

EMI TEST REPORT

FCC CERTIFICATION

Applicant:

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

Date of Issue: March 14, 2019**Test Report No. HCT-EM-1903-FC004****Test Site: HCT CO., LTD.****FCC ID :****A3LSMT725**

Applicable Standards : FCC CFR 47 PART 15 Subpart B Class B
ANSI C63.4-2014

EUT Type : Tablet

Model Name : SM-T725

Series Model Name : T725N, T727

Date of Test : March 07, 2019 to March 12, 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

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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-1903-FC004	March 14, 2019	Initial Release



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1. GENERAL INFORMATION

1.1 Description of EUT

Its basic purpose is used for communications.

FCC ID	A3LSMT725
Model Name	SM-T725
Series Model Name	T725N, T727
EUT Type	Tablet
Frequency Band	GSM850/1900, WCDMA850/1700/1900, LTE B2/4/5/12/13/17/41/66, BT BDR/EDR/LE 5.0, WLAN a/b/g/n/ac, ANT+
Power Supply	Travel adaptor: Input: AC 100 to 240 V, 50/60 Hz, 0.5 A Output: DC 9.0 V 1.67 A or DC 5.0 V 2.0 A Battery: Low 3.4 V / Normal 3.85 V / High 4.35 V, Li-ion Battery

1.2 Equipment Units Tested

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

Device Type	Model Name	Serial Number	Manufacturer	FCC ID / DoC
EUT	SM-T725	-	SAMSUNG	A3LSMT725
Notebook PC	ProBook6560b	5CB2053MXF	HP	-
Notebook PC adaptor	Series PPP009L-E	-	LITE-ON TECHNOLOGY (CHANGZHOU)	-
Gateway	TL-WR747N	-	TP Link	-
Gateway adaptor	T090060-2H1	-	TP Link	-
Serial mouse	Serial 2 Button mouse	02031069	Radio Shack	FSUGMZE3
RJ45 cable	-	-	-	-
TA	EP-TA200	-	SOLUM	-
Data cable	EP-DT725BBE	-	KSD	
Earphone	EHS64AVFWE	-	ALMUS	
Ear-jack gender	KCA-ET-2-0305	-	KSD	
Micro SD card	-	-	SAMSUNG	
Keyboard	EJ-FT720		SAMSUNG	-
Charging dock	EE-D3200		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) 1.0
	Ear-jack gender	N/A	N	(D) 0.09
	Earphone	N/A	N	(D) 1.2
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
	Ear-jack gender	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	90661
Radiated Field strength measurement facility 10 m Semi Anechoic chamber	

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 (Version : 2006).

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)	1.82 dB
Radiated Emissions (30 MHz to 1 GHz)	5.20 dB
Radiated Emissions (1 GHz to 18 GHz)	5.24 dB
Radiated Emissions (18 GHz to 40 GHz)	5.40 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	06.25.2018
☒ LISN	Rohde & Schwarz	ENV216	102245	1 year	12.12.2018
☒ LISN	Rohde & Schwarz	ENV216	100073	1 year	05.03.2018
☒ Radio communication analyzer	ANRITSU	MT8820C	6201138643	1 year	08.21.2018
☒ Antenna (for Communication)	Schwarzbeck	USLP9142	VSLP 9142-200	-	-
☒ Software	Rohde & Schwarz	EMC32 VER8.54.0	-	-	-
<u>Radiated Emission</u>					
-For measurement below 1 GHz					
☒ EMI Test Receiver	Rohde & Schwarz	ESU40	100524	1 year	07.27.2018
☒ Trilog Antenna	Schwarzbeck	VULB 9168	760	2 year	04.06.2018
☒ 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	08.21.2018
☒ Antenna (for Communication)	Schwarzbeck	USLP9142	VSLP 9142-200	-	-
☒ Software	Rohde & Schwarz	EMC32 VER8.40.0	-	-	-
-For measurement above 1 GHz					
☒ EMI Test Receiver	Rohde & Schwarz	ESU40	100524	1 year	07.27.2018
☒ 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	2 year	07.20.2018
☒ 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	BBHA9170#786	2 year	12.05.2017
☒ Radio communication analyzer	ANRITSU	MT8820C	6201138643	1 year	08.21.2018
☒ Antenna (for Communication)	Schwarzbeck	USLP9142	VSLP 9142-200	-	-
☐ Highpass Filter	Wainwright Instruments	WHKX1.0/15G-12SS	42	1 year	08.02.2018
☒ Software	Rohde & Schwarz	EMC32 VER8.40.0	-	-	-



3. DESCRIPTION OF MEASUREMENTS

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

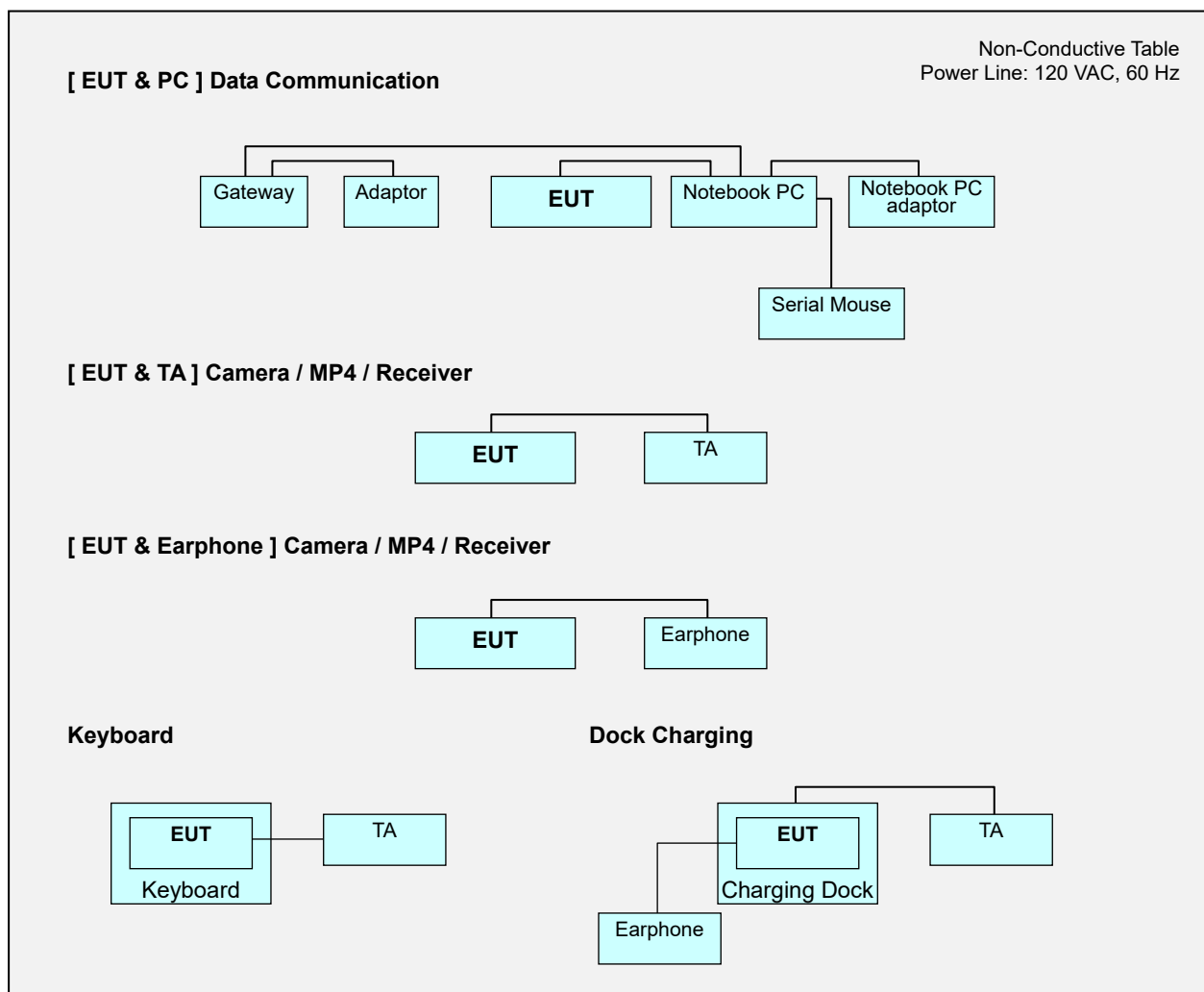


3.2.1 Frequency Range of Radiated Measurements

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
- Rear / Front Camera (Preview / Recording)
- MP4 Play
- LTE B5 Idle (Middle CH)
- WCDMA 850 Idle (Middle CH)
- GSM 850 Idle (Middle CH)
- LTE B12+B13+B17 Idle (Low/Middle/High CH)
- Keyboard
- Dock Charging

4.1 Conducted Emission

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

Operating Modes:

[EUT & PC]

- Data Communication

[EUT & TA]

- Rear / Front Camera Preview
- MP4 Play
- Receiver mode (LTE B5 Low CH Idle) + Rear Camera Recording
- Receiver mode (LTE B12+B13+B17 High CH Idle) + Front Camera Recording
- Keyboard mode
- Dock Charging mode

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:

[EUT & PC]

- Data Communication

[EUT & TA]

- Rear / Front Camera Preview
- MP4 Play
- Receiver mode (LTE B5 Low CH Idle) + Rear Camera Recording



Receiver mode (LTE B5 Middle CH Idle)
Receiver mode (LTE B5 High CH Idle)
Receiver mode (LTE B12+B13+B17 Low CH Idle)
Receiver mode (LTE B12+B13+B17 Middle CH Idle)
Receiver mode (LTE B12+B13+B17 High CH Idle) + Front Camera Recording

[EUT & EARPHONE]

Rear / Front Camera Preview
MP4 Play
Receiver mode (LTE B5 Low CH Idle) + Rear Camera Recording
Receiver mode (LTE B5 Middle CH Idle)
Receiver mode (LTE B5 High CH Idle)
Receiver mode (LTE B12+B13+B17 Low CH Idle)
Receiver mode (LTE B12+B13+B17 Middle CH Idle)
Receiver mode (LTE B12+B13+B17 High CH Idle) + Front Camera Recording

Keyboard mode
Dock Charging mode

NOTE.

