

FCC Test Report (Co-Located)

Report No.: RFBDVW-WTW-P21100875-5

Test Model (Host): LUCID CONNECTED HOME CHARGING STATION, LTE, NA

Received Date: Nov. 09, 2021

Test Date: Nov. 17 ~ Nov. 19, 2021

Issued Date: Jun. 08, 2022

Applicant: LITE-ON Technology Corp.

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R.O.C.

Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Lin Kou Laboratories

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33383, TAIWAN

FCC Registration / 788550 / TW0003
Designation Number:



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Release Control Record

Issue No.	Description	Date Issued
RFBDVW-WTW-P21100875-5	Original release	Jun. 08, 2022

1 Certificate of Conformity

Product (Host): LUCID CONNECTED HOME CHARGING STATION, LTE, NA
LUCID CONNECTED HOME CHARGING STATION, NA

Brand (Host): Lucid

Test Model (Host): LUCID CONNECTED HOME CHARGING STATION, LTE, NA

Sample Status: DVT

Applicant: LITE-ON Technology Corp.

Test Date: Nov. 17 ~ Nov. 19, 2021

Standards: 47 CFR FCC Part 15, Subpart C (Section 15.247)

47 CFR FCC Part 15, Subpart C (Section 15.225)

47 CFR FCC Part 15, Subpart C (Section 15.215)

FCC Part 22, Subpart H

FCC Part 24, Subpart E

FCC Part 27, Subpart C, F, H, L

ANSI 63.26-2015

ANSI C63.10:2013

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's RF characteristics under the conditions specified in this report.

Prepared by : Celine Chou , **Date:** Jun. 08, 2022
Celine Chou / Senior Specialist

Approved by : Jeremy Lin , **Date:** Jun. 08, 2022
Jeremy Lin / Project Engineer

2 Summary of Test Results

Applied Standard	47 CFR FCC Part 15, Subpart C (Section 15.247) 47 CFR FCC Part 15, Subpart C (Section 15.225) 47 CFR FCC Part 15, Subpart C (Section 15.215) FCC Part 22, Subpart H FCC Part 24, Subpart E FCC Part 27, Subpart C, F, H, L ANSI 63.26-2015 ANSI C63.10:2013		
FCC Clause	Test Item	Result	Remarks
15.205 / 15.209 / 15.247(d) 15.225 (a), (b), (c), (d) 2.1053 22.917 24.238 27.53 (h), (g), (c)(f)	Radiated Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -6.97dB at 70.74MHz.

Note: Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

2.1 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Radiated Emissions up to 1 GHz	9kHz ~ 30MHz	3.04 dB
	30MHz ~ 200MHz	2.93 dB
	200MHz ~ 1000MHz	2.95 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	2.26 dB
	18GHz ~ 40GHz	1.94 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product (Host)	LUCID CONNECTED HOME CHARGING STATION, LTE, NA LUCID CONNECTED HOME CHARGING STATION, NA		
Brand (Host)	Lucid		
Test Model (Host)	LUCID CONNECTED HOME CHARGING STATION, LTE, NA		
Sample Status	DVT		
Power Supply Rating	208/240Vac, 60Hz		
Modulation Type	WLAN	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM	
	NFC	ASK	
	GPRS	GMSK	
	EDGE	GMSK, 8PSK	
	Cat-M1	QPSK, 16QAM	
	NB-IoT	BPSK, QPSK	
Modulation Technology	WLAN	DSSS, OFDM	
Transfer Rate	WLAN	802.11b:11/5.5/2/1Mbps 802.11g: 54/48/36/24/18/12/9/6Mbps 802.11n: up to 65Mbps	
	NFC	Up to 424 kb/s	
Operating Frequency	WLAN	2412 ~ 2462MHz	
	NFC	13.56MHz	
	GPRS	GPRS/EDGE 850	824.2MHz ~ 848.8MHz
		GPRS/EDGE 1900	1850.2MHz ~1909.8MHz
	Cat-M1	Band 2 (Channel Bandwidth 1.4MHz)	1850.7MHz ~ 1909.3MHz
		Band 2 (Channel Bandwidth 3MHz)	1851.5MHz ~ 1908.5MHz
		Band 2 (Channel Bandwidth 5MHz)	1852.5MHz ~ 1907.5MHz
		Band 2 (Channel Bandwidth 10MHz)	1855.0MHz ~ 1905.0MHz
		Band 2 (Channel Bandwidth 15MHz)	1857.5MHz ~ 1902.5MHz
		Band 2 (Channel Bandwidth 20MHz)	1860.0MHz ~ 1900.0MHz
		Band 4 (Channel Bandwidth 1.4MHz)	1710.7MHz ~ 1754.3MHz
		Band 4 (Channel Bandwidth 3MHz)	1711.5MHz ~ 1753.5MHz
		Band 4 (Channel Bandwidth 5MHz)	1712.5MHz ~ 1752.5MHz
		Band 4 (Channel Bandwidth 10MHz)	1715.0MHz ~ 1750.0MHz
		Band 4 (Channel Bandwidth 15MHz)	1717.5MHz ~ 1747.5MHz
		Band 4 (Channel Bandwidth 20MHz)	1720.0MHz ~ 1745.0MHz
		Band 5 (Channel Bandwidth 1.4MHz)	824.7MHz ~ 848.3MHz
		Band 5 (Channel Bandwidth 3MHz)	825.5MHz ~ 847.5MHz
		Band 5 (Channel Bandwidth 5MHz)	826.5MHz ~ 846.5MHz
		Band 5 (Channel Bandwidth 10MHz)	829.0MHz ~ 844.0MHz

Operating Frequency	Cat-M1	Band 12 (Channel Bandwidth 1.4MHz)	699.7MHz ~ 715.3MHz
		Band 12 (Channel Bandwidth 3MHz)	700.5MHz ~ 714.5MHz
		Band 12 (Channel Bandwidth 5MHz)	701.5MHz ~ 713.5MHz
		Band 12 (Channel Bandwidth 10MHz)	704.0MHz ~ 711.0MHz
		Band 13 (Channel Bandwidth 5MHz)	779.5MHz ~ 784.5MHz
		Band 13 (Channel Bandwidth 10MHz)	782.0MHz
		Band 25 (Channel Bandwidth 1.4MHz)	1850.7MHz ~ 1914.3MHz
		Band 25 (Channel Bandwidth 3MHz)	1851.5MHz ~ 1913.5MHz
		Band 25 (Channel Bandwidth 5MHz)	1852.5MHz ~ 1912.5MHz
		Band 25 (Channel Bandwidth 10MHz)	1855.0MHz ~ 1910.0MHz
		Band 25 (Channel Bandwidth 15MHz)	1857.5MHz ~ 1907.5MHz
		Band 25 (Channel Bandwidth 20MHz)	1860.0MHz ~ 1905.0MHz
	NB-IoT Standalone	Band 2	1850.1MHz ~ 1909.9MHz
		Band 4	1710.1MHz ~ 1754.9MHz
		Band 5	824.1MHz ~ 848.9MHz
		Band 12	699.1MHz ~ 715.9MHz
		Band 13	777.1MHz ~ 786.9MHz
		Band 25	1850.1MHz ~ 1914.9MHz
Antenna Type	WLAN	Dipole antenna with 2.20dBi gain	
	NFC	PCB Loop Antenna	
	Cat-M1	Refer to note	
	NB-IoT	Refer to note	
Antenna Connector	WLAN	I-PEX	
	NFC	NA	
	Cat-M1	Refer to note	
	NB-IoT	Refer to note	
Accessory Device	NA		
Cable Supplied	7.3m non-shielded power cord without core attached on EUT		

Note:

1. The EUT contains certified WLAN module (FCC ID: PPQLILYW131), NFC module (FCC ID: PPQRYORR2L) and WWAN module (FCC ID: XMR201707BG96).
2. The EUT provides 1 completed transmitter and 1 receiver.

Modulation Mode	TX Function
802.11b	1TX
802.11g	1TX
802.11n (HT20)	1TX

3. NFC Type A/B/F are different Carrier Frequency and Data Signaling,

Technology Type	Data Transmitter	Data Signaling	Date Rate	Carrier Frequency
NFC-A	Polling	ASK 100%	106kb/s	13.56MHz
	Listening	ASK Load Modulation		+/-848kHz subcarrier
NFC-B	Polling	ASK 10%	106kb/s	13.56MHz
	Listening	ASK Load Modulation		+/-848kHz subcarrier
NFC-F	Polling	ASK 100%	212/ 424 kb/s	13.56MHz
	Listening	ASK Load Modulation		+/-848kHz subcarrier

4. The antenna information for host is listed as below.

Type	Connector	Antenna gain (dBi)							
		GPRS 850	GPRS 1900	B2	B4	B5	B12	B13	B25
Monopole Coupling	Coaxial	1.0	0.5	0.5	2.0	1.0	2.3	0.6	0.5

5. The above Antenna information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.

3.2 Description of Test Modes

For WLAN:

11 channels are provided for 802.11b, 802.11g and 802.11n (HT20):

Channel	Frequency	Channel	Frequency
1	2412MHz	7	2442MHz
2	2417MHz	8	2447MHz
3	2422MHz	9	2452MHz
4	2427MHz	10	2457MHz
5	2432MHz	11	2462MHz
6	2437MHz		

For NFC:

1 channel is provided to this EUT

Channel	Freq. (MHz)
1	13.56

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure Mode	Applicable to		Description
	RE $\geq$ 1G	RE<1G	
-	√	√	-

Where RE $\geq$ 1G: Radiated Emission above 1GHz & Bandedge Measurement

RE<1G: Radiated Emission below 1GHz

Note: The EUT was positioned on **Z-plane** only.

Radiated Emission Test (Above 1GHz):

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Type
-	802.11n (HT20) + NFC Type B + GPRS 850	2412 ~ 2462	1 to 11	6 + 1 + 251	DBPSK
		13.56	1		ASK
		824.2 ~ 848.8	128 to 251		GMSK
-	802.11n (HT20) + NFC Type B + GPRS 1900	2412 ~ 2462	1 to 11	6 + 1 + 512	DBPSK
		13.56	1		ASK
		1850.2 ~ 1909.8	512 to 810		GMSK
-	802.11n (HT20) + NFC Type B + Cat-M1 Band 4 (Channel Bandwidth 3MHz)	2412 ~ 2462	1 to 11	6 + 1 + 20175	DBPSK
		13.56	1		ASK
		1711.5 ~ 1753.5	19965 to 20385		QPSK

Radiated Emission Test (Below 1GHz):

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Type
-	802.11n (HT20) + NFC Type B + GPRS 850	2412 ~ 2462	1 to 11	6 + 1 + 251	DBPSK
		13.56	1		ASK
		824.2 ~ 848.8	128 to 251		GMSK
-	802.11n (HT20) + NFC Type B + GPRS 1900	2412 ~ 2462	1 to 11	6 + 1 + 512	DBPSK
		13.56	1		ASK
		1850.2 ~ 1909.8	512 to 810		GMSK
-	802.11n (HT20) + NFC Type B + Cat-M1 Band 4 (Channel Bandwidth 3MHz)	2412 ~ 2462	1 to 11	6 + 1 + 20175	DBPSK
		13.56	1		ASK
		1711.5 ~ 1753.5	19965 to 20385		QPSK

Test Condition:

Applicable to	Environmental Conditions	Input Power	Tested by
RE $\geq$ 1G	22 deg. C, 75% RH	220Vac, 60Hz	Tim Chen
RE<1G	22 deg. C, 75% RH	220Vac, 60Hz	Tim Chen

3.3 Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

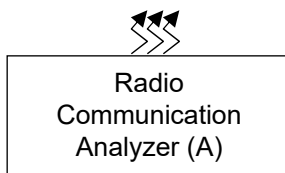
ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Radio Communication Analyzer	Anritsu	MT8821C	6201462755	NA	For GRPS mode
		R&S	CMU 200	118914	NA	For Cat-M1 mode
B.	NFC Card	NA	NA	NA	NA	-

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	Power cord	1	7.3	N	0	Attached on EUT
2.	AC power cable	1	2.4	N	0	-

3.3.1 Configuration of System under Test



Remote site



3.4 General Description of Applied Standards and References

The EUT is a RF Product. According to the specification of the EUT declared by the manufacturer, it must comply with the requirements of the following standards and references:

Test standard:

47 CFR FCC Part 15, Subpart C (Section 15.247)

47 CFR FCC Part 15, Subpart C (Section 15.225)

47 CFR FCC Part 15, Subpart C (Section 15.215)

FCC Part 22, Subpart H

FCC Part 24, Subpart E

FCC Part 27, Subpart C, F, H, L

ANSI/TIA/EIA-603-E 2016

ANSI 63.26-2015

ANSI C63.10-2013

References Test Guidance:

KDB 558074 D01 15.247 Meas Guidance v05r02

KDB 971168 D01 Power Meas License Digital Systems v03r01

All test items have been performed as a reference to the above KDB test guidance.

