



# TEST REPORT

## No.I16N00975-NFC

for

**OnePlusTechnology(Shenzhen) Co., Ltd.**

**Mobile Phone**

**FCC ID: 2ABZ2-A3000**

**with**

**Hardware Version: 28**

**Software Version: oxygen 3.5.1**

**Issued Date: 2016-11-14**

**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:**

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## 1. Test Laboratory

### 1.1. Testing Location

Location: CTTL(South Branch)

Address: TCL International E city No. 1001 Zhongshanyuan Road, Nanshan District, Shenzhen, Guangdong, China 518000

### 1.2. Testing Environment

Ambient Temperature: 15 ~ 35°C

Relative Humidity: 20 ~ 75%

Air pressure 860 ~ 1060 mbar

### 1.3. Project Data

Receipt of Sample: Apr. 06<sup>th</sup>, 2016

Testing Start Date: Apr. 10<sup>th</sup>, 2016

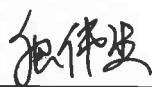
Testing End Date: Nov. 01<sup>st</sup>, 2016

### 1.4. Signature



An Ran

(Prepared this test report)



Tang Weisheng

(Reviewed this test report)



Zhang Bojun

(Approved this test report)

## **2. Client Information**

### **2.1. Applicant Information**

Company Name: OnePlus Technology(Shenzhen) Co., Ltd.  
Address/Post: 18/F, Tower C, Tai Ran Building, No.8 Tai Ran Road, Shenzhen, China  
City: Shenzhen  
Postal Code: 518000  
Country: China  
Contact Person: Kevin Ke  
Telephone: 0755 61898696 EXT 7023  
Fax: /

### **2.2. Manufacturer Information**

Company Name: OnePlus Technology(Shenzhen) Co., Ltd.  
Address/Post: 18/F, Tower C, Tai Ran Building, No.8 Tai Ran Road, Shenzhen, China  
City: Shenzhen  
Postal Code: 518000  
Country: China  
Contact Person: Kevin Ke  
Telephone: 0755 61898696 EXT 7023  
Fax: /

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

#### **3.1. About EUT**

Description:	mobile phone
FCC ID	2ABZ2-A3000
With NFC Function:	Yes
Frequency:	13.56 MHz
Antenna:	Internal
Operation Voltage:	3.4VDC to 4.35VDC (nominal: 3.8VDC)
Operation Temperature:	-3°C to +55°C

#### **3.2. Internal Identification of EUT Used during the Test**

##### **Mobile phone identification**

EUT ID*	IMEI	HW Version	SW Version
EUT	860046030164315	28	oxygen 3.5.1

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

#### **3.3. Internal Identification of AE Used during the Test**

AE ID*	Description	SN	Reversion
AE1	Power Supply Unit	HC1608500001	/
AE2	Type A CARD	/	/
AE3	travel adapter	H11619000004	/
AE4	travel adapter	LCYYWWWSSSSSS	
AE1			
	Type	HK0504	
	Manufacturer	SHENZHEN HUNTEK ELECTRIC CO., LTD	
AE2			
	Type	/	
	Manufacturer	Gemalto	
AE3			
	Type	DC0504A5	
	Manufacturer	SHENZHEN HUNTEK ELECTRIC CO., LTD	
AE4			
	Type	DC0504B5GB	
	Manufacturer	LITEON TECHNOLOGY CORPORATION	

\*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/5G 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**

<b>EUT Set-up No.</b>	<b>Combination of EUT and AE</b>	<b>Remarks</b>
Set. NFC01	EUT1 + AE1 + AE2	--
Set. NFC02	EUT1	--
Set. NFC03	EUT1 + AE2	--
Set. NFC04	EUT1 + AE3 + AE2	--
Set. NFC05	EUT1 + AE4 + AE2	--

The TransmitState of NFC: the NFC function is on. The EUT will transmit the NFC data and command continuously during the test.

The TransmitState of without modulation: The EUT will transmit the CW signal at the operating frequency.

## 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; General Rules and Regulations.	2012
CFR 47 Part15	Part 15 — Radio Frequency Devices. 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.	2015
ANSI C63.4	American National Standard forMethods of Measurement of Radio-Noise Emissions from Low-VoltageElectrical and Electronic Equipmentin the Range of 9 kHz to 40 GHz.	2014

## 5. LABORATORY ENVIRONMENT

**Semi-anechoic chamberSAC-1** 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

**Fully-anechoic chamberFAC-3** 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
Voltage Standing Wave Ratio (VSWR)	≤6dB, from 1 to 18 GHz, 3m distance

**Conducted Chamber** did not exceed following limits along the 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	>2MΩ
Ground system resistance	< 4Ω

**Control Room** did not exceed following limits along the 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	>2MΩ
Ground system resistance	< 4Ω

## 6. SUMMARY OF TEST RESULTS

### 6.1. Summary of Test Results

No	Test Cases	Clause in Regulation	Section in This Report	Verdict
1	Electric Field Strength of Fundamental Emissions	CFR 47 § 15.225(a)	A.1	P(Set. NFC01 Set. NFC04 Set. NFC05)
2	Electric Field Strength of Outside the Allocated Bands	CFR 47 § 15.225(b) CFR 47 § 15.225(c)	A.2	P(Set. NFC01 Set. NFC04 Set. NFC05)
3	Electric Field Radiated Emissions	CFR 47 § 15.209 CFR 47 § 15.225(d)	A.3	P(Set. NFC01 Set. NFC04 Set. NFC05)
4	Conducted Emissions	CFR 47 § 15.207	A.4	P(Set. NFC01 Set. NFC04 Set. NFC05)

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 normal Temperature, Voltage, Humidity, and Air Pressure. The specific conditions are as following:

Temperature	Tmin	-3°C
	T nom	25°C
	T max	55°C
Voltage	V min	3.4V
	V nom	3.8V
	V max	4.35 V
Humidity	H nom	57%
Air Pressure	A nom	1010 mbar

## 6.2. Terms Used in the Summary of Test Results

### Terms Used in Condition Column:

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:

P	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 isotropical radiated power
ISM	Industrial, Scientific and Medical
RF	Radio Frequency
Tx	Transmitter

## 6.3. 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.

## **7. Test Equipments Utilized**

NO.	NAME	TYPE	SERIES NUMBER	PRODUCER	CAL. DUE DATE	CAL. INTERVAL
1.	H-field Antenna	HFH2-Z2	829324/0007	R&S	2017-12-16	1 Year
2.	BiLog Antenna	VULB9163	9163 329	Schwarzbeck	2017-01-20	3 years
3.	Test Receiver	ESCI	100701	Rohde & Schwarz	2017-08-09	1 year
4.	Test Receiver	ESCI	100702	Rohde & Schwarz	2017-06-26	1 year
5.	Spectrum Analyser	FSP40	100378	Rohde & Schwarz	2016-12-18	1 year
6.	LISN	ESH2-Z5	100196	Rohde & Schwarz	2017-01-12	1 year

