FCC Test Report

(Co-located)

Report No.:	RFBHTZ-WTW-P22090089
FCC ID:	PPQLILYW131
Test Model:	W1-UC168-0MK1ER
Series Model:	W1-UC168-0MF1FR, W1-UC168-0MF1F0 (Refer to item 3.1 for more details)
Received Date:	Sep. 16, 2022
Test Date:	Oct. 11 ~ Oct. 24, 2022
Issued Date:	Jan. 17, 2023
Applicant:	LITE-ON Technology Corp.
Address:	Bldg. C, 90, Chien 1 Rd., Chung-Ho, New Taipei City 23585, Taiwan (R.O.C)
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Lin Kou Laboratories
Lab Address:	No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan
Test Location:	No.19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, Taiwan
FCC Registration / Designation Number:	788550 / TW0003

Testing Laboratory
2021

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Release Control Record

Issue No.	Description	Date Issued
RFBHTZ-WTW-P22090089	Original Release	Jan. 17, 2023

1 Certificate of Conformity

Product:	AC charging station
Brand:	LITEON
Test Model:	W1-UC168-0MK1ER
Series Model:	W1-UC168-0MF1FR, W1-UC168-0MF1F0 (Refer to item 3.1 for more details)
Sample Status:	Engineering Sample
Applicant:	LITE-ON Technology Corp.
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, H, F, L FCC Part 90, Subpart I, S FCC Part 2 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 : Gina Liu , **Date:** Jan. 17, 2023

Gina Liu / Specialist

Approved by : Jeremy Lin , **Date:** Jan. 17, 2023

Jeremy Lin / Project Engineer

2 Summary of Test Results

47 CFR FCC Part 15, Subpart C (Section 15.247) 47 CFR FCC Part 15, Subpart C (Section 15.225, 15.215) FCC Part 22, Subpart H FCC Part 24, Subpart E FCC Part 27, Subpart C, H, F, L FCC Part 90 & Part 2, Subpart I, S ANSI 63.26-2015 ANSI C63.10-2013			
FCC Clause	**Test Item**	**Result**	**Remarks**
15.205 / 15.209 / 15.247(d) / 15.225 (d) 2.1053 22.917 24.238 27.53(h) 90.691	Radiated Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -0.9 dB at 65.89 MHz.

Note:

1. 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	30MHz ~ 200MHz	3.86 dB
	200MHz ~1000MHz	3.87 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	2.29 dB
	18GHz ~ 40GHz	2.29 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	AC charging station	
Brand	LITEON	
Test Model	W1-UC168-0MK1ER	
Series Model	W1-UC168-0MF1FR, W1-UC168-0MF1F0	
Status of EUT	Engineering Sample	
Model Difference	Refer to note	
Power Supply Rating	208/240Vac, 60Hz	
Modulation Type	WLAN	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
	WCDMA	QPSK
	LTE	QPSK, 16QAM
	NFC	ASK
Data Rate	WLAN	802.11b: 11.0 / 5.5 / 2.0 / 1.0 Mbps 802.11g: 54.0 / 48.0 / 36.0 / 24.0 / 18.0 / 12.0 / 9.0 / 6.0 Mbps 802.11n: up to 72.2Mbps
	NFC	Type A: 106 kbit/s Type B: 106 kbit/s Type F: 212 kbit/s, 424 kbit/s
Operating Frequency	WLAN	2412 ~ 2462 MHz
	WCDMA Band 2	1852.4 ~ 1907.6 MHz
	WCDMA Band 4	1712.4 ~ 1752.6 MHz
	WCDMA Band 5	826.4 ~ 846.6 MHz
	LTE Band 2 (Channel Bandwidth 1.4MHz)	1850.7MHz ~ 1909.3MHz
	LTE Band 2 (Channel Bandwidth 3MHz)	1851.5MHz ~ 1908.5MHz
	LTE Band 2 (Channel Bandwidth 5MHz)	1852.5MHz ~ 1907.5MHz
	LTE Band 2 (Channel Bandwidth 10MHz)	1855.0MHz ~ 1905.0MHz
	LTE Band 2 (Channel Bandwidth 15MHz)	1857.5MHz ~ 1902.5MHz
	LTE Band 2 (Channel Bandwidth 20MHz)	1860.0MHz ~ 1900.0MHz
	LTE Band 4 (Channel Bandwidth 1.4MHz)	1710.7MHz ~ 1754.3MHz
	LTE Band 4 (Channel Bandwidth 3MHz)	1711.5MHz ~ 1753.5MHz
	LTE Band 4 (Channel Bandwidth 5MHz)	1712.5MHz ~ 1752.5MHz
	LTE Band 4 (Channel Bandwidth 10MHz)	1715.0MHz ~ 1750.0MHz
	LTE Band 4 (Channel Bandwidth 15MHz)	1717.5MHz ~ 1747.5MHz
	LTE Band 4 (Channel Bandwidth 20MHz)	1720.0MHz ~ 1745.0MHz
	LTE Band 5 (Channel Bandwidth 1.4MHz)	824.7MHz ~ 848.3MHz
	LTE Band 5 (Channel Bandwidth 3MHz)	825.5MHz ~ 847.5MHz
	LTE Band 5 (Channel Bandwidth 5MHz)	826.5MHz ~ 846.5MHz
	LTE Band 5 (Channel Bandwidth 10MHz)	829.0MHz ~ 844.0MHz
	LTE Band 12 (Channel Bandwidth 1.4MHz)	699.7MHz ~ 715.3MHz
	LTE Band 12 (Channel Bandwidth 3MHz)	700.5MHz ~ 714.5MHz

	LTE Band 12 (Channel Bandwidth 5MHz)	701.5MHz ~ 713.5MHz
	LTE Band 12 (Channel Bandwidth 10MHz)	704.0MHz ~ 711.0MHz
	LTE Band 13 (Channel Bandwidth 5MHz)	779.5MHz ~ 784.5MHz
	LTE Band 13 (Channel Bandwidth 10MHz)	782.0MHz
	LTE Band 25 (Channel Bandwidth 1.4MHz)	1850.7MHz ~ 1914.3MHz
	LTE Band 25 (Channel Bandwidth 3MHz)	1851.5MHz ~ 1913.5MHz
	LTE Band 25 (Channel Bandwidth 5MHz)	1852.5MHz ~ 1912.5MHz
	LTE Band 25 (Channel Bandwidth 10MHz)	1855.0MHz ~ 1910.0MHz
	LTE Band 25 (Channel Bandwidth 15MHz)	1857.5MHz ~ 1907.5MHz
	LTE Band 25 (Channel Bandwidth 20MHz)	1860.0MHz ~ 1905.0MHz
	LTE Band 26 (Channel Bandwidth: 1.4 MHz)(Part 22)	824.7 ~ 848.3 MHz
	LTE Band 26 (Channel Bandwidth: 3 MHz) (Part 22)	825.5 ~ 847.5 MHz
	LTE Band 26 (Channel Bandwidth: 5 MHz) (Part 22)	826.5 ~ 846.5 MHz
	LTE Band 26 (Channel Bandwidth: 10 MHz) (Part 22)	829 ~ 844 MHz
	LTE Band 26 (Channel Bandwidth: 15 MHz) (Part 22)	831.5 ~ 841.5 MHz
	LTE Band 26 (Channel Bandwidth: 1.4 MHz) (Part 90)	814.7 ~ 823.3 MHz
	LTE Band 26 (Channel Bandwidth: 3 MHz) (Part 90)	815.5 ~ 822.5 MHz
	LTE Band 26 (Channel Bandwidth: 5 MHz) (Part 90)	816.5 ~ 821.5 MHz
	LTE Band 26 (Channel Bandwidth: 10 MHz) (Part 90)	819 MHz
	NFC	13.56 MHz
Number of Channel	WLAN	2412 ~ 2462 MHz 11 for 802.11b, 802.11g, 802.11n (HT20)
	NFC	1
Antenna Type	Refer to Note as below	
Antenna Connector	Refer to Note as below	
Accessory Device	N/A	
Data Cable Supplied	N/A	

Note:

1. All models are listed as below. Model W1-UC168-0MK1ER and W1-UC168-0MF1FR is the representative for final test.

Model	W1-UC168-0MK1ER	W1-UC168-0MF1FR	W1-UC168-0MF1F0
LTE module (FCC ID: PPQ202008EG91NAXD)	✓		
Wi-Fi module (FCC ID: PPQLILYW131)	✓	✓	✓
RFID module (FCC ID: PPQRYORR2L)	✓	✓	
Ethernet	✓	✓	✓
LCD module	✓	✓	✓

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. The antenna information is listed as below.

WWAN Antenna									
Band	Antenna Type	Connector	LTE						
			2	4	5	12	13	25	26
Auden	monopole+coupling	I-PEX	2.7	2.0	1.9	1.9	1.7	2.7	1.9

WLAN Antenna					
Brand	Antenna Type	Connector	Antenna Gain (dBi)		
			2400	2450	2500
Auden	Dipole	I-PEX	2.2	2.6	3.0

4. Detail antenna specification please refer to antenna datasheet and/or antenna measurement report.
5. The above EUT information is declared by manufacturer and for more detailed features description, please refers to the manufacturer's specifications or user's manual.
6. The EUT contains certified WLAN module (Brand: LITEON / Model: LILY-W131, FCC ID: PPQLILYW131), and WWAN module (Brand: LITEON / Model: EG91-NAXD, FCC ID: PPQ202008EG91NAXD), and NFC module (Brand: LITEON / Model: RYORR2L, FCC ID: PPQRYORR2L).
7. WLAN & WWAN & NFC technology can transmit at same time.

3.2 Description of Test Modes

For 2.4G

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

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

NFC

1 channel was provided to this EUT:

Channel	Frequency (MHz)
1	13.56

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure Mode	Applicable to		Description
	RE≥1G	RE<1G	
A	√	√	W1-UC168-0MK1ER
B	√	√	W1-UC168-0MF1FR

Where RE≥1G: Radiated Emission above 1GHz RE<1G: Radiated Emission below 1GHz

Radiated Emission Test (Above 1 GHz):

☒ 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	Freq. Range (MHz)	Available Channel	Tested Channel	Modulation Technology
A	802.11n (HT20) + LTE Band 2 + NFC	2412 ~ 2462	1, 6, 11	6 + 19185 + 1	OFDM
		1851.5 ~ 1908.5	18615, 18900, 19185		QPSK
		13.56	1		ASK
A	802.11n (HT20) + LTE Band 4 + NFC	2412 ~ 2462	1, 6, 11	6 + 20050 + 1	OFDM
		1720.0 ~ 1745.0	20050, 20175, 20300		QPSK
		13.56	1		ASK
A	802.11n (HT20) + LTE Band 26 + NFC	2412 ~ 2462	1, 6, 11	6 + 26697 + 1	OFDM
		814.7 ~ 823.3	26697, 26740, 26783		QPSK
		13.56	1		ASK
A	802.11n (HT20) + LTE Band 26 + NFC	2412 ~ 2462	1, 6, 11	6 + 26797 + 1	OFDM
		824.7 ~ 848.3	26797, 26915, 27033		QPSK
		13.56	1		ASK
B	802.11n (HT20) + NFC	2412 ~ 2462	1, 6, 11	6 + 1	OFDM
		13.56	1		ASK

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	Freq. Range (MHz)	Available Channel	Tested Channel	Modulation Technology
A	802.11n (HT20) + LTE Band 2 + NFC	2412 ~ 2462	1, 6, 11	6 + 19185 + 1	OFDM
		1851.5 ~ 1908.5	18615, 18900, 19185		QPSK
		13.56	1		ASK
A	802.11n (HT20) + LTE Band 4 + NFC	2412 ~ 2462	1, 6, 11	6 + 20050 + 1	OFDM
		1720.0 ~ 1745.0	20050, 20175, 20300		QPSK
		13.56	1		ASK
A	802.11n (HT20) + LTE Band 26 + NFC	2412 ~ 2462	1, 6, 11	6 + 26697 + 1	OFDM
		814.7 ~ 823.3	26697, 26740, 26783		QPSK
		13.56	1		ASK
A	802.11n (HT20) + LTE Band 26 + NFC	2412 ~ 2462	1, 6, 11	6 + 26797 + 1	OFDM
		824.7 ~ 848.3	26797, 26915, 27033		QPSK
		13.56	1		ASK
B	802.11n (HT20) + NFC	2412 ~ 2462	1, 6, 11	6 + 1	OFDM
		13.56	1		ASK

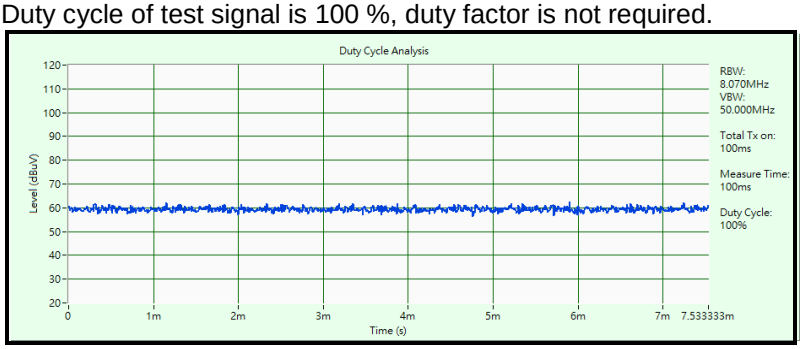
Test Condition:

Applicable to	Environmental Conditions	Input Power (System)	Tested by
RE≥1G	25 deg. C, 72 % RH; 22.3 deg. C, 72.8 % RH	220 Vac, 60 Hz	Vincent Chen, Thomas Cheng
RE<1G	25 deg. C, 72 % RH; 21 deg. C, 70 % RH	220 Vac, 60 Hz	Vincent Chen, Thomas Cheng

3.3 Duty Cycle of Test Signal

WLAN

Duty cycle of test signal is 100 %, duty factor is not required.



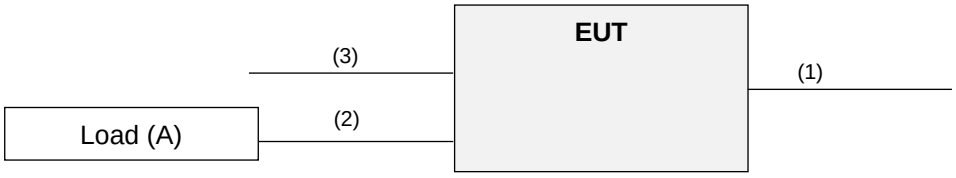
3.4 Description of Support Units

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.

No.	Product	Brand	Model No.	Serial No.	FCC ID
A	Load	N/A	N/A	N/A	N/A

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	POWER CABLE (DC out)	1	5.0	Y	0	Accessory of EUT
2.	RJ-45 Cable	2	1.8	N	0	Provided by Lab
3.	POWER CABLE (AC in)	1	1.8	Y	0	Accessory of EUT

3.4.1 Configuration of System under Test



3.5 General Description of Applied Standards

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

Test Standard:
FCC Part 15, Subpart C (15.247)
FCC Part 15, Subpart C (15.225)
FCC Part 15, Subpart C (15.215)
ANSI C63.10-2013
FCC 47 CFR Part 22
FCC 47 CFR Part 24
FCC 47 CFR Part 27
FCC 47 CFR Part 2
FCC 47 CFR Part 90
ANSI 63.26-2015
All test items have been performed and recorded as per the above standards.