1. Three orientations have been investigated and the worst case orientation is reported.
2. The worst case of operating mode is reported.



5. CONDUCTED AND RADIATED EMISSION TEST SUMMARY

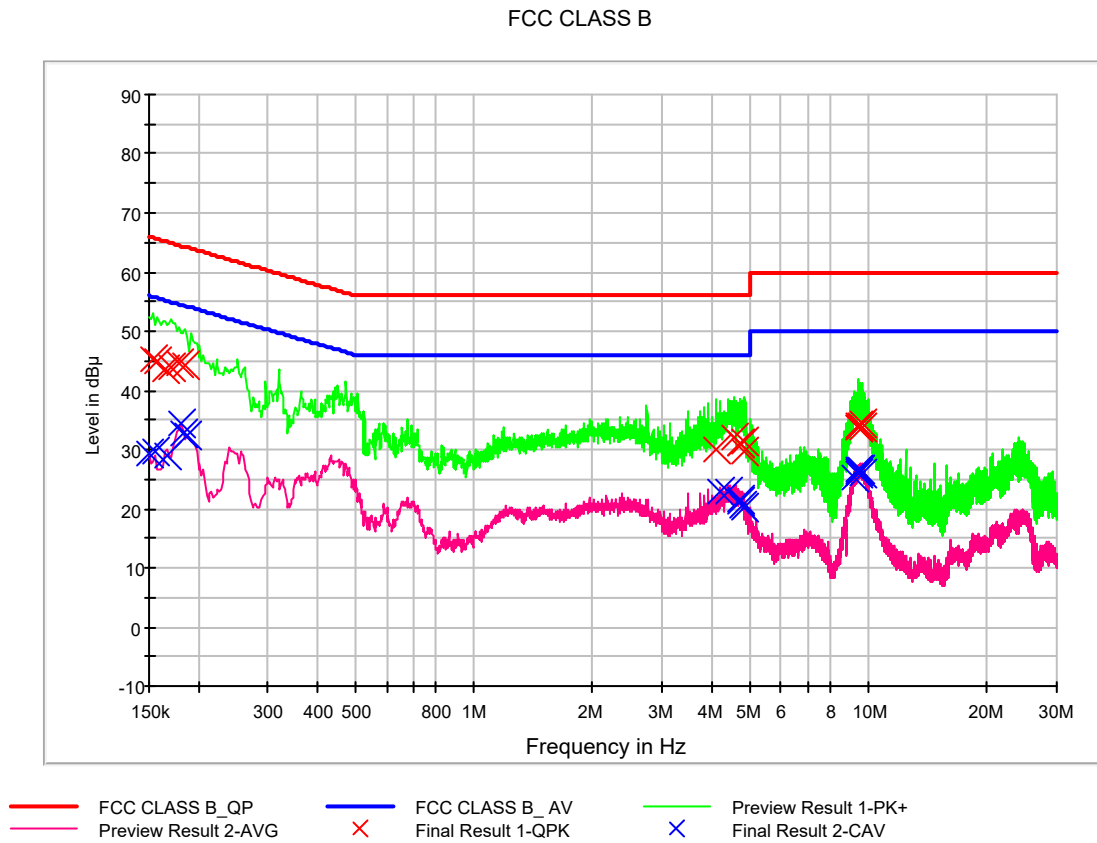
5.1 Conducted Emission

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

Applicable Standards	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 [TA] Receiver mode (LTE B5 Low CH Idle)+Rear Camera Recording Receiver mode (LTE B12+B13+B17 High CH Idle)+Front Camera Recording Keyboard mode Dock Charging mode
Kind of Test Site	Shielded Room
Temperature	20.8 °C
Relative Humidity	41.4 %
Test Date	March 09, 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, Line (L1)**



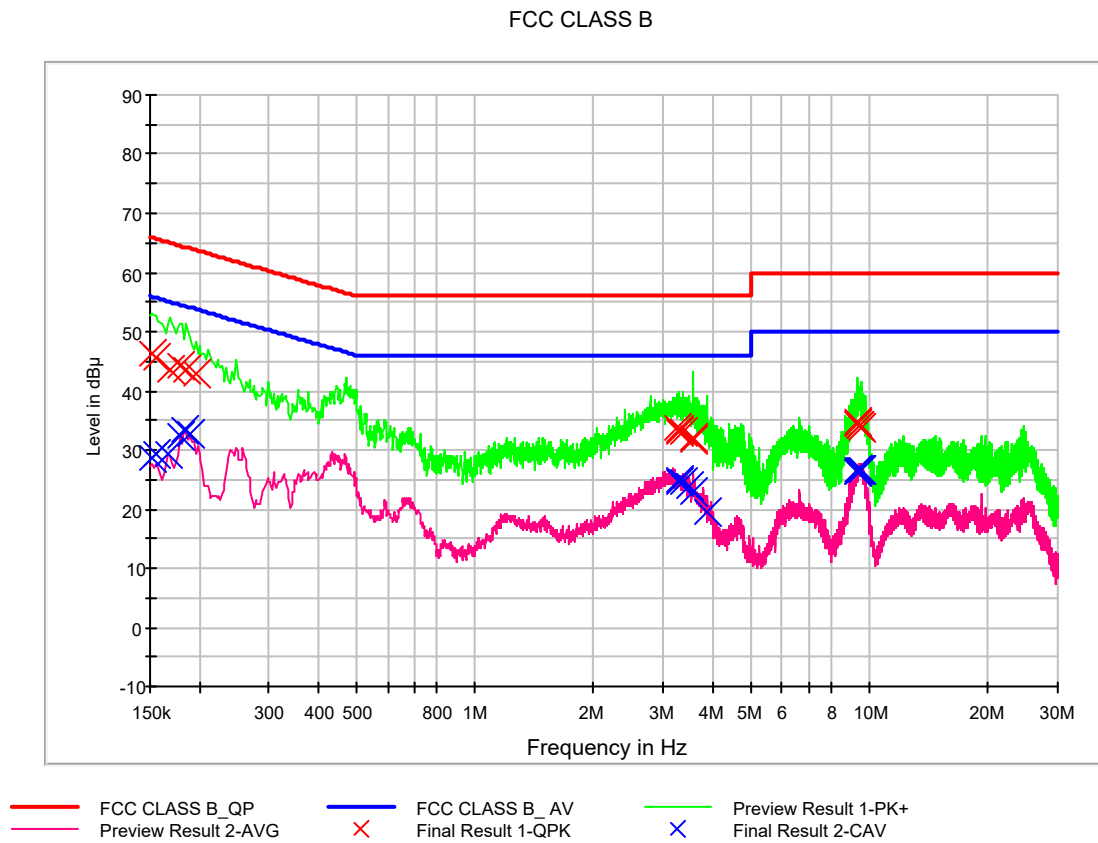
QuasiPeak Final Result, Line (L1)

Frequency (MHz)	QuasiPeak (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.154000	45.1	9.000	L1	9.6	20.6	65.8
0.158000	44.8	9.000	L1	9.6	20.8	65.6
0.164000	43.6	9.000	L1	9.6	21.7	65.3
0.170000	43.8	9.000	L1	9.6	21.2	65.0
0.178000	44.5	9.000	L1	9.6	20.1	64.6
0.186000	44.3	9.000	L1	9.7	20.0	64.2
4.118000	30.0	9.000	L1	9.8	26.0	56.0
4.552000	32.0	9.000	L1	9.8	24.0	56.0
4.706000	31.1	9.000	L1	9.8	24.9	56.0
4.742000	31.0	9.000	L1	9.8	25.0	56.0
4.812000	31.4	9.000	L1	9.8	24.6	56.0
4.866000	29.7	9.000	L1	9.8	26.3	56.0
9.444000	33.8	9.000	L1	10.0	26.2	60.0
9.450000	34.0	9.000	L1	10.0	26.0	60.0
9.458000	33.8	9.000	L1	10.0	26.2	60.0
9.538000	33.9	9.000	L1	10.0	26.1	60.0
9.594000	34.3	9.000	L1	10.0	25.7	60.0
9.644000	33.7	9.000	L1	10.0	26.3	60.0



CAverage Final Result, Line (L1)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.150000	29.4	9.000	L1	9.6	26.6	56.0
0.156000	29.7	9.000	L1	9.6	26.0	55.7
0.166000	29.1	9.000	L1	9.6	26.0	55.2
0.180000	34.3	9.000	L1	9.6	20.2	54.5
0.184000	32.7	9.000	L1	9.6	21.6	54.3
0.188000	32.5	9.000	L1	9.7	21.6	54.1
4.216000	22.9	9.000	L1	9.8	23.1	46.0
4.422000	22.7	9.000	L1	9.8	23.3	46.0
4.706000	21.5	9.000	L1	9.8	24.5	46.0
4.742000	21.1	9.000	L1	9.8	24.9	46.0
4.808000	20.4	9.000	L1	9.8	25.6	46.0
4.812000	20.2	9.000	L1	9.8	25.8	46.0
9.254000	25.2	9.000	L1	10.0	24.8	50.0
9.450000	26.0	9.000	L1	10.0	24.0	50.0
9.458000	26.2	9.000	L1	10.0	23.8	50.0
9.462000	26.5	9.000	L1	10.0	23.5	50.0
9.536000	26.5	9.000	L1	10.0	23.5	50.0
9.644000	25.9	9.000	L1	10.0	24.1	50.0

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



QuasiPeak Final Result, Line (N)

Frequency (MHz)	QuasiPeak (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.152000	46.1	9.000	N	9.6	19.8	65.9
0.156000	45.5	9.000	N	9.6	20.2	65.7
0.168000	43.6	9.000	N	9.6	21.5	65.1
0.178000	44.2	9.000	N	9.6	20.4	64.6
0.186000	43.7	9.000	N	9.6	20.5	64.2
0.196000	43.0	9.000	N	9.6	20.8	63.8
3.248000	33.7	9.000	N	9.8	22.3	56.0
3.278000	33.3	9.000	N	9.8	22.7	56.0
3.286000	33.1	9.000	N	9.8	22.9	56.0
3.374000	33.0	9.000	N	9.8	23.0	56.0
3.572000	31.6	9.000	N	9.8	24.4	56.0
3.576000	32.1	9.000	N	9.8	23.9	56.0
9.328000	34.3	9.000	N	9.9	25.7	60.0
9.334000	34.6	9.000	N	9.9	25.4	60.0
9.356000	34.6	9.000	N	9.9	25.4	60.0
9.378000	33.9	9.000	N	9.9	26.1	60.0
9.438000	33.9	9.000	N	9.9	26.1	60.0
9.506000	33.8	9.000	N	9.9	26.2	60.0

