

FCC Test Report

(Co-Located)

Report No.: RF200616C25A

FCC ID: TYM-K155V3

Contains module FCC ID: 2AC23-WCT0Y

Test Model: K155

Received Date: Sep. 20, 2020

Test Date: Oct. 07 ~ Oct. 12, 2020

Issued Date: Oct. 16, 2020

Applicant: AVAYA

Address: 250 Sidney Street, Bellevilla, Ontario, K8P 3Z3, Canada

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

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33383, Taiwan

**FCC Registration/
Designation Number:** 788550 / TW0003



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Release Control Record

Issue No.	Description	Date Issued
RF200616C25A	Original release	Oct. 16, 2020

1 Certificate of Conformity

Product: IP Phone

Brand: Avaya

Test Model: K155

Sample Status: Engineering sample

Applicant: AVAYA

Test Date: Oct. 07 ~ Oct. 12, 2020

Standards: 47 CFR FCC Part 15, Subpart C (Section 15.247)
47 CFR FCC Part 15, Subpart E (Section 15.407)
47 CFR FCC Part 15, Subpart C (Section 15.225)
47 CFR FCC Part 15, Subpart C (Section 15.215)
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 : Polly Chien , **Date:** Oct. 16, 2020
Polly Chien / Specialist

Approved by : Bruce Chen , **Date:** Oct. 16, 2020
Bruce Chen / Senior 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 E (Section 15.407) 47 CFR FCC Part 15, Subpart C (Section 15.225) 47 CFR FCC Part 15, Subpart C (Section 15.215) ANSI C63.10-2013		
FCC Clause	Test Item	Result	Remarks
15.205 / 15.209 / 15.247(d) 15.407(b) (1/2/3/4(i/ii)/6) 15.225 (d)	Radiated Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -1.1dB at 40.68MHz & 49.68MHz.

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	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	IP Phone	
Brand	Avaya	
Test Model	K155	
Sample Status	Engineering sample	
Power Supply Rating	5Vdc / 9Vdc / 12Vdc / 15Vdc (adapter)	
Modulation Type	WLAN	CCK, DQPSK, DBPSK for DSSS 256QAM, 64QAM, 16QAM, QPSK, BPSK for OFDM
	BT EDR	GFSK, $\pi/4$ -DQPSK, 8DPSK
	BT LE	GFSK
	NFC	ASK
Modulation Technology	WLAN	DSSS, OFDM
	BT EDR	FHSS
Transfer Rate	WLAN	802.11b: 11/5.5/2/1Mbps 802.11a/g: 54/48/36/24/18/12/9/6Mbps 802.11n: up to 300Mbps 802.11ac: up to 866.7Mbps
	BT EDR	1/2/3Mbps
	BT LE	1Mbps
Operating Frequency	WLAN	2.4GHz: 2412~2462MHz 5.0GHz: 5180~5240MHz, 5260~5320MHz, 5500~5720MHz, 5745~5825MHz
	BT EDR	2402~2480MHz
	BT LE	2402~2480MHz
	NFC	13.56MHz
Antenna Type	WLAN/BT	PIFA antenna
	NFC	Loop antenna
Accessory Device	Adapter	
Data Cable Supplied	NA	

Note:

1. The EUT incorporates a MIMO function. Physically, the EUT provides 2 completed transmitters and 2 receivers.

Band	Modulation Mode	TX Function
2.4GHz Band	802.11b	1TX (diversity)
	802.11g	1TX (diversity)
	802.11n (HT20)	2TX
	802.11n (HT40)	2TX
5GHz Band	802.11a	1TX (diversity)
	802.11n (HT20)	2TX
	802.11n (HT40)	2TX
	802.11ac (VHT20)	2TX
	802.11ac (VHT40)	2TX
	802.11ac (VHT80)	2TX

* The bandwidth and modulation are similar for HT20/HT40 on 802.11n mode and VHT20/VHT40 on 802.11ac mode. Therefore the investigated worst case is the representative mode in test report. (Final test mode refer section 3.2.1)

2. The EUT consumes power from the following Adapter.

Adapter	
Brand	PHIHONG SWITCHING POWER SUPPLY
Model	AQ18A-59CFA
Input Power	100-240Vac, 50-60Hz, 0.5A
Output Power	5Vdc / 3A 9Vdc / 2A 12Vdc / 1.5A 15Vdc / 1.2A
Power Line	1.8m non-shielded power cable without core

3. 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.

4. The BT could not transmit with WLAN at the same time.

3.2 Description of Test Modes

For WLAN:

For 2.4GHz

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		

7 channels are provided for 802.11n (HT40):

Channel	Frequency	Channel	Frequency
3	2422MHz	7	2442MHz
4	2427MHz	8	2447MHz
5	2432MHz	9	2452MHz
6	2437MHz		

5180~5240MHz:

4 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20):

Channel	Frequency	Channel	Frequency
36	5180 MHz	44	5220 MHz
40	5200 MHz	48	5240 MHz

2 channels are provided for 802.11n (HT40), 802.11ac (VHT40):

Channel	Frequency	Channel	Frequency
38	5190 MHz	46	5230 MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
42	5210 MHz

5260~5320MHz:

4 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20):

Channel	Frequency	Channel	Frequency
52	5260 MHz	60	5300 MHz
56	5280 MHz	64	5320 MHz

2 channels are provided for 802.11n (HT40), 802.11ac (VHT40):

Channel	Frequency	Channel	Frequency
54	5270 MHz	62	5310 MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
58	5290 MHz

For 5500 ~ 5720MHz:

12 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20):

Channel	Frequency	Channel	Frequency
100	5500 MHz	124	5620 MHz
104	5520 MHz	128	5640 MHz
108	5540 MHz	132	5660 MHz
112	5560 MHz	136	5680 MHz
116	5580 MHz	140	5700 MHz
120	5600 MHz	144	5720 MHz

6 channels are provided for 802.11n (HT40), 802.11ac (VHT40):

Channel	Frequency	Channel	Frequency
102	5510 MHz	126	5630 MHz
110	5550 MHz	134	5670 MHz
118	5590 MHz	142	5710 MHz

3 channels are provided for 802.11ac (VHT80):

Channel	Frequency	Channel	Frequency
106	5530 MHz	122	5610 MHz
138	5690 MHz		

5745~5825MHz:

5 channels are provided for 802.11a, 802.11n (HT20), 802.11ac (VHT20):

Channel	Frequency	Channel	Frequency
149	5745 MHz	161	5805 MHz
153	5765 MHz	165	5825 MHz
157	5785 MHz		

2 channels are provided for 802.11n (HT40), 802.11ac (VHT40):

Channel	Frequency	Channel	Frequency
151	5755 MHz	159	5795 MHz

1 channel is provided for 802.11ac (VHT80):

Channel	Frequency
155	5775 MHz

BT EDR:

79 channels are provided to this EUT:

Channel	Freq. (MHz)	Channel	Freq. (MHz)	Channel	Freq. (MHz)	Channel	Freq. (MHz)
0	2402	20	2422	40	2442	60	2462
1	2403	21	2423	41	2443	61	2463
2	2404	22	2424	42	2444	62	2464
3	2405	23	2425	43	2445	63	2465
4	2406	24	2426	44	2446	64	2466
5	2407	25	2427	45	2447	65	2467
6	2408	26	2428	46	2448	66	2468
7	2409	27	2429	47	2449	67	2469
8	2410	28	2430	48	2450	68	2470
9	2411	29	2431	49	2451	69	2471
10	2412	30	2432	50	2452	70	2472
11	2413	31	2433	51	2453	71	2473
12	2414	32	2434	52	2454	72	2474
13	2415	33	2435	53	2455	73	2475
14	2416	34	2436	54	2456	74	2476
15	2417	35	2437	55	2457	75	2477
16	2418	36	2438	56	2458	76	2478
17	2419	37	2439	57	2459	77	2479
18	2420	38	2440	58	2460	78	2480
19	2421	39	2441	59	2461		

BT LE:

40 channels are provided to this EUT:

Channel	Freq. (MHz)	Channel	Freq. (MHz)	Channel	Freq. (MHz)	Channel	Freq. (MHz)
0	2402	10	2422	20	2442	30	2462
1	2404	11	2424	21	2444	31	2464
2	2406	12	2426	22	2446	32	2466
3	2408	13	2428	23	2448	33	2468
4	2410	14	2430	24	2450	34	2470
5	2412	15	2432	25	2452	35	2472
6	2414	16	2434	26	2454	36	2474
7	2416	17	2436	27	2456	37	2476
8	2418	18	2438	28	2458	38	2478
9	2420	19	2440	29	2460	39	2480

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 had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **X-plane**.

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 Technology
-	802.11n (HT40) + NFC	2412 ~ 2462	3 to 9	9 + 1	OFDM
		13.56	1		ASK
-	802.11n (HT40) + NFC	5180 ~ 5240	38 to 46	38 + 1	OFDM
		13.56	1		ASK
-	BT 8DPSK + NFC	2402~2480	0 to 78	0 + 1	8DPSK
		13.56	1		ASK
-	BT LE + NFC	2402 ~ 2480	0 to 39	0 + 1	GFSK
		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.

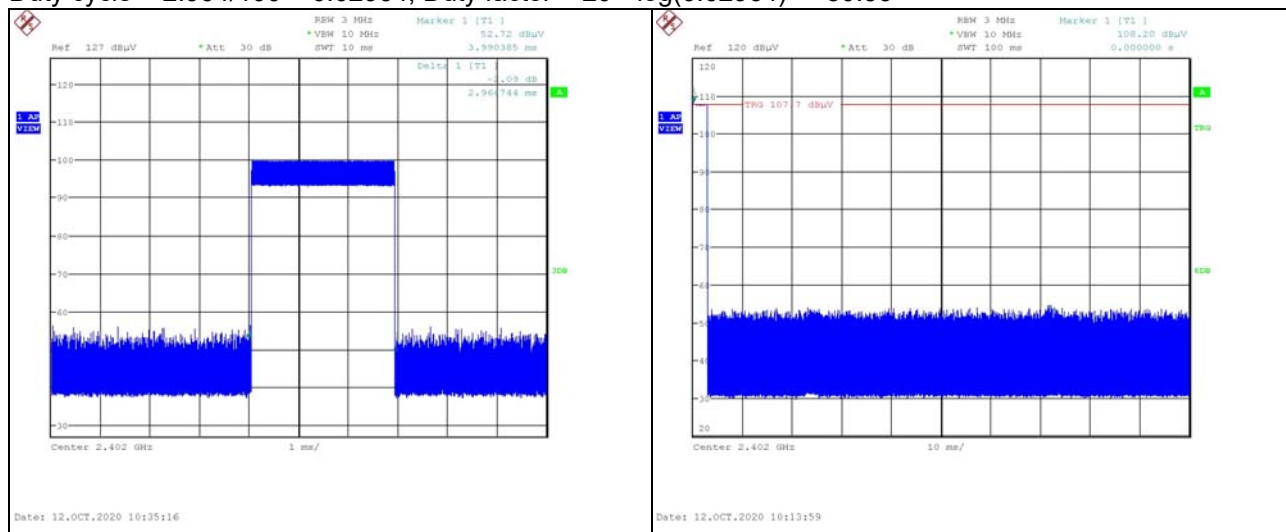
EUT Configure Mode	Mode	Frequency Band (MHz)	Available Channel	Tested Channel	Modulation Technology
-	802.11n (HT40) + NFC	2412 ~ 2462	3 to 9	9 + 1	OFDM
		13.56	1		ASK
-	802.11n (HT40) + NFC	5180 ~ 5240	38 to 46	38 + 1	OFDM
		13.56	1		ASK
-	BT 8DPSK + NFC	2402~2480	0 to 78	0 + 1	8DPSK
		13.56	1		ASK
-	BT LE + NFC	2402 ~ 2480	0 to 39	0 + 1	GFSK
		13.56	1		ASK