References Test Guidance:
KDB 558074 D01 15.247 Meas Guidance v05r02
KDB 414788 D01 Radiated Test Site v01r01
KDB 971168 D01 Power Meas License Digital Systems v03r01
KDB 971168 D02 Misc Rev Approv License Devices v02r01
ANSI/TIA/EIA-603-E 2016
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 & NFC

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 20 dB 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 1000 MHz, 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 20 dB 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 is equal to -13 dBm.

4.1.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Spectrum Analyzer Agilent	N9010A	MY52220314	Dec. 03, 2021	Dec. 02, 2022
Spectrum Analyzer ROHDE & SCHWARZ	FSU43	101261	Apr. 11, 2022	Apr. 10, 2023
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. 05, 2022	Apr. 04, 2023
Loop Antenna TESEQ	HLA 6121	45745	Jul. 26, 2022	Jul. 25, 2023
Preamplifier EMCI	EMC 012645	980115	Oct. 01, 2022	Sep. 30, 2023
RF Coaxial Cable EMCI	EMC104-SM-SM-8000	171005	Oct. 01, 2022	Sep. 30, 2023
RF Coaxial Cable HUBER+SUHNNER	SUCOFLEX 104	EMC104-SM-SM-1000(140807)	Oct. 01, 2022	Sep. 30, 2023
RF Coaxial Cable WOKEN	8D-FB	Cable-Ch10-01	Oct. 01, 2022	Sep. 30, 2023
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

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 & 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 (9kHz-90kHz, 110Hz-490kHz) set to average detect function.

Note:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9kHz at frequency below 30MHz.
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) / 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. For WLAN: The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is ≥ 1/T (Duty cycle < 98%) or 10Hz (Duty cycle ≥ 98%) for Average detection (AV) at frequency above 1GHz.
4. All modes of operation were investigated and the worst-case emissions are reported.

For WWAN

1. 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.
2. 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.
3. 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.
4. Following C63.26 section 5.5 and 5.2.7
   EIRP (dBm) = E (dBμV/m) + 20log(D) - 104.8; where D is the measurement distance (in the far field region) in m.
   ERP (dBm) = E (dBμV/m) + 20log(D) - 104.8 - 2.15; where D is the measurement distance (in the far field region) in m.

NOTE:

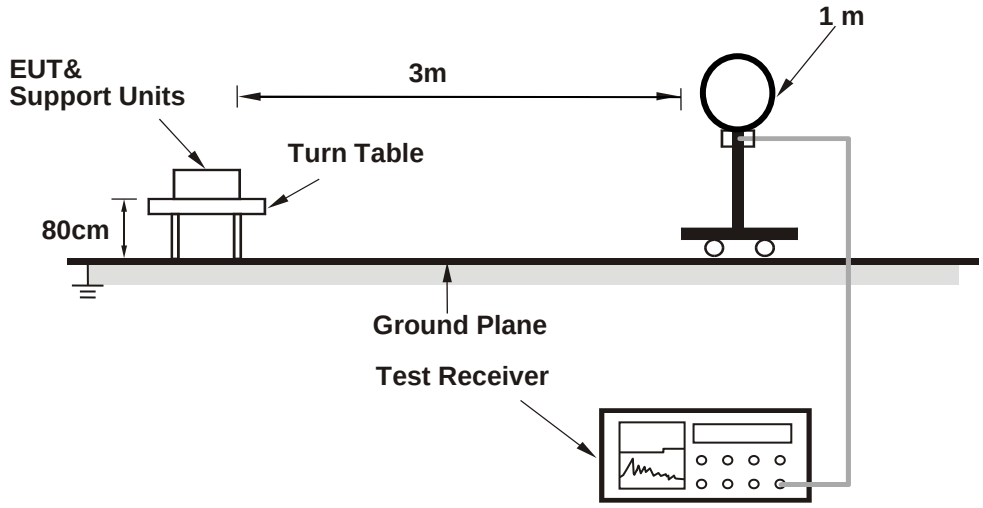
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1 MHz/3 MHz.
2. The emission levels were against the limit of frequency range 9 kHz ~ 30 MHz:
   The amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required to be report.

4.1.4 Deviation from Test Standard

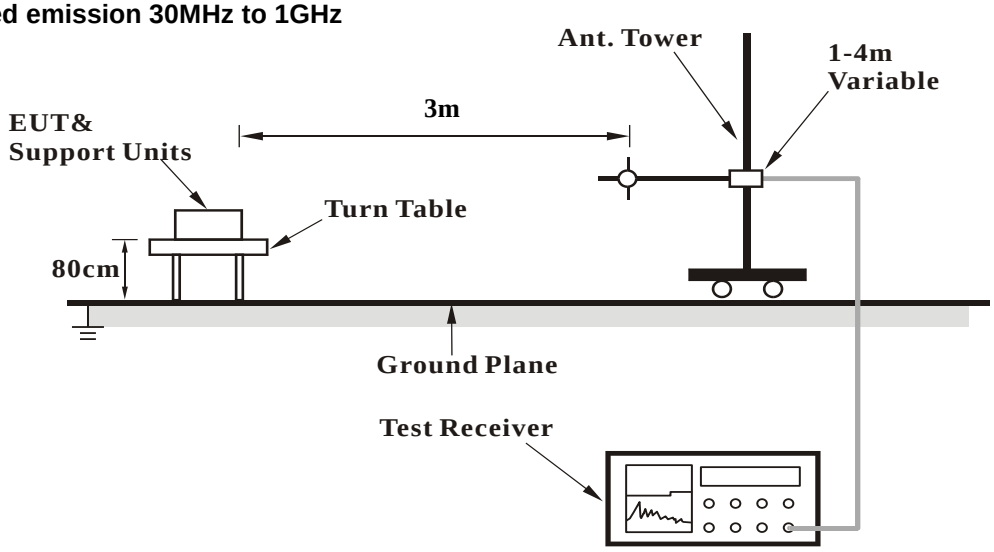
No deviation.

4.1.5 Test Setup

For Radiated emission below 30MHz



For Radiated emission 30MHz to 1GHz



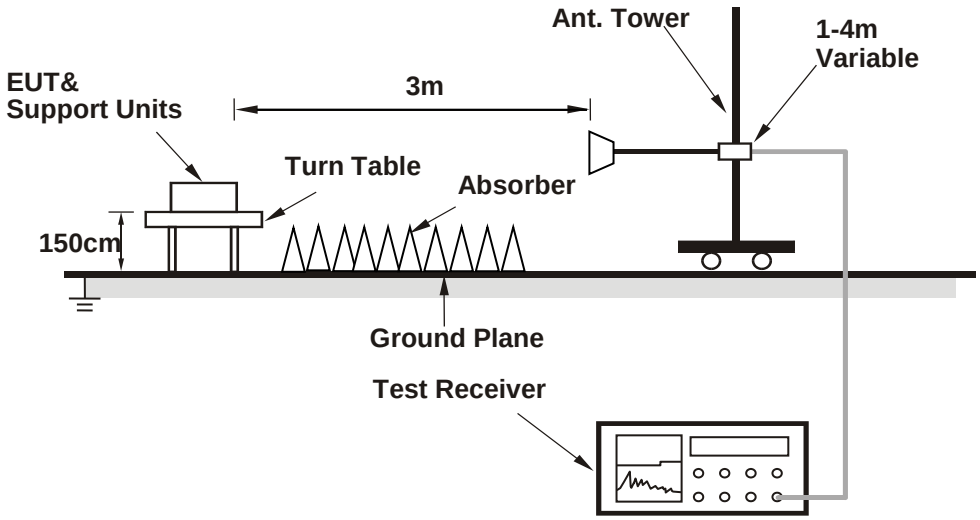
For the actual test configuration, please refer to the attached file (Test Setup Photo).

KDB 414788 OFS and Chamber Correlation Justification

- Base on FCC 15.31 (f) (2): measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field.

- Open-field site and chamber correlation testing had been performed and chamber measured test result is the worst case test result.

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

1. Placed the EUT on the testing table.
2. Set the EUT under transmission condition continuously at specific channel frequency.

4.1.7 Test Results

Mode A

Above 1 GHz Data :

802.11n (HT20), Ch6 + LTE Band 2, Ch 19185 + NFC, Ch1

Frequency Range	1 GHz ~ 25 GHz	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	*2437.00	102.8 PK			2.64 H	350	70.8	32.0
2	*2437.00	95.0 AV			2.64 H	350	63.0	32.0
3	4874.00	50.6 PK	74.0	-23.4	1.63 H	227	58.4	-7.8
4	4874.00	40.4 AV	54.0	-13.6	1.63 H	227	48.2	-7.8
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	*2437.00	93.0 PK			1.86 V	45	61.0	32.0
2	*2437.00	85.1 AV			1.86 V	45	53.1	32.0
3	4874.00	49.5 PK	74.0	-24.5	3.32 V	207	57.3	-7.8
4	4874.00	39.7 AV	54.0	-14.3	3.32 V	207	47.5	-7.8

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, the limit was restricted at the RF Output Power.

Frequency Range	1 GHz ~ 20 GHz

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	3817.00	-40.26	-13.00	-27.26	1.35 H	342	68.66	-108.92
Antenna Polarity & Test Distance : Vertical 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	3817.00	-38.06	-13.00	-25.06	1.86 V	103	70.86	-108.92

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) + 20log(D) – 104.8
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

Below 1GHz data:

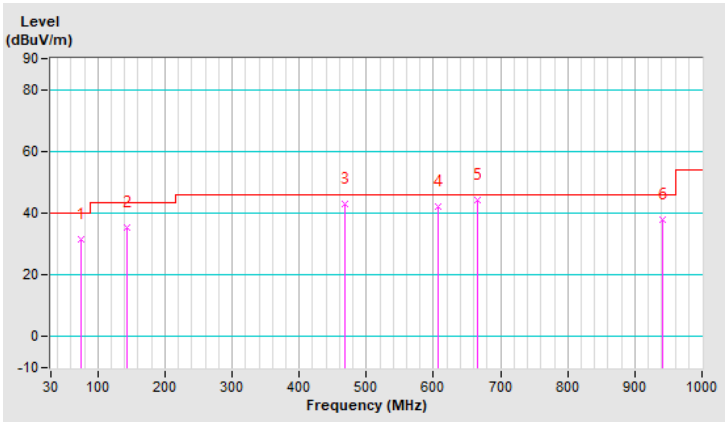
802.11n (HT20), Ch6 + LTE Band 2, Ch 19185 + NFC, Ch1

Frequency Range	9kHz ~ 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	74.62	31.6 QP	40.0	-8.4	1.00 H	296	47.7	-16.1
2	143.49	35.2 QP	43.5	-8.3	1.50 H	310	47.5	-12.3
3	468.44	43.1 QP	46.0	-2.9	2.00 H	116	50.1	-7.0
4	606.18	42.3 QP	46.0	-3.7	1.50 H	116	45.7	-3.4
5	666.32	44.4 QP	46.0	-1.6	2.00 H	3	46.7	-2.3
6	941.80	37.8 QP	46.0	-8.2	1.50 H	4	35.2	2.6

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 of frequency range 30 MHz ~ 1 GHz.
5. The emission levels were very low against the limit of frequency range 9 kHz ~ 30 MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

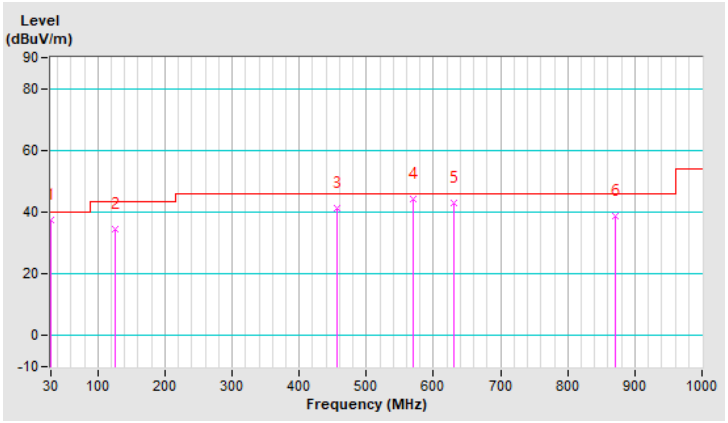


Frequency Range	9kHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

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	30.00	37.4 QP	40.0	-2.6	1.00 V	351	51.4	-14.0
2	126.03	34.6 QP	43.5	-8.9	1.50 V	18	48.3	-13.7
3	455.83	41.1 QP	46.0	-4.9	2.00 V	7	48.3	-7.2
4	570.29	44.4 QP	46.0	-1.6	1.50 V	204	49.2	-4.8
5	630.43	42.8 QP	46.0	-3.2	2.00 V	300	45.6	-2.8
6	870.02	38.9 QP	46.0	-7.1	1.00 V	293	37.6	1.3

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 of frequency range 30 MHz ~ 1 GHz.
5. The emission levels were very low against the limit of frequency range 9 kHz ~ 30 MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

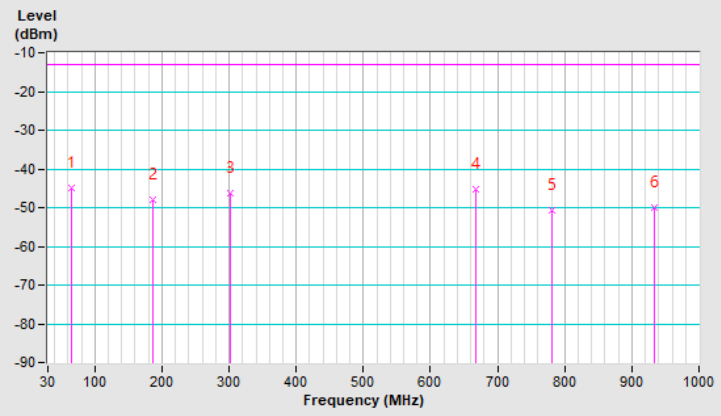


Frequency Range	Below 1000 MHz

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	65.89	-44.83	-13.00	-31.83	2.00 H	327	64.76	-109.59
2	186.17	-47.86	-13.00	-34.86	1.50 H	196	62.61	-110.47
3	301.60	-46.34	-13.00	-33.34	1.00 H	156	61.10	-107.44
4	667.29	-45.36	-13.00	-32.36	2.00 H	124	54.40	-99.76
5	781.75	-50.56	-13.00	-37.56	1.49 H	18	46.48	-97.04
6	934.04	-50.02	-13.00	-37.02	1.50 H	91	46.32	-96.34

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) + 20log(D) – 104.8
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

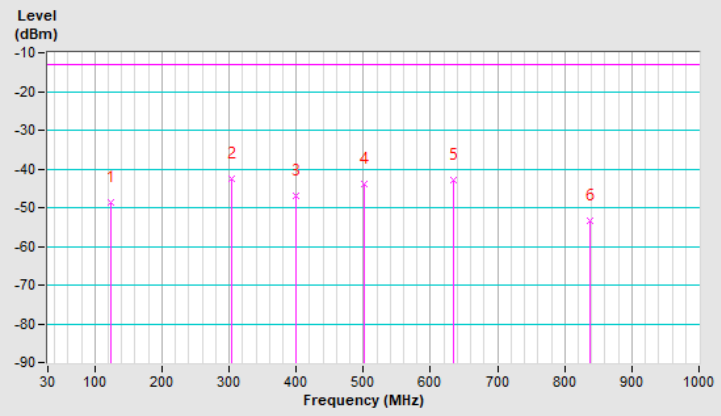


Frequency Range	Below 1000 MHz

Antenna Polarity & Test Distance : Vertical 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	123.12	-48.64	-13.00	-35.64	1.00 V	2	61.13	-109.77
2	303.54	-42.56	-13.00	-29.56	1.50 V	352	64.83	-107.39
3	399.57	-46.93	-13.00	-33.93	2.00 V	307	58.32	-105.25
4	500.45	-43.94	-13.00	-30.94	1.50 V	24	58.63	-102.57
5	633.34	-42.74	-13.00	-29.74	1.00 V	264	57.50	-100.24
6	837.04	-53.46	-13.00	-40.46	1.00 V	332	43.57	-97.03

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) + 20log(D) – 104.8
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.