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

For WLAN:

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 20dB below the highest level of the desired power:

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

Note:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. For frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

For NFC

The field strength of any emissions within the band 13.553-13.567 MHz shall not exceed 15,848 microvolts/meter at 30 meters.

Within the bands 13.410-13.553 MHz and 13.567-13.710 MHz, the field strength of any emissions shall not exceed 334 microvolts/meter at 30 meters.

Within the bands 13.110-13.410 MHz and 13.710-14.010 MHz the field strength of any emissions shall not exceed 106 microvolts/meter at 30 meters.

The field strength of any emissions appearing outside of the 13.110-14.010 MHz band shall not exceed the general radiated emission limits in § 15.209.

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

Note:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. For frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

For WWAN

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB. The emission limit equal to -13dBm.

4.1.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Spectrum Analyzer Agilent	N9010A	MY52220314	Dec. 07, 2020	Dec. 06, 2021
Spectrum Analyzer ROHDE & SCHWARZ	FSU43	101261	Apr. 12, 2021	Apr. 11, 2022
Broadband Horn Antenna SCHWARZBECK	BBHA 9170	148	Nov. 14, 2021	Nov. 13, 2022
HORN Antenna SCHWARZBECK	BBHA 9120D	9120D-969	Nov. 14, 2021	Nov. 13, 2022
BILOG Antenna SCHWARZBECK	VULB 9168	9168-472	Oct. 28, 2021	Oct. 27, 2022
Fixed Attenuator WOKEN	MDCS18N-10	MDCS18N-10-01	Apr. 13, 2021	Apr. 12, 2022
MXG Vector signal generator Agilent	N5182B	MY53050430	Nov. 25, 2020	Nov. 24, 2021
Loop Antenna TESEQ	HLA 6121	45745	Jul. 21, 2021	Jul. 20, 2022
Preamplifier EMCI	EMC001340	980201	Sep. 15, 2021	Sep. 14, 2022
Preamplifier EMCI	EMC 012645	980115	Oct. 05, 2021	Oct. 04, 2022
Preamplifier EMCI	EMC 184045	980116	Oct. 05, 2021	Oct. 04, 2022
Preamplifier EMCI	EMC 330H	980112	Oct. 05, 2021	Oct. 04, 2022
Peak Power Analyzer KEYSIGHT	8990B	MY51000485	Jan. 19, 2021	Jan. 18, 2022
Wideband Power Sensor KEYSIGHT	N1923A	MY58020002	Jan. 11, 2021	Jan. 10, 2022
RF Coaxial Cable EMCI	EMC104-SM-SM-8 000	171005	Oct. 05, 2021	Oct. 04, 2022
RF Coaxial Cable HUBER+SUHNNER	SUCOFLEX 104	EMC104-SM-SM-1000(1 40807)	Oct. 05, 2021	Oct. 04, 2022
RF Coaxial Cable WOKEN	8D-FB	Cable-Ch10-01	Oct. 05, 2021	Oct. 04, 2022
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
Software BV ADT	E3 6.120103	NA	NA	NA
Antenna Tower MF	MFA-440H	NA	NA	NA
Turn Table MF	MFT-201SS	NA	NA	NA
Antenna Tower & Turn Table Controller MF	MF-7802	NA	NA	NA
Radio Communication Analyzer R&S	CMU 200	118914	Feb. 17, 2022	Feb. 16, 2023
Radio Communication Analyzer Anritsu	MT8821C	6201462755	Feb. 16, 2022	Feb. 15, 2023
JFW 20dB attenuation	50HF-020-SMA	NA	NA	NA

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

2. The test was performed in HwaYa Chamber 10.

4.1.3 Test Procedures

For WLAN:

For Radiated emission below 30MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. Parallel, perpendicular, and ground-parallel orientations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

Note:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9kHz at frequency below 30MHz.

For Radiated emission above 30MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters (for 30MHz ~ 1GHz) / 1.5 meters (for above 1GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
- f. The test-receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Note:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is $\geq 1/T$ (Duty cycle < 98%) or 10Hz (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1GHz. (802.11b: RBW = 1MHz, VBW = 10Hz; 802.11g: RBW = 1MHz, VBW = 10Hz; 802.11n (HT20): RBW = 1MHz, VBW = 10Hz)
4. All modes of operation were investigated and the worst-case emissions are reported.

For NFC

For Radiated emission below 30MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. Parallel, perpendicular, and ground-parallel orientations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Quasi-Peak Detect Function and Specified Bandwidth with Maximum Hold Mode, except for the frequency band (9 kHz-90 kHz, 110 kHz-490 kHz) set to average detect function and peak detect function.

Note:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 200Hz at frequency band (9kHz-150kHz) and 9kHz at frequency below 30MHz (except 9kHz-150kHz).
2. There is a comparison data of both open-field test site and semi-Anechoic chamber, and the result came out very similar.

For Radiated emission above 30MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters (for 30MHz ~ 1GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.

Note:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. All modes of operation were investigated and the worst-case emissions are reported.

For WWAN

- a. In the semi-anechoic chamber, EUT placed on the 0.8m (below or equal 1GHz) and/or 1.5m (above 1GHz) height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The "Read Value" is the spectrum reading the maximum power value.
- b. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- c. Perform a field strength measurement and record the worse read value, is the field strength value via a spectrum reading obtained corrected for antenna factor, cable loss and pre-amplifier factor and then mathematically convert the measured field strength level to EIRP/ERP level.
- d. Following C63.26 section 5.5 and 5.2.7
 - $EIRP (dBm) = E (dB\mu V/m) + 20\log(D) - 104.8$; where D is the measurement distance (in the far field region) in m.
 - $ERP (dBm) = E (dB\mu V/m) + 20\log(D) - 104.8 - 2.15$; where D is the measurement distance (in the far field region) in m.

Note:

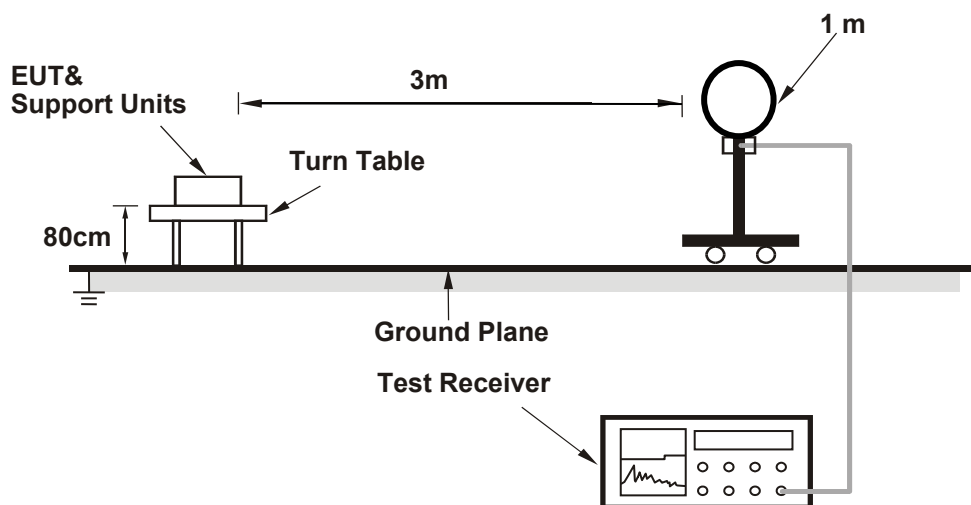
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz.
2. The emission levels were against the limit of frequency range 9 kHz ~ 30 MHz:
The amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required to be report.

4.1.4 Deviation from Test Standard

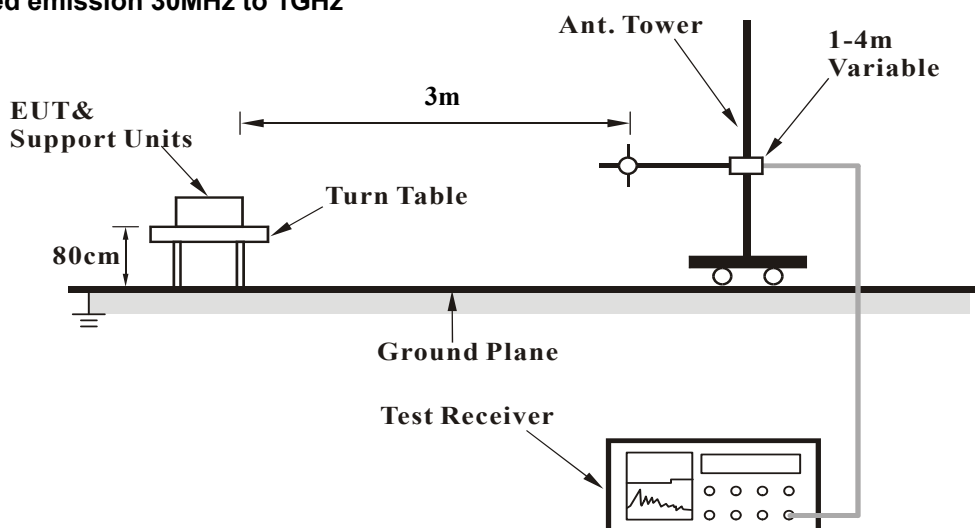
No deviation.

4.1.5 Test Setup

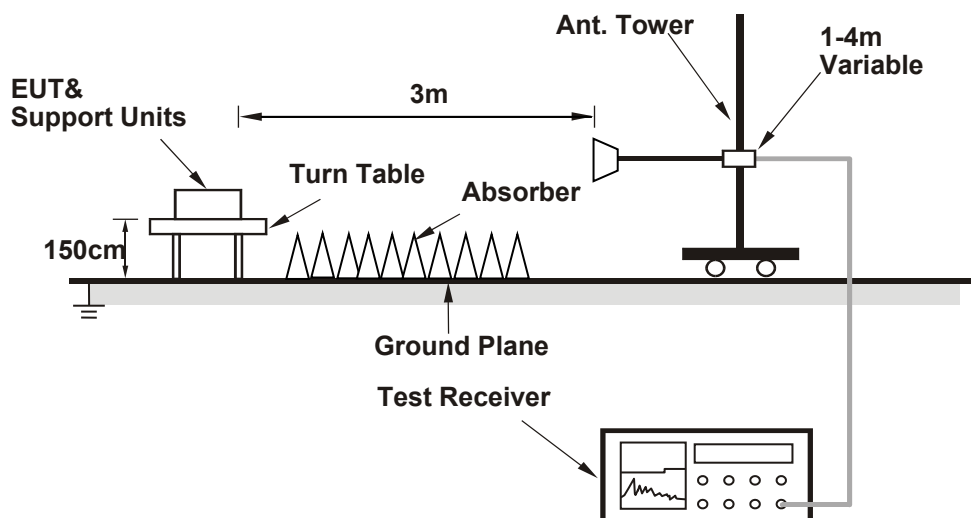
For Radiated emission below 30MHz



For Radiated emission 30MHz to 1GHz



For Radiated emission above 1GHz



For the actual test configuration, please refer to the attached file (Test Setup Photo).

