





NFC TEST REPORT

No.25T04Z100116-001

for

Guangdong OPPO Mobile Telecommunications Corp., Ltd.

Mobile Phone

CPH2735

FCC ID: R9C-OP24314

with

Hardware Version: 11

Software Version: ColorOS 15.0

Issued Date: 2025-02-25

Note:

The test results in this test report relate only to the devices specified in this report. This report shall not be reproduced except in full without the written approval of CTTL.

Test Laboratory:

CTTL-Telecommunication Technology Labs, CAICT

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REPORT HISTORY

Report Number	Revision	Description	Issue Date
25T04Z100116-001	Rev.0	1 st edition	2025-02-25

Note: the latest revision of the test report supersedes all previous version.





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1. Test Laboratory

1.1. Introduction & Accreditation

Telecommunication Technology Labs, CAICT is an ISO/IEC 17025:2017 accredited test laboratory under American Association for Laboratory Accreditation (A2LA) with lab code 7049.01, and is also an FCC accredited test laboratory (CN1349), and ISED accredited test laboratory (CAB identifier:CN0066). The detail accreditation scope can be found on A2LA website.

1.2. Testing Location

Location 1: CTTL(huayuan North Road)

Address:	No. 52, Huayuan North Road, Haidian District, Beijing,
//ddic55.	No. 52, Hadydan North Road, Haldian District, Deijing,
	P. R. China 100191
Location 2: CTTL(Cui Hu)	

Address: CuiHu Cloud Center No.1 Gaolizhang Road, Wenquan Town, Haidian District, Beijing, China





1.3. <u>Testing Environment</u>

Normal Temperature:	15-35°C
Extreme Temperature:	-20/+50°C
Normal Relative Humidity:	20-75%
Normal Air Pressure	86Kpa-106Kpa

1.4. Project data

Testing Start Date:	2025-01-22
Testing End Date:	2025-02-21

1.5. Signature

茵青华

Miao Qinghua (Prepared this test report)

Zhou Bin (Reviewed this test report)

1h

Pang Shuai (Approved this test report)





2. <u>Client Information</u>

2.1. Applicant Information

Company Name:	Guangdong OPPO Mobile Telecommunications Corp., Ltd.		
A daha a a i	NO.18 HaiBin Road, Wusha Village, Chang'an Town, DongGuan City,		
Address:	Guangdong Province, P.R. China		
Contact:	Xiong Bo		
Telephone:	(86)76986076999		
Email:	xiongbo@oppo.com		

2.2. Manufacturer Information

Company Name:	Guangdong OPPO Mobile Telecommunications Corp., Ltd.		
Addresse	NO.18 HaiBin Road, Wusha Village, Chang'an Town, DongGuan City,		
Address:	Guangdong Province, P.R. China		
Contact:	Xiong Bo		
Telephone:	(86)76986076999		
Email:	xiongbo@oppo.com		





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3. Equipment Under Test (EUT) and Ancillary Equipment (AE)