Test Condition:

Applicable to	Environmental Conditions	Input Power	Tested by
RE $\geq$ 1G	23 deg. C, 65% RH	120Vac, 60Hz	Adair Peng
RE<1G	23 deg. C, 65% RH	120Vac, 60Hz	Adair Peng,
	23 deg. C, 66% RH		Titan Hsu

3.3 Duty Cycle of Test Signal

Duty cycle = $2.964/100 = 0.02964$, Duty factor = $20 * \log(0.02964) = -30.56$



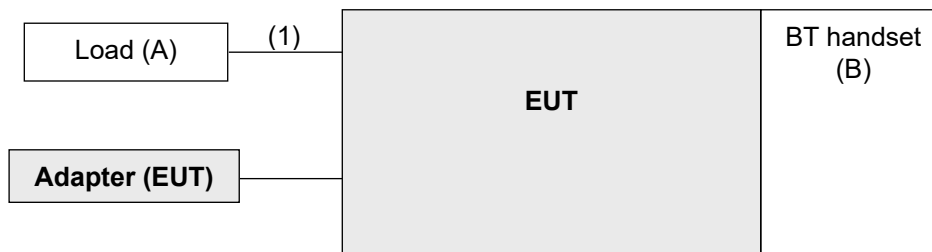
3.4 Description of Support Units

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.

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Load	NA	NA	NA	NA	-
B.	BT handset	AVAYA	J2B1	NA	TYM-J2B1	Provided by client

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	LAN cable	2	1.5	N	0	Provided by Lab. RJ45 cable Cat.5e

3.4.1 Configuration of System under Test



3.5 General Description of Applied Standards

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:

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

47 CFR FCC Part 15, Subpart E (Section 15.407)

47 CFR FCC Part 15, Subpart C (15.225)

47 CFR FCC Part 15, Subpart C (15.215)

ANSI C63.10-2013

All test items have been performed and recorded as per the above standards.

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

WLAN/BT:

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table.

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.

Limits of unwanted emission out of the restricted bands

Applicable To		Limit	
789033 D02 General UNII Test Procedure New Rules v02r01		Field Strength at 3m	
		PK: 74 (dBuV/m)	AV: 54 (dBuV/m)
Frequency Band	Applicable To	EIRP Limit	Equivalent Field Strength at 3m
5150~5250 MHz	15.407(b)(1)	PK: -27 (dBm/MHz)	PK: 68.2(dBuV/m)
5250~5350 MHz	15.407(b)(2)		
5470~5725 MHz	15.407(b)(3)		
5725~5850 MHz	☒ 15.407(b)(4)(i)	PK: -27 (dBm/MHz) ^{*1} PK: 10 (dBm/MHz) ^{*2} PK: 15.6 (dBm/MHz) ^{*3} PK: 27 (dBm/MHz) ^{*4}	PK: 68.2(dBuV/m) ^{*1} PK: 105.2 (dBuV/m) ^{*2} PK: 110.8(dBuV/m) ^{*3} PK: 122.2 (dBuV/m) ^{*4}
	☐ 15.407(b)(4)(ii)	Emission limits in section 15.247(d)	
^{*1} beyond 75 MHz or more above of the band edge.		^{*2} below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above.	
^{*3} below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above.		^{*4} from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.	

Note: The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

$$E = \frac{1000000 \sqrt{30P}}{3} \mu\text{V/m, where } P \text{ is the eirp (Watts).}$$

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.

4.1.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESCI	100424	Dec. 31, 2019	Dec. 30, 2020
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100269	Jun. 09, 2020	Jun. 08, 2021
BILOG Antenna SCHWARZBECK	VULB9168	9168-171	Nov. 11, 2019	Nov. 10, 2020
HORN Antenna SCHWARZBECK	9120D	209	Nov. 24, 2019	Nov. 23, 2020
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Nov. 24, 2019	Nov. 23, 2020
Loop Antenna TESEQ	HLA 6121	45745	Jul. 06, 2020	Jul. 05, 2021
Preamplifier Agilent (Below 1GHz)	8447D	2944A10738	Aug. 16, 2020	Aug. 15, 2021
Preamplifier Agilent (Above 1GHz)	8449B	3008A02465	Mar. 23, 2020	Mar. 22, 2021
RF Coaxial Cable WOKEN With 5dB PAD	8D-FB	Cable-CH3-01	Aug. 16, 2020	Aug. 15, 2021
RF signal cable HUBER+SUHNER	SUCOFLEX 104	Cable-CH3-03 (223653/4)	Aug. 16, 2020	Aug. 15, 2021
RF signal cable HUBER+SUHNER& EMCI	SUCOFLEX 104&EMC104-SM- SM-8000	Cable-CH3-03 (309224+170907)	Aug. 16, 2020	Aug. 15, 2021
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	NA	NA	NA
Antenna Tower inn-co GmbH	MA 4000	013303	NA	NA
Antenna Tower Controller BV ADT	AT100	AT93021702	NA	NA
Turn Table BV ADT	TT100	TT93021702	NA	NA
Turn Table Controller BV ADT	SC100	SC93021702	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
Pre-amplifier (18GHz-40GHz) EMC	EMC184045B	980175	Sep. 04, 2020	Sep. 03, 2021

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 3.

4.1.3 Test Procedures

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:

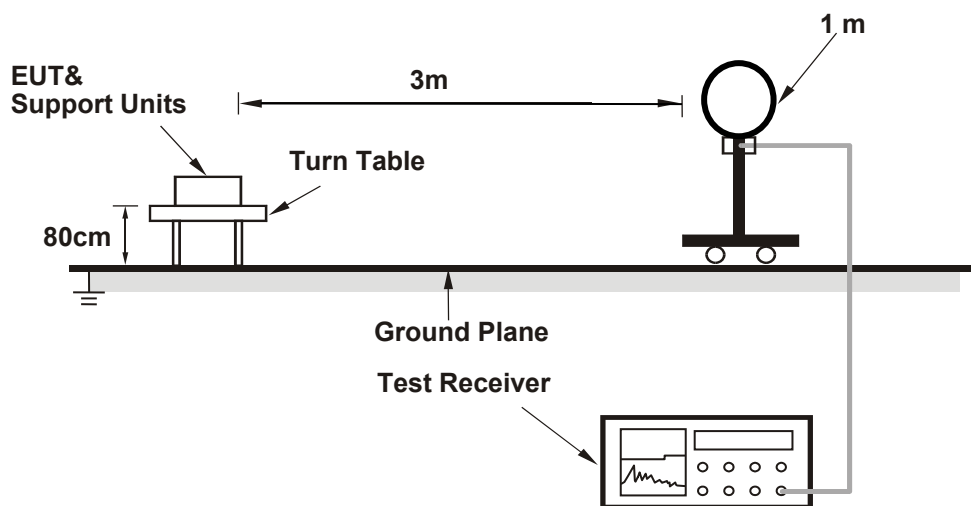
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
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.
4. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

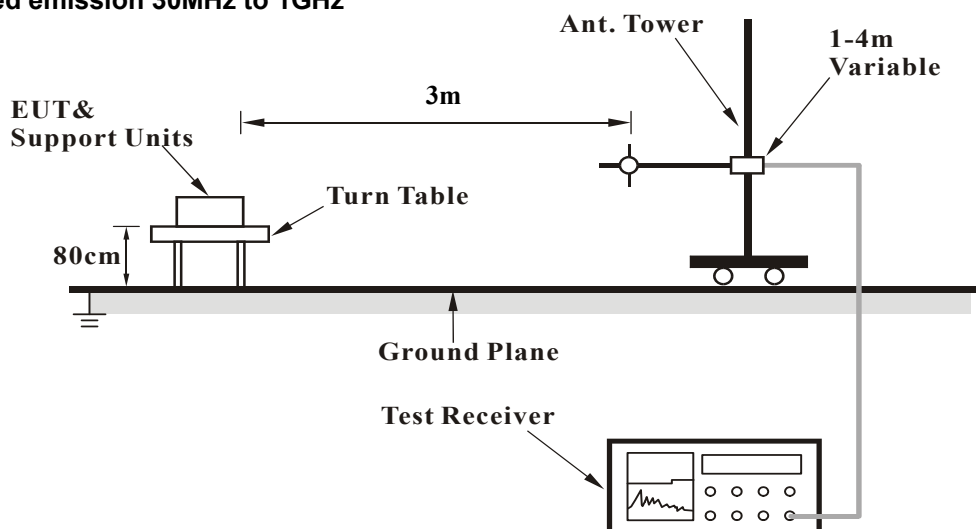
No deviation.

4.1.5 Test Setup

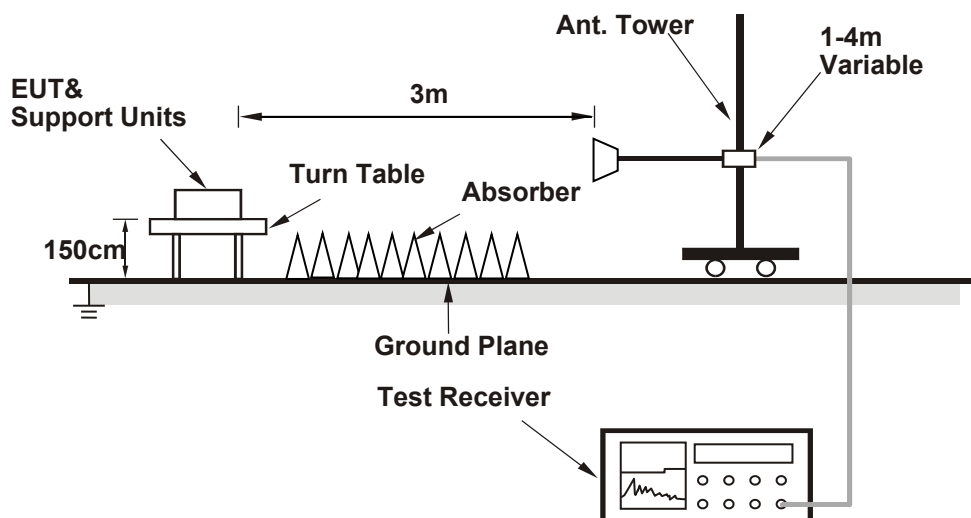
For Radiated emission below 30MHz



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. Placed the EUT on the testing table.
- b. The EUT under transmission condition continuously at specific channel frequency.