NFC Type A

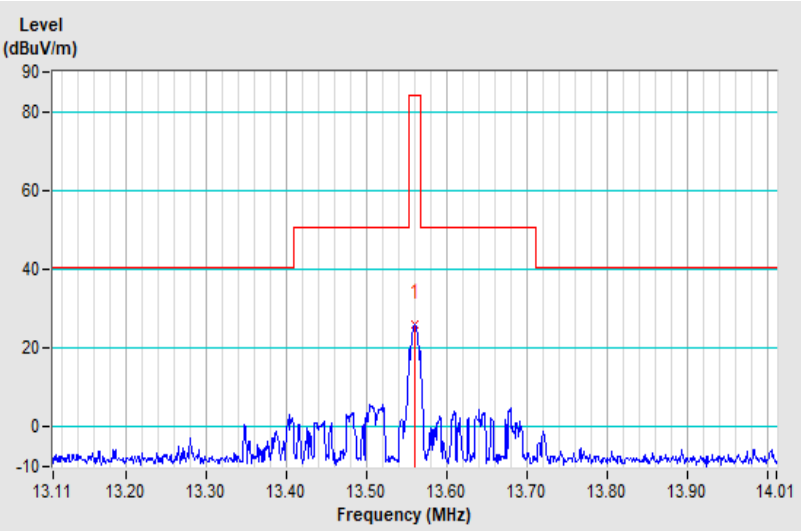
Frequency Range	13.553 ~ 13.567MHz	Detector Function	Quasi-Peak

Antenna Polarity & Test Distance: Loop Antenna Parallel At 3m								
No.	Freq. (MHz)	Emission Level (dBuV/m) (30m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV) (3m)	Correction Factor (dB/m)
1	*13.56	26.0 QP	84.0	-58.0	1.00	3	44.2	-18.2

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 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)
Example:
13.56MHz = 15848uV/m 30m
= 84dBuV/m 30m



Frequency Range	13.553 ~ 13.567MHz	Detector Function	Quasi-Peak

Antenna Polarity & Test Distance: Loop Antenna Perpendicular At 3m								
No.	Freq. (MHz)	Emission Level (dBuV/m) (30m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV) (3m)	Correction Factor (dB/m)
1	*13.56	23.4 QP	84.0	-60.6	1.00	96	41.6	-18.2

Remarks:

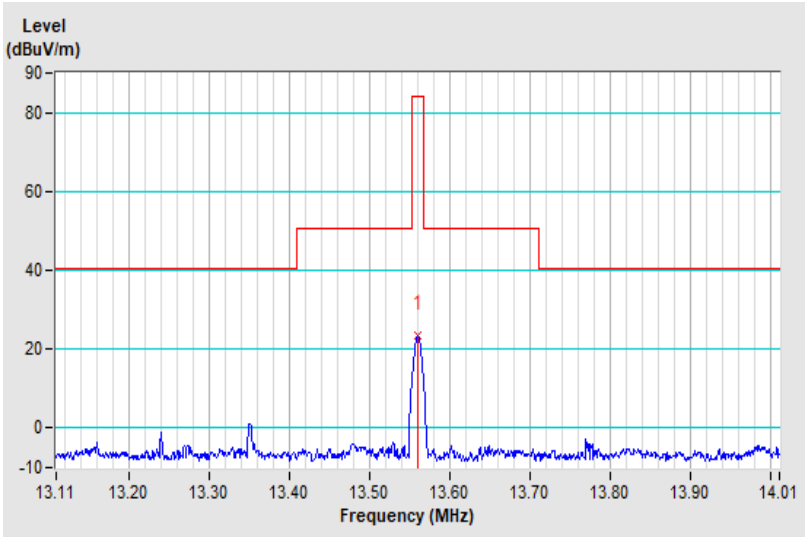
1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)+Distance Factor
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * " :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

Example:

13.56MHz = 15848uV/m 30m

= 84dBuV/m 30m



Frequency Range	13.553 ~ 13.567MHz	Detector Function	Quasi-Peak

Antenna Polarity & Test Distance: Loop Antenna Ground Parallel At 3m								
No.	Freq. (MHz)	Emission Level (dBuV/m) (30m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV) (3m)	Correction Factor (dB/m)
1	*13.56	18.1 QP	84.0	-65.9	1.00	2	36.3	-18.2

Remarks:

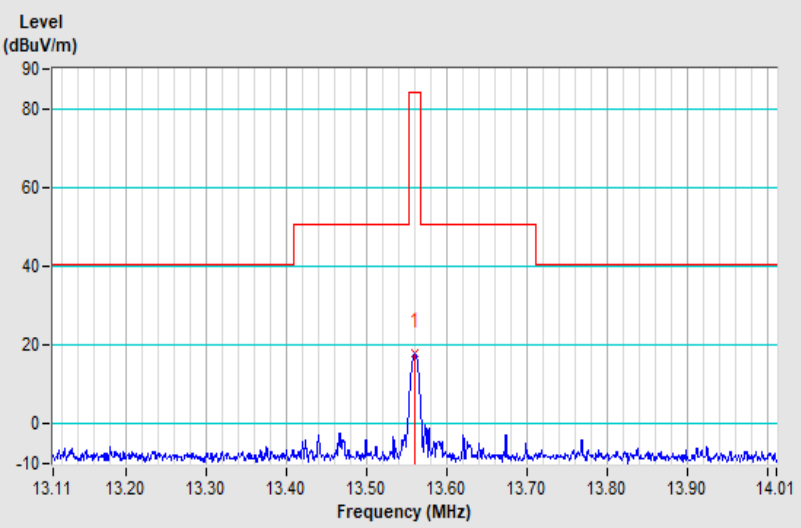
1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)+Distance Factor
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * " :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

Example:

13.56MHz = 15848uV/m 30m

= 84dBuV/m 30m

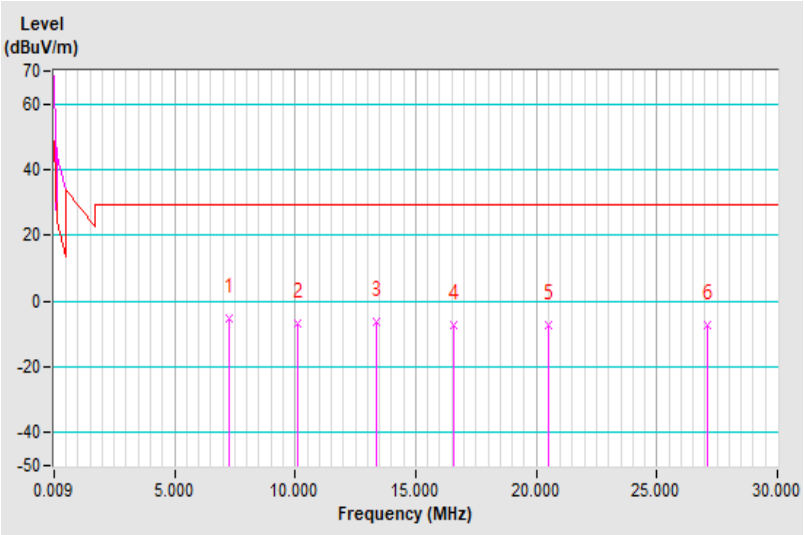


Frequency Range	Below 30MHz	Detector Function	Quasi-Peak

Antenna Polarity & Test Distance: Loop Antenna Parallel At 3m								
No.	Freq. (MHz)	Emission Level (dBuV/m) (30m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV) (3m)	Correction Factor (dB/m)
1	7.24	-5.5	29.5	-35.0	1.00	100	13.8	-19.3
2	10.12	-6.8	29.5	-36.3	1.00	224	11.4	-18.2
3	13.38	-6.5	29.5	-36.0	1.00	158	11.7	-18.2
4	16.56	-7.1	29.5	-36.6	1.00	8	11.0	-18.1
5	20.49	-7.1	29.5	-36.6	1.00	68	11.0	-18.1
6	27.12	-7.5	29.5	-37.0	1.00	46	10.6	-18.1

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 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)

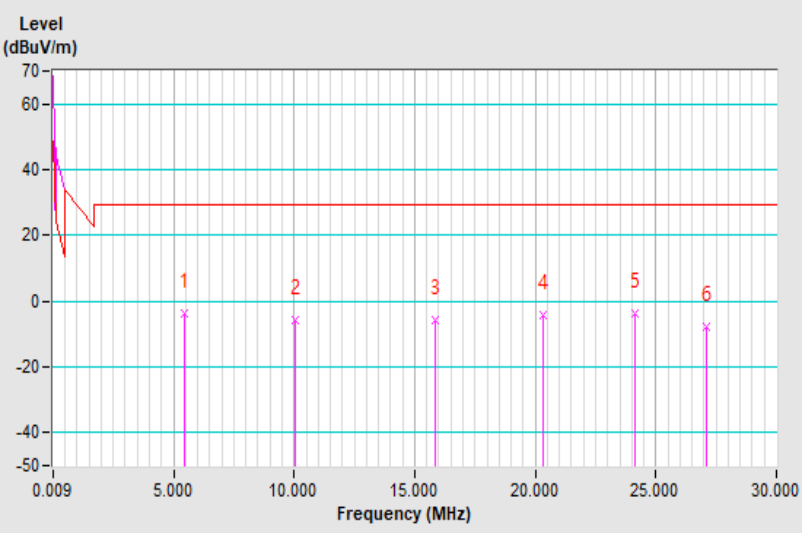


Frequency Range	Below 30MHz	Detector Function	Quasi-Peak

Antenna Polarity & Test Distance: Loop Antenna Perpendicular At 3m								
No.	Freq. (MHz)	Emission Level (dBuV/m) (30m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV) (3m)	Correction Factor (dB/m)
1	5.44	-3.8	29.5	-33.3	1.00	150	16.1	-19.9
2	10.03	-5.8	29.5	-35.3	1.00	321	12.4	-18.2
3	15.84	-5.8	29.5	-35.3	1.00	304	12.3	-18.1
4	20.31	-4.2	29.5	-33.7	1.00	119	13.9	-18.1
5	24.15	-3.6	29.5	-33.1	1.00	225	14.5	-18.1
6	27.12	-7.7	29.5	-37.2	1.00	2	10.4	-18.1

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 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)

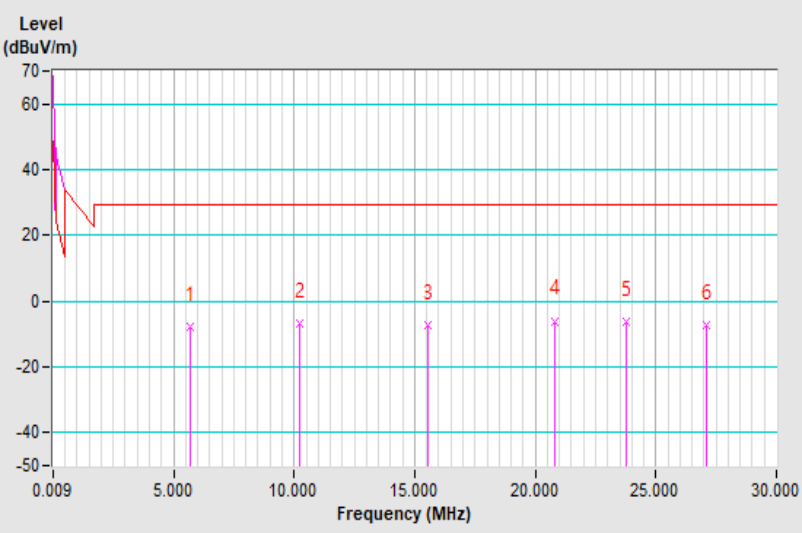


Frequency Range	Below 30MHz	Detector Function	Quasi-Peak

Antenna Polarity & Test Distance: Loop Antenna Ground Paralle At 3m								
No.	Freq. (MHz)	Emission Level (dBuV/m) (30m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV) (3m)	Correction Factor (dB/m)
1	5.68	-8.0	29.5	-37.5	1.00	40	11.8	-19.8
2	10.21	-6.7	29.5	-36.2	1.00	16	11.5	-18.2
3	15.54	-7.4	29.5	-36.9	1.00	7	10.7	-18.1
4	20.82	-6.0	29.5	-35.5	1.00	3	12.1	-18.1
5	23.79	-6.4	29.5	-35.9	1.00	277	11.7	-18.1
6	27.12	-7.3	29.5	-36.8	1.00	18	10.8	-18.1

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 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)



Mode A

Above 1 GHz Data :

802.11n (HT20), Ch6 + LTE Band 4, Ch 20050 + NFC, Ch1

Frequency Range	1 GHz ~ 25 GHz	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	*2437.00	103.4 PK			2.66 H	359	71.4	32.0
2	*2437.00	95.6 AV			2.66 H	359	63.6	32.0
3	4874.00	50.6 PK	74.0	-23.4	1.63 H	209	58.4	-7.8
4	4874.00	40.3 AV	54.0	-13.7	1.63 H	209	48.1	-7.8
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	*2437.00	92.6 PK			1.71 V	45	60.6	32.0
2	*2437.00	85.1 AV			1.71 V	45	53.1	32.0
3	4874.00	49.6 PK	74.0	-24.4	2.67 V	163	57.4	-7.8
4	4874.00	39.5 AV	54.0	-14.5	2.67 V	163	47.3	-7.8

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, the limit was restricted at the RF Output Power.

