

EMI TEST REPORT

FCC CERTIFICATION

Applicant:

SAMSUNG Electronics Co., Ltd.
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Gyeonggi-do, 16677, Korea

Date of Issue: December 16, 2019**Test Report No. HCT-EM-1912-FC004****Test Site: HCT CO., LTD.****FCC ID :****A3LSMG715FN**

Rule Part(s) / Standard(s) : 47 CFR PART 15 Subpart B Class B
ANSI C63.4-2014

Product Name : Mobile Phone

Model Name : SM-G715FN/DS

Series Model Name : SM-G715FN

Date of Test : December 11, 2019 to December 13, 2019

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 denied the FCC benefits pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C 862

Tested By

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REVISION HISTORY

The revision history for this document is shown in table.

Report No.	Issue Date	Information About Changes
HCT-EM-1912-FC004	December 16, 2019	Initial Release



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1. GENERAL INFORMATION

1.1 Description of EUT

FCC ID		A3LSMG715FN
Model Name		SM-G715FN/DS
Series Model Name		SM-G715FN
Product Name		Mobile Phone
Frequency Band		GSM 850/1900, WCDMA B2/5, LTE B2/5/41 BT, WLAN a/b/g/n/ac, NFC, ANT+
Input / Output Voltage	TA	Input: AC (100 ~ 240) V, (50 ~ 60) Hz, 0.5 A Output: DC 5.0 V, 2.0 A or DC 9.0 V, 1.67 A
	Battery	Low 3.4 V / Normal 3.85 V / High 4.35 V, Li-ion Battery

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-G715FN/DS	-	SAMSUNG
TA	EP-TA200	-	SOLUM
Data Cable	EP-DR140AWE	-	KSD
Earphone	EHS61ASFBE	-	ALMUS
Micro SD Card	-	-	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	-	-	-



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	N/A	N	(D) 1.5
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 PC 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

<u>Type</u>	<u>Manufacturer</u>	<u>Model Name</u>	<u>Serial Number</u>	<u>Calibration Cycle</u>	<u>CAL Date</u>
<u>Conducted Emission</u>					
☒ EMI Test Receiver	Rohde & Schwarz	ESCI	100584	1 year	06.18.2019
☒ LISN	Rohde & Schwarz	ENV216	102245	1 year	09.11.2019
☒ LISN	Rohde & Schwarz	ENV216	100073	1 year	04.30.2019
☒ Radio communication analyzer	ANRITSU	MT8820C	6201138643	1 year	08.20.2019
☒ Antenna (for Communication)	Schwarzbeck	USLP9142	VSLP 9142-200	-	-
☒ Software	Rohde & Schwarz	EMC32	-	-	-
<u>Radiated Emission</u>					
-For measurement below 1 GHz					
☒ EMI Test Receiver	Rohde & Schwarz	ESU40	100524	1 year	05.17.2019
☒ Trilog Antenna	Schwarzbeck	VULB 9168	255	2 year	03.26.2019
☒ Antenna master	INNCO Systems	MA4640-XP-ET	-	N/A	-
☒ Antenna master controller	INNCO Systems	CO 3000	CO3000/870/ 35990515/L	N/A	-
☒ Turn Table	INNCO Systems	1060	-	N/A	-
☒ Turn Table controller	INNCO Systems	CO2000	CO2000/095/ 7590304/L	N/A	-
☒ Radio communication analyzer	ANRITSU	MT8820C	6201138643	1 year	08.20.2019
☒ Antenna (for Communication)	Schwarzbeck	USLP9142	VSLP 9142-200	-	-
☒ Software	Rohde & Schwarz	EMC32	-	-	-
-For measurement above 1 GHz					
☒ EMI Test Receiver	Rohde & Schwarz	ESU40	100524	1 year	05.17.2019
☒ Antenna master	INNCO Systems	MA4640-XP-ET	-	N/A	-
☒ Antenna master controller	INNCO Systems	CO3000	CO3000/870/ 35990515/L	N/A	-
☒ Turn Table	INNCO Systems	1060	-	N/A	-
☒ Turn Table controller	INNCO Systems	CO2000	CO2000/095/ 7590304/L	N/A	-
☒ Horn Antenna	Schwarzbeck	BBHA 9120D	01836	1 year	07.19.2019
☒ Low Noise Amplifier	TESTEK	TK-PA18H	170034-L	1 year	03.04.2019
☒ Power Amplifier	TESTEK	TK-PA1840H	170030-L	1 year	12.17.2018
☒ Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170786	1 year	12.03.2019
☒ Radio communication analyzer	ANRITSU	MT8820C	6201138643	1 year	08.20.2019
☒ Antenna (for Communication)	Schwarzbeck	USLP9142	VSLP 9142-200	-	-
☒ Software	Rohde & Schwarz	EMC32	-	-	-



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 ($\mu\text{V}/\text{m}$)	Quasi-Peak ($\text{dB}(\mu\text{V})/\text{m}$)
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 ($\text{dB}(\mu\text{V})/\text{m}$)	Average ($\text{dB}(\mu\text{V})/\text{m}$)
Above 1 000	3	74	54

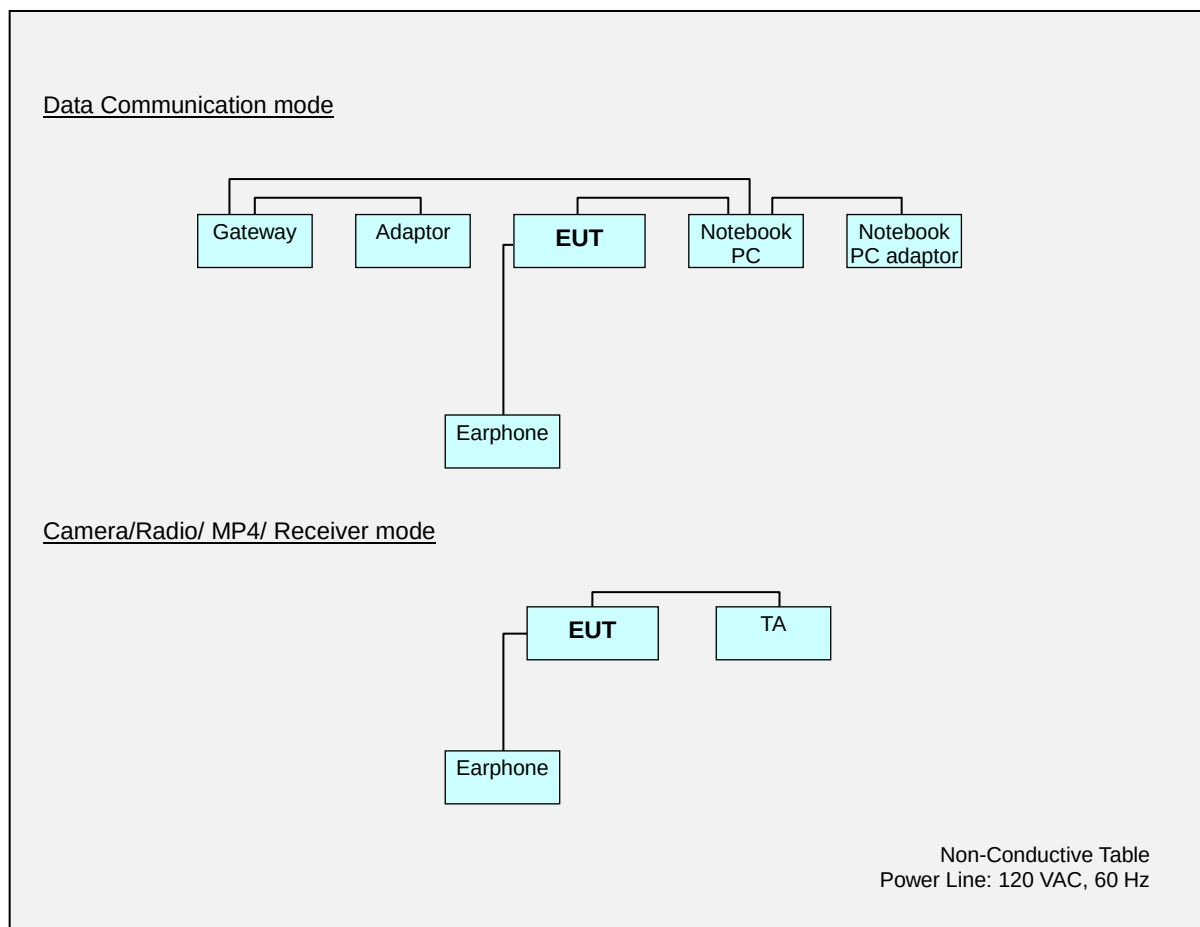


3.2.1 Frequency Range of Radiated Measurements

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	5 th harmonic of the highest frequency or 40 GHz, whichever is lower

3.3 Configuration of Tested System





4. PRELIMINARY TEST

During preliminary tests, the following operating mode was investigated.

Data Communication
Front Camera (Preview/Recording)
Rear Camera (Preview/Recording)
FM Radio (Low/Middle/High CH)
MP4 Play
Receiver mode(GSM 850 Low/Middle/High CH Idle)
Receiver mode(WCDMA B5 Low/Middle/High CH Idle)
Receiver mode(LTE B5 Low/Middle/High CH Idle)

NOTE. The worst band is tested.

4.1 Conducted Emission

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

Operating Modes:

Data Communication mode *
Front Camera Preview + FM Radio Low CH *
Rear Camera Preview + FM Radio Middle CH
FM Radio High CH
MP4 Play + LTE B5 Low CH Idle *
Front Camera Recording + LTE B5 Middle CH Idle *
Rear Camera Recording + LTE B5 High CH Idle

NOTE. 1. 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 Modes:

Data Communication mode*
Front Camera Preview + FM Radio Low CH*
Rear Camera Preview + FM Radio Middle CH
FM Radio High CH
MP4 Play + LTE B5 Low CH Idle*
Front Camera Recording + LTE B5 Middle CH Idle*
Rear Camera Recording + LTE B5 High CH Idle

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

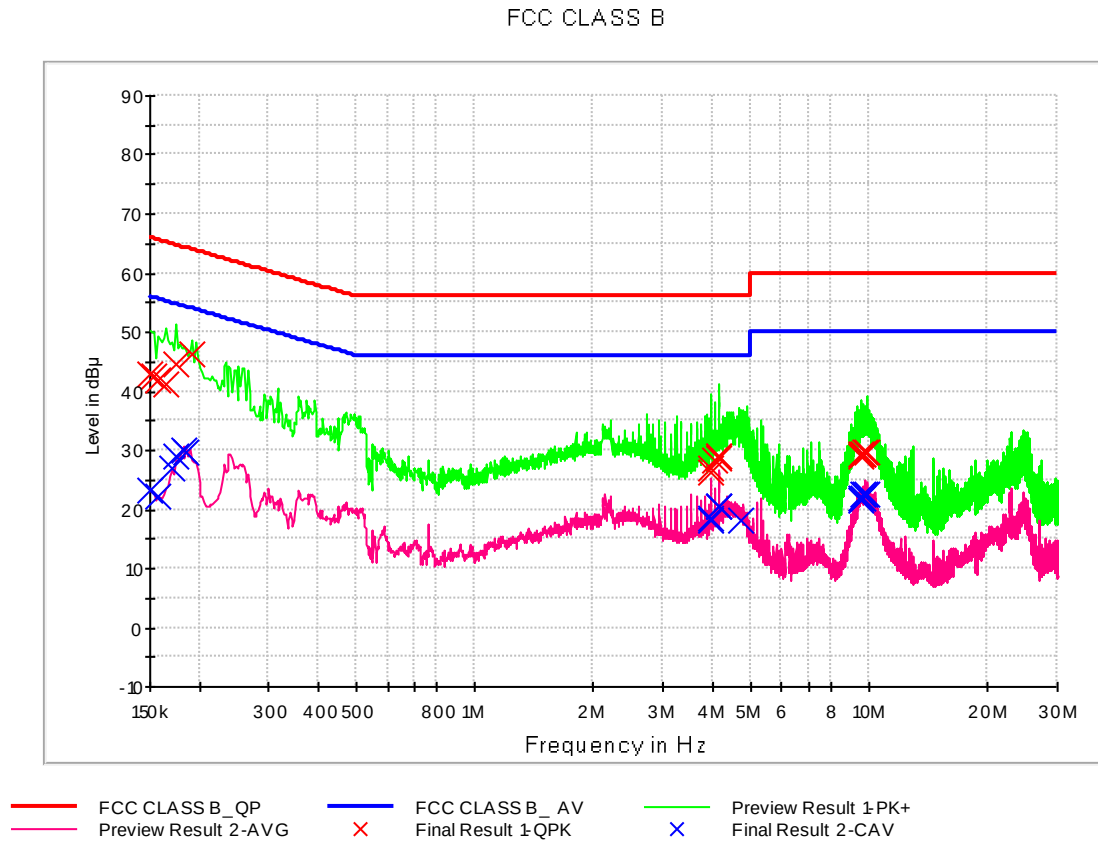
5.1 Conducted Emission

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

Rule Part / Standard	FCC PART 15 Subpart B Class B ANSI C63.4-2014
Detector	Quasi-Peak, CISPR-Average
Bandwidth	9 kHz (6 dB)
Worst Case of Operating Mode	Data Communication mode Front Camera Preview + FM Radio Low CH MP4 Play + LTE B5 Low CH Idle Front Camera Recording + LTE B5 Middle CH Idle
Kind of Test Site	Shielded Room
Temperature	21.5 / 22.9°C
Relative Humidity	42.3 / 43.1 %
Test Date	December 11 / December 12, 2019

