

FCC Co-Location Test Report

FCC ID : RF41539C
Equipment : Handheld Terminal
Model No. : DX-A400
Brand Name : KEYENCE
Applicant : KEYENCE CORPORATION
Address : 1-3-14 HIGASHI-NAKAJIMA,
HIGASHI-YODOGAWA-KU, OSAKA, JAPAN
Standard : 47 CFR FCC Part 15.247
47 CFR FCC Part 15.407
47 CFR FCC Part 15.225
47 CFR FCC Part 22 Subpart H
47 CFR FCC Part 24 Subpart E
47 CFR FCC Part 27
Received Date : Jun. 21, 2021
Tested Date : Aug. 04 ~ Aug. 09, 2021

We, International Certification Corporation, would like to declare that the tested sample has been evaluated and in compliance with the requirement of the above standards. The test results contained in this report refer exclusively to the product. It may be duplicated completely for legal use with the approval of the applicant. It shall not be reproduced except in full without the written approval of our laboratory.

Reviewed by:



Along Chen / Assistant Manager

Approved by:



Gary Chang / Manager



Table of Contents

1	GENERAL DESCRIPTION	5
1.1	Information.....	5
1.2	The Equipment List	7
1.3	Test Standards	8
1.4	Reference Guidance	8
1.5	Deviation from Test Standard and Measurement Procedure.....	8
1.6	Measurement Uncertainty	8
2	TEST CONFIGURATION	9
2.1	Testing Facility.....	9
2.2	The Worst Test Modes and Channel Details	9
3	TRANSMITTER TEST RESULTS.....	10
3.1	Unwanted Emissions into Restricted Frequency Bands	10
4	TEST LABORATORY INFORMATION	60

Release Record

Report No.	Version	Description	Issued Date
FR162103CO	Rev. 01	Initial issue	Nov. 16, 2021

Summary of Test Results

FCC Rules	Test Items	Measured	Result
15.247(d) 15.407(b) 15.209 15.225(d) 2.1053 / 22.917(a) 2.1053 / 24.238(a) 2.1053 / 27.53(h) 2.1053 / 27.53(m)(4)(6)	Radiated Emissions	[dBuV/m at 3m]: 32.95MHz 33.21 (Margin -6.79dB) - PK	Pass

Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and Explanations:

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

1 General Description

1.1 Information

1.1.1 Specification of the Equipment under Test (EUT)

WLAN	
Operating Frequency	802.11b/g/n: 2412 MHz ~ 2462 MHz 802.11a/n/ac: 5180 MHz ~ 5240 MHz; 5260 MHz ~ 5320 MHz
Modulation Type	802.11b: DSSS (DBPSK / DQPSK / CCK) 802.11a/g/n/ac: OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM)
BT	
Operating Frequency	2402 MHz ~ 2480 MHz
Modulation Type	Bluetooth 5.0 LE: GFSK Bluetooth BR(1Mbps): GFSK Bluetooth EDR (2Mbps): $\pi/4$ -DQPSK Bluetooth EDR (3Mbps): 8-DPSK
LTE	
Operating Frequency	LTE Band 5: 824 MHz ~ 849 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 41: 2555 MHz ~ 2655 MHz
Modulation	QPSK, 16QAM (Uplink)
WCDMA	
Operating Frequency	WCDMA Band V: 826.4 MHz ~ 846.6 MHz WCDMA Band II: 1852.4 MHz ~ 1907.6 MHz
Modulation	WCDMA AMR / RMC / HSDPA / HSUPA: BPSK (Uplink)
RFID	
Operating Frequency	13.56 MHz
Modulation	ASK

1.1.2 Antenna Details

LTE

Type	Gain (dBi)	Connector	Remark
PIFA	1.86	No	LTE Band 4
PIFA	1.86	No	LTE Band 2 / WCDMA Band II
PIFA	-2.89	No	LTE Band 5 / WCDMA Band V
PIFA	1.99	No	LTE Band 41

WLAN

Ant. No.	Type	Connector	Operating Frequencies (MHz) / Antenna Gain (dBi)		
			2400~2483.5	5150~5250	5250~5350
1	PIFA	No	-0.23	4.81	4.81

BT

Ant. No.	Type	Connector	Gain (dBi)	Remarks
1	PIFA	No	-0.23	---

RFID

Ant. No.	Type	Connector	Gain (dBi)	Remarks
1	Coil	No	---	---

1.1.3 Power Supply Type of Equipment under Test (EUT)

Power Supply Type	3.8Vdc
-------------------	--------

1.2 The Equipment List

Test Item	Radiated Emission				
Test Site	966 chamber1 / (03CH01-WS)				
Tested Date	Aug. 04 ~ Aug. 09, 2021				
Instrument	Brand	Model No.	Serial No.	Calibration Date	Calibration Until
Radio Communication Analyzer	Anritsu	MT8820C	6201240341	May 26, 2021	May 25, 2022
Wireless connectivity tester	R&S	CMW270	100856	Nov. 02, 2020	Nov. 01, 2021
Receiver	R&S	ESR3	101657	Mar. 12, 2021	Mar. 11, 2022
Spectrum Analyzer	R&S	FSV40	101498	Dec. 04, 2020	Dec. 03, 2021
Loop Antenna	R&S	HFH2-Z2	100330	Nov. 17, 2020	Nov. 16, 2021
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-522	Jun. 30, 2021	Jun. 29, 2022
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1096	Dec. 11, 2020	Dec. 10, 2021
Horn Antenna 18G-40G	SCHWARZBECK	BBHA 9170	BBHA 9170517	Nov. 06, 2020	Nov. 05, 2021
Preamplifier	EMC	EMC02325	980225	Jun. 29, 2021	Jun. 28, 2022
Preamplifier	Agilent	83017A	MY39501308	Sep. 26, 2020	Sep. 25, 2021
Preamplifier	EMC	EMC184045B	980192	Jul. 14, 2021	Jul. 13, 2022
Loop Antenna Cable	KOAX KABEL	101354-BW	101354-BW	Oct. 06, 2020	Oct. 05, 2021
LF cable 3M	Woken	CFD400NL-LW	CFD400NL-001	Oct. 06, 2020	Oct. 05, 2021
LF cable 11M	EMC	EMCCFD400-NW-N W-11000	200801	Oct. 06, 2020	Oct. 05, 2021
LF cable 1M	EMC	EMCCFD400-NM-N M-1000	160502	Oct. 06, 2020	Oct. 05, 2021
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16019/4	Oct. 06, 2020	Oct. 05, 2021
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16014/4	Oct. 06, 2020	Oct. 05, 2021
Measurement Software	AUDIX	e3	6.120210g	NA	NA

Note: Calibration Interval of instruments listed above is one year.

1.3 Test Standards

47 CFR FCC Part 15.247
47 CFR FCC Part 15.407
47 CFR FCC Part 15.225
ANSI C63.10-2013
47 CFR FCC Part 22 Subpart H
47 CFR FCC Part 24 Subpart E
47 CFR FCC Part 27
ANSI C63.26-2015

1.4 Reference Guidance

FCC KDB 558074 D01 15.247 Meas Guidance v05r02
FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01
FCC KDB 412172 D01 Determining ERP and EIRP v01r01
FCC KDB 971168 D01 Power Meas License Digital Systems v03r01
FCC KDB 971168 D02 Misc Rev Approv License Devices v02r01

1.5 Deviation from Test Standard and Measurement Procedure

None

1.6 Measurement Uncertainty

The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor ($k=2$)).

Measurement Uncertainty	
Parameters	Uncertainty
Radiated emission \leq 1GHz	± 3.41 dB
Radiated emission $>$ 1GHz	± 4.59 dB

2 Test Configuration

2.1 Testing Facility

Test Laboratory	International Certification Corporation
Test Site	03CH01-WS
Address of Test Site	No.3-1, Lane 6, Wen San 3rd St., Kwei Shan Dist., Tao Yuan City 33381, Taiwan (R.O.C.)

- FCC Designation No.: TW2732
- FCC site registration No.: 181692
- ISED#: 10807A
- CAB identifier: TW2732

2.2 The Worst Test Modes and Channel Details

Test item	Test Mode
Radiated Emissions	Mode 1: NFC + WLAN2.4G 11G CH06 + 3G B2 (CH9262, 1852.4MHz) Mode 2: NFC + WLAN2.4G 11G CH06 + 3G B5 (CH4233, 846.6MHz) Mode 3: NFC + WLAN2.4G 11G CH06 + LTE B4 (BW5, CH19975, 1712.5) Mode 4: NFC + WLAN2.4G 11G CH06 + LTE B41 (BW10, CH40740, 2605) Mode 5: NFC + WLAN5G 11AC40 CH62+ 3G B2 (CH9262, 1852.4MHz) Mode 6: NFC + WLAN5G 11AC40 CH62+ 3G B5 (CH4233, 846.6MHz) Mode 7: NFC + WLAN5G 11AC40 CH62+ LTE B4 (BW5, CH19975, 1712.5MHz) Mode 8: NFC + WLAN5G 11AC40 CH62+ LTE B41 (BW10, CH40740, 2605MHz) Mode 9: NFC + BT GFSK CH78 + 3G B2 (CH9262, 1852.4MHz) Mode 10: NFC + BT GFSK CH78 + 3G B5 (CH4233, 846.6MHz) Mode 11: NFC + BT GFSK CH78 + LTE B4 (BW5, CH19975, 1712.5MHz) Mode 12: NFC + BT GFSK CH78 + LTE B41 (BW10, CH40740, 2605MHz)
NOTE: The selected channel is the maximum power channel of each radio mode.	

3 Transmitter Test Results

3.1 Unwanted Emissions into Restricted Frequency Bands

3.1.1 Limit of Unwanted Emissions into Restricted Frequency Bands

Restricted Band Emissions Limit			
Frequency Range (MHz)	Field Strength (uV/m)	Field Strength (dBuV/m)	Measure Distance (m)
0.009~0.490	2400/F(kHz)	48.5 - 13.8	300
0.490~1.705	24000/F(kHz)	33.8 - 23	30
1.705~30.0	30	29	30
30~88	100	40	3
88~216	150	43.5	3
216~960	200	46	3
Above 960	500	54	3

Note 1:
Qusai-Peak value is measured for frequency below 1GHz except for 9–90 kHz, 110–490 kHz frequency band. Peak and average value are measured for frequency above 1GHz. The limit on average radio frequency emission is as above table. The limit on peak radio frequency emissions is 20 dB above the maximum permitted average emission limit

Note 2:
Measurements may be performed at a distance other than what is specified provided. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor as below, Frequency at or above 30 MHz: 20 dB/decade Frequency below 30 MHz: 40 dB/decade.

3.1.2 Test Procedures

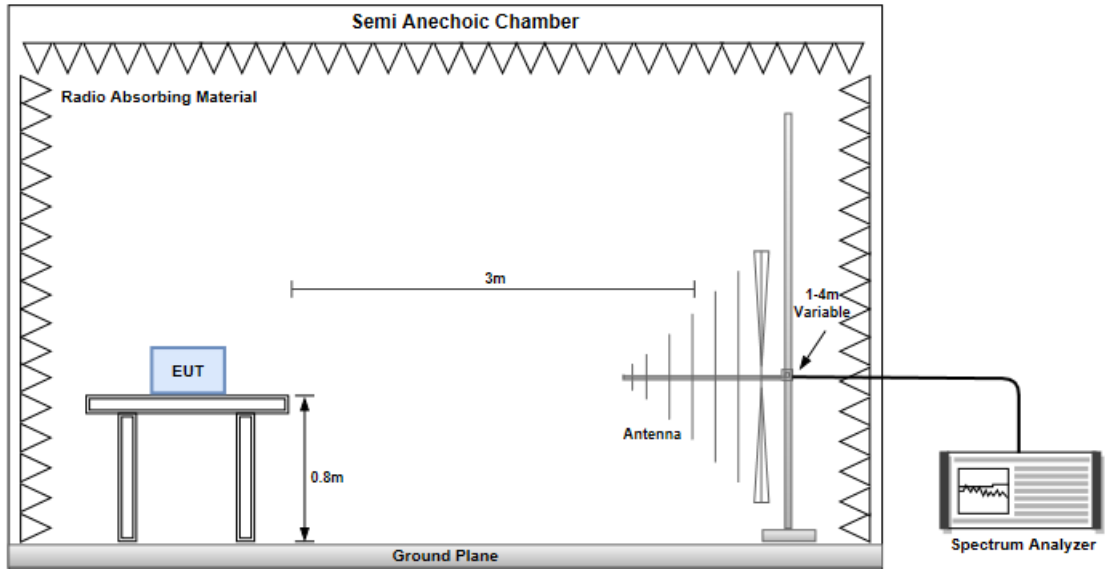
1. Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission frequency. The EUT is placed at test table. For emissions testing at or below 1 GHz, the table height is 80 cm above the reference ground plane. For emission measurements above 1 GHz, the table height is 1.5 m.
2. Measurement is made with the antenna positioned in both the horizontal and vertical planes of polarization. The measurement antenna is varied in height (1m ~ 4m) above the reference ground plane to obtain the maximum signal strength. Distance between EUT and antenna is 3 m.
3. This investigation is performed with the EUT rotated 360°, the antenna height scanned between 1 m and 4 m, and the antenna rotated to repeat the measurements for both the horizontal and vertical antenna polarizations.

Note:

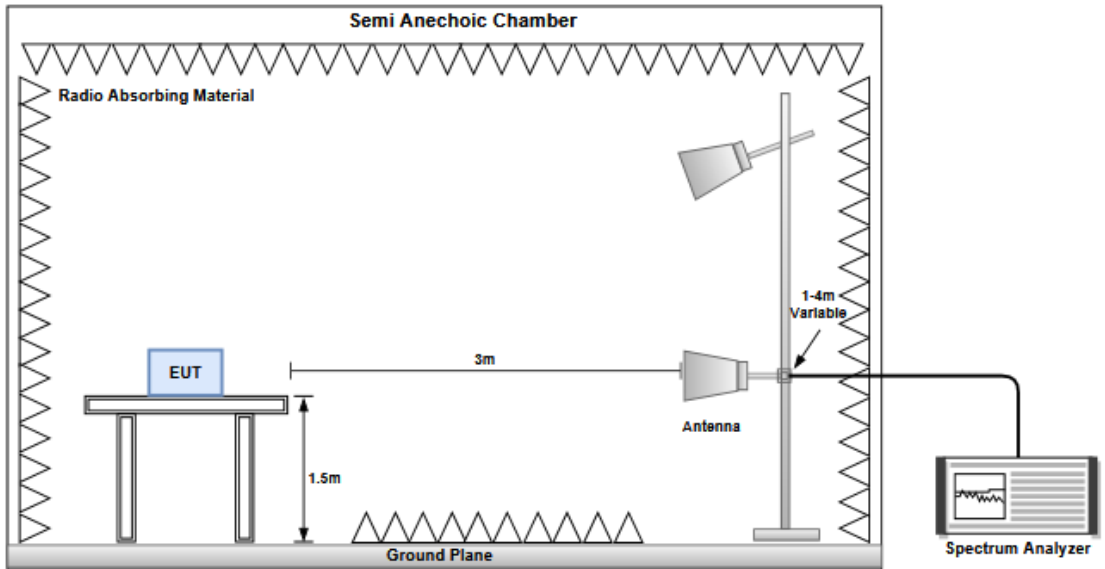
1. 120kHz measurement bandwidth of test receiver and Quasi-peak detector is for radiated emission below 1GHz.
2. RBW=1MHz, VBW=3MHz and Peak detector is for peak measured value of radiated emission above 1GHz.
3. RBW=1MHz, VBW=1/T and Peak detector is for average measured value of radiated emission above 1GHz.

