Calibration Date
Conducted Emission						
☒	EMI test receiver	ESCI	Rohde & Schwarz	100584	1 year	06.10.2020
☒	LISN	ENV216	Rohde & Schwarz	102245	1 year	09.11.2019
☒	LISN	ENV216	Rohde & Schwarz	100073	1 year	04.27.2020
☒	Radio communication analyzer	MT8820C	ANRITSU	6201138643	1 year	08.20.2019
☒	Antenna (for Communication)	USLP9142	Schwarzbeck	VSLP 9142-200	-	-
☐	Radio communication test station	MT8000A	ANRITSU	6262036812	1 year	01.06.2020
☐	UXM 5G wireless test platform	E7515B	KEYSIGHT	MY58300756	1 year	01.07.2020
☐	Antenna (for Communication)	USLP9142	Schwarzbeck	VSLP 9142-201	-	-
☒	Software	EMC32	Rohde & Schwarz	-	-	-
Radiated Emission						
-For measurement below 1 GHz						
☒	EMI test receiver	ESU40	Rohde & Schwarz	100524	1 year	05.12.2020
☒	Bi-Log antenna	VULB 9168	Schwarzbeck	255	2 year	03.26.2019
☒	Antenna master	MA4640-XP-ET	INNCO Systems	-	N/A	-
☒	Antenna master controller	CO3000	INNCO Systems	CO3000/870/ 35990515/L	N/A	-
☒	Turn table	1060	INNCO Systems	-	N/A	-
☒	Turn table controller	CO2000	INNCO Systems	CO2000/095/ 7590304/L	N/A	-
☒	Radio communication analyzer	MT8820C	ANRITSU	6201138643	1 year	08.20.2019
☒	Antenna (for Communication)	USLP9142	Schwarzbeck	VSLP 9142-200	-	-
☒	UXM 5G wireless test platform	E7515B	KEYSIGHT	MY58300756	1 year	01.07.2020
☒	Antenna (for Communication)	USLP9142	Schwarzbeck	VSLP 9142-201	-	-
☒	Software	EMC32	Rohde & Schwarz	-	-	-

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	Type	Model Name	Manufacturer	Serial Number	Calibration Cycle	Calibration Date
-For measurement above 1 GHz						
☒	EMI test receiver	ESU40	Rohde & Schwarz	100524	1 year	05.12.2020
☒	Antenna master	MA4640-XP-ET	INNCO Systems	-	N/A	-
☒	Antenna master controller	CO3000	INNCO Systems	CO3000/870/ 35990515/L	N/A	-
☒	Turn table	1060	INNCO Systems	-	N/A	-
☒	Turn table controller	CO2000	INNCO Systems	CO2000/095/ 7590304/L	N/A	-
☒	Horn antenna	BBHA 9120D	Schwarzbeck	01836	1 year	07.19.2019
☒	Low noise amplifier	TK-PA18H	TESTEK	170034-L	1 year	03.03.2020
☒	Low noise amplifier	TK-PA1840H	TESTEK	170030-L	1 year	02.13.2020
☒	Horn antenna	BBHA 9170	Schwarzbeck	BBHA 9170#786	1 year	12.03.2019
☒	Radio communication analyzer	MT8820C	ANRITSU	6201138643	1 year	08.20.2019
☒	Antenna (for Communication)	USLP9142	Schwarzbeck	VSLP 9142-200	-	-
☐	UXM 5G wireless test platform	E7515B	KEYSIGHT	MY58300756	1 year	01.07.2020
☐	Antenna (for Communication)	USLP9142	Schwarzbeck	VSLP 9142-201	-	-
☒	Software	EMC32	Rohde & Schwarz	-	-	-

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3. DESCRIPTION OF TEST

3.1 Measurement of Conducted Emission

The test procedure was in accordance with ANSI C63.4-2014, Clause 7.3

a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN).
If the EUT is connected to the PC through USB, the AC power-line adapter of the PC is directly connected to a line impedance stabilization network (LISN).
Other support units were connected to the power mains through another LISN. The two LISNs provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.

b. Both conducted lines are measured in Quasi-Peak and Average mode, including the worst-case data points for each tested configuration.

c. The frequency range from 150 kHz to 30 MHz was searched.

[Conducted Emission Limits]

Frequency (MHz)	Resolution Bandwidth (kHz)	Quasi-Peak (dB(μV))	Average (dB(μV))
0.15 to 0.5	9	66 to 56*	56 to 46*
0.5 to 5	9	56	46
5 to 30	9	60	50

**Decreases with the logarithm of the frequency.*

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3.2 Measurement of Radiated Emission

The test procedure was in accordance with ANSI C63.4-2014, Clause 8.3

a. The EUT was placed on the top of a turn table 0.8 meters above the ground at a semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
b. The EUT was set 3 m away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
c. The antenna height is varied from 1 m to 4 m above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 m to 4 m and the turn table was turned from 0 degrees to 360 degrees to find the maximum reading.
e. The test-receiver system was set to Quasi-Peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
f. The test-receiver system was set to Peak and Average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz.
g. Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response.(1 GHz to 40 GHz)

[Radiated Emission Limits]

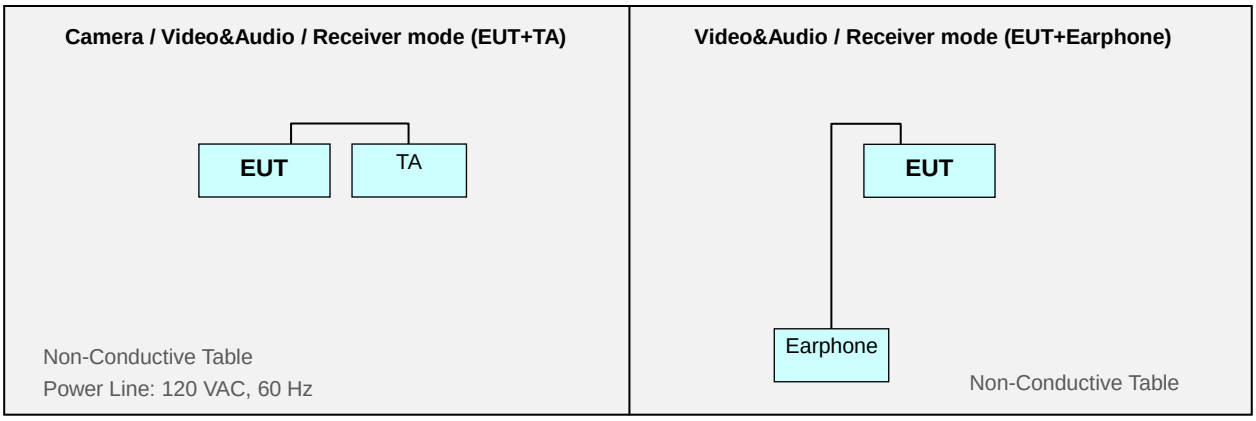
Frequency (MHz)	Antenna Distance (m)	Field Strength (μV/m)	Quasi-Peak (dB(μV)/m)
30 to 88	3	100	40.0
88 to 216	3	150	43.5
216 to 960	3	200	46.0
Above 960	3	500	54.0
Frequency (MHz)	Antenna Distance (m)	Peak (dB(μV)/m)	Average (dB(μV)/m)
Above 1 000	3	74	54

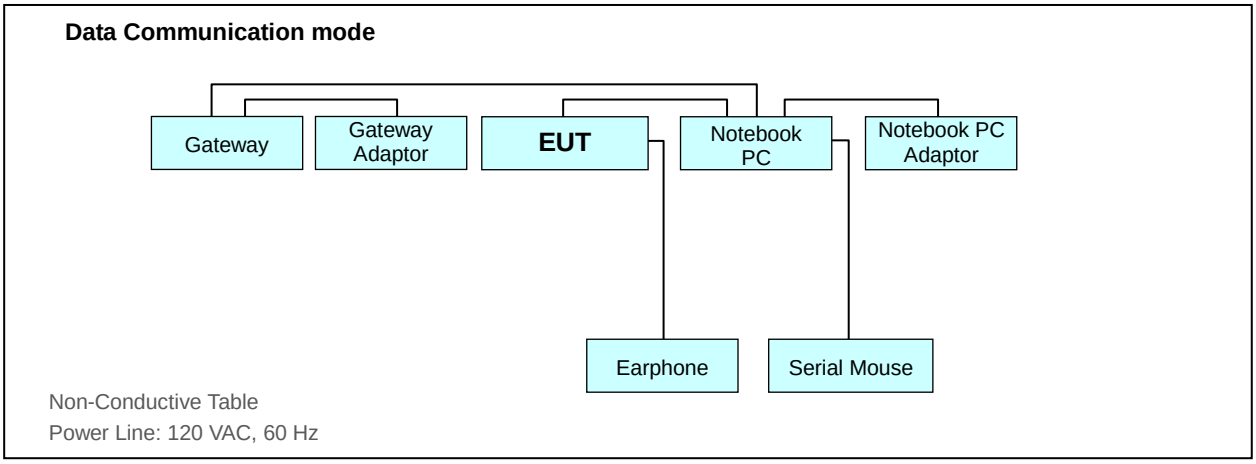
3.2.1 Frequency Range of Radiated Measurements

An unintentional radiator, including a digital device, the spectrum shall be investigated from the lowest radio frequency signal generated or used in the device, without going below the lowest frequency for which a Radiated Emission limit is specified, up to the frequency shown in the following table

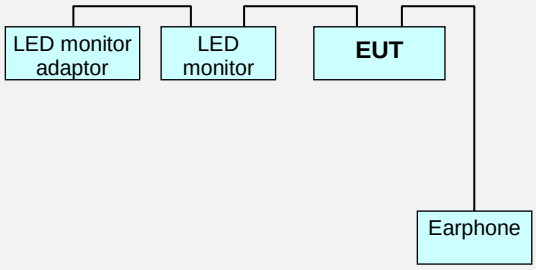
Highest frequency generated or used in the device or on which the device operates or tunes (MHz)	Upper frequency of measurement range (MHz)
Below 1.705	30
1.705 to 108	1 000
108 to 500	2 000
500 to 1 000	5 000
Above 1 000	5th harmonic of the highest frequency or 40 ㎓, whichever is lower

3.3 Configuration of Tested System



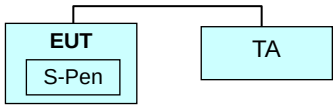


Display mode



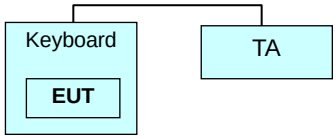
Non-Conductive Table
Power Line: 120 VAC, 60 Hz

S-Pen charging mode



Non-Conductive Table
Power Line: 120 VAC, 60 Hz

Keyboard mode



Non-Conductive Table
Power Line: 120 VAC, 60 Hz

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4. PRELIMINARY TEST

During preliminary tests, the following operating mode was investigated.

Data Communication mode
Front / Rear Camera (Preview / Recording) mode
Video+Audio mode
Receiver mode(WCDMA B5 Low/Middle/High CH Idle)
Receiver mode(LTE B5/B12/B13/B14/B26/B29/B71 Idle_Low/Middle/High CH)
Receiver mode(5G NR n5/n71 Idle_Low/Middle/High CH) mode
Display mode
Keyboard mode
SPEN charging mode

NOTE. The worst band is tested.

4.1 Conducted Emission

It was tested the following operating mode, after connecting all peripheral devices.

Operating Mode:

[EUT+PC]
Data Communication *

[EUT+TA]
LTE B12+B13 Idle (Middle CH)+Front Camera Preview
LTE B14 Idle (Middle CH)+Rear Camera Preview *
Keyboard *
S-PEN charging *
Video+Audio *

NOTE. The worst case of operating mode is reported. [*].

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4.2 Radiated Emission

It was tested the following operating mode, after connecting all peripheral devices.

Operating Mode:

For Blow 1 GHz:	**[EUT+PC]**	Data Communication *
	[EUT+TA]	LTE B26+B5+5G NR n5 Idle (Low CH) LTE B26+B5+5G NR n5 Idle (Middle CH) LTE B26+B5+5G NR n5 Idle (High CH) LTE B29 Idle (High CH/Middle CH/ Low CH) LTE B12+B13 Idle (Low CH) LTE B12+B13 Idle (Middle CH)+Front Camera Preview LTE B12+B13 Idle (High CH) LTE B14 Idle (Low CH) LTE B14 Idle (Middle CH)+Rear Camera Preview * LTE B14 Idle (High CH) LTE B71+5G NR n71 Idle (Low CH) LTE B71+5G NR n71 Idle (Middle CH) LTE B71+5G NR n71 Idle (High CH) Keyboard * S-PEN charging *
	[EUT+Earphone]	LTE B14 Idle (Middle CH) * Video+Audio *
	[etc.]	Video+Audio+Display*
For Above 1 GHz:	**[EUT+PC]**	Data Communication *
	[EUT+TA]	LTE B12+B13 Idle (Middle CH)+Front Camera Preview LTE B14 Idle (Middle CH)+Rear Camera Preview * Keyboard * S-PEN charging *
	[EUT+Earphone]	LTE B14 Idle (Middle CH) * Video+Audio *
	[etc.]	Video+Audio+Display*

NOTE.

1. Three orientations have been investigated and the worst case orientation (x-axis: The display of EUT placed on the table is facing upwards) is reported.
2. The worst case of operating mode is reported. [*].

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5. CONDUCTED AND RADIATED EMISSION TEST SUMMARY

5.1 Conducted Emission

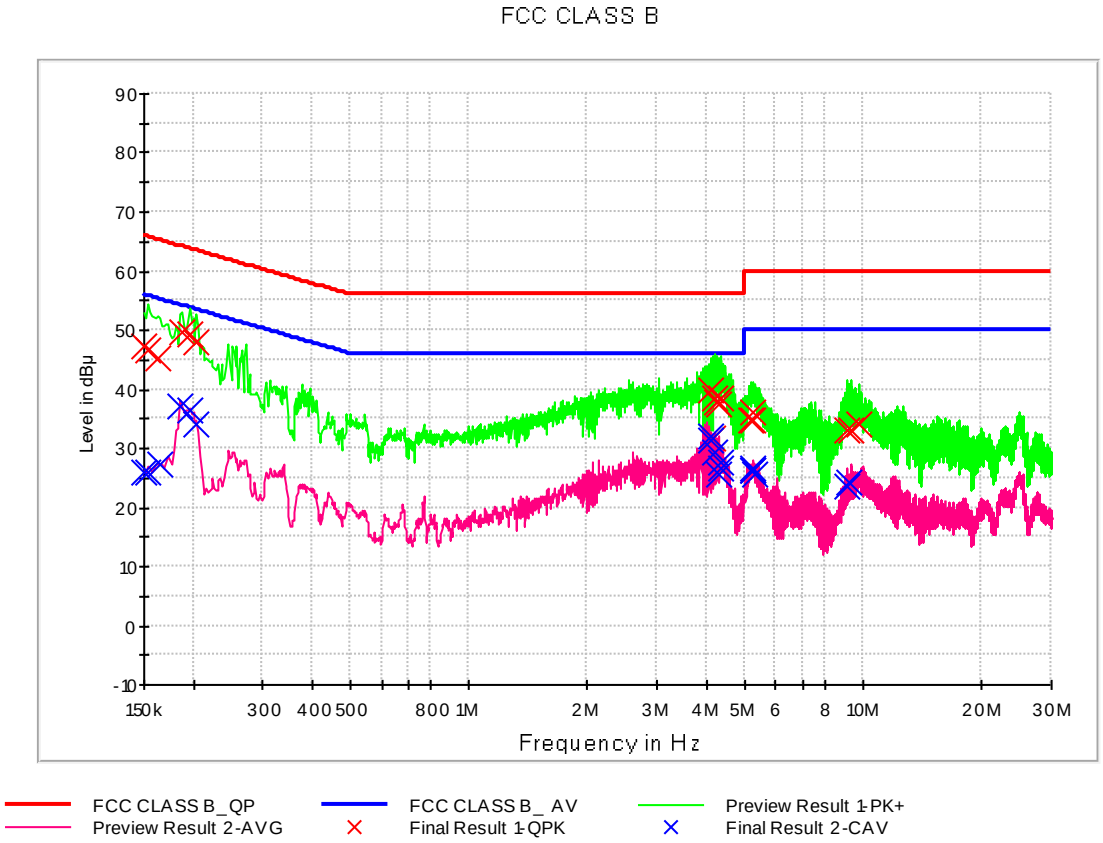
The test results of conducted emission at mains ports provide the following information:

Rule Part / Standard	47 CFR PART 15 Subpart B Class B ANSI C63.4-2014
Detector	Quasi-Peak, CISPR-Average
Bandwidth	9 kHz (6 dB)
Operating Mode	**[EUT+PC]** Data Communication **[EUT+TA]** LTE B14 Idle(Middle CH)+Rear Camera Preview Keyboard mode S-PEN charging mode Video+Audio
Kind of Test Site	EMI Shielded Room
Temperature	22.1 / 23.5 / 25.1 / 24.3 ℃
Relative Humidity	49.5 / 48.3 / 46.4 / 46.2 %
Test Date	June 24 / June 26 / June 30 / /July 02, 2020

Calculation Formula:

1. Conductor L1 = Hot, Conductor N = Neutral
2. Corr. = LISN Factor + Cable Loss
3. QuasiPeak or CAverage= Receiver Reading + Corr.
4. Margin = Limit – QuasiPeak or CAverage

Figure 1: Conducted Emission, Data Communication mode, Line (L1)



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QuasiPeak Final Result, Line (L1)

