

EMI TEST REPORT

FCC CERTIFICATION

Applicant:

SAMSUNG Electronics Co., Ltd.
129, Samsung-ro, Yeongtong-gu, Suwon-si,
Gyeonggi-do, 16677, Korea

Date of Issue: April 26, 2019

Test Report No. HCT-EM-1904-FC028

Test Site: HCT CO., LTD.

FCC ID :

A3LSMT725C

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

EUT Type : Tablet

Model Name : SM-T725C

Date of Test : April 16, 2019 to April 24, 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 denial the FCC benefits pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C 862

Tested By



Na-Eun Song
Test Engineer
EMC Team
Certification Division

Reviewed By



Gu-Cheol Yoon
Technical Manager
EMC Team
Certification Division

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REVISION HISTORY

The revision history for this document is shown in table.

Report No.	Issue Date	Information About Changes
HCT-EM-1904-FC028	April 26, 2019	Initial Release



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1. GENERAL INFORMATION

1.1 Description of EUT

Its basic purpose is used for communications.

FCC ID	A3LSMT725C
Model Name	SM-T725C
EUT Type	Tablet
Frequency Band	GSM 850/1900, WCDMA 850/1900, LTE B5/12/17/41 BT BDR/EDR/LE , WLAN a/b/g/n/ac(HT20/40/80), 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
EUT	SM-T725C	-	SAMSUNG
Notebook PC	ProBook6560b	5CB2053MXF	HP
Notebook PC Adaptor	Series PPP009L-E	-	LITE-ON TECHNOLOGY
Gateway	TL-WR747N	-	TP Link
Gateway Adaptor	T090060-2H1	-	TP Link
Serial Mouse	Serial 2 Button mouse	02031069	Radio Shack
RJ45 cable	-	-	-
TA	EP-TA200	-	SOLUM
Data Cable	EP-DG970BWE	-	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 (Type C)	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 (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	

1.6 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>					
<input checked="" type="checkbox"/> EMI Test Receiver	Rohde & Schwarz	ESCI	100584	1 year	06.25.2018
<input checked="" type="checkbox"/> LISN	Rohde & Schwarz	ENV216	102245	1 year	12.12.2018
<input checked="" type="checkbox"/> LISN	Rohde & Schwarz	ENV216	100073	1 year	05.03.2018
<input checked="" type="checkbox"/> Radio communication analyzer	ANRITSU	MT8820C	6201138643	1 year	08.21.2018
<input checked="" type="checkbox"/> Antenna (for Communication)	Schwarzbeck	USLP9142	VSLP 9142-200	-	-
<input checked="" type="checkbox"/> Software	Rohde & Schwarz	EMC32 VER8.54.0	-	-	-
<u>Radiated Emission</u>					
-For measurement below 1 GHz					
<input checked="" type="checkbox"/> EMI Test Receiver	Rohde & Schwarz	ESU40	100524	1 year	07.27.2018
<input checked="" type="checkbox"/> EMI Test Receiver	Rohde & Schwarz	ESI40	831564103	1 year	10.31.2018
<input checked="" type="checkbox"/> Trilog Antenna	Schwarzbeck	VULB 9168	255	2 year	03.26.2019
<input checked="" type="checkbox"/> Antenna master	INNCO Systems	MA4640-XP-ET	-	N/A	-
<input checked="" type="checkbox"/> Antenna master controller	INNCO Systems	CO 3000	CO3000/870/ 35990515/L	N/A	-
<input checked="" type="checkbox"/> Turn Table	INNCO Systems	1060	-	N/A	-
<input checked="" type="checkbox"/> Turn Table controller	INNCO Systems	CO2000	CO2000/095/ 7590304/L	N/A	-
<input checked="" type="checkbox"/> Radio communication analyzer	ANRITSU	MT8820C	6201138643	1 year	08.21.2018
<input checked="" type="checkbox"/> Antenna)	Schwarzbeck	USLP9142	VSLP 9142-200	-	-
<input checked="" type="checkbox"/> Software	Rohde & Schwarz	EMC32 VER8.40.0	-	-	-
-For measurement above 1 GHz					
<input checked="" type="checkbox"/> EMI Test Receiver	Rohde & Schwarz	ESU40	100524	1 year	07.27.2018
<input checked="" type="checkbox"/> EMI Test Receiver	Rohde & Schwarz	ESI40	831564103	1 year	10.31.2018
<input checked="" type="checkbox"/> Antenna master	INNCO Systems	MA4640-XP-ET	-	N/A	-
<input checked="" type="checkbox"/> Antenna master controller	INNCO Systems	CO3000	CO3000/870/ 35990515/L	N/A	-
<input checked="" type="checkbox"/> Turn Table	INNCO Systems	1060	-	N/A	-
<input checked="" type="checkbox"/> Turn Table controller	INNCO Systems	CO2000	CO2000/095/ 7590304/L	N/A	-
<input checked="" type="checkbox"/> Horn Antenna	Schwarzbeck	BBHA 9120D	01836	2 year	07.20.2018
<input checked="" type="checkbox"/> Low Noise Amplifier	TESTEK	TK-PA18H	170034-L	1 year	03.04.2019
<input checked="" type="checkbox"/> Power Amplifier	TESTEK	TK-PA1840H	170030-L	1 year	12.17.2018
<input checked="" type="checkbox"/> Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170#786	2 year	12.05.2017
<input checked="" type="checkbox"/> Radio communication analyzer	ANRITSU	MT8820C	6201138643	1 year	08.21.2018
<input checked="" type="checkbox"/> Antenna (for Communication)	Schwarzbeck	USLP9142	VSLP 9142-200	-	-
<input type="checkbox"/> Highpass Filter	Wainwright Instruments	WHKX1.0/15G-12SS	42	1 year	08.02.2018
<input checked="" type="checkbox"/> 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

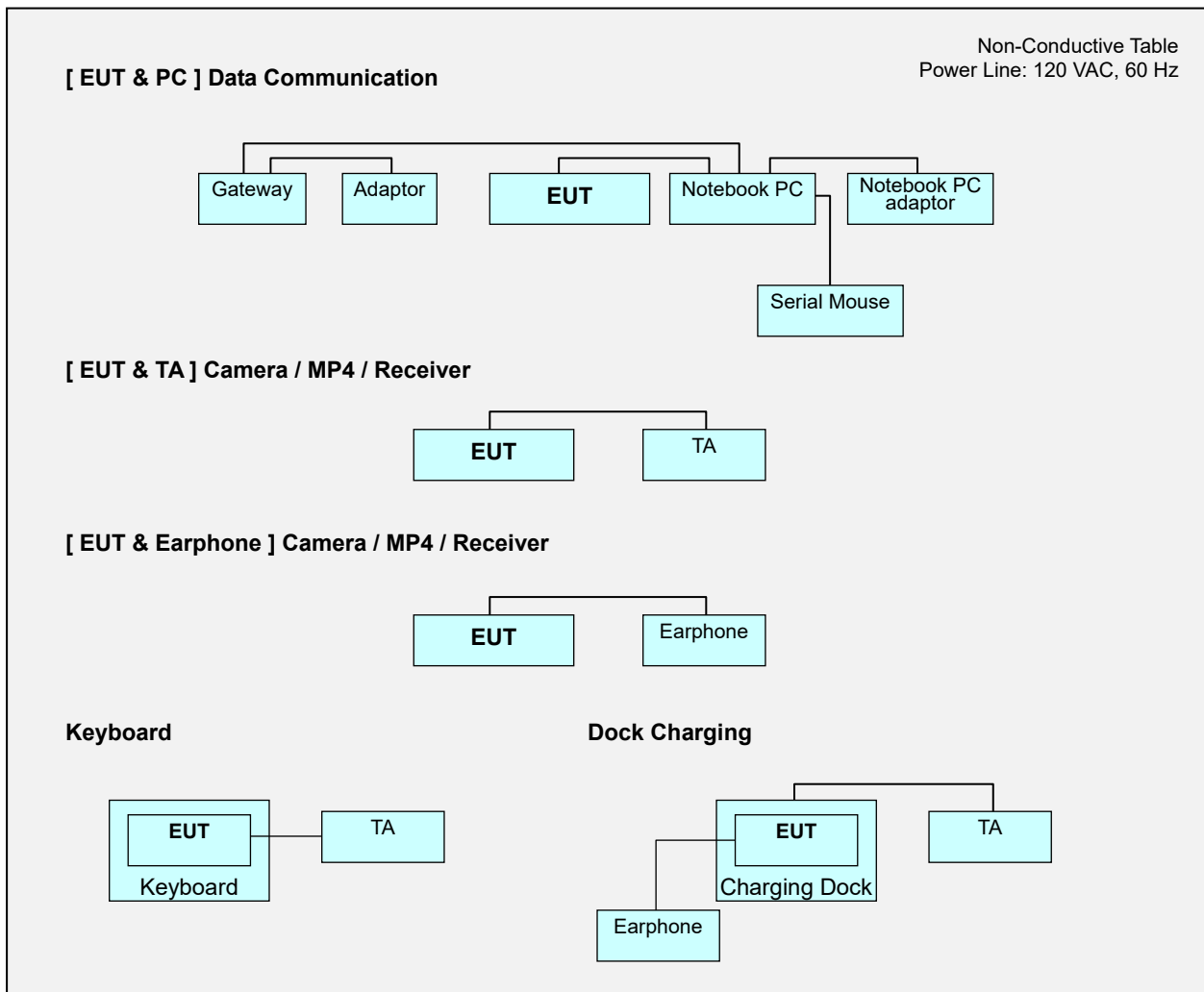


3.2.1 Frequency Range of Radiated Measurements

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 (Low / Middle / High CH)
- WCDMA 850 Idle (Middle CH)
- GSM 850 Idle (Low / Middle / High CH)
- LTE B12+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]

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

- 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]

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



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

[EUT & EARPHONE]