- 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)**



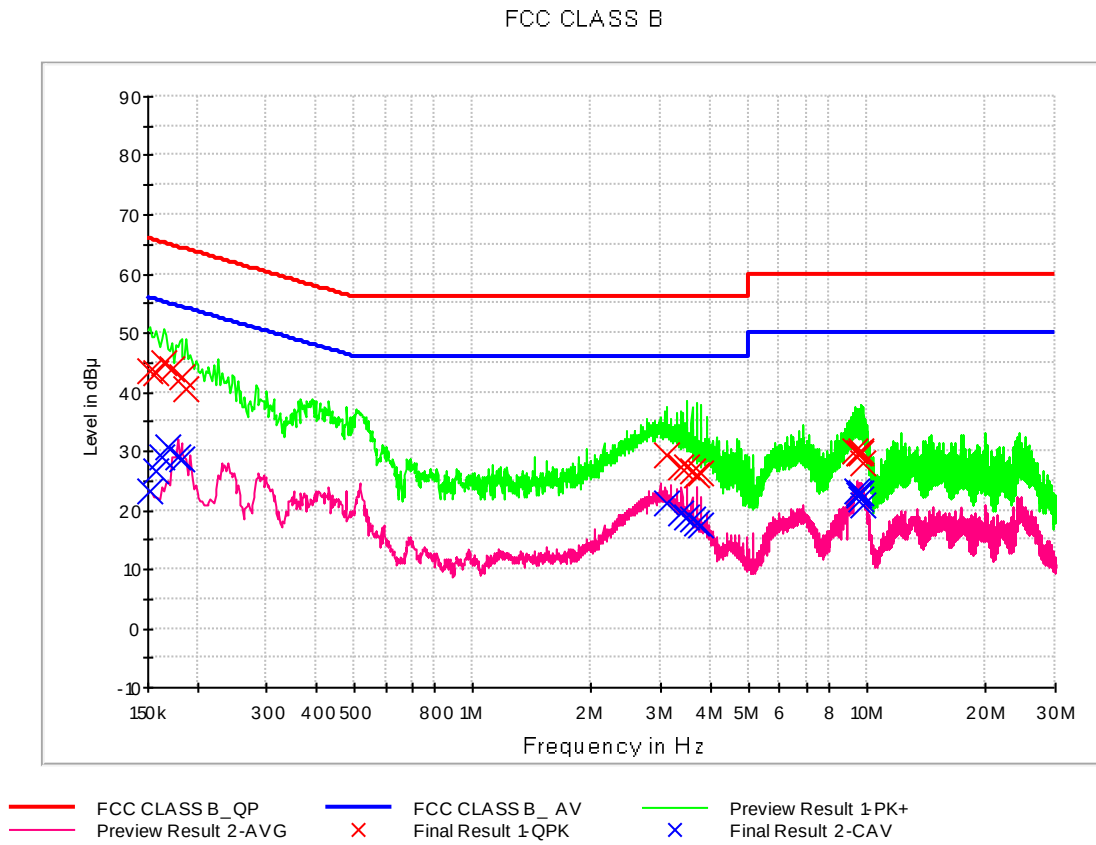
QuasiPeak Final Result, Line (L1)

Frequency (MHz)	QuasiPeak (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.150000	43.0	9.000	L1	9.7	23.0	66.0
0.154000	42.6	9.000	L1	9.7	23.2	65.8
0.158000	41.8	9.000	L1	9.7	23.8	65.6
0.164000	41.1	9.000	L1	9.7	24.2	65.3
0.174000	44.6	9.000	L1	9.7	20.1	64.8
0.192000	46.4	9.000	L1	9.7	17.6	63.9
3.950000	26.2	9.000	L1	9.8	29.8	56.0
3.956000	26.9	9.000	L1	9.8	29.1	56.0
4.052000	28.2	9.000	L1	9.8	27.8	56.0
4.138000	28.7	9.000	L1	9.8	27.3	56.0
4.148000	28.9	9.000	L1	9.8	27.1	56.0
4.154000	28.8	9.000	L1	9.8	27.2	56.0
9.514000	29.3	9.000	L1	10.0	30.7	60.0
9.532000	29.1	9.000	L1	10.0	30.9	60.0
9.606000	29.3	9.000	L1	10.0	30.7	60.0
9.682000	29.4	9.000	L1	10.0	30.6	60.0
9.812000	29.8	9.000	L1	10.0	30.2	60.0
9.914000	29.8	9.000	L1	10.0	30.2	60.0



CAverage Final Result, Line (L1)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.150000	23.2	9.000	L1	9.7	32.8	56.0
0.158000	22.1	9.000	L1	9.7	33.5	55.6
0.170000	27.0	9.000	L1	9.7	27.9	55.0
0.174000	29.1	9.000	L1	9.7	25.6	54.8
0.182000	29.9	9.000	L1	9.7	24.5	54.4
0.186000	29.6	9.000	L1	9.7	24.6	54.2
3.950000	18.5	9.000	L1	9.8	27.5	46.0
3.956000	18.1	9.000	L1	9.8	27.9	46.0
4.142000	20.5	9.000	L1	9.8	25.5	46.0
4.146000	20.4	9.000	L1	9.8	25.6	46.0
4.152000	20.5	9.000	L1	9.8	25.5	46.0
4.724000	18.3	9.000	L1	9.9	27.7	46.0
9.514000	21.6	9.000	L1	10.0	28.4	50.0
9.532000	21.9	9.000	L1	10.0	28.1	50.0
9.606000	22.0	9.000	L1	10.0	28.0	50.0
9.682000	22.4	9.000	L1	10.0	27.6	50.0
9.812000	22.6	9.000	L1	10.0	27.4	50.0
9.914000	22.6	9.000	L1	10.0	27.4	50.0

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



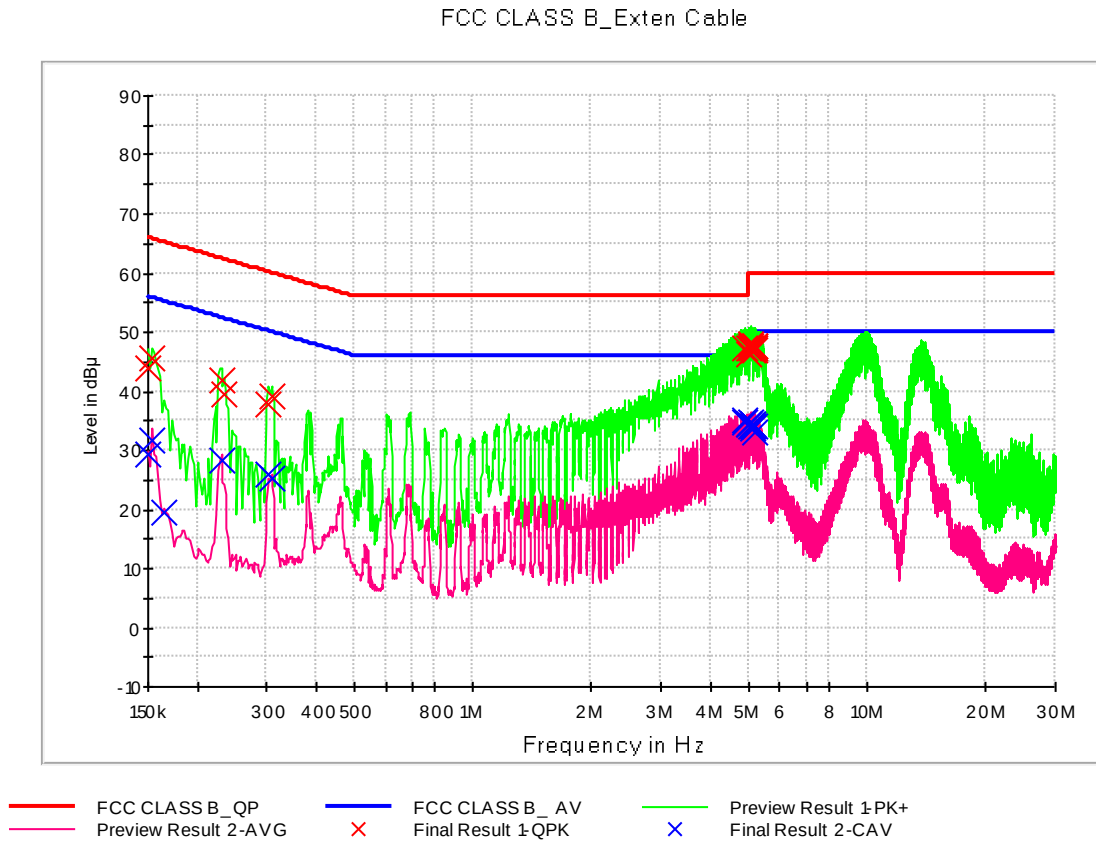
QuasiPeak Final Result, Line (N)

Frequency (MHz)	QuasiPeak (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.152000	43.6	9.000	N	9.7	22.3	65.9
0.158000	43.3	9.000	N	9.7	22.3	65.6
0.164000	45.0	9.000	N	9.7	20.2	65.3
0.172000	43.8	9.000	N	9.7	21.1	64.9
0.182000	42.5	9.000	N	9.7	21.9	64.4
0.188000	40.4	9.000	N	9.7	23.8	64.1
3.088000	29.2	9.000	N	9.8	26.8	56.0
3.386000	27.3	9.000	N	9.8	28.7	56.0
3.488000	27.1	9.000	N	9.8	28.9	56.0
3.592000	26.5	9.000	N	9.8	29.5	56.0
3.692000	25.8	9.000	N	9.8	30.2	56.0
3.794000	26.3	9.000	N	9.8	29.7	56.0
9.346000	29.9	9.000	N	10.0	30.1	60.0
9.544000	29.7	9.000	N	10.0	30.3	60.0
9.578000	29.7	9.000	N	10.0	30.3	60.0
9.598000	29.8	9.000	N	10.0	30.2	60.0
9.696000	29.6	9.000	N	10.0	30.4	60.0
9.808000	28.0	9.000	N	10.0	32.0	60.0