Frequency (MHz)	QuasiPeak (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.150000	47.2	9.000	L1	9.7	18.8	66.0
0.154000	46.6	9.000	L1	9.7	19.2	65.8
0.162000	45.2	9.000	L1	9.7	20.2	65.4
0.188000	49.5	9.000	L1	9.7	14.6	64.1
0.196000	49.4	9.000	L1	9.7	14.4	63.8
0.204000	47.9	9.000	L1	9.7	15.6	63.4
4.126000	39.8	9.000	L1	9.8	16.2	56.0
4.148000	31.7	9.000	L1	9.8	24.3	56.0
4.198000	38.3	9.000	L1	9.8	17.7	56.0
4.266000	37.8	9.000	L1	9.8	18.2	56.0
4.316000	37.6	9.000	L1	9.8	18.4	56.0
4.366000	38.4	9.000	L1	9.8	17.6	56.0
5.170000	34.9	9.000	L1	9.8	25.1	60.0
5.234000	34.7	9.000	L1	9.8	25.3	60.0
5.266000	36.2	9.000	L1	9.8	23.8	60.0
9.148000	33.2	9.000	L1	9.9	26.8	60.0
9.278000	32.9	9.000	L1	9.9	27.1	60.0
9.706000	34.1	9.000	L1	9.9	25.9	60.0

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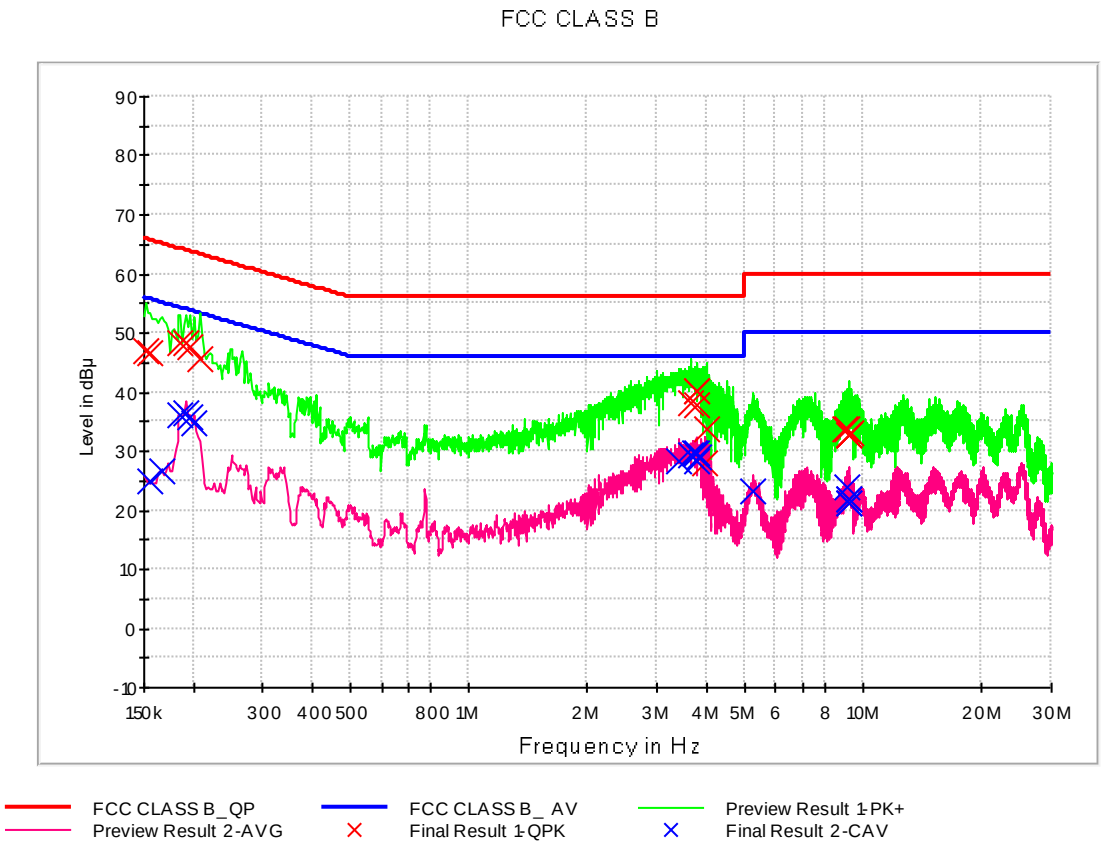
CAverage Final Result, Line (L1)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.150000	25.9	9.000	L1	9.7	30.1	56.0
0.154000	25.9	9.000	L1	9.7	29.8	55.8
0.164000	27.3	9.000	L1	9.7	28.0	55.3
0.186000	37.3	9.000	L1	9.7	16.9	54.2
0.196000	36.6	9.000	L1	9.7	17.2	53.8
0.204000	33.9	9.000	L1	9.7	19.5	53.4
4.126000	31.4	9.000	L1	9.8	14.6	46.0
4.130000	32.1	9.000	L1	9.8	13.9	46.0
4.202000	29.4	9.000	L1	9.8	16.6	46.0
4.280000	25.5	9.000	L1	9.8	20.5	46.0
4.354000	26.6	9.000	L1	9.8	19.4	46.0
4.366000	27.5	9.000	L1	9.8	18.5	46.0
5.234000	26.2	9.000	L1	9.8	23.8	50.0
5.266000	26.6	9.000	L1	9.8	23.4	50.0
5.270000	26.1	9.000	L1	9.8	23.9	50.0
5.320000	25.6	9.000	L1	9.8	24.4	50.0
9.148000	23.4	9.000	L1	9.9	26.6	50.0
9.250000	24.1	9.000	L1	9.9	25.9	50.0

Figure 2: Conducted Emission, Data Communication mode, Line (N)



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QuasiPeak Final Result, Line (N)

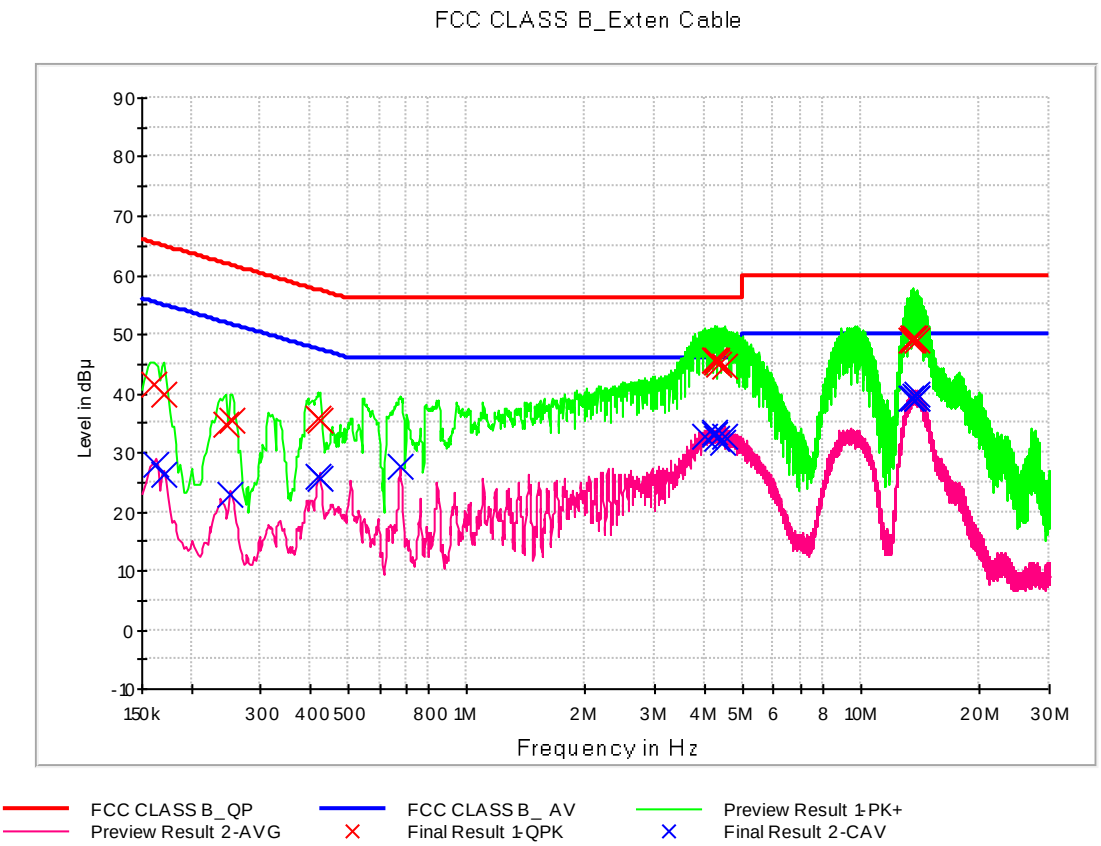
Frequency (MHz)	QuasiPeak (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.152000	46.9	9.000	N	9.7	19.0	65.9
0.156000	46.6	9.000	N	9.7	19.1	65.7
0.186000	48.2	9.000	N	9.7	16.0	64.2
0.192000	48.2	9.000	N	9.7	15.8	63.9
0.196000	47.8	9.000	N	9.7	16.0	63.8
0.208000	45.5	9.000	N	9.7	17.8	63.3
3.672000	38.2	9.000	N	9.8	17.8	56.0
3.776000	37.8	9.000	N	9.8	18.2	56.0
3.780000	40.1	9.000	N	9.8	15.9	56.0
3.794000	40.3	9.000	N	9.8	15.7	56.0
3.976000	27.9	9.000	N	9.8	28.1	56.0
4.012000	33.7	9.000	N	9.8	22.3	56.0
8.942000	33.8	9.000	N	9.9	26.2	60.0
9.100000	33.7	9.000	N	9.9	26.3	60.0
9.204000	32.7	9.000	N	9.9	27.3	60.0
9.208000	32.8	9.000	N	9.9	27.2	60.0
9.214000	32.8	9.000	N	9.9	27.2	60.0
9.344000	33.0	9.000	N	9.9	27.0	60.0

HCT CO.,LTD.

CAverage Final Result, Line (N)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.156000	25.1	9.000	N	9.7	30.6	55.7
0.166000	26.5	9.000	N	9.7	28.7	55.2
0.186000	36.3	9.000	N	9.7	18.0	54.2
0.192000	36.6	9.000	N	9.7	17.3	53.9
0.196000	35.8	9.000	N	9.7	18.0	53.8
0.202000	34.9	9.000	N	9.7	18.6	53.5
3.394000	28.1	9.000	N	9.8	17.9	46.0
3.672000	29.4	9.000	N	9.8	16.6	46.0
3.734000	29.6	9.000	N	9.8	16.4	46.0
3.780000	28.5	9.000	N	9.8	17.5	46.0
3.794000	29.5	9.000	N	9.8	16.5	46.0
3.838000	28.8	9.000	N	9.8	17.2	46.0
5.266000	23.3	9.000	N	9.8	26.7	50.0
9.100000	24.0	9.000	N	9.9	26.0	50.0
9.204000	21.9	9.000	N	9.9	28.1	50.0
9.208000	21.8	9.000	N	9.9	28.2	50.0
9.214000	21.2	9.000	N	9.9	28.8	50.0
9.256000	21.1	9.000	N	9.9	28.9	50.0

Figure 3: Conducted Emission, LTE B14 Idle(Middle CH)+Rear Camera Preview mode, Line (L1)



HCT CO.,LTD.

QuasiPeak Final Result, Line (L1)

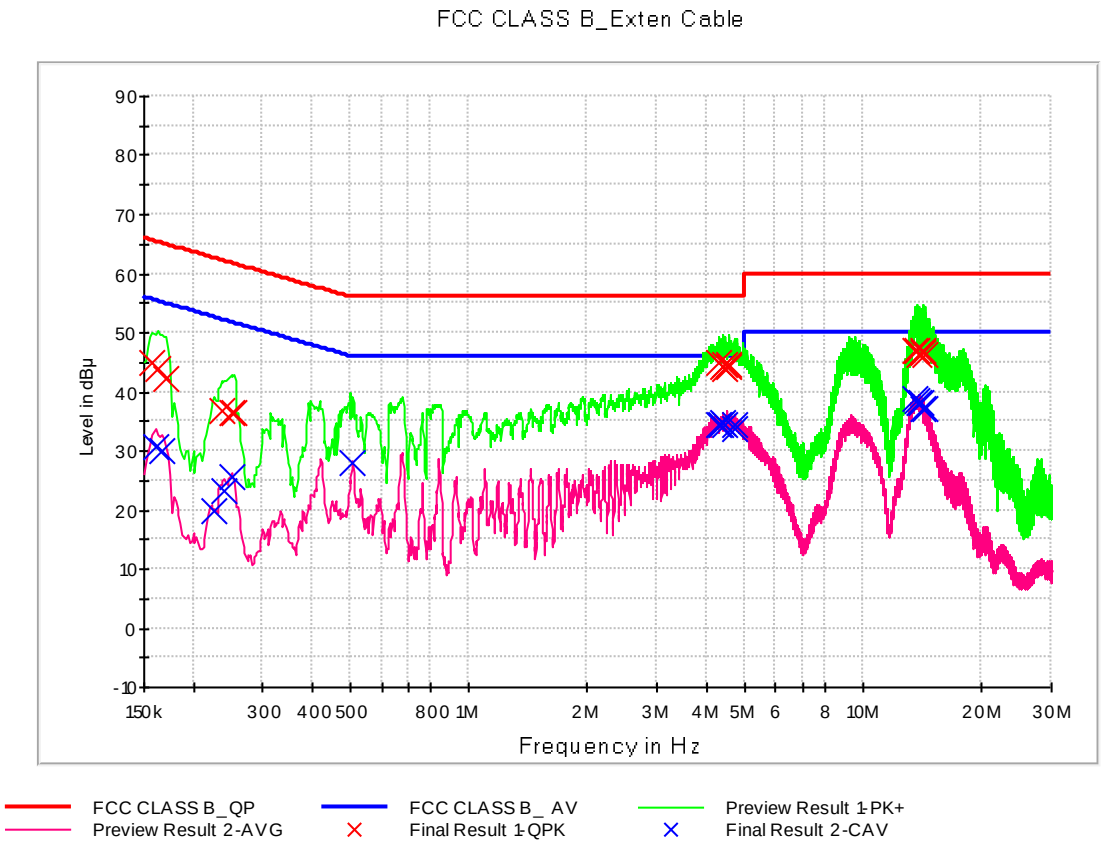
Frequency (MHz)	QuasiPeak (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.160000	41.5	9.000	L1	9.8	24.0	65.5
0.170000	40.0	9.000	L1	9.8	25.0	65.0
0.244000	34.8	9.000	L1	9.8	27.2	62.0
0.254000	35.5	9.000	L1	9.8	26.1	61.6
0.420000	35.7	9.000	L1	9.8	21.8	57.4
0.424000	35.4	9.000	L1	9.8	21.9	57.4
4.242000	45.7	9.000	L1	10.0	10.3	56.0
4.250000	45.5	9.000	L1	10.0	10.5	56.0
4.282000	45.3	9.000	L1	10.0	10.7	56.0
4.324000	45.5	9.000	L1	10.0	10.5	56.0
4.340000	45.0	9.000	L1	10.0	11.0	56.0
4.504000	44.7	9.000	L1	10.0	11.3	56.0
13.350000	49.0	9.000	L1	10.3	11.0	60.0
13.464000	49.2	9.000	L1	10.3	10.8	60.0
13.468000	48.9	9.000	L1	10.3	11.1	60.0
13.496000	49.2	9.000	L1	10.3	10.8	60.0
13.646000	49.3	9.000	L1	10.3	10.7	60.0
13.802000	48.9	9.000	L1	10.3	11.1	60.0

HCT CO.,LTD.

CAverage Final Result, Line (L1)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.162000	28.1	9.000	L1	9.8	27.3	55.4
0.170000	26.2	9.000	L1	9.8	28.7	55.0
0.252000	22.9	9.000	L1	9.8	28.8	51.7
0.420000	25.8	9.000	L1	9.8	21.7	47.4
0.424000	25.6	9.000	L1	9.8	21.8	47.4
0.678000	27.5	9.000	L1	9.8	18.5	46.0
4.028000	32.8	9.000	L1	10.0	13.2	46.0
4.236000	33.3	9.000	L1	10.0	12.7	46.0
4.242000	33.2	9.000	L1	10.0	12.8	46.0
4.282000	32.5	9.000	L1	10.0	13.5	46.0
4.440000	31.8	9.000	L1	10.0	14.2	46.0
4.504000	32.8	9.000	L1	10.0	13.2	46.0
13.398000	39.3	9.000	L1	10.3	10.7	50.0
13.468000	39.3	9.000	L1	10.3	10.7	50.0
13.646000	39.6	9.000	L1	10.3	10.4	50.0
13.796000	39.8	9.000	L1	10.3	10.2	50.0
13.828000	39.3	9.000	L1	10.3	10.7	50.0
13.918000	39.3	9.000	L1	10.3	10.7	50.0

Figure 4: Conducted Emission, LTE B14 Idle(Middle CH)+Rear Camera Preview mode, Line (N)



HCT CO.,LTD.

