

FCC REPORT

Applicant: HMD global Oy
Address of Applicant: Bertel Jungin aukio 9, 02600 Espoo, Finland
Equipment Under Test (EUT)
Product Name: Smart Phone
Model No.: TA-1390
Trade mark: NOKIA
FCC ID: 2AJOTTA-1390
Applicable standards: FCC CFR Title 47 Part 15 Subpart C Section 15.225
Date of sample receipt: 19 Aug., 2021
Date of Test: 20 Aug., to 28 Aug., 2021
Date of report issue: 30 Aug., 2021
Test Result: PASS*

* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:



Bruce Zhang
Laboratory Manager

This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product and does not permit the use of the JYT product certification mark. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

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2 Version

Version No.	Date	Description
00	30 Aug., 2021	Original

Tested by: Mike.ou
Test Engineer

Date: 30 Aug., 2021

Reviewed by: Winner Zhang
Project Engineer

Date: 30 Aug., 2021

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4 Test Summary

Test Item	Section in CFR 47	Result
Antenna requirement	15.203	Pass
Field strength of the fundamental signal	15.225 (a)	Pass
Spurious emissions	15.225(d)& 15.209	Pass
20dB Bandwidth	15.215(c)	Pass
Frequency tolerance	15.225 (e)	Pass
Conducted Emission	15.207	Pass
<p><i>Remark:</i></p> <ol style="list-style-type: none"> 1. <i>Pass: The EUT complies with the essential requirements in the standard.</i> 2. <i>The cable insertion loss used by "RF Output Power" and other conduction measurement items is 0.5dB (provided by the customer).</i> 		
Test Method:	ANSI C63.4-2014 ANSI C63.10-2013	

5 General Information

5.1 Client Information

Applicant:	HMD global Oy
Address:	Bertel Jungin aukio 9, 02600 Espoo, Finland
Manufacturer:	HMD global Oy
Address:	Bertel Jungin aukio 9, 02600 Espoo, Finland

5.2 General Description of E.U.T.

Product Name:	Smart Phone
Model No.:	TA-1390
Operation Frequency:	13.56MHz
Channel numbers:	1
Modulation type:	ASK
Antenna Type:	Induction Coil Antenna
Power supply:	Rechargeable Lithium ion Polymer Battery DC3.85V, 4.85Ah
AC adapter:	<p>Adapter 1: Model: TN-050200U3, TN-050200E3, TN-050200C3A Input: AC100-240V, 50/60Hz, 0.35A Output: DC 5.0V, 2.0A 10.0W Note: Only the pins are different between different models</p> <p>Adapter 2: Model: TN-050200U3, TN-050200A3, TN-050200C3A Input: AC100-240V, 50/60Hz, 0.35A Output: DC 5.0V, 2.0A 10.0W Note: Only the pins are different between different models</p> <p>Adapter 3: Model: AD-010A, AD-010X Input: AC100-240V, 50/60Hz, 0.35A Output: DC 5.0V, 2.0A 10.0W Note: Only the pins are different between different models</p>
Test Sample Condition:	The test samples were provided in good working order with no visible defects.

5.3 Test mode and test samples plans

Transmitting mode:	Keep the EUT in transmitting mode with modulation		
Pre-Test Mode:			
JYT has verified the construction and function in typical operation, The EUT was placed on three different polar directions; i.e. X axis, Y axis, Z axis. which was shown in this test report and defined as follows:			
Axis	X	Y	Z
Field Strength(dBuV/m)	55.32	59.65	55.43
Final Test Mode:			
According to ANSI C63.4 standards, the test results are both the “worst case” and “worst setup”: Y axis (see the test setup photo).			

5.4 Description of Support Units

Manufacturer	Description	Model	Serial Number	FCC ID/DoC
N/A	N/A	N/A	N/A	N/A

5.5 Measurement Uncertainty

Parameters	Expanded Uncertainty (Confidence of 95%(U = 2Uc(y)))
Conducted Emission (9kHz ~ 150kHz)	±3.11 dB
Conducted Emission (150kHz ~ 30MHz)	±2.26 dB
Radiated Emission (9kHz ~ 30MHz) (3m SAC)	±3.13 dB
Radiated Emission (30MHz ~ 1000MHz) (3m SAC)	±4.45 dB
Radiated Emission (1GHz ~ 18GHz) (3m SAC)	±5.34 dB

Note: The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI 63.4-2014. All the measurement uncertainty value were shown with a coverage k=2 to indicate 95% level of confidence. The measurement data show herein meets or exceeds the CISPR measurement uncertainty values specified in CISPR 16-4-2 and can be compared directly to specified limit to determine compliance.

5.6 Additions to, deviations, or exclusions from the method

No

5.7 Laboratory Facility

<p>The test facility is recognized, certified, or accredited by the following organizations:</p> <ul style="list-style-type: none"> ● FCC - Designation No.: CN1211 JianYan Testing Group Shenzhen Co., Ltd. has been accredited as a testing laboratory by FCC(Federal Communications Commission). The test firm Registration No. is 727551. ● ISED – CAB identifier.: CN0021 The 3m Semi-anechoic chamber of JianYan Testing Group Shenzhen Co., Ltd. has been Registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 10106A-1. ● A2LA - Registration No.: 4346.01 This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 General requirements for the competence of testing and calibration laboratories. The test scope can be found as below link: https://portal.a2la.org/scopepdf/4346-01.pdf
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5.8 Laboratory Location

<p>JianYan Testing Group Shenzhen Co., Ltd. Address: No.101, Building 8, Innovation Wisdom Port, No.155 Hongtian Road, Huangpu Community, Xinqiao Street, Bao'an District, Shenzhen, Guangdong, People's Republic of China. Tel: +86-755-23118282, Fax: +86-755-23116366 Email: info-JYTee@lets.com, Website: http://www.ccis-cb.com</p>