3.1.3 Test Setup

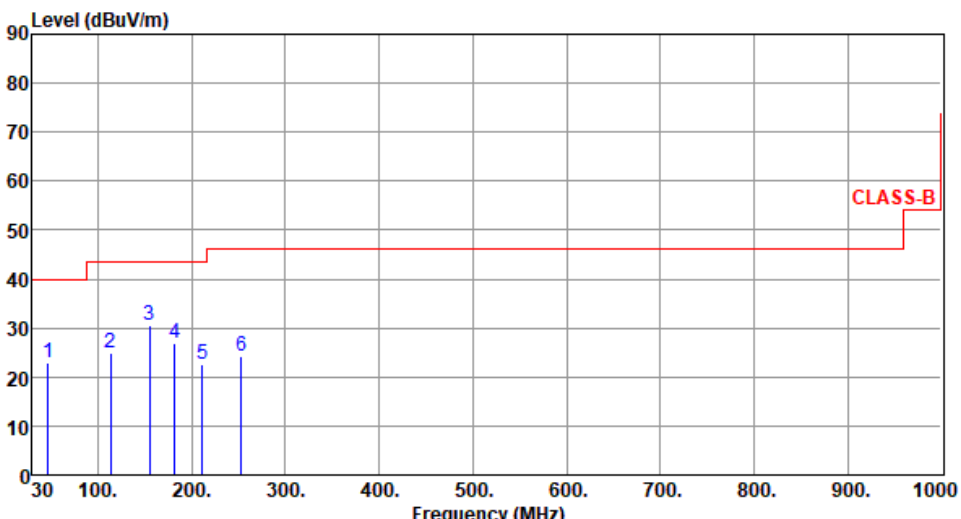
Radiated Emissions below 1 GHz

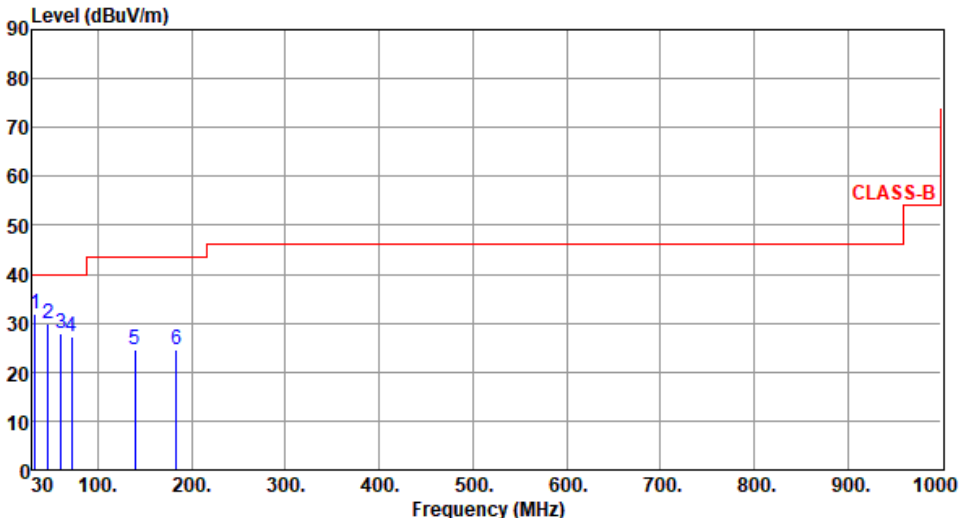


Radiated Emissions above 1 GHz

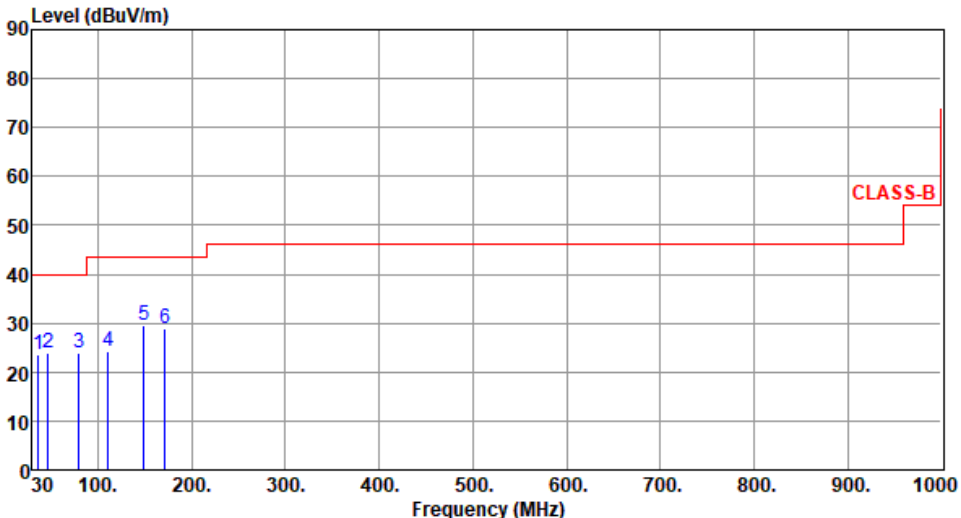


3.1.4 Transmitter Radiated Unwanted Emissions (Below 1GHz)

Test Mode	Mode 1: NFC + WLAN2.4G 11G CH06 + 3G B2 (CH9262, 1852.4MHz)									
Polarization	Horizontal									
Test By : Akun Chung			Temperature(°C): 25			Humidity(%): 66				
 <p>The graph plots Emission Level (dBuV/m) on the y-axis (0 to 90) against Frequency (MHz) on the x-axis (30 to 1000). A red step function represents the CLASS-B limit, starting at 40 dBuV/m from 30 MHz to 100 MHz, rising to 45 dBuV/m at 100 MHz, and rising to 55 dBuV/m at 900 MHz. Six blue vertical lines indicate measured peaks at frequencies 46.49, 113.42, 155.13, 182.29, 211.39, and 253.10 MHz, with levels 23.04, 24.76, 30.45, 27.02, 22.59, and 24.11 dBuV/m respectively.</p>										
	Freq.	Emission	Limit	Margin	SA	Factor	Remark	ANT	Turn	
	MHz	level	dBuV/m	dB	reading	dB/m		High	Table	
								cm	deg	
1	46.49	23.04	40.00	-16.96	31.55	-8.51	Peak	---	---	
2	113.42	24.76	43.50	-18.74	36.18	-11.42	Peak	---	---	
3	155.13	30.45	43.50	-13.05	39.21	-8.76	Peak	---	---	
4	182.29	27.02	43.50	-16.48	37.52	-10.50	Peak	---	---	
5	211.39	22.59	43.50	-20.91	34.60	-12.01	Peak	---	---	
6	253.10	24.11	46.00	-21.89	34.13	-10.02	Peak	---	---	
<p>Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m) *Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m). Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.</p>										

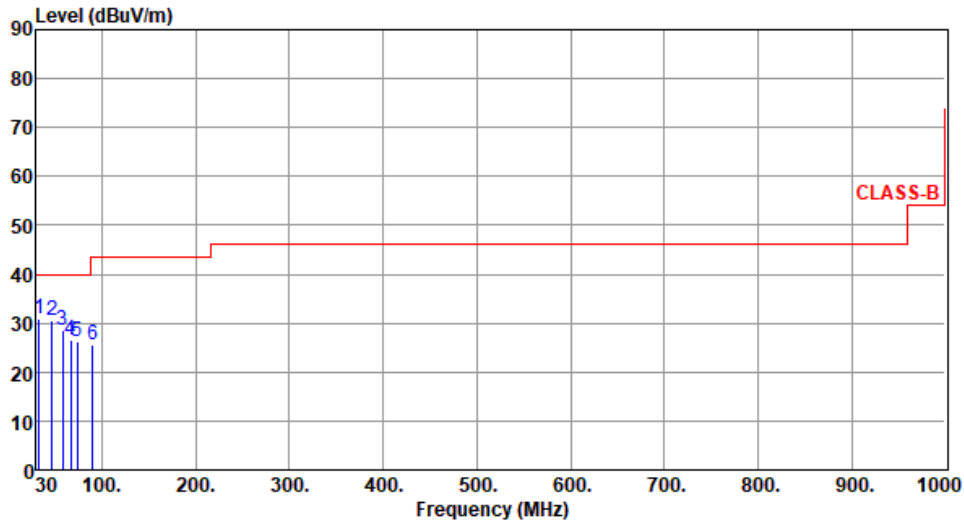
Test Mode	Mode 1: NFC + WLAN2.4G 11G CH06 + 3G B2 (CH9262, 1852.4MHz)									
Polarization	Vertical									
Test By : Akun Chung			Temperature(°C): 25			Humidity(%): 66				
										
	Freq.	Emission	Limit	Margin	SA	Factor	Remark	ANT	Turn	
	MHz	level	dBuV/m	dB	reading	dB/m		High	Table	
		dBuV/m			dBuV			cm	deg	
1	32.91	31.74	40.00	-8.26	41.54	-9.80	Peak	---	---	
2	46.49	29.76	40.00	-10.24	38.27	-8.51	Peak	---	---	
3	61.04	27.75	40.00	-12.25	37.16	-9.41	Peak	---	---	
4	71.71	27.12	40.00	-12.88	38.34	-11.22	Peak	---	---	
5	139.61	24.44	43.50	-19.06	33.73	-9.29	Peak	---	---	
6	183.26	24.53	43.50	-18.97	35.13	-10.60	Peak	---	---	

Note 1: Emission Level (dBUV/m) = SA Reading (dBUV) + Factor* (dB/m)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBUV/m) – Limit (dBUV/m).
Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

Test Mode	Mode 2: NFC + WLAN2.4G 11G CH06 + 3G B5 (CH4233, 846.6MHz)										
Polarization	Horizontal										
Test By : Akun Chung			Temperature(°C): 25			Humidity(%): 66					
											
	Freq.	Emission	Limit	Margin	SA	Factor	Remark	ANT	Turn		
	MHz	level	dBuV/m	dB	reading	dB/m		High	Table		
		dBuV/m			dBuV			cm	deg		
1	36.79	23.51	40.00	-16.49	32.69	-9.18	Peak	---	---		
2	46.49	23.85	40.00	-16.15	32.36	-8.51	Peak	---	---		
3	79.47	23.93	40.00	-16.07	37.23	-13.30	Peak	---	---		
4	110.51	24.31	43.50	-19.19	36.07	-11.76	Peak	---	---		
5	149.31	29.51	43.50	-13.99	38.62	-9.11	Peak	---	---		
6	171.62	28.78	43.50	-14.72	37.99	-9.21	Peak	---	---		
<p>Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m) *Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m). Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.</p>											

Test Mode	Mode 2: NFC + WLAN2.4G 11G CH06 + 3G B5 (CH4233, 846.6MHz)
Polarization	Vertical

Test By :Akun Chung Temperature(°C):25 Humidity(%):66



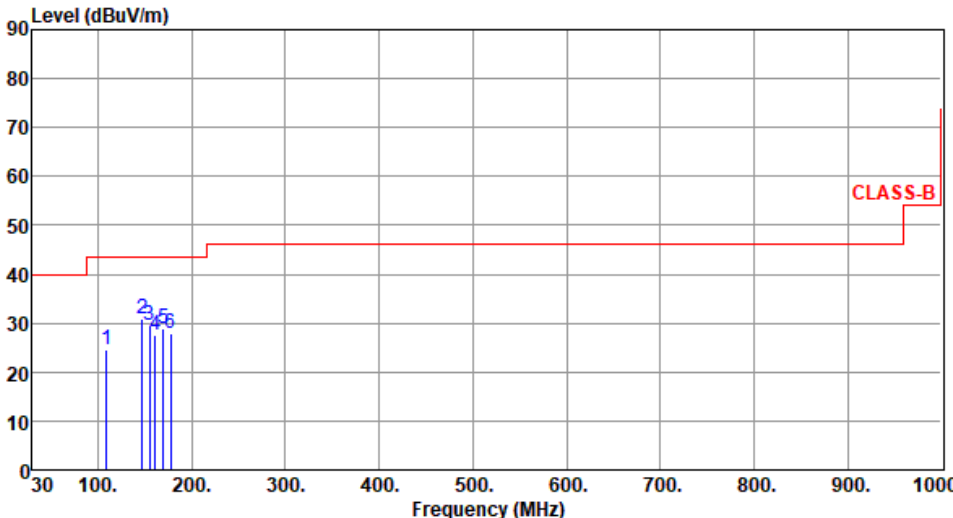
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	32.91	30.94	40.00	-9.06	40.74	-9.80	Peak	---	---
2	46.49	30.52	40.00	-9.48	39.03	-8.51	Peak	---	---
3	58.13	28.72	40.00	-11.28	37.95	-9.23	Peak	---	---
4	66.86	26.70	40.00	-13.30	37.08	-10.38	Peak	---	---
5	73.65	26.26	40.00	-13.74	38.17	-11.91	Peak	---	---
6	90.14	25.62	43.50	-17.88	40.37	-14.75	Peak	---	---

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)

*Factor includes antenna factor , cable loss and amplifier gain

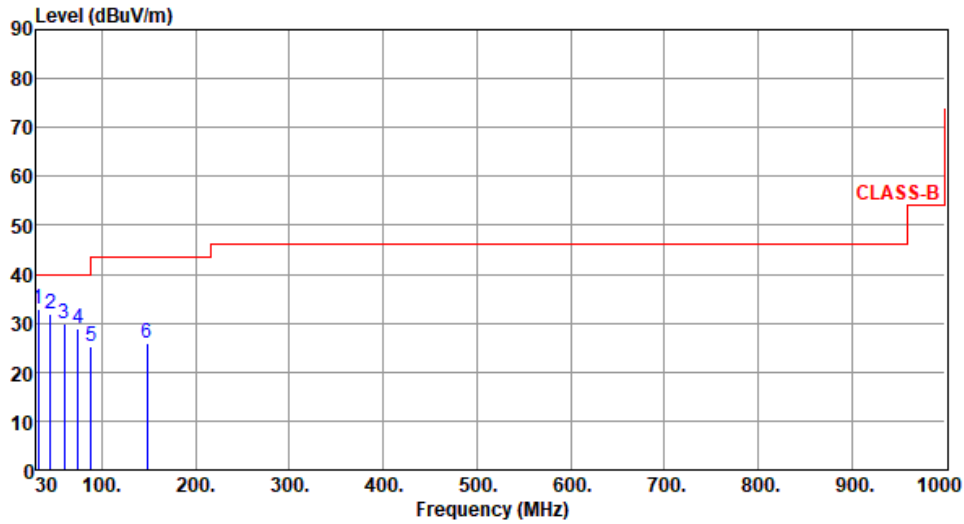
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

Test Mode	Mode 3: NFC + WLAN2.4G 11G CH06 + LTE B4 (BW5, CH19975, 1712.5)									
Polarization	Horizontal									
Test By : Akun Chung			Temperature(°C): 25			Humidity(%): 66				
										
	Freq.	Emission	Limit	Margin	SA	Factor	Remark	ANT	Turn	
	MHz	level	dBuV/m	dB	reading	dB/m		High	Table	
		dBuV/m			dBuV			cm	deg	
1	109.54	24.52	43.50	-18.98	36.38	-11.86	Peak	---	---	
2	147.24	30.98	43.50	-12.52	39.95	-8.97	Peak	---	---	
3	154.88	29.66	43.50	-13.84	38.43	-8.77	Peak	---	---	
4	161.47	27.54	43.50	-15.96	36.33	-8.79	Peak	---	---	
5	169.88	28.88	43.50	-14.62	37.98	-9.10	Peak	---	---	
6	177.96	27.93	43.50	-15.57	38.01	-10.08	Peak	---	---	
<p>Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m) *Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m). Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.</p>										

