

EMI TEST REPORT

FCC CERTIFICATION / ISED

Applicant:

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

Date of Issue: March 15, 2019**Test Report No. HCT-EM-1903-FI002****Test Site: HCT CO., LTD.****FCC ID**
IC**A3LSMT720**
649E-SMT720

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

EUT Type : Tablet

Model Name : SM-T720

Multi Model : SM-T720X

Date of Test : March 11, 2019 to March 14, 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-1903-FI002	March 15, 2019	Initial Release



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1. GENERAL INFORMATION

1.1 Description of EUT

Its basic purpose is used for communications.

FCC ID	A3LSMT720
IC	649E-SMT720
Model name	SM-T720
Multi Model	SM-T720X
EUT type	Tablet
Frequency band	BT BDR/EDR/LE , WLAN a/b/g/n/ac(HT20/40/80), ANT+
Power rating	Travel adaptor: Input: AC 100 to 240 V, 50/60 Hz, 0.5 A Output: DC 9.0 V 1.67 A, 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-T720	-	SAMSUNG	A3LSMT720
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	
Filing the EMI Measurement Facility (3 m Semi Anechoic Chamber and Shielded Room)	IC 5944A-4
Filing the EMI Measurement Facility (10 m Semi-Anechoic Chamber)	IC 5944A-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 (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	00847	2 year	04.13.2018
☒ Trilog Antenna	Schwarzbeck	VULB 9168	760	2 year	04.06.2017
☒ 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

- 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.
- The EUT was set 3 m away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- 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.
- 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.
- 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.
- 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.
- 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 ($\mu\text{V/m}$)	Quasi-Peak ($\text{dB}(\mu\text{V/m})$)
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 ($\text{dB}(\mu\text{V/m})$)	Average ($\text{dB}(\mu\text{V/m})$)
Above 1 000	3	74	54

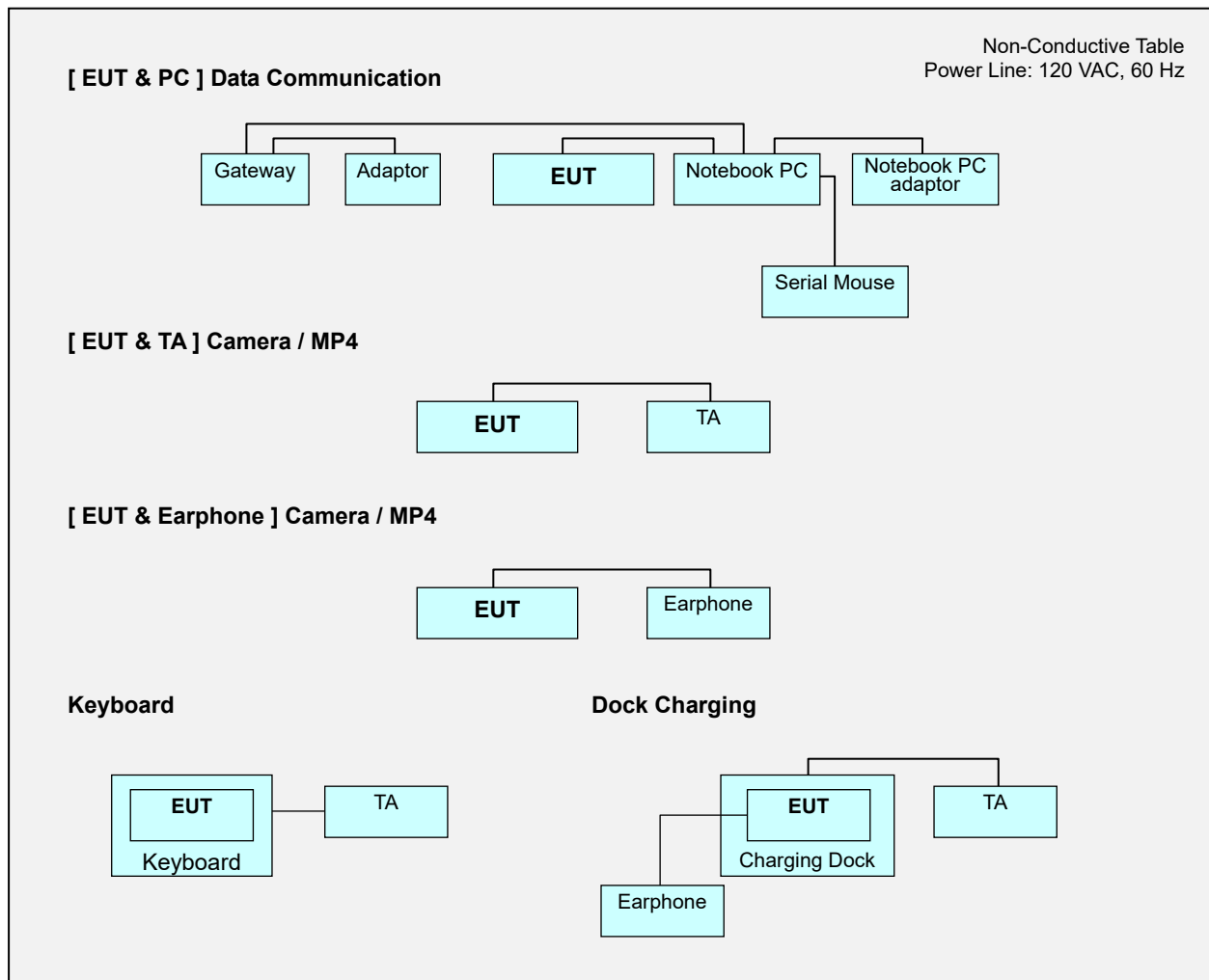


3.2.1 Frequency Range of Radiated Measurements

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
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 mode
[EUT & TA] Rear / Front Camera Preview mode
Rear / Front Camera Recording mode
MP4 Play
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 mode
[EUT & TA] Rear / Front Camera Preview mode
Rear / Front Camera Recording mode
MP4 Play
[EUT & Earphone] Rear / Front Camera Preview mode
Rear / Front Camera Recording mode
MP4 Play
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:

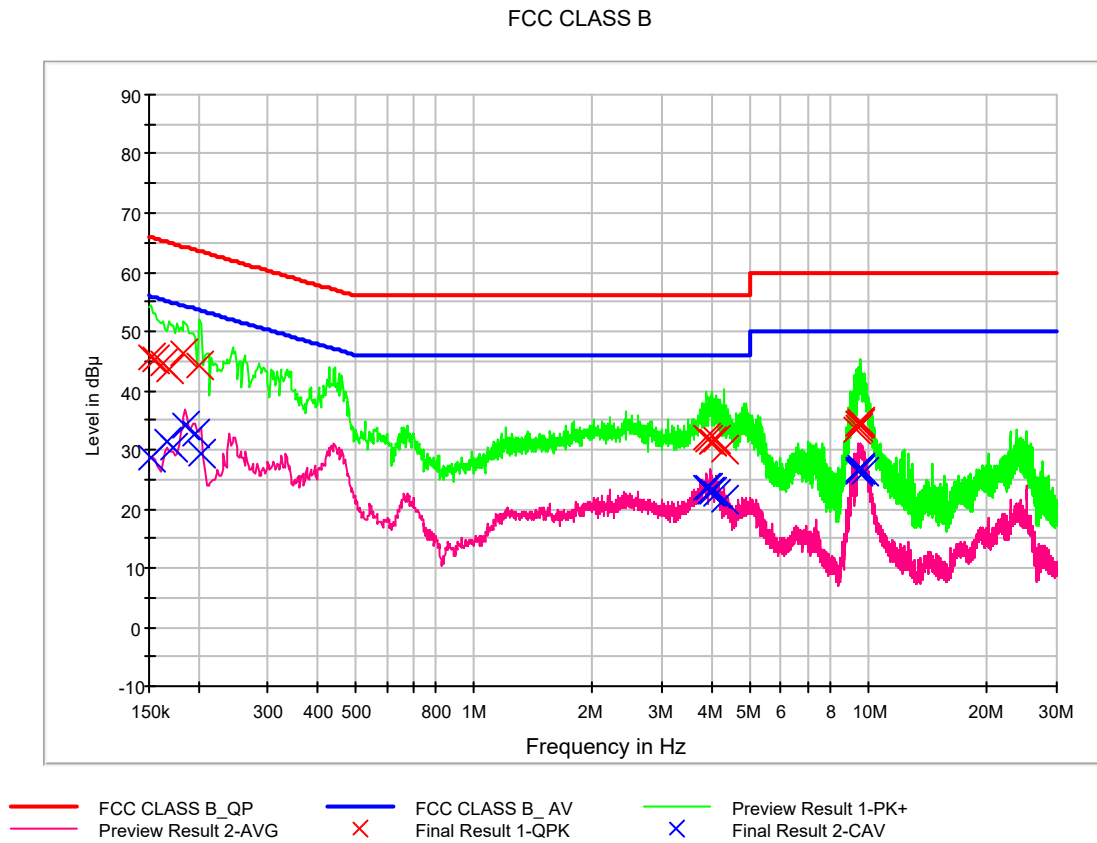
Applicable Standards	FCC PART 15 Subpart B Class B ICES-003 Issue 6 Class B ANSI C63.4-2014
Detector	Quasi-Peak, CISPR-Average
Bandwidth	9 kHz (6 dB)
Worst Case of Operating Mode	Data Communication [TA] Rear Camera Preview MP4 Keyboard mode Dock Charging mode
Kind of Test Site	Shielded Room
Temperature	21.9 °C
Relative Humidity	42.6 %
Test Date	March 11, 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)
0.152000	45.7	9.000	L1	9.6	20.2	65.9
0.156000	45.4	9.000	L1	9.6	20.3	65.7
0.162000	44.6	9.000	L1	9.6	20.8	65.4
0.168000	43.4	9.000	L1	9.6	21.6	65.1
0.184000	46.3	9.000	L1	9.6	18.0	64.3
0.202000	44.3	9.000	L1	9.7	19.3	63.5
3.896000	32.1	9.000	L1	9.8	23.9	56.0
3.934000	31.6	9.000	L1	9.8	24.4	56.0
3.990000	31.5	9.000	L1	9.8	24.5	56.0
3.998000	31.4	9.000	L1	9.8	24.6	56.0
4.098000	31.8	9.000	L1	9.8	24.2	56.0
4.290000	30.0	9.000	L1	9.8	26.0	56.0
9.344000	33.5	9.000	L1	10.0	26.5	60.0
9.378000	33.7	9.000	L1	10.0	26.3	60.0
9.452000	34.5	9.000	L1	10.0	25.5	60.0
9.470000	34.6	9.000	L1	10.0	25.4	60.0
9.492000	34.6	9.000	L1	10.0	25.4	60.0
9.506000	34.5	9.000	L1	10.0	25.5	60.0