QuasiPeak Final Result, Line (N)

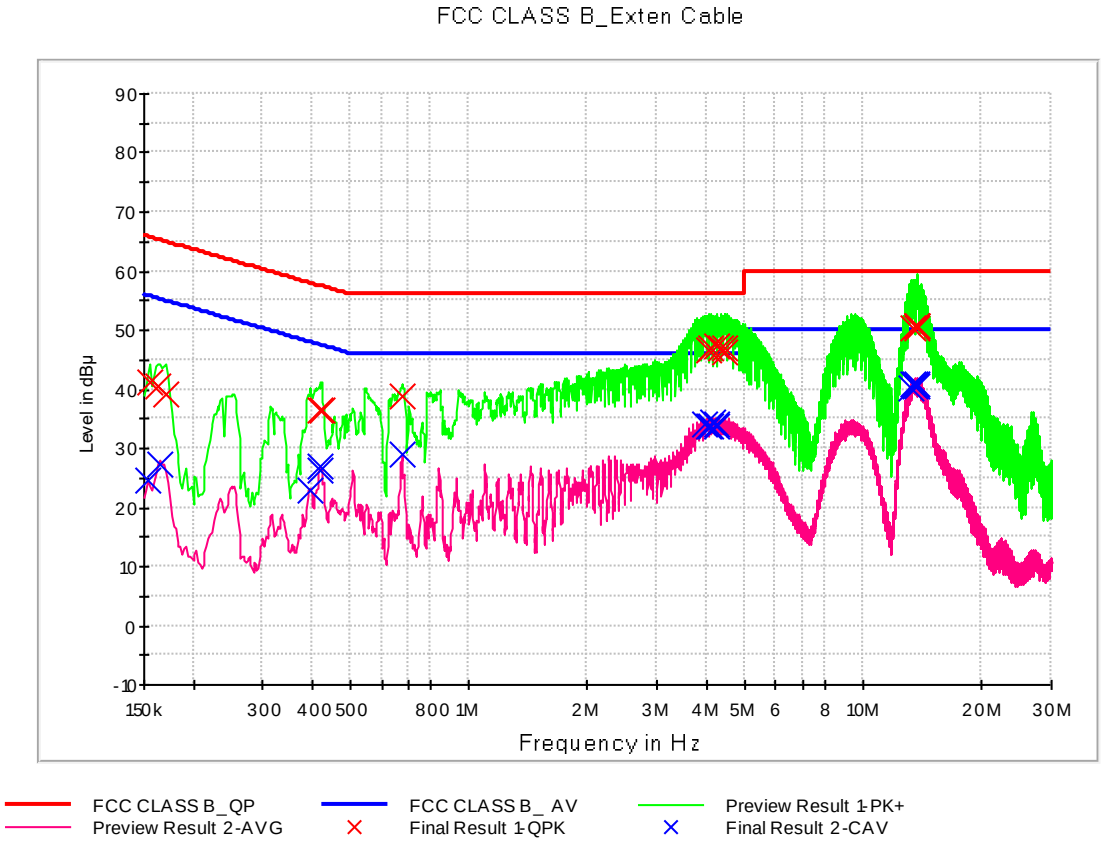
Frequency (MHz)	QuasiPeak (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.158000	44.8	9.000	N	9.8	20.8	65.6
0.162000	44.0	9.000	N	9.8	21.4	65.4
0.170000	42.3	9.000	N	9.8	22.7	65.0
0.236000	36.9	9.000	N	9.8	25.4	62.2
0.250000	36.3	9.000	N	9.8	25.5	61.8
0.254000	36.3	9.000	N	9.8	25.3	61.6
4.312000	44.8	9.000	N	10.0	11.2	56.0
4.394000	44.3	9.000	N	10.0	11.7	56.0
4.464000	44.7	9.000	N	10.0	11.3	56.0
4.474000	43.9	9.000	N	10.0	12.1	56.0
4.544000	44.6	9.000	N	10.0	11.4	56.0
4.552000	44.2	9.000	N	10.0	11.8	56.0
13.498000	47.1	9.000	N	10.4	12.9	60.0
13.702000	46.8	9.000	N	10.4	13.2	60.0
13.812000	46.4	9.000	N	10.4	13.6	60.0
14.212000	46.5	9.000	N	10.4	13.5	60.0
14.266000	46.9	9.000	N	10.4	13.1	60.0
14.280000	46.2	9.000	N	10.4	13.8	60.0

HCT CO.,LTD.

CAverage Final Result, Line (N)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.160000	30.5	9.000	N	9.8	24.9	55.5
0.166000	29.9	9.000	N	9.8	25.3	55.2
0.226000	19.9	9.000	N	9.8	32.7	52.6
0.240000	23.2	9.000	N	9.8	28.9	52.1
0.250000	25.5	9.000	N	9.8	26.3	51.8
0.506000	28.1	9.000	N	9.8	17.9	46.0
4.306000	34.6	9.000	N	10.0	11.4	46.0
4.380000	34.6	9.000	N	10.0	11.4	46.0
4.394000	34.6	9.000	N	10.0	11.4	46.0
4.474000	34.3	9.000	N	10.0	11.7	46.0
4.700000	34.6	9.000	N	10.0	11.4	46.0
4.716000	33.8	9.000	N	10.0	12.2	46.0
13.498000	38.7	9.000	N	10.4	11.3	50.0
13.642000	38.5	9.000	N	10.4	11.5	50.0
13.812000	38.2	9.000	N	10.4	11.8	50.0
14.034000	38.2	9.000	N	10.4	11.8	50.0
14.212000	37.0	9.000	N	10.4	13.0	50.0
14.280000	37.1	9.000	N	10.4	12.9	50.0

Figure 5: Conducted Emission, Keyboard mode, Line (L1)



HCT CO.,LTD.

QuasiPeak Final Result, Line (L1)

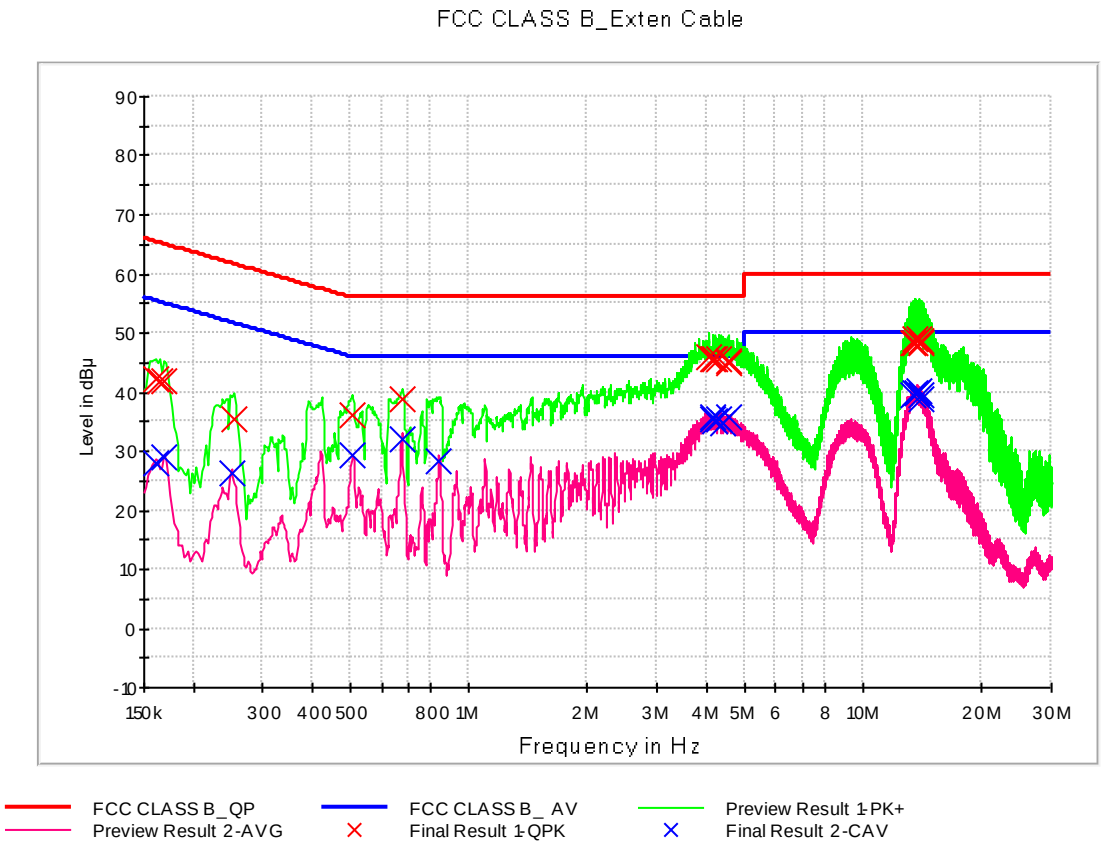
Frequency (MHz)	QuasiPeak (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.156000	41.1	9.000	L1	9.8	24.6	65.7
0.162000	40.6	9.000	L1	9.8	24.8	65.4
0.170000	39.3	9.000	L1	9.8	25.7	65.0
0.418000	36.4	9.000	L1	9.8	21.1	57.5
0.424000	36.4	9.000	L1	9.8	21.0	57.4
0.680000	38.8	9.000	L1	9.8	17.2	56.0
4.044000	46.7	9.000	L1	10.0	9.3	56.0
4.122000	46.9	9.000	L1	10.0	9.1	56.0
4.244000	47.2	9.000	L1	10.0	8.8	56.0
4.340000	46.8	9.000	L1	10.0	9.2	56.0
4.442000	46.8	9.000	L1	10.0	9.2	56.0
4.468000	46.1	9.000	L1	10.0	9.9	56.0
13.452000	50.4	9.000	L1	10.3	9.6	60.0
13.644000	50.4	9.000	L1	10.3	9.6	60.0
13.656000	50.6	9.000	L1	10.3	9.4	60.0
13.660000	50.8	9.000	L1	10.3	9.2	60.0
13.728000	50.7	9.000	L1	10.3	9.3	60.0
13.768000	50.6	9.000	L1	10.3	9.4	60.0

HCT CO.,LTD.

CAverage Final Result, Line (L1)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.154000	24.7	9.000	L1	9.8	31.1	55.8
0.164000	27.4	9.000	L1	9.8	27.8	55.3
0.396000	22.7	9.000	L1	9.8	25.2	47.9
0.418000	26.3	9.000	L1	9.8	21.2	47.5
0.422000	27.0	9.000	L1	9.8	20.4	47.4
0.678000	29.0	9.000	L1	9.8	17.0	46.0
3.956000	34.0	9.000	L1	10.0	12.0	46.0
4.044000	33.9	9.000	L1	10.0	12.1	46.0
4.084000	33.9	9.000	L1	10.0	12.1	46.0
4.164000	34.3	9.000	L1	10.0	11.7	46.0
4.244000	34.2	9.000	L1	10.0	11.8	46.0
4.270000	33.6	9.000	L1	10.0	12.4	46.0
13.252000	40.2	9.000	L1	10.3	9.8	50.0
13.426000	40.8	9.000	L1	10.3	9.2	50.0
13.552000	40.7	9.000	L1	10.3	9.3	50.0
13.562000	40.6	9.000	L1	10.3	9.4	50.0
13.656000	40.4	9.000	L1	10.3	9.6	50.0
13.768000	40.9	9.000	L1	10.3	9.1	50.0

Figure 6: Conducted Emission, Keyboard mode, Line (N)



HCT CO.,LTD.

QuasiPeak Final Result, Line (N)

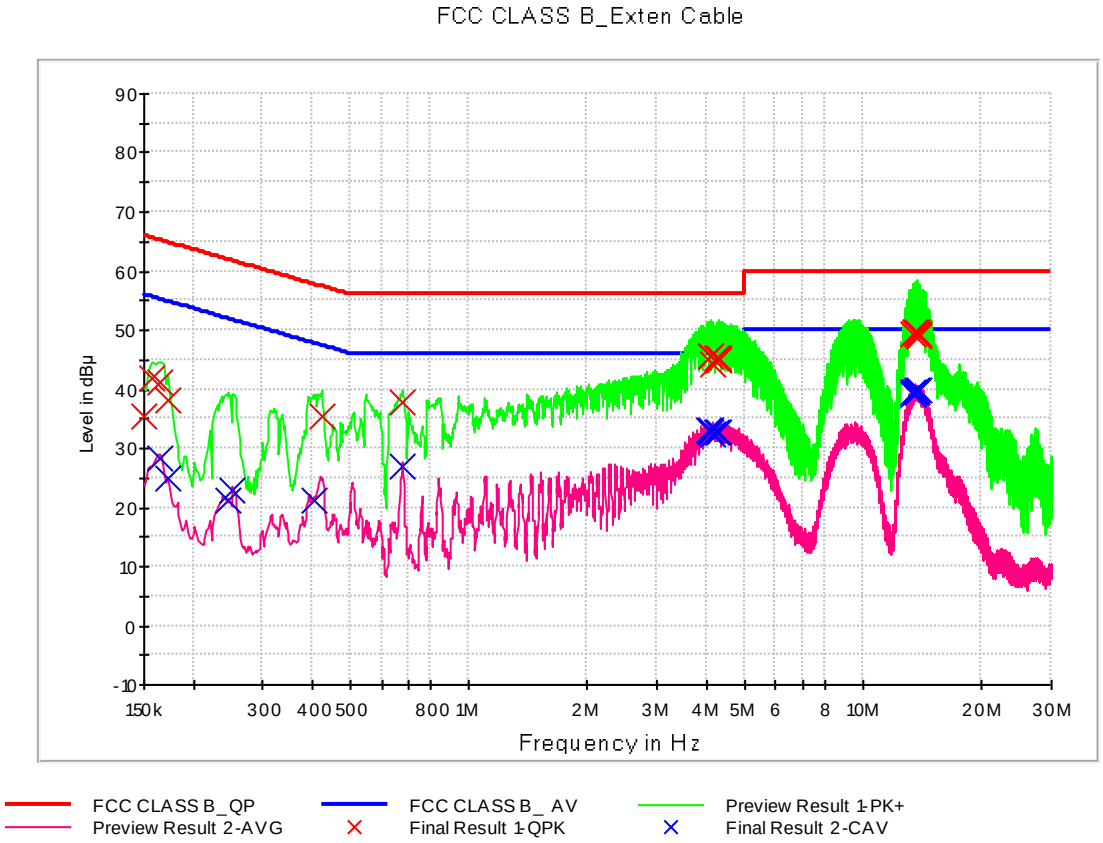
Frequency (MHz)	QuasiPeak (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.160000	42.1	9.000	N	9.8	23.3	65.5
0.164000	41.9	9.000	N	9.8	23.4	65.3
0.168000	41.9	9.000	N	9.8	23.2	65.1
0.254000	35.6	9.000	N	9.8	26.1	61.6
0.506000	36.0	9.000	N	9.8	20.0	56.0
0.678000	38.9	9.000	N	9.8	17.1	56.0
4.066000	46.0	9.000	N	10.0	10.0	56.0
4.148000	45.8	9.000	N	10.0	10.2	56.0
4.228000	45.6	9.000	N	10.0	10.4	56.0
4.306000	45.6	9.000	N	10.0	10.4	56.0
4.538000	45.2	9.000	N	10.0	10.8	56.0
4.542000	45.0	9.000	N	10.0	11.0	56.0
13.384000	48.2	9.000	N	10.4	11.8	60.0
13.546000	48.2	9.000	N	10.4	11.8	60.0
13.610000	49.0	9.000	N	10.4	11.0	60.0
13.842000	49.1	9.000	N	10.4	10.9	60.0
14.006000	48.7	9.000	N	10.4	11.3	60.0
14.088000	48.2	9.000	N	10.4	11.8	60.0

HCT CO.,LTD.

CAverage Final Result, Line (N)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.160000	28.1	9.000	N	9.8	27.4	55.5
0.168000	28.9	9.000	N	9.8	26.2	55.1
0.250000	26.4	9.000	N	9.8	25.4	51.8
0.508000	29.2	9.000	N	9.8	16.8	46.0
0.678000	32.0	9.000	N	9.8	14.0	46.0
0.842000	28.4	9.000	N	9.8	17.6	46.0
4.146000	35.5	9.000	N	10.0	10.5	46.0
4.150000	35.8	9.000	N	10.0	10.2	46.0
4.222000	35.2	9.000	N	10.0	10.8	46.0
4.306000	35.3	9.000	N	10.0	10.7	46.0
4.392000	34.9	9.000	N	10.0	11.1	46.0
4.538000	35.7	9.000	N	10.0	10.3	46.0
13.324000	39.6	9.000	N	10.4	10.4	50.0
13.546000	39.8	9.000	N	10.4	10.2	50.0
13.702000	39.9	9.000	N	10.4	10.1	50.0
13.842000	40.2	9.000	N	10.4	9.8	50.0
13.982000	38.9	9.000	N	10.4	11.1	50.0
14.004000	39.6	9.000	N	10.4	10.4	50.0

Figure 7: Conducted Emission, Video+Audio mode, Line (L1)



HCT CO.,LTD.

