

FCC TEST REPORT

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MODEL NO.:	ATOLL
FCC ID:	FSUKT001
RECEIVED :	Jul. 11, 2012
TESTED:	Jul. 16, 2012
ISSUED:	Jul. 23, 2012

APPLICANT: KYE Systems Corp

ADDRESS: No. 492, Chongxin Rd., Sanchong Dist., New Taipei City 24160, Taiwan (R.O.C.)

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF120711C14	Original release	Jul. 23, 2012



1. CERTIFICATION

PRODUCT: TrackPad MODEL NO.: ATOLL BRAND: hp APPLICANT: KYE Systems Corp TESTED: Jul. 16, 2012 TEST SAMPLE: ENGINEERING SAMPLE STANDARDS: FCC Part 15, Subpart C (Section 15.249) ANSI C63.10-2009

The above equipment (model: ATOLL) 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

Pettie Chen / Specialist

Gary Chang / Technical Manager

, DATE : Jul. 23, 2012

APPROVED BY

, DATE : Jul. 23, 2012



2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 15, Subpart C (Section 15.249)

STANDARD PARAGRAPH	TEST TYPE	RESULT	REMARK
15.207	Conducted Emission Test	NA	Power supply is 3Vdc from battery
15.209 15.249 15.249 (d)	Radiated Emission Test Band Edge Measurement Limit: 50dB less than the peak value of fundamental frequency or meet radiated emission limit in section 15.209	PASS	Meet the requirement of limit. Minimum passing margin is -8.3dB at 2485.50MHz.

Note: "NA" means Not Applicable.

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	UNCERTAINTY
	30MHz ~ 200MHz	2.93 dB
Radiated emission	200MHz ~1000MHz	2.95 dB
	1GHz ~ 18GHz	2.26 dB
	18GHz ~ 40GHz	1.94 dB

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.



3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

EUT	TrackPad
MODEL NO.	ATOLL
POWER SUPPLY	3.0Vdc (batteries) (1.5Vdc AA *2)
MODULATION TYPE	GFSK
DATA RATE	2Mbps
OPERATING FREQUENCY	2403 ~ 2480MHz
NUMBER OF CHANNEL	78
ANTENNA TYPE	PCB antenna with -3.37dBi gain
DATA CABLE	NA
I/O PORT	Refer to users' manual
ACCESSORY DEVICES	NA

NOTE:

1. The EUT has transmitter and receiver functions.

2. The above EUT information is declared by the manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.



3.2 DESCRIPTION OF TEST MODES

78 channels are provided to this EUT:

CHANNEL	FREQ. (MHz)	CHANNEL	FREQ. (MHz)	CHANNEL	FREQ. (MHz)	CHANNEL	FREQ. (MHz)
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		
20	2422	40	2442	60	2462		