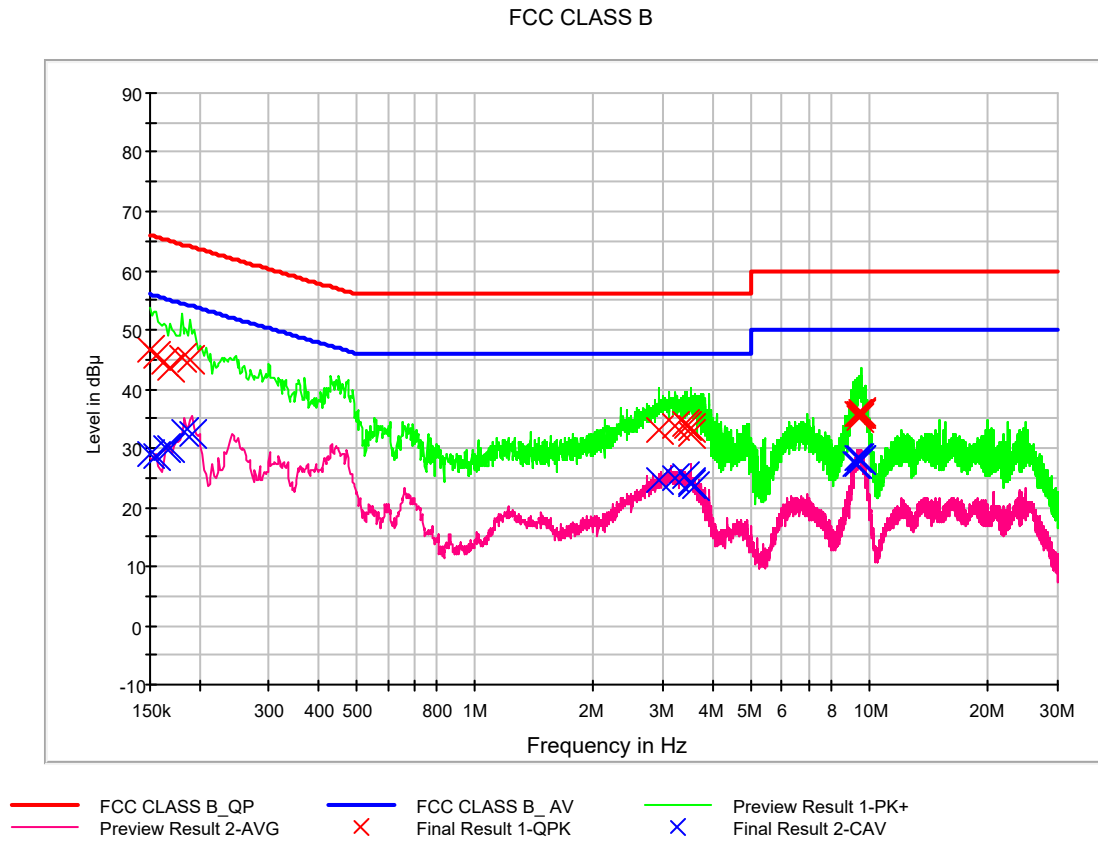


CAverage Final Result, Line (L1)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.152000	28.7	9.000	L1	9.6	27.2	55.9
0.166000	31.5	9.000	L1	9.6	23.6	55.2
0.172000	30.2	9.000	L1	9.6	24.6	54.9
0.186000	34.0	9.000	L1	9.7	20.2	54.2
0.196000	32.6	9.000	L1	9.7	21.2	53.8
0.204000	29.3	9.000	L1	9.7	24.1	53.4
3.896000	23.7	9.000	L1	9.8	22.3	46.0
3.934000	23.4	9.000	L1	9.8	22.6	46.0
3.984000	22.8	9.000	L1	9.8	23.2	46.0
3.998000	23.0	9.000	L1	9.8	23.0	46.0
4.098000	22.4	9.000	L1	9.8	23.6	46.0
4.288000	21.4	9.000	L1	9.8	24.6	46.0
9.420000	26.3	9.000	L1	10.0	23.7	50.0
9.452000	26.7	9.000	L1	10.0	23.3	50.0
9.494000	26.7	9.000	L1	10.0	23.3	50.0
9.518000	26.7	9.000	L1	10.0	23.3	50.0
9.530000	26.8	9.000	L1	10.0	23.2	50.0
9.706000	26.4	9.000	L1	10.0	23.6	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)
0.150000	46.5	9.000	N	9.6	19.5	66.0
0.156000	45.4	9.000	N	9.6	20.2	65.7
0.162000	44.6	9.000	N	9.6	20.8	65.4
0.168000	43.6	9.000	N	9.6	21.4	65.1
0.180000	45.3	9.000	N	9.6	19.2	64.5
0.190000	44.9	9.000	N	9.6	19.1	64.0
2.932000	33.2	9.000	N	9.8	22.8	56.0
3.230000	33.6	9.000	N	9.8	22.4	56.0
3.398000	34.1	9.000	N	9.8	21.9	56.0
3.434000	33.6	9.000	N	9.8	22.4	56.0
3.522000	32.5	9.000	N	9.8	23.5	56.0
3.526000	33.3	9.000	N	9.8	22.7	56.0
9.330000	35.7	9.000	N	9.9	24.3	60.0
9.370000	35.7	9.000	N	9.9	24.3	60.0
9.452000	35.1	9.000	N	9.9	24.9	60.0
9.466000	35.8	9.000	N	9.9	24.2	60.0
9.486000	35.7	9.000	N	9.9	24.3	60.0
9.492000	36.0	9.000	N	9.9	24.0	60.0