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

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:

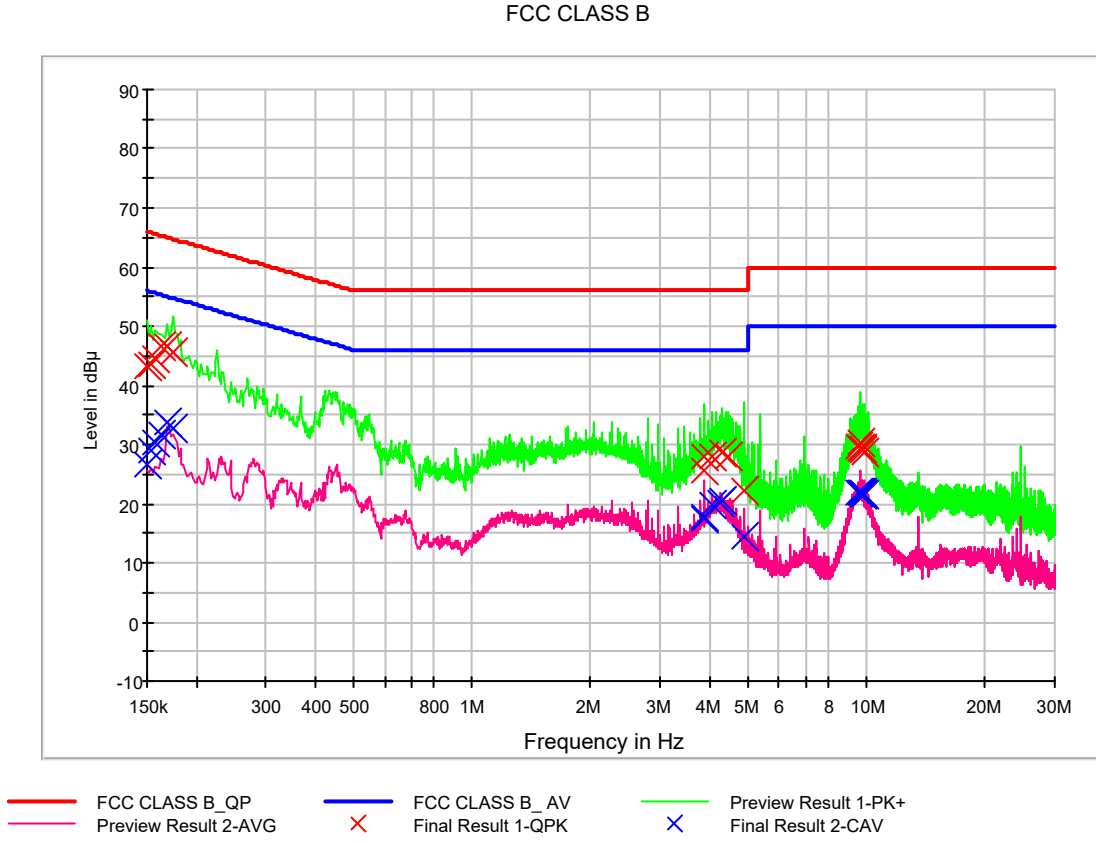
Applicable Standards	FCC PART 15 Subpart B Class B ANSI C63.4-2014
Detector	Quasi-Peak, CISPR-Average
Bandwidth	9 kHz (6 dB)
Worst Case of Operating Mode	Data Communication [TA] Receiver mode (LTE B5 High CH Idle)+MP4 Play Receiver mode (LTE B12+B17 Middle CH Idle)+Front Camera Recording Keyboard mode Dock Charging mode
Kind of Test Site	Shielded Room
Temperature	23.6 / 22.9 °C
Relative Humidity	42.8 / 43.5 %
Test Date	April 16 / April 17, 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)
0.150000	43.3	9.000	L1	9.6	22.7	66.0
0.154000	43.6	9.000	L1	9.6	22.2	65.8
0.158000	44.6	9.000	L1	9.6	21.0	65.6
0.162000	46.4	9.000	L1	9.6	18.9	65.4
0.168000	46.5	9.000	L1	9.6	18.6	65.1
0.174000	45.5	9.000	L1	9.6	19.3	64.8
3.858000	27.8	9.000	L1	9.8	28.2	56.0
3.872000	25.7	9.000	L1	9.8	30.3	56.0
4.076000	28.0	9.000	L1	9.8	28.0	56.0
4.282000	28.5	9.000	L1	9.8	27.5	56.0
4.472000	27.8	9.000	L1	9.8	28.2	56.0
4.920000	22.3	9.000	L1	9.8	33.7	56.0
9.576000	29.6	9.000	L1	10.0	30.4	60.0
9.612000	29.3	9.000	L1	10.0	30.7	60.0
9.628000	30.4	9.000	L1	10.0	29.6	60.0
9.730000	28.9	9.000	L1	10.0	31.1	60.0
9.778000	29.2	9.000	L1	10.0	30.8	60.0
9.834000	28.8	9.000	L1	10.0	31.2	60.0

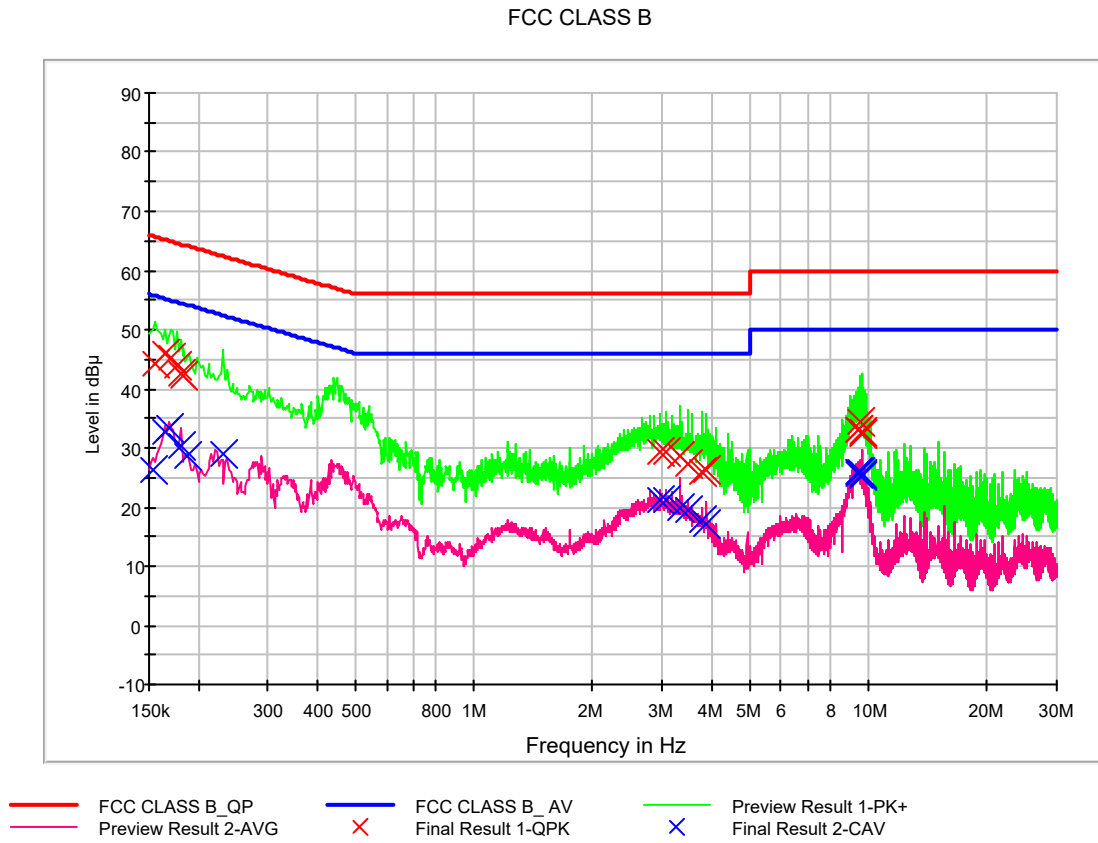


CAverage Final Result, Line (L1)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.150000	26.7	9.000	L1	9.6	29.3	56.0
0.154000	29.0	9.000	L1	9.6	26.7	55.8
0.158000	30.4	9.000	L1	9.6	25.2	55.6
0.162000	31.6	9.000	L1	9.6	23.8	55.4
0.168000	33.7	9.000	L1	9.6	21.4	55.1
0.174000	32.7	9.000	L1	9.6	22.1	54.8
3.856000	17.5	9.000	L1	9.8	28.5	46.0
3.872000	17.7	9.000	L1	9.8	28.3	46.0
4.076000	19.8	9.000	L1	9.8	26.2	46.0
4.272000	20.1	9.000	L1	9.8	25.9	46.0
4.282000	20.4	9.000	L1	9.8	25.6	46.0
4.920000	14.4	9.000	L1	9.8	31.6	46.0
9.576000	21.9	9.000	L1	10.0	28.1	50.0
9.614000	22.0	9.000	L1	10.0	28.0	50.0
9.676000	22.0	9.000	L1	10.0	28.0	50.0
9.730000	22.0	9.000	L1	10.0	28.0	50.0
9.778000	21.6	9.000	L1	10.0	28.4	50.0
9.832000	21.5	9.000	L1	10.0	28.5	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)
0.156000	44.1	9.000	N	9.6	21.6	65.7
0.164000	45.8	9.000	N	9.6	19.5	65.3
0.170000	45.3	9.000	N	9.6	19.7	65.0
0.176000	43.9	9.000	N	9.6	20.8	64.7
0.180000	42.6	9.000	N	9.6	21.9	64.5
0.184000	42.4	9.000	N	9.6	21.9	64.3
2.962000	29.4	9.000	N	9.8	26.6	56.0
3.064000	29.2	9.000	N	9.8	26.8	56.0
3.334000	28.6	9.000	N	9.8	27.4	56.0
3.476000	27.3	9.000	N	9.8	28.7	56.0
3.802000	25.9	9.000	N	9.8	30.1	56.0
3.866000	26.2	9.000	N	9.8	29.8	56.0
9.386000	33.1	9.000	N	9.9	26.9	60.0
9.436000	33.1	9.000	N	9.9	26.9	60.0
9.540000	34.3	9.000	N	9.9	25.7	60.0
9.618000	32.7	9.000	N	9.9	27.3	60.0
9.622000	32.4	9.000	N	9.9	27.6	60.0
9.642000	32.2	9.000	N	9.9	27.8	60.0