Test Mode	Mode 3: NFC + WLAN2.4G 11G CH06 + LTE B4 (BW5, CH19975, 1712.5)
Polarization	Vertical

Test By :Akun Chung Temperature(°C):25 Humidity(%):66



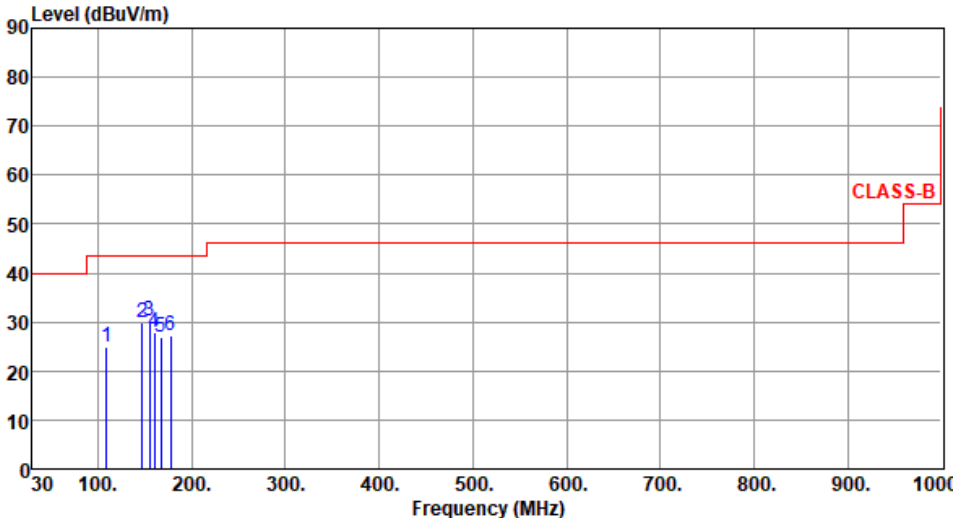
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	31.83	32.87	40.00	-7.13	42.63	-9.76	Peak	---	---
2	44.81	31.82	40.00	-8.18	40.27	-8.45	Peak	---	---
3	59.86	29.95	40.00	-10.05	39.18	-9.23	Peak	---	---
4	74.85	28.85	40.00	-11.15	41.00	-12.15	Peak	---	---
5	88.66	25.33	43.50	-18.17	40.12	-14.79	Peak	---	---
6	148.47	25.77	43.50	-17.73	34.83	-9.06	Peak	---	---

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)

*Factor includes antenna factor , cable loss and amplifier gain

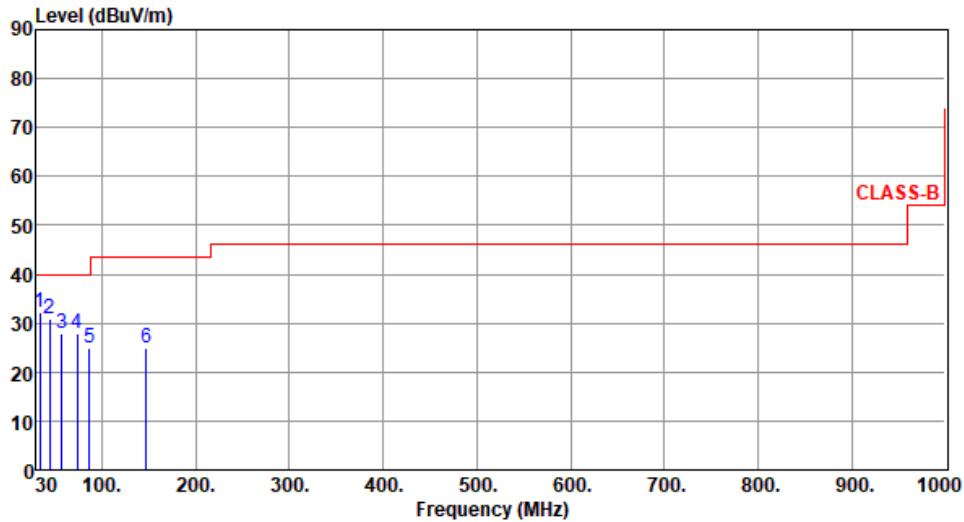
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

Test Mode	Mode 4: NFC + WLAN2.4G 11G CH06 + LTE B41 (BW10, CH40740, 2605)									
Polarization	Horizontal									
Test By : Akun Chung			Temperature(°C): 25			Humidity(%): 66				
										
	Freq.	Emission	Limit	Margin	SA	Factor	Remark	ANT	Turn	
	MHz	level	dBuV/m	dB	reading	dB/m		High	Table	
		dBuV/m			dBuV			cm	deg	
1	109.45	24.81	43.50	-18.69	36.67	-11.86	Peak	---	---	
2	147.54	30.01	43.50	-13.49	38.98	-8.97	Peak	---	---	
3	154.82	30.31	43.50	-13.19	39.09	-8.78	Peak	---	---	
4	159.88	27.93	43.50	-15.57	36.59	-8.66	Peak	---	---	
5	167.44	26.85	43.50	-16.65	35.87	-9.02	Peak	---	---	
6	177.88	27.22	43.50	-16.28	37.29	-10.07	Peak	---	---	
<p>Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m) *Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m). Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.</p>										

Test Mode	Mode 4: NFC + WLAN2.4G 11G CH06 + LTE B41 (BW10, CH40740, 2605)
Polarization	Vertical

Test By :Akun Chung Temperature(°C):25 Humidity(%):66



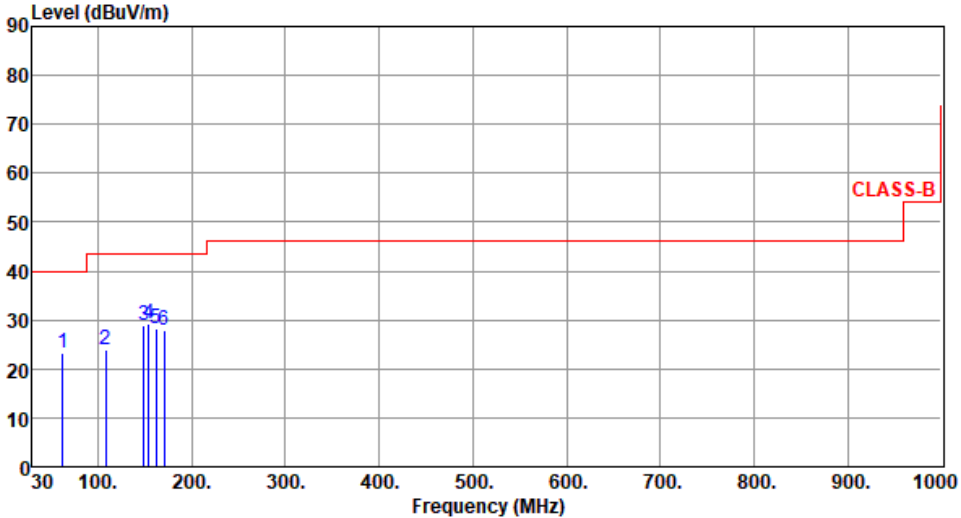
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	33.54	32.25	40.00	-7.75	41.90	-9.65	Peak	---	---
2	44.15	31.05	40.00	-8.95	39.63	-8.58	Peak	---	---
3	57.48	27.99	40.00	-12.01	37.15	-9.16	Peak	---	---
4	73.88	28.05	40.00	-11.95	40.06	-12.01	Peak	---	---
5	86.95	25.00	40.00	-15.00	39.75	-14.75	Peak	---	---
6	146.85	24.81	43.50	-18.69	33.84	-9.03	Peak	---	---

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)

*Factor includes antenna factor , cable loss and amplifier gain

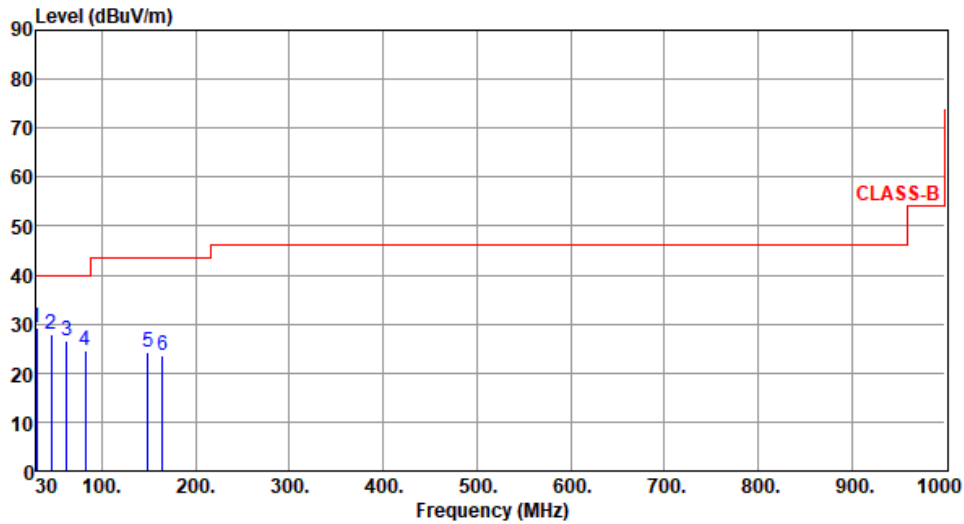
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

Test Mode	Mode 5: NFC + WLAN5G 11AC40 CH62+ 3G B2 (CH9262, 1852.4MHz)									
Polarization	Horizontal									
Test By : Akun Chung			Temperature(°C): 25			Humidity(%): 66				
										
	Freq.	Emission	Limit	Margin	SA	Factor	Remark	ANT	Turn	
	MHz	level	dBuV/m	dB	reading	dB/m		High	Table	
		dBuV/m			dBuV			cm	deg	
1	62.01	23.26	40.00	-16.74	32.96	-9.70	Peak	---	---	
2	108.57	24.03	43.50	-19.47	36.07	-12.04	Peak	---	---	
3	149.31	29.01	43.50	-14.49	38.12	-9.11	Peak	---	---	
4	154.16	29.22	43.50	-14.28	38.06	-8.84	Peak	---	---	
5	161.92	28.29	43.50	-15.21	37.04	-8.75	Peak	---	---	
6	170.65	28.00	43.50	-15.50	37.19	-9.19	Peak	---	---	
<p>Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m) *Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m). Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.</p>										

Test Mode	Mode 5: NFC + WLAN5G 11AC40 CH62+ 3G B2 (CH9262, 1852.4MHz)
Polarization	Vertical

Test By :Akun Chung Temperature(°C):25 Humidity(%):66



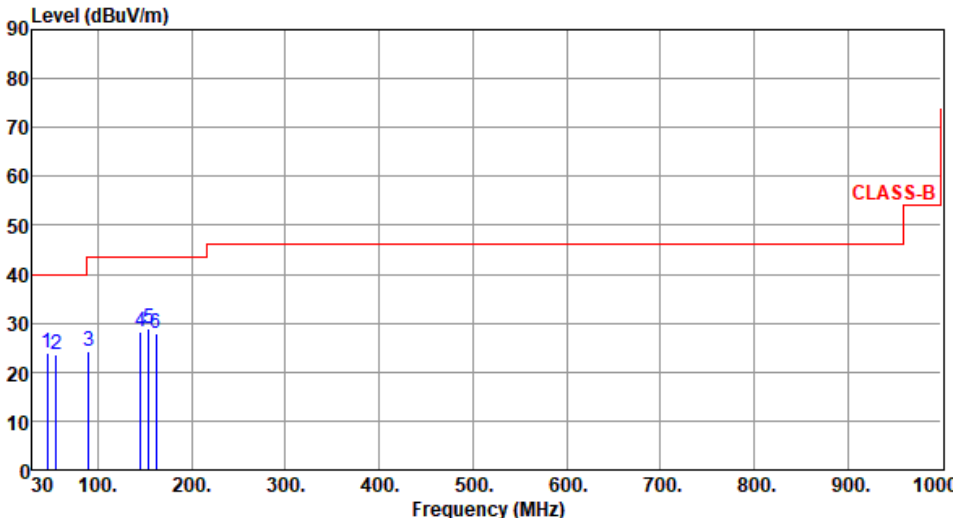
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	30.00	29.19	40.00	-10.81	39.20	-10.01	Peak	---	---
2	45.52	27.90	40.00	-12.10	36.42	-8.52	Peak	---	---
3	62.01	26.72	40.00	-13.28	36.42	-9.70	Peak	---	---
4	82.38	24.53	40.00	-15.47	38.48	-13.95	Peak	---	---
5	149.31	24.14	43.50	-19.36	33.25	-9.11	Peak	---	---
6	164.83	23.44	43.50	-20.06	32.35	-8.91	Peak	---	---

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)

*Factor includes antenna factor , cable loss and amplifier gain

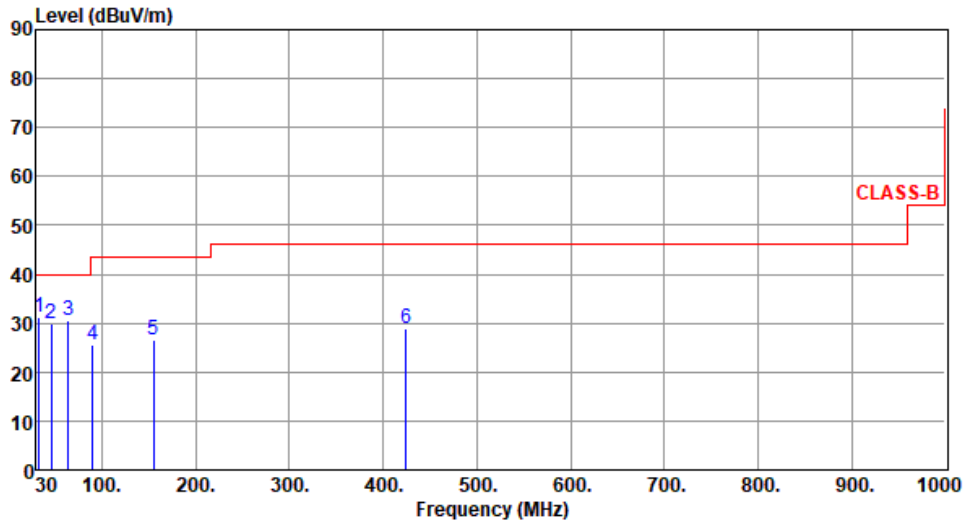
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

Test Mode	Mode 6: NFC + WLAN5G 11AC40 CH62+ 3G B5 (CH4233, 846.6MHz)									
Polarization	Horizontal									
Test By : Akun Chung			Temperature(°C): 25			Humidity(%): 66				
										
	Freq.	Emission	Limit	Margin	SA	Factor	Remark	ANT	Turn	
	MHz	level	dBuV/m	dB	reading	dB/m		High	Table	
		dBuV/m	dBuV/m		dBuV			cm	deg	
1	45.52	24.04	40.00	-15.96	32.56	-8.52	Peak	---	---	
2	55.22	23.48	40.00	-16.52	32.51	-9.03	Peak	---	---	
3	90.14	24.27	43.50	-19.23	39.02	-14.75	Peak	---	---	
4	145.43	28.08	43.50	-15.42	37.35	-9.27	Peak	---	---	
5	154.16	28.75	43.50	-14.75	37.59	-8.84	Peak	---	---	
6	161.92	28.05	43.50	-15.45	36.80	-8.75	Peak	---	---	
<p>Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m) *Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m). Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.</p>										