QuasiPeak Final Result, Line (L1)

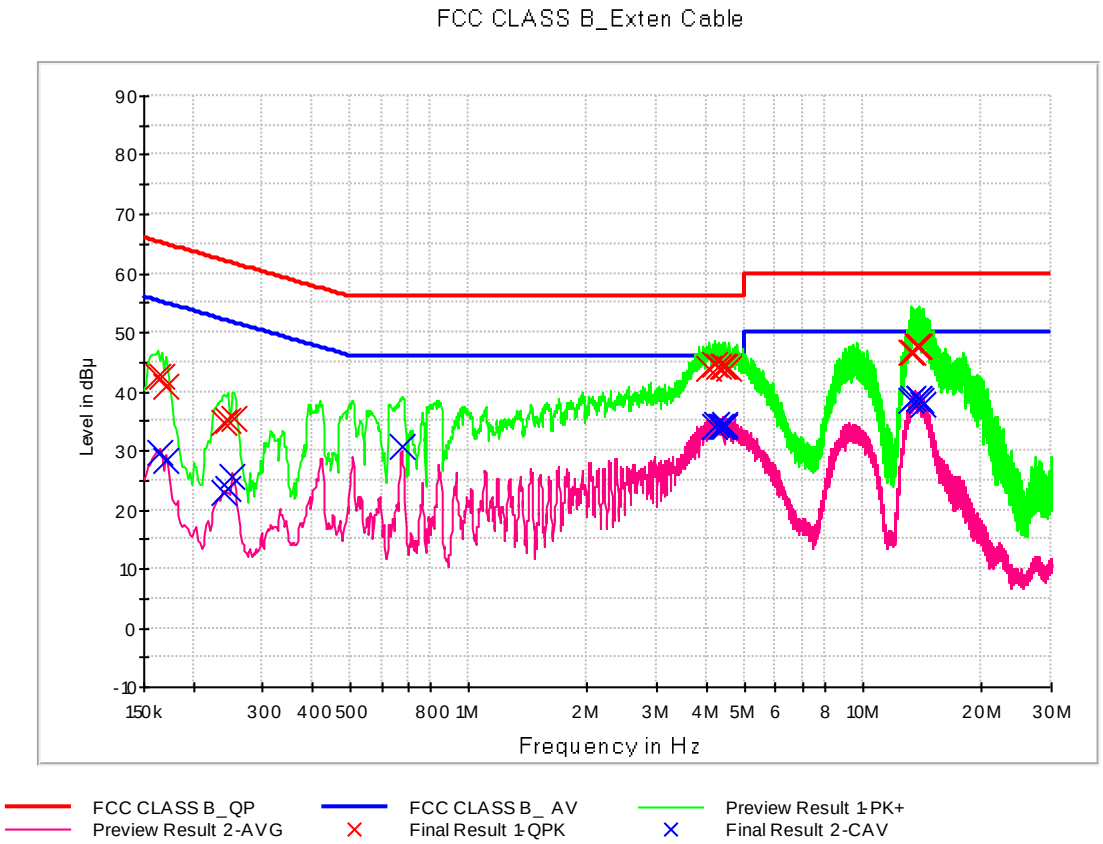
Frequency (MHz)	QuasiPeak (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.150000	35.6	9.000	L1	9.8	30.4	66.0
0.158000	41.8	9.000	L1	9.8	23.8	65.6
0.164000	41.0	9.000	L1	9.8	24.2	65.3
0.172000	38.0	9.000	L1	9.8	26.9	64.9
0.424000	35.3	9.000	L1	9.8	22.0	57.4
0.680000	37.9	9.000	L1	9.8	18.1	56.0
4.114000	45.6	9.000	L1	10.0	10.4	56.0
4.122000	45.4	9.000	L1	10.0	10.6	56.0
4.144000	44.3	9.000	L1	10.0	11.7	56.0
4.260000	45.1	9.000	L1	10.0	10.9	56.0
4.284000	45.3	9.000	L1	10.0	10.7	56.0
4.290000	44.8	9.000	L1	10.0	11.2	56.0
13.380000	49.4	9.000	L1	10.3	10.6	60.0
13.482000	49.8	9.000	L1	10.3	10.2	60.0
13.644000	49.3	9.000	L1	10.3	10.7	60.0
13.718000	49.7	9.000	L1	10.3	10.3	60.0
13.854000	49.1	9.000	L1	10.3	10.9	60.0
13.864000	49.3	9.000	L1	10.3	10.7	60.0

HCT CO.,LTD.

CAverage Final Result, Line (L1)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.164000	28.3	9.000	L1	9.8	26.9	55.3
0.172000	25.0	9.000	L1	9.8	29.9	54.9
0.246000	21.1	9.000	L1	9.8	30.8	51.9
0.252000	23.0	9.000	L1	9.8	28.7	51.7
0.404000	21.3	9.000	L1	9.8	26.5	47.8
0.680000	27.0	9.000	L1	9.8	19.0	46.0
4.042000	33.0	9.000	L1	10.0	13.0	46.0
4.114000	32.8	9.000	L1	10.0	13.2	46.0
4.122000	33.1	9.000	L1	10.0	12.9	46.0
4.144000	32.4	9.000	L1	10.0	13.6	46.0
4.260000	32.8	9.000	L1	10.0	13.2	46.0
4.284000	32.6	9.000	L1	10.0	13.4	46.0
13.338000	39.4	9.000	L1	10.3	10.6	50.0
13.380000	39.1	9.000	L1	10.3	10.9	50.0
13.482000	39.5	9.000	L1	10.3	10.5	50.0
13.644000	39.6	9.000	L1	10.3	10.4	50.0
13.718000	39.7	9.000	L1	10.3	10.3	50.0
13.854000	39.8	9.000	L1	10.3	10.2	50.0

Figure 8: Conducted Emission, Video+Audio mode, Line (N)



HCT CO.,LTD.

QuasiPeak Final Result, Line (N)

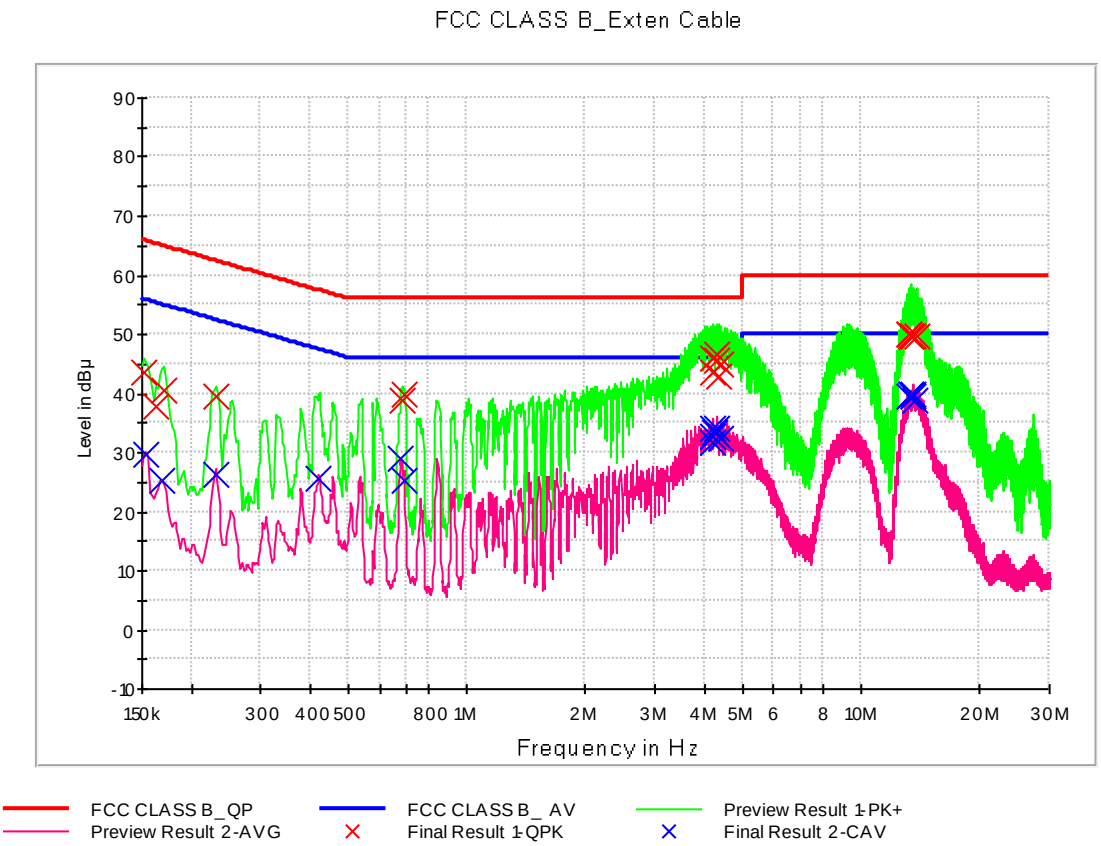
Frequency (MHz)	QuasiPeak (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.162000	42.4	9.000	N	9.8	22.9	65.4
0.166000	42.4	9.000	N	9.8	22.8	65.2
0.170000	40.9	9.000	N	9.8	24.1	65.0
0.240000	34.8	9.000	N	9.8	27.3	62.1
0.246000	34.9	9.000	N	9.8	27.0	61.9
0.254000	35.6	9.000	N	9.8	26.1	61.6
4.080000	43.8	9.000	N	10.0	12.2	56.0
4.226000	44.5	9.000	N	10.0	11.5	56.0
4.314000	44.4	9.000	N	10.0	11.6	56.0
4.392000	44.1	9.000	N	10.0	11.9	56.0
4.466000	44.1	9.000	N	10.0	11.9	56.0
4.550000	43.8	9.000	N	10.0	12.2	56.0
13.254000	46.6	9.000	N	10.4	13.4	60.0
13.326000	46.7	9.000	N	10.4	13.3	60.0
13.706000	47.5	9.000	N	10.4	12.5	60.0
13.786000	47.6	9.000	N	10.4	12.4	60.0
13.866000	47.6	9.000	N	10.4	12.4	60.0
13.870000	47.5	9.000	N	10.4	12.5	60.0

HCT CO.,LTD.

CAverage Final Result, Line (N)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.164000	29.7	9.000	N	9.8	25.6	55.3
0.170000	28.3	9.000	N	9.8	26.7	55.0
0.240000	22.7	9.000	N	9.8	29.4	52.1
0.246000	23.6	9.000	N	9.8	28.3	51.9
0.252000	25.6	9.000	N	9.8	26.1	51.7
0.676000	30.7	9.000	N	9.8	15.3	46.0
4.192000	34.0	9.000	N	10.0	12.0	46.0
4.234000	34.5	9.000	N	10.0	11.5	46.0
4.380000	34.1	9.000	N	10.0	11.9	46.0
4.392000	34.1	9.000	N	10.0	11.9	46.0
4.456000	34.6	9.000	N	10.0	11.4	46.0
4.466000	34.2	9.000	N	10.0	11.8	46.0
13.254000	38.4	9.000	N	10.4	11.6	50.0
13.326000	38.7	9.000	N	10.4	11.3	50.0
13.866000	38.9	9.000	N	10.4	11.1	50.0
13.870000	38.7	9.000	N	10.4	11.3	50.0
13.958000	38.4	9.000	N	10.4	11.6	50.0
14.168000	37.7	9.000	N	10.4	12.3	50.0

Figure 9: Conducted Emission, S-PEN charging mode, Line (L1)



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QuasiPeak Final Result, Line (L1)

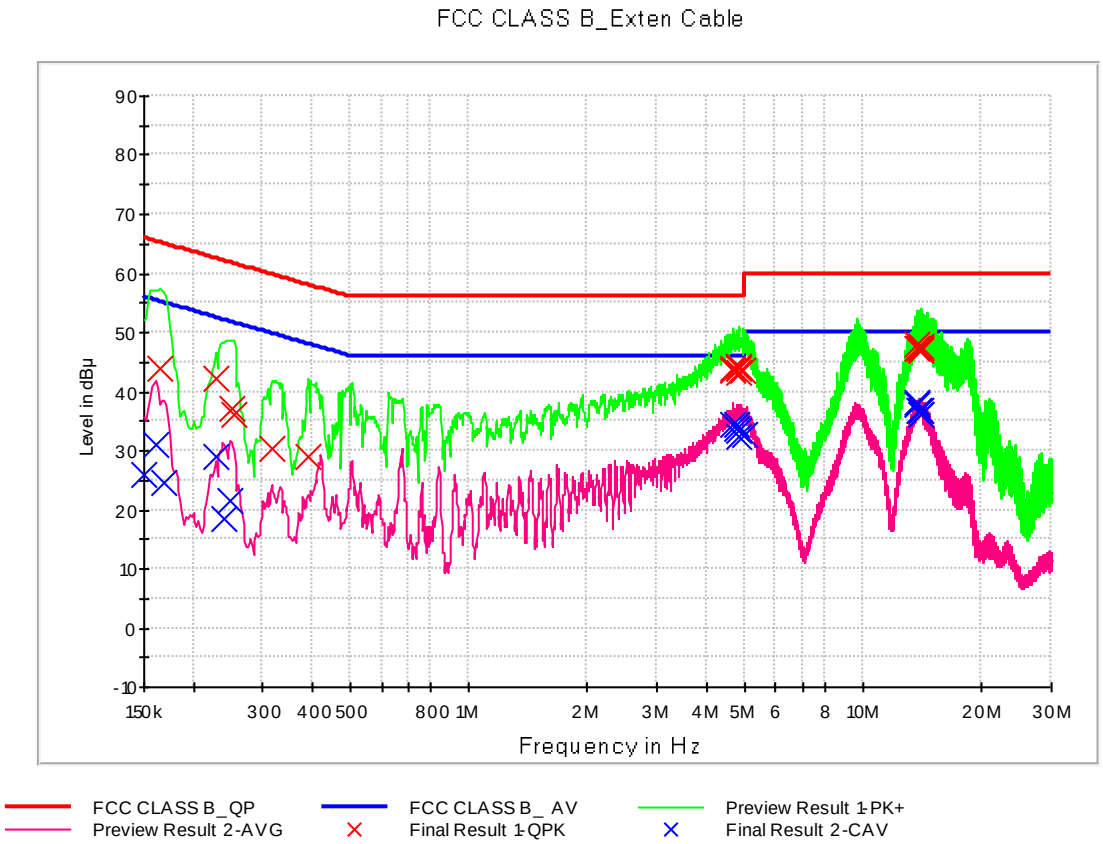
Frequency (MHz)	QuasiPeak (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.152000	43.7	9.000	L1	9.8	22.2	65.9
0.162000	37.9	9.000	L1	9.8	27.4	65.4
0.170000	40.5	9.000	L1	9.8	24.4	65.0
0.230000	39.6	9.000	L1	9.8	22.8	62.4
0.686000	38.9	9.000	L1	9.8	17.1	56.0
0.694000	39.7	9.000	L1	9.8	16.3	56.0
4.190000	43.5	9.000	L1	10.0	12.5	56.0
4.226000	46.0	9.000	L1	10.0	10.0	56.0
4.300000	45.5	9.000	L1	10.0	10.5	56.0
4.318000	46.5	9.000	L1	10.0	9.5	56.0
4.356000	42.8	9.000	L1	10.0	13.2	56.0
4.422000	45.0	9.000	L1	10.0	11.0	56.0
13.166000	49.9	9.000	L1	10.3	10.1	60.0
13.246000	50.1	9.000	L1	10.3	9.9	60.0
13.364000	49.5	9.000	L1	10.3	10.5	60.0
13.446000	49.7	9.000	L1	10.3	10.3	60.0
13.524000	49.7	9.000	L1	10.3	10.3	60.0
13.852000	49.7	9.000	L1	10.3	10.3	60.0

HCT CO.,LTD.

CAverage Final Result, Line (L1)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.154000	29.5	9.000	L1	9.8	26.3	55.8
0.168000	25.2	9.000	L1	9.8	29.9	55.1
0.230000	26.4	9.000	L1	9.8	26.0	52.4
0.422000	25.7	9.000	L1	9.8	21.7	47.4
0.682000	29.0	9.000	L1	9.8	17.0	46.0
0.694000	25.3	9.000	L1	9.8	20.7	46.0
4.190000	31.8	9.000	L1	10.0	14.2	46.0
4.200000	32.8	9.000	L1	10.0	13.2	46.0
4.226000	34.0	9.000	L1	10.0	12.0	46.0
4.258000	33.2	9.000	L1	10.0	12.8	46.0
4.318000	34.1	9.000	L1	10.0	11.9	46.0
4.422000	32.5	9.000	L1	10.0	13.5	46.0
13.246000	39.4	9.000	L1	10.3	10.6	50.0
13.364000	39.7	9.000	L1	10.3	10.3	50.0
13.446000	39.8	9.000	L1	10.3	10.2	50.0
13.534000	39.7	9.000	L1	10.3	10.3	50.0
13.590000	39.4	9.000	L1	10.3	10.6	50.0
13.746000	38.8	9.000	L1	10.3	11.2	50.0

Figure 10: Conducted Emission, S-PEN charging mode, Line (N)



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QuasiPeak Final Result, Line (N)

Frequency (MHz)	QuasiPeak (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.164000	43.7	9.000	N	9.8	21.5	65.3
0.228000	42.3	9.000	N	9.8	20.2	62.5
0.250000	37.0	9.000	N	9.8	24.8	61.8
0.254000	36.1	9.000	N	9.8	25.5	61.6
0.316000	30.3	9.000	N	9.8	29.5	59.8
0.392000	28.8	9.000	N	9.8	29.2	58.0
4.692000	43.7	9.000	N	10.0	12.3	56.0
4.698000	44.0	9.000	N	10.0	12.0	56.0
4.840000	44.3	9.000	N	10.0	11.7	56.0
4.848000	43.2	9.000	N	10.0	12.8	56.0
4.854000	43.8	9.000	N	10.0	12.2	56.0
4.930000	43.6	9.000	N	10.0	12.4	56.0
13.746000	47.8	9.000	N	10.4	12.2	60.0
13.764000	47.4	9.000	N	10.4	12.6	60.0
13.920000	47.3	9.000	N	10.4	12.7	60.0
14.068000	47.3	9.000	N	10.4	12.7	60.0
14.084000	46.8	9.000	N	10.4	13.2	60.0
14.100000	47.6	9.000	N	10.4	12.4	60.0

