FCC TEST REPORT

REPORT NO.:	RF990701E05
MODEL NO.:	BCW2
FCC ID:	YLLBCW2
RECEIVED:	Sep. 14, 2010
TESTED:	Sep. 27 to Oct. 29, 2010
ISSUED:	Nov. 09, 2010

APPLICANT:	The Furukawa Battery CO., LTD.
ADDRESS:	2-4-1 Hoshikawa, Hodogaya-Ku, Yokohama City, Kanagawa Prefecture 240-0006 JAPAN

ISSUED BY :	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Hsin Chu Laboratory
LAB ADDRESS :	No. 81-1, Lu Liao Keng, 9th Ling,Wu Lung Tsuen, Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan

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1 CERTIFICATION

PRODUCT :	Battery Monitor BCW2
BRAND NAME :	FURUKAWA BATTERY
MODEL NO. :	BCW2
TESTED :	Sep. 27 to Oct. 29, 2010
TEST SAMPLE :	ENGINEERING SAMPLE
APPLICANT :	The Furukawa Battery CO., LTD.
STANDARDS :	FCC Part 15, Subpart C (Section 15.249) ANSI C63.4-2003

The above equipment (Model: BCW2) 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:** Nov. 09, 2010
(Midoli Peng, Specialist)

TECHNICAL ACCEPTANCE : _____ , **DATE:** Nov. 09, 2010
(Hank Chung, Deputy Manager)

APPROVED BY : _____ , **DATE:** Nov. 09, 2010
(May Chen, Deputy Manager)

2 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 15, Subpart C			
Standard Paragraph	**Test Type**	**Result**	**Remark**
15.207	Conducted Emission Test	NA	Not Applicable
15.249	Radiated Emission Test	PASS	Meet the requirement of limit. Minimum passing margin is -3.8dB at 2400.00MHz
15.249	Conducted - Out Band Measurement	PASS	Meet the requirement of limit

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:

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

Measurement	Value
Radiated emissions (30MHz-1GHz)	3.94 dB
Radiated emissions (1GHz -18GHz)	2.49 dB
Radiated emissions (18GHz -40GHz)	2.70 dB

3 GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	Battery Monitor BCW2
MODEL NO.	BCW2
FCC ID	YLLBCW2
POWER SUPPLY	DC 1.5～3.2V from battery
MODULATION TYPE	GFSK
OPERATING FREQUENCY	2404MHz ~ 2477MHz
NUMBER OF CHANNEL	74
ANTENNA TYPE	PCB printed antenna with 3.54dBi antenna gain
DATA CABLE	NA
I/O PORTS	NA
ASSOCIATED DEVICES	NA

NOTE:

1. The EUT was pre-tested under the following modes:

Test Mode	Description
Mode A	X-Y axis
Mode B	**Y-Z axis**
Mode C	X-Z axis

From the above modes, the worst case was found in **Mode B**. Therefore only the test data of the mode was recorded in this report.

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

3.2 DESCRIPTION OF TEST MODES

Seventy-four channels are provided to this EUT.

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

3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	PLC	RE < 1G	RE ≥ 1G	BE	
-	-	√	√	√	-

Where **PLC:** Power Line Conducted Emission **RE < 1G:** Radiated Emission below 1GHz

RE ≥ 1G: Radiated Emission above 1GHz **BE:** Conducted Out-Band Emission Measurement

RADIATED EMISSION TEST (BELOW 1 GHz):

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TYPE
0 to 73	36	GFSK

RADIATED EMISSION TEST (ABOVE 1 GHz):

☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

☒ Following channel(s) was (were) selected for the final test as listed below.

AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TYPE
0 to 73	0, 36, 73	GFSK

CONDUCTED OUT-BAND EMISSION MEASUREMENT:

☒ 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.

AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TYPE
0 to 73	0, 73	GFSK

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE≥1G	26deg. C, 64%RH, 1013 hPa	DC 3V from batteries	Wen Yu
RE<1G	28deg. C, 67%RH, 1013 hPa	DC 3V from batteries	Frank Liu

3.3 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 C63.4: 2003

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

3.4 DESCRIPTION OF SUPPORT UNITS

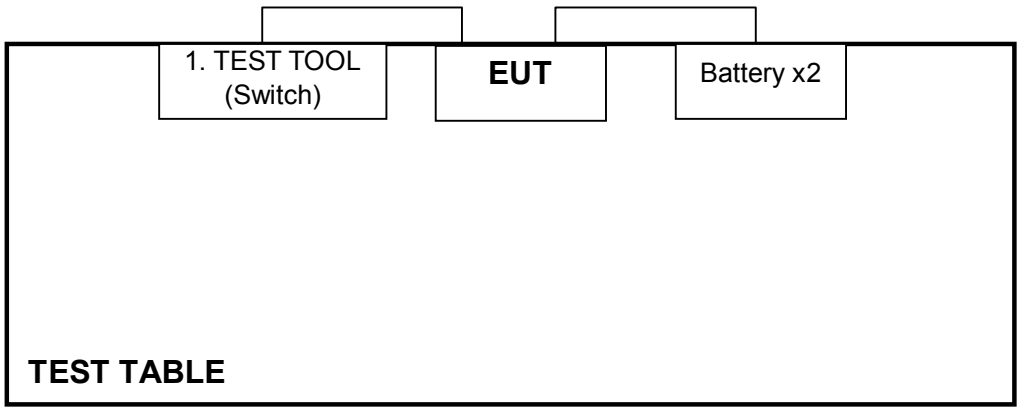
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	TEST TOOL (Switch)	FURUKAWA BATTERY	NA	NA	NA

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	NA

NOTE: All power cords of the above support units are non shielded (1.8m).

3.5 CONFIGURATION OF SYSTEM UNDER TEST



4 TEST PROCEDURES AND RESULTS

4.1 RADIATED EMISSION MEASUREMENT

4.1.1 LIMITS OF RADIATED EMISSION MEASUREMENT

According to 15.249 the field strength of emissions from intentional radiators operated under these frequencies bands shall not exceed the following:

Fundamental Frequency (MHz)	Field Strength of Fundamental (dBuV/m)	
	Peak	Average
2400 ~ 2483.5	114	94
	Field Strength of Harmonics (dBuV/m)	
	74	54

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 in Section 15.209, whichever is the lesser attenuation.

Emissions radiated outside of the specified bands, shall be according to the general radiated limits in 15.209 as following:

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

1. As shown in 15.35(b), 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.
2. Section 15.205 restricted bands of operation shall compliance with the limits in Section 15.209.

4.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
ROHDE & SCHWARZ Spectrum Analyzer	FSP40	100036	Dec. 18, 2009	Dec. 17, 2010
Agilent PSA Spectrum Analyzer	E4446A	MY46180622	May 12 , 2010	May 11 , 2011
HP Pre_Amplifier	8449B	300801923	Nov. 02, 2009	Nov. 01, 2010
ROHDE & SCHWARZ Test Receiver	ESCS30	847124/029	Sep. 03, 2010	Sep. 02, 2011
SCHWARZBECK TRILOG Broadband Antenna	VULB 9168	138	Apr. 28, 2010	Apr. 27, 2011
Schwarzbeck Horn_Antenna	BBHA9120	D124	Dec. 18, 2009	Dec. 17, 2010
Schwarzbeck Horn_Antenna	BBHA 9170	BBHA9170153	Jan. 22, 2010	Jan. 21, 2011
RF Switches	EMH-011	1001	NA	NA
RF CABLE (Chaintek)	Sucoflex 104+ Sucoflex 106	RF104-101+R F106-101	Aug. 24, 2010	Aug. 23, 2011
RF Cable	8DFB	STCCAB-30M-1GHz	NA	NA
Software	ADT_Radiated_ V7.6.15.9.2	NA	NA	NA
CT Antenna Tower & Turn Table	NA	NA	NA	NA

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The horn antenna, preamplifier (model: 8449B) and Spectrum Analyzer (model: FSP40) are used only for the measurement of emission frequency above 1GHz if tested.
3. The test was performed in Open Site No. C.
4. The FCC Site Registration No. is 656396.
5. The VCCI Site Registration No. is R-1626.
6. The CANADA Site Registration No. is IC 7450G-3.

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 10 meters open site. 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 detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz.

