HCT CO.,LTD.
74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, Rep. of Korea
TEL: +82-31-645-6300 FAX: +82-31-645-6401

EMI TEST REPORT
FCC CERTIFICATION

Applicant: **SAMSUNG Electronics Co., Ltd.** **129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Korea**	**Date of Issue: June 26, 2020** **Test Report No. HCT-EM-2006-FC012-R1** **Test Site: HCT CO., LTD.**

FCC ID : **A3LSMA516V**

Rule Part(s) / Standard(s)	:	47 CFR PART 15 Subpart B Class B ANSI C63.4-2014
Product Name	:	Mobile Phone
Model Name	:	SM-A516V
Date of Test	:	June 09, 2020 to June 15, 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

Ki-Min Lee
Test Engineer
EMC Team
Certification Division

Reviewed

Jeong-Hyun Choi
Technical Manager
EMC Team
Certification Division

REVISION HISTORY

The revision history for this document is shown in table.

Report No.	Issue Date	Information About Changes
0	June 18, 2020	Initial Release
1	June 26, 2020	Revised the Highest Frequency

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.
This report only responds to the tested sample and may not be reproduced, except in full, without written approval of the HCT Co., Ltd.

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1. GENERAL INFORMATION

1.1 Description of EUT

FCC ID	A3LSMA516V
Model Name	SM-A516V
Product Name	Mobile Phone
Frequency Band	GSM 850/1900, WCDMA B2/5, LTE B2/4/5/7/12/13/66, Bluetooth, WLAN a/b/g/n/ac(SISO), NFC, NR n2/n5/n66, NR n261/n260, ANT+
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
	Battery: Low : 3.68V/Normal : 3.88V/High : 4.38V

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-A516V	-	SAMSUNG
TA	EP-TA200	-	DONGYANG E&P
Data Cable	EP-DR140ABZ	-	RFTECH
Earphone	EHS64AVFWE	-	ALMUS
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	-	-	-
Micro SD Card	-	-	SAMSUNG

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) 0.8
	Earphone	N/A	N	(D) 1.3
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

* 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	N	N/A	Y	EUT End
Notebook PC	RJ 45	N	N/A	N	N/A
	Serial (Mouse)	N	N/A	Y	Notebook 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

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
☒ Radio communication analyzer	MT8821C	ANRITSU	6262044720	1 year	01.06.2020
☒ 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	-	-
☒ Radio communication test station	MT8000A	ANRITSU	6262036812	1 year	01.06.2020
☒ Radio communication analyzer	MT8821C	ANRITSU	6262044720	1 year	01.06.2020
☒ Antenna (for Communication)	USLP9142	Schwarzbeck	VSLP 9142-201	-	-
☒ Software	EMC32	Rohde & Schwarz	-	-	-

	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	-	-
☒	Radio communication test station	MT8000A	ANRITSU	6262036812	1 year	01.06.2020
☒	Radio communication analyzer	MT8821C	ANRITSU	6262044720	1 year	01.06.2020
☒	Antenna (for Communication)	USLP9142	Schwarzbeck	VSLP 9142-201	-	-
☒	Software	EMC32	Rohde & Schwarz	-	-	-

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.*

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]

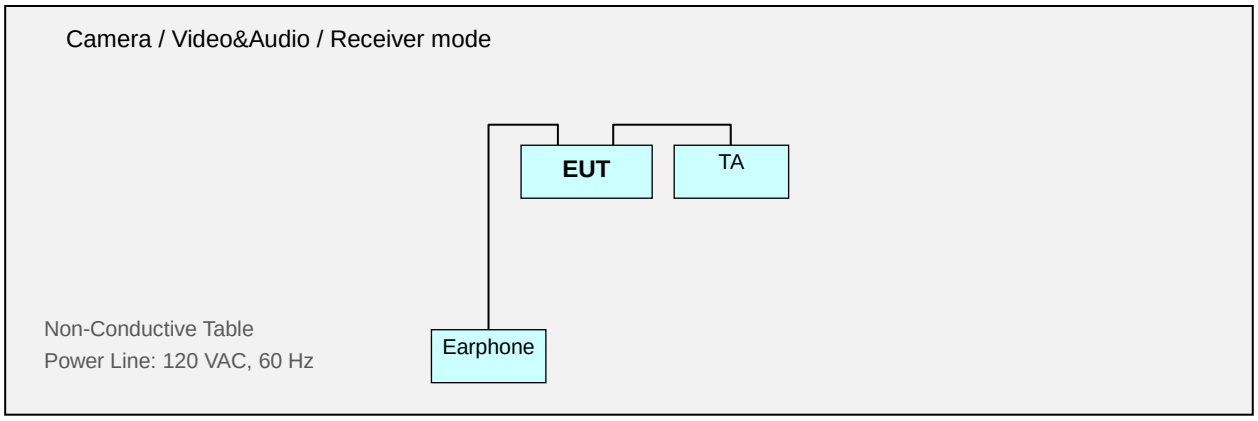
Frequency (MHz)	Antenna Distance (m)	Field Strength (μV/m)	Quasi-Peak (dB(μV)/m)
30 to 88	3	100	40.0
88 to 216	3	150	43.5
216 to 960	3	200	46.0
Above 960	3	500	54.0
Frequency (MHz)	Antenna Distance (m)	Peak (dB(μV)/m)	Average (dB(μV)/m)
Above 1 000	3	74	54

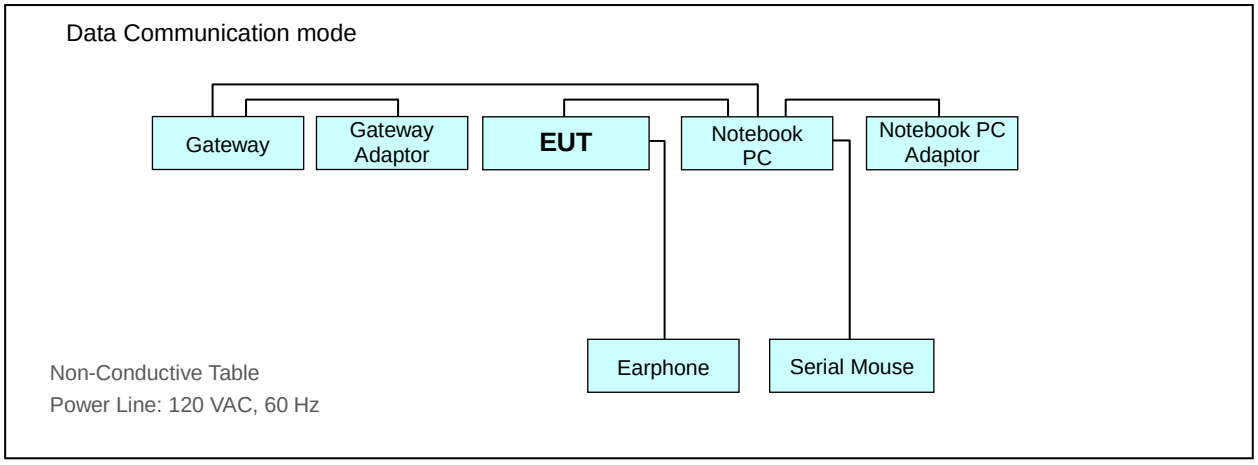
3.2.1 Frequency Range of Radiated Measurements

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





4. PRELIMINARY TEST

During preliminary tests, the following operating mode was investigated.

Data Communication
Front/Rear Camera (Preview/Recording)
Video&Audio
Receiver mode(GSM 850 Low/Middle/High CH Idle)
Receiver mode(WCDMA B5 Low/Middle/High CH Idle)
Receiver mode(LTE B5/B12/B13 Idle_Low/Middle/High CH)
Receiver mode(5G NR n5 Idle_Low/Middle/High CH)

NOTE. The worst band is tested.

4.1 Conducted Emission

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

Operating Mode: Data Communication mode *
Front Camera Preview *
Rear Camera Preview *
LTE B5 Idle(Middle CH)+Video&Audio *
LTE B12+B13 Idle(Middle CH)+Front Camera Recording *
5G NR n5 Idle(Middle CH)+Rear Camera Recording *

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

4.2 Radiated Emission

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

Operating Mode:

For Blow 1 GHz

Data Communication mode *
Front Camera Preview *
Rear Camera Preview *
LTE B5 Idle(Low CH)
LTE B5 Idle(Middle CH)+Video&Audio *
LTE B5 Idle(High CH)
LTE B12+B13 Idle(Low CH)
LTE B12+B13 Idle(Middle CH)+Front Camera Recording *
LTE B12+B13 Idle(High CH)
5G NR n5 Idle(Low CH)
5G NR n5 Idle(Middle CH)+Rear Camera Recording *
5G NR n5 Idle(High CH)

For Above 1 GHz

Data Communication mode *
Front Camera Preview *
Rear Camera Preview *
LTE B5 Idle(Middle CH)+Video&Audio *
LTE B12+B13 Idle(Middle CH)+Front Camera Recording *
5G NR n5 Idle(Middle CH)+Rear Camera Recording *

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. [*].

5. CONDUCTED AND RADIATED EMISSION TEST SUMMARY

5.1 Conducted Emission

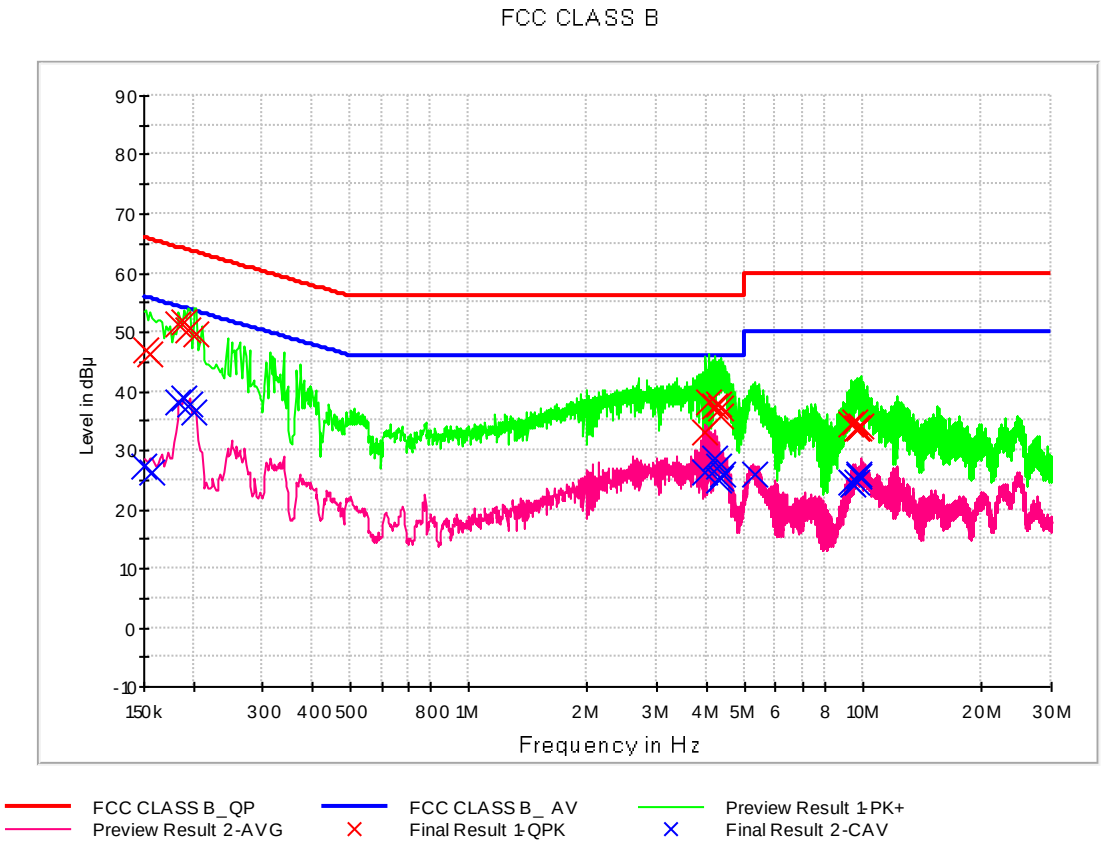
The test results of conducted emission at mains ports provide the following information:

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	Data Communication mode Front Camera Preview Rear Camera Preview LTE B5 Idle(Middle CH)+Video&Audio LTE B12+B13 Idle(Middle CH)+Front Camera Recording 5G NR n5 Idle(Middle CH)+Rear Camera Recording
Kind of Test Site	EMI Shielded Room
Temperature	23.9/23.2 ℃
Relative Humidity	46.2/47.3 %
Test Date	June 12/June 15, 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)
0.152000	47.0	9.000	L1	9.7	18.9	65.9
0.156000	46.3	9.000	L1	9.7	19.4	65.7
0.184000	51.3	9.000	L1	9.7	13.0	64.3
0.190000	51.8	9.000	L1	9.7	12.2	64.0
0.194000	50.4	9.000	L1	9.7	13.4	63.9
0.204000	49.6	9.000	L1	9.7	13.8	63.4
3.988000	33.0	9.000	L1	9.8	23.0	56.0
4.058000	38.2	9.000	L1	9.8	17.8	56.0
4.196000	37.6	9.000	L1	9.8	18.4	56.0
4.320000	37.8	9.000	L1	9.8	18.2	56.0
4.330000	37.0	9.000	L1	9.8	19.0	56.0
4.334000	35.9	9.000	L1	9.8	20.1	56.0
9.318000	34.3	9.000	L1	9.9	25.7	60.0
9.516000	34.6	9.000	L1	9.9	25.4	60.0
9.610000	33.8	9.000	L1	9.9	26.2	60.0
9.666000	33.7	9.000	L1	9.9	26.3	60.0
9.764000	33.7	9.000	L1	9.9	26.3	60.0
9.834000	34.0	9.000	L1	9.9	26.0	60.0

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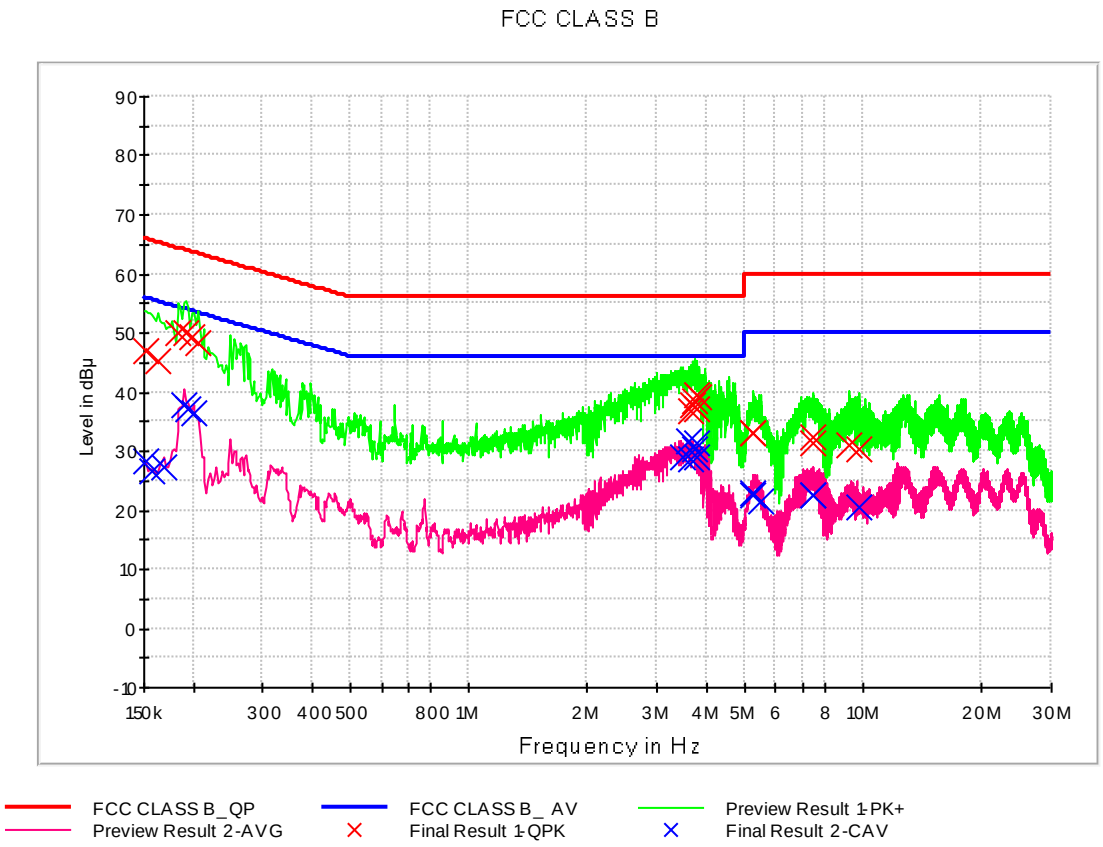
CAverage Final Result, Line (L1)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.150000	27.4	9.000	L1	9.7	28.6	56.0
0.158000	26.2	9.000	L1	9.7	29.4	55.6
0.184000	38.1	9.000	L1	9.7	16.2	54.3
0.190000	38.7	9.000	L1	9.7	15.3	54.0
0.196000	37.9	9.000	L1	9.7	15.9	53.8
0.202000	36.4	9.000	L1	9.7	17.1	53.5
3.988000	26.1	9.000	L1	9.8	19.9	46.0
4.196000	28.7	9.000	L1	9.8	17.3	46.0
4.280000	24.8	9.000	L1	9.8	21.2	46.0
4.320000	27.2	9.000	L1	9.8	18.8	46.0
4.334000	25.4	9.000	L1	9.8	20.6	46.0
4.390000	26.1	9.000	L1	9.8	19.9	46.0
5.294000	25.8	9.000	L1	9.8	24.2	50.0
9.318000	24.5	9.000	L1	9.9	25.5	50.0
9.476000	24.3	9.000	L1	9.9	25.7	50.0
9.666000	24.4	9.000	L1	9.9	25.6	50.0
9.764000	25.5	9.000	L1	9.9	24.5	50.0
9.802000	25.8	9.000	L1	9.9	24.2	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	47.0	9.000	N	9.7	18.9	65.9
0.162000	45.2	9.000	N	9.7	20.2	65.4
0.184000	49.9	9.000	N	9.7	14.4	64.3
0.192000	49.9	9.000	N	9.7	14.0	63.9
0.198000	49.4	9.000	N	9.7	14.3	63.7
0.206000	48.5	9.000	N	9.7	14.9	63.4
3.652000	36.8	9.000	N	9.8	19.2	56.0
3.676000	38.0	9.000	N	9.8	18.0	56.0
3.742000	38.6	9.000	N	9.8	17.4	56.0
3.766000	39.6	9.000	N	9.8	16.4	56.0
3.774000	37.3	9.000	N	9.8	18.7	56.0
3.816000	39.0	9.000	N	9.8	17.0	56.0
5.270000	33.2	9.000	N	9.8	26.8	60.0
5.276000	32.9	9.000	N	9.8	27.1	60.0
7.420000	32.3	9.000	N	9.9	27.7	60.0
7.490000	31.2	9.000	N	9.9	28.8	60.0
9.220000	31.0	9.000	N	9.9	29.0	60.0
9.780000	30.2	9.000	N	9.9	29.8	60.0