4.1.6 EUT Operating Conditions

- a. The EUT under transmission condition continuously at specific channel frequency.

4.1.7 Test Results

Above 1GHz Data:

802.11n (HT20) + NFC Type B + GPRS 850

RF Mode	TX 802.11n (HT20)	Channel	CH 6 : 2437 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	57.12 PK	74.00	-16.88	1.92 H	191	26.19	30.93
2	2390.00	46.24 AV	54.00	-7.76	1.92 H	191	15.31	30.93
3	*2437.00	105.45 PK			1.92 H	191	74.56	30.89
4	*2437.00	97.43 AV			1.92 H	191	66.54	30.89
5	2483.50	57.56 PK	74.00	-16.44	1.92 H	191	26.69	30.87
6	2483.50	46.86 AV	54.00	-7.14	1.92 H	191	15.99	30.87
7	4874.00	44.63 PK	74.00	-29.37	2.01 H	223	61.54	-16.91
8	4874.00	34.06 AV	54.00	-19.94	2.01 H	223	50.97	-16.91
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	56.67 PK	74.00	-17.33	2.28 V	212	25.74	30.93
2	2390.00	46.25 AV	54.00	-7.75	2.28 V	212	15.32	30.93
3	*2437.00	95.78 PK			2.28 V	212	64.89	30.89
4	*2437.00	87.80 AV			2.28 V	212	56.91	30.89
5	2483.50	57.92 PK	74.00	-16.08	2.28 V	212	27.05	30.87
6	2483.50	46.60 AV	54.00	-7.40	2.28 V	212	15.73	30.87
7	4874.00	40.68 PK	74.00	-33.32	1.56 V	310	57.59	-16.91
8	4874.00	30.21 AV	54.00	-23.79	1.56 V	310	47.12	-16.91

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.

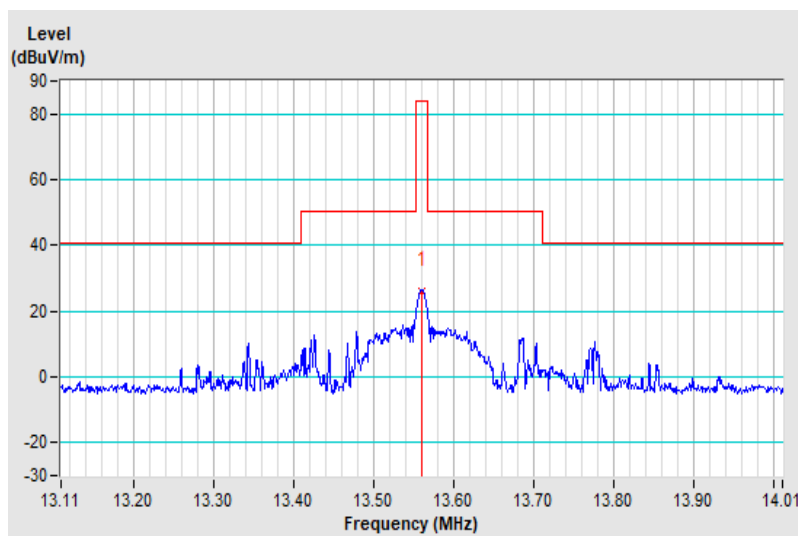
RF Mode	TX NFC	Channel	CH 1 : 13.56 MHz
Frequency Range	13.553 ~ 13.567MHz	Detector Function	Quasi-Peak

Antenna Polarity & Test Distance: Loop Antenna Parallel at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m) (30m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*13.560	26.17 QP	84.00	-57.83	1.00	242	44.16	-17.99

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance conversion factor.
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value.
5. “ * ” : Fundamental frequency.
6. Above limits have been translated by the formula

The measured field strength was extrapolated to distance 30 meters, using the formula that the limit of field strength varies as the inverse distance square (40dB per decade of distance)



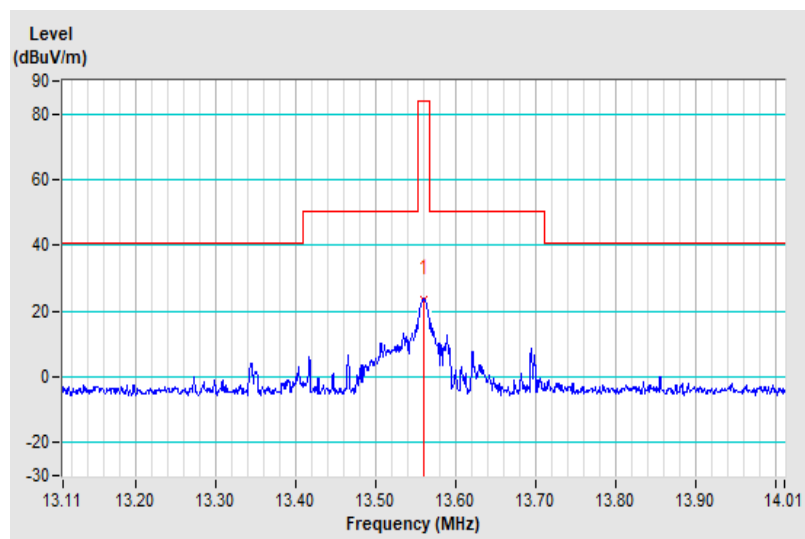
RF Mode	TX NFC	Channel	CH 1 : 13.56 MHz
Frequency Range	13.553 ~ 13.567MHz	Detector Function	Quasi-Peak

Antenna Polarity & Test Distance: Loop Antenna Perpendicular at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m) (30m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*13.560	23.14 QP	84.00	-60.86	1.00	167	41.13	-17.99

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance conversion factor.
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value.
5. “ * ” : Fundamental frequency.
6. Above limits have been translated by the formula

The measured field strength was extrapolated to distance 30 meters, using the formula that the limit of field strength varies as the inverse distance square (40dB per decade of distance)



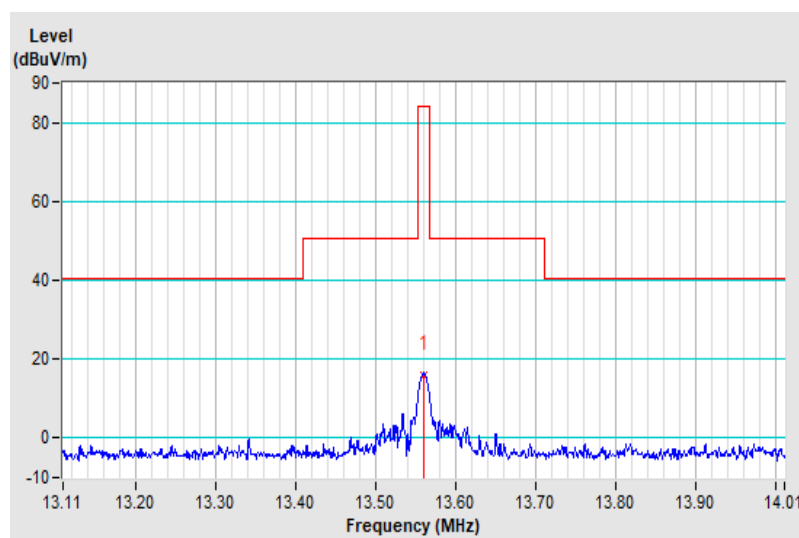
RF Mode	TX NFC	Channel	CH 1 : 13.56 MHz
Frequency Range	13.553 ~ 13.567MHz	Detector Function	Quasi-Peak

Antenna Polarity & Test Distance: Loop Antenna Ground-Parallel at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m) (30m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*13.560	15.78 QP	84.00	-68.22	1.00	235	33.77	-17.99

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance conversion factor.
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value.
5. “ * ” : Fundamental frequency.
6. Above limits have been translated by the formula

The measured field strength was extrapolated to distance 30 meters, using the formula that the limit of field strength varies as the inverse distance square (40dB per decade of distance)

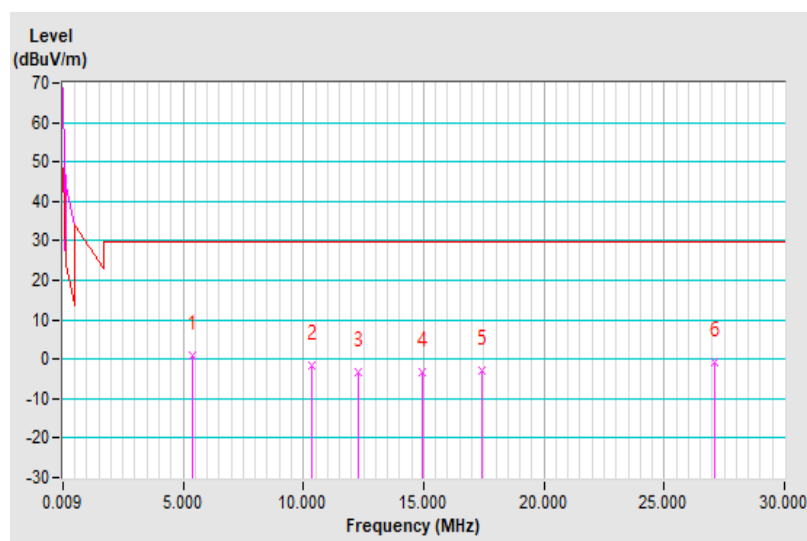


RF Mode	TX NFC	Channel	CH 1 : 13.56 MHz
Frequency Range	Below 30MHz	Detector Function	Quasi-Peak

Antenna Polarity & Test Distance: Loop Antenna Parallel at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m) (30m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5.410	0.91 QP	29.54	-28.63	1.00	174	20.57	-19.66
2	10.330	-1.40 QP	29.54	-30.94	1.00	199	16.69	-18.09
3	12.310	-3.40 QP	29.54	-32.94	1.00	23	14.63	-18.03
4	14.940	-3.28 QP	29.54	-32.82	1.00	13	14.67	-17.95
5	17.430	-2.83 QP	29.54	-32.37	1.00	286	15.05	-17.88
6	27.120	-0.80 QP	29.54	-30.34	1.00	314	17.14	-17.94

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance conversion factor.
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value.
5. The measured field strength was extrapolated to distance 30 meters, using the formula that the limit of field strength varies as the inverse distance square (40dB per decade of distance)

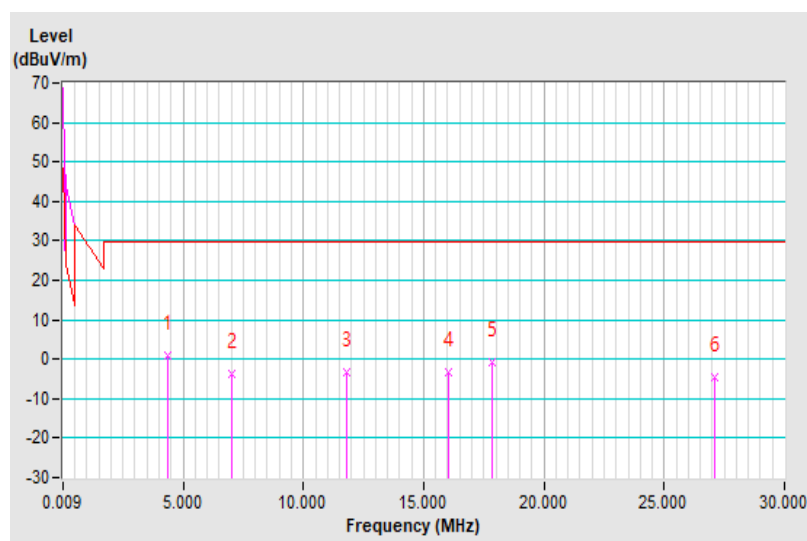


RF Mode	TX NFC	Channel	CH 1 : 13.56 MHz
Frequency Range	Below 30MHz	Detector Function	Quasi-Peak

