

FCC PART 15C TEST REPORT No.I17N00063-NFC

for

Power Idea Technology (Shenzhen) Co.,Ltd.

TD-LTE digital mobile phone

Model Name: MD501

With

Hardware Version: 1.04

Software Version: MD501_US_1.003.00_20170103

FCC ID: ZLE-MD501

IC: 11113A-MD501

Issued Date: 2017-04-07

Test Laboratory:

FCC 2.948 Listed: No.342690

IC O.A.T.S Listed: No. 21856-1

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.

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REPORT HISTORY

Report Number	Revision	Description	Issue Date
117N00063-NFC	Rev.0	1st edition	2017-03-06
117N00063-NFC	Rev.1	2st edition	2017-03-22
117N00063-NFC	Rev.2	3st edition	2017-04-07



CONTENTS

1.	TEST LABORATORY	
1.	1. Testing Location	4
1.:	2. TESTING ENVIRONMENT	4
1.3	3. Project Data	4
1.4	4. SIGNATURE	4
2.	CLIENT INFORMATION	5
2.	1. APPLICANT INFORMATION	5
2.	2. MANUFACTURER INFORMATION	5
3.	EQUIPMENT UNDER TEST (EUT) AND ANCILLARY EQUIPMENT (AE)	6
3.	1. Авоит EUT	6
3.	2. INTERNAL IDENTIFICATION OF EUT USED DURING THE TEST	6
3.	3. INTERNAL IDENTIFICATION OF AE	6
3.	4. GENERAL DESCRIPTION	6
3.	5. EUT Set-ups	6
4.	REFERENCE DOCUMENTS	7
4.	1. DOCUMENTS SUPPLIED BY THE APPLICANT	7
4.	2. REGULATIONS AND STANDARDS	7
5.	LABORATORY ENVIRONMENT	
6.	TEST RESULTS	9
6.	1. SUMMARY OF TEST RESULTS	9
6.	2. TERMS USED IN THE SUMMARY OF TEST RESULTS	10
6.	3. STATEMENTS	10
7.	TEST EQUIPMENTS UTILIZED	11
ANN	IEX A: MEASUREMENT RESULTS	12
A.	1. ELECTRIC FIELD STRENGTH OF FUNDAMENTAL AND OUTSIDE THE ALLOCATED BANDS	12
Α.	2. ELECTRIC FIELD RADIATED EMISSIONS (< 30MHz)	14
Α.	3. ELECTRIC FIELD RADIATED EMISSIONS (\geq 30MHz)	16
Α.	4. FREQUENCY TOLERANCE	18
Α.	5. 20dB Bandwidth	20
Α.	6. CONDUCTED EMISSION	22
Α.	7. Occupied Bandwidth	26



1. Test Laboratory

1.1. Testing Location

Location: CTTL(South Branch) Address: TCL International E city, No. 1001, Zhongshanyuan Road, Nanshan

District, Shenzhen, Guangdong, China518000

1.2. Testing Environment

Normal Temperature:	15-35℃
Relative Humidity:	20-75%

1.3. Project Data

Testing Start Date:	2017-01-19
Testing End Date:	2017-02-09

1.4. Signature

木石1R 手 Lin Kanfeng (Prepared this test report)

Tang Weisheng (Reviewed this test report)

张博

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2. Client Information

2.1. Applicant Information

Company Name:	Power Idea Technology (Shenzhen) Co., Ltd.	
	4th Floor, A Section , Languang Science & technology Building , No.7	
Address/Post:	Xinxi RD , Hi-Tech Industrial Park North , Nanshan District ,	
	Shenzhen , P.R.C.	
City:	Shenzhen	
Postal Code:	/	
Country:	China	
Telephone:	0755-86220211	
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2.2. Manufacturer Information

Company Name:	Power Idea Technology (Shenzhen) Co., Ltd.	
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Address/Post:	Xinxi RD , Hi-Tech Industrial Park North , Nanshan District ,	
	Shenzhen , P.R.C.	
City:	Shenzhen	
Postal Code:	1	
Country:	China	
Telephone:	0755-86220211	
Fax:	/	