5.9 Test Instrumentslist

Radiated Emission:					
Test Equipment	Manufacturer	Model No.	Management Number	Cal.Date (mm-dd-yy)	Cal. Due date (mm-dd-yy)
3m SAC	SAEMC	9m*6m*6m	WXJ001-1	01-19-2021	01-18-2024
BiConiLog Antenna	SCHWARZBECK	VULB9163	WXJ002	03-03-2021	03-02-2022
Horn Antenna	SCHWARZBECK	BBHA9120D	WXJ002-2	03-03-2021	03-02-2022
Loop Antenna	SCHWARZBECK	FMZB 1519 B	WXJ002-4	03-07-2021	03-06-2022
Pre-amplifier	HP	8447D	WXG001-2	03-07-2021	03-06-2022
Pre-amplifier	SKET	LNPA_0118G-50	WXG001-3	03-07-2021	03-06-2022
EMI Test Receiver	Rohde & Schwarz	ESRP7	WXJ003-1	03-03-2021	03-02-2022
Signal Generator	Agilent	N5173B	WXJ006-7	03-25-2021	03-24-2022
RF Switch Unit	Tonscend	JS0806-F	WXJ089	N/A	
Test Software	Tonscend	TS+	Version: 3.0.0.1		

Conducted Emission & Conducted Method:					
Test Equipment	Manufacturer	Model No.	Management Number	Cal. Date (mm-dd-yy)	Cal. Due date (mm-dd-yy)
Spectrum analyzer	Rohde & Schwarz	FSP30	WXJ004	03-03-2021	03-02-2022
EMI Test Receiver	Rohde & Schwarz	ESCI	WXJ003	03-03-2021	03-02-2022
LISN	Rohde & Schwarz	ENV432	WXJ005-2	04-06-2021	04-05-2022
LISN	Rohde & Schwarz	ESH3-Z5	WXJ005-1	06-17-2020	06-16-2022
RF Switch	Top Precision	RSU0301	WXG003	N/A	N/A
EMI Test Software	AUDIX	E3	Version: 6.110919b		

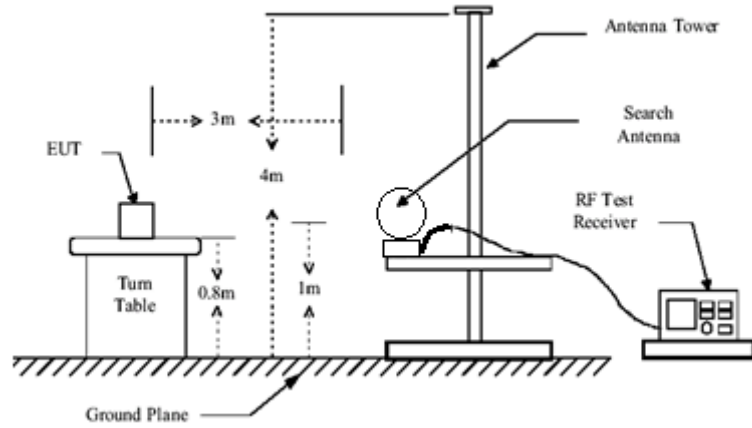
6 Test results and Measurement Data

6.1 Antenna requirement

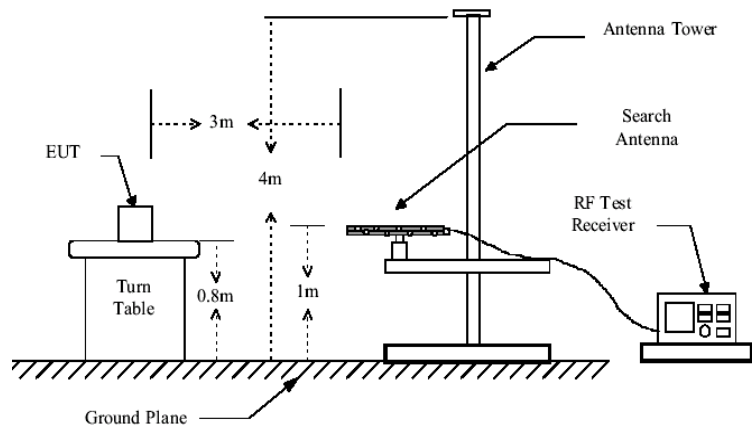
Standard requirement:	FCC Part15 C Section 15.203
15.203 requirement: An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.	
E.U.T Antenna:	
The EUT make use of an Induction coil antenna.	

6.2 Radiated Emission

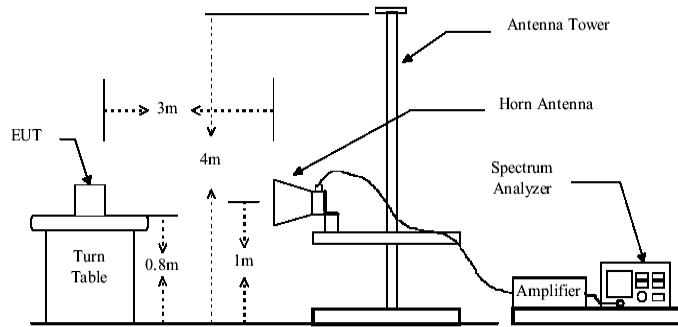
Test Requirement:	FCC Part15 C Section 15.225(a) and 15.209				
TestFrequencyRange:	9 kHz to 1000MHz				
Test site:	Measurement Distance: 3m(Semi-Anechoic Chamber)				
Receiver setup:	Frequency	Detector	RBW	VBW	Remark
	9kHz-150kHz	Quasi-peak	200Hz	600Hz	Quasi-peak Value
	150kHz-30MHz	Quasi-peak	9kHz	30kHz	Quasi-peak Value
	30MHz-1GHz	Quasi-peak	120kHz	300KHz	Quasi-peak Value
	Above 1GHz	Peak	1MHz	3MHz	Peak Value
Limit: (Field strength of the fundamental signal)	Frequency	Limit (uV/m @30m)		Limit (dBuV/m @3m)	
	13.553MHz-13.567MHz	15848		124.0	
	13.410MHz-13.553MHz & 13.567MHz-13.710MHz	334		90.5	
	13.110MHz-13.410MHz & 13.710MHz-14.010MHz	106		80.5	
	Remark: Per FCC part 15.31, when performing measurements at a distance which is closer than specified, the field strength results shall be extrapolated to the specified distance by using the square of an inverse linear distance extrapolation factor (i.e., 40 dB/decade) in conjunction with the slant-range distance defined in §15.3(hh) of this part.				
Limit: (Spurious Emissions)	Frequency (MHz)	Limit (uV/m @3m)		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 1GHz	500		3	
Test Procedure:	<p>a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.</p> <p>b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.</p> <p>c. The antenna height is varied from one meter to four meters 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.</p> <p>d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotating table was turned from 0 degrees to 360 degrees to find the maximum reading.</p> <p>e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.</p> <p>f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.</p>				
Test setup:	9kHz-30MHz				