Antenna Polarity & Test Distance: Loop Antenna Perpendicular at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m) (30m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	4.360	0.75 QP	29.54	-28.79	1.00	106	20.61	-19.86
2	7.030	-3.85 QP	29.54	-33.39	1.00	74	15.26	-19.11
3	11.830	-3.15 QP	29.54	-32.69	1.00	235	14.90	-18.05
4	16.050	-3.21 QP	29.54	-32.75	1.00	34	14.71	-17.92
5	17.820	-0.97 QP	29.54	-30.51	1.00	288	16.90	-17.87
6	27.120	-4.55 QP	29.54	-34.09	1.00	331	13.39	-17.94

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance conversion factor.
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value.
5. The measured field strength was extrapolated to distance 30 meters, using the formula that the limit of field strength varies as the inverse distance square (40dB per decade of distance)

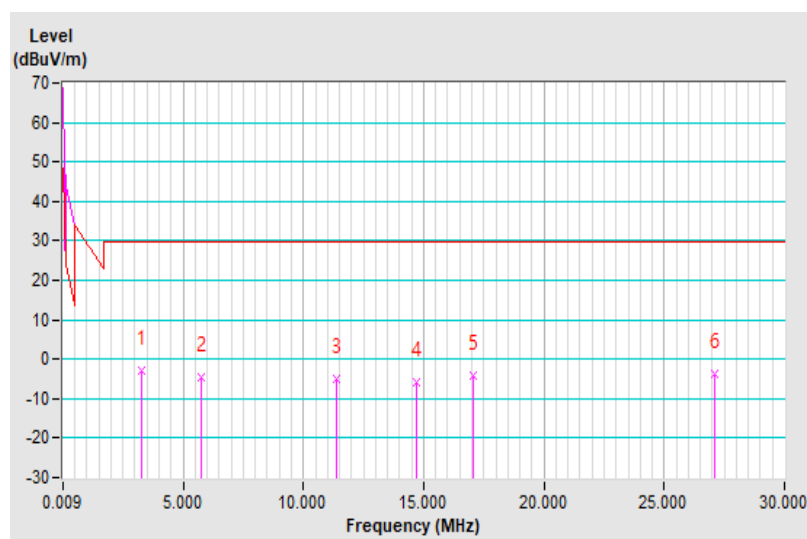


RF Mode	TX NFC	Channel	CH 1 : 13.56 MHz
Frequency Range	Below 30MHz	Detector Function	Quasi-Peak

Antenna Polarity & Test Distance: Loop Antenna Ground-Parallel at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m) (30m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3.250	-2.90 QP	29.54	-32.44	1.00	23	17.08	-19.98
2	5.770	-4.63 QP	29.54	-34.17	1.00	171	14.91	-19.54
3	11.350	-4.84 QP	29.54	-34.38	1.00	265	13.22	-18.06
4	14.700	-5.72 QP	29.54	-35.26	1.00	333	12.24	-17.96
5	17.070	-4.35 QP	29.54	-33.89	1.00	55	13.54	-17.89
6	27.120	-3.82 QP	29.54	-33.36	1.00	352	14.12	-17.94

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance conversion factor.
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value.
5. The measured field strength was extrapolated to distance 30 meters, using the formula that the limit of field strength varies as the inverse distance square (40dB per decade of distance)



RF Mode	TX GPRS	Channel	CH 251 : 848.8 MHz
Frequency Range	1GHz ~ 10GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1697.60	-28.27	-13.00	-15.27	1.22 H	137	93.92	-122.19
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1697.60	-31.76	-13.00	-18.76	2.97 V	152	90.43	-122.19

Remarks:

1. $ERP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8 - 2.15$
3. $Margin\ value = ERP - Limit\ value$
4. The other ERP levels were very low against the limit.

802.11n (HT20) + NFC Type B + GPRS 1900

RF Mode	TX 802.11n (HT20)	Channel	CH 6 : 2437 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	56.39 PK	74.00	-17.61	2.31 H	187	25.46	30.93
2	2390.00	46.30 AV	54.00	-7.70	2.31 H	187	15.37	30.93
3	*2437.00	105.12 PK			2.13 H	187	74.23	30.89
4	*2437.00	97.31 AV			2.13 H	187	66.42	30.89
5	2483.50	58.57 PK	74.00	-15.43	2.13 H	187	27.70	30.87
6	2483.50	46.75 AV	54.00	-7.25	2.13 H	187	15.88	30.87
7	4874.00	44.33 PK	74.00	-29.67	1.89 H	221	61.24	-16.91
8	4874.00	34.12 AV	54.00	-19.88	1.89 H	221	51.03	-16.91
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	56.91 PK	74.00	-17.09	2.34 V	215	25.98	30.93
2	2390.00	46.14 AV	54.00	-7.86	2.34 V	215	15.21	30.93
3	*2437.00	96.39 PK			2.34 V	215	65.50	30.89
4	*2437.00	88.60 AV			2.34 V	215	57.71	30.89
5	2483.50	57.85 PK	74.00	-16.15	2.34 V	215	26.98	30.87
6	2483.50	46.63 AV	54.00	-7.37	2.34 V	215	15.76	30.87
7	4874.00	40.32 PK	74.00	-33.68	1.84 V	289	57.23	-16.91
8	4874.00	30.10 AV	54.00	-23.90	1.84 V	289	47.01	-16.91

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.

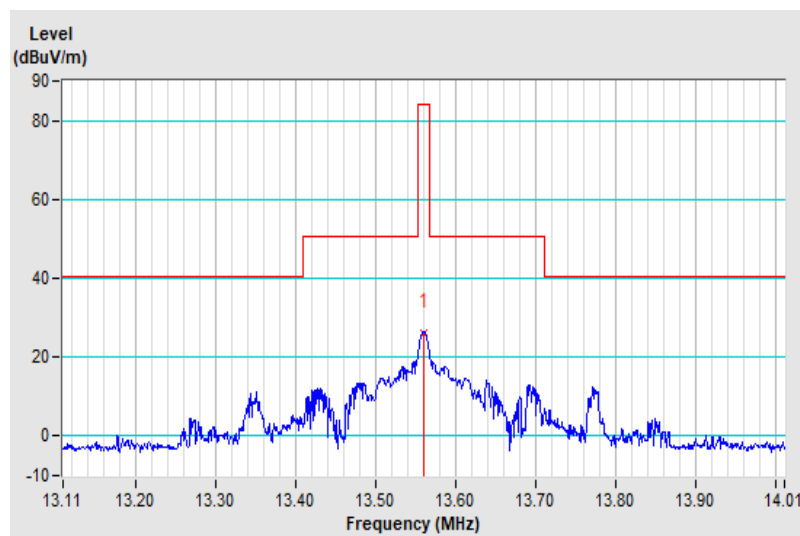
RF Mode	TX NFC	Channel	CH 1 : 13.56 MHz
Frequency Range	13.553 ~ 13.567MHz	Detector Function	Quasi-Peak

Antenna Polarity & Test Distance: Loop Antenna Parallel at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m) (30m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*13.560	25.94 QP	84.00	-58.06	1.00	263	43.93	-17.99

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance conversion factor.
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value.
5. “ * ” : Fundamental frequency.
6. Above limits have been translated by the formula

The measured field strength was extrapolated to distance 30 meters, using the formula that the limit of field strength varies as the inverse distance square (40dB per decade of distance)



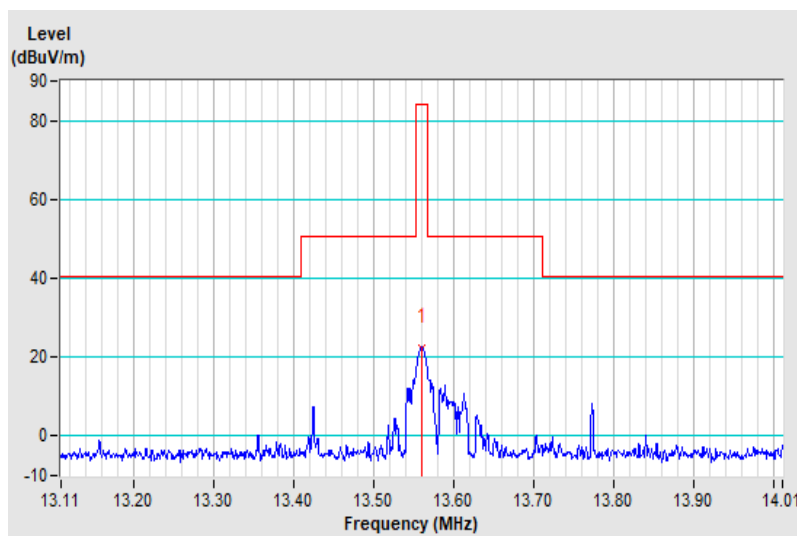
RF Mode	TX NFC	Channel	CH 1 : 13.56 MHz
Frequency Range	13.553 ~ 13.567MHz	Detector Function	Quasi-Peak

Antenna Polarity & Test Distance: Loop Antenna Perpendicular at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m) (30m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*13.560	22.13 QP	84.00	-61.87	1.00	181	40.12	-17.99

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance conversion factor.
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value.
5. “ * ” : Fundamental frequency.
6. Above limits have been translated by the formula

The measured field strength was extrapolated to distance 30 meters, using the formula that the limit of field strength varies as the inverse distance square (40dB per decade of distance)



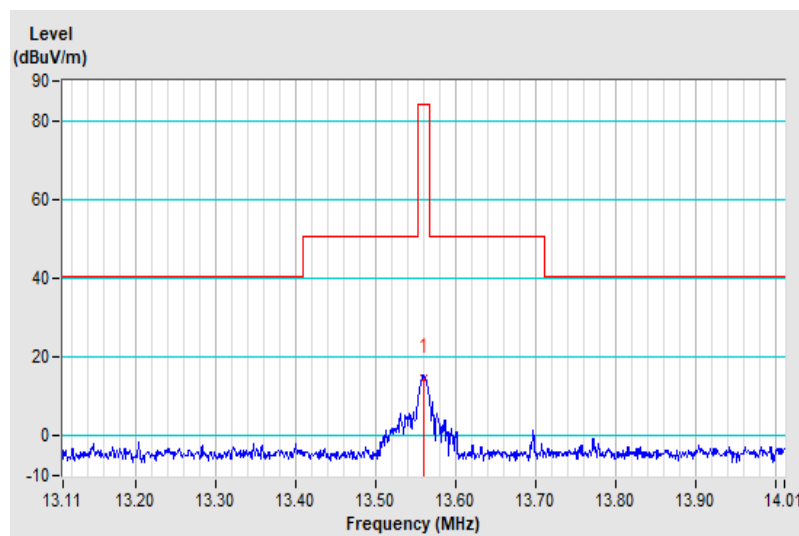
RF Mode	TX NFC	Channel	CH 1 : 13.56 MHz
Frequency Range	13.553 ~ 13.567MHz	Detector Function	Quasi-Peak

Antenna Polarity & Test Distance: Loop Antenna Ground-Parallel at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m) (30m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*13.560	14.78 QP	84.00	-69.22	1.00	263	32.77	-17.99