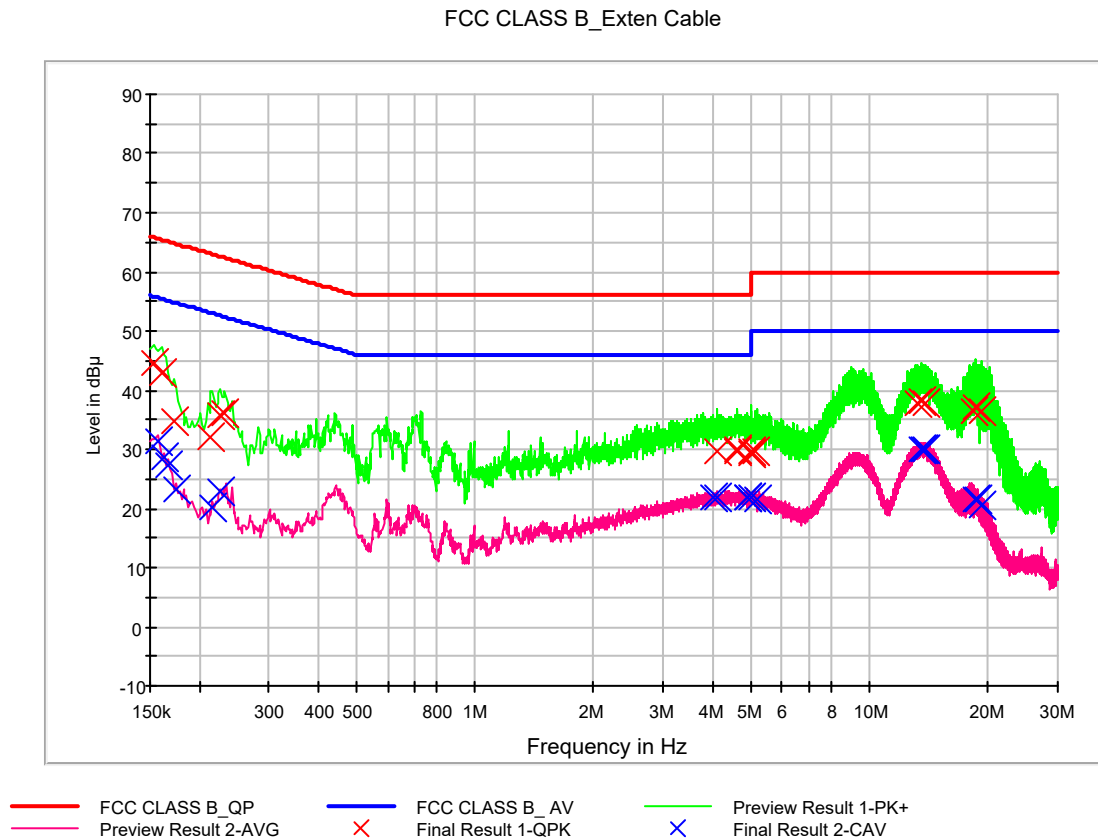


CAverage Final Result, Line (N)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.152000	28.6	9.000	N	9.6	27.2	55.9
0.156000	29.2	9.000	N	9.6	26.4	55.7
0.166000	29.2	9.000	N	9.6	25.9	55.2
0.178000	32.3	9.000	N	9.6	22.2	54.6
0.182000	33.6	9.000	N	9.6	20.8	54.4
0.190000	32.9	9.000	N	9.6	21.2	54.0
3.280000	24.8	9.000	N	9.8	21.2	46.0
3.286000	24.7	9.000	N	9.8	21.3	46.0
3.374000	24.5	9.000	N	9.8	21.5	46.0
3.472000	23.8	9.000	N	9.8	22.2	46.0
3.572000	23.0	9.000	N	9.8	23.0	46.0
3.866000	19.6	9.000	N	9.8	26.4	46.0
9.300000	26.4	9.000	N	9.9	23.6	50.0
9.328000	26.3	9.000	N	9.9	23.7	50.0
9.334000	26.5	9.000	N	9.9	23.5	50.0
9.384000	26.7	9.000	N	9.9	23.3	50.0
9.506000	26.4	9.000	N	9.9	23.6	50.0
9.524000	26.4	9.000	N	9.9	23.6	50.0



Figure 3: Conducted Emission, Receiver mode (LTE B5 Low CH Idle)+Rear Camera Recording, Line (L1)





QuasiPeak Final Result, Line (L1)

Frequency (MHz)	QuasiPeak (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.154000	44.7	9.000	L1	9.7	21.1	65.8
0.160000	43.0	9.000	L1	9.7	22.5	65.5
0.172000	34.8	9.000	L1	9.7	30.0	64.9
0.214000	31.9	9.000	L1	9.7	31.1	63.0
0.226000	35.7	9.000	L1	9.7	26.9	62.6
0.232000	36.0	9.000	L1	9.7	26.4	62.4
4.102000	29.6	9.000	L1	10.0	26.4	56.0
4.612000	29.9	9.000	L1	10.0	26.1	56.0
4.626000	29.7	9.000	L1	10.0	26.3	56.0
4.996000	29.5	9.000	L1	10.0	26.5	56.0
5.030000	29.5	9.000	L1	10.0	30.5	60.0
5.118000	29.5	9.000	L1	10.0	30.5	60.0
13.286000	37.9	9.000	L1	10.3	22.1	60.0
13.472000	38.0	9.000	L1	10.4	22.0	60.0
13.884000	37.7	9.000	L1	10.4	22.3	60.0
18.360000	36.5	9.000	L1	10.5	23.5	60.0
18.680000	37.2	9.000	L1	10.5	22.8	60.0
19.150000	36.4	9.000	L1	10.6	23.6	60.0

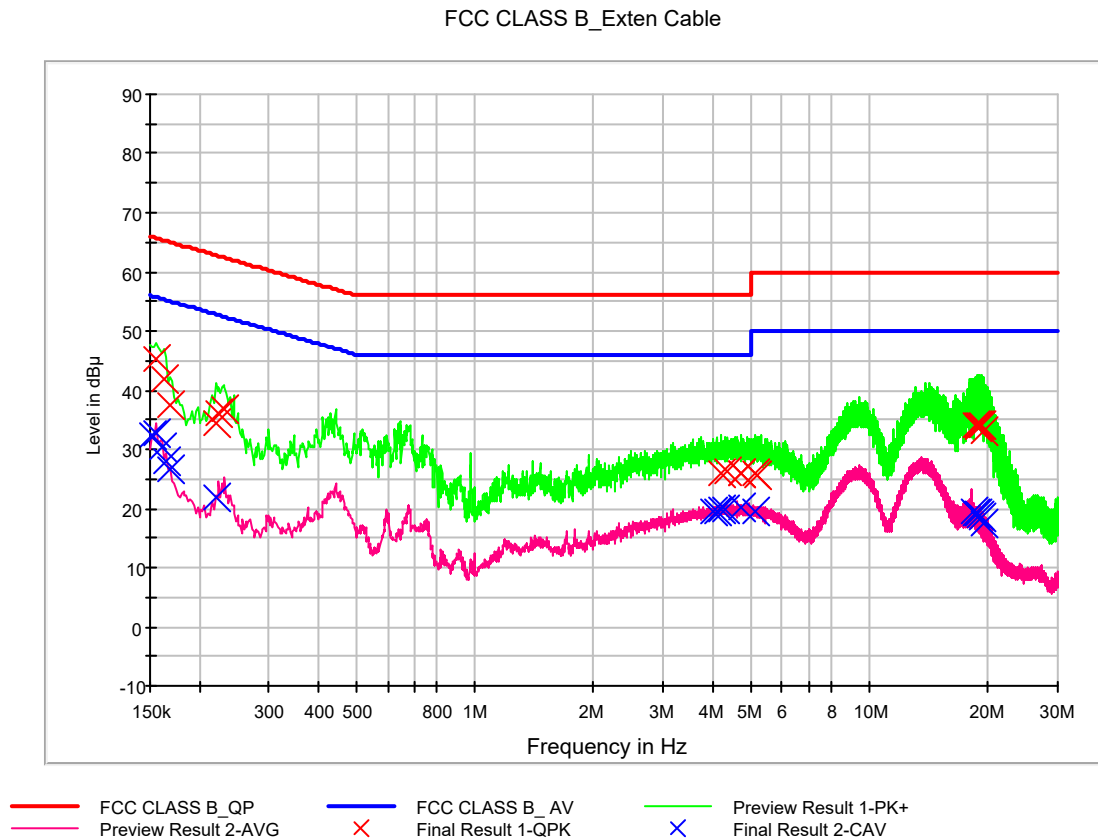


CAverage Final Result, Line (L1)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.158000	31.4	9.000	L1	9.7	24.1	55.6
0.162000	28.5	9.000	L1	9.7	26.9	55.4
0.166000	27.2	9.000	L1	9.7	28.0	55.2
0.174000	23.1	9.000	L1	9.7	31.7	54.8
0.216000	20.2	9.000	L1	9.7	32.8	53.0
0.226000	22.9	9.000	L1	9.7	29.7	52.6
4.030000	21.7	9.000	L1	10.0	24.3	46.0
4.102000	21.8	9.000	L1	10.0	24.2	46.0
4.898000	21.9	9.000	L1	10.0	24.1	46.0
4.902000	21.8	9.000	L1	10.0	24.2	46.0
5.030000	21.8	9.000	L1	10.0	28.2	50.0
5.198000	21.6	9.000	L1	10.0	28.4	50.0
13.472000	30.0	9.000	L1	10.4	20.0	50.0
13.640000	30.0	9.000	L1	10.4	20.0	50.0
13.884000	29.9	9.000	L1	10.4	20.1	50.0
18.680000	21.6	9.000	L1	10.5	28.4	50.0
18.684000	21.7	9.000	L1	10.5	28.4	50.0
19.150000	20.6	9.000	L1	10.6	29.4	50.0