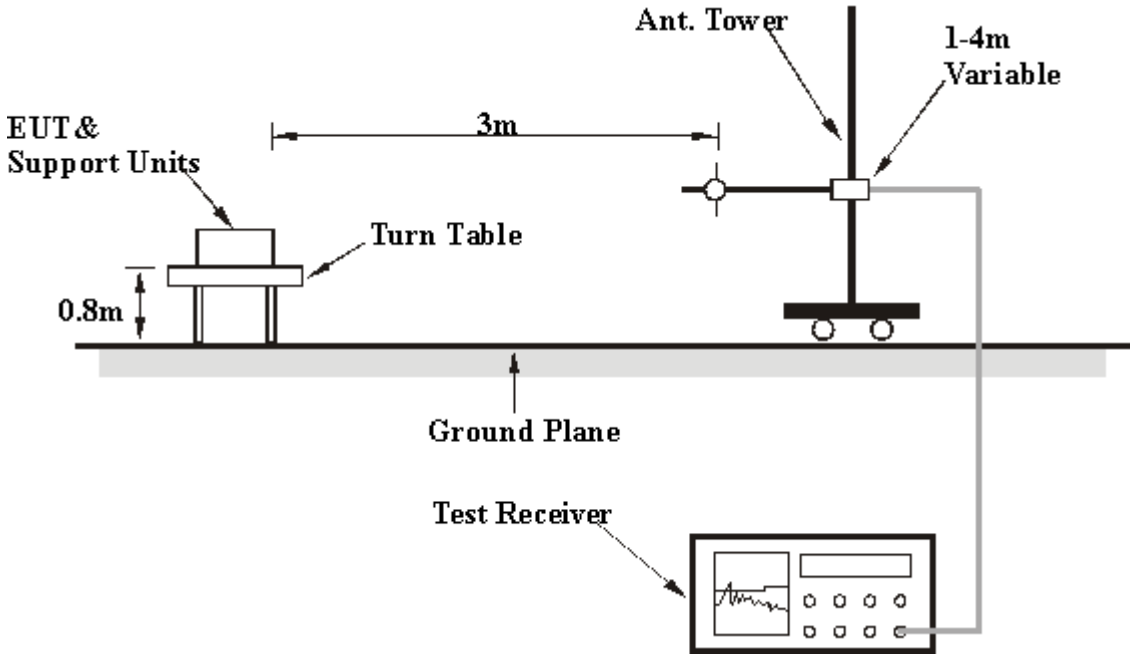
NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Peak detection (PK) and Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth is 1MHz and video bandwidth of test receiver/spectrum analyzer is 3MHz for Peak detection at frequency above 1GHz.

4.1.4 DEVIATION FROM TEST STANDARD

No deviation

4.1.5 TEST SETUP



For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

4.1.6 EUT OPERATING CONDITIONS

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

4.1.7 TEST RESULTS

BELOW 1GHz WORST-CASE DATA

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 36	FREQUENCY RANGE	Below 1000MHz
INPUT POWER	DC 3V from batteries	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	28deg. C, 67%RH 1013 hPa	TESTED BY	Frank Liu

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	138.90	21.51 QP	43.50	-21.99	1.46 H	236	6.81	14.70
2	158.60	31.98 QP	43.50	-11.52	1.85 H	298	16.71	15.27
3	192.90	27.66 QP	43.50	-15.84	1.81 H	90	16.43	11.23
4	237.22	37.95 QP	46.00	-8.05	1.00 H	94	25.05	12.90
5	299.93	35.32 QP	46.00	-10.68	1.08 H	237	19.66	15.66
6	311.00	37.47 QP	46.00	-8.53	1.09 H	234	21.54	15.93
7	815.00	31.06 QP	46.00	-14.94	1.00 H	108	5.20	25.86
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	44.31	29.51 QP	40.00	-10.49	1.00 V	240	15.83	13.68
2	50.01	25.96 QP	40.00	-14.04	1.00 V	148	11.95	14.01
3	120.00	22.54 QP	43.50	-20.96	1.00 V	282	10.34	12.20
4	169.67	21.19 QP	43.50	-22.31	1.64 V	219	7.02	14.17
5	236.00	28.86 QP	46.00	-17.14	1.75 V	149	16.02	12.84
6	311.00	30.08 QP	46.00	-15.92	1.00 V	220	14.15	15.93
7	815.00	29.55 QP	46.00	-16.45	1.28 V	332	3.69	25.86

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.