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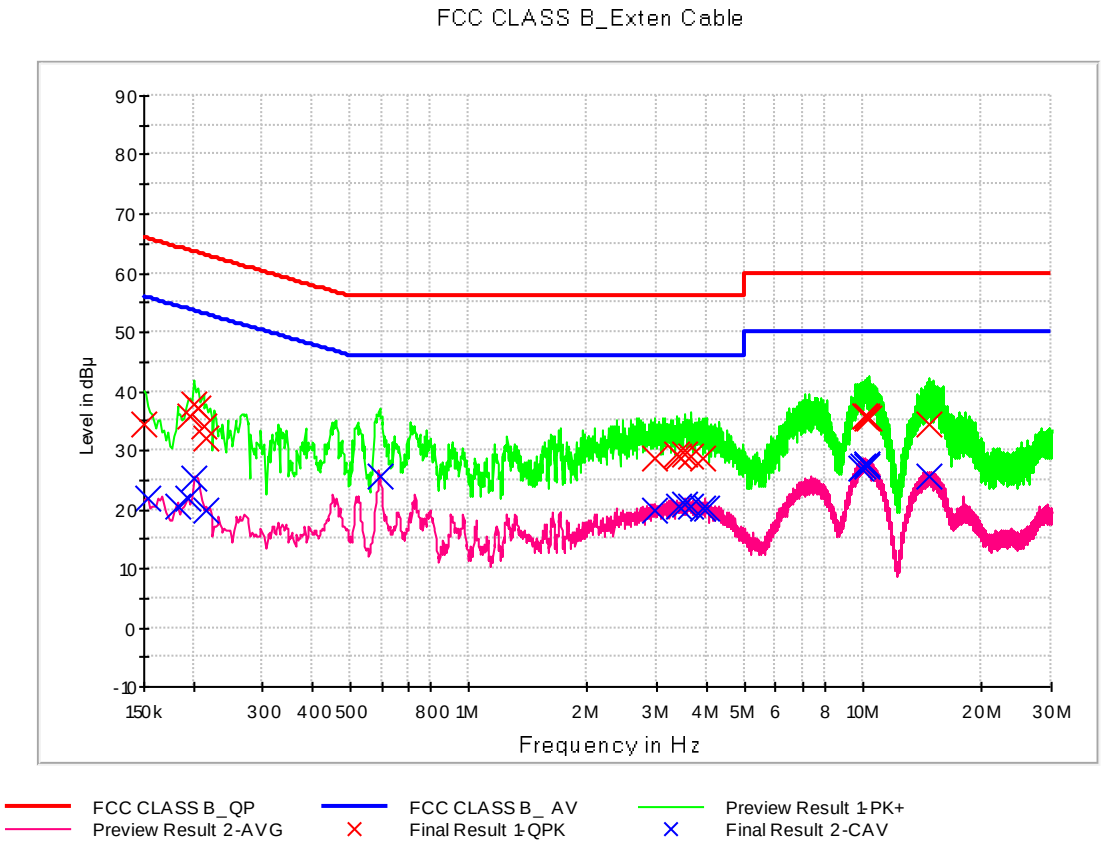
CAverage Final Result, Line (N)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.152000	28.1	9.000	N	9.7	27.7	55.9
0.158000	26.7	9.000	N	9.7	28.9	55.6
0.168000	27.4	9.000	N	9.7	27.7	55.1
0.190000	37.8	9.000	N	9.7	16.3	54.0
0.194000	37.2	9.000	N	9.7	16.6	53.9
0.200000	36.4	9.000	N	9.7	17.2	53.6
3.468000	29.0	9.000	N	9.8	17.0	46.0
3.620000	31.6	9.000	N	9.8	14.4	46.0
3.652000	28.5	9.000	N	9.8	17.5	46.0
3.744000	30.5	9.000	N	9.8	15.5	46.0
3.766000	31.3	9.000	N	9.8	14.7	46.0
3.774000	29.0	9.000	N	9.8	17.0	46.0
5.276000	22.6	9.000	N	9.8	27.4	50.0
5.280000	22.7	9.000	N	9.8	27.3	50.0
5.490000	21.5	9.000	N	9.8	28.5	50.0
7.420000	22.5	9.000	N	9.9	27.5	50.0
7.490000	22.5	9.000	N	9.9	27.5	50.0
9.780000	20.5	9.000	N	9.9	29.5	50.0

Figure 3: Conducted Emission, Front Camera Preview mode, Line (L1)



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QuasiPeak Final Result, Line (L1)

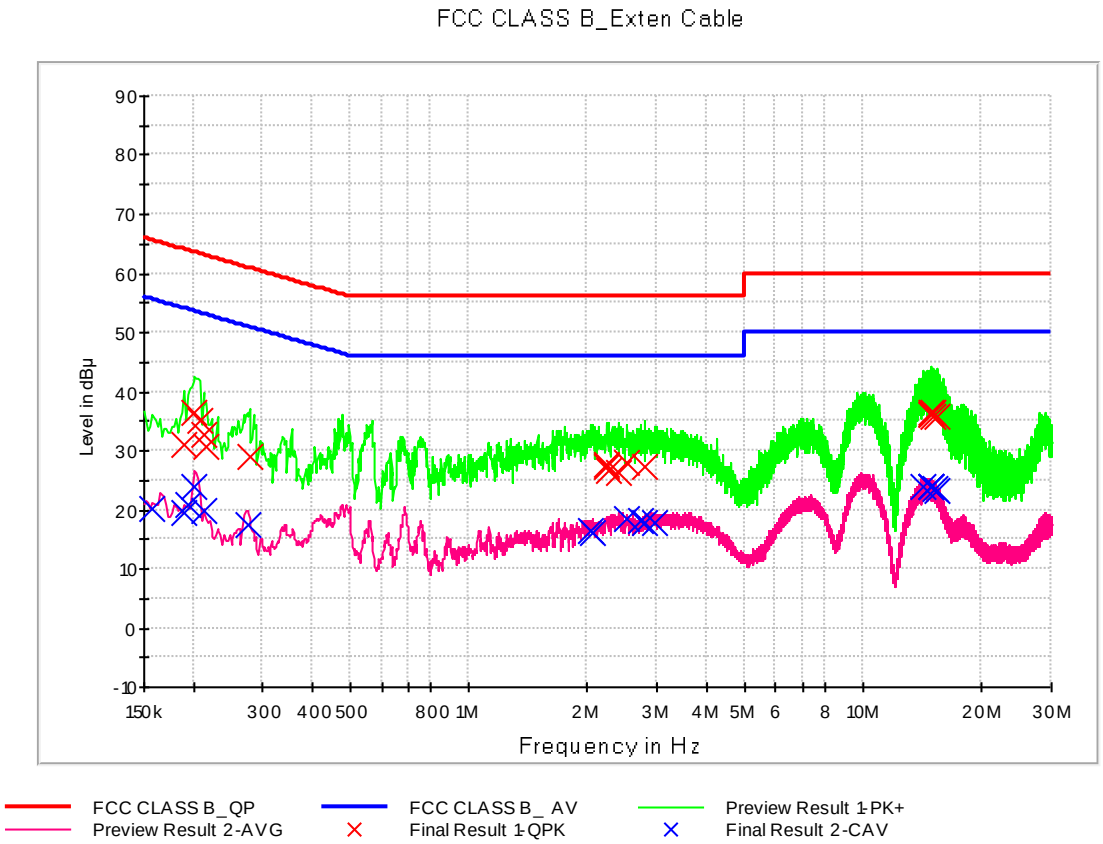
Frequency (MHz)	QuasiPeak (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.150000	34.3	9.000	L1	9.8	31.7	66.0
0.196000	35.9	9.000	L1	9.8	27.9	63.8
0.202000	37.6	9.000	L1	9.8	25.9	63.5
0.206000	37.0	9.000	L1	9.8	26.3	63.4
0.212000	34.0	9.000	L1	9.8	29.1	63.1
0.216000	32.0	9.000	L1	9.8	30.9	63.0
2.974000	28.7	9.000	L1	9.9	27.3	56.0
3.372000	29.2	9.000	L1	9.9	26.8	56.0
3.396000	29.0	9.000	L1	9.9	27.0	56.0
3.546000	29.2	9.000	L1	9.9	26.8	56.0
3.670000	28.9	9.000	L1	10.0	27.1	56.0
3.898000	28.5	9.000	L1	10.0	27.5	56.0
10.068000	35.6	9.000	L1	10.2	24.4	60.0
10.146000	35.9	9.000	L1	10.2	24.1	60.0
10.210000	35.6	9.000	L1	10.2	24.4	60.0
10.274000	35.5	9.000	L1	10.2	24.5	60.0
10.354000	35.5	9.000	L1	10.2	24.5	60.0
14.742000	34.5	9.000	L1	10.4	25.5	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	21.9	9.000	L1	9.8	33.9	55.8
0.182000	20.7	9.000	L1	9.8	33.7	54.4
0.194000	21.8	9.000	L1	9.8	32.1	53.9
0.202000	25.2	9.000	L1	9.8	28.3	53.5
0.216000	19.9	9.000	L1	9.8	33.1	53.0
0.594000	25.7	9.000	L1	9.8	20.3	46.0
2.974000	19.9	9.000	L1	9.9	26.1	46.0
3.396000	20.5	9.000	L1	9.9	25.5	46.0
3.546000	20.7	9.000	L1	9.9	25.3	46.0
3.636000	20.6	9.000	L1	9.9	25.4	46.0
3.898000	20.3	9.000	L1	10.0	25.7	46.0
3.990000	20.2	9.000	L1	10.0	25.8	46.0
9.820000	27.0	9.000	L1	10.2	23.0	50.0
9.950000	27.4	9.000	L1	10.2	22.6	50.0
10.210000	27.4	9.000	L1	10.2	22.6	50.0
10.226000	27.5	9.000	L1	10.2	22.5	50.0
10.274000	27.5	9.000	L1	10.2	22.5	50.0
14.742000	25.5	9.000	L1	10.4	24.5	50.0

Figure 4: Conducted Emission, Front Camera Preview mode, Line (N)



HCT CO.,LTD.

QuasiPeak Final Result, Line (N)

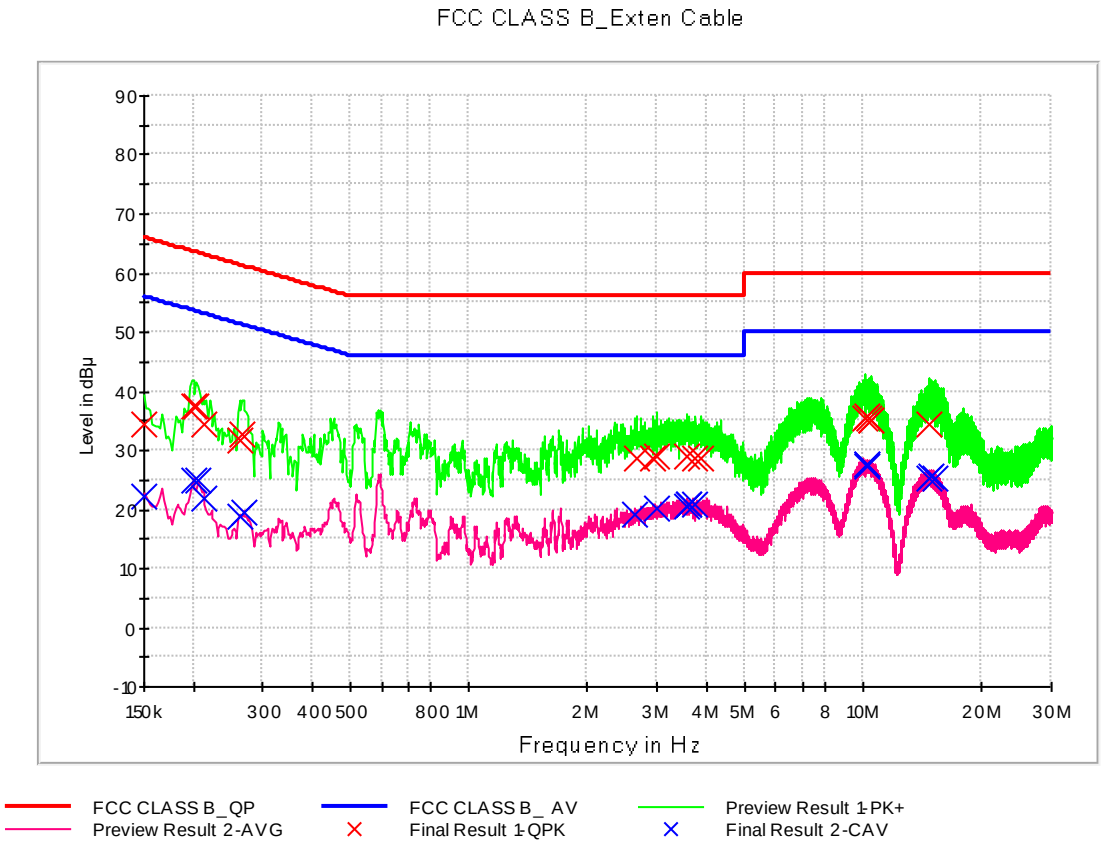
Frequency (MHz)	QuasiPeak (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.190000	30.9	9.000	N	9.8	33.2	64.0
0.202000	36.5	9.000	N	9.8	27.0	63.5
0.208000	35.1	9.000	N	9.8	28.2	63.3
0.212000	32.6	9.000	N	9.8	30.6	63.1
0.216000	30.8	9.000	N	9.8	32.2	63.0
0.278000	28.8	9.000	N	9.8	32.0	60.9
2.232000	27.2	9.000	N	9.9	28.8	56.0
2.248000	27.7	9.000	N	9.9	28.3	56.0
2.264000	26.6	9.000	N	9.9	29.4	56.0
2.406000	26.4	9.000	N	9.9	29.6	56.0
2.510000	28.1	9.000	N	9.9	27.9	56.0
2.794000	27.1	9.000	N	9.9	28.9	56.0
14.814000	36.4	9.000	N	10.4	23.6	60.0
14.882000	36.2	9.000	N	10.4	23.8	60.0
14.940000	36.1	9.000	N	10.4	23.9	60.0
15.052000	36.3	9.000	N	10.5	23.7	60.0
15.102000	35.9	9.000	N	10.5	24.1	60.0
15.324000	35.9	9.000	N	10.5	24.1	60.0

HCT CO.,LTD.

