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FCC NFC REPORT

Certification

Applicant Name:
SAMSUNG Electronics Co., Ltd.

Address:
129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Rep. of Korea

Date of Issue:
August 14, 2020

Test Site/Location:
74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, 17383 KOREA

Report No.: HCT-RF-2008-FC028

FCC ID:	**A3LSMG781V**
APPLICANT:	**SAMSUNG Electronics Co., Ltd.**
Model:	SM-G781V
EUT Type:	Mobile Phone
RF Output Field Strength:	16.92 dBuV/m @30 m
Frequency of Operation:	13.56 MHz
Modulation type:	ASK
FCC Classification:	Low Power Communication Device – Transmitter
FCC Rule Part(s):	FCC Part 15.225 Subpart C

Engineering Statement:

The measurements shown in this report were made in accordance with the procedures indicated, and the emissions from this equipment were found to be within the limits applicable. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them. It is further stated that upon the basis of the measurements made, the equipment tested is capable of operation in accordance with the requirements of the FCC Rules under normal use and maintenance.

REVIEWED BY

Report prepared by : Jung Ki Lim Engineer of Telecommunication Testing Center	Report approved by : Jong Seok Lee Manager of Telecommunication Testing Center

This test results were applied only to the test methods required by the standard.

This laboratory is not accredited for the test results marked *.
The above Test Report is the accredited test result by (KS Q) ISO/IEC 17025 and KOLAS(Korea Laboratory Accreditation Scheme), which signed the ILAC-MRA. (HCT Accreditation No.: KT197)

* The report shall not be reproduced except in full(only partly) without approval of the laboratory.

Version

TEST REPORT NO.	DATE	DESCRIPTION
HCT-RF-2008-FC028	August 14, 2020	- First Approval Report

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1. EUT DESCRIPTION

Model	SM-G781V
Additional Model	-
EUT Type	Mobile Phone
Power Supply	DC 3.85 V
Battery Information	Model: EB-BG781ABY Type: Li-ion Battery
Travel Adapter Information (15W)	Model : EP-TA200 Manufacture: DONGYANG E&P
Travel Adapter Information (25W)	Model : EP-TA800 Manufacture: DONGYANG E&P
Data Cable Information (15W)	Model : EP-DG780BWE Manufacture: KSD
Data Cable Information (25W)	Model : EP-DG980BBE Manufacture: KSD
Ear-jack Information	Model : GH59-15252A Manufacture: CRESYN
Frequency of Operation	13.56 MHz
Transmit Power	Without Tag: 16.92 dBuV/m @30 m With Tag: 16.45 dBuV/m @30 m
Modulation Type	ASK
Date(s) of Tests	July 08, 2020 ~ August 13, 2020

2. TEST METHODOLOGY

The measurement procedure described in the American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices (ANSI C63.10-2013) is used in the measurement of the test device.

EUT CONFIGURATION

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner that intends to maximize its emission characteristics in a continuous normal application.

EUT EXERCISE

The EUT was operated in the engineering mode to fix the Tx frequency that was for the purpose of the measurements. According to its specifications, the EUT must comply with the requirements of the Section 15.207, 15.209 and 15.225 under the FCC Rules Part 15 Subpart C.

GENERAL TEST PROCEDURES

Conducted Emissions

The EUT is placed on the turntable, which is 0.8 m above ground plane. According to the requirements in Section 6.2 of ANSI C63.10. (Version :2013) Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using CISPR Quasi-peak and average detector modes.

Radiated Emissions

The EUT is placed on a turn table, which is 0.8 m above ground plane. The turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3 m away from the receiving antenna, which varied from 1 m to 4 m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the max. emission, the relative positions of this hand-held transmitter (EUT) was rotated through three orthogonal axes according to the requirements in Section 6.6.5 of ANSI C63.10. (Version: 2013).

DESCRIPTION OF TEST MODES

The EUT has been tested under operating condition. Test program used to control the EUT for staying in continuous transmitting and receiving mode is programmed.

3. INSTRUMENT CALIBRATION

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipments, which is traceable to recognized national standards.

Especially, all antenna for measurement is calibrated in accordance with the requirements of C63.5 (Version : 2017).

4. FACILITIES AND ACCREDITATIONS

FACILITIES

The SAC(Semi-Anechoic Chamber) and conducted measurement facility used to collect the radiated data are located at the 74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, 17383, Rep. of KOREA. The site is constructed in conformance with the requirements of ANSI C63.4. (Version :2014) and CISPR Publication 22.

Detailed description of test facility was submitted to the Commission and accepted dated April 02, 2018 (Registration Number: KR0032).

EQUIPMENT

Radiated emissions are measured with one or more of the following types of Linearly polarized antennas: tuned dipole, bi-conical, log periodic, bi-log, and/or ridged waveguide, horn. Spectrum analyzers with pre-selectors and quasi-peak detectors are used to perform radiated measurements.

Conducted emissions are measured with Line Impedance Stabilization Networks and EMI Test Receivers. Calibrated wideband preamplifiers, coaxial cables, and coaxial attenuators are also used for making measurements.

All receiving equipment conforms to CISPR Publication 16-1, “Radio Interference Measuring Apparatus and Measurement Methods.”

5. ANTENNA REQUIREMENTS

According to FCC 47 CFR §15.203:

“An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.”

(1) The antennas of this E.U.T are permanently attached.

(2) The E.U.T Complies with the requirement of §15.203

6. MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.10-2013.

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 Disturbance (150 kHz ~ 30 MHz)	1.82
Radiated Disturbance (9 kHz ~ 30 MHz)	3.40
Radiated Disturbance (30 MHz ~ 1 GHz)	4.80
Radiated Disturbance (1 GHz ~ 18 GHz)	5.70
Radiated Disturbance (18 GHz ~ 40 GHz)	5.05

7. DESCRIPTION OF TESTS

7.1. Radiated Test

Limit (Operation within the band 13.110 MHz – 14.010 MHz)

Frequency (MHz)	Field Strength (uV/m)	Measurement Distance (m)
13.553 – 13.567	15,848	30
13.410 ≤ f ≤ 13.553 13.567 ≤ f ≤ 13.710	334	30
13.110 ≤ f ≤ 13.410 13.710 ≤ f ≤ 14.010	106	30

Note:

1. 15,848 uV/m = 84.0 dBuV/m
2. 334 uV/m = 50.47 dBuV/m
3. 106 uV/m = 40.51 dBuV/m

Limit (Radiated Spurious Emissions)

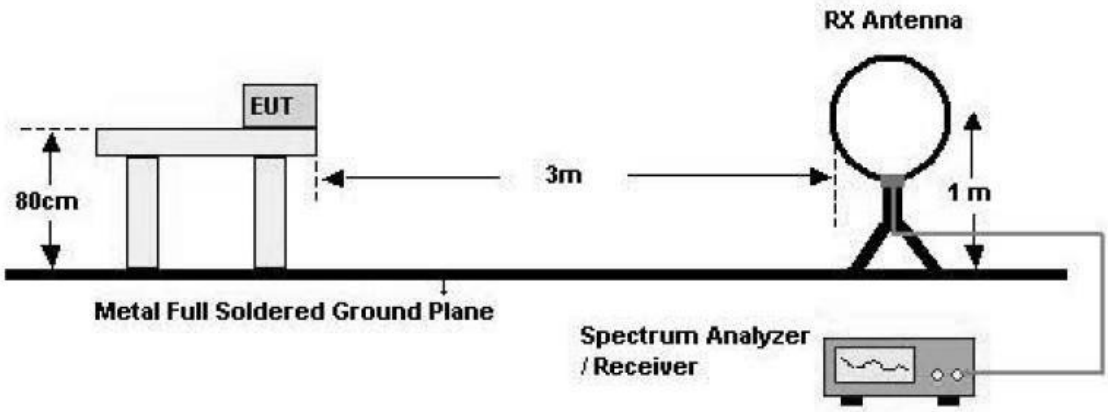
Frequency (MHz)	Field Strength (uV/m)	Measurement Distance (m)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30	30	30
30-88	※100	3
88-216	※150	3
216-960	※200	3
Above 960	500	3

※:

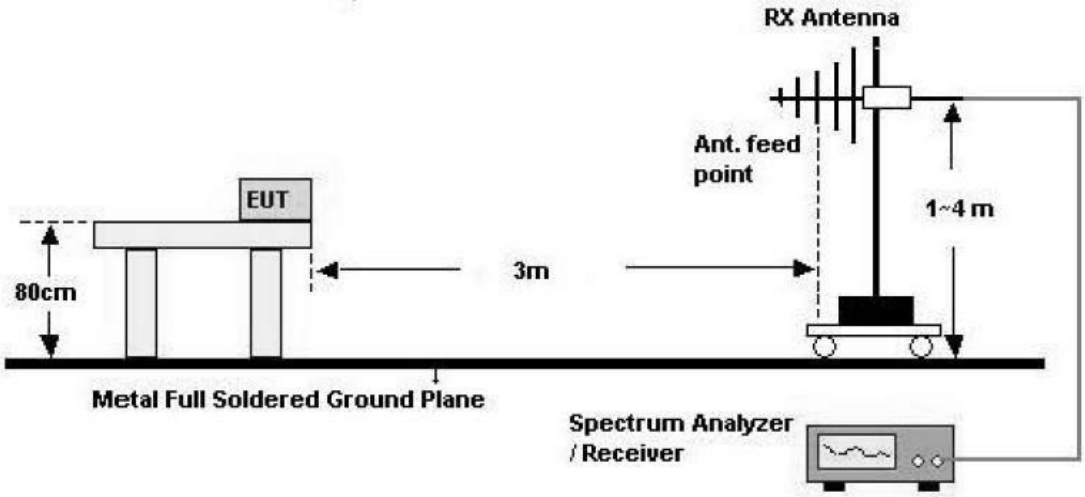
Except as provided in 15.209(g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g. 15.231 and 15.241.