ABOVE 1GHz DATA

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 0	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	DC 3V from batteries	DETECTOR FUNCTION	Peak (PK)
ENVIRONMENTAL CONDITIONS	26deg. C, 64%RH 1013 hPa	TESTED BY	Wen Yu

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	2400.00	66.6 PK	74.0	-7.4	1.33 H	193	35.59	31.01
2	2400.00	41.4 AV	54.0	-12.6	1.33 H	193	10.39	31.01
3	*2404.00	93.3 PK	114.0	-20.7	1.33 H	193	62.27	31.03
4	*2404.00	68.1 AV	94.0	-25.9	1.33 H	193	37.07	31.03
5	4808.00	59.8 PK	74.0	-14.2	1.47 H	0	22.73	37.07
6	4808.00	34.6 AV	54.0	-19.4	1.47 H	0	-2.47	37.07
7	7212.00	64.2 PK	74.0	-9.8	1.20 H	355	20.15	44.05
8	7212.00	39.0 AV	54.0	-15.0	1.20 H	355	-5.05	44.05
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	**2400.00**	**70.2 PK**	**74.0**	**-3.8**	**1.00 V**	**30**	**39.19**	**31.01**
2	2400.00	45.0 AV	54.0	-9.0	1.00 V	30	13.99	31.01
3	*2404.00	97.4 PK	114.0	-16.6	1.00 V	30	66.37	31.03
4	*2404.00	72.2 AV	94.0	-21.8	1.00 V	30	41.17	31.03
5	4808.00	58.3 PK	74.0	-15.7	1.40 V	259	21.23	37.07
6	4808.00	33.1 AV	54.0	-20.9	1.40 V	259	-3.97	37.07
7	7212.00	63.1 PK	74.0	-10.9	1.63 V	302	19.05	44.05
8	7212.00	37.9 AV	54.0	-16.1	1.63 V	302	-6.15	44.05

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 (5.5 ms / 100 ms) = -25.2 dB
   Please see pages 19~20 for plotted duty.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 36	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	DC 3V from batteries	DETECTOR FUNCTION	Peak (PK)
ENVIRONMENTAL CONDITIONS	26deg. C, 64%RH 1013 hPa	TESTED BY	Wen Yu

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	*2440.00	93.6 PK	114.0	-20.4	1.32 H	194	62.42	31.18
2	*2440.00	68.4 AV	94.0	-25.6	1.32 H	194	37.22	31.18
3	4880.00	59.2 PK	74.0	-14.8	1.41 H	0	21.96	37.24
4	4880.00	34.0 AV	54.0	-20.0	1.41 H	0	-3.24	37.24
5	7320.00	62.2 PK	74.0	-11.8	1.49 H	333	17.81	44.39
6	7320.00	37.0 AV	54.0	-17.0	1.49 H	333	-7.39	44.39
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	*2440.00	97.2 PK	114.0	-16.8	1.00 V	91	66.02	31.18
2	*2440.00	72.0 AV	94.0	-22.0	1.00 V	91	40.82	31.18
3	4880.00	59.5 PK	74.0	-14.5	1.35 V	247	22.26	37.24
4	4880.00	34.3 AV	54.0	-19.7	1.35 V	247	-2.94	37.24
5	7320.00	63.9 PK	74.0	-10.1	1.49 V	290	19.51	44.39
6	7320.00	38.7 AV	54.0	-15.3	1.49 V	290	-5.69	44.39

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 (5.5 ms / 100 ms) = -25.2 dB