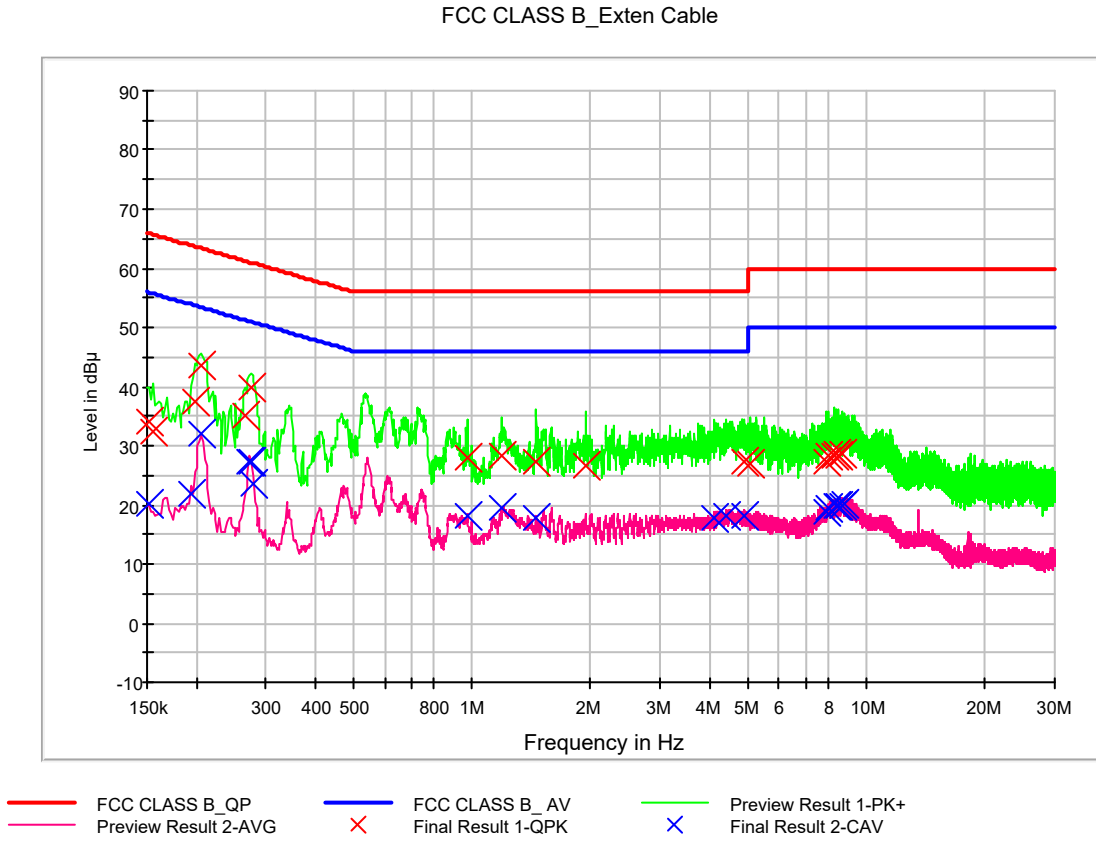


CAverage Final Result, Line (N)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.154000	26.2	9.000	N	9.6	29.5	55.8
0.164000	32.9	9.000	N	9.6	22.4	55.3
0.168000	33.2	9.000	N	9.6	21.8	55.1
0.180000	30.5	9.000	N	9.6	24.0	54.5
0.188000	28.6	9.000	N	9.6	25.5	54.1
0.230000	29.0	9.000	N	9.6	23.4	52.4
2.962000	21.0	9.000	N	9.8	25.0	46.0
3.064000	21.4	9.000	N	9.8	24.6	46.0
3.334000	19.9	9.000	N	9.8	26.1	46.0
3.476000	19.4	9.000	N	9.8	26.6	46.0
3.802000	17.6	9.000	N	9.8	28.4	46.0
3.866000	17.1	9.000	N	9.8	28.9	46.0
9.386000	26.0	9.000	N	9.9	24.0	50.0
9.432000	25.9	9.000	N	9.9	24.1	50.0
9.436000	25.7	9.000	N	9.9	24.3	50.0
9.538000	25.8	9.000	N	9.9	24.2	50.0
9.618000	25.1	9.000	N	9.9	24.9	50.0
9.622000	25.7	9.000	N	9.9	24.3	50.0



Figure 3: Conducted Emission, Receiver mode (LTE B5 High CH Idle)+MP4 Play, Line (L1)





QuasiPeak Final Result, Line (L1)

Frequency (MHz)	QuasiPeak (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.152000	34.0	9.000	L1	9.7	31.9	65.9
0.156000	32.3	9.000	L1	9.7	33.4	65.7
0.198000	37.4	9.000	L1	9.7	26.3	63.7
0.206000	43.6	9.000	L1	9.7	19.8	63.4
0.266000	35.1	9.000	L1	9.7	26.2	61.2
0.276000	39.9	9.000	L1	9.7	21.0	60.9
0.972000	27.9	9.000	L1	9.8	28.1	56.0
1.192000	28.3	9.000	L1	9.8	27.7	56.0
1.456000	27.4	9.000	L1	9.9	28.6	56.0
1.944000	26.6	9.000	L1	9.8	29.4	56.0
4.896000	27.3	9.000	L1	10.0	28.7	56.0
5.074000	27.0	9.000	L1	10.0	33.0	60.0
7.866000	27.1	9.000	L1	10.2	32.9	60.0
8.038000	28.4	9.000	L1	10.2	31.6	60.0
8.246000	28.1	9.000	L1	10.2	31.9	60.0
8.360000	28.5	9.000	L1	10.2	31.5	60.0
8.438000	28.3	9.000	L1	10.2	31.7	60.0
8.648000	28.8	9.000	L1	10.2	31.2	60.0

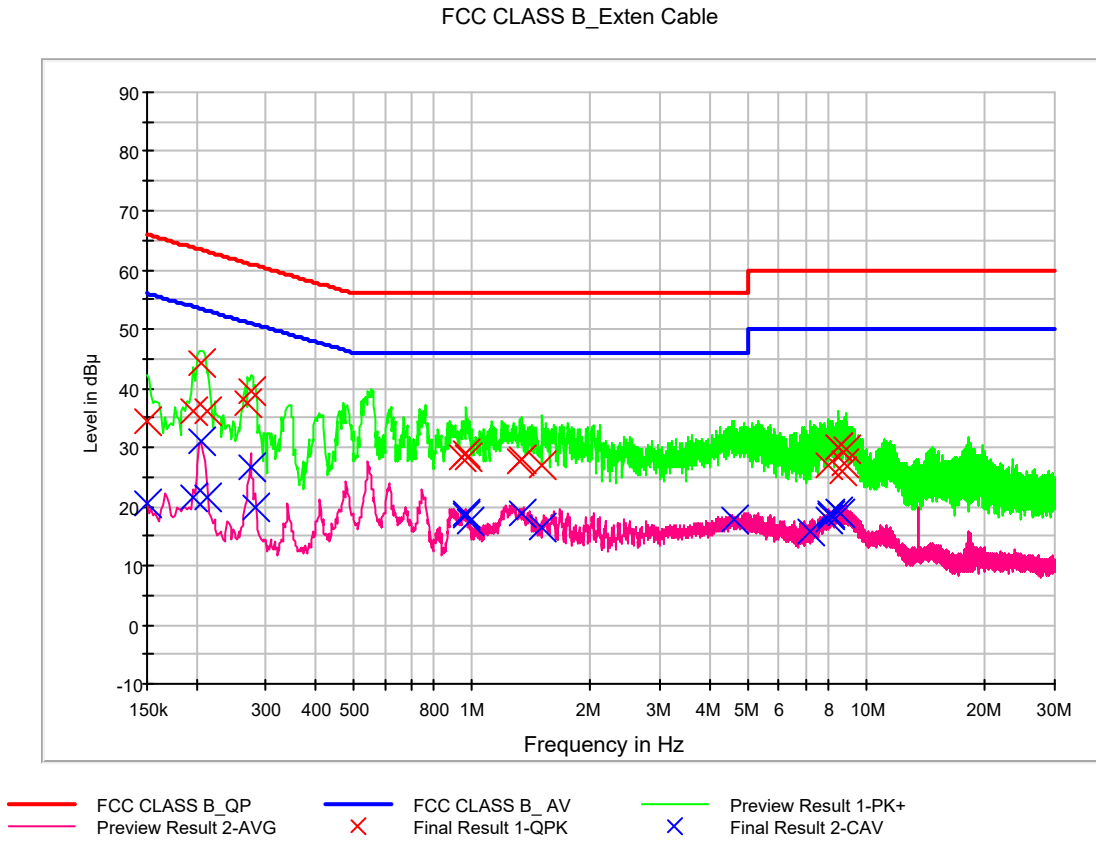


CAverage Final Result, Line (L1)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.152000	20.1	9.000	L1	9.7	35.8	55.9
0.194000	21.7	9.000	L1	9.7	32.2	53.9
0.206000	32.1	9.000	L1	9.7	21.3	53.4
0.272000	27.4	9.000	L1	9.7	23.6	51.1
0.276000	27.4	9.000	L1	9.7	23.5	50.9
0.280000	23.5	9.000	L1	9.7	27.3	50.8
0.972000	18.1	9.000	L1	9.8	27.9	46.0
1.192000	19.6	9.000	L1	9.8	26.4	46.0
1.456000	17.7	9.000	L1	9.9	28.3	46.0
4.130000	17.7	9.000	L1	10.0	28.3	46.0
4.416000	18.2	9.000	L1	10.0	27.8	46.0
4.896000	18.0	9.000	L1	10.0	28.0	46.0
7.866000	18.8	9.000	L1	10.2	31.2	50.0
8.038000	19.5	9.000	L1	10.2	30.5	50.0
8.360000	19.7	9.000	L1	10.2	30.3	50.0
8.438000	20.0	9.000	L1	10.2	30.0	50.0
8.648000	19.9	9.000	L1	10.2	30.1	50.0
8.790000	20.3	9.000	L1	10.2	29.7	50.0