CAverage Final Result, Line (N)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.152000	23.1	9.000	N	9.7	32.8	55.9
0.158000	26.5	9.000	N	9.7	29.0	55.6
0.162000	28.9	9.000	N	9.7	26.4	55.4
0.168000	30.7	9.000	N	9.7	24.3	55.1
0.178000	29.1	9.000	N	9.7	25.4	54.6
0.182000	28.7	9.000	N	9.7	25.7	54.4
3.088000	21.1	9.000	N	9.8	24.9	46.0
3.386000	19.4	9.000	N	9.8	26.6	46.0
3.488000	18.9	9.000	N	9.8	27.1	46.0
3.592000	18.5	9.000	N	9.8	27.5	46.0
3.692000	17.9	9.000	N	9.8	28.1	46.0
3.794000	17.5	9.000	N	9.8	28.5	46.0
9.384000	23.2	9.000	N	10.0	26.8	50.0
9.544000	22.9	9.000	N	10.0	27.1	50.0
9.578000	22.4	9.000	N	10.0	27.6	50.0
9.598000	22.8	9.000	N	10.0	27.2	50.0
9.696000	21.9	9.000	N	10.0	28.1	50.0
9.808000	21.0	9.000	N	10.0	29.0	50.0

**Figure 3: Conducted Emission, Front Camera Preview + FM Radio Low CH mode, Line (L1)**



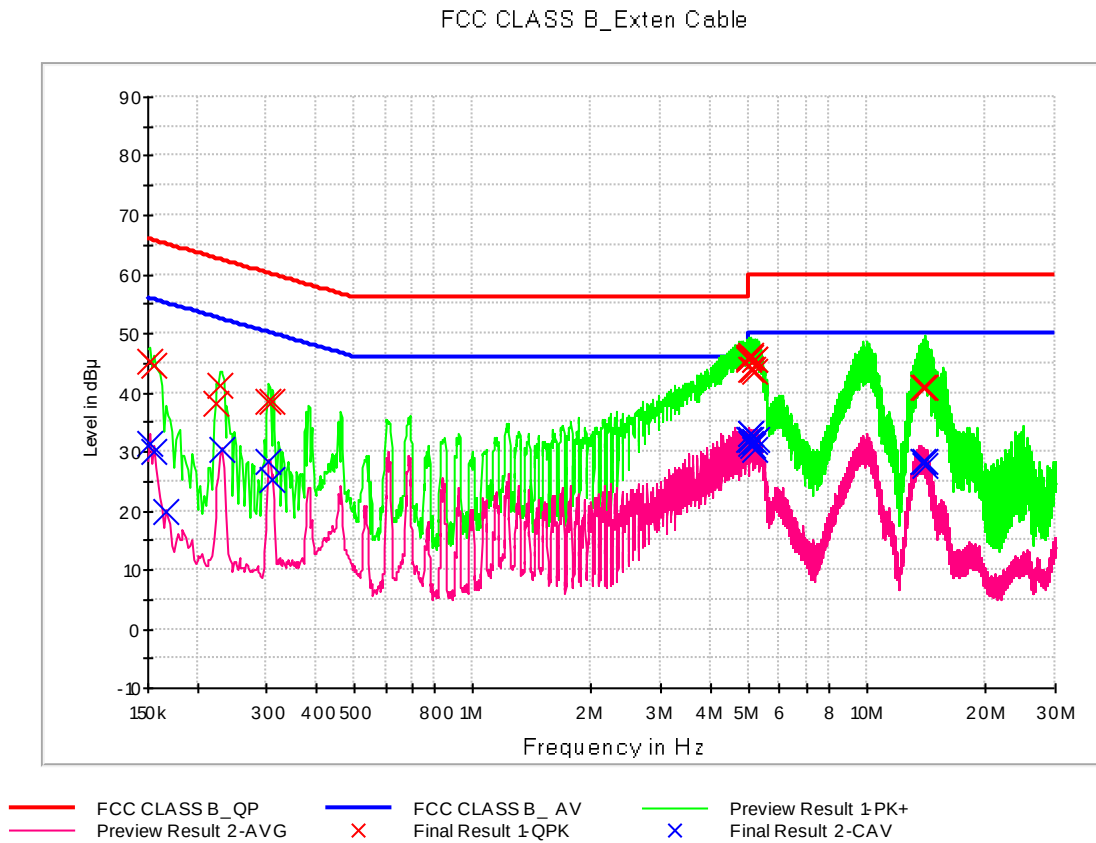
QuasiPeak Final Result, Line (L1)

Frequency (MHz)	QuasiPeak (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.150000	43.8	9.000	L1	9.8	22.2	66.0
0.154000	45.7	9.000	L1	9.8	20.1	65.8
0.230000	41.8	9.000	L1	9.8	20.6	62.4
0.234000	39.6	9.000	L1	9.8	22.7	62.3
0.304000	37.8	9.000	L1	9.8	22.3	60.1
0.308000	39.0	9.000	L1	9.8	21.0	60.0
4.914000	47.4	9.000	L1	10.1	8.6	56.0
4.986000	47.3	9.000	L1	10.1	8.7	56.0
5.000000	46.2	9.000	L1	10.1	9.8	56.0
5.052000	47.2	9.000	L1	10.1	12.8	60.0
5.058000	47.6	9.000	L1	10.1	12.4	60.0
5.062000	47.8	9.000	L1	10.1	12.2	60.0
5.136000	47.1	9.000	L1	10.1	12.9	60.0
5.142000	47.4	9.000	L1	10.1	12.6	60.0
5.204000	47.0	9.000	L1	10.1	13.0	60.0
5.208000	47.2	9.000	L1	10.1	12.8	60.0
5.214000	47.5	9.000	L1	10.1	12.5	60.0
5.220000	47.5	9.000	L1	10.1	12.5	60.0



CAverage Final Result, Line (L1)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.150000	29.2	9.000	L1	9.8	26.8	56.0
0.154000	31.7	9.000	L1	9.8	24.1	55.8
0.164000	19.5	9.000	L1	9.8	35.7	55.3
0.230000	28.2	9.000	L1	9.8	24.3	52.4
0.304000	25.9	9.000	L1	9.8	24.2	50.1
0.308000	25.3	9.000	L1	9.8	24.8	50.0
4.908000	34.8	9.000	L1	10.1	11.2	46.0
4.914000	35.1	9.000	L1	10.1	10.9	46.0
4.986000	34.4	9.000	L1	10.1	11.6	46.0
5.000000	34.3	9.000	L1	10.1	11.7	46.0
5.058000	34.6	9.000	L1	10.1	15.4	50.0
5.062000	34.2	9.000	L1	10.1	15.8	50.0
5.136000	34.4	9.000	L1	10.1	15.6	50.0
5.140000	34.2	9.000	L1	10.1	15.8	50.0
5.144000	34.2	9.000	L1	10.1	15.8	50.0
5.150000	33.6	9.000	L1	10.1	16.4	50.0
5.204000	32.9	9.000	L1	10.1	17.1	50.0
5.214000	34.2	9.000	L1	10.1	15.8	50.0

**Figure 4: Conducted Emission, Front Camera Preview + FM Radio Low CH mode, Line (N)**



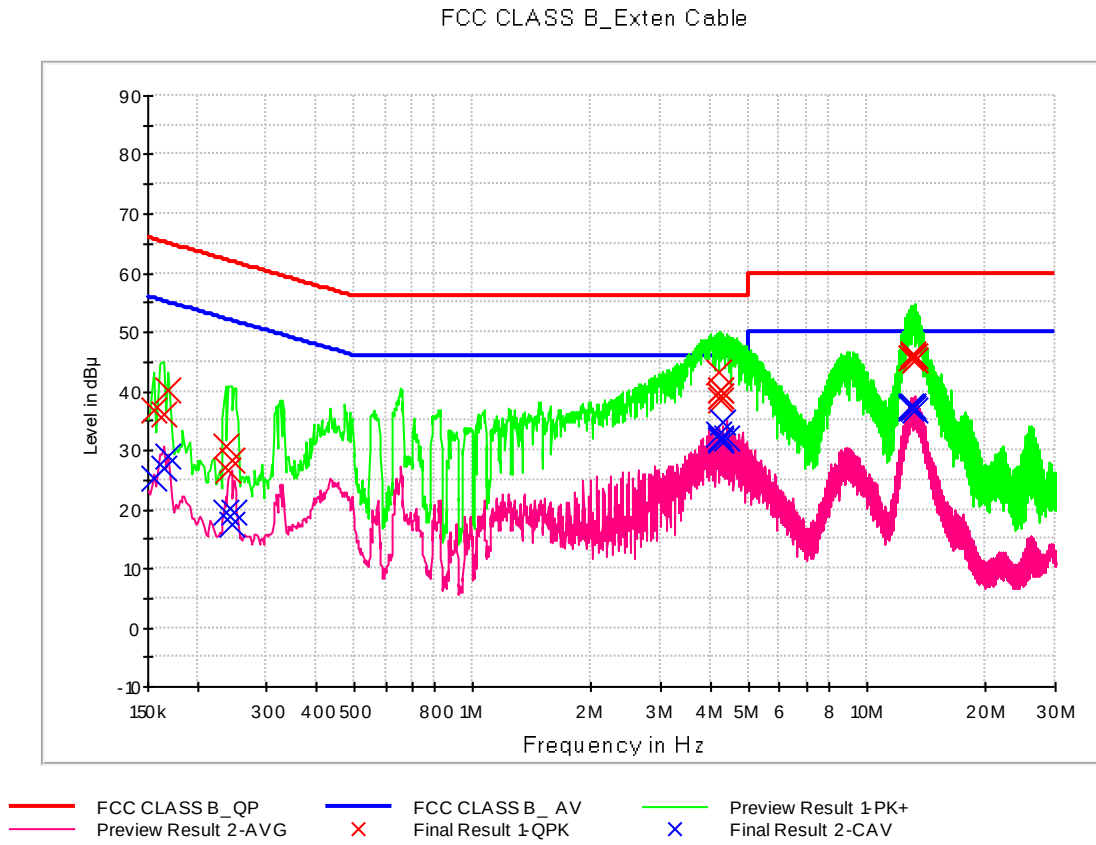
QuasiPeak Final Result, Line (N)

Frequency (MHz)	QuasiPeak (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.152000	45.2	9.000	N	9.8	20.7	65.9
0.156000	44.5	9.000	N	9.8	21.2	65.7
0.224000	38.0	9.000	N	9.8	24.7	62.7
0.228000	41.0	9.000	N	9.8	21.5	62.5
0.304000	38.4	9.000	N	9.8	21.7	60.1
0.310000	38.5	9.000	N	9.8	21.4	60.0
5.006000	45.5	9.000	N	10.1	14.5	60.0
5.016000	45.9	9.000	N	10.1	14.1	60.0
5.058000	44.0	9.000	N	10.1	16.0	60.0
5.086000	45.9	9.000	N	10.1	14.1	60.0
5.094000	46.1	9.000	N	10.1	13.9	60.0
5.142000	43.8	9.000	N	10.1	16.2	60.0
5.170000	45.8	9.000	N	10.1	14.2	60.0
5.174000	45.4	9.000	N	10.1	14.6	60.0
5.178000	43.6	9.000	N	10.1	16.4	60.0
13.900000	40.9	9.000	N	10.5	19.1	60.0
14.012000	41.0	9.000	N	10.5	19.0	60.0
14.082000	40.9	9.000	N	10.5	19.1	60.0