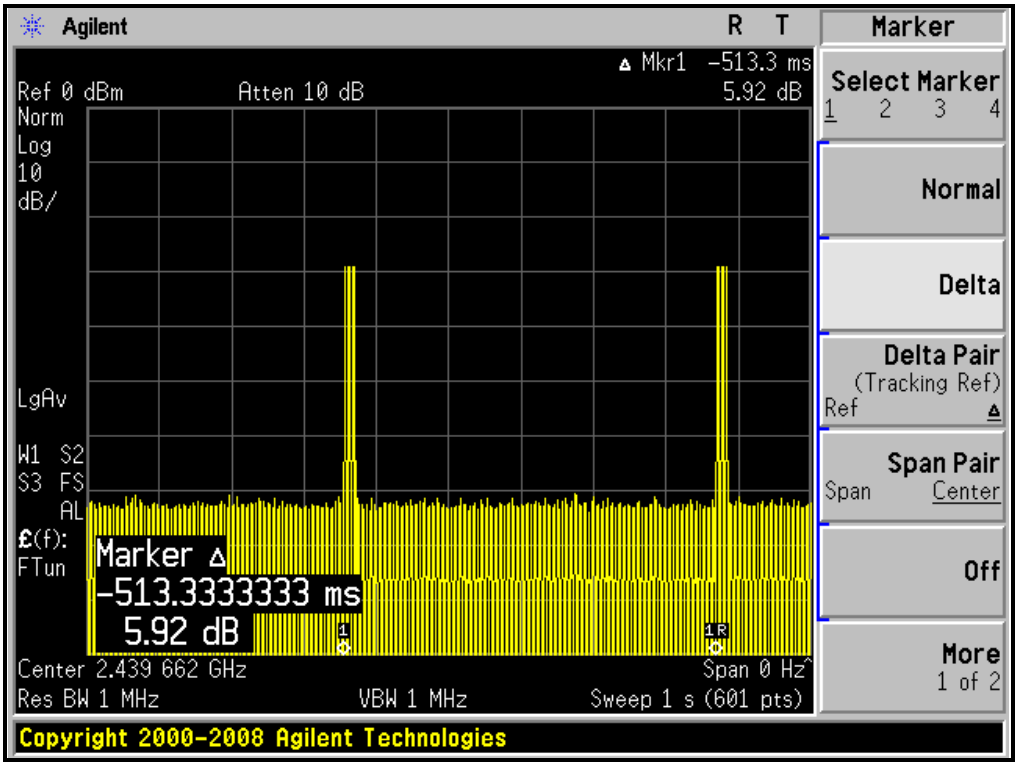
Please see pages 19~20 for plotted duty.

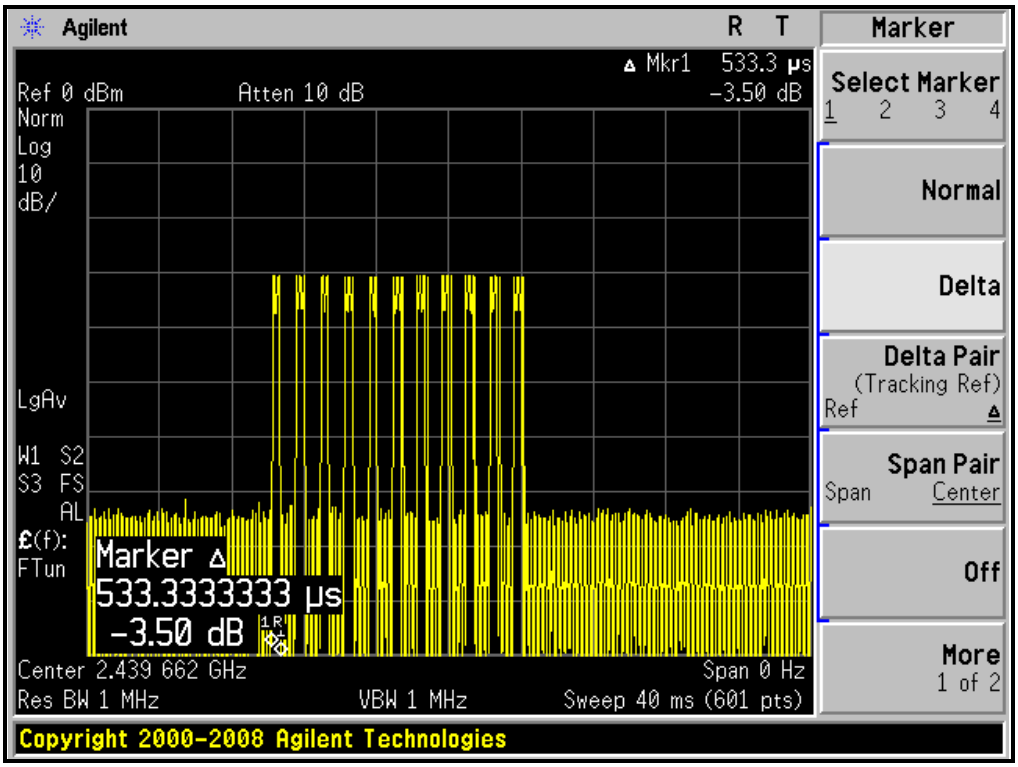
EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 73	FREQUENCY RANGE	1 ~ 25GHz
INPUT POWER	DC 3V from batteries	DETECTOR FUNCTION	Peak (PK)
ENVIRONMENTAL CONDITIONS	26deg. C, 64%RH 1013 hPa	TESTED BY	Wen Yu