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CAverage Final Result, Line (N)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.150000	26.1	9.000	N	9.8	29.9	56.0
0.160000	30.9	9.000	N	9.8	24.6	55.5
0.168000	24.5	9.000	N	9.8	30.6	55.1
0.228000	29.0	9.000	N	9.8	23.6	52.5
0.240000	18.3	9.000	N	9.8	33.8	52.1
0.248000	21.5	9.000	N	9.8	30.4	51.8
4.692000	34.5	9.000	N	10.0	11.5	46.0
4.762000	34.3	9.000	N	10.0	11.7	46.0
4.766000	33.7	9.000	N	10.0	12.3	46.0
4.850000	32.2	9.000	N	10.0	13.8	46.0
4.854000	33.4	9.000	N	10.0	12.6	46.0
5.008000	32.6	9.000	N	10.0	17.4	50.0
13.746000	38.1	9.000	N	10.4	11.9	50.0
13.764000	37.8	9.000	N	10.4	12.2	50.0
13.920000	36.8	9.000	N	10.4	13.2	50.0
14.068000	36.1	9.000	N	10.4	13.9	50.0
14.084000	36.2	9.000	N	10.4	13.8	50.0
14.100000	36.7	9.000	N	10.4	13.3	50.0

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5.2 Radiated Emission

5.2.1 For Measurement Below 1 GHz

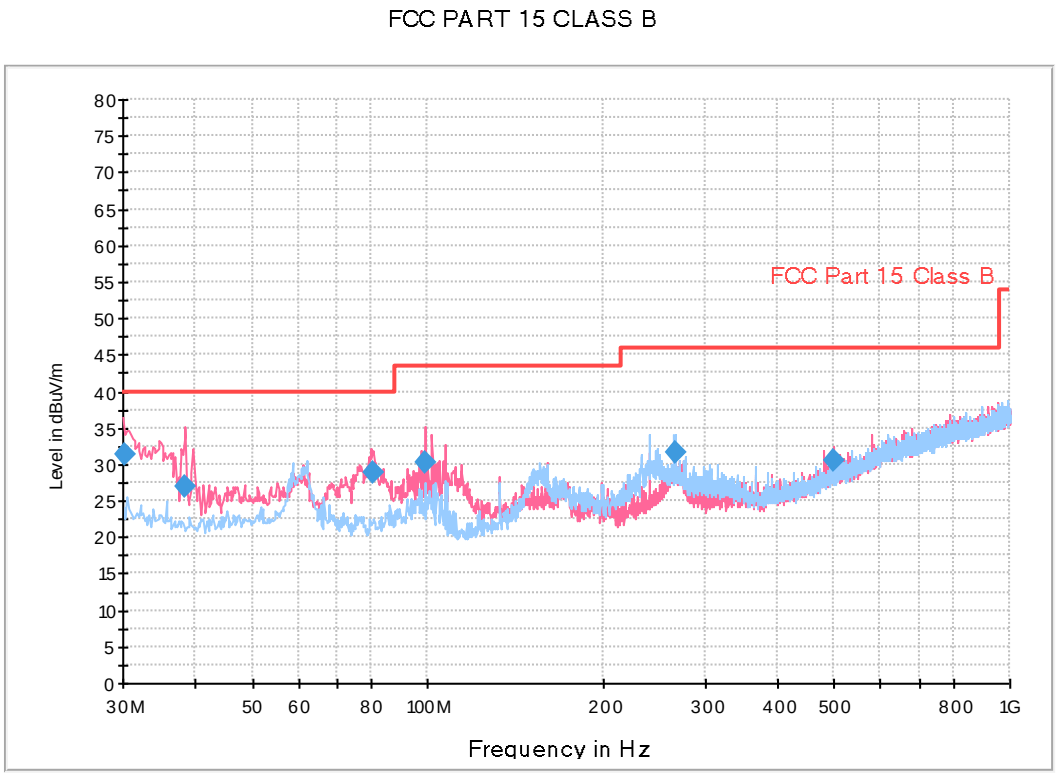
The test results of radiated emission provide the following information:

Applicable Standards	47 CFR PART 15 Subpart B Class B ANSI C63.4-2014
Detector	Quasi-Peak
Bandwidth	120 kHz (6 dB)
Worst Case of Operating Mode	**[EUT+PC]** Data Communication **[EUT+TA]** LTE B14 Idle(Middle CH)+Rear Camera Preview Keyboard S-PEN charging **[EUT+Earphone]** LTE B14 Idle(Middle CH) Video+Audio **[etc.]** VIDEO & AUDIO & DISPLAY
Kind of Test Site	3 m semi anechoic chamber
Temperature	24.2 / 23.6 / 22.8 ℃
Relative Humidity	41.5 / 43.9 / 45.3 %
Test Date	June 25 / June 26 / June 29, 2020

- Calculation Formula:

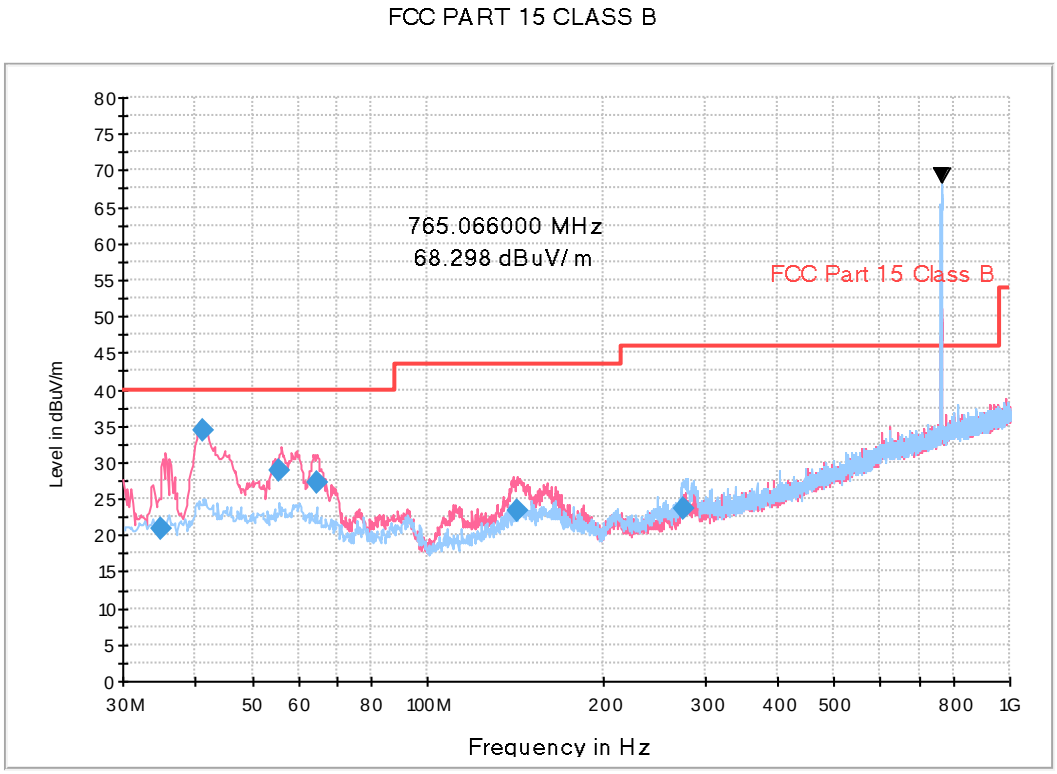
1. POL. H = Horizontal, POL. V = Vertical
2. QuasiPeak = Reading (Receiver Reading) + Corr.
3. Corr. (Correction Factor) = Antenna Factor + Cable Loss
4. Margin = Limit - QuasiPeak

Figure 11: Radiated Emission (30 MHz to 1 GHz), [EUT+PC] Data Communication mode



Frequency (MHz)	Quasi Peak (dBµV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
30.171400	31.4	100.0	V	147.0	18.3	8.6	40.0
38.439000	26.9	100.0	V	102.0	18.9	13.1	40.0
80.500200	28.9	100.0	V	327.0	15.7	11.1	40.0
99.003800	30.2	100.0	V	278.0	15.1	13.3	43.5
266.493600	31.6	100.0	H	280.0	19.3	14.4	46.0
499.711600	30.6	100.0	V	8.0	25.2	15.4	46.0

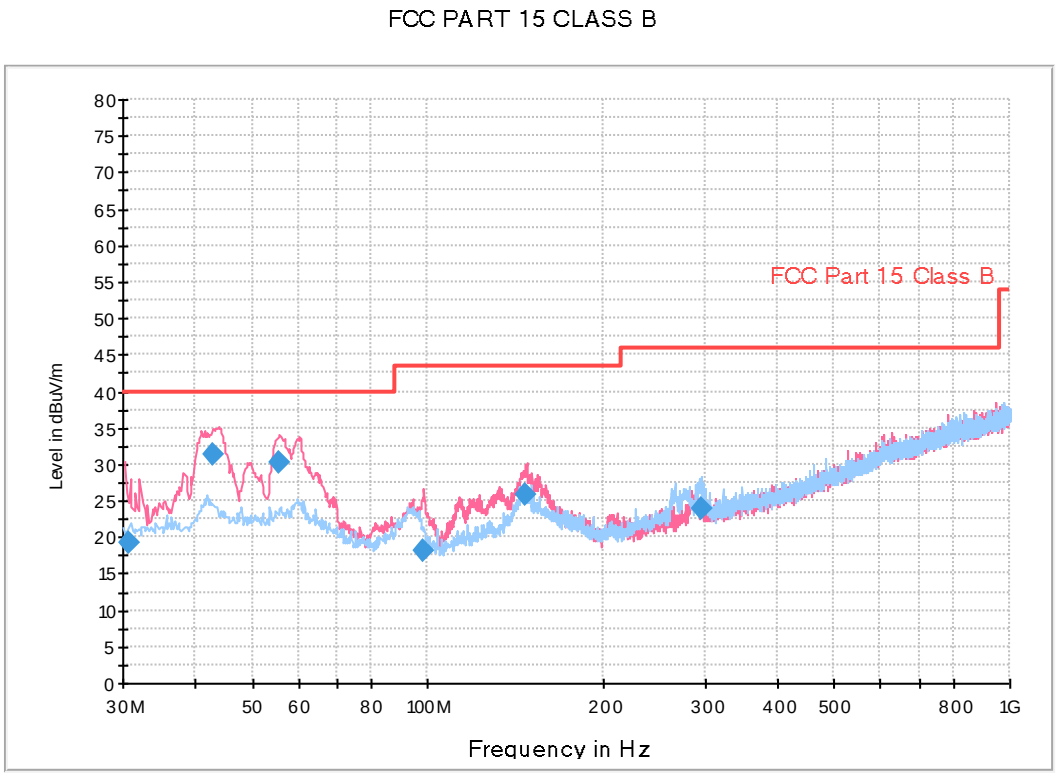
Figure 12: Radiated Emission (30 MHz to 1 GHz), [EUT+TA] LTE B14 Idle(Middle CH)+Rear Camera Preview



NOTE. 1. Carrier Frequency: RX 765.066 MHz
2. These are signals for fundamental frequency from the base station

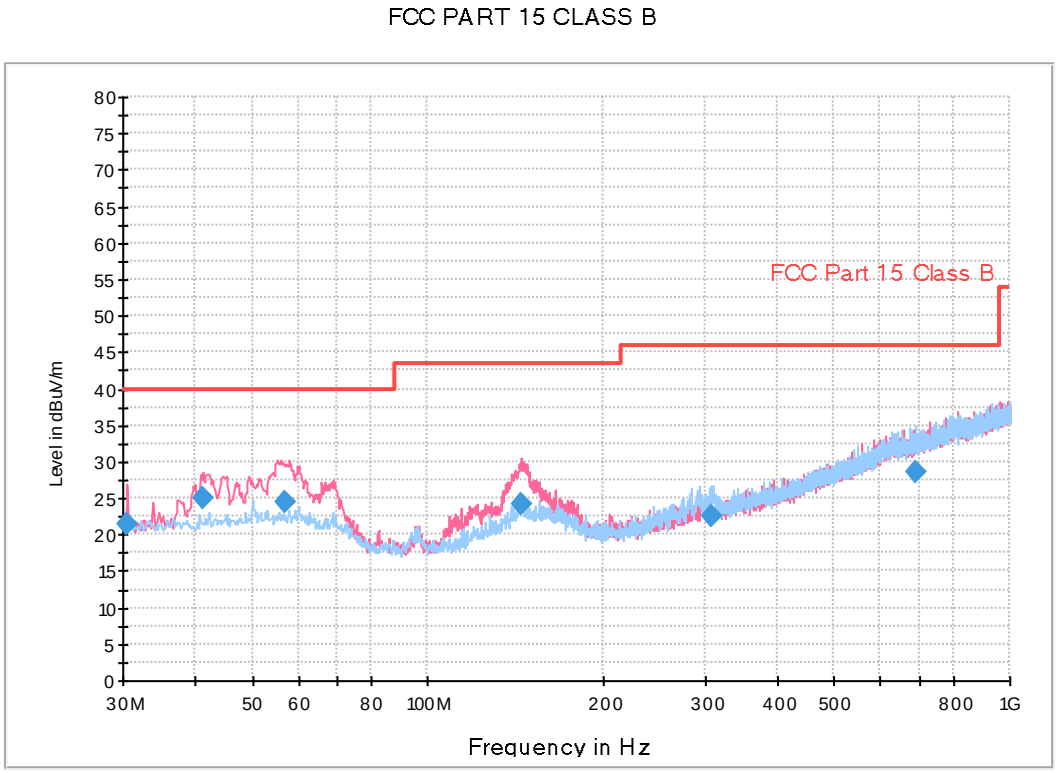
Frequency (MHz)	Quasi Peak (dBµV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
34.781000	21.0	100.0	V	120.0	18.6	19.0	40.0
41.124000	34.3	100.0	V	267.0	19.0	5.7	40.0
55.566800	28.9	100.0	V	256.0	19.6	11.1	40.0
64.798400	27.1	100.0	V	282.0	18.7	12.9	40.0
143.021600	23.3	125.1	V	216.0	19.1	20.2	43.5
275.307200	23.7	174.8	H	52.0	19.6	22.3	46.0

Figure 13: Radiated Emission (30 MHz to 1 GHz), [EUT&TA] Keyboard



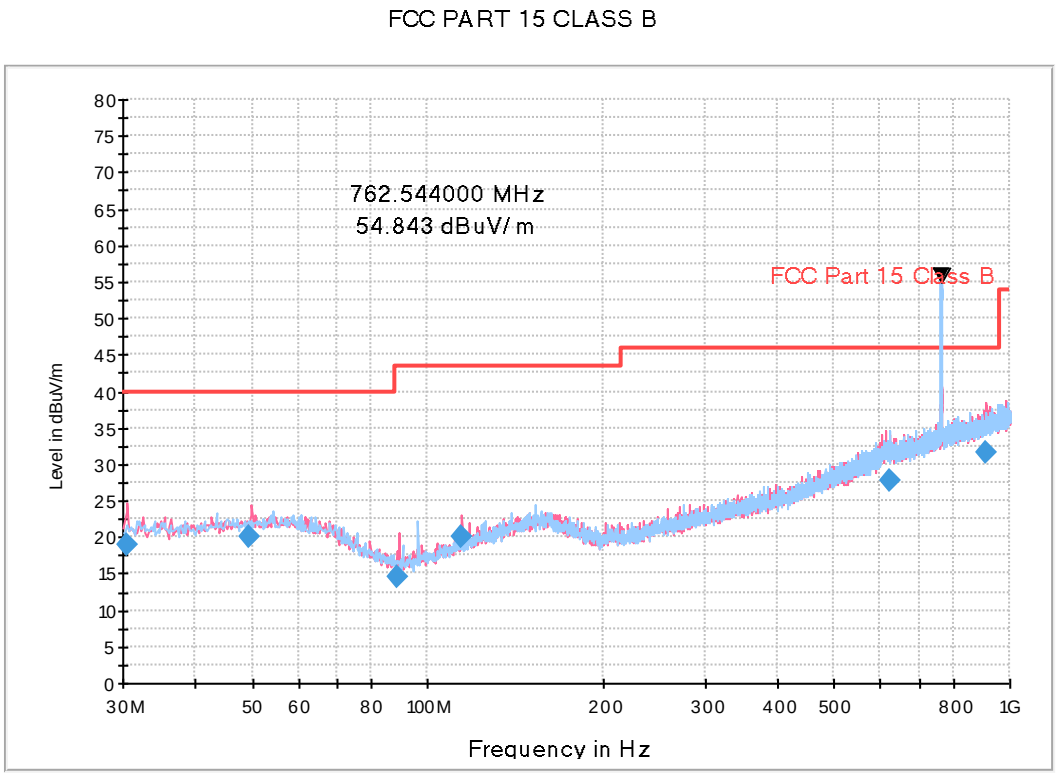
Frequency (MHz)	Quasi Peak (dBµV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
30.746011	19.3	100.0	V	190.0	18.3	20.7	40.0
42.915600	31.3	100.0	V	109.0	19.2	8.7	40.0
55.426000	30.3	100.0	V	321.0	19.6	9.7	40.0
98.624000	18.1	100.0	V	131.0	15.0	25.4	43.5
147.188600	25.8	100.0	V	173.0	19.3	17.7	43.5
294.849600	24.0	100.0	H	49.0	20.3	22.0	46.0

Figure 14: Radiated Emission (30 MHz to 1 GHz), [EUT&TA] S-PEN charging



Frequency (MHz)	Quasi Peak (dBµV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
30.485000	21.4	174.9	V	153.0	18.4	18.6	40.0
41.026800	25.1	100.0	V	71.0	19.1	14.9	40.0
57.124800	24.4	100.0	V	208.0	19.5	15.6	40.0
145.029400	24.2	100.0	V	210.0	19.2	19.3	43.5
306.755400	22.6	100.0	H	7.0	20.7	23.4	46.0
687.939200	28.5	225.1	H	178.0	28.5	17.5	46.0

