74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, Rep. of Korea
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EMI TEST REPORT
FCC CERTIFICATION

Applicant: **SAMSUNG Electronics Co., Ltd.** **129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Korea**	**Date of Issue: November 04, 2021** **Test Report No. HCT-EM-2110-FC007-R1** **Test Site: HCT CO., LTD.**

FCC ID : **A3LSMN980F1**

Rule Part(s) / Standard(s) :		47 CFR PART 15 Subpart B Class B ANSI C63.4-2014
Product Name	:	Mobile Phone
Model Name	:	SM-N980F/DS
Series Model Name	:	SM-N980F
Date of Test	:	October 14, 2021 to October 28, 2021

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.

Tested By

Wook Yi
Test Engineer
EMC Team
Certification Division

Reviewed

Jeong-Hyun Choi
Technical Manager
EMC Team
Certification Division

REVISION HISTORY

The revision history for this document is shown in table.

Rev No.	Issue Date	Information About Changes
0	October 29, 2021	Initial Release
1	November 04, 2021	Added information about EUT and series model in Clause 1.1 Added information about S-pen in Clause 1.2 and Clause 3.3

The above Test Report is not related to the accredited test result by (KS Q) ISO/IEC 17025 and KOLAS (Korea Laboratory Accreditation Scheme), which signed the ILAC-MRA.

If this report is required to confirmation of authenticity, please contact to www.hct.co.kr

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1. GENERAL INFORMATION

1.1 Description of EUT

FCC ID	A3LSMN980F1
Model Name	SM-N980F/DS
Series Model Name	SM-N980F
Product Name	Mobile Phone
Frequency Band	GSM850/1900, WCDMA B2/4/5, LTE B2/4/5/12/13/17/25/26/41/66, Bluetooth BDR/EDR/LE 5.0, WLAN a/b/g/n/ac/ax, NFC, MST, WPT
Power Supply	Travel adaptor: Input: AC 100 to 240 V, 50 to 60 Hz, 0.7 A Output: (PDO) 5.0 V, 3.0 A or 9.0 V, 2.77 A (PPS) 3.3 to 5.9 V, 3.0 A or 3.3 to 11.0 V, 2.25 A

NOTE. SM-N980F is series model of EUT.
The only difference between SM-N980F/DS and SM-N980F is SIM slot.
SM-N980F/DS : Dual SIM Tray (SIM 1 + SIM 2 Slot)
SM-N980F : Single SIM Tray (SIM 1 Slot)
The test was performed in SM-N980F/DS

1.2 Tested System Details

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

Device Type	Model Name	Serial Number	Manufacturer
Mobile Phone	SM-N980F/DS	-	SAMSUNG
Notebook PC	ProBook650G2	5CG6331M0P	HP
Notebook PC Adaptor	Series PPP009L-E	-	LITE-ON TECHNOLOGY (CHANGZHOU) CO., LTD.
Gateway	DIR-806M	-	D-Link
Gateway Adaptor	AMS1-0501200FK	-	D-Link
Serial Mouse	Serial 2 Button mouse	02031069	Radio Shack
RJ45 cable	-	-	-
LED Monitor	34UC98	-	LG Electronics
Monitor Adapter	LCAP31	-	LG Electronics
DP cable	CDP2DPMM1MW	-	STARTECH
TA	EP-TA800		SOLUM
Data Cable	EP-DN980	-	RF TECH
Earphone	YBD-19HS	-	ALMUS
S-Pen	EJ-PN980	-	Wacom

1.3 Cable Description

Product Name	Port	Power Cord Shielded (Y/N)	I/O Cable Shielded (Y/N)	Length (m)
EUT	USB Type C (Data Cable)	Y	Y	(P, D) 1.0
	USB Type C (Earphone)	N/A	N	(D) 1.3
Notebook PC	RJ 45	N/A	N	(D) 1.6
	Serial (Mouse)	N/A	Y	(D) 1.8
	DC IN	N	N/A	(P) 1.8
Gateway	DC IN	N	N/A	(P) 1.8
LED Monitor	DC IN	N	N/A	(P) 2.0
	DP port	N/A	Y	(D) 1.0

"(D)" Data Cable and "(P)" 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 (Data Cable)	N	N/A	Y	Both End
	USB Type C (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
LED Monitor	DP port	N	N/A	Y	Both End

1.5 Test Facility

Test site is located at 74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, Korea.
Those measurement facilities are constructed in conformance with the requirements of ANSI C63.4-2014.
The Normalized site attenuations (30 ㎒ to 1 ㎓) and Site validation (1 ㎓ to 18 ㎓) were performed in accordance with the standard in ANSI C63.4a-2017.
Our laboratories are accredited and designated in accordance with the provisions of Radio Waves ACT and International Standard ISO/IEC 17025:2017. (National Radio Research Agency, Designation No. KR0032)

1.6 Calibration of Measuring Instrument

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturers recommendations for utilizing calibration equipment, which is traceable to recognized national standards.
Especially, all antenna for measurement is calibrated in accordance with the requirements of C63.5:2017.

1.7 Measurement Uncertainty

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.4-2014.
All measurement uncertainty values are shown with a coverage factor of k = 2 to indicate a 95 % level of confidence. The measurement data shown herein meets or exceeds the U_{CISPR} measurement uncertainty values specified in CISPR 16-4-2 and, thus, can be compared directly to specified limits to determine compliance.

Test Item	Test Site (Chamber)	Expanded Uncertainty
Conducted Emission	EMI Shield Room	2.0 ㏈
Radiated Emission (30 ㎒ to 1 ㎓)	3 m Semi Anechoic Chamber #1	5.8 ㏈
Radiated Emission (1 ㎓ to 18 ㎓)	3 m Semi Anechoic Chamber #1	4.8 ㏈
Radiated Emission (18 ㎓ to 40 ㎓)	3 m Semi Anechoic Chamber #1	5.8 ㏈

2. LIST OF TEST EQUIPMENT

Type	Model Name	Manufacturer	Serial Number	Calibration Cycle	Calibration Date
Conducted Emission					
☒ EMI Test Receiver	ESR7	Rohde & Schwarz	101910	1 year	06.17.2021
☒ LISN	ENV216	Rohde & Schwarz	102245	1 year	08.23.2021
☒ LISN	ENV216	Rohde & Schwarz	100073	1 year	04.07.2021
☒ Radio communication analyzer	MT8821C	ANRITSU	6262192376	1 year	10.19.2021
☒ Antenna (for Communication)	HyperLOG7060	Aaronia	66450	-	-
☐ Radio communication analyzer	MT8000A	ANRITSU	6262208294	1 year	12.24.2020
☐ Antenna (for Communication)	HyperLOG7060	Aaronia	66451	-	-
☒ Software	EMC32	Rohde & Schwarz	-	-	-
Radiated Emission					
-For measurement below 1 ㎓					
☒ EMI Test Receiver	ESU40	Rohde & Schwarz	100524	1 year	05.10.2021
☒ Bi-Log Antenna	VULB9168	Schwarzbeck	255	2 year	03.15.2021
☒ Antenna master	MA4640-XP-ET	INNCO SYSTEM	-	N/A	-
☒ Antenna master controller	CO3000	INNCO SYSTEM	CO3000/870/ 35990515/L	N/A	-
☒ Turn Table	1060	INNCO SYSTEM	-	N/A	-
☒ Turn Table controller	CO2000	INNCO SYSTEM	CO2000/095/ 7590304/L	N/A	-
☒ Radio communication analyzer	MT8820C	ANRITSU	6201169007	1 year	12.02.2020
☒ Radio communication analyzer	MT8821C	ANRITSU	6262192376	1 year	10.19.2021
☒ Antenna (for Communication)	HyperLOG7060	Aaronia	66450	-	-
☐ Radio communication analyzer	MT8000A	ANRITSU	6262208294	1 year	12.24.2020
☐ Antenna (for Communication)	HyperLOG7060	Aaronia	66451	-	-
☒ Software	EMC32	Rohde & Schwarz	-	-	-
-For measurement above 1 ㎓					
☒ EMI Test Receiver	ESU40	Rohde & Schwarz	100524	1 year	05.10.2021
☒ Antenna master	MA4640-XP-ET	INNCO SYSTEM	-	N/A	-
☒ Antenna master controller	CO3000	INNCO SYSTEM	CO3000/870/ 35990515/L	N/A	-
☒ Turn Table	1060	INNCO SYSTEM	-	N/A	-
☒ Turn Table controller	CO2000	INNCO SYSTEM	CO2000/095/ 7590304/L	N/A	-
☒ Low Noise Amplifier	TK-PA18H	TESTEK	170034-L	1 year	03.02.2021
☒ Low Noise Amplifier	TK-PA1840H	TESTEK	170030-L	1 year	03.09.2021
☒ Horn Antenna	BBHA 9120D	Schwarzbeck	01836	1 year	07.20.2021
☒ Horn Antenna	BBHA 9170	Schwarzbeck	BBHA 9170 #786	1 year	11.18.2020
☒ Radio communication analyzer	MT8821C	ANRITSU	6262192376	1 year	10.19.2021
☒ Antenna (for Communication)	HyperLOG7060	Aaronia	66450	-	-
☐ Radio communication analyzer	MT8000A	ANRITSU	6262208294	1 year	12.24.2020
☐ Antenna (for Communication)	HyperLOG7060	Aaronia	66451	-	-
☒ Software	EMC32	Rohde & Schwarz	-	-	-

HCT CO.,LTD.

3. DESCRIPTION OF TEST

3.1 Measurement of Conducted Emission

The test procedure was in accordance with ANSI C63.4-2014, Clause 7.3

a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN).
If the EUT is connected to the PC through USB, the AC power-line adapter of the PC is directly connected to a line impedance stabilization network (LISN).
Other support units were connected to the power mains through another LISN. The two LISNs provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
b. Both conducted lines are measured in Quasi-Peak and Average mode, including the worst-case data points for each tested configuration.
c. The frequency ranges from 150 ㎑ to 30 ㎒ was searched.

[Conducted Emission Limits]

Frequency (㎒)	Resolution Bandwidth (㎑)	Quasi-Peak (dB(㎶))	Average (dB(㎶))
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 ㎓.
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 ㎓.
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 ㎓ to 40 ㎓)

[Radiated Emission Limits]

Frequency (㎒)	Antenna Distance (m)	Field Strength (㎶/m)	Quasi-Peak (dB㎶/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 (㎒)	Antenna Distance (m)	Peak (dB㎶/m)	Average (dB㎶/m)
Above 1 000	3	74	54

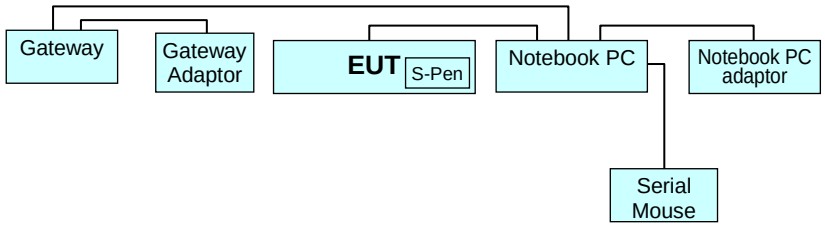
3.2.1 Frequency Range of Radiated Measurements

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.

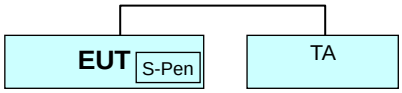
Highest frequency generated or used in the device or on which the device operates or tunes (㎒)	Upper frequency of measurement range (㎒)
Below 1.705	30
1.705 to 108	1 000
108 to 500	2 000
500 to 1 000	5 000
Above 1 000	5^{th} harmonic of the highest frequency or 40 ㎓, whichever is lower

3.3 Configuration of Tested System

[EUT+PC] Data Communication mode

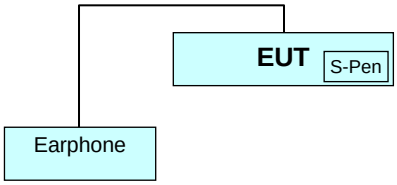


[EUT+TA] Camera / Video+Audio / Receiver mode

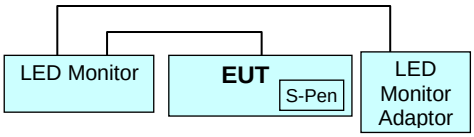


Non-Conductive Table

[EUT+Earphone] Camera / Video+Audio/ Receiver mode



[EUT+LED Monitor] Video+Audio (Display out)



Non-Conductive Table

4. OPERATION OF THE EUT

During preliminary tests, the following operating mode was investigated.

Data Communication (Internal)
Front/Rear Camera (Preview / Recording)
Video+Audio (TA / Earphone)
Video+Audio (Display out)
Receiver mode(GSM 850 Low/Middle/High ch Idle)
Receiver mode(WCDMA B5 Low/Middle/High ch Idle)
Receiver mode(LTE B5_Low/Middle/High ch)
Receiver mode(LTE B12_Low/Middle/High ch)
Receiver mode(LTE B13_Low/Middle/High ch)
Receiver mode(LTE B17_Low/Middle/High ch)
Receiver mode(LTE B26_Low/Middle/High ch)
Receiver mode(Earphone)

NOTE. The worst band is tested.