Figure 4: Conducted Emission, Receiver mode (LTE B5 Low CH Idle)+Rear Camera Recording, 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
0.162000	41.9	9.000	N	9.8	23.4	65.4
0.168000	37.3	9.000	N	9.8	27.8	65.1
0.220000	34.5	9.000	N	9.9	28.3	62.8
0.224000	35.9	9.000	N	9.9	26.7	62.7
0.230000	36.8	9.000	N	9.9	25.7	62.4
4.204000	25.8	9.000	N	10.2	30.2	56.0
4.380000	26.1	9.000	N	10.2	29.9	56.0
4.718000	26.1	9.000	N	10.2	29.9	56.0
4.746000	26.1	9.000	N	10.2	29.9	56.0
5.112000	25.8	9.000	N	10.2	34.2	60.0
5.174000	25.8	9.000	N	10.2	34.2	60.0
18.594000	33.9	9.000	N	10.8	26.1	60.0
18.786000	34.1	9.000	N	10.8	25.9	60.0
18.892000	33.6	9.000	N	10.8	26.4	60.0
18.984000	34.0	9.000	N	10.8	26.0	60.0
19.152000	34.2	9.000	N	10.8	25.8	60.0
19.488000	33.0	9.000	N	10.9	27.0	60.0

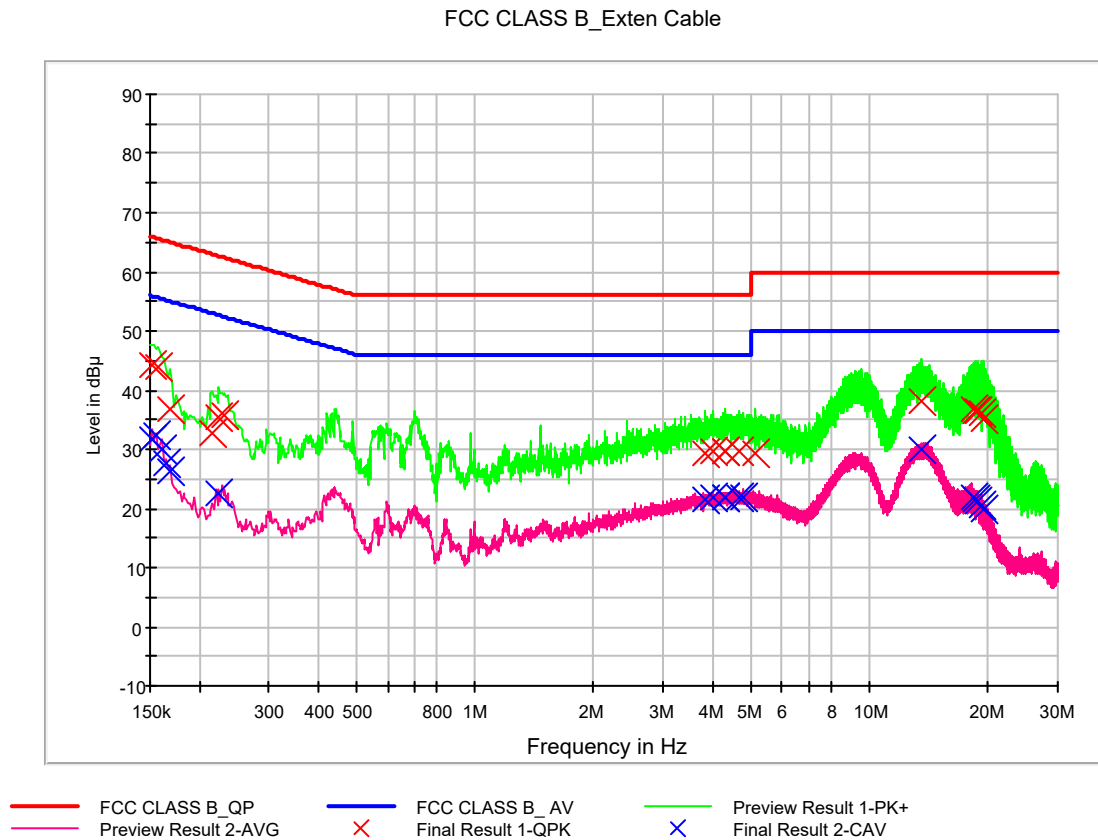


CAverage Final Result, Line (N)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.152000	32.3	9.000	N	9.8	23.6	55.9
0.156000	32.8	9.000	N	9.8	22.8	55.7
0.160000	30.2	9.000	N	9.8	25.3	55.5
0.164000	28.0	9.000	N	9.8	27.3	55.3
0.168000	26.8	9.000	N	9.8	28.3	55.1
0.220000	21.9	9.000	N	9.9	30.9	52.8
4.034000	19.6	9.000	N	10.2	26.4	46.0
4.084000	19.6	9.000	N	10.2	26.4	46.0
4.204000	19.8	9.000	N	10.2	26.2	46.0
4.302000	19.8	9.000	N	10.2	26.2	46.0
4.746000	20.0	9.000	N	10.2	26.0	46.0
5.112000	19.6	9.000	N	10.2	30.4	50.0
18.346000	19.4	9.000	N	10.8	30.6	50.0
18.662000	19.1	9.000	N	10.8	30.9	50.0
18.786000	19.3	9.000	N	10.8	30.7	50.0
18.984000	18.8	9.000	N	10.8	31.2	50.0
19.152000	18.4	9.000	N	10.8	31.6	50.0
19.488000	17.5	9.000	N	10.9	32.5	50.0



Figure 5: Conducted Emission, Receiver mode (LTE B12+B13+B17 High CH Idle)+Front Camera Recording, Line (L1)





QuasiPeak Final Result, Line (L1)

Frequency (MHz)	QuasiPeak (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.152000	44.3	9.000	L1	9.7	21.6	65.9
0.158000	43.9	9.000	L1	9.7	21.7	65.6
0.168000	36.8	9.000	L1	9.7	28.3	65.1
0.216000	32.6	9.000	L1	9.7	30.4	63.0
0.224000	35.4	9.000	L1	9.7	27.3	62.7
0.232000	35.7	9.000	L1	9.7	26.7	62.4
3.824000	29.2	9.000	L1	10.0	26.8	56.0
4.008000	29.6	9.000	L1	10.0	26.4	56.0
4.284000	29.6	9.000	L1	10.0	26.4	56.0
4.306000	29.7	9.000	L1	10.0	26.3	56.0
4.692000	29.8	9.000	L1	10.0	26.2	56.0
5.130000	29.4	9.000	L1	10.0	30.6	60.0
13.480000	38.1	9.000	L1	10.4	21.9	60.0
18.448000	36.7	9.000	L1	10.5	23.3	60.0
18.564000	36.3	9.000	L1	10.5	23.7	60.0
18.742000	36.4	9.000	L1	10.6	23.6	60.0
19.170000	36.2	9.000	L1	10.6	23.8	60.0
19.444000	35.1	9.000	L1	10.6	24.9	60.0

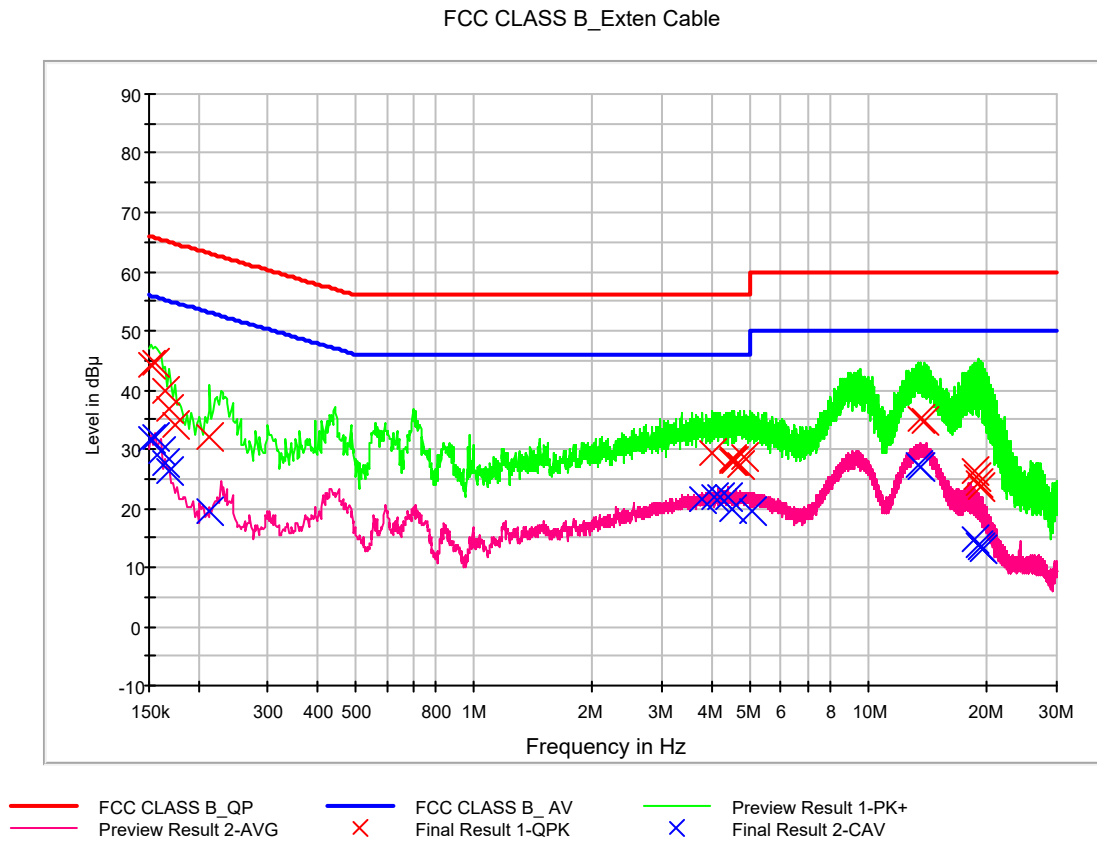


CAverage Final Result, Line (L1)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.152000	31.8	9.000	L1	9.7	24.1	55.9
0.156000	32.4	9.000	L1	9.7	23.3	55.7
0.160000	29.9	9.000	L1	9.7	25.6	55.5
0.164000	27.5	9.000	L1	9.7	27.7	55.3
0.168000	26.3	9.000	L1	9.7	28.8	55.1
0.224000	22.4	9.000	L1	9.7	30.2	52.7
3.824000	21.5	9.000	L1	10.0	24.5	46.0
4.008000	21.8	9.000	L1	10.0	24.2	46.0
4.284000	21.9	9.000	L1	10.0	24.1	46.0
4.306000	21.9	9.000	L1	10.0	24.1	46.0
4.692000	21.8	9.000	L1	10.0	24.2	46.0
4.762000	22.0	9.000	L1	10.0	24.0	46.0
13.480000	30.0	9.000	L1	10.4	20.0	50.0
18.448000	21.9	9.000	L1	10.5	28.1	50.0
18.564000	21.4	9.000	L1	10.5	28.6	50.0
18.742000	21.3	9.000	L1	10.6	28.7	50.0
19.170000	20.5	9.000	L1	10.6	29.5	50.0
19.444000	19.9	9.000	L1	10.6	30.1	50.0