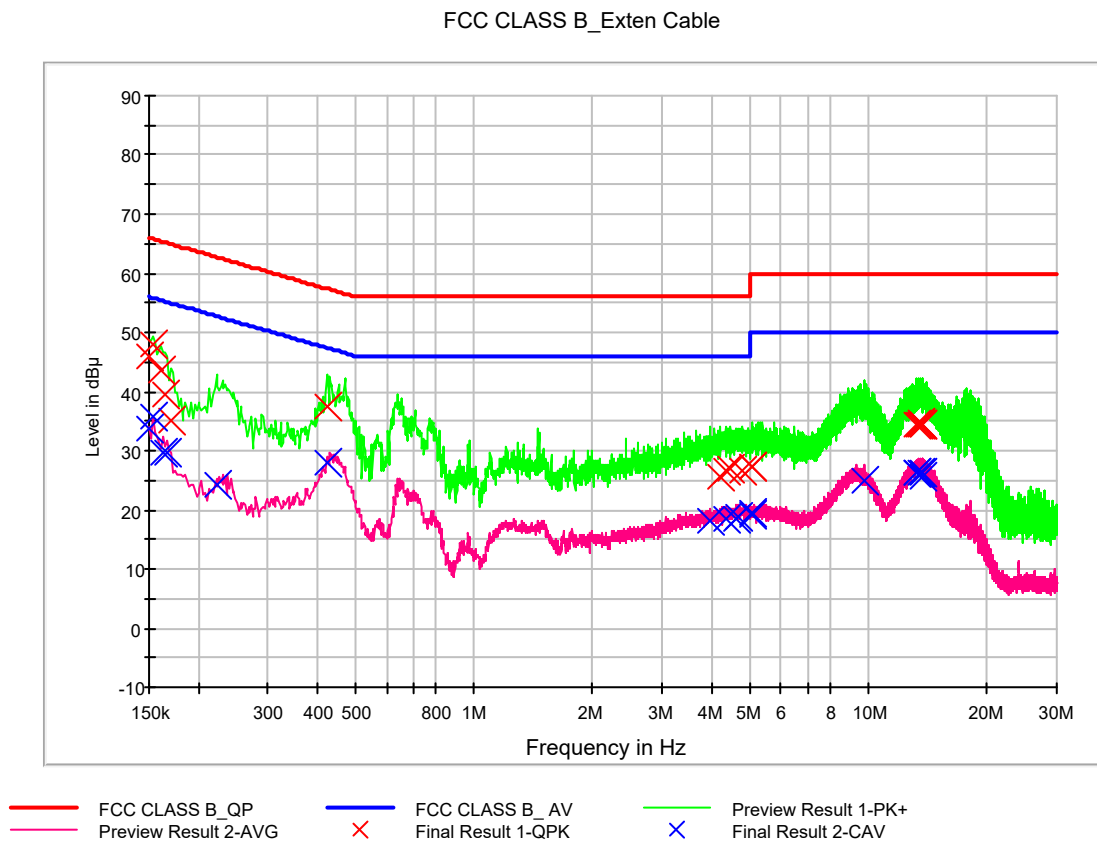


CAverage Final Result, Line (N)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.150000	28.9	9.000	N	9.6	27.1	56.0
0.156000	28.7	9.000	N	9.6	27.0	55.7
0.164000	29.8	9.000	N	9.6	25.4	55.3
0.168000	29.8	9.000	N	9.6	25.2	55.1
0.184000	32.8	9.000	N	9.6	21.5	54.3
0.192000	32.3	9.000	N	9.6	21.6	53.9
2.932000	24.5	9.000	N	9.8	21.5	46.0
3.230000	24.9	9.000	N	9.8	21.1	46.0
3.398000	25.3	9.000	N	9.8	20.7	46.0
3.526000	24.1	9.000	N	9.8	21.9	46.0
3.536000	23.8	9.000	N	9.8	22.2	46.0
3.626000	23.4	9.000	N	9.8	22.6	46.0
9.246000	27.3	9.000	N	9.9	22.7	50.0
9.330000	27.2	9.000	N	9.9	22.8	50.0
9.354000	28.2	9.000	N	9.9	21.8	50.0
9.394000	28.2	9.000	N	9.9	21.8	50.0
9.490000	28.1	9.000	N	9.9	21.9	50.0
9.502000	28.0	9.000	N	9.9	22.0	50.0



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





QuasiPeak Final Result, Line (L1)

Frequency (MHz)	QuasiPeak (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.150000	46.0	9.000	L1	9.7	20.0	66.0
0.154000	47.9	9.000	L1	9.7	17.9	65.8
0.160000	43.5	9.000	L1	9.7	22.0	65.5
0.164000	39.7	9.000	L1	9.7	25.6	65.3
0.170000	35.0	9.000	L1	9.7	30.0	65.0
0.424000	37.5	9.000	L1	9.7	19.9	57.4
4.210000	25.7	9.000	L1	10.0	30.3	56.0
4.330000	26.5	9.000	L1	10.0	29.5	56.0
4.474000	26.8	9.000	L1	10.0	29.2	56.0
4.780000	26.6	9.000	L1	10.0	29.4	56.0
5.064000	27.1	9.000	L1	10.0	32.9	60.0
5.086000	27.2	9.000	L1	10.0	32.8	60.0
13.204000	34.4	9.000	L1	10.3	25.6	60.0
13.456000	34.5	9.000	L1	10.4	25.5	60.0
13.488000	34.8	9.000	L1	10.4	25.2	60.0
13.510000	34.3	9.000	L1	10.4	25.7	60.0
13.646000	34.5	9.000	L1	10.4	25.5	60.0
13.732000	34.3	9.000	L1	10.4	25.7	60.0

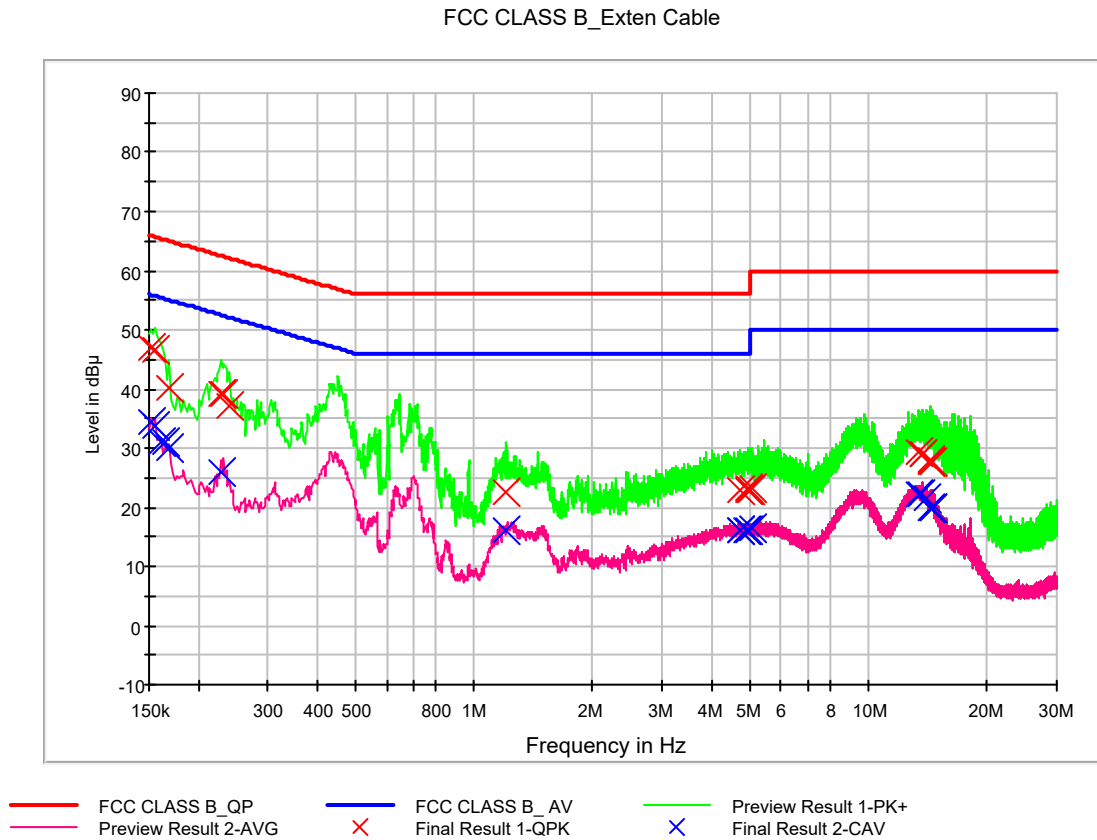


CAverage Final Result, Line (L1)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.150000	33.8	9.000	L1	9.7	22.2	56.0
0.154000	35.8	9.000	L1	9.7	19.9	55.8
0.162000	29.5	9.000	L1	9.7	25.8	55.4
0.166000	29.6	9.000	L1	9.7	25.6	55.2
0.222000	24.2	9.000	L1	9.7	28.6	52.7
0.426000	28.0	9.000	L1	9.7	19.3	47.3
3.958000	18.2	9.000	L1	10.0	27.8	46.0
4.330000	18.4	9.000	L1	10.0	27.6	46.0
4.618000	18.6	9.000	L1	10.0	27.4	46.0
4.698000	18.7	9.000	L1	10.0	27.3	46.0
5.046000	19.0	9.000	L1	10.0	31.0	50.0
5.086000	19.3	9.000	L1	10.0	30.7	50.0
9.730000	25.0	9.000	L1	10.2	25.0	50.0
13.174000	26.2	9.000	L1	10.3	23.8	50.0
13.204000	26.4	9.000	L1	10.3	23.6	50.0
13.488000	26.4	9.000	L1	10.4	23.6	50.0
13.732000	26.1	9.000	L1	10.4	23.9	50.0
13.756000	25.8	9.000	L1	10.4	24.2	50.0



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





QuasiPeak Final Result, Line (N)

Frequency (MHz)	QuasiPeak (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.152000	47.1	9.000	N	9.8	18.8	65.9
0.156000	46.7	9.000	N	9.8	19.0	65.7
0.168000	40.1	9.000	N	9.8	25.0	65.1
0.228000	39.1	9.000	N	9.9	23.4	62.5
0.232000	39.2	9.000	N	9.9	23.2	62.4
0.240000	37.2	9.000	N	9.9	24.9	62.1
1.210000	22.6	9.000	N	10.0	33.4	56.0
4.736000	22.7	9.000	N	10.2	33.3	56.0
4.936000	23.1	9.000	N	10.2	32.9	56.0
4.954000	22.8	9.000	N	10.2	33.2	56.0
4.998000	22.9	9.000	N	10.2	33.1	56.0
5.068000	23.2	9.000	N	10.2	36.8	60.0
13.382000	29.5	9.000	N	10.6	30.5	60.0
13.674000	29.1	9.000	N	10.6	30.9	60.0
13.708000	28.9	9.000	N	10.6	31.1	60.0
14.294000	27.9	9.000	N	10.6	32.1	60.0
14.402000	27.5	9.000	N	10.6	32.5	60.0
14.540000	27.7	9.000	N	10.6	32.3	60.0