4.1 Conducted Emission

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

Operating Mode:

[EUT+PC]	Data Communication mode (Internal)
[EUT+TA]	LTE B5 Idle(Middle ch)+Front Camera LTE B26 Idle(Middle ch)+Rear Camera Video+Audio

4.2 Radiated Emission

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

Operating Mode:

Radiated Emission below 1 ㎓

[EUT+PC]	Data Communication mode (Internal) *
[EUT+TA]	LTE B5 Idle(Low ch) LTE B5 Idle(Middle ch)+Front Camera * LTE B5 Idle(High ch) LTE B26 Idle(Low ch) LTE B26 Idle(Middle ch)+Rear Camera * LTE B26 Idle(High ch) LTE B12+B13+B17 Idle(Low ch) LTE B12+B13+B17 Idle(Middle ch) * LTE B12+B13+B17 Idle(High ch)

[EUT+Earphone]	Video+Audio * LTE B5 Idle(Middle ch)+Front Camera
[EUT+LED Monitor]	Video+Audio (Display out) *

Radiated Emission above 1 ㎓

[EUT+PC]	Data Communication mode (Internal) *
[EUT+TA]	LTE B5 Idle(Middle ch)+Front Camera * LTE B26 Idle(Middle ch)+Rear Camera * LTE B12+B13+B17 Idle(Middle ch)
[EUT+Earphone]	Video+Audio *
[EUT+LED Monitor]	Video+Audio (Display out) *

NOTE.
1. Three orientations have been investigated and the worst case orientation (x-axis: The display of EUT placed on the table is facing upwards) is reported.
2. The worst case of operating mode is reported. [*].

5. CONDUCTED AND RADIATED EMISSION TEST SUMMARY

5.1 Conducted Emission

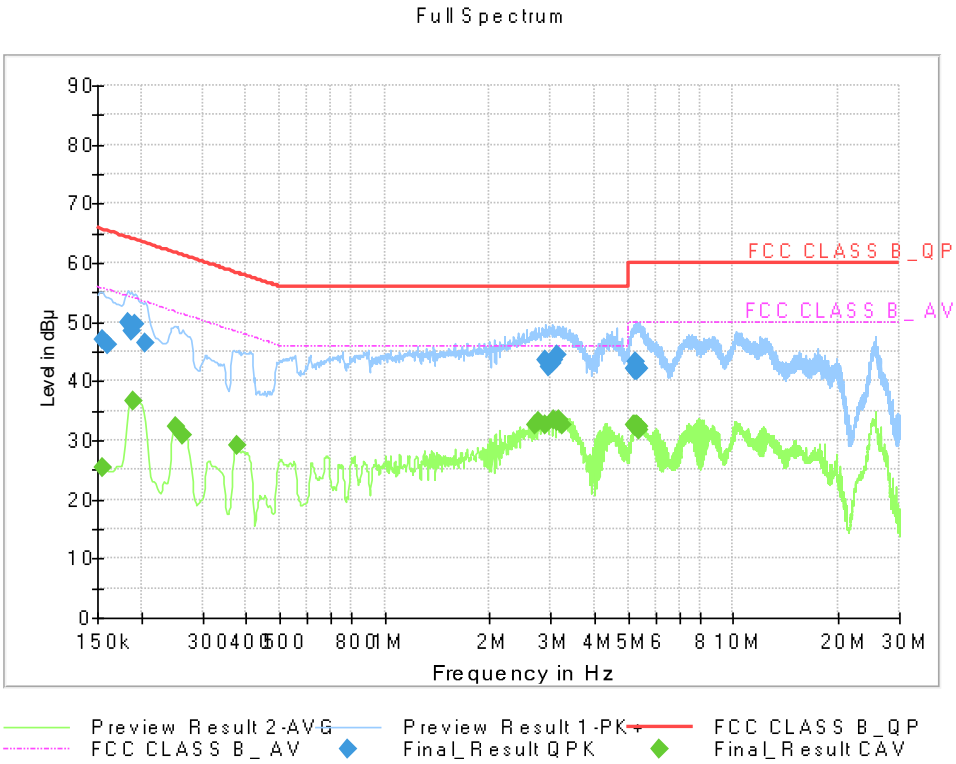
The test results of conducted emission at mains ports provide the following information:

Used Test Standard	47 CFR PART 15 Subpart B Class B ANSI C63.4-2014
Frequency Range	150 ㎑ to 30 ㎒
Detector	Quasi-Peak, CISPR-Average
Bandwidth	9 ㎑ (6 ㏈)
Operating Mode	[EUT+PC] Data Communication mode (Internal) [EUT+TA] LTE B5 Idle(Middle ch)+Front Camera LTE B26 Idle(Middle ch)+Rear Camera Video+Audio
Test Site	EMI Shield Room
Temperature	min. 23.5 °C, max. 25.3 °C
Relative Humidity	min. 40.2 % R.H., max. 43.7 % R.H.
Test Date	October 22 / October 28, 2021

- 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

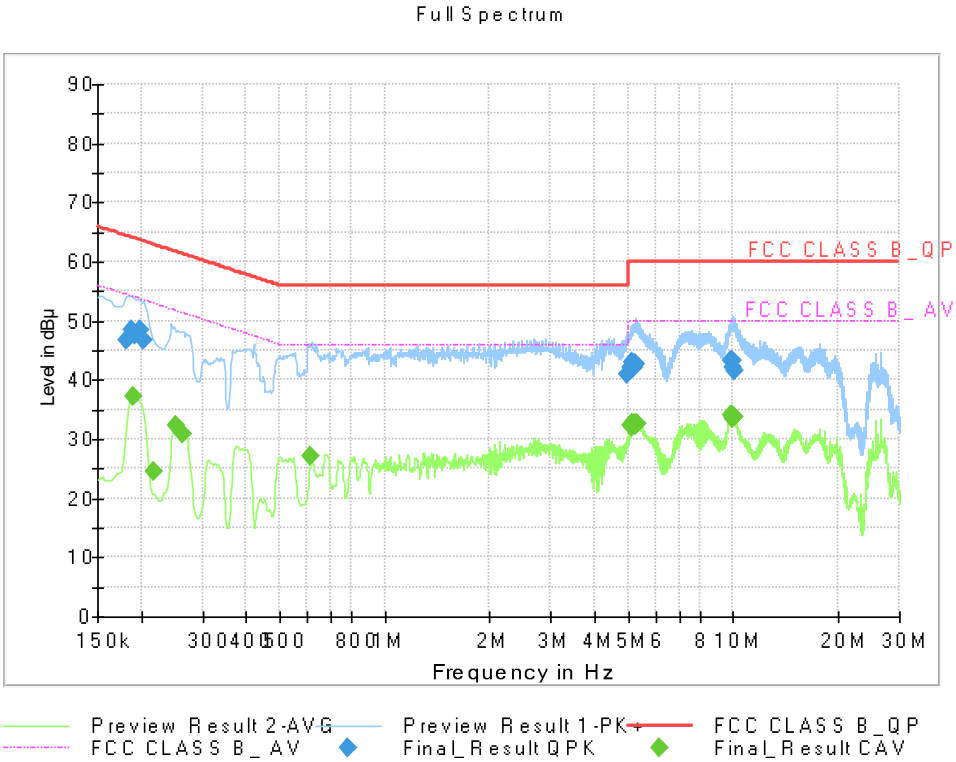
Figure 1: Conducted Emission (150 ㎑ to 30 ㎒), [EUT+PC] Data Communication mode (Internal), Line(L1)



Frequency (㎒)	Quasi Peak (dB㎶)	Limit (dB㎶)	Margin (dB)	Bandwidth (㎑)	Line	Corr. (dB)
0.1545	46.97	65.75	18.78	9.000	L1	9.6
0.1613	46.22	65.40	19.18	9.000	L1	9.6
0.1838	49.97	64.31	14.34	9.000	L1	9.6
0.1883	48.57	64.11	15.54	9.000	L1	9.6
0.1928	49.59	63.92	14.33	9.000	L1	9.6
0.2063	46.50	63.36	16.86	9.000	L1	9.6
2.8940	43.65	56.00	12.35	9.000	L1	9.7
2.9683	42.46	56.00	13.54	9.000	L1	9.7
3.0358	42.95	56.00	13.05	9.000	L1	9.7
3.0425	43.45	56.00	12.55	9.000	L1	9.7
3.1145	44.32	56.00	11.68	9.000	L1	9.7
5.1800	42.04	60.00	17.96	9.000	L1	9.7
5.2430	41.92	60.00	18.08	9.000	L1	9.7
5.2475	41.93	60.00	18.07	9.000	L1	9.7
5.2520	43.23	60.00	16.77	9.000	L1	9.7
5.3150	42.46	60.00	17.54	9.000	L1	9.7
5.3263	41.73	60.00	18.27	9.000	L1	9.7
5.3870	42.05	60.00	17.95	9.000	L1	9.7

Frequency (㎒)	CAverage (dB㎶)	Limit (dB㎶)	Margin (dB)	Bandwidth (㎑)	Line	Corr. (dB)
0.1545	25.41	55.75	30.34	9.000	L1	9.6
0.1905	36.61	54.02	17.41	9.000	L1	9.6
0.2513	32.17	51.72	19.55	9.000	L1	9.6
0.2625	30.92	51.35	20.43	9.000	L1	9.6
0.3773	29.08	48.34	19.26	9.000	L1	9.6
2.6915	32.60	46.00	13.40	9.000	L1	9.7
2.7545	33.14	46.00	12.86	9.000	L1	9.7
2.8940	32.63	46.00	13.37	9.000	L1	9.7
3.0448	33.37	46.00	12.63	9.000	L1	9.7
3.1145	33.21	46.00	12.79	9.000	L1	9.7
3.1798	33.59	46.00	12.41	9.000	L1	9.7
3.2405	32.71	46.00	13.29	9.000	L1	9.7
5.1958	32.49	50.00	17.51	9.000	L1	9.7
5.2430	32.40	50.00	17.60	9.000	L1	9.7
5.2565	32.60	50.00	17.40	9.000	L1	9.7
5.3195	32.46	50.00	17.54	9.000	L1	9.7
5.3758	32.41	50.00	17.59	9.000	L1	9.7
5.3915	31.73	50.00	18.27	9.000	L1	9.7

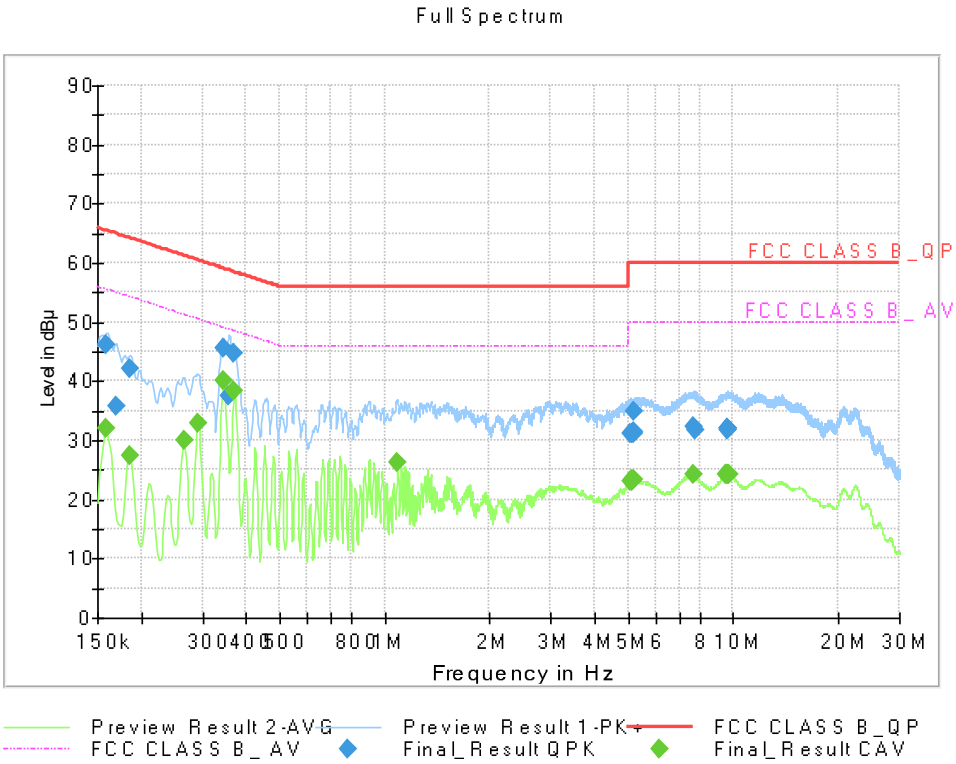
Figure 2: Conducted Emission (150 ㎑ to 30 ㎒), [EUT+PC] Data Communication mode (Internal), Line(N)



Frequency (㎒)	Quasi Peak (dB㎶)	Limit (dB㎶)	Margin (dB)	Bandwidth (㎑)	Line	Corr. (dB)
0.1815	46.80	64.42	17.62	9.000	N	9.6
0.1883	48.50	64.11	15.61	9.000	N	9.6
0.1928	47.65	63.92	16.27	9.000	N	9.6
0.1995	48.34	63.63	15.29	9.000	N	9.6
0.2040	46.80	63.45	16.65	9.000	N	9.6
4.9528	41.06	56.00	14.94	9.000	N	9.7
5.0878	42.17	60.00	17.83	9.000	N	9.7
5.1013	41.96	60.00	18.04	9.000	N	9.7
5.1080	43.00	60.00	17.00	9.000	N	9.7
5.1530	43.09	60.00	16.91	9.000	N	9.7
5.1620	42.80	60.00	17.20	9.000	N	9.7
5.1778	42.19	60.00	17.81	9.000	N	9.7
5.2340	42.73	60.00	17.27	9.000	N	9.7
5.2453	42.61	60.00	17.39	9.000	N	9.7
9.8690	43.24	60.00	16.76	9.000	N	9.8
9.9163	42.19	60.00	17.81	9.000	N	9.8
9.9388	43.15	60.00	16.85	9.000	N	9.8
10.0535	41.52	60.00	18.48	9.000	N	9.8