30MHz-1GHz



Above 1GHz

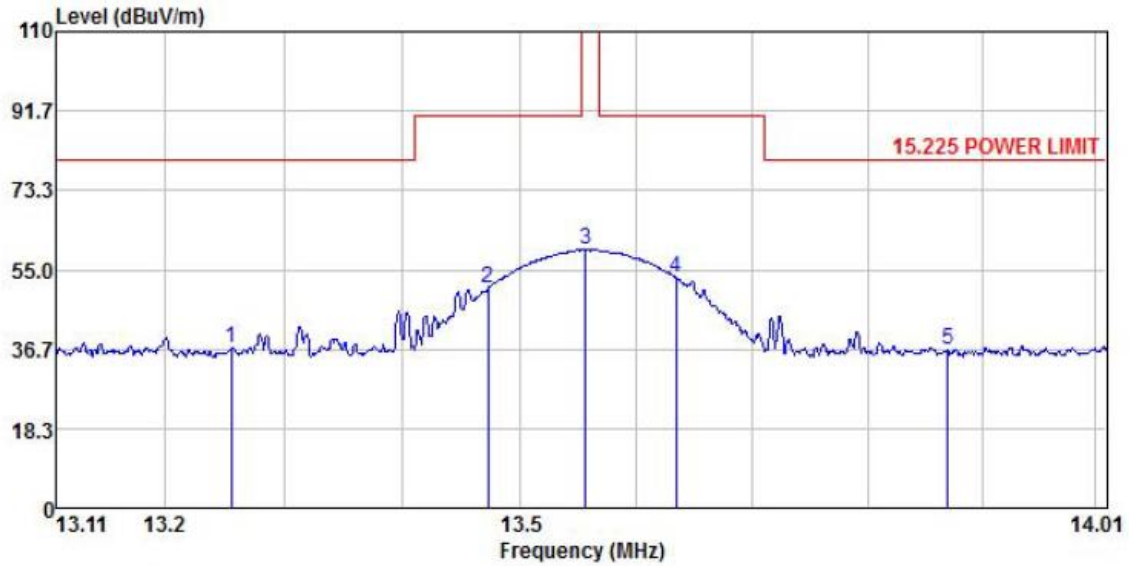


Test Instruments:	Refer to section 5.9 for details
Test mode:	Refer to section 5.3 for details
Test results:	Pass

Measurement Data:

Field Strength of fundamental signal:

Product Name:	Smart Phone	Product Model:	TA-1390
Test By:	Mike	Test mode:	NFC Tx mode
Test Voltage:	AC 120V/60Hz	Environment:	Temp: 24°C Humi: 57%



	ReadAntenna	Cable Preamp	Limit	Over				
Freq	Level	Factor	Loss	Factor	Level			
MHz	dBuV	dB/m	dB	dB	dBuV/m			
1	13.255	16.91	19.66	0.39	0.00	36.96	80.50	-43.54
2	13.473	30.86	19.61	0.41	0.00	50.88	90.50	-39.62
3	13.556	39.65	19.59	0.41	0.00	59.65	124.00	-64.35
4	13.634	33.16	19.57	0.42	0.00	53.15	90.50	-37.35
5	13.870	16.51	19.52	0.43	0.00	36.46	80.50	-44.04

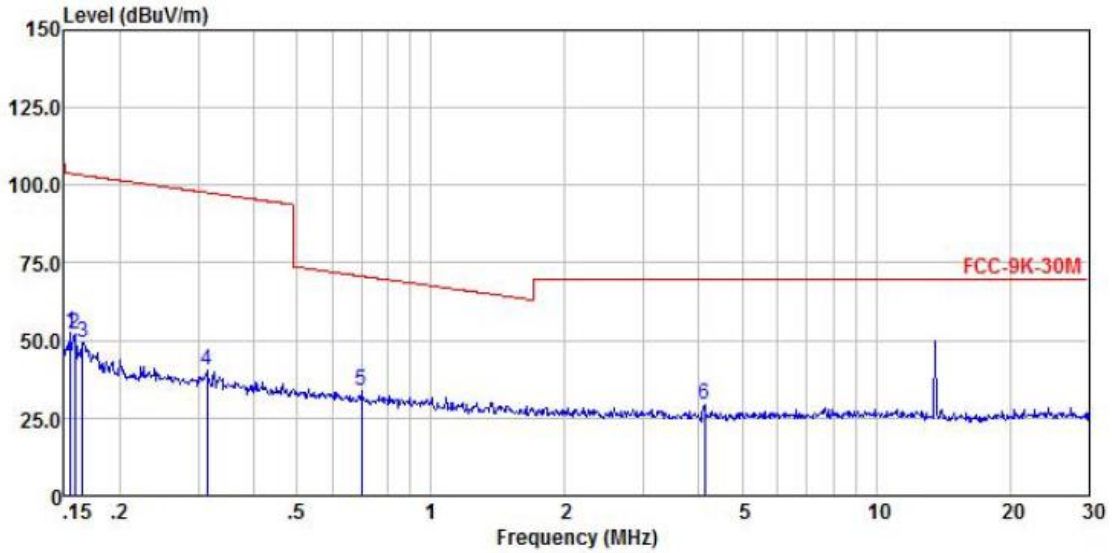
Remark:

1. Final Level = Receiver Read level + Factor (Antenna Factor + Cable Loss – Pre-amplifier Factor).

Spurious Emissions:

Test frequency range: 9 kHz- 30 MHz

Product Name:	Smart Phone	Product Model:	TA-1390
Test By:	Mike	Test mode:	NCF Tx mode
Test Frequency:	150 kHz ~ 30 MHz	Polarization:	Vertical
Test Voltage:	AC 120V/60Hz	Environment:	Temp: 24°C Huni: 57%

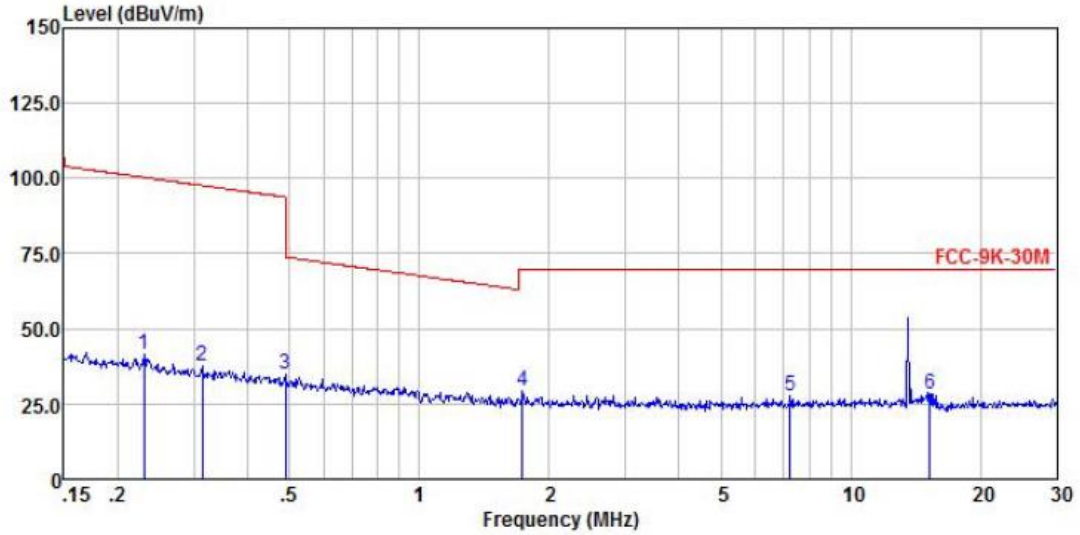


	ReadAntenna	Cable Preamp	Limit	Over					
Freq	Level	Factor	Loss	Factor	Level				
MHz	dBuV	dB/m	dB	dB	dBuV/m				
1	0.155	32.45	20.22	0.03	0.00	52.70	103.82	-51.12	Peak
2	0.158	31.60	20.22	0.03	0.00	51.85	103.64	-51.79	Peak
3	0.165	29.26	20.25	0.03	0.00	49.54	103.27	-53.73	Peak
4	0.313	19.51	20.57	0.06	0.00	40.14	97.69	-57.55	Peak
5	0.697	13.26	20.66	0.10	0.00	34.02	70.74	-36.72	Peak
6	4.114	8.61	20.21	0.27	0.00	29.09	69.50	-40.41	Peak

Remark:

- Final Level = Receiver Read level + Factor (Antenna Factor + Cable Loss - Preamplifier Factor).
- The emission levels of 9 kHz~150 kHz are background noise and very lower than the limit, not show in test report.

Product Name:	Smart Phone	Product Model:	TA-1390
Test By:	Mike	Test mode:	NFC Tx mode
Test Frequency:	150 kHz ~ 30 MHz	Polarization:	Horizontal
Test Voltage:	AC 120V/60Hz	Environment:	Temp: 24°C Humi: 57%



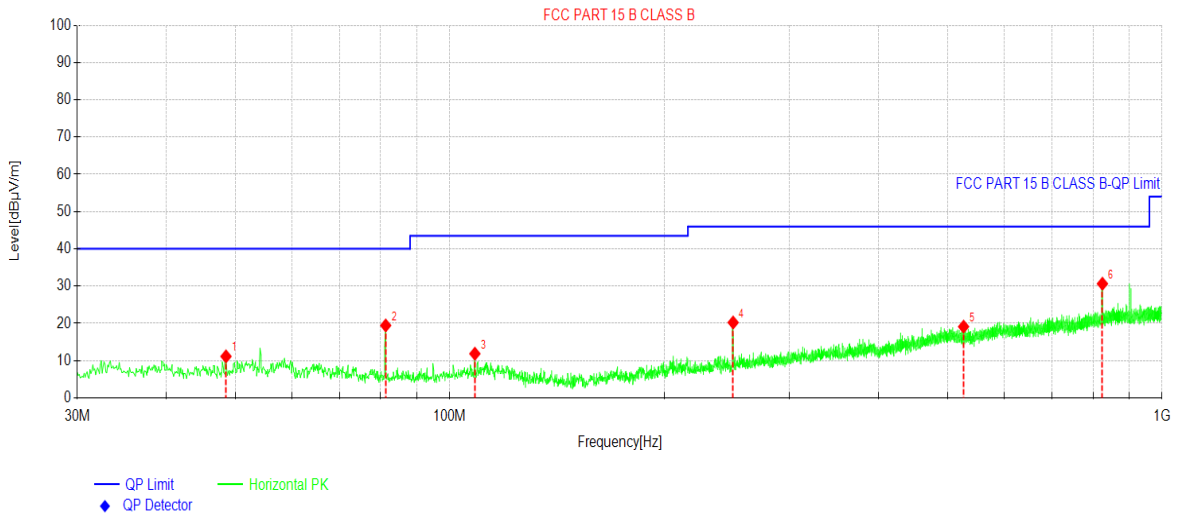
	Read Freq	Antenna Level	Antenna Factor	Cable Loss	Preamp Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB/m	dB	dB	dBuV/m	dBuV/m	dB	
1	0.230	20.83	20.41	0.05	0.00	41.29	100.37	-59.08	Peak
2	0.313	17.25	20.57	0.06	0.00	37.88	97.69	-59.81	Peak
3	0.489	14.03	20.79	0.07	0.00	34.89	93.82	-58.93	Peak
4	1.734	8.62	20.45	0.17	0.00	29.24	69.50	-40.26	Peak
5	7.252	7.17	20.13	0.32	0.00	27.62	69.50	-41.88	Peak
6	15.226	8.68	19.29	0.45	0.00	28.42	69.50	-41.08	Peak

Remark:

- Final Level = Receiver Read level + Factor (Antenna Factor + Cable Loss – Pre-amplifier Factor).
- The emission levels of 9 kHz~150 kHz are background noise and very lower than the limit, not show in test report.