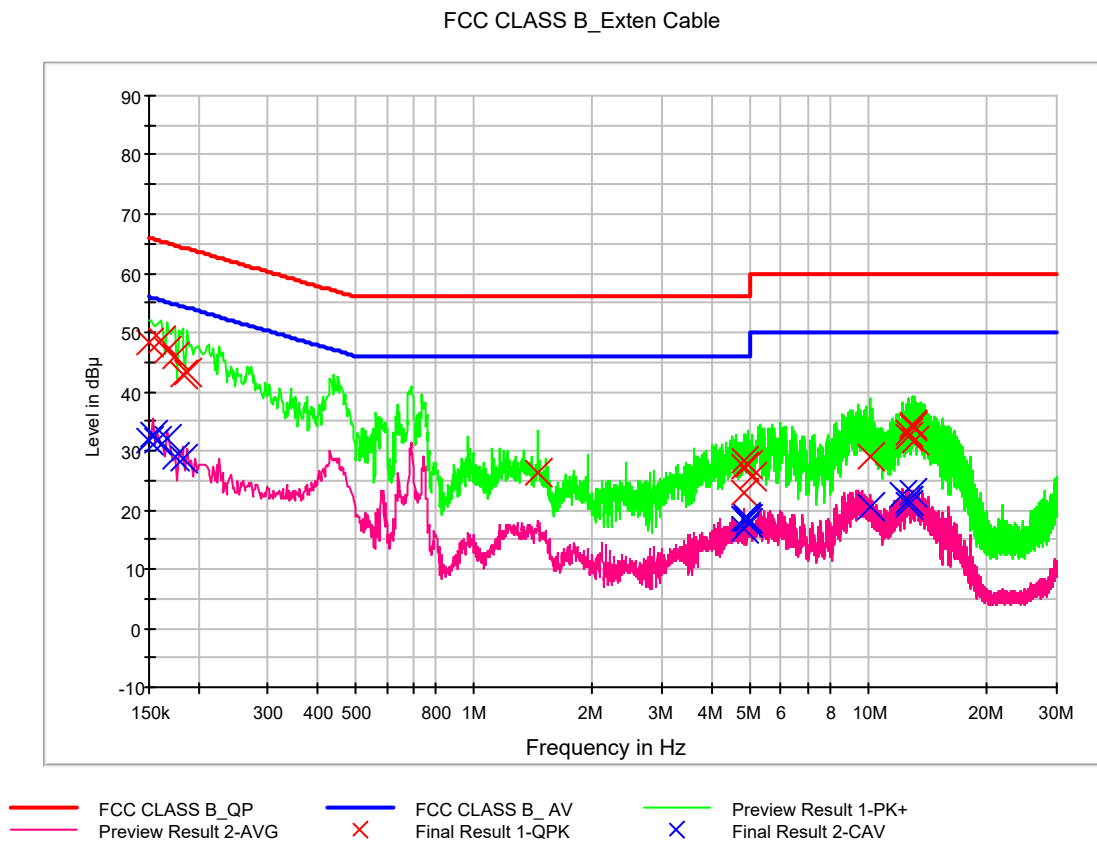


CAverage Final Result, Line (N)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.152000	34.4	9.000	N	9.8	21.5	55.9
0.156000	33.7	9.000	N	9.8	22.0	55.7
0.160000	30.9	9.000	N	9.8	24.5	55.5
0.164000	31.1	9.000	N	9.8	24.2	55.3
0.168000	29.9	9.000	N	9.8	25.1	55.1
0.228000	26.0	9.000	N	9.9	26.5	52.5
1.204000	16.0	9.000	N	10.0	30.0	46.0
4.736000	16.1	9.000	N	10.2	29.9	46.0
4.754000	16.1	9.000	N	10.2	29.9	46.0
4.870000	16.2	9.000	N	10.2	29.8	46.0
4.954000	16.2	9.000	N	10.2	29.8	46.0
5.052000	16.3	9.000	N	10.2	33.7	50.0
13.382000	22.2	9.000	N	10.6	27.8	50.0
13.516000	22.2	9.000	N	10.6	27.8	50.0
14.014000	21.4	9.000	N	10.6	28.6	50.0
14.402000	19.9	9.000	N	10.6	30.1	50.0
14.526000	19.8	9.000	N	10.6	30.2	50.0
14.540000	20.0	9.000	N	10.6	30.0	50.0



Figure 5: Conducted Emission, MP4, Line (L1)





QuasiPeak Final Result, Line (L1)

Frequency (MHz)	QuasiPeak (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.150000	48.3	9.000	L1	9.7	17.7	66.0
0.160000	48.5	9.000	L1	9.7	17.0	65.5
0.166000	47.0	9.000	L1	9.7	18.2	65.2
0.174000	46.1	9.000	L1	9.7	18.7	64.8
0.182000	43.0	9.000	L1	9.7	21.4	64.4
0.188000	43.3	9.000	L1	9.7	20.8	64.1
1.456000	26.2	9.000	L1	9.9	29.8	56.0
4.836000	28.2	9.000	L1	10.0	27.8	56.0
4.854000	27.2	9.000	L1	10.0	28.8	56.0
4.858000	23.0	9.000	L1	10.0	33.0	56.0
4.956000	27.7	9.000	L1	10.0	28.3	56.0
5.044000	25.5	9.000	L1	10.0	34.5	60.0
10.098000	29.1	9.000	L1	10.2	30.9	60.0
12.610000	32.9	9.000	L1	10.3	27.1	60.0
12.668000	32.4	9.000	L1	10.3	27.6	60.0
12.934000	34.3	9.000	L1	10.3	25.7	60.0
12.938000	34.2	9.000	L1	10.3	25.8	60.0
13.054000	31.8	9.000	L1	10.3	28.2	60.0

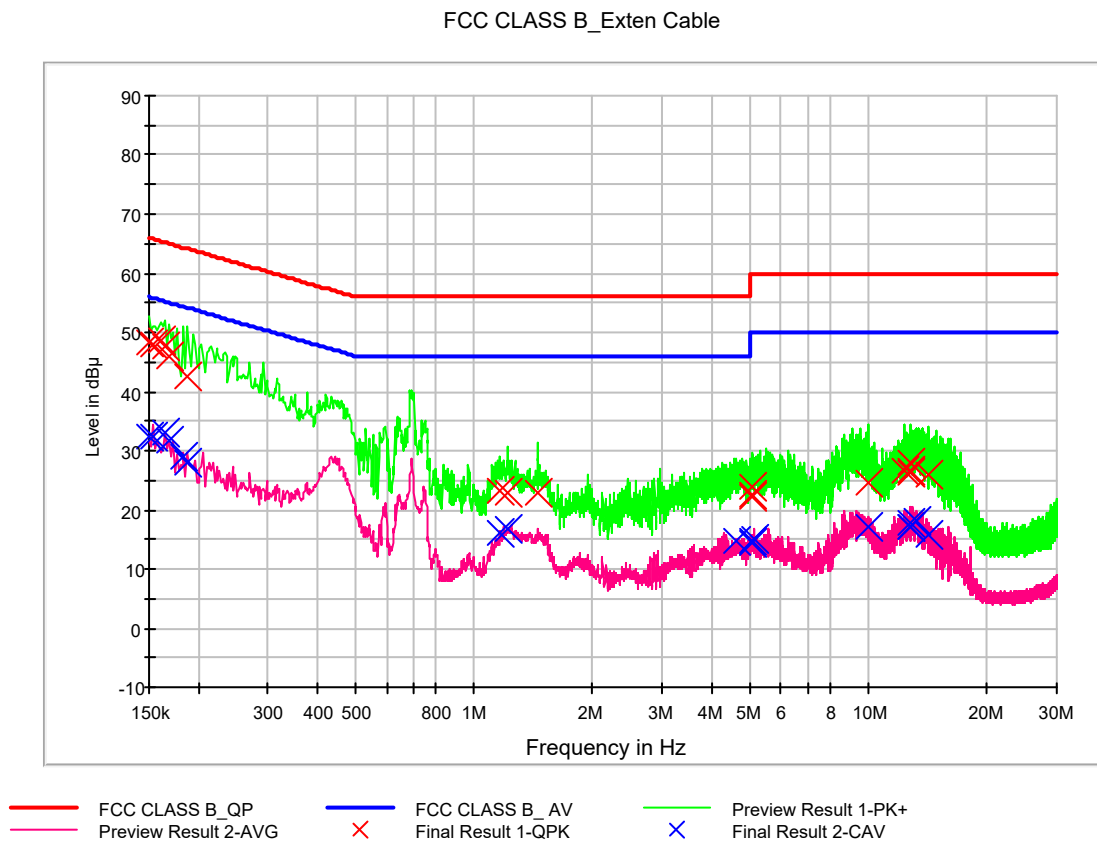


CAverage Final Result, Line (L1)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.150000	31.7	9.000	L1	9.7	24.3	56.0
0.154000	32.7	9.000	L1	9.7	23.1	55.8
0.158000	31.8	9.000	L1	9.7	23.7	55.6
0.166000	32.2	9.000	L1	9.7	23.0	55.2
0.174000	28.8	9.000	L1	9.7	25.9	54.8
0.182000	28.6	9.000	L1	9.7	25.8	54.4
4.836000	18.4	9.000	L1	10.0	27.6	46.0
4.854000	16.7	9.000	L1	10.0	29.3	46.0
4.894000	18.8	9.000	L1	10.0	27.2	46.0
4.898000	18.6	9.000	L1	10.0	27.4	46.0
4.952000	18.3	9.000	L1	10.0	27.7	46.0
4.956000	17.8	9.000	L1	10.0	28.2	46.0
10.098000	20.7	9.000	L1	10.2	29.3	50.0
12.198000	22.4	9.000	L1	10.3	27.6	50.0
12.596000	21.4	9.000	L1	10.3	28.6	50.0
12.610000	21.4	9.000	L1	10.3	28.6	50.0
12.668000	21.0	9.000	L1	10.3	29.0	50.0
12.934000	22.8	9.000	L1	10.3	27.2	50.0