CAverage Final Result, Line (N)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.158000	20.0	9.000	N	9.8	35.6	55.6
0.190000	19.5	9.000	N	9.8	34.5	54.0
0.194000	20.7	9.000	N	9.8	33.1	53.9
0.202000	23.8	9.000	N	9.8	29.7	53.5
0.212000	19.9	9.000	N	9.8	33.2	53.1
0.274000	17.5	9.000	N	9.8	33.5	51.0
2.030000	16.6	9.000	N	9.9	29.4	46.0
2.052000	16.1	9.000	N	9.9	29.9	46.0
2.510000	18.3	9.000	N	9.9	27.7	46.0
2.724000	18.0	9.000	N	9.9	28.0	46.0
2.794000	17.9	9.000	N	9.9	28.1	46.0
2.946000	17.9	9.000	N	9.9	28.1	46.0
14.262000	23.8	9.000	N	10.4	26.2	50.0
14.814000	24.1	9.000	N	10.4	25.9	50.0
14.882000	24.0	9.000	N	10.4	26.0	50.0
14.940000	23.9	9.000	N	10.4	26.1	50.0
15.156000	23.6	9.000	N	10.5	26.4	50.0
15.388000	23.1	9.000	N	10.5	26.9	50.0

Figure 5: Conducted Emission, Rear Camera Preview mode, Line (L1)



HCT CO.,LTD.

QuasiPeak Final Result, Line (L1)

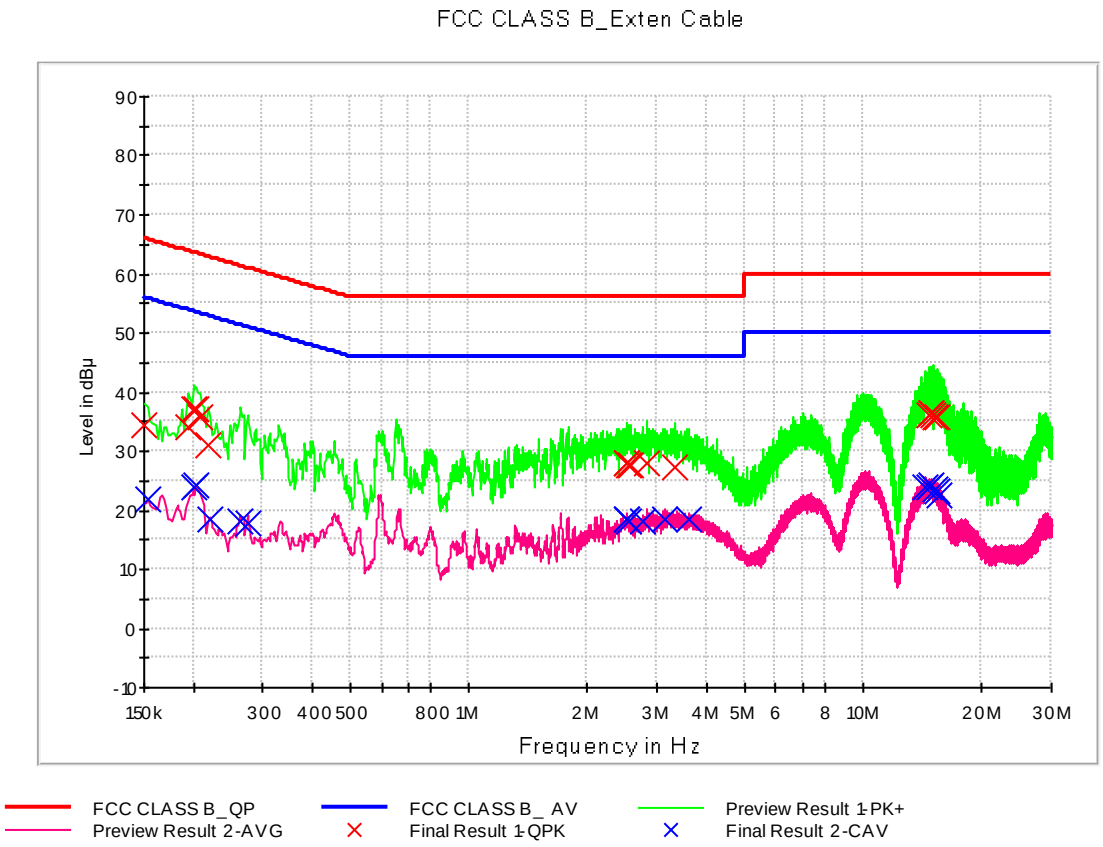
Frequency (MHz)	QuasiPeak (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.150000	34.5	9.000	L1	9.8	31.5	66.0
0.200000	37.6	9.000	L1	9.8	26.0	63.6
0.204000	37.6	9.000	L1	9.8	25.9	63.4
0.212000	34.4	9.000	L1	9.8	28.7	63.1
0.262000	31.8	9.000	L1	9.8	29.6	61.4
0.266000	32.8	9.000	L1	9.8	28.4	61.2
2.672000	28.7	9.000	L1	9.9	27.3	56.0
2.922000	28.6	9.000	L1	9.9	27.4	56.0
2.994000	28.9	9.000	L1	9.9	27.1	56.0
3.588000	28.8	9.000	L1	9.9	27.2	56.0
3.762000	28.6	9.000	L1	10.0	27.4	56.0
3.880000	28.8	9.000	L1	10.0	27.2	56.0
10.148000	35.5	9.000	L1	10.2	24.5	60.0
10.200000	35.7	9.000	L1	10.2	24.3	60.0
10.368000	35.3	9.000	L1	10.2	24.7	60.0
10.460000	35.2	9.000	L1	10.2	24.8	60.0
10.472000	35.2	9.000	L1	10.2	24.8	60.0
14.758000	34.4	9.000	L1	10.4	25.6	60.0

HCT CO.,LTD.

CAverage Final Result, Line (L1)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.150000	22.4	9.000	L1	9.8	33.6	56.0
0.200000	24.9	9.000	L1	9.8	28.7	53.6
0.206000	24.8	9.000	L1	9.8	28.5	53.4
0.212000	21.7	9.000	L1	9.8	31.4	53.1
0.262000	18.7	9.000	L1	9.8	32.6	51.4
0.268000	19.3	9.000	L1	9.8	31.9	51.2
2.638000	19.0	9.000	L1	9.9	27.0	46.0
2.994000	20.2	9.000	L1	9.9	25.8	46.0
3.588000	20.7	9.000	L1	9.9	25.3	46.0
3.592000	20.7	9.000	L1	9.9	25.3	46.0
3.618000	20.8	9.000	L1	9.9	25.2	46.0
3.762000	20.7	9.000	L1	10.0	25.3	46.0
10.210000	27.5	9.000	L1	10.2	22.5	50.0
10.224000	27.4	9.000	L1	10.2	22.6	50.0
10.228000	27.5	9.000	L1	10.2	22.5	50.0
14.758000	25.4	9.000	L1	10.4	24.6	50.0
14.902000	25.5	9.000	L1	10.4	24.5	50.0
15.212000	25.2	9.000	L1	10.4	24.8	50.0

Figure 6: Conducted Emission, Rear Camera Preview mode, Line (N)



HCT CO.,LTD.

QuasiPeak Final Result, Line (N)

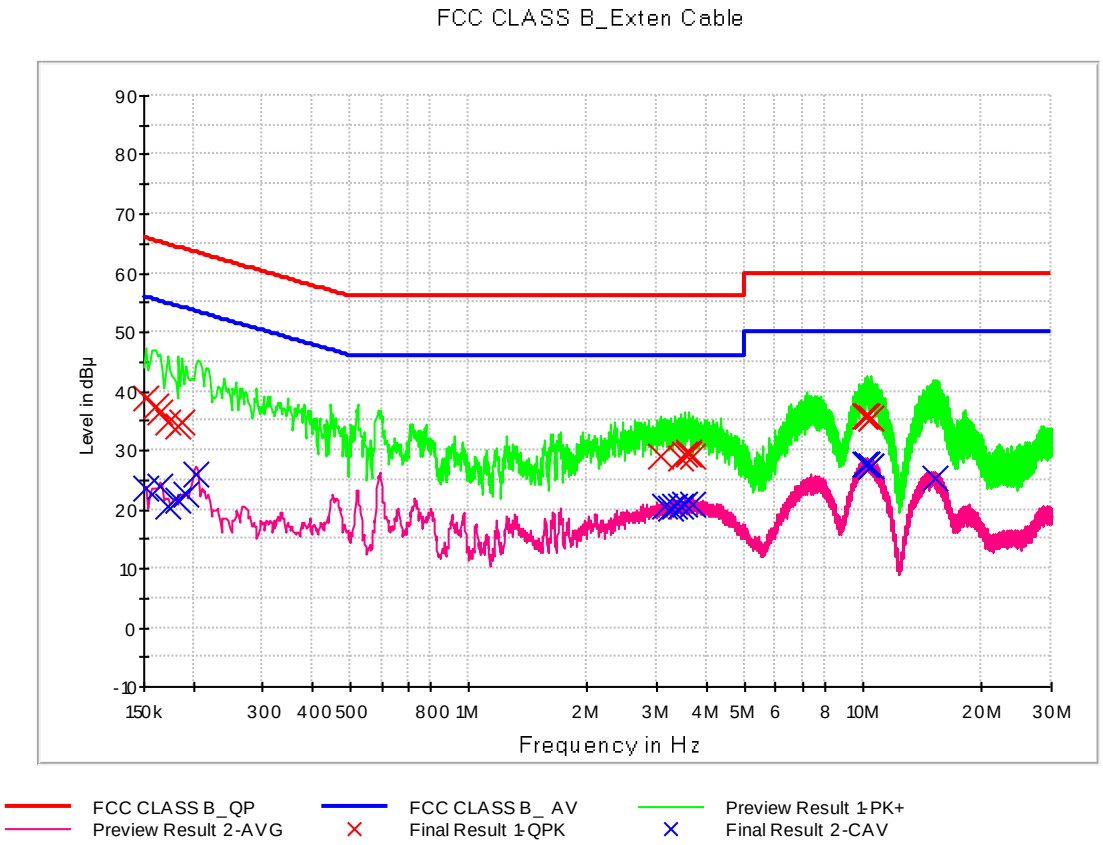
Frequency (MHz)	QuasiPeak (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.150000	34.4	9.000	N	9.8	31.6	66.0
0.194000	34.1	9.000	N	9.8	29.8	63.9
0.200000	37.2	9.000	N	9.8	26.4	63.6
0.204000	37.1	9.000	N	9.8	26.3	63.4
0.208000	35.9	9.000	N	9.8	27.4	63.3
0.218000	31.1	9.000	N	9.8	31.8	62.9
2.516000	28.1	9.000	N	9.9	27.9	56.0
2.522000	28.1	9.000	N	9.9	27.9	56.0
2.538000	27.8	9.000	N	9.9	28.2	56.0
2.576000	27.6	9.000	N	9.9	28.4	56.0
2.824000	28.1	9.000	N	9.9	27.9	56.0
3.344000	27.4	9.000	N	9.9	28.6	56.0
14.740000	36.2	9.000	N	10.4	23.8	60.0
14.912000	36.4	9.000	N	10.4	23.6	60.0
14.950000	36.5	9.000	N	10.4	23.5	60.0
15.056000	36.2	9.000	N	10.5	23.8	60.0
15.282000	35.9	9.000	N	10.5	24.1	60.0
15.384000	35.8	9.000	N	10.5	24.2	60.0

HCT CO.,LTD.

CAverage Final Result, Line (N)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.154000	21.7	9.000	N	9.8	34.0	55.8
0.200000	23.9	9.000	N	9.8	29.7	53.6
0.204000	24.3	9.000	N	9.8	29.1	53.4
0.220000	18.4	9.000	N	9.8	34.4	52.8
0.262000	18.0	9.000	N	9.8	33.4	51.4
0.274000	17.9	9.000	N	9.8	33.1	51.0
2.516000	18.5	9.000	N	9.9	27.5	46.0
2.522000	18.5	9.000	N	9.9	27.5	46.0
2.538000	18.0	9.000	N	9.9	28.0	46.0
2.768000	18.2	9.000	N	9.9	27.8	46.0
3.144000	18.4	9.000	N	9.9	27.6	46.0
3.608000	18.4	9.000	N	10.0	27.6	46.0
14.278000	23.9	9.000	N	10.4	26.1	50.0
14.774000	23.9	9.000	N	10.4	26.1	50.0
14.866000	24.1	9.000	N	10.4	25.9	50.0
15.228000	23.5	9.000	N	10.5	26.5	50.0
15.384000	23.3	9.000	N	10.5	26.7	50.0
15.570000	22.7	9.000	N	10.5	27.3	50.0

Figure 7: Conducted Emission, LTE B5 Idle(Middle CH)+Video&Audio mode, Line (L1)



HCT CO.,LTD.

QuasiPeak Final Result, Line (L1)

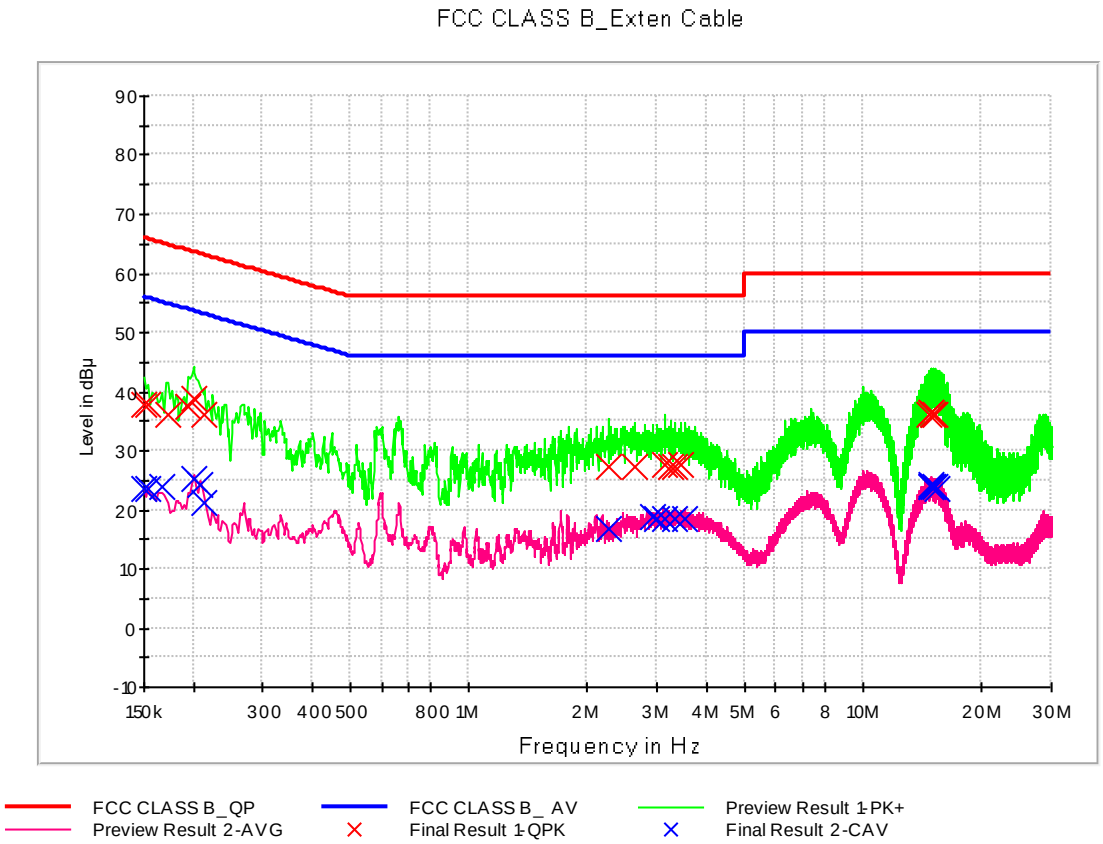
Frequency (MHz)	QuasiPeak (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.152000	38.7	9.000	L1	9.8	27.2	65.9
0.160000	37.3	9.000	L1	9.8	28.1	65.5
0.164000	36.5	9.000	L1	9.8	28.7	65.3
0.172000	34.8	9.000	L1	9.8	30.0	64.9
0.184000	34.0	9.000	L1	9.8	30.3	64.3
0.188000	34.6	9.000	L1	9.8	29.5	64.1
3.050000	29.0	9.000	L1	9.9	27.0	56.0
3.452000	28.8	9.000	L1	9.9	27.2	56.0
3.520000	29.2	9.000	L1	9.9	26.8	56.0
3.592000	29.5	9.000	L1	9.9	26.5	56.0
3.610000	29.4	9.000	L1	9.9	26.6	56.0
3.688000	29.1	9.000	L1	10.0	26.9	56.0
10.124000	35.7	9.000	L1	10.2	24.3	60.0
10.156000	35.7	9.000	L1	10.2	24.3	60.0
10.192000	35.8	9.000	L1	10.2	24.2	60.0
10.216000	35.8	9.000	L1	10.2	24.2	60.0
10.476000	35.3	9.000	L1	10.2	24.7	60.0
10.506000	35.5	9.000	L1	10.2	24.5	60.0

HCT CO.,LTD.