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

3.1. About EUT

Description	TD-LTE digital mobile phone
Model Name	MD501
Market Name	MD501
With NFC Function:	Yes
Frequency:	13.56 MHz
Antenna	Integrated
Power Supply	3.8V DC by Battery
FCC ID	ZLE-MD501
IC number	11113A-MD501

3.2. Internal Identification of EUT Used during the Test

Mobile phor	ne identification			
EUT ID*	IMEI	HW Version	SW Version	Receive Date
EUT1	867453021949659	1.04	MD501_US_1.003.0 0_20170103	2017-01-19

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

3.3. Internal Identification of AE

AE ID*	Description	SN
AE1	Power Supply	1
AE2	Type A CARD	/
AE1		
Model		HKC0055010-2D
Manufact	turer	SHENZHEN HUNTKEY ELECTRIC CO., LTD
AE2		

Manufacturer Gemalto

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

3.4. General Description

This is a product supporting GSM/UMTS/LTE with 2.4G technologies. Manuals and specifications of the EUT were provided to fulfil the test. Samples undergoing test were selected by the client. Manufacturer's declaration: NFC work does not depend on other access methods, such as WLAN, GPRS, etc.

3.5. EUT Set-ups

EUT Set-up No.	Combination of EUT and AE	Remarks
Set. NFC01	EUT1 + AE1 + AE2	
Set. NFC02	EUT1	
Set. NFC03	EUT1 + AE2	

The TransmitState 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 HoperatingfrequencyH. CE_test.apk is installed in the EUT which helps to control the NFC signal transmitting.



4. Reference Documents

4.1. Documents Supplied by the Applicant

EUT feature information is supplied by the applicant or manufacturer, which is the basis of testing.

4.2. Regulations and Standards

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; 2012 General Rules and Regulations. CFR 47 Part15 Part 15 — Radio Frequency Devices. 2015 Subpart C-Intentional Radiators. § 15.35Measurement detector functions and bandwidths. § 15.207 Conducted limits. § 15.209 Radiated emission limits, general requirements. §15.215Additional provisions to the general radiated emission limitations. §15.225 Operation within the band 13.110–14.010 MHz. **ANSI C63.4** American National Standard forMethods of Measurement of 2014 Radio-Noise Emissions from Low-VoltageElectrical and Electronic Equipmentin the Range of 9 kHz to 40 GHz. **IC RSS-210** License-exempt Radio Apparatus (All Frequency Bands): Issue 9 Category I Equipment Annex 2 – Devices Operating in 2016 Frequency Bands for Any Application IC RSS-Gen General Requirements for Compliance of Radio Apparatus Issue 4 2014



5. Laboratory Environment

6. **Semi-anechoic chamber** did not exceed following limits along the EMC testing

Temperature	Min. = 15 °C,Max. = 30°C
Relative humidity	Min. = 35 %, Max. = 60 %
Shielding effectiveness	0.014MHz - 1MHz, >60dB;
	1MHz - 1000MHz, >90dB.
Electrical insulation	> 2 MΩ
Ground system resistance	< 4Ω
Normalised site attenuation (NSA)	<±4dB, 3m/10m distance, from 30 to 1000 MHz
Uniformity of field strength	Between 0 and 6 dB, from 80 to 3000 MHz

7. Shielded roomdid not exceed following limits along the EMC testing

-	
Temperature	Min. = 15 °C, Max. = 30°C
Relative humidity	Min. = 35 %, Max. = 60 %
Shielding effectiveness	0.014MHz - 1MHz, >60dB;
	1MHz - 1000MHz, >90dB.
Electrical insulation	> 2 MΩ
Ground system resistance	< 4 Ω

8. Fully-anechoic chamber did not exceed following limitsalong the EMC testing

Temperature	Min. = 15 °C,Max. = 30°C
Relative humidity	Min. = 35 %, Max. = 60 %
Shielding effectiveness	0.014MHz - 1MHz, >60dB;
	1MHz - 1000MHz, >90dB.
Electrical insulation	> 2 MΩ
Ground system resistance	< 4Ω
Voltage Standing Wave Ratio	≤6dB, from 1 to 18 GHz,3m distance
(VSWR)	