Figure 4: Conducted Emission, Receiver mode (LTE B5 High CH Idle)+MP4 Play, Line (N)





QuasiPeak Final Result, Line (N)

Frequency (MHz)	QuasiPeak (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.150000	34.6	9.000	N	9.8	31.4	66.0
0.196000	35.9	9.000	N	9.8	27.8	63.8
0.206000	44.3	9.000	N	9.9	19.0	63.4
0.214000	36.0	9.000	N	9.9	27.0	63.0
0.270000	37.6	9.000	N	9.9	23.5	61.1
0.274000	39.5	9.000	N	9.9	21.5	61.0
0.946000	28.2	9.000	N	10.0	27.8	56.0
0.968000	28.9	9.000	N	10.0	27.1	56.0
0.976000	28.4	9.000	N	10.0	27.6	56.0
1.328000	27.6	9.000	N	10.1	28.4	56.0
1.340000	28.0	9.000	N	10.1	28.0	56.0
1.510000	27.0	9.000	N	10.1	29.0	56.0
8.006000	26.8	9.000	N	10.4	33.2	60.0
8.518000	30.1	9.000	N	10.4	29.9	60.0
8.522000	30.0	9.000	N	10.4	30.0	60.0
8.648000	26.0	9.000	N	10.4	34.0	60.0
8.814000	27.3	9.000	N	10.4	32.7	60.0
8.864000	29.6	9.000	N	10.4	30.4	60.0

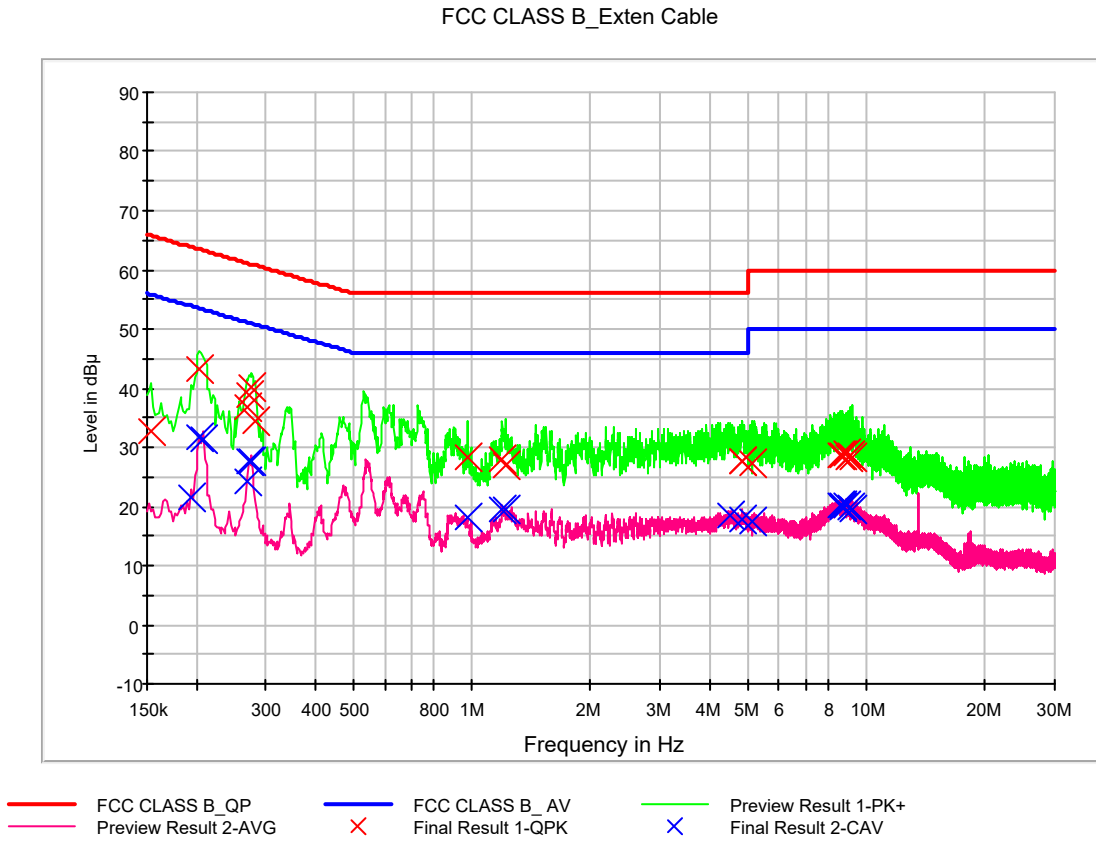


CAverage Final Result, Line (N)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.150000	20.6	9.000	N	9.8	35.4	56.0
0.196000	21.4	9.000	N	9.8	32.4	53.8
0.206000	31.0	9.000	N	9.9	22.4	53.4
0.214000	21.7	9.000	N	9.9	31.4	53.0
0.274000	26.7	9.000	N	9.9	24.3	51.0
0.282000	19.7	9.000	N	9.9	31.1	50.8
0.960000	18.5	9.000	N	10.0	27.5	46.0
0.968000	18.7	9.000	N	10.0	27.3	46.0
0.982000	17.3	9.000	N	10.0	28.7	46.0
1.334000	18.9	9.000	N	10.1	27.1	46.0
1.510000	16.6	9.000	N	10.1	29.4	46.0
4.594000	17.8	9.000	N	10.2	28.2	46.0
7.202000	15.9	9.000	N	10.3	34.1	50.0
8.006000	17.9	9.000	N	10.4	32.1	50.0
8.102000	18.6	9.000	N	10.4	31.4	50.0
8.106000	18.7	9.000	N	10.4	31.3	50.0
8.446000	19.3	9.000	N	10.4	30.7	50.0
8.608000	18.7	9.000	N	10.4	31.3	50.0



Figure 5: Conducted Emission, Receiver mode (LTE B12+B17 Middle 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)
0.154000	32.7	9.000	L1	9.7	33.1	65.8
0.204000	43.1	9.000	L1	9.7	20.3	63.4
0.268000	36.7	9.000	L1	9.7	24.5	61.2
0.272000	38.9	9.000	L1	9.7	22.1	61.1
0.276000	40.1	9.000	L1	9.7	20.9	60.9
0.282000	34.4	9.000	L1	9.7	26.4	60.8
0.972000	28.2	9.000	L1	9.8	27.8	56.0
1.194000	28.1	9.000	L1	9.8	27.9	56.0
1.216000	26.9	9.000	L1	9.8	29.1	56.0
4.834000	27.7	9.000	L1	10.0	28.3	56.0
4.850000	27.5	9.000	L1	10.0	28.5	56.0
5.138000	27.3	9.000	L1	10.0	32.7	60.0
8.622000	28.8	9.000	L1	10.2	31.2	60.0
8.682000	28.5	9.000	L1	10.2	31.5	60.0
8.868000	28.9	9.000	L1	10.2	31.1	60.0
9.004000	28.3	9.000	L1	10.2	31.7	60.0
9.090000	28.5	9.000	L1	10.2	31.5	60.0
9.156000	28.4	9.000	L1	10.2	31.6	60.0