## **ANNEX A: MEASUREMENT RESULTS**

### **A.1. Electric Field Strength of Fundamental and 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.

#### **A.1.2. Measurement Methods**

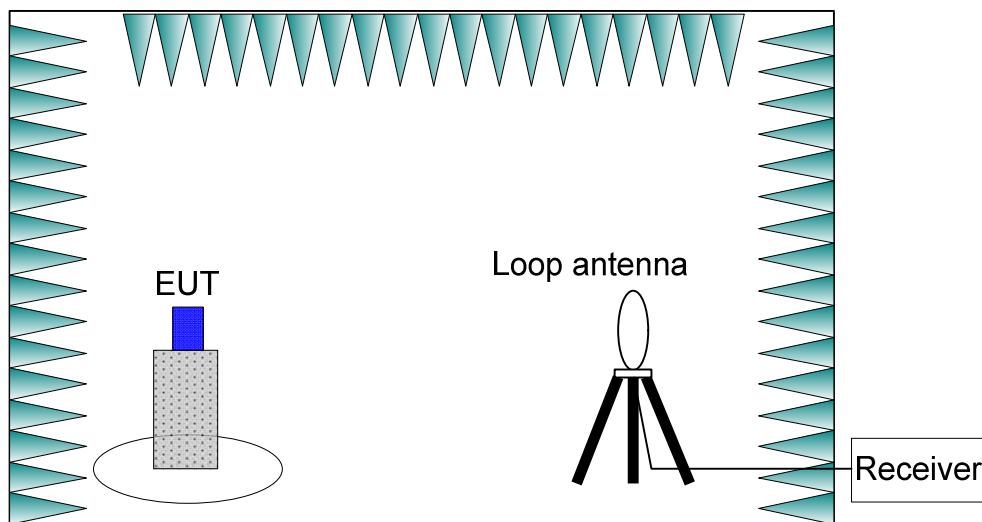
The transmitter carrier output levels (E-Field) from the EUT are measured in a semi-anechoic chamber. The EUT is placed on a non-conductive stand of 80cm high, and at a measurement distance of 3m from the receiving antenna. The center of the receiving loop antenna is 1.0 meter above the ground. The E-field 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:

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

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

$$\text{E-field (dB}\mu\text{V/m)} = \text{Rx (dB}\mu\text{V)} + \text{CableLoss (dB)} + \text{AF@3m (dB/m)}$$



#### **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 travel adapter AE1 or AE3 or AE4.

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

in the range of 15 ~ 25 °C.

#### A.1.4. Limits

Frequency Range (MHz)	E-field Strength Limit @ 30 m (µV/m)	E-field Strength Limit @ 3 m (dBµV/m)
13.560 ± 0.007	+15,848	124
13.410 to 13.553	+334	90
13.567 to 13.710		
13.110 to 13.410	+106	81
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:

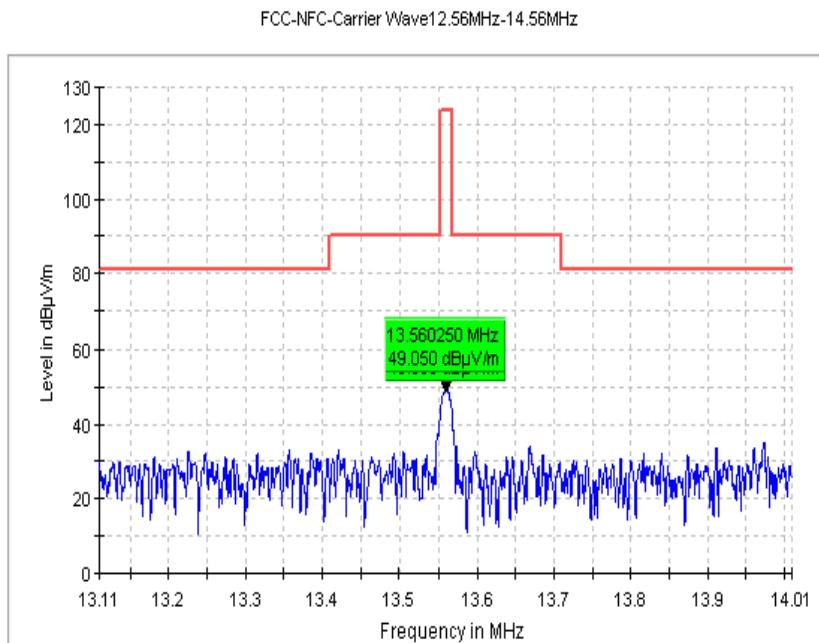
Extrapolation(dB) = 40log<sub>10</sub>(Measurement Distance/Specification Distance)

#### 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.

Note: The Set. NFC01 is selected as the worst condition; The following figure is performed with this set-up.

**Conclusions:** Set. NFC01, **PASS**.



**Figure A-1: Set. NFC01**

#### A.1.6. Measurement Uncertainty

Measurement uncertainty:  $U = 4.0 \text{ dB}$ ,  $k=2$ .

## 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.

### A.2.2. MeasurementMethods

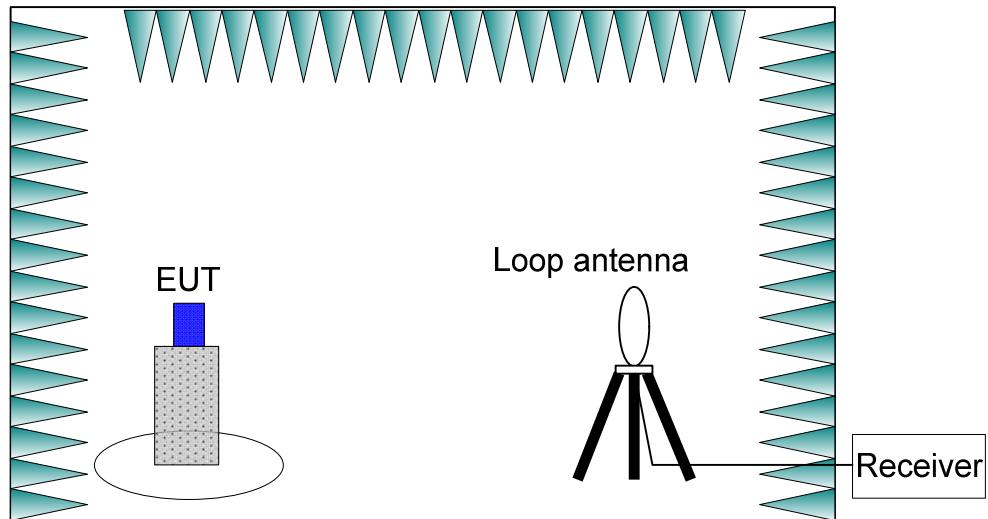
The transmitter carrier output levels (E-Field) from the EUT are measured in a semi-anechoic chamber. The EUT is placed on a non-conductive stand of 80cm high, and at a measurement distance of 3m from the receiving antenna. The center of the receiving loop antenna is 1.0 meter above the ground. The E-field 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:

$$\text{E-field (dB}\mu\text{V/m)} = \text{Rx (dB}\mu\text{V)} + \text{CableLoss (dB)} + \text{AF@3m (dB/m)}$$



### 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 travel adapter AE1 or AE3 or AE4.

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

in the range of 15 ~ 25 °C.