9. Test Results

9.1. 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)		D
'	Fundamental Emissions	RSS-210 Issue8 A2.6		F
	Electric Field Strength of	CFR 47 § 15.225(b)	A.1	
2	Cutside the Allegated Bands	CFR 47 § 15.225(c)		Р
		RSS-210 Issue8 A2.6		
	Electric Field Radiated	CFR 47 § 15.209	A.2	Р
3 Emissions	CFR 47 § 15.225(d)	A.3	Р	
	RSS-210 Issue8 A2.6			
4	Fraguency Telerance	CFR 47 § 15.225(e)	A 4	D
4	Frequency rolerance	RSS-210 Issue8 A2.6	A.4	F
5	20dB Bandwidth	CFR 47 § 15.215(c)	A.5	Р
6 Conducted Emissions	CFR 47 § 15.207	A 6	P	
	RSS-Gen Issue4 8.8	A.0	P	
7	Occupied Bandwidth	RSS-Genlssue4 6.6	A.7	Р
The measurement is carried out according to ANSI C63.4.See ANNEX A for details.				

Test Conditions:

For this report, all the test cases listed above were tested under normalTemperature, Voltage, Humidity, and Air Pressure. The specific conditions are as following:

	Tmin	-3°C
Temperature	T nom	25°C
	T max	55°C
	V min	3.6V
Voltage	V nom	3.9V
	V max	4.2 V
Humidity	H nom	50%
Air Pressure	A nom	1010 mbar



9.2. <u>Terms Used in the Summary of Test Results</u>

n:

T nom	Normal Temperature
T min	Low Temperature
T max	High Temperature
V nom	Normal Voltage
V min	Low Voltage
V max	High voltage
H nom	Norm Humidity
A nom	Norm Air Pressure

Terms Used in Verdict Column:

Р	Pass, The EUT complies with the essential requirements in the standard.
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

Abbreviations:

AC	Alternating Current
AFH	Adaptive Frequency Hopping
BW	Band Width
E.I.R.P.	equivalent isotropic radiated power
ISM	Industrial, Scientific and Medical
RF	Radio Frequency
Тх	Transmitter

9.3. Statements

The test cases listed in Section 6.1 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. This report only deals with the NFC function among the features described in section 3.



10. TestEquipments Utilized

NO.	EQUIPMENT	MODEL	SERIES NUMBER	MANUFACTURE	CAL DUE DATE
1.	Chamber	FACT5-2.0	4166	ETS-Lindgren	2018-05-13
2.	Test Receiver	ESCI	100701	Rohde & Schwarz	2017-08-09
3.	LISN	ESH2-Z5	100196	Rohde & Schwarz	2018-01-05
4.	Loop Antenna	HLA6120	35779	TESEQ	2019-05-02
5.	BiLog Antenna	VULB9163	9163 330	Schwarzbeck	2017-04-22
6.	Test Receiver	ESR7	101675	Rohde & Schwarz	2017-07-21
7.	Vector Signal Analyzer	FSV40	100903	Rohde & Schwarz	2017-03-21
8.	Climate chamber	SU-242	93008165	ESPEC	2017-04-07

Test software

No.	Equipment	Manufacturer	Version
1	EMC32	Rohde & Schwarz	8.53.0
2	EMC32	Rohde & Schwarz	10.01.00

Use the EUT inside MTK Engineering mode to control the transmitting signal.



ANNEX A: MEASUREMENT RESULTS

A.1.Electric Field Strength of Fundamentaland Outside the Allocated bands

A.1.1. Reference

See Clause 13.5, Clause 13.4, Clause 8, and Annex E of ANSI C63.4-2014 specifically See Clause 4, Clause 5, and Clause 6 of ANSI C63.4-2014 generally See CFR 47 § 15.225(a) See RSS-210 Issue8 A2.6

A.1.2. MeasurementMethods

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 3mfrom 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 thepeak detector and if required, thequasi-peak detector.