Frequency Range	1 GHz ~ 20 GHz

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	3440.00	-33.11	-13.00	-20.11	1.57 H	137	76.75	-109.86
Antenna Polarity & Test Distance : Vertical 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	3440.00	-39.40	-13.00	-26.40	1.54 V	349	70.46	-109.86

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) + 20log(D) – 104.8
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

Below 1GHz data:

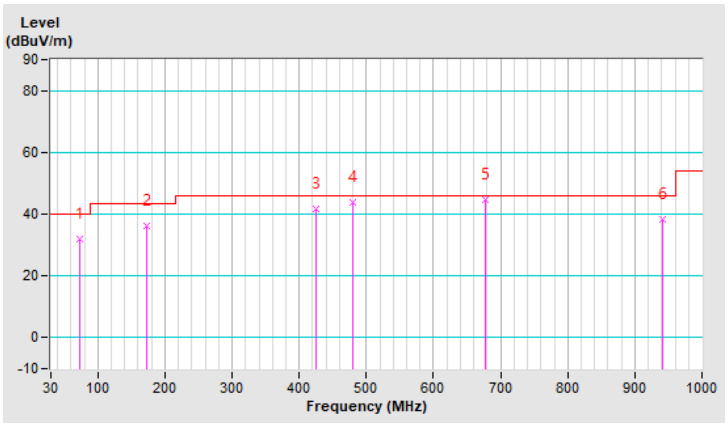
802.11n (HT20), Ch6 + LTE Band 4, Ch 20050 + NFC, Ch1

Frequency Range	9kHz ~ 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	73.65	32.0 QP	40.0	-8.0	1.00 H	2	47.9	-15.9
2	173.56	36.2 QP	43.5	-7.3	1.50 H	284	49.6	-13.4
3	425.76	41.9 QP	46.0	-4.1	2.00 H	189	50.2	-8.3
4	480.08	43.7 QP	46.0	-2.3	1.50 H	98	50.5	-6.8
5	677.96	44.7 QP	46.0	-1.3	1.00 H	20	46.7	-2.0
6	941.80	38.2 QP	46.0	-7.8	1.00 H	328	35.6	2.6

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 of frequency range 30 MHz ~ 1 GHz.
5. The emission levels were very low against the limit of frequency range 9 kHz ~ 30 MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

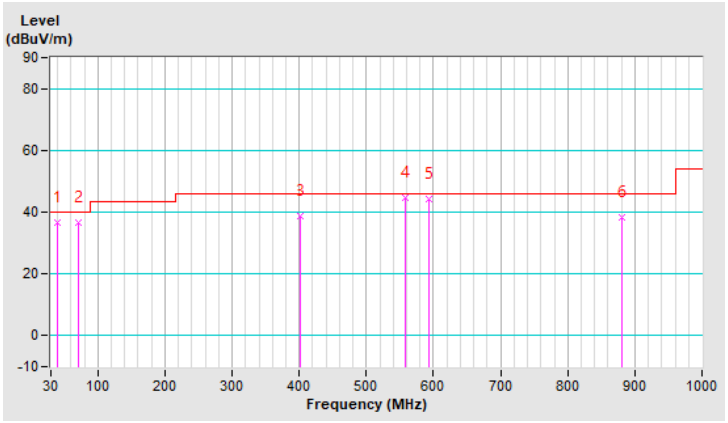


Frequency Range	9kHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

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	40.67	36.7 QP	40.0	-3.3	1.00 V	105	49.8	-13.1
2	71.71	36.8 QP	40.0	-3.2	1.50 V	222	52.1	-15.3
3	402.48	38.7 QP	46.0	-7.3	2.00 V	332	47.9	-9.2
4	557.68	44.7 QP	46.0	-1.3	1.50 V	278	49.7	-5.0
5	593.57	44.3 QP	46.0	-1.7	1.00 V	317	47.9	-3.6
6	881.66	38.2 QP	46.0	-7.8	1.50 V	320	36.7	1.5

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 of frequency range 30 MHz ~ 1 GHz.
5. The emission levels were very low against the limit of frequency range 9 kHz ~ 30 MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

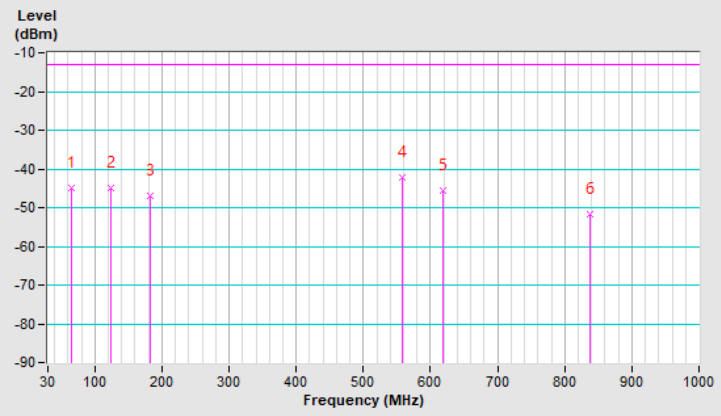


Frequency Range	Below 1000 MHz

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	65.89	-45.03	-13.00	-32.03	1.00 H	321	64.56	-109.59
2	123.12	-44.84	-13.00	-31.84	1.50 H	330	64.93	-109.77
3	182.29	-47.03	-13.00	-34.03	2.00 H	195	63.02	-110.05
4	558.65	-42.33	-13.00	-29.33	1.50 H	101	59.50	-101.83
5	617.82	-45.67	-13.00	-32.67	1.00 H	124	54.80	-100.47
6	837.04	-51.56	-13.00	-38.56	2.00 H	353	45.47	-97.03

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) + 20log(D) – 104.8
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

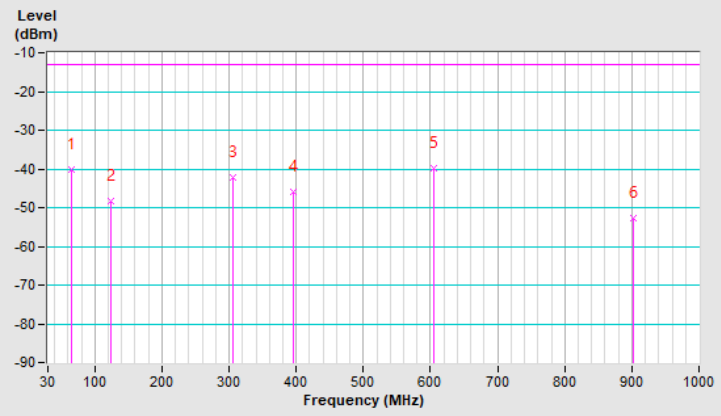


Frequency Range	Below 1000 MHz

Antenna Polarity & Test Distance : Vertical 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	65.89	-40.33	-13.00	-27.33	2.00 V	216	69.26	-109.59
2	123.12	-48.33	-13.00	-35.33	1.50 V	205	61.44	-109.77
3	305.48	-42.13	-13.00	-29.13	1.50 V	4	65.22	-107.35
4	395.69	-46.07	-13.00	-33.07	2.00 V	344	59.27	-105.34
5	605.21	-39.82	-13.00	-26.82	1.00 V	272	61.00	-100.82
6	903.00	-52.59	-13.00	-39.59	1.00 V	100	44.04	-96.63

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) + 20log(D) – 104.8
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.



NFC Type A

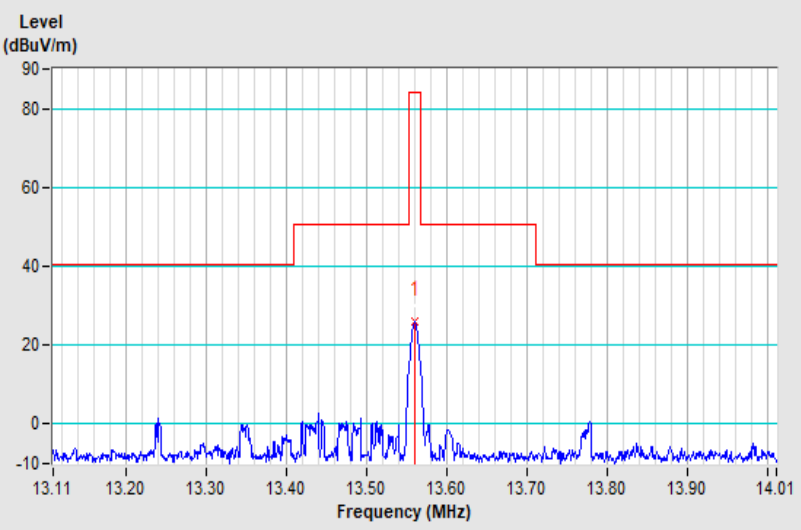
Frequency Range	13.553 ~ 13.567MHz	Detector Function	Quasi-Peak

Antenna Polarity & Test Distance: Loop Antenna Parallel At 3m								
No.	Freq. (MHz)	Emission Level (dBuV/m) (30m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV) (3m)	Correction Factor (dB/m)
1	*13.56	26.0 QP	84.0	-58.0	1.00	2	44.2	-18.2

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 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)
Example:
13.56MHz = 15848uV/m 30m
= 84dBuV/m 30m



Frequency Range	13.553 ~ 13.567MHz	Detector Function	Quasi-Peak

Antenna Polarity & Test Distance: Loop Antenna Perpendicular At 3m								
No.	Freq. (MHz)	Emission Level (dBuV/m) (30m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV) (3m)	Correction Factor (dB/m)
1	*13.56	22.8 QP	84.0	-61.2	1.00	114	41.0	-18.2

Remarks:

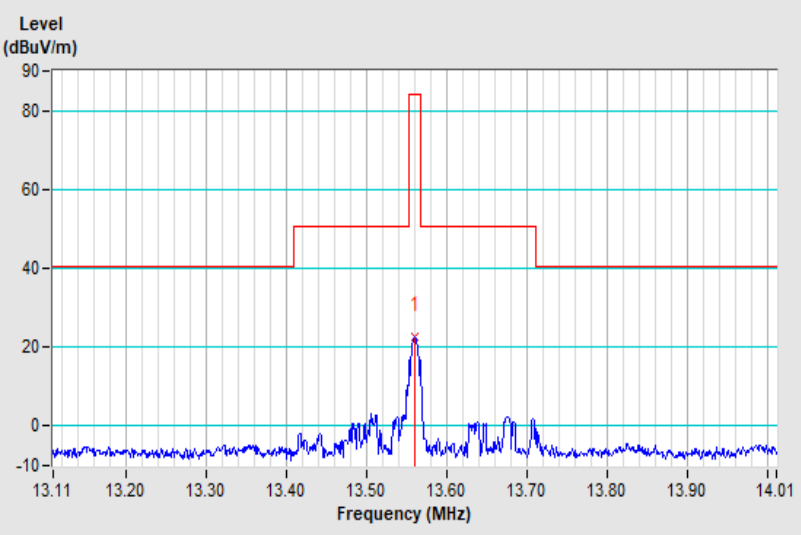
1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)+Distance Factor
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * " :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

Example:

13.56MHz = 15848uV/m 30m

= 84dBuV/m 30m



Frequency Range	13.553 ~ 13.567MHz	Detector Function	Quasi-Peak

Antenna Polarity & Test Distance: Loop Antenna Ground Parallel At 3m								
No.	Freq. (MHz)	Emission Level (dBuV/m) (30m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV) (3m)	Correction Factor (dB/m)
1	*13.56	18.2 QP	84.0	-65.8	1.00	190	36.4	-18.2

Remarks:

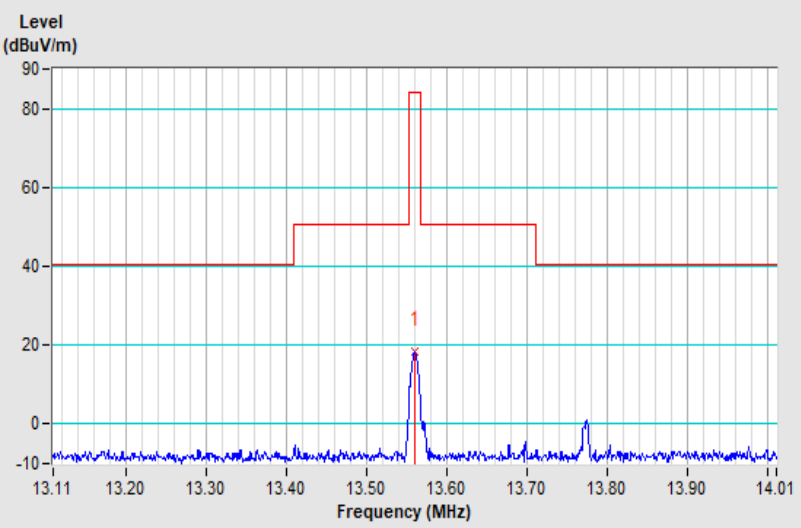
1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)+Distance Factor
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * " :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

Example:

13.56MHz = 15848uV/m 30m

= 84dBuV/m 30m

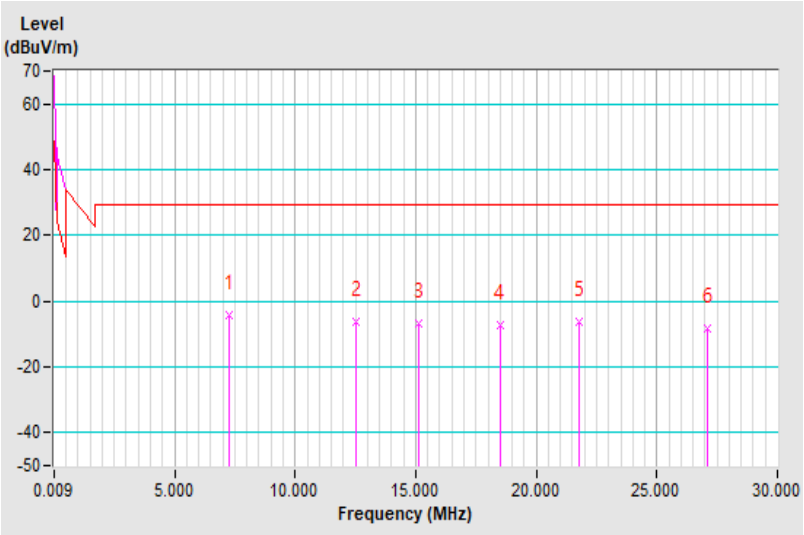


Frequency Range	Below 30MHz	Detector Function	Quasi-Peak

Antenna Polarity & Test Distance: Loop Antenna Parallel At 3m								
No.	Freq. (MHz)	Emission Level (dBuV/m) (30m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV) (3m)	Correction Factor (dB/m)
1	7.24	-4.2	29.5	-33.7	1.00	111	15.1	-19.3
2	12.52	-6.5	29.5	-36.0	1.00	156	11.7	-18.2
3	15.12	-6.9	29.5	-36.4	1.00	283	11.2	-18.1
4	18.48	-7.3	29.5	-36.8	1.00	349	10.8	-18.1
5	21.75	-6.5	29.5	-36.0	1.00	163	11.6	-18.1
6	27.12	-8.2	29.5	-37.7	1.00	18	9.9	-18.1

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 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)

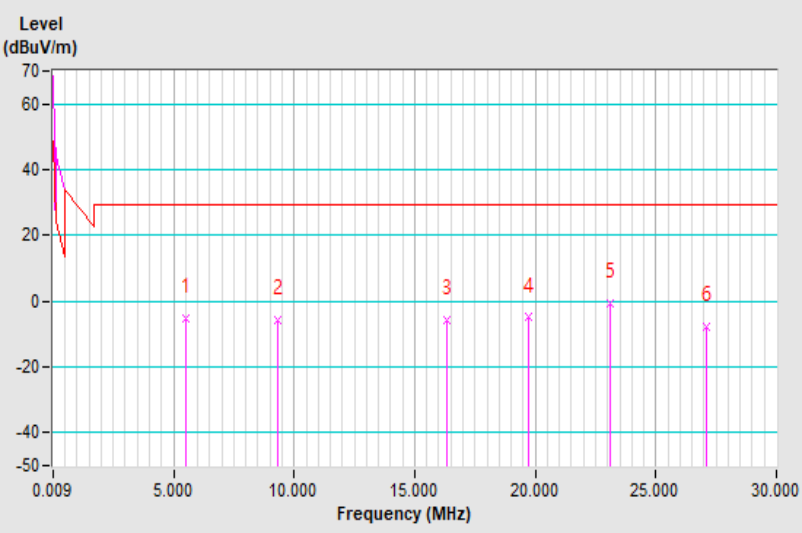


Frequency Range	Below 30MHz	Detector Function	Quasi-Peak

Antenna Polarity & Test Distance: Loop Antenna Perpendicular At 3m								
No.	Freq. (MHz)	Emission Level (dBuV/m) (30m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV) (3m)	Correction Factor (dB/m)
1	5.50	-5.0	29.5	-34.5	1.00	143	14.9	-19.9
2	9.31	-6.0	29.5	-35.5	1.00	244	12.5	-18.5
3	16.32	-5.7	29.5	-35.2	1.00	156	12.4	-18.1
4	19.71	-5.0	29.5	-34.5	1.00	237	13.1	-18.1
5	23.13	-0.7	29.5	-30.2	1.00	66	17.4	-18.1
6	27.12	-7.7	29.5	-37.2	1.00	274	10.4	-18.1