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance conversion factor.
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value.
5. “ * ” : Fundamental frequency.
6. Above limits have been translated by the formula

The measured field strength was extrapolated to distance 30 meters, using the formula that the limit of field strength varies as the inverse distance square (40dB per decade of distance)

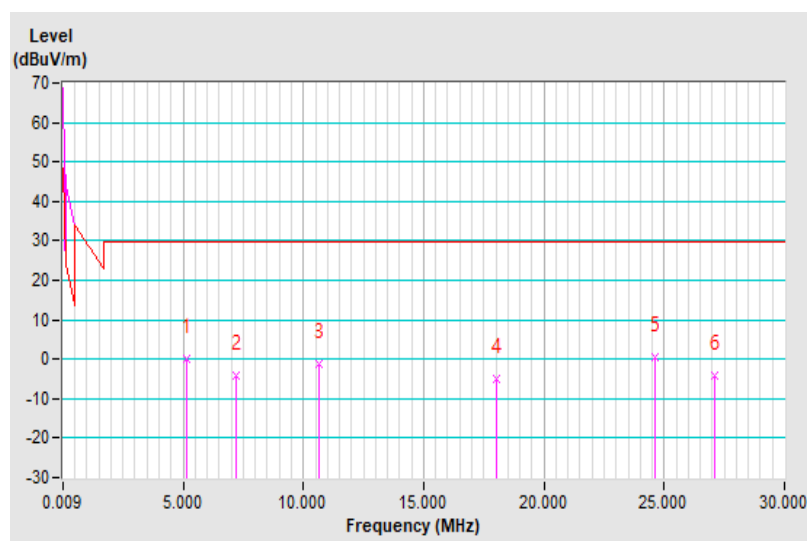


RF Mode	TX NFC	Channel	CH 1 : 13.56 MHz
Frequency Range	Below 30MHz	Detector Function	Quasi-Peak

Antenna Polarity & Test Distance: Loop Antenna Parallel at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m) (30m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5.170	0.00 QP	29.54	-29.54	1.00	123	19.74	-19.74
2	7.180	-4.02 QP	29.54	-33.56	1.00	169	15.04	-19.06
3	10.660	-1.29 QP	29.54	-30.83	1.00	205	16.79	-18.08
4	18.030	-4.89 QP	29.54	-34.43	1.00	317	12.97	-17.86
5	24.600	0.36 QP	29.54	-29.18	1.00	97	18.25	-17.89
6	27.120	-4.09 QP	29.54	-33.63	1.00	232	13.85	-17.94

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance conversion factor.
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value.
5. The measured field strength was extrapolated to distance 30 meters, using the formula that the limit of field strength varies as the inverse distance square (40dB per decade of distance)

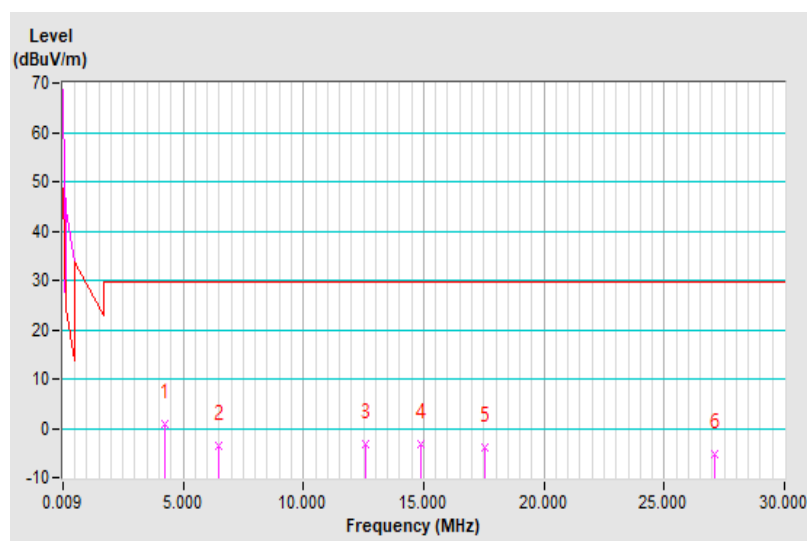


RF Mode	TX NFC	Channel	CH 1 : 13.56 MHz
Frequency Range	Below 30MHz	Detector Function	Quasi-Peak

Antenna Polarity & Test Distance: Loop Antenna Perpendicular at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m) (30m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	4.270	0.70 QP	29.54	-28.84	1.00	178	20.57	-19.87
2	6.490	-3.70 QP	29.54	-33.24	1.00	213	15.59	-19.29
3	12.580	-3.25 QP	29.54	-32.79	1.00	326	14.77	-18.02
4	14.910	-3.21 QP	29.54	-32.75	1.00	242	14.74	-17.95
5	17.550	-4.06 QP	29.54	-33.60	1.00	196	13.81	-17.87
6	27.120	-5.13 QP	29.54	-34.67	1.00	77	12.81	-17.94

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance conversion factor.
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value.
5. The measured field strength was extrapolated to distance 30 meters, using the formula that the limit of field strength varies as the inverse distance square (40dB per decade of distance)

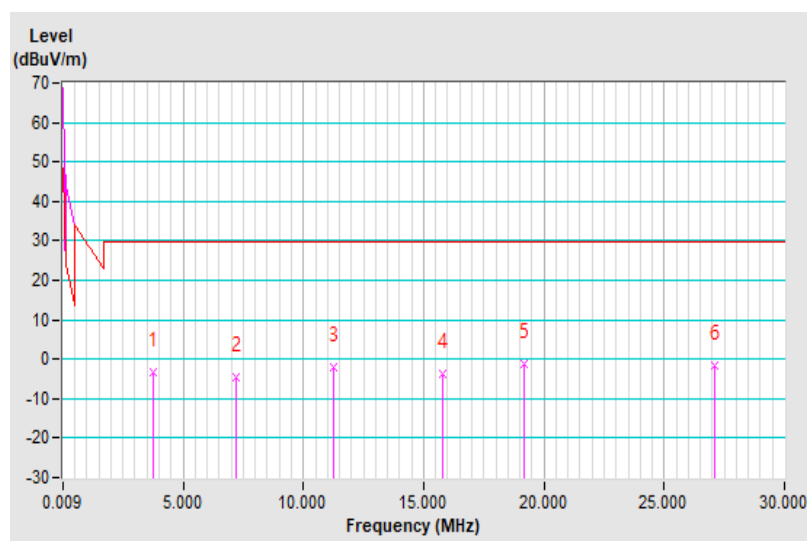


RF Mode	TX NFC	Channel	CH 1 : 13.56 MHz
Frequency Range	Below 30MHz	Detector Function	Quasi-Peak

Antenna Polarity & Test Distance: Loop Antenna Ground-Parallel at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m) (30m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3.730	-3.36 QP	29.54	-32.90	1.00	123	16.57	-19.93
2	7.180	-4.42 QP	29.54	-33.96	1.00	252	14.64	-19.06
3	11.230	-2.21 QP	29.54	-31.75	1.00	254	15.85	-18.06
4	15.780	-3.82 QP	29.54	-33.36	1.00	347	14.11	-17.93
5	19.170	-1.33 QP	29.54	-30.87	1.00	14	16.49	-17.82
6	27.120	-1.56 QP	29.54	-31.10	1.00	93	16.38	-17.94

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance conversion factor.
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value.
5. The measured field strength was extrapolated to distance 30 meters, using the formula that the limit of field strength varies as the inverse distance square (40dB per decade of distance)



RF Mode	TX GPRS	Channel	CH 512 : 1850.2 MHz
Frequency Range	1GHz ~ 20GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3700.40	-55.83	-13.00	-42.83	1.32 H	254	59.93	-115.76
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3700.40	-56.06	-13.00	-43.06	1.69 V	23	59.70	-115.76

Remarks:

1. $EIRP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$
3. $Margin\ value = EIRP - Limit\ value$
4. The other EIRP levels were very low against the limit.

802.11n (HT20) + NFC Type B + Cat-M1 Band 4 (Channel Bandwidth 3MHz)

RF Mode	TX 802.11n (HT20)	Channel	CH 6 : 2437 MHz
Frequency Range	1GHz ~ 25GHz	Detector Function	Peak (PK) Average (AV)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	56.74 PK	74.00	-17.26	1.93 H	189	25.81	30.93
2	2390.00	46.48 AV	54.00	-7.52	1.93 H	189	15.55	30.93
3	*2437.00	105.63 PK			1.93 H	189	74.74	30.89
4	*2437.00	97.63 AV			1.93 H	189	66.74	30.89
5	2483.50	58.12 PK	74.00	-15.88	1.93 H	189	27.25	30.87
6	2483.50	46.71 AV	54.00	-7.29	1.93 H	189	15.84	30.87
7	4874.00	44.95 PK	74.00	-29.05	1.89 H	199	61.86	-16.91
8	4874.00	34.13 AV	54.00	-19.87	1.89 H	199	51.04	-16.91
Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	2390.00	57.57 PK	74.00	-16.43	2.30 V	210	26.64	30.93
2	2390.00	46.19 AV	54.00	-7.81	2.30 V	210	15.26	30.93
3	*2437.00	95.99 PK			2.30 V	210	65.10	30.89
4	*2437.00	87.94 AV			2.30 V	210	57.05	30.89
5	2483.50	58.15 PK	74.00	-15.85	2.30 V	210	27.28	30.87
6	2483.50	46.69 AV	54.00	-7.31	2.30 V	210	15.82	30.87
7	4874.00	40.62 PK	74.00	-33.38	1.53 V	295	57.53	-16.91
8	4874.00	30.12 AV	54.00	-23.88	1.53 V	295	47.03	-16.91

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.

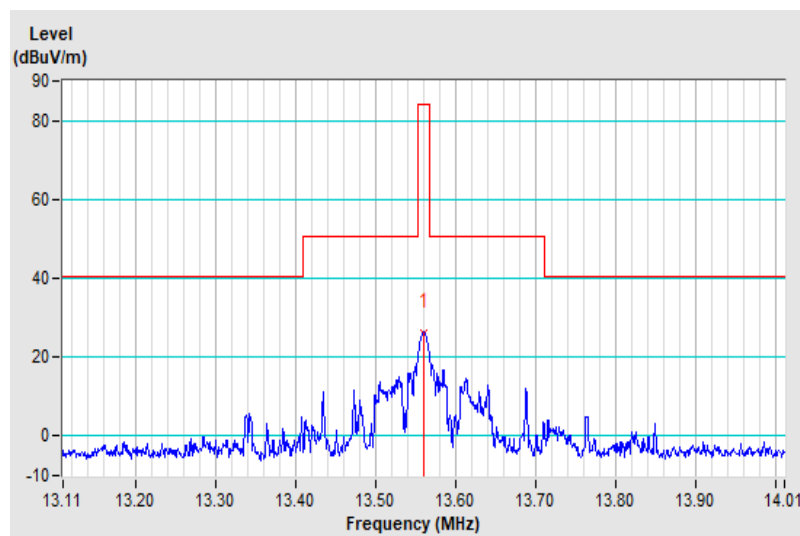
RF Mode	TX NFC	Channel	CH 1 : 13.56 MHz
Frequency Range	13.553 ~ 13.567MHz	Detector Function	Quasi-Peak

Antenna Polarity & Test Distance: Loop Antenna Parallel at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m) (30m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*13.560	25.95 QP	84.00	-58.05	1.00	256	43.94	-17.99

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance conversion factor.
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value.
5. “ * ” : Fundamental frequency.
6. Above limits have been translated by the formula

The measured field strength was extrapolated to distance 30 meters, using the formula that the limit of field strength varies as the inverse distance square (40dB per decade of distance)