The measurement bandwidth is:

Frequency of Emission (MHz)	RBW/VBW
12.56-14.56	10/30kHz

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

E-field (dBµV/m) = Rx (dBµV)+ CableLoss (dB)+ AF@3m (dB/m)



A.1.3. EUT Operating Mode and Test Conditions

The measurement of EUT is carried out under the transmit state of NFC (See 3.5).

The EUT is powered by a travel adapter.

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



in the range of $15 \sim 25^{\circ}$ C.

A.1.4. Limits

Fraguanay/Panga (MHz)	E-field Strength Limit @ 30 m	E-field Strength Limit @ 3 m	
FrequencyRange (MHZ)	(µ V/m)	(dBµV/m)	
13.560 ± 0.007	+15,848	124	
13.410 to 13.553	+334	90	
13.567 to 13.710	+534		
13.110 to 13.410	106	91	
13.710 to 14.010			
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:			

Extrapolitin($dB \neq 40 \log_0$ (MeasuremenDistanc/Specificition Distanc)

A.1.5. Measurement Results

Measurement results of normal conditions see Figure A-1 for different set-ups of EUT. The result displayed take into account applicable antenna factors and cable losses.

Conclusions: Set. NFC01,PASS.



Figure A-1 Test result of EUT1 at test Set. NFC01

A.1.6. Measurement Uncertainty

Measurement uncertainty: U = 4.0 dB, k=2.



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

A.2.1. Reference

See Clause 13.4, Clause 8 and Annex E of ANSI C63.4-2014 specifically See Clause 4, Clause 5, and Clause 6 of ANSI C63.4-2014 generally See CFR 47 § 15.225(b) See CFR 47 § 15.225(c) See RSS-210 Issue8 A2.6

A.2.2. MeasurementMethods

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 3mfrom 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, thequasi-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 (dBµV/m) = Rx (dBµV)+ CableLoss (dB)+ AF@3m (dB/m)



A.2.3. EUT Operating Mode and Test Conditions

The measurement of EUT is carried out under the transmit state of NFC (See 3.5). 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.

A.2.4. Limits

FrequencyRange (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:						
Extrapolat ion(dB) = 40log $_{10}$ (Measuremen t Distance /Specificat ion Distance)						

A.2.5. Measurement Results

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

Conclusions: Set. NFC01, PASS.



Figure A-2 Test result of EUT1 at test Set. NFC01

A.2.6. Measurement Uncertainty

Measurement uncertainty: U = 4.0 dB, k=2.



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

A.3.1. Reference

See Clause 13.4, Clause 8, and Annex E of ANSI C63.4-2014 specifically See Clause 4, Clause 5, and Clause 6 of ANSI C63.4-2014 generally See CFR 47 § 15.209 See CFR 47 § 15.225(d) See RSS-210 Issue8 A2.6

A.3.2. MeasurementMethods

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 10mfrom the receiving antenna. The receiving antennasconnected to a measurement receiver comply with Clause 15 of ANSI C63.2-1996 and Clause 4.1.5 of ANSI C63.4-2014. In order to search for maximum field strength emitted from the EUT, the receiving antenna can be moved between the height of 1.0 mto 4.0 m.Detected E-field was maximized at each frequencyby 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 thepeak detector and if required, thequasi-peak detector.

The measurement bandwidth is:

Non-conductive table 0.8m height



Sucoflex cable

1-4 m Height



A.3.3. EUT Operating Mode and Test Conditions

The measurement of EUT is carried out under the transmit state of NFC (See 3.5).

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.

A.3.4. Limits

EroguopovPopgo	E-field Strength Limit	E-field Strength Limit	E-field Strength Limit	
FrequencyRange	@ 3m	@ 3m	@ 10m	
(11172)	(mV/m)	(dBµV/m)	(dB µ V /m)	
30-88	100	40	30	
88-216	150	43.5	33.5	
216-960	200	46	36	
960-1000	500	54	44	

A.3.5. Measurement Results

Measurement results of normal conditions see Figure A-3for different set-ups of EUT. The result displayed take into account applicable antenna factors and cable losses. **Conclusions:** Set. NFC01,**PASS**.