Test Configuration

Below 30 MHz



30 MHz - 1 GHz



Test Procedure of inband

1. The EUT was placed on a non-conductive table located on semi-anechoic chamber.
2. The loop antenna was placed at a location 3m from the EUT
3. The EUT is placed on a turntable, which is 0.8m above ground plane.
4. We have done x, y, z planes in EUT and horizontal and vertical polarization and Parallel to the ground plane in detecting antenna.
5. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
6. Distance Correction Factor = 40log(3 m/30 m) = - 40 dB

   Measurement Distance : 3 m (Below 30 MHz)

7. Spectrum Setting
   - Detector = Peak
   - Trace = Maxhold
   - RBW = 9 kHz
   - VBW ≥ 3 x RBW
8. Total = Reading Value + Antenna Factor(A.F) + Cable Loss(C.L) + Distance Factor(D.F)

Test Procedure of Radiated spurious emissions(Below 30 MHz)

1. The EUT was placed on a non-conductive table located on semi-anechoic chamber.
2. The loop antenna was placed at a location 3m from the EUT
3. The EUT is placed on a turntable, which is 0.8m above ground plane.
4. We have done x, y, z planes in EUT and horizontal and vertical polarization and Parallel to the ground plane in detecting antenna.
5. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
6. Distance Correction Factor(0.009 MHz – 0.490 MHz) = 40log(3 m/300 m) = - 80 dB
   Measurement Distance : 3 m
7. Distance Correction Factor(0.490 MHz – 30 MHz) = 40log(3 m/30 m) = - 40 dB
   Measurement Distance : 3 m
8. Spectrum Setting
   - Frequency Range = 9 kHz ~ 30 MHz
   - Detector = Peak
   - Trace = Maxhold
   - RBW = 9 kHz
   - VBW ≥ 3 x RBW
9. Total = Reading Value + Antenna Factor(A.F) + Cable Loss(C.L) + Distance Factor(D.F)
10. Measurement value only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.

KDB 414788 OFS and Chamber Correlation Justification

Base on FCC 15.31 (f) (2): measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field.

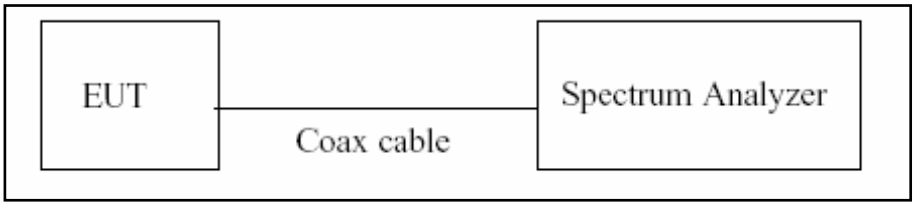
OFS and chamber correlation testing had been performed and chamber measured test result is the worst case test result.

Test Procedure of Radiated spurious emissions(Above 30 MHz)

1. The EUT was placed on a non-conductive table located on semi-anechoic chamber.
2. The EUT is placed on a turntable, which is 0.8m above ground plane.
3. The Hybrid antenna was placed at a location 3m from the EUT, which is varied from 1m to 4m to find out the highest emissions.
4. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
5. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
6. Spectrum Setting
   - Frequency Range = 30 MHz ~ 1 GHz
   - Detector = Peak
   - Trace = Maxhold
   - RBW = 100 kHz
   - VBW ≥ 3 x RBW
7. Total = Reading Value + Antenna Factor(A.F) + Cable Loss(C.L)
8. Measurement value only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.

7.2. 20dB Bandwidth

Test Configuration



Test Procedure

The 20 dB bandwidth was measured by using a spectrum analyzer.

(Procedure 6.9.2 in ANSI 63.10-2013)

1) RBW = 1%~5% of the OBW
2) VBW = approximately three times RBW
3) Span =between two times and five times the OBW
4) Detector = Peak
5) Trace mode = Max hold
6) Allow the trace to stabilize

Note :

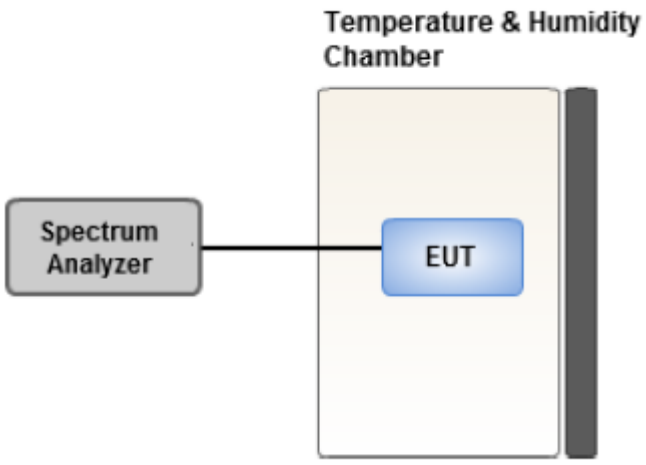
We tested Occupied Bandwidth using the automatic bandwidth measurement capability of a spectrum analyzer.

7.3. Frequency Stability

Limit

The frequency tolerance of the carrier signal shall be maintained within ±0.01% of the operating frequency.

Test Configuration



Test Procedure.

For battery operated equipment, the equipment tests shall be performed using a new battery.

1) Turn the EUT OFF and place it inside the environmental temperature chamber.
   For devices that have oscillator heaters, energize only the heater circuit.
2) Set the temperature control on the chamber to the highest specified in the regulatory requirements for the type of device and allow the oscillator heater and the chamber temperature to stabilize.
3) While maintaining a constant temperature inside the environmental chamber, turn the EUT ON and record the operating frequency at startup, and at 2 minutes, 5 minutes, and 10 minutes after the EUT is energized. Four measurements in total are made.
4) The frequency tolerance of the carrier signal shall be maintained within +/- 0.01% of the operating frequency._

Note:

1) Temperature:
   The temperature is varied from -20°C to + 50°C using an environmental chamber.
2) Primary Supply Voltage :
   The primary supply voltage is varied from 85% to 115% of the nominal value for non hand-carried battery and AC powered equipment.
   For hand-carried, battery-powered equipment, primary supply voltage is reduced to the battety operating end point which shall be specified by the manufacturer.

7.4. AC Power line Conducted Emissions

Limit

For an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 µH/50 ohms line impedance stabilization network (LISN).

Frequency Range (MHz)	Limits (dBµV)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56[(a)]	56 to 46[(a)]
0.50 to 5	56	46
5 to 30	60	50

[(a)]Decreases with the logarithm of the frequency.

Compliance with this provision shall be based on the measurement of the radio frequency voltage between each power line (LINE and NEUTRAL) and ground at the power terminals.

Test Configuration

See test photographs attached in Annex A for the actual connections between EUT and support equipment.

Test Procedure

1. The EUT is placed on a wooden table 80 cm above the reference ground plane.
2. The EUT is connected via LISN to a test power supply.
3. The measurement results are obtained as described below:
4. Detectors : Quasi Peak and Average Detector.
5. The EUT is the device operating below 30 MHz.
   - For unterminated the Antenna, the AC line conducted tests are performed with the antenna connected
   - For terminated the Antenna, the AC line conducted tests are performed with a dummy load connected to the EUT antenna output terminal.

Sample Calculation

Quasi-peak(Final Result) = Reading Value + Correction Factor

7.5. Worst case configuration and mode

Radiated test

1. All modes of operation were investigated and the worst case configuration results are reported.
   - Mode : Stand alone, Stand alone + external accessories(Earphone, etc)
   - Worstcase : Stand alone
2. EUT Axis : Z
3. All type and bitrate were investigated and the worst case results are reported.
   (Worst case : Type A, 106 kbps)
4. All position of loop antenna were investigated and the worst case configuration results are reported.
   - Position : Horizontal, Vertical, Parallel to the ground plane
   - Worstcase : Horizontal

AC Power line Conducted Emissions

1. All modes of operation were investigated and the worst case configuration results are reported.
   - Mode : Stand alone+Earphone+Travel Adapter, Stand alone+Travel Adapter
   - Worstcase : Stand alone+Travel Adapter

2.. All modes(For unterminated the Antenna, terminated the Antenna) of operation were investigated and the worst case configuration results are reported.
   - Worstcase : unterminated the Antenna

20dB Bandwidth & Frequency Stability

1. All type and bitrate were investigated and the worst case results are reported.
   (Worst case : Type A, 106 kbps)

8. TEST SUMMARY

Regulation	Requirement	Result
Part 15.225 (a)	Radiated Electric Field Emissions (13.553MHz to 13.567MHz)	Pass
Part 15.225 (b)	Radiated Electric Field Emissions (13.410 ≤ f ≤ 13.553, 13.567 ≤ f ≤ 13.710)	Pass
Part 15.225 (c)	Radiated Electric Field Emissions (13.110 ≤ f ≤ 13.410, 13.710 ≤ f ≤ 14.010)	Pass
Part 15.209	Radiated Electric Field Emissions (9kHz to 30MHz)	Pass
Part 15.209	Radiated Electric Field Emissions (30MHz to 1GHz)	Pass
Part 15.225 (e)	Frequency Stability	Pass
Part 15.207	AC power conducted emissions (150kHz to 30MHz)	Pass
Part 15.215 (c)	20 dB Bandwidth	Pass