3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT CONFIGURE		APPLICABLE TO			DESCRIPTION	
MODE	RE≥1G	RE<1G	PLC	BM		DESCRIPTION
-	\checkmark	\checkmark	NOTE	\checkmark	-	
	E<1G: Radiat					mission above 1GHz
PI	.C: Power Li	ne Conducte	ed Emission	n BN	I: Bandedge Meas	surement
					JT is powered by	batteries.
between ava architecture)	s been cor ilable mod	nducted to ulations a	o determir axis and a	ne the wor Intenna po	orts (if EUT with	from all possible combin h antenna diversity
EUT		as (were)	Selected		al test as listed	
		AVAILABLE CHANNEL		TESTED	CHANNEL	MODULATION TYPE
CONFIGURE MODE	AVAILA	ABLE CHAN	NNEL			MODULATION THE
CONFIGURE MODE - DIATED EMIS Pre-Scan ha between ava	SION TES s been cor ilable mod	1 to 78 T (BELO) nducted to	W 1 GHz)): ne the wor		GFSK from all possible combin h antenna diversity
CONFIGURE MODE - - - - - - - - - - - - - - - - - - -	SION TES s been cor ilable mod annel(s) w	1 to 78 T (BELO) Inducted to ulations a	W 1 GHz) o determination of the selected	<u>:</u> ne the wor intenna po for the fin	st-case mode	GFSK from all possible combin h antenna diversity
CONFIGURE MODE - DIATED EMIS Pre-Scan ha between ava architecture) Following ch EUT	SION TES s been cor ilable mod annel(s) w	1 to 78 T (BELO) Inducted to ulations a as (were)	W 1 GHz) o determination of the selected	<u>:</u> ne the wor intenna po for the fin	st-case mode orts (if EUT wit al test as listed	GFSK from all possible combin h antenna diversity d below.
CONFIGURE MODE - - - - - - - - - - - - - - - - - - -	SION TES s been cor ilable mod annel(s) w AVAILA SUREME s been cor ilable mod	1 to 78 T (BELO) inducted to ulations a as (were) ABLE CHAN 1 to 78 NT: inducted to ulations a	W 1 GHz) o determir axis and a selected NNEL	the the wor intenna po for the fin TESTED ne the wor na ports (i	est-case mode orts (if EUT with al test as listed CHANNEL 1 st-case mode f EUT with ant	GFSK from all possible combin h antenna diversity d below. GFSK from all possible combin tenna diversity architectu
CONFIGURE MODE - - ADIATED EMIS: Pre-Scan ha between ava architecture) Following ch EUT CONFIGURE MODE - - NDEDGE MEA Pre-Scan ha between ava	SION TES s been cor ilable mod annel(s) w AVAILA SUREME s been cor ilable mod annel(s) w	1 to 78 T (BELO) inducted to ulations a as (were) ABLE CHAN 1 to 78 NT: inducted to ulations a	W 1 GHz) o determir axis and a selected NNEL	<u>e</u> the the wor intenna po for the fin TESTER ne the wor na ports (i for the fin	st-case mode orts (if EUT with al test as listed CHANNEL 1	GFSK from all possible combin h antenna diversity d below. GFSK from all possible combin tenna diversity architectu



TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE≥1G	25deg. C, 68%RH	3Vdc	Sun Lin
RE<1G	25deg. C, 68%RH	3Vdc	Sun Lin
BM	25deg. C, 68%RH	3Vdc	Sun Lin

3.3 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit.

3.3.1 CONFIGURATION OF SYSTEM UNDER TEST

	EUT
	(Power from batteries)
*Test table	

3.4 GENERAL DESCRIPTION OF APPLIED STANDARDS

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

FCC Part 15, Subpart C (Section 15.249)

ANSI C63.10-2009

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



4. TEST TYPES AND RESULTS

4.1 RADIATED EMISSION AND BAND EDGE MEASUREMENT

4.1.1 LIMITS OF RADIATED EMISSION AND BAND EDGE MEASUREMENT

The field strength of emissions from intentional radiators operate d within these frequency bands shall comply with the following

Fundamental Frequency	Field Strength of Fundamental (millivolts/meter)	Field Strength of Harmonics (microvolts/meter)
902 ~ 928 MHz	50	500
2400 ~ 2483.5 MHz	50	500
5725 ~ 5875 MHz	50	500
24 ~ 24.25 GHz	250	2500

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits as below table, whichever is the lesser attenuation

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.	DATE OF CALIBRATION	DUE DATE OF CALIBRATION
Test Receiver ROHDE & SCHWARZ	ESCI	100744	Apr. 19, 2012	Apr. 18, 2013
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100269	Jan. 30, 2012	Jan. 29, 2013
BILOG Antenna SCHWARZBECK	VULB9168	9168-156	Apr. 03, 2012	Apr. 02, 2013
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-563	Sep. 06, 2011	Sep. 05, 2012
HORN Antenna SCHWARZBECK	BBHA 9170	148	Jul. 11, 2012	Jul. 10, 2013
Preamplifier Agilent	8449B	3008A01911	Oct. 29, 2011	Oct. 28, 2012
Preamplifier Agilent	8447D	2944A10638	Oct. 29, 2011	Oct. 28, 2012
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	295013/4 283403/4	Aug. 19, 2011	Aug. 18, 2012
RF signal cable Worken	8D-FB	Cable-HYCH9-01	Aug. 13, 2011	Aug. 12, 2012
Software	ADT_Radiated_ V7.6.15.9.2	NA	NA	NA
Antenna Tower EMCO	2070/2080	512.835.4684	NA	NA
Turn Table EMCO	2087-2.03	NA	NA	NA
Antenna Tower &Turn Table Controller EMCO	2090	NA	NA	NA
Turn Table Controller ADT.	SC100.	SC93021704	NA	NA

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

2. The calibration interval of the loop antenna is 24 months and the calibrations are traceable to NML/ROC and NIST/USA.

3. The test was performed in HwaYa Chamber 9.

4. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.