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 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)

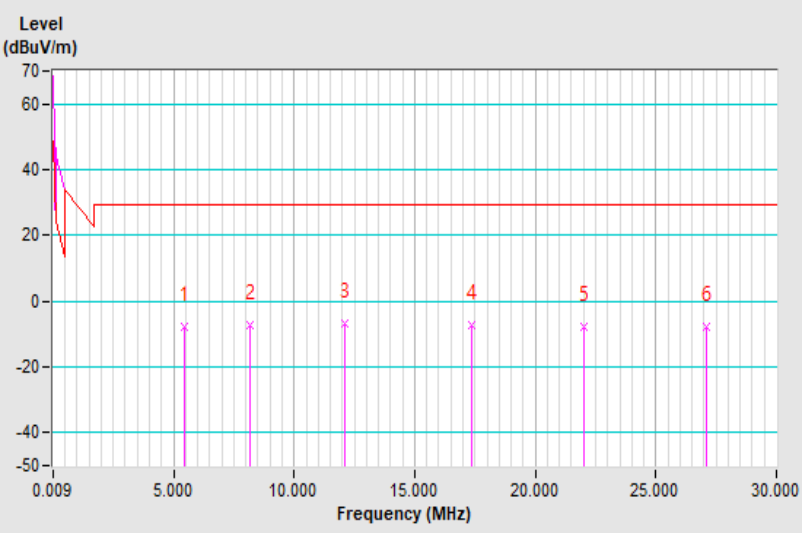


Frequency Range	Below 30MHz	Detector Function	Quasi-Peak

Antenna Polarity & Test Distance: Loop Antenna Ground Paralle At 3m								
No.	Freq. (MHz)	Emission Level (dBuV/m) (30m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV) (3m)	Correction Factor (dB/m)
1	5.44	-8.0	29.5	-37.5	1.00	88	11.9	-19.9
2	8.17	-7.3	29.5	-36.8	1.00	325	11.6	-18.9
3	12.13	-6.7	29.5	-36.2	1.00	349	11.5	-18.2
4	17.34	-7.1	29.5	-36.6	1.00	2	11.0	-18.1
5	22.02	-7.6	29.5	-37.1	1.00	100	10.5	-18.1
6	27.12	-7.8	29.5	-37.3	1.00	2	10.3	-18.1

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 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)



Mode A

Above 1 GHz Data :

802.11n (HT20), Ch6 + LTE Band 26, Ch 26697 + NFC, Ch1

Frequency Range	1 GHz ~ 25 GHz	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	*2437.00	102.9 PK			2.66 H	352	70.9	32.0
2	*2437.00	95.1 AV			2.66 H	352	63.1	32.0
3	4874.00	50.9 PK	74.0	-23.1	3.62 H	209	58.7	-7.8
4	4874.00	40.4 AV	54.0	-13.6	3.62 H	209	48.2	-7.8
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	*2437.00	93.1 PK			1.84 V	44	61.1	32.0
2	*2437.00	85.2 AV			1.84 V	44	53.2	32.0
3	4874.00	49.6 PK	74.0	-24.4	3.62 V	107	57.4	-7.8
4	4874.00	39.8 AV	54.0	-14.2	3.62 V	107	47.6	-7.8

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, the limit was restricted at the RF Output Power.

Frequency Range	1 GHz ~ 20 GHz

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	1629.40	-38.52	-13.00	-25.52	1.52 H	324	79.68	-118.20
Antenna Polarity & Test Distance : Vertical 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	1629.40	-37.78	-13.00	-24.78	1.68 V	217	80.42	-118.20

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) + 20log(D) – 104.8 – 2.15
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

Below 1GHz data:

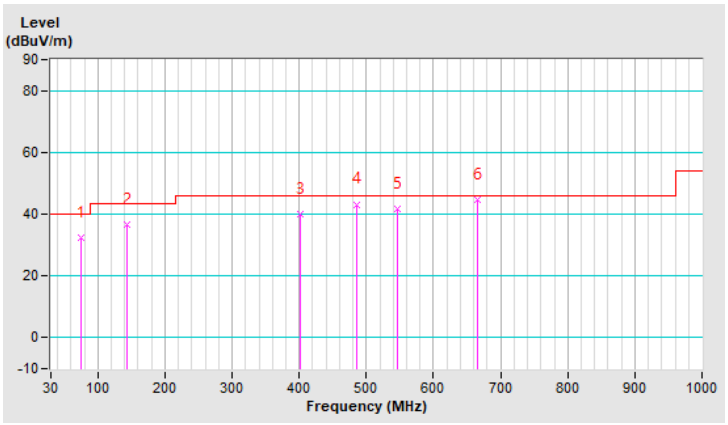
802.11n (HT20), Ch6 + LTE Band 26, Ch 26697 + NFC, Ch1

Frequency Range	9kHz ~ 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	74.62	32.4 QP	40.0	-7.6	2.00 H	334	48.5	-16.1
2	143.49	36.6 QP	43.5	-6.9	1.50 H	288	48.9	-12.3
3	402.48	39.8 QP	46.0	-6.2	1.00 H	254	49.0	-9.2
4	485.90	43.2 QP	46.0	-2.8	1.50 H	174	49.7	-6.5
5	546.04	41.5 QP	46.0	-4.5	1.00 H	70	46.7	-5.2
6	666.32	44.5 QP	46.0	-1.5	1.00 H	9	46.8	-2.3

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 of frequency range 30 MHz ~ 1 GHz.
5. The emission levels were very low against the limit of frequency range 9 kHz ~ 30 MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

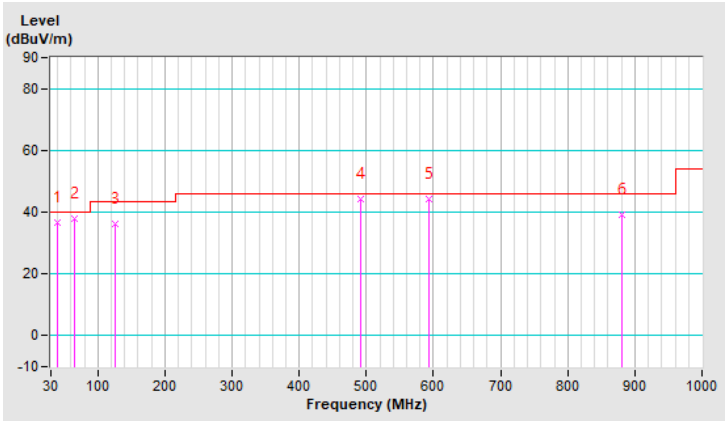


Frequency Range	9kHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

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	40.67	36.5 QP	40.0	-3.5	1.00 V	16	49.6	-13.1
2	65.89	37.9 QP	40.0	-2.1	1.50 V	219	52.2	-14.3
3	126.03	36.3 QP	43.5	-7.2	1.00 V	63	50.0	-13.7
4	491.72	44.2 QP	46.0	-1.8	1.50 V	306	50.5	-6.3
5	593.57	44.1 QP	46.0	-1.9	2.00 V	324	47.7	-3.6
6	881.66	39.2 QP	46.0	-6.8	1.00 V	302	37.7	1.5

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 of frequency range 30 MHz ~ 1 GHz.
5. The emission levels were very low against the limit of frequency range 9 kHz ~ 30 MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

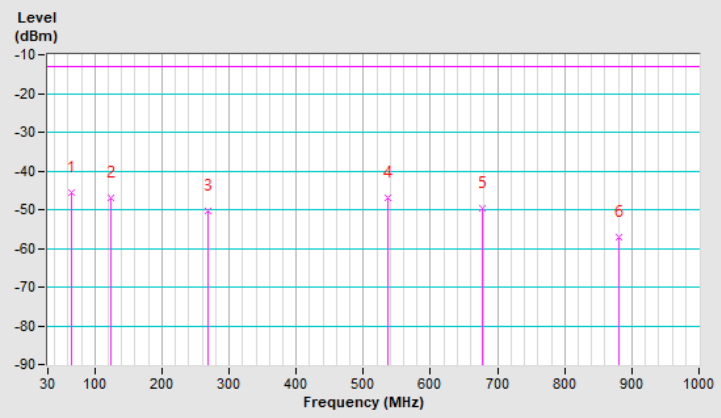


Frequency Range	Below 1000 MHz

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	64.92	-45.60	-13.00	-32.60	1.00 H	322	66.05	-111.65
2	123.12	-47.01	-13.00	-34.01	1.50 H	324	64.91	-111.92
3	267.65	-50.50	-13.00	-37.50	1.00 H	300	60.11	-110.61
4	537.31	-46.83	-13.00	-33.83	1.50 H	92	57.28	-104.11
5	677.96	-49.80	-13.00	-36.80	2.00 H	137	51.88	-101.68
6	881.66	-56.98	-13.00	-43.98	1.00 H	328	42.02	-99.00

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) + 20log(D) – 104.8 – 2.15
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

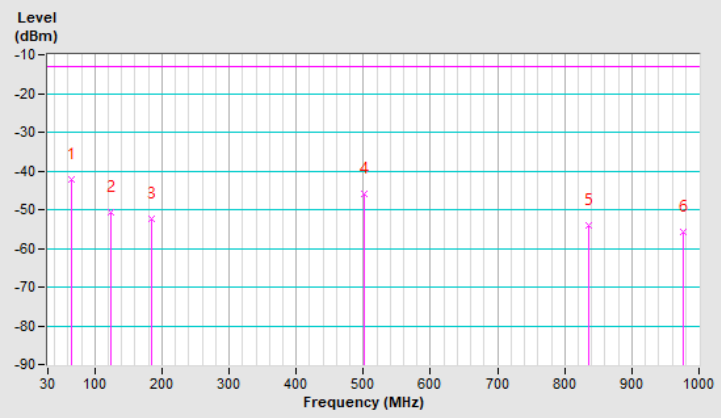


Frequency Range	Below 1000 MHz

Antenna Polarity & Test Distance : Vertical 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	65.89	-42.17	-13.00	-29.17	1.00 V	210	69.57	-111.74
2	123.12	-50.52	-13.00	-37.52	1.50 V	234	61.40	-111.92
3	185.20	-52.50	-13.00	-39.50	2.00 V	262	60.05	-112.55
4	500.45	-45.95	-13.00	-32.95	1.50 V	336	58.77	-104.72
5	836.07	-54.12	-13.00	-41.12	1.00 V	18	45.04	-99.16
6	976.72	-55.93	-13.00	-42.93	2.00 V	64	41.72	-97.65

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) + 20log(D) – 104.8 – 2.15
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.



NFC Type A

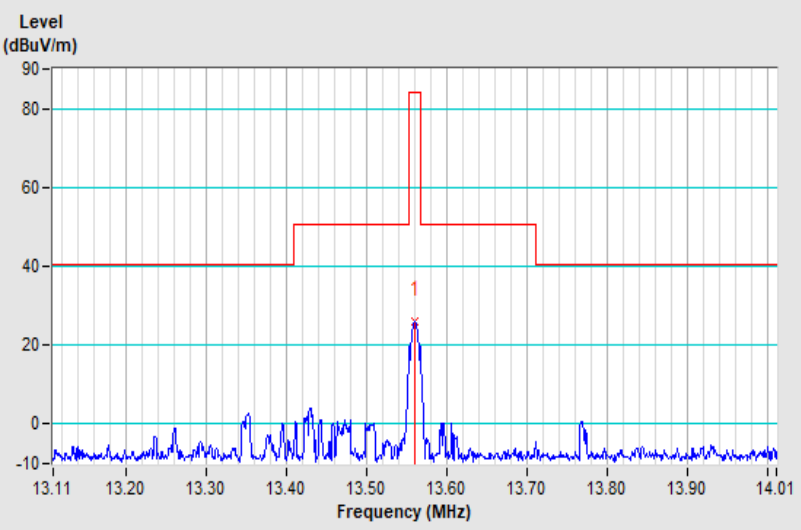
Frequency Range	13.553 ~ 13.567MHz	Detector Function	Quasi-Peak

Antenna Polarity & Test Distance: Loop Antenna Parallel At 3m								
No.	Freq. (MHz)	Emission Level (dBuV/m) (30m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV) (3m)	Correction Factor (dB/m)
1	*13.56	25.9 QP	84.0	-58.1	1.00	2	44.1	-18.2

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 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)
Example:
13.56MHz = 15848uV/m 30m
= 84dBuV/m 30m



Frequency Range	13.553 ~ 13.567MHz	Detector Function	Quasi-Peak

Antenna Polarity & Test Distance: Loop Antenna Perpendicular At 3m								
No.	Freq. (MHz)	Emission Level (dBuV/m) (30m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV) (3m)	Correction Factor (dB/m)
1	*13.56	23.4 QP	84.0	-60.6	1.00	88	41.6	-18.2

Remarks:

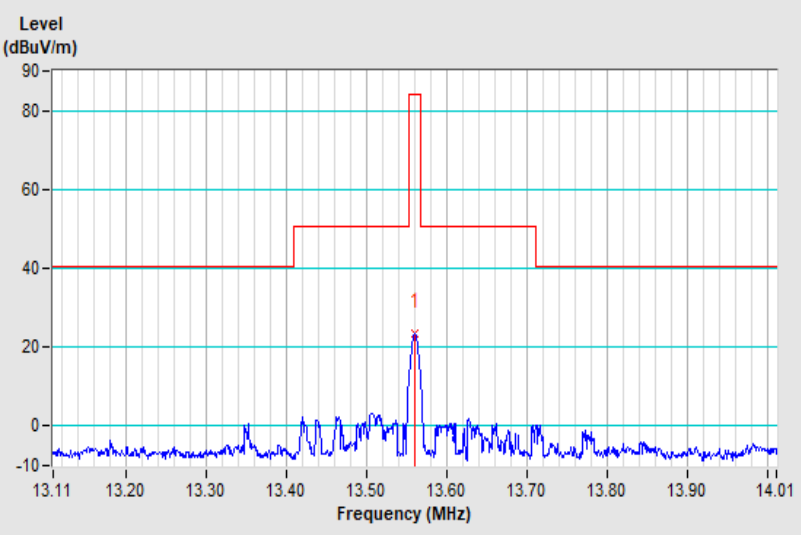
1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)+Distance Factor
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * " :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

Example:

13.56MHz = 15848uV/m 30m

= 84dBuV/m 30m

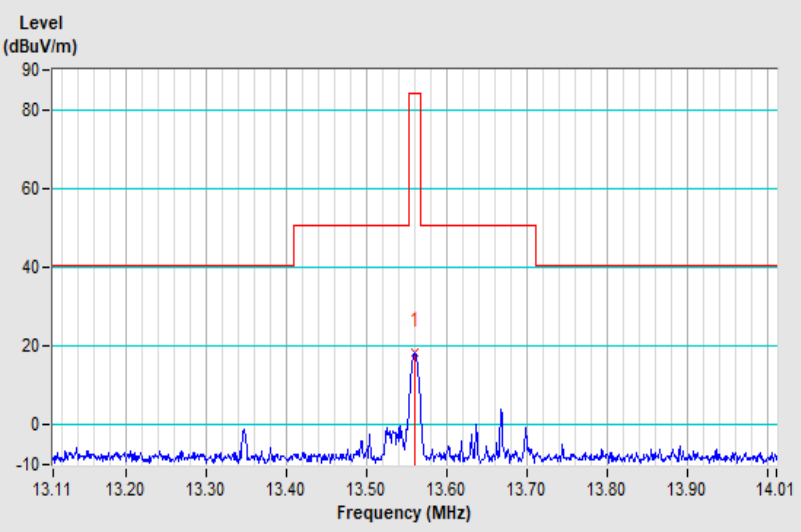


Frequency Range	13.553 ~ 13.567MHz	Detector Function	Quasi-Peak

Antenna Polarity & Test Distance: Loop Antenna Ground Parallel At 3m								
No.	Freq. (MHz)	Emission Level (dBuV/m) (30m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV) (3m)	Correction Factor (dB/m)
1	*13.56	18.3 QP	84.0	-65.7	1.00	2	36.5	-18.2

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 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)
Example:
13.56MHz = 15848uV/m 30m
= 84dBuV/m 30m

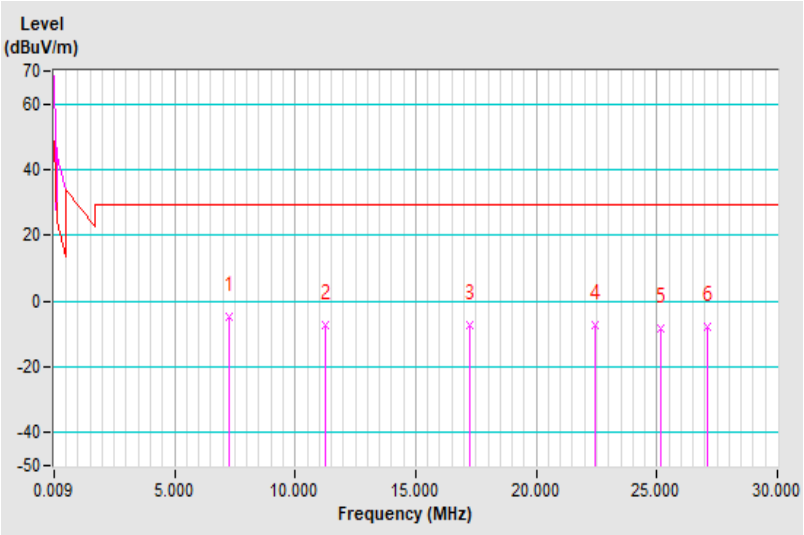


Frequency Range	Below 30MHz	Detector Function	Quasi-Peak

Antenna Polarity & Test Distance: Loop Antenna Parallel At 3m								
No.	Freq. (MHz)	Emission Level (dBuV/m) (30m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV) (3m)	Correction Factor (dB/m)
1	7.24	-4.9	29.5	-34.4	1.00	120	14.4	-19.3
2	11.23	-7.2	29.5	-36.7	1.00	178	11.0	-18.2
3	17.25	-7.3	29.5	-36.8	1.00	18	10.8	-18.1
4	22.44	-7.3	29.5	-36.8	1.00	235	10.8	-18.1
5	25.14	-8.2	29.5	-37.7	1.00	87	9.9	-18.1
6	27.12	-8.0	29.5	-37.5	1.00	20	10.1	-18.1

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 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)

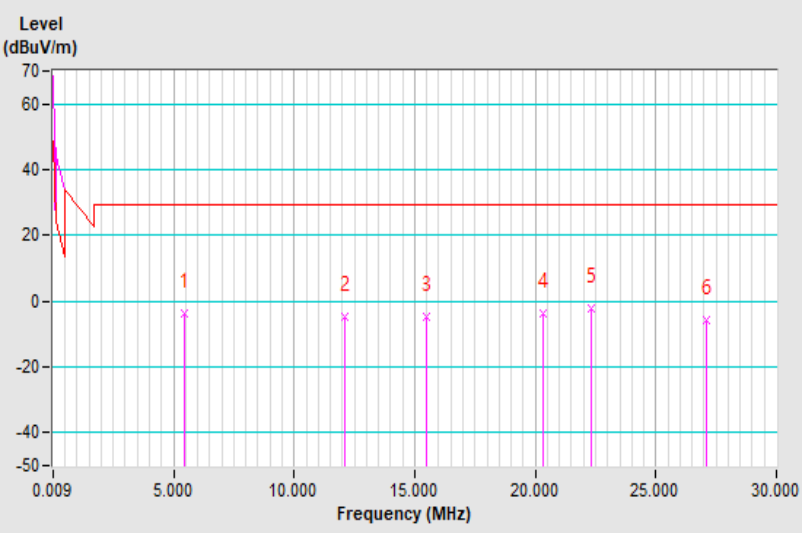


Frequency Range	Below 30MHz	Detector Function	Quasi-Peak

Antenna Polarity & Test Distance: Loop Antenna Perpendicular At 3m								
No.	Freq. (MHz)	Emission Level (dBuV/m) (30m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV) (3m)	Correction Factor (dB/m)
1	5.44	-3.6 PK	29.5	-33.1	1.00	150	16.3	-19.9
2	12.13	-4.9	29.5	-34.4	1.00	2	13.3	-18.2
3	15.51	-4.9	29.5	-34.4	1.00	302	13.2	-18.1
4	20.31	-3.6	29.5	-33.1	1.00	56	14.5	-18.1
5	22.32	-2.0	29.5	-31.5	1.00	182	16.1	-18.1
6	27.12	-5.9	29.5	-35.4	1.00	330	12.2	-18.1

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 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)

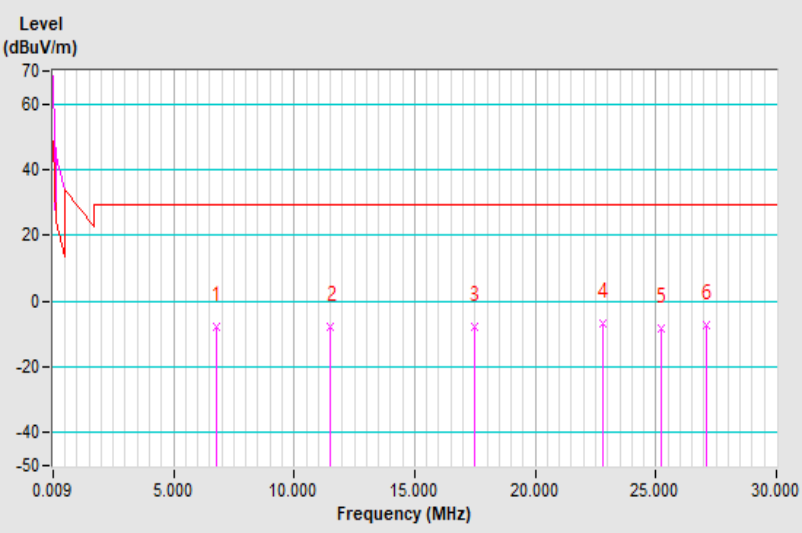


Frequency Range	Below 30MHz	Detector Function	Quasi-Peak

Antenna Polarity & Test Distance: Loop Antenna Ground Paralle At 3m								
No.	Freq. (MHz)	Emission Level (dBuV/m) (30m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV) (3m)	Correction Factor (dB/m)
1	5.44	-8.0	29.5	-37.5	1.00	88	11.9	-19.9
2	8.17	-7.3	29.5	-36.8	1.00	325	11.6	-18.9
3	12.13	-6.7	29.5	-36.2	1.00	349	11.5	-18.2
4	17.34	-7.1	29.5	-36.6	1.00	2	11.0	-18.1
5	22.02	-7.6	29.5	-37.1	1.00	100	10.5	-18.1
6	27.12	-7.8	29.5	-37.3	1.00	2	10.3	-18.1

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 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)



Mode A

Above 1 GHz Data :

802.11n (HT20), Ch6 + LTE Band 26, Ch 26797 + NFC, Ch1

Frequency Range	1 GHz ~ 25 GHz	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	*2437.00	103.1 PK			2.68 H	360	71.1	32.0
2	*2437.00	95.6 AV			2.68 H	360	63.6	32.0
3	4874.00	50.9 PK	74.0	-23.1	1.63 H	56	58.7	-7.8
4	4874.00	40.5 AV	54.0	-13.5	1.63 H	56	48.3	-7.8
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	*2437.00	92.8 PK			1.85 V	43	60.8	32.0
2	*2437.00	85.2 AV			1.85 V	43	53.2	32.0
3	4874.00	49.6 PK	74.0	-24.4	2.69 V	222	57.4	-7.8
4	4874.00	39.8 AV	54.0	-14.2	2.69 V	222	47.6	-7.8

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, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

Frequency Range	1 GHz ~ 18 GHz

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	1649.40	-33.96	-13.00	-20.96	1.58 H	144	84.24	-118.20
Antenna Polarity & Test Distance : Vertical 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	1649.40	-37.14	-13.00	-24.14	1.66 V	232	81.06	-118.20

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) + 20log(D) – 104.8 - 2.15
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

Below 1GHz data:

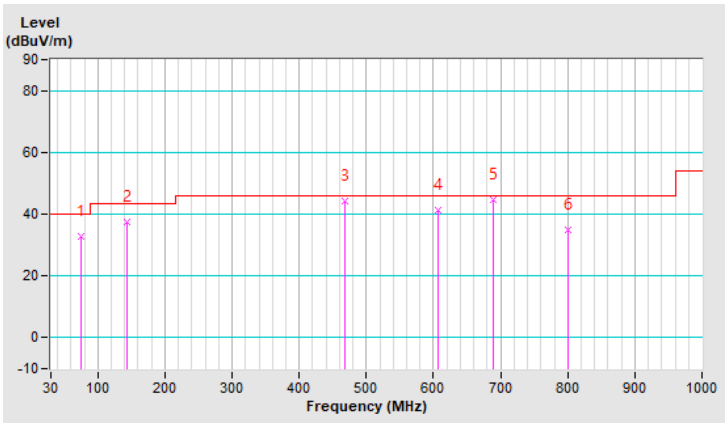
802.11n (HT20), Ch6 + LTE Band 26, Ch 26797 + NFC, Ch1

Frequency Range	9kHz ~ 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	74.62	32.8 QP	40.0	-7.2	1.00 H	323	48.9	-16.1
2	143.49	37.4 QP	43.5	-6.1	1.50 H	284	49.7	-12.3
3	468.44	44.2 QP	46.0	-1.8	2.00 H	104	51.2	-7.0
4	606.18	41.3 QP	46.0	-4.7	1.50 H	111	44.7	-3.4
5	689.60	44.8 QP	46.0	-1.2	1.00 H	28	46.7	-1.9
6	800.18	34.8 QP	46.0	-11.2	1.00 H	35	34.4	0.4

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 of frequency range 30 MHz ~ 1 GHz.
5. The emission levels were very low against the limit of frequency range 9 kHz ~ 30 MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

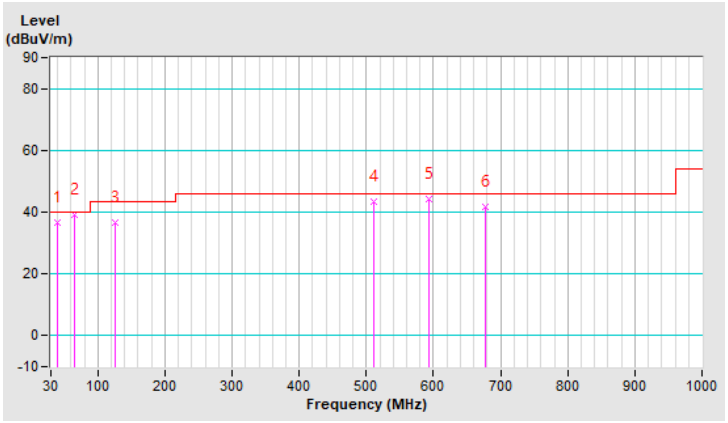


Frequency Range	9kHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

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	40.67	36.6 QP	40.0	-3.4	2.00 V	158	49.7	-13.1
2	**65.89**	**39.1 QP**	**40.0**	**-0.9**	**1.50 V**	**235**	**53.4**	**-14.3**
3	126.03	36.5 QP	43.5	-7.0	1.00 V	235	50.2	-13.7
4	510.15	43.4 QP	46.0	-2.6	1.50 V	305	49.3	-5.9
5	593.57	44.4 QP	46.0	-1.6	1.00 V	318	48.0	-3.6
6	677.96	41.9 QP	46.0	-4.1	2.00 V	290	43.9	-2.0

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 of frequency range 30 MHz ~ 1 GHz.
5. The emission levels were very low against the limit of frequency range 9 kHz ~ 30 MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

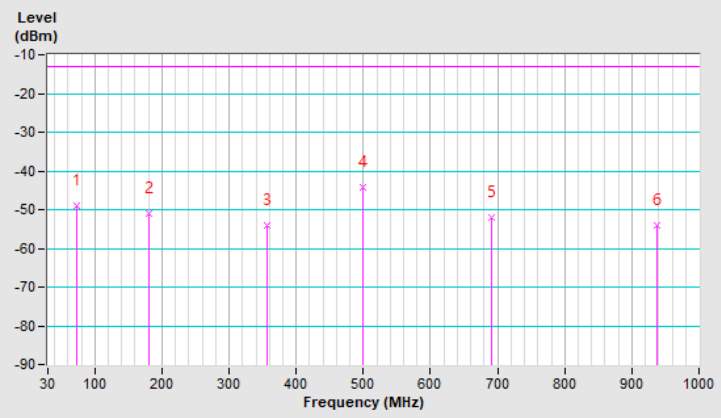


Frequency Range	Below 1000 MHz

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	73.65	-49.05	-13.00	-36.05	1.00 H	178	64.20	-113.25
2	180.35	-51.05	-13.00	-38.05	1.50 H	234	60.95	-112.00
3	356.89	-54.12	-13.00	-41.12	1.00 H	88	54.35	-108.47
4	498.51	-44.40	-13.00	-31.40	1.50 H	163	60.37	-104.77
5	690.57	-52.04	-13.00	-39.04	2.00 H	345	49.58	-101.62
6	937.92	-54.21	-13.00	-41.21	2.00 H	193	44.10	-98.31

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) + 20log(D) – 104.8 – 2.15
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.