Figure 6: Conducted Emission, Receiver mode (LTE B12+B13+B17 High CH Idle)+Front Camera Recording, Line (N)





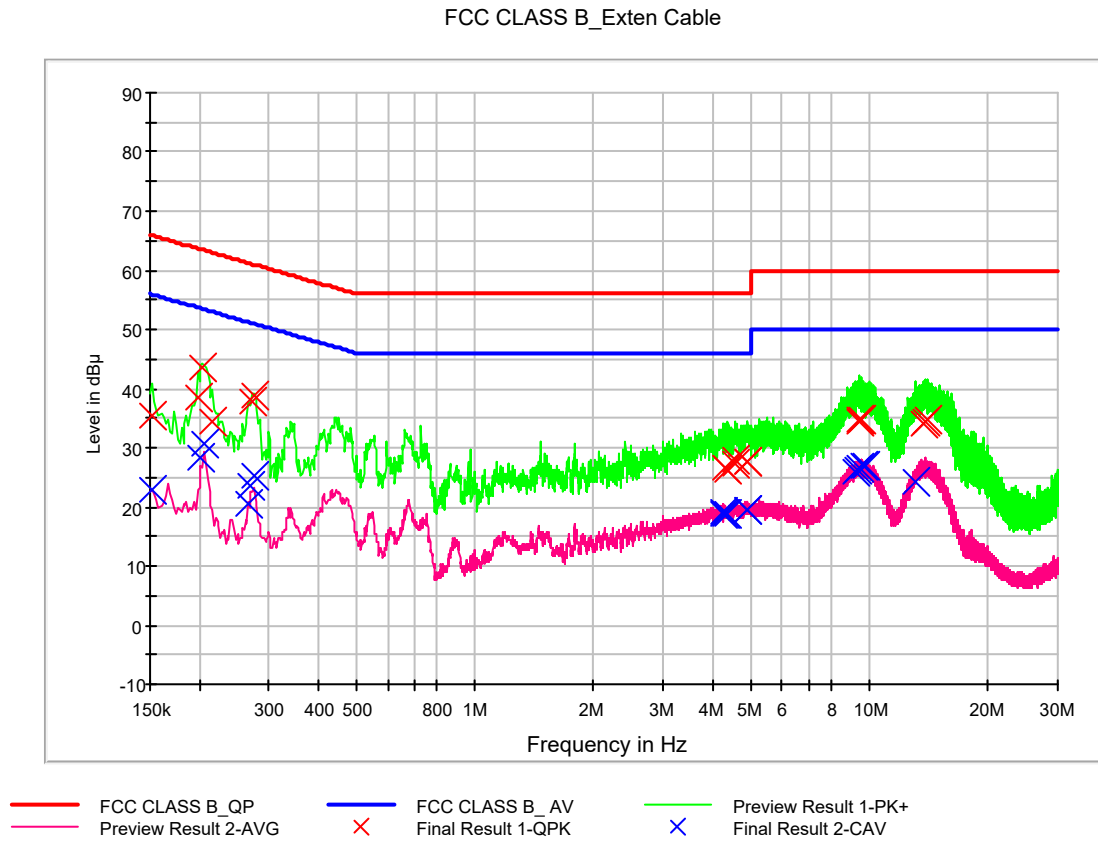
QuasiPeak Final Result, Line (N)

Frequency (MHz)	QuasiPeak (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.152000	44.1	9.000	L1	9.7	21.8	65.9
0.156000	44.5	9.000	L1	9.7	21.2	65.7
0.164000	39.8	9.000	L1	9.7	25.5	65.3
0.168000	36.8	9.000	L1	9.7	28.2	65.1
0.174000	33.9	9.000	L1	9.7	30.8	64.8
0.214000	31.9	9.000	L1	9.7	31.2	63.0
4.028000	29.3	9.000	L1	10.0	26.7	56.0
4.486000	28.2	9.000	L1	10.0	27.8	56.0
4.530000	27.9	9.000	L1	10.0	28.1	56.0
4.572000	28.1	9.000	L1	10.0	27.9	56.0
4.740000	27.4	9.000	L1	10.0	28.6	56.0
4.828000	28.5	9.000	L1	10.0	27.5	56.0
13.568000	35.2	9.000	L1	10.4	24.8	60.0
13.864000	34.8	9.000	L1	10.4	25.2	60.0
18.502000	26.1	9.000	L1	10.5	33.9	60.0
18.690000	25.3	9.000	L1	10.6	34.7	60.0
18.930000	24.3	9.000	L1	10.6	35.7	60.0
19.290000	23.4	9.000	L1	10.6	36.6	60.0



CAverage Final Result, Line (N)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.152000	31.6	9.000	L1	9.7	24.3	55.9
0.156000	32.1	9.000	L1	9.7	23.5	55.7
0.160000	29.6	9.000	L1	9.7	25.9	55.5
0.164000	27.7	9.000	L1	9.7	27.5	55.3
0.168000	26.4	9.000	L1	9.7	28.6	55.1
0.214000	19.5	9.000	L1	9.7	33.6	53.0
3.788000	21.6	9.000	L1	10.0	24.4	46.0
4.042000	21.7	9.000	L1	10.0	24.3	46.0
4.210000	21.8	9.000	L1	10.0	24.2	46.0
4.386000	21.9	9.000	L1	10.0	24.1	46.0
4.486000	20.0	9.000	L1	10.0	26.0	46.0
5.042000	19.6	9.000	L1	10.0	30.4	50.0
13.346000	27.2	9.000	L1	10.4	22.8	50.0
13.598000	27.0	9.000	L1	10.4	23.0	50.0
18.502000	14.9	9.000	L1	10.5	35.1	50.0
18.930000	13.6	9.000	L1	10.6	36.4	50.0
19.290000	13.3	9.000	L1	10.6	36.7	50.0
19.514000	13.0	9.000	L1	10.6	37.0	50.0

**Figure 7: Conducted Emission, Keyboard, Line (L1)**



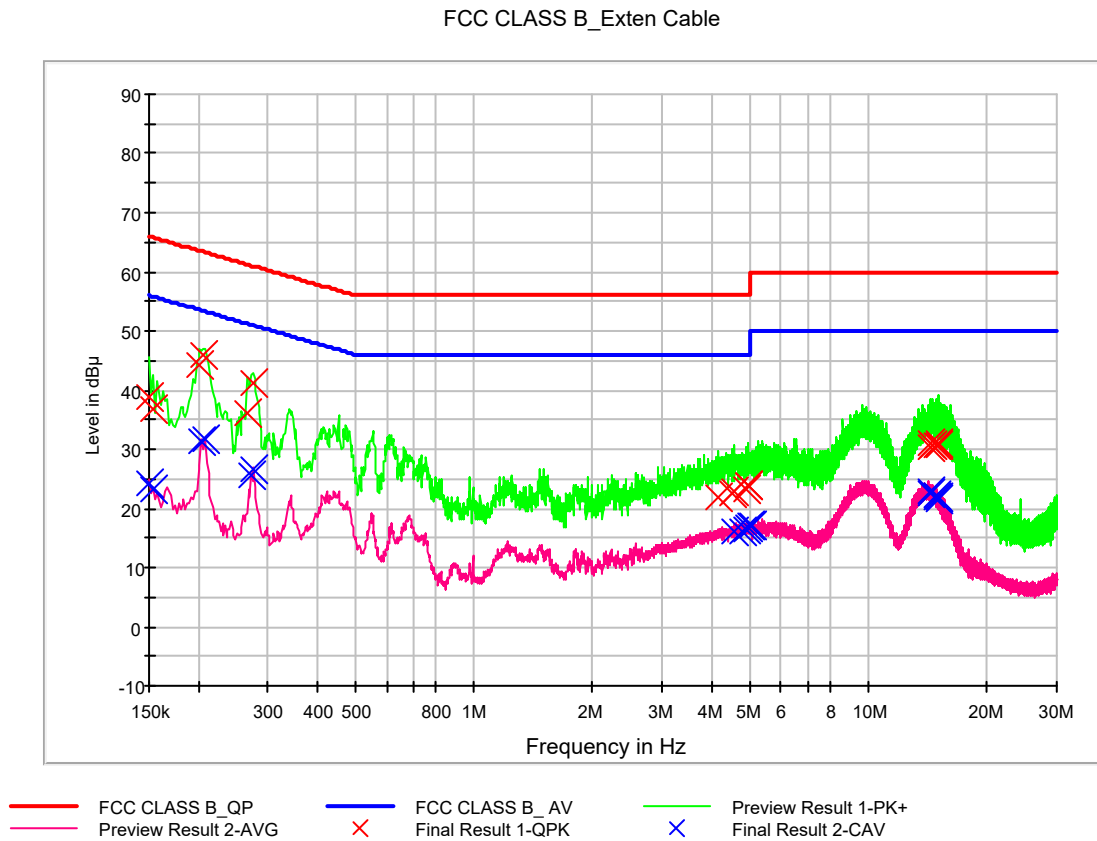
QuasiPeak Final Result, Line (L1)