A.3.6. Measurement Uncertainty

Measurement uncertainty: U = 3.9 dB, k=2



Figure A-3 Test result of EUT1 at test Set. NFC01



A.4.Frequency Tolerance

A.4.1. Reference

See Clause 13.6 of ANSI C63.4-2014 specifically See Clause 4, Clause 5, and Clause 6 of ANSI C63.4-2014 generally See RSS-210 Issue8 A2.6 See CFR 47 § 15.225(e) See RSS-210 Issue8 A2.6

A.4.2. MeasurementMethods



The transmitter output signal was picked up by coil antenna connected to the frequency counter. 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.

A.4.3. EUT Operating Mode and Test Conditions

The measurement of EUT is carried out under the transmit state of without modulation (See 3.5). EUT had been not connected to a travel adapter.

Operation Temperature: T min, T nom, and T max with V nom.

Operation Voltage: V min and V max with T nom.

A.4.4. Test Layouts

See A.4.2.

A.4.5. Limits

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

A.4.6. Measurement Results

Measurement results see Table A-1for different test conditions. **Conclusions:** Set. NFC02, **PASS**.



Temperature	Voltago	Frequency Error (MHz)						
	vollage	Startup	2 Min Later	5 Min Later	10 Min Later			
T min	V nom	13.560000	13.560000	13.560000	13.560000			
T max	V nom	13.560020	13.560020	13.560020	13.560020			
T nom	V nom	13.560000	13.560000	13.560000	13.560000			
T nom	V min	13.560000	13.560000	13.560000	13.560000			
T nom	V max	13.560000	13.560000	13.560000	13.560000			

Table A-1: Frequency Stability VS Temperature and Voltage

Temperature	Voltago	Frequency Error (%)						
	vollage	Startup	2 Min Later	5 Min Later	10 Min Later			
T min	V nom	0.000	0.000	0.000	0.000			
T max	V nom	0.000	0.000	0.000	0.000			
T nom	V nom	0.000	0.000	0.000	0.000			
T nom	V min	0.000	0.000	0.000	0.000			
T nom	V max	0.000	0.000	0.000	0.000			

A.4.7. Measurement Uncertainty

Measurement uncertainty: U =77Hz, k=2





A.5. 20dB Bandwidth

A.5.1. Reference

See Clause 13.7 of ANSI C63.4-2014 specifically See Clause 4, Clause 5, and Clause 6 of ANSI C63.4-2014 generally See CFR 47 § 15.215(c)

A.5.2. MeasurementMethods

The transmitter output signal was picked up by coil antenna to the spectrum analyzer.

The transmitter output signal was picked up by coil antenna connected to the spectrum analyzer. The bandwidth of the center frequency was measured with 140Hz RBW, 420Hz VBW and 14kHz span.



A.5.3. EUT Operating Mode and Test Conditions

The measurement of EUT is carried out under the transmit state of NFC and without modulation (See 3.5).

EUT had been not connected to a travel adapter.

During the measurements, the ambient temperature is in the range of $15 \sim 25 ^{\circ} C$.

A.5.4. Test Layouts

See A.5.2.

A.5.5. Limits

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

A.5.6. Measurement Results

Measurement results see Figure A-4. **Conclusions:** Set. NFC03,**PASS**.





Date: 2.MAR,2017 11:18:05

Figure A-4 Test result of EUT1 at test set. NFC03

A.5.7. Measurement Uncertainty

Measurement uncertainty: U =77Hz, k=2



A.6. Conducted emission

A.6.1. Reference

See Clause 13.3 and Clause 7 of ANSI C63.4-2014 specifically See Clause 4, Clause 5, and Clause 6 of ANSI C63.4-2014 generally See CFR 47 § 15.207 See RSS-Gen Issue4 8.8

A.6.2. MeasurementMethods

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/ AverageDetector.

The measurement bandwidth is:

Frequency of Emission (MHz)	RBW/VBW	
0.15-30	9kHz	



A.6.3. EUT Operating Mode and Test Conditions

The measurement of EUT is carried out under the transmit state of NFC (See 3.5). The EUT is powered by a travel adapter.

During the measurements, the ambient temperature is in the range of $15 \sim 25^{\circ}$ C.



A.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

A.6.5. Measurement Results

Measurement results see Figure A-5, Figure A-6.