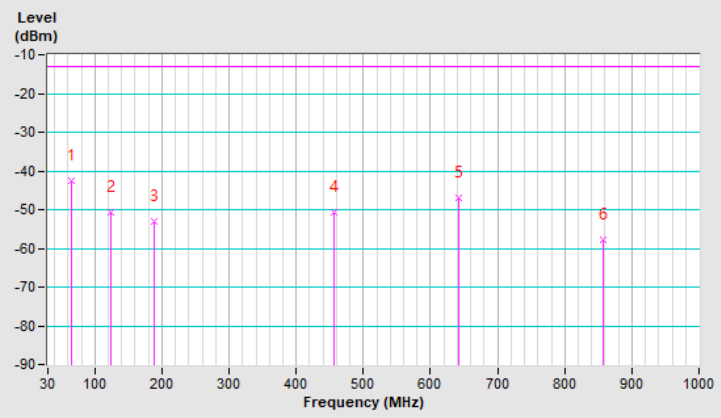


Frequency Range	Below 1000 MHz

Antenna Polarity & Test Distance : Vertical 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	65.89	-42.61	-13.00	-29.61	1.50 V	204	69.13	-111.74
2	123.12	-50.80	-13.00	-37.80	1.50 V	20	61.12	-111.92
3	188.11	-53.22	-13.00	-40.22	1.50 V	123	59.64	-112.86
4	455.83	-50.52	-13.00	-37.52	1.50 V	166	55.20	-105.72
5	642.07	-47.05	-13.00	-34.05	1.50 V	233	55.16	-102.21
6	857.41	-57.84	-13.00	-44.84	1.50 V	339	41.37	-99.21

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) + 20log(D) – 104.8 – 2.15
3. Margin value = ERP – Limit value
4. The other ERP levels were very low against the limit.



NFC Type A

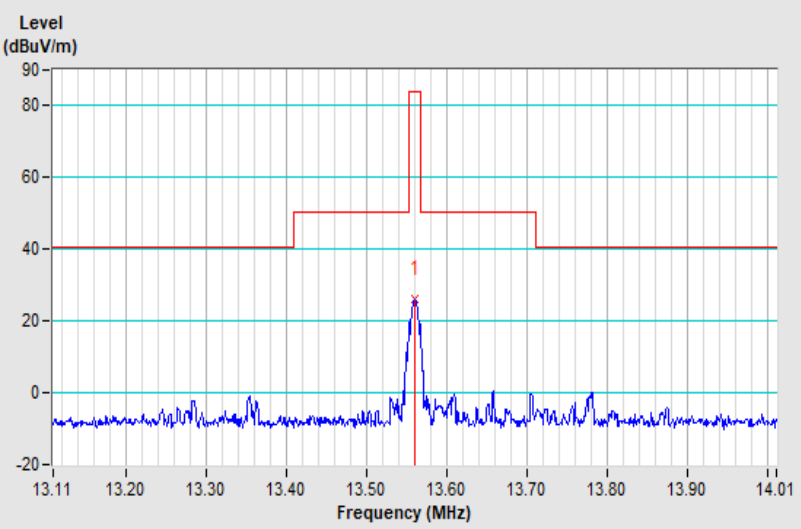
Frequency Range	13.553 ~ 13.567MHz	Detector Function	Quasi-Peak

Antenna Polarity & Test Distance: Loop Antenna Parallel At 3m								
No.	Freq. (MHz)	Emission Level (dBuV/m) (30m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV) (3m)	Correction Factor (dB/m)
1	*13.56	25.9 QP	84.0	-58.1	1.00	355	44.1	-18.2

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 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)
Example:
13.56MHz = 15848uV/m 30m
= 84dBuV/m 30m



Frequency Range	13.553 ~ 13.567MHz	Detector Function	Quasi-Peak

Antenna Polarity & Test Distance: Loop Antenna Perpendicular At 3m								
No.	Freq. (MHz)	Emission Level (dBuV/m) (30m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV) (3m)	Correction Factor (dB/m)
1	*13.56	23.4 QP	84.0	-60.6	1.00	88	41.6	-18.2

Remarks:

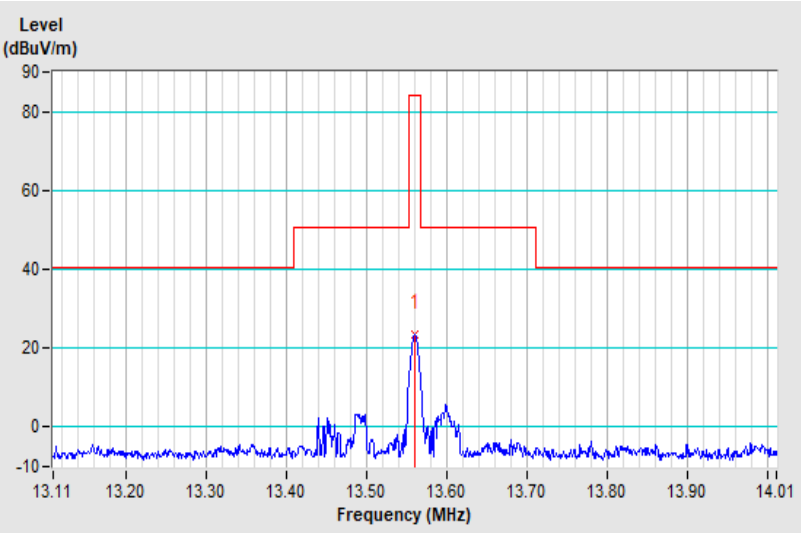
1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)+Distance Factor
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * " :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

Example:

13.56MHz = 15848uV/m 30m

= 84dBuV/m 30m



Frequency Range	13.553 ~ 13.567MHz	Detector Function	Quasi-Peak

Antenna Polarity & Test Distance: Loop Antenna Ground Parallel At 3m								
No.	Freq. (MHz)	Emission Level (dBuV/m) (30m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV) (3m)	Correction Factor (dB/m)
1	*13.56	18.1 QP	84.0	-65.9	1.00	180	36.3	-18.2

Remarks:

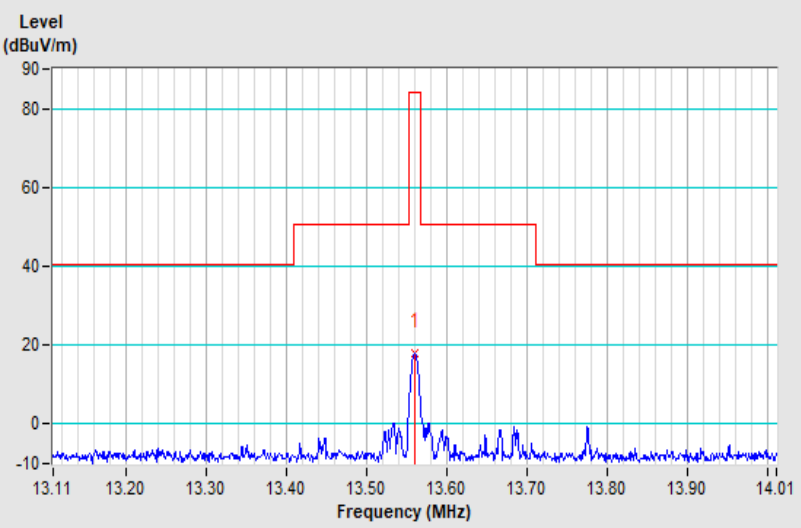
1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)+Distance Factor
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * " :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

Example:

13.56MHz = 15848uV/m 30m

= 84dBuV/m 30m

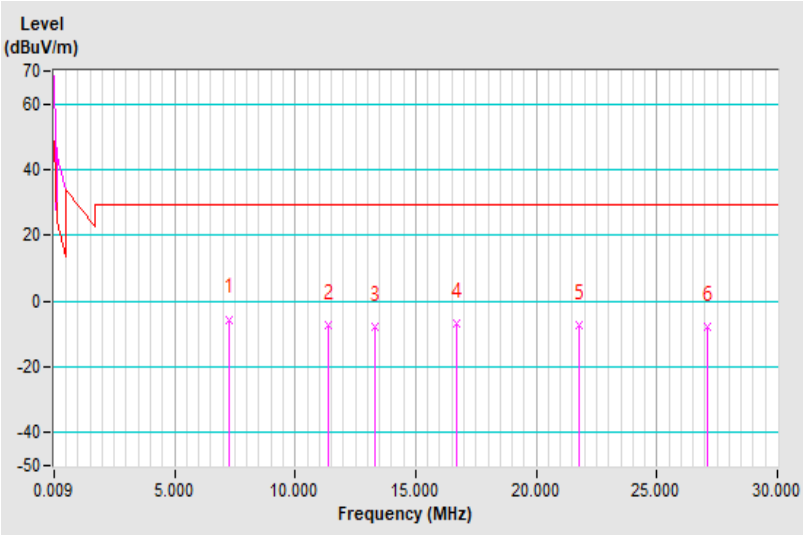


Frequency Range	Below 30MHz	Detector Function	Quasi-Peak

Antenna Polarity & Test Distance: Loop Antenna Parallel At 3m								
No.	Freq. (MHz)	Emission Level (dBuV/m) (30m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV) (3m)	Correction Factor (dB/m)
1	7.24	-5.5	29.5	-35.0	1.00	109	13.8	-19.3
2	11.38	-7.3	29.5	-36.8	1.00	92	10.9	-18.2
3	13.33	-7.6	29.5	-37.1	1.00	261	10.6	-18.2
4	16.68	-6.9	29.5	-36.4	1.00	304	11.2	-18.1
5	21.78	-7.1	29.5	-36.6	1.00	349	11.0	-18.1
6	27.12	-7.8	29.5	-37.3	1.00	291	10.3	-18.1

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 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)

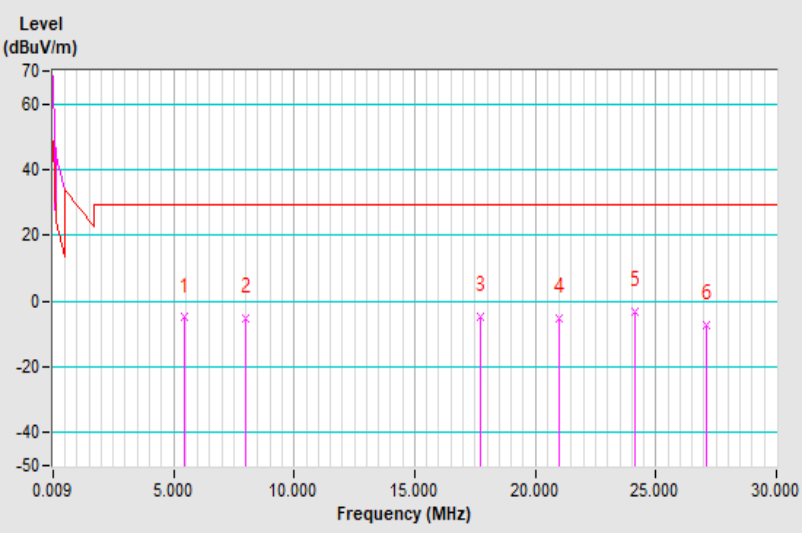


Frequency Range	Below 30MHz	Detector Function	Quasi-Peak

Antenna Polarity & Test Distance: Loop Antenna Perpendicular At 3m								
No.	Freq. (MHz)	Emission Level (dBuV/m) (30m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV) (3m)	Correction Factor (dB/m)
1	5.44	-5.0	29.5	-34.5	1.00	141	14.9	-19.9
2	7.99	-5.2	29.5	-34.7	1.00	266	13.8	-19.0
3	17.70	-4.8	29.5	-34.3	1.00	90	13.3	-18.1
4	21.00	-5.3	29.5	-34.8	1.00	26	12.8	-18.1
5	24.12	-3.0	29.5	-32.5	1.00	3	15.1	-18.1
6	27.12	-7.5	29.5	-37.0	1.00	338	10.6	-18.1

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 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)

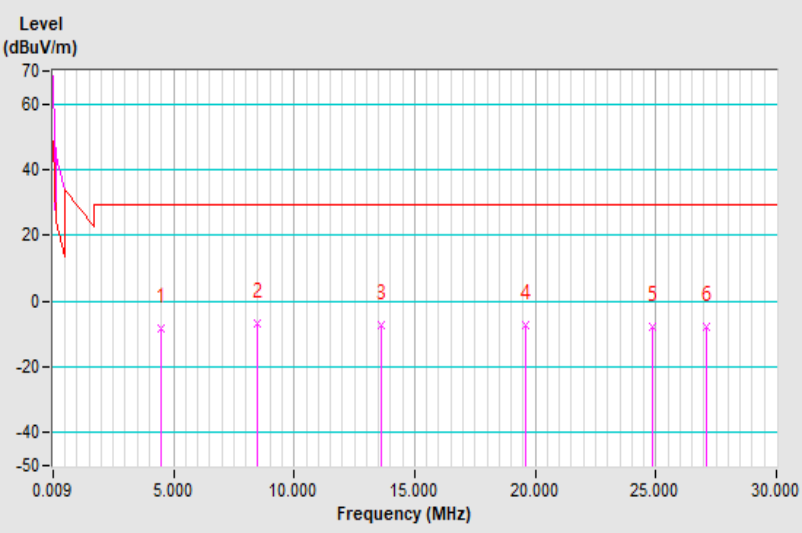


Frequency Range	Below 30MHz	Detector Function	Quasi-Peak

Antenna Polarity & Test Distance: Loop Antenna Ground Paralle At 3m								
No.	Freq. (MHz)	Emission Level (dBuV/m) (30m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV) (3m)	Correction Factor (dB/m)
1	4.48	-8.4	29.5	-37.9	1.00	339	11.6	-20.0
2	8.47	-6.8	29.5	-36.3	1.00	341	12.0	-18.8
3	13.62	-7.2	29.5	-36.7	1.00	135	11.0	-18.2
4	19.62	-7.4	29.5	-36.9	1.00	203	10.7	-18.1
5	24.87	-7.7	29.5	-37.2	1.00	122	10.4	-18.1
6	27.12	-7.8	29.5	-37.3	1.00	62	10.3	-18.1

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 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)



Mode B

Above 1 GHz Data :

802.11n (HT20), Ch6 + NFC, Ch1

Frequency Range	1 GHz ~25 GHz	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	*2437.00	103.8 PK			2.68 H	359	71.8	32.0
2	*2437.00	96.0 AV			2.68 H	359	64.0	32.0
3	4874.00	50.6 PK	74.0	-23.4	1.61 H	330	58.4	-7.8
4	4874.00	40.3 AV	54.0	-13.7	1.61 H	330	48.1	-7.8
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	*2437.00	93.0 PK			1.76 V	48	61.0	32.0
2	*2437.00	85.5 AV			1.76 V	48	53.5	32.0
3	4874.00	49.7 PK	74.0	-24.3	2.92 V	107	57.5	-7.8
4	4874.00	39.3 AV	54.0	-14.7	2.92 V	107	47.1	-7.8

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, the limit was restricted at the RF Output Power.
6. " # ": The radiated frequency is out of the restricted band.