3.1. About EUT

Model Name CPH2735 FCC ID R9C-OP24314 Frequency Band 13.56MHz GSM Frequency bands 900/1800/1900/850 WCDMA Frequency B1/2/4/5/6/8/19 bands B1/2/4/5/6/8/19 F-UTRA Frequency FDD 1/2/3/4/5/7/8/12/13/17/18/19/20/26/28/66 bands TDD 38/39/40/41 5G_NR Frequency SA n1/n2/n3/n5/n7/n8/n12/n20/n26/n28/n38/n40/n41/n66/n71/n77/n78 bands NSA n1/n2/n3/n5/n7/n8/n20/n26/n28/n38/n40/n41/n66/n71/n77/n78 Operating temperature 0/+35°C Extreme low voltage 3.41V Normal voltage 3.92V Extreme high voltage 4.54V	Description	Mobile Phone
Frequency Band 13.56MHz GSM Frequency bands 900/1800/1900/850 WCDMA Frequency B1/2/4/5/6/8/19 bands FDD 1/2/3/4/5/7/8/12/13/17/18/19/20/26/28/66 F-UTRA Frequency FDD 1/2/3/4/5/7/8/12/13/17/18/19/20/26/28/66 bands TDD 38/39/40/41 5G_NR Frequency SA n1/n2/n3/n5/n7/n8/n12/n20/n26/n28/n38/n40/n41/n66/n71/n77/n78 bands NSA n1/n2/n3/n5/n7/n8/n20/n26/n28/n38/n40/n41/n66/n71/n77/n78 Operating temperature 0/+35°C Extreme low voltage 3.41V Normal voltage 3.92V	Model Name	CPH2735
GSM Frequency bands 900/1800/1900/850 WCDMA Frequency B1/2/4/5/6/8/19 bands FDD 1/2/3/4/5/7/8/12/13/17/18/19/20/26/28/66 F-UTRA Frequency FDD 1/2/3/4/5/7/8/12/13/17/18/19/20/26/28/66 bands TDD 38/39/40/41 5G_NR Frequency SA n1/n2/n3/n5/n7/n8/n12/n20/n26/n28/n38/n40/n41/n66/n71/n77/n78 bands NSA n1/n2/n3/n5/n7/n8/n20/n26/n28/n38/n40/n41/n66/n71/n77/n78 Operating temperature 0/+35°C Extreme low voltage 3.41V Normal voltage 3.92V	FCC ID	R9C-OP24314
WCDMA Frequency bands B1/2/4/5/6/8/19 E-UTRA Frequency FDD 1/2/3/4/5/7/8/12/13/17/18/19/20/26/28/66 bands TDD 38/39/40/41 5G_NR Frequency SA n1/n2/n3/n5/n7/n8/n12/n20/n26/n28/n38/n40/n41/n66/n71/n77/n78 bands NSA n1/n2/n3/n5/n7/n8/n20/n26/n28/n38/n40/n41/n66/n71/n77/n78 Operating temperature 0/+35°C Extreme low voltage 3.41V Normal voltage 3.92V	Frequency Band	13.56MHz
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Operating temperature0/+35°CExtreme low voltage3.41VNormal voltage3.92V	5G_NR Frequency	SA n1/n2/n3/n5/n7/n8/n12/n20/n26/n28/n38/n40/n41/n66/n71/n77/n78
Extreme low voltage3.41VNormal voltage3.92V	bands	NSA n1/n2/n3/n5/n7/n8/n20/n26/n28/n38/n40/n41/n66/n71/n77/n78
Normal voltage 3.92V	Operating temperature	0/+35°C
5	Extreme low voltage	3.41V
Extreme high voltage 4.54V	Normal voltage	3.92V
	Extreme high voltage	4.54V

3.2. Internal Identification of EUT

EUT ID*	SN or IMEI	HW Version	SW Version	Date of receipt
UT07a	862170070019573/ 862170070019565	11	ColorOS 15.0	2025-01-22
UT03a	862170070019656/	11	ColorOS 15.0	2025-01-20
	862170070019649			

*EUT ID: is used to identify the test sample in the lab internally.

3.3. Internal Identification of AE

AE ID*	Description	Model	Manufacturer
AE1	Battery1	BLPC21	Dongguan NVT Technology Co., Ltd
AE2	Battery2	BLPC21	SUNWODA Electronic Co.,Ltd.
AE3	Charger1	VCB4JAUH	Huizhou Golden Lake Industrial Co., Ltd.
AE4	USB Cable	DL154	Guangdong OPPO Mobile Telecommunications Corp.,
			Ltd.

*AE ID: is used to identify the ancillary equipment in the lab internally.

3.4. EUT Set-ups

EUT set-up No.	Combination of EUT and AE	Remarks
Set.NFC01	UT03a + AE1/AE2 + AE3+ NFC Card	NFC Charger
Set.NFC02	UT03a + AE1/AE2 + NFC card	NFC
Set.NFC03 UT07a		
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The Transmit State of NFC: the NFC function is on. The EUT will transmit the NFC data and command continuously during the test.

The Transmit state without modulation: The EUT will transmit the CW signal at the operating frequency.

4. <u>Reference Documents</u>

4.1. Documents supplied by applicant

EUT parameters, referring to Annex A for detailed information, are supplied by the client or manufacturer, which are the bases of testing.

4.2. <u>Reference Documents for testing</u>

The following documents listed in this section are referred for testing.