9. TEST RESULT

9.1. Operation within the band 13.110 MHz – 14.010 MHz

Measured Frequency Range : 13.553 MHz-13.567 MHz							
Frequency (MHz)	Read Level (dBuV/m)@3m	Ant.Factor +Cable Loss (dB/m)	Distance Correction (dB)	Ant. POL	Total (dBuV/m)@30m	Limit (dBuV/m)@30m	Margin (dB)
13.5604	38.385	18.53	-40.00	H	16.92	84.00	67.09
13.5604	33.750	18.53	-40.00	V	12.28	84.00	71.72

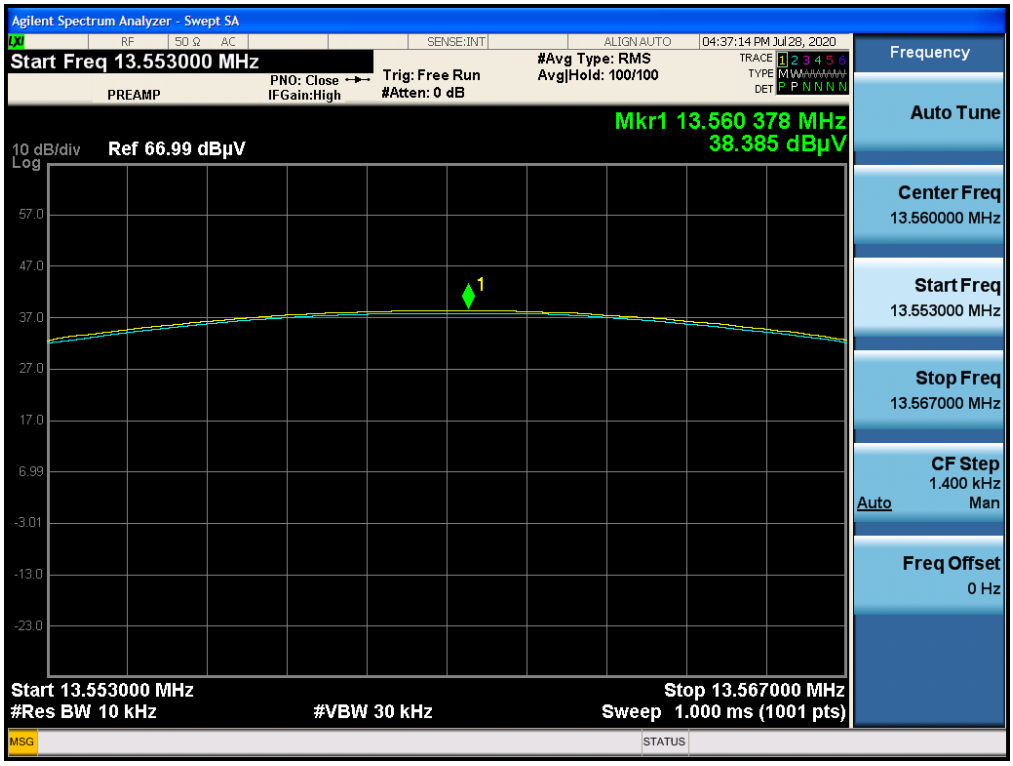
Measured Frequency Range : 13.410 MHz-13.553 MHz and 13.567 MHz-13.710 MHz							
Frequency (MHz)	Read Level (dBuV/m)@3m	Ant.Factor +Cable Loss (dB/m)	Distance Correction (dB)	Ant. POL	Total (dBuV/m)@30m	Limit (dBuV/m)@30m	Margin (dB)
13.5530	33.591	18.53	-40.00	H	12.12	50.47	38.35
13.5670	34.097	18.53	-40.00	H	12.63	50.47	37.84

Measured Frequency Range : 13.110 MHz – 13.410 MHz and 13.710 MHz-14.010 MHz							
Frequency (MHz)	Read Level (dBuV/m)@3m	Ant.Factor +Cable Loss (dB/m)	Distance Correction (dB)	Ant. POL	Total (dBuV/m)@30m	Limit (dBuV/m)@30m	Margin (dB)
13.3521	10.237	18.53	-40.00	H	-11.23	40.51	51.74
13.7721	11.317	18.53	-40.00	H	-10.15	40.51	50.66

Note:

Without Tag (worst case)

▣ Test Plot



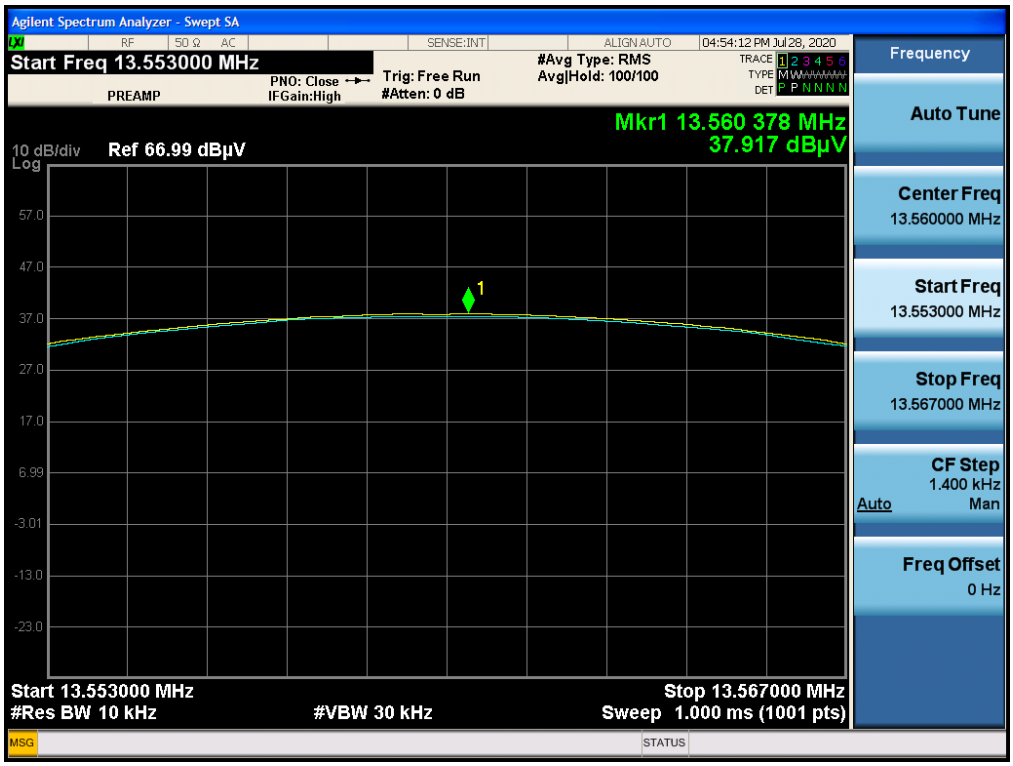
Note:

Plot of worst case are only reported.

With Tag Mode (only fundamental)

Measured Frequency Range : 13.553 MHz-13.567 MHz							
Frequency (MHz)	Read Level (dBuV/m)@3m	Ant.Factor +Cable Loss (dB/m)	Distance Correction (dB)	Ant. POL	Total (dBuV/m)@30m	Limit (dBuV/m)@30m	Margin (dB)
13.5604	37.917	18.53	-40.00	H	16.45	84.00	67.55
13.5598	32.803	18.53	-40.00	V	11.33	84.00	72.67

▣ Test Plot



Note:

Plot of worst case are only reported.

9.2. Radiated Emission 9 kHz – 30 MHz

Measured Frequency Range : 9 kHz - 30 MHz							
Frequency (MHz)	Read Level (dBuV/m)@3m	Ant.Factor +Cable Loss (dB/m)	Distance Correction (dB)	Ant. POL	Total (dBuV/m)@30m	Limit (dBuV/m)@30m	Margin (dB)
1.2060	16.68	18.03	-40.00	H	-5.29	29.54	34.83
2.5740	15.76	18.33	-40.00	H	-5.92	29.54	35.46
15.7690	10.28	18.53	-40.00	H	-11.19	29.54	40.73
23.7800	9.84	18.93	-40.00	H	-11.23	29.54	40.77

Note:

1. Without Tag (worst case)

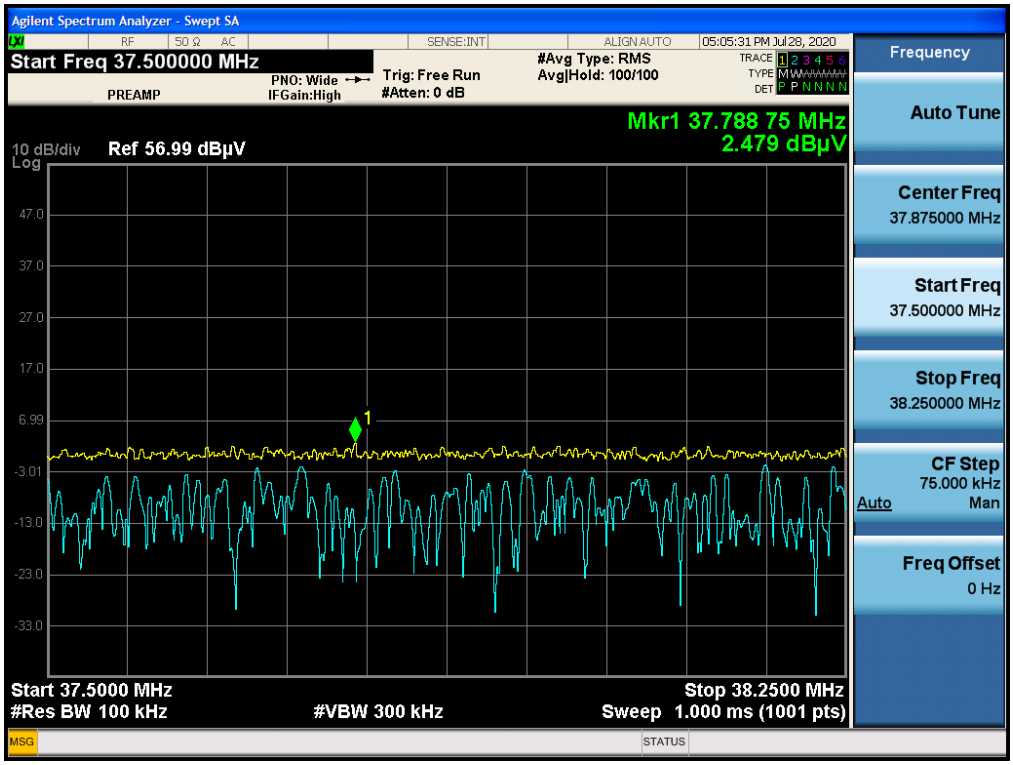
9.3. Radiated Emission 30 MHz – 1000 MHz

Measured Frequency Range : 30 MHz - 1000 MHz							
Frequency (MHz)	Read Level (dBuV/m) @3m	Ant.Factor (dB/m)	Cable Loss (dB)	Ant. Pol (H/V)	Total (dBuV/m)	Limit (dBuV/m)	Margin (dB)
37.78875#	2.479	17.50	0.53	H	20.51	40.00	19.49
48.190	1.499	18.20	0.70	H	20.40	40.00	19.60
89.927	2.308	15.50	0.97	V	18.78	43.50	24.72
111.068#	1.511	17.70	1.07	H	20.28	43.50	23.22
124.140#	1.786	18.60	1.15	H	21.54	43.50	21.96
158.370	1.028	18.80	1.23	V	21.06	43.50	22.44

Note:

1. '#' is the result for restricted band.
2. Without Tag (worst case)

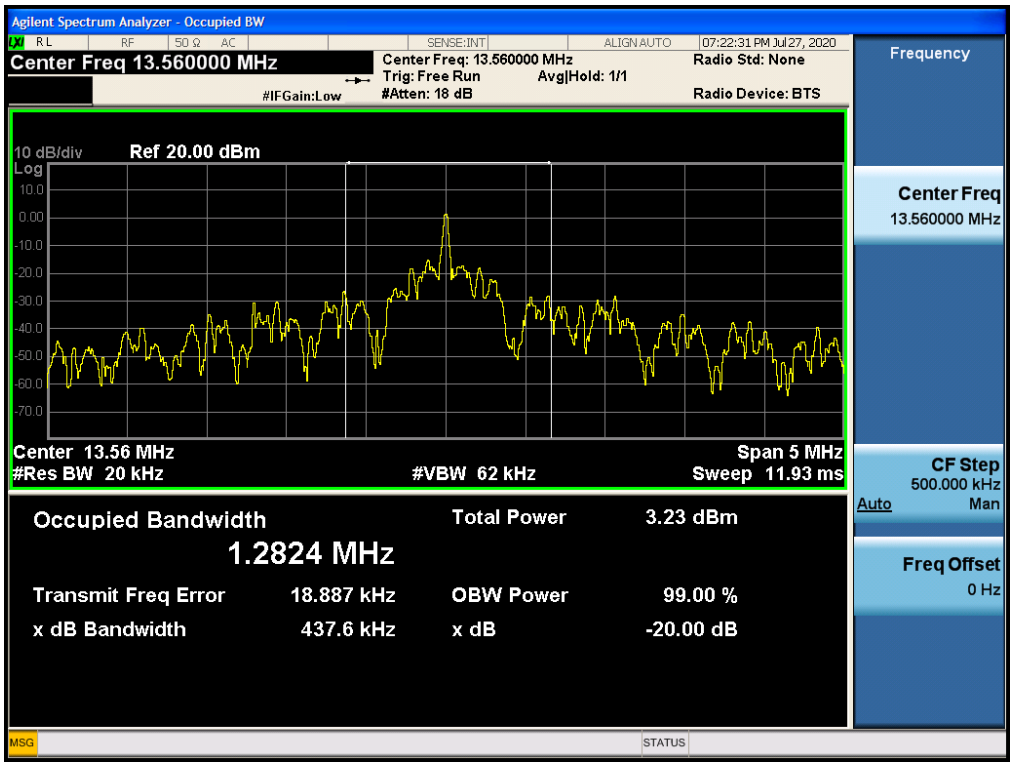
▣ Test Plot



Note:

Plot of worst case are only reported

9.4. 20 dB Bandwidth



9.5. Frequency Stability

Startup

PERATING FREQUENCY: 13.56 MHz

REFERENCE VOLTAGE: 3.85 VDC

DEVIATION LIMIT: ±0.01 % = ±1356 Hz

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (MHz)	Frequency Dev. (Hz)	Frequency Dev (%)
100%	3.85	-20	13.560100	100	0.0007375
100%		-10	13.560095	95	0.0007006
100%		0	13.560087	87	0.0006416
100%		+10	13.560075	75	0.0005531
100%		+20(Ref.)	13.560068	68	0.0005015
100%		+30	13.560060	60	0.0004425
100%		+40	13.560060	60	0.0004425
100%		+50	13.560056	56	0.0004130
End_point	3.40	+20	13.560077	77	0.0005678

2 minutes

PERATING FREQUENCY: 13.56 MHz

REFERENCE VOLTAGE: 3.85 VDC

DEVIATION LIMIT: ±0.01 % = ±1356 Hz

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (MHz)	Frequency Dev. (Hz)	Frequency Dev (%)
100%	3.85	-20	13.560097	97	0.0007153
100%		-10	13.560095	95	0.0007006
100%		0	13.560086	86	0.0006342
100%		+10	13.560080	80	0.0005900
100%		+20(Ref.)	13.560076	76	0.0005605
100%		+30	13.560071	71	0.0005236
100%		+40	13.560068	68	0.0005015
100%		+50	13.560064	64	0.0004720
End_point	3.40	+20	13.560066	66	0.0004867

5 minutes

PERATING FREQUENCY: 13.56 MHz

REFERENCE VOLTAGE: 3.85 VDC

DEVIATION LIMIT: ±0.01 % = ±1356 Hz

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (MHz)	Frequency Dev. (Hz)	Frequency Dev (%)
100%	3.85	-20	13.560092	92	0.0006785
100%		-10	13.560088	88	0.0006490
100%		0	13.560085	85	0.0006268
100%		+10	13.560076	76	0.0005605
100%		+20(Ref.)	13.560071	71	0.0005236
100%		+30	13.560065	65	0.0004794
100%		+40	13.560062	62	0.0004572
100%		+50	13.560060	60	0.0004425
End_point	3.40	+20	13.560073	73	0.0005383

10 minutes

PERATING FREQUENCY: 13.56 MHz

REFERENCE VOLTAGE: 3.85 VDC

DEVIATION LIMIT: ±0.01 % = ±1356 Hz

Voltage (%)	Power (VDC)	Temp. (℃)	Frequency (MHz)	Frequency Dev. (Hz)	Frequency Dev (%)
100%	3.85	-20	13.560085	85	0.0006268
100%		-10	13.560078	78	0.0005752
100%		0	13.560065	65	0.0004794
100%		+10	13.560062	62	0.0004572
100%		+20(Ref.)	13.560061	61	0.0004499
100%		+30	13.560056	56	0.0004130
100%		+40	13.560052	52	0.0003835
100%		+50	13.560050	50	0.0003687
End_point	3.40	+20	13.560062	62	0.0004572

9.6. POWERLINE CONDUCTE EMISSIONS

[15 W] Conducted Emissions (Line 1)

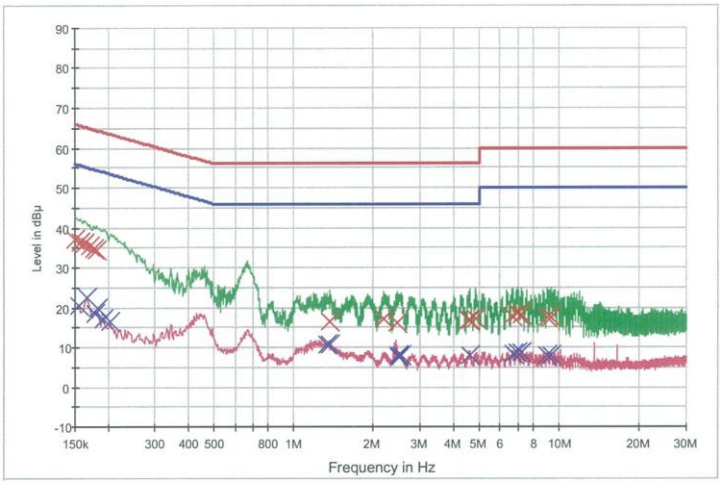
NFC MODE TERMINATED L1 1 / 2

HCT TEST Report

Common Information

EUT:	SM-G781V
Manufacturer:	SAMSUNG
Test Site:	SHIELD ROOM
Operating Conditions:	NFC MODE TERMINATED L1