Figure 6: Conducted Emission, MP4, Line (N)





QuasiPeak Final Result, Line (N)

Frequency (MHz)	QuasiPeak (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.150000	48.3	9.000	N	9.8	17.7	66.0
0.154000	47.9	9.000	N	9.8	17.9	65.8
0.160000	48.5	9.000	N	9.8	17.0	65.5
0.164000	47.6	9.000	N	9.8	17.7	65.3
0.168000	46.1	9.000	N	9.8	19.0	65.1
0.188000	42.4	9.000	N	9.8	21.7	64.1
1.164000	23.1	9.000	N	10.0	32.9	56.0
1.214000	22.8	9.000	N	10.0	33.2	56.0
1.456000	22.8	9.000	N	10.1	33.2	56.0
5.048000	23.7	9.000	N	10.2	36.3	60.0
5.074000	22.1	9.000	N	10.2	37.9	60.0
5.100000	22.6	9.000	N	10.2	37.4	60.0
9.986000	24.7	9.000	N	10.4	35.3	60.0
12.314000	26.5	9.000	N	10.6	33.5	60.0
12.726000	26.2	9.000	N	10.6	33.8	60.0
12.842000	26.6	9.000	N	10.6	33.4	60.0
12.846000	27.8	9.000	N	10.6	32.2	60.0
14.150000	25.8	9.000	N	10.6	34.2	60.0

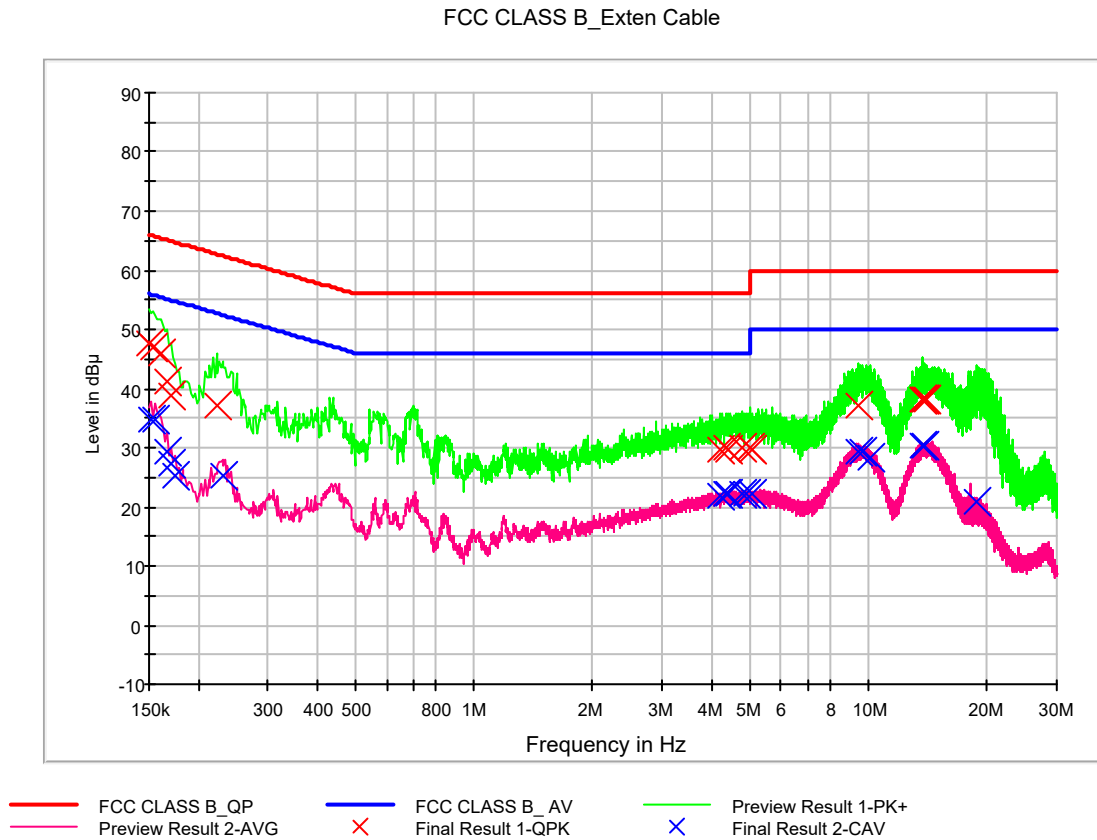


CAverage Final Result, Line (N)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.150000	32.2	9.000	N	9.8	23.8	56.0
0.154000	32.4	9.000	N	9.8	23.4	55.8
0.164000	33.1	9.000	N	9.8	22.1	55.3
0.168000	31.6	9.000	N	9.8	23.4	55.1
0.184000	28.8	9.000	N	9.8	25.5	54.3
0.188000	28.0	9.000	N	9.8	26.1	54.1
1.164000	16.1	9.000	N	10.0	29.9	46.0
1.214000	16.8	9.000	N	10.0	29.2	46.0
4.618000	14.8	9.000	N	10.2	31.2	46.0
5.074000	14.3	9.000	N	10.2	35.7	50.0
5.100000	14.8	9.000	N	10.2	35.2	50.0
5.112000	15.2	9.000	N	10.2	34.8	50.0
9.986000	17.0	9.000	N	10.4	33.0	50.0
12.726000	17.2	9.000	N	10.6	32.8	50.0
12.842000	17.3	9.000	N	10.6	32.7	50.0
12.846000	17.7	9.000	N	10.6	32.3	50.0
13.182000	18.1	9.000	N	10.6	31.9	50.0
14.150000	15.8	9.000	N	10.6	34.2	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	47.7	9.000	L1	9.7	18.3	66.0
0.154000	47.1	9.000	L1	9.7	18.7	65.8
0.160000	45.8	9.000	L1	9.7	19.6	65.5
0.166000	41.1	9.000	L1	9.7	24.0	65.2
0.170000	38.7	9.000	L1	9.7	26.3	65.0
0.222000	37.1	9.000	L1	9.7	25.6	62.7
4.208000	29.7	9.000	L1	10.0	26.3	56.0
4.352000	29.8	9.000	L1	10.0	26.2	56.0
4.402000	29.7	9.000	L1	10.0	26.3	56.0
4.798000	29.9	9.000	L1	10.0	26.1	56.0
4.998000	29.9	9.000	L1	10.0	26.1	56.0
5.092000	29.8	9.000	L1	10.0	30.2	60.0
9.442000	37.2	9.000	L1	10.2	22.8	60.0
13.648000	38.1	9.000	L1	10.4	21.9	60.0
13.750000	38.1	9.000	L1	10.4	21.9	60.0
13.820000	38.3	9.000	L1	10.4	21.7	60.0
13.902000	38.2	9.000	L1	10.4	21.8	60.0
14.008000	38.1	9.000	L1	10.4	21.9	60.0