Frequency (㎒)	CAverage (dB㎶)	Limit (dB㎶)	Margin (dB)	Bandwidth (㎑)	Line	Corr. (dB)
0.1905	37.13	54.02	16.89	9.000	N	9.6
0.2175	24.51	52.91	28.40	9.000	N	9.6
0.2513	32.38	51.72	19.34	9.000	N	9.6
0.2625	30.96	51.35	20.39	9.000	N	9.6
0.6148	27.04	46.00	18.96	9.000	N	9.6
5.0855	32.29	50.00	17.71	9.000	N	9.7
5.1080	32.14	50.00	17.86	9.000	N	9.7
5.1328	32.63	50.00	17.37	9.000	N	9.7
5.1440	32.71	50.00	17.29	9.000	N	9.7
5.1508	32.58	50.00	17.42	9.000	N	9.7
5.1733	32.66	50.00	17.34	9.000	N	9.7
5.2318	32.67	50.00	17.33	9.000	N	9.7
5.2453	32.43	50.00	17.57	9.000	N	9.7
5.2970	32.49	50.00	17.51	9.000	N	9.7
9.8803	33.97	50.00	16.03	9.000	N	9.8
9.9433	33.89	50.00	16.11	9.000	N	9.8
10.0063	33.56	50.00	16.44	9.000	N	9.8
10.0333	33.62	50.00	16.38	9.000	N	9.8

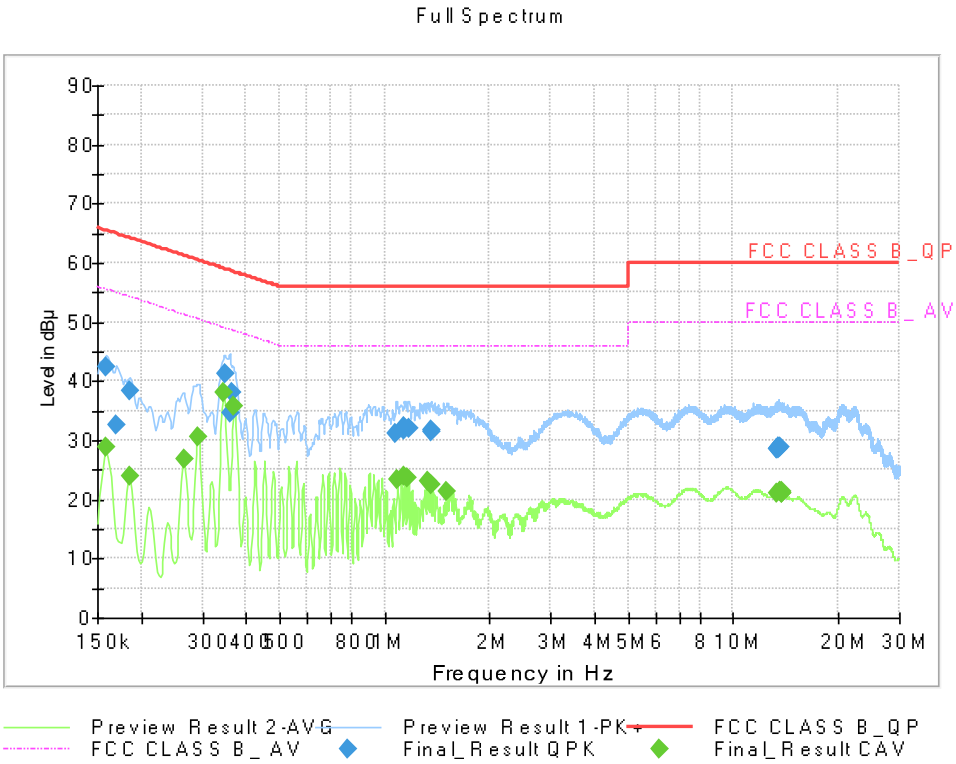
Figure 3: Conducted Emission (150 ㎑ to 30 ㎒), LTE B5 Idle(Middle ch)+Front Camera, Line(L1)



Frequency (㎒)	Quasi Peak (dB㎶)	Limit (dB㎶)	Margin (dB)	Bandwidth (㎑)	Line	Corr. (dB)
0.1590	46.21	65.52	19.31	9.000	L1	9.6
0.1703	35.84	64.95	29.11	9.000	L1	9.6
0.1860	42.19	64.21	22.02	9.000	L1	9.6
0.3458	45.50	59.06	13.56	9.000	L1	9.6
0.3570	37.59	58.80	21.21	9.000	L1	9.6
0.3683	44.57	58.54	13.97	9.000	L1	9.6
5.0810	31.16	60.00	28.84	9.000	L1	9.9
5.1193	31.02	60.00	28.98	9.000	L1	9.9
5.1575	31.22	60.00	28.78	9.000	L1	9.9
5.1710	31.06	60.00	28.94	9.000	L1	9.9
5.2048	34.81	60.00	25.19	9.000	L1	9.9
5.2160	31.31	60.00	28.69	9.000	L1	9.9
7.6640	32.26	60.00	27.74	9.000	L1	10.0
7.7540	31.79	60.00	28.21	9.000	L1	10.0
9.5788	31.90	60.00	28.10	9.000	L1	10.0
9.6350	31.98	60.00	28.02	9.000	L1	10.0
9.6440	31.86	60.00	28.14	9.000	L1	10.0
9.6800	32.14	60.00	27.86	9.000	L1	10.0

Frequency (㎒)	CAverage (dB㎶)	Limit (dB㎶)	Margin (dB)	Bandwidth (㎑)	Line	Corr. (dB)
0.1590	32.10	55.52	23.42	9.000	L1	9.6
0.1860	27.32	54.21	26.89	9.000	L1	9.6
0.2648	29.95	51.28	21.33	9.000	L1	9.6
0.2918	32.91	50.47	17.56	9.000	L1	9.6
0.3458	40.17	49.06	8.89	9.000	L1	9.6
0.3705	38.46	48.49	10.03	9.000	L1	9.6
1.0873	26.33	46.00	19.67	9.000	L1	9.7
5.0833	23.19	50.00	26.81	9.000	L1	9.9
5.1103	23.19	50.00	26.81	9.000	L1	9.9
5.1148	23.09	50.00	26.91	9.000	L1	9.9
5.1553	23.23	50.00	26.77	9.000	L1	9.9
5.2093	23.46	50.00	26.54	9.000	L1	9.9
7.6640	24.22	50.00	25.78	9.000	L1	10.0
9.5023	24.13	50.00	25.87	9.000	L1	10.0
9.5990	24.24	50.00	25.76	9.000	L1	10.0
9.6620	24.19	50.00	25.81	9.000	L1	10.0
9.6800	24.35	50.00	25.65	9.000	L1	10.0
9.7160	24.10	50.00	25.90	9.000	L1	10.0

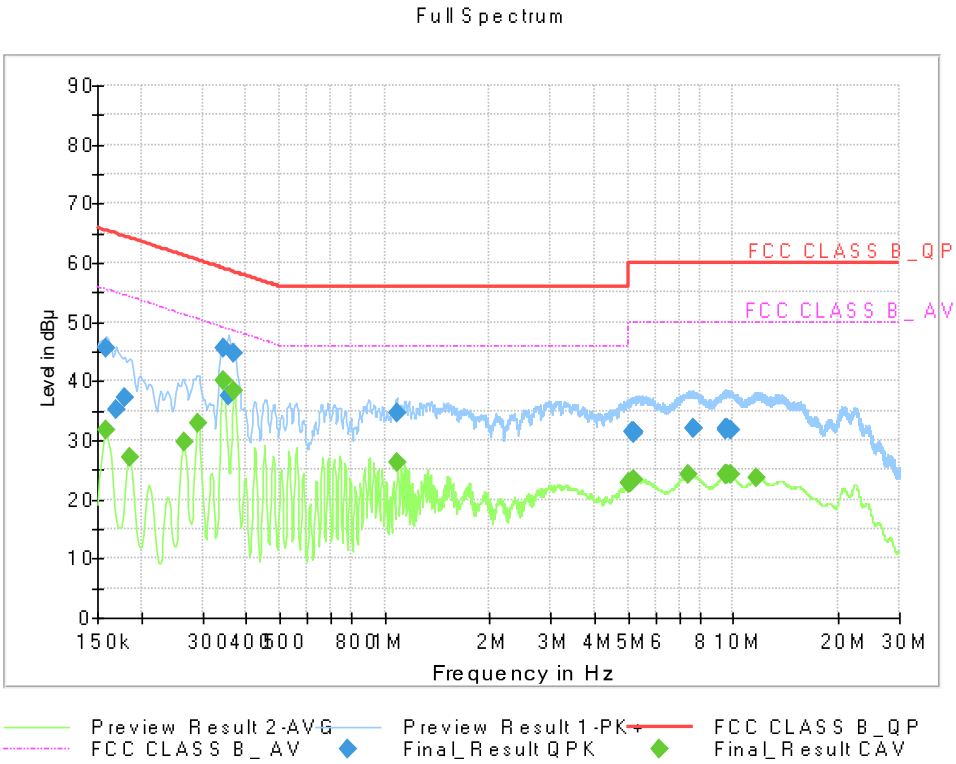
Figure 4: Conducted Emission (150 ㎑ to 30 ㎒), LTE B5 Idle(Middle ch)+Front Camera, Line(N)



Frequency (㎒)	Quasi Peak (dB㎶)	Limit (dB㎶)	Margin (dB)	Bandwidth (㎑)	Line	Corr. (dB)
0.1590	42.54	65.52	22.98	9.000	N	9.6
0.1703	32.47	64.95	32.48	9.000	N	9.6
0.1860	38.51	64.21	25.70	9.000	N	9.6
0.3480	41.38	59.01	17.63	9.000	N	9.6
0.3593	34.60	58.75	24.15	9.000	N	9.6
0.3660	38.00	58.59	20.59	9.000	N	9.6
1.0783	31.24	56.00	24.76	9.000	N	9.7
1.1368	31.67	56.00	24.33	9.000	N	9.7
1.1413	32.30	56.00	23.70	9.000	N	9.7
1.1728	32.00	56.00	24.00	9.000	N	9.7
1.3528	31.80	56.00	24.20	9.000	N	9.7
1.3595	31.46	56.00	24.54	9.000	N	9.7
13.3588	28.53	60.00	31.47	9.000	N	10.2
13.3858	28.44	60.00	31.56	9.000	N	10.2
13.4735	28.75	60.00	31.25	9.000	N	10.2
13.4915	28.77	60.00	31.23	9.000	N	10.2
13.5163	28.64	60.00	31.36	9.000	N	10.2
13.6535	28.77	60.00	31.23	9.000	N	10.2

Frequency (㎒)	CAverage (dB㎶)	Limit (dB㎶)	Margin (dB)	Bandwidth (㎑)	Line	Corr. (dB)
0.1590	28.78	55.52	26.74	9.000	N	9.6
0.1860	24.03	54.21	30.18	9.000	N	9.6
0.2648	26.85	51.28	24.43	9.000	N	9.6
0.2918	30.65	50.47	19.82	9.000	N	9.6
0.3458	37.94	49.06	11.12	9.000	N	9.6
0.3705	35.87	48.49	12.62	9.000	N	9.6
1.0873	23.49	46.00	22.51	9.000	N	9.7
1.1413	23.83	46.00	22.17	9.000	N	9.7
1.1683	23.59	46.00	22.41	9.000	N	9.7
1.3258	23.02	46.00	22.98	9.000	N	9.7
1.3528	22.62	46.00	23.38	9.000	N	9.7
1.5103	21.36	46.00	24.64	9.000	N	9.7
13.3835	21.16	50.00	28.84	9.000	N	10.2
13.6535	21.28	50.00	28.72	9.000	N	10.2
13.6805	21.34	50.00	28.66	9.000	N	10.2
13.7413	21.35	50.00	28.65	9.000	N	10.2
13.7705	21.20	50.00	28.80	9.000	N	10.2
13.7953	21.18	50.00	28.82	9.000	N	10.2

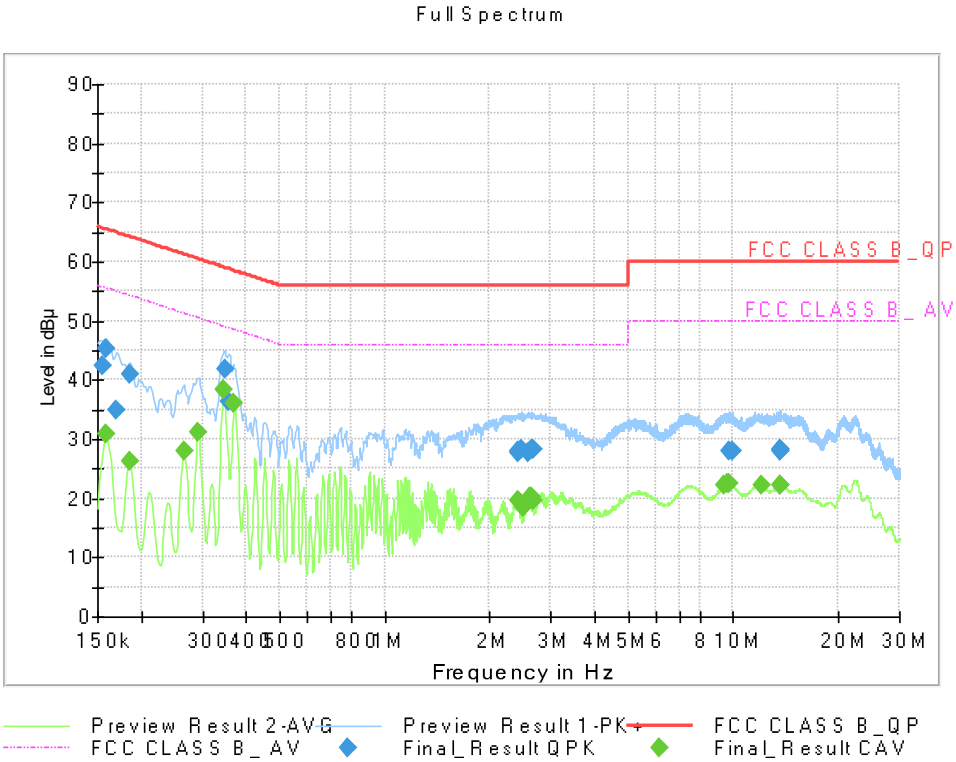
Figure 5: Conducted Emission (150 ㎑ to 30 ㎒), LTE B26 Idle(Middle ch)+Rear Camera, Line(L1)