CAverage Final Result, Line (N)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.152000	31.5	9.000	N	9.8	24.4	55.9
0.156000	30.2	9.000	N	9.8	25.5	55.7
0.166000	19.9	9.000	N	9.8	35.2	55.2
0.230000	30.2	9.000	N	9.8	22.2	52.4
0.304000	28.4	9.000	N	9.8	21.7	50.1
0.310000	25.3	9.000	N	9.8	24.7	50.0
5.016000	32.1	9.000	N	10.1	17.9	50.0
5.058000	31.4	9.000	N	10.1	18.6	50.0
5.086000	33.2	9.000	N	10.1	16.8	50.0
5.090000	33.1	9.000	N	10.1	16.9	50.0
5.094000	32.1	9.000	N	10.1	17.9	50.0
5.142000	31.1	9.000	N	10.1	18.9	50.0
5.172000	31.8	9.000	N	10.1	18.2	50.0
5.178000	30.2	9.000	N	10.1	19.8	50.0
5.246000	31.9	9.000	N	10.1	18.1	50.0
13.900000	28.2	9.000	N	10.5	21.8	50.0
14.012000	28.4	9.000	N	10.5	21.6	50.0
14.082000	27.8	9.000	N	10.5	22.2	50.0

**Figure 5: Conducted Emission, MP4 Play + LTE B5 Low CH Idle mode, Line (L1)**



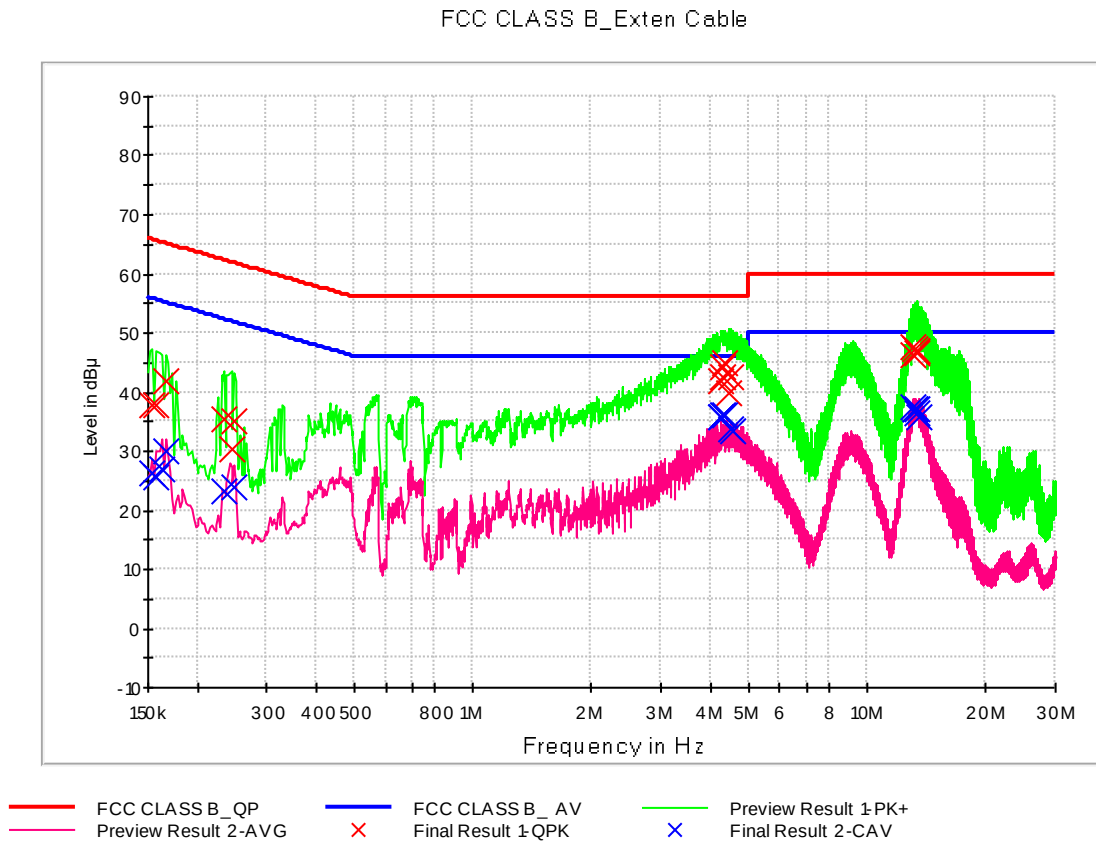
QuasiPeak Final Result, Line (L1)

Frequency (MHz)	QuasiPeak (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.156000	36.7	9.000	L1	9.8	29.0	65.7
0.164000	36.1	9.000	L1	9.8	29.1	65.3
0.168000	40.3	9.000	L1	9.8	24.7	65.1
0.236000	30.7	9.000	L1	9.8	31.5	62.2
0.240000	26.7	9.000	L1	9.8	35.4	62.1
0.244000	28.3	9.000	L1	9.8	33.6	62.0
4.186000	43.2	9.000	L1	10.0	12.8	56.0
4.240000	40.3	9.000	L1	10.0	15.8	56.0
4.248000	40.1	9.000	L1	10.0	15.9	56.0
4.264000	39.1	9.000	L1	10.0	16.9	56.0
4.268000	39.2	9.000	L1	10.0	16.8	56.0
4.272000	38.6	9.000	L1	10.0	17.4	56.0
12.942000	45.7	9.000	L1	10.4	14.3	60.0
13.034000	46.1	9.000	L1	10.4	13.9	60.0
13.136000	46.2	9.000	L1	10.4	13.8	60.0
13.178000	45.4	9.000	L1	10.4	14.6	60.0
13.186000	45.4	9.000	L1	10.4	14.6	60.0
13.280000	45.9	9.000	L1	10.4	14.1	60.0



CAverage Final Result, Line (L1)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.156000	25.3	9.000	L1	9.8	30.3	55.7
0.164000	26.8	9.000	L1	9.8	28.4	55.3
0.168000	29.1	9.000	L1	9.8	25.9	55.1
0.236000	19.4	9.000	L1	9.8	32.8	52.2
0.244000	17.4	9.000	L1	9.8	34.6	52.0
0.248000	19.3	9.000	L1	9.8	32.5	51.8
4.186000	32.6	9.000	L1	10.0	13.4	46.0
4.264000	31.9	9.000	L1	10.0	14.2	46.0
4.268000	32.2	9.000	L1	10.0	13.8	46.0
4.272000	31.7	9.000	L1	10.0	14.3	46.0
4.322000	34.7	9.000	L1	10.0	11.3	46.0
4.418000	32.2	9.000	L1	10.0	13.8	46.0
12.942000	37.0	9.000	L1	10.4	13.0	50.0
12.956000	37.5	9.000	L1	10.4	12.5	50.0
13.050000	37.4	9.000	L1	10.4	12.6	50.0
13.136000	37.1	9.000	L1	10.4	12.9	50.0
13.148000	37.1	9.000	L1	10.4	12.9	50.0
13.260000	36.8	9.000	L1	10.4	13.2	50.0

**Figure 6: Conducted Emission, MP4 Play + LTE B5 Low CH Idle mode, Line (N)**



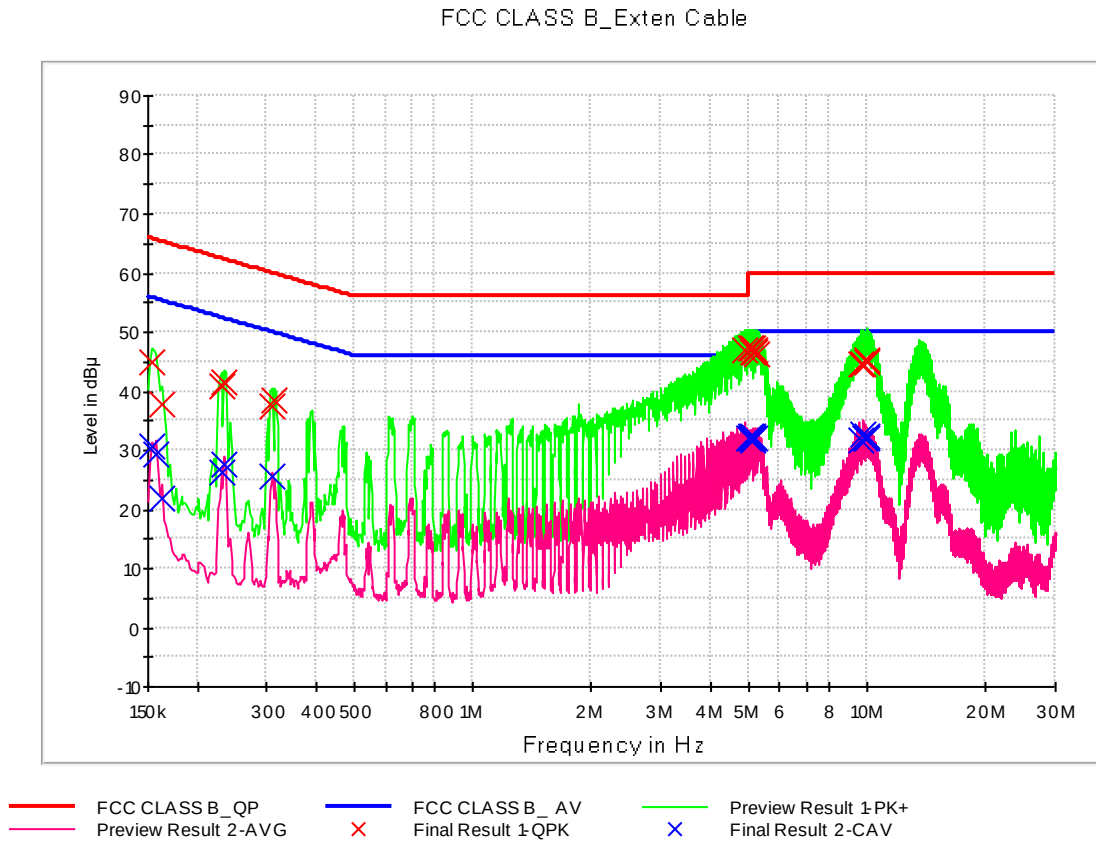
QuasiPeak Final Result, Line (N)

Frequency (MHz)	QuasiPeak (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.154000	37.8	9.000	N	9.8	28.0	65.8
0.158000	37.9	9.000	N	9.8	27.7	65.6
0.166000	41.8	9.000	N	9.8	23.3	65.2
0.234000	35.6	9.000	N	9.8	26.7	62.3
0.244000	30.4	9.000	N	9.8	31.5	62.0
0.248000	35.1	9.000	N	9.8	26.7	61.8
4.252000	42.0	9.000	N	10.0	14.0	56.0
4.294000	42.6	9.000	N	10.0	13.4	56.0
4.326000	44.2	9.000	N	10.0	11.8	56.0
4.340000	44.8	9.000	N	10.0	11.2	56.0
4.452000	39.9	9.000	N	10.0	16.1	56.0
4.514000	42.6	9.000	N	10.0	13.4	56.0
13.122000	46.2	9.000	N	10.5	13.8	60.0
13.150000	47.8	9.000	N	10.5	12.2	60.0
13.208000	47.2	9.000	N	10.5	12.8	60.0
13.346000	47.1	9.000	N	10.5	12.9	60.0
13.386000	46.7	9.000	N	10.5	13.3	60.0
13.450000	46.9	9.000	N	10.5	13.1	60.0



CAverage Final Result, Line (N)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.154000	26.4	9.000	N	9.8	29.3	55.8
0.158000	25.7	9.000	N	9.8	29.9	55.6
0.162000	26.8	9.000	N	9.8	28.5	55.4
0.166000	30.0	9.000	N	9.8	25.1	55.2
0.234000	23.2	9.000	N	9.8	29.1	52.3
0.248000	23.9	9.000	N	9.8	27.9	51.8
4.252000	35.8	9.000	N	10.0	10.2	46.0
4.256000	35.7	9.000	N	10.0	10.3	46.0
4.326000	35.9	9.000	N	10.0	10.1	46.0
4.340000	36.1	9.000	N	10.0	9.9	46.0
4.514000	33.8	9.000	N	10.0	12.2	46.0
4.578000	33.5	9.000	N	10.0	12.5	46.0
13.150000	37.4	9.000	N	10.5	12.6	50.0
13.168000	37.2	9.000	N	10.5	12.8	50.0
13.208000	37.0	9.000	N	10.5	13.0	50.0
13.346000	37.1	9.000	N	10.5	12.9	50.0
13.386000	36.6	9.000	N	10.5	13.4	50.0
13.590000	35.8	9.000	N	10.5	14.2	50.0