4.1.7 Test Results

Above 1GHz Data:

802.11n (HT40) + NFC

CHANNEL	CH 9 + CH 1	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

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	*2452.00	104.0 PK			2.43 H	108	69.7	34.3
2	*2452.00	93.8 AV			2.43 H	108	59.5	34.3
3	2483.50	66.1 PK	74.0	-7.9	2.43 H	108	31.7	34.4
4	2483.50	52.3 AV	54.0	-1.7	2.43 H	108	17.9	34.4
5	4904.00	48.7 PK	74.0	-25.3	1.73 H	203	42.7	6.0
6	4904.00	35.1 AV	54.0	-18.9	1.73 H	203	29.1	6.0
Antenna Polarity & Test Distance : Vertical at 3m								
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	*2452.00	98.9 PK			3.73 V	167	64.6	34.3
2	*2452.00	89.0 AV			3.73 V	167	54.7	34.3
3	2483.50	63.2 PK	74.0	-10.8	3.73 V	167	28.8	34.4
4	2483.50	49.6 AV	54.0	-4.4	3.73 V	167	15.2	34.4
5	4904.00	49.0 PK	74.0	-25.0	2.03 V	111	43.0	6.0
6	4904.00	35.5 AV	54.0	-18.5	2.03 V	111	29.5	6.0

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.
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	CH 9 + CH 1	DETECTOR FUNCTION	Quasi-Peak
FREQUENCY RANGE	13.553 ~ 13.567MHz		

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	21.7 QP	84.0	-62.3	1.00	175	40.4	-18.7

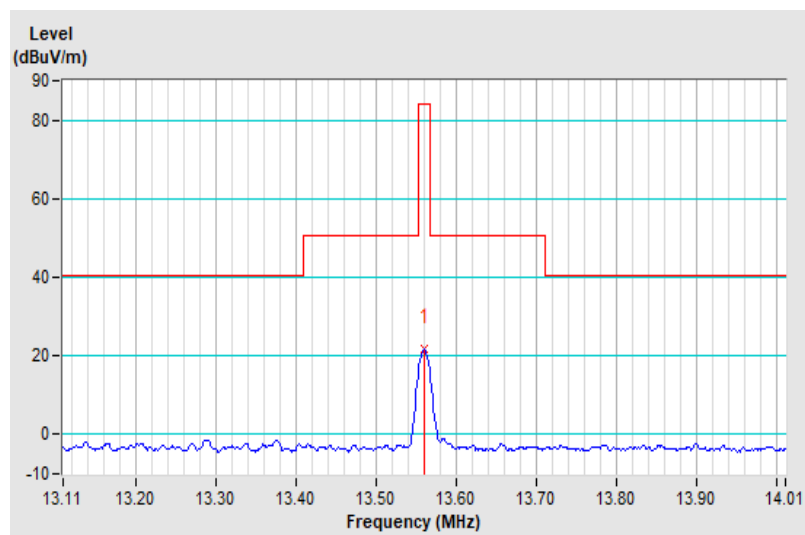
Remarks:

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:

$$\begin{aligned}
 13.56\text{MHz} &= 15848\mu\text{V/m} & 30\text{m} \\
 &= 84\text{dBuV/m} & 30\text{m}
 \end{aligned}$$



CHANNEL	CH 9 + CH 1	DETECTOR FUNCTION	Quasi-Peak
FREQUENCY RANGE	13.553 ~ 13.567MHz		

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	19.9 QP	84.0	-64.1	1.00	88	38.6	-18.7

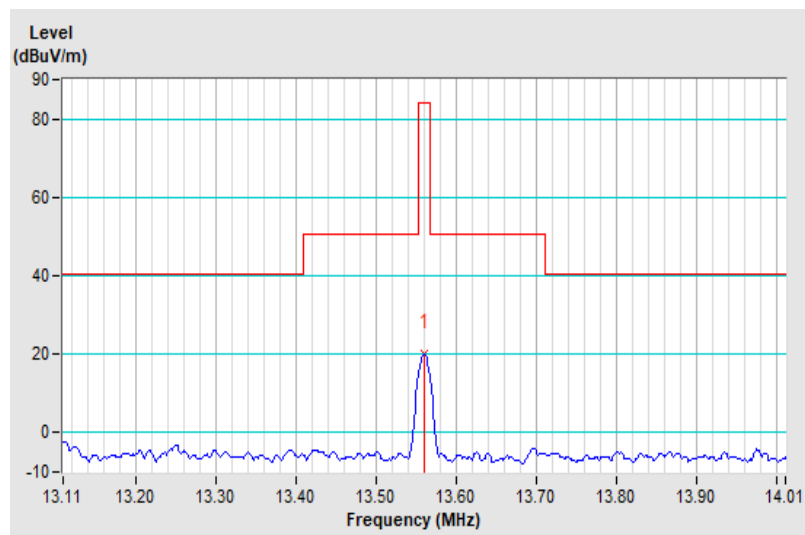
Remarks:

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:

$$\begin{aligned}
 13.56\text{MHz} &= 15848\mu\text{V/m} & 30\text{m} \\
 &= 84\text{dBuV/m} & 30\text{m}
 \end{aligned}$$



CHANNEL	CH 9 + CH 1	DETECTOR FUNCTION	Quasi-Peak
FREQUENCY RANGE	13.553 ~ 13.567MHz		

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	16.5 QP	84.0	-67.5	1.00	186	35.2	-18.7

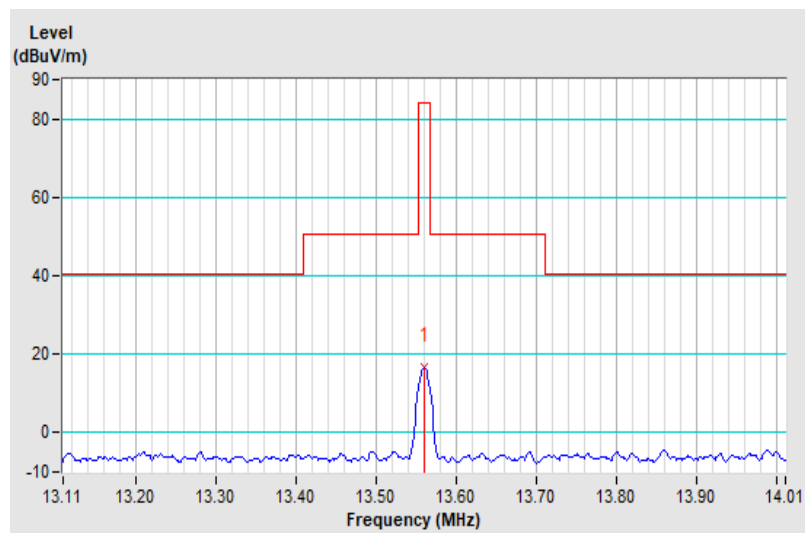
Remarks:

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:

$$\begin{aligned}
 13.56\text{MHz} &= 15848\mu\text{V/m} && 30\text{m} \\
 &= 84\text{dBuV/m} && 30\text{m}
 \end{aligned}$$

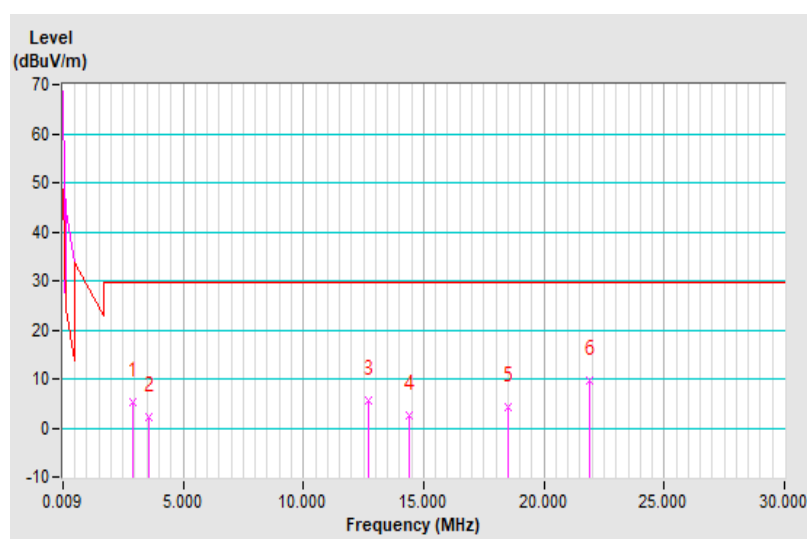


CHANNEL	CH 9 + CH 1	DETECTOR FUNCTION	Quasi-Peak
FREQUENCY RANGE	Below 30MHz		

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	2.92	5.2 QP	29.5	-24.3	1.00	274	25.9	-20.7
2	3.57	2.2 QP	29.5	-27.3	1.00	1	22.7	-20.5
3	12.70	5.7 QP	29.5	-23.8	1.00	15	24.4	-18.7
4	14.40	2.7 QP	29.5	-26.8	1.00	15	21.3	-18.6
5	18.53	4.1 QP	29.5	-25.4	1.00	136	22.6	-18.5
6	21.92	9.8 QP	29.5	-19.7	1.00	109	28.2	-18.4

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) + Distance Factor
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. For 0.49 ~ 30MHz, the measured field strength was extrapolated to distance 30 meters Distance factor@3m = $40 \cdot \log(3/30) = -40\text{dB}$

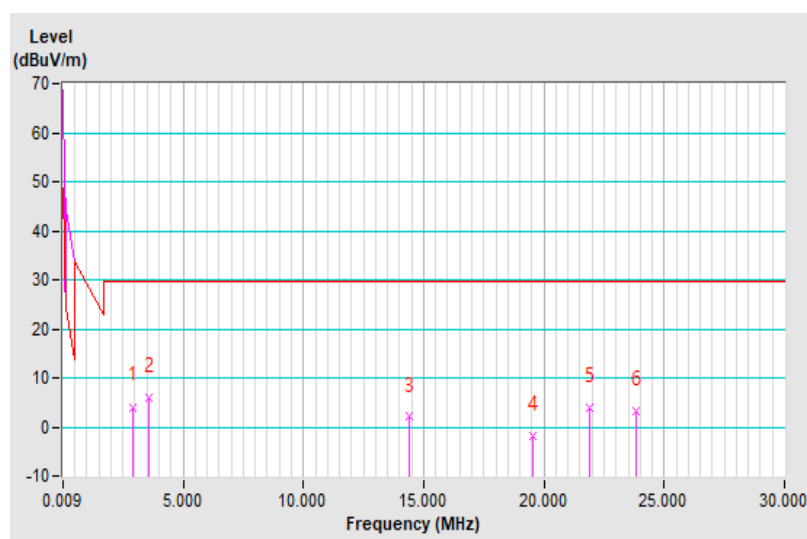


CHANNEL	CH 9 + CH 1	DETECTOR FUNCTION	Quasi-Peak
FREQUENCY RANGE	Below 30MHz		

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	2.92	4.1 QP	29.5	-25.4	1.00	146	24.8	-20.7
2	3.57	5.9 QP	29.5	-23.6	1.00	240	26.4	-20.5
3	14.40	2.0 QP	29.5	-27.5	1.00	52	20.6	-18.6
4	19.52	-1.8 QP	29.5	-31.3	1.00	209	16.6	-18.4
5	21.92	3.9 QP	29.5	-25.6	1.00	213	22.3	-18.4
6	23.83	3.2 QP	29.5	-26.3	1.00	258	21.5	-18.3

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) + Distance Factor
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. For 0.49 ~ 30MHz, the measured field strength was extrapolated to distance 30 meters Distance factor@3m = $40 \cdot \log(3/30) = -40\text{dB}$