Reference	Title	Version
CFR 47 Part 2	Part 2 — Frequency Allocations and Radio Treaty Matters;	2019
	General Rules and Regulations.	
CFR 47 Part 15	Part 15 — Radio Frequency Devices.	2019
	Subpart C — Intentional Radiators.	
	§ 15.35 Measurement detector functions and bandwidths.	
	§ 15.207 Conducted limits.	
	§ 15.209 Radiated emission limits, general requirements.	
	§ 15.215 Additional provisions to the general radiated	
	emission limitations.	
	§ 15.225 Operation within the band 13.110–14.010 MHz.	
ANSI C63.10	American National Standard of Procedures for Compliance	2013
	Testing of Unlicensed Wireless Devices	





5. Test Results

5.1. Summary of Test Results

No	Test Cases	Clause in Regulation	Section in This Report	Verdict	
1	Electric Field Strength of	CFR 47 § 15.225(a)		P(Set. NFC02)	
	Fundamental Emissions	CFR 47 § 15.225(a)	B.1	F(Sel. NFC02)	
2	Electric Field Strength of	CFR 47 § 15.225(b)	D. I	P(Set. NFC02)	
2	Outside the Allocated Bands	CFR 47 § 15.225(c)			
3	Electric Field Radiated	CFR 47 § 15.209	B.2	P(Set. NFC01)	
3	Emissions	CFR 47 § 15.225(d)	B.3	P(Set. NFC01)	
4 Frequency Tolerance		CFR 47 § 15.225(e)	B.4	P(Set. NFC03)	
5	20dB Bandwidth	CFR 47 § 15.215(c)	B.5	P(Set. NFC03)	
6	Conducted Emissions	CFR 47 § 15.207	B.6	P(Set. NFC01)	
7 Antenna Requirement CFR 47 § 15.203 B.7 P(Set. NFC0					
The	measurement is carried out acco	ording to ANSI C63.10. S	ee ANNEX B for	details.	

Note:

The device what use a permanently attached antenna were considered sufficient to comply with the provisions of 15.203.

Test Conditions:

For this report, all the test cases listed above were tested under normal Temperature, Voltage, humidity and Air Pressure except the Frequency Tolerance test case. The specific conditions of Frequency Tolerance test case are listed in section B.4.3

See Table 3 for terms for result verdict:

Table 1 Terms for result verdict					
Р	Pass, The EUT complies with the essential requirements in the standard.				
NP	NP Not Perform, The test was not performed by CTTL				
NA	Not Applicable, The test was not applicable				
F	Fail, The EUT does not comply with the essential requirements in the standard				

Table 1 Terms for result verdict

5.2. Statements

The test cases listed in Section 5.1 of this report for the EUT specified in Section 3 were performed by CTTL according to the reference documents in Section 4.

The EUT meets all applicable requirements of the regulations and standards in Section 4.2.





6. Test Facilities Utilized

NO.	NAME	TYPE	SERIES NUMBER	PRODUCER	CAL. DUE DATE	CAL. INTERVAL
1.	Spectrum Analyzer	FSL 6	100869	Roche & schwarz	2025-11-27	1 Year
2.	Climatic chamber	WK3-340/70	58226117510010	WEISS	2025-06-16	1 Year
3.	Test Receiver	ESW44	103023	R&S	2025-06-06	1 Year
4.	H-field Antenna	HFH2-Z2	829324/007	R&S	2026-01-04	1 Year
5.	EMI Antenna	VULB 9163	01222	SCHWARZBECK	2025-09-11	1 Year
6.	Test Receiver	ESCI	100344	R&S	2025-04-01	1 Year
7.	LISN	ENV216	101200	R&S	2025-05-16	1 year



7. <u>Measurement Uncertainty</u>

Item	Uncertainty	
Frequency Tolerance	U =73 Hz, k=2	
20dB Bandwidth	<i>U</i> =73 Hz, k=2	
Radiated Emissions(9kHz-30MHz)	<i>U</i> =4.92 dB, k=2	
Radiated Emissions (30MHz-1GHz)	<i>U</i> =4.72 dB, k=2	
Radiated Emissions (>1GHz)	<i>U</i> =4.84 dB, k=2	
Conducted emission	<i>U</i> = 3.08 dB, k=2	





ANNEX A: EUT parameters

Disclaimer: The antenna gain provided by the client may affect the validity of the measurement results in this report, and the client shall bear the impact and consequences arising therefrom.





ANNEX B: Detailed Test Results

B.1. Electric Field Strength of Fundamental and Outside the Allocated bands

B.1.1. Reference

See Clause 4, Clause 5 of ANSI C63.10-2013 generally.

B.1.2. Measurement Methods

The transmitter carrier output levels (E-Field) from the EUT are measured in a semi-anechoic chamber. The EUT is placed on a non-conductive stand of 80cm high, and at a measurement distance of 3m from the receiving antenna. The center of the receiving loop antenna is 1.0 meter above the ground. The E-field is measured with a shielded loop antenna connected to a measurement receiver. Detected E-field was maximized by rotating the EUT through 360° and adjusting the receiving antenna polarizations. The maximization processes were repeated with the EUT positioned respectively in its three orthogonal axes. The measurements were performed with the peak detector and if required, the quasi-peak detector.