CAverage Final Result, Line (L1)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.152000	23.5	9.000	L1	9.8	32.4	55.9
0.164000	24.0	9.000	L1	9.8	31.3	55.3
0.172000	20.4	9.000	L1	9.8	34.5	54.9
0.184000	21.6	9.000	L1	9.8	32.7	54.3
0.192000	22.4	9.000	L1	9.8	31.6	53.9
0.204000	25.9	9.000	L1	9.8	27.5	53.4
3.122000	20.5	9.000	L1	9.9	25.5	46.0
3.238000	20.3	9.000	L1	9.9	25.7	46.0
3.324000	20.5	9.000	L1	9.9	25.5	46.0
3.434000	20.6	9.000	L1	9.9	25.4	46.0
3.520000	20.8	9.000	L1	9.9	25.2	46.0
3.688000	20.9	9.000	L1	10.0	25.1	46.0
10.124000	27.6	9.000	L1	10.2	22.4	50.0
10.216000	27.6	9.000	L1	10.2	22.4	50.0
10.254000	27.6	9.000	L1	10.2	22.4	50.0
10.418000	27.5	9.000	L1	10.2	22.5	50.0
10.518000	27.2	9.000	L1	10.2	22.8	50.0
15.278000	25.2	9.000	L1	10.4	24.8	50.0

Figure 8: Conducted Emission, LTE B5 Idle(Middle CH)+Video&Audio mode, Line (N)



HCT CO.,LTD.

QuasiPeak Final Result, Line (N)

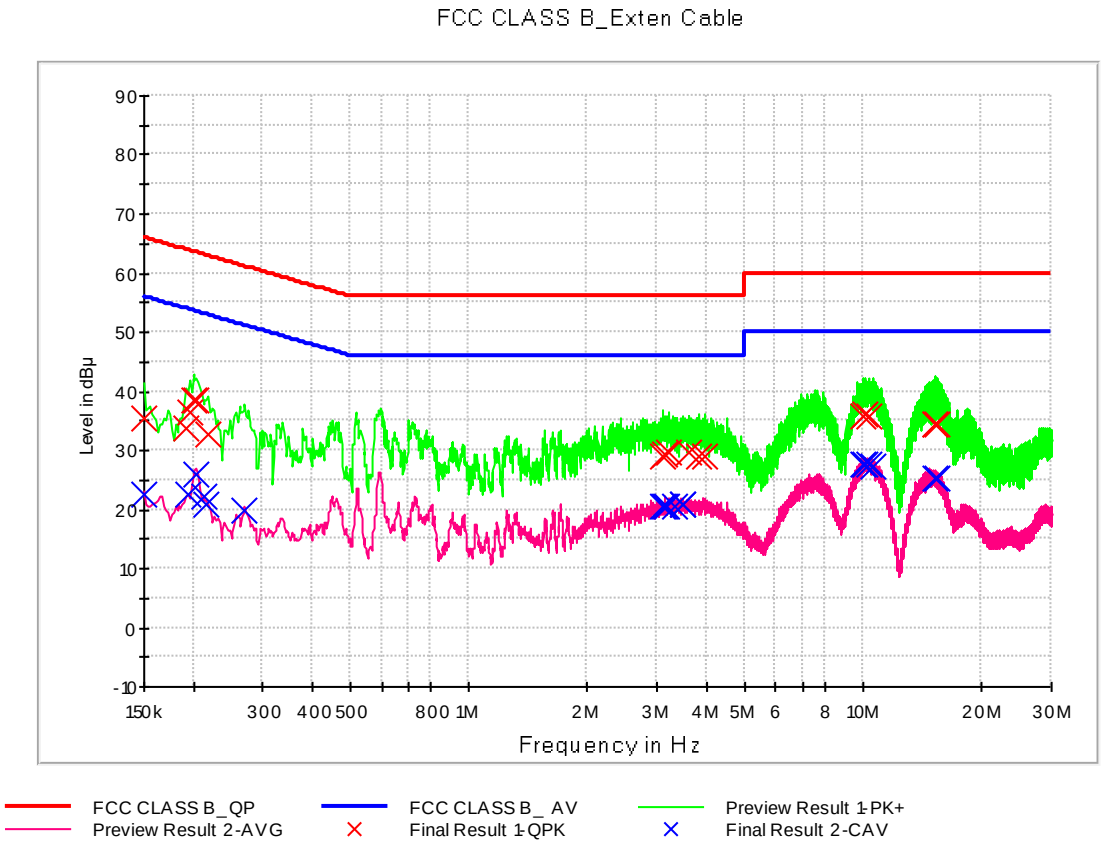
Frequency (MHz)	QuasiPeak (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.150000	37.8	9.000	N	9.8	28.2	66.0
0.154000	37.7	9.000	N	9.8	28.1	65.8
0.172000	36.0	9.000	N	9.8	28.9	64.9
0.194000	37.3	9.000	N	9.8	26.5	63.9
0.200000	39.0	9.000	N	9.8	24.6	63.6
0.214000	36.3	9.000	N	9.8	26.8	63.0
2.260000	27.3	9.000	N	9.9	28.7	56.0
2.646000	27.1	9.000	N	9.9	28.9	56.0
3.152000	27.5	9.000	N	9.9	28.5	56.0
3.258000	27.3	9.000	N	9.9	28.7	56.0
3.322000	27.3	9.000	N	9.9	28.7	56.0
3.462000	27.6	9.000	N	9.9	28.4	56.0
14.674000	36.0	9.000	N	10.4	24.0	60.0
14.820000	36.5	9.000	N	10.4	23.5	60.0
14.914000	36.3	9.000	N	10.4	23.7	60.0
14.996000	36.2	9.000	N	10.4	23.8	60.0
15.058000	36.1	9.000	N	10.5	23.9	60.0
15.210000	36.2	9.000	N	10.5	23.8	60.0

HCT CO.,LTD.

CAverage Final Result, Line (N)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.150000	23.7	9.000	N	9.8	32.3	56.0
0.154000	23.6	9.000	N	9.8	32.2	55.8
0.166000	23.8	9.000	N	9.8	31.3	55.2
0.202000	25.4	9.000	N	9.8	28.1	53.5
0.208000	24.2	9.000	N	9.8	29.1	53.3
0.214000	21.2	9.000	N	9.8	31.8	53.0
2.260000	16.9	9.000	N	9.9	29.1	46.0
2.912000	19.0	9.000	N	9.9	27.0	46.0
3.000000	18.6	9.000	N	9.9	27.4	46.0
3.152000	18.6	9.000	N	9.9	27.4	46.0
3.322000	18.6	9.000	N	9.9	27.4	46.0
3.542000	18.6	9.000	N	10.0	27.4	46.0
14.796000	23.9	9.000	N	10.4	26.1	50.0
14.820000	24.2	9.000	N	10.4	25.8	50.0
14.914000	23.9	9.000	N	10.4	26.1	50.0
14.996000	24.0	9.000	N	10.4	26.0	50.0
15.210000	23.9	9.000	N	10.5	26.1	50.0
15.420000	23.7	9.000	N	10.5	26.3	50.0

Figure 9: Conducted Emission, LTE B12+B13 Idle(Middle CH)+Front Camera Recording mode, Line (L1)



HCT CO.,LTD.

QuasiPeak Final Result, Line (L1)

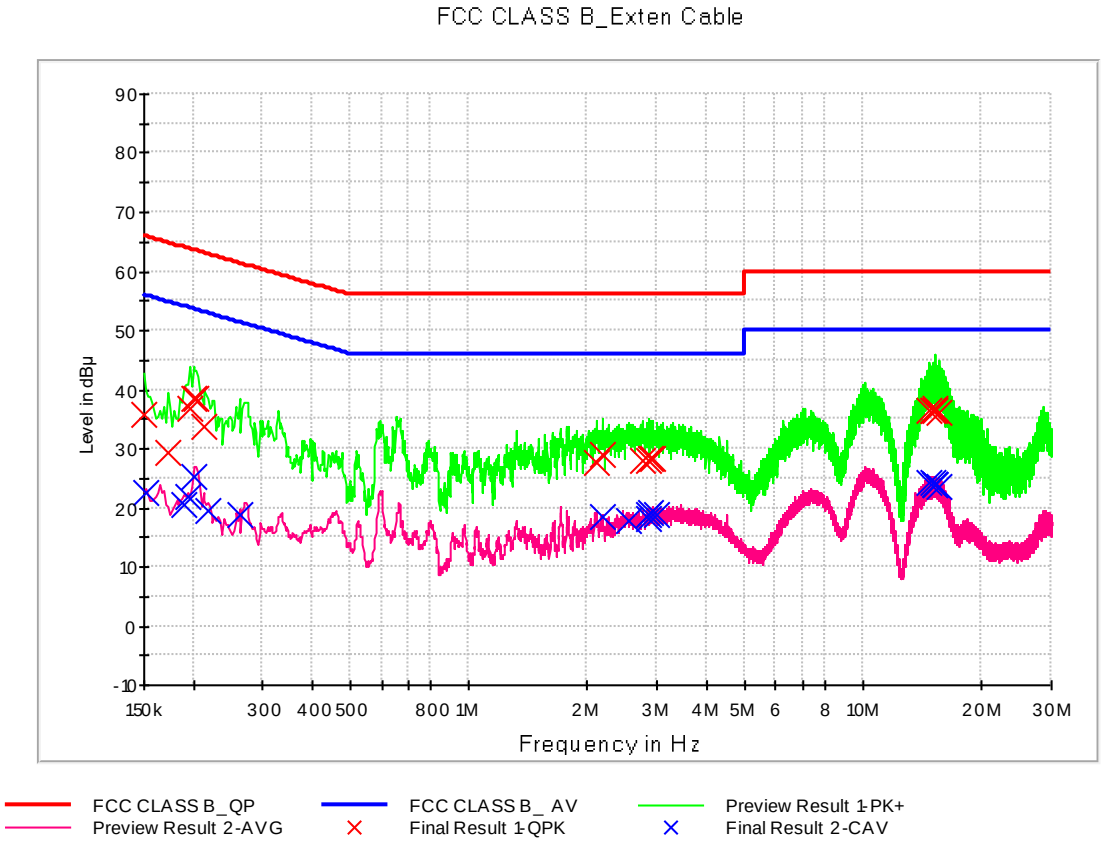
Frequency (MHz)	QuasiPeak (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.150000	35.4	9.000	L1	9.8	30.6	66.0
0.192000	33.6	9.000	L1	9.8	30.3	63.9
0.196000	36.5	9.000	L1	9.8	27.3	63.8
0.200000	38.3	9.000	L1	9.8	25.3	63.6
0.204000	38.4	9.000	L1	9.8	25.0	63.4
0.218000	32.7	9.000	L1	9.8	30.2	62.9
3.096000	29.0	9.000	L1	9.9	27.0	56.0
3.148000	29.2	9.000	L1	9.9	26.8	56.0
3.206000	29.7	9.000	L1	9.9	26.3	56.0
3.604000	29.6	9.000	L1	9.9	26.4	56.0
3.828000	29.0	9.000	L1	10.0	27.0	56.0
3.972000	29.2	9.000	L1	10.0	26.8	56.0
10.024000	35.7	9.000	L1	10.2	24.3	60.0
10.118000	36.1	9.000	L1	10.2	23.9	60.0
10.290000	35.9	9.000	L1	10.2	24.1	60.0
15.248000	34.3	9.000	L1	10.4	25.7	60.0
15.272000	34.5	9.000	L1	10.4	25.5	60.0
15.412000	34.5	9.000	L1	10.4	25.5	60.0

HCT CO.,LTD.

CAverage Final Result, Line (L1)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.150000	22.7	9.000	L1	9.8	33.3	56.0
0.194000	22.6	9.000	L1	9.8	31.2	53.9
0.204000	25.9	9.000	L1	9.8	27.5	53.4
0.212000	22.3	9.000	L1	9.8	30.8	53.1
0.216000	20.7	9.000	L1	9.8	32.2	53.0
0.270000	19.8	9.000	L1	9.8	31.3	51.1
3.096000	20.4	9.000	L1	9.9	25.6	46.0
3.148000	20.6	9.000	L1	9.9	25.4	46.0
3.174000	20.4	9.000	L1	9.9	25.6	46.0
3.322000	20.6	9.000	L1	9.9	25.4	46.0
3.476000	20.9	9.000	L1	9.9	25.1	46.0
3.486000	20.9	9.000	L1	9.9	25.1	46.0
10.024000	27.6	9.000	L1	10.2	22.4	50.0
10.118000	27.8	9.000	L1	10.2	22.2	50.0
10.290000	27.7	9.000	L1	10.2	22.3	50.0
10.578000	27.3	9.000	L1	10.2	22.7	50.0
15.248000	25.4	9.000	L1	10.4	24.6	50.0
15.412000	25.1	9.000	L1	10.4	24.9	50.0

Figure 10: Conducted Emission, LTE B12+B13 Idle(Middle CH)+Front Camera Recording mode, Line (N)



HCT CO.,LTD.

QuasiPeak Final Result, Line (N)

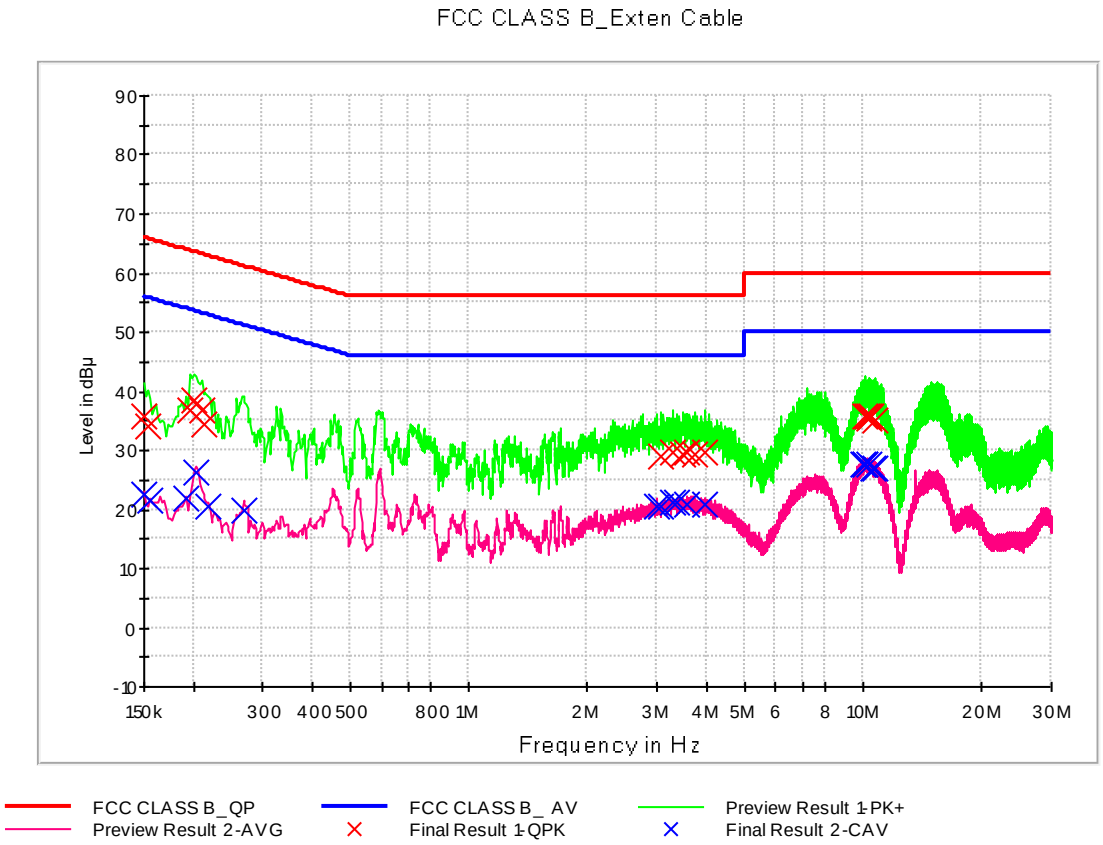
Frequency (MHz)	QuasiPeak (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.150000	35.9	9.000	N	9.8	30.1	66.0
0.172000	29.4	9.000	N	9.8	35.5	64.9
0.196000	36.7	9.000	N	9.8	27.1	63.8
0.200000	38.3	9.000	N	9.8	25.3	63.6
0.204000	38.4	9.000	N	9.8	25.0	63.4
0.214000	33.8	9.000	N	9.8	29.2	63.0
2.112000	27.6	9.000	N	9.9	28.4	56.0
2.176000	28.9	9.000	N	9.9	27.1	56.0
2.744000	27.9	9.000	N	9.9	28.1	56.0
2.848000	28.0	9.000	N	9.9	28.0	56.0
2.896000	28.3	9.000	N	9.9	27.7	56.0
2.912000	28.5	9.000	N	9.9	27.5	56.0
14.734000	36.3	9.000	N	10.4	23.7	60.0
15.066000	36.3	9.000	N	10.5	23.7	60.0
15.130000	36.4	9.000	N	10.5	23.6	60.0
15.150000	36.4	9.000	N	10.5	23.6	60.0
15.242000	36.6	9.000	N	10.5	23.4	60.0
15.518000	36.1	9.000	N	10.5	23.9	60.0

HCT CO.,LTD.