5. The FCC Site Registration No. is 460141.

6. The IC Site Registration No. is IC 7450F-4.



4.1.3 TEST PROCEDURES

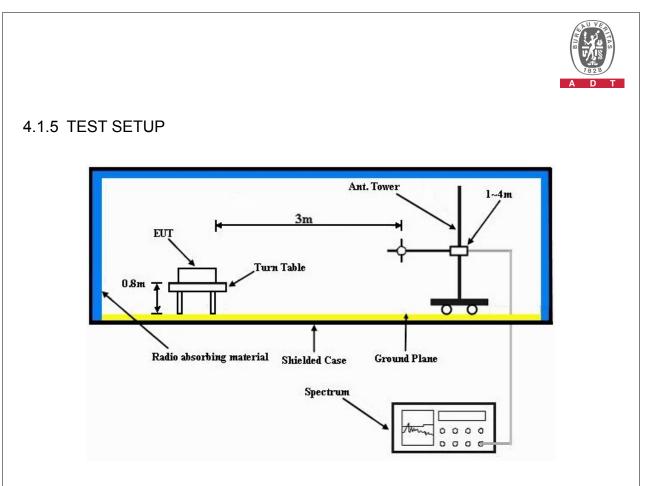
- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna is a broadband antenna, and its height 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 Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. If the emission level of the EUT in peak mode was lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

NOTE:

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

4.1.4 DEVIATION FROM TEST STANDARD

No deviation.



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

4.1.6 EUT OPERATING CONDITIONS

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



4.1.7 TEST RESULTS

ABOVE 1GHz DATA

EUT TEST CONDITION		MEASUREMENT DETAIL		
CHANNEL Channel 1		FREQUENCY RANGE	1 ~ 25GHz	
INPUT POWER	3 Vdc	DETECTOR FUNCTION	Peak (PK) Average (AV)	
ENVIRONMENTAL CONDITIONS	25deg. C, 68%RH	TESTED BY	Sun Lin	

	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	54.8 PK	74.0	-19.2	1.34 H	74	23.40	31.40		
2	2390.00	26.1 AV	54.0	-27.9	1.34 H	74	-5.30	31.40		
3	2398.00	63.3 PK	74.0	-10.7	1.34 H	74	31.90	31.40		
4	2398.00	28.4 AV	54.0	-25.6	1.34 H	74	-3.00	31.40		
5	2400.00	52.2 PK	74.0	-21.8	1.34 H	74	20.80	31.40		
6	2400.00	26.2 AV	54.0	-27.8	1.34 H	74	-5.20	31.40		
7	*2403.00	94.6 PK	114.0	-19.4	1.34 H	74	63.20	31.40		
8	*2403.00	68.6 AV	94.0	-25.4	1.34 H	74	37.20	31.40		
9	4806.00	55.8 PK	74.0	-18.2	1.08 H	3	18.40	37.40		
10	4806.00	29.8 AV	54.0	-24.2	1.08 H	3	-7.60	37.40		

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 average value of fundamental frequency is: Average = Peak value + 20log(Duty cycle) Where the duty factor is calculated from following formula:
20 log (Duty cycle) = 20 log (4.992 ms / 100 ms) = -26.0 dB
Please see page 18 for plotted duty.



EUT TEST CONDITION		MEASUREMENT DETAIL		
CHANNEL Channel 1		FREQUENCY RANGE	1 ~ 25GHz	
INPUT POWER	3 Vdc	DETECTOR FUNCTION	Peak (PK) Average (AV)	
ENVIRONMENTAL CONDITIONS	25deg. C, 68%RH	TESTED BY	Sun Lin	