Frequency (MHz)	QuasiPeak (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.152000	35.4	9.000	L1	9.7	30.5	65.9
0.198000	38.4	9.000	L1	9.7	25.3	63.7
0.204000	43.4	9.000	L1	9.7	20.0	63.4
0.216000	34.5	9.000	L1	9.7	28.5	63.0
0.272000	37.8	9.000	L1	9.7	23.2	61.1
0.276000	38.8	9.000	L1	9.7	22.1	60.9
4.320000	26.6	9.000	L1	10.0	29.4	56.0
4.380000	26.2	9.000	L1	10.0	29.8	56.0
4.554000	28.1	9.000	L1	10.0	27.9	56.0
4.582000	27.2	9.000	L1	10.0	28.8	56.0
4.904000	27.6	9.000	L1	10.0	28.4	56.0
4.912000	27.7	9.000	L1	10.0	28.3	56.0
9.370000	34.5	9.000	L1	10.2	25.5	60.0
9.436000	34.7	9.000	L1	10.2	25.3	60.0
9.508000	34.8	9.000	L1	10.2	25.2	60.0
13.672000	34.2	9.000	L1	10.4	25.8	60.0
13.786000	34.3	9.000	L1	10.4	25.7	60.0
14.074000	34.8	9.000	L1	10.4	25.2	60.0



CAverage Final Result, Line (L1)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.152000	22.8	9.000	L1	9.7	33.1	55.9
0.202000	28.3	9.000	L1	9.7	25.2	53.5
0.206000	30.7	9.000	L1	9.7	22.7	53.4
0.266000	20.7	9.000	L1	9.7	30.6	51.2
0.270000	23.6	9.000	L1	9.7	27.5	51.1
0.274000	25.2	9.000	L1	9.7	25.8	51.0
4.232000	18.9	9.000	L1	10.0	27.1	46.0
4.270000	19.2	9.000	L1	10.0	26.8	46.0
4.320000	18.7	9.000	L1	10.0	27.3	46.0
4.380000	18.7	9.000	L1	10.0	27.3	46.0
4.904000	19.5	9.000	L1	10.0	26.5	46.0
4.912000	19.5	9.000	L1	10.0	26.5	46.0
9.232000	26.1	9.000	L1	10.2	23.9	50.0
9.294000	26.4	9.000	L1	10.2	23.6	50.0
9.436000	26.6	9.000	L1	10.2	23.4	50.0
9.638000	26.9	9.000	L1	10.2	23.1	50.0
9.758000	26.8	9.000	L1	10.2	23.2	50.0
13.062000	24.2	9.000	L1	10.3	25.8	50.0

**Figure 8: Conducted Emission, Keyboard, Line (N)**



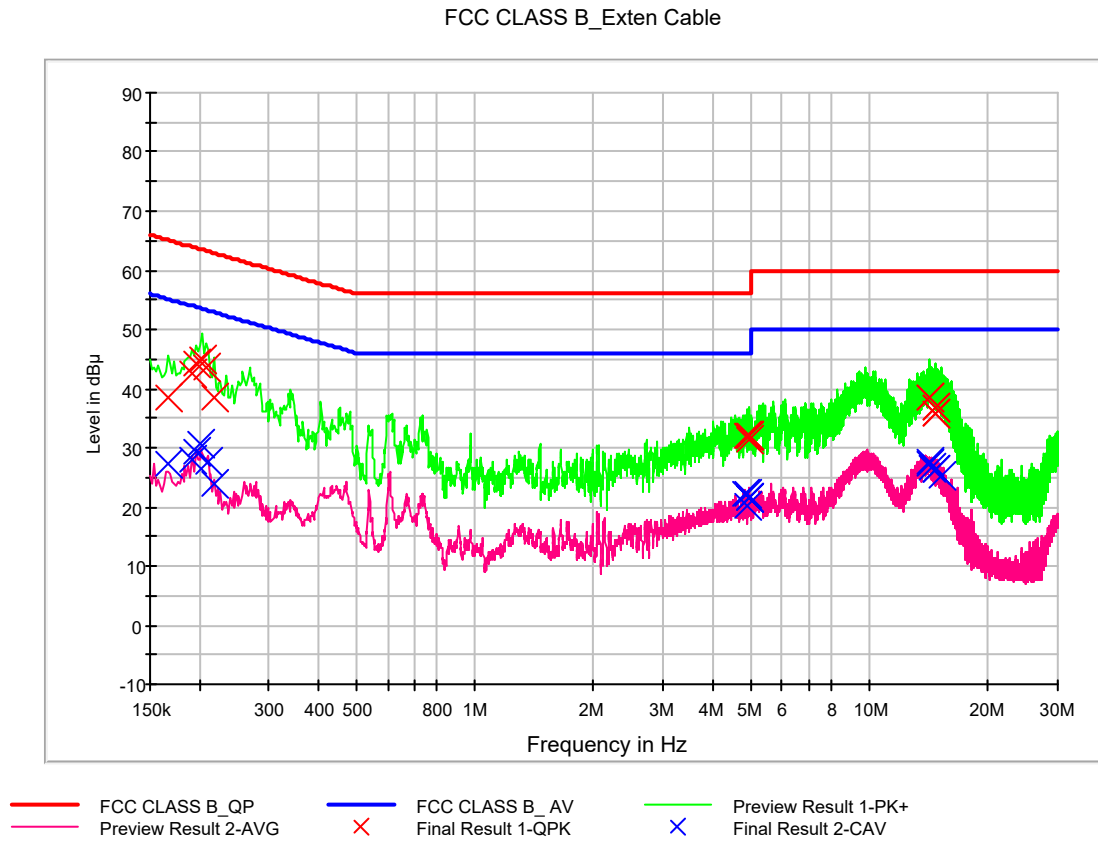
QuasiPeak Final Result, Line (N)

Frequency (MHz)	QuasiPeak (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.150000	38.8	9.000	N	9.8	27.2	66.0
0.154000	36.7	9.000	N	9.8	29.1	65.8
0.202000	44.2	9.000	N	9.9	19.4	63.5
0.206000	45.9	9.000	N	9.9	17.4	63.4
0.266000	36.2	9.000	N	9.9	25.0	61.2
0.276000	41.2	9.000	N	9.9	19.7	60.9
4.168000	22.0	9.000	N	10.2	34.0	56.0
4.522000	22.7	9.000	N	10.2	33.3	56.0
4.584000	22.8	9.000	N	10.2	33.2	56.0
4.876000	23.1	9.000	N	10.2	32.9	56.0
4.956000	23.8	9.000	N	10.2	32.2	56.0
4.976000	24.0	9.000	N	10.2	32.0	56.0
14.382000	30.4	9.000	N	10.6	29.6	60.0
14.426000	31.0	9.000	N	10.6	29.0	60.0
14.552000	30.8	9.000	N	10.7	29.2	60.0
14.852000	30.7	9.000	N	10.7	29.3	60.0
14.970000	30.6	9.000	N	10.7	29.4	60.0
15.096000	31.0	9.000	N	10.7	29.0	60.0



CAverage Final Result, Line (N)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.150000	24.3	9.000	N	9.8	31.7	56.0
0.154000	23.4	9.000	N	9.8	32.4	55.8
0.204000	31.4	9.000	N	9.9	22.0	53.4
0.208000	31.6	9.000	N	9.9	21.7	53.3
0.272000	25.6	9.000	N	9.9	25.4	51.1
0.276000	26.8	9.000	N	9.9	24.2	50.9
4.584000	16.2	9.000	N	10.2	29.8	46.0
4.806000	16.2	9.000	N	10.2	29.8	46.0
4.906000	16.5	9.000	N	10.2	29.5	46.0
4.948000	16.6	9.000	N	10.2	29.4	46.0
5.036000	17.0	9.000	N	10.2	33.0	50.0
5.050000	17.0	9.000	N	10.2	33.0	50.0
14.382000	22.4	9.000	N	10.6	27.6	50.0
14.426000	22.8	9.000	N	10.6	27.2	50.0
14.852000	21.9	9.000	N	10.7	28.1	50.0
14.890000	22.2	9.000	N	10.7	27.8	50.0
14.970000	21.9	9.000	N	10.7	28.1	50.0
15.082000	21.5	9.000	N	10.7	28.5	50.0