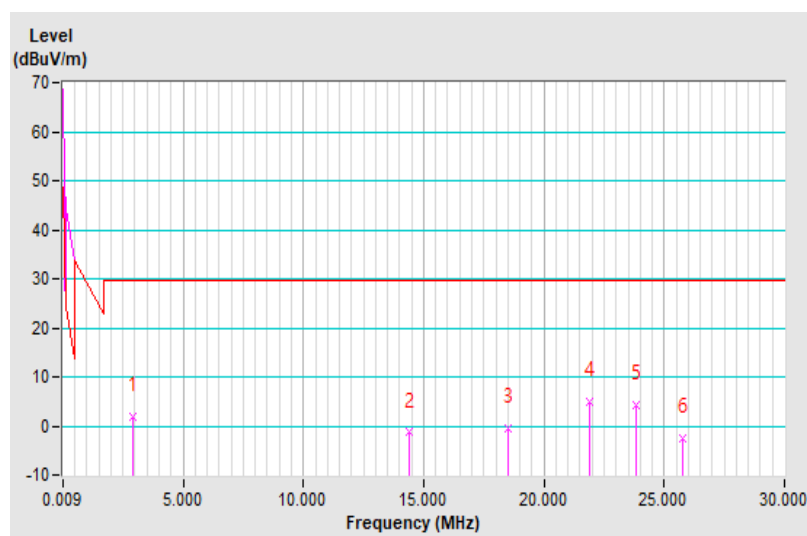


CHANNEL	CH 9 + CH 1	DETECTOR FUNCTION	Quasi-Peak
FREQUENCY RANGE	Below 30MHz		

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	2.92	2.0 QP	29.5	-27.5	1.00	204	22.7	-20.7
2	14.40	-1.4 QP	29.5	-30.9	1.00	199	17.2	-18.6
3	18.53	-0.4 QP	29.5	-29.9	1.00	10	18.1	-18.5
4	21.92	4.8 QP	29.5	-24.7	1.00	245	23.2	-18.4
5	23.83	4.4 QP	29.5	-25.1	1.00	33	22.7	-18.3
6	25.74	-2.5 QP	29.5	-32.0	1.00	253	15.8	-18.3

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) + Distance Factor
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. For 0.49 ~ 30MHz, the measured field strength was extrapolated to distance 30 meters Distance factor@3m = $40 \cdot \log(3/30) = -40\text{dB}$



802.11n (HT40) + NFC

CHANNEL	CH 38 + CH 1	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 40GHz		

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	5150.00	67.9 PK	74.0	-6.1	2.01 H	74	61.4	6.5
2	5150.00	51.7 AV	54.0	-2.3	2.01 H	74	45.2	6.5
3	*5190.00	104.1 PK			2.01 H	74	62.0	42.1
4	*5190.00	94.4 AV			2.01 H	74	52.3	42.1
5	#10380.00	58.4 PK	68.2	-9.8	1.71 H	223	41.6	16.8
Antenna Polarity & Test Distance : Vertical at 3m								
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	5150.00	64.9 PK	74.0	-9.1	1.32 V	168	58.4	6.5
2	5150.00	49.2 AV	54.0	-4.8	1.32 V	168	42.7	6.5
3	*5190.00	101.5 PK			1.32 V	168	59.4	42.1
4	*5190.00	91.8 AV			1.32 V	168	49.7	42.1
5	#10380.00	58.8 PK	68.2	-9.4	1.70 V	173	42.0	16.8

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.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	CH 38 + CH 1	DETECTOR FUNCTION	Quasi-Peak
FREQUENCY RANGE	13.553 ~ 13.567MHz		

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	21.7 QP	84.0	-62.3	1.00	174	40.4	-18.7

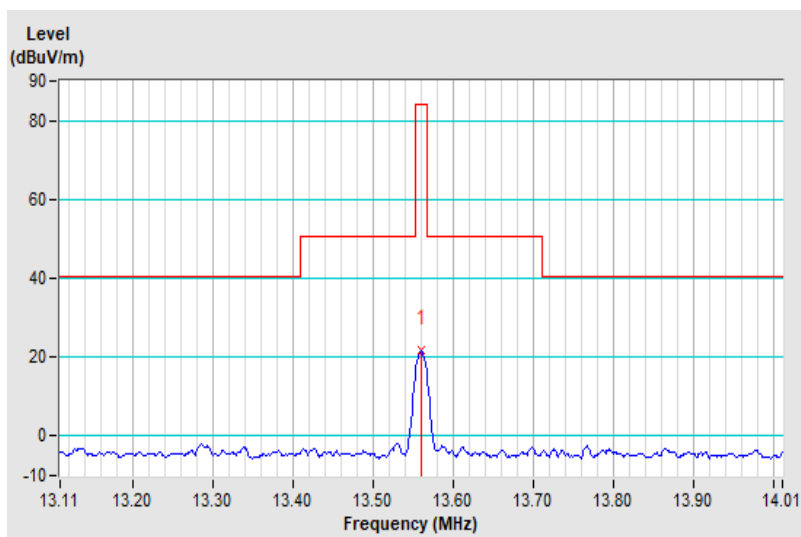
Remarks:

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



CHANNEL	CH 38 + CH 1	DETECTOR FUNCTION	Quasi-Peak
FREQUENCY RANGE	13.553 ~ 13.567MHz		

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	19.5 QP	84.0	-64.5	1.00	100	38.2	-18.7

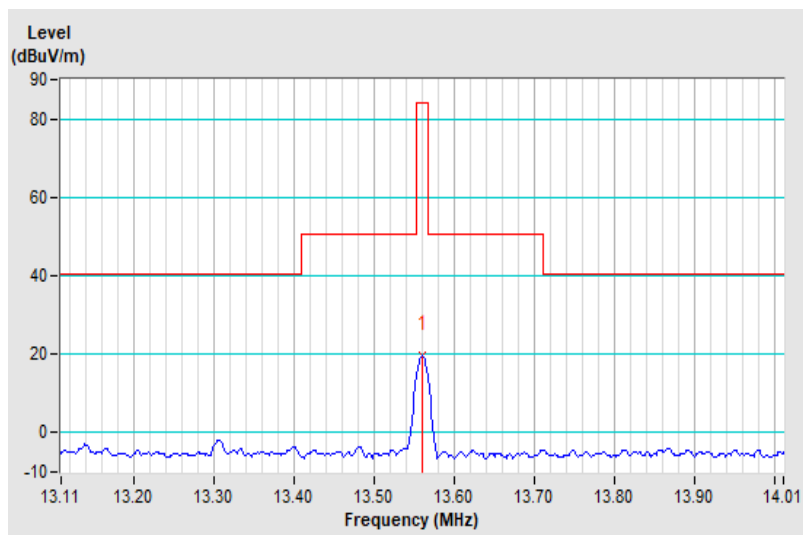
Remarks:

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



CHANNEL	CH 38 + CH 1	DETECTOR FUNCTION	Quasi-Peak
FREQUENCY RANGE	13.553 ~ 13.567MHz		

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	17.0 QP	84.0	-67.0	1.00	194	35.7	-18.7

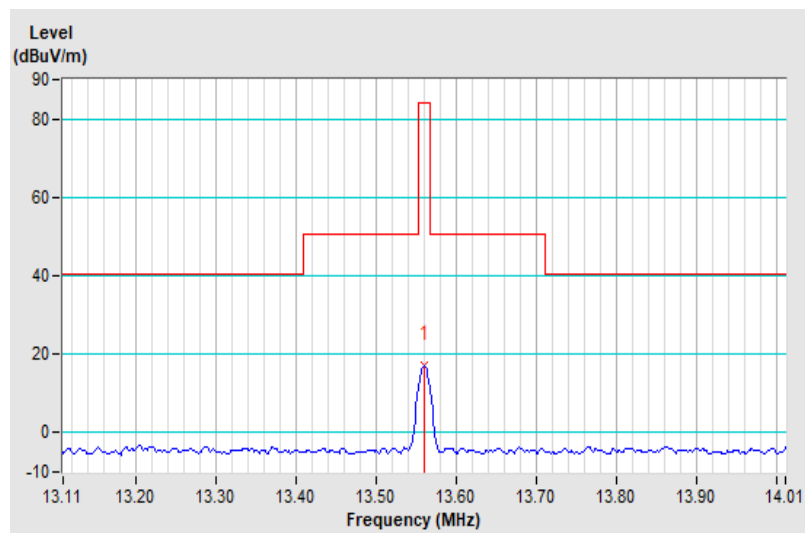
Remarks:

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:

$$\begin{aligned}
 13.56\text{MHz} &= 15848\mu\text{V/m} & 30\text{m} \\
 &= 84\text{dBuV/m} & 30\text{m}
 \end{aligned}$$

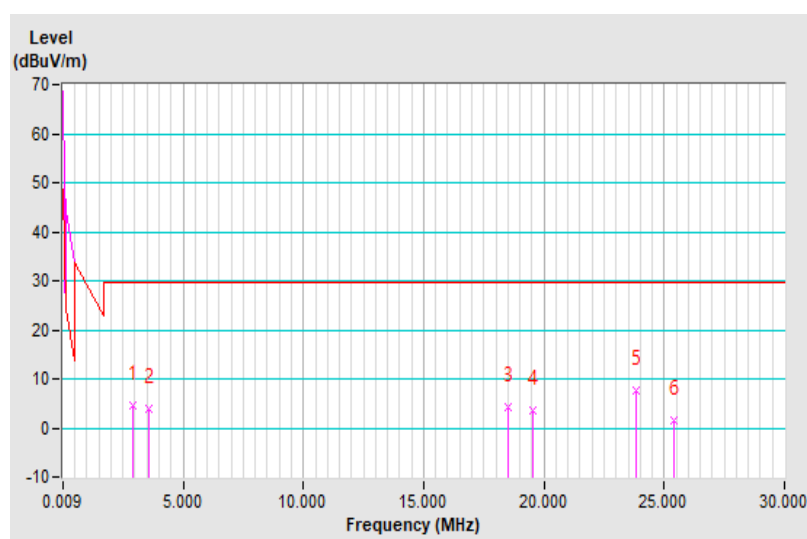


CHANNEL	CH 38 + CH 1	DETECTOR FUNCTION	Quasi-Peak
FREQUENCY RANGE	Below 30MHz		

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	2.92	4.7 QP	29.5	-24.8	1.00	150	25.4	-20.7
2	3.57	3.9 QP	29.5	-25.6	1.00	263	24.4	-20.5
3	18.53	4.3 QP	29.5	-25.2	1.00	17	22.8	-18.5
4	19.52	3.5 QP	29.5	-26.0	1.00	13	21.9	-18.4
5	23.83	7.6 QP	29.5	-21.9	1.00	188	25.9	-18.3
6	25.39	1.4 QP	29.5	-28.1	1.00	307	19.7	-18.3

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) + Distance Factor
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. For 0.49 ~ 30MHz, the measured field strength was extrapolated to distance 30 meters Distance factor@3m = $40 \cdot \log(3/30) = -40\text{dB}$