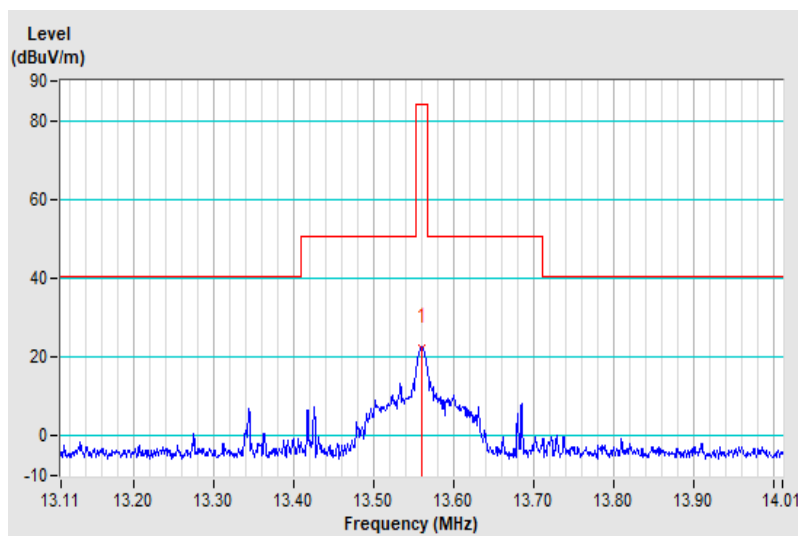
RF Mode	TX NFC	Channel	CH 1 : 13.56 MHz
Frequency Range	13.553 ~ 13.567MHz	Detector Function	Quasi-Peak

Antenna Polarity & Test Distance: Loop Antenna Perpendicular at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m) (30m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*13.560	22.12 QP	84.00	-61.88	1.00	190	40.11	-17.99

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance conversion factor.
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value.
5. “ * ” : Fundamental frequency.
6. Above limits have been translated by the formula

The measured field strength was extrapolated to distance 30 meters, using the formula that the limit of field strength varies as the inverse distance square (40dB per decade of distance)



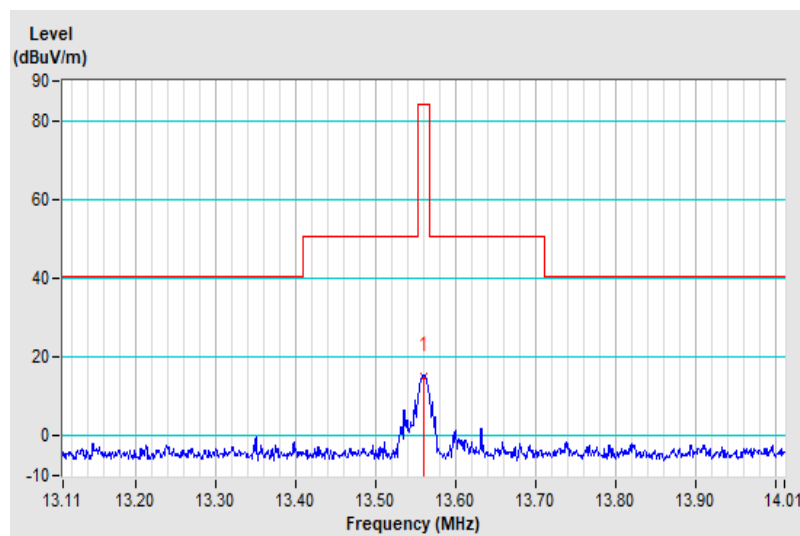
RF Mode	TX NFC	Channel	CH 1 : 13.56 MHz
Frequency Range	13.553 ~ 13.567MHz	Detector Function	Quasi-Peak

Antenna Polarity & Test Distance: Loop Antenna Ground-Parallel at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m) (30m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*13.560	14.87 QP	84.00	-69.13	1.00	251	32.86	-17.99

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance conversion factor.
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value.
5. “ * ” : Fundamental frequency.
6. Above limits have been translated by the formula

The measured field strength was extrapolated to distance 30 meters, using the formula that the limit of field strength varies as the inverse distance square (40dB per decade of distance)

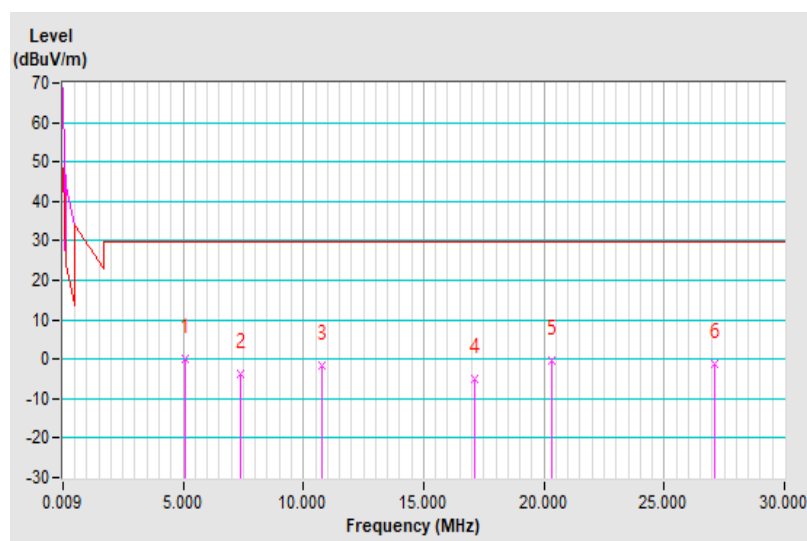


RF Mode	TX NFC	Channel	CH 1 : 13.56 MHz
Frequency Range	Below 30MHz	Detector Function	Quasi-Peak

Antenna Polarity & Test Distance: Loop Antenna Parallel at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m) (30m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	5.080	0.29 QP	29.54	-29.25	1.00	222	20.06	-19.77
2	7.360	-3.71 QP	29.54	-33.25	1.00	22	15.29	-19.00
3	10.750	-1.78 QP	29.54	-31.32	1.00	169	16.30	-18.08
4	17.130	-4.95 QP	29.54	-34.49	1.00	200	12.94	-17.89
5	20.310	-0.21 QP	29.54	-29.75	1.00	327	17.60	-17.81
6	27.120	-1.25 QP	29.54	-30.79	1.00	151	16.69	-17.94

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance conversion factor.
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value.
5. The measured field strength was extrapolated to distance 30 meters, using the formula that the limit of field strength varies as the inverse distance square (40dB per decade of distance)

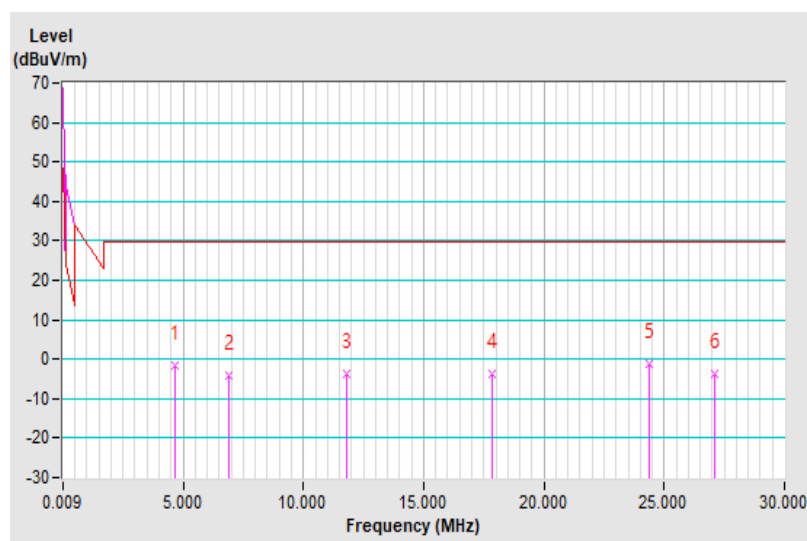


RF Mode	TX NFC	Channel	CH 1 : 13.56 MHz
Frequency Range	Below 30MHz	Detector Function	Quasi-Peak

Antenna Polarity & Test Distance: Loop Antenna Perpendicular at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m) (30m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	4.690	-1.71 QP	29.54	-31.25	1.00	102	18.12	-19.83
2	6.880	-4.21 QP	29.54	-33.75	1.00	164	14.95	-19.16
3	11.830	-3.66 QP	29.54	-33.20	1.00	57	14.39	-18.05
4	17.820	-3.79 QP	29.54	-33.33	1.00	193	14.08	-17.87
5	24.360	-1.38 QP	29.54	-30.92	1.00	204	16.51	-17.89
6	27.120	-3.61 QP	29.54	-33.15	1.00	247	14.33	-17.94

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance conversion factor.
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value.
5. The measured field strength was extrapolated to distance 30 meters, using the formula that the limit of field strength varies as the inverse distance square (40dB per decade of distance)

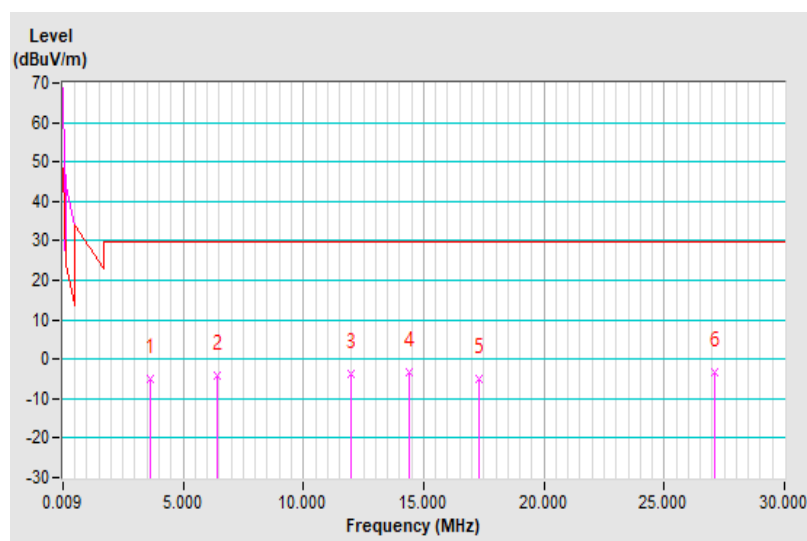


RF Mode	TX NFC	Channel	CH 1 : 13.56 MHz
Frequency Range	Below 30MHz	Detector Function	Quasi-Peak

Antenna Polarity & Test Distance: Loop Antenna Ground-Parallel at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m) (30m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3.640	-4.87 QP	29.54	-34.41	1.00	163	15.07	-19.94
2	6.400	-4.20 QP	29.54	-33.74	1.00	154	15.12	-19.32
3	12.010	-3.64 QP	29.54	-33.18	1.00	139	14.40	-18.04
4	14.370	-3.29 QP	29.54	-32.83	1.00	128	14.68	-17.97
5	17.310	-4.99 QP	29.54	-34.53	1.00	151	12.89	-17.88
6	27.120	-3.28 QP	29.54	-32.82	1.00	99	14.66	-17.94

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance conversion factor.
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value.
5. The measured field strength was extrapolated to distance 30 meters, using the formula that the limit of field strength varies as the inverse distance square (40dB per decade of distance)



RF Mode	TX Cat-M1 Band 4 (Channel Bandwidth 3MHz)	Channel	CH 20175 : 1732.5 MHz
Frequency Range	1GHz ~ 20GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3465.00	-42.92	-13.00	-29.92	1.53 H	252	73.40	-116.32
Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	3465.00	-42.61	-13.00	-29.61	2.31 V	156	73.71	-116.32

Remarks:

1. $EIRP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$
3. $Margin\ value = EIRP - Limit\ value$
4. The other EIRP levels were very low against the limit.