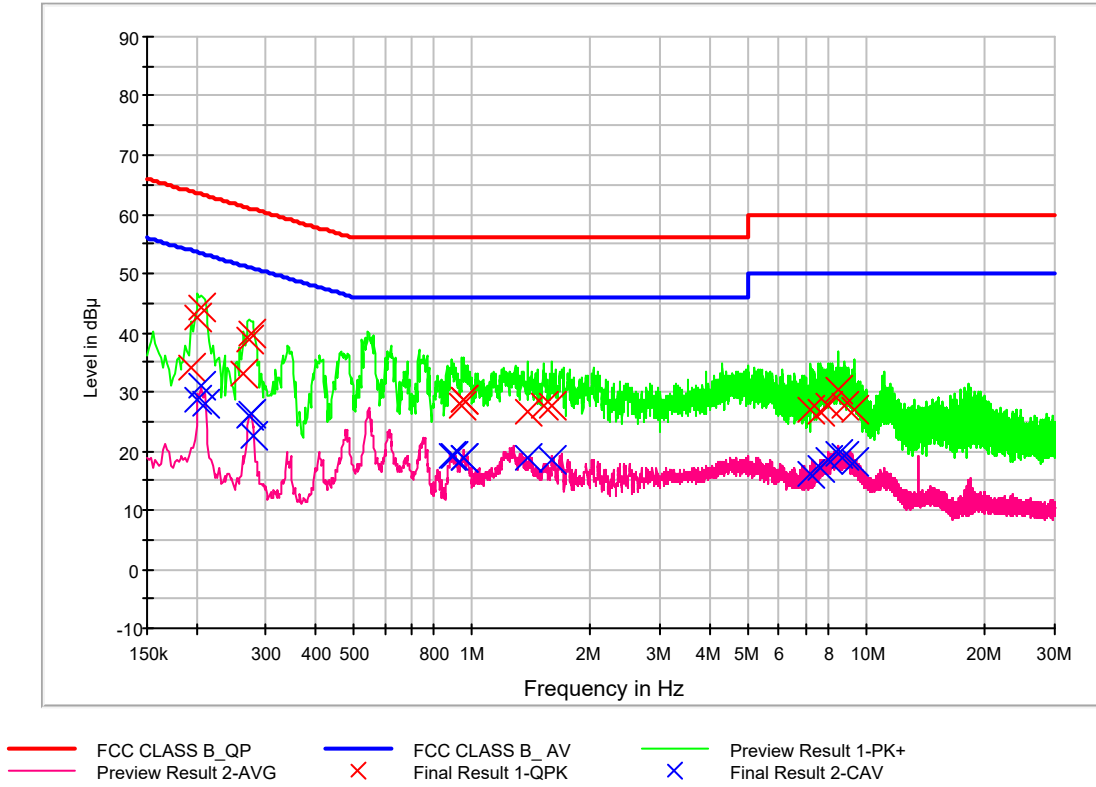
CAverage Final Result, Line (L1)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.194000	21.7	9.000	L1	9.7	32.2	53.9
0.204000	31.7	9.000	L1	9.7	21.7	53.4
0.208000	31.2	9.000	L1	9.7	22.1	53.3
0.268000	24.2	9.000	L1	9.7	27.0	51.2
0.272000	27.5	9.000	L1	9.7	23.6	51.1
0.276000	27.5	9.000	L1	9.7	23.5	50.9
0.972000	18.1	9.000	L1	9.8	27.9	46.0
1.194000	19.6	9.000	L1	9.8	26.4	46.0
1.216000	19.5	9.000	L1	9.8	26.5	46.0
4.488000	18.6	9.000	L1	10.0	27.4	46.0
4.850000	17.9	9.000	L1	10.0	28.1	46.0
5.138000	17.5	9.000	L1	10.0	32.5	50.0
8.622000	20.2	9.000	L1	10.2	29.8	50.0
8.664000	20.0	9.000	L1	10.2	30.0	50.0
8.682000	20.1	9.000	L1	10.2	29.9	50.0
8.868000	20.3	9.000	L1	10.2	29.7	50.0
9.090000	19.8	9.000	L1	10.2	30.2	50.0
9.156000	19.4	9.000	L1	10.2	30.6	50.0



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

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QuasiPeak Final Result, Line (N)

Frequency (MHz)	QuasiPeak (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.194000	34.1	9.000	N	9.8	29.7	63.9
0.202000	42.5	9.000	N	9.9	21.1	63.5
0.206000	44.4	9.000	N	9.9	19.0	63.4
0.264000	32.9	9.000	N	9.9	28.4	61.3
0.272000	38.8	9.000	N	9.9	22.2	61.1
0.276000	39.8	9.000	N	9.9	21.2	60.9
0.942000	27.6	9.000	N	10.0	28.4	56.0
0.952000	28.6	9.000	N	10.0	27.4	56.0
0.956000	28.6	9.000	N	10.0	27.4	56.0
1.390000	26.7	9.000	N	10.1	29.3	56.0
1.520000	27.7	9.000	N	10.1	28.3	56.0
1.594000	27.6	9.000	N	10.1	28.4	56.0
7.242000	26.9	9.000	N	10.3	33.1	60.0
7.618000	26.6	9.000	N	10.4	33.4	60.0
8.032000	27.7	9.000	N	10.4	32.3	60.0
8.450000	30.2	9.000	N	10.4	29.8	60.0
8.778000	27.8	9.000	N	10.4	32.2	60.0
9.294000	27.0	9.000	N	10.4	33.0	60.0

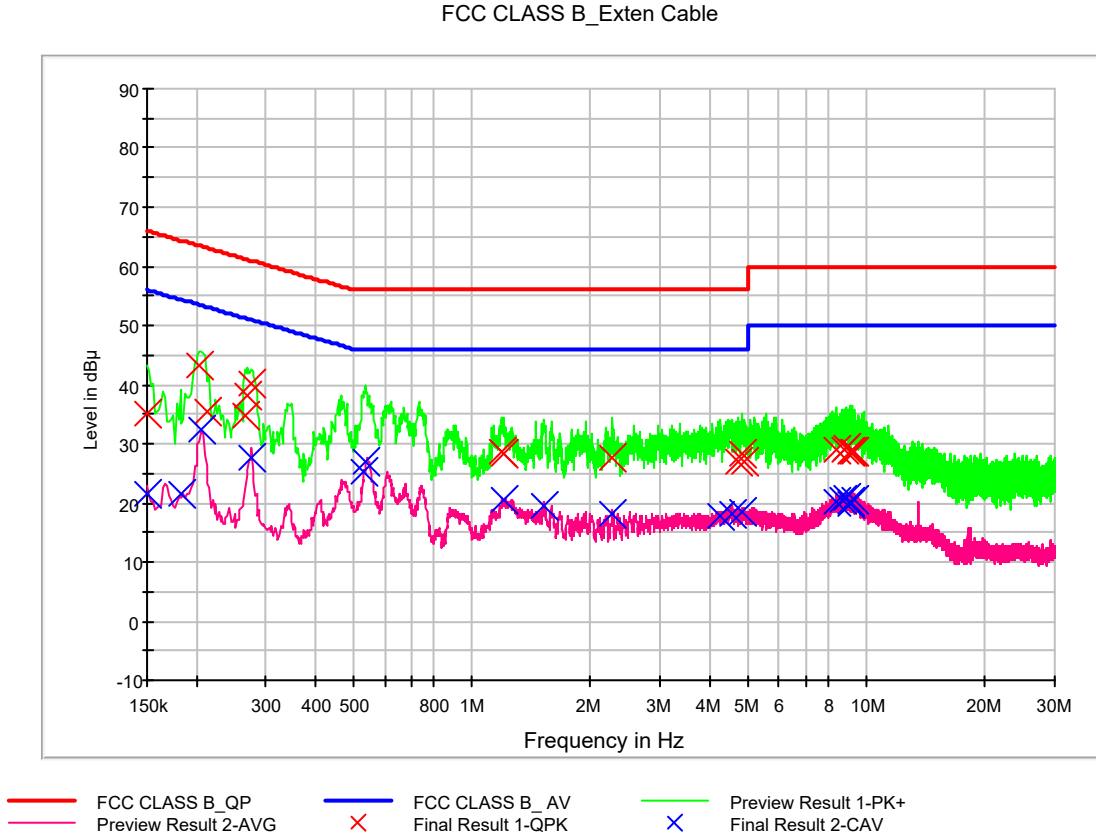


CAverage Final Result, Line (N)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.202000	28.6	9.000	N	9.9	24.9	53.5
0.206000	31.1	9.000	N	9.9	22.2	53.4
0.210000	27.9	9.000	N	9.9	25.3	53.2
0.272000	26.0	9.000	N	9.9	25.1	51.1
0.276000	26.4	9.000	N	9.9	24.5	50.9
0.280000	22.5	9.000	N	9.9	28.3	50.8
0.890000	19.1	9.000	N	10.0	26.9	46.0
0.900000	19.0	9.000	N	10.0	27.0	46.0
0.952000	18.8	9.000	N	10.0	27.2	46.0
0.956000	18.7	9.000	N	10.0	27.3	46.0
1.390000	18.7	9.000	N	10.1	27.3	46.0
1.594000	18.5	9.000	N	10.1	27.5	46.0
7.242000	16.1	9.000	N	10.3	33.9	50.0
7.618000	17.0	9.000	N	10.4	33.0	50.0
8.032000	18.4	9.000	N	10.4	31.6	50.0
8.450000	19.5	9.000	N	10.4	30.5	50.0
8.778000	19.0	9.000	N	10.4	31.0	50.0
9.294000	18.0	9.000	N	10.4	32.0	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)
0.150000	35.0	9.000	L1	9.7	31.0	66.0
0.204000	43.1	9.000	L1	9.7	20.3	63.4
0.214000	35.6	9.000	L1	9.7	27.5	63.0
0.266000	34.9	9.000	L1	9.7	26.4	61.2
0.270000	38.1	9.000	L1	9.7	23.0	61.1
0.276000	40.1	9.000	L1	9.7	20.9	60.9
1.192000	28.6	9.000	L1	9.8	27.4	56.0
1.196000	28.3	9.000	L1	9.8	27.7	56.0
2.274000	27.6	9.000	L1	9.9	28.4	56.0
4.726000	26.9	9.000	L1	10.0	29.1	56.0
4.820000	28.2	9.000	L1	10.0	27.8	56.0
4.924000	26.9	9.000	L1	10.0	29.1	56.0
8.392000	29.0	9.000	L1	10.2	31.0	60.0
8.818000	29.0	9.000	L1	10.2	31.0	60.0
8.860000	29.5	9.000	L1	10.2	30.5	60.0
9.108000	28.7	9.000	L1	10.2	31.3	60.0
9.154000	28.8	9.000	L1	10.2	31.2	60.0
9.286000	28.6	9.000	L1	10.2	31.4	60.0