Test frequency range: 30MHz-1000MHz

Product Name:	Smart Phone	Product Model:	TA-1390
Test By:	Mike	Test mode:	NFC Tx mode
Test Frequency:	30 MHz ~ 1 GHz	Polarization:	Vertical
Test Voltage:	AC 120V/60Hz	Environment:	Temp: 24°C Huni: 57%

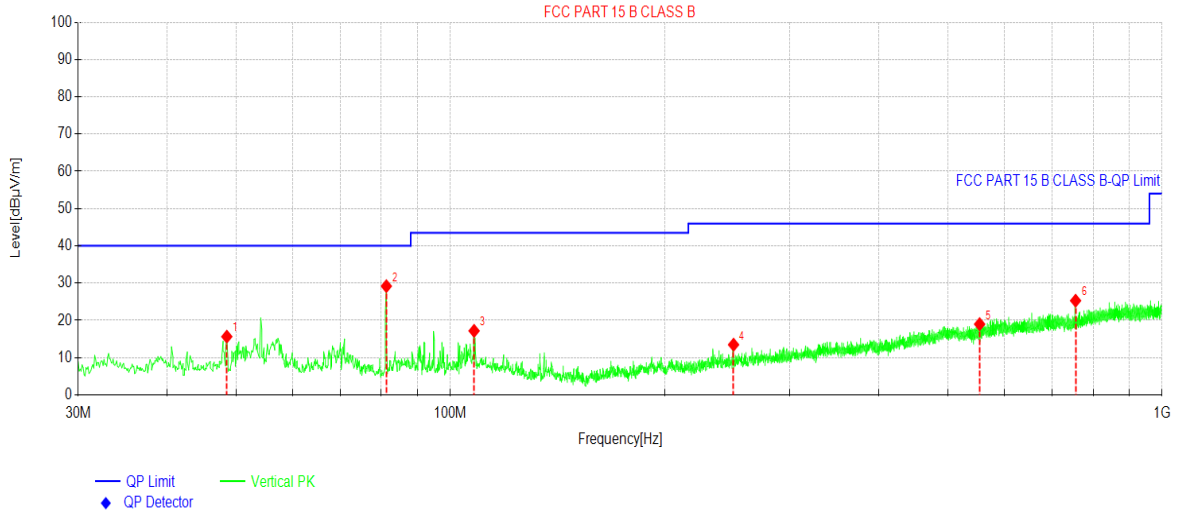


Suspected Data List								
NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Trace	Polarity
1	48.5289	25.94	11.13	-14.81	40.00	28.87	PK	Horizontal
2	81.3181	36.83	19.44	-17.39	40.00	20.56	PK	Horizontal
3	108.480	27.76	11.85	-15.91	43.50	31.65	PK	Horizontal
4	250.018	34.01	20.22	-13.79	46.00	25.78	PK	Horizontal
5	526.592	26.00	19.12	-6.88	46.00	26.88	PK	Horizontal
6	824.800	32.60	30.63	-1.97	46.00	15.37	PK	Horizontal

Remark:

- Final Level = Receiver Read level + Factor (Antenna Factor + Cable Loss – Pre-amplifier Factor).
- The emission levels of other frequencies are very lower than the limit and not show in test report.

Product Name:	Smart Phone	Product Model:	TA-1390
Test By:	Mike	Test mode:	NFC Tx mode
Test Frequency:	30 MHz ~ 1 GHz	Polarization:	Horizontal
Test Voltage:	AC 120V/60Hz	Environment:	Temp: 24°C Humi: 57%

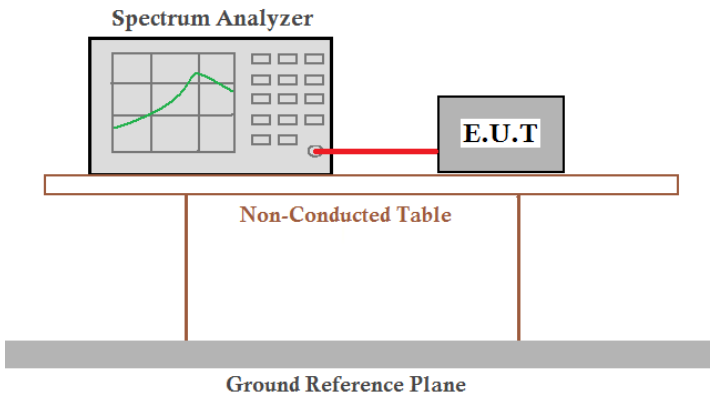


Suspected Data List								
NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Trace	Polarity
1	48.5289	30.44	15.63	-14.81	40.00	24.37	PK	Vertical
2	81.3181	46.56	29.17	-17.39	40.00	10.83	PK	Vertical
3	107.995	33.11	17.17	-15.94	43.50	26.33	PK	Vertical
4	250.018	27.25	13.46	-13.79	46.00	32.54	PK	Vertical
5	554.240	25.71	18.97	-6.74	46.00	27.03	PK	Vertical
6	756.020	28.97	25.28	-3.69	46.00	20.72	PK	Vertical

Remark:

- Final Level = Receiver Read level + Factor (Antenna Factor + Cable Loss – Preamplifier Factor).
- The emission levels of other frequencies are very lower than the limit and not show in test report.