The measurement bandwidth is:

Table B-1: Mea	asurement bandwidth
Frequency of Emission (MHz)	RBW/VBW
12.56-14.56	10/30 kHz

The E-field measured at 3m is calculated as:

E-field $(dB\mu V/m) = Rx (dB\mu V) + Cable Loss (dB) + AF@3m (dB/m)$

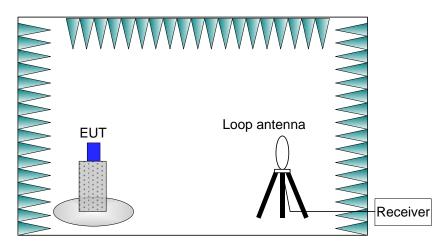


Figure B-1: Measurement Setup

B.1.3. EUT Operating Mode and Test Conditions

The measurement of EUT is carried out under the transmit state of NFC(See 3.4).

The EUT is powered by a travel adapter.

During the measurements, the ambient temperature of the electromagnetic anechoic chamber is in the range of $15 \sim 25$ °C.





B.1.4. Limits

Table B-2: Limits							
Fraguanay Panga (MHz)	E-field Strength Limit @ 30 m	E-field Strength Limit @ 3 m					
Frequency Range (MHz)	(µV/m)	(dBµV/m)					
13.560 ± 0.007	+15,848	124					
13.410 to 13.553	+334	90					
13.567 to 13.710	+554	90					
13.110 to 13.410	+106	81					
13.710 to 14.010	+100	01					
Note: Where the limits have been defined at one distance, and a signal level measured at							
another, the limits have been extrapolated using the following formula:							
Extrapolation(dB) = $40\log_{10}$ (Measurement Distance/Specification Distance)							

Table B-2: Limits

B.1.5. Measurement Results

Measurement results of normal conditions see Figure B-2 for different set-ups of EUT. The results displayed take into account applicable antenna factors and cable losses.

Full Spectrum

Conclusions: Set.NFC02, PASS.

130 120 110 -100 90 Level in dBu V/m 80 CNFC_Main Frequency 70 60 50 40 30 20-12.56 12.8 13 13.2 13.4 13.6 13.8 14 14.2 14.4 14.56 Frequency in MHz Preview Result 1-PK+ Critical_Freqs PK+ FCC NFC_Main Frequency Final_Result PK+

Figure B-2: Measurement results for Electric Field Strength of Fundamental and Outside the Allocated bands

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Bandwidth (kHz)	Pol	Azimuth (deg)	Corr. (dB/m)	Comment
13.559750	55.48	124.00	68.52		v	166.0	17.9	





B.2. Electric Field Radiated Emissions (< 30MHz)

B.2.1. Reference

See Clause 6.4 of ANSI C63.10-2013 specifically. See Clause 4 and Clause 5 of ANSI C63.10-2013 generally.

B.2.2. Measurement Methods

The transmitter carrier output levels (E-Field) from the EUT are measured in a semi-anechoic chamber. The EUT is placed on a non-conductive stand of 80cm high, and at a measurement distance of 3m from the receiving antenna. The center of the receiving loop antenna is 1.0 meter above the ground. The E-field is measured with a shielded loop antenna connected to a measurement receiver. Detected E-field was maximized by rotating the EUT through 360° and adjusting the receiving antenna polarizations. The maximization processes were repeated with the EUT positioned respectively in its three orthogonal axes. The measurements were performed with the peak detector and if required, the quasi-peak detector.

The measurement bandwidth is:

Frequency of Emission (MHz)	RBW/VBW
0.009-0.15	100/300 Hz
0.15-30	10/30 kHz

The E-field measured at 3m is calculated as:

E-field $(dB\mu V/m) = Rx (dB\mu V) + Cable Loss (dB) + AF@3m (dB/m)$

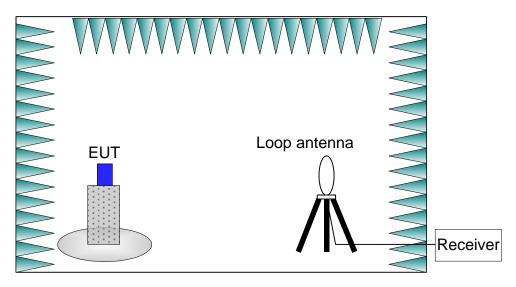


Figure B-3: Measurement Setup

B.2.3. EUT Operating Mode and Test Conditions

The measurement of EUT is carried out under the transmit state of NFC(See 3.4). The EUT is powered by a travel adapter.