**Figure 9: Conducted Emission, Dock Charging, Line (L1)**



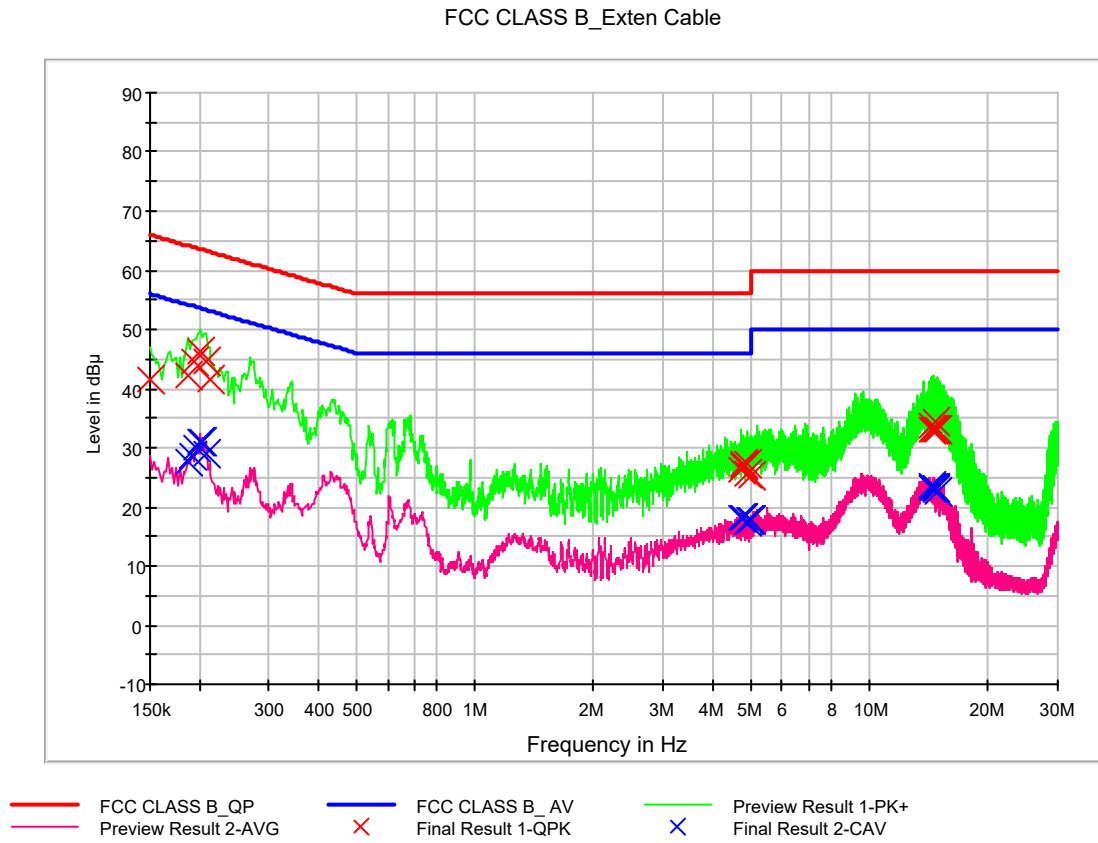
QuasiPeak Final Result, Line (L1)

Frequency (MHz)	QuasiPeak (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.166000	38.5	9.000	L1	9.7	26.7	65.2
0.192000	42.5	9.000	L1	9.7	21.4	63.9
0.196000	44.2	9.000	L1	9.7	19.6	63.8
0.204000	45.1	9.000	L1	9.7	18.4	63.4
0.208000	43.5	9.000	L1	9.7	19.7	63.3
0.218000	38.5	9.000	L1	9.7	24.4	62.9
4.870000	32.1	9.000	L1	10.0	23.9	56.0
4.874000	32.1	9.000	L1	10.0	23.9	56.0
4.946000	32.0	9.000	L1	10.0	24.0	56.0
4.952000	32.1	9.000	L1	10.0	23.9	56.0
4.958000	31.9	9.000	L1	10.0	24.1	56.0
4.964000	31.4	9.000	L1	10.0	24.6	56.0
14.156000	38.4	9.000	L1	10.4	21.6	60.0
14.190000	38.4	9.000	L1	10.4	21.6	60.0
14.666000	36.9	9.000	L1	10.4	23.1	60.0
14.676000	36.9	9.000	L1	10.4	23.1	60.0
14.778000	35.7	9.000	L1	10.4	24.3	60.0
14.782000	35.8	9.000	L1	10.4	24.2	60.0



CAverage Final Result, Line (L1)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.166000	27.3	9.000	L1	9.7	27.9	55.2
0.192000	28.0	9.000	L1	9.7	25.9	53.9
0.196000	29.2	9.000	L1	9.7	24.6	53.8
0.202000	30.8	9.000	L1	9.7	22.8	53.5
0.210000	27.5	9.000	L1	9.7	25.7	53.2
0.218000	24.0	9.000	L1	9.7	28.9	52.9
4.866000	22.2	9.000	L1	10.0	23.8	46.0
4.870000	22.1	9.000	L1	10.0	23.9	46.0
4.896000	20.1	9.000	L1	10.0	25.9	46.0
4.946000	21.6	9.000	L1	10.0	24.4	46.0
4.954000	21.5	9.000	L1	10.0	24.5	46.0
4.958000	21.4	9.000	L1	10.0	24.6	46.0
14.156000	27.5	9.000	L1	10.4	22.5	50.0
14.256000	27.3	9.000	L1	10.4	22.7	50.0
14.308000	26.5	9.000	L1	10.4	23.5	50.0
14.702000	26.3	9.000	L1	10.4	23.7	50.0
14.716000	26.3	9.000	L1	10.4	23.7	50.0
15.192000	25.3	9.000	L1	10.4	24.7	50.0

**Figure 10: Conducted Emission, Dock Charging, Line (N)**



QuasiPeak Final Result, Line (N)

Frequency (MHz)	QuasiPeak (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.150000	41.4	9.000	N	9.8	24.6	66.0
0.188000	42.2	9.000	N	9.8	21.9	64.1
0.194000	44.5	9.000	N	9.8	19.4	63.9
0.202000	46.4	9.000	N	9.9	17.1	63.5
0.208000	44.5	9.000	N	9.9	18.8	63.3
0.212000	41.6	9.000	N	9.9	21.5	63.1
4.718000	26.3	9.000	N	10.2	29.7	56.0
4.790000	27.1	9.000	N	10.2	28.9	56.0
4.794000	27.4	9.000	N	10.2	28.6	56.0
4.870000	27.4	9.000	N	10.2	28.6	56.0
4.880000	25.6	9.000	N	10.2	30.4	56.0
5.030000	25.3	9.000	N	10.2	34.7	60.0
14.312000	33.7	9.000	N	10.6	26.3	60.0
14.384000	33.1	9.000	N	10.6	26.9	60.0
14.454000	33.0	9.000	N	10.6	27.0	60.0
14.654000	34.6	9.000	N	10.7	25.4	60.0
14.730000	33.0	9.000	N	10.7	27.0	60.0
14.788000	33.2	9.000	N	10.7	26.8	60.0



CAverage Final Result, Line (N)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.188000	27.6	9.000	N	9.8	26.6	54.1
0.192000	28.7	9.000	N	9.8	25.3	53.9
0.196000	29.9	9.000	N	9.8	23.9	53.8
0.200000	30.9	9.000	N	9.9	22.7	53.6
0.204000	31.0	9.000	N	9.9	22.5	53.4
0.208000	28.9	9.000	N	9.9	24.3	53.3
4.718000	18.2	9.000	N	10.2	27.8	46.0
4.790000	18.1	9.000	N	10.2	27.9	46.0
4.794000	18.1	9.000	N	10.2	27.9	46.0
4.870000	17.5	9.000	N	10.2	28.5	46.0
4.964000	17.8	9.000	N	10.2	28.2	46.0
5.030000	18.0	9.000	N	10.2	32.0	50.0
14.312000	23.3	9.000	N	10.6	26.7	50.0
14.384000	23.4	9.000	N	10.6	26.6	50.0
14.454000	23.4	9.000	N	10.6	26.6	50.0
14.654000	23.4	9.000	N	10.7	26.6	50.0
14.730000	22.8	9.000	N	10.7	27.2	50.0
14.804000	22.5	9.000	N	10.7	27.5	50.0



5.2 Radiated Emission

The test results of radiated emission provide the following information:

-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 [TA] Receiver (LTE B5 Low CH Idle) + Rear Camera Recording Receiver (LTE B12+B13+B17 High CH Idle) + Front Camera Recording [Earphone] Receiver (LTE B5 Low CH Idle) + Rear Camera Recording Receiver (LTE B12+B13+B17 High CH Idle) + Front Camera Recording Keyboard Dock Charging
Kind of Test Site	3 m semi anechoic chamber
Temperature	21.7/ 23.8/ 23.2 °C
Relative Humidity	42.8/ 43.5/ 44.4 %
Test Date	March 08/ March 11/ March 12, 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



Data Communication

Frequency (MHz)	Quasi Peak (dBμV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
31.404000	21.4	274.9	V	305.0	18.8	18.6	40.0
55.301600	32.1	100.0	V	88.0	20.0	7.9	40.0
276.974400	31.1	100.0	H	331.0	19.8	17.6	46.0
500.019200	36.8	174.8	H	124.0	25.2	9.2	46.0
749.979200	38.1	100.0	H	99.0	29.5	7.9	46.0
875.012000	39.3	100.0	H	218.0	30.9	6.7	46.0

[TA] Receiver (LTE B5 Low CH Idle) + Rear Camera Recording

Frequency (MHz)	Quasi Peak (dBμV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
32.592800	21.7	125.1	V	337.0	18.9	18.3	40.0
45.299200	34.9	100.0	V	143.0	20.0	5.1	40.0
61.613600	19.6	125.3	V	270.0	19.5	20.4	40.0
159.901600	19.5	116.8	V	158.0	20.2	24.0	43.5
481.112000	24.7	125.1	V	350.0	24.8	21.3	46.0
635.952000	27.9	174.7	H	179.0	27.9	18.1	46.0

[TA] Receiver (LTE B12+B13+B17 High CH Idle) + Front Camera Recording

Frequency (MHz)	Quasi Peak (dBμV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
43.360800	22.1	100.0	V	122.0	19.9	17.9	40.0
45.263200	25.7	100.0	V	169.0	20.0	14.3	40.0
64.759200	18.5	100.0	V	0.0	18.9	21.5	40.0
114.557600	21.6	207.9	V	320.0	17.2	21.9	43.5
164.384800	18.4	118.9	V	33.0	19.9	25.1	43.5
704.468800	28.6	209.8	V	275.0	28.8	17.4	46.0


[Earphone] Receiver (LTE B5 Low CH Idle) + Rear Camera Recording

Frequency (MHz)	Quasi Peak (dBμV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
32.033600	18.8	174.8	V	17.0	18.9	21.2	40.0
51.607200	21.0	100.0	V	90.0	20.2	19.0	40.0
67.168800	20.0	174.7	H	1.0	18.5	20.0	40.0
114.558400	21.6	174.9	V	169.0	17.2	21.9	43.5
447.289600	22.7	100.0	H	192.0	24.1	23.3	46.0
660.757600	28.0	174.9	V	6.0	28.2	18.0	46.0

[Earphone] Receiver (LTE B12+B13+B17 High CH Idle) + Front Camera Recording

Frequency (MHz)	Quasi Peak (dBμV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
37.384800	17.0	208.7	V	140.0	19.4	23.0	40.0
52.991200	18.3	174.9	V	221.0	20.1	21.7	40.0
66.517600	18.6	225.1	H	339.0	18.6	21.4	40.0
114.547200	21.1	174.7	V	114.0	17.2	22.4	43.5
489.412800	23.9	174.8	V	286.0	25.0	22.1	46.0
673.247200	28.2	174.9	V	113.0	28.4	17.8	46.0