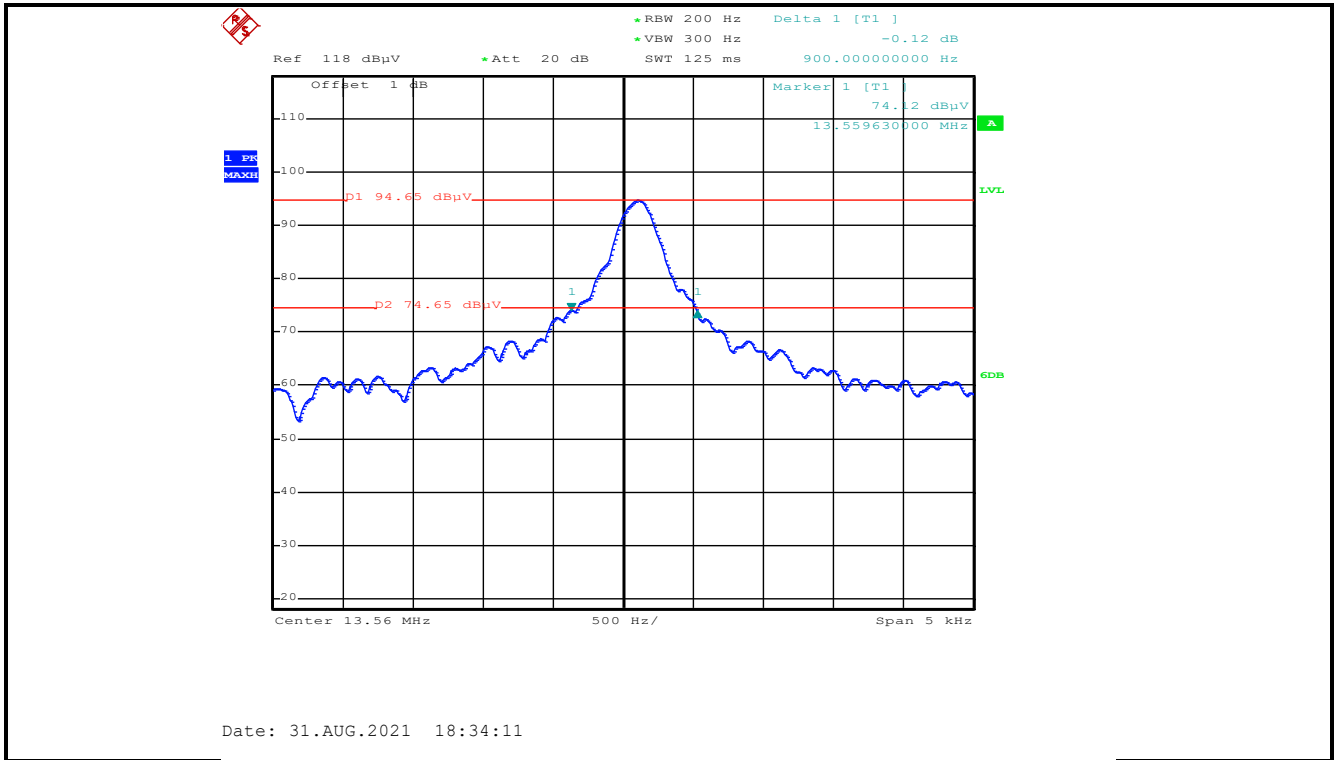
6.3 20dB Bandwidth

Test Requirement:	FCC Part15 C Section 15.215 (c)
Receiver setup:	RBW=200Hz, VBW=300Hz, detector: Peak
Limit:	The fundamental emission be kept within at least the central 80% of the permitted band
Test Procedure:	<ol style="list-style-type: none"> 1. According to the follow Test-setup, keep the relative position between the artificial antenna and the EUT. 2. Set the EUT to proper test channel. 3. Max hold the radiated emissions, mark the peak power frequency point and the -20dB upper and lower frequency points. 4. Read 20dB bandwidth.
Test setup:	 <p>The diagram illustrates the test setup. A Spectrum Analyzer is connected via a red cable to an E.U.T. (Equipment Under Test). Both are placed on a Non-Conducted Table. Below the table is a Ground Reference Plane.</p>
Test Instruments:	Refer to section 5.9 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

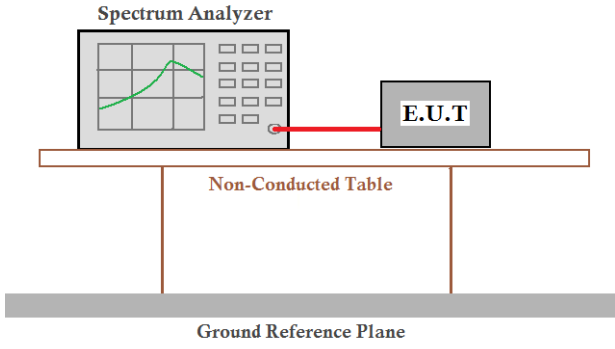
Measurement Data

20dB bandwidth (kHz)	Limit (kHz)	Results
0.900	11.2	Passed
<i>Note: For 13.56MHz, permitted Band is 14 kHz, so the Limit is 11.2 kHz.</i>		

Test plot as follows:



6.4 Frequency Tolerance

Test Requirement:	FCC Part15 C Section 15.225 (e)
Receiver setup:	RBW=200Hz, VBW=300Hz, span=14kHz, detector: Peak
Limit:	±0.01% of the operating frequency
Test mode:	Transmitting mode
Test Procedure:	<p>Frequency stability V.S. Temperature measurement</p> <ol style="list-style-type: none"> 1. The equipment under test was powered by a fresh battery. 2. RF output was connected to spectrum analyzer via feed through attenuators. 3. The EUT was placed inside the temperature chamber. 4. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 20°C operating frequency as reference frequency. 5. Turn EUT off and set the chamber temperature to -20°C. After the temperature stabilized for approximately 30 minutes recorded the frequency. 6. Repeat step measure with 10°C increased per stage until the highest temperature of +50°C reached <p>Frequency stability V.S. Voltage measurement</p> <ol style="list-style-type: none"> 1. Set chamber temperature to 25°C. Use a variable DC power source to power the EUT and set the voltage to rated voltage. 2. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency. <p>Reduce the input voltage to specify extreme voltage variation (+/- 15%) and endpoint, record the maximum frequency change.</p>
Test setup:	 <p>The diagram illustrates the test setup. A Spectrum Analyzer is connected via a red cable to an E.U.T. (Equipment Under Test). Both are placed on a Non-Conducted Table. Below the table is a Ground Reference Plane.</p>
Test Instruments:	Refer to section 5.9 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Measurement Data:

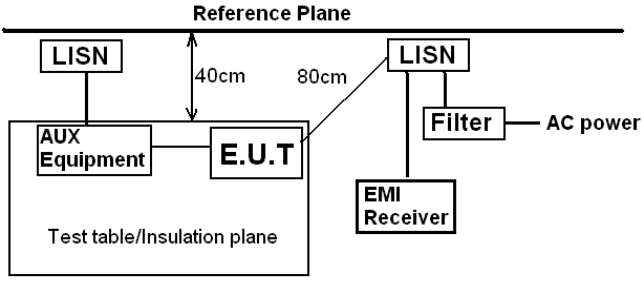
a) Frequency stability V.S. Temperature measurement

Voltage (Vdc)	Temperature (°C)	Frequency Tolerance (MHz)	Frequency Error (%)	Limit (%)	Results
3.85	-20	0.00008	0.00059	±0.01	Pass
	-10	0.00008	0.00059	±0.01	Pass
	0	0.00007	0.00052	±0.01	Pass
	+10	0.00008	0.00059	±0.01	Pass
	+20	0.00006	0.00044	±0.01	Pass
	+30	0.00007	0.00052	±0.01	Pass
	+40	0.00008	0.00059	±0.01	Pass
	+50	0.00007	0.00052	±0.01	Pass

b) Frequency stability V.S. Voltage measurement

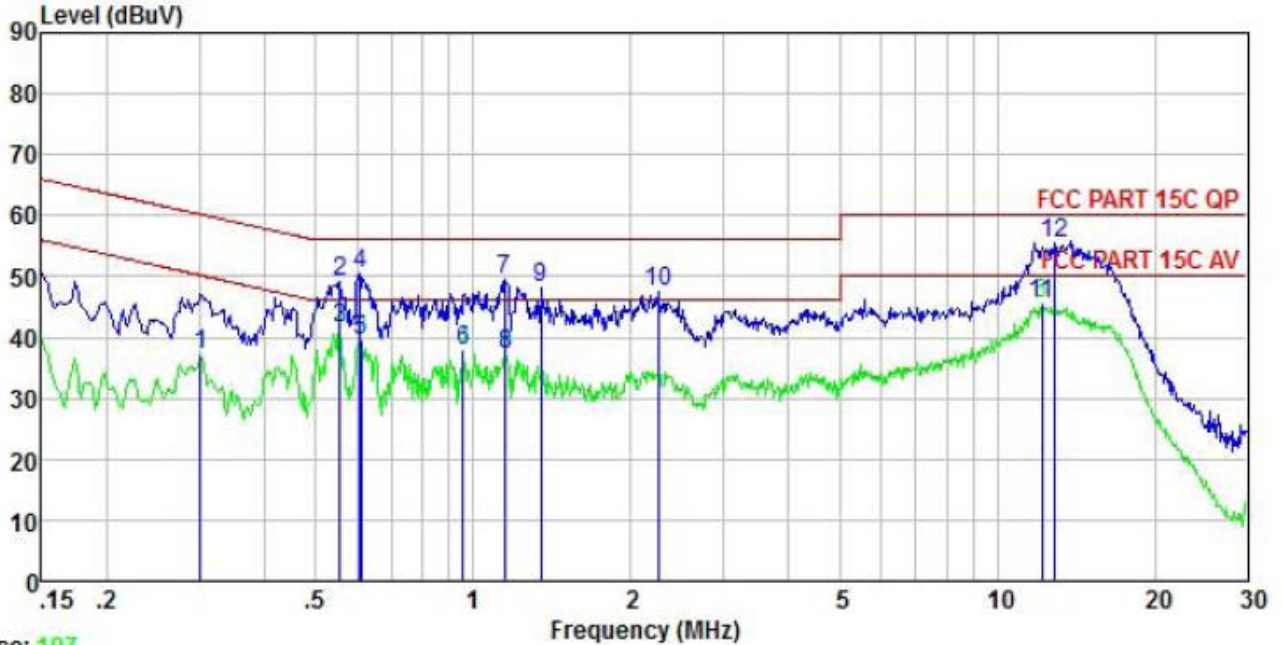
Temperature (°C)	Voltage (Vdc)	Frequency Tolerance (MHz)	Frequency Error (%)	Limit (%)	Results
25.0	3.40	0.00006	0.00044	±0.01	Pass
	3.85	0.00008	0.00059	±0.01	Pass
	4.40	0.00007	0.00052	±0.01	Pass

6.5 Conducted Emission

Test Requirement:	FCC Part15 B Section 15.207		
TestFrequencyRange:	150kHz to 30MHz		
Class / Severity:	Class B		
Receiver setup:	RBW=9kHz, VBW=30kHz		
Limit:	Frequency range (MHz)	Limit (dBμV)	
		Quasi-peak	Average
	0.15-0.5	66 to 56*	56 to 46*
	0.5-5	56	46
	0.5-30	60	50
* Decreases with the logarithm of the frequency.			
Test setup:	 <p><i>Remark</i> <i>E.U.T: Equipment Under Test</i> <i>LISN: Line Impedance Stabilization Network</i> <i>Test table height=0.8m</i></p>		
Test procedure	<ol style="list-style-type: none"> 1. The E.U.T and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.).It provide a 50ohm/50uH coupling impedance for the measuring equipment. 2. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs). 3. Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.4: 2014 on conducted measurement. 		
Test Instruments:	Refer to section 5.9 for details		
Test mode:	Refer to section 5.3 for details		
Test results:	Pass		

Measurement Data:

Product name:	Smart Phone	Product model:	TA-1390
Test by:	Mike	Test mode:	NFC Tx mode
Test frequency:	150 kHz ~ 30 MHz	Phase:	Line
Test voltage:	AC 120 V/60 Hz	Environment:	Temp: 22.5°C Humi: 55%