Below 1GHz data

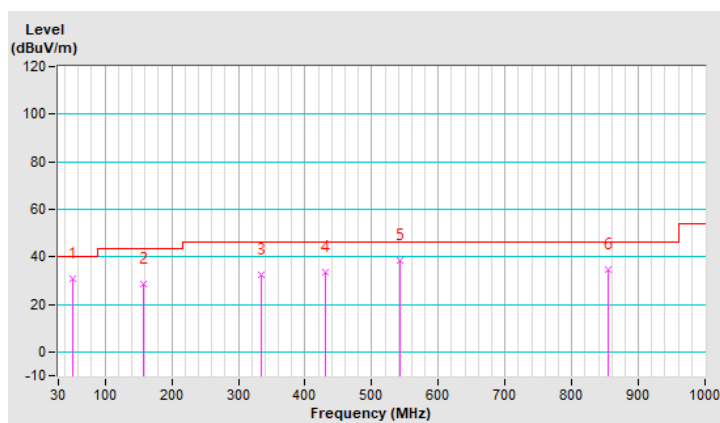
802.11n (HT20) + NFC Type B + GPRS 850

RF Mode	TX 802.11n (HT20) + NFC	Channel	CH 6 : 2437 MHz + CH 1 : 13.56 MHz
Frequency Range	30MHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	51.34	30.69 QP	40.00	-9.31	1.32 H	208	43.30	-12.61
2	158.04	28.35 QP	43.50	-15.15	1.67 H	18	40.62	-12.27
3	333.61	32.17 QP	46.00	-13.83	2.28 H	186	42.93	-10.76
4	429.64	33.56 QP	46.00	-12.44	3.06 H	333	41.69	-8.13
5	542.16	38.55 QP	46.00	-7.45	2.91 H	139	43.85	-5.30
6	855.47	34.53 QP	46.00	-11.47	1.14 H	9	33.43	1.10

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz.
4. Margin value = Emission Level – Limit value.
5. The emission levels were very low against the limit of frequency range 9kHz ~ 30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

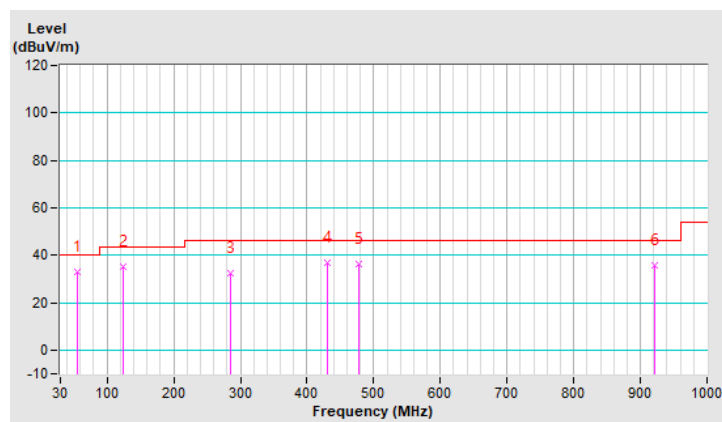


RF Mode	TX 802.11n (HT20) + NFC	Channel	CH 6 : 2437 MHz + CH 1 : 13.56 MHz
Frequency Range	30MHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	56.19	32.79 QP	40.00	-7.21	1.29 V	18	45.65	-12.86
2	124.09	35.40 QP	43.50	-8.10	1.88 V	121	49.44	-14.04
3	286.08	32.29 QP	46.00	-13.71	3.10 V	176	45.01	-12.72
4	429.64	36.57 QP	46.00	-9.43	2.99 V	196	44.70	-8.13
5	477.17	36.14 QP	46.00	-9.86	1.63 V	342	42.98	-6.84
6	922.40	35.73 QP	46.00	-10.27	2.12 V	255	33.58	2.15

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz.
4. Margin value = Emission Level – Limit value.
5. The emission levels were very low against the limit of frequency range 9kHz ~ 30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

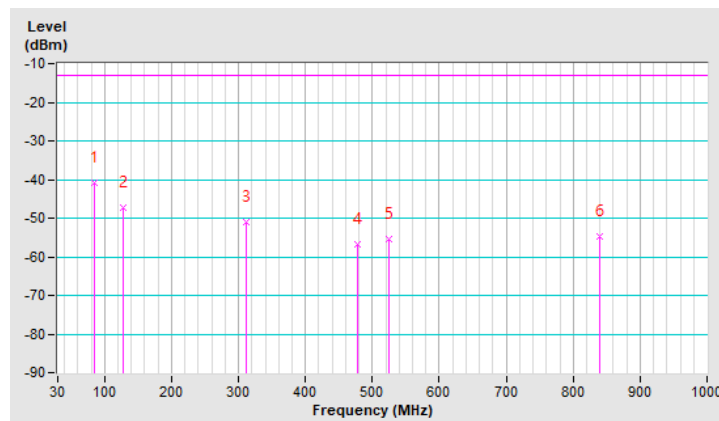


RF Mode	TX GPRS	Channel	CH 251 : 848.8 MHz
Frequency Range	30MHz ~ 1GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	84.32	-40.80	-13.00	-27.80	1.35 H	45	74.88	-115.68
2	127.00	-47.42	-13.00	-34.42	1.65 H	256	63.79	-111.21
3	311.30	-51.06	-13.00	-38.06	1.78 H	201	57.89	-108.95
4	477.17	-56.83	-13.00	-43.83	1.96 H	141	47.42	-104.25
5	524.70	-55.27	-13.00	-42.27	1.11 H	282	47.79	-103.06
6	838.98	-54.61	-13.00	-41.61	1.74 H	239	41.66	-96.27

Remarks:

1. $ERP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8 - 2.15$
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

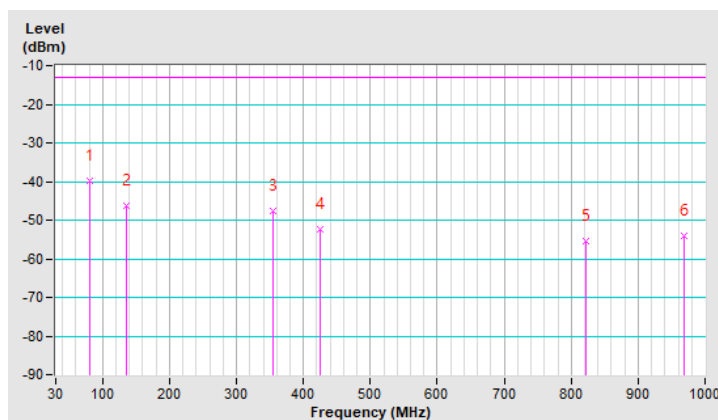


RF Mode	TX GPRS	Channel	CH 251 : 848.8 MHz
Frequency Range	30MHz ~ 1GHz		

Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	80.44	-39.81	-13.00	-26.81	1.98 V	230	75.30	-115.11
2	135.73	-46.33	-13.00	-33.33	1.52 V	177	63.91	-110.24
3	353.98	-47.54	-13.00	-34.54	3.65 V	35	60.13	-107.67
4	424.79	-52.47	-13.00	-39.47	2.04 V	155	53.30	-105.77
5	821.52	-55.52	-13.00	-42.52	1.39 V	67	41.05	-96.57
6	968.96	-54.08	-13.00	-41.08	2.03 V	99	40.37	-94.45

Remarks:

1. $ERP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8 - 2.15$
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.



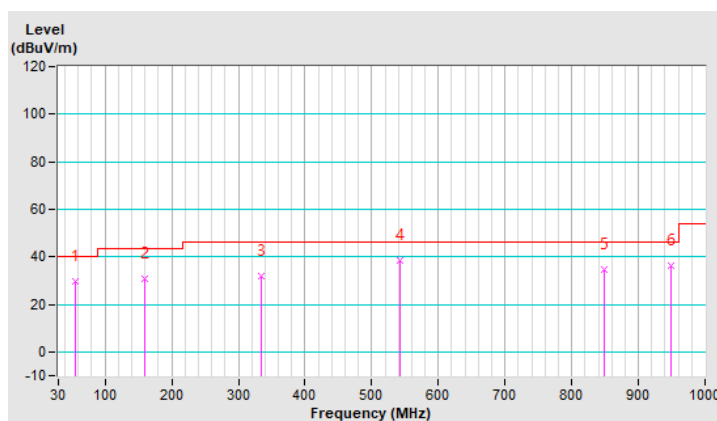
802.11n (HT20) + NFC Type B + GPRS 1900

RF Mode	TX 802.11n (HT20) + NFC	Channel	CH 6 : 2437 MHz + CH 1 : 13.56 MHz
Frequency Range	30MHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	55.22	29.61 QP	40.00	-10.39	1.20 H	266	42.52	-12.91
2	159.98	30.57 QP	43.50	-12.93	1.37 H	72	42.93	-12.36
3	333.61	31.76 QP	46.00	-14.24	2.02 H	173	42.52	-10.76
4	542.16	38.27 QP	46.00	-7.73	1.65 H	150	43.57	-5.30
5	849.65	34.53 QP	46.00	-11.47	1.98 H	352	33.56	0.97
6	949.56	36.12 QP	46.00	-9.88	2.22 H	200	33.43	2.69

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz.
4. Margin value = Emission Level – Limit value.
5. The emission levels were very low against the limit of frequency range 9kHz ~ 30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

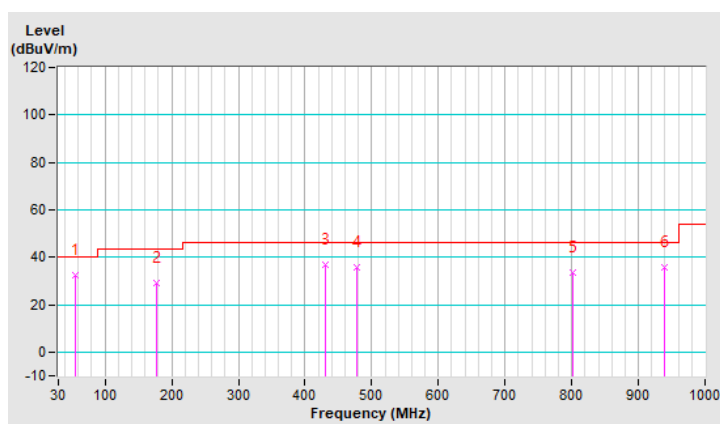


RF Mode	TX 802.11n (HT20) + NFC	Channel	CH 6 : 2437 MHz + CH 1 : 13.56 MHz
Frequency Range	30MHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	56.19	32.69 QP	40.00	-7.31	1.42 V	298	45.55	-12.86
2	176.47	29.27 QP	43.50	-14.23	1.03 V	220	43.07	-13.80
3	429.64	36.97 QP	46.00	-9.03	1.56 V	173	45.10	-8.13
4	477.17	35.54 QP	46.00	-10.46	3.74 V	2	42.38	-6.84
5	801.15	33.62 QP	46.00	-12.38	2.20 V	164	33.20	0.42
6	939.86	35.47 QP	46.00	-10.53	1.69 V	341	32.93	2.54

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz.
4. Margin value = Emission Level – Limit value.
5. The emission levels were very low against the limit of frequency range 9kHz ~ 30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

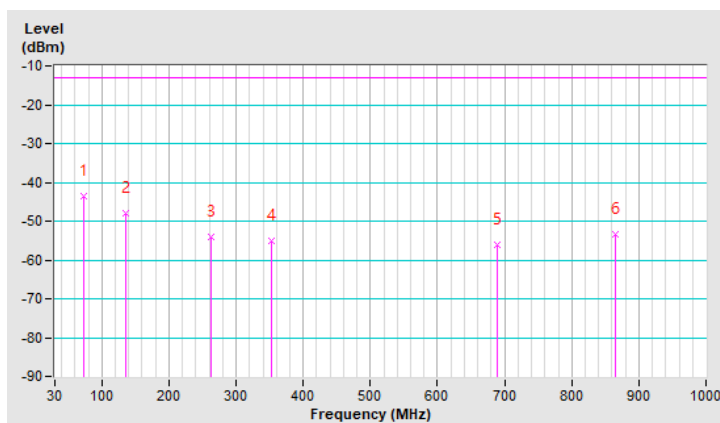


RF Mode	TX GPRS	Channel	CH 512 : 1850.2 MHz
Frequency Range	30MHz ~ 1GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	73.65	-43.49	-13.00	-30.49	1.33 H	258	67.61	-111.10
2	134.76	-48.06	-13.00	-35.06	1.63 H	104	60.13	-108.19
3	261.83	-54.16	-13.00	-41.16	1.98 H	23	55.17	-109.33
4	353.01	-55.22	-13.00	-42.22	3.26 H	205	50.32	-105.54
5	688.63	-56.26	-13.00	-43.26	1.77 H	106	40.97	-97.23
6	865.17	-53.49	-13.00	-40.49	1.37 H	223	40.64	-94.13

Remarks:

1. $EIRP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$
3. $Margin\ value = EIRP - Limit\ value$
4. The other EIRP levels were very low against the limit.