	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	47.3 PK	74.0	-26.7	1.03 V	100	15.90	31.40		
2	2390.00	25.2 AV	54.0	-28.8	1.03 V	100	-6.20	31.40		
3	2398.00	56.2 PK	74.0	-17.8	1.03 V	100	24.80	31.40		
4	2398.00	26.5 AV	54.0	-27.5	1.03 V	100	-4.90	31.40		
5	2400.00	44.8 PK	74.0	-29.2	1.03 V	100	13.40	31.40		
6	2400.00	18.8 AV	54.0	-35.2	1.03 V	100	-12.60	31.40		
7	*2403.00	87.7 PK	114.0	-26.3	1.03 V	100	56.30	31.40		
8	*2403.00	61.7 AV	94.0	-32.3	1.03 V	100	30.30	31.40		
9	4806.00	51.0 PK	74.0	-23.0	1.28 V	185	13.60	37.40		
10	4806.00	25.0 AV	54.0	-29.0	1.28 V	185	-12.40	37.40		

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 average value of fundamental frequency is: Average = Peak value + 20log(Duty cycle) Where the duty factor is calculated from following formula:
 20 log (Duty cycle) = 20 log (4.992 ms / 100 ms) = -26.0 dB
 Please see page 18 for plotted duty.



EUT TEST CONDITION		MEASUREMENT DETAIL		
CHANNEL Channel 39		FREQUENCY RANGE	1 ~ 25GHz	
INPUT POWER	3 Vdc	DETECTOR FUNCTION	Peak (PK) Average (AV)	
ENVIRONMENTAL CONDITIONS	25deg. C, 68%RH	TESTED BY	Sun Lin	

	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	96.8 PK	114.0	-17.2	1.36 H	71	65.20	31.60	
2	*2441.00	70.8 AV	94.0	-23.2	1.36 H	71	39.20	31.60	
3	4882.00	54.4 PK	74.0	-19.6	1.21 H	6	16.80	37.60	
4	4882.00	28.4 AV	54.0	-25.6	1.21 H	6	-9.20	37.60	
5	7323.00	51.7 PK	74.0	-22.3	1.02 H	158	7.90	43.80	
6	7323.00	25.7 AV	54.0	-28.3	1.02 H	158	-18.10	43.80	
		ANTENNA		/ & TEST DI	STANCE: V	ERTICAL A	T 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	89.7 PK	114.0	-24.3	1.31 V	68	58.10	31.60	
2	*2441.00	63.7 AV	94.0	-30.3	1.31 V	68	32.10	31.60	
3	4882.00	54.8 PK	74.0	-19.2	1.17 V	8	17.20	37.60	
4	4882.00	28.8 AV	54.0	-25.2	1.17 V	8	-8.80	37.60	
5	7323.00	49.3 PK	74.0	-24.7	1.17 V	92	5.50	43.80	
6	7323.00	23.3 AV	54.0	-30.7	1.17 V	92	-20.50	43.80	

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.

The average value of fundamental frequency is: Average = Peak value + 20log(Duty cycle) Where the duty factor is calculated from following formula:
 20 log (Duty cycle) = 20 log (4.992 ms / 100 ms) = -26.0 dB
 Please see page 18 for plotted duty.

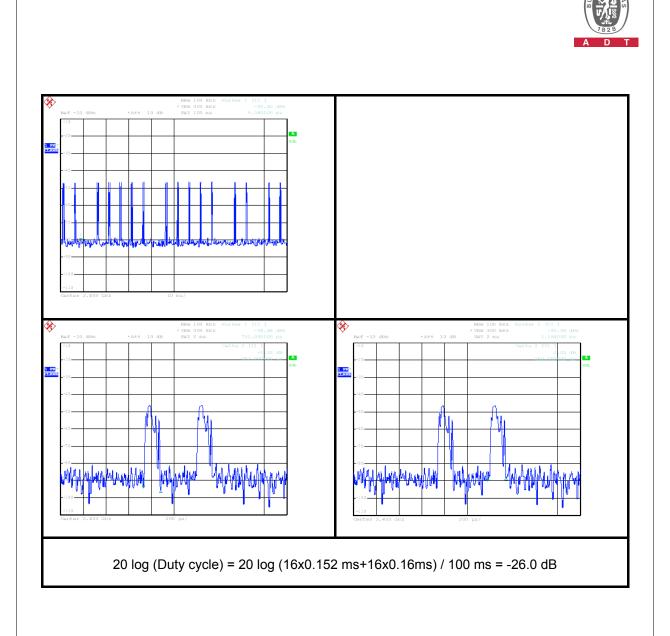


EUT TEST CONDITION		MEASUREMENT DETAIL		
CHANNEL Channel 78		FREQUENCY RANGE	1 ~ 25GHz	
INPUT POWER	INPUT POWER 3 Vdc		Peak (PK) Average (AV)	
ENVIRONMENTAL CONDITIONS	25deg. C, 68%RH	TESTED BY	Sun Lin	

