

FCC Test Report (Co-Located)

Report No.: RF151104C25-4

FCC ID: HD5-PM43ABGN

Test Model: PM43, PM23c

Series Model: PM43c

Received Date: Nov. 05, 2015

Test Date: Jun. 25, 2016

Issued Date: Jun. 28, 2016

Applicant: Honeywell International Inc

Address: 9680 Old Bailes Rd Fort Mill South Carolina 29707 United States

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

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Release Control Record

Issue No.	Description	Date Issued
RF151104C25-4	Original release.	Jun. 28, 2016

1 Certificate of Conformity

Product: Thermal Printer

Brand: Intermec, Honeywell

Test Model: PM43, PM23c

Series Model: PM43c

Sample Status: Engineering sample

Applicant: Honeywell International Inc

Test Date: Jun. 25, 2016

Standard: 47 CFR FCC Part 15, Subpart C (Section 15.247)
47 CFR FCC Part 15, Subpart E (Section 15.407)
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 EMC characteristics under the Conditions specified in this report.

Prepared by :  , **Date:** Jun. 28, 2016
Ivy Lin / Specialist

Approved by :  , **Date:** Jun. 28, 2016
Ken Liu / Senior Manager

2 Summary of Test Results

47 CFR FCC Part 15, Subpart C (Section 15.247) 47 CFR FCC Part 15, Subpart E (Section 15.407)			
FCC Clause	Test Item	Result	Remarks
15.205 / 15.209 / 15.247(d) 15.407(b) (1/2/3/4/6)	Radiated Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -4.0dB at 206.83MHz.

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	Thermal Printer	
Brand	Intermec, Honeywell	
Test Model	PM43, PM23c	
Series Model	PM43c	
Model Difference	Refer to note	
Status of EUT	Engineering sample	
Power Supply Rating	100-240Vac, 4A, 50/60Hz	
Modulation Type	WLAN	64QAM, 16QAM, QPSK, BPSK for OFDM CCK, DQPSK, DBPSK for DSSS
	Bluetooth	FHSS
Modulation Technology	WLAN	DSSS, OFDM
	Bluetooth	GFSK, $\pi/4$ -DQPSK, 8DPSK
Transfer Rate	WLAN	802.11b: 11.0/ 5.5/ 2.0/ 1.0Mbps 802.11g: 54.0/ 48.0/ 36.0/ 24.0/ 18.0/ 12.0/ 9.0/ 6.0Mbps 802.11n: up to 72.2Mbps
	Bluetooth	1/2/3Mbps
Operating Frequency	WLAN	2412 ~ 2462MHz, 5180 ~ 5240MHz, 5260 ~ 5320MHz, 5500 ~ 5700MHz & 5745 ~ 5825MHz
	Bluetooth	2402 ~ 2480MHz
Number of Channel	WLAN	2412 ~ 2462MHz: 11 for 802.11b, 802.11g, 802.11n (HT20) 5180 ~ 5240MHz: 4 for 802.11a, 802.11n (HT20) 5260 ~ 5320MHz: 4 for 802.11a, 802.11n (HT20) 5500 ~ 5700MHz: 8 for 802.11a, 802.11n (HT20) 5745 ~ 5825MHz: 5 for 802.11a, 802.11n (HT20)
	Bluetooth	79
Output Power	WLAN	2412 ~ 2462MHz: 166.341mW 5180 ~ 5240MHz: 52.602mW 5260 ~ 5320MHz: 53.088mW 5500 ~ 5700MHz: 44.055mW 5745 ~ 5825MHz: 36.983mW
	Bluetooth	6.310 mW
Antenna Type	WLAN	2.4GHz Band: Dipole antenna with 2.44dBi gain 5GHz Band: Dipole antenna with 3.70dBi gain
	Bluetooth	Dipole antenna with 2.44dBi gain
Antenna Connector	R-TNC	
Accessory Device	N/A	
Data Cable Supplied	N/A	

Note:

1. The EUT provides 1 completed transmitter and 1 receiver.

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

2. All models are listed as below. Model: PM43 and PM23c are for final test.

Brand	Model	Difference	
Intermec, Honeywell	PM43	With / Without LCD panel	1. Big appearance size, 4" thermal printer head 2. With/ Without full roll rewinder 3. Antenna type: RFID antenna is strip type, Antenna Gain: -19.96dBi
	PM43c	With LCD panel	1. Small appearance size, 4" thermal printer head 2. Antenna type: RFID antenna is strip type, Antenna Gain: -19.96dBi
	PM23c	With LCD panel	Same as PM43c except: 1. 2" thermal printer head 2. RFID antenna is circular type, Antenna Gain: -7.81dBi

3. 2.4GHz and 5GHz technology can not transmit at same time.

4. The EUT has disabled the 5600-5650MHz band.

5. The device contains RFID module FCC ID: EHA-INRD01U, which will co-located with WiFi and BT parameter, therefore has been evaluated radiated emission and no non-compliance was found.

3.2 Description of Test Modes

For RFID

50 channels are provided to this EUT:

Channel	FREQ. (MHz)	Channel	FREQ. (MHz)	Channel	FREQ. (MHz)
0	902.75	17	911.25	34	919.75
1	903.25	18	911.75	35	920.25
2	903.75	19	912.25	36	920.75
3	904.25	20	912.75	37	921.25
4	904.75	21	913.25	38	921.75
5	905.25	22	913.75	39	922.25
6	905.75	23	914.25	40	922.75
7	906.25	24	914.75	41	923.25
8	906.75	25	915.25	42	923.75
9	907.25	26	915.75	46	924.25
10	907.75	27	916.25	44	924.75
11	908.25	28	916.75	45	925.25
12	908.75	29	917.25	49	925.75
13	909.25	30	917.75	47	926.25
14	909.75	31	918.25	48	926.75
15	910.25	32	918.75	49	927.25
16	910.75	33	919.25		

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		

For 5180 ~ 5240MHz

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

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

For 5260 ~ 5320MHz

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

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

For 5500 ~ 5700MHz

8 channels are provided for 802.11a, 802.11n (HT20):

Channel	Frequency	Channel	Frequency
100	5500 MHz	116	5580 MHz
104	5520 MHz	132	5660 MHz
108	5540 MHz	136	5680 MHz
112	5560 MHz	140	5700 MHz

For 5745 ~ 5825MHz:

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

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

For Bluetooth:

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		

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT CONFIGURE MODE	APPLICABLE TO		DESCRIPTION
	RE $\geq$ 1G	RE<1G	
A	√	√	Model: PM43
B	√	√	Model: PM23c

Where **RE $\geq$ 1G**: Radiated Emission above 1GHz **RE<1G**: Radiated Emission below 1GHz

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	FREQ. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TYPE
A	RFID	902.75- 927.25	0 to 49	0	PR-ASK
	802.11b	2412-2462	1 to 11	1	BPSK
A	RFID	902.75- 927.25	0 to 49	0	PR-ASK
	802.11a	5180-5240, 5260-5320, 5500-5700 5745-5825	36 to 48, 52 to 64, 100 to 140 149 to 165	40	BPSK
A	RFID	902.75- 927.25	0 to 49	0	PR-ASK
	Bluetooth	2402-2480	0 to 78	39	8DPSK
B	RFID	902.75- 927.25	0 to 49	25	PR-ASK
	802.11b	2412-2462	1 to 11	1	BPSK
B	RFID	902.75- 927.25	0 to 49	25	PR-ASK
	802.11a	5180-5240, 5260-5320, 5500-5700 5745-5825	36 to 48, 52 to 64, 100 to 140 149 to 165	40	BPSK
B	RFID	902.75- 927.25	0 to 49	25	PR-ASK
	Bluetooth	2402-2480	0 to 78	39	8DPSK

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. BAND (MHz)	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TYPE
A	RFID	902.75- 927.25	0 to 49	0	PR-ASK
	802.11b	2412-2462	1 to 11	1	BPSK
A	RFID	902.75- 927.25	0 to 49	0	PR-ASK
	802.11a	5180-5240, 5260-5320, 5500-5700 5745-5825	36 to 48, 52 to 64, 100 to 140 149 to 165	40	BPSK
A	RFID	902.75- 927.25	0 to 49	0	PR-ASK
	Bluetooth	2402-2480	0 to 78	39	8DPSK
B	RFID	902.75- 927.25	0 to 49	25	PR-ASK
	802.11b	2412-2462	1 to 11	1	BPSK
B	RFID	902.75- 927.25	0 to 49	25	PR-ASK
	802.11a	5180-5240, 5260-5320, 5500-5700 5745-5825	36 to 48, 52 to 64, 100 to 140 149 to 165	40	BPSK
B	RFID	902.75- 927.25	0 to 49	25	PR-ASK
	Bluetooth	2402-2480	0 to 78	39	8DPSK

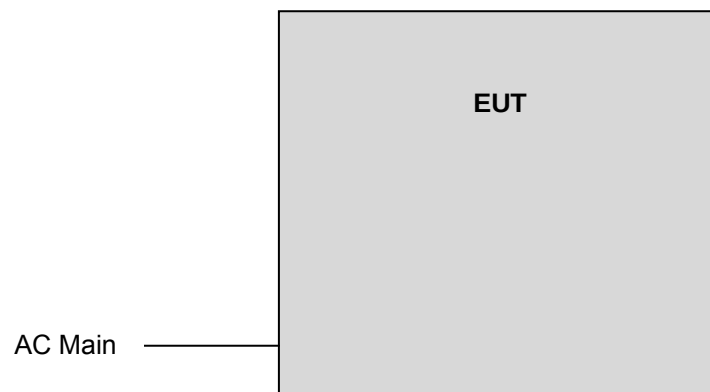
Test Condition:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE≥1G	19deg. C, 70%RH	120Vac, 60Hz	Jones Chang
RE<1G	19deg. C, 70%RH	120Vac, 60Hz	Jones Chang

3.3 Description of Support Units

The EUT has been tested as an independent unit.

3.3.1 Configuration of System under Test



3.4 General Description of Applied Standard

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

FCC Part 15, Subpart C (15.247)

FCC Part 15, Subpart E (15.407)

ANSI C63.10-2013

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

NOTE: The EUT has been verified to comply with the requirements of FCC Part 15, Subpart B, Class A (Verification). The test report has been issued separately.

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

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 Procedures New Rules v01r02	FIELD STRENGTH AT 3m	
	PK:74 (dBuV/m)	AV:54 (dBuV/m)
APPLICABLE TO	EIRP LIMIT	EQUIVALENT FIELD STRENGTH AT 3m
15.407(b)(1)	PK:-27 (dBm/MHz)	PK:68.2(dBuV/m)
15.407(b)(2)		
15.407(b)(3)		
15.407(b)(4)	PK:-27 (dBm/MHz) ^{*1} PK:-17 (dBm/MHz) ^{*2}	PK: 68.2(dBuV/m) ^{*1} PK:78.2 (dBuV/m) ^{*2}

Note: ^{*1} beyond 10MHz of the band edge ^{*2} within 10 MHz of band edge

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

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

4.1.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESIB7	100187	Apr. 18, 2016	Apr. 17, 2017
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100041	Sep. 02, 2015	Sep. 01, 2016
BILOG Antenna SCHWARZBECK	VULB9168	9168-171	Jan. 07, 2016	Jan. 06, 2017
HORN Antenna SCHWARZBECK	9120D	209	Jan. 20, 2016	Jan. 19, 2017
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Jan. 18, 2016	Jan. 17, 2017
Preamplifier Agilent	8447D	2944A10738	Oct. 18, 2015	Oct. 17, 2016
Preamplifier Agilent	8449B	3008A01964	Aug. 22, 2015	Aug. 21, 2016
RF signal cable HUBER+SUHNER	SUCOFLEX 104	Cable-CH3-03 (214378)	Aug. 22, 2015	Aug. 21, 2016
RF signal cable HUBER+SUHNER	SUCOFLEX 106	Cable-CH3-03 (309224+12738)	Aug. 22, 2015	Aug. 21, 2016
Software BV ADT	ADT_Radiated_ V7.6.15.9.4	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
26GHz ~ 40GHz Amplifier	EM26400	815221	Oct. 18, 2015	Oct. 17, 2016

- 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.
3. The horn antenna and preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
4. The FCC Site Registration No. is 988962.
5. The IC Site Registration No. is IC 7450F-3.

4.1.3 Test Procedure

- a. The EUT was placed on the top of a rotating table 0.8 meters (for below 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:

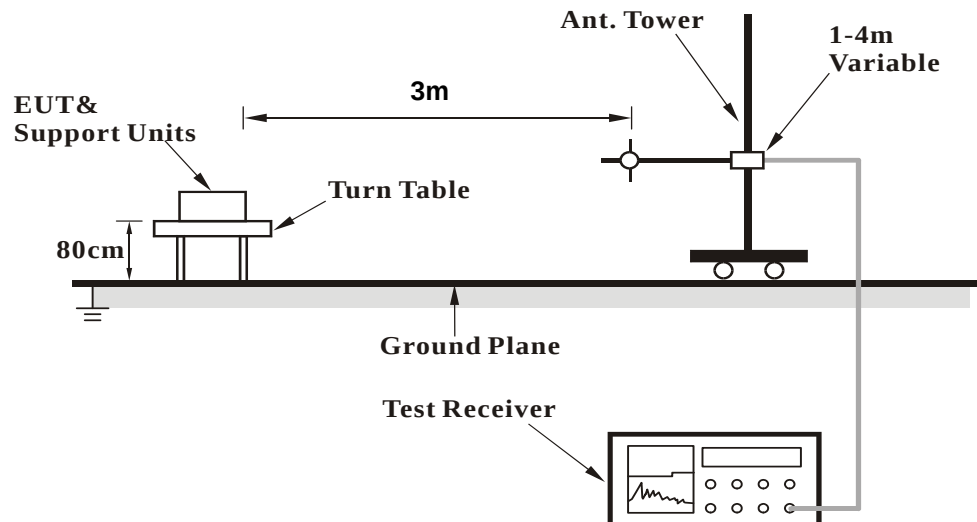
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for RMS Average (Duty cycle < 98%) for Average detection (AV) at frequency above 1GHz, then the measurement results was added to a correction factor ($10 \log(1/\text{duty cycle})$).
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1GHz.
5. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

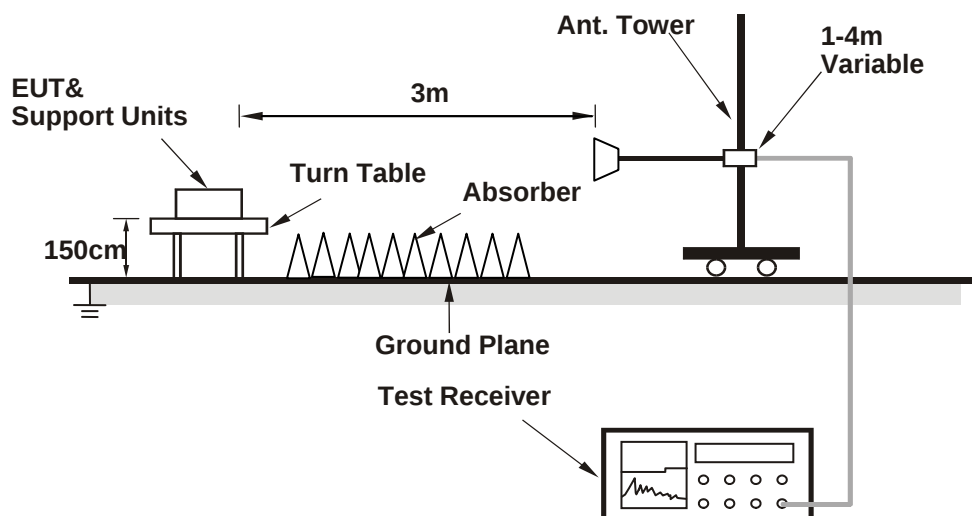
No deviation.

4.1.5 Test Setup

<Frequency Range below 1GHz>



<Frequency Range above 1GHz>



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

4.1.6 EUT Operating Conditions

- Set EUT under transmission condition continuously at specific channel frequency.

4.1.7 Test Results

ABOVE 1GHz WORST-CASE DATA :

CHANNEL	RFID CH 0 + 802.11b CH 1	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)
TEST MODE	A		

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	*902.75	90.1 PK			1.52 H	270	61.80	28.30
2	*902.75	88.1 AV			1.52 H	270	59.80	28.30
3	#1805.00	47.1 PK	74.0	-26.9	1.11 H	40	50.60	-3.50
4	#1805.00	45.2 AV	54.0	-8.8	1.11 H	40	48.70	-3.50
5	2708.00	40.1 PK	74.0	-33.9	1.10 H	25	40.60	-0.50
6	2708.00	38.4 AV	54.0	-15.6	1.10 H	25	38.90	-0.50
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	*902.75	80.8 PK			1.15 V	233	52.50	28.30
2	*902.75	79.0 AV			1.15 V	233	50.70	28.30
3	#1805.00	48.1 PK	74.0	-25.9	1.01 V	19	51.60	-3.50
4	#1805.00	46.2 AV	54.0	-7.8	1.01 V	19	49.70	-3.50
5	2708.00	39.1 PK	74.0	-34.9	1.09 V	155	39.60	-0.50
6	2708.00	37.2 AV	54.0	-16.8	1.09 V	155	37.70	-0.50

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	RFID CH 0 + 802.11b CH 1	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		
TEST MODE	A		

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	2390.00	58.9 PK	74.0	-15.1	1.82 H	99	26.10	32.80
2	2390.00	46.5 AV	54.0	-7.5	1.82 H	99	13.70	32.80
3	*2412.00	108.5 PK			1.82 H	105	75.60	32.90
4	*2412.00	103.5 AV			1.82 H	105	70.60	32.90
5	4824.00	49.5 PK	74.0	-24.5	1.82 H	95	43.60	5.90
6	4824.00	36.2 AV	54.0	-17.8	1.82 H	95	30.30	5.90

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	2390.00	60.1 PK	74.0	-13.9	1.88 V	242	27.30	32.80
2	2390.00	49.3 AV	54.0	-4.7	1.88 V	242	16.50	32.80
3	*2412.00	113.0 PK			2.10 V	253	80.10	32.90
4	*2412.00	109.0 AV			2.10 V	253	76.10	32.90
5	4824.00	50.3 PK	74.0	-23.7	1.55 V	156	44.40	5.90
6	4824.00	37.1 AV	54.0	-16.9	1.55 V	156	31.20	5.90

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

CHANNEL	RFID CH 0 + 802.11a CH 40	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)
TEST MODE	A		

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	*902.75	90.0 PK			1.65 H	265	61.70	28.30
2	*902.75	88.1 AV			1.65 H	265	59.80	28.30
3	#1805.00	46.2 PK	74.0	-27.8	1.02 H	44	49.70	-3.50
4	#1805.00	44.2 AV	54.0	-9.8	1.02 H	44	47.70	-3.50
5	2708.00	40.2 PK	74.0	-33.8	1.11 H	20	40.70	-0.50
6	2708.00	37.9 AV	54.0	-16.1	1.11 H	20	38.40	-0.50
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	*902.75	80.7 PK			1.08 V	239	52.40	28.30
2	*902.75	78.8 AV			1.08 V	239	50.50	28.30
3	#1805.00	48.5 PK	74.0	-25.5	1.05 V	333	52.00	-3.50
4	#1805.00	46.5 AV	54.0	-7.5	1.05 V	333	50.00	-3.50
5	2708.00	38.9 PK	74.0	-35.1	1.01 V	165	39.40	-0.50
6	2708.00	37.2 AV	54.0	-16.8	1.01 V	165	37.70	-0.50

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	RFID CH 0 + 802.11a CH 40	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)
TEST MODE	A		

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	5150.00	58.3 PK	74.0	-15.7	1.77 H	122	52.30	6.00
2	5150.00	46.9 AV	54.0	-7.1	1.77 H	122	40.90	6.00
3	*5200.00	103.9 PK			1.77 H	320	64.40	39.50
4	*5200.00	93.2 AV			1.77 H	320	53.70	39.50
5	#10400.00	61.0 PK	74.0	-13.0	1.55 H	222	43.30	17.70
6	#10400.00	47.3 AV	54.0	-6.7	1.55 H	222	29.60	17.70
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	5150.00	61.2 PK	74.0	-12.8	1.68 V	88	55.20	6.00
2	5150.00	48.6 AV	54.0	-5.4	1.68 V	88	42.60	6.00
3	*5200.00	114.1 PK			2.45 V	345	74.60	39.50
4	*5200.00	103.9 AV			2.45 V	345	64.40	39.50
5	#10400.00	62.3 PK	74.0	-11.7	1.78 V	189	44.60	17.70
6	#10400.00	49.5 AV	54.0	-4.5	1.78 V	189	31.80	17.70

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	RFID CH 0 + 8DPSK CH 39	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)
TEST MODE	A		

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	*902.75	89.9 PK			1.62 H	266	61.60	28.30
2	*902.75	88.0 AV			1.62 H	266	59.70	28.30
3	#1805.00	46.9 PK	74.0	-27.1	1.03 H	29	50.40	-3.50
4	#1805.00	44.5 AV	54.0	-9.5	1.03 H	29	48.00	-3.50
5	2708.00	39.9 PK	74.0	-34.1	1.04 H	34	40.40	-0.50
6	2708.00	37.5 AV	54.0	-16.5	1.04 H	34	38.00	-0.50
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	*902.75	81.2 PK			1.09 V	237	52.90	28.30
2	*902.75	79.1 AV			1.09 V	237	50.80	28.30
3	#1805.00	48.2 PK	74.0	-25.8	1.08 V	335	51.70	-3.50
4	#1805.00	46.3 AV	54.0	-7.7	1.08 V	335	49.80	-3.50
5	2708.00	39.5 PK	74.0	-34.5	1.11 V	15	40.00	-0.50
6	2708.00	37.8 AV	54.0	-16.2	1.11 V	15	38.30	-0.50

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	RFID CH 0 + 8DPSK CH 39	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)
TEST MODE	A		

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	*2441.00	83.5 PK			1.01 H	111	50.50	33.00
2	*2441.00	53.1 AV			1.01 H	111	20.10	33.00
3	4882.00	48.9 PK	74.0	-25.1	1.92 H	188	43.00	5.90
4	4882.00	18.6 AV	54.0	-35.4	1.92 H	188	12.70	5.90

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	*2441.00	90.3 PK			1.02 V	99	57.30	33.00
2	*2441.00	60.2 AV			1.02 V	99	27.20	33.00
3	4882.00	48.2 PK	74.0	-25.8	1.11 V	52	42.30	5.90
4	4882.00	18.2 AV	54.0	-35.8	1.11 V	52	12.30	5.90

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

CHANNEL	RFID CH 25 + 802.11b CH 1	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		
TEST MODE	B		

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	*915.25	89.2 PK			1.66 H	339	60.80	28.40
2	*915.25	87.5 AV			1.66 H	339	59.10	28.40
3	#1830.00	45.9 PK	74.0	-28.1	1.09 H	75	49.50	-3.60
4	#1830.00	43.1 AV	54.0	-10.9	1.09 H	75	46.70	-3.60
5	2745.00	39.1 PK	74.0	-34.9	1.55 H	2	39.50	-0.40
6	2745.00	37.1 AV	54.0	-16.9	1.55 H	2	37.50	-0.40
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	*915.25	96.7 PK			1.39 V	118	68.30	28.40
2	*915.25	94.9 AV			1.39 V	118	66.50	28.40
3	#1830.00	46.2 PK	74.0	-27.8	1.02 V	265	49.80	-3.60
4	#1830.00	43.7 AV	54.0	-10.3	1.02 V	265	47.30	-3.60
5	2745.00	40.1 PK	74.0	-33.9	1.33 V	45	40.50	-0.40
6	2745.00	38.0 AV	54.0	-16.0	1.33 V	45	38.40	-0.40

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	RFID CH 25 + 802.11b CH 1	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)
TEST MODE	B		

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	2390.00	58.7 PK	74.0	-15.3	1.66 H	98	25.90	32.80
2	2390.00	47.1 AV	54.0	-6.9	1.66 H	98	14.30	32.80
3	*2412.00	108.0 PK			1.78 H	100	75.10	32.90
4	*2412.00	103.2 AV			1.78 H	100	70.30	32.90
5	4824.00	49.2 PK	74.0	-24.8	1.88 H	88	43.30	5.90
6	4824.00	36.2 AV	54.0	-17.8	1.88 H	88	30.30	5.90

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	2390.00	60.2 PK	74.0	-13.8	1.88 V	344	27.40	32.80
2	2390.00	46.9 AV	54.0	-7.1	1.88 V	344	14.10	32.80
3	*2412.00	112.5 PK			2.08 V	255	79.60	32.90
4	*2412.00	108.6 AV			2.08 V	255	75.70	32.90
5	4824.00	50.6 PK	74.0	-23.4	1.86 V	120	44.70	5.90
6	4824.00	37.5 AV	54.0	-16.5	1.86 V	120	31.60	5.90

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

CHANNEL	RFID CH 25 + 802.11a CH 40	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		
TEST MODE	B		

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	*915.25	96.7 PK			1.55 H	119	68.30	28.40
2	*915.25	84.9 AV			1.55 H	119	56.50	28.40
3	#1830.50	47.1 PK	74.0	-26.9	1.08 H	77	50.70	-3.60
4	#1830.50	44.9 AV	54.0	-9.1	1.08 H	77	48.50	-3.60
5	2745.00	39.2 PK	74.0	-34.8	1.44 H	7	39.60	-0.40
6	2745.00	37.5 AV	54.0	-16.5	1.44 H	7	37.90	-0.40
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	*915.25	89.2 PK			1.77 V	342	60.80	28.40
2	*915.25	87.5 AV			1.77 V	342	59.10	28.40
3	#1830.50	46.5 PK	74.0	-27.5	1.15 V	72	50.10	-3.60
4	#1830.50	44.1 AV	54.0	-9.9	1.15 V	72	47.70	-3.60
5	2745.00	40.1 PK	74.0	-33.9	1.38 V	5	40.50	-0.40
6	2745.00	37.5 AV	54.0	-16.5	1.38 V	5	37.90	-0.40

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	RFID CH 25 + 802.11a CH 40	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)
TEST MODE	B		

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	5150.00	59.7 PK	74.0	-14.3	1.58 H	88	53.70	6.00
2	5150.00	46.9 AV	54.0	-7.1	1.58 H	88	40.90	6.00
3	*5200.00	102.9 PK			1.72 H	333	63.40	39.50
4	*5200.00	92.8 AV			1.72 H	333	53.30	39.50
5	#10400.00	60.1 PK	74.0	-13.9	1.55 H	248	42.40	17.70
6	#10400.00	46.9 AV	54.0	-7.1	1.55 H	248	29.20	17.70
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	5150.00	61.0 PK	74.0	-13.0	1.72 V	96	55.00	6.00
2	5150.00	48.1 AV	54.0	-5.9	1.72 V	96	42.10	6.00
3	*5200.00	113.9 PK			2.44 V	348	74.40	39.50
4	*5200.00	102.8 AV			2.44 V	348	63.30	39.50
5	#10400.00	62.4 PK	74.0	-11.6	1.80 V	190	44.70	17.70
6	#10400.00	49.2 AV	54.0	-4.8	1.80 V	190	31.50	17.70

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	RFID CH 25 + 8DPSK CH 39	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		
TEST MODE	B		

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	*915.25	97.3 PK			1.44 H	133	68.90	28.40
2	*915.25	95.7 AV			1.44 H	133	67.30	28.40
3	#1830.00	45.1 PK	74.0	-28.9	1.06 H	75	48.70	-3.60
4	#1830.00	43.2 AV	54.0	-10.8	1.06 H	75	46.80	-3.60
5	2745.00	38.7 PK	74.0	-35.3	1.30 H	6	39.10	-0.40
6	2745.00	36.7 AV	54.0	-17.3	1.30 H	6	37.10	-0.40
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	*915.25	89.8 PK			1.77 V	344	61.40	28.40
2	*915.25	87.0 AV			1.77 V	344	58.60	28.40
3	#1830.00	44.8 PK	74.0	-29.2	1.02 V	65	48.40	-3.60
4	#1830.00	43.0 AV	54.0	-11.0	1.02 V	65	46.60	-3.60
5	2745.00	39.8 PK	74.0	-34.2	1.33 V	30	40.20	-0.40
6	2745.00	37.9 AV	54.0	-16.1	1.33 V	30	38.30	-0.40

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.
6. " # ": The radiated frequency is out of the restricted band.

CHANNEL	RFID CH 25 + 8DPSK CH 39	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)
TEST MODE	B		

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	*2441.00	83.1 PK			1.00 H	99	50.10	33.00
2	*2441.00	53.1 AV			1.00 H	99	20.10	33.00
3	4882.00	49.3 PK	74.0	-24.7	1.21 H	187	43.40	5.90
4	4882.00	18.5 AV	54.0	-35.5	1.21 H	187	12.60	5.90

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	*2441.00	90.5 PK			1.00 V	125	57.50	33.00
2	*2441.00	59.8 AV			1.00 V	125	26.80	33.00
3	4882.00	48.0 PK	74.0	-26.0	1.11 V	58	42.10	5.90
4	4882.00	18.2 AV	54.0	-35.8	1.11 V	58	12.30	5.90

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

BELOW 1GHz WORST-CASE DATA:

CHANNEL	RFID CH 0 + 802.11b CH 1	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	30MHz ~ 1GHz		Average (AV)
TEST MODE	A		

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	57.12	30.3 QP	40.0	-9.7	2.00 H	195	44.90	-14.60
2	134.89	33.8 QP	43.5	-9.7	2.00 H	263	48.90	-15.10
3	206.83	39.5 QP	43.5	-4.0	1.00 H	249	55.90	-16.40
4	249.60	38.2 QP	46.0	-7.8	1.00 H	189	52.40	-14.20
5	449.87	40.7 QP	46.0	-5.3	1.50 H	242	49.80	-9.10
6	669.57	36.1 QP	46.0	-9.9	1.00 H	267	40.90	-4.80

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	31.84	30.2 QP	40.0	-9.8	1.00 V	10	46.50	-16.30
2	129.06	33.9 QP	43.5	-9.6	1.00 V	62	49.60	-15.70
3	220.44	31.5 QP	46.0	-14.5	1.00 V	95	47.40	-15.90
4	399.31	35.3 QP	46.0	-10.7	1.00 V	145	45.50	-10.20
5	459.59	38.0 QP	46.0	-8.0	1.00 V	314	46.90	-8.90
6	550.97	38.1 QP	46.0	-7.9	1.00 V	3	45.50	-7.40

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value

CHANNEL	RFID CH 0 + 802.11a CH 40	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	30MHz ~ 1GHz		Average (AV)
TEST MODE	A		

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	57.12	30.9 QP	40.0	-9.1	2.00 H	7	45.50	-14.60
2	138.78	29.8 QP	43.5	-13.7	1.51 H	255	44.50	-14.70
3	193.22	38.5 QP	43.5	-5.0	1.51 H	234	54.90	-16.40
4	206.83	39.2 QP	43.5	-4.3	1.00 H	244	55.60	-16.40
5	348.76	37.2 QP	46.0	-8.8	1.00 H	271	48.50	-11.30
6	447.92	38.2 QP	46.0	-7.8	1.51 H	254	47.30	-9.10

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	51.29	30.3 QP	40.0	-9.7	1.00 V	10	44.60	-14.30
2	111.56	27.3 QP	43.5	-16.2	1.00 V	207	44.40	-17.10
3	220.44	31.3 QP	46.0	-14.7	1.00 V	67	47.20	-15.90
4	348.76	31.7 QP	46.0	-14.3	1.49 V	42	43.00	-11.30
5	453.75	35.0 QP	46.0	-11.0	1.00 V	298	44.00	-9.00
6	550.97	38.7 QP	46.0	-7.3	1.00 V	355	46.10	-7.40

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value

CHANNEL	RFID CH 0 + 8DPSK CH 39	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	30MHz ~ 1GHz		
TEST MODE	A		

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	57.12	30.7 QP	40.0	-9.3	1.99 H	10	45.30	-14.60
2	90.17	30.9 QP	43.5	-12.6	1.99 H	247	50.60	-19.70
3	142.67	33.9 QP	43.5	-9.6	1.99 H	257	48.20	-14.30
4	206.83	39.1 QP	43.5	-4.4	1.00 H	244	55.50	-16.40
5	399.31	38.5 QP	46.0	-7.5	1.99 H	279	48.70	-10.20
6	550.97	37.4 QP	46.0	-8.6	1.50 H	334	44.80	-7.40

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	51.29	28.6 QP	40.0	-11.4	1.01 V	10	42.90	-14.30
2	127.11	31.5 QP	43.5	-12.0	1.01 V	353	47.40	-15.90
3	220.44	31.4 QP	46.0	-14.6	1.01 V	71	47.30	-15.90
4	348.76	31.9 QP	46.0	-14.1	1.50 V	48	43.20	-11.30
5	445.98	37.3 QP	46.0	-8.7	1.01 V	338	46.40	-9.10
6	550.97	37.5 QP	46.0	-8.5	1.01 V	342	44.90	-7.40

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value

CHANNEL	RFID CH 25 + 802.11b CH 1	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	30MHz ~ 1GHz		Average (AV)
TEST MODE	B		

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	45.45	25.2 QP	40.0	-14.8	1.99 H	267	39.90	-14.70
2	90.17	31.5 QP	43.5	-12.0	1.99 H	252	51.20	-19.70
3	193.22	37.6 QP	43.5	-5.9	1.49 H	240	54.00	-16.40
4	206.83	39.2 QP	43.5	-4.3	1.00 H	250	55.60	-16.40
5	348.76	36.9 QP	46.0	-9.1	1.99 H	272	48.20	-11.30
6	399.31	39.2 QP	46.0	-6.8	1.99 H	270	49.40	-10.20

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	51.29	29.2 QP	40.0	-10.8	1.00 V	16	43.50	-14.30
2	127.11	31.2 QP	43.5	-12.3	1.00 V	16	47.10	-15.90
3	220.44	30.6 QP	46.0	-15.4	1.00 V	44	46.50	-15.90
4	348.76	32.4 QP	46.0	-13.6	1.50 V	43	43.70	-11.30
5	449.87	38.5 QP	46.0	-7.5	1.00 V	315	47.60	-9.10
6	655.96	31.3 QP	46.0	-14.7	1.00 V	324	36.20	-4.90

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value

CHANNEL	RFID CH 25 + 802.11a CH 40	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	30MHz ~ 1GHz		
TEST MODE	B		

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	57.12	31.0 QP	40.0	-9.0	1.99 H	276	45.60	-14.60
2	142.67	34.7 QP	43.5	-8.8	1.99 H	261	49.00	-14.30
3	193.22	37.8 QP	43.5	-5.7	1.50 H	244	54.20	-16.40
4	206.83	39.1 QP	43.5	-4.4	1.00 H	239	55.50	-16.40
5	348.76	36.6 QP	46.0	-9.4	1.99 H	259	47.90	-11.30
6	399.31	39.1 QP	46.0	-6.9	1.99 H	273	49.30	-10.20

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	51.29	30.6 QP	40.0	-9.4	1.00 V	13	44.90	-14.30
2	142.67	30.5 QP	43.5	-13.0	1.00 V	83	44.80	-14.30
3	220.44	31.4 QP	46.0	-14.6	1.00 V	73	47.30	-15.90
4	348.76	32.2 QP	46.0	-13.8	1.50 V	50	43.50	-11.30
5	449.87	36.3 QP	46.0	-9.7	1.00 V	321	45.40	-9.10
6	550.97	37.1 QP	46.0	-8.9	1.00 V	347	44.50	-7.40

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value

CHANNEL	RFID CH 25 + 8DPSK CH 39	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	30MHz ~ 1GHz		Average (AV)
TEST MODE	B		

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	57.12	30.3 QP	40.0	-9.7	2.00 H	291	44.90	-14.60
2	142.67	34.3 QP	43.5	-9.2	2.00 H	258	48.60	-14.30
3	206.83	38.7 QP	43.5	-4.8	1.00 H	234	55.10	-16.40
4	348.76	36.9 QP	46.0	-9.1	2.00 H	277	48.20	-11.30
5	449.87	38.6 QP	46.0	-7.4	1.51 H	223	47.70	-9.10
6	677.35	34.9 QP	46.0	-11.1	1.00 H	279	39.40	-4.50

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	51.29	29.1 QP	40.0	-10.9	1.49 V	16	43.40	-14.30
2	127.11	30.8 QP	43.5	-12.7	1.00 V	12	46.70	-15.90
3	272.94	27.6 QP	46.0	-18.4	1.99 V	186	40.60	-13.00
4	348.76	32.3 QP	46.0	-13.7	1.49 V	56	43.60	-11.30
5	445.98	36.9 QP	46.0	-9.1	1.00 V	317	46.00	-9.10
6	550.97	37.7 QP	46.0	-8.3	1.00 V	350	45.10	-7.40

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)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value

5 Pictures of Test Arrangements

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

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

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