CAverage Final Result, Line (N)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.152000	22.5	9.000	N	9.8	33.4	55.9
0.190000	20.5	9.000	N	9.8	33.6	54.0
0.194000	21.9	9.000	N	9.8	32.0	53.9
0.202000	25.4	9.000	N	9.8	28.2	53.5
0.218000	19.5	9.000	N	9.8	33.4	52.9
0.262000	18.7	9.000	N	9.8	32.7	51.4
2.176000	18.6	9.000	N	9.9	27.4	46.0
2.548000	17.8	9.000	N	9.9	28.2	46.0
2.848000	18.8	9.000	N	9.9	27.2	46.0
2.864000	18.2	9.000	N	9.9	27.8	46.0
2.896000	19.0	9.000	N	9.9	27.0	46.0
2.984000	18.8	9.000	N	9.9	27.2	46.0
14.734000	24.2	9.000	N	10.4	25.8	50.0
15.130000	24.2	9.000	N	10.5	25.8	50.0
15.150000	24.0	9.000	N	10.5	26.0	50.0
15.162000	24.0	9.000	N	10.5	26.0	50.0
15.242000	24.0	9.000	N	10.5	26.0	50.0
15.518000	23.5	9.000	N	10.5	26.5	50.0

Figure 11: Conducted Emission, 5G NR n5 Idle(Middle CH)+Rear Camera Recording mode, Line (L1)



HCT CO.,LTD.

QuasiPeak Final Result, Line (L1)

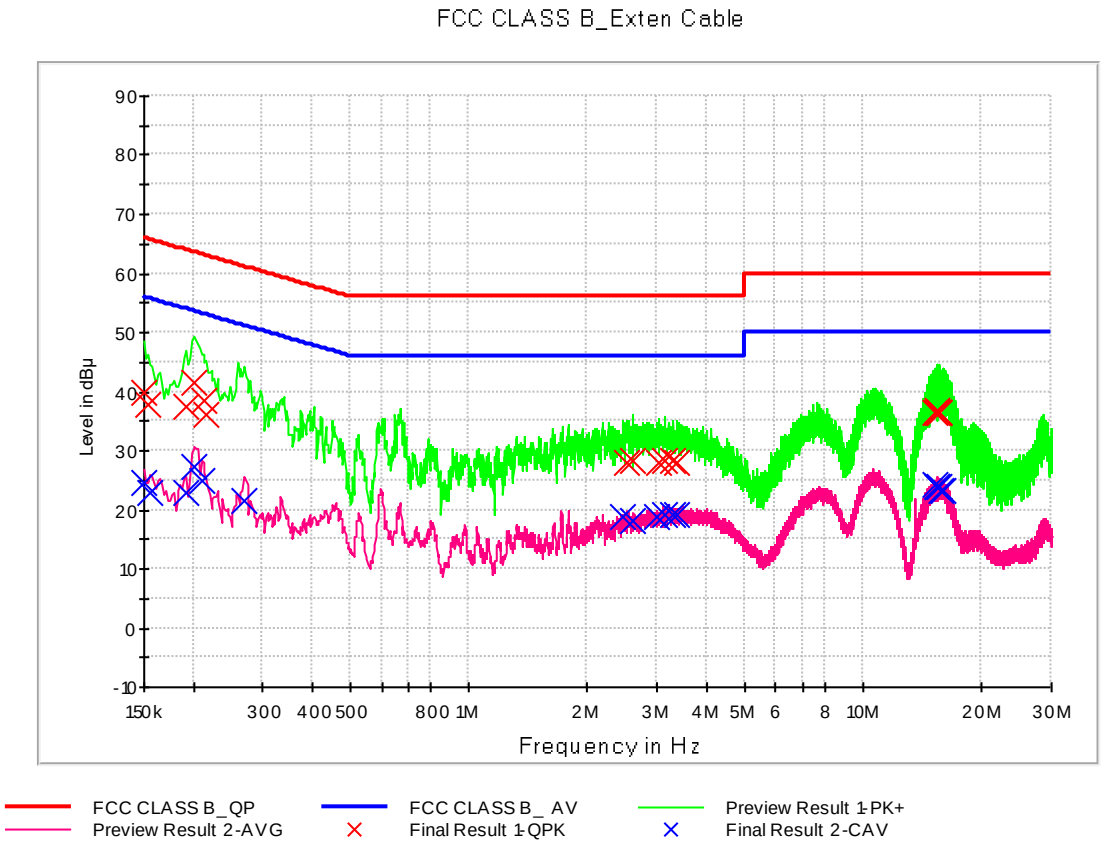
Frequency (MHz)	QuasiPeak (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.150000	35.7	9.000	L1	9.8	30.3	66.0
0.154000	34.0	9.000	L1	9.8	31.8	65.8
0.196000	36.8	9.000	L1	9.8	26.9	63.8
0.202000	38.5	9.000	L1	9.8	25.0	63.5
0.210000	36.7	9.000	L1	9.8	26.5	63.2
0.214000	34.3	9.000	L1	9.8	28.7	63.0
3.076000	29.1	9.000	L1	9.9	26.9	56.0
3.288000	29.7	9.000	L1	9.9	26.3	56.0
3.472000	29.3	9.000	L1	9.9	26.7	56.0
3.566000	29.6	9.000	L1	9.9	26.4	56.0
3.730000	29.2	9.000	L1	10.0	26.8	56.0
3.956000	29.7	9.000	L1	10.0	26.3	56.0
10.072000	35.8	9.000	L1	10.2	24.2	60.0
10.186000	35.7	9.000	L1	10.2	24.3	60.0
10.354000	35.9	9.000	L1	10.2	24.1	60.0
10.398000	35.6	9.000	L1	10.2	24.4	60.0
10.482000	35.7	9.000	L1	10.2	24.3	60.0
10.694000	35.2	9.000	L1	10.2	24.8	60.0

HCT CO.,LTD.

CAverage Final Result, Line (L1)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.150000	22.5	9.000	L1	9.8	33.5	56.0
0.156000	21.5	9.000	L1	9.8	34.1	55.7
0.192000	21.8	9.000	L1	9.8	32.2	53.9
0.204000	26.1	9.000	L1	9.8	27.3	53.4
0.218000	20.6	9.000	L1	9.8	32.3	52.9
0.268000	20.0	9.000	L1	9.8	31.2	51.2
2.996000	20.5	9.000	L1	9.9	25.5	46.0
3.076000	20.4	9.000	L1	9.9	25.6	46.0
3.288000	21.3	9.000	L1	9.9	24.7	46.0
3.376000	21.2	9.000	L1	9.9	24.8	46.0
3.566000	21.0	9.000	L1	9.9	25.0	46.0
3.970000	21.0	9.000	L1	10.0	25.0	46.0
10.014000	27.6	9.000	L1	10.2	22.4	50.0
10.072000	27.6	9.000	L1	10.2	22.4	50.0
10.120000	27.7	9.000	L1	10.2	22.3	50.0
10.334000	27.7	9.000	L1	10.2	22.3	50.0
10.646000	27.0	9.000	L1	10.2	23.0	50.0
10.714000	26.9	9.000	L1	10.2	23.1	50.0

Figure 12: Conducted Emission, 5G NR n5 Idle(Middle CH)+Rear Camera Recording mode, Line (N)



HCT CO.,LTD.

QuasiPeak Final Result, Line (N)

Frequency (MHz)	QuasiPeak (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.150000	39.7	9.000	N	9.8	26.3	66.0
0.154000	37.8	9.000	N	9.8	28.0	65.8
0.192000	37.3	9.000	N	9.8	26.6	63.9
0.200000	41.5	9.000	N	9.8	22.1	63.6
0.212000	38.4	9.000	N	9.8	24.7	63.1
0.216000	36.2	9.000	N	9.8	26.8	63.0
2.514000	28.0	9.000	N	9.9	28.0	56.0
2.610000	28.2	9.000	N	9.9	27.8	56.0
3.018000	28.1	9.000	N	9.9	27.9	56.0
3.134000	28.3	9.000	N	9.9	27.7	56.0
3.278000	28.3	9.000	N	9.9	27.7	56.0
3.376000	28.1	9.000	N	9.9	27.9	56.0
15.228000	36.6	9.000	N	10.5	23.4	60.0
15.406000	36.7	9.000	N	10.5	23.3	60.0
15.468000	36.6	9.000	N	10.5	23.4	60.0
15.534000	36.5	9.000	N	10.5	23.5	60.0
15.560000	36.6	9.000	N	10.5	23.4	60.0
15.672000	36.3	9.000	N	10.5	23.7	60.0

HCT CO.,LTD.

CAverage Final Result, Line (N)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.150000	24.5	9.000	N	9.8	31.6	56.0
0.156000	23.0	9.000	N	9.8	32.7	55.7
0.192000	23.0	9.000	N	9.8	30.9	53.9
0.202000	27.2	9.000	N	9.8	26.3	53.5
0.210000	25.0	9.000	N	9.8	28.2	53.2
0.270000	21.5	9.000	N	9.8	29.7	51.1
2.456000	18.8	9.000	N	9.9	27.2	46.0
2.610000	18.3	9.000	N	9.9	27.7	46.0
2.998000	18.9	9.000	N	9.9	27.1	46.0
3.134000	19.1	9.000	N	9.9	26.9	46.0
3.278000	19.3	9.000	N	9.9	26.7	46.0
3.376000	19.3	9.000	N	9.9	26.7	46.0
15.228000	24.1	9.000	N	10.5	25.9	50.0
15.406000	23.9	9.000	N	10.5	26.1	50.0
15.468000	23.8	9.000	N	10.5	26.2	50.0
15.672000	23.9	9.000	N	10.5	26.1	50.0
15.830000	23.3	9.000	N	10.5	26.7	50.0
15.894000	23.3	9.000	N	10.5	26.7	50.0

5.2 Radiated Emission

5.2.1 For Measurement Below 1 GHz

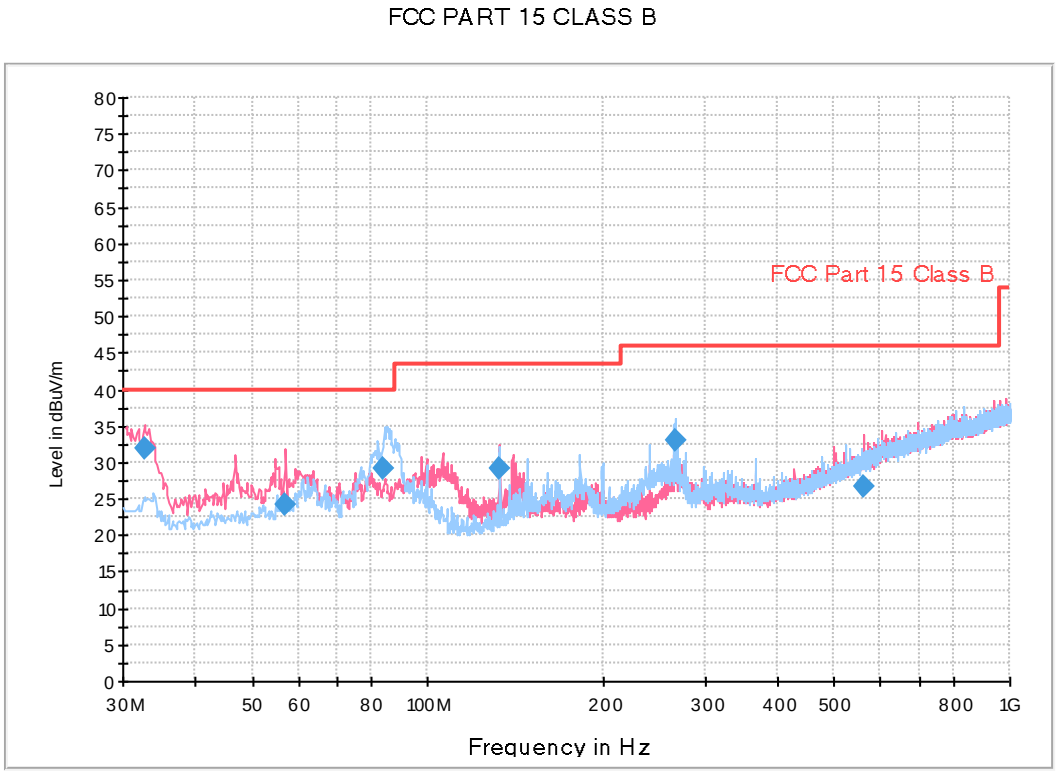
The test results of radiated emission provide the following information:

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	Data Communication mode Front Camera Preview Rear Camera Preview LTE B5 Idle(Middle CH)+Video&Audio LTE B12+B13 Idle(Middle CH)+Front Camera Recording 5G NR n5 Idle(Middle CH)+Rear Camera Recording
Kind of Test Site	3 m semi anechoic chamber
Temperature	24.6/25.1/24.8 ℃
Relative Humidity	47.3/48.6/44.2 %
Test Date	June 09/June 10/June 12, 2020

- Calculation Formula:

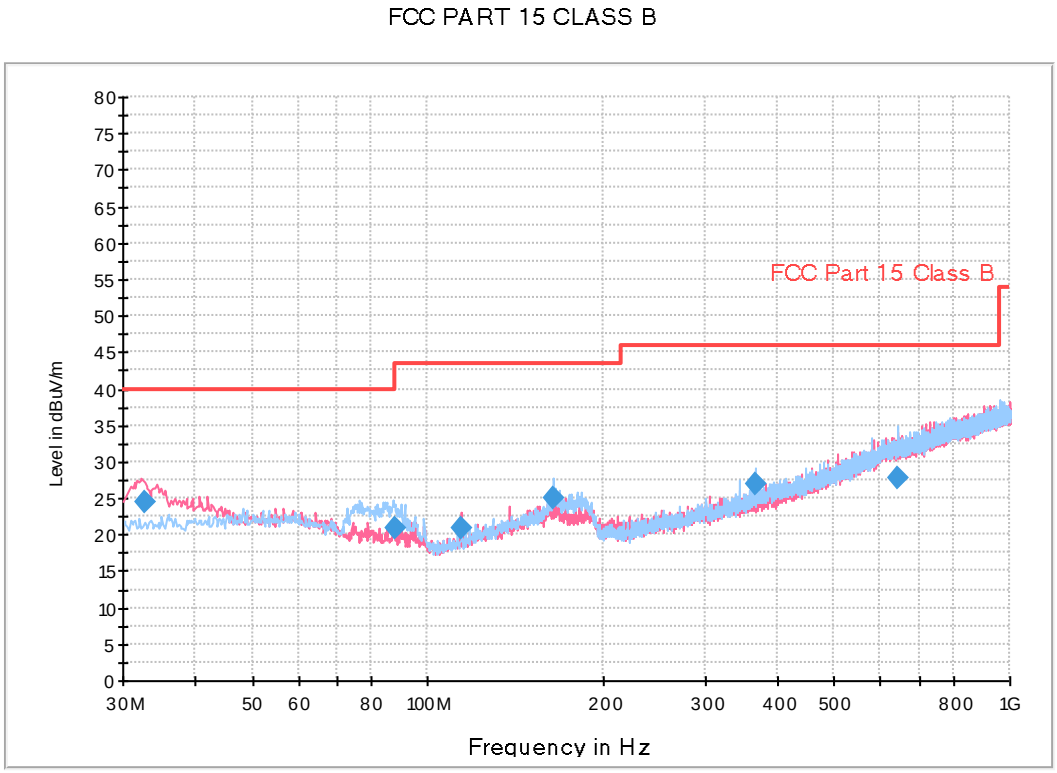
1. POL. H = Horizontal, POL. V = Vertical
2. QuasiPeak = Reading (Receiver Reading) + Corr.
3. Corr. (Correction Factor) = Antenna Factor + Cable Loss
4. Margin = Limit - QuasiPeak