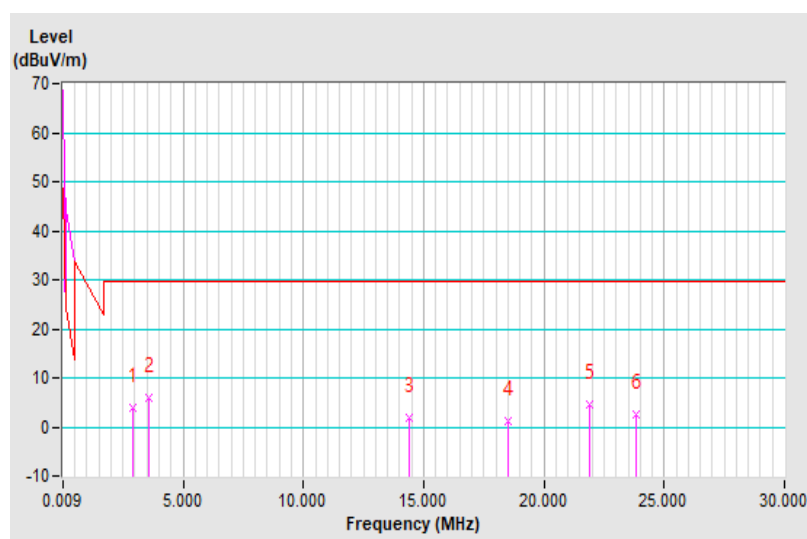


CHANNEL	CH 38 + CH 1	DETECTOR FUNCTION	Quasi-Peak
FREQUENCY RANGE	Below 30MHz		

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	2.92	3.8 QP	29.5	-25.7	1.00	158	24.5	-20.7
2	3.57	6.1 QP	29.5	-23.4	1.00	334	26.6	-20.5
3	14.40	1.9 QP	29.5	-27.6	1.00	278	20.5	-18.6
4	18.53	1.2 QP	29.5	-28.3	1.00	217	19.7	-18.5
5	21.92	4.5 QP	29.5	-25.0	1.00	258	22.9	-18.4
6	23.83	2.7 QP	29.5	-26.8	1.00	75	21.0	-18.3

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) + Distance Factor
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. For 0.49 ~ 30MHz, the measured field strength was extrapolated to distance 30 meters Distance factor@3m = $40 \cdot \log(3/30) = -40\text{dB}$

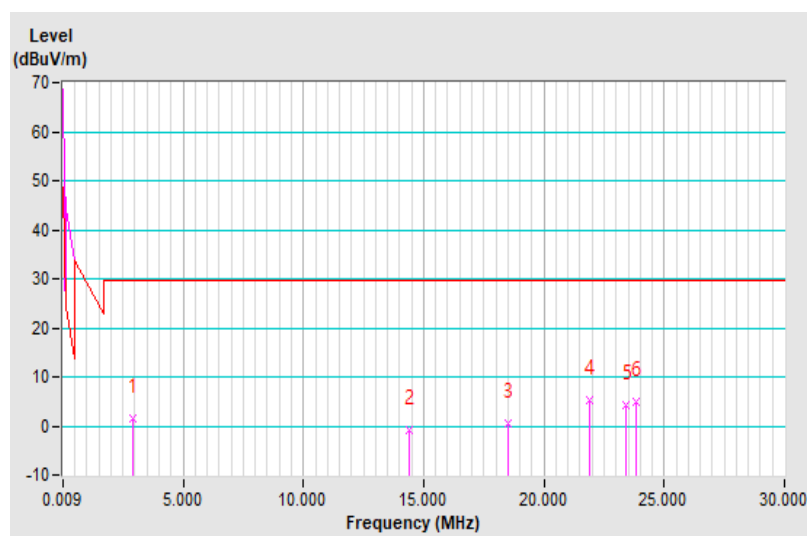


CHANNEL	CH 38 + CH 1	DETECTOR FUNCTION	Quasi-Peak
FREQUENCY RANGE	Below 30MHz		

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	2.92	1.5 QP	29.5	-28.0	1.00	97	22.2	-20.7
2	14.40	-0.7 QP	29.5	-30.2	1.00	179	17.9	-18.6
3	18.53	0.5 QP	29.5	-29.0	1.00	89	19.0	-18.5
4	21.92	5.1 QP	29.5	-24.4	1.00	163	23.5	-18.4
5	23.44	4.4 QP	29.5	-25.1	1.00	74	22.7	-18.3
6	23.83	5.0 QP	29.5	-24.5	1.00	358	23.3	-18.3

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) + Distance Factor
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. For 0.49 ~ 30MHz, the measured field strength was extrapolated to distance 30 meters Distance factor@3m = $40 \cdot \log(3/30) = -40\text{dB}$



BT 8DPSK + NFC

CHANNEL	CH 0 + CH 1	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

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	60.9 PK	74.0	-13.1	1.09 H	35	26.6	34.3
2	2390.00	48.9 AV	54.0	-5.1	1.09 H	35	14.6	34.3
3	*2402.00	93.8 PK			1.09 H	35	59.5	34.3
4	*2402.00	63.3 AV			1.09 H	35	28.9	34.3
5	4804.00	48.2 PK	74.0	-25.8	1.52 H	299	42.1	6.1
6	4804.00	17.7 AV	54.0	-36.3	1.52 H	299	11.5	6.1
Antenna Polarity & Test Distance : Vertical at 3m								
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	60.9 PK	74.0	-13.1	1.32 V	172	26.6	34.3
2	2390.00	49.0 AV	54.0	-5.0	1.32 V	172	14.7	34.3
3	*2402.00	99.5 PK			1.32 V	172	65.2	34.3
4	*2402.00	68.9 AV			1.32 V	172	34.6	34.3
5	4804.00	48.3 PK	74.0	-25.7	2.33 V	314	42.2	6.1
6	4804.00	17.8 AV	54.0	-36.2	2.33 V	314	11.6	6.1

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. for Fundamental frequency and bandedge & harmonic:
The average value of fundamental frequency is :average = peak value + 20log(Duty cycle)
where the duty factor is calculated from following formula:
 $20\text{Log}(\text{Duty cycle}) = 20 \log (2.892\text{ms} \cdot 3/100) = -30.78\text{dB}$ please refer to the plotted duty (see section 3.3)

CHANNEL	CH 0 + CH 1	DETECTOR FUNCTION	Quasi-Peak
FREQUENCY RANGE	13.553 ~ 13.567MHz		

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	21.5 QP	84.0	-62.5	1.00	159	40.2	-18.7

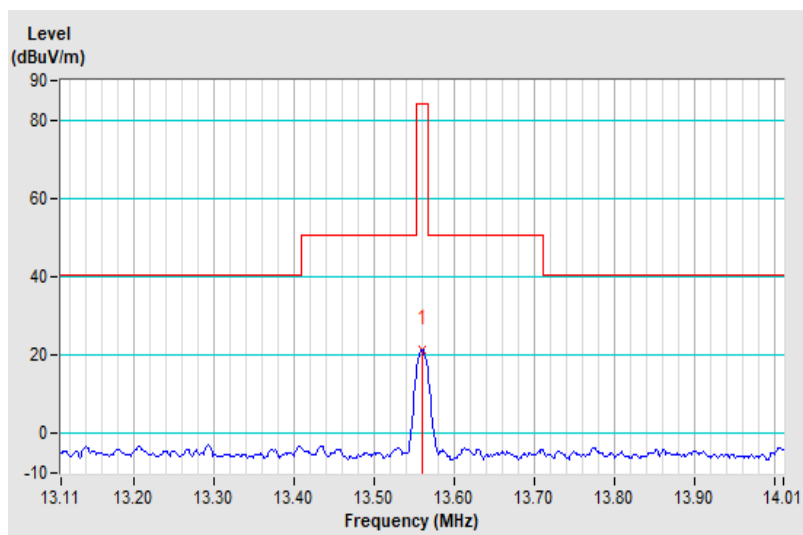
Remarks:

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:

$$\begin{aligned}
 13.56\text{MHz} &= 15848\mu\text{V/m} & 30\text{m} \\
 &= 84\text{dBuV/m} & 30\text{m}
 \end{aligned}$$



CHANNEL	CH 0 + CH 1	DETECTOR FUNCTION	Quasi-Peak
FREQUENCY RANGE	13.553 ~ 13.567MHz		

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	20.2 QP	84.0	-63.8	1.00	78	38.9	-18.7

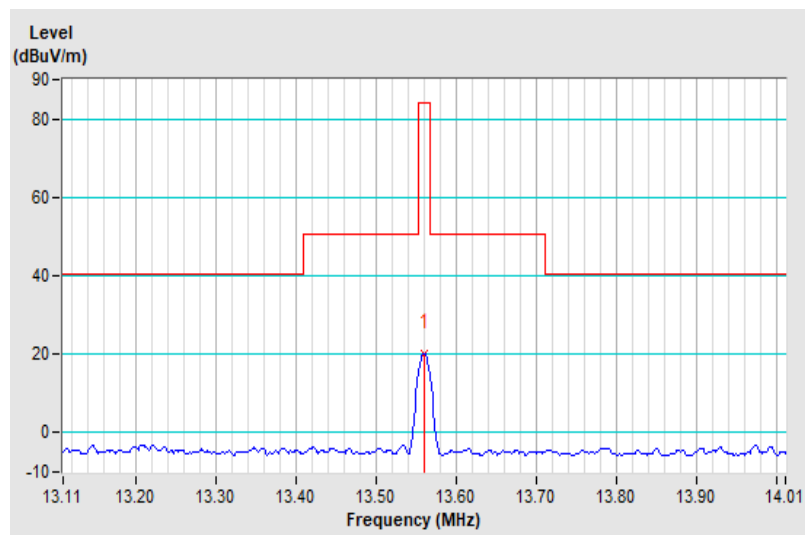
Remarks:

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:

$$\begin{aligned}
 13.56\text{MHz} &= 15848\mu\text{V/m} & 30\text{m} \\
 &= 84\text{dBuV/m} & 30\text{m}
 \end{aligned}$$



CHANNEL	CH 0 + CH 1	DETECTOR FUNCTION	Quasi-Peak
FREQUENCY RANGE	13.553 ~ 13.567MHz		

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	16.7 QP	84.0	-67.3	1.00	175	35.4	-18.7

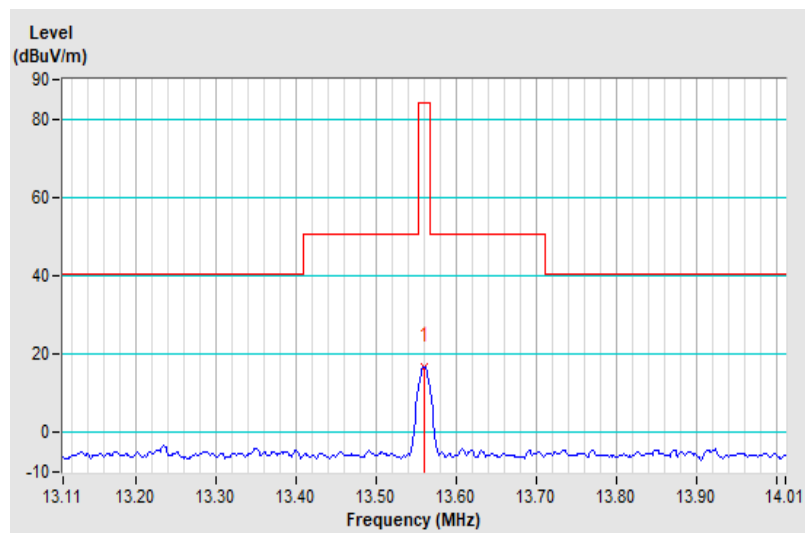
Remarks:

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:

$$\begin{aligned}
 13.56\text{MHz} &= 15848\mu\text{V/m} & 30\text{m} \\
 &= 84\text{dBuV/m} & 30\text{m}
 \end{aligned}$$

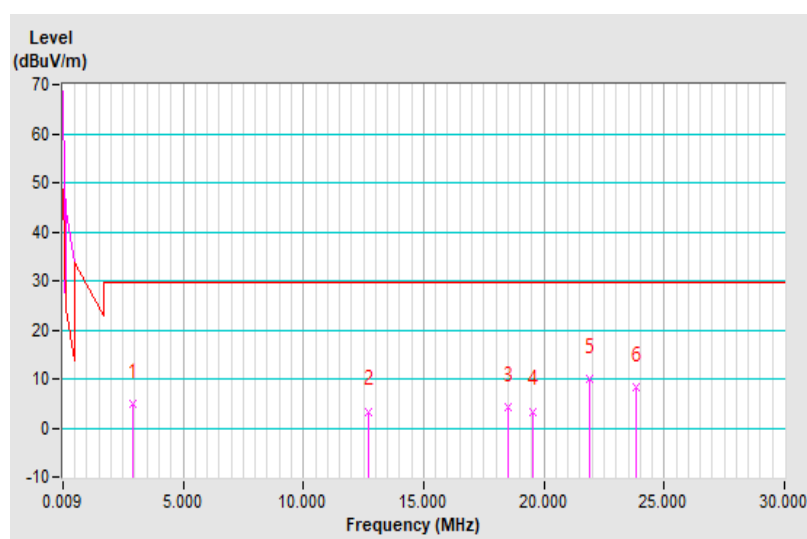


CHANNEL	CH 0 + CH 1	DETECTOR FUNCTION	Quasi-Peak
FREQUENCY RANGE	Below 30MHz		

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	2.92	4.9 QP	29.5	-24.6	1.00	286	25.6	-20.7
2	12.70	3.4 QP	29.5	-26.1	1.00	134	22.1	-18.7
3	18.53	4.2 QP	29.5	-25.3	1.00	48	22.7	-18.5
4	19.52	3.4 QP	29.5	-26.1	1.00	0	21.8	-18.4
5	21.92	9.9 QP	29.5	-19.6	1.00	348	28.3	-18.4
6	23.83	8.3 QP	29.5	-21.2	1.00	203	26.6	-18.3

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) + Distance Factor
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. For 0.49 ~ 30MHz, the measured field strength was extrapolated to distance 30 meters Distance factor@3m = $40 \cdot \log(3/30) = -40\text{dB}$

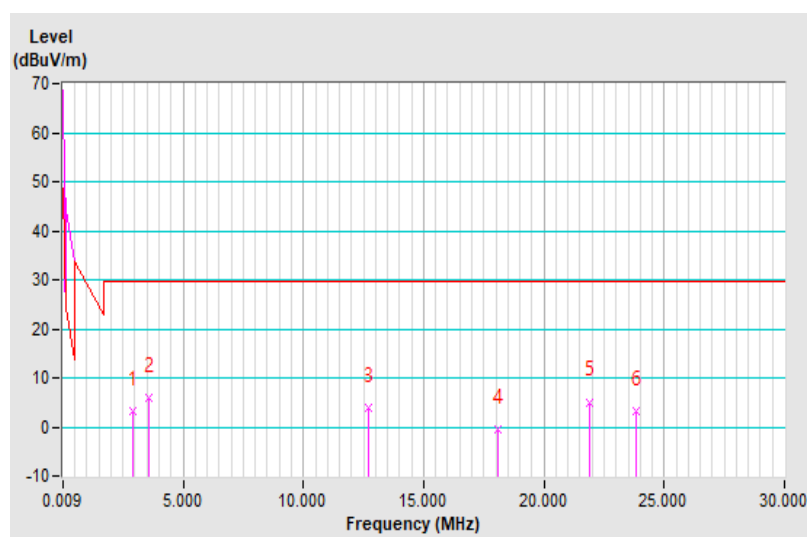


CHANNEL	CH 0 + CH 1	DETECTOR FUNCTION	Quasi-Peak
FREQUENCY RANGE	Below 30MHz		

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	2.92	3.3 QP	29.5	-26.2	1.00	15	24.0	-20.7
2	3.57	6.0 QP	29.5	-23.5	1.00	26	26.5	-20.5
3	12.70	3.8 QP	29.5	-25.7	1.00	88	22.5	-18.7
4	18.09	-0.5 QP	29.5	-30.0	1.00	169	18.0	-18.5
5	21.92	5.1 QP	29.5	-24.4	1.00	3	23.5	-18.4
6	23.83	3.3 QP	29.5	-26.2	1.00	17	21.6	-18.3

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) + Distance Factor
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. For 0.49 ~ 30MHz, the measured field strength was extrapolated to distance 30 meters Distance factor@3m = $40 \cdot \log(3/30) = -40\text{dB}$

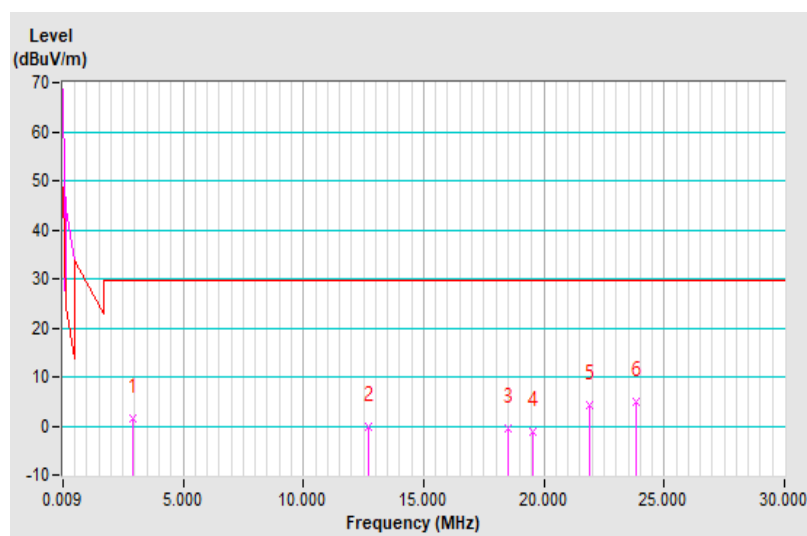


CHANNEL	CH 0 + CH 1	DETECTOR FUNCTION	Quasi-Peak
FREQUENCY RANGE	Below 30MHz		

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	2.92	1.6 QP	29.5	-27.9	1.00	195	22.3	-20.7
2	12.70	-0.1 QP	29.5	-29.6	1.00	197	18.6	-18.7
3	18.53	-0.4 QP	29.5	-29.9	1.00	318	18.1	-18.5
4	19.52	-1.2 QP	29.5	-30.7	1.00	302	17.2	-18.4
5	21.92	4.3 QP	29.5	-25.2	1.00	165	22.7	-18.4
6	23.83	4.9 QP	29.5	-24.6	1.00	18	23.2	-18.3

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) + Distance Factor
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. For 0.49 ~ 30MHz, the measured field strength was extrapolated to distance 30 meters Distance factor@3m = $40 \cdot \log(3/30) = -40\text{dB}$



BT LE + NFC

CHANNEL	CH 0 + CH 1	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

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	60.6 PK	74.0	-13.4	1.08 H	35	26.3	34.3
2	2390.00	49.5 AV	54.0	-4.5	1.08 H	35	15.2	34.3
3	*2402.00	95.9 PK			1.08 H	35	61.6	34.3
4	*2402.00	94.3 AV			1.08 H	35	60.0	34.3
5	4804.00	48.2 PK	74.0	-25.8	1.48 H	288	42.1	6.1
6	4804.00	35.0 AV	54.0	-19.0	1.48 H	288	28.9	6.1
Antenna Polarity & Test Distance : Vertical at 3m								
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	60.8 PK	74.0	-13.2	1.53 V	170	26.5	34.3
2	2390.00	49.4 AV	54.0	-4.6	1.53 V	170	15.1	34.3
3	*2402.00	102.2 PK			1.53 V	170	67.9	34.3
4	*2402.00	100.6 AV			1.53 V	170	66.3	34.3
5	4804.00	48.3 PK	74.0	-25.7	2.15 V	310	42.2	6.1
6	4804.00	35.1 AV	54.0	-18.9	2.15 V	310	29.0	6.1

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).
3. Margin value = Emission Level – Limit value.
4. The other emission levels were very low against the limit.
5. " * " : Fundamental frequency.

CHANNEL	CH 0 + CH 1	DETECTOR FUNCTION	Quasi-Peak
FREQUENCY RANGE	13.553 ~ 13.567MHz		

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	21.7 QP	84.0	-62.3	1.00	171	40.4	-18.7

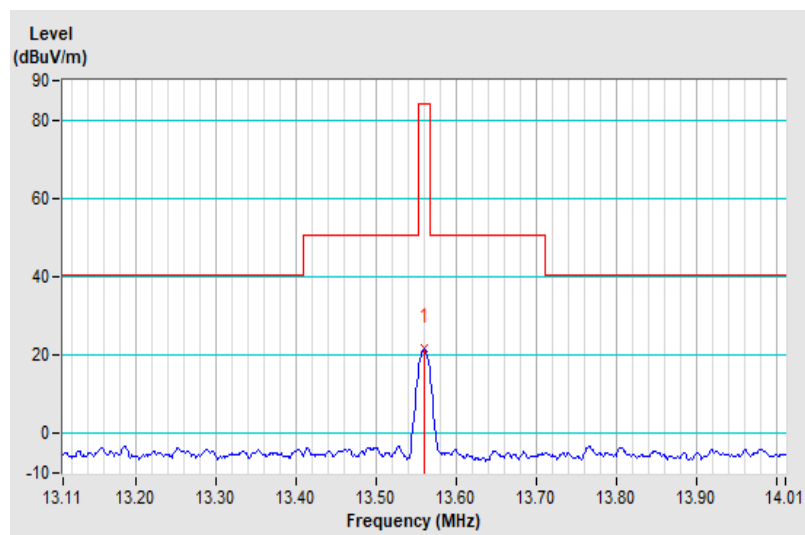
Remarks:

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:

$$\begin{aligned}
 13.56\text{MHz} &= 15848\mu\text{V/m} & 30\text{m} \\
 &= 84\text{dBuV/m} & 30\text{m}
 \end{aligned}$$



CHANNEL	CH 0 + CH 1	DETECTOR FUNCTION	Quasi-Peak
FREQUENCY RANGE	13.553 ~ 13.567MHz		

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	20.0 QP	84.0	-64.0	1.00	85	38.7	-18.7

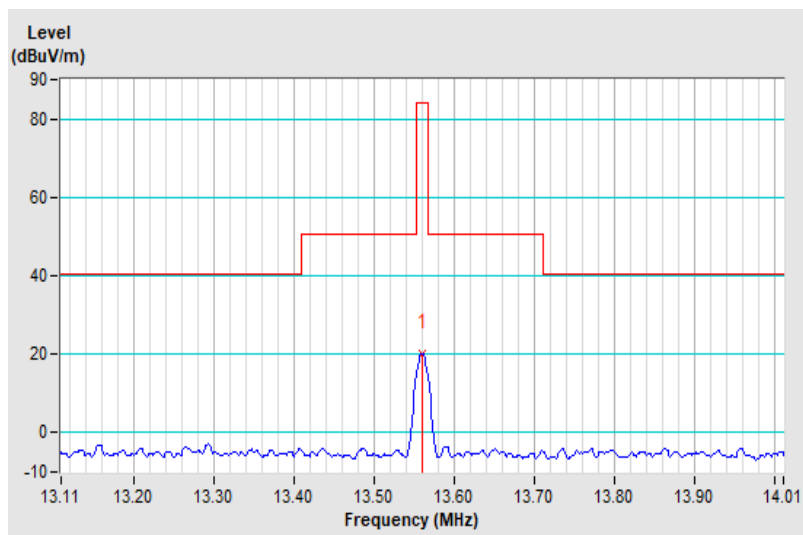
Remarks:

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:

$$\begin{aligned}
 13.56\text{MHz} &= 15848\mu\text{V/m} & 30\text{m} \\
 &= 84\text{dBuV/m} & 30\text{m}
 \end{aligned}$$



CHANNEL	CH 0 + CH 1	DETECTOR FUNCTION	Quasi-Peak
FREQUENCY RANGE	13.553 ~ 13.567MHz		

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	16.6 QP	84.0	-67.4	1.00	187	35.3	-18.7

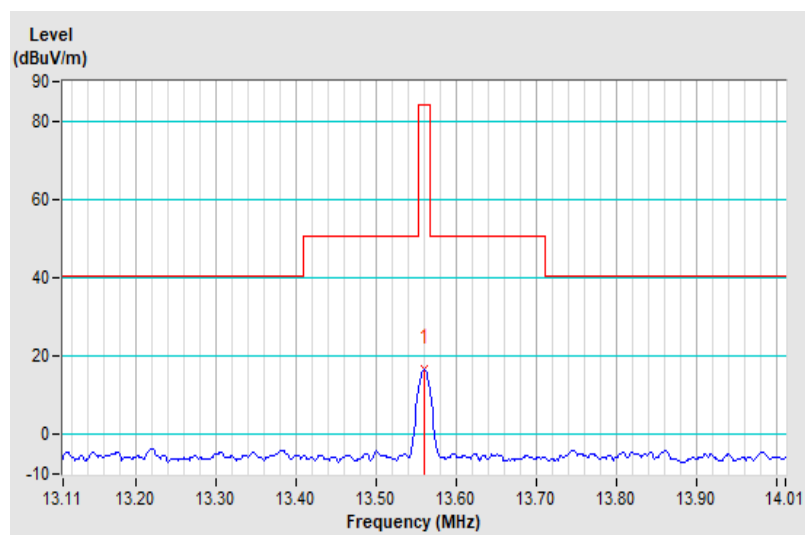
Remarks:

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:

$$\begin{aligned}
 13.56\text{MHz} &= 15848\mu\text{V/m} & 30\text{m} \\
 &= 84\text{dBuV/m} & 30\text{m}
 \end{aligned}$$

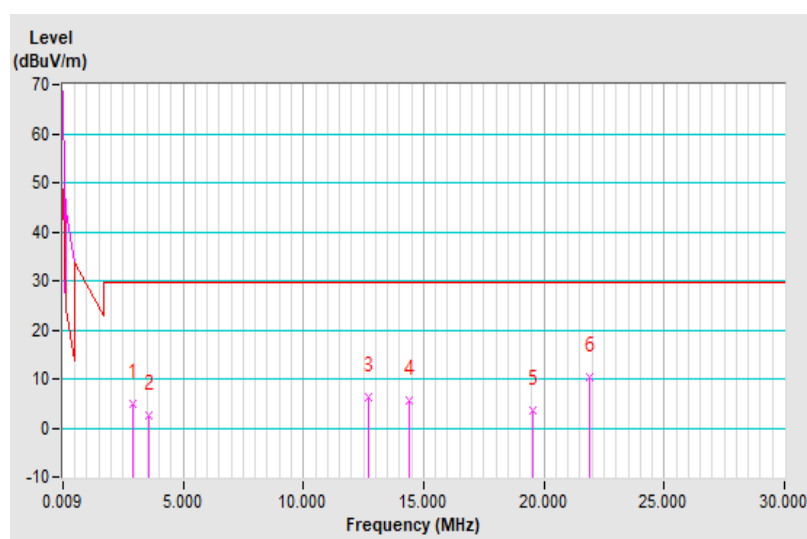


CHANNEL	CH 0 + CH 1	DETECTOR FUNCTION	Quasi-Peak
FREQUENCY RANGE	Below 30MHz		

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	2.92	4.9 QP	29.5	-24.6	1.00	163	25.6	-20.7
2	3.57	2.4 QP	29.5	-27.1	1.00	318	22.9	-20.5
3	12.70	6.2 QP	29.5	-23.3	1.00	164	24.9	-18.7
4	14.40	5.5 QP	29.5	-24.0	1.00	9	24.1	-18.6
5	19.52	3.5 QP	29.5	-26.0	1.00	336	21.9	-18.4
6	21.92	10.2 QP	29.5	-19.3	1.00	283	28.6	-18.4

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) + Distance Factor
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. For 0.49 ~ 30MHz, the measured field strength was extrapolated to distance 30 meters Distance factor@3m = $40 \cdot \log(3/30) = -40\text{dB}$

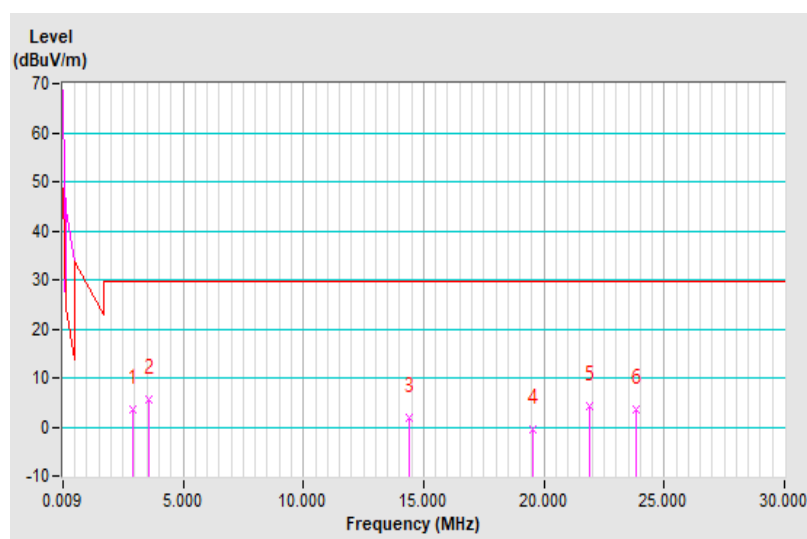


CHANNEL	CH 0 + CH 1	DETECTOR FUNCTION	Quasi-Peak
FREQUENCY RANGE	Below 30MHz		

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	2.92	3.5 QP	29.5	-26.0	1.00	342	24.2	-20.7
2	3.57	5.7 QP	29.5	-23.8	1.00	222	26.2	-20.5
3	14.40	1.9 QP	29.5	-27.6	1.00	72	20.5	-18.6
4	19.52	-0.5 QP	29.5	-30.0	1.00	15	17.9	-18.4
5	21.92	4.3 QP	29.5	-25.2	1.00	211	22.7	-18.4
6	23.83	3.4 QP	29.5	-26.1	1.00	295	21.7	-18.3

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) + Distance Factor
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. For 0.49 ~ 30MHz, the measured field strength was extrapolated to distance 30 meters Distance factor@3m = $40 \cdot \log(3/30) = -40\text{dB}$

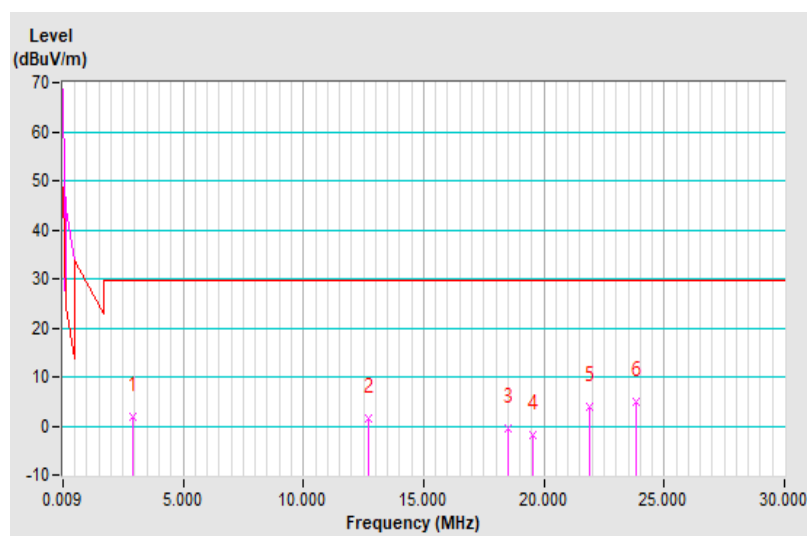


CHANNEL	CH 0 + CH 1	DETECTOR FUNCTION	Quasi-Peak
FREQUENCY RANGE	Below 30MHz		

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	2.92	1.8 QP	29.5	-27.7	1.00	123	22.5	-20.7
2	12.70	1.4 QP	29.5	-28.1	1.00	194	20.1	-18.7
3	18.53	-0.4 QP	29.5	-29.9	1.00	145	18.1	-18.5
4	19.52	-2.0 QP	29.5	-31.5	1.00	41	16.4	-18.4
5	21.92	4.0 QP	29.5	-25.5	1.00	315	22.4	-18.4
6	23.83	4.8 QP	29.5	-24.7	1.00	8	23.1	-18.3

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) + Distance Factor
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. For 0.49 ~ 30MHz, the measured field strength was extrapolated to distance 30 meters Distance factor@3m = $40 \cdot \log(3/30) = -40\text{dB}$



Below 1GHz data

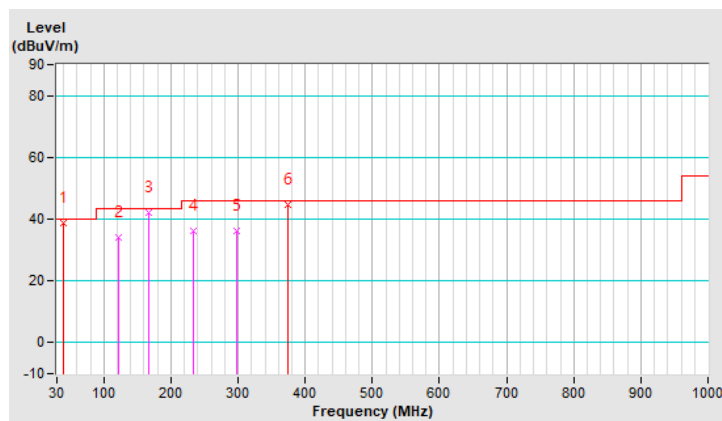
802.11n (HT40) + NFC

CHANNEL	CH 9 + CH 1	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 m								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	40.68	38.9 QP	40.0	-1.1	2.00 H	130	48.3	-9.4
2	121.38	33.9 QP	43.5	-9.6	1.51 H	111	44.6	-10.7
3	166.36	42.1 QP	43.5	-1.4	2.00 H	127	50.7	-8.6
4	232.43	36.3 QP	46.0	-9.7	1.51 H	340	46.4	-10.1
5	298.51	36.1 QP	46.0	-9.9	1.00 H	285	42.9	-6.8
6	375.00	44.8 QP	46.0	-1.2	1.00 H	288	49.8	-5.0

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. 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

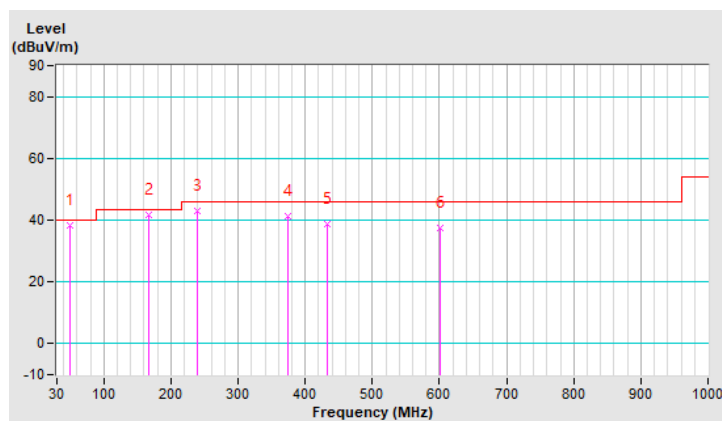


CHANNEL	CH 9 + CH 1	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 m								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	49.68	38.1 QP	40.0	-1.9	1.00 V	5	47.2	-9.1
2	166.36	41.7 QP	43.5	-1.8	1.50 V	154	50.3	-8.6
3	239.46	42.8 QP	46.0	-3.2	1.00 V	168	52.1	-9.3
4	374.42	41.1 QP	46.0	-4.9	1.00 V	169	46.1	-5.0
5	432.06	38.9 QP	46.0	-7.1	2.00 V	331	42.5	-3.6
6	600.75	37.3 QP	46.0	-8.7	1.00 V	25	37.0	0.3

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. 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



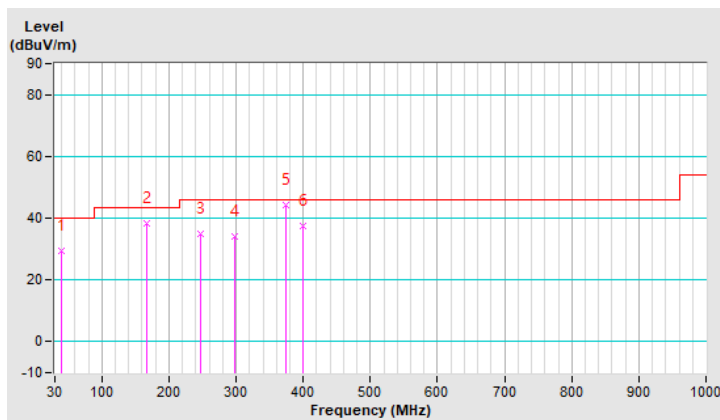
802.11n (HT40) + NFC

CHANNEL	CH 38 + CH 1	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 m								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	39.84	29.3 QP	40.0	-10.7	1.50 H	221	38.9	-9.6
2	166.36	38.4 QP	43.5	-5.1	1.00 H	244	47.0	-8.6
3	246.49	35.0 QP	46.0	-11.0	1.00 H	122	43.9	-8.9
4	298.51	34.2 QP	46.0	-11.8	2.00 H	270	41.0	-6.8
5	374.42	44.3 QP	46.0	-1.7	1.00 H	286	49.3	-5.0
6	399.72	37.4 QP	46.0	-8.6	1.00 H	237	42.1	-4.7

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

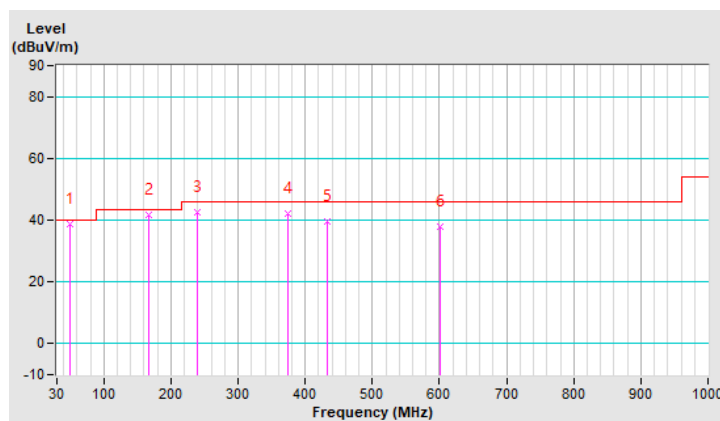


CHANNEL	CH 38 + CH 1	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 m								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	49.68	38.6 QP	40.0	-1.4	1.50 V	6	47.7	-9.1
2	166.36	41.7 QP	43.5	-1.8	1.50 V	181	50.3	-8.6
3	239.46	42.6 QP	46.0	-3.4	1.00 V	175	51.9	-9.3
4	374.42	42.0 QP	46.0	-4.0	1.00 V	161	47.0	-5.0
5	432.06	39.5 QP	46.0	-6.5	1.50 V	325	43.1	-3.6
6	600.75	38.0 QP	46.0	-8.0	1.00 V	6	37.7	0.3

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. 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



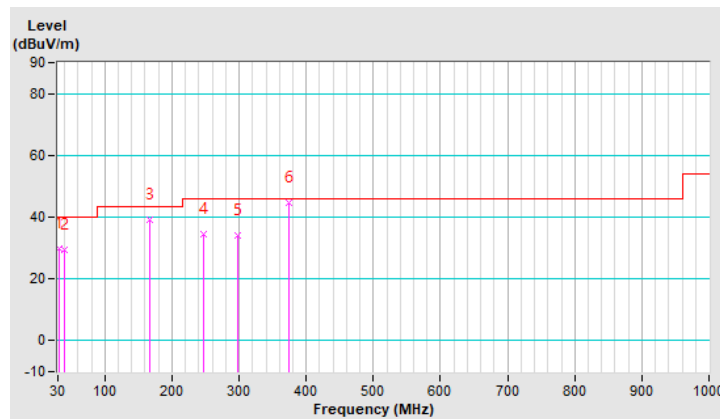
BT 8DPSK + NFC

CHANNEL	CH 0 + CH 1	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 m								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	31.41	29.8 QP	40.0	-10.2	1.00 H	159	40.8	-11.0
2	39.84	29.4 QP	40.0	-10.6	1.00 H	104	39.0	-9.6
3	166.36	39.0 QP	43.5	-4.5	2.00 H	254	47.6	-8.6
4	246.49	34.7 QP	46.0	-11.3	1.00 H	107	43.6	-8.9
5	298.51	33.9 QP	46.0	-12.1	1.00 H	266	40.7	-6.8
6	374.42	44.7 QP	46.0	-1.3	1.50 H	291	49.7	-5.0

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. 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

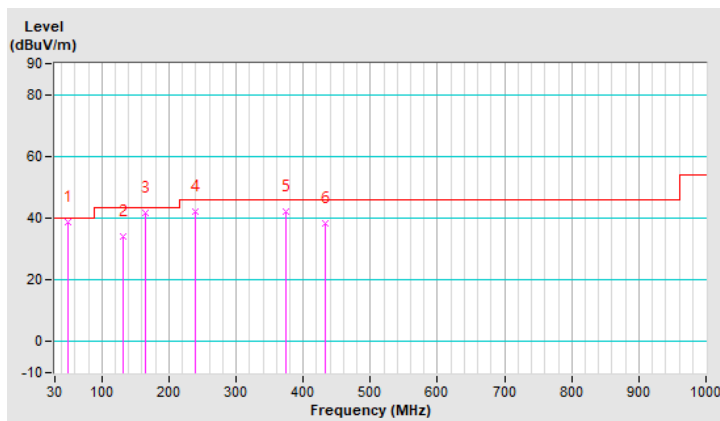


CHANNEL	CH 0 + CH 1	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 m								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	49.68	38.9 QP	40.0	-1.1	1.00 V	295	48.0	-9.1
2	132.62	33.9 QP	43.5	-9.6	1.00 V	247	43.6	-9.7
3	164.96	41.7 QP	43.5	-1.8	1.50 V	150	50.2	-8.5
4	239.46	42.3 QP	46.0	-3.7	2.00 V	177	51.6	-9.3
5	374.42	42.2 QP	46.0	-3.8	1.00 V	183	47.2	-5.0
6	432.06	38.2 QP	46.0	-7.8	1.00 V	350	41.8	-3.6

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. 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



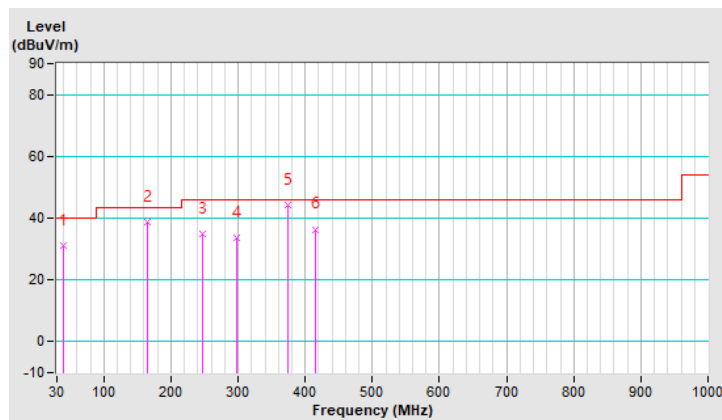
BT LE + NFC

CHANNEL	CH 0 + CH 1	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 m								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	39.84	31.1 QP	40.0	-8.9	1.50 H	81	40.7	-9.6
2	164.96	38.6 QP	43.5	-4.9	1.00 H	247	47.1	-8.5
3	246.49	34.8 QP	46.0	-11.2	1.00 H	114	43.7	-8.9
4	298.51	33.7 QP	46.0	-12.3	1.50 H	270	40.5	-6.8
5	374.42	44.3 QP	46.0	-1.7	1.00 H	286	49.3	-5.0
6	415.19	36.4 QP	46.0	-9.6	1.00 H	212	40.8	-4.4

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. 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

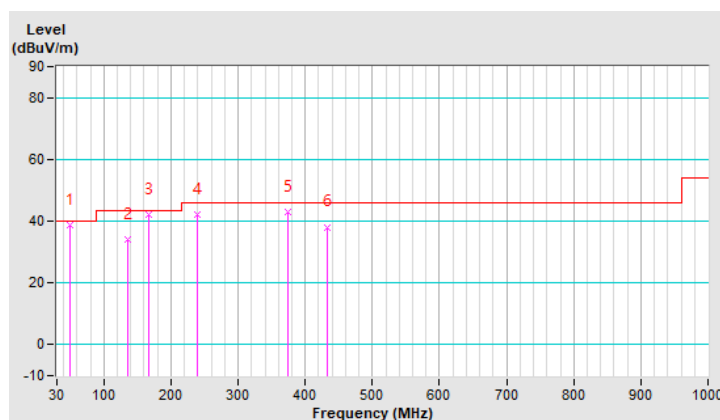


CHANNEL	CH 0 + CH 1	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 m								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	49.68	38.8 QP	40.0	-1.2	1.00 V	281	47.9	-9.1
2	135.43	34.2 QP	43.5	-9.3	1.00 V	264	43.6	-9.4
3	166.36	42.2 QP	43.5	-1.3	1.50 V	155	50.8	-8.6
4	239.46	42.2 QP	46.0	-3.8	2.00 V	176	51.5	-9.3
5	374.42	42.8 QP	46.0	-3.2	1.00 V	186	47.8	-5.0
6	432.06	38.1 QP	46.0	-7.9	1.00 V	326	41.7	-3.6

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. 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



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 accredited and approved according to ISO/IEC 17025.

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

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Fax: 886-2-26051924

Hsin Chu EMC/RF/Telecom Lab

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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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