Frequency (MHz)	Quasi Peak (dBμV)	Limit (dBμV)	Margin (dB)	Bandwidth (kHz)	Line	Corr. (dB)
0.1590	45.56	65.52	19.96	9.000	L1	9.6
0.1703	35.06	64.95	29.89	9.000	L1	9.6
0.1793	37.29	64.52	27.23	9.000	L1	9.6
0.3458	45.69	59.06	13.37	9.000	L1	9.6
0.3570	37.57	58.80	21.23	9.000	L1	9.6
0.3683	44.75	58.54	13.79	9.000	L1	9.6
1.0828	34.49	56.00	21.51	9.000	L1	9.7
5.1238	31.36	60.00	28.64	9.000	L1	9.9
5.1643	31.38	60.00	28.62	9.000	L1	9.9
5.1688	31.30	60.00	28.70	9.000	L1	9.9
5.2025	31.16	60.00	28.84	9.000	L1	9.9
5.2138	31.53	60.00	28.47	9.000	L1	9.9
7.6618	32.09	60.00	27.91	9.000	L1	10.0
7.7000	31.88	60.00	28.12	9.000	L1	10.0
9.4910	31.91	60.00	28.09	9.000	L1	10.0
9.5360	31.70	60.00	28.30	9.000	L1	10.0
9.5788	32.03	60.00	27.97	9.000	L1	10.0
9.8758	31.77	60.00	28.23	9.000	L1	10.1

Frequency (MHz)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Bandwidth (kHz)	Line	Corr. (dB)
0.1590	31.82	55.52	23.70	9.000	L1	9.6
0.1860	27.00	54.21	27.21	9.000	L1	9.6
0.2648	29.83	51.28	21.45	9.000	L1	9.6
0.2918	32.96	50.47	17.51	9.000	L1	9.6
0.3458	40.11	49.06	8.95	9.000	L1	9.6
0.3705	38.47	48.49	10.02	9.000	L1	9.6
1.0873	26.32	46.00	19.68	9.000	L1	9.7
4.9978	22.88	46.00	23.12	9.000	L1	9.9
5.0270	22.77	50.00	27.23	9.000	L1	9.9
5.0540	22.86	50.00	27.14	9.000	L1	9.9
5.1575	23.18	50.00	26.82	9.000	L1	9.9
5.2093	23.48	50.00	26.52	9.000	L1	9.9
7.4750	24.36	50.00	25.64	9.000	L1	10.0
9.4910	24.21	50.00	25.79	9.000	L1	10.0
9.4955	24.11	50.00	25.89	9.000	L1	10.0
9.5788	24.24	50.00	25.76	9.000	L1	10.0
9.8038	24.18	50.00	25.82	9.000	L1	10.1
11.6690	23.65	50.00	26.35	9.000	L1	10.1

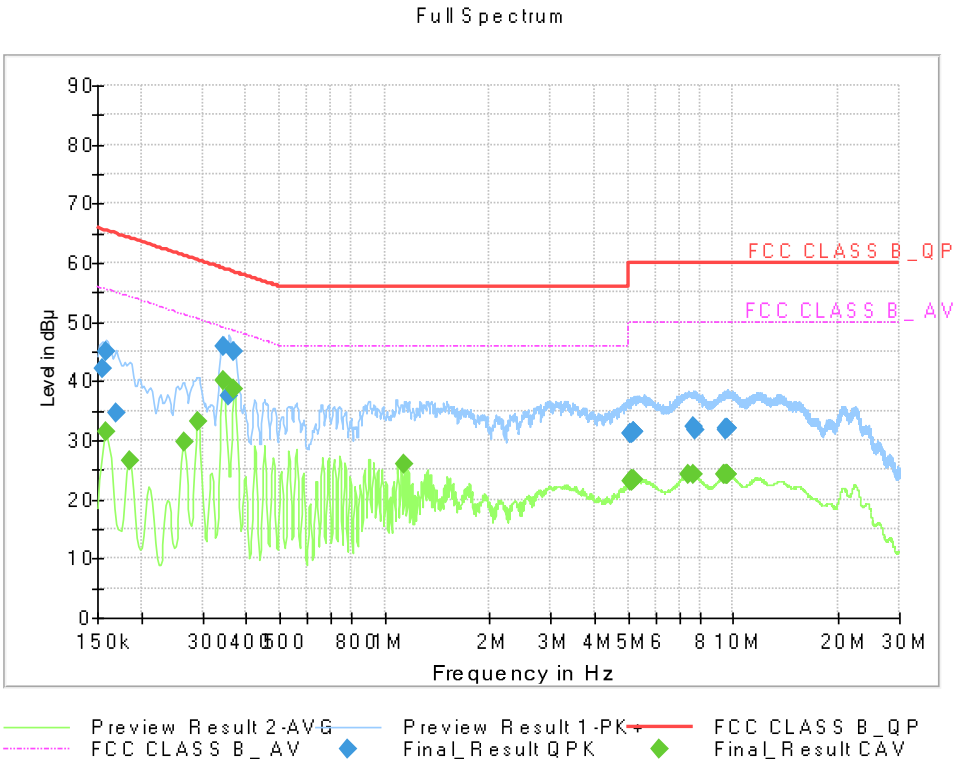
Figure 6: Conducted Emission (150 ㎑ to 30 ㎒), LTE B26 Idle(Middle ch)+Rear Camera, Line(N)



Frequency (㎒)	Quasi Peak (dB㎶)	Limit (dB㎶)	Margin (dB)	Bandwidth (㎑)	Line	Corr. (dB)
0.1545	42.48	65.75	23.27	9.000	N	9.6
0.1590	45.25	65.52	20.27	9.000	N	9.6
0.1703	34.86	64.95	30.09	9.000	N	9.6
0.1860	41.01	64.21	23.20	9.000	N	9.6
0.3480	41.94	59.01	17.07	9.000	N	9.6
0.3570	36.23	58.80	22.57	9.000	N	9.6
2.4125	27.72	56.00	28.28	9.000	N	9.7
2.4215	28.06	56.00	27.94	9.000	N	9.7
2.4598	28.16	56.00	27.84	9.000	N	9.7
2.5948	27.59	56.00	28.41	9.000	N	9.8
2.6330	28.31	56.00	27.69	9.000	N	9.8
2.6690	28.29	56.00	27.71	9.000	N	9.8
9.7475	28.01	60.00	31.99	9.000	N	10.1
9.9140	28.00	60.00	32.00	9.000	N	10.1
13.6220	28.05	60.00	31.95	9.000	N	10.2
13.6625	28.10	60.00	31.90	9.000	N	10.2
13.6738	28.27	60.00	31.73	9.000	N	10.2
13.6850	28.25	60.00	31.75	9.000	N	10.2

Frequency (㎒)	CAverage (dB㎶)	Limit (dB㎶)	Margin (dB)	Bandwidth (㎑)	Line	Corr. (dB)
0.1590	30.84	55.52	24.68	9.000	N	9.6
0.1860	26.12	54.21	28.09	9.000	N	9.6
0.2648	28.12	51.28	23.16	9.000	N	9.6
0.2918	31.12	50.47	19.35	9.000	N	9.6
0.3458	38.48	49.06	10.58	9.000	N	9.6
0.3705	36.16	48.49	12.33	9.000	N	9.6
2.4238	19.53	46.00	26.47	9.000	N	9.7
2.4508	19.19	46.00	26.81	9.000	N	9.7
2.5070	18.38	46.00	27.62	9.000	N	9.8
2.6083	20.13	46.00	25.87	9.000	N	9.8
2.6353	20.09	46.00	25.91	9.000	N	9.8
2.6645	19.75	46.00	26.25	9.000	N	9.8
9.3830	22.20	50.00	27.80	9.000	N	10.0
9.5923	22.55	50.00	27.45	9.000	N	10.1
9.7318	22.44	50.00	27.56	9.000	N	10.1
11.9998	22.20	50.00	27.80	9.000	N	10.2
13.6850	22.21	50.00	27.79	9.000	N	10.2
13.7143	22.10	50.00	27.90	9.000	N	10.2

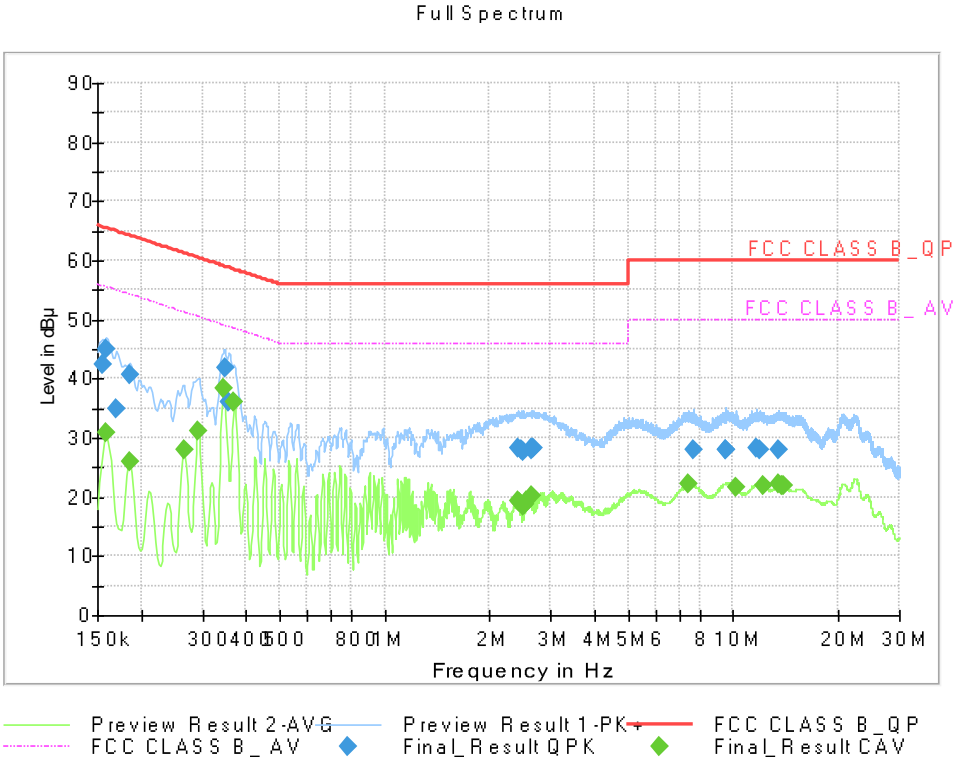
Figure 7: Conducted Emission (150 ㎑ to 30 ㎒), Video+Audio, Line(L1)



Frequency (㎒)	Quasi Peak (dB㎶)	Limit (dB㎶)	Margin (dB)	Bandwidth (㎑)	Line	Corr. (dB)
0.1545	42.12	65.75	23.63	9.000	L1	9.6
0.1590	45.14	65.52	20.38	9.000	L1	9.6
0.1703	34.48	64.95	30.47	9.000	L1	9.6
0.3458	45.73	59.06	13.33	9.000	L1	9.6
0.3570	37.62	58.80	21.18	9.000	L1	9.6
0.3683	44.91	58.54	13.63	9.000	L1	9.6
5.0743	31.19	60.00	28.81	9.000	L1	9.9
5.0855	31.10	60.00	28.90	9.000	L1	9.9
5.1215	31.22	60.00	28.78	9.000	L1	9.9
5.1598	31.37	60.00	28.63	9.000	L1	9.9
5.1643	31.36	60.00	28.64	9.000	L1	9.9
5.1688	31.36	60.00	28.64	9.000	L1	9.9
7.6640	32.22	60.00	27.78	9.000	L1	10.0
7.7473	31.74	60.00	28.26	9.000	L1	10.0
9.5653	31.88	60.00	28.12	9.000	L1	10.0
9.5765	31.79	60.00	28.21	9.000	L1	10.0
9.6598	32.03	60.00	27.97	9.000	L1	10.0
9.6665	32.05	60.00	27.95	9.000	L1	10.0

Frequency (㎒)	CAverage (dB㎶)	Limit (dB㎶)	Margin (dB)	Bandwidth (㎑)	Line	Corr. (dB)
0.1590	31.52	55.52	24.00	9.000	L1	9.6
0.1860	26.67	54.21	27.54	9.000	L1	9.6
0.2648	29.79	51.28	21.49	9.000	L1	9.6
0.2918	33.07	50.47	17.40	9.000	L1	9.6
0.3458	40.21	49.06	8.85	9.000	L1	9.6
0.3705	38.63	48.49	9.86	9.000	L1	9.6
1.1413	25.82	46.00	20.18	9.000	L1	9.7
5.0810	23.10	50.00	26.90	9.000	L1	9.9
5.1103	23.16	50.00	26.84	9.000	L1	9.9
5.1328	23.24	50.00	26.76	9.000	L1	9.9
5.1575	23.28	50.00	26.72	9.000	L1	9.9
5.2093	23.41	50.00	26.59	9.000	L1	9.9
7.4458	24.27	50.00	25.73	9.000	L1	9.9
7.6618	24.21	50.00	25.79	9.000	L1	10.0
9.4415	24.14	50.00	25.86	9.000	L1	10.0
9.5765	24.25	50.00	25.75	9.000	L1	10.0
9.6643	24.19	50.00	25.81	9.000	L1	10.0
9.6778	24.35	50.00	25.65	9.000	L1	10.0

Figure 8: Conducted Emission (150 ㎑ to 30 ㎒), Video+Audio, Line(N)