#### A.2.4. Limits

Frequency Range (MHz)	E-field Strength Limit @ 30m (mV/m)	E-field Strength Limit @ 3m (dB $\mu$ V/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:

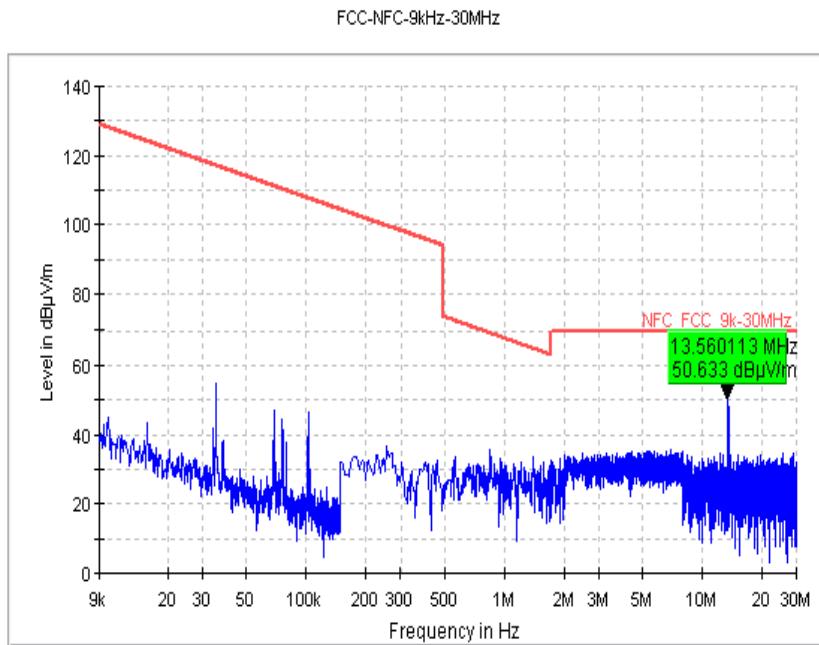
Extrapolation(dB) = 40log<sub>10</sub>(Measurement Distance/Specification Distance)

#### 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.

Note: The Set. NFC01 is selected as the worst condition; The following figure is performed with this set-up.

**Conclusions:** Set. NFC01, PASS.



**Figure A-2: Set. NFC01**

#### A.2.6. Measurement Uncertainty

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

### A.3.Electric Field Radiated Emissions ( $\geq 30\text{MHz}$ )

#### A.3.1. Reference

See Clause 13.4, Clause 8, and Annex E of ANSI C63.4-2014 specifically.

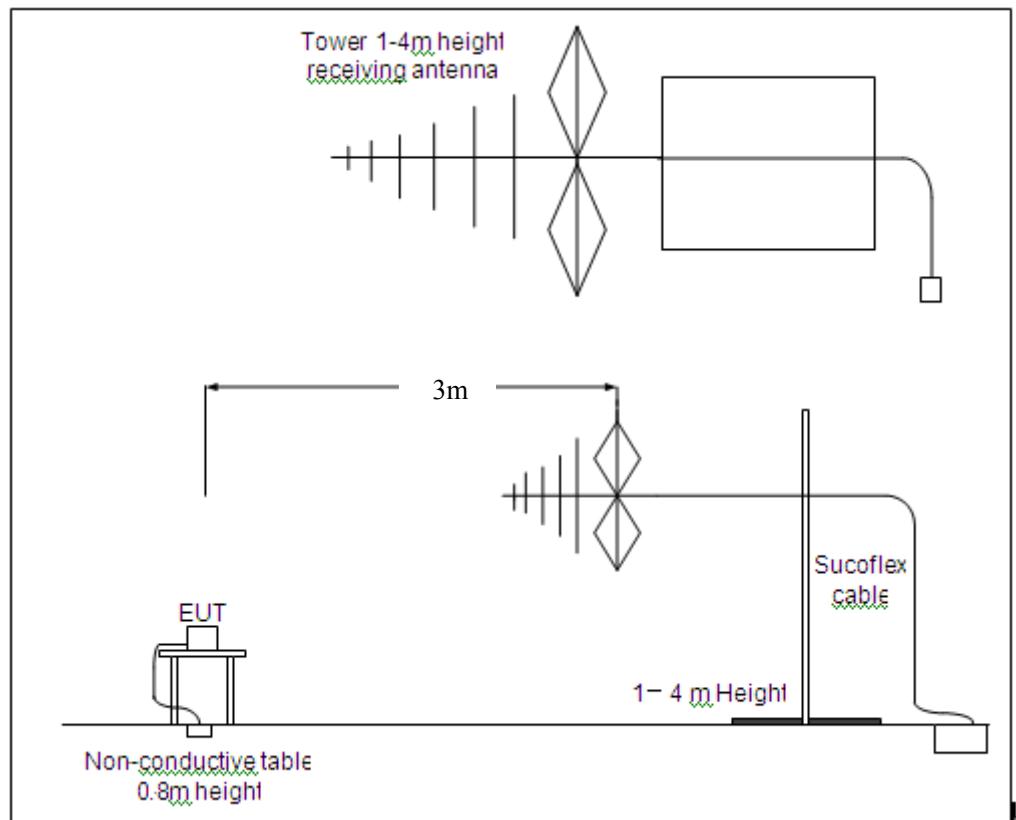
See Clause 4, Clause 5, and Clause 6 of ANSI C63.4-2014 generally.

#### A.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 3m from the receiving antenna. The receiving antennas connected 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 m to 4.0 m. Detected E-field was maximized at each frequency by rotating the EUT through  $360^\circ$  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



### 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).

EUT1 had been connected to travel adapter AE1 or AE3 or AE4.