During the measurements, the ambient temperature of the electromagnetic anechoic chamber is in the range of $15 \sim 25$ °C.

B.2.4. Limits

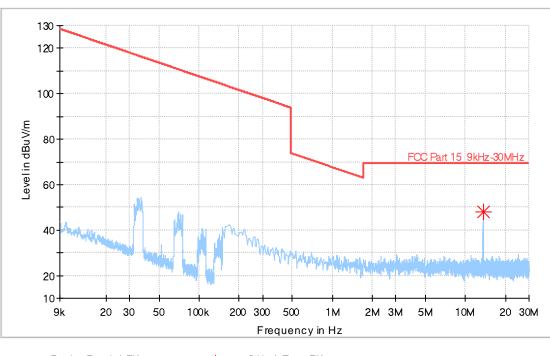
Frequency Range (MHz)	E-field Strength Limit @ 30m (mV/m)	E-field Strength Limit @ 3m (dBµV/m)					
0.009-0.490	2400/F(kHz)	129-94					
0.490-1.705	24000/F(kHz)	74-63					
1.705-30	30	70					
Note: Where the limits have been defined at one distance, and a signal level measured at							
another, the limits have been extrapolated using the following formula:							
Extrapolation(dB) = $40\log_{10}$ (Measurement Distance/Specification Distance)							

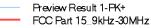
B.2.5. Measurement Results

Measurement results of normal conditions see Figure B-4 for different set-ups of EUT. The results displayed take into account applicable antenna factors and cable losses.

Full Spectrum

Conclusions: Set.NFC01, PASS.





Critical_Freqs PK+ Final_Result PK+

Figure B-4: Measurement results for Electric Field Radiated Emissions (< 30MHz)

Frequency	MaxPeak	Limit	Margin	Bandwidth	Pol	Azimuth	Corr.
(MHz)	(dBµV/m)	(dBµV/m)	(dB)	(kHz)		(deg)	(dB/m)
13.560113	47.83	69.50	21.67		v	180.0	17.9





B.3. Electric Field Radiated Emissions (≥30MHz)

B.3.1. Reference

See Clause 6.5 of ANSI C63.10-2013 specifically. See Clause 4 and Clause 5 of ANSI C63.10-2013 generally.

B.3.2. Measurement Methods

The electric field radiated emissions from the EUT are measured in a semi-anechoic chamber. The EUT is placed on a non-conductive stand of 80cm high, and at a measurement distance of 10m from the receiving antenna. The receiving antennas connected to a measurement receiver. In order to search for maximum field strength emitted from the EUT, the receiving antenna can be moved between the height of 1.0 m to 4.0 m. Detected E-field was maximized at each frequency by rotating the EUT through 360° and adjusting the receiving antenna positions for both vertical and horizontal antenna polarizations. The maximization processes were repeated with the EUT positioned respectively in its three orthogonal axes. The measurements were performed with the peak detector and if required, the quasi-peak detector.

The measurement bandwidth is:

Frequency of Emission (MHz)	RBW/VBW	
30-1000	120kHz	

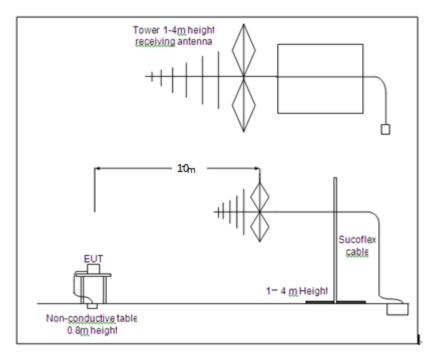


Figure B-5: Measurement Setup

B.3.3. EUT Operating Mode and Test Conditions

The measurement of EUT is carried out under the transmit state of NFC(See 3.4).

The EUT had been connected to a travel adapter.

During the measurements, the ambient temperature of the electromagnetic anechoic chamber is





in the range of $15 \sim 25$ °C.