Test Mode	Mode 6: NFC + WLAN5G 11AC40 CH62+ 3G B5 (CH4233, 846.6MHz)
Polarization	Vertical

Test By :Akun Chung Temperature(°C):25 Humidity(%):66



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	32.91	31.17	40.00	-8.83	40.97	-9.80	Peak	---	---
2	45.52	29.92	40.00	-10.08	38.44	-8.52	Peak	---	---
3	63.95	30.63	40.00	-9.37	40.42	-9.79	Peak	---	---
4	90.14	25.45	43.50	-18.05	40.20	-14.75	Peak	---	---
5	155.13	26.72	43.50	-16.78	35.48	-8.76	Peak	---	---
6	424.79	29.01	46.00	-16.99	34.09	-5.08	Peak	---	---

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)

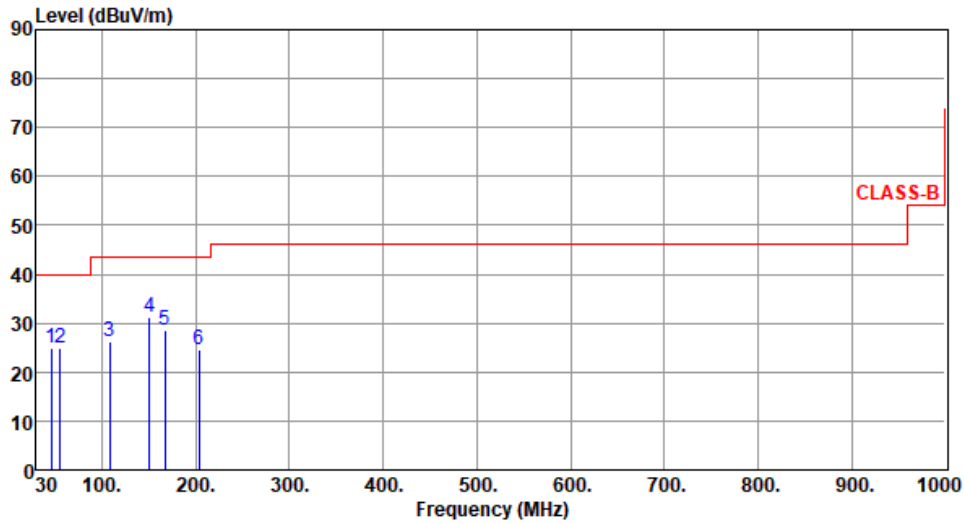
*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

Test Mode	Mode 7: NFC + WLAN5G 11AC40 CH62+ LTE B4 (BW5, CH19975, 1712.5MHz)
Polarization	Horizontal

Test By :Akun Chung Temperature(°C):25 Humidity(%) :66



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	45.91	24.95	40.00	-15.05	33.54	-8.59	Peak	---	---
2	55.63	24.84	40.00	-15.16	33.86	-9.02	Peak	---	---
3	107.95	26.33	43.50	-17.17	38.54	-12.21	Peak	---	---
4	150.44	31.31	43.50	-12.19	40.24	-8.93	Peak	---	---
5	167.45	28.55	43.50	-14.95	37.57	-9.02	Peak	---	---
6	203.77	24.70	43.50	-18.80	36.70	-12.00	Peak	---	---

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)

*Factor includes antenna factor, cable loss and amplifier gain

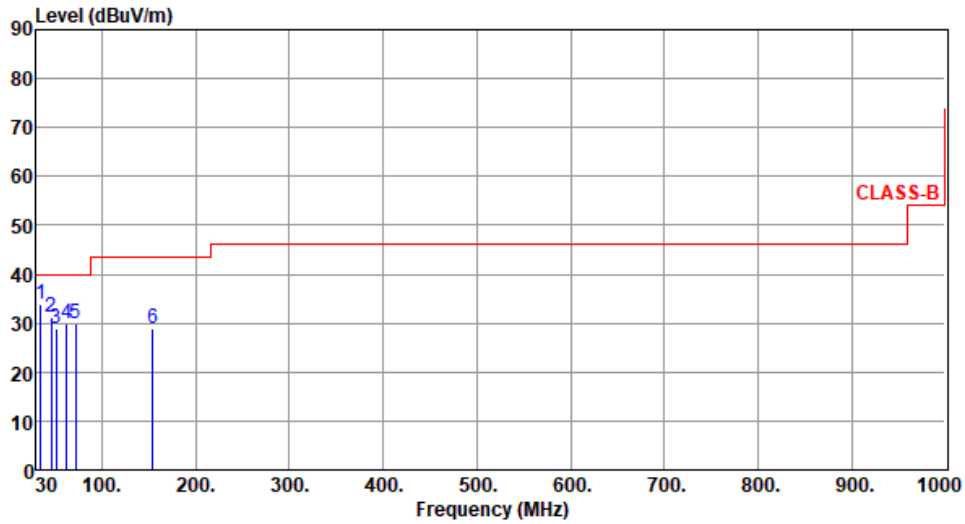
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

Test Mode Mode 7: NFC + WLAN5G 11AC40 CH62+ LTE B4 (BW5, CH19975, 1712.5MHz)

Polarization Vertical

Test By :Akun Chung Temperature(°C):25 Humidity(%):66



	Freq. MHz	Emission level dBUV/m	Limit dBUV/m	Margin dB	SA reading dBUV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	34.51	33.71	40.00	-6.29	43.11	-9.40	Peak	---	---
2	46.33	31.23	40.00	-8.77	39.77	-8.54	Peak	---	---
3	51.45	28.85	40.00	-11.15	37.67	-8.82	Peak	---	---
4	62.63	29.80	40.00	-10.20	39.50	-9.70	Peak	---	---
5	71.54	29.95	40.00	-10.05	41.13	-11.18	Peak	---	---
6	153.84	28.91	43.50	-14.59	37.78	-8.87	Peak	---	---

Note 1: Emission Level (dBUV/m) = SA Reading (dBUV) + Factor* (dB/m)

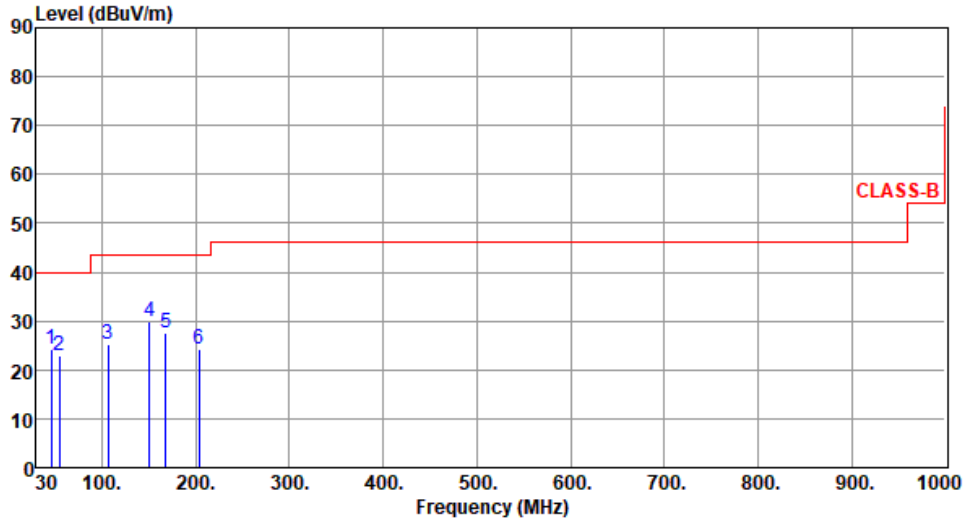
*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBUV/m) – Limit (dBUV/m).

Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

Test Mode	Mode 8: NFC + WLAN5G 11AC40 CH62+ LTE B41 (BW10, CH40740, 2605MHz)
Polarization	Horizontal

Test By :Akun Chung Temperature(°C):25 Humidity(%):66



	Freq. MHz	Emission level dBUV/m	Limit dBUV/m	Margin dB	SA reading dBUV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	45.92	24.21	40.00	-15.79	32.80	-8.59	Peak	---	---
2	54.95	22.95	40.00	-17.05	31.97	-9.02	Peak	---	---
3	106.85	25.11	43.50	-18.39	37.26	-12.15	Peak	---	---
4	150.33	30.02	43.50	-13.48	38.96	-8.94	Peak	---	---
5	167.77	27.48	43.50	-16.02	36.50	-9.02	Peak	---	---
6	203.60	24.25	43.50	-19.25	36.24	-11.99	Peak	---	---

Note 1: Emission Level (dBUV/m) = SA Reading (dBUV) + Factor* (dB/m)

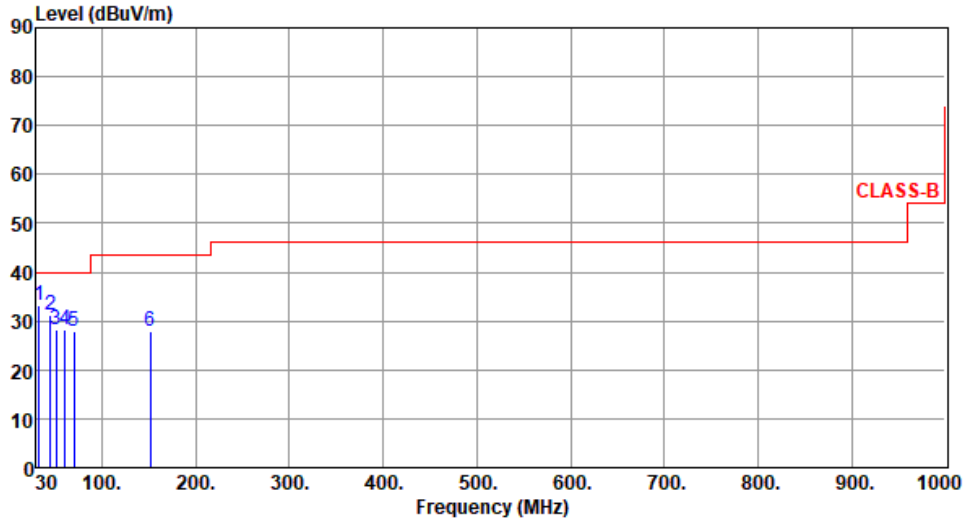
*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBUV/m) – Limit (dBUV/m).

Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

Test Mode	Mode 8: NFC + WLAN5G 11AC40 CH62+ LTE B41 (BW10, CH40740, 2605MHz)
Polarization	Vertical

Test By :Akun Chung Temperature(°C):25 Humidity(%):66



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	32.95	33.21	40.00	-6.79	43.02	-9.81	Peak	---	---
2	44.75	31.10	40.00	-8.90	39.56	-8.46	Peak	---	---
3	50.86	28.23	40.00	-11.77	37.01	-8.78	Peak	---	---
4	60.44	28.30	40.00	-11.70	37.59	-9.29	Peak	---	---
5	70.15	27.93	40.00	-12.07	38.92	-10.99	Peak	---	---
6	151.88	27.76	43.50	-15.74	36.63	-8.87	Peak	---	---

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)

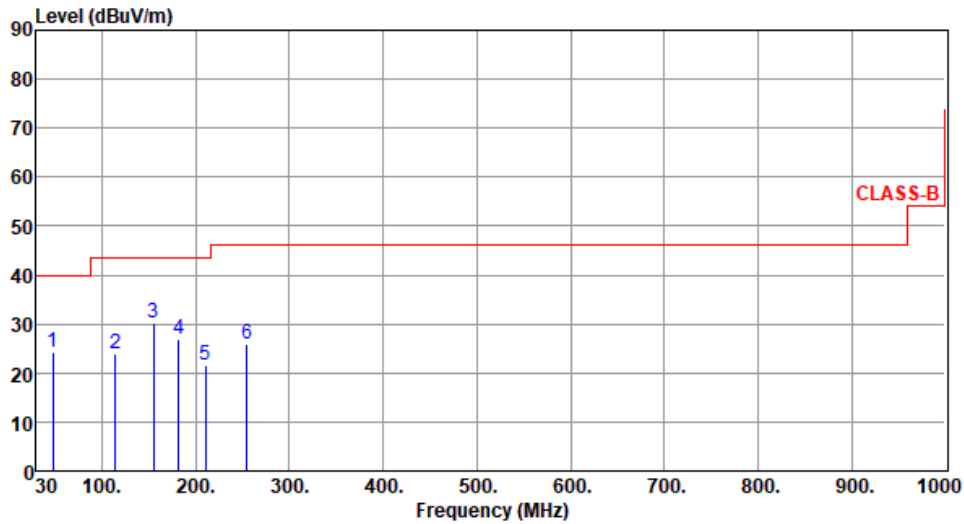
*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

Test Mode	Mode 9: NFC + BT GFSK CH78 + 3G B2 (CH9262, 1852.4MHz)
Polarization	Horizontal

Test By :Akun Chung Temperature(°C):25 Humidity(%):66



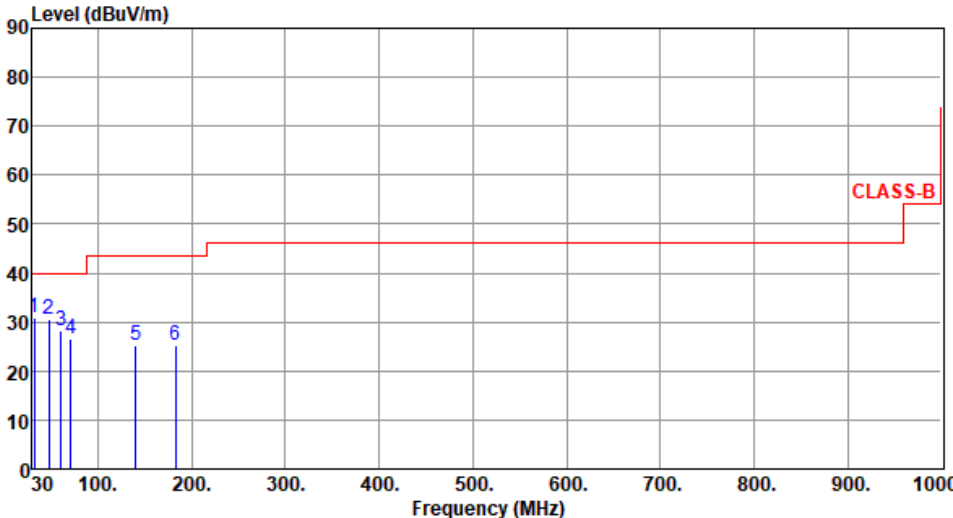
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	47.85	24.25	40.00	-15.75	32.83	-8.58	Peak	---	---
2	114.37	23.98	43.50	-19.52	35.24	-11.26	Peak	---	---
3	154.77	30.21	43.50	-13.29	38.99	-8.78	Peak	---	---
4	181.88	26.93	43.50	-16.57	37.39	-10.46	Peak	---	---
5	210.58	21.71	43.50	-21.79	33.72	-12.01	Peak	---	---
6	254.58	25.96	46.00	-20.04	35.92	-9.96	Peak	---	---