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

### A.3.4. Limits

Frequency Range (MHz)	E-field Strength Limit @ 3m (mV/m)	E-field Strength Limit @ 3m (dB $\mu$ V/m)	E-field Strength Limit @ 10m (dB $\mu$ 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

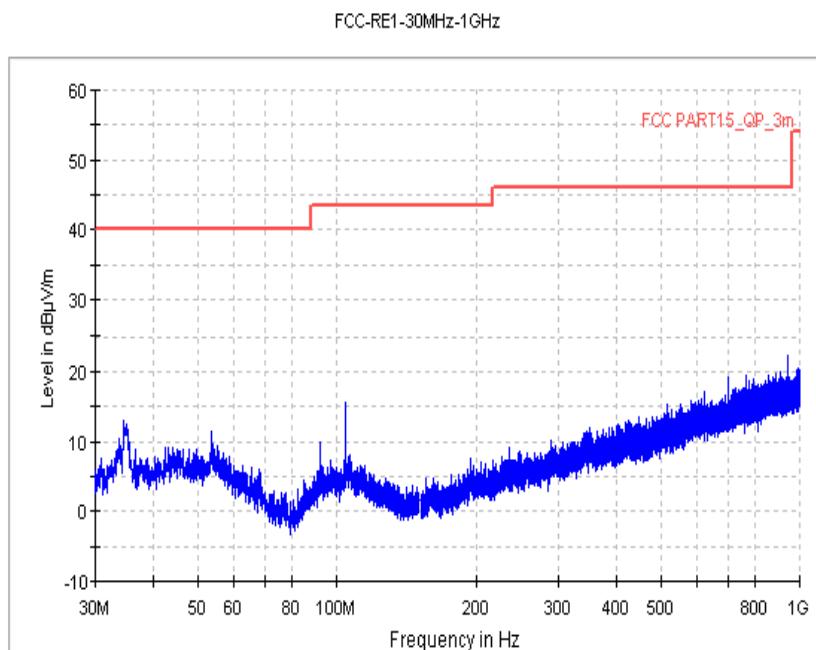
Measurement results of normal conditions see Figure A-3 for different set-ups of EUT. The result displayed take into account applicable antenna factors and cable losses.

Note: The Set. NFC01 is selected as the worst condition; The following figure is performed with this set-up.

**Conclusions:** Set. NFC01, **PASS**.

### A.3.6. Measurement Uncertainty

Measurement uncertainty:  $U = 3.9$  dB,  $k=2$



**Figure A-3: Set. NFC01**

## A.4. Conducted emission

### A.4.1. 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.

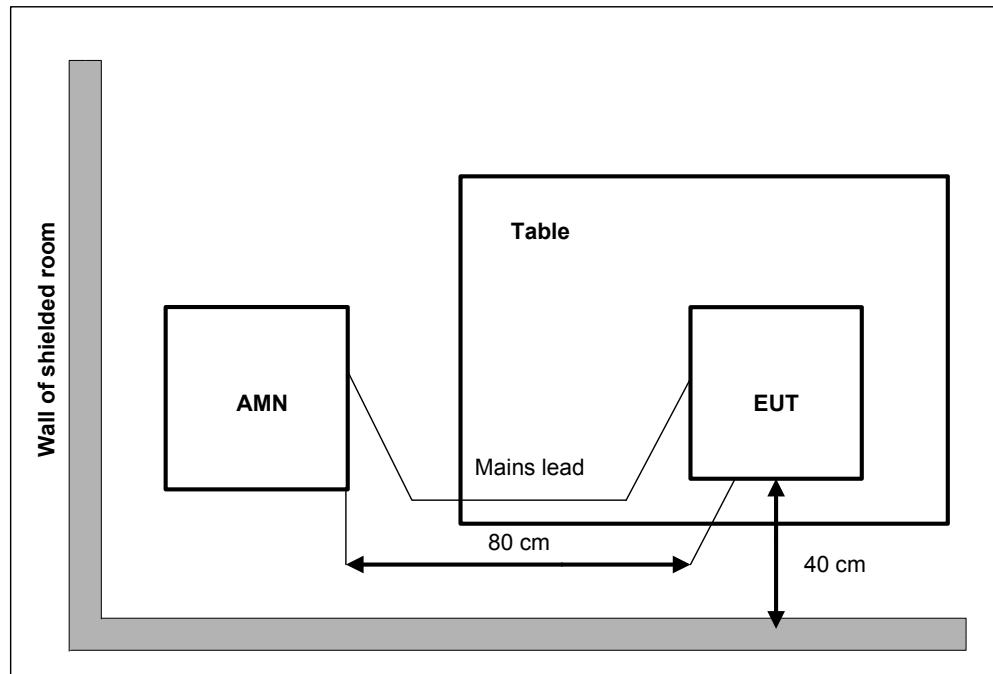
### A.4.2. Measurement Methods

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/ AverageDetector.

The measurement bandwidth is:

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



### A.4.3. 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 travel adapter AE1 or AE3 or AE4.

During the measurements, the ambient temperature is in the range of 15 ~ 25 °C.

### A.4.4. Limits

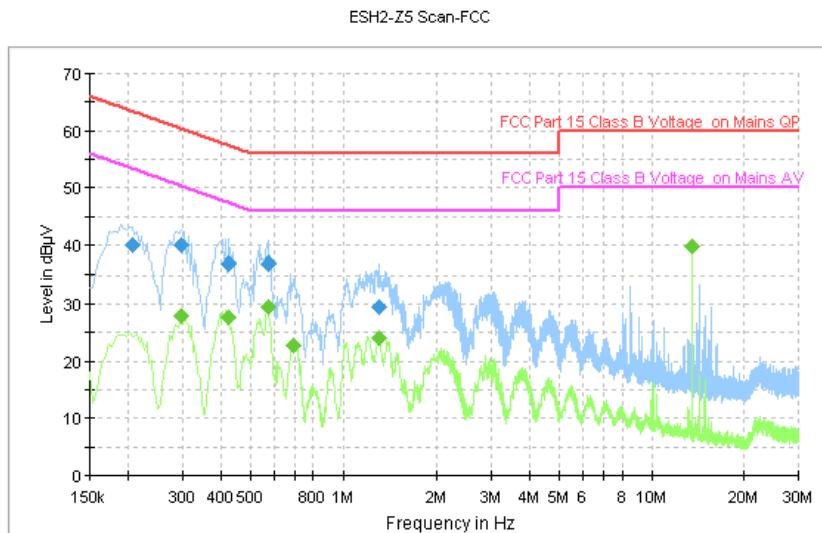
Frequency range (MHz)	Quasi-peak Limit (dB $\mu$ V)	Average Limit (dB $\mu$ V)
0.15 to 0.5	66 to 56	56 to 46
0.5 to 5	56	46
5 to 30	60	50

#### A.4.5. Measurement Results

Measurement results see Figure A-5 – Figure A-16..