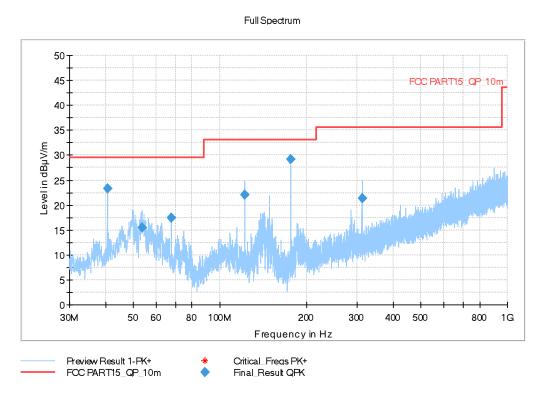
B.3.4. Limits

Frequency Range (MHz)	E-field Strength Limit @ 3m (mV/m)	E-field Strength Limit @ 3m (dBµV/m)	E-field Strength Limit @ 10m (dBµV/m)
30-88	100	40	30
88-216	150	43.5	33.5
216-960	200	46	36
960-1000	500	54	44

B.3.5. Measurement Results

Measurement results of normal conditions see Figure B-6 for different set-ups of EUT. The results displayed take into account applicable antenna factors and cable losses.

Conclusions: Set.NFC01, PASS.





F	inal_Result								
	Frequency	QuasiPeak	Limit	Margin	Bandwidth	Height	Pol	Azimuth	Corr.
	(MHz)	(dBµV/m)	(dBµV/m)	(dB)	(kHz)	(cm)		(deg)	(dB/m)
	40.670000	23.26	29.54	6.28	120.000	279.0	v	283.0	-11.6
	53.716500	15.46	29.54	14.08	120.000	176.0	v	-22.0	-11.0
	67.781500	17.41	29.54	12.13	120.000	225.0	v	45.0	-14.2
	122.004500	22.04	33.06	11.02	120.000	125.0	v	151.0	-14.4
	176.276000	29.19	33.06	3.87	120.000	100.0	v	67.0	-14.1
	311.930500	21.37	35.56	14.19	120.000	125.0	v	76.0	-8.5

F





B.4. Frequency Tolerance

B.4.1. Reference

See Clause 6.8 of ANSI C63.10-2013 specifically. See Clause 4 and Clause 5 of ANSI C63.10-2013 generally.

B.4.2. Measurement Methods

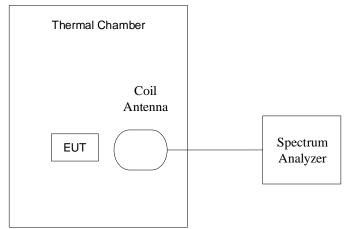


Figure B-7: Measurement Setup

The transmitter output signal was picked up by coil antenna connected to the spectrum analyzer. The center frequency was measured with 30Hz RBW and 1kHz span.

During the test, the EUT was placed in a thermal chamber until thermal balance and lasting appropriate time.

B.4.3. EUT Operating Mode and Test Conditions

The measurement of EUT was carried out under the transmit state of without modulation(See 3.4). EUT had not been connected to a travel adapter. The frequency stability was measured with the different voltage and temperature combinations:

- a) The nominal voltage 3.92V(See 3.1)was used and the temperature was varied from -20 $^{\circ}$ C to +50 $^{\circ}$ C in 10 $^{\circ}$ C increments using an environmental chamber.
- b) The 20 $^\circ\!C$ was used and the voltages were 3.41V, 3.92V and 4.5V (The extreme low voltage ,the normal voltage and 115% of the normal voltage).

The details were as following:

Table B-5. Combinations of voltage and Temperature								
Test items	Voltage	Temperature						
		-20 ℃						
	3.92V	-10 ℃						
Frequency stability with respect to ambient temperature		0 °C						
		10 ℃						
		20 ℃						
		30 ℃						
		40 ℃						

 Table B-3:
 Combinations of Voltage and Temperature





		50 ℃
Frequency stability	3.41V	
when varying supply	3.92V	20 ℃
voltage	4.5V	

B.4.4. Test Layouts

See B.4.2.

B.4.5. Limits

The frequency tolerance of the carrier signal shall be maintained within +/- 0.01% of the operating frequency.

B.4.6. Measurement Results

Measurement results see Table B-4 for different test conditions.

Conclusions: Set.NFC03, PASS.