Figure 13: Radiated Emission (30 MHz to 1 GHz), Data Communication mode



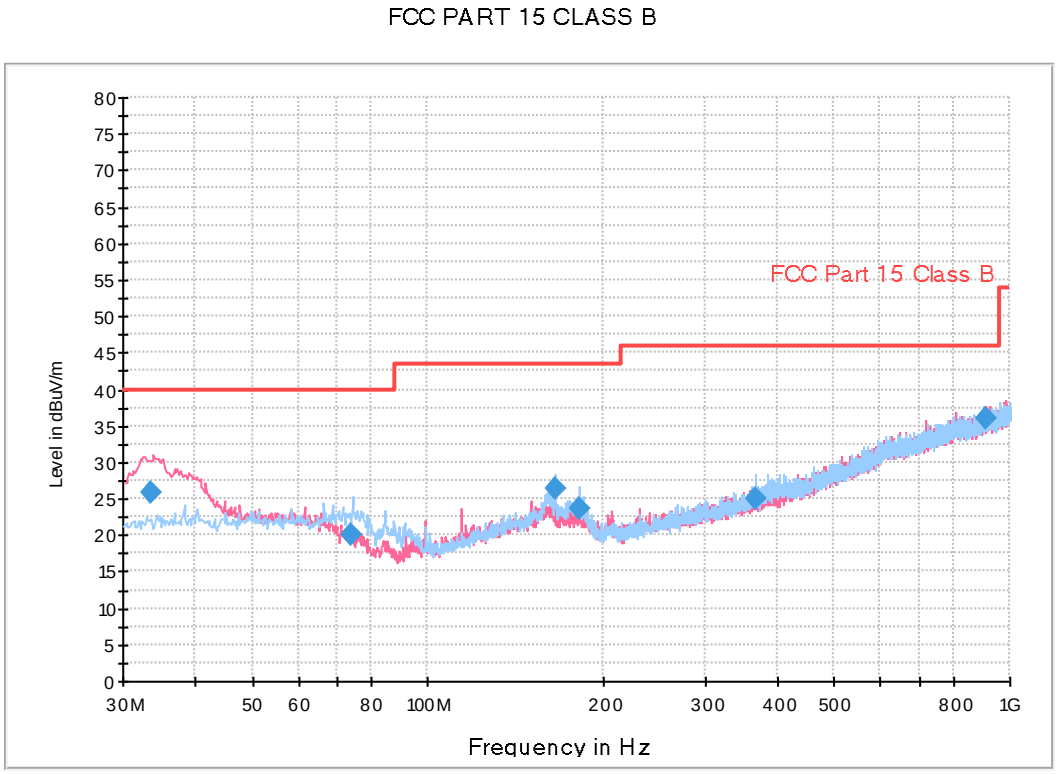
Frequency (MHz)	Quasi Peak (dBµV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
32.791600	32.0	100.0	V	98.0	18.5	8.0	40.0
56.909600	24.3	100.0	V	80.0	19.5	15.7	40.0
84.256800	29.2	400.1	H	130.0	15.1	10.8	40.0
133.252400	29.0	100.0	V	249.0	18.5	14.5	43.5
266.580200	33.1	116.8	H	106.0	19.3	12.9	46.0
561.378800	26.6	100.0	V	0.0	26.5	19.4	46.0

Figure 14: Radiated Emission (30 MHz to 1 GHz), Front Camera Preview mode



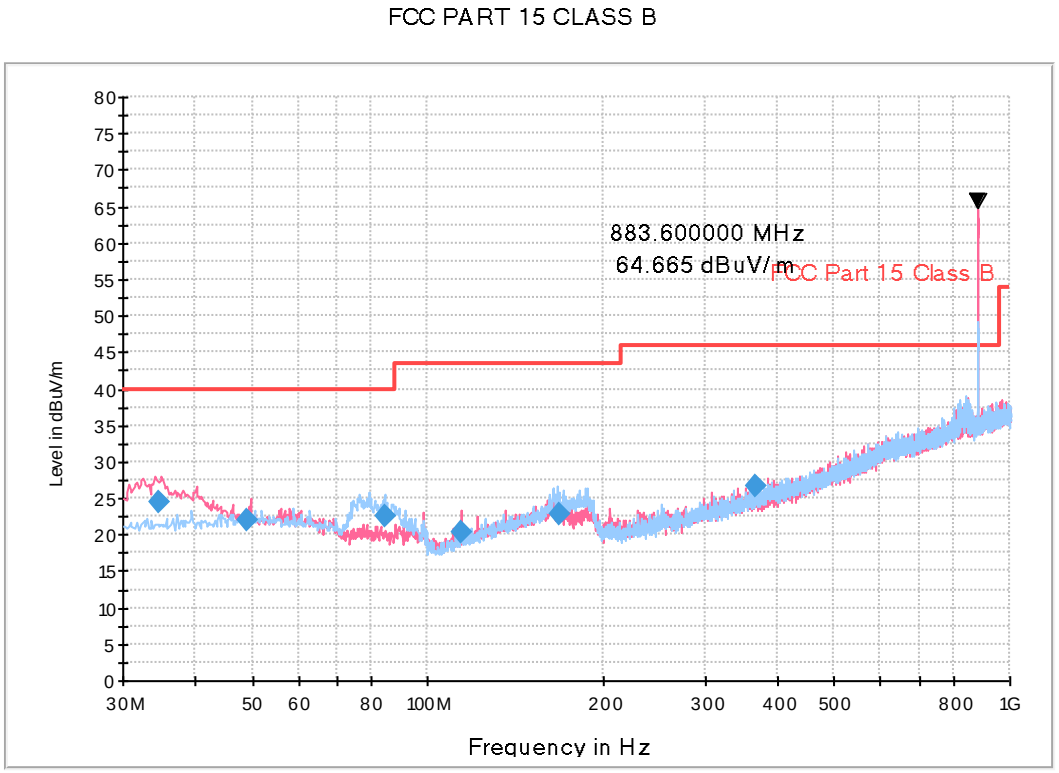
Frequency (MHz)	Quasi Peak (dBµV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
32.758600	24.4	100.0	V	194.0	18.5	15.6	40.0
87.867200	20.8	225.3	H	135.0	14.5	19.2	40.0
114.328000	20.8	207.8	V	220.0	16.8	22.7	43.5
164.518600	25.0	116.9	H	93.0	19.5	18.5	43.5
365.702600	27.1	100.0	H	279.0	22.0	18.9	46.0
643.185400	27.9	174.9	H	285.0	27.9	18.1	46.0

Figure 15: Radiated Emission (30 MHz to 1 GHz), Rear Camera Preview mode



Frequency (MHz)	Quasi Peak (dBµV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
33.494200	26.0	100.0	V	100.0	18.5	14.0	40.0
74.074800	20.0	274.8	H	140.0	17.1	20.0	40.0
165.759600	26.5	174.9	H	16.0	19.4	17.0	43.5
182.922400	23.8	117.8	H	17.0	18.1	19.7	43.5
365.547000	25.1	100.0	H	283.0	22.0	20.9	46.0
911.291600	36.0	225.3	V	314.0	31.6	10.0	46.0

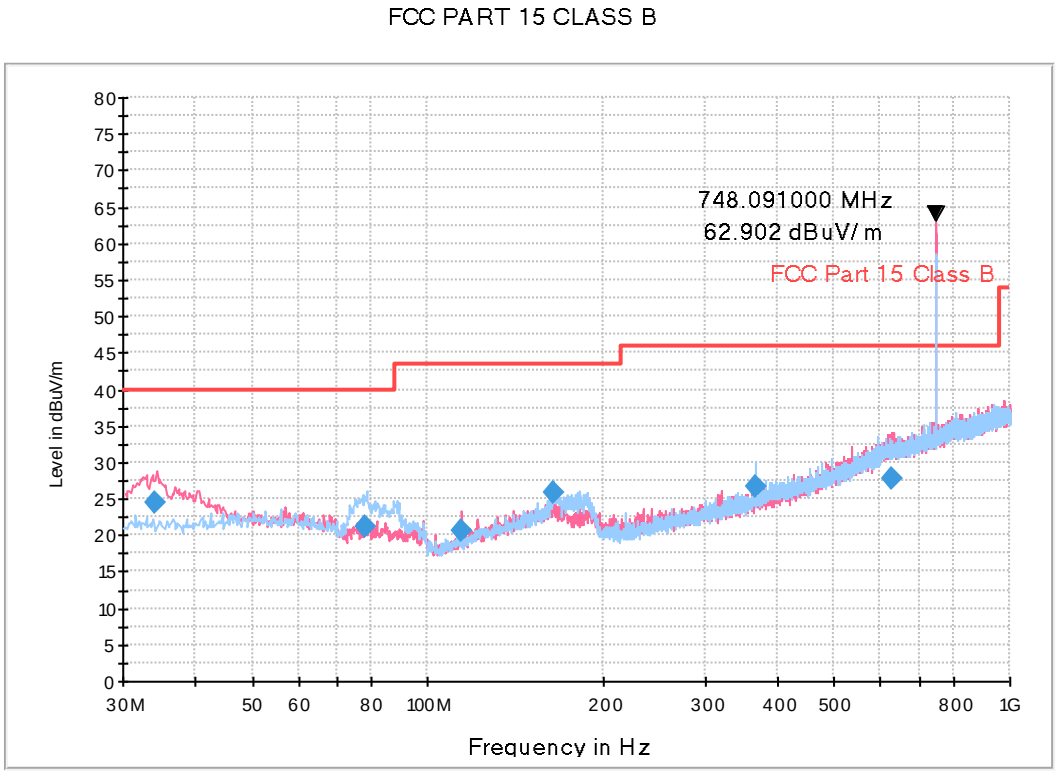
Figure 16: Radiated Emission (30 MHz to 1 GHz), LTE B5 Idle(Middle CH)+Video&Audio mode



NOTE. 1. Carrier Frequency: RX 883.6 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)
34.565200	24.5	100.0	V	90.0	18.6	15.5	40.0
48.868600	22.0	225.3	V	30.0	19.7	18.0	40.0
84.544400	22.4	225.3	H	144.0	15.1	17.6	40.0
114.552800	20.2	275.0	V	106.0	16.8	23.3	43.5
167.879800	22.9	174.8	H	107.0	19.2	20.6	43.5
365.616200	26.8	100.0	H	89.0	22.0	19.2	46.0

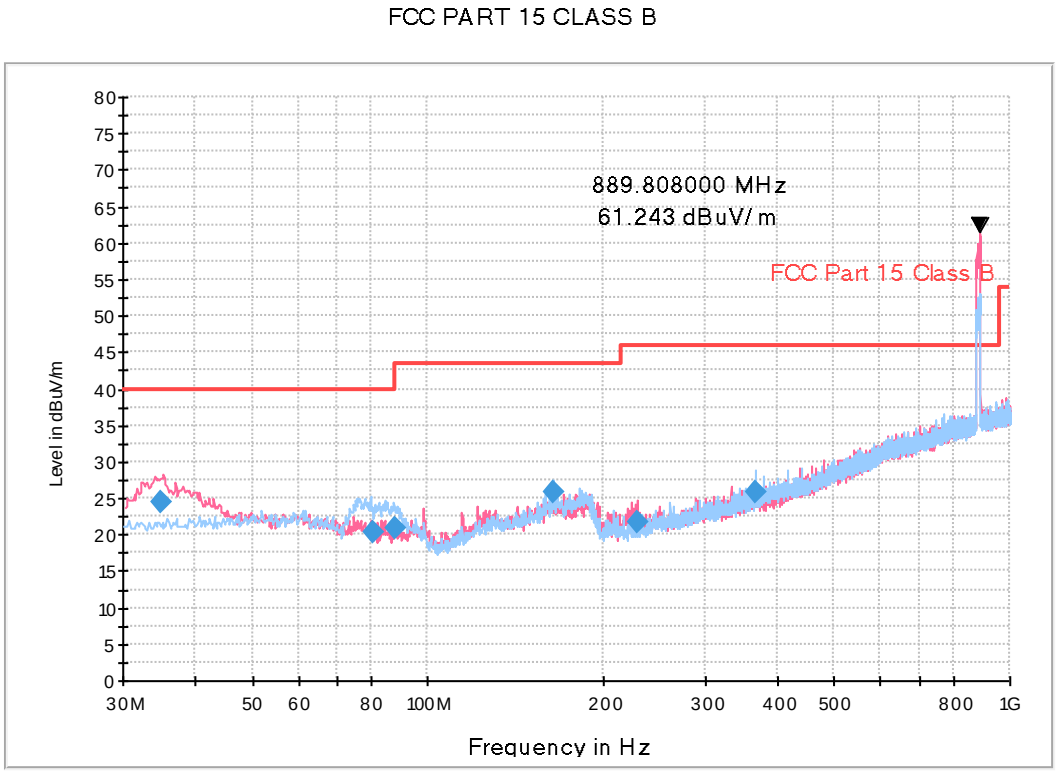
Figure 17: Radiated Emission (30 MHz to 1 GHz), LTE B12+B13 Idle(Middle CH)+Front Camera Recording mode



NOTE. 1. Carrier Frequency: RX 748.091 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)
34.166000	24.6	100.0	V	76.0	18.6	15.4	40.0
78.053200	21.0	309.7	H	125.0	16.2	19.0	40.0
114.560600	20.6	225.3	V	75.0	16.8	22.9	43.5
164.333400	25.8	100.0	H	101.0	19.5	17.7	43.5
365.707400	26.6	100.0	H	86.0	22.0	19.4	46.0
626.540600	27.7	191.7	V	102.0	27.7	18.3	46.0

Figure 18: Radiated Emission (30 MHz to 1 GHz), 5G NR n5 Idle(Middle CH)+Rear Camera Recording mode



NOTE. 1. Carrier Frequency: RX 889.808 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)
34.991800	24.5	100.0	V	71.0	18.6	15.5	40.0
80.695800	20.5	274.9	H	121.0	15.7	19.5	40.0
88.263600	20.8	193.9	H	131.0	14.5	22.7	43.5
164.315800	25.8	174.9	H	105.0	19.5	17.7	43.5
230.122600	21.7	100.0	V	183.0	17.9	24.3	46.0
365.707200	25.9	100.0	H	80.0	22.0	20.1	46.0

5.2.2 For Measurement Above 1 GHz

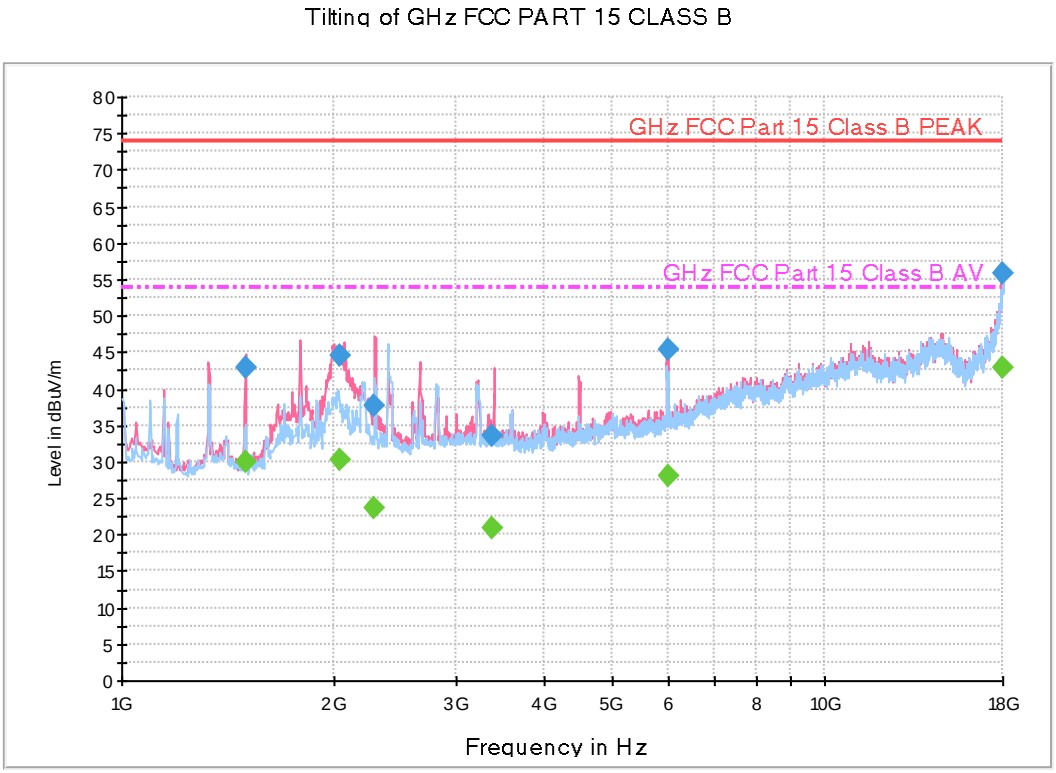
The test results of radiated emission provide the following information:

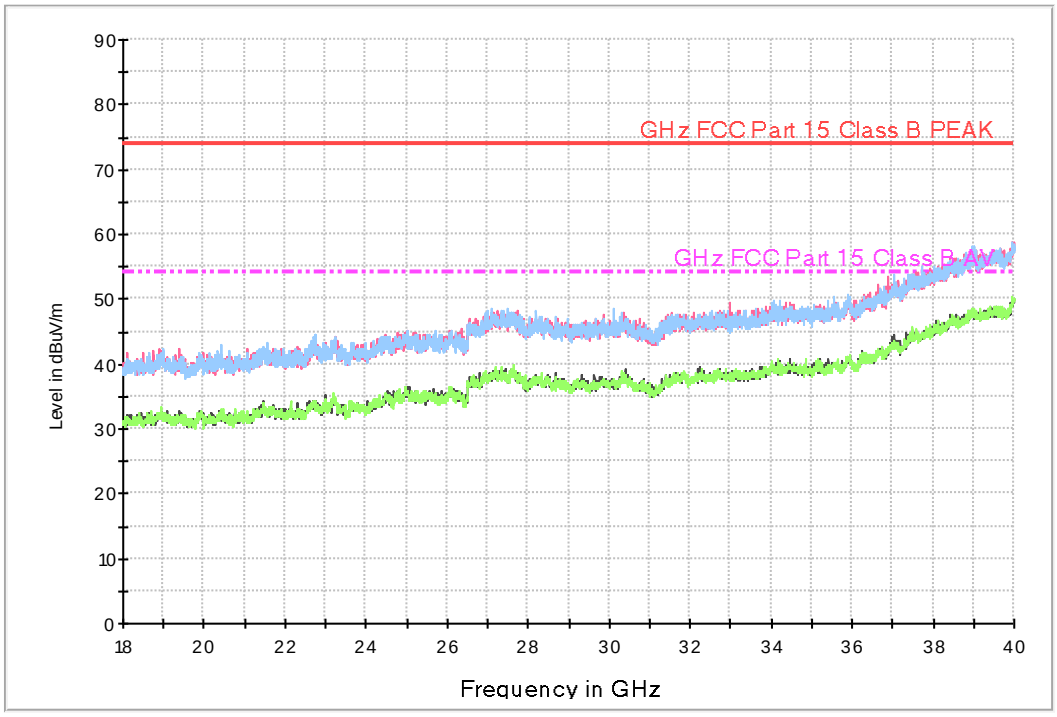
Applicable Standards	47 CFR PART 15 Subpart B Class B ANSI C63.4-2014
Detector	Peak mode: Peak (RBW: 1 MHz, VBW: 3 MHz) CISPR-Average mode: Peak (RBW: 1 MHz, VBW: 10 Hz)
Highest Frequency	40 000 MHz
Tested Frequency Range	1 GHz to 40 GHz
Operating Mode	Data Communication mode Front Camera Preview Rear Camera Preview LTE B5 Idle(Middle CH)+Video&Audio LTE B12+B13 Idle(Middle CH)+Front Camera Recording 5G NR n5 Idle(Middle CH)+Rear Camera Recording
Kind of Test Site	3 m semi anechoic chamber
Temperature	25.1/23.7/24.8 ℃
Relative Humidity	48.6/47.9/44.2 %
Test Date	June 10/June 11/June 12, 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 19: Radiated Emission (1 GHz to 40 GHz), Data Communication mode

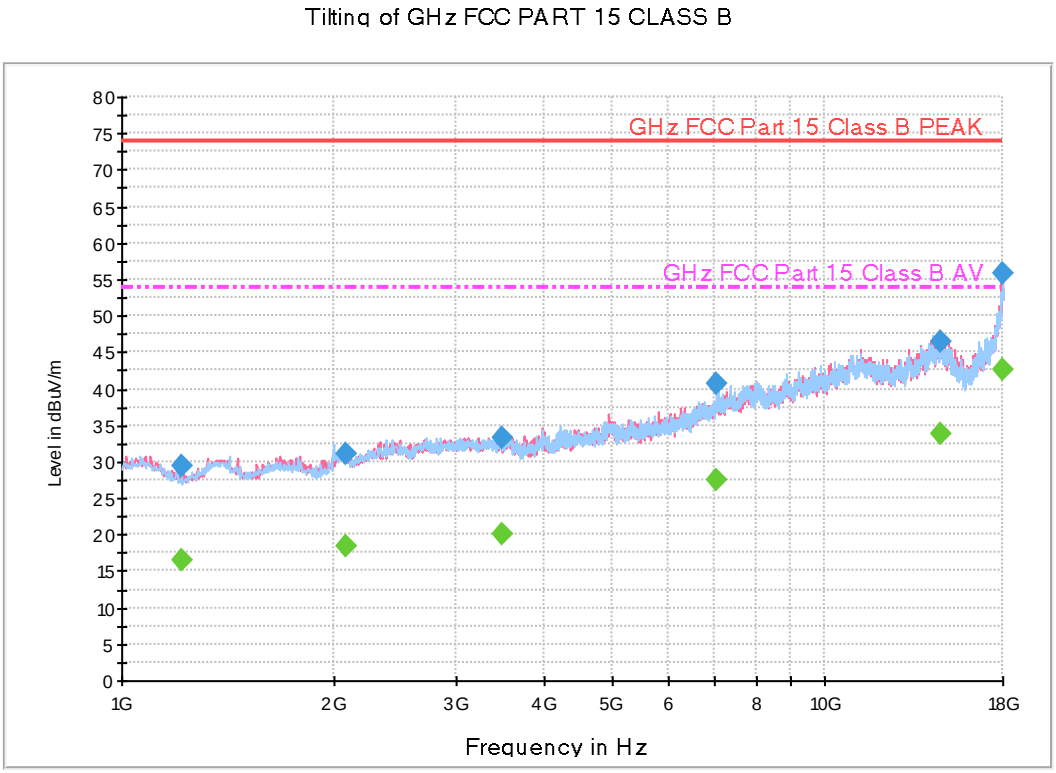


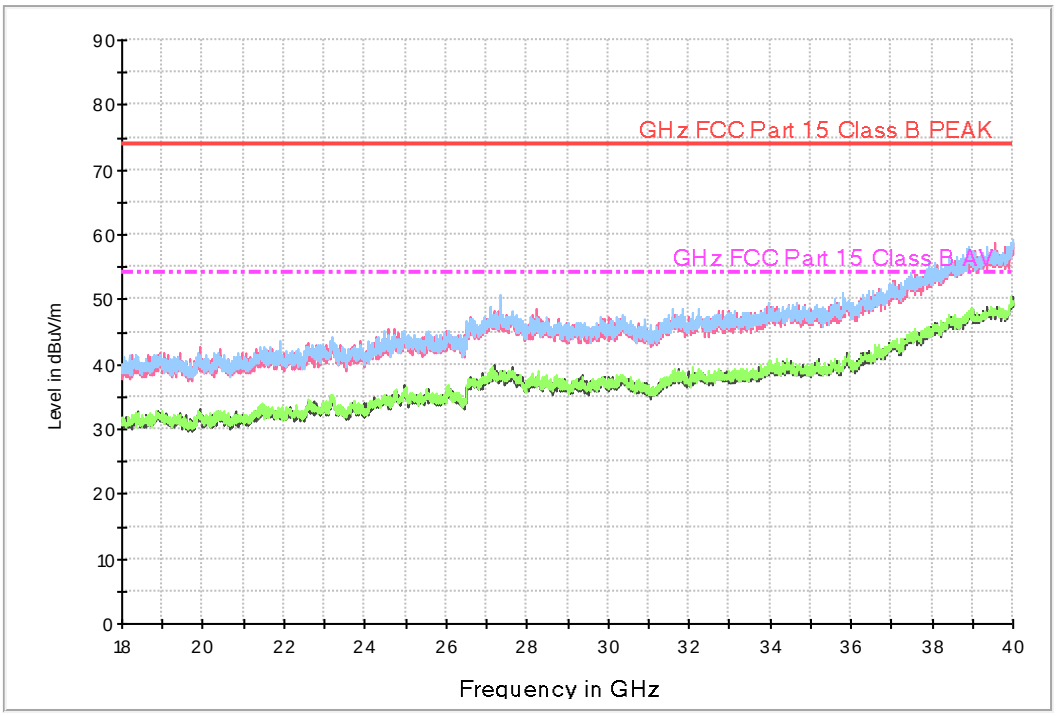


Frequency (MHz)	Peak (dBµV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1498.645000	42.8	100.0	V	0.0	-27.9	31.2	74.0
2051.170000	44.6	111.4	V	51.0	-26.3	29.4	74.0
2291.940000	37.6	199.5	V	81.0	-25.1	36.4	74.0
3362.495000	33.6	111.6	V	101.0	-22.2	40.4	74.0
5994.115000	45.3	100.0	V	326.0	-16.3	28.7	74.0
17982.472770	55.9	249.9	V	103.0	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)
1498.645000	30.1	100.0	V	0.0	-27.9	23.9	54.0
2051.170000	30.1	111.4	V	51.0	-26.3	23.9	54.0
2291.940000	23.6	199.5	V	81.0	-25.1	30.4	54.0
3362.495000	20.8	111.6	V	101.0	-22.2	33.2	54.0
5994.115000	28.2	100.0	V	326.0	-16.3	25.8	54.0
17982.472770	42.9	249.9	V	103.0	9.4	11.1	54.0

Figure 20: Radiated Emission (1 GHz to 40 GHz), Front Camera Preview mode

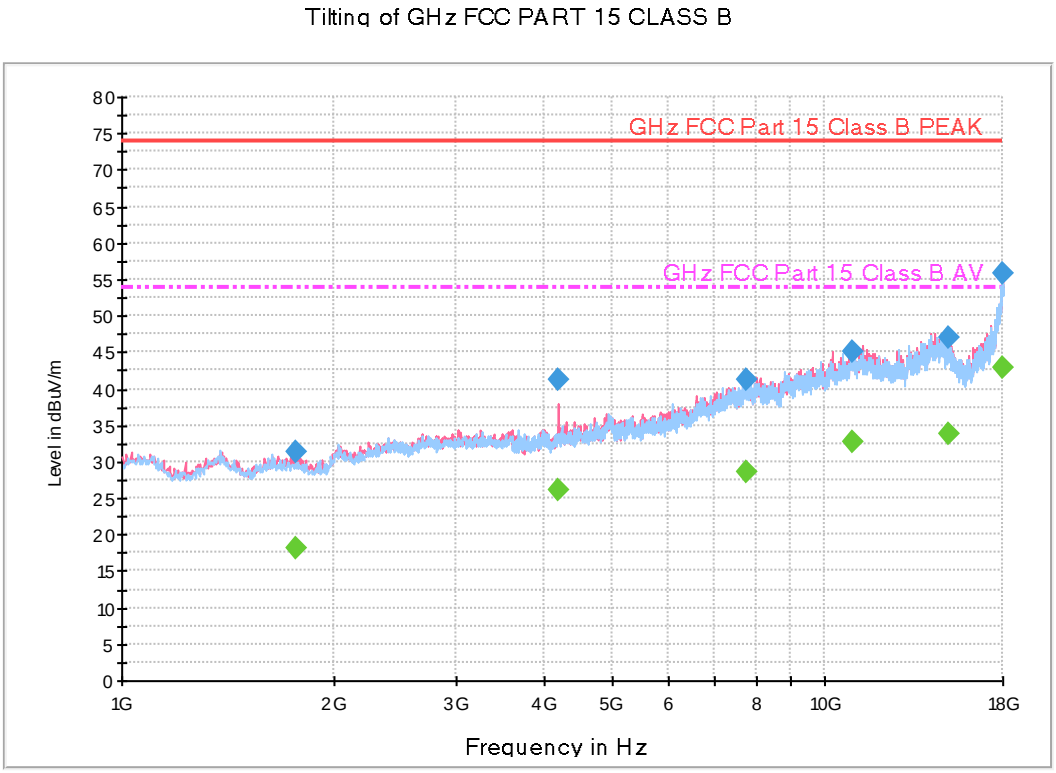


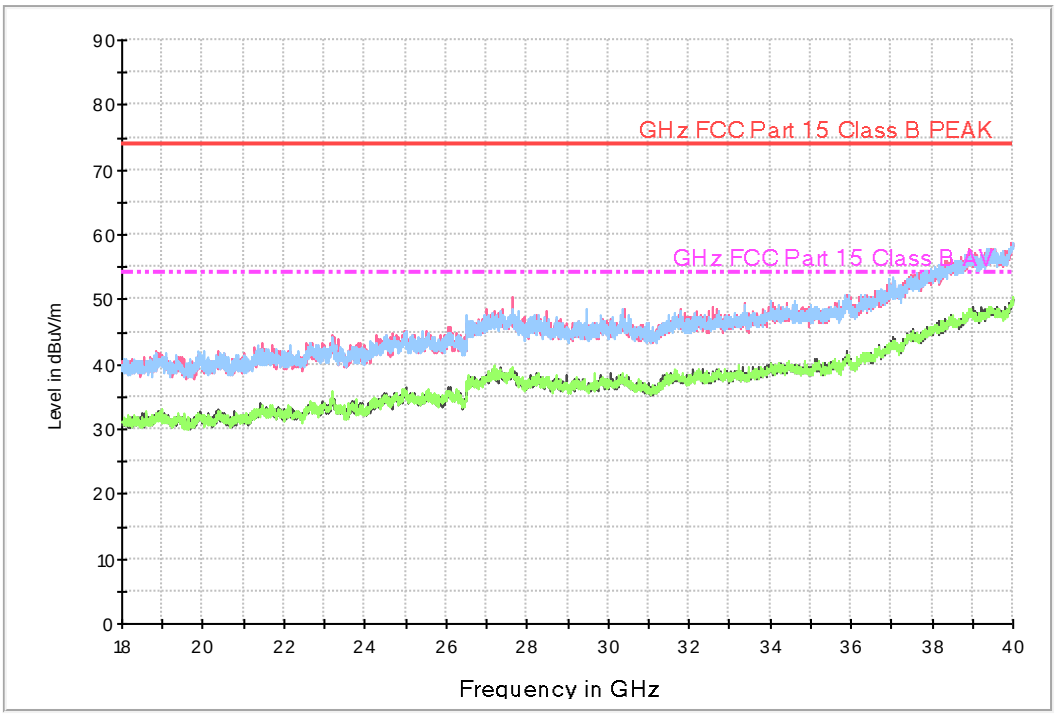


Frequency (MHz)	Peak (dBµV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1216.890000	29.5	150.0	V	216.0	-28.8	44.5	74.0
2083.070000	31.2	149.7	H	122.0	-26.1	42.8	74.0
3491.165000	33.3	322.6	V	94.0	-22.0	40.7	74.0
7056.105000	40.8	177.4	H	60.0	-13.1	33.2	74.0
14724.685000	46.4	229.6	V	216.0	-1.1	27.6	74.0
17982.671700	55.8	249.4	V	309.0	9.4	18.2	74.0

Frequency (MHz)	CAverage (dBµV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1216.890000	16.4	150.0	V	216.0	-28.8	37.6	54.0
2083.070000	18.4	149.7	H	122.0	-26.1	35.6	54.0
3491.165000	20.1	322.6	V	94.0	-22.0	33.9	54.0
7056.105000	27.4	177.4	H	60.0	-13.1	26.6	54.0
14724.685000	33.8	229.6	V	216.0	-1.1	20.2	54.0
17982.671700	42.7	249.4	V	309.0	9.4	11.3	54.0