**Conclusions:** Set. NFC01, **PASS**. Set. NFC04, **PASS**. Set. NFC05, **PASS**.

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



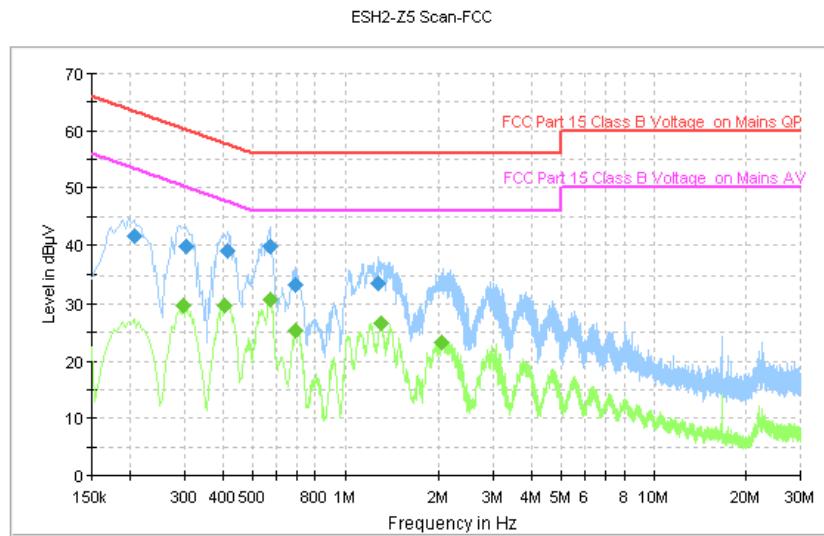
#### Final Result 1

Frequency (MHz)	QuasiPeak (dBuV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.206000	40.1	GND	N	9.6	23.3	63.4
0.298000	40.0	GND	L1	9.8	20.3	60.3
0.422000	37.1	GND	L1	9.8	20.3	57.4
0.570000	36.8	GND	N	9.7	19.2	56.0
1.310000	29.3	GND	N	9.6	26.7	56.0
13.558000	39.7	GND	L1	9.9	20.3	60.0

#### Final Result 2

Frequency (MHz)	Average (dBuV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.298000	27.9	GND	L1	9.8	22.4	50.3
0.422000	27.7	GND	L1	9.8	19.7	47.4
0.570000	29.5	GND	L1	9.8	16.5	46.0
0.690000	22.9	GND	L1	9.8	23.1	46.0
1.306000	23.9	GND	L1	9.8	22.1	46.0
13.558000	39.7	GND	L1	9.9	10.3	50.0

Figure A-4: Test result of EUT1 at test set. NFC01(120V)



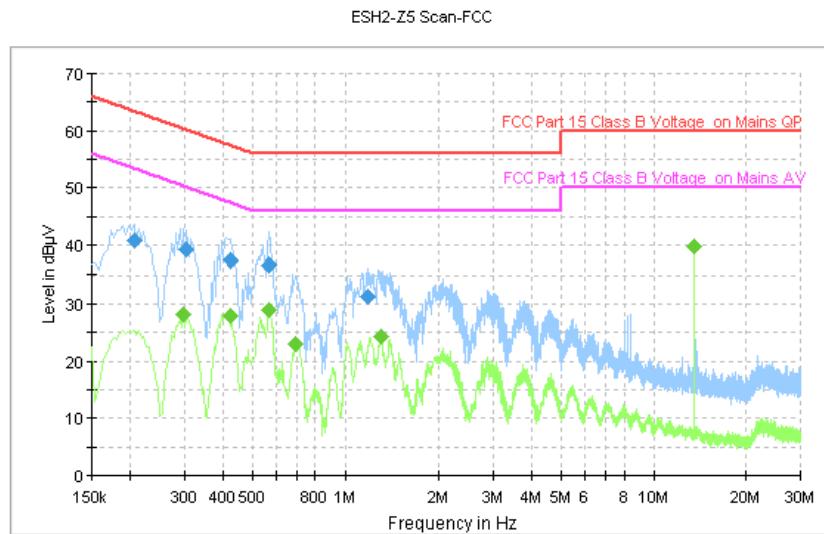
## Final Result 1

Frequency (MHz)	QuasiPeak (dBuV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.206000	41.6	GND	L1	9.8	21.8	63.4
0.306000	39.8	GND	L1	9.8	20.3	60.1
0.414000	38.9	GND	L1	9.8	18.6	57.6
0.570000	39.9	GND	L1	9.8	16.1	56.0
0.690000	33.3	GND	L1	9.8	22.7	56.0
1.282000	33.6	GND	L1	9.8	22.4	56.0

## Final Result 2

Frequency (MHz)	Average (dBuV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.298000	29.6	GND	L1	9.8	20.7	50.3
0.406000	29.6	GND	L1	9.8	18.1	47.7
0.574000	30.9	GND	L1	9.8	15.2	46.0
0.690000	25.2	GND	L1	9.8	20.8	46.0
1.306000	26.6	GND	L1	9.8	19.4	46.0
2.050000	23.4	GND	L1	9.8	22.6	46.0

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



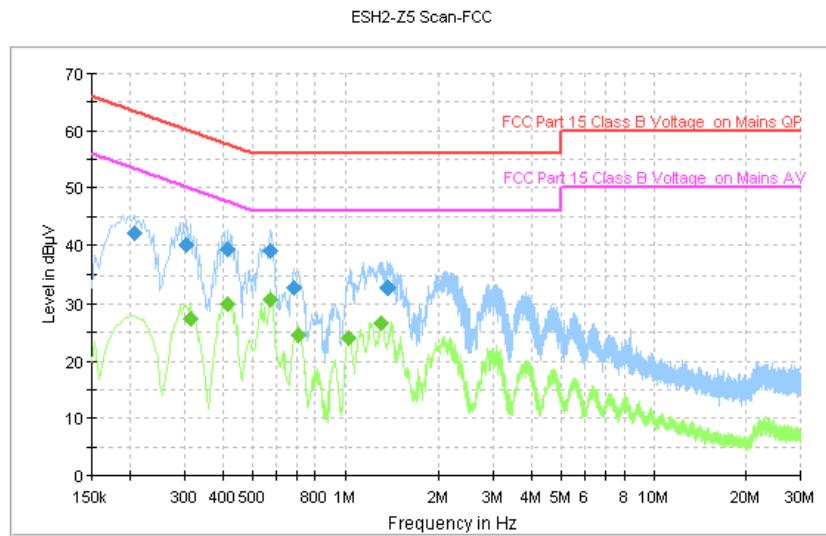
## Final Result 1

Frequency (MHz)	QuasiPeak (dBuV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.206000	40.8	GND	L1	9.8	22.6	63.4
0.306000	39.2	GND	L1	9.8	20.9	60.1
0.422000	37.4	GND	L1	9.8	20.0	57.4
0.566000	36.7	GND	N	9.7	19.3	56.0
1.182000	31.4	GND	L1	9.8	24.6	56.0
13.558000	39.7	GND	L1	9.9	20.3	60.0

## Final Result 2

Frequency (MHz)	Average (dBuV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.298000	28.1	GND	L1	9.8	22.2	50.3
0.422000	27.9	GND	L1	9.8	19.5	47.4
0.566000	28.9	GND	L1	9.8	17.1	46.0
0.690000	22.9	GND	L1	9.8	23.1	46.0
1.306000	24.2	GND	L1	9.8	21.8	46.0
13.558000	39.7	GND	L1	9.9	10.3	50.0