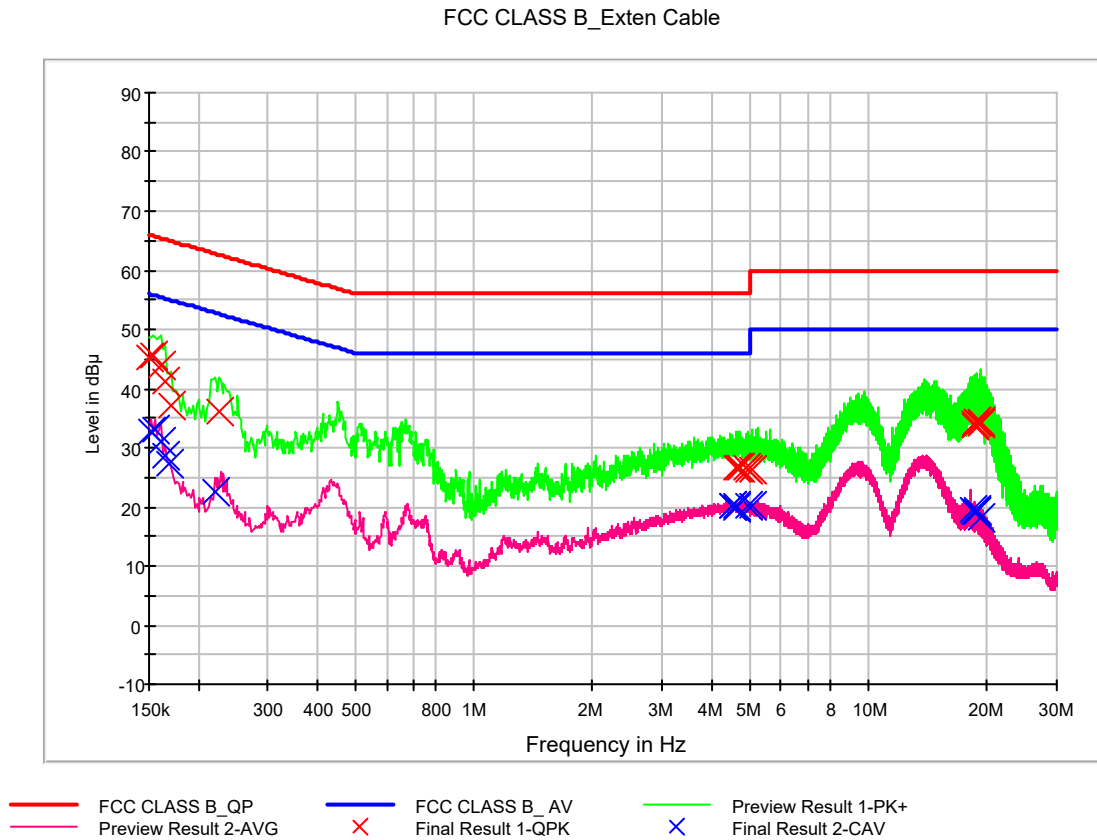


CAverage Final Result, Line (L1)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.152000	34.6	9.000	L1	9.7	21.3	55.9
0.156000	34.9	9.000	L1	9.7	20.8	55.7
0.166000	29.3	9.000	L1	9.7	25.9	55.2
0.170000	27.3	9.000	L1	9.7	27.7	55.0
0.174000	25.3	9.000	L1	9.7	29.5	54.8
0.230000	25.4	9.000	L1	9.7	27.1	52.4
4.208000	21.9	9.000	L1	10.0	24.1	46.0
4.352000	22.1	9.000	L1	10.0	23.9	46.0
4.402000	22.2	9.000	L1	10.0	23.8	46.0
4.792000	22.3	9.000	L1	10.0	23.7	46.0
4.874000	22.2	9.000	L1	10.0	23.8	46.0
5.092000	22.2	9.000	L1	10.0	27.8	50.0
9.442000	29.2	9.000	L1	10.2	20.8	50.0
9.698000	29.2	9.000	L1	10.2	20.8	50.0
10.078000	28.2	9.000	L1	10.2	21.8	50.0
13.650000	30.2	9.000	L1	10.4	19.8	50.0
13.938000	30.3	9.000	L1	10.4	19.7	50.0
18.690000	20.9	9.000	L1	10.6	29.1	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	45.1	9.000	N	9.8	20.9	66.0
0.154000	45.6	9.000	N	9.8	20.2	65.8
0.160000	43.9	9.000	N	9.8	21.5	65.5
0.164000	41.1	9.000	N	9.8	24.1	65.3
0.170000	37.1	9.000	N	9.8	27.9	65.0
0.226000	36.0	9.000	N	9.9	26.6	62.6
4.620000	26.5	9.000	N	10.2	29.5	56.0
4.678000	26.4	9.000	N	10.2	29.6	56.0
4.724000	26.5	9.000	N	10.2	29.5	56.0
4.912000	26.5	9.000	N	10.2	29.5	56.0
4.974000	26.3	9.000	N	10.2	29.7	56.0
5.086000	26.3	9.000	N	10.2	33.7	60.0
18.580000	34.1	9.000	N	10.8	25.9	60.0
18.630000	33.8	9.000	N	10.8	26.2	60.0
18.780000	34.3	9.000	N	10.8	25.7	60.0
18.792000	34.3	9.000	N	10.8	25.7	60.0
19.150000	34.4	9.000	N	10.8	25.6	60.0
19.240000	34.1	9.000	N	10.8	25.9	60.0

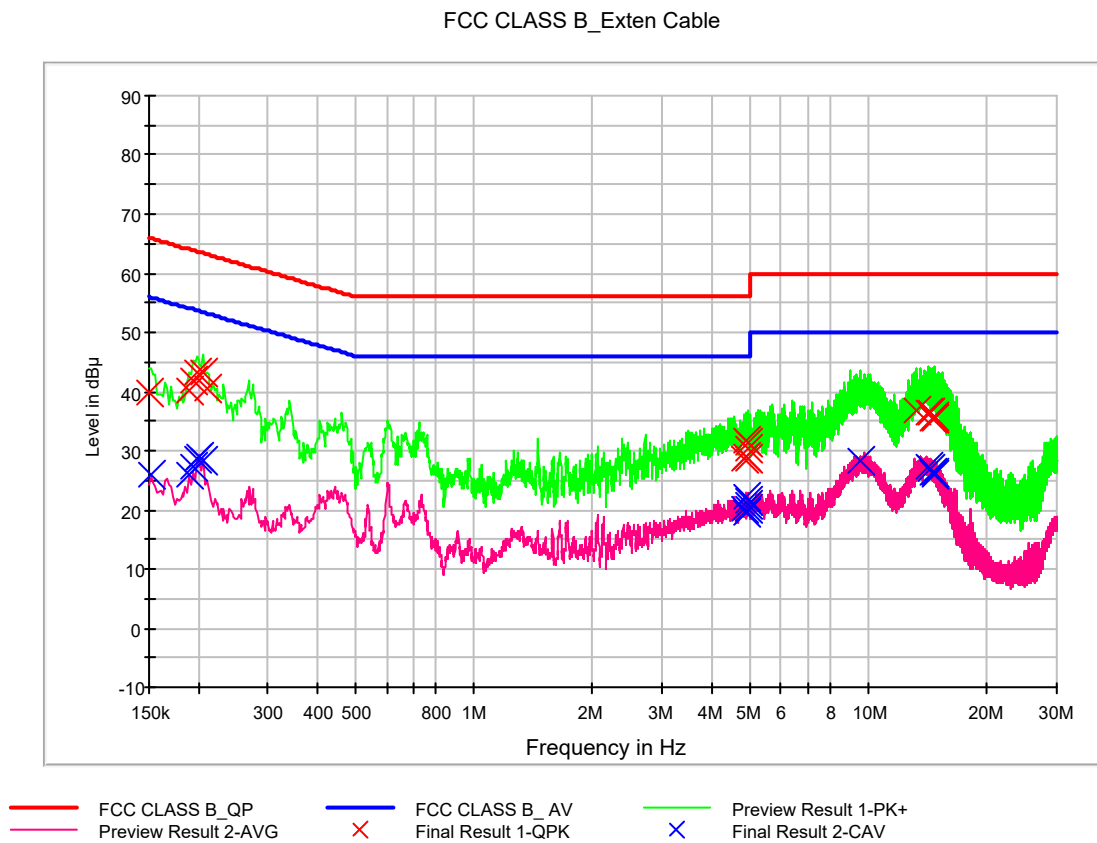


CAverage Final Result, Line (N)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.152000	32.9	9.000	N	9.8	23.0	55.9
0.156000	33.2	9.000	N	9.8	22.5	55.7
0.160000	31.0	9.000	N	9.8	24.5	55.5
0.164000	28.6	9.000	N	9.8	26.6	55.3
0.168000	27.2	9.000	N	9.8	27.9	55.1
0.220000	22.5	9.000	N	9.9	30.3	52.8
4.520000	20.3	9.000	N	10.2	25.7	46.0
4.524000	20.3	9.000	N	10.2	25.7	46.0
4.594000	20.0	9.000	N	10.2	26.0	46.0
4.620000	20.3	9.000	N	10.2	25.7	46.0
4.964000	20.1	9.000	N	10.2	25.9	46.0
5.086000	20.1	9.000	N	10.2	29.9	50.0
18.456000	19.6	9.000	N	10.8	30.4	50.0
18.580000	19.2	9.000	N	10.8	30.8	50.0
18.622000	19.1	9.000	N	10.8	30.9	50.0
18.780000	19.5	9.000	N	10.8	30.5	50.0
18.792000	19.2	9.000	N	10.8	30.8	50.0
19.240000	18.2	9.000	N	10.8	31.8	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)
0.150000	39.9	9.000	L1	9.7	26.1	66.0
0.190000	40.1	9.000	L1	9.7	23.9	64.0
0.194000	41.8	9.000	L1	9.7	22.0	63.9
0.198000	43.2	9.000	L1	9.7	20.5	63.7
0.206000	43.1	9.000	L1	9.7	20.3	63.4
0.210000	40.6	9.000	L1	9.7	22.6	63.2
4.846000	28.8	9.000	L1	10.0	27.2	56.0
4.884000	31.8	9.000	L1	10.0	24.2	56.0
4.902000	28.9	9.000	L1	10.0	27.1	56.0
4.952000	31.4	9.000	L1	10.0	24.6	56.0
4.966000	30.4	9.000	L1	10.0	25.6	56.0
4.970000	28.7	9.000	L1	10.0	27.3	56.0
13.274000	36.7	9.000	L1	10.3	23.3	60.0
14.150000	36.3	9.000	L1	10.4	23.7	60.0
14.424000	36.3	9.000	L1	10.4	23.7	60.0
14.556000	35.4	9.000	L1	10.4	24.6	60.0
14.624000	35.9	9.000	L1	10.4	24.2	60.0
14.638000	35.6	9.000	L1	10.4	24.4	60.0