Conclusions: Set. NFC01, PASS.

Note: The measurement result at 13.56MHz is the fundamental emission of NFC signal.



ESH2-Z5 Scan-FCC



Figure A-5 Test result of EUT1 at test set. NFC01(120V)

Final Result 1

Frequency(MHz)	QuasiPeak(dBµV)	PE	Line	Corr.(dB)	Margin(dB)	Limit(dBµV)
7.002000	43.2	GND	Ν	9.7	16.8	60.0
13.562000	50.9	GND	Ν	9.9	9.1	60.0
18.422000	40.1	GND	Ν	9.9	19.9	60.0
18.878000	40.1	GND	Ν	10.0	19.9	60.0
19.306000	39.4	GND	Ν	10.0	20.6	60.0
19.846000	38.2	GND	Ν	10.0	21.8	60.0

Final Result 2

Frequency(MHz)	Average(dBµV)	PE	Line	Corr.(dB)	Margin(dB)	Limit(dBµV)
0.578000	30.9	GND	Ν	9.6	15.1	46.0
0.898000	31.5	GND	Ν	9.6	14.5	46.0
0.958000	32.3	GND	Ν	9.6	13.7	46.0
1.026000	30.7	GND	Ν	9.5	15.3	46.0
6.722000	33.2	GND	Ν	9.7	16.8	50.0
13.562000	38.2	GND	Ν	9.9	11.8	50.0



ESH2-Z5 Scan-FCC



Figure A-6 Test result of EUT1 at test set. NFC01(240V)

Final Result 1

Frequency(MHz)	QuasiPeak(dBµV)	PE	Line	Corr.(dB)	Margin(dB)	Limit(dBµV)
6.730000	42.5	GND	Ν	9.7	17.5	60.0
7.090000	42.8	GND	Ν	9.7	17.2	60.0
7.486000	42.1	GND	Ν	9.8	17.9	60.0
13.554000	43.2	GND	Ν	9.9	16.8	60.0
16.990000	39.0	GND	Ν	9.9	21.0	60.0
18.310000	40.4	GND	Ν	9.9	19.6	60.0

Final Result 2

Frequency(MHz)	Average(dBµV)	PE	Line	Corr.(dB)	Margin(dB)	Limit(dBµV)
0.578000	31.8	GND	Ν	9.6	14.2	46.0
0.834000	32.0	GND	Ν	9.5	14.0	46.0
0.898000	33.0	GND	Ν	9.6	13.0	46.0
0.962000	33.9	GND	Ν	9.6	12.1	46.0
1.026000	31.9	GND	Ν	9.5	14.1	46.0
6.994000	33.7	GND	Ν	9.7	16.3	50.0

A.6.6. Measurement Uncertainty

Measurement uncertainty: U = 3.2 dB, k=2



A.7.Occupied Bandwidth

A.7.1. Reference

See Clause 13.7 of ANSI C63.4-2014 specifically See Clause 4, Clause 5, and Clause 6 of ANSI C63.4-2014 generally See RSS-GenIssue4 6.6

A.7.2. Measurement Methods

The transmitter output signal was picked up by coil antenna to the spectrum analyzer.

The transmitter output signal was picked up by coil antenna connected to the spectrum analyzer. The bandwidth of the center frequency was measured with 140Hz RBW, 420Hz VBW and 14kHz span.



A.7.3. EUT Operating Mode and Test Conditions

The measurement of EUT is carried out under the transmit state of NFC and without modulation (See 3.5).

EUT had been not connected to a travel adapter.

During the measurements, the ambient temperature is in the range of $15 \sim 25^{\circ}$ C.

A.7.4. Test Layouts

See A.7.2.

A.7.5. Limits

When the occupied bandwidth limit is not stated in the applicable RSS or reference measurement method, the transmitted signal bandwidth shall be reported as the 99% emission bandwidth, as calculated or measured.

A.7.6. Measurement Results

Measurement results see Figure A-7. **Conclusions:** Set. NFC03, **PASS**.







A.7.7. Measurement Uncertainty

Measurement uncertainty: U =77 Hz, k=2

END OF REPORT