Keyboard

Frequency (MHz)	Quasi Peak (dBμV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
43.304000	28.8	100.0	V	170.0	19.9	11.2	40.0
47.030400	29.3	100.0	V	322.0	20.1	10.7	40.0
65.996800	21.5	100.0	V	274.0	18.7	18.5	40.0
146.978400	19.9	100.0	V	114.0	19.8	23.6	43.5
306.825600	22.2	100.0	H	31.0	20.7	23.8	46.0
553.124000	28.0	100.0	V	37.0	26.4	18.0	46.0

Dock Charging

Frequency (MHz)	Quasi Peak (dBμV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
32.591200	25.0	174.9	V	224.0	18.9	15.0	40.0
46.309600	24.5	100.0	V	64.0	20.1	15.5	40.0
201.476000	26.6	192.7	H	289.0	16.9	16.9	43.5
531.150400	26.7	100.0	V	30.0	25.9	19.3	46.0
604.461600	27.6	100.0	V	20.0	27.5	18.4	46.0
841.698400	30.4	100.0	V	64.0	30.6	15.6	46.0



-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 [TA] Receiver (LTE B5 Low CH Idle) + Rear Camera Recording Receiver (LTE B12+B13+B17 High CH Idle) + Front Camera Recording [Earphone] Receiver (LTE B5 Low CH Idle) + Rear Camera Recording Receiver (LTE B12+B13+B17 High CH Idle) + Front Camera Recording Keyboard Dock Charging
Kind of Test Site	3 m semi anechoic chamber
Temperature	24.2/ 23.8 °C
Relative Humidity	40.5/ 43.5 %
Test Date	March 07/ March 11, 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



Data Communication

Frequency (MHz)	Peak (dBμV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
1399.995000	49.1	125.8	V	208.0	-26.1	24.9	74.0
1994.250000	51.3	100.0	V	59.0	-25.3	22.7	74.0
2655.145000	50.9	198.6	V	21.0	-22.7	23.1	74.0
5994.465000	44.9	100.0	V	117.0	-14.9	29.1	74.0
10260.070000	47.8	175.6	H	155.0	-4.4	26.2	74.0
14703.925000	48.5	216.6	H	155.0	0.7	25.5	74.0

Frequency (MHz)	CAverage (dBμV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
1399.995000	47.6	125.8	V	208.0	-26.1	6.4	54.0
1994.250000	26.4	100.0	V	59.0	-25.3	27.6	54.0
2655.145000	23.4	198.6	V	21.0	-22.7	30.6	54.0
5994.465000	28.8	100.0	V	117.0	-14.9	25.2	54.0
10260.070000	35.3	175.6	H	155.0	-4.4	18.7	54.0
14703.925000	35.6	216.6	H	155.0	0.7	18.4	54.0

[TA] Receiver (LTE B5 Low CH Idle) + Rear Camera Recording

Frequency (MHz)	Peak (dBμV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
5100.010000	38.4	138.7	V	348.0	-15.8	35.6	74.0
7566.185000	45.2	150.0	H	170.0	-9.4	28.8	74.0
9544.650000	48.5	149.9	H	187.0	-5.4	25.5	74.0
10267.440000	47.9	176.5	V	194.0	-4.4	26.1	74.0
12799.870000	45.5	150.0	V	250.0	-2.8	28.5	74.0
14330.450000	48.2	100.0	V	134.0	0.1	25.8	74.0

Frequency (MHz)	CAverage (dBμV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
5100.010000	26.0	138.7	V	348.0	-15.8	28.0	54.0
7566.185000	31.6	150.0	H	170.0	-9.4	22.4	54.0
9544.650000	35.9	149.9	H	187.0	-5.4	18.1	54.0
10267.440000	35.3	176.5	V	194.0	-4.4	18.7	54.0
12799.870000	32.8	150.0	V	250.0	-2.8	21.2	54.0
14330.450000	35.3	100.0	V	134.0	0.1	18.7	54.0


[TA] Receiver (LTE B12+B13+B17 High CH Idle) + Front Camera Recording

Frequency (MHz)	Peak (dBμV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
5576.945000	39.1	100.0	V	215.0	-15.3	34.9	74.0
7397.610000	44.8	113.5	V	181.0	-9.7	29.2	74.0
9294.020000	47.3	100.0	V	274.0	-5.9	26.7	74.0
10242.935000	48.6	100.0	V	329.0	-4.5	25.4	74.0
13309.165000	45.8	242.5	V	78.0	-2.0	28.2	74.0
14764.115000	48.9	149.8	V	265.0	0.8	25.1	74.0

Frequency (MHz)	CAverage (dBμV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
5576.945000	26.2	100.0	V	215.0	-15.3	27.8	54.0
7397.610000	31.7	113.5	V	181.0	-9.7	22.3	54.0
9294.020000	34.3	100.0	V	274.0	-5.9	19.7	54.0
10242.935000	35.3	100.0	V	329.0	-4.5	18.7	54.0
13309.165000	32.6	242.5	V	78.0	-2.0	21.4	54.0
14764.115000	36.0	149.8	V	265.0	0.8	18.0	54.0

[Earphone] Receiver (LTE B5 Low CH Idle) + Rear Camera Recording

Frequency (MHz)	Peak (dBμV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
2985.995000	35.8	199.5	V	212.0	-21.1	38.2	74.0
5325.370000	38.9	140.8	V	46.0	-15.6	35.1	74.0
7458.480000	44.3	100.0	H	72.0	-9.6	29.7	74.0
9376.415000	48.1	139.6	V	130.0	-5.7	25.9	74.0
10548.485000	49.8	113.3	H	112.0	-3.5	24.2	74.0
14351.050000	48.4	248.4	V	50.0	0.1	25.6	74.0

Frequency (MHz)	CAverage (dBμV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
2985.995000	22.4	199.5	V	212.0	-21.1	31.6	54.0
5325.370000	26.2	140.8	V	46.0	-15.6	27.8	54.0
7458.480000	31.5	100.0	H	72.0	-9.6	22.5	54.0
9376.415000	35.1	139.6	V	130.0	-5.7	18.9	54.0
10548.485000	35.8	113.3	H	112.0	-3.5	18.2	54.0
14351.050000	35.1	248.4	V	50.0	0.1	18.9	54.0


[Earphone] Receiver (LTE B12+B13+B17 High CH Idle) + Front Camera Recording

Frequency (MHz)	Peak (dBμV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
4925.665000	39.5	198.4	H	311.0	-16.2	34.5	74.0
7508.165000	44.5	100.0	V	53.0	-9.4	29.5	74.0
9488.810000	48.5	100.0	V	278.0	-5.4	25.5	74.0
10265.110000	48.5	335.5	H	123.0	-4.4	25.5	74.0
12864.950000	46.2	350.0	V	246.0	-2.6	27.8	74.0
14809.210000	49.3	160.5	V	222.0	0.9	24.7	74.0

Frequency (MHz)	CAverage (dBμV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
4925.665000	26.5	198.4	H	311.0	-16.2	27.5	54.0
7508.165000	31.8	100.0	V	53.0	-9.4	22.2	54.0
9488.810000	35.8	100.0	V	278.0	-5.4	18.2	54.0
10265.110000	35.4	335.5	H	123.0	-4.4	18.6	54.0
12864.950000	33.2	350.0	V	246.0	-2.6	20.8	54.0
14809.210000	36.4	160.5	V	222.0	0.9	17.6	54.0

Keyboard

Frequency (MHz)	Peak (dBμV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
5613.765000	39.1	140.6	H	194.0	-15.3	34.9	74.0
7364.970000	44.0	230.5	H	96.0	-9.8	30.0	74.0
9151.750000	47.8	140.7	H	281.0	-6.3	26.2	74.0
10169.460000	48.2	100.0	V	247.0	-4.8	25.8	74.0
12949.075000	45.8	205.4	H	68.0	-2.4	28.2	74.0
14749.990000	49.2	176.5	V	92.0	0.8	24.8	74.0

Frequency (MHz)	CAverage (dBμV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
5613.765000	26.6	140.6	H	194.0	-15.3	27.4	54.0
7364.970000	31.4	230.5	H	96.0	-9.8	22.6	54.0
9151.750000	35.2	140.7	H	281.0	-6.3	18.8	54.0
10169.460000	35.3	100.0	V	247.0	-4.8	18.7	54.0
12949.075000	33.2	205.4	H	68.0	-2.4	20.8	54.0
14749.990000	35.9	176.5	V	92.0	0.8	18.1	54.0



Dock Charging

Frequency (MHz)	Peak (dBμV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
3032.530000	35.2	189.4	V	125.0	-21.1	38.8	74.0
4911.665000	39.2	249.8	H	163.0	-16.2	34.8	74.0
7402.740000	45.0	203.4	V	356.0	-9.7	29.0	74.0
9372.975000	48.4	125.8	H	295.0	-5.7	25.6	74.0
10201.160000	49.5	138.8	H	339.0	-4.6	24.5	74.0
14679.050000	48.8	149.8	V	227.0	0.7	25.2	74.0

Frequency (MHz)	CAverage (dBμV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
3032.530000	22.7	189.4	V	125.0	-21.1	31.3	54.0
4911.665000	26.3	249.8	H	163.0	-16.2	27.7	54.0
7402.740000	31.8	203.4	V	356.0	-9.7	22.2	54.0
9372.975000	35.2	125.8	H	295.0	-5.7	18.8	54.0
10201.160000	35.7	138.8	H	339.0	-4.6	18.3	54.0
14679.050000	36.0	149.8	V	227.0	0.7	18.0	54.0



6. CONCLUSION

The data collected shows that the **EUT Type: Tablet, FCC ID: A3LSMT725, Model: SM-T725** complies with §15.107 and §15.109 of the FCC rules.



7. APPENDIX A. TEST SETUP PHOTOGRAPHS

Please refer to ANNEX A_Test Setup Photo