Table B-4:	Measurement results for Frequency Tolerance
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Tomporatura	Voltago		Frequen	cy (MHz)	
Temperature	Voltage	Startup	2 Min Later	5 Min Later	10 Min Later
-20 ℃	3.92V	13.560080128	13.560080128	13.560072113	13.560072113
-10 ℃	3.92V	13.560080128	13.560080128	13.560080188	13.560080188
0 °C	3.92V	13.560048077	13.560048077	13.560064103	13.560064103
10 ℃	3.92V	13.560017628	13.560017628	13.560016026	13.560016026
20 ℃	3.92V	13.560016026	13.560016026	13.560017628	13.560017628
30 ℃	3.92V	13.559982372	13.559982372	13.559985577	13.559985577
40 ℃	3.92V	13.559935897	13.559935897	13.559967949	13.559967949
50 ℃	3.92V	13.559951923	13.559951923	13.559935897	13.559935897
20 ℃	3.41V	13.559951923	13.559951923	13.559967949	13.559967949
20 ℃	4.5V	13.559951923	13.559951923	13.560016026	13.560016026

Tomporatura	Voltaga				
Temperature	Voltage	Startup	2 Min Later	5 Min Later	10 Min Later
-20 ℃	3.92V	0.001	0.001	0.001	0.001
-10 ℃	3.92V	0.001	0.001	0.001	0.001
0 °C	3.92V	0.000	0.000	0.000	0.000
10 ℃	3.92V	0.000	0.000	0.000	0.000
20 ℃	3.92V	0.000	0.000	0.000	0.000
30 ℃	3.92V	0.000	0.000	0.000	0.000
40 ℃	3.92V	0.000	0.000	0.000	0.000
50 ℃	3.92V	0.000	0.000	0.000	0.000
20 ℃	3.41V	0.000	0.000	0.000	0.000
20 ℃	4.5V	0.000	0.000	0.000	0.000

B.4.7. Measurement Uncertainty

Measurement uncertainty: U = 73 Hz, k=2





B.5. 20dB Bandwidth

B.5.1. Reference

See Clause 6.9 of ANSI C63.10-2013 specifically. See Clause 4 and Clause 5 of ANSI C63.10-2013 generally.

B.5.2. Measurement Methods

The transmitter output signal was picked up by coil antenna connected to the spectrum analyzer. The bandwidth of the center frequency was measured with 300Hz RBW, 1kHz VBW and 10kHz span.

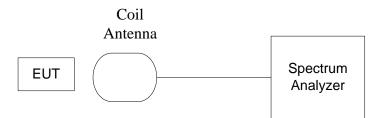


Figure B-8: Measurement Setup

B.5.3. EUT Operating Mode and Test Conditions

The measurement of EUT was carried out under the transmit state of NFC (See 3.4). EUT had not been connected to a travel adapter.

During the measurements, the ambient temperature was in the range of $15 \sim 25$ °C.

B.5.4. Test Layouts

See B.5.2.

B.5.5. Limits

The 20dB bandwidth shall be less than 80% of the permitted frequency band. For 13.56 MHz NFC, the permitted frequency band is 14kHz, so the limit is 11.2 kHz.

B.5.6. Measurement Results

Measurement results see Figure B-9. **Conclusions:** Set.NFC03, **PASS**.





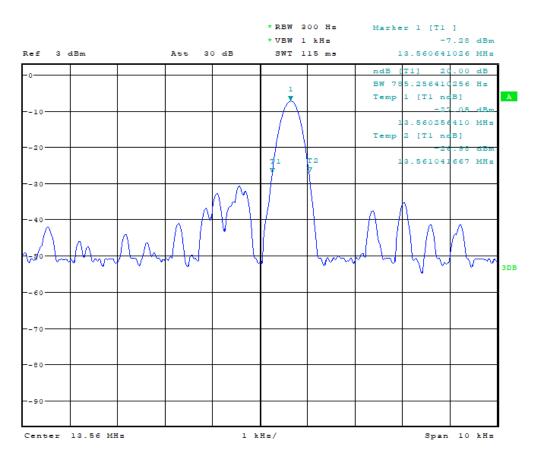


Figure B-9: Measurement results for 20dB Bandwidth

B.5.7. Measurement Uncertainty

Measurement uncertainty: U =73 Hz, k=2





B.6. Conducted emission

B.6.1. Reference

See Clause 6.2 of ANSI C63.10-2013 specifically.

See Clause 4 and Clause 5 of ANSI C63.10-2013 generally.

B.6.2. Measurement Methods

The conducted emissions from the AC port of the EUT are measured in a shielding room. The EUT is connected to a Line Impedance Stabilization Network (LISN). An overview sweep with peak detection was performed. The measurements were performed with a quasi-peak detector and if required, an average detector.