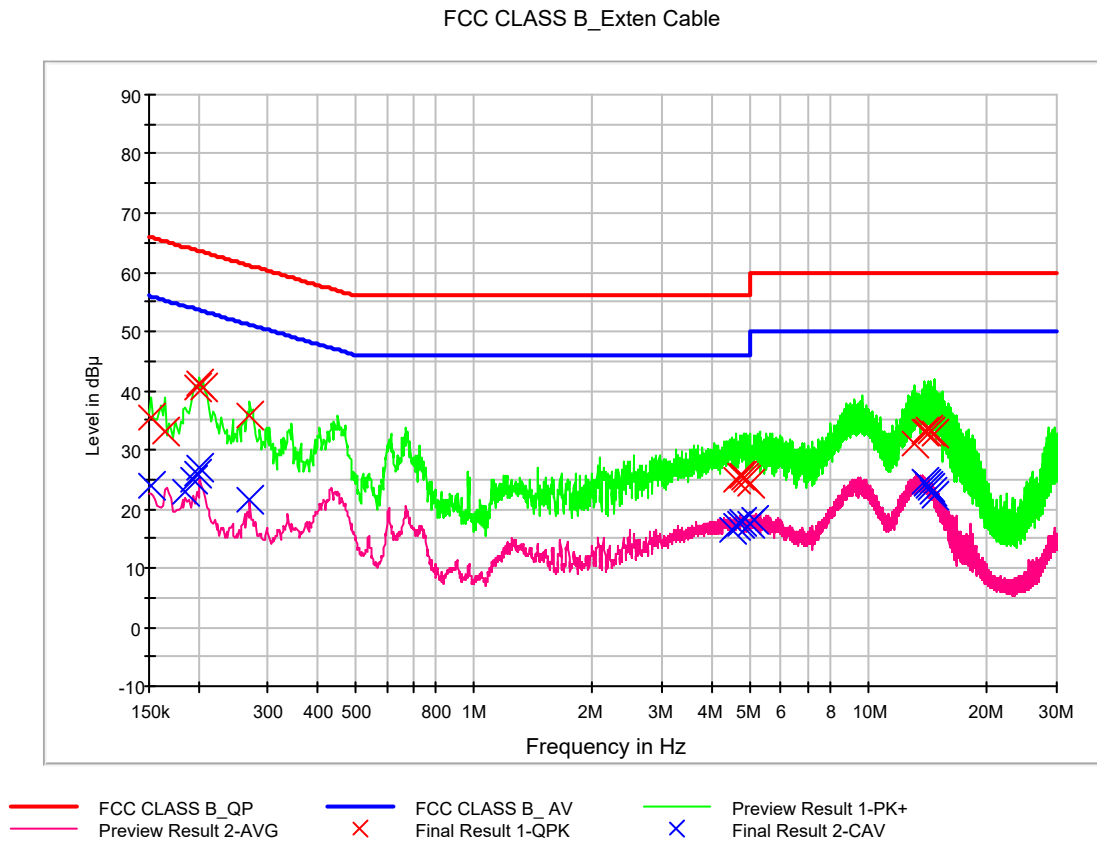


CAverage Final Result, Line (L1)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.152000	25.9	9.000	L1	9.7	30.0	55.9
0.190000	25.9	9.000	L1	9.7	28.2	54.0
0.194000	27.3	9.000	L1	9.7	26.6	53.9
0.198000	28.5	9.000	L1	9.7	25.2	53.7
0.202000	29.1	9.000	L1	9.7	24.4	53.5
0.206000	28.3	9.000	L1	9.7	25.1	53.4
4.846000	20.2	9.000	L1	10.0	25.8	46.0
4.884000	22.1	9.000	L1	10.0	23.9	46.0
4.916000	19.4	9.000	L1	10.0	26.6	46.0
4.950000	21.7	9.000	L1	10.0	24.3	46.0
4.966000	20.7	9.000	L1	10.0	25.3	46.0
4.970000	20.2	9.000	L1	10.0	25.8	46.0
9.492000	28.2	9.000	L1	10.2	21.8	50.0
14.150000	27.4	9.000	L1	10.4	22.6	50.0
14.424000	27.0	9.000	L1	10.4	23.0	50.0
14.556000	26.4	9.000	L1	10.4	23.6	50.0
14.638000	26.4	9.000	L1	10.4	23.6	50.0
14.704000	25.8	9.000	L1	10.4	24.2	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)
0.152000	35.3	9.000	N	9.8	30.6	65.9
0.164000	32.9	9.000	N	9.8	32.4	65.3
0.198000	40.5	9.000	N	9.8	23.2	63.7
0.202000	41.2	9.000	N	9.9	22.3	63.5
0.206000	40.3	9.000	N	9.9	23.0	63.4
0.270000	35.9	9.000	N	9.9	25.2	61.1
4.634000	24.8	9.000	N	10.2	31.2	56.0
4.710000	25.6	9.000	N	10.2	30.4	56.0
4.792000	25.7	9.000	N	10.2	30.3	56.0
4.856000	25.3	9.000	N	10.2	30.7	56.0
4.890000	25.1	9.000	N	10.2	30.9	56.0
5.014000	24.2	9.000	N	10.2	35.8	60.0
13.050000	30.9	9.000	N	10.6	29.1	60.0
13.848000	33.1	9.000	N	10.6	26.9	60.0
14.088000	33.0	9.000	N	10.6	27.0	60.0
14.186000	33.2	9.000	N	10.6	26.8	60.0
14.340000	33.0	9.000	N	10.6	27.0	60.0
14.742000	32.7	9.000	N	10.7	27.3	60.0



CAverage Final Result, Line (N)

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.152000	23.9	9.000	N	9.8	32.0	55.9
0.186000	23.0	9.000	N	9.8	31.2	54.2
0.194000	24.9	9.000	N	9.8	29.0	53.9
0.198000	25.8	9.000	N	9.8	27.9	53.7
0.202000	26.8	9.000	N	9.9	26.7	53.5
0.270000	21.7	9.000	N	9.9	29.5	51.1
4.498000	16.5	9.000	N	10.2	29.5	46.0
4.616000	17.3	9.000	N	10.2	28.7	46.0
4.734000	17.4	9.000	N	10.2	28.6	46.0
4.792000	17.9	9.000	N	10.2	28.1	46.0
5.014000	17.3	9.000	N	10.2	32.7	50.0
5.114000	18.2	9.000	N	10.2	31.8	50.0
13.784000	24.5	9.000	N	10.6	25.5	50.0
14.088000	24.1	9.000	N	10.6	25.9	50.0
14.258000	23.9	9.000	N	10.6	26.1	50.0
14.340000	23.5	9.000	N	10.6	26.5	50.0
14.534000	22.9	9.000	N	10.6	27.1	50.0
14.742000	22.3	9.000	N	10.7	27.7	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 ICES-003 Issue 6 Class B ANSI C63.4-2014
Detector	Quasi-Peak
Bandwidth	120 kHz (6 dB)
Worst Case of Operating Mode	Data Communication [TA] Rear Camera Preview MP4 Play [Earphone] Rear Camera Recording MP4 Play Keyboard Dock Charging
Kind of Test Site	3 m semi anechoic chamber
Temperature	23.2 / 24.1 / 23.7 °C
Relative Humidity	44.4 / 43.9 / 44.3 %
Test Date	March 12 / March 13 / March 14, 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)
60.208000	31.7	100.0	V	186.0	19.7	8.3	40.0
143.299200	28.2	100.0	V	252.0	19.7	15.3	43.5
265.576800	33.5	125.2	H	142.0	19.4	12.5	46.0
500.000000	37.1	100.0	V	221.0	25.2	8.9	46.0
600.036800	39.4	100.0	V	0.0	27.5	11.7	46.0
875.005600	39.8	100.0	H	209.0	30.9	6.2	46.0

[TA] Rear Camera Preview

Frequency (MHz)	Quasi Peak (dBμV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
43.144000	22.1	116.8	V	199.0	19.9	17.9	40.0
45.980800	28.7	99.8	V	303.0	20.0	11.3	40.0
62.652000	19.9	99.9	V	110.0	19.3	20.1	40.0
149.743200	18.8	175.0	V	238.0	19.9	24.7	43.5
492.899200	24.0	174.8	V	134.0	25.0	22.0	46.0
688.980800	28.4	192.9	H	245.0	28.6	17.6	46.0

[TA] MP4 Play

Frequency (MHz)	Quasi Peak (dBμV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
40.378400	23.3	100.0	V	77.0	19.7	16.7	40.0
46.064800	29.2	117.7	V	63.0	20.0	10.8	40.0
63.220800	20.5	100.1	V	244.0	19.2	19.5	40.0
150.893600	19.6	100.0	V	220.0	19.9	23.9	43.5
483.737600	23.9	100.1	H	308.0	24.8	22.1	46.0
657.765600	28.1	274.7	H	135.0	28.2	17.9	46.0



[Earphone] Rear Camera Recording

Frequency (MHz)	Quasi Peak (dBμV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
36.302400	17.0	274.9	V	1.0	19.3	23.0	40.0
54.780800	17.7	116.8	V	1.0	20.0	22.3	40.0
67.044000	24.5	292.8	H	132.0	18.5	15.5	40.0
150.068000	18.7	174.9	H	0.0	19.9	24.8	43.5
488.699200	24.0	274.8	V	147.0	24.9	22.0	46.0
698.350400	28.5	274.9	H	320.0	28.7	17.5	46.0

[Earphone] MP4 Play

Frequency (MHz)	Quasi Peak (dBμV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
32.465600	19.9	191.8	V	264.0	18.9	20.1	40.0
67.220000	24.2	325.0	H	140.0	18.5	15.8	40.0
114.564000	20.5	225.1	V	30.0	17.2	23.0	43.5
153.878400	18.8	100.0	H	7.0	20.0	24.7	43.5
491.016000	24.0	193.7	V	0.0	25.0	22.0	46.0
679.857600	28.4	199.8	H	30.0	28.4	17.6	46.0