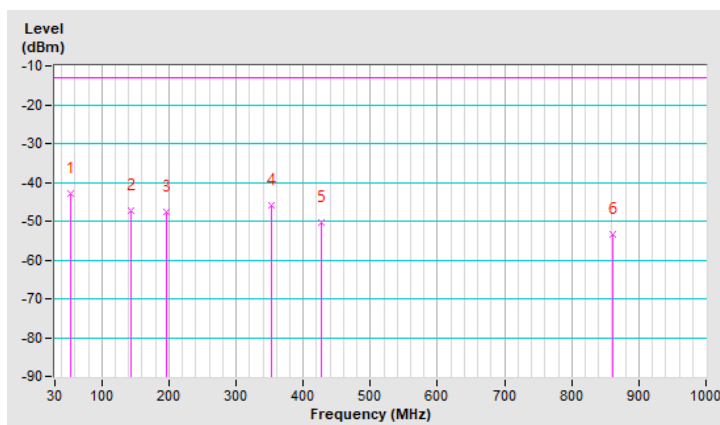


RF Mode	TX GPRS	Channel	CH 512 : 1850.2 MHz
Frequency Range	30MHz ~ 1GHz		

Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	53.28	-42.85	-13.00	-29.85	1.16 V	208	65.14	-107.99
2	143.49	-47.38	-13.00	-34.38	1.63 V	310	60.22	-107.60
3	195.87	-47.65	-13.00	-34.65	1.74 V	111	63.56	-111.21
4	352.04	-45.91	-13.00	-32.91	3.74 V	200	59.64	-105.55
5	427.70	-50.31	-13.00	-37.31	1.96 V	32	53.17	-103.48
6	861.29	-53.40	-13.00	-40.40	2.22 V	11	40.72	-94.12

Remarks:

1. $EIRP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$
3. $Margin\ value = EIRP - Limit\ value$
4. The other EIRP levels were very low against the limit.



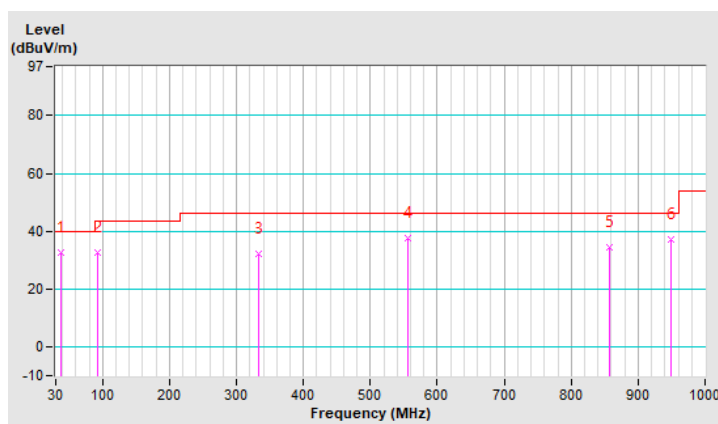
802.11n (HT20) + NFC Type B + Cat-M1 Band 4 (Channel Bandwidth 3MHz)

RF Mode	TX 802.11n (HT20) + NFC	Channel	CH 6 : 2437 MHz + CH 1 : 13.56 MHz
Frequency Range	30MHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	37.76	32.77 QP	40.00	-7.23	1.03 H	331	46.08	-13.31
2	92.08	32.59 QP	43.50	-10.91	1.54 H	206	50.64	-18.05
3	333.61	32.29 QP	46.00	-13.71	1.82 H	180	43.05	-10.76
4	555.74	37.73 QP	46.00	-8.27	1.65 H	2	42.76	-5.03
5	857.41	34.29 QP	46.00	-11.71	2.08 H	239	33.16	1.13
6	949.56	37.12 QP	46.00	-8.88	2.22 H	269	34.43	2.69

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz.
4. Margin value = Emission Level – Limit value.
5. The emission levels were very low against the limit of frequency range 9kHz ~ 30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

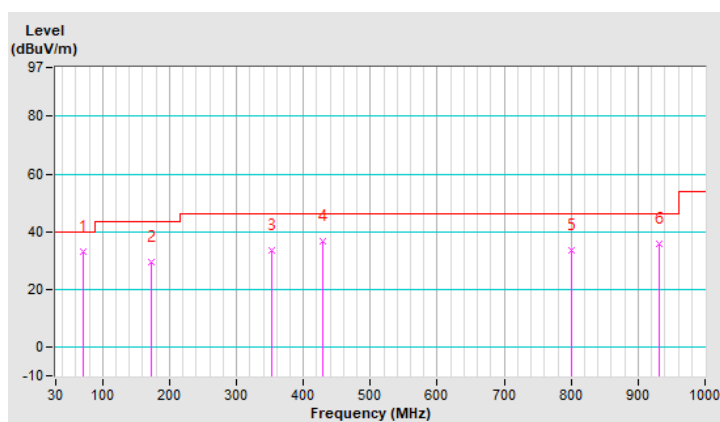


RF Mode	TX 802.11n (HT20) + NFC	Channel	CH 6 : 2437 MHz + CH 1 : 13.56 MHz
Frequency Range	30MHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	70.74	33.03 QP	40.00	-6.97	1.55 V	32	48.07	-15.04
2	173.56	29.56 QP	43.50	-13.94	1.89 V	50	43.02	-13.46
3	353.01	33.68 QP	46.00	-12.32	3.45 V	254	43.96	-10.28
4	429.64	36.77 QP	46.00	-9.23	1.44 V	187	44.90	-8.13
5	800.18	33.52 QP	46.00	-12.48	1.74 V	115	33.12	0.40
6	931.13	35.63 QP	46.00	-10.37	2.05 V	234	33.36	2.27

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m).
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB).
3. The other emission levels were very low against the limit of frequency range 30MHz ~ 1000MHz.
4. Margin value = Emission Level – Limit value.
5. The emission levels were very low against the limit of frequency range 9kHz ~ 30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

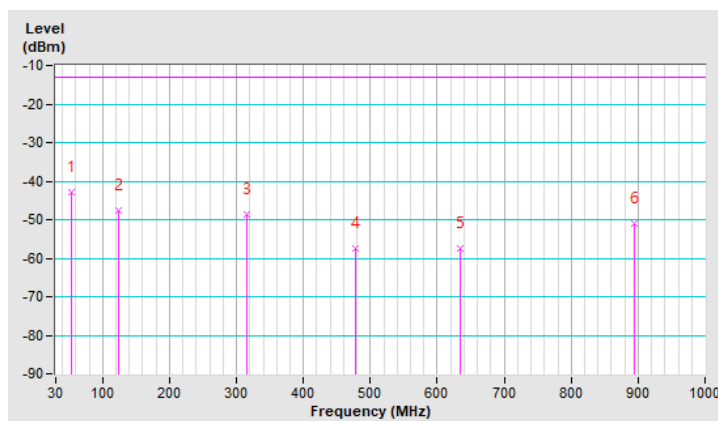


RF Mode	TX Cat-M1 Band 4 (Channel Bandwidth 3MHz)	Channel	CH 20175 : 1732.5 MHz
Frequency Range	30MHz ~ 1GHz		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	53.28	-43.02	-13.00	-30.02	1.46 H	220	64.97	-107.99
2	124.09	-47.72	-13.00	-34.72	1.67 H	10	61.58	-109.30
3	316.15	-48.51	-13.00	-35.51	1.11 H	269	58.09	-106.60
4	477.17	-57.38	-13.00	-44.38	3.13 H	144	44.72	-102.10
5	634.31	-57.35	-13.00	-44.35	2.87 H	55	40.63	-97.98
6	895.24	-50.99	-13.00	-37.99	1.63 H	347	42.74	-93.73

Remarks:

1. $EIRP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$
3. $Margin\ value = EIRP - Limit\ value$
4. The other EIRP levels were very low against the limit.

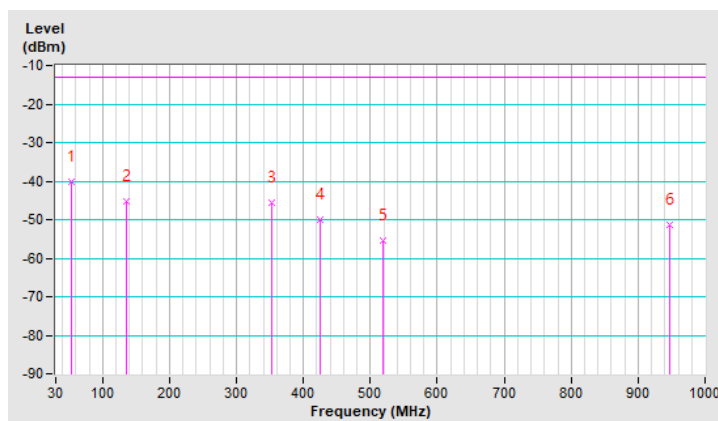


RF Mode	TX Cat-M1 Band 4 (Channel Bandwidth 3MHz)	Channel	CH 20175 : 1732.5 MHz
Frequency Range	30MHz ~ 1GHz		

Antenna Polarity & Test Distance : Vertical at 3m								
No	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	53.28	-40.17	-13.00	-27.17	1.32 V	205	67.82	-107.99
2	135.73	-45.36	-13.00	-32.36	2.22 V	148	62.73	-108.09
3	352.04	-45.45	-13.00	-32.45	1.96 V	353	60.10	-105.55
4	425.76	-50.12	-13.00	-37.12	2.20 V	141	53.46	-103.58
5	519.85	-55.45	-13.00	-42.45	2.03 V	196	45.52	-100.97
6	946.65	-51.50	-13.00	-38.50	1.11 V	97	41.07	-92.57

Remarks:

1. $EIRP(dBm) = Raw\ Value(dBuV) + Correction\ Factor(dB/m)$
2. $Correction\ Factor(dB/m) = Antenna\ Factor(dB/m) + Cable\ Factor(dB) - Pre-Amplifier\ Factor(dB) + 20\log(D) - 104.8$
3. $Margin\ value = EIRP - Limit\ value$
4. The other EIRP levels were very low against the limit.



5 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo).

Appendix – Information of the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are FCC recognized accredited test firms and accredited according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

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Email: service.adt@tw.bureauveritas.com

Web Site: www.bureauveritas-adt.com

The address and road map of all our labs can be found in our web site also.

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