**Figure 7: Conducted Emission, Front Camera Recording + LTE B5 Middle CH Idle mode, Line (L1)**



QuasiPeak Final Result, Line (L1)

Frequency (MHz)	QuasiPeak (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.154000	45.0	9.000	L1	9.8	20.8	65.8
0.162000	37.7	9.000	L1	9.8	27.7	65.4
0.230000	40.9	9.000	L1	9.8	21.6	62.4
0.234000	41.5	9.000	L1	9.8	20.8	62.3
0.310000	37.5	9.000	L1	9.8	22.5	60.0
0.314000	38.6	9.000	L1	9.8	21.2	59.9
4.916000	47.1	9.000	L1	10.1	8.9	56.0
5.062000	47.1	9.000	L1	10.1	12.9	60.0
5.072000	47.3	9.000	L1	10.1	12.7	60.0
5.140000	46.8	9.000	L1	10.1	13.2	60.0
5.150000	47.2	9.000	L1	10.1	12.8	60.0
5.162000	46.8	9.000	L1	10.1	13.2	60.0
5.208000	46.5	9.000	L1	10.1	13.5	60.0
5.236000	46.3	9.000	L1	10.1	13.7	60.0
9.624000	44.6	9.000	L1	10.3	15.4	60.0
9.784000	44.7	9.000	L1	10.3	15.3	60.0
9.938000	45.2	9.000	L1	10.3	14.8	60.0
10.014000	44.8	9.000	L1	10.3	15.2	60.0

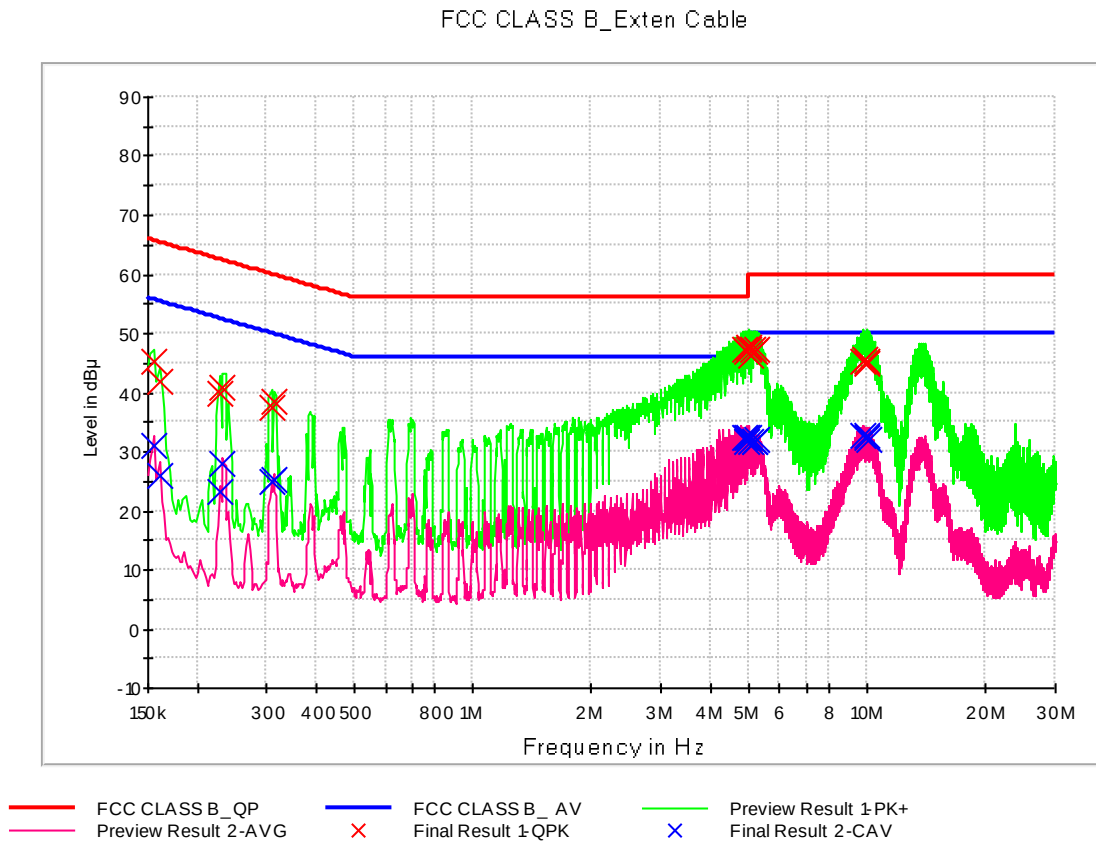


CAverage Final Result, Line (L1)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.154000	30.7	9.000	L1	9.8	25.1	55.8
0.158000	29.4	9.000	L1	9.8	26.2	55.6
0.162000	22.0	9.000	L1	9.8	33.3	55.4
0.230000	26.1	9.000	L1	9.8	26.3	52.4
0.234000	27.6	9.000	L1	9.8	24.7	52.3
0.310000	25.5	9.000	L1	9.8	24.4	50.0
4.992000	32.2	9.000	L1	10.1	13.8	46.0
5.062000	32.2	9.000	L1	10.1	17.8	50.0
5.072000	32.4	9.000	L1	10.1	17.6	50.0
5.140000	31.7	9.000	L1	10.1	18.3	50.0
5.150000	32.2	9.000	L1	10.1	17.8	50.0
5.160000	32.1	9.000	L1	10.1	17.9	50.0
5.218000	31.9	9.000	L1	10.1	18.1	50.0
9.624000	31.6	9.000	L1	10.3	18.4	50.0
9.730000	32.7	9.000	L1	10.3	17.4	50.0
9.898000	32.2	9.000	L1	10.3	17.8	50.0
9.938000	32.1	9.000	L1	10.3	17.9	50.0
10.014000	32.2	9.000	L1	10.3	17.8	50.0



Figure 8: Conducted Emission, Front Camera Recording + LTE B5 Middle CH Idle mode, Line (N)





QuasiPeak Final Result, Line (N)

Frequency (MHz)	QuasiPeak (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.156000	45.2	9.000	N	9.8	20.5	65.7
0.160000	41.9	9.000	N	9.8	23.5	65.5
0.228000	39.7	9.000	N	9.8	22.9	62.5
0.232000	40.9	9.000	N	9.8	21.4	62.4
0.308000	37.4	9.000	N	9.8	22.6	60.0
0.314000	38.5	9.000	N	9.8	21.3	59.9
4.922000	47.3	9.000	N	10.1	8.7	56.0
4.926000	47.1	9.000	N	10.1	8.9	56.0
4.988000	47.3	9.000	N	10.1	8.7	56.0
4.998000	47.6	9.000	N	10.1	8.4	56.0
5.088000	46.2	9.000	N	10.1	13.8	60.0
5.140000	47.4	9.000	N	10.1	12.6	60.0
5.216000	47.1	9.000	N	10.1	12.9	60.0
5.228000	47.2	9.000	N	10.1	12.8	60.0
9.786000	45.2	9.000	N	10.3	14.8	60.0
9.926000	45.5	9.000	N	10.3	14.5	60.0
9.938000	45.2	9.000	N	10.3	14.8	60.0
9.942000	44.9	9.000	N	10.3	15.1	60.0



CAverage Final Result, Line (N)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.156000	30.9	9.000	N	9.8	24.7	55.7
0.160000	25.9	9.000	N	9.8	29.6	55.5
0.228000	23.2	9.000	N	9.8	29.3	52.5
0.232000	27.8	9.000	N	9.8	24.6	52.4
0.308000	24.8	9.000	N	9.8	25.2	50.0
0.312000	25.2	9.000	N	9.8	24.7	49.9
4.916000	32.5	9.000	N	10.1	13.5	46.0
4.926000	32.5	9.000	N	10.1	13.5	46.0
4.938000	31.6	9.000	N	10.1	14.4	46.0
4.998000	32.4	9.000	N	10.1	13.6	46.0
5.088000	31.8	9.000	N	10.1	18.2	50.0
5.162000	31.7	9.000	N	10.1	18.3	50.0
5.216000	31.8	9.000	N	10.1	18.2	50.0
5.230000	32.0	9.000	N	10.1	18.0	50.0
9.786000	32.6	9.000	N	10.3	17.4	50.0
9.938000	32.4	9.000	N	10.3	17.6	50.0
9.942000	32.7	9.000	N	10.3	17.3	50.0
10.080000	32.0	9.000	N	10.4	18.0	50.0



5.2 Radiated Emission

The test results of radiated emission provide the following information:

5.2.1 For Measurement Below 1 GHz

Applicable Standards	FCC 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 + FM Radio Low CH MP4 Play + LTE B5 Low CH Idle Front Camera Recording + LTE B5 Middle CH Idle
Kind of Test Site	3 m semi anechoic chamber
Temperature	22.1 – 23.4 °C
Relative Humidity	42.1 – 42.5 %
Test Date	December 11, 2019 – December 13, 2019

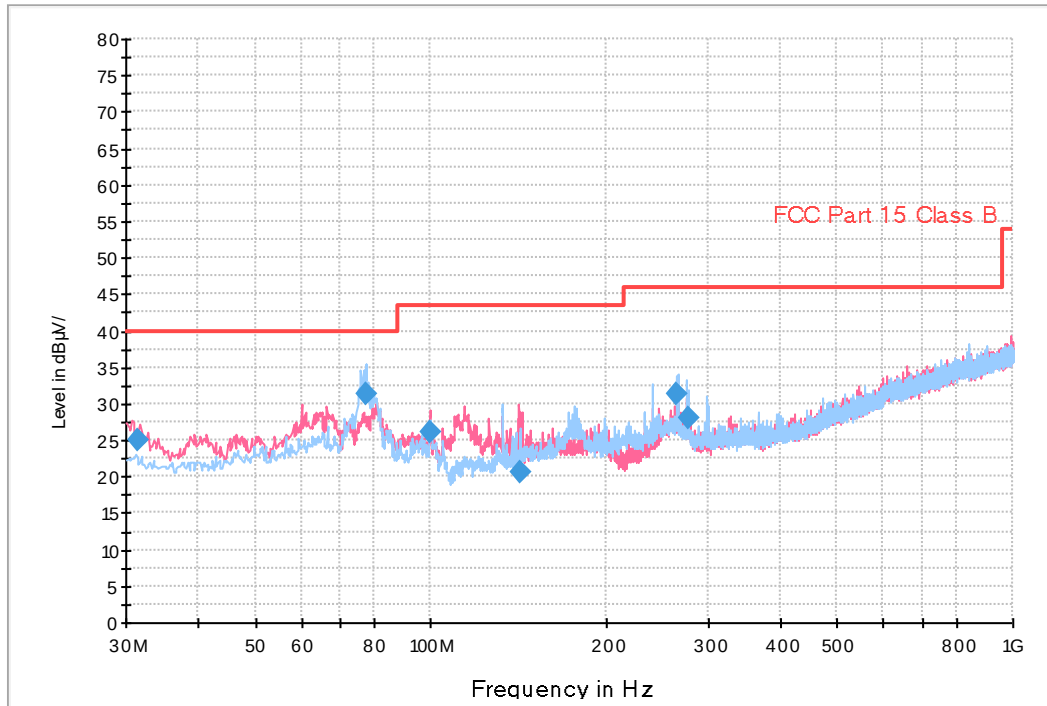
- Calculation Formula:

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

FCC PART 15 CLASS B

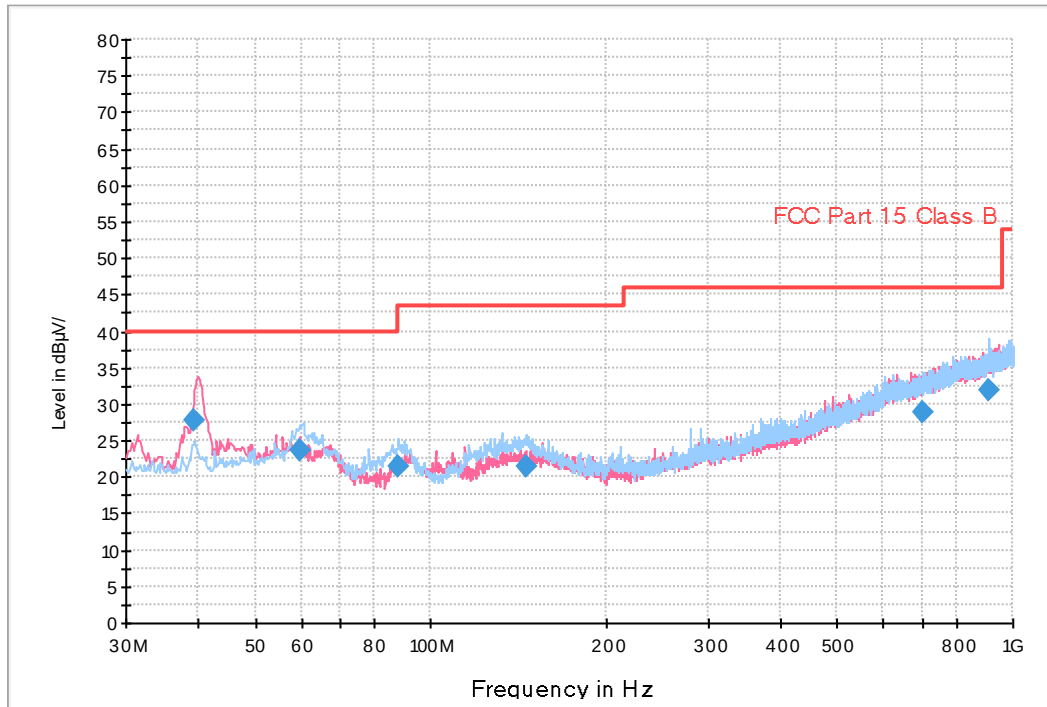


Frequency (MHz)	Quasi Peak (dBμV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
31.373914	25.0	100.0	V	70.0	18.4	15.0	40.0
77.350200	31.4	274.9	H	291.0	16.4	8.6	40.0
99.615000	26.0	119.9	V	300.0	15.2	17.5	43.5
142.327800	20.6	100.0	V	105.0	19.1	22.9	43.5
265.545600	31.4	100.0	H	112.0	19.3	14.6	46.0
276.778400	28.1	100.0	H	266.0	19.7	17.9	46.0



Figure 10: Radiated Emission (30 MHz to 1 GHz), Front Camera Preview + FM Radio Low CH mode

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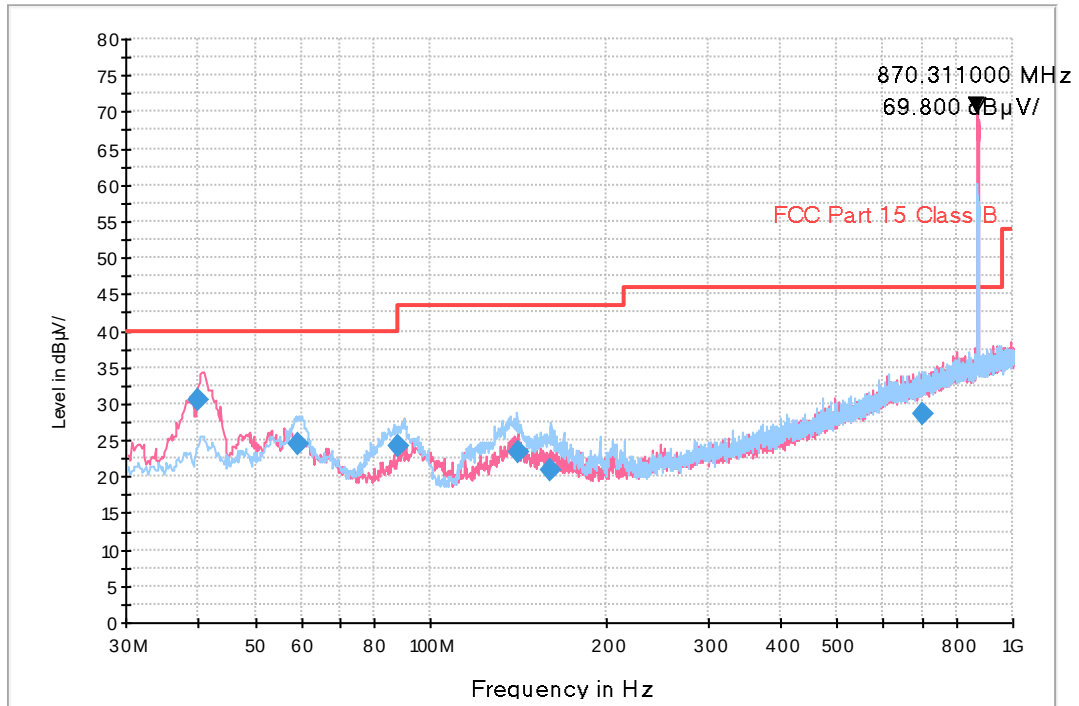


Frequency (MHz)	Quasi Peak (dBμV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
39.218400	27.8	117.9	V	122.0	18.9	12.2	40.0
59.541400	23.6	274.7	H	332.0	19.4	16.4	40.0
88.004000	21.4	192.7	H	354.0	14.6	22.1	43.5
146.648800	21.5	274.8	H	79.0	19.3	22.0	43.5
700.874400	28.9	174.9	H	94.0	28.8	17.1	46.0
912.059000	31.9	125.3	H	179.0	31.7	14.1	46.0



Figure 11: Radiated Emission (30 MHz to 1 GHz), MP4 Play + LTE B5 Low CH Idle mode

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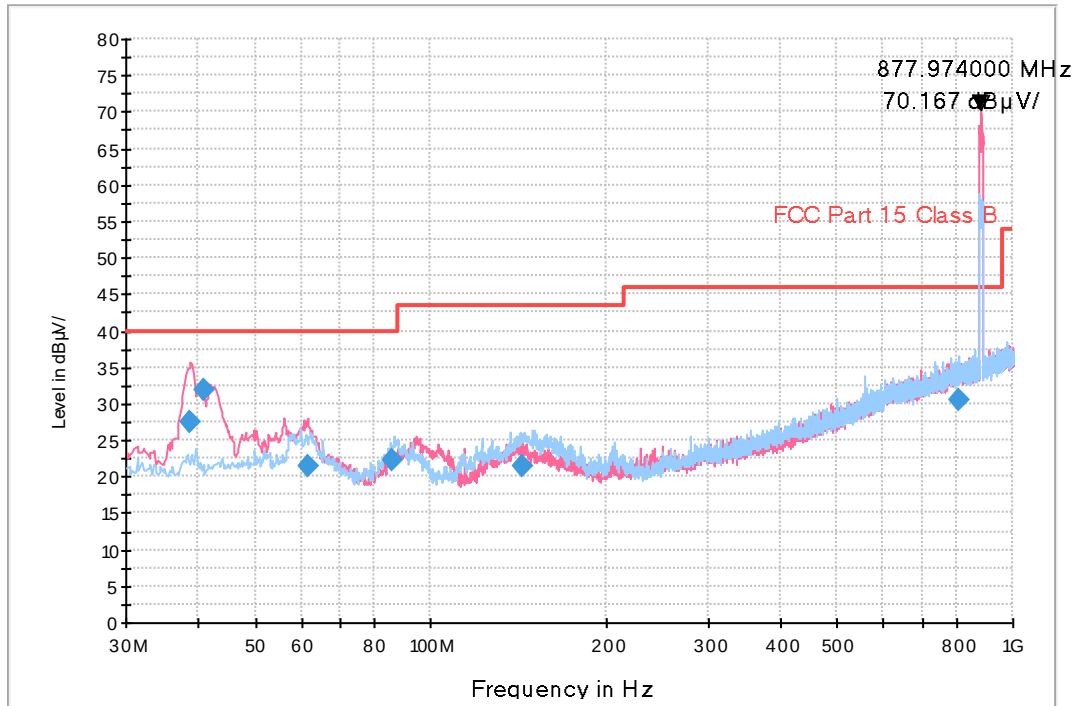
NOTE. 1. LTE B5 Low CH RX Frequency: 870.311 MHz
2. These are signals for fundamental frequency from the base station

Frequency (MHz)	Quasi Peak (dBμV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
40.015400	30.5	100.0	V	45.0	19.0	9.5	40.0
59.357200	24.6	291.8	H	85.0	19.4	15.4	40.0
87.993000	24.3	225.1	H	66.0	14.6	15.7	40.0
141.176600	23.4	100.0	H	27.0	19.1	20.1	43.5
160.557400	20.9	208.8	H	0.0	19.9	22.6	43.5
699.338800	28.7	275.0	H	235.0	28.8	17.3	46.0



Figure 12: Radiated Emission (30 MHz to 1 GHz), Front Camera Recording + LTE B5 Middle CH Idle mode

FCC PART 15 CLASS B



NOTE. 1. LTE B5 Middle CH RX Frequency: 877.974 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)
38.722600	27.4	100.0	V	83.0	18.9	12.6	40.0
40.872000	31.9	100.0	V	0.0	19.2	8.1	40.0
61.480800	21.5	100.0	V	200.0	19.2	18.5	40.0
86.246600	22.2	225.1	H	41.0	14.8	17.8	40.0
143.368200	21.4	274.8	H	350.0	19.2	22.1	43.5
806.051800	30.5	100.0	H	30.0	30.4	15.5	46.0



5.2.2 For Measurement Above 1 GHz

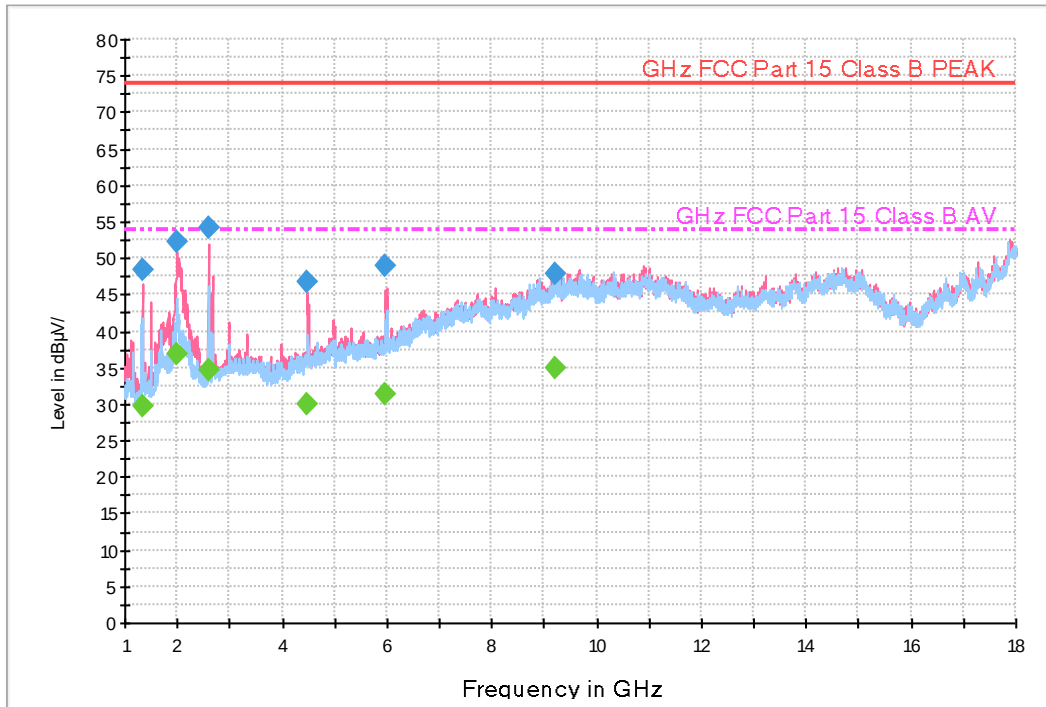
Applicable Standards	FCC PART 15 Subpart B Class B ANSI C63.4-2014
Detector	Peak mode: Peak (RBW: 1 MHz, VBW: 3 MHz) CISPR-Average mode: Peak (RBW: 1 MHz, VBW: 10 Hz)
Highest Frequency	5 825 MHz
Tested Frequency Range	1 GHz to 30 GHz
Worst Case of Operating Mode	Data Communication mode Front Camera Preview + FM Radio Low CH MP4 Play + LTE B5 Low CH Idle Front Camera Recording + LTE B5 Middle CH Idle
Kind of Test Site	3 m semi anechoic chamber
Temperature	22.1 °C
Relative Humidity	42.5 %
Test Date	December 12, 2019