FCC CLASS B_Exten Cable



FCC CLASS B_QP
Preview Result 2-AVG
FCC CLASS B_ AV
Final Result 1-QPK
Preview Result 1-PK+
Final Result 2-CAV

Final Result 1

Frequency (MHz)	QuasiPeak (dBuV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.150000	37.0	9.000	Off	L1	9.8	29.0	66.0
0.158000	36.4	9.000	Off	L1	9.8	29.2	65.6
0.162000	36.1	9.000	Off	L1	9.8	29.3	65.4
0.170000	35.4	9.000	Off	L1	9.8	29.5	65.0
0.176000	34.8	9.000	Off	L1	9.8	29.8	64.7
0.180000	34.5	9.000	Off	L1	9.8	30.0	64.5
1.364000	16.6	9.000	Off	L1	9.9	39.4	56.0
2.192000	17.1	9.000	Off	L1	9.9	38.9	56.0
2.448000	16.0	9.000	Off	L1	9.9	40.0	56.0
4.588000	16.9	9.000	Off	L1	10.0	39.1	56.0
4.596000	16.7	9.000	Off	L1	10.0	39.3	56.0
4.866000	17.0	9.000	Off	L1	10.0	39.0	56.0
6.660000	17.9	9.000	Off	L1	10.1	42.1	60.0
6.942000	18.5	9.000	Off	L1	10.1	41.5	60.0
6.950000	18.3	9.000	Off	L1	10.1	41.7	60.0
7.210000	18.0	9.000	Off	L1	10.1	42.0	60.0
9.018000	17.6	9.000	Off	L1	10.2	42.4	60.0
9.324000	17.5	9.000	Off	L1	10.2	42.5	60.0

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NFC MODE TERMINATED L1 2 / 2

Final Result 2

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.156000	20.7	9.000	Off	L1	9.8	35.0	55.7
0.166000	22.5	9.000	Off	L1	9.8	32.6	55.2
0.178000	18.5	9.000	Off	L1	9.8	36.0	54.6
0.182000	19.7	9.000	Off	L1	9.8	34.7	54.4
0.192000	17.2	9.000	Off	L1	9.8	36.8	53.9
0.204000	16.4	9.000	Off	L1	9.8	37.0	53.4
1.338000	10.8	9.000	Off	L1	9.9	35.2	46.0
1.364000	10.8	9.000	Off	L1	9.9	35.2	46.0
2.470000	7.8	9.000	Off	L1	9.9	38.2	46.0
2.498000	8.1	9.000	Off	L1	9.9	37.9	46.0
2.540000	7.8	9.000	Off	L1	9.9	38.2	46.0
4.596000	7.9	9.000	Off	L1	10.0	38.1	46.0
6.696000	8.5	9.000	Off	L1	10.1	41.5	50.0
6.928000	8.8	9.000	Off	L1	10.1	41.2	50.0
7.210000	8.7	9.000	Off	L1	10.1	41.3	50.0
9.018000	8.0	9.000	Off	L1	10.2	42.0	50.0
9.274000	8.1	9.000	Off	L1	10.2	41.9	50.0
9.324000	7.9	9.000	Off	L1	10.2	42.1	50.0

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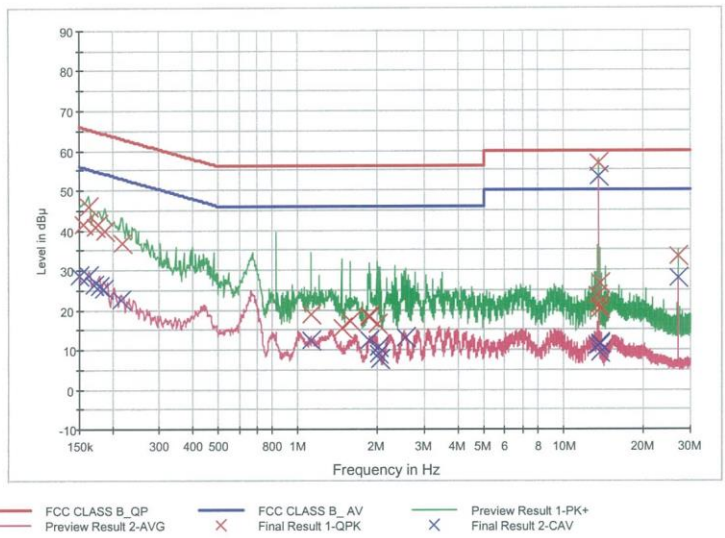
NFC MODE UNTERMINATED L1 1 / 2

HCT TEST Report

Common Information

EUT:	SM-G781V
Manufacturer:	SAMSUNG
Test Site:	SHIELD ROOM
Operating Conditions:	NFC MODE UNTERMINATED L1

FCC CLASS B_Exten Cable



Final Result 1

Frequency (MHz)	QuasiPeak (dBuV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.156000	41.6	9.000	Off	L1	9.8	24.1	65.7
0.162000	45.9	9.000	Off	L1	9.8	19.4	65.4
0.172000	40.9	9.000	Off	L1	9.8	24.0	64.9
0.176000	41.5	9.000	Off	L1	9.8	23.2	64.7
0.188000	40.0	9.000	Off	L1	9.8	24.2	64.1
0.218000	36.7	9.000	Off	L1	9.8	26.2	62.9
1.122000	19.0	9.000	Off	L1	9.8	37.0	56.0
1.460000	15.6	9.000	Off	L1	9.9	40.4	56.0
1.576000	17.3	9.000	Off	L1	9.9	38.7	56.0
1.852000	18.1	9.000	Off	L1	9.9	37.9	56.0
1.864000	18.4	9.000	Off	L1	9.9	37.6	56.0
1.998000	16.4	9.000	Off	L1	9.9	39.6	56.0
13.426000	23.5	9.000	Off	L1	10.3	36.5	60.0
13.498000	21.3	9.000	Off	L1	10.3	38.7	60.0
13.560000	56.9	9.000	Off	L1	10.3	3.1	60.0
13.690000	20.3	9.000	Off	L1	10.3	39.7	60.0
13.768000	26.6	9.000	Off	L1	10.3	33.4	60.0
27.120000	33.3	9.000	Off	L1	10.7	26.7	60.0

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NFC MODE UNTERMINATED L1 2 / 2

Final Result 2

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.150000	28.6	9.000	Off	L1	9.8	27.4	56.0
0.162000	28.6	9.000	Off	L1	9.8	26.8	55.4
0.170000	26.2	9.000	Off	L1	9.8	28.8	55.0
0.178000	26.0	9.000	Off	L1	9.8	28.6	54.6
0.186000	25.4	9.000	Off	L1	9.8	28.8	54.2
0.216000	22.6	9.000	Off	L1	9.8	30.4	53.0
1.122000	12.4	9.000	Off	L1	9.8	33.6	46.0
1.864000	12.4	9.000	Off	L1	9.9	33.6	46.0
2.002000	10.8	9.000	Off	L1	9.9	35.2	46.0
2.018000	9.1	9.000	Off	L1	9.9	36.9	46.0
2.042000	7.6	9.000	Off	L1	9.9	38.4	46.0
2.552000	12.9	9.000	Off	L1	9.9	33.1	46.0
13.426000	10.9	9.000	Off	L1	10.3	39.1	50.0
13.560000	53.5	9.000	Off	L1	10.3	-3.5	50.0
13.630000	11.8	9.000	Off	L1	10.3	38.2	50.0
13.690000	11.2	9.000	Off	L1	10.3	38.8	50.0
13.768000	9.3	9.000	Off	L1	10.3	40.7	50.0
27.120000	28.0	9.000	Off	L1	10.7	22.0	50.0

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[15 W] Conducted Emissions (Line 2)

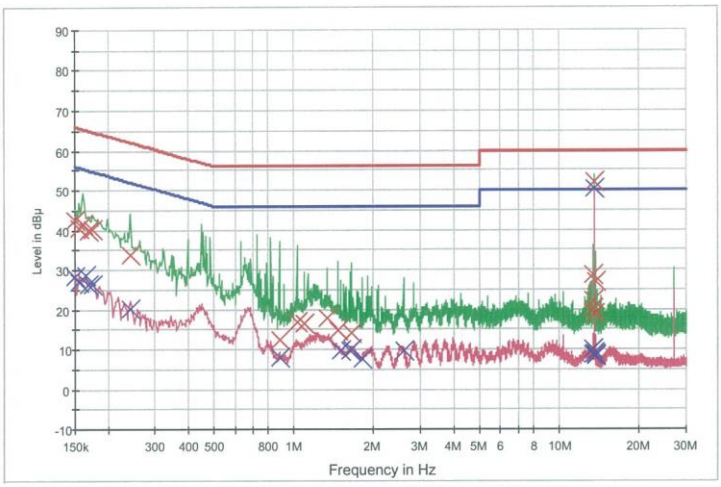
NFC MODE UNTERMINATED N 1 / 2

HCT TEST Report

Common Information

EUT:	SM-G781V
Manufacturer:	SAMSUNG
Test Site:	SHIELD ROOM
Operating Conditions:	NFC MODE UNTERMINATED N