Keyboard

Frequency (MHz)	Quasi Peak (dBμV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
42.948000	24.4	100.0	V	99.0	19.8	15.6	40.0
46.971200	27.8	174.9	V	54.0	20.1	12.2	40.0
66.358400	19.2	100.1	V	222.0	18.6	20.8	40.0
144.964800	18.2	100.0	V	170.0	19.8	25.3	43.5
490.840000	25.7	174.7	H	17.0	25.0	20.3	46.0
651.901600	28.0	174.9	H	188.0	28.1	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)
34.504800	25.3	100.0	V	62.0	19.1	14.7	40.0
44.764000	23.1	115.8	V	137.0	20.0	16.9	40.0
81.312800	21.2	225.0	H	97.0	15.5	18.8	40.0
114.564800	21.2	225.1	V	243.0	17.2	22.3	43.5
495.228000	25.3	100.0	V	2.0	25.1	20.7	46.0
676.943200	28.2	274.9	H	320.0	28.4	17.8	46.0



-For Measurement Above 1 GHz

Applicable Standards	FCC PART 15 Subpart B Class B ICES-003 Issue 6 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] Rear Camera Preview MP4 Play [Earphone] Rear Camera Recording MP4 Play Keyboard Dock Charging
Kind of Test Site	3 m semi anechoic chamber
Temperature	23.8 / 24.1 / 23.7 °C
Relative Humidity	43.5 / 43.9 / 44.3 %
Test Date	March 11 / March 13 / March 14, 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)
1400.045000	52.2	217.4	V	222.0	-26.1	21.8	74.0
2046.185000	48.3	100.0	V	49.0	-25.1	25.7	74.0
5982.535000	46.9	299.5	V	46.0	-14.9	27.1	74.0
9206.140000	48.4	150.0	V	55.0	-6.2	25.6	74.0
10831.140000	48.3	234.4	V	37.0	-3.0	25.7	74.0
14778.520000	48.4	292.5	V	12.0	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)
1400.045000	51.0	217.4	V	222.0	-26.1	3.0	54.0
2046.185000	21.7	100.0	V	49.0	-25.1	32.3	54.0
5982.535000	30.1	299.5	V	46.0	-14.9	23.9	54.0
9206.140000	35.5	150.0	V	55.0	-6.2	18.5	54.0
10831.140000	35.2	234.4	V	37.0	-3.0	18.8	54.0
14778.520000	35.9	292.5	V	12.0	0.8	18.1	54.0

[TA] Rear Camera Preview

Frequency (MHz)	Peak (dBμV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
3006.260000	34.9	216.4	V	134.0	-21.1	39.1	74.0
5597.060000	38.9	100.0	H	68.0	-15.3	35.1	74.0
7452.035000	45.4	203.4	V	236.0	-9.6	28.6	74.0
9725.250000	47.4	150.0	H	314.0	-5.4	26.6	74.0
10279.990000	47.5	249.8	H	273.0	-4.4	26.5	74.0
15005.790000	49.9	125.8	V	255.0	1.1	24.1	74.0

Frequency (MHz)	CAverage (dBμV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
3006.260000	22.4	216.4	V	134.0	-21.1	31.6	54.0
5597.060000	26.1	100.0	H	68.0	-15.3	27.9	54.0
7452.035000	31.5	203.4	V	236.0	-9.6	22.5	54.0
9725.250000	34.5	150.0	H	314.0	-5.4	19.5	54.0
10279.990000	35.1	249.8	H	273.0	-4.4	18.9	54.0
15005.790000	36.4	125.8	V	255.0	1.1	17.6	54.0



[TA] MP4 Play

Frequency (MHz)	Peak (dBμV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
1410.460000	33.7	205.4	V	322.0	-26.0	40.3	74.0
3461.825000	35.2	150.0	V	0.0	-20.7	38.8	74.0
7113.005000	43.1	189.4	H	292.0	-10.6	31.0	74.0
9837.835000	47.3	150.0	H	169.0	-5.4	26.7	74.0
10973.750000	48.7	150.0	H	251.0	-2.7	25.3	74.0
15055.415000	49.3	249.9	H	20.0	0.8	24.7	74.0

Frequency (MHz)	CAverage (dBμV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
1410.460000	20.6	205.4	V	322.0	-26.0	33.4	54.0
3461.825000	22.2	150.0	V	0.0	-20.7	31.8	54.0
7113.005000	30.4	189.4	H	292.0	-10.6	23.6	54.0
9837.835000	34.7	150.0	H	169.0	-5.4	19.3	54.0
10973.750000	35.6	150.0	H	251.0	-2.7	18.4	54.0
15055.415000	36.3	249.9	H	20.0	0.8	17.7	54.0

[Earphone] Rear Camera Recording

Frequency (MHz)	Peak (dBμV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
3042.210000	35.5	100.0	V	45.0	-21.0	38.5	74.0
5624.530000	39.1	137.6	H	222.0	-15.3	34.9	74.0
7385.130000	44.5	150.0	V	48.0	-9.8	29.5	74.0
9632.060000	48.0	249.8	H	135.0	-5.4	26.0	74.0
10751.510000	48.9	149.6	H	137.0	-3.1	25.1	74.0
14677.145000	48.8	249.7	V	53.0	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)
3042.210000	22.6	100.0	V	45.0	-21.0	31.4	54.0
5624.530000	26.4	137.6	H	222.0	-15.3	27.6	54.0
7385.130000	31.5	150.0	V	48.0	-9.8	22.5	54.0
9632.060000	35.6	249.8	H	135.0	-5.4	18.4	54.0
10751.510000	35.6	149.6	H	137.0	-3.1	18.4	54.0
14677.145000	35.8	249.7	V	53.0	0.7	18.2	54.0



[Earphone] MP4 Play

Frequency (MHz)	Peak (dBμV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
5625.805000	39.1	249.9	H	180.0	-15.3	34.9	74.0
7317.515000	43.4	149.5	H	141.0	-10.0	30.6	74.0
9242.605000	47.6	149.5	V	130.0	-6.1	26.4	74.0
10510.080000	48.1	191.5	H	294.0	-3.6	25.9	74.0
12891.530000	45.7	199.5	V	152.0	-2.6	28.3	74.0
14764.350000	48.9	205.4	H	141.0	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)
5625.805000	26.2	249.9	H	180.0	-15.3	27.8	54.0
7317.515000	31.0	149.5	H	141.0	-10.0	23.0	54.0
9242.605000	34.7	149.5	V	130.0	-6.1	19.3	54.0
10510.080000	35.6	191.5	H	294.0	-3.6	18.4	54.0
12891.530000	33.0	199.5	V	152.0	-2.6	21.0	54.0
14764.350000	35.8	205.4	H	141.0	0.8	18.2	54.0

Keyboard

Frequency (MHz)	Peak (dBμV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
5519.015000	39.0	100.0	H	120.0	-15.4	35.0	74.0
7486.705000	44.3	138.5	V	123.0	-9.5	29.7	74.0
9846.995000	47.9	149.6	V	333.0	-5.4	26.1	74.0
10586.365000	48.5	150.0	V	50.0	-3.4	25.5	74.0
12770.015000	45.3	229.6	V	3.0	-2.8	28.7	74.0
14802.285000	48.8	176.5	V	302.0	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)
5519.015000	26.1	100.0	H	120.0	-15.4	27.9	54.0
7486.705000	31.6	138.5	V	123.0	-9.5	22.4	54.0
9846.995000	34.9	149.6	V	333.0	-5.4	19.1	54.0
10586.365000	35.9	150.0	V	50.0	-3.4	18.1	54.0
12770.015000	32.4	229.6	V	3.0	-2.8	21.6	54.0
14802.285000	36.3	176.5	V	302.0	0.9	17.7	54.0



Dock Charging

Frequency (MHz)	Peak (dBμV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
2991.410000	35.1	233.6	V	150.0	-21.1	38.9	74.0
4921.115000	38.8	113.6	H	50.0	-16.2	35.2	74.0
7427.940000	45.4	150.0	H	105.0	-9.7	28.6	74.0
9748.330000	47.2	150.0	H	204.0	-5.4	26.8	74.0
10836.060000	47.3	125.8	V	0.0	-3.0	26.7	74.0
14462.210000	49.3	100.0	V	252.0	0.4	24.7	74.0

Frequency (MHz)	CAverage (dBμV/m)	Antenna Height (cm)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBμV/m)
2991.410000	22.5	233.6	V	150.0	-21.1	31.5	54.0
4921.115000	26.3	113.6	H	50.0	-16.2	27.7	54.0
7427.940000	31.8	150.0	H	105.0	-9.7	22.2	54.0
9748.330000	34.7	150.0	H	204.0	-5.4	19.3	54.0
10836.060000	35.1	125.8	V	0.0	-3.0	18.9	54.0
14462.210000	36.3	100.0	V	252.0	0.4	17.7	54.0



6. CONCLUSION

The data collected shows that the **EUT Type: Tablet, Model: SM-T720** complies with §15.107 and §15.109 of the FCC rules and ICES-003 Issue 6 of the IC rules.



7. APPENDIX A. TEST SETUP PHOTOGRAPHS

Please refer to Appendix A