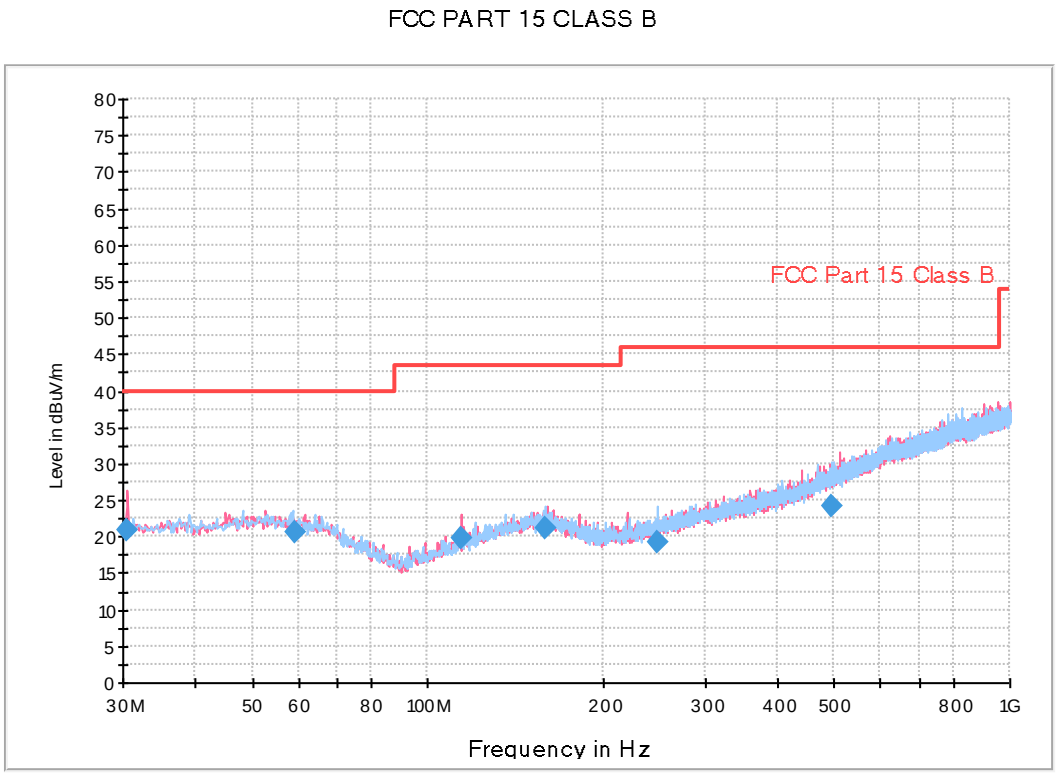
Figure 15: Radiated Emission (30 MHz to 1 GHz), [EUT+Earphone] LTE B14 Idle (Middle CH)



NOTE. 1. Carrier Frequency: RX 762.544 MHz
2. These are signals for fundamental frequency from the base station

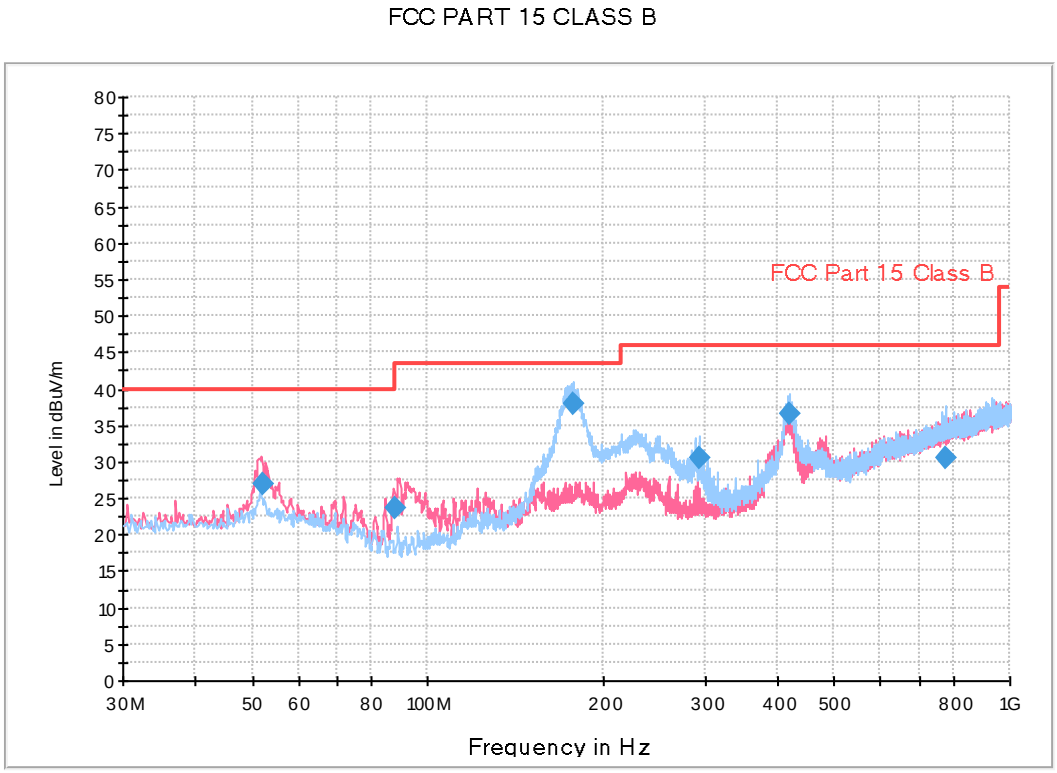
Frequency (MHz)	Quasi Peak (dBµV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
30.544550	19.1	225.1	V	331.0	18.3	20.9	40.0
49.565800	20.2	174.8	V	30.0	19.8	19.8	40.0
88.598800	14.5	209.9	V	252.0	14.4	29.0	43.5
114.547000	20.1	275.0	V	161.0	16.8	23.4	43.5
620.816400	27.8	174.8	H	267.0	27.6	18.2	46.0
911.945600	31.5	174.9	V	116.0	31.6	14.5	46.0

Figure 16: Radiated Emission (30 MHz to 1 GHz), [EUT+Earphone] Video+Audio



Frequency (MHz)	Quasi Peak (dBµV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
30.494654	20.9	199.9	V	224.0	18.3	19.1	40.0
59.120600	20.5	274.9	H	89.0	19.4	19.5	40.0
114.590400	19.8	192.7	V	7.0	16.8	23.7	43.5
159.049800	21.1	174.9	H	163.0	19.8	22.4	43.5
248.535400	19.2	291.7	H	322.0	18.6	26.8	46.0
493.685000	24.2	100.0	H	351.0	25.0	21.8	46.0

Figure 17: Radiated Emission (30 MHz to 1 GHz), [etc.] VIDEO & AUDIO & DISPLAY



Frequency (MHz)	Quasi Peak (dBµV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
52.295000	26.8	100.0	V	354.0	19.7	13.2	40.0
87.999400	23.7	116.8	V	297.0	14.5	16.3	40.0
177.371600	37.9	208.7	H	0.0	18.5	5.6	43.5
293.370400	30.4	100.0	H	159.0	20.3	15.6	46.0
418.888400	36.5	100.0	H	200.0	23.3	9.5	46.0
774.315600	30.6	225.3	H	246.0	29.8	15.4	46.0

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5.2.2 For Measurement Above 1 GHz

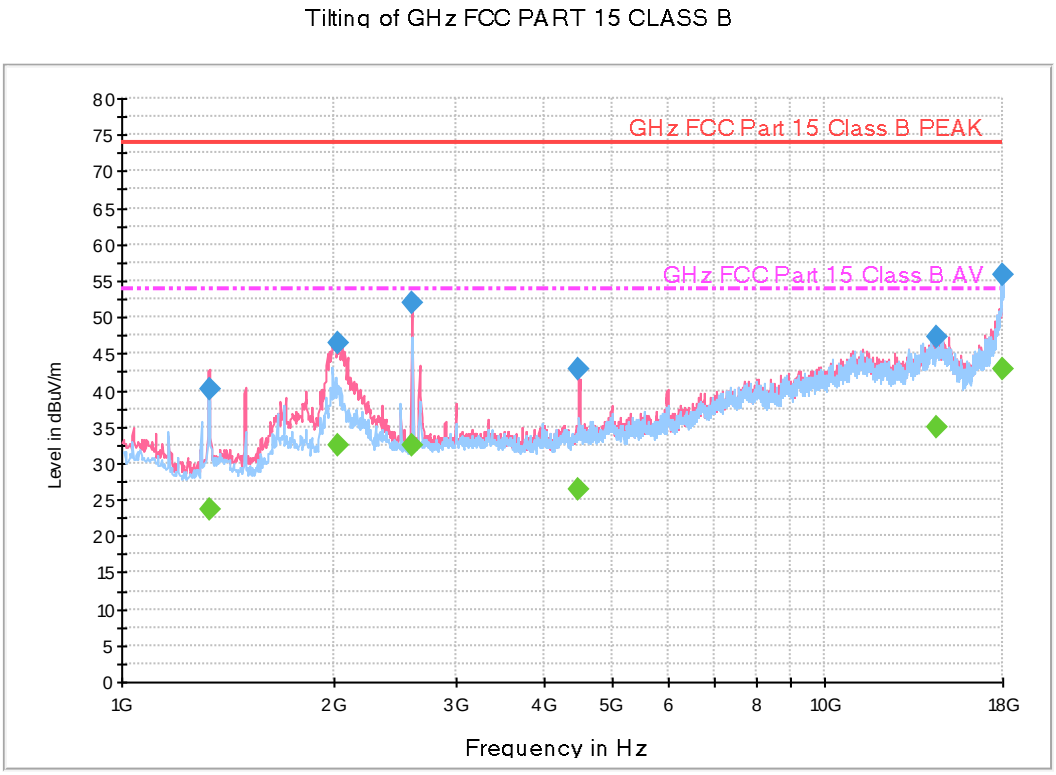
The test results of radiated emission provide the following information:

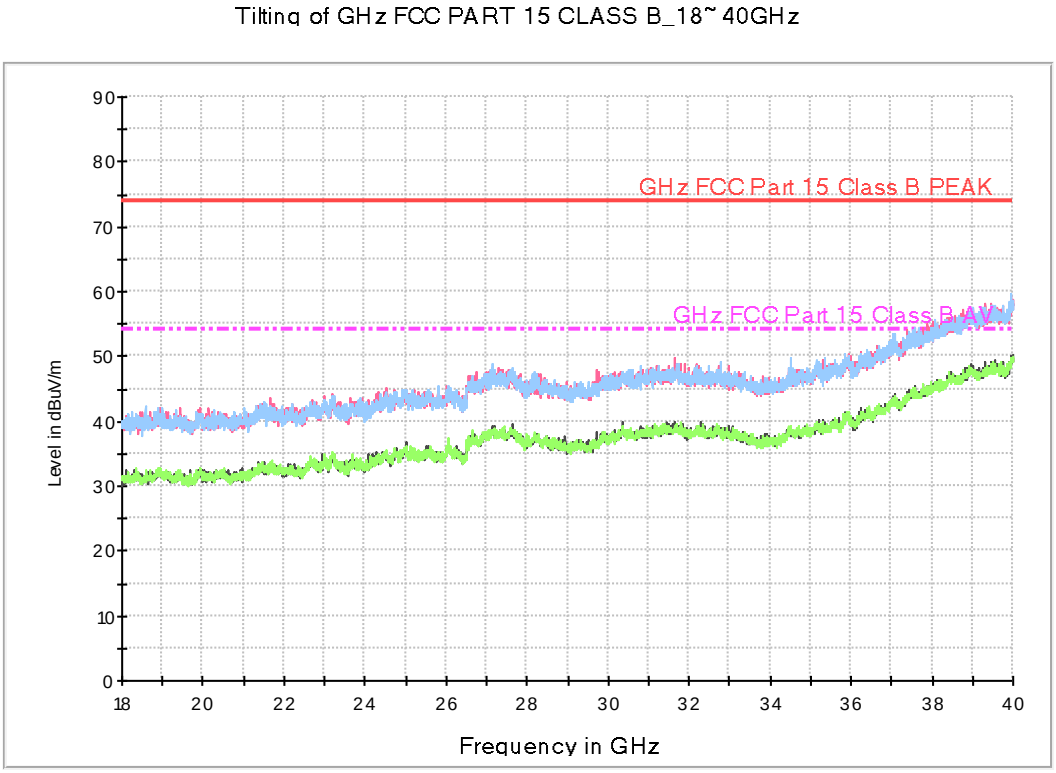
Applicable Standards	47 CFR PART 15 Subpart B Class B ANSI C63.4-2014
Detector	Peak mode: Peak (RBW: 1 MHz, VBW: 3 MHz) CISPR-Average mode: Peak (RBW: 1 MHz, VBW: 10 Hz)
Highest Frequency	40 000 MHz
Tested Frequency Range	1 GHz to 40 GHz
Operating Mode	**[EUT+PC]** Data Communication **[EUT+TA]** LTE B14 Idle(Middle CH)+Rear Camera Preview Keyboard S-PEN charging **[EUT+Earphone]** LTE B14 Idle(Middle CH) Video+Audio **[etc.]** VIDEO & AUDIO & DISPLAY
Kind of Test Site	3 m semi anechoic chamber
Temperature	24.2 / 22.8 / 23.5 / 22.4 ℃
Relative Humidity	41.5 / 45.3 / 46.7 / 46.8 %
Test Date	June 25 / June 29 / June 30 / July 03, 2020

- Calculation Formula:

1. POL. H = Horizontal, POL. V = Vertical
2. Peak or CAverage = Reading (Receiver Reading) + Corr.
3. Corr. (Correction Factor) = Antenna Factor+ Cable Loss –Amplifier Gain
4. Margin = Limit - Peak or CAverage

Figure 18: Radiated Emission (1 GHz to 40 GHz), [EUT+PC] Data Communication





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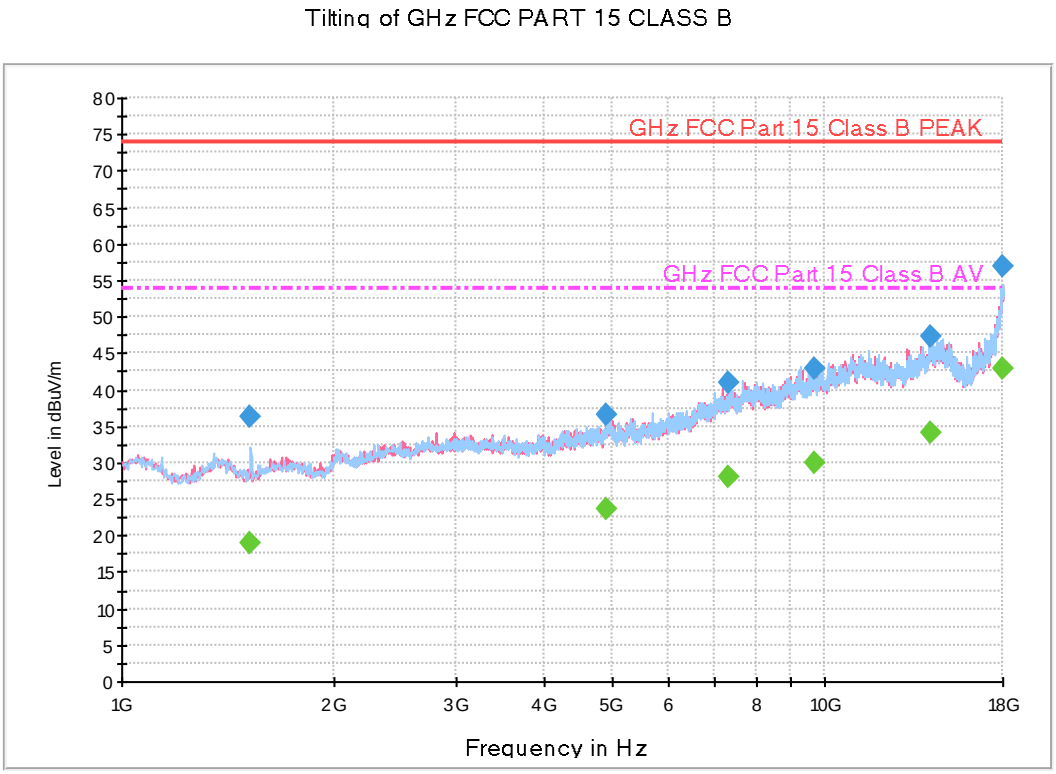
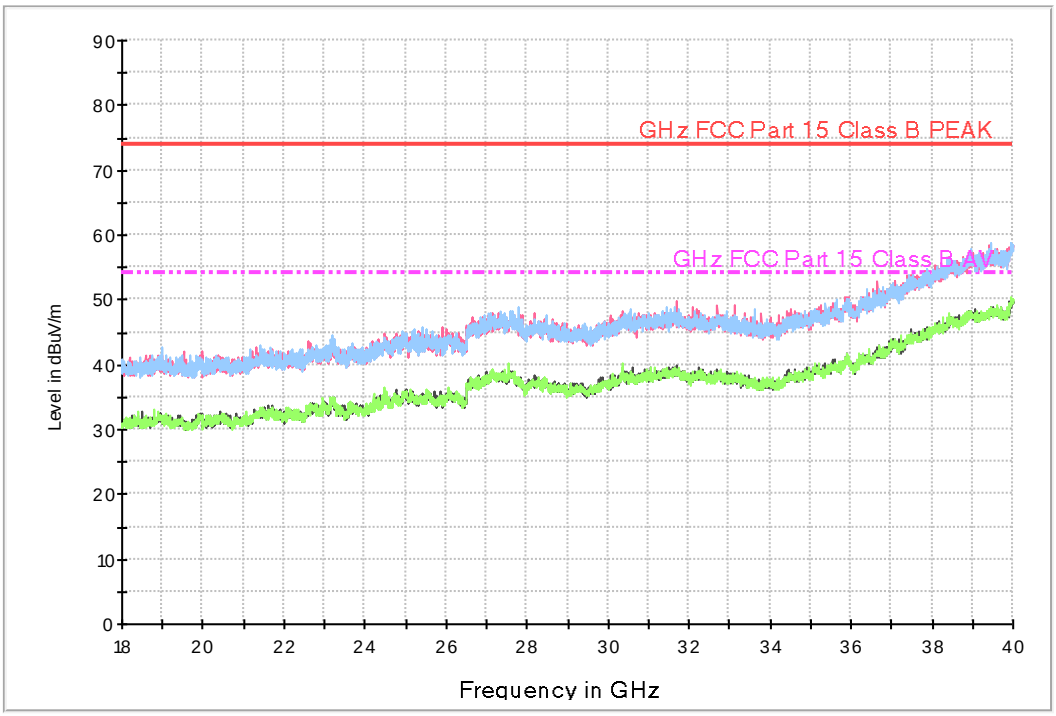
Frequency (MHz)	Peak (dBµV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1331.400000	40.1	276.4	V	56.0	-28.4	33.9	74.0
2033.605000	46.4	100.0	V	55.0	-26.4	27.6	74.0
2595.750000	51.9	292.4	V	55.0	-23.9	22.1	74.0
4481.405000	43.0	190.4	V	0.0	-19.3	31.0	74.0
14448.315000	47.3	199.5	V	29.0	-1.2	26.7	74.0
17986.843080	55.9	111.5	H	289.0	9.4	18.1	74.0