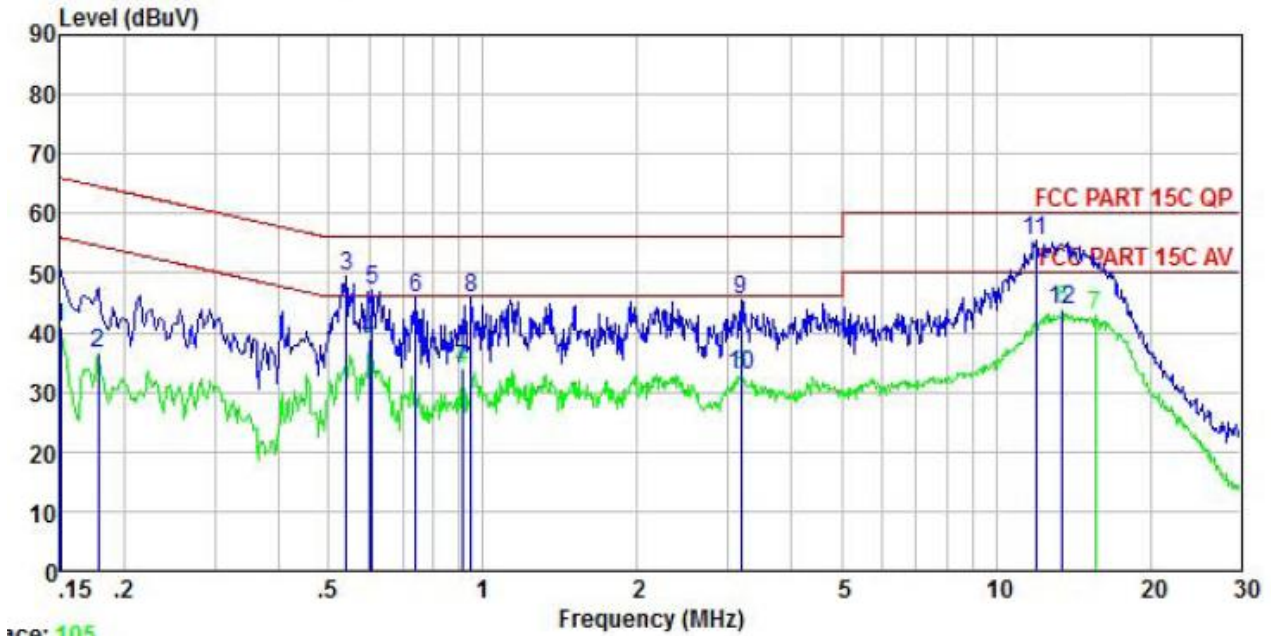
Trace: 107

	Read Freq	Read Level	LISN Factor	Aux Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dB	dBuV	dBuV	dB	
1	0.302	27.20	10.26	-0.24	0.03	37.25	50.19	-12.94	Average
2	0.555	39.16	10.29	-0.37	0.02	49.10	56.00	-6.90	QP
3	0.555	31.56	10.29	-0.37	0.02	41.50	46.00	-4.50	Average
4	0.608	40.50	10.30	-0.38	0.02	50.44	56.00	-5.56	QP
5	0.611	29.75	10.30	-0.38	0.02	39.69	46.00	-6.31	Average
6	0.958	27.04	10.32	0.34	0.05	37.75	46.00	-8.25	Average
7	1.147	38.72	10.32	0.30	0.08	49.42	56.00	-6.58	QP
8	1.153	26.56	10.32	0.30	0.08	37.26	46.00	-8.74	Average
9	1.345	37.72	10.32	0.13	0.12	48.29	56.00	-7.71	QP
10	2.249	37.13	10.34	-0.29	0.17	47.35	56.00	-8.65	QP
11	12.188	31.95	10.68	2.75	0.10	45.48	50.00	-4.52	Average
12	12.852	41.78	10.70	2.95	0.11	55.54	60.00	-4.46	QP

Notes:

1. An initial pre-scan was performed on the line and neutral lines with peak detector.
2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
3. Final Level=Receiver Read level + LISN Factor + Cable Loss.

Product name:	Smart Phone	Product model:	TA-1390
Test by:	Mike	Test mode:	NFC Tx mode
Test frequency:	150 kHz ~ 30 MHz	Phase:	Neutral
Test voltage:	AC 120 V/60 Hz	Environment:	Temp: 22.5°C Huni: 55%



Scale: 105

	Read Freq	LISN Level	LISN Factor	Aux Factor	Cable Loss	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dB	dB	dBuV	dBuV	dB	
1	0.150	30.48	10.19	0.01	0.01	40.69	56.00	-15.31	Average
2	0.178	26.19	10.21	0.00	0.01	36.41	54.59	-18.18	Average
3	0.541	39.19	10.28	0.03	0.03	49.53	56.00	-6.47	QP
4	0.601	28.38	10.29	0.04	0.02	38.73	46.00	-7.27	Average
5	0.608	36.73	10.29	0.04	0.02	47.08	56.00	-8.92	QP
6	0.739	35.57	10.30	0.05	0.03	45.95	56.00	-10.05	QP
7	0.909	23.29	10.31	0.07	0.04	33.71	46.00	-12.29	Average
8	0.948	35.32	10.31	0.07	0.05	45.75	56.00	-10.25	QP
9	3.190	34.61	10.35	0.36	0.07	45.39	56.00	-10.61	QP
10	3.190	22.12	10.35	0.36	0.07	32.90	46.00	-13.10	Average
11	11.933	42.51	10.65	2.12	0.10	55.38	60.00	-4.62	QP
12	13.479	30.44	10.69	2.64	0.11	43.88	50.00	-6.12	Average

Notes:

1. An initial pre-scan was performed on the line and neutral lines with peak detector.
2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
3. Final Level = Receiver Read level + LISN Factor + Cable Loss.

7 Test Setup Photo

Reference to the test setup photos: NFC-Test Setup Photo

8 EUT Constructional Details

Reference to the External Photo and Internal Photo

-----End of report-----