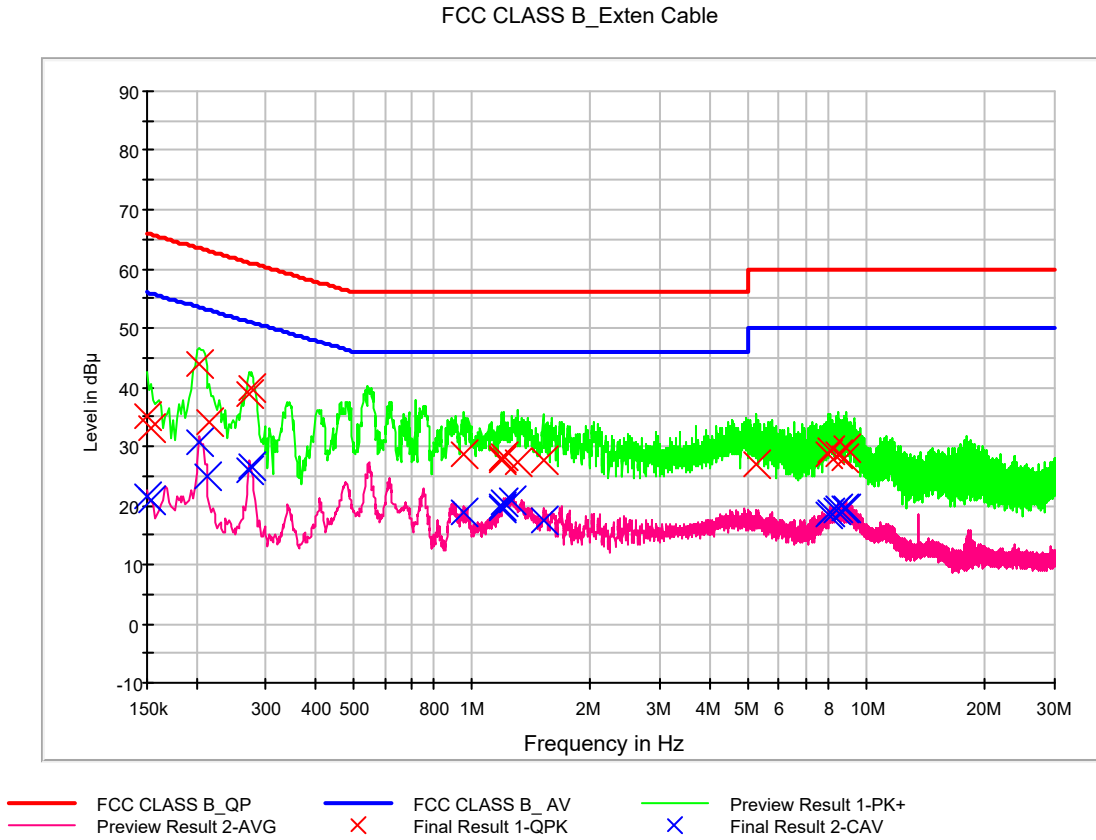


CAverage Final Result, Line (L1)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.150000	21.5	9.000	L1	9.7	34.5	56.0
0.182000	21.5	9.000	L1	9.7	32.9	54.4
0.206000	32.4	9.000	L1	9.7	21.0	53.4
0.276000	27.6	9.000	L1	9.7	23.3	50.9
0.532000	25.3	9.000	L1	9.8	20.7	46.0
0.536000	26.9	9.000	L1	9.8	19.1	46.0
1.202000	20.4	9.000	L1	9.8	25.6	46.0
1.516000	19.5	9.000	L1	9.9	26.5	46.0
2.274000	18.1	9.000	L1	9.9	27.9	46.0
4.256000	17.8	9.000	L1	10.0	28.2	46.0
4.552000	18.3	9.000	L1	10.0	27.7	46.0
4.820000	18.4	9.000	L1	10.0	27.6	46.0
8.390000	20.3	9.000	L1	10.2	29.7	50.0
8.658000	20.4	9.000	L1	10.2	29.6	50.0
8.860000	20.9	9.000	L1	10.2	29.1	50.0
9.068000	19.9	9.000	L1	10.2	30.1	50.0
9.144000	20.0	9.000	L1	10.2	30.0	50.0
9.286000	20.4	9.000	L1	10.2	29.6	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	35.0	9.000	N	9.8	31.0	66.0
0.154000	33.0	9.000	N	9.8	32.8	65.8
0.204000	43.8	9.000	N	9.9	19.6	63.4
0.216000	34.1	9.000	N	9.9	28.9	63.0
0.272000	38.7	9.000	N	9.9	22.4	61.1
0.276000	39.8	9.000	N	9.9	21.1	60.9
0.952000	28.8	9.000	N	10.0	27.2	56.0
1.190000	27.8	9.000	N	10.0	28.2	56.0
1.194000	28.1	9.000	N	10.0	27.9	56.0
1.208000	28.4	9.000	N	10.0	27.6	56.0
1.302000	27.3	9.000	N	10.0	28.7	56.0
1.512000	27.5	9.000	N	10.1	28.5	56.0
5.248000	27.1	9.000	N	10.2	32.9	60.0
8.038000	28.5	9.000	N	10.4	31.5	60.0
8.106000	29.2	9.000	N	10.4	30.8	60.0
8.528000	28.7	9.000	N	10.4	31.3	60.0
8.780000	28.1	9.000	N	10.4	31.9	60.0
8.864000	29.8	9.000	N	10.4	30.2	60.0

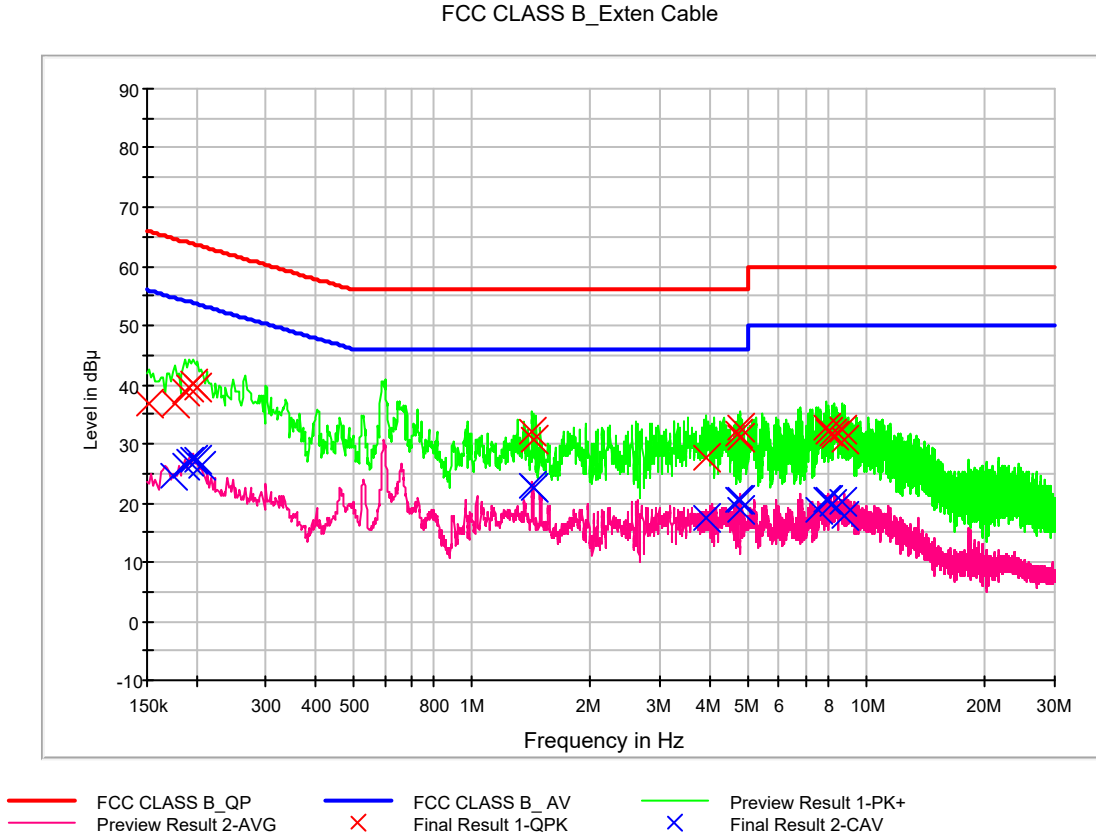


CAverage Final Result, Line (N)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.150000	21.6	9.000	N	9.8	34.4	56.0
0.154000	20.8	9.000	N	9.8	35.0	55.8
0.204000	30.6	9.000	N	9.9	22.8	53.4
0.212000	25.0	9.000	N	9.9	28.1	53.1
0.272000	26.1	9.000	N	9.9	25.0	51.1
0.276000	26.4	9.000	N	9.9	24.5	50.9
0.952000	18.8	9.000	N	10.0	27.2	46.0
1.190000	19.5	9.000	N	10.0	26.5	46.0
1.194000	19.8	9.000	N	10.0	26.2	46.0
1.208000	20.5	9.000	N	10.0	25.5	46.0
1.264000	20.8	9.000	N	10.0	25.2	46.0
1.512000	17.5	9.000	N	10.1	28.5	46.0
8.038000	18.6	9.000	N	10.4	31.4	50.0
8.106000	18.8	9.000	N	10.4	31.2	50.0
8.386000	19.0	9.000	N	10.4	31.0	50.0
8.528000	19.4	9.000	N	10.4	30.6	50.0
8.796000	19.4	9.000	N	10.4	30.6	50.0
8.864000	19.5	9.000	N	10.4	30.5	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)
0.152000	36.7	9.000	L1	9.7	29.2	65.9
0.176000	36.9	9.000	L1	9.7	27.8	64.7
0.188000	38.8	9.000	L1	9.7	25.3	64.1
0.192000	39.7	9.000	L1	9.7	24.3	63.9
0.196000	40.1	9.000	L1	9.7	23.7	63.8
0.202000	39.6	9.000	L1	9.7	23.9	63.5
1.422000	32.1	9.000	L1	9.9	23.9	56.0
1.426000	30.5	9.000	L1	9.9	25.5	56.0
3.906000	27.6	9.000	L1	10.0	28.4	56.0
4.718000	31.6	9.000	L1	10.0	24.4	56.0
4.796000	32.6	9.000	L1	10.0	23.4	56.0
4.802000	31.1	9.000	L1	10.0	24.9	56.0
7.930000	32.8	9.000	L1	10.2	27.2	60.0
7.992000	31.9	9.000	L1	10.2	28.1	60.0
8.212000	31.9	9.000	L1	10.2	28.1	60.0
8.284000	31.3	9.000	L1	10.2	28.7	60.0
8.702000	32.3	9.000	L1	10.2	27.7	60.0
8.744000	30.8	9.000	L1	10.2	29.2	60.0