Frequency (㎒)	Quasi Peak (dB㎶)	Limit (dB㎶)	Margin (dB)	Bandwidth (㎑)	Line	Corr. (dB)
0.1545	42.29	65.75	23.46	9.000	N	9.6
0.1590	45.12	65.52	20.40	9.000	N	9.6
0.1703	34.83	64.95	30.12	9.000	N	9.6
0.1860	40.78	64.21	23.43	9.000	N	9.6
0.3480	41.96	59.01	17.05	9.000	N	9.6
0.3570	36.00	58.80	22.80	9.000	N	9.6
2.4215	28.20	56.00	27.80	9.000	N	9.7
2.4598	28.02	56.00	27.98	9.000	N	9.7
2.5025	27.62	56.00	28.38	9.000	N	9.8
2.6285	27.98	56.00	28.02	9.000	N	9.8
2.6353	28.34	56.00	27.66	9.000	N	9.8
2.6735	28.37	56.00	27.63	9.000	N	9.8
7.6865	28.07	60.00	31.93	9.000	N	10.0
9.5045	28.01	60.00	31.99	9.000	N	10.0
9.5315	27.95	60.00	32.05	9.000	N	10.0
11.7095	28.13	60.00	31.87	9.000	N	10.1
11.8918	28.02	60.00	31.98	9.000	N	10.1
13.5658	28.09	60.00	31.91	9.000	N	10.2

Frequency (㎒)	CAverage (dB㎶)	Limit (dB㎶)	Margin (dB)	Bandwidth (㎑)	Line	Corr. (dB)
0.1590	30.78	55.52	24.74	9.000	N	9.6
0.1860	26.05	54.21	28.16	9.000	N	9.6
0.2648	28.09	51.28	23.19	9.000	N	9.6
0.2918	31.13	50.47	19.34	9.000	N	9.6
0.3458	38.46	49.06	10.60	9.000	N	9.6
0.3705	36.16	48.49	12.33	9.000	N	9.6
2.4238	19.39	46.00	26.61	9.000	N	9.7
2.4530	19.10	46.00	26.90	9.000	N	9.7
2.5093	18.45	46.00	27.55	9.000	N	9.8
2.5363	18.83	46.00	27.17	9.000	N	9.8
2.5610	19.37	46.00	26.63	9.000	N	9.8
2.6375	20.12	46.00	25.88	9.000	N	9.8
7.4750	22.23	50.00	27.77	9.000	N	10.0
10.1435	21.69	50.00	28.31	9.000	N	10.1
12.1550	21.92	50.00	28.08	9.000	N	10.2
13.5163	22.12	50.00	27.88	9.000	N	10.2
13.8200	21.95	50.00	28.05	9.000	N	10.2
13.9775	21.84	50.00	28.16	9.000	N	10.2

5.2 Radiated Emission

5.2.1 For Measurement Below 1 ㎓

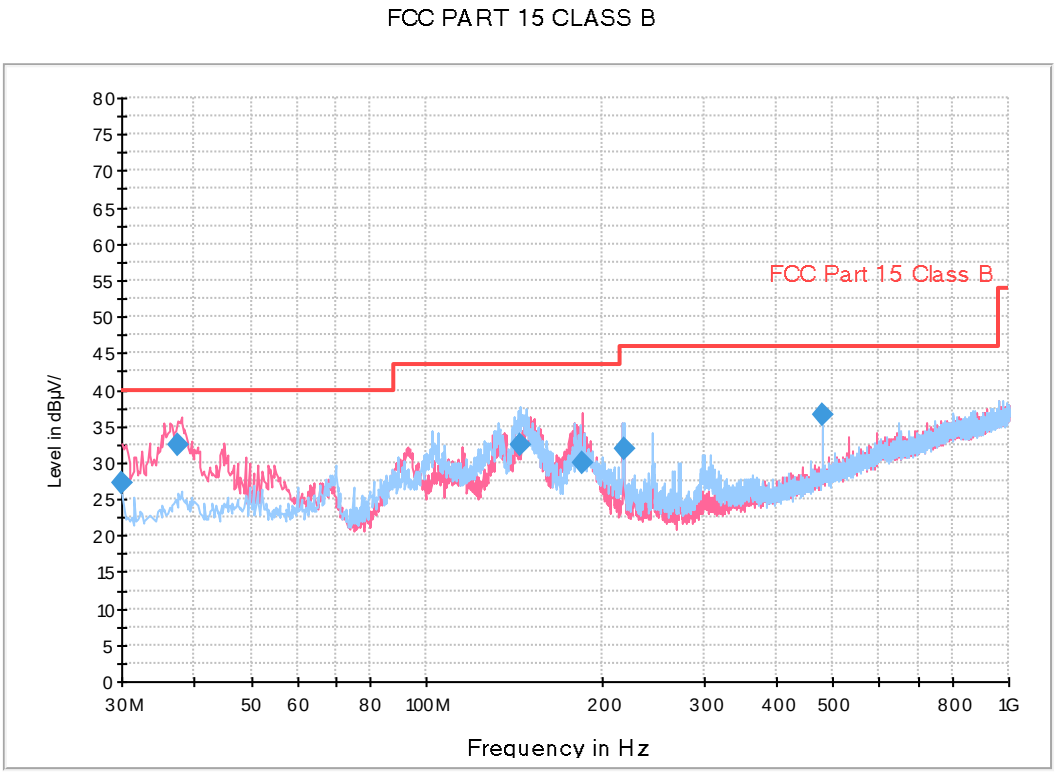
The test results of radiated emission provide the following information:

Used Test Standard	47 CFR PART 15 Subpart B Class B ANSI C63.4-2014
Frequency Range	30 ㎒ to 1 000 ㎒
Detector	Quasi-Peak
Bandwidth	120 ㎑ (6 ㏈)
Worst Case of Operating Mode	[EUT+PC] Data Communication mode (Internal) [EUT+TA] LTE B5 Idle(Middle ch)+Front Camera LTE B26 Idle(Middle ch)+Rear Camera LTE B12+B13+B17 Idle(Middle ch) [EUT+Earphone] Video + Audio [EUT+LED Monitor] Video + Audio (Display out)
Measurement Distance	3 m
Test Site	3 m Semi Anechoic Chamber #1
Temperature	min. 22.5 °C, max. 25.6 °C
Humidity	min. 37.2 % R.H., max. 58.3 % R.H.
Test Date	October 14, 2021 - October 27, 2021

- Calculation Formula:

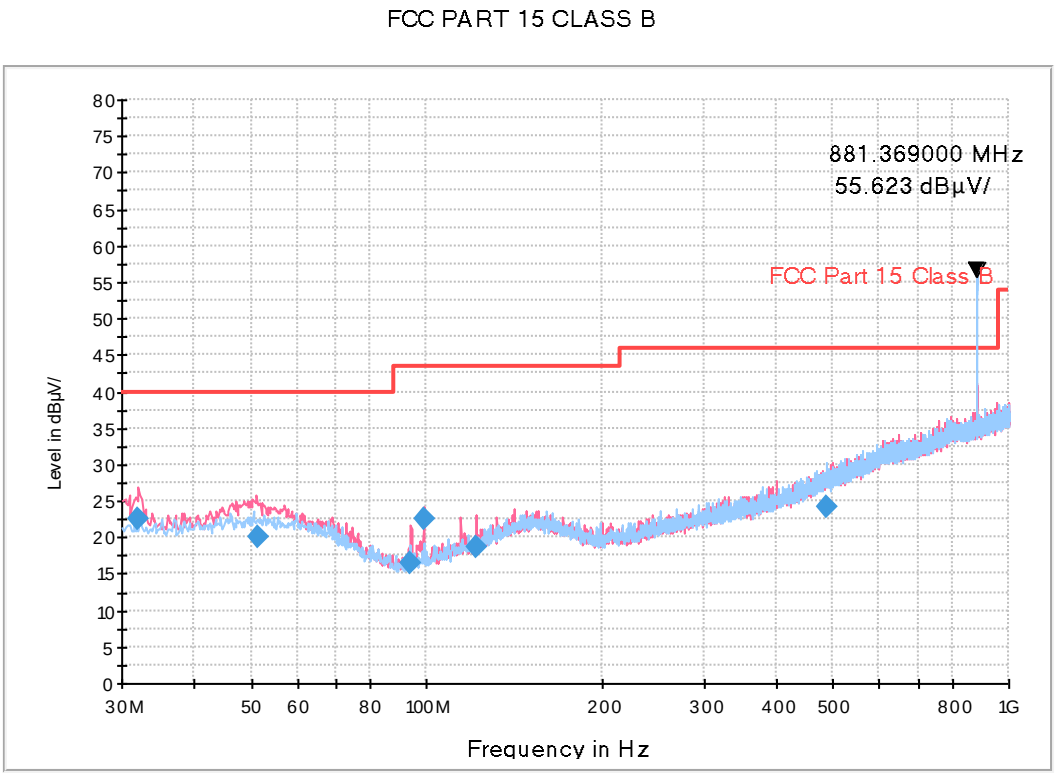
1. POL. H = Horizontal, POL. V = Vertical
2. QuasiPeak = Reading (Receiver Reading)+Corr.
3. Corr. (Correction Factor) = Antenna Factor+Cable Loss
4. Margin = Limit - QuasiPeak

Figure 9: Radiated Emission (30 ㎒ to 1 ㎓), [EUT+PC] Data Communication mode (Internal)



Frequency (㎒)	Quasi Peak (dB㎶/m)	Antenna Height (㎝)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB㎶/m)
30.0081	27.3	100.0	V	104.0	18.5	12.7	40.0
37.4551	32.5	100.0	V	135.0	19.1	7.5	40.0
144.8777	32.5	207.8	H	90.0	19.3	11.0	43.5
185.1158	29.9	100.0	V	341.0	17.9	13.6	43.5
218.5570	32.0	100.0	H	311.0	17.5	14.0	46.0
479.9999	36.5	100.0	H	97.0	24.9	9.5	46.0

Figure 10: Radiated Emission (30 ㎒ to 1 ㎓), [EUT+TA] LTE B5 Idle(Middle ch)+Front Camera

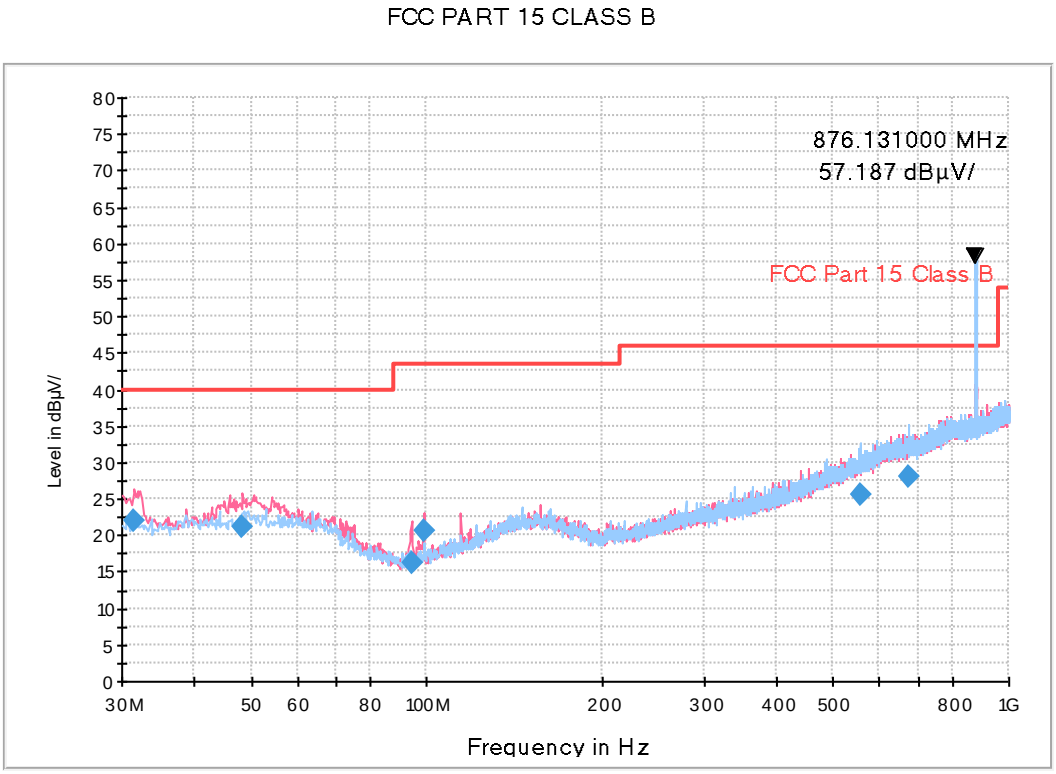


NOTE. 1. Carrier Frequency: RX 881.369 ㎒

2. These are signals for fundamental frequency from the base station

Frequency (㎒)	Quasi Peak (dB㎶/m)	Antenna Height (㎝)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB㎶/m)
32.0731	22.5	100.0	V	322.0	18.6	17.5	40.0
51.1922	20.2	174.8	V	224.0	20.0	19.8	40.0
94.1223	16.4	325.1	V	58.0	14.5	27.1	43.5
98.9986	22.4	325.1	V	92.0	15.0	21.1	43.5
121.6451	18.6	191.7	V	284.0	17.2	24.9	43.5
485.3852	24.1	100.0	H	216.0	25.1	21.9	46.0

Figure 11: Radiated Emission (30 ㎒ to 1 ㎓), [EUT+TA] LTE B26 Idle(Middle ch)+Rear Camera