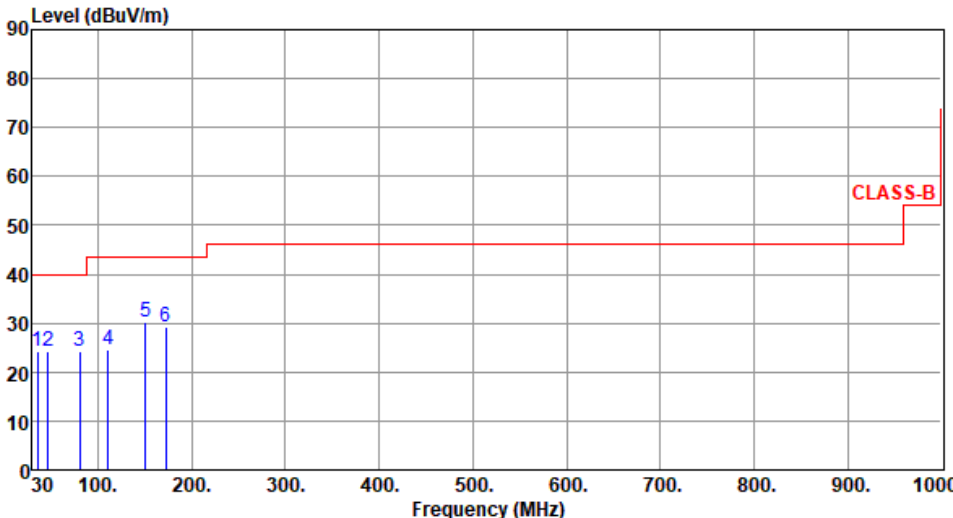
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)

*Factor includes antenna factor , cable loss and amplifier gain

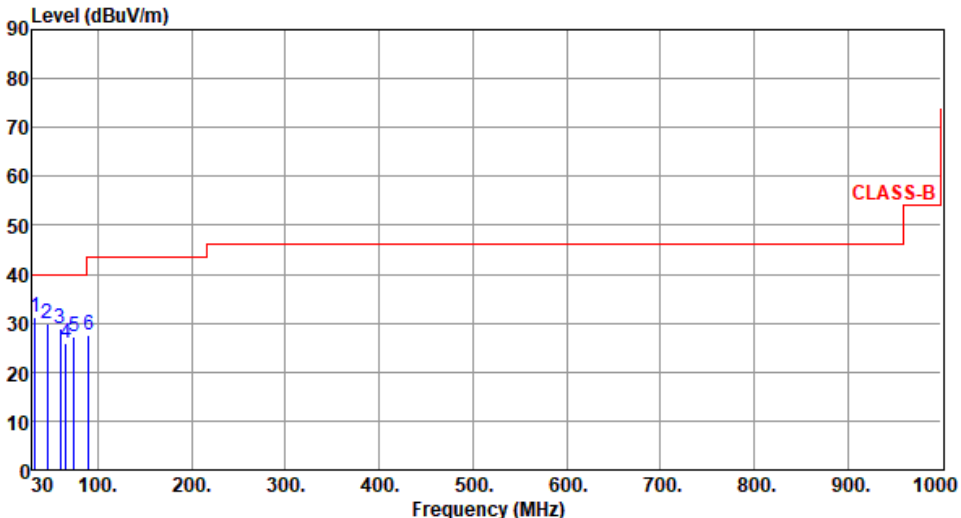
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

Test Mode	Mode 9: NFC + BT GFSK CH78 + 3G B2 (CH9262, 1852.4MHz)										
Polarization	Vertical										
Test By : Akun Chung			Temperature(°C): 25			Humidity(%): 66					
											
	Freq.	Emission	Limit	Margin	SA	Factor	Remark	ANT	Turn		
	MHz	level	dBuV/m	dB	reading	dB/m		High	Table		
		dBuV/m			dBuV			cm	deg		
1	31.85	30.85	40.00	-9.15	40.61	-9.76	Peak	---	---		
2	47.42	30.63	40.00	-9.37	39.13	-8.50	Peak	---	---		
3	60.77	28.14	40.00	-11.86	37.49	-9.35	Peak	---	---		
4	70.89	26.54	40.00	-13.46	37.61	-11.07	Peak	---	---		
5	140.32	25.18	43.50	-18.32	34.47	-9.29	Peak	---	---		
6	182.44	25.32	43.50	-18.18	35.83	-10.51	Peak	---	---		
<p>Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m) *Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m). Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.</p>											

Test Mode	Mode 10: NFC + BT GFSK CH78 + 3G B5 (CH4233, 846.6MHz)									
Polarization	Horizontal									
Test By : Akun Chung			Temperature(°C): 25			Humidity(%): 66				
										
	Freq.	Emission	Limit	Margin	SA	Factor	Remark	ANT	Turn	
	MHz	level	dBuV/m	dB	reading	dB/m		High	Table	
		dBuV/m			dBuV			cm	deg	
1	35.88	24.21	40.00	-15.79	33.69	-9.48	Peak	---	---	
2	46.95	24.22	40.00	-15.78	32.65	-8.43	Peak	---	---	
3	80.17	24.21	40.00	-15.79	37.70	-13.49	Peak	---	---	
4	111.28	24.72	43.50	-18.78	36.40	-11.68	Peak	---	---	
5	150.32	30.25	43.50	-13.25	39.19	-8.94	Peak	---	---	
6	172.58	29.37	43.50	-14.13	38.70	-9.33	Peak	---	---	

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).
Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

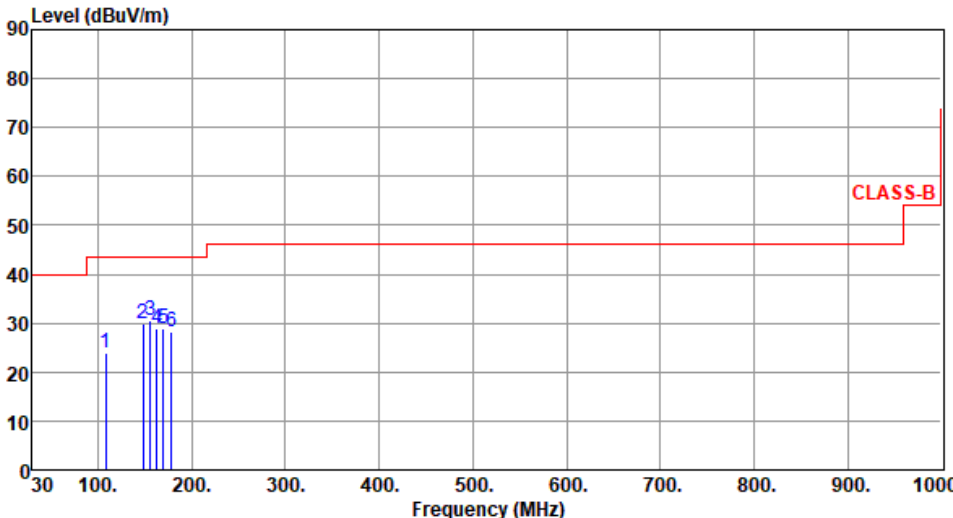
Test Mode	Mode 10: NFC + BT GFSK CH78 + 3G B5 (CH4233, 846.6MHz)									
Polarization	Vertical									
Test By : Akun Chung			Temperature(°C): 25			Humidity(%): 66				
										
	Freq.	Emission	Limit	Margin	SA	Factor	Remark	ANT	Turn	
	MHz	level	dBuV/m	dB	reading	dB/m		High	Table	
		dBuV/m			dBuV			cm	deg	
1	33.18	31.27	40.00	-8.73	41.02	-9.75	Peak	---	---	
2	45.88	29.95	40.00	-10.05	38.54	-8.59	Peak	---	---	
3	59.86	29.00	40.00	-11.00	38.23	-9.23	Peak	---	---	
4	65.73	25.88	40.00	-14.12	36.07	-10.19	Peak	---	---	
5	74.75	27.32	40.00	-12.68	39.47	-12.15	Peak	---	---	
6	89.98	27.45	43.50	-16.05	42.20	-14.75	Peak	---	---	

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)

*Factor includes antenna factor , cable loss and amplifier gain

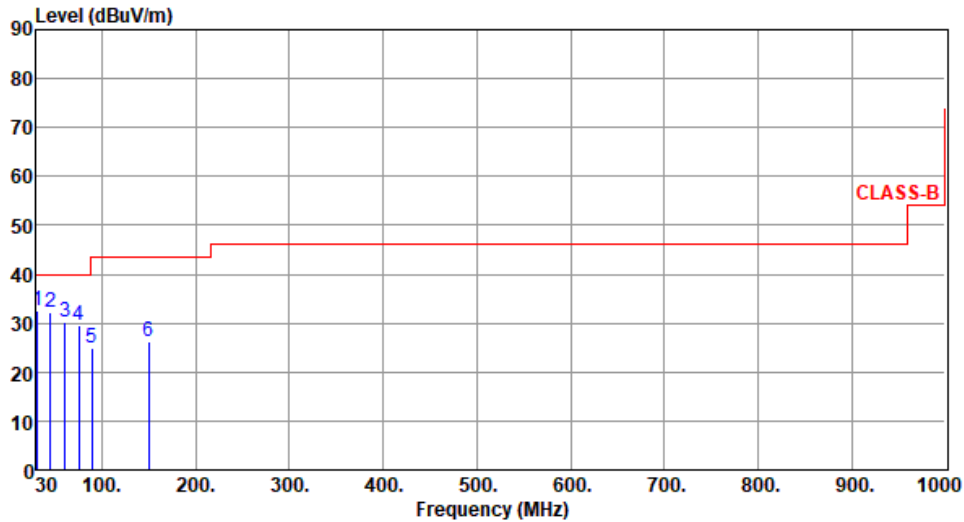
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

Test Mode	Mode 11: NFC + BT GFSK CH78 + LTE B4 (BW5, CH19975, 1712.5MHz)									
Polarization	Horizontal									
Test By : Akun Chung			Temperature(°C): 25			Humidity(%): 66				
										
	Freq.	Emission	Limit	Margin	SA	Factor	Remark	ANT	Turn	
	MHz	level	dBuV/m	dB	reading	dB/m		High	Table	
		dBuV/m			dBuV			cm	deg	
1	108.65	23.87	43.50	-19.63	35.89	-12.02	Peak	---	---	
2	148.54	29.82	43.50	-13.68	38.90	-9.08	Peak	---	---	
3	155.77	30.66	43.50	-12.84	39.42	-8.76	Peak	---	---	
4	162.85	28.91	43.50	-14.59	37.74	-8.83	Peak	---	---	
5	169.88	28.88	43.50	-14.62	37.98	-9.10	Peak	---	---	
6	178.25	28.38	43.50	-15.12	38.49	-10.11	Peak	---	---	
<p>Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m) *Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m). Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.</p>										

Test Mode	Mode 11: NFC + BT GFSK CH78 + LTE B4 (BW5, CH19975, 1712.5MHz)
Polarization	Vertical

Test By :Akun Chung Temperature(°C):25 Humidity(%) :66



	Freq. MHz	Emission level dBUV/m	Limit dBUV/m	Margin dB	SA reading dBUV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	30.96	32.48	40.00	-7.52	42.49	-10.01	Peak	---	---
2	45.32	32.25	40.00	-7.75	40.72	-8.47	Peak	---	---
3	60.44	30.15	40.00	-9.85	39.44	-9.29	Peak	---	---
4	75.15	29.54	40.00	-10.46	41.74	-12.20	Peak	---	---
5	89.45	24.89	43.50	-18.61	39.64	-14.75	Peak	---	---
6	149.58	26.36	43.50	-17.14	35.41	-9.05	Peak	---	---

Note 1: Emission Level (dBUV/m) = SA Reading (dBUV) + Factor* (dB/m)

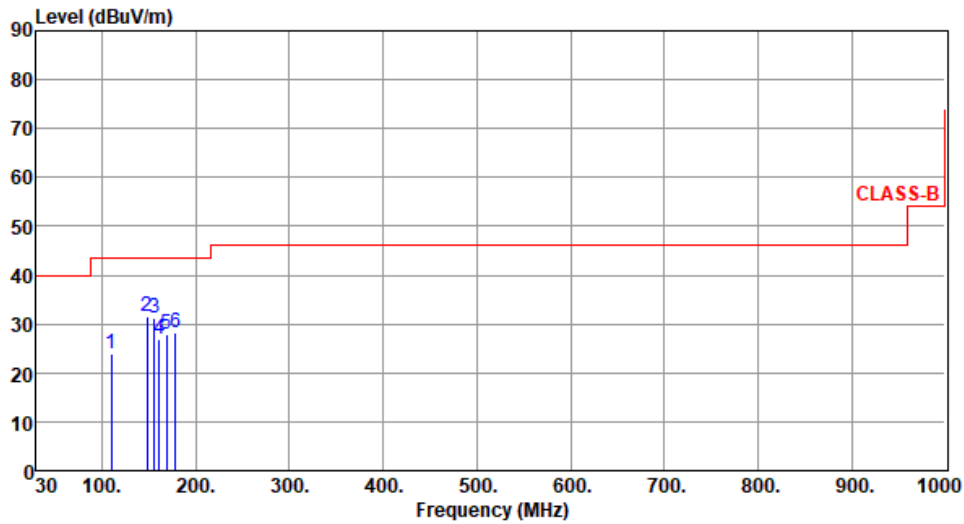
*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBUV/m) – Limit (dBUV/m).

Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

Test Mode	Mode 12: NFC + BT GFSK CH78 + LTE B41 (BW10, CH40740, 2605MHz)
Polarization	Horizontal

Test By :Akun Chung Temperature(°C):25 Humidity(%):66



	Freq. MHz	Emission level dBUV/m	Limit dBUV/m	Margin dB	SA reading dBUV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	110.24	23.99	43.50	-19.51	35.78	-11.79	Peak	---	---
2	148.45	31.40	43.50	-12.10	40.46	-9.06	Peak	---	---
3	155.85	31.21	43.50	-12.29	39.97	-8.76	Peak	---	---
4	160.75	26.88	43.50	-16.62	35.68	-8.80	Peak	---	---
5	168.85	27.75	43.50	-15.75	36.76	-9.01	Peak	---	---
6	178.45	28.30	43.50	-15.20	38.43	-10.13	Peak	---	---

Note 1: Emission Level (dBUV/m) = SA Reading (dBUV) + Factor* (dB/m)

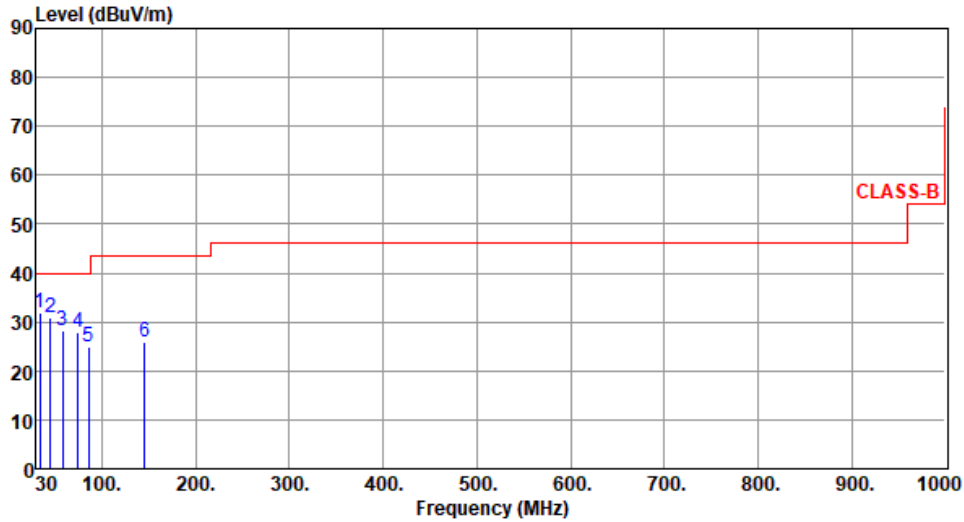
*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBUV/m) – Limit (dBUV/m).

Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

Test Mode	Mode 12: NFC + BT GFSK CH78 + LTE B41 (BW10, CH40740, 2605MHz)
Polarization	Vertical

Test By : Akun Chung Temperature(°C): 25 Humidity(%): 66



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	33.45	31.74	40.00	-8.26	41.41	-9.67	Peak	---	---
2	45.22	30.72	40.00	-9.28	39.17	-8.45	Peak	---	---
3	58.23	28.32	40.00	-11.68	37.57	-9.25	Peak	---	---
4	74.15	27.78	40.00	-12.22	39.87	-12.09	Peak	---	---
5	85.99	24.87	40.00	-15.13	39.44	-14.57	Peak	---	---
6	145.80	25.89	43.50	-17.61	35.23	-9.34	Peak	---	---

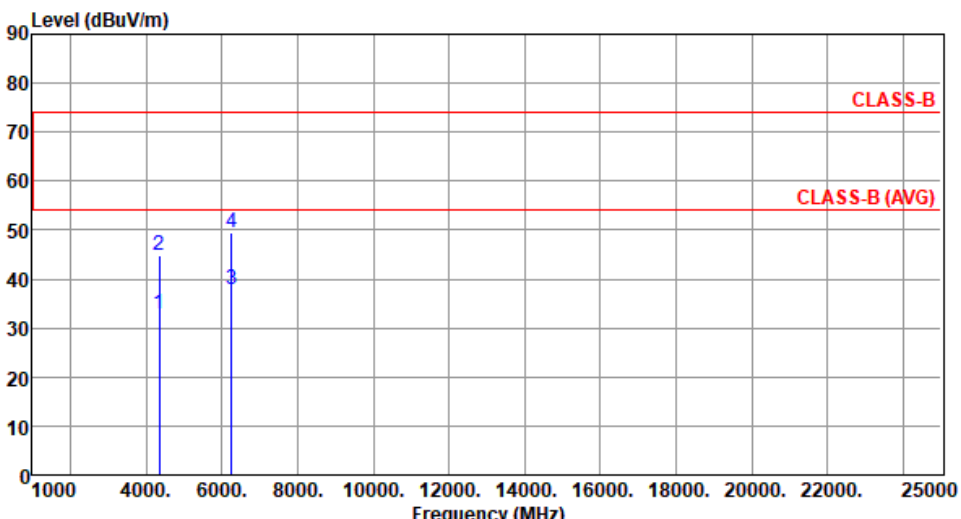
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)

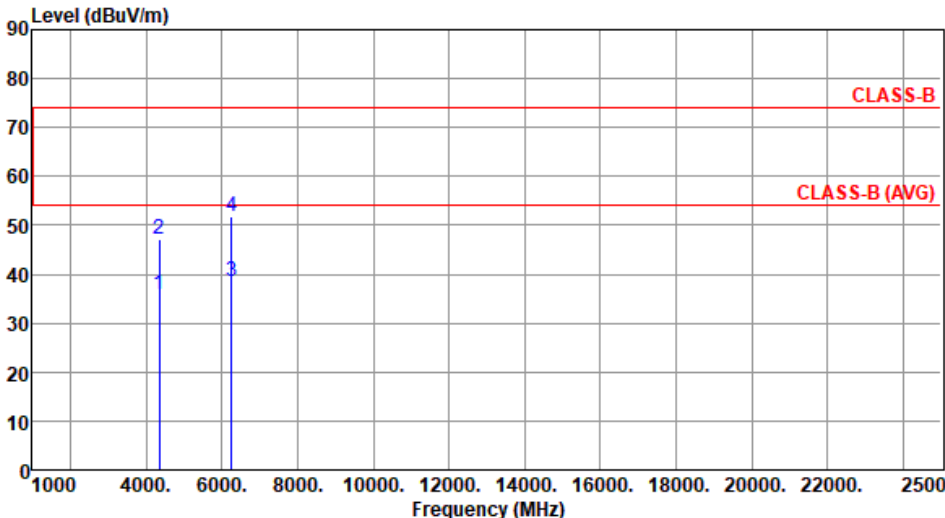
*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

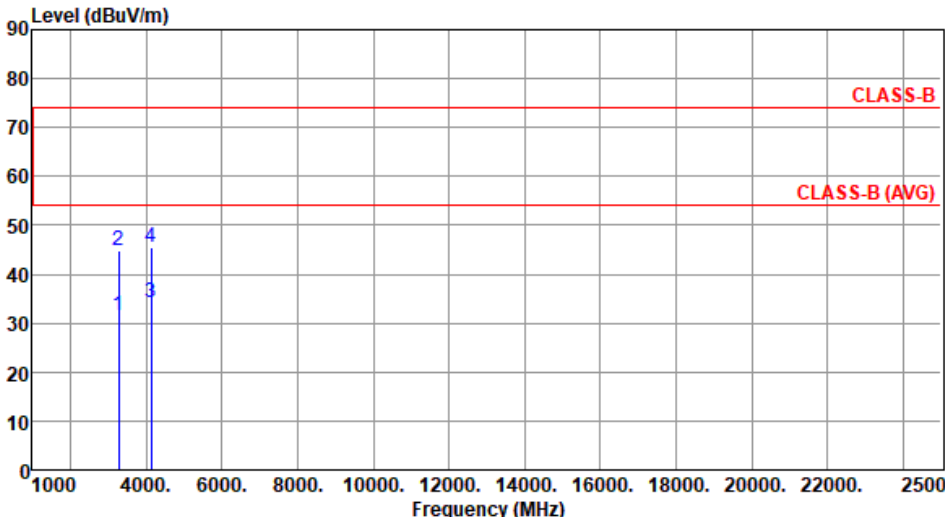
Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

3.1.5 Transmitter Radiated Unwanted Emissions (Above 1GHz)

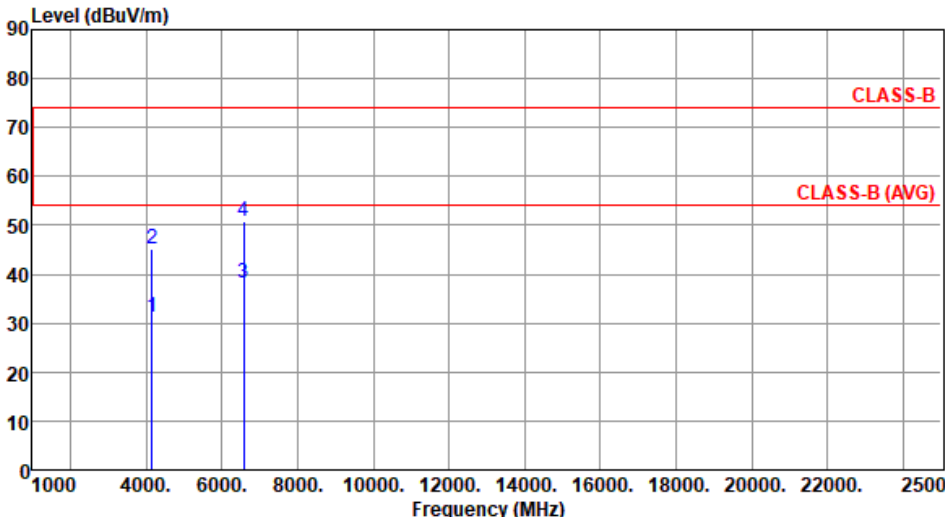
Test Mode	Mode 1: NFC + WLAN2.4G 11G CH06 + 3G B2 (CH9262, 1852.4MHz)									
Polarization	Horizontal									
Test By : Akun Chung			Temperature(°C): 25			Humidity(%): 67				
 <p>The graph plots Level (dBuV/m) on the y-axis (0 to 90) against Frequency (MHz) on the x-axis (1000 to 25000). Two horizontal red lines represent limits: CLASS-B at approximately 75 dBuV/m and CLASS-B (AVG) at approximately 55 dBuV/m. Two vertical blue lines indicate measured peaks: peak 2 at 4344.60 MHz (level ~45 dBuV/m) and peak 4 at 6252.20 MHz (level ~50 dBuV/m). A small peak 1 is also visible at 4344.60 MHz (level ~33 dBuV/m).</p>										
	Freq.	Emission	Limit	Margin	SA	Factor	Remark	ANT	Turn	
	MHz	level	dBuV/m	dB	reading	dB/m		High	Table	
								cm	deg	
1	4344.60	32.94	54.00	-21.06	30.84	2.10	Average	100	133	
2	4344.60	44.95	74.00	-29.05	42.85	2.10	Peak	100	133	
3	6252.20	37.71	54.00	-16.29	31.85	5.86	Average	100	121	
4	6252.20	49.49	74.00	-24.51	43.63	5.86	Peak	100	121	
<p>Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m) *Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).</p>										

Test Mode	Mode 1: NFC + WLAN2.4G 11G CH06 + 3G B2 (CH9262, 1852.4MHz)									
Polarization	Vertical									
Test By : Akun Chung			Temperature(°C): 25			Humidity(%): 67				
										
	Freq.	Emission	Limit	Margin	SA	Factor	Remark	ANT	Turn	
	MHz	level	dBuV/m	dB	reading	dB/m		High	Table	
		dBuV/m			dBuV			cm	deg	
1	4344.60	35.85	54.00	-18.15	33.75	2.10	Average	100	139	
2	4344.60	47.09	74.00	-26.91	44.99	2.10	Peak	100	139	
3	6252.20	38.64	54.00	-15.36	32.78	5.86	Average	100	128	
4	6252.20	51.75	74.00	-22.25	45.89	5.86	Peak	100	128	

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

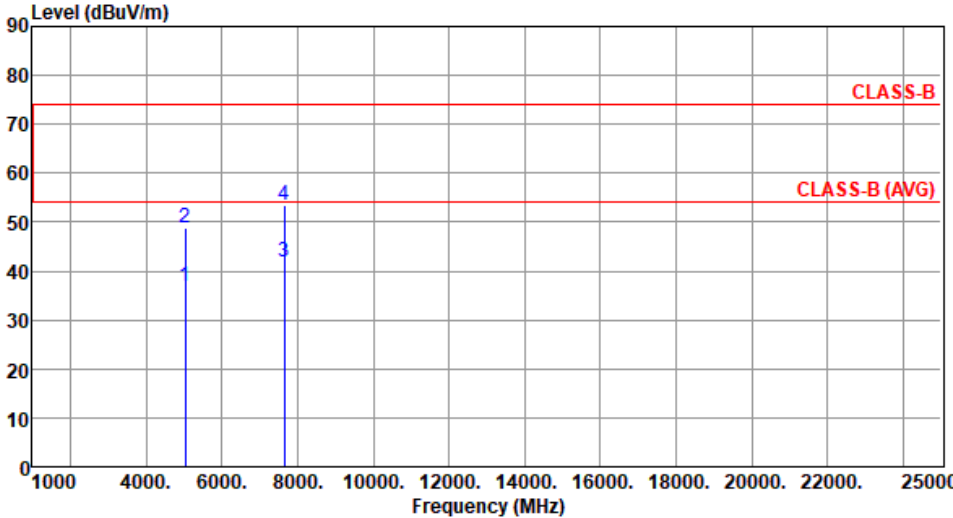
Test Mode	Mode 2: NFC + WLAN2.4G 11G CH06 + 3G B5 (CH4233, 846.6MHz)										
Polarization	Horizontal										
Test By :Akun Chung			Temperature(°C):25			Humidity(%):67					
											
	Freq.	Emission	Limit	Margin	SA	Factor	Remark	ANT	Turn		
	MHz	level	dBuV/m	dB	reading	dB/m		High	Table		
		dBuV/m			dBuV			cm	deg		
1	3283.60	31.55	54.00	-22.45	32.56	-1.01	Average	100	127		
2	3283.60	44.86	74.00	-29.14	45.87	-1.01	Peak	100	127		
3	4130.20	34.26	54.00	-19.74	32.74	1.52	Average	100	129		
4	4130.20	45.40	74.00	-28.60	43.88	1.52	Peak	100	129		
<p>Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m) *Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).</p>											

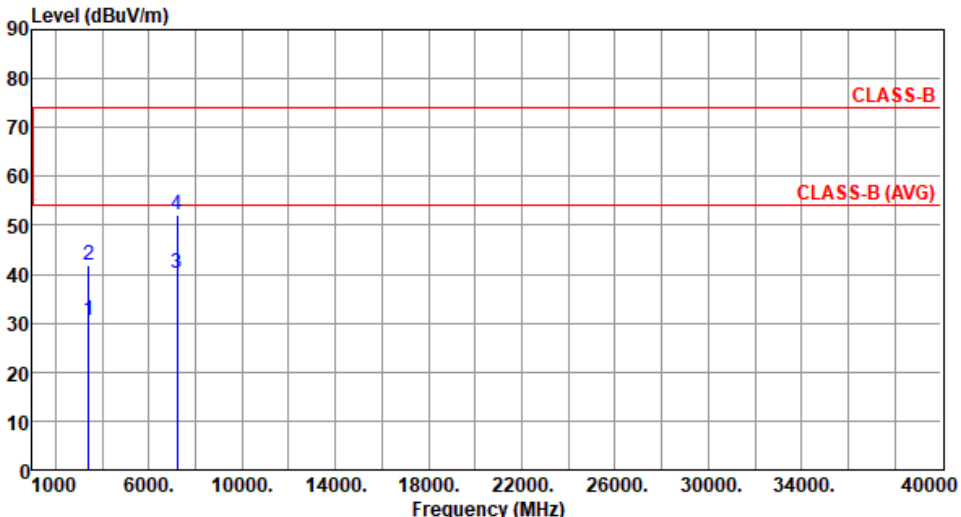
Test Mode	Mode 2: NFC + WLAN2.4G 11G CH06 + 3G B5 (CH4233, 846.6MHz)										
Polarization	Vertical										
Test By :Akun Chung			Temperature(°C):25			Humidity(%):67					
	Freq.	Emission	Limit	Margin	SA	Factor	Remark	ANT	Turn		
	MHz	level	dBuV/m	dB	reading	dB/m		High	Table		
		dBuV/m			dBuV			cm	deg		
1	3283.60	33.88	54.00	-20.12	34.89	-1.01	Average	100	58		
2	3283.60	45.95	74.00	-28.05	46.96	-1.01	Peak	100	58		
3	4130.20	36.46	54.00	-17.54	34.94	1.52	Average	100	51		
4	4130.20	48.37	74.00	-25.63	46.85	1.52	Peak	100	51		
<p>Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m) *Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).</p>											

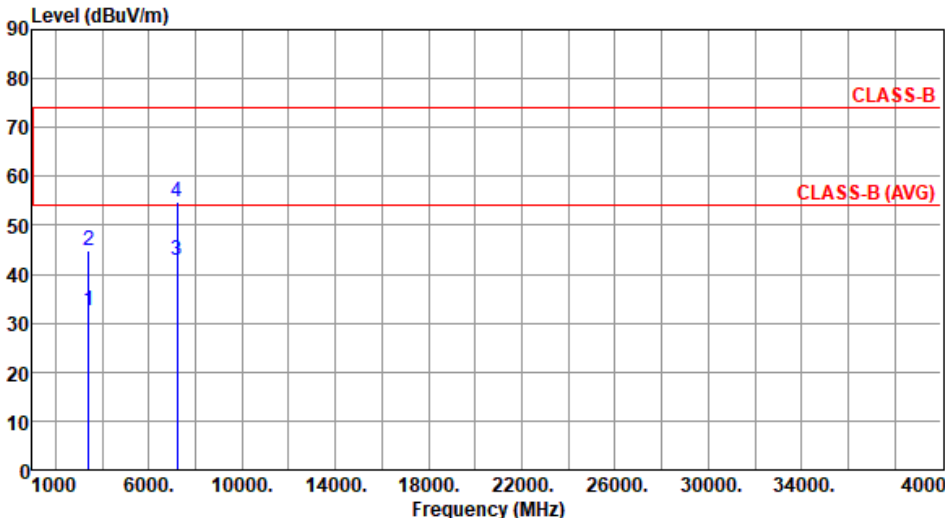
Test Mode	Mode 3: NFC + WLAN2.4G 11G CH06 + LTE B4 (BW5, CH19975, 1712.5)									
Polarization	Horizontal									
Test By : Akun Chung			Temperature(°C): 25			Humidity(%): 67				
										