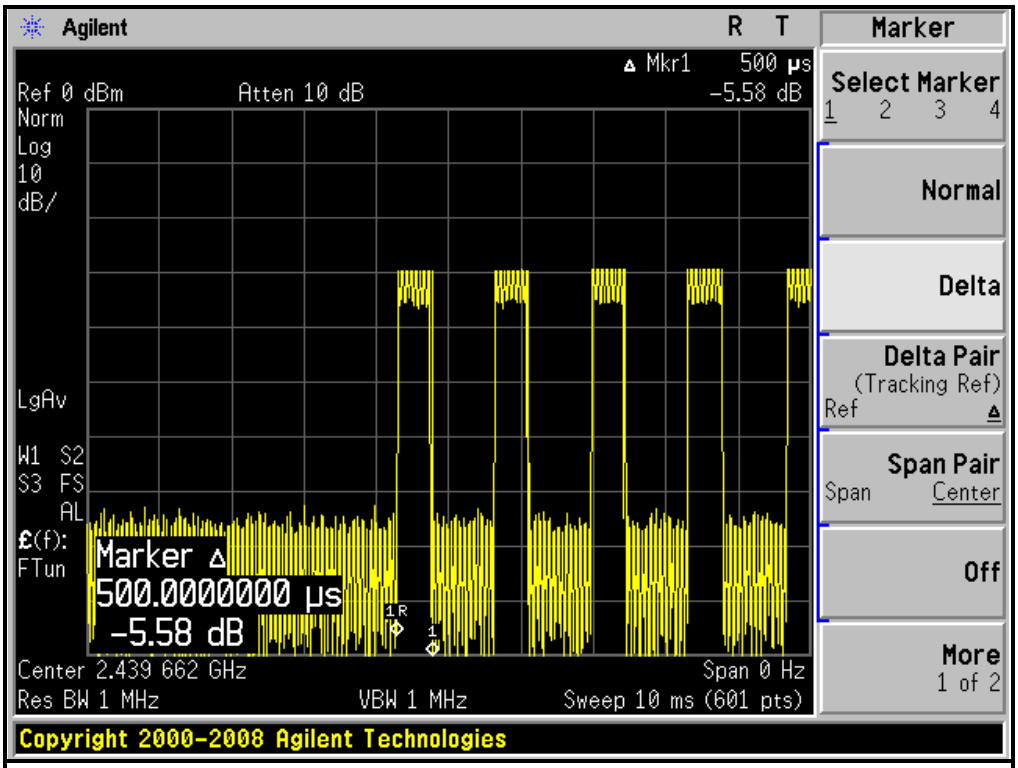
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*2477.00	89.5 PK	114.0	-24.5	1.32 H	197	58.16	31.34
2	*2477.00	64.3 AV	94.0	-29.7	1.32 H	197	32.96	31.34
3	2483.50	57.8 PK	74.0	-16.2	1.32 H	197	26.43	31.37
4	2483.50	32.6 AV	54.0	-21.4	1.32 H	197	1.23	31.37
5	4954.00	57.1 PK	74.0	-16.9	1.57 H	0	19.69	37.41
6	4954.00	31.9 AV	54.0	-22.1	1.57 H	0	-5.51	37.41
7	7431.00	61.8 PK	74.0	-12.2	1.31 H	344	17.07	44.73
8	7431.00	36.6 AV	54.0	-17.4	1.31 H	344	-8.13	44.73
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	*2477.00	95.7 PK	114.0	-18.3	1.00 V	100	64.36	31.34
2	*2477.00	70.5 AV	94.0	-23.5	1.00 V	100	39.16	31.34
3	2483.50	63.7 PK	74.0	-10.3	1.00 V	100	32.33	31.37
4	2483.50	38.5 AV	54.0	-15.5	1.00 V	100	7.13	31.37
5	4954.00	58.0 PK	74.0	-16.0	1.32 V	149	20.59	37.41
6	4954.00	32.8 AV	54.0	-21.2	1.32 V	149	-4.61	37.41
7	7431.00	62.1 PK	74.0	-11.9	1.47 V	267	17.37	44.73
8	7431.00	36.9 AV	54.0	-17.1	1.47 V	267	-7.83	44.73

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 (5.5 ms / 100 ms) = -25.2 dB
   Please see pages 19~20 for plotted duty.

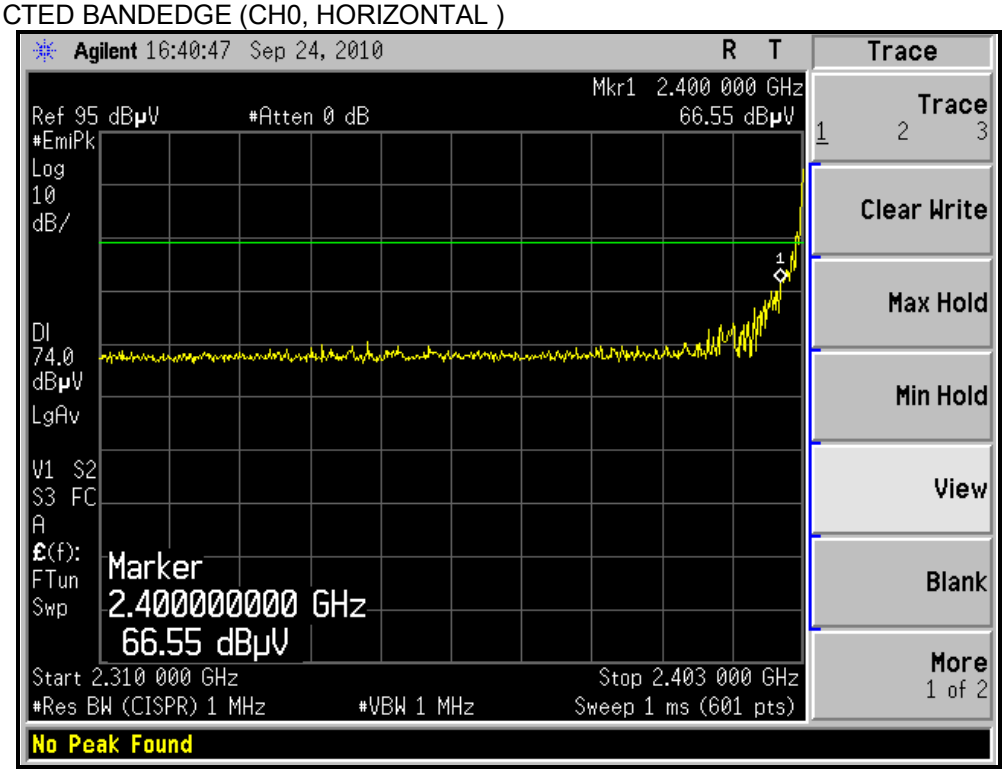

Agilent
R T
Marker
Mkr1 -513.3 ms
5.92 dB
Ref 0 dBm
Atten 10 dB
Norm
Log
10
dB/
LgAv
W1 S2
S3 FS
AL
£(f):
FTun
Marker Δ
-513.3333333 ms
5.92 dB
Center 2.439 662 GHz
Span 0 Hz
Res BW 1 MHz
VBW 1 MHz
Sweep 1 s (601 pts)
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref Δ
Span Pair
Span Center
Off
More
1 of 2
Copyright 2000-2008 Agilent Technologies


Agilent
R T
Marker
Mkr1 533.3 µs
-3.50 dB
Ref 0 dBm
Atten 10 dB
Norm
Log
10
dB/
LgAv
W1 S2
S3 FS
AL
£(f):
FTun
Marker Δ
533.3333333 µs
-3.50 dB
Center 2.439 662 GHz
Span 0 Hz
Res BW 1 MHz
VBW 1 MHz
Sweep 40 ms (601 pts)
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref Δ
Span Pair
Span Center
Off
More
1 of 2
Copyright 2000-2008 Agilent Technologies

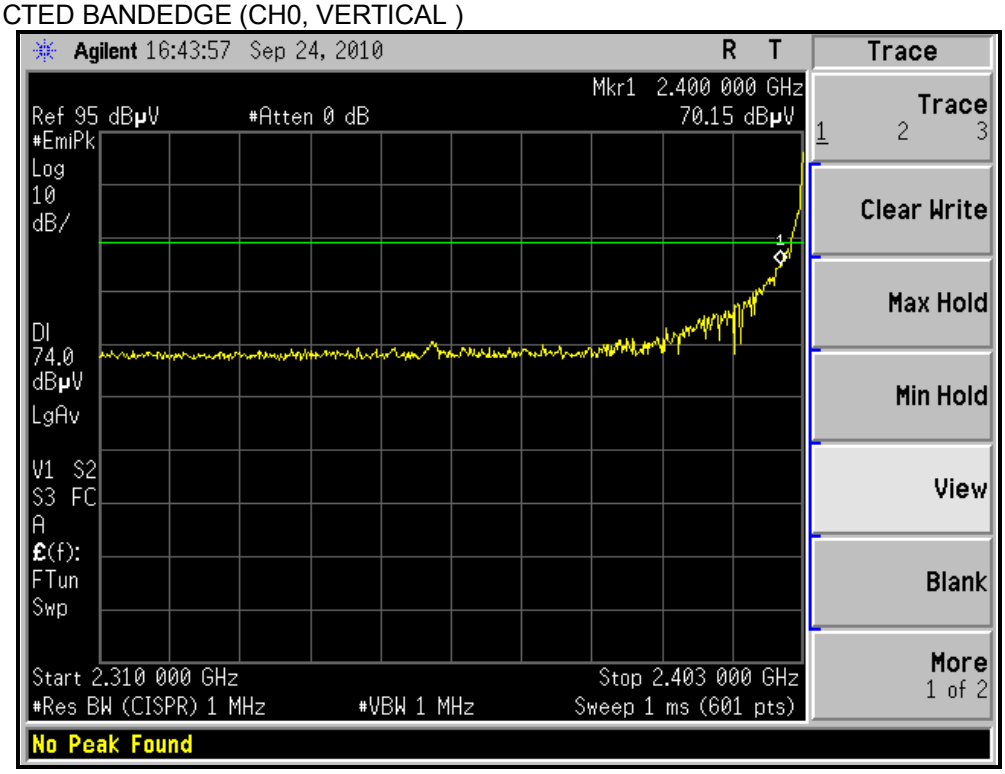


20 log (Duty cycle) = 20 log (5.5 ms / 100 ms) = 25.2 dB

RESTRICTED BANDEDGE (CH0, HORIZONTAL)

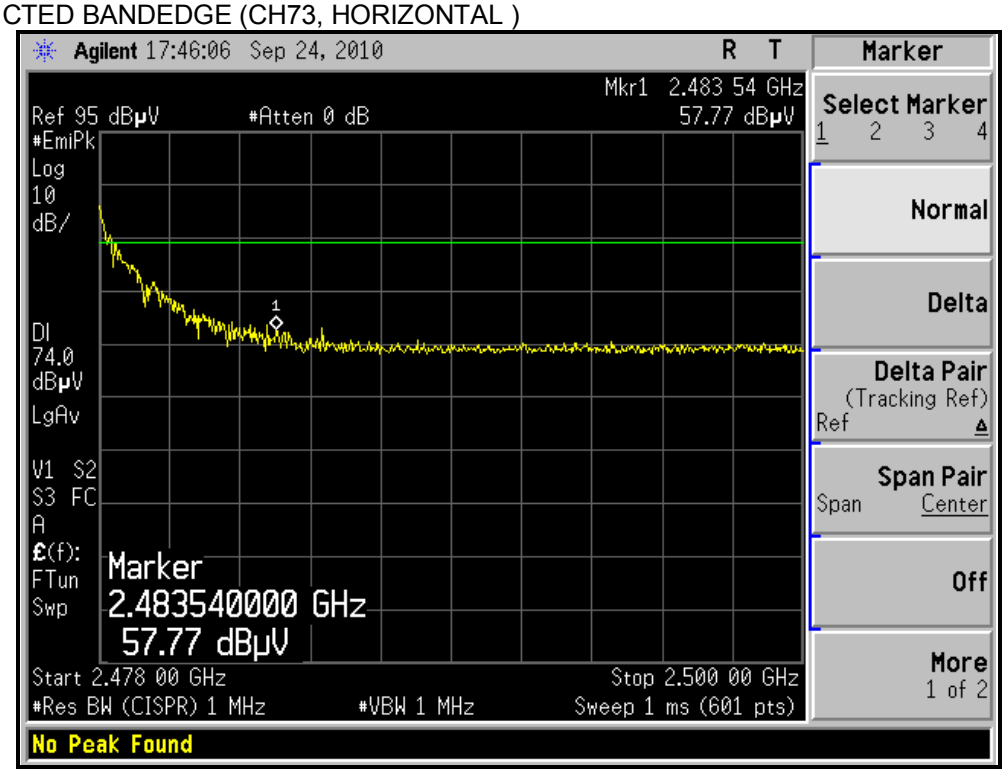


RESTRICTED BANDEDGE (CH0, VERTICAL)