FCC CLASS B_Exten Cable



FCC CLASS B_QP
Preview Result 2-AVG
FCC CLASS B_ AV
Final Result 1-QPK
Preview Result 1-PK+
Final Result 2-CAV

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	42.4	9.000	Off	N	9.8	23.6	66.0
0.156000	40.5	9.000	Off	N	9.8	25.2	65.7
0.160000	41.4	9.000	Off	N	9.8	24.1	65.5
0.168000	39.9	9.000	Off	N	9.8	25.2	65.1
0.174000	40.2	9.000	Off	N	9.8	24.6	64.8
0.242000	33.7	9.000	Off	N	9.8	28.4	62.0
0.884000	12.5	9.000	Off	N	9.8	43.5	56.0
1.028000	16.7	9.000	Off	N	9.8	39.3	56.0
1.096000	16.5	9.000	Off	N	9.8	39.5	56.0
1.342000	17.7	9.000	Off	N	9.8	38.3	56.0
1.464000	14.8	9.000	Off	N	9.9	41.2	56.0
1.642000	14.0	9.000	Off	N	9.9	42.0	56.0
13.348000	28.8	9.000	Off	N	10.4	31.2	60.0
13.444000	22.4	9.000	Off	N	10.4	37.6	60.0
13.462000	20.2	9.000	Off	N	10.4	39.8	60.0
13.484000	18.8	9.000	Off	N	10.4	41.2	60.0
13.560000	52.1	9.000	Off	N	10.4	7.9	60.0
13.772000	26.9	9.000	Off	N	10.4	33.1	60.0

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NFC MODE UNTERMINATED N 2 / 2

Final Result 2

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.150000	28.3	9.000	Off	N	9.8	27.7	56.0
0.156000	26.8	9.000	Off	N	9.8	28.9	55.7
0.164000	28.5	9.000	Off	N	9.8	26.8	55.3
0.168000	26.2	9.000	Off	N	9.8	28.8	55.1
0.174000	26.2	9.000	Off	N	9.8	28.5	54.8
0.242000	20.3	9.000	Off	N	9.8	31.7	52.0
0.884000	8.0	9.000	Off	N	9.8	38.0	46.0
1.508000	9.6	9.000	Off	N	9.9	36.4	46.0
1.632000	9.8	9.000	Off	N	9.9	36.2	46.0
1.642000	10.0	9.000	Off	N	9.9	36.0	46.0
1.816000	7.7	9.000	Off	N	9.9	38.3	46.0
2.588000	9.7	9.000	Off	N	9.9	36.3	46.0
13.348000	9.8	9.000	Off	N	10.4	40.2	50.0
13.444000	8.6	9.000	Off	N	10.4	41.4	50.0
13.484000	9.0	9.000	Off	N	10.4	41.0	50.0
13.560000	50.5	9.000	Off	N	10.4	-0.5	50.0
13.674000	8.6	9.000	Off	N	10.4	41.4	50.0
13.772000	8.4	9.000	Off	N	10.4	41.6	50.0

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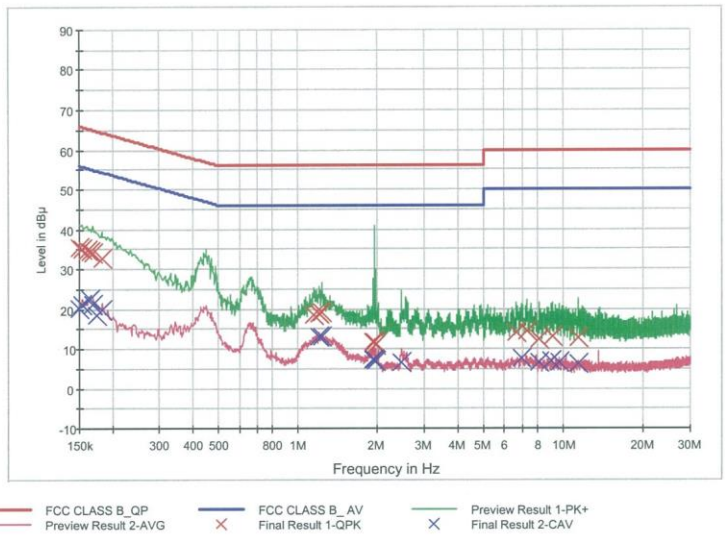
NFC MODE TERMINATED N 1 / 2

HCT TEST Report

Common Information

EUT:	SM-G781V
Manufacturer:	SAMSUNG
Test Site:	SHIELD ROOM
Operating Conditions:	NFC MODE TERMINATED N

FCC CLASS B_Exten Cable



Final Result 1

Frequency (MHz)	QuasiPeak (dBuV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.150000	35.5	9.000	Off	N	9.8	30.5	66.0
0.154000	35.2	9.000	Off	N	9.8	30.6	65.8
0.160000	34.8	9.000	Off	N	9.8	30.7	65.5
0.164000	34.6	9.000	Off	N	9.8	30.7	65.3
0.168000	34.1	9.000	Off	N	9.8	31.0	65.1
0.182000	32.9	9.000	Off	N	9.8	31.5	64.4
1.150000	18.3	9.000	Off	N	9.8	37.7	56.0
1.208000	18.7	9.000	Off	N	9.8	37.3	56.0
1.228000	19.1	9.000	Off	N	9.8	36.9	56.0
1.928000	11.8	9.000	Off	N	9.9	44.2	56.0
1.938000	11.6	9.000	Off	N	9.9	44.4	56.0
1.970000	11.0	9.000	Off	N	9.9	45.0	56.0
6.652000	14.0	9.000	Off	N	10.1	46.0	60.0
7.262000	14.3	9.000	Off	N	10.1	45.7	60.0
8.130000	12.3	9.000	Off	N	10.2	47.7	60.0
9.078000	13.0	9.000	Off	N	10.2	47.0	60.0
11.370000	12.6	9.000	Off	N	10.3	47.4	60.0
11.386000	12.8	9.000	Off	N	10.3	47.2	60.0

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NFC MODE TERMINATED N 2 / 2

Final Result 2

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.150000	20.0	9.000	Off	N	9.8	36.0	56.0
0.154000	21.1	9.000	Off	N	9.8	34.7	55.8
0.164000	22.6	9.000	Off	N	9.8	32.6	55.3
0.168000	21.2	9.000	Off	N	9.8	33.9	55.1
0.174000	18.5	9.000	Off	N	9.8	36.3	54.8
0.182000	19.7	9.000	Off	N	9.8	34.7	54.4
1.210000	13.1	9.000	Off	N	9.8	32.9	46.0
1.236000	12.9	9.000	Off	N	9.8	33.1	46.0
1.928000	7.4	9.000	Off	N	9.9	38.6	46.0
1.938000	7.4	9.000	Off	N	9.9	38.6	46.0
1.970000	7.1	9.000	Off	N	9.9	38.9	46.0
2.448000	6.4	9.000	Off	N	9.9	39.6	46.0
6.972000	7.5	9.000	Off	N	10.1	42.5	50.0
8.130000	6.5	9.000	Off	N	10.2	43.5	50.0
9.034000	6.8	9.000	Off	N	10.2	43.2	50.0
9.640000	6.8	9.000	Off	N	10.2	43.2	50.0
9.656000	6.7	9.000	Off	N	10.2	43.3	50.0
11.386000	6.4	9.000	Off	N	10.3	43.6	50.0

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[25 W] Conducted Emissions (Line 1)

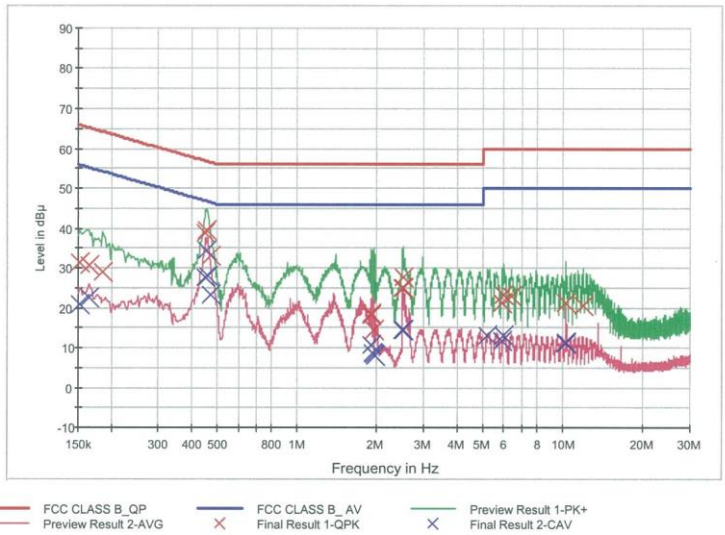
NFC MODE TERMINATED L1 1 / 2

HCT TEST Report

Common Information

EUT:	SM-G781V
Manufacturer:	SAMSUNG
Test Site:	SHIELD ROOM
Operating Conditions:	NFC MODE TERMINATED L1