	Freq.	Emission	Limit	Margin	SA	Factor	Remark	ANT	Turn	
	MHz	level	dBuV/m	dB	reading	dB/m		High	Table	
		dBuV/m			dBuV			cm	deg	
1	4149.50	31.37	54.00	-22.63	29.74	1.63	Average	100	107	
2	4149.50	45.28	74.00	-28.72	43.65	1.63	Peak	100	107	
3	6586.50	38.09	54.00	-15.91	30.98	7.11	Average	100	112	
4	6586.50	50.86	74.00	-23.14	43.75	7.11	Peak	100	112	
<p>Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m) *Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).</p>										

Test Mode	Mode 3: NFC + WLAN2.4G 11G CH06 + LTE B4 (BW5, CH19975, 1712.5)									
Polarization	Vertical									
Test By : Akun Chung			Temperature(°C): 25			Humidity(%): 67				
	Freq.	Emission	Limit	Margin	SA	Factor	Remark	ANT	Turn	
	MHz	level	dBuV/m	dB	reading	dB/m		High	Table	
		dBuV/m			dBuV			cm	deg	
1	4149.50	33.40	54.00	-20.60	31.77	1.63	Average	100	60	
2	4149.50	46.50	74.00	-27.50	44.87	1.63	Peak	100	60	
3	6586.50	39.03	54.00	-14.97	31.92	7.11	Average	100	52	
4	6586.50	51.98	74.00	-22.02	44.87	7.11	Peak	100	52	
<p>Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m) *Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).</p>										

Test Mode	Mode 4: NFC + WLAN2.4G 11G CH06 + LTE B41 (BW10, CH40740, 2605)									
Polarization	Horizontal									
Test By		:Akun Chung			Temperature(°C):25			Humidity(%) :67		
	Freq.	Emission	Limit	Margin	SA	Factor	Remark	ANT	Turn	
	MHz	level	dBuV/m	dB	reading	dB/m		High	Table	
		dBuV/m			dBuV			cm	deg	
1	5042.00	34.79	54.00	-19.21	30.58	4.21	Average	100	112	
2	5042.00	46.66	74.00	-27.34	42.45	4.21	Peak	100	112	
3	7647.00	39.44	54.00	-14.56	30.72	8.72	Average	100	132	
4	7647.00	51.35	74.00	-22.65	42.63	8.72	Peak	100	132	
<p>Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m) *Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).</p>										

Test Mode	Mode 4: NFC + WLAN2.4G 11G CH06 + LTE B41 (BW10, CH40740, 2605)								
Polarization	Vertical								
Test By :Akun Chung		Temperature(°C):25			Humidity(%):67				
									
	Freq.	Emission	Limit	Margin	SA	Factor	Remark	ANT	Turn
	MHz	level	dBuV/m	dB	reading	dB/m		High	Table
		dBuV/m			dBuV			cm	deg
1	5042.00	36.95	54.00	-17.05	32.74	4.21	Average	100	51
2	5042.00	48.68	74.00	-25.32	44.47	4.21	Peak	100	51
3	7647.00	41.70	54.00	-12.30	32.98	8.72	Average	100	65
4	7647.00	53.60	74.00	-20.40	44.88	8.72	Peak	100	65
<p>Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m) *Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).</p>									

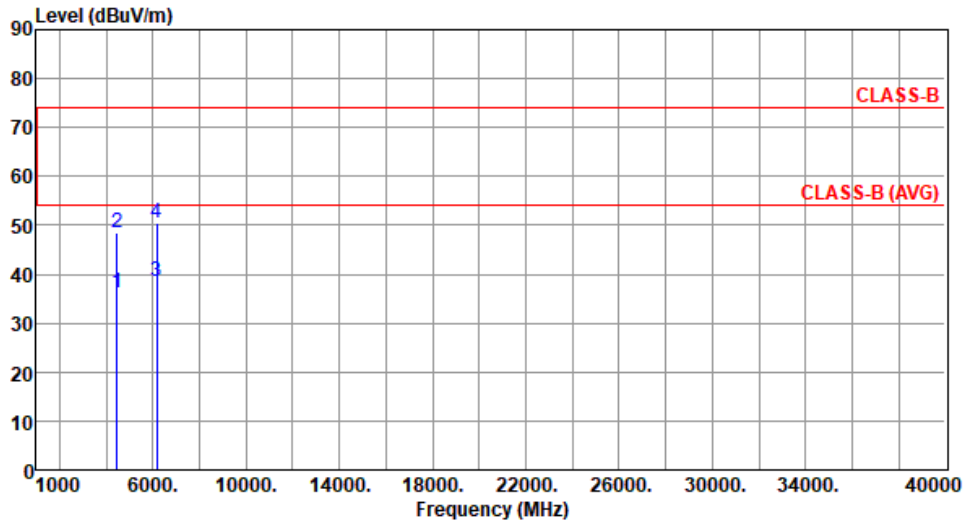
Test Mode	Mode 5: NFC + WLAN5G 11AC40 CH62+ 3G B2 (CH9262, 1852.4MHz)									
Polarization	Horizontal									
Test By : Akun Chung			Temperature(°C): 25			Humidity(%): 67				
										
	Freq.	Emission	Limit	Margin	SA	Factor	Remark	ANT	Turn	
	MHz	level	dBuV/m	dB	reading	dB/m		High	Table	
		dBuV/m			dBuV			cm	deg	
1	3402.40	30.46	54.00	-23.54	31.48	-1.02	Average	100	141	
2	3402.40	41.88	74.00	-32.12	42.90	-1.02	Peak	100	141	
3	7217.60	40.28	54.00	-13.72	31.32	8.96	Average	100	125	
4	7217.60	52.19	74.00	-21.81	43.23	8.96	Peak	100	125	
<p>Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m) *Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).</p>										

Test Mode	Mode 5: NFC + WLAN5G 11AC40 CH62+ 3G B2 (CH9262, 1852.4MHz)								
Polarization	Vertical								
Test By : Akun Chung		Temperature(°C): 25			Humidity(%): 67				
									
	Freq.	Emission	Limit	Margin	SA	Factor	Remark	ANT	Turn
	MHz	level	dBuV/m	dB	reading	dB/m		High	Table
		dBuV/m			dBuV			cm	deg
1	3402.40	32.57	54.00	-21.43	33.59	-1.02	Average	100	51
2	3402.40	44.76	74.00	-29.24	45.78	-1.02	Peak	100	51
3	7217.60	42.80	54.00	-11.20	33.84	8.96	Average	100	63
4	7217.60	54.73	74.00	-19.27	45.77	8.96	Peak	100	63
<p>Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m) *Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).</p>									

Test Mode	Mode 6: NFC + WLAN5G 11AC40 CH62+ 3G B5 (CH4233, 846.6MHz)									
Polarization	Horizontal									
Test By :Akun Chung			Temperature(°C):25			Humidity(%):67				
	Freq.	Emission	Limit	Margin	SA	Factor	Remark	ANT	Turn	
	MHz	level	dBuV/m	dB	reading	dB/m		High	Table	
		dBuV/m			dBuV			cm	deg	
1	4463.40	33.92	54.00	-20.08	31.44	2.48	Average	100	124	
2	4463.40	46.06	74.00	-27.94	43.58	2.48	Peak	100	124	
3	6156.60	36.86	54.00	-17.14	31.39	5.47	Average	100	120	
4	6156.60	48.92	74.00	-25.08	43.45	5.47	Peak	100	120	
<p>Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m) *Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).</p>										

Test Mode	Mode 6: NFC + WLAN5G 11AC40 CH62+ 3G B5 (CH4233, 846.6MHz)
Polarization	Vertical

Test By :Akun Chung Temperature(°C):25 Humidity(%):67



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	4463.40	36.26	54.00	-17.74	33.78	2.48	Average	100	50
2	4463.40	48.33	74.00	-25.67	45.85	2.48	Peak	100	50
3	6156.60	38.36	54.00	-15.64	32.89	5.47	Average	100	66
4	6156.60	50.34	74.00	-23.66	44.87	5.47	Peak	100	66

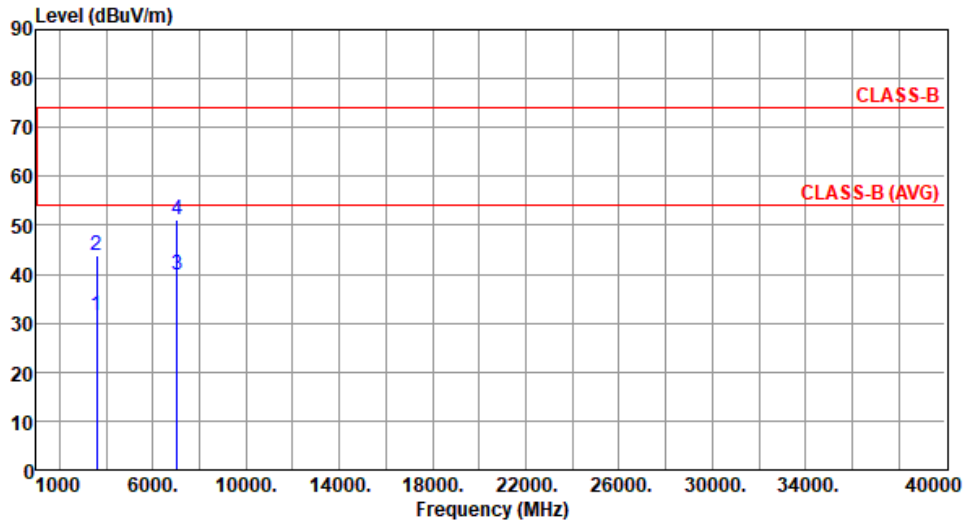
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Test Mode	Mode 7: NFC + WLAN5G 11AC40 CH62+ LTE B4 (BW5, CH19975, 1712.5MHz)
Polarization	Horizontal

Test By : Akun Chung Temperature(°C): 25 Humidity(%): 67



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	3597.50	31.64	54.00	-22.36	31.48	0.16	Average	100	116
2	3597.50	43.74	74.00	-30.26	43.58	0.16	Peak	100	116
3	7022.50	39.82	54.00	-14.18	31.55	8.27	Average	100	120
4	7022.50	51.15	74.00	-22.85	42.88	8.27	Peak	100	120

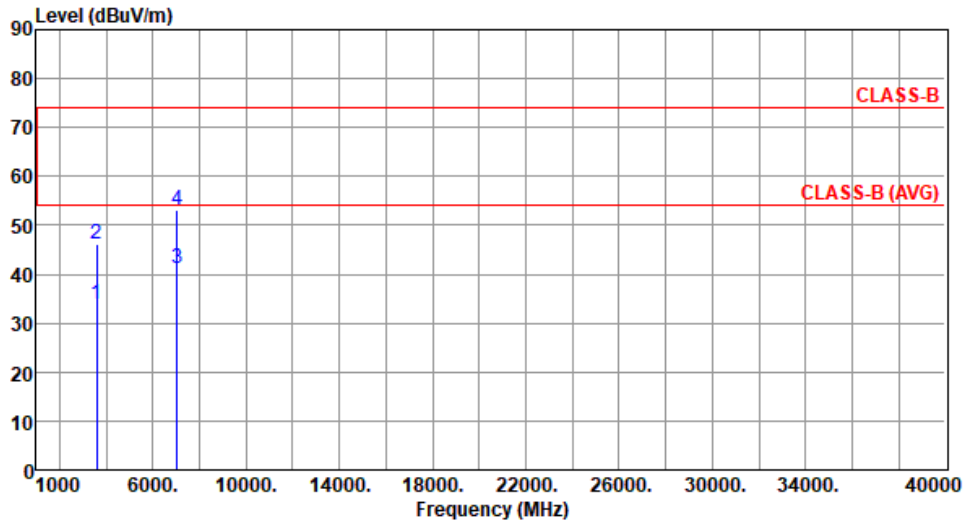
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Test Mode	Mode 7: NFC + WLAN5G 11AC40 CH62+ LTE B4 (BW5, CH19975, 1712.5MHz)
Polarization	Vertical

Test By :Akun Chung Temperature(°C):25 Humidity(%):67



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	3597.50	33.71	54.00	-20.29	33.55	0.16	Average	100	57
2	3597.50	46.04	74.00	-27.96	45.88	0.16	Peak	100	57
3	7022.50	41.04	54.00	-12.96	32.77	8.27	Average	100	60
4	7022.50	53.02	74.00	-20.98	44.75	8.27	Peak	100	60

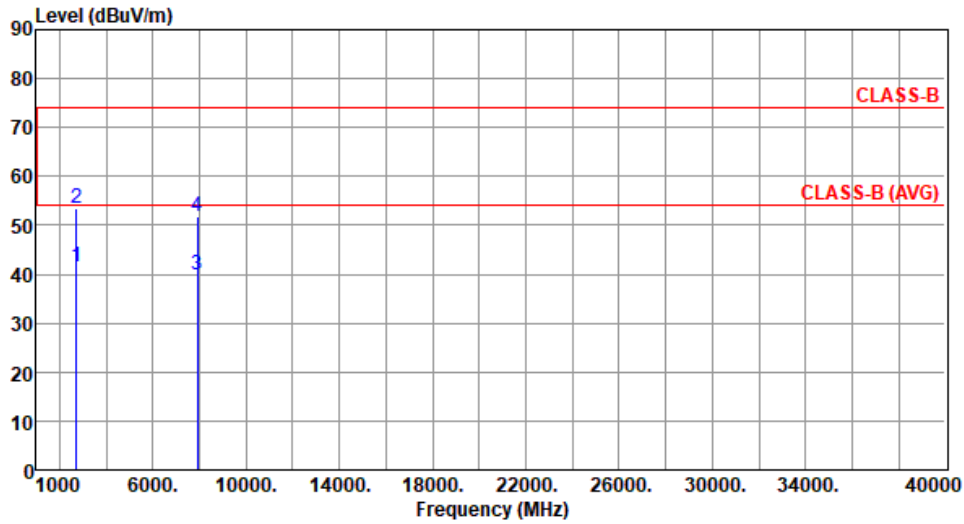
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Test Mode	Mode 8: NFC + WLAN5G 11AC40 CH62+ LTE B41 (BW10, CH40740, 2605MHz)
Polarization	Horizontal

Test By :Akun Chung Temperature(°C):25 Humidity(%):67



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2705.00	41.65	54.00	-12.35	43.85	-2.20	Average	100	133
2	2705.00	53.55	74.00	-20.45	55.75	-2.20	Peak	100	133
3	7915.00	39.76	54.00	-14.24	30.38	9.38	Average	100	125
4	7915.00	51.78	74.00	-22.22	42.40	9.38	Peak	100	125