Figure 21: Radiated Emission (1 GHz to 40 GHz), Rear Camera Preview mode

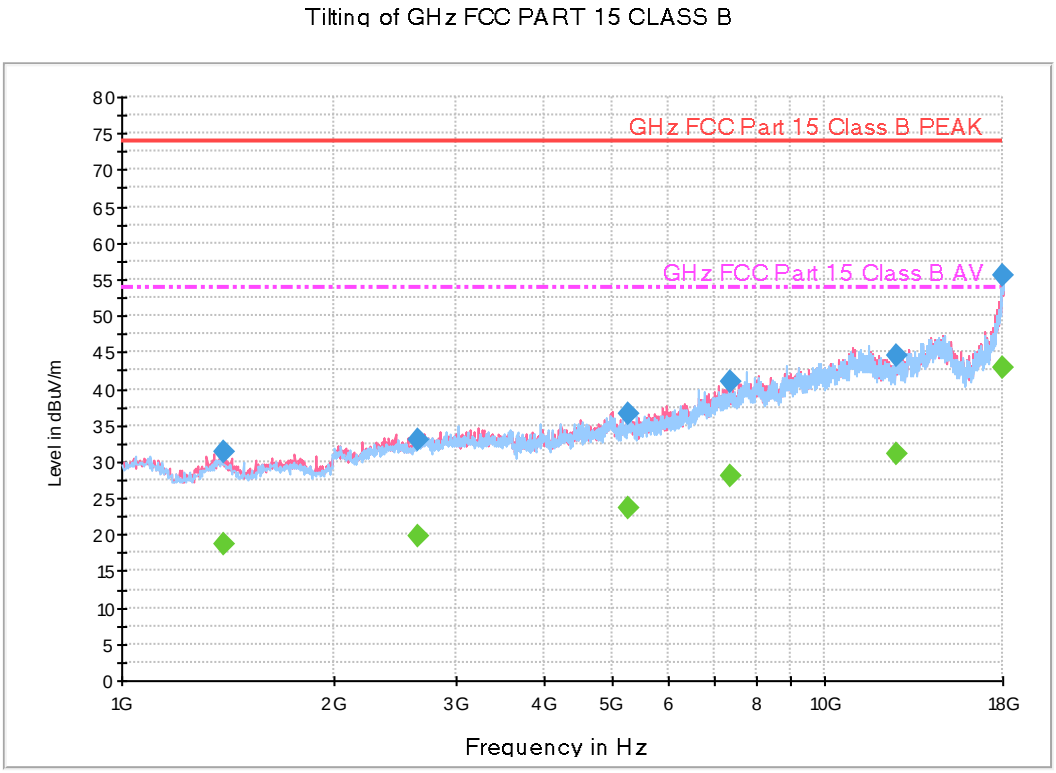


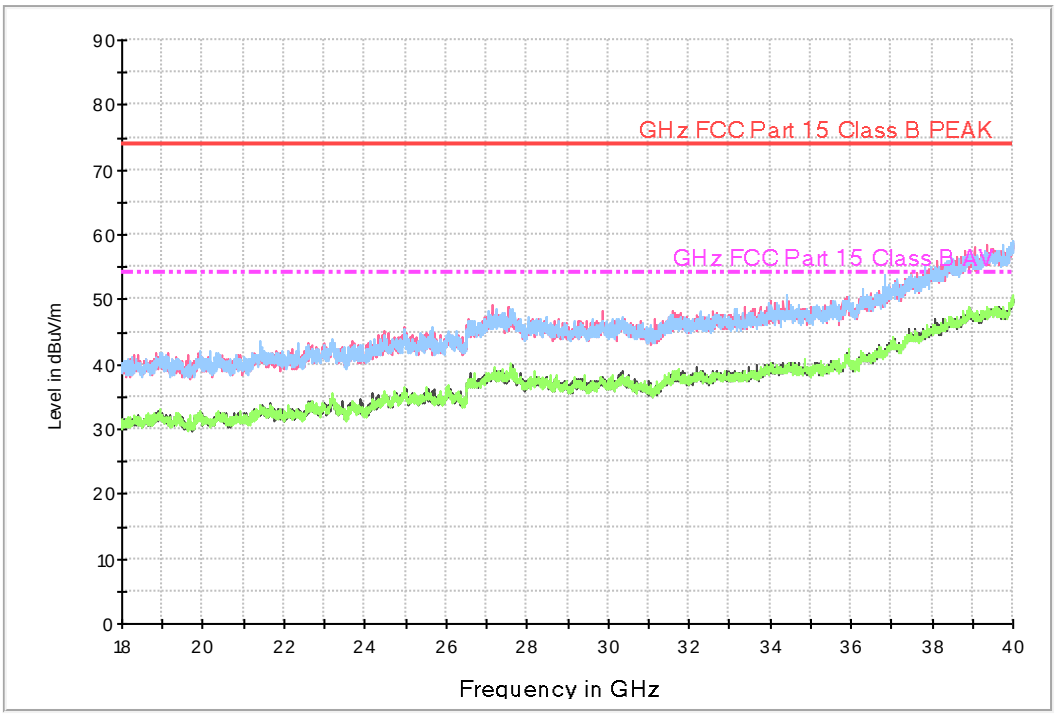


Frequency (MHz)	Peak (dBµV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1766.605000	31.3	150.0	V	271.0	-27.2	42.7	74.0
4192.335000	41.3	332.7	V	120.0	-20.0	32.7	74.0
7788.085000	41.3	100.0	V	54.0	-11.8	32.7	74.0
11002.940000	45.2	150.0	V	50.0	-5.3	28.8	74.0
15078.380000	47.0	299.4	H	44.0	-1.5	27.0	74.0
17989.311000	55.8	320.4	V	0.0	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)
1766.605000	18.2	150.0	V	271.0	-27.2	35.8	54.0
4192.335000	26.2	332.7	V	120.0	-20.0	27.8	54.0
7788.085000	28.5	100.0	V	54.0	-11.8	25.5	54.0
11002.940000	32.7	150.0	V	50.0	-5.3	21.3	54.0
15078.380000	33.8	299.4	H	44.0	-1.5	20.2	54.0
17989.311000	42.9	320.4	V	0.0	9.5	11.1	54.0

Figure 22: Radiated Emission (1 GHz to 40 GHz), LTE B5 Idle(Middle CH)+Video&Audio mode

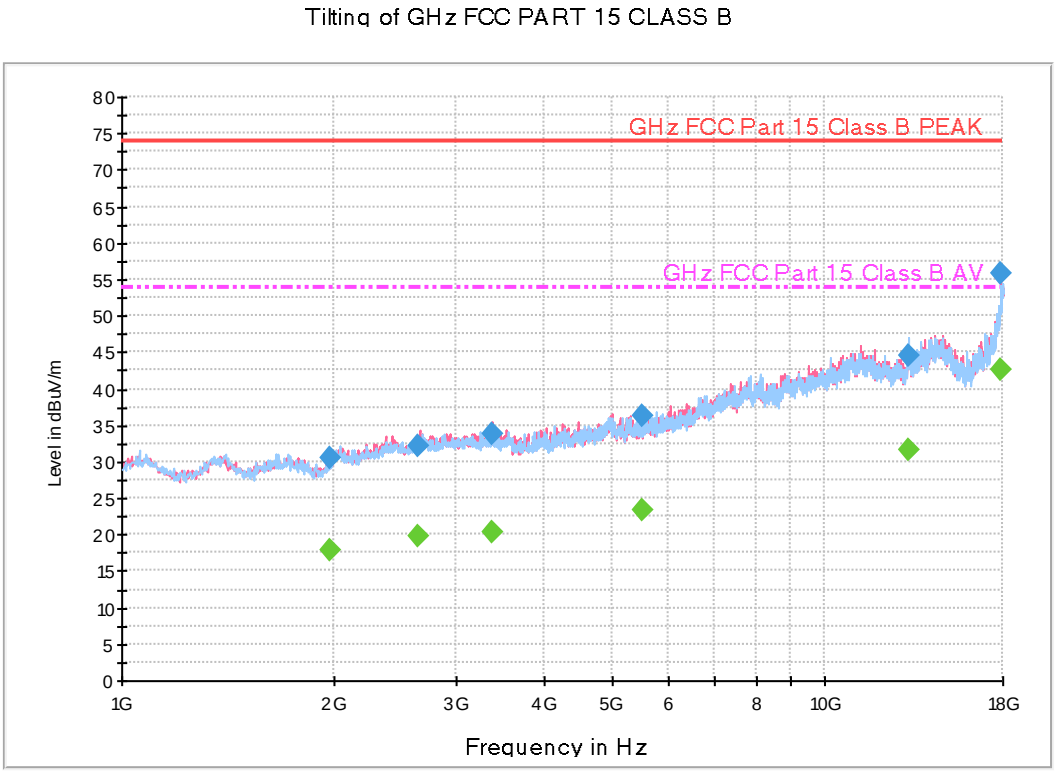


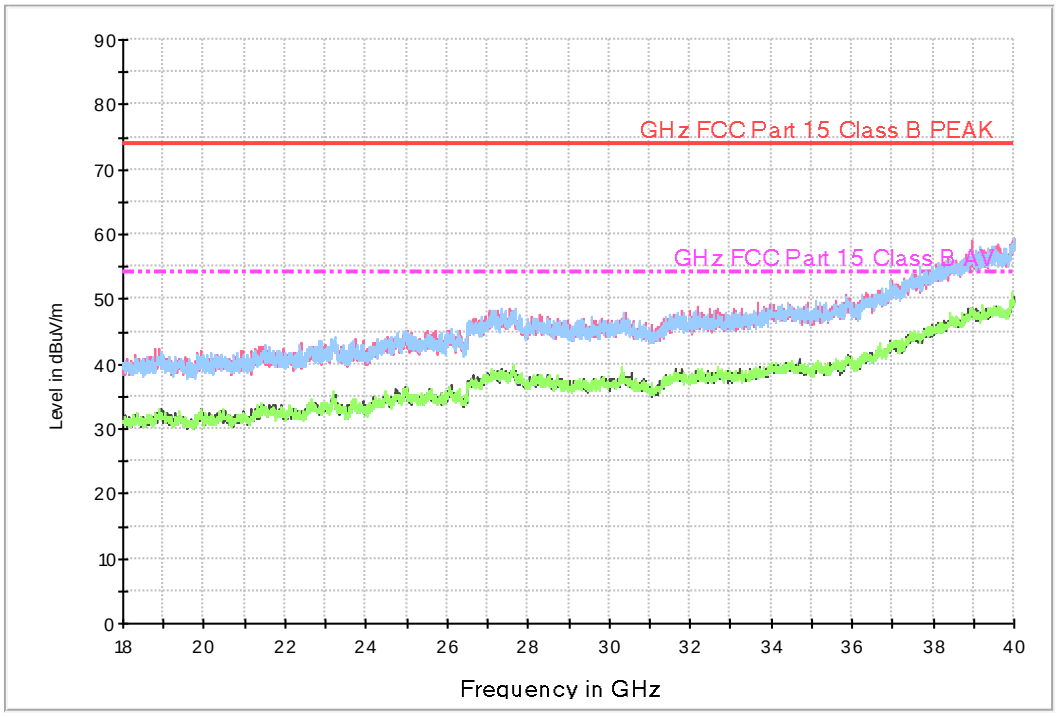


Frequency (MHz)	Peak (dBµV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1399.120000	31.5	249.9	V	105.0	-28.2	42.5	74.0
2640.670000	32.9	149.7	V	207.0	-23.7	41.1	74.0
5267.385000	36.7	100.0	V	118.0	-17.5	37.3	74.0
7383.375000	40.9	122.6	V	4.0	-12.4	33.1	74.0
12712.220000	44.7	249.6	V	294.0	-4.2	29.3	74.0
17987.027500	55.5	203.4	V	236.0	9.4	18.5	74.0

Frequency (MHz)	CAverage (dBµV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1399.120000	18.6	249.9	V	105.0	-28.2	35.4	54.0
2640.670000	19.8	149.7	V	207.0	-23.7	34.2	54.0
5267.385000	23.7	100.0	V	118.0	-17.5	30.3	54.0
7383.375000	28.1	122.6	V	4.0	-12.4	25.9	54.0
12712.220000	31.1	249.6	V	294.0	-4.2	22.9	54.0
17987.027500	42.8	203.4	V	236.0	9.4	11.2	54.0

Figure 23: Radiated Emission (1 GHz to 40 GHz), LTE B12+B13 Idle(Middle CH)+Front Camera Recording mode

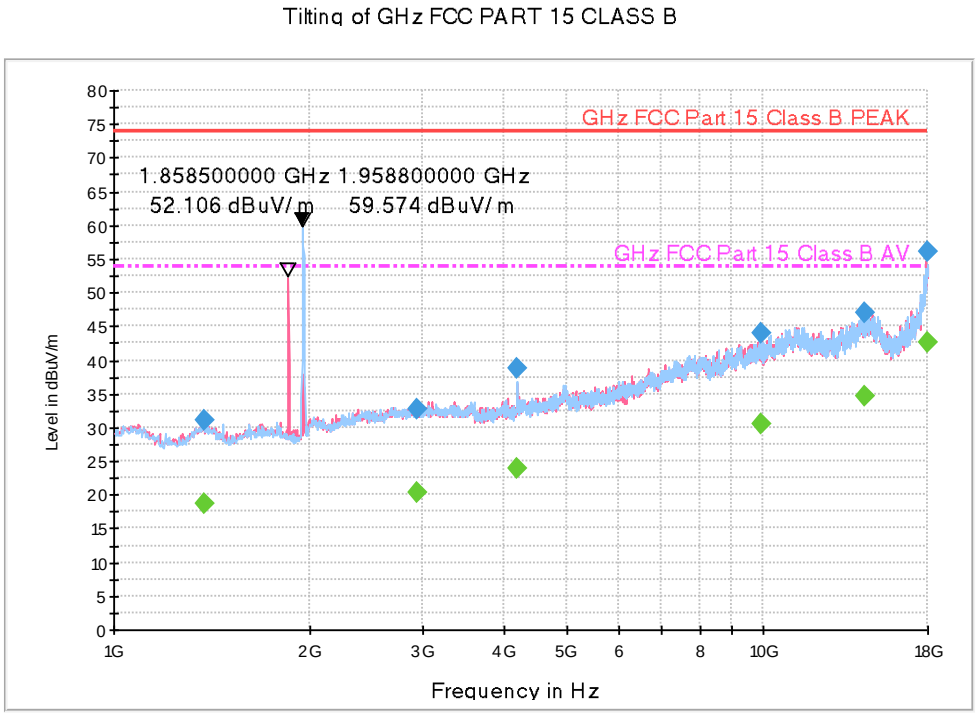




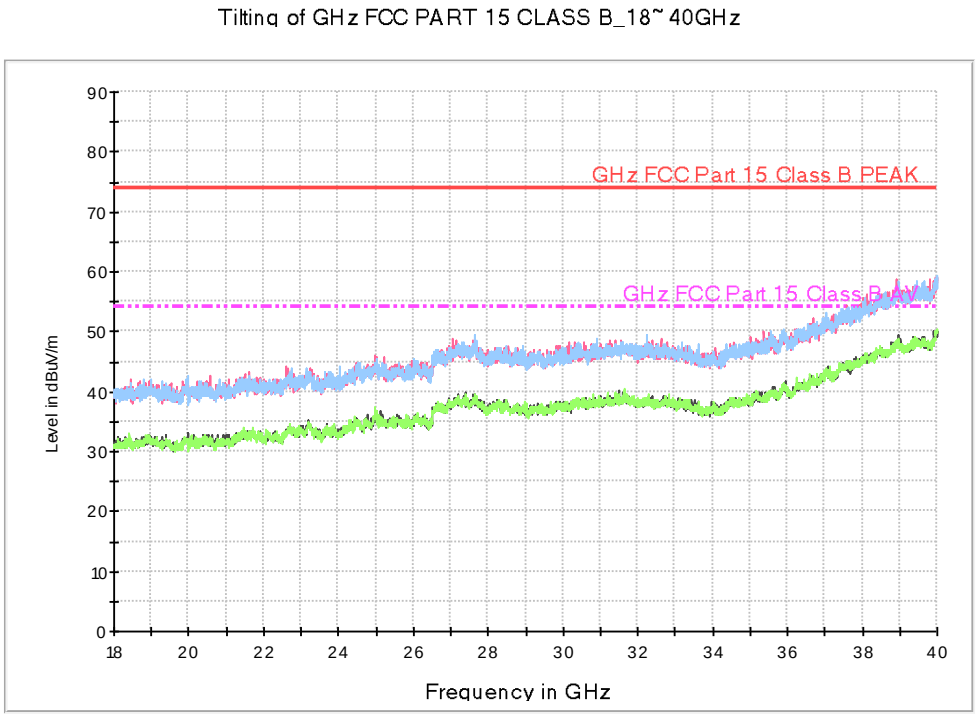
Frequency (MHz)	Peak (dBµV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1975.855000	30.5	245.4	V	345.0	-26.6	43.5	74.0
2642.535000	32.3	127.8	V	133.0	-23.7	41.7	74.0
3363.255000	33.8	231.4	V	100.0	-22.2	40.2	74.0
5530.680000	36.3	149.5	V	29.0	-17.2	37.7	74.0
13257.885000	44.5	350.0	H	227.0	-3.5	29.5	74.0
17939.180000	55.7	100.0	V	261.0	8.7	18.3	74.0

Frequency (MHz)	CAverage (dBµV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1975.855000	18.0	245.4	V	345.0	-26.6	36.0	54.0
2642.535000	19.7	127.8	V	133.0	-23.7	34.3	54.0
3363.255000	20.5	231.4	V	100.0	-22.2	33.5	54.0
5530.680000	23.4	149.5	V	29.0	-17.2	30.6	54.0
13257.885000	31.5	350.0	H	227.0	-3.5	22.5	54.0
17939.180000	42.6	100.0	V	261.0	8.7	11.4	54.0

Figure 24: Radiated Emission (1 GHz to 40 GHz), 5G NR n5 Idle(Middle CH)+Rear Camera Recording mode



NOTE. 1. Carrier Frequency: TX 1.8585 GHz, RX 1.9588 GHz
2. These are signals for ENDC frequency from the LTE Band2.



Frequency (MHz)	Peak (dBµV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1378.510000	31.2	219.4	V	162.0	-28.3	42.8	74.0
2941.395000	32.8	100.0	V	119.0	-22.8	41.2	74.0
4193.310000	38.8	299.6	H	299.0	-19.9	35.2	74.0
9943.615000	44.1	249.9	V	354.0	-8.8	29.9	74.0
14444.200000	46.9	150.1	V	188.0	-1.2	27.1	74.0
17959.975000	56.2	149.8	V	2.0	9.0	17.8	74.0

Frequency (MHz)	CAverage (dBµV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)
1378.510000	18.7	219.4	V	162.0	-28.3	35.3	54.0
2941.395000	20.2	100.0	V	119.0	-22.8	33.8	54.0
4193.310000	24.0	299.6	H	299.0	-19.9	30.0	54.0
9943.615000	30.5	249.9	V	354.0	-8.8	23.5	54.0
14444.200000	34.7	150.1	V	188.0	-1.2	19.3	54.0
17959.975000	42.7	149.8	V	2.0	9.0	11.3	54.0

6. CONCLUSION

The data collected shows that the

Product Name: Mobile Phone and Model Name: SM-A516V

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	June 18, 2020	HCT-EM-2006-FC012-P
1	June 26, 2020	HCT-EM-2006-FC012-R1-P

End of report