		ANTENNA	POLARITY	& TEST DIS	TANCE: HO	RIZONTAL	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	*2480.00	97.6 PK	114.0	-16.4	1.33 H	65	65.90	31.70
2	*2480.00	71.6 AV	94.0	-22.4	1.33 H	65	39.90	31.70
3	2483.50	53.8 PK	74.0	-20.2	1.33 H	65	22.10	31.70
4	2483.50	27.8 AV	54.0	-26.2	1.33 H	65	-3.90	31.70
5	2485.50	65.7 PK	74.0	-8.3	1.33 H	65	34.00	31.70
6	2485.50	26.3 AV	54.0	-27.7	1.33 H	65	-5.40	31.70
7	4960.00	53.3 PK	74.0	-20.7	1.05 H	7	15.50	37.80
8	4960.00	27.3 AV	54.0	-26.7	1.05 H	7	-10.50	37.80
		ANTENNA	POLARIT	/ & TEST DI	STANCE: V	ERTICAL A	T 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	*2480.00	90.2 PK	114.0	-23.8	1.31 V	163	58.50	31.70
2	*2480.00	64.2 AV	94.0	-29.8	1.31 V	163	32.50	31.70
3	2483.50	47.0 PK	74.0	-27.0	1.31 V	163	15.30	31.70
4	2483.50	21.0 AV	54.0	-33.0	1.31 V	163	-10.70	31.70
5	2485.50	56.0 PK	74.0	-18.0	1.31 V	163	24.30	31.70
6	2485.50	29.7 AV	54.0	-24.3	1.31 V	163	-2.00	31.70
7	4960.00	55.2 PK	74.0	-18.8	1.27 V	12	17.40	37.80
8	4960.00	29.2 AV	54.0	-24.8	1.27 V	12	-8.60	37.80

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 average value of fundamental frequency is: Average = Peak value + 20log(Duty cycle) Where the duty factor is calculated from following formula:
 20 log (Duty cycle) = 20 log (4.992 ms / 100 ms) = -26.0 dB
 Please see page 18 for plotted duty.





BELOW 1GHz WORST-CASE DATA

EUT TEST CONDITION		MEASUREMENT DETAIL		
CHANNEL Channel 1		FREQUENCY RANGE	Below 1000MHz	
INPUT POWER	3 Vdc	DETECTOR FUNCTION	Quasi-Peak	
ENVIRONMENTAL CONDITIONS	25deg. C, 68%RH	TESTED BY	Sun Lin	

		ANTENNA	POLARITY	& TEST DIS	TANCE: HO	RIZONTAL	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	161.92	18.5 QP	43.5	-25.0	2.00 H	10	4.60	13.90
2	189.08	21.4 QP	43.5	-22.1	1.25 H	111	9.40	12.00
3	295.78	21.0 QP	46.0	-25.0	2.00 H	208	6.30	14.70
4	515.00	24.4 QP	46.0	-21.6	1.25 H	17	3.90	20.50
5	544.10	26.2 QP	46.0	-19.8	2.00 H	17	5.10	21.10
6	580.96	23.7 QP	46.0	-22.3	1.00 H	11	1.70	22.00
		ANTENNA		/ & TEST DI	STANCE: V	ERTICAL A	T 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	30.00	27.1 QP	40.0	-12.9	1.25 V	240	15.20	11.90
2	107.60	22.7 QP	43.5	-20.8	1.00 V	299	12.30	10.40
3	189.08	28.8 QP	43.5	-14.7	1.00 V	17	16.80	12.00
4	243.40	24.0 QP	46.0	-22.0	1.00 V	155	11.20	12.80
5	295.78	22.1 QP	46.0	-23.9	1.00 V	112	7.40	14.70
6	551.86	20.3 QP	46.0	-25.7	1.25 V	304	-1.00	21.30

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. PHOTOGRAPHS OF THE TEST CONFIGURATION

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



6. 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.



7. APPENDIX A – MODIFICATION RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No any modifications are made to the EUT by the lab during the test.

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