- Calculation Formula:

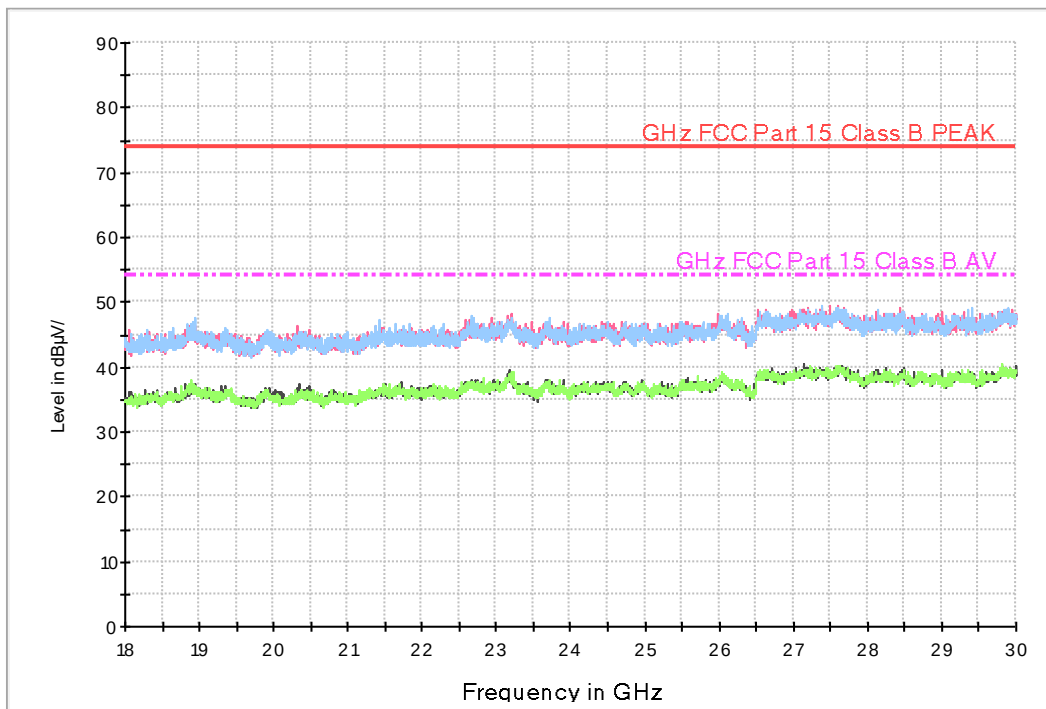
1. POL. H = Horizontal, POL. V = Vertical
2. Peak or CAverage = Reading (Receiver Reading) + Corr.
3. Corr. (Correction Factor) = Antenna Factor+ Cable Loss –Amplifier Gain
4. Margin = Limit - Peak or CAverage

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

Tilting of GHz FCC PART 15 CLASS B



Tilting of GHz FCC PART 15 CLASS B_18~40GHz



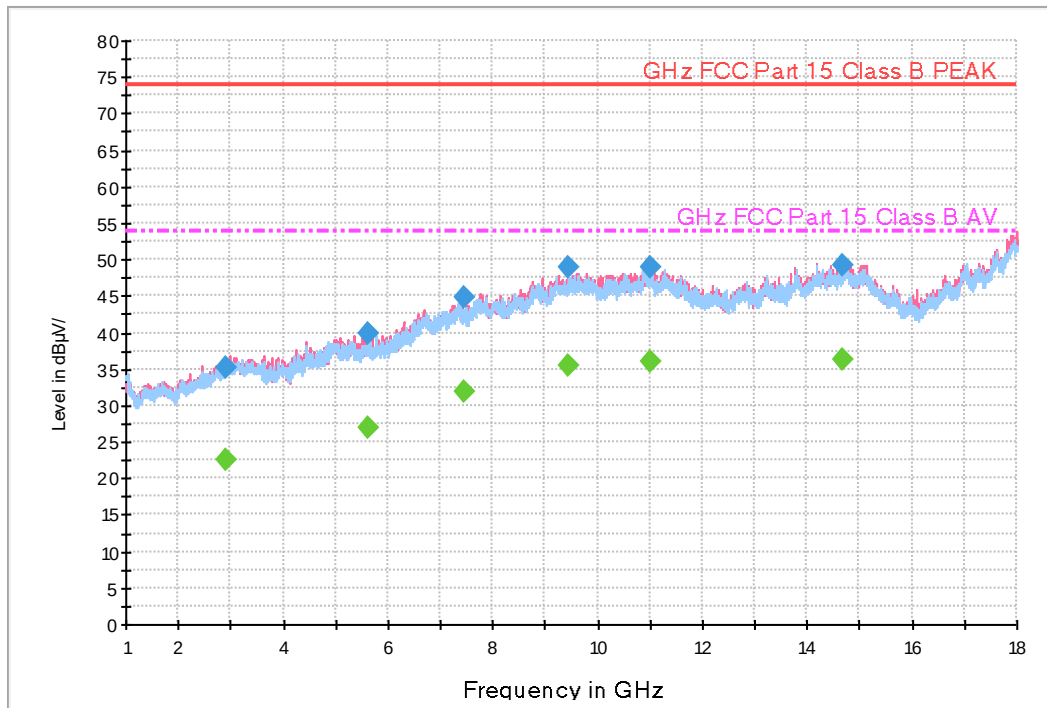


Frequency (MHz)	Peak (dBμV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
1327.620000	48.3	173.6	V	242.0	-26.4	25.7	74.0
2001.645000	52.2	100.0	V	54.0	-25.2	21.8	74.0
2590.960000	54.3	349.9	V	53.0	-23.0	19.7	74.0
4481.360000	46.8	190.5	V	0.0	-17.5	27.2	74.0
5982.665000	49.0	350.0	V	105.0	-14.7	25.0	74.0
9221.460000	47.9	100.0	V	88.0	-5.9	26.1	74.0

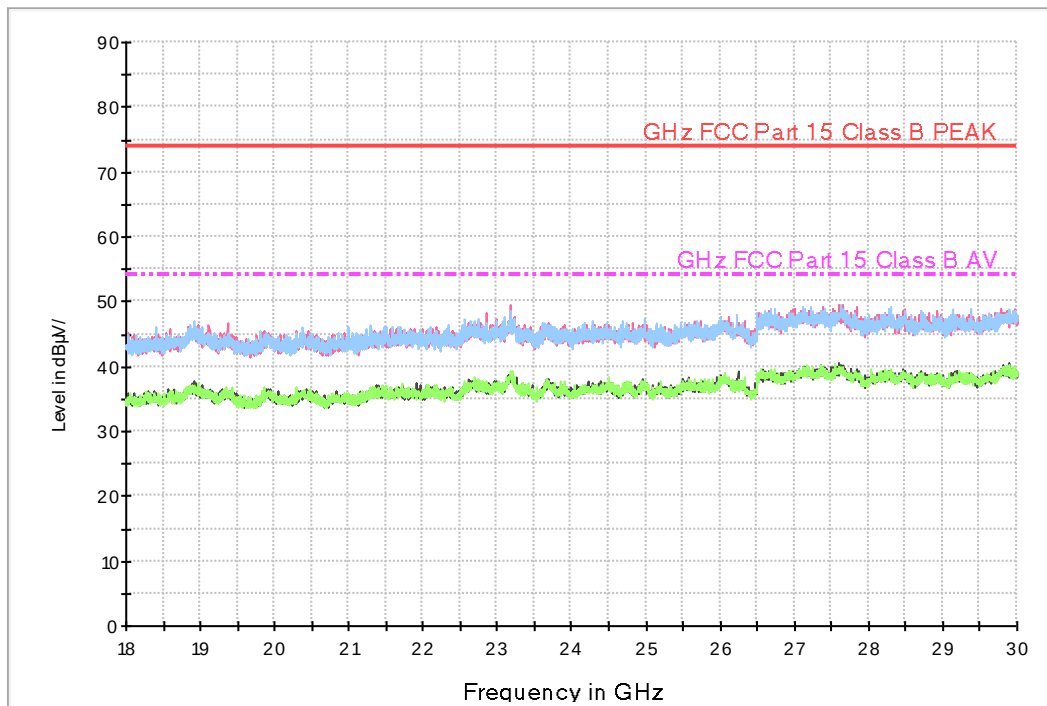
Frequency (MHz)	CAverage (dBμV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
1327.620000	29.6	173.6	V	242.0	-26.4	24.4	54.0
2001.645000	36.9	100.0	V	54.0	-25.2	17.1	54.0
2590.960000	34.7	349.9	V	53.0	-23.0	19.3	54.0
4481.360000	29.9	190.5	V	0.0	-17.5	24.1	54.0
5982.665000	31.3	350.0	V	105.0	-14.7	22.7	54.0
9221.460000	34.9	100.0	V	88.0	-5.9	19.1	54.0

**Figure 14: Radiated Emission (1 GHz to 30 GHz), Front Camera Preview + FM Radio Low CH mode**

Tilting of GHz FCC PART 15 CLASS B



Tilting of GHz FCC PART 15 CLASS B_18~40GHz



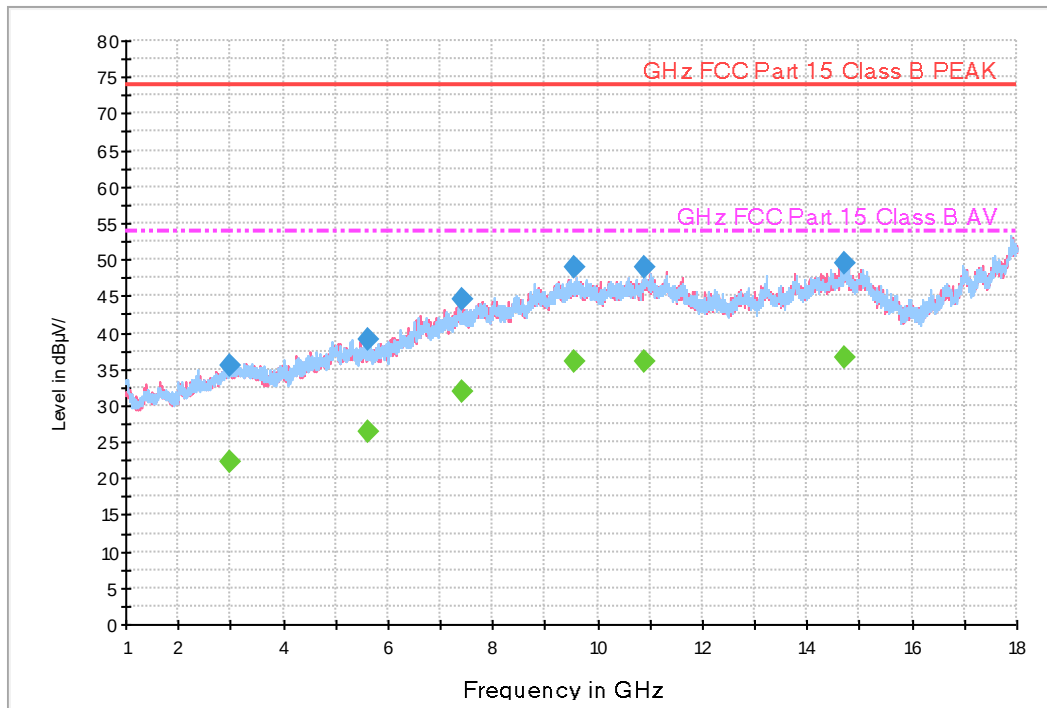


Frequency (MHz)	Peak (dBμV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
2908.160000	35.2	249.8	V	62.0	-21.4	38.8	74.0
5637.045000	39.9	100.0	V	37.0	-15.1	34.1	74.0
7438.135000	44.8	333.5	V	0.0	-9.4	29.2	74.0
9445.315000	48.9	277.4	V	81.0	-5.3	25.1	74.0
11004.900000	49.0	350.0	V	59.0	-2.4	25.0	74.0
14681.215000	49.2	139.6	V	217.0	1.0	24.8	74.0