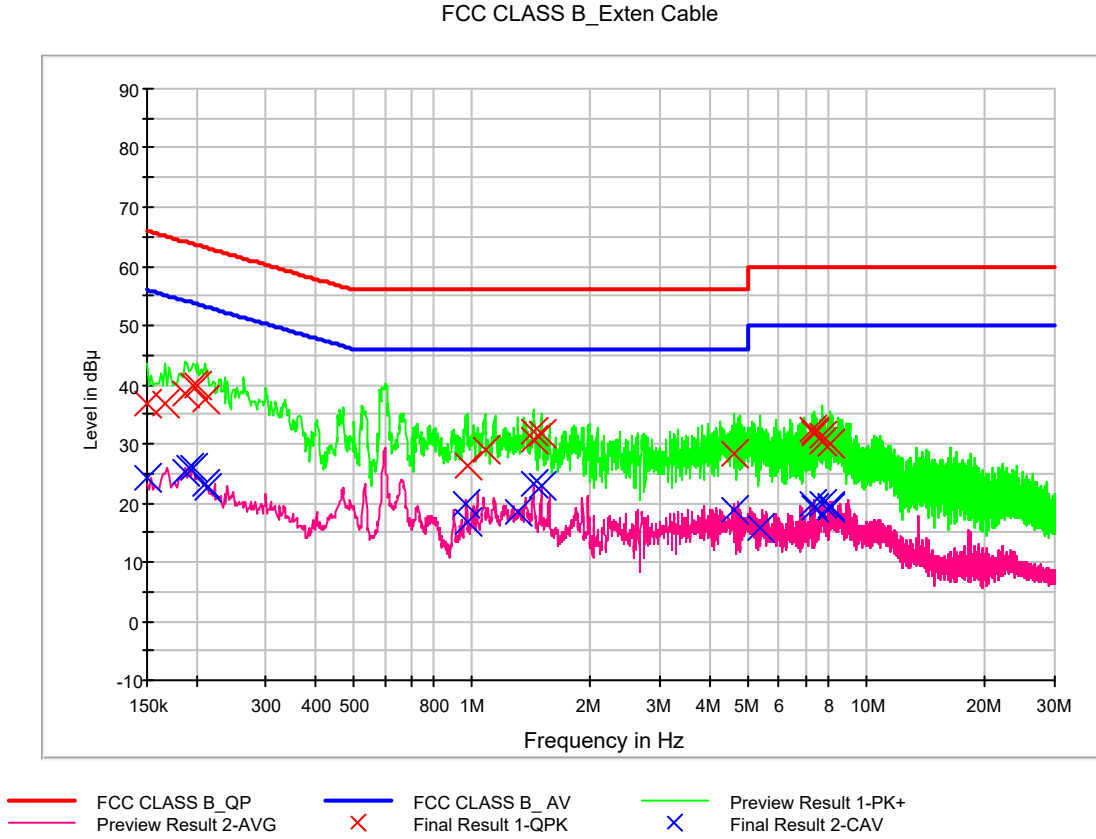


CAverage Final Result, Line (L1)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.174000	24.4	9.000	L1	9.7	30.4	54.8
0.188000	26.2	9.000	L1	9.7	27.9	54.1
0.192000	27.0	9.000	L1	9.7	27.0	53.9
0.196000	27.3	9.000	L1	9.7	26.5	53.8
0.200000	27.4	9.000	L1	9.8	26.2	53.6
0.206000	26.1	9.000	L1	9.7	27.2	53.4
1.422000	22.8	9.000	L1	9.9	23.2	46.0
1.426000	22.4	9.000	L1	9.9	23.6	46.0
3.906000	17.3	9.000	L1	10.0	28.7	46.0
4.718000	20.4	9.000	L1	10.0	25.6	46.0
4.798000	20.4	9.000	L1	10.0	25.6	46.0
4.802000	18.8	9.000	L1	10.0	27.2	46.0
7.538000	18.9	9.000	L1	10.1	31.1	50.0
7.930000	20.7	9.000	L1	10.2	29.3	50.0
7.992000	20.4	9.000	L1	10.2	29.6	50.0
8.212000	19.7	9.000	L1	10.2	30.3	50.0
8.698000	20.2	9.000	L1	10.2	29.8	50.0
8.746000	18.0	9.000	L1	10.2	32.0	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	36.9	9.000	N	9.8	29.1	66.0
0.166000	36.9	9.000	N	9.8	28.2	65.2
0.188000	38.6	9.000	N	9.8	25.6	64.1
0.196000	39.9	9.000	N	9.8	23.9	63.8
0.202000	39.7	9.000	N	9.9	23.8	63.5
0.210000	37.5	9.000	N	9.9	25.8	63.2
0.974000	26.3	9.000	N	10.0	29.7	56.0
1.078000	28.8	9.000	N	10.0	27.2	56.0
1.432000	30.7	9.000	N	10.1	25.3	56.0
1.438000	32.1	9.000	N	10.1	23.9	56.0
1.504000	31.7	9.000	N	10.1	24.3	56.0
4.634000	28.3	9.000	N	10.2	27.7	56.0
7.288000	32.4	9.000	N	10.4	27.6	60.0
7.352000	31.7	9.000	N	10.4	28.3	60.0
7.356000	32.1	9.000	N	10.4	27.9	60.0
7.754000	30.4	9.000	N	10.4	29.6	60.0
7.758000	31.3	9.000	N	10.4	28.7	60.0
8.136000	30.1	9.000	N	10.4	29.9	60.0



CAverage Final Result, Line (N)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.150000	24.1	9.000	N	9.8	31.9	56.0
0.188000	25.2	9.000	N	9.8	28.9	54.1
0.192000	26.0	9.000	N	9.8	28.0	53.9
0.196000	26.0	9.000	N	9.8	27.8	53.8
0.210000	23.4	9.000	N	9.9	29.8	53.2
0.214000	22.6	9.000	N	9.9	30.4	53.0
0.968000	19.9	9.000	N	10.0	26.1	46.0
0.974000	16.7	9.000	N	10.0	29.3	46.0
1.304000	18.5	9.000	N	10.0	27.5	46.0
1.434000	23.3	9.000	N	10.1	22.7	46.0
1.502000	22.8	9.000	N	10.1	23.2	46.0
4.634000	18.9	9.000	N	10.2	27.1	46.0
5.384000	15.9	9.000	N	10.2	34.1	50.0
7.288000	19.9	9.000	N	10.4	30.1	50.0
7.352000	19.1	9.000	N	10.4	30.9	50.0
7.758000	19.9	9.000	N	10.4	30.1	50.0
8.076000	19.6	9.000	N	10.4	30.4	50.0
8.136000	19.1	9.000	N	10.4	30.9	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 High CH Idle) + MP4 Play Receiver (LTE B12+B17 Middle CH Idle) + Front Camera Recording [Earphone] Receiver (LTE B5 Middle CH Idle) + Front Camera Preview Receiver (LTE B12+ B17 Middle CH Idle) + Front Camera Recording Keyboard Dock Charging
Kind of Test Site	3 m semi anechoic chamber
Temperature	24.4 / 21.8 °C
Relative Humidity	43.7 / 42.3 %
Test Date	April 22 / April 24, 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 (dB μ V/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB μ V/m)
30.020040	27.4	100.0	V	338.0	18.3	12.6	40.0
77.713426	22.1	100.0	V	1.0	16.3	17.9	40.0
166.418837	24.6	193.8	H	300.0	19.3	18.9	43.5
178.699399	23.1	208.8	H	129.0	18.4	20.4	43.5
601.076152	25.5	225.0	V	138.0	27.3	20.5	46.0
801.088176	28.6	100.0	H	68.0	30.2	17.4	46.0

[TA] Receiver (LTE B5 High CH Idle) + MP4 Play

Frequency (MHz)	Quasi Peak (dB μ V/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB μ V/m)
30.209310	22.6	117.8	V	326.0	18.3	17.4	40.0
40.825600	24.5	100.0	V	105.0	19.0	15.5	40.0
55.784000	29.3	125.2	V	39.0	19.5	10.7	40.0
114.568800	21.9	207.7	V	253.0	16.8	21.6	43.5
165.102400	23.5	175.0	H	165.0	19.4	20.0	43.5
609.353600	27.6	174.9	V	265.0	27.4	18.4	46.0

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

Frequency (MHz)	Quasi Peak (dB μ V/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB μ V/m)
41.810400	25.3	100.0	V	165.0	19.1	14.7	40.0
55.432800	29.1	100.0	V	75.0	19.6	10.9	40.0
65.034400	21.1	116.7	V	330.0	18.7	18.9	40.0
164.904000	23.0	191.9	H	325.0	19.4	20.5	43.5
486.552000	26.4	100.0	V	0.0	24.8	19.6	46.0
694.998400	28.5	225.2	H	291.0	28.5	17.5	46.0


[Earphone] Receiver (LTE B5 Middle CH Idle) + Front Camera Preview

Frequency (MHz)	Quasi Peak (dB μ V/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB μ V/m)
30.305360	21.3	100.0	V	324.0	18.3	18.7	40.0
42.505600	17.7	174.9	V	3.0	19.2	22.3	40.0
61.793600	16.8	192.8	V	19.0	19.1	23.2	40.0
114.574400	21.0	174.8	V	81.0	16.8	22.5	43.5
488.628000	23.9	117.8	H	112.0	24.8	22.1	46.0
684.475200	28.2	100.0	V	56.0	28.4	17.8	46.0