The conducted emission measurements were made with the following detector of the test receiver: Quasi-Peak / Average Detector.

The measurement bandwidth is:

Table B-5: Measurement Bandwidth	1
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Frequency of Emission (MHz)	RBW/VBW
0.15-30	9kHz

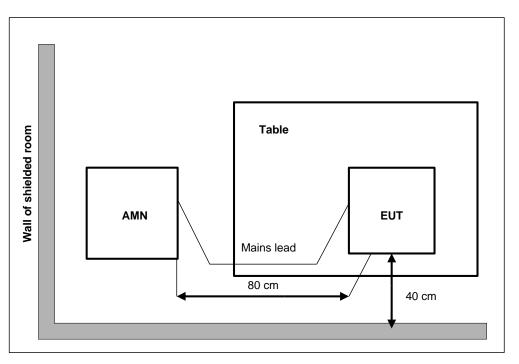


Figure B-10: Measurement Setup

B.6.3. EUT Operating Mode and Test Conditions

The measurement of EUT is carried out under the transmit state of NFC(See 3.4). The EUT is powered by a travel adapter.

During the measurements, the ambient temperature is in the range of $15 \sim 25$ °C.

B.6.4. Limits

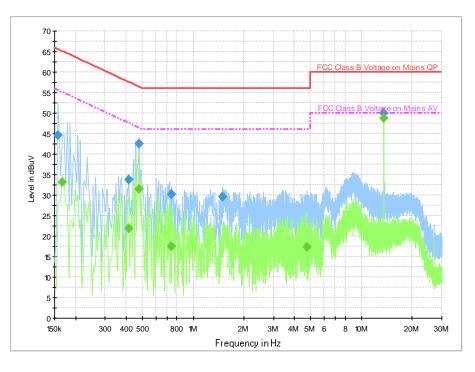
Frequency range (MHz)	Quasi-peak Limit (dBµV)	Average Limit (dBμV)
0.15 to 0.5	66 to 56	56 to 46
0.5 to 5	56	46
5 to 30	60	50

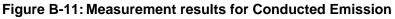




B.6.5. Measurement Results

Measurement results see Figure B-11. **Conclusions:** Set.NFC01, **PASS**.





Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
		(ms)						
0.158000	44.5	2000.0	9.000	On	Ν	19.9	21.1	65.6
0.414000	33.7	2000.0	9.000	On	L1	20.0	23.9	57.6
0.474000	42.5	2000.0	9.000	On	L1	20.0	14.0	56.4
0.746000	30.3	2000.0	9.000	On	L1	20.0	25.7	56.0
1.498000	29.7	2000.0	9.000	On	L1	19.9	26.3	56.0
13.562000	50.0	2000.0	9.000	On	N	19.8	10.0	60.0

Final Result 2

Frequency	QuasiPeak	Meas.	Bandwidth	Filter	Line	Corr.	Margin	Limit
(MHz)	(dBµV)	Time	(kHz)			(dB)	(dB)	(dBµV)
		(ms)						
0.166000	33.2	2000.0	9.000	On	L1	19.9	22.0	55.2
0.414000	22.0	2000.0	9.000	On	L1	20.0	25.6	47.6
0.474000	31.4	2000.0	9.000	On	L1	20.0	15.0	46.4
0.738000	17.5	2000.0	9.000	On	L1	20.0	28.5	46.0
4.762000	17.3	2000.0	9.000	On	L1	19.8	28.7	46.0
13.562000	48.7	2000.0	9.000	On	Ν	19.8	1.3	50.0





B.7. Antenna Requirement

B.7.1 Reference

See CFR 47 Part 15 § 15.203

B.7.2. Excerpt from §15.203 of the FCC Rules/Regulations

"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."

The antenna of the device is permanently attached.

There are no provisions for connection to an external antenna.

B.7.3. Results

The unit complies with the requirement of FCC Part 15.203. **Conclusions:** Set.NFC03, **PASS.**





ANNEX C: Persons involved in this testing

Test Item	Tester
20dB Bandwidth	Miao Qinghua
Frequency Tolerance	Miao Qinghua
Electric Field Strength of Fundamental and Outside the Allocated bands	Zhang Tianli
Electric Field Radiated Emissions (< 30MHz)	Zhang Tianli
Electric Field Radiated Emissions (≥30MHz)	Zhang Tianli
Conducted Emissions	Zhang Tianli, Ding Zai
Antenna Requirement	Miao Qinghua





ANNEX D: Accreditation Certificate



END OF REPORT