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



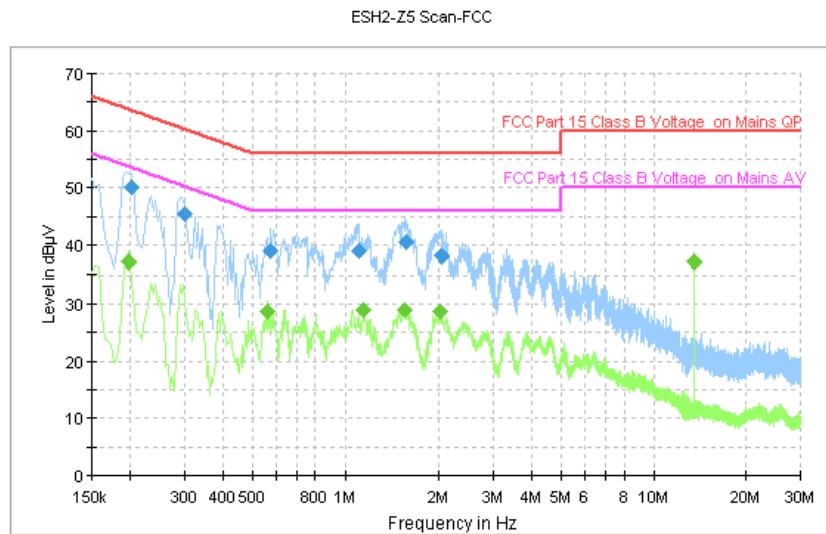
## Final Result 1

Frequency (MHz)	QuasiPeak (dBuV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.206000	42.0	GND	L1	9.8	21.4	63.4
0.306000	40.1	GND	L1	9.8	20.0	60.1
0.414000	39.3	GND	L1	9.8	18.2	57.6
0.574000	38.9	GND	L1	9.8	17.1	56.0
0.682000	32.7	GND	L1	9.8	23.3	56.0
1.370000	32.9	GND	L1	9.8	23.1	56.0

## Final Result 2

Frequency (MHz)	Average (dBuV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.314000	27.4	GND	L1	9.8	22.5	49.9
0.414000	29.8	GND	L1	9.8	17.7	47.6
0.574000	30.8	GND	L1	9.8	15.2	46.0
0.706000	24.6	GND	L1	9.8	21.4	46.0
1.030000	24.1	GND	L1	9.8	21.9	46.0
1.314000	26.5	GND	L1	9.8	19.5	46.0

Figure A-7: Test result of EUT1 at test set. NFC01(idle, 240V)



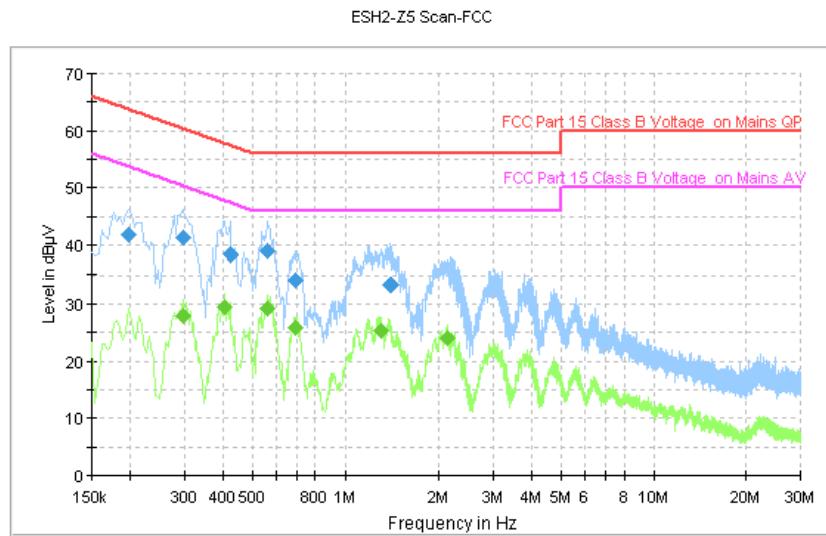
## Final Result 1

Frequency (MHz)	QuasiPeak (dBuV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.202000	50.0	GND	N	9.6	13.5	63.5
0.302000	45.4	GND	N	9.6	14.8	60.2
0.574000	39.0	GND	L1	9.8	17.0	56.0
1.110000	38.9	GND	L1	9.8	17.1	56.0
1.566000	40.5	GND	L1	9.8	15.5	56.0
2.038000	38.2	GND	L1	9.8	17.8	56.0

## Final Result 2

Frequency (MHz)	Average (dBuV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.198000	37.3	GND	L1	9.8	16.4	53.7
0.558000	28.7	GND	L1	9.8	17.3	46.0
1.150000	29.0	GND	L1	9.8	17.0	46.0
1.546000	29.0	GND	L1	9.8	17.0	46.0
2.010000	28.8	GND	L1	9.8	17.2	46.0
13.558000	37.1	GND	N	9.9	12.9	50.0

Figure A-8: Test result of EUT1 at test set. NFC04(120V)



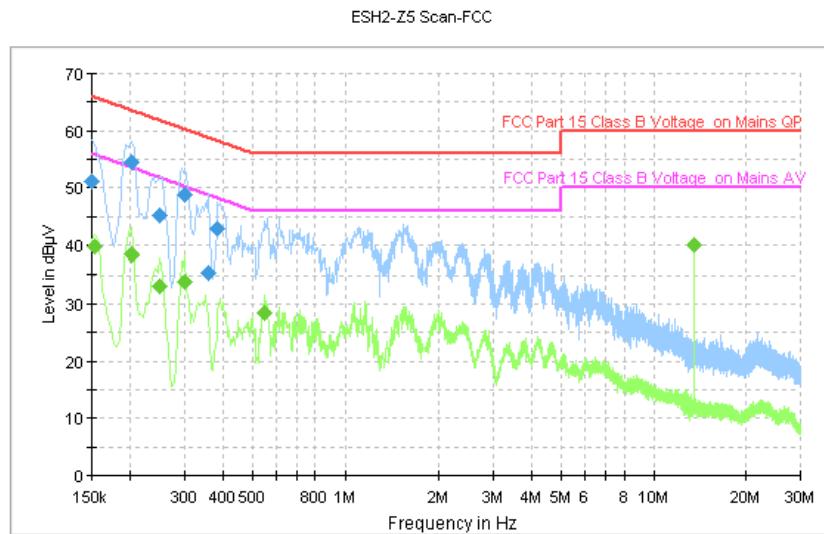
## Final Result 1

Frequency (MHz)	QuasiPeak (dB $\mu$ V)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB $\mu$ V)
0.198000	42.0	GND	L1	9.8	21.7	63.7
0.298000	41.4	GND	L1	9.8	18.9	60.3
0.422000	38.4	GND	L1	9.8	19.0	57.4
0.562000	39.1	GND	L1	9.8	16.9	56.0
0.690000	34.0	GND	L1	9.8	22.0	56.0
1.398000	33.4	GND	L1	9.8	22.6	56.0

## Final Result 2

Frequency (MHz)	Average (dB $\mu$ V)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dB $\mu$ V)
0.298000	27.8	GND	L1	9.8	22.5	50.3
0.406000	29.4	GND	L1	9.8	18.3	47.7
0.562000	29.3	GND	L1	9.8	16.7	46.0
0.690000	25.7	GND	L1	9.8	20.3	46.0
1.306000	25.4	GND	L1	9.8	20.6	46.0
2.130000	24.0	GND	L1	9.8	22.0	46.0