Frequency (MHz)	CAverage (dBµV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1331.400000	23.5	276.4	V	56.0	-28.4	30.5	54.0
2033.605000	32.4	100.0	V	55.0	-26.4	21.6	54.0
2595.750000	32.5	292.4	V	55.0	-23.9	21.5	54.0
4481.405000	26.3	190.4	V	0.0	-19.3	27.7	54.0
14448.315000	34.9	199.5	V	29.0	-1.2	19.1	54.0
17986.843080	42.9	111.5	H	289.0	9.4	11.1	54.0

Figure 19: Radiated Emission (1 GHz to 40 GHz), [EUT+TA] LTE B14 Idle(Middle CH)+Rear Camera Preview



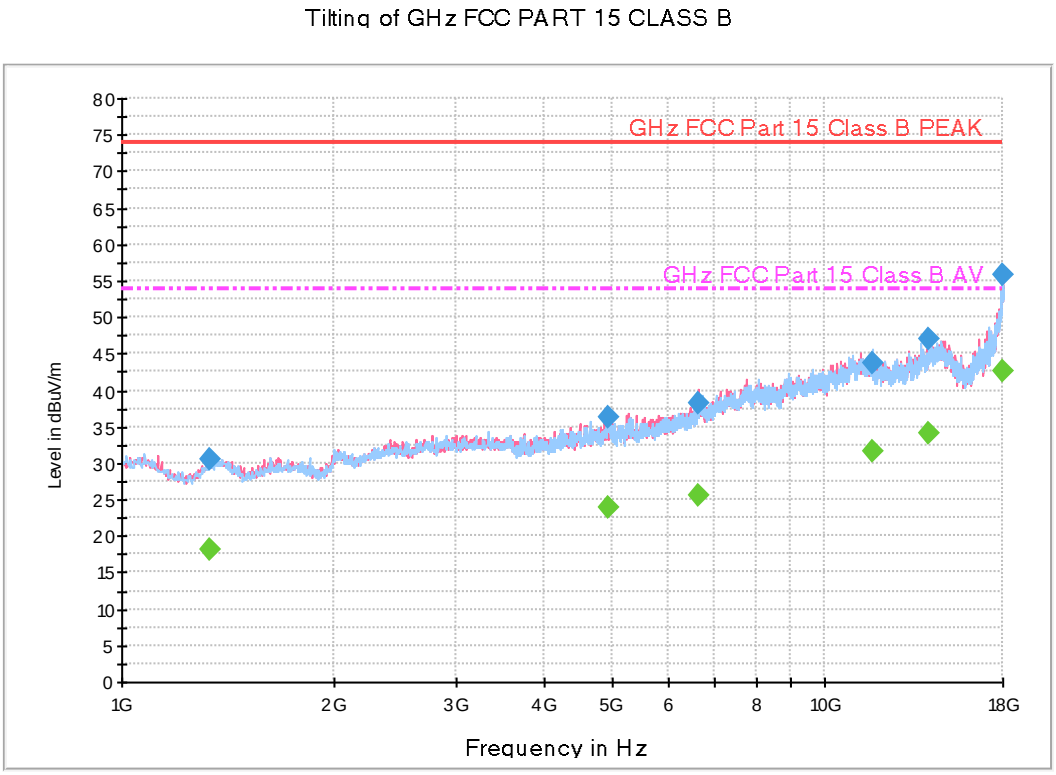


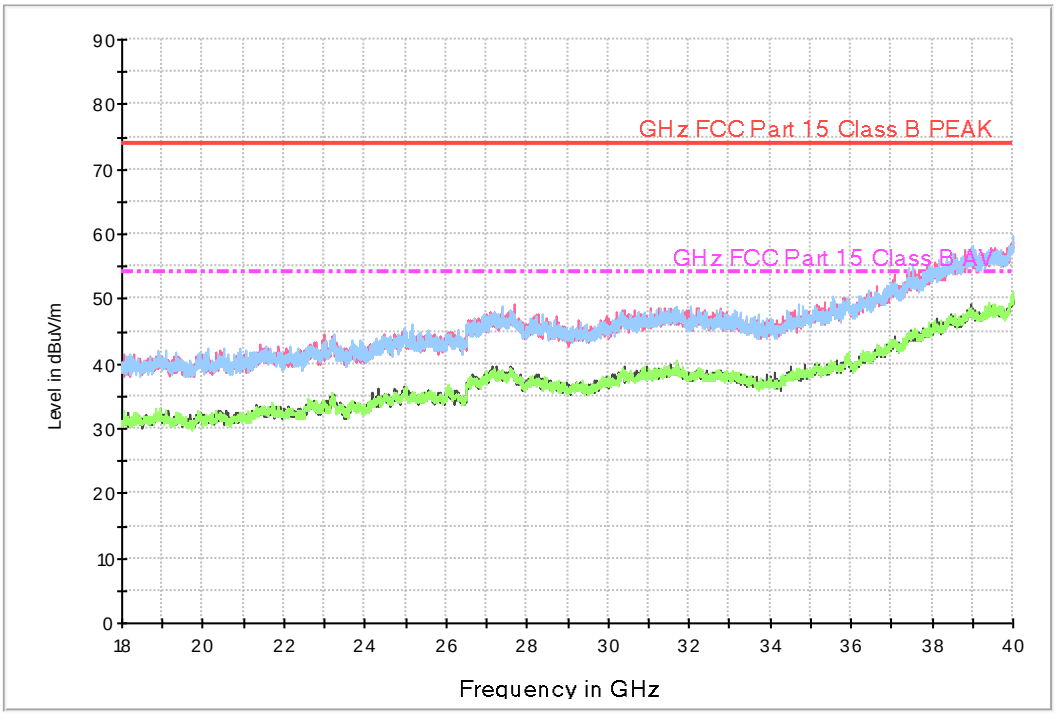
HCT CO.,LTD.

Frequency (MHz)	Peak (dBµV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1526.720000	36.2	231.6	H	23.0	-27.8	37.8	74.0
4912.435000	36.5	100.0	H	319.0	-18.0	37.5	74.0
7342.625000	40.8	113.6	V	26.0	-12.5	33.2	74.0
9676.815000	42.9	277.6	V	106.0	-9.6	31.1	74.0
14163.935000	47.3	189.4	H	306.0	-1.8	26.7	74.0
17991.446640	57.0	249.9	H	219.0	9.5	17.0	74.0

Frequency (MHz)	CAverage (dBµV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1526.720000	18.9	231.6	H	23.0	-27.8	35.1	54.0
4912.435000	23.7	100.0	H	319.0	-18.0	30.3	54.0
7342.625000	27.9	113.6	V	26.0	-12.5	26.1	54.0
9676.815000	29.8	277.6	V	106.0	-9.6	24.2	54.0
14163.935000	34.2	189.4	H	306.0	-1.8	19.8	54.0
17991.446640	42.9	249.9	H	219.0	9.5	11.1	54.0

Figure 20: Radiated Emission (1 GHz to 40 GHz), [EUT+TA] Keyboard





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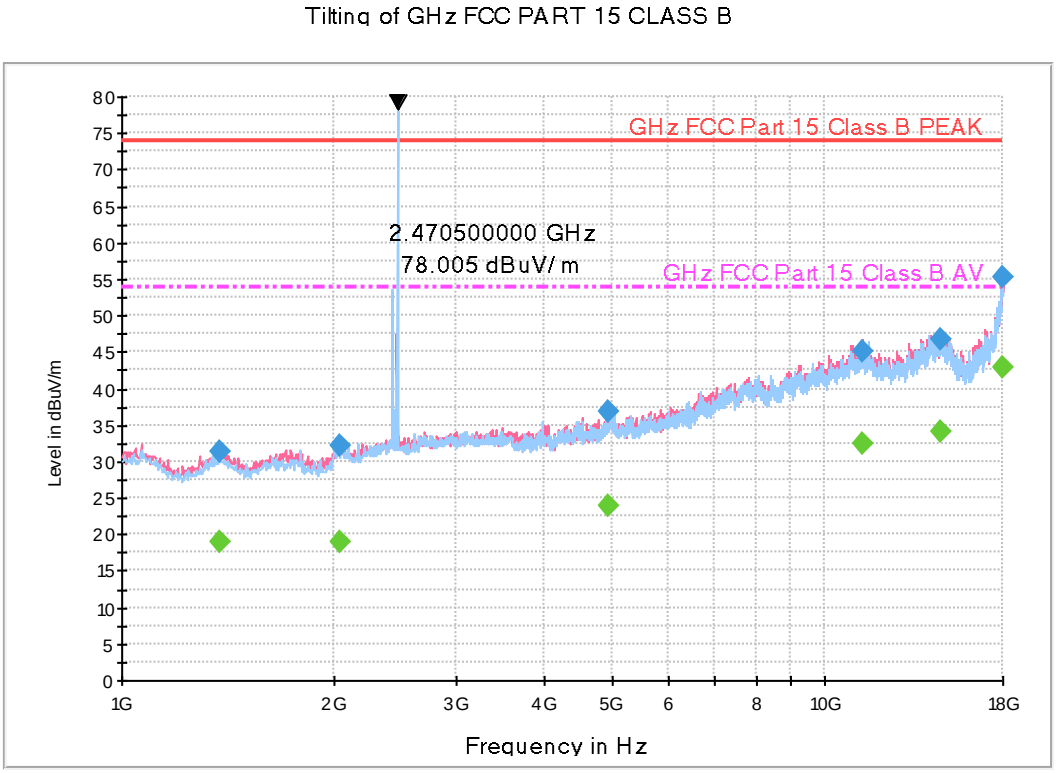
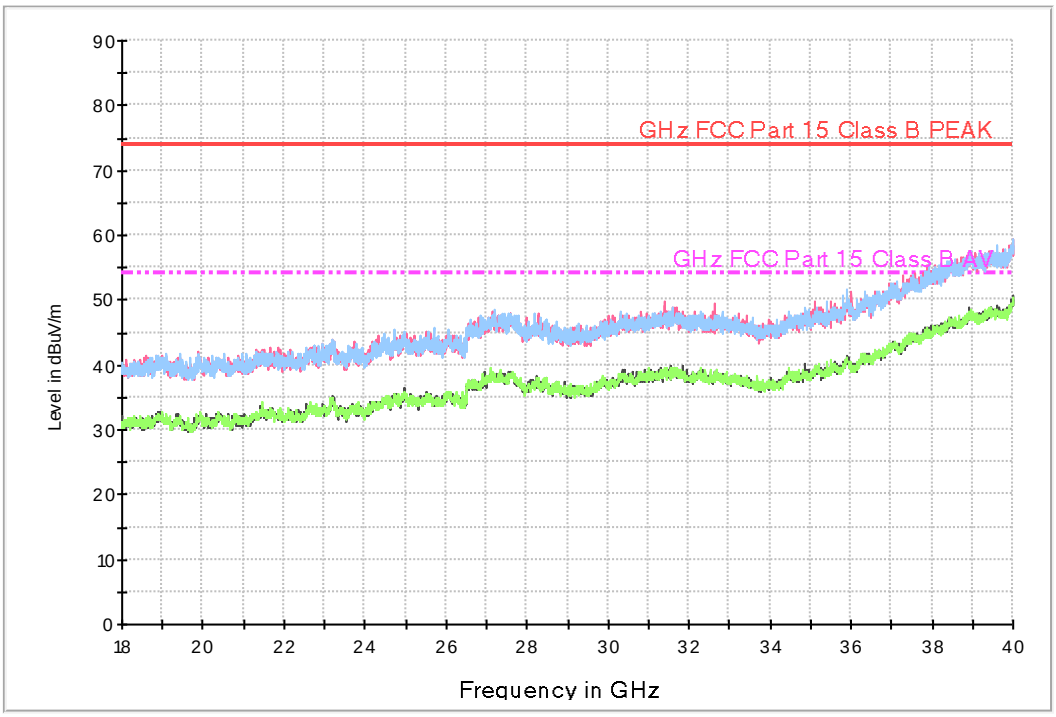
Frequency (MHz)	Peak (dBµV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1339.185000	30.6	249.4	V	120.0	-28.4	43.4	74.0
4934.220000	36.4	232.6	H	145.0	-17.9	37.6	74.0
6628.550000	38.2	160.6	V	83.0	-14.4	35.8	74.0
11757.490000	43.8	305.5	H	145.0	-4.5	30.2	74.0
14159.715000	47.1	249.8	V	347.0	-1.8	26.9	74.0
17972.361900	55.7	249.9	V	150.0	9.2	18.3	74.0

Frequency (MHz)	CAverage (dBµV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1339.185000	18.2	249.4	V	120.0	-28.4	35.8	54.0
4934.220000	23.8	232.6	H	145.0	-17.9	30.2	54.0
6628.550000	25.6	160.6	V	83.0	-14.4	28.4	54.0
11757.490000	31.5	305.5	H	145.0	-4.5	22.5	54.0
14159.715000	34.2	249.8	V	347.0	-1.8	19.8	54.0
17972.361900	42.7	249.9	V	150.0	9.2	11.3	54.0