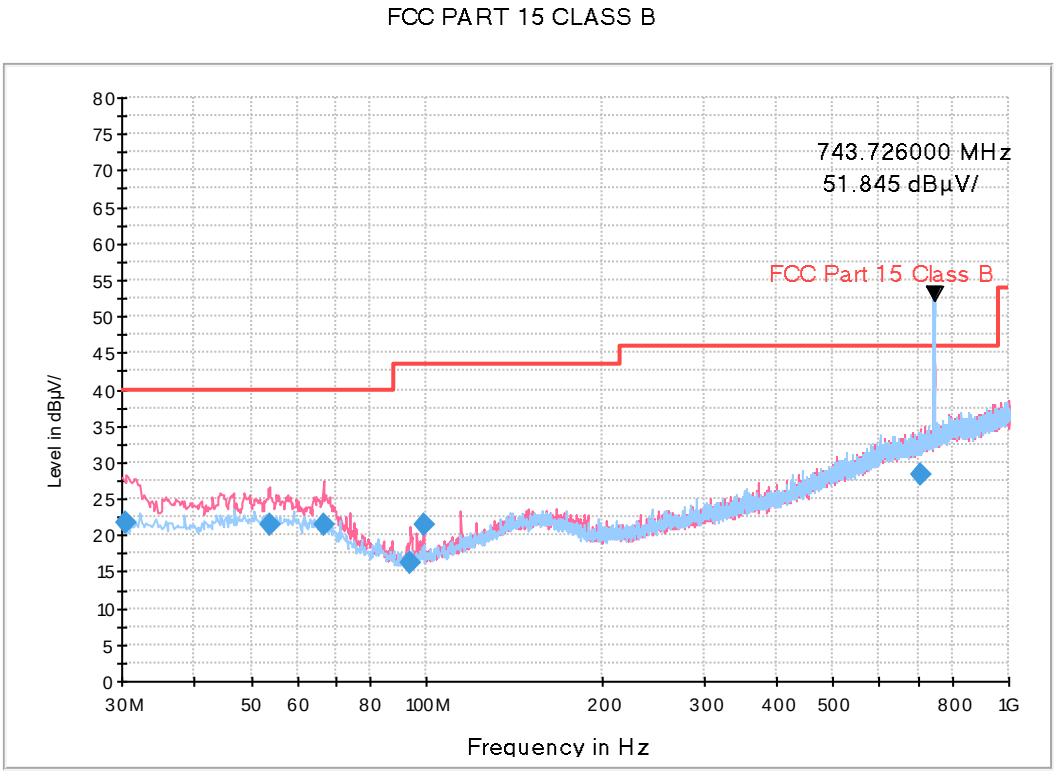


NOTE. 1. Carrier Frequency: RX 876.131 ㎒

2. These are signals for fundamental frequency from the base station

Frequency (㎒)	Quasi Peak (dB㎶/m)	Antenna Height (㎝)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB㎶/m)
31.5318	22.0	100.0	V	0.0	18.6	18.0	40.0
48.3544	21.3	100.0	V	192.0	19.9	18.7	40.0
94.2946	16.1	325.0	V	305.0	14.6	27.4	43.5
99.0026	20.6	100.0	V	97.0	15.0	22.9	43.5
554.8194	25.7	100.0	H	237.0	26.5	20.3	46.0
673.1552	28.0	100.0	H	222.0	28.3	18.0	46.0

Figure 12: Radiated Emission (30 ㎒ to 1 ㎓), [EUT+TA] LTE B12+B13+B17 Idle(Middle ch)

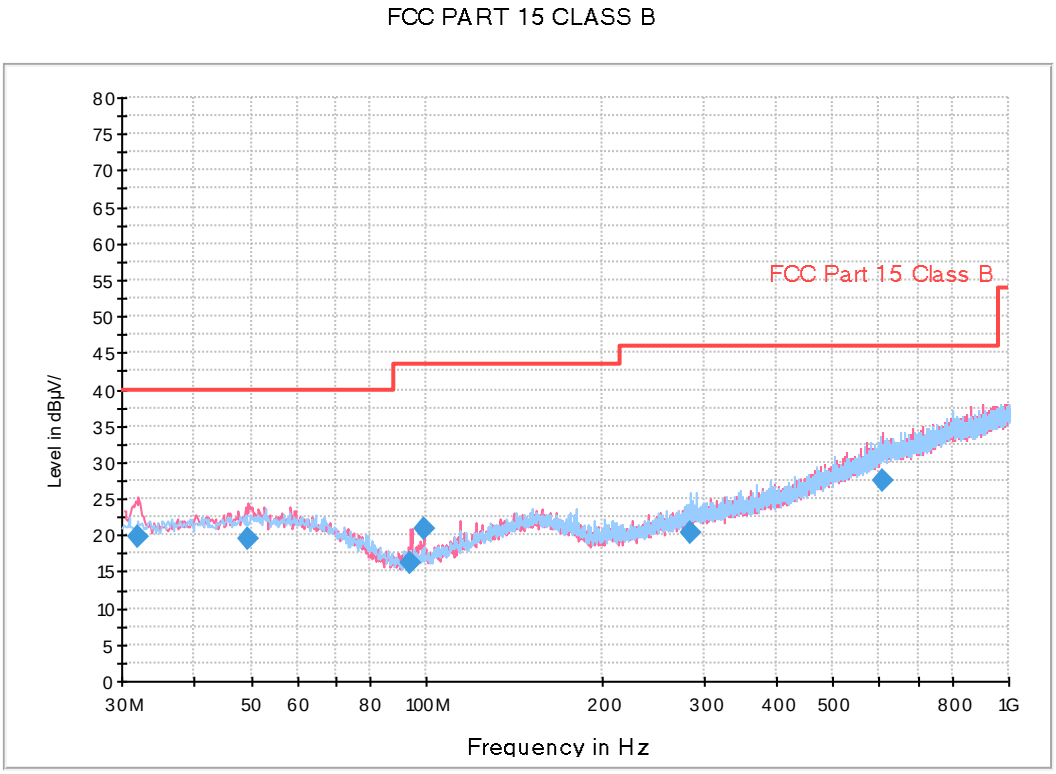


NOTE. 1. Carrier Frequency: RX 743.726 ㎒

2. These are signals for fundamental frequency from the base station

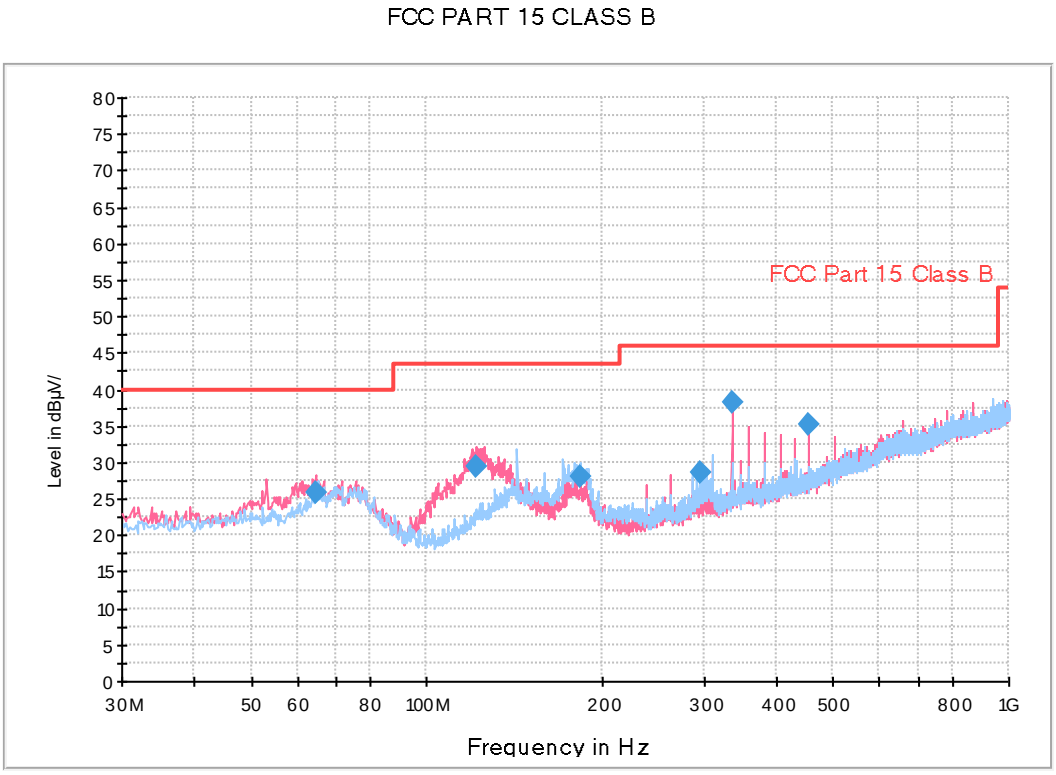
Frequency (㎒)	Quasi Peak (dB㎶/m)	Antenna Height (㎝)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB㎶/m)
30.5318	21.7	100.0	V	175.0	18.5	18.3	40.0
53.7205	21.5	100.0	V	31.0	19.9	18.5	40.0
66.5216	21.4	100.0	V	30.0	18.7	18.6	40.0
94.0380	16.3	325.0	V	25.0	14.5	27.2	43.5
98.8812	21.5	325.0	V	278.0	15.0	22.0	43.5
703.2665	28.4	305.9	V	156.0	28.7	17.6	46.0

Figure 13: Radiated Emission (30 ㎒ to 1 ㎓), [EUT+Earphone] Video+Audio



Frequency (㎒)	Quasi Peak (dB㎶/m)	Antenna Height (㎝)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB㎶/m)
32.0654	19.7	125.0	V	325.0	18.6	20.3	40.0
49.5388	19.6	174.7	V	30.0	20.0	20.4	40.0
94.0047	16.3	274.8	V	240.0	14.5	27.2	43.5
98.9962	20.9	325.0	V	283.0	15.0	22.6	43.5
284.6122	20.4	100.0	H	26.0	20.0	25.6	46.0
607.3267	27.5	291.9	V	30.0	27.5	18.5	46.0

Figure 14: Radiated Emission (30 ㎒ to 1 ㎓), [EUT+LED Monitor] Video+Audio (Display out)



Frequency (㎒)	Quasi Peak (dB㎶/m)	Antenna Height (㎝)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB㎶/m)
64.4752	25.8	100.0	V	271.0	19.0	14.2	40.0
121.9096	29.4	100.0	V	68.0	17.3	14.1	43.5
183.7843	28.2	125.1	H	152.0	18.0	15.3	43.5
294.4895	28.6	100.0	H	290.0	20.3	17.4	46.0
334.2910	38.3	125.1	V	176.0	21.3	7.7	46.0
453.6168	35.1	100.0	V	41.0	24.2	10.9	46.0

5.2.2 For Measurement Above 1 ㎓

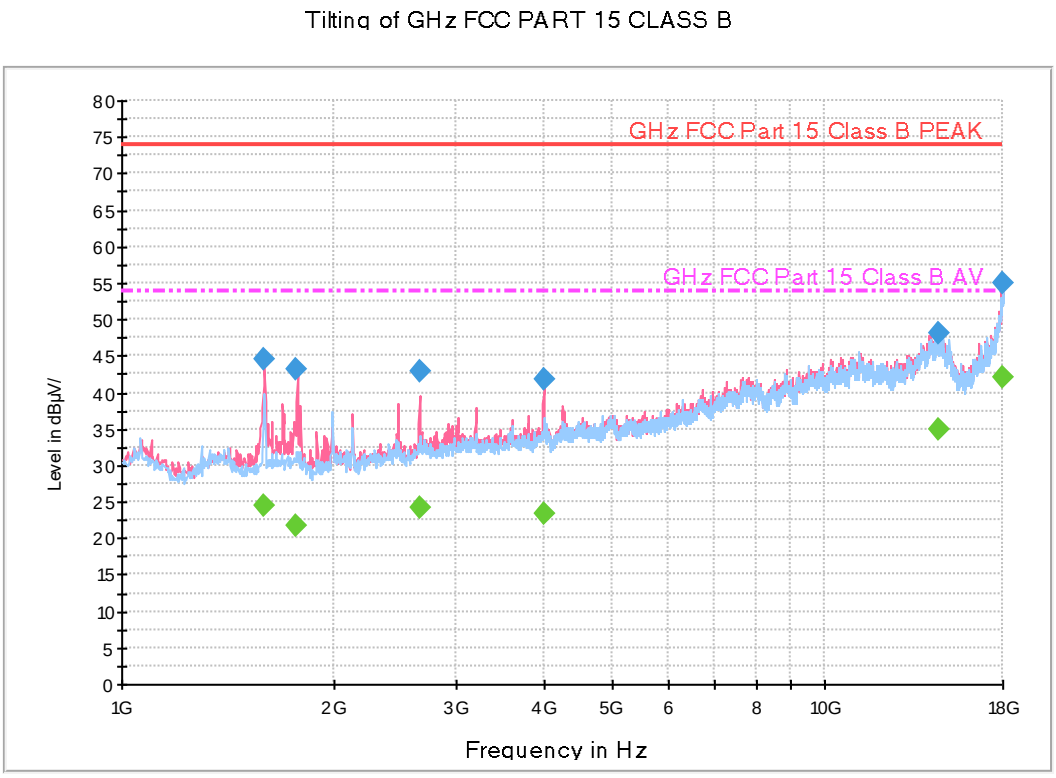
The test results of radiated emission provide the following information:

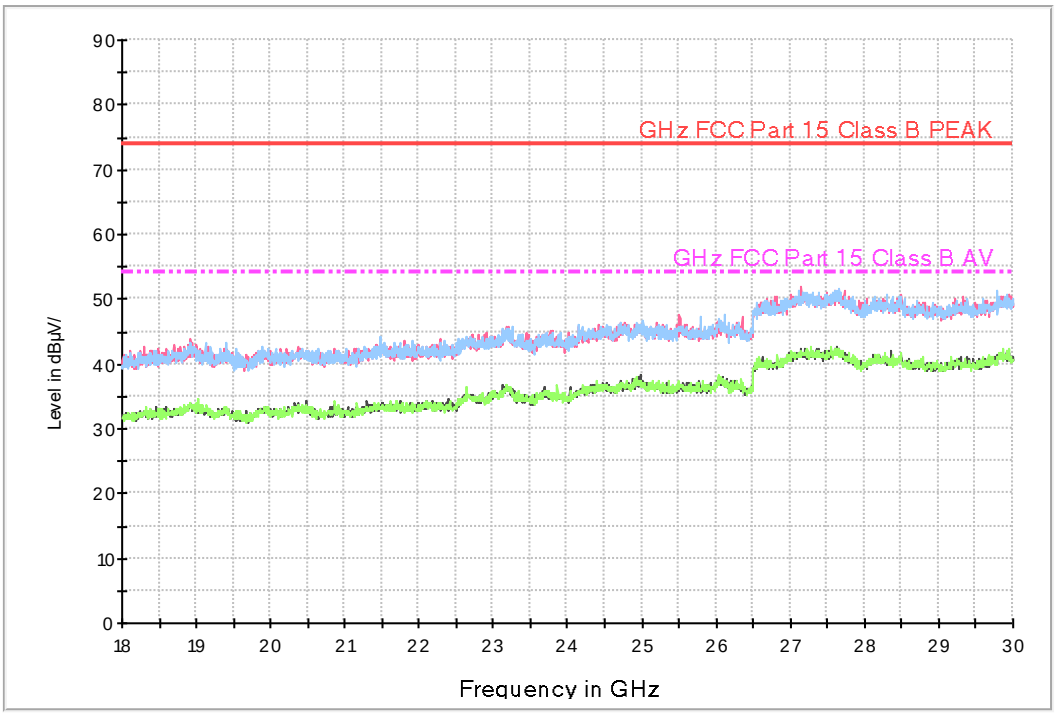
Used Test Standard	47 CFR PART 15 Subpart B Class B ANSI C63.4-2014
Detector	Peak mode: Peak (RBW: 1 ㎒, VBW: 3 ㎒) CISPR-Average mode: Peak (RBW: 1 ㎒, VBW: 10 ㎐)
Highest Frequency	5 825 ㎒
Tested Frequency Range	1 ㎓ to 30 ㎓
Worst Case of Operating Mode	[EUT+PC] Data Communication mode (Internal) [EUT+TA] LTE B5 Idle(Middle ch)+Front Camera LTE B26 Idle(Middle ch)+Rear Camera [EUT+Earphone] Video + Audio [EUT+LED Monitor] Video + Audio (Display out)
Measurement Distance	3 m
Test Site	3 m Semi Anechoic Chamber #1
Temperature	min. 22.5 °C, max. 25.2 °C
Humidity	min. 38.7 % R.H., max. 44.1 % R.H.
Test Date	October 26, 2021 - October 28, 2021

- Calculation Formula:

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

Figure 15: Radiated Emission (1 ㎓ to 30 ㎓), [EUT+PC] Data Communication mode (Internal)

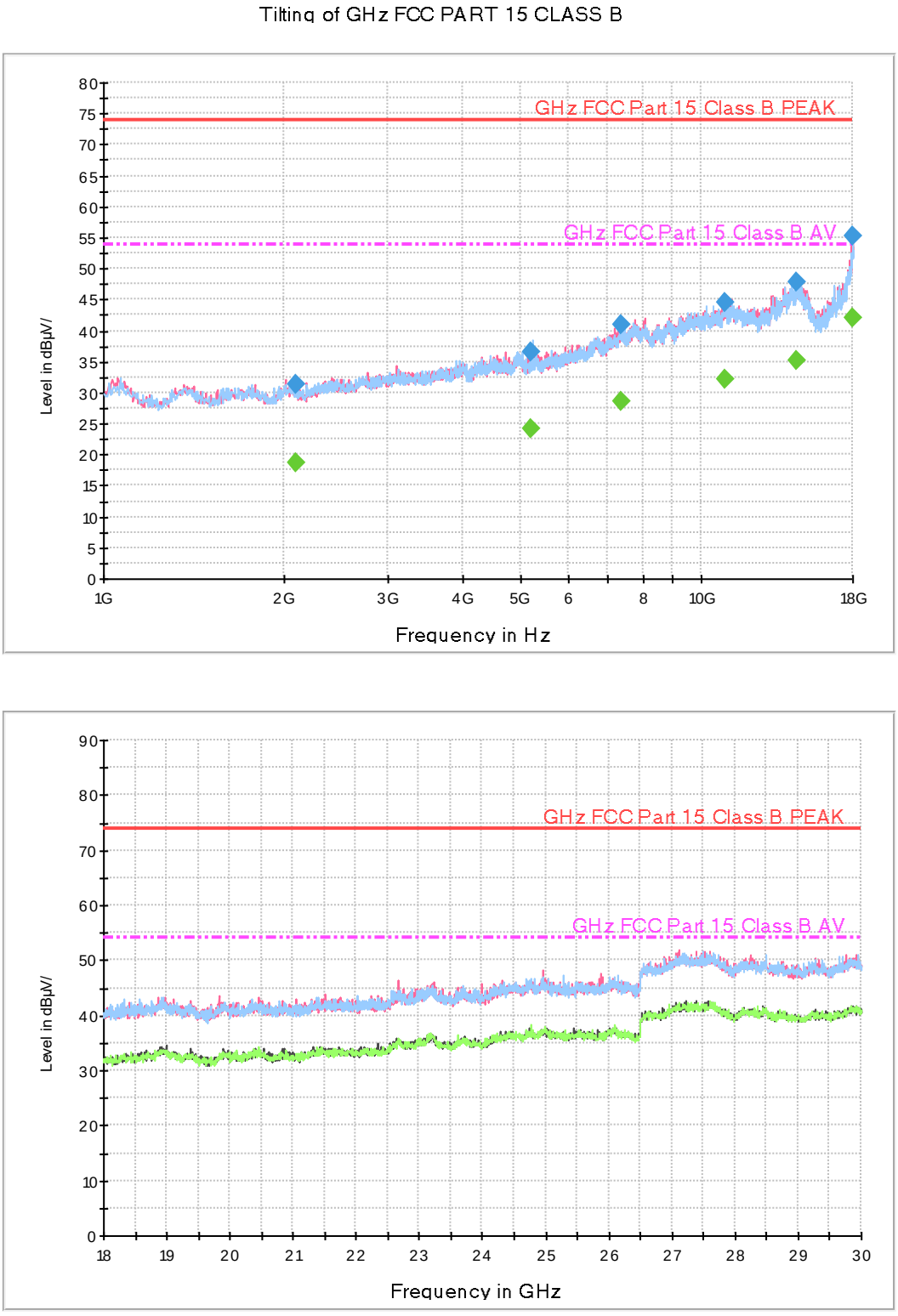




Frequency (㎒)	Peak (dB㎶/m)	Antenna Height (㎝)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB㎶/m)
1599.4300	44.4	299.7	V	349.0	-26.5	29.6	74.0
1775.6100	43.2	100.0	V	213.0	-26.1	30.8	74.0
2658.8700	42.8	217.6	V	314.0	-22.8	31.2	74.0
3998.6350	41.7	244.4	V	74.0	-19.1	32.3	74.0
1 4576.8200	48.0	100.0	V	152.0	0.3	26.0	74.0
1 7950.9250	54.9	199.4	V	253.0	8.8	19.1	74.0

Frequency (㎒)	CAverage (dB㎶/m)	Antenna Height (㎝)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB㎶/m)
1599.4300	24.5	299.7	V	349.0	-26.5	29.5	54.0
1775.6100	21.7	100.0	V	213.0	-26.1	32.3	54.0
2658.8700	24.2	217.6	V	314.0	-22.8	29.8	54.0
3998.6350	23.3	244.4	V	74.0	-19.1	30.7	54.0
1 4576.8200	35.0	100.0	V	152.0	0.3	19.0	54.0
1 7950.9250	42.0	199.4	V	253.0	8.8	12.0	54.0

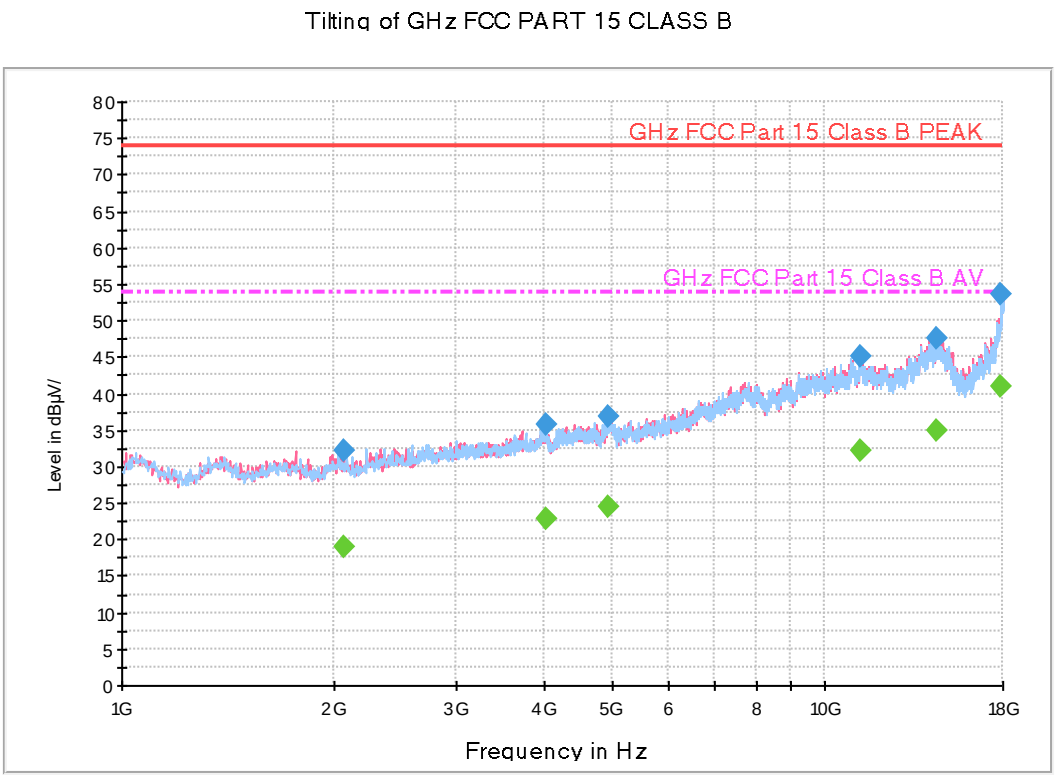
Figure 16: Radiated Emission (1 ㎓ to 30 ㎓), [EUT+TA] LTE B5 Idle(Middle ch)+Front Camera

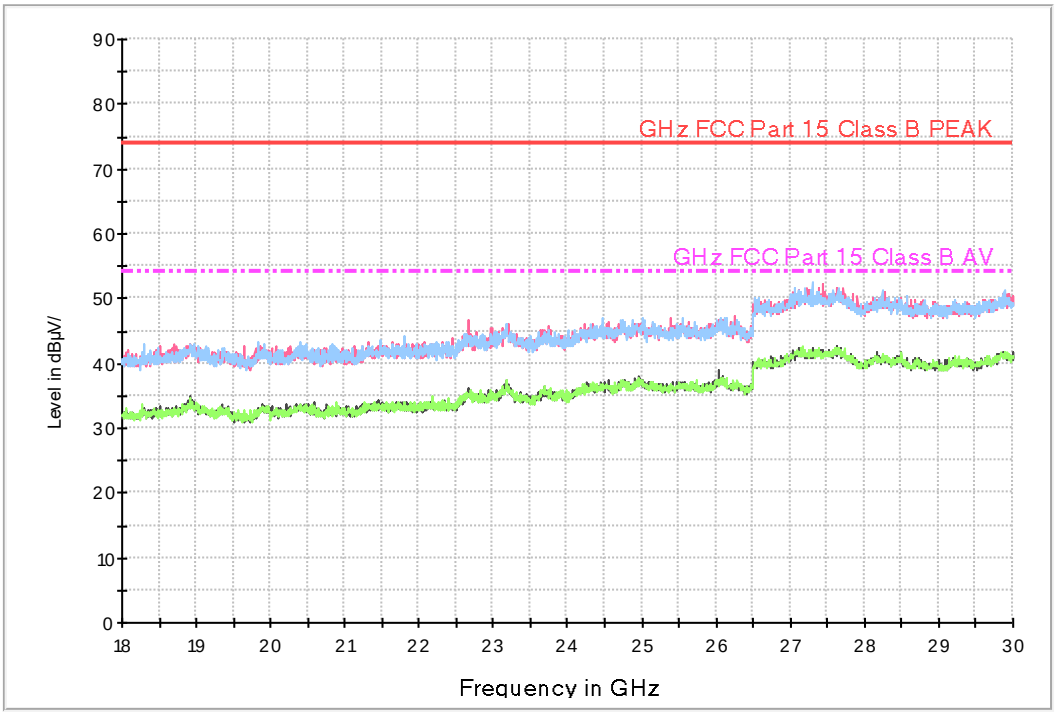


Frequency (㎒)	Peak (dB㎶/m)	Antenna Height (㎝)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB㎶/m)
2101.6750	31.2	160.6	H	55.0	-25.1	42.8	74.0
5213.9850	36.7	111.5	H	61.0	-16.3	37.3	74.0
7353.4400	40.9	100.0	V	271.0	-11.1	33.1	74.0
1 1031.5600	44.6	249.8	V	0.0	-4.4	29.4	74.0
1 4537.4250	47.9	305.7	H	45.0	0.4	26.1	74.0
1 7964.0900	55.2	100.0	V	86.0	9.0	18.8	74.0