Figure A-9: Test result of EUT1 at test set. NFC04(idle, 120V)



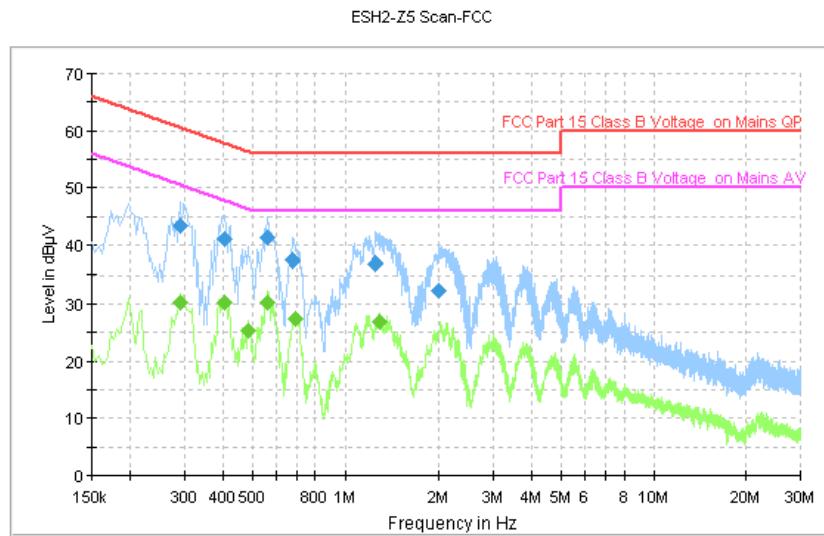
## Final Result 1

Frequency (MHz)	QuasiPeak (dBuV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.150000	51.2	GND	L1	9.7	14.8	66.0
0.202000	54.5	GND	L1	9.8	9.0	63.5
0.250000	45.2	GND	L1	9.8	16.6	61.8
0.302000	48.8	GND	L1	9.8	11.4	60.2
0.358000	35.4	GND	L1	9.8	23.4	58.8
0.386000	42.9	GND	L1	9.8	15.3	58.1

## Final Result 2

Frequency (MHz)	Average (dBuV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.154000	39.9	GND	L1	9.7	15.9	55.8
0.202000	38.5	GND	L1	9.8	15.0	53.5
0.250000	33.1	GND	L1	9.8	18.7	51.8
0.302000	33.9	GND	L1	9.8	16.3	50.2
0.550000	28.4	GND	L1	9.8	17.6	46.0
13.558000	40.1	GND	N	9.9	9.9	50.0

Figure A-10: Test result of EUT1 at test set. NFC04(240V)



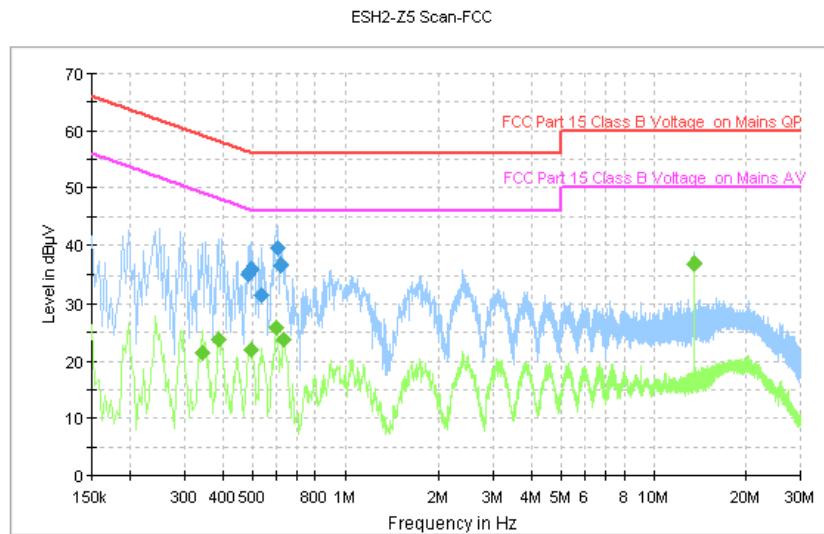
## Final Result 1

Frequency (MHz)	QuasiPeak (dBuV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.290000	43.5	GND	L1	9.8	17.0	60.5
0.406000	41.0	GND	L1	9.8	16.7	57.7
0.558000	41.2	GND	L1	9.8	14.8	56.0
0.678000	37.5	GND	L1	9.8	18.5	56.0
1.254000	36.9	GND	L1	9.8	19.1	56.0
1.990000	32.2	GND	L1	9.8	23.8	56.0

## Final Result 2

Frequency (MHz)	Average (dBuV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.290000	30.1	GND	L1	9.8	20.4	50.5
0.406000	30.1	GND	L1	9.8	17.6	47.7
0.482000	25.2	GND	L1	9.8	21.1	46.3
0.558000	30.2	GND	L1	9.8	15.8	46.0
0.694000	27.3	GND	L1	9.8	18.7	46.0
1.302000	26.8	GND	L1	9.8	19.2	46.0

Figure A-11: Test result of EUT1 at test set. NFC04(idle, 240V)



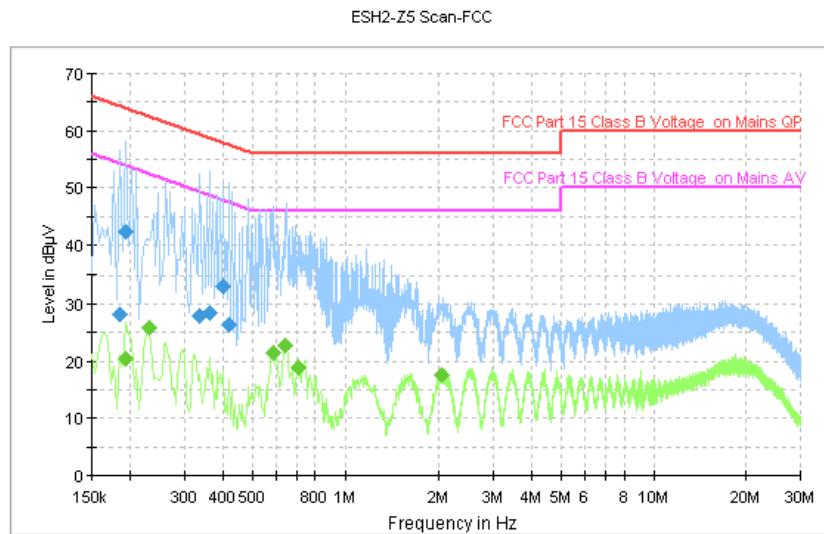
## Final Result 1

Frequency (MHz)	QuasiPeak (dBuV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.482000	35.2	GND	N	9.7	21.1	56.3
0.490000	35.7	GND	N	9.7	20.5	56.2
0.498000	35.8	GND	N	9.7	20.2	56.0
0.534000	31.6	GND	N	9.7	24.4	56.0
0.602000	39.6	GND	N	9.6	16.4	56.0
0.618000	36.7	GND	N	9.6	19.3	56.0