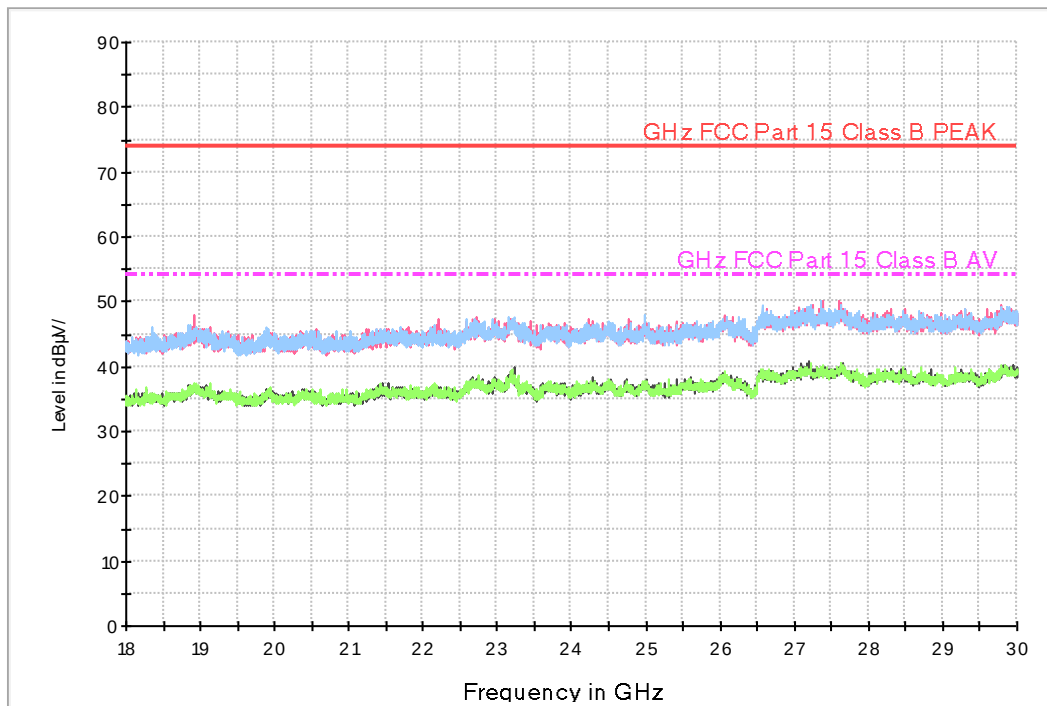
Frequency (MHz)	CAverage (dBμV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
2908.160000	22.4	249.8	V	62.0	-21.4	31.6	54.0
5637.045000	26.8	100.0	V	37.0	-15.1	27.2	54.0
7438.135000	31.9	333.5	V	0.0	-9.4	22.1	54.0
9445.315000	35.6	277.4	V	81.0	-5.3	18.4	54.0
11004.900000	36.0	350.0	V	59.0	-2.4	18.0	54.0
14681.215000	36.4	139.6	V	217.0	1.0	17.6	54.0

**Figure 15: Radiated Emission (1 GHz to 30 GHz), MP4 Play + LTE B5 Low CH Idle mode**

Tilting of GHz FCC PART 15 CLASS B



Tilting of GHz FCC PART 15 CLASS B_18~40GHz



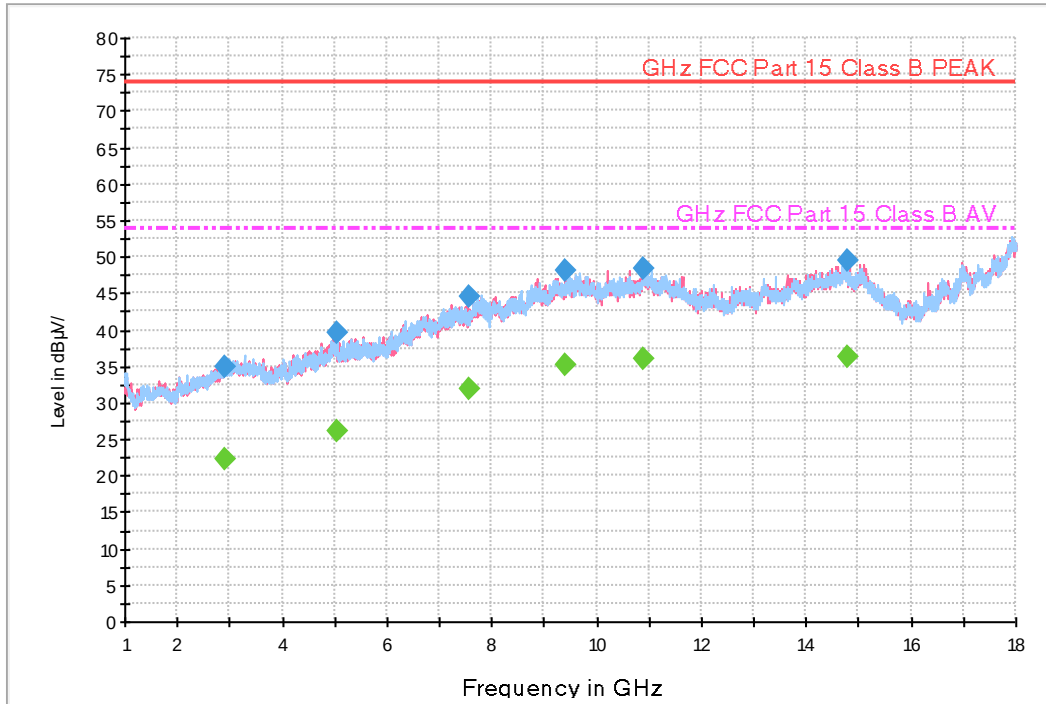


Frequency (MHz)	Peak (dBμV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
2985.130000	35.5	278.6	H	326.0	-21.1	38.5	74.0
5605.965000	39.0	161.6	H	90.0	-15.1	35.0	74.0
7433.515000	44.4	249.8	V	0.0	-9.4	29.6	74.0
9574.530000	48.8	113.6	V	36.0	-5.1	25.2	74.0
10886.870000	49.1	125.7	V	92.0	-2.6	24.9	74.0
14720.315000	49.3	261.6	V	342.0	1.0	24.7	74.0

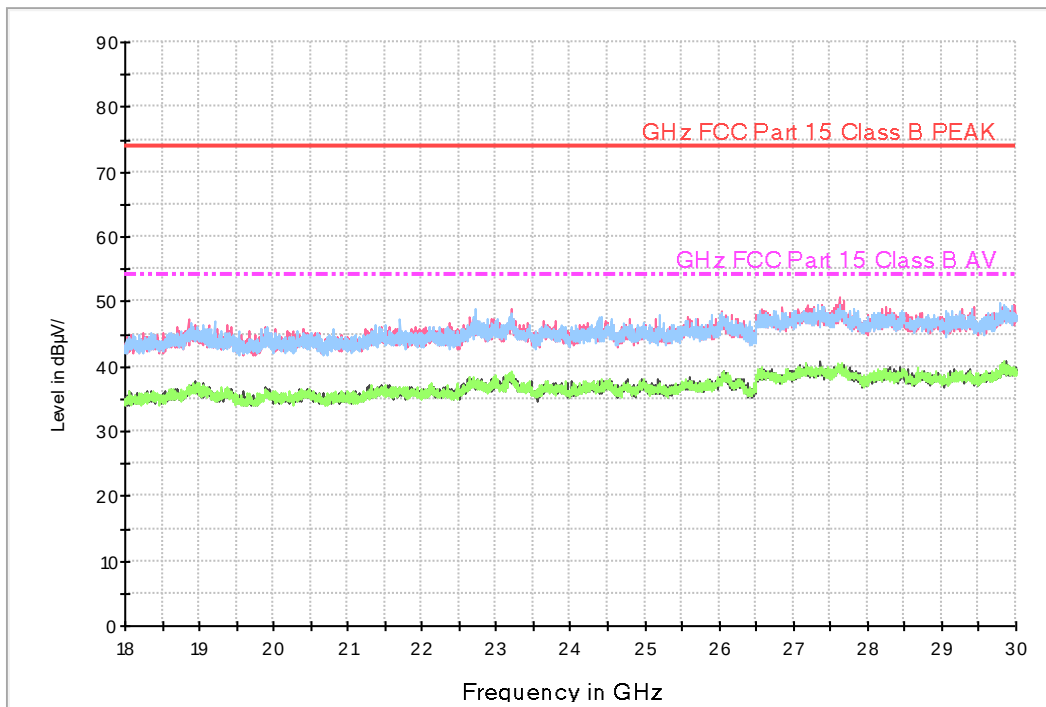
Frequency (MHz)	CAverage (dBμV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
2985.130000	22.4	278.6	H	326.0	-21.1	31.6	54.0
5605.965000	26.5	161.6	H	90.0	-15.1	27.5	54.0
7433.515000	31.8	249.8	V	0.0	-9.4	22.2	54.0
9574.530000	35.9	113.6	V	36.0	-5.1	18.1	54.0
10886.870000	36.1	125.7	V	92.0	-2.6	17.9	54.0
14720.315000	36.6	261.6	V	342.0	1.0	17.4	54.0

**Figure 16: Radiated Emission (1 GHz to 30 GHz), Front Camera Recording + LTE B5 Middle CH Idle mode**

Tilting of GHz FCC PART 15 CLASS B



Tilting of GHz FCC PART 15 CLASS B_18~40GHz





Frequency (MHz)	Peak (dBμV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
2921.975000	34.9	125.7	H	158.0	-21.4	39.1	74.0
5030.585000	39.5	150.0	H	331.0	-15.7	34.5	74.0
7555.945000	44.6	150.0	V	204.0	-9.2	29.4	74.0
9421.045000	48.2	249.9	H	21.0	-5.3	25.8	74.0
10881.930000	48.4	150.0	V	305.0	-2.6	25.6	74.0
14795.600000	49.5	125.8	H	0.0	1.1	24.5	74.0

Frequency (MHz)	CAverage (dBμV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
2921.975000	22.4	125.7	H	158.0	-21.4	31.6	54.0
5030.585000	26.1	150.0	H	331.0	-15.7	27.9	54.0
7555.945000	31.9	150.0	V	204.0	-9.2	22.1	54.0
9421.045000	35.2	249.9	H	21.0	-5.3	18.8	54.0
10881.930000	36.0	150.0	V	305.0	-2.6	18.0	54.0
14795.600000	36.3	125.8	H	0.0	1.1	17.7	54.0



6. CONCLUSION

The data collected shows that the **EUT Type: Mobile Phone, FCC ID: A3LSMG715FN, Model Name: SM-G715FN/DS** 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	December 16, 2019	HCT-EM-1912-FC004-P

End of report