Frequency (㎒)	CAverage (dB㎶/m)	Antenna Height (㎝)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB㎶/m)
2101.6750	18.6	160.6	H	55.0	-25.1	35.4	54.0
5213.9850	24.1	111.5	H	61.0	-16.3	29.9	54.0
7353.4400	28.5	100.0	V	271.0	-11.1	25.5	54.0
1 1031.5600	32.1	249.8	V	0.0	-4.4	21.9	54.0
1 4537.4250	35.1	305.7	H	45.0	0.4	18.9	54.0
1 7964.0900	42.2	100.0	V	86.0	9.0	11.8	54.0

Figure 17: Radiated Emission (1 ㎓ to 30 ㎓), [EUT+TA] LTE B26 Idle(Middle ch)+Rear Camera

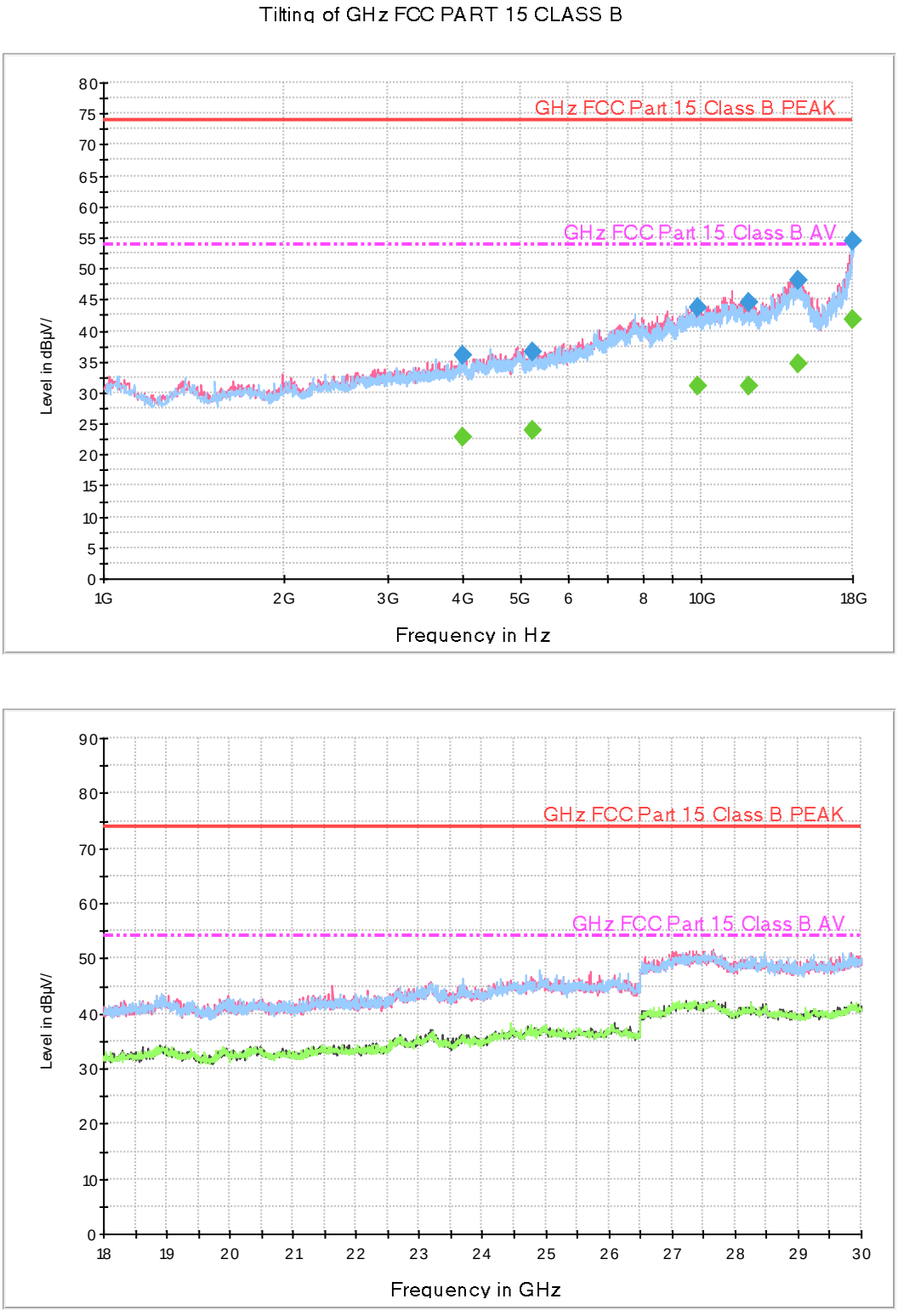




Frequency (㎒)	Peak (dB㎶/m)	Antenna Height (㎝)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB㎶/m)
2078.8150	32.1	201.4	H	45.0	-25.2	41.9	74.0
4014.2000	35.6	190.6	H	38.0	-19.0	38.4	74.0
4946.0250	36.8	147.8	H	20.0	-16.6	37.2	74.0
1 1275.3650	45.0	113.5	V	349.0	-4.0	29.0	74.0
1 4511.9450	47.5	349.8	H	298.0	0.5	26.5	74.0
1 7924.9300	53.6	175.4	H	161.0	8.4	20.4	74.0

Frequency (㎒)	CAverage (dB㎶/m)	Antenna Height (㎝)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB㎶/m)
2078.8150	19.0	201.4	H	45.0	-25.2	35.0	54.0
4014.2000	22.7	190.6	H	38.0	-19.0	31.3	54.0
4946.0250	24.4	147.8	H	20.0	-16.6	29.6	54.0
1 1275.3650	32.1	113.5	V	349.0	-4.0	21.9	54.0
1 4511.9450	35.0	349.8	H	298.0	0.5	19.0	54.0
1 7924.9300	40.8	175.4	H	161.0	8.4	13.2	54.0

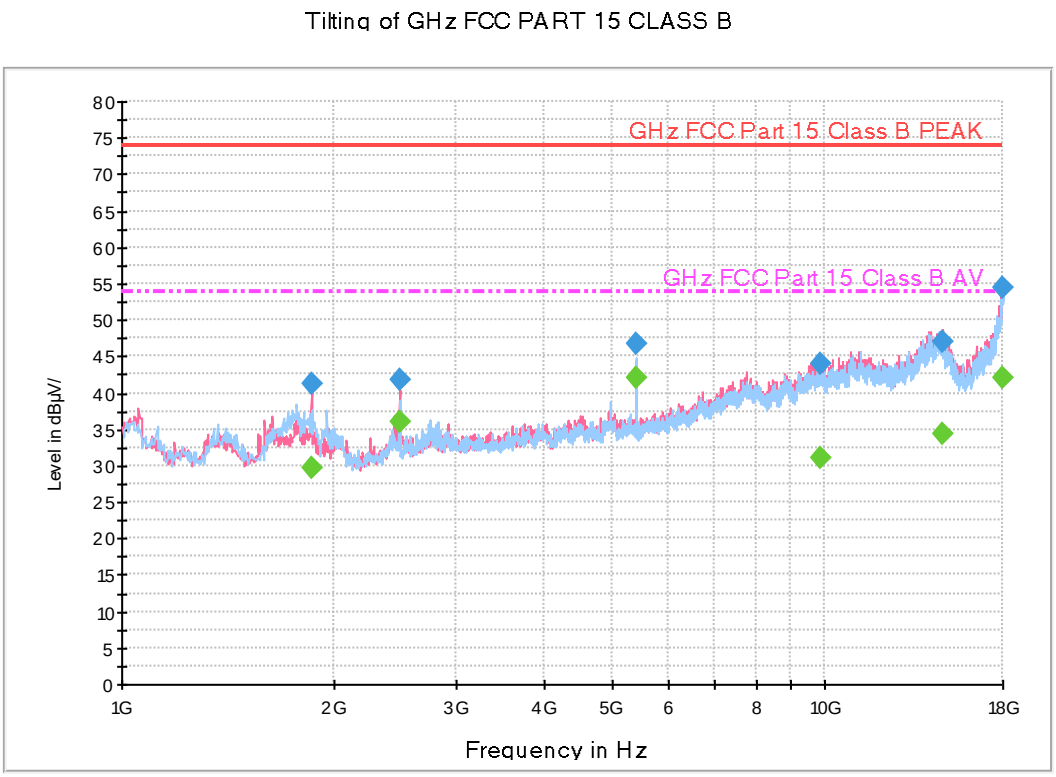
Figure 18: Radiated Emission (1 ㎓ to 30 ㎓), [EUT+Earphone] Video+Audio

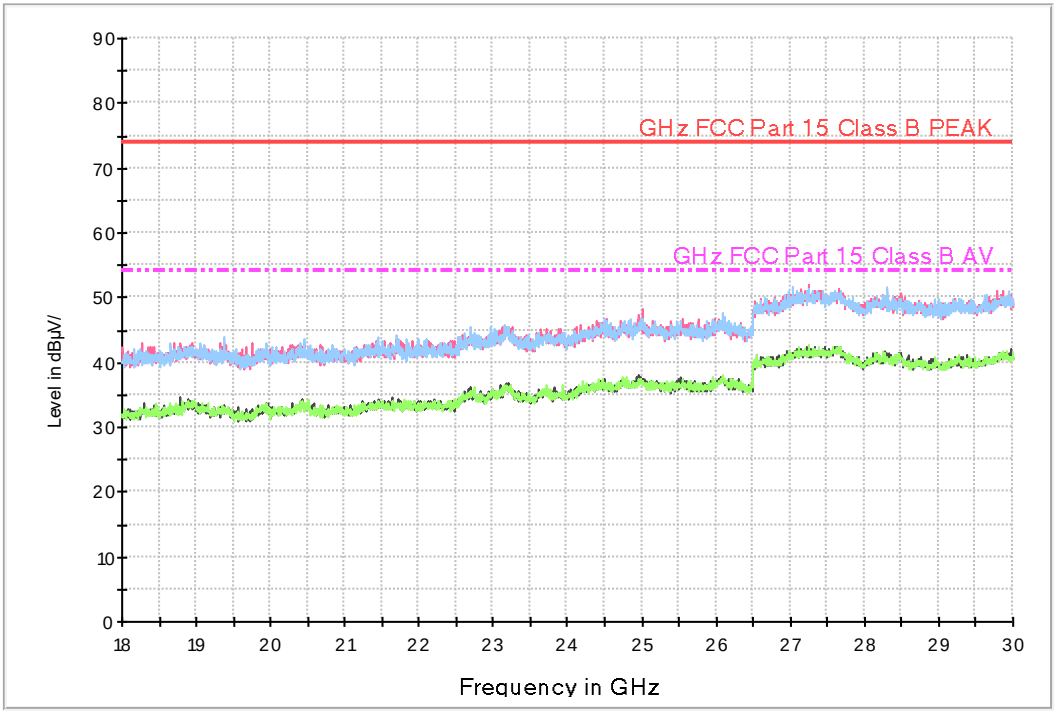


Frequency (㎒)	Peak (dB㎶/m)	Antenna Height (㎝)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB㎶/m)
3997.4950	36.1	349.8	V	0.0	-19.1	37.9	74.0
5238.6750	36.7	149.6	V	173.0	-16.3	37.3	74.0
9890.3750	43.7	278.4	H	107.0	-7.6	30.3	74.0
1 2053.0950	44.5	231.4	H	330.0	-3.8	29.5	74.0
1 4626.5700	48.0	188.6	H	233.0	0.2	26.0	74.0
1 7969.9125	54.5	149.8	V	64.0	9.1	19.5	74.0

Frequency (㎒)	CAverage (dB㎶/m)	Antenna Height (㎝)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB㎶/m)
3997.4950	22.9	349.8	V	0.0	-19.1	31.1	54.0
5238.6750	24.0	149.6	V	173.0	-16.3	30.0	54.0
9890.3750	31.1	278.4	H	107.0	-7.6	22.9	54.0
1 2053.0950	31.0	231.4	H	330.0	-3.8	23.0	54.0
1 4626.5700	34.6	188.6	H	233.0	0.2	19.4	54.0
1 7969.9125	41.9	149.8	V	64.0	9.1	12.1	54.0

Figure 19: Radiated Emission (1 ㎓ to 30 ㎓), [EUT+LED Monitor] Video+Audio (Display out)





Frequency (㎒)	Peak (dB㎶/m)	Antenna Height (㎝)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB㎶/m)
1863.8850	41.2	292.4	V	188.0	-25.8	32.8	74.0
2485.1800	41.9	175.5	V	210.0	-23.4	32.1	74.0
5399.7750	46.7	203.6	H	187.0	-16.1	27.3	74.0
9893.5500	43.9	140.7	V	200.0	-7.6	30.1	74.0
1 4763.7250	47.1	124.6	V	308.0	0.0	26.9	74.0
1 7973.0100	54.3	150.0	V	57.0	9.2	19.7	74.0

Frequency (㎒)	CAverage (dB㎶/m)	Antenna Height (㎝)	POL. (H/V)	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dB㎶/m)
1863.8850	29.7	292.4	V	188.0	-25.8	24.3	54.0
2485.1800	36.0	175.5	V	210.0	-23.4	18.0	54.0
5399.7750	42.0	203.6	H	187.0	-16.1	12.0	54.0
9893.5500	31.0	140.7	V	200.0	-7.6	23.0	54.0
1 4763.7250	34.4	124.6	V	308.0	0.0	19.6	54.0
1 7973.0100	42.0	150.0	V	57.0	9.2	12.0	54.0

6. CONCLUSION

The data collected shows that the **Product Name: Mobile Phone and Model Name: SM-N980F/DS** complies with §15.107 and §15.109 of the FCC rules.

7. APPENDIX A. TEST SETUP PHOTO

Please refer to EMI Test Setup Photo and test setup photo file no. as follows;

Rev. No.	Issue Date	File No.
0	October 29, 2021	HCT-EM-2110-FC007-P

End of report