Figure 21: Radiated Emission (1 GHz to 40 GHz), [EUT+TA] S-PEN charging



NOTE. Carrier Frequency: 2.4705 GHz
These are signals for Bluetooth frequency



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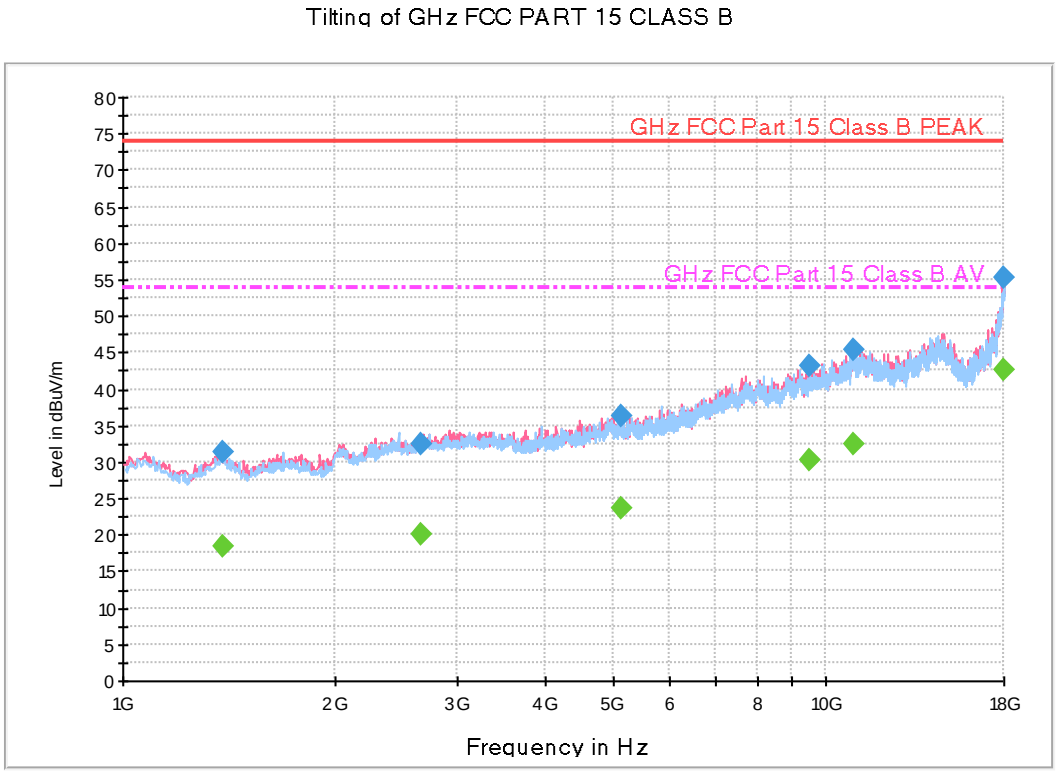
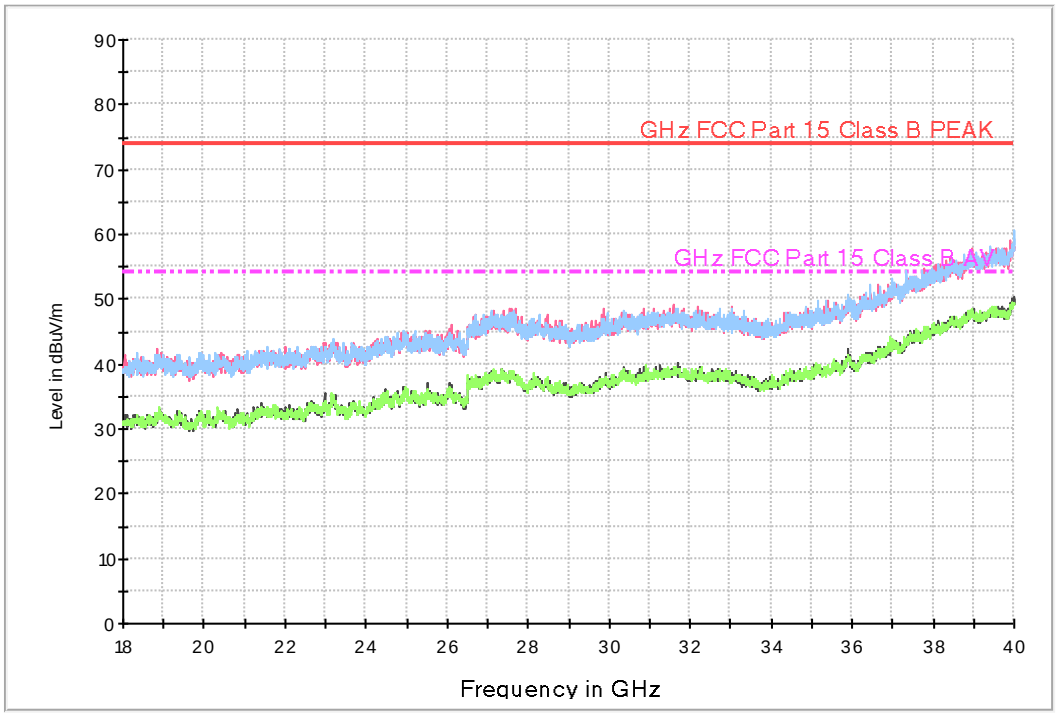
Frequency (MHz)	Peak (dBµV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1380.500000	31.3	147.6	H	295.0	-28.2	42.7	74.0
2045.315000	32.1	149.9	V	37.0	-26.3	41.9	74.0
4943.320000	36.9	350.0	V	0.0	-17.9	37.1	74.0
11363.505000	45.0	113.3	V	357.0	-4.6	29.0	74.0
14708.865000	46.7	233.4	V	111.0	-1.1	27.3	74.0
17979.385000	55.3	150.0	V	266.0	9.3	18.7	74.0

Frequency (MHz)	CAverage (dBµV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1380.500000	18.9	147.6	H	295.0	-28.2	35.1	54.0
2045.315000	19.0	149.9	V	37.0	-26.3	35.0	54.0
4943.320000	23.9	350.0	V	0.0	-17.9	30.1	54.0
11363.505000	32.3	113.3	V	357.0	-4.6	21.7	54.0
14708.865000	34.1	233.4	V	111.0	-1.1	19.9	54.0
17979.385000	42.8	150.0	V	266.0	9.3	11.2	54.0

Figure 22: Radiated Emission (1 GHz to 40 GHz), [EUT+Earphone] LTE B14 Idle(Middle CH)





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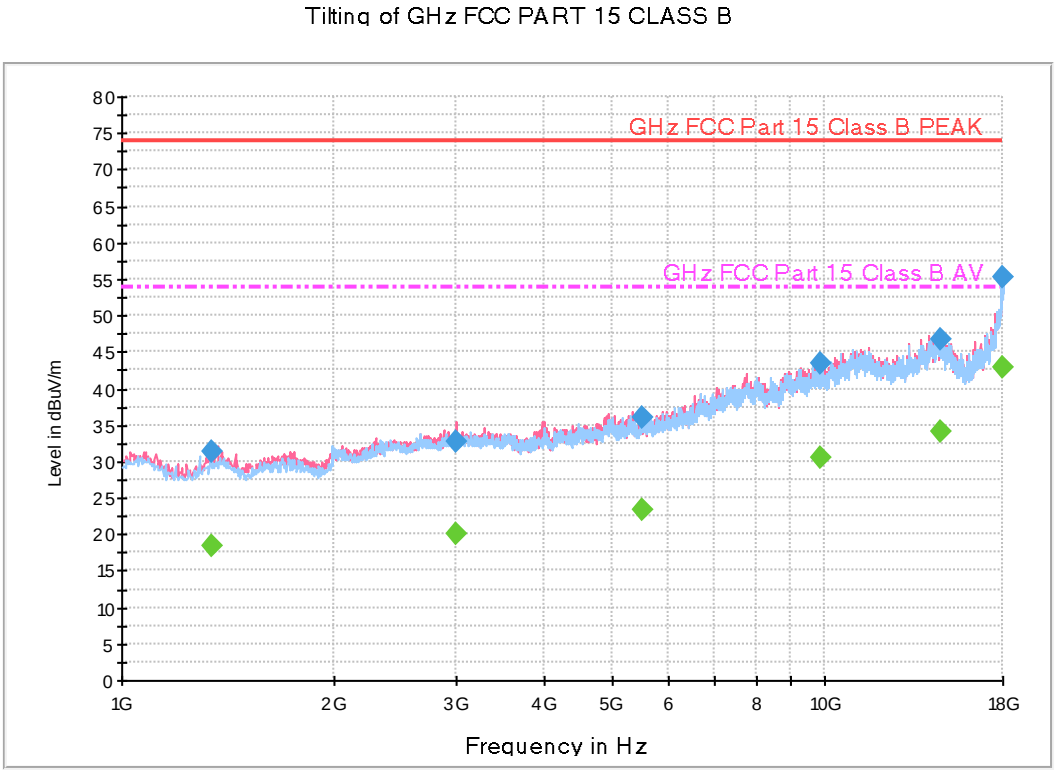
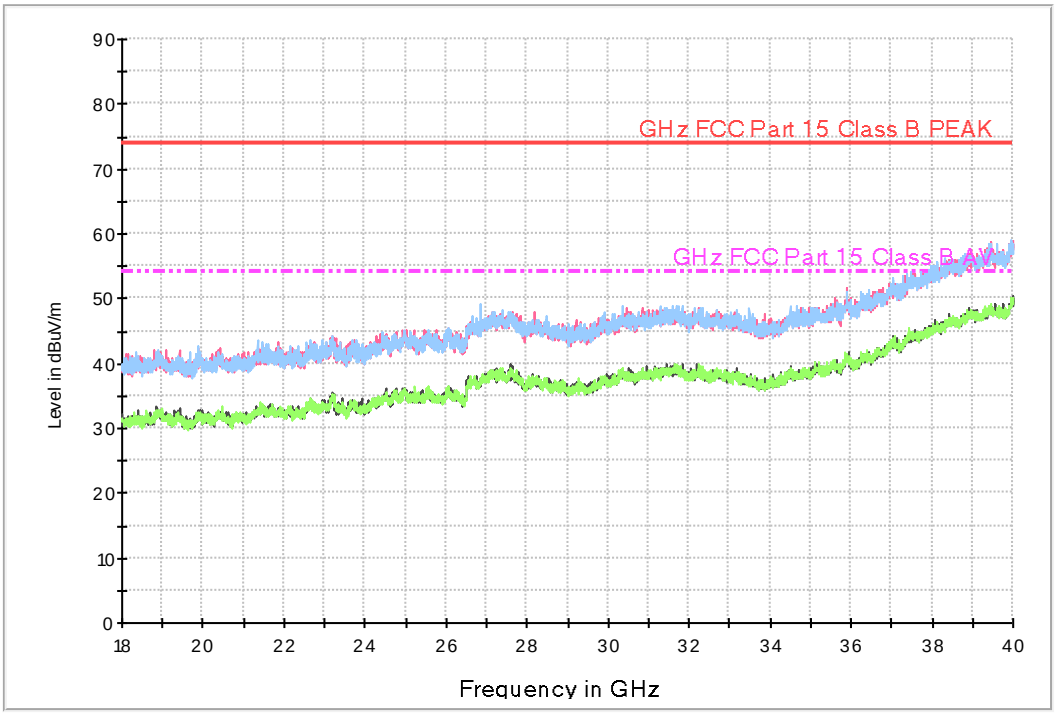
Frequency (MHz)	Peak (dBµV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1386.230000	31.4	350.0	V	294.0	-28.2	42.6	74.0
2657.980000	32.6	100.0	V	154.0	-23.7	41.4	74.0
5137.125000	36.4	150.0	V	95.0	-17.6	37.6	74.0
9506.385000	43.2	248.6	H	185.0	-10.0	30.8	74.0
11019.785000	45.4	249.4	H	187.0	-5.3	28.6	74.0
17949.665000	55.2	293.4	H	3.0	8.8	18.8	74.0

Frequency (MHz)	CAverage (dBµV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1386.230000	18.5	350.0	V	294.0	-28.2	35.5	54.0
2657.980000	19.9	100.0	V	154.0	-23.7	34.1	54.0
5137.125000	23.6	150.0	V	95.0	-17.6	30.4	54.0
9506.385000	30.3	248.6	H	185.0	-10.0	23.7	54.0
11019.785000	32.4	249.4	H	187.0	-5.3	21.6	54.0
17949.665000	42.6	293.4	H	3.0	8.8	11.4	54.0

Figure 23: Radiated Emission (1 GHz to 40 GHz), [EUT+Earphone] Video+Audio



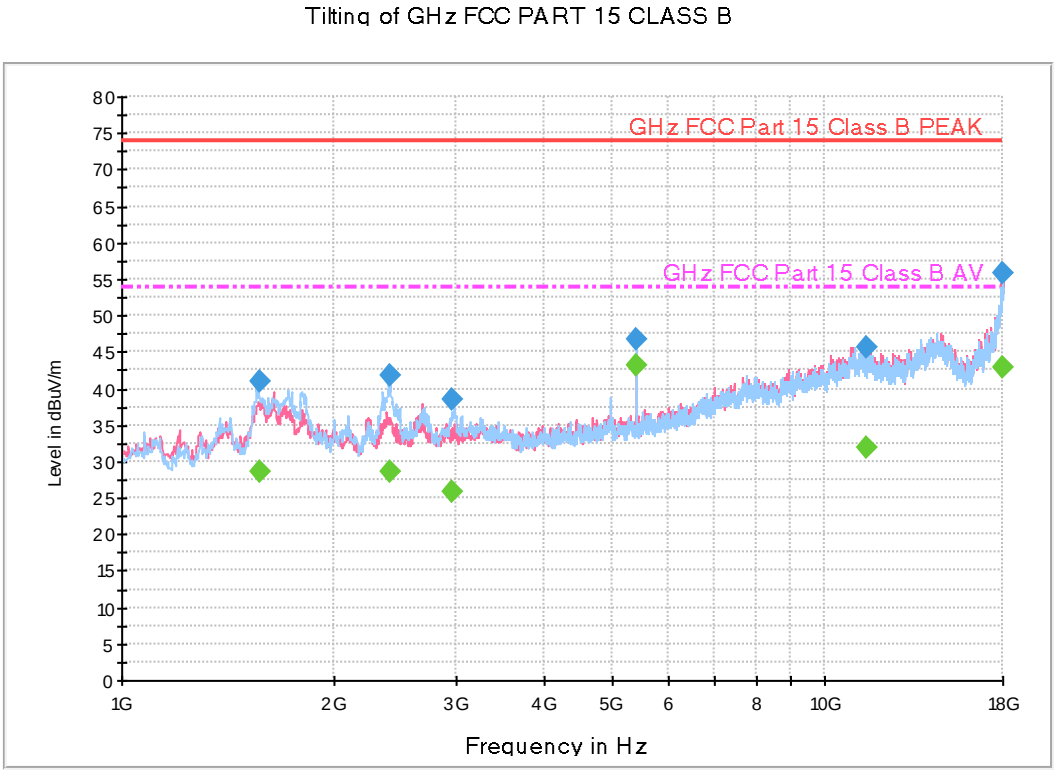


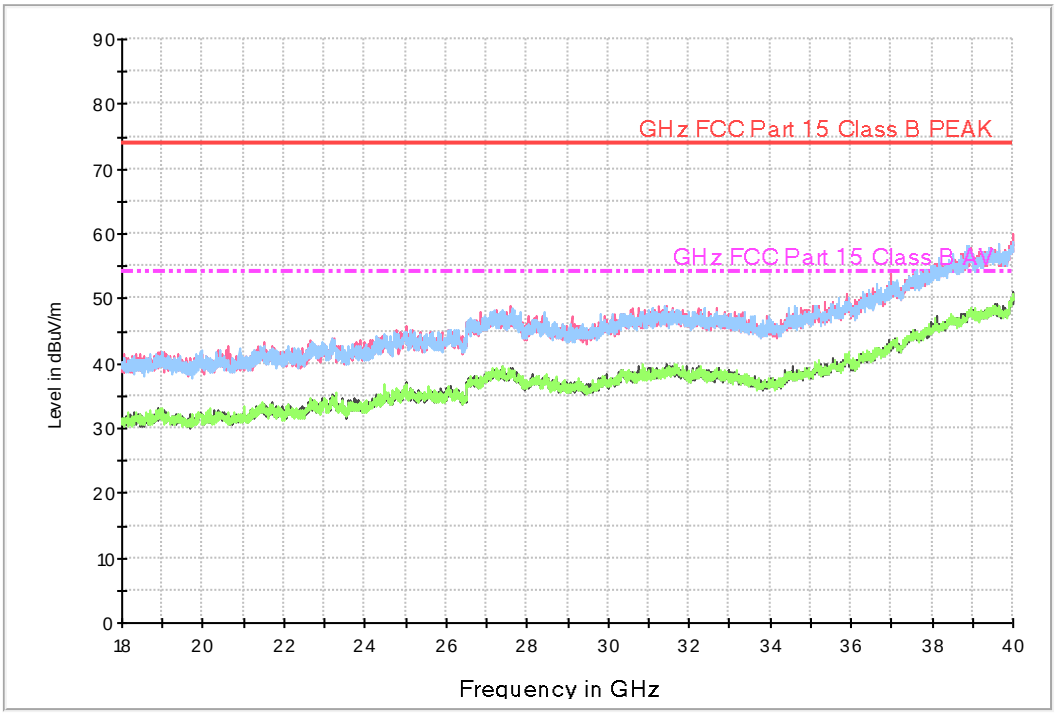
HCT CO.,LTD.

Frequency (MHz)	Peak (dBµV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1344.635000	31.3	249.9	V	242.0	-28.4	42.7	74.0
2989.040000	32.7	303.4	V	185.0	-22.7	41.3	74.0
5502.745000	35.9	249.9	H	337.0	-17.2	38.1	74.0
9871.835000	43.5	150.0	H	330.0	-9.0	30.5	74.0
14699.125000	46.6	111.6	V	115.0	-1.1	27.4	74.0
17985.285860	55.3	277.4	V	81.0	9.4	18.7	74.0

Frequency (MHz)	CAverage (dBµV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1344.635000	18.4	249.9	V	242.0	-28.4	35.6	54.0
2989.040000	20.2	303.4	V	185.0	-22.7	33.8	54.0
5502.745000	23.3	249.9	H	337.0	-17.2	30.7	54.0
9871.835000	30.4	150.0	H	330.0	-9.0	23.6	54.0
14699.125000	34.0	111.6	V	115.0	-1.1	20.0	54.0
17985.285860	42.8	277.4	V	81.0	9.4	11.2	54.0

Figure 24: Radiated Emission (1 GHz to 40 GHz), [etc.] Video+Audio+Display





HCT CO.,LTD.

Frequency (MHz)	Peak (dBµV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1570.770000	41.0	197.4	H	172.0	-27.7	33.0	74.0
2406.120000	41.7	319.6	H	152.0	-24.6	32.3	74.0
2956.430000	38.5	100.0	H	135.0	-22.8	35.5	74.0
5399.945000	46.7	100.0	H	138.0	-17.3	27.3	74.0
11529.070000	45.5	100.0	V	52.0	-4.4	28.5	74.0
17991.024020	55.8	150.0	V	282.0	9.5	18.2	74.0

Frequency (MHz)	CAverage (dBµV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1570.770000	28.6	197.4	H	172.0	-27.7	25.4	54.0
2406.120000	28.7	319.6	H	152.0	-24.6	25.3	54.0
2956.430000	25.7	100.0	H	135.0	-22.8	28.3	54.0
5399.945000	43.1	100.0	H	138.0	-17.3	10.9	54.0
11529.070000	31.9	100.0	V	52.0	-4.4	22.1	54.0
17991.024020	42.8	150.0	V	282.0	9.5	11.2	54.0

6. CONCLUSION

The data collected shows that the **Product Name: Tablet and Model Name: SM-T878U** complies with §15.107 and §15.109 of the FCC rules.

7. APPENDIX A. TEST SETUP PHOTO

Please refer to EMI Test Setup Photo and test setup photo file no. as follows;

Rev. No.	Issue Date	File No.
0	July 14, 2020	HCT-EM-2007-FC009-P

End of report