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

Frequency (MHz)	Quasi Peak (dB μ V/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB μ V/m)
30.360000	20.7	117.8	V	314.0	18.3	19.3	40.0
42.639200	18.0	125.0	V	299.0	19.2	22.0	40.0
61.662400	16.8	174.9	V	54.0	19.1	23.2	40.0
156.046400	18.2	100.0	V	198.0	19.6	25.3	43.5
483.255200	23.7	100.0	V	177.0	24.7	22.3	46.0
652.992800	27.7	100.0	V	0.0	28.0	18.3	46.0



Keyboard

Frequency (MHz)	Quasi Peak (dB μ V/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB μ V/m)
40.969600	26.1	100.0	V	246.0	19.0	13.9	40.0
45.688000	29.3	125.1	V	222.0	19.4	10.7	40.0
65.921600	22.1	119.9	V	0.0	18.5	17.9	40.0
162.498400	24.0	174.9	H	202.0	19.6	19.5	43.5
488.810400	25.9	174.7	H	183.0	24.8	20.1	46.0
677.515200	28.2	175.0	H	118.0	28.3	17.8	46.0

Dock Charging

Frequency (MHz)	Quasi Peak (dB μ V/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB μ V/m)
40.767200	24.7	100.0	V	108.0	19.0	15.3	40.0
55.486400	25.2	100.0	V	16.0	19.6	14.8	40.0
79.025600	24.3	225.3	H	343.0	16.0	15.7	40.0
159.555200	24.2	174.9	H	26.0	19.8	19.3	43.5
446.924800	27.2	125.2	V	288.0	23.8	18.8	46.0
702.460800	28.6	174.8	H	172.0	28.6	17.4	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 High CH Idle) + MP4 Paly Receiver (LTE B12+ B17 Middle CH Idle) + Front Camera Recording [Earphone] Receiver (LTE B5 Middle CH Idle) + Front Camera Preview Receiver (LTE B12 +B17 Middle CH Idle) + Front Camera Recording Keyboard Dock Charging
Kind of Test Site	3 m semi anechoic chamber
Temperature	23.6 / 21.8 °C
Relative Humidity	43.1 / 42.3 %
Test Date	April 20 / April 24, 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)
1399.749499	49.8	233.8	V	222.0	-26.1	24.2	74.0
1998.046092	48.2	100.0	V	47.0	-25.3	25.8	74.0
2659.368737	47.0	150.3	V	0.0	-22.7	27.0	74.0
9502.655311	47.4	132.7	V	189.0	-5.4	26.6	74.0
10898.947896	48.3	150.1	H	73.0	-2.8	25.7	74.0
17922.094188	54.7	150.0	H	274.0	7.3	19.3	74.0

Frequency (MHz)	CAverage (dBμV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
1399.749499	47.2	233.8	V	222.0	-26.1	6.8	54.0
1998.046092	22.2	100.0	V	47.0	-25.3	31.8	54.0
2659.368737	21.2	150.3	V	0.0	-22.7	32.8	54.0
9502.655311	35.1	132.7	V	189.0	-5.4	18.9	54.0
10898.947896	34.8	150.1	H	73.0	-2.8	19.2	54.0
17922.094188	40.9	150.0	H	274.0	7.3	13.1	54.0

[TA] Receiver (LTE B5 High CH Idle) + MP4 Play

Frequency (MHz)	Peak (dBμV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
3098.805000	35.8	125.8	V	167.0	-21.0	38.2	74.0
5340.555000	38.7	149.9	H	53.0	-15.5	35.3	74.0
7455.295000	44.5	149.5	H	33.0	-9.6	29.5	74.0
9621.325000	48.2	100.0	H	270.0	-5.4	25.8	74.0
11029.945000	48.4	150.0	V	12.0	-2.6	25.6	74.0
14858.270000	48.8	100.0	H	92.0	0.9	25.2	74.0

Frequency (MHz)	CAverage (dBμV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
3098.805000	22.3	125.8	V	167.0	-21.0	31.7	54.0
5340.555000	26.1	149.9	H	53.0	-15.5	27.9	54.0
7455.295000	31.3	149.5	H	33.0	-9.6	22.7	54.0
9621.325000	35.4	100.0	H	270.0	-5.4	18.6	54.0
11029.945000	35.3	150.0	V	12.0	-2.6	18.7	54.0
14858.270000	35.6	100.0	H	92.0	0.9	18.4	54.0


[TA] Receiver (LTE B12+B17 Middle 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)
2893.330000	34.7	150.0	V	180.0	-21.6	39.3	74.0
5155.975000	38.9	162.5	V	126.0	-15.7	35.1	74.0
7319.330000	43.5	111.5	H	53.0	-10.0	30.5	74.0
9602.000000	48.5	100.0	V	233.0	-5.4	25.5	74.0
10791.975000	47.9	249.9	V	117.0	-3.0	26.1	74.0
14763.305000	48.9	190.5	V	161.0	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)
2893.330000	22.0	150.0	V	180.0	-21.6	32.0	54.0
5155.975000	26.4	162.5	V	126.0	-15.7	27.6	54.0
7319.330000	31.0	111.5	H	53.0	-10.0	23.0	54.0
9602.000000	35.7	100.0	V	233.0	-5.4	18.3	54.0
10791.975000	35.1	249.9	V	117.0	-3.0	18.9	54.0
14763.305000	36.0	190.5	V	161.0	0.8	18.0	54.0

[Earphone] Receiver (LTE B5 Middle CH Idle) + Front Camera Preview

Frequency (MHz)	Peak (dBμV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
3086.625000	36.0	149.6	H	144.0	-21.0	38.0	74.0
5646.740000	38.9	249.9	H	36.0	-15.2	35.1	74.0
7519.990000	45.0	139.6	H	202.0	-9.4	29.0	74.0
9806.850000	47.2	149.5	V	147.0	-5.4	26.8	74.0
10692.110000	48.4	125.7	H	242.0	-3.2	25.6	74.0
14672.600000	48.7	150.0	H	0.0	0.7	25.3	74.0

Frequency (MHz)	CAverage (dBμV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
3086.625000	22.4	149.6	H	144.0	-21.0	31.6	54.0
5646.740000	26.2	249.9	H	36.0	-15.2	27.8	54.0
7519.990000	31.5	139.6	H	202.0	-9.4	22.5	54.0
9806.850000	34.5	149.5	V	147.0	-5.4	19.5	54.0
10692.110000	35.6	125.7	H	242.0	-3.2	18.4	54.0
14672.600000	35.6	150.0	H	0.0	0.7	18.4	54.0



[Earphone] Receiver (LTE B12+B17 Middle 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)
3116.165000	35.2	230.5	H	287.0	-21.0	38.8	74.0
5269.130000	38.9	140.6	H	50.0	-15.6	35.1	74.0
7378.910000	44.3	150.0	V	226.0	-9.8	29.7	74.0
9238.150000	47.9	199.6	V	269.0	-6.1	26.1	74.0
11262.980000	47.5	230.5	H	148.0	-2.6	26.5	74.0
14681.120000	48.2	202.4	H	300.0	0.7	25.8	74.0

Frequency (MHz)	CAverage (dBμV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
3116.165000	22.4	230.5	H	287.0	-21.0	31.6	54.0
5269.130000	26.3	140.6	H	50.0	-15.6	27.7	54.0
7378.910000	31.5	150.0	V	226.0	-9.8	22.5	54.0
9238.150000	34.8	199.6	V	269.0	-6.1	19.2	54.0
11262.980000	34.9	230.5	H	148.0	-2.6	19.1	54.0
14681.120000	35.5	202.4	H	300.0	0.7	18.5	54.0

Keyboard

Frequency (MHz)	Peak (dBμV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
3904.875000	36.0	149.6	H	91.0	-19.9	38.0	74.0
5043.840000	38.7	100.0	H	0.0	-15.9	35.3	74.0
7353.440000	44.4	249.9	V	77.0	-9.9	29.6	74.0
9619.950000	48.1	100.0	H	4.0	-5.4	25.9	74.0
10402.530000	47.4	149.9	H	294.0	-3.9	26.6	74.0
15058.665000	48.4	150.0	H	143.0	0.8	25.6	74.0

Frequency (MHz)	CAverage (dBμV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
3904.875000	23.1	149.6	H	91.0	-19.9	30.9	54.0
5043.840000	26.2	100.0	H	0.0	-15.9	27.8	54.0
7353.440000	31.1	249.9	V	77.0	-9.9	22.9	54.0
9619.950000	35.5	100.0	H	4.0	-5.4	18.5	54.0
10402.530000	34.9	149.9	H	294.0	-3.9	19.1	54.0
15058.665000	35.8	150.0	H	143.0	0.8	18.2	54.0



Dock Charging

Frequency (MHz)	Peak (dB μ V/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB μ V/m)
2985.200000	35.1	125.7	V	112.0	-21.2	38.9	74.0
5302.110000	38.6	249.7	V	146.0	-15.6	35.4	74.0
7525.440000	44.2	189.6	V	222.0	-9.4	29.8	74.0
9205.445000	48.2	249.8	V	298.0	-6.2	25.8	74.0
11002.370000	48.0	100.0	V	38.0	-2.6	26.0	74.0
14691.385000	49.9	149.7	V	0.0	0.7	24.1	74.0

Frequency (MHz)	CAverage (dB μ V/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB μ V/m)
2985.200000	22.1	125.7	V	112.0	-21.2	31.9	54.0
5302.110000	26.1	249.7	V	146.0	-15.6	27.9	54.0
7525.440000	31.5	189.6	V	222.0	-9.4	22.5	54.0
9205.445000	34.9	249.8	V	298.0	-6.2	19.1	54.0
11002.370000	35.4	100.0	V	38.0	-2.6	18.6	54.0
14691.385000	35.6	149.7	V	0.0	0.7	18.4	54.0



6. CONCLUSION

The data collected shows that the **EUT Type: Tablet, FCC ID: A3LSMT725C, Model: SM-T725C** 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