FCC CLASS B_Exten Cable



Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.152000	31.2	9.000	Off	L1	9.8	34.7	65.9
0.164000	30.8	9.000	Off	L1	9.8	34.4	65.3
0.186000	28.9	9.000	Off	L1	9.8	35.3	64.2
0.452000	39.0	9.000	Off	L1	9.8	17.9	56.8
0.458000	39.3	9.000	Off	L1	9.8	17.4	56.7
0.472000	33.1	9.000	Off	L1	9.8	23.4	56.5
1.894000	18.6	9.000	Off	L1	9.9	37.4	56.0
1.898000	18.1	9.000	Off	L1	9.9	37.9	56.0
1.934000	14.3	9.000	Off	L1	9.9	41.7	56.0
2.498000	24.9	9.000	Off	L1	9.9	31.1	56.0
2.502000	24.9	9.000	Off	L1	9.9	31.1	56.0
2.510000	27.5	9.000	Off	L1	9.9	28.5	56.0
5.928000	21.1	9.000	Off	L1	10.0	38.9	60.0
6.006000	23.1	9.000	Off	L1	10.1	36.9	60.0
6.404000	22.9	9.000	Off	L1	10.1	37.1	60.0
10.220000	21.3	9.000	Off	L1	10.2	38.7	60.0
10.224000	21.3	9.000	Off	L1	10.2	38.7	60.0
11.956000	20.4	9.000	Off	L1	10.3	39.6	60.0

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NFC MODE TERMINATED L1 2 / 2

Final Result 2

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.152000	20.8	9.000	Off	L1	9.8	35.1	55.9
0.164000	22.5	9.000	Off	L1	9.8	32.7	55.3
0.450000	27.6	9.000	Off	L1	9.8	19.3	46.9
0.456000	34.4	9.000	Off	L1	9.8	12.4	46.8
0.460000	27.9	9.000	Off	L1	9.8	18.8	46.7
0.472000	23.2	9.000	Off	L1	9.8	23.3	46.5
1.894000	10.8	9.000	Off	L1	9.9	35.2	46.0
1.928000	8.8	9.000	Off	L1	9.9	37.2	46.0
1.932000	8.4	9.000	Off	L1	9.9	37.6	46.0
1.956000	8.1	9.000	Off	L1	9.9	37.9	46.0
2.498000	14.3	9.000	Off	L1	9.9	31.7	46.0
2.510000	14.5	9.000	Off	L1	9.9	31.5	46.0
5.206000	13.0	9.000	Off	L1	10.0	37.0	50.0
5.928000	11.6	9.000	Off	L1	10.0	38.4	50.0
6.006000	13.0	9.000	Off	L1	10.1	37.0	50.0
10.208000	11.0	9.000	Off	L1	10.2	39.0	50.0
10.220000	11.2	9.000	Off	L1	10.2	38.8	50.0
10.224000	11.4	9.000	Off	L1	10.2	38.6	50.0

2020-08-04 오후 8:09:05

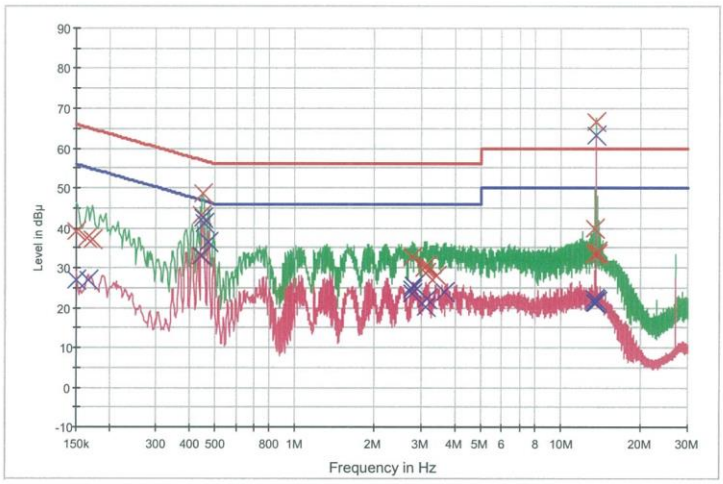
NFC MODE UNTERMINATED L1 1 / 2

HCT TEST Report

Common Information

EUT:	SM-G781V
Manufacturer:	SAMSUNG
Test Site:	SHIELD ROOM
Operating Conditions:	NFC MODE UNTERMINATED L1

FCC CLASS B_Exten Cable



Final Result 1

Frequency (MHz)	QuasiPeak (dBuV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.150000	39.3	9.000	Off	L1	9.8	26.7	66.0
0.164000	37.6	9.000	Off	L1	9.8	27.7	65.3
0.172000	37.3	9.000	Off	L1	9.8	27.6	64.9
0.442000	33.0	9.000	Off	L1	9.8	24.0	57.0
0.446000	43.2	9.000	Off	L1	9.8	13.8	56.9
0.452000	48.6	9.000	Off	L1	9.8	8.2	56.8
2.754000	32.6	9.000	Off	L1	9.9	23.4	56.0
3.082000	29.9	9.000	Off	L1	9.9	26.1	56.0
3.088000	28.7	9.000	Off	L1	9.9	27.3	56.0
3.110000	30.2	9.000	Off	L1	9.9	25.8	56.0
3.132000	30.7	9.000	Off	L1	9.9	25.3	56.0
3.412000	27.9	9.000	Off	L1	9.9	28.1	56.0
13.350000	39.8	9.000	Off	L1	10.3	20.2	60.0
13.448000	33.4	9.000	Off	L1	10.3	26.6	60.0
13.468000	33.8	9.000	Off	L1	10.3	26.2	60.0
13.560000	66.5	9.000	Off	L1	10.3	-6.5	60.0
13.658000	33.9	9.000	Off	L1	10.3	26.1	60.0
13.680000	33.3	9.000	Off	L1	10.3	26.7	60.0

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NFC MODE UNTERMINATED L1 2 / 2

Final Result 2

Frequency (MHz)	CAverage (dBµV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	27.1	9.000	Off	L1	9.8	28.9	56.0
0.166000	27.1	9.000	Off	L1	9.8	28.1	55.2
0.446000	32.9	9.000	Off	L1	9.8	14.0	46.9
0.450000	42.6	9.000	Off	L1	9.8	4.3	46.9
0.456000	41.3	9.000	Off	L1	9.8	5.5	46.8
0.474000	36.3	9.000	Off	L1	9.8	10.1	46.4
2.754000	23.6	9.000	Off	L1	9.9	22.4	46.0
2.758000	24.4	9.000	Off	L1	9.9	21.6	46.0
2.780000	25.6	9.000	Off	L1	9.9	20.4	46.0
3.088000	20.1	9.000	Off	L1	9.9	25.9	46.0
3.132000	22.1	9.000	Off	L1	9.9	23.9	46.0
3.650000	24.0	9.000	Off	L1	9.9	22.0	46.0
13.350000	22.0	9.000	Off	L1	10.3	28.0	50.0
13.448000	21.0	9.000	Off	L1	10.3	29.0	50.0
13.468000	21.1	9.000	Off	L1	10.3	28.9	50.0
13.560000	63.3	9.000	Off	L1	10.3	-13.3	50.0
13.620000	21.8	9.000	Off	L1	10.3	28.2	50.0
13.680000	21.5	9.000	Off	L1	10.3	28.5	50.0

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[25 W] Conducted Emissions (Line 2)

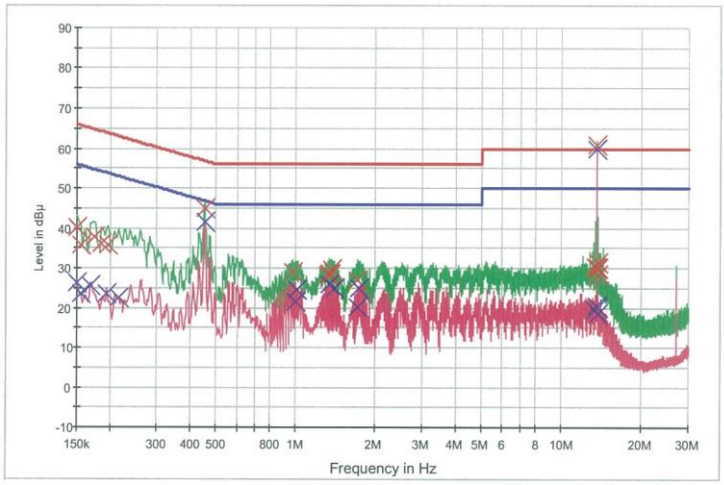
NFC MODE UNTERMINATED N 1 / 2

HCT TEST Report

Common Information

EUT:	SM-G781V
Manufacturer:	SAMSUNG
Test Site:	SHIELD ROOM
Operating Conditions:	NFC MODE UNTERMINATED N

FCC CLASS B_Exten Cable



FCC CLASS B_QP
Preview Result 2-AVG
FCC CLASS B_ AV
Final Result 1-QPK
Preview Result 1-PK+
Final Result 2-CAV

Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	40.1	9.000	Off	N	9.8	25.9	66.0
0.156000	35.9	9.000	Off	N	9.8	29.8	65.7
0.174000	37.8	9.000	Off	N	9.8	27.0	64.8
0.186000	36.2	9.000	Off	N	9.8	28.1	64.2
0.196000	35.8	9.000	Off	N	9.8	28.0	63.8
0.454000	44.8	9.000	Off	N	9.8	12.0	56.8
0.972000	28.8	9.000	Off	N	9.8	27.2	56.0
1.316000	28.4	9.000	Off	N	9.8	27.6	56.0
1.342000	28.8	9.000	Off	N	9.8	27.2	56.0
1.356000	28.4	9.000	Off	N	9.8	27.6	56.0
1.362000	29.6	9.000	Off	N	9.8	26.4	56.0
1.702000	27.1	9.000	Off	N	9.9	28.9	56.0
13.438000	30.4	9.000	Off	N	10.4	29.6	60.0
13.476000	29.9	9.000	Off	N	10.4	30.1	60.0
13.560000	60.9	9.000	Off	N	10.4	-0.9	60.0
13.650000	29.8	9.000	Off	N	10.4	30.2	60.0
13.688000	28.1	9.000	Off	N	10.4	31.9	60.0
13.768000	31.3	9.000	Off	N	10.4	28.7	60.0

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NFC MODE UNTERMINATED N 2 / 2

Final Result 2

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.150000	26.3	9.000	Off	N	9.8	29.7	56.0
0.156000	23.5	9.000	Off	N	9.8	32.2	55.7
0.168000	25.6	9.000	Off	N	9.8	29.5	55.1
0.194000	23.7	9.000	Off	N	9.8	30.2	53.9
0.216000	22.5	9.000	Off	N	9.8	30.5	53.0
0.454000	41.4	9.000	Off	N	9.8	5.4	46.8
0.996000	21.5	9.000	Off	N	9.8	24.5	46.0
1.012000	24.7	9.000	Off	N	9.8	21.3	46.0
1.340000	26.0	9.000	Off	N	9.8	20.0	46.0
1.404000	24.9	9.000	Off	N	9.9	21.1	46.0
1.702000	20.1	9.000	Off	N	9.9	25.9	46.0
1.730000	25.0	9.000	Off	N	9.9	21.0	46.0
13.438000	19.3	9.000	Off	N	10.4	30.7	50.0
13.478000	20.5	9.000	Off	N	10.4	29.5	50.0
13.560000	59.8	9.000	Off	N	10.4	-9.8	50.0
13.650000	20.1	9.000	Off	N	10.4	29.9	50.0
13.688000	20.3	9.000	Off	N	10.4	29.7	50.0
13.768000	18.4	9.000	Off	N	10.4	31.6	50.0

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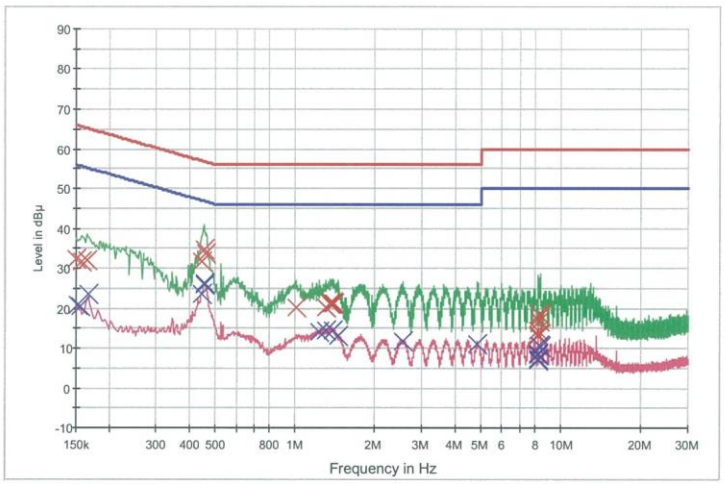
NFC MODE TERMINATED N 1 / 2

HCT TEST Report

Common Information

EUT:	SM-G781V
Manufacturer:	SAMSUNG
Test Site:	SHIELD ROOM
Operating Conditions:	NFC MODE TERMINATED N

FCC CLASS B_Exten Cable



FCC CLASS B_QP
Preview Result 2-AVG
FCC CLASS B_ AV
Final Result 1-QPK
Preview Result 1-PK+
Final Result 2-CAV

Final Result 1

Frequency (MHz)	QuasiPeak (dBuV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.150000	32.3	9.000	Off	N	9.8	33.7	66.0
0.158000	31.6	9.000	Off	N	9.8	33.9	65.6
0.164000	32.1	9.000	Off	N	9.8	33.2	65.3
0.444000	31.6	9.000	Off	N	9.8	25.4	57.0
0.454000	34.9	9.000	Off	N	9.8	21.9	56.8
0.462000	33.8	9.000	Off	N	9.8	22.9	56.7
1.006000	20.1	9.000	Off	N	9.8	35.9	56.0
1.306000	20.1	9.000	Off	N	9.8	35.9	56.0
1.354000	21.1	9.000	Off	N	9.8	34.9	56.0
1.368000	21.0	9.000	Off	N	9.9	35.0	56.0
1.378000	21.3	9.000	Off	N	9.9	34.7	56.0
1.396000	21.1	9.000	Off	N	9.9	34.9	56.0
8.186000	12.9	9.000	Off	N	10.2	47.1	60.0
8.196000	13.4	9.000	Off	N	10.2	46.6	60.0
8.220000	14.3	9.000	Off	N	10.2	45.7	60.0
8.268000	16.8	9.000	Off	N	10.2	43.2	60.0
8.334000	18.4	9.000	Off	N	10.2	41.6	60.0
8.374000	18.2	9.000	Off	N	10.2	41.8	60.0

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NFC MODE TERMINATED N 2 / 2

Final Result 2

Frequency (MHz)	CAverage (dBuV)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.152000	20.9	9.000	Off	N	9.8	35.0	55.9
0.156000	20.4	9.000	Off	N	9.8	35.3	55.7
0.166000	23.7	9.000	Off	N	9.8	31.5	55.2
0.444000	23.7	9.000	Off	N	9.8	23.3	47.0
0.454000	26.2	9.000	Off	N	9.8	20.6	46.8
0.458000	26.1	9.000	Off	N	9.8	20.6	46.7
1.232000	14.1	9.000	Off	N	9.8	31.9	46.0
1.298000	14.2	9.000	Off	N	9.8	31.8	46.0
1.386000	14.5	9.000	Off	N	9.9	31.5	46.0
1.458000	12.9	9.000	Off	N	9.9	33.1	46.0
2.544000	11.8	9.000	Off	N	9.9	34.2	46.0
4.850000	11.2	9.000	Off	N	10.0	34.8	46.0
8.186000	7.1	9.000	Off	N	10.2	42.9	50.0
8.198000	7.4	9.000	Off	N	10.2	42.6	50.0
8.220000	8.2	9.000	Off	N	10.2	41.8	50.0
8.230000	8.6	9.000	Off	N	10.2	41.4	50.0
8.334000	10.6	9.000	Off	N	10.2	39.4	50.0
8.374000	10.5	9.000	Off	N	10.2	39.5	50.0

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10. LIST OF TEST EQUIPMENT

Conducted Test

Manufacturer	Model / Equipment	Calibration Date	Calibration Interval	Serial No.
Rohde & Schwarz	ENV216 / LISN	09/11/2019	Annual	102245
Rohde & Schwarz	ESCI / Test Receiver	06/05/2020	Annual	100033
ESPAC	SU-642 /Temperature Chamber	03/18/2020	Annual	0093008124
Agilent	N9030A / Signal Analyzer	01/13/2020	Annual	MY49431210
Hewlett Packard	E3632A / DC Power Supply	06/12/2020	Annual	KR75303960
Agilent	8493C / Attenuator(10 dB)	06/26/2020	Annual	07560
Rohde & Schwarz	EMC32 / Software	N/A	N/A	N/A

Note:

1. Equipment listed above that calibrated during the testing period was set for test after the calibration.
2. Equipment listed above that has a calibration due date during the testing period, the testing is completed before equipment expiration date.

Radiated Test

Manufacturer	Model / Equipment	Calibration Date	Calibration Interval	Serial No.
Innco system	CO3000 / Controller(Antenna mast)	N/A	N/A	CO3000-4p
Innco system	MA4640/800-XP-EP / Antenna Position Tower	N/A	N/A	N/A
Audix	EM1000 / Controller	N/A	N/A	060520
Audix	Turn Table	N/A	N/A	N/A
Rohde & Schwarz	Loop Antenna	05/18/2020	Biennial	1513-175
Schwarzbeck	VULB 9168 / Hybrid Antenna	03/22/2019	Biennial	760
Schwarzbeck	VULB 9160 / TRILOG Antenna	08/09/2018	Biennial	9160-3368
Rohde & Schwarz	FSP(9 kHz ~ 30 GHz) / Spectrum Analyzer	04/27/2020	Annual	100854
Rohde & Schwarz	FSV40-N / Spectrum Analyzer	09/26/2019	Annual	101068-SZ
Agilent	N9030A / Signal Analyzer	01/13/2020	Annual	MY49431210
Api tech.	18B-03 / Attenuator (3 dB)	03/02/2020	Annual	1
Agilent	8493C-10 / Attenuator(10 dB)	03/02/2020	Annual	08285
CERNEX	CBLU1183540 / Power Amplifier	03/02/2020	Annual	22964

Note:

1. Equipment listed above that calibrated during the testing period was set for test after the calibration.
2. Equipment listed above that has a calibration due date during the testing period, the testing is completed before equipment expiration date.
3. Especially, all antenna for measurement is calibrated in accordance with the requirements of C63.5(Version : 2017).

11. ANNEX A_ TEST SETUP PHOTO

Please refer to test setup photo file no. as follows;

No.	Description
1	HCT-RF-2008-FC028-P