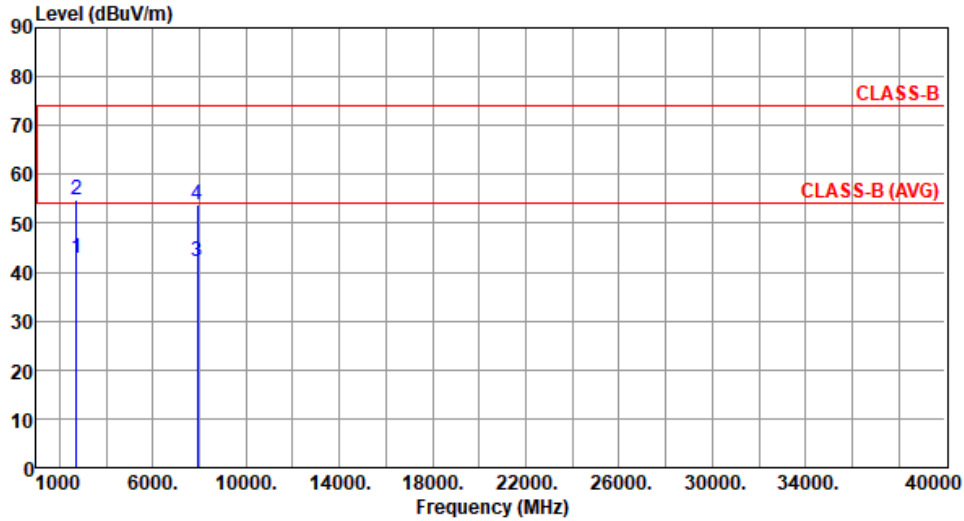
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Test Mode	Mode 8: NFC + WLAN5G 11AC40 CH62+ LTE B41 (BW10, CH40740, 2605MHz)
Polarization	Vertical

Test By :Akun Chung Temperature(°C):25 Humidity(%):67

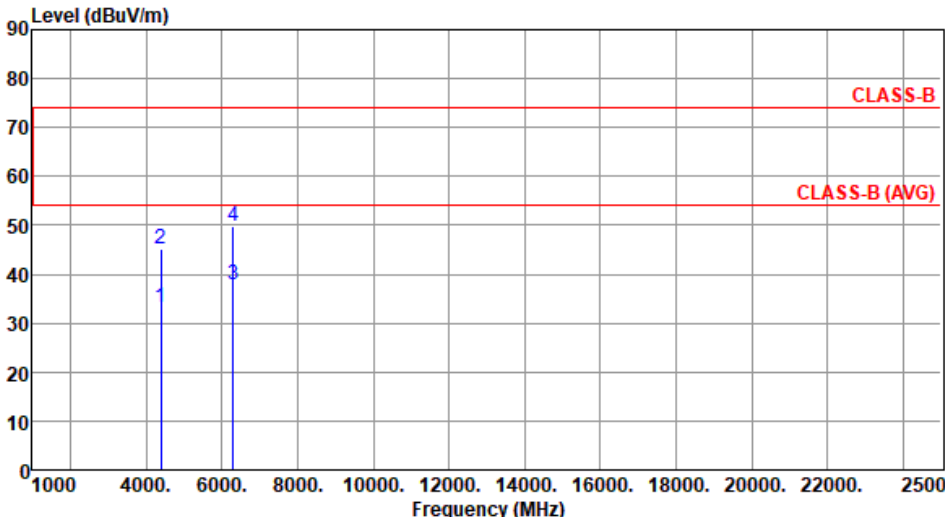


	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Margin dB	SA reading dBuV	Factor dB/m	Remark	ANT High cm	Turn Table deg
1	2705.00	42.74	54.00	-11.26	44.94	-2.20	Average	100	48
2	2705.00	54.71	74.00	-19.29	56.91	-2.20	Peak	100	48
3	7915.00	42.12	54.00	-11.88	32.74	9.38	Average	100	60
4	7915.00	53.66	74.00	-20.34	44.28	9.38	Peak	100	60

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m)

*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

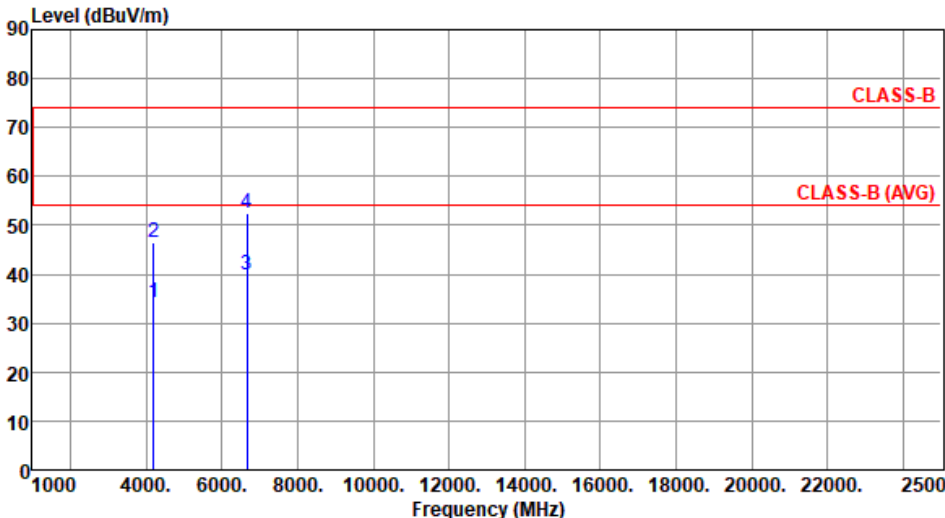
Test Mode	Mode 9: NFC + BT GFSK CH78 + 3G B2 (CH9262, 1852.4MHz)									
Polarization	Horizontal									
Test By : Akun Chung			Temperature(°C): 25			Humidity(%): 67				
										
	Freq.	Emission	Limit	Margin	SA	Factor	Remark	ANT	Turn	
	MHz	level	dBuV/m	dB	reading	dB/m		High	Table	
		dBuV/m			dBuV			cm	deg	
1	4387.60	33.18	54.00	-20.82	30.92	2.26	Average	100	125	
2	4387.60	45.24	74.00	-28.76	42.98	2.26	Peak	100	125	
3	6295.20	37.97	54.00	-16.03	32.00	5.97	Average	100	118	
4	6295.20	49.87	74.00	-24.13	43.90	5.97	Peak	100	118	
<p>Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m) *Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).</p>										

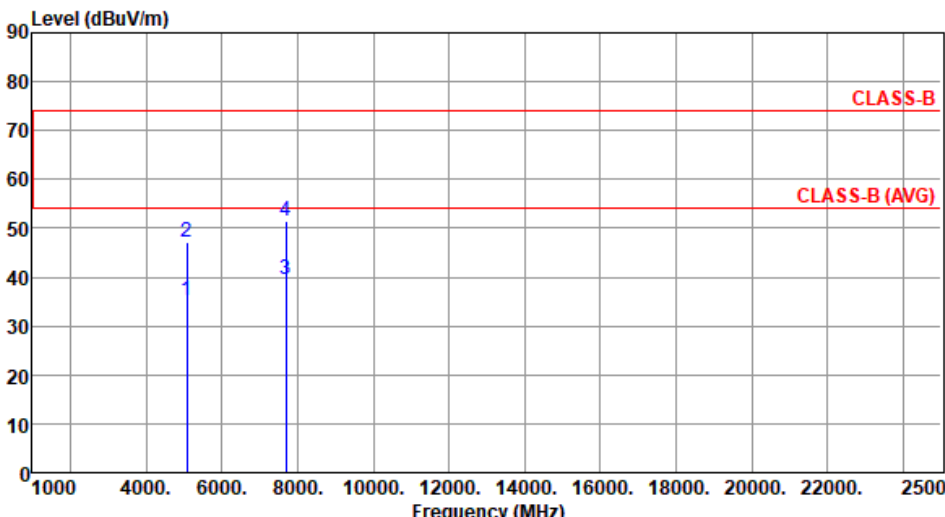
Test Mode	Mode 9: NFC + BT GFSK CH78 + 3G B2 (CH9262, 1852.4MHz)									
Polarization	Vertical									
Test By : Akun Chung			Temperature(°C): 25			Humidity(%): 67				
	Freq.	Emission	Limit	Margin	SA	Factor	Remark	ANT	Turn	
	MHz	level	dBuV/m	dB	reading	dB/m		High	Table	
		dBuV/m			dBuV			cm	deg	
1	4387.60	36.09	54.00	-17.91	33.83	2.26	Average	100	135	
2	4387.60	47.10	74.00	-26.90	44.84	2.26	Peak	100	135	
3	6295.20	38.85	54.00	-15.15	32.88	5.97	Average	100	136	
4	6295.20	51.88	74.00	-22.12	45.91	5.97	Peak	100	136	
<p>Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m) *Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).</p>										

Test Mode	Mode 10: NFC + BT GFSK CH78 + 3G B5 (CH4233, 846.6MHz)									
Polarization	Horizontal									
Test By : Akun Chung			Temperature(°C): 25			Humidity(%): 67				
	Freq.	Emission	Limit	Margin	SA	Factor	Remark	ANT	Turn	
	MHz	level	dBuV/m	dB	reading	dB/m		High	Table	
		dBuV/m			dBuV			cm	deg	
1	3326.60	31.90	54.00	-22.10	32.94	-1.04	Average	100	124	
2	3326.60	44.90	74.00	-29.10	45.94	-1.04	Peak	100	124	
3	4173.20	34.44	54.00	-19.56	32.83	1.61	Average	100	111	
4	4173.20	45.06	74.00	-28.94	43.45	1.61	Peak	100	111	
<p>Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m) *Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).</p>										

Test Mode	Mode 10: NFC + BT GFSK CH78 + 3G B5 (CH4233, 846.6MHz)									
Polarization	Vertical									
Test By : Akun Chung			Temperature(°C): 25			Humidity(%): 67				
	Freq.	Emission	Limit	Margin	SA	Factor	Remark	ANT	Turn	
	MHz	level	dBuV/m	dB	reading	dB/m		High	Table	
		dBuV/m			dBuV			cm	deg	
1	3326.60	34.06	54.00	-19.94	35.10	-1.04	Average	100	60	
2	3326.60	45.78	74.00	-28.22	46.82	-1.04	Peak	100	60	
3	4173.20	36.73	54.00	-17.27	35.12	1.61	Average	100	55	
4	4173.20	48.57	74.00	-25.43	46.96	1.61	Peak	100	55	
<p>Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m) *Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).</p>										

Test Mode	Mode 11: NFC + BT GFSK CH78 + LTE B4 (BW5, CH19975, 1712.5MHz)									
Polarization	Horizontal									
Test By :Akun Chung			Temperature(°C):25			Humidity(%):67				
	Freq.	Emission	Limit	Margin	SA	Factor	Remark	ANT	Turn	
	MHz	level	dBuV/m	dB	reading	dB/m		High	Table	
		dBuV/m			dBuV			cm	deg	
1	4192.50	31.14	54.00	-22.86	29.56	1.58	Average	100	114	
2	4192.50	45.52	74.00	-28.48	43.94	1.58	Peak	100	114	
3	6672.50	37.91	54.00	-16.09	30.76	7.15	Average	100	116	
4	6672.50	51.01	74.00	-22.99	43.86	7.15	Peak	100	116	
<p>Note 1: Emission Level (dBUV/m) = SA Reading (dBUV) + Factor* (dB/m) *Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBUV/m) – Limit (dBUV/m).</p>										

Test Mode	Mode 11: NFC + BT GFSK CH78 + LTE B4 (BW5, CH19975, 1712.5MHz)									
Polarization	Vertical									
Test By : Akun Chung			Temperature(°C): 25			Humidity(%): 67				
										
	Freq.	Emission	Limit	Margin	SA	Factor	Remark	ANT	Turn	
	MHz	level	dBuV/m	dB	reading	dB/m		High	Table	
		dBuV/m			dBuV			cm	deg	
1	4192.50	34.10	54.00	-19.90	32.52	1.58	Average	100	52	
2	4192.50	46.49	74.00	-27.51	44.91	1.58	Peak	100	52	
3	6672.50	40.01	54.00	-13.99	32.86	7.15	Average	100	56	
4	6672.50	52.41	74.00	-21.59	45.26	7.15	Peak	100	56	
<p>Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m) *Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).</p>										

Test Mode	Mode 12: NFC + BT GFSK CH78 + LTE B41 (BW10, CH40740, 2605MHz)									
Polarization	Horizontal									
Test By :Akun Chung			Temperature(°C):25			Humidity(%):67				
										
	Freq.	Emission	Limit	Margin	SA	Factor	Remark	ANT	Turn	
	MHz	level	dBuV/m	dB	reading	dB/m		High	Table	
		dBuV/m			dBuV			cm	deg	
1	5085.00	35.09	54.00	-18.91	30.68	4.41	Average	100	104	
2	5085.00	47.12	74.00	-26.88	42.71	4.41	Peak	100	104	
3	7690.00	39.61	54.00	-14.39	30.85	8.76	Average	100	122	
4	7690.00	51.52	74.00	-22.48	42.76	8.76	Peak	100	122	
<p>Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m) *Factor includes antenna factor , cable loss and amplifier gain</p> <p>Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).</p>										

Test Mode	Mode 12: NFC + BT GFSK CH78 + LTE B41 (BW10, CH40740, 2605MHz)									
Polarization	Vertical									
Test By :Akun Chung			Temperature(°C):25			Humidity(%):67				
	Freq.	Emission	Limit	Margin	SA	Factor	Remark	ANT	Turn	
	MHz	level	dBuV/m	dB	reading	dB/m		High	Table	
		dBuV/m			dBuV			cm	deg	
1	5085.00	37.25	54.00	-16.75	32.84	4.41	Average	100	59	
2	5085.00	49.18	74.00	-24.82	44.77	4.41	Peak	100	59	
3	7690.00	42.21	54.00	-11.79	33.45	8.76	Average	100	57	
4	7690.00	53.74	74.00	-20.26	44.98	8.76	Peak	100	57	
<p>Note 1: Emission Level (dBuV/m) = SA Reading (dBuV) + Factor* (dB/m) *Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).</p>										

4 Test laboratory information

Established in 2012, ICC provides foremost EMC & RF Testing and advisory consultation services by our skilled engineers and technicians. Our services employ a wide variety of advanced edge test equipment and one of the widest certification extents in the business.

International Certification Corporation (EMC and Wireless Communication Laboratory), it is our definitive objective is to institute long term, trust-based associations with our clients. The expectation we set up with our clients is based on outstanding service, practical expertise and devotion to a certified value structure. Our passion is to grant our clients with best EMC / RF services by oriented knowledgeable and accommodating staff.

Our Test sites are located at Linkou District and Kwei Shan District. Location map can be found on our website <http://www.icertifi.com.tw>.

Linkou

Tel: 886-2-2601-1640

No.30-2, Ding Fwu Tsuen, Lin Kou
District, New Taipei City, Taiwan
(R.O.C.)

Kwei Shan

Tel: 886-3-271-8666

No.3-1, Lane 6, Wen San 3rd
St., Kwei Shan Dist., Tao Yuan
City 33381, Taiwan (R.O.C.)
No.2-1, Lane 6, Wen San 3rd
St., Kwei Shan Dist., Tao Yuan
City 33381, Taiwan (R.O.C.)

Kwei Shan Site II

Tel: 886-3-271-8640

No.14-1, Lane 19, Wen San 3rd
St., Kwei Shan Dist., Tao Yuan
City 333, Taiwan (R.O.C.)

If you have any suggestion, please feel free to contact us as below information.

Tel: 886-3-271-8666

Fax: 886-3-318-0345

Email: ICC_Service@icertifi.com.tw

==END==