## Final Result 2

Frequency (MHz)	Average (dBuV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.342000	21.3	GND	L1	9.8	27.8	49.2
0.390000	23.9	GND	L1	9.8	24.2	48.1
0.498000	22.0	GND	L1	9.8	24.0	46.0
0.598000	25.9	GND	L1	9.8	20.1	46.0
0.634000	23.8	GND	L1	9.8	22.2	46.0
13.558000	37.0	GND	N	9.9	13.0	50.0

Figure A-12: Test result of EUT1 at test set. NFC05(120V)



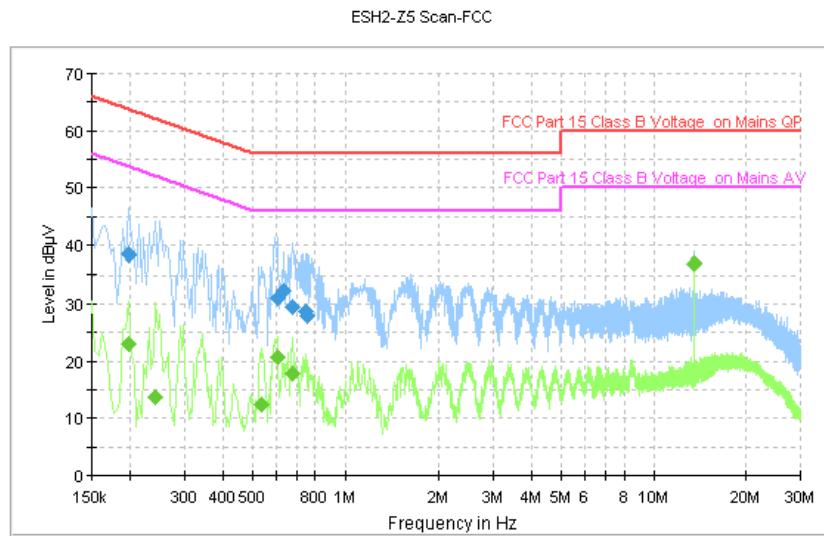
## Final Result 1

Frequency (MHz)	QuasiPeak (dBuV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.186000	28.1	GND	N	9.6	36.2	64.2
0.194000	42.3	GND	N	9.6	21.6	63.9
0.338000	27.9	GND	N	9.6	31.3	59.3
0.362000	28.5	GND	N	9.6	30.2	58.7
0.402000	33.0	GND	N	9.6	24.8	57.8
0.418000	26.3	GND	N	9.7	31.2	57.5

## Final Result 2

Frequency (MHz)	Average (dBuV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.194000	20.3	GND	N	9.6	33.5	53.9
0.230000	25.7	GND	L1	9.8	26.7	52.4
0.582000	21.5	GND	L1	9.8	24.5	46.0
0.642000	22.7	GND	L1	9.8	23.3	46.0
0.706000	19.0	GND	L1	9.8	27.0	46.0
2.042000	17.7	GND	L1	9.8	28.3	46.0

Figure A-13: Test result of EUT1 at test set. NFC05(idle, 120V)



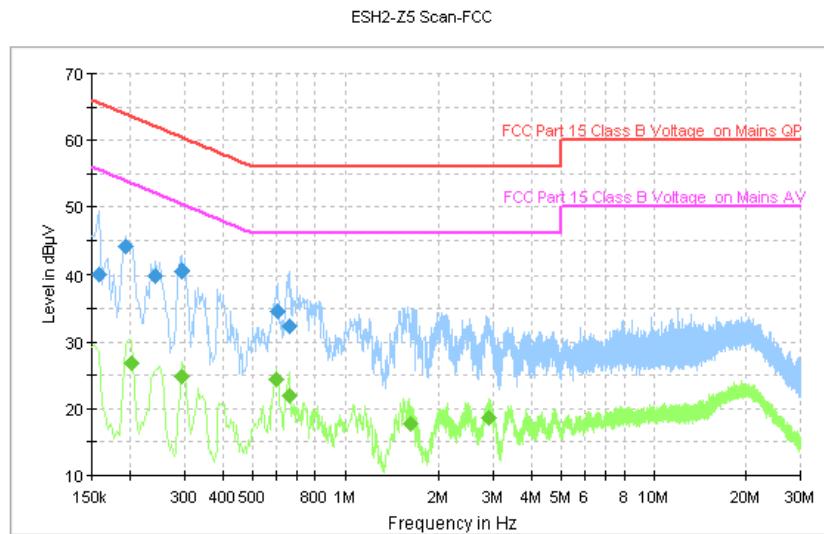
## Final Result 1

Frequency (MHz)	QuasiPeak (dBuV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.198000	38.5	GND	N	9.6	25.2	63.7
0.602000	31.1	GND	L1	9.8	24.9	56.0
0.634000	32.4	GND	N	9.6	23.6	56.0
0.674000	29.4	GND	L1	9.8	26.6	56.0
0.742000	28.8	GND	L1	9.8	27.2	56.0
0.750000	27.9	GND	L1	9.8	28.1	56.0

## Final Result 2

Frequency (MHz)	Average (dBuV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.198000	22.9	GND	L1	9.8	30.8	53.7
0.242000	13.8	GND	L1	9.8	38.3	52.0
0.534000	12.4	GND	L1	9.8	33.6	46.0
0.602000	20.6	GND	L1	9.8	25.4	46.0
0.674000	17.9	GND	L1	9.8	28.1	46.0
13.558000	37.0	GND	N	9.9	13.0	50.0

Figure A-14: Test result of EUT1 at test set. NFC05(240V)



## Final Result 1

Frequency (MHz)	QuasiPeak (dBuV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.158000	40.1	GND	N	9.6	25.5	65.6
0.194000	44.1	GND	N	9.6	19.8	63.9
0.242000	40.0	GND	N	9.6	22.1	62.0
0.294000	40.5	GND	N	9.6	19.9	60.4
0.602000	34.6	GND	N	9.6	21.4	56.0
0.658000	32.4	GND	L1	9.8	23.6	56.0

## Final Result 2

Frequency (MHz)	Average (dBuV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.202000	26.8	GND	L1	9.8	26.7	53.5
0.294000	24.8	GND	N	9.6	25.6	50.4
0.598000	24.4	GND	L1	9.8	21.6	46.0
0.658000	22.0	GND	L1	9.8	24.0	46.0
1.622000	17.7	GND	L1	9.8	28.3	46.0
2.910000	18.5	GND	L1	9.8	27.5	46.0

Figure A-15: Test result of EUT1 at test set. NFC05(idle, 240V)

### A.4.6. Measurement Uncertainty

Measurement uncertainty:  $U = 3.2 \text{ dB}$ ,  $k=2$

\*\*\*END OF REPORT\*\*\*