Below 1GHz data:

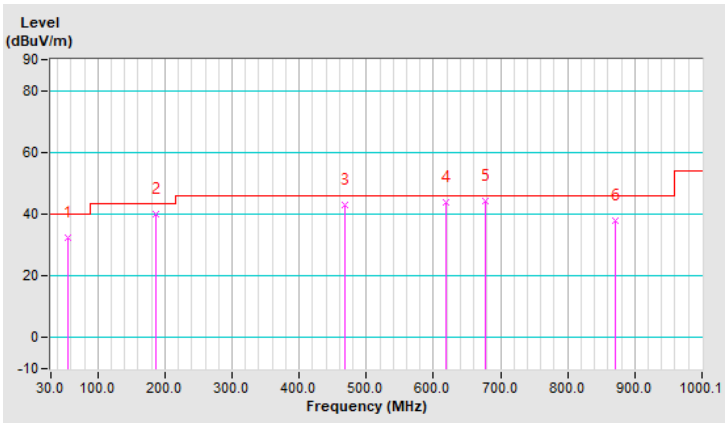
802.11n (HT20), Ch6 + NFC, Ch1

Frequency Range	9kHz ~ 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	32.4 QP	40.0	-7.6	1.51 H	18	45.3	-12.9
2	186.19	40.0 QP	43.5	-3.5	1.51 H	200	55.0	-15.0
3	468.49	42.8 QP	46.0	-3.2	1.51 H	152	49.8	-7.0
4	617.88	44.0 QP	46.0	-2.0	1.51 H	18	47.1	-3.1
5	678.03	44.1 QP	46.0	-1.9	1.51 H	18	46.1	-2.0
6	870.11	37.9 QP	46.0	-8.1	1.51 H	325	36.6	1.3

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 of frequency range 30 MHz ~ 1 GHz.
5. The emission levels were very low against the limit of frequency range 9 kHz ~ 30 MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

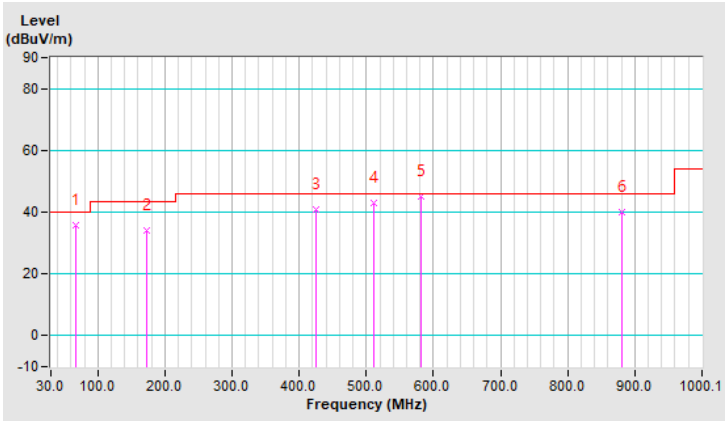


Frequency Range	9kHz ~ 1GHz	Detector Function	Quasi-Peak (QP)

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	67.83	35.7 QP	40.0	-4.3	1.50 V	245	50.3	-14.6
2	173.57	33.9 QP	43.5	-9.6	1.50 V	75	47.3	-13.4
3	425.80	40.9 QP	46.0	-5.1	1.50 V	5	49.2	-8.3
4	510.20	42.9 QP	46.0	-3.1	3.49 V	18	48.8	-5.9
5	581.99	44.9 QP	46.0	-1.1	1.50 V	319	49.1	-4.2
6	881.75	40.2 QP	46.0	-5.8	1.50 V	284	38.7	1.5

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 of frequency range 30 MHz ~ 1 GHz.
5. The emission levels were very low against the limit of frequency range 9 kHz ~ 30 MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.



NFC Type A

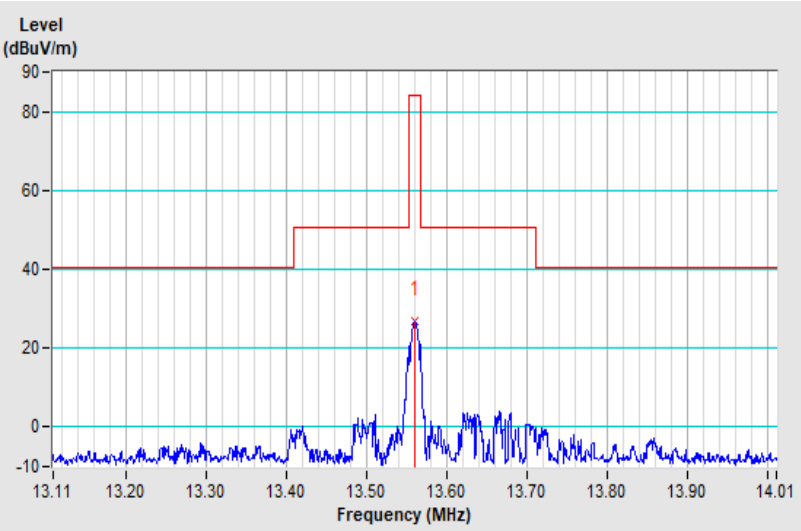
Frequency Range	13.553 ~ 13.567MHz	Detector Function	Quasi-Peak

Antenna Polarity & Test Distance: Loop Antenna Parallel At 3m								
No.	Freq. (MHz)	Emission Level (dBuV/m) (30m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV) (3m)	Correction Factor (dB/m)
1	*13.56	26.1 QP	84.0	-57.1	1.00	2	45.1	-18.2

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 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)
Example:
13.56MHz = 15848uV/m 30m
= 84dBuV/m 30m



Frequency Range	13.553 ~ 13.567MHz	Detector Function	Quasi-Peak

Antenna Polarity & Test Distance: Loop Antenna Perpendicular At 3m								
No.	Freq. (MHz)	Emission Level (dBuV/m) (30m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV) (3m)	Correction Factor (dB/m)
1	*13.56	23.3 QP	84.0	-60.7	1.00	97	41.5	-18.2

Remarks:

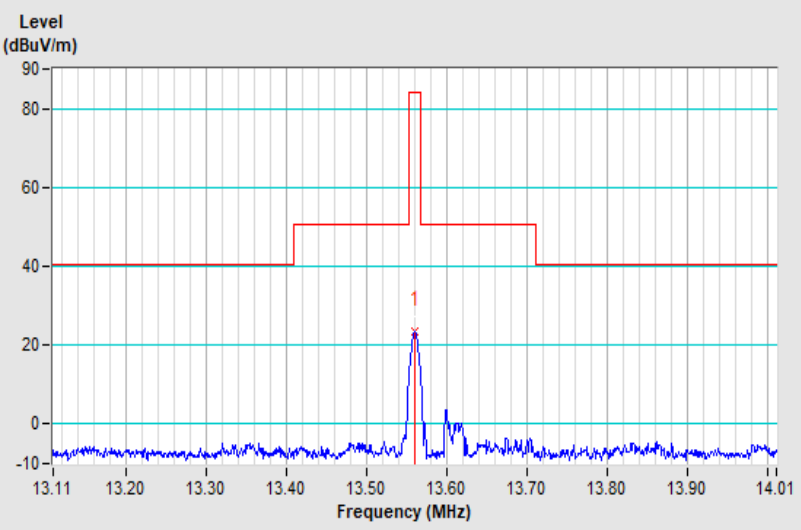
1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)+Distance Factor
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * " :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

Example:

13.56MHz = 15848uV/m 30m

= 84dBuV/m 30m



Frequency Range	13.553 ~ 13.567MHz	Detector Function	Quasi-Peak

Antenna Polarity & Test Distance: Loop Antenna Ground Parallel At 3m								
No.	Freq. (MHz)	Emission Level (dBuV/m) (30m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV) (3m)	Correction Factor (dB/m)
1	*13.56	18.5 QP	84.0	-65.5	1.00	2	36.7	-18.2

Remarks:

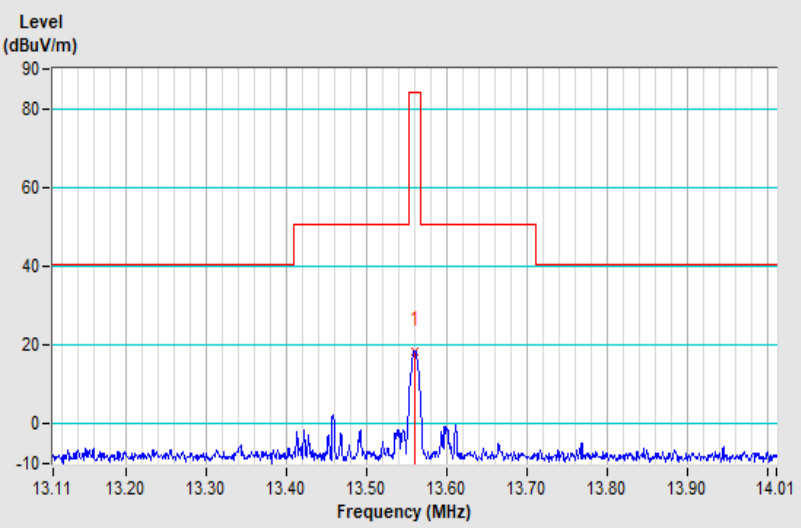
1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)+Distance Factor
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * " :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

Example:

13.56MHz = 15848uV/m 30m

= 84dBuV/m 30m

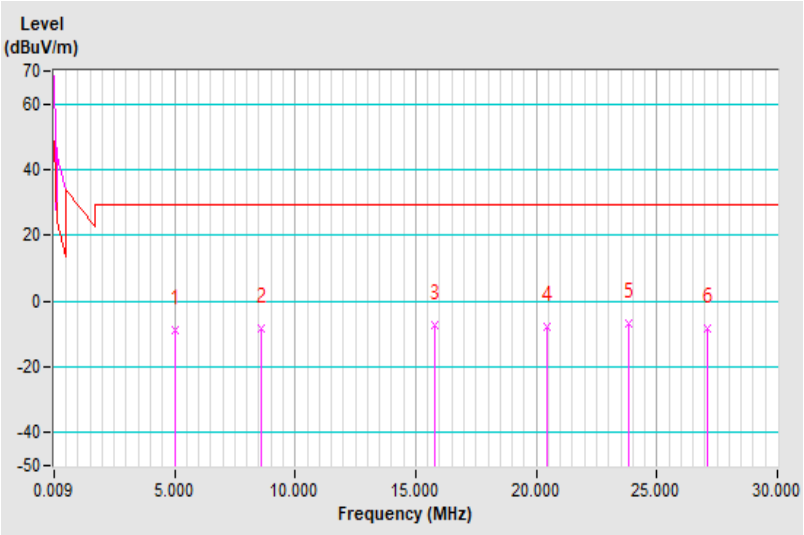


Frequency Range	Below 30MHz	Detector Function	Quasi-Peak

Antenna Polarity & Test Distance: Loop Antenna Parallel At 3m								
No.	Freq. (MHz)	Emission Level (dBuV/m) (30m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV) (3m)	Correction Factor (dB/m)
1	5.05	-8.7	29.5	-38.2	1.00	163	11.4	-20.1
2	8.59	-8.1	29.5	-37.6	1.00	223	10.6	-18.7
3	15.81	-7.3	29.5	-36.8	1.00	261	10.8	-18.1
4	20.43	-7.8	29.5	-37.3	1.00	321	10.3	-18.1
5	23.82	-6.9	29.5	-36.4	1.00	340	11.2	-18.1
6	27.12	-8.2	29.5	-37.7	1.00	296	9.9	-18.1

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 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)

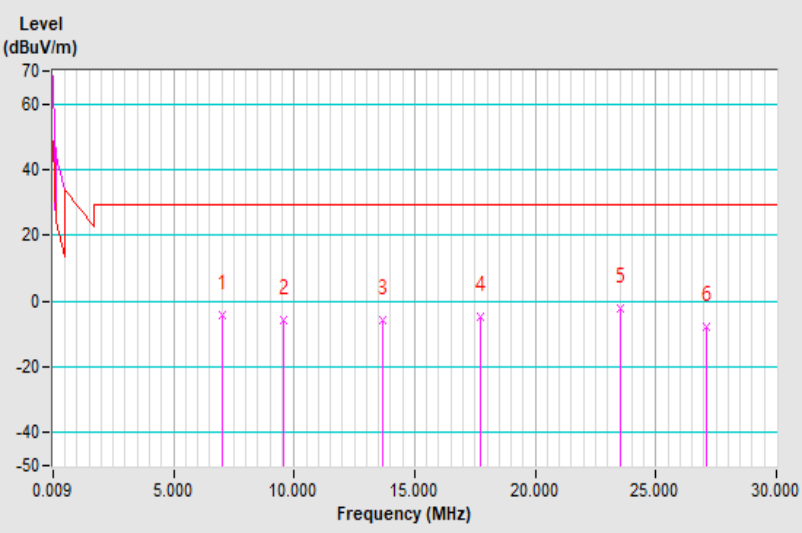


Frequency Range	Below 30MHz	Detector Function	Quasi-Peak

Antenna Polarity & Test Distance: Loop Antenna Perpendicular At 3m								
No.	Freq. (MHz)	Emission Level (dBuV/m) (30m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV) (3m)	Correction Factor (dB/m)
1	7.00	-4.3	29.5	-33.8	1.00	152	15.0	-19.3
2	9.58	-5.7	29.5	-35.2	1.00	133	12.7	-18.4
3	13.65	-6.0	29.5	-35.5	1.00	9	12.2	-18.2
4	17.70	-4.7	29.5	-34.2	1.00	9	13.4	-18.1
5	23.55	-2.4	29.5	-31.9	1.00	17	15.7	-18.1
6	27.12	-7.9	29.5	-37.4	1.00	82	10.2	-18.1

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 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)

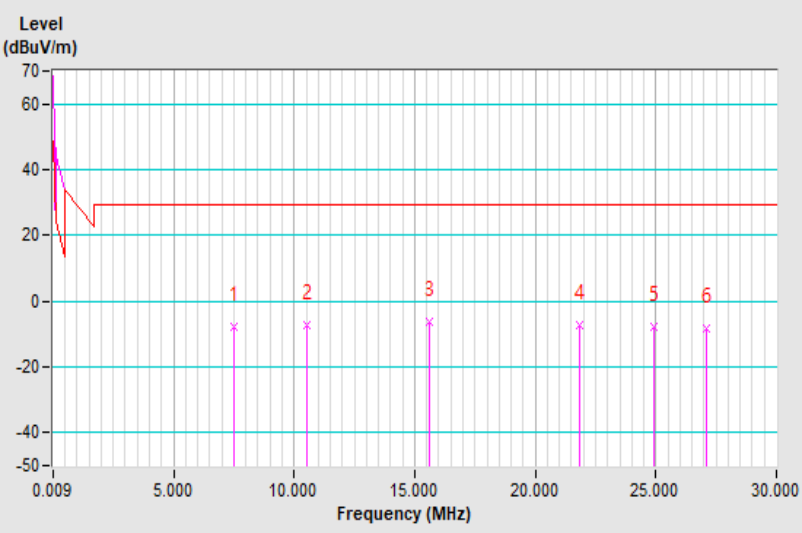


Frequency Range	Below 30MHz	Detector Function	Quasi-Peak

Antenna Polarity & Test Distance: Loop Antenna Ground Paralle At 3m								
No.	Freq. (MHz)	Emission Level (dBuV/m) (30m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV) (3m)	Correction Factor (dB/m)
1	7.51	-8.0	29.5	-37.5	1.00	17	11.1	-19.1
2	10.54	-7.3	29.5	-36.8	1.00	35	10.9	-18.2
3	15.60	-6.4	29.5	-35.9	1.00	136	11.7	-18.1
4	21.84	-7.4	29.5	-36.9	1.00	27	10.7	-18.1
5	24.93	-7.7	29.5	-37.2	1.00	277	10.4	-18.1
6	27.12	-8.2	29.5	-37.7	1.00	87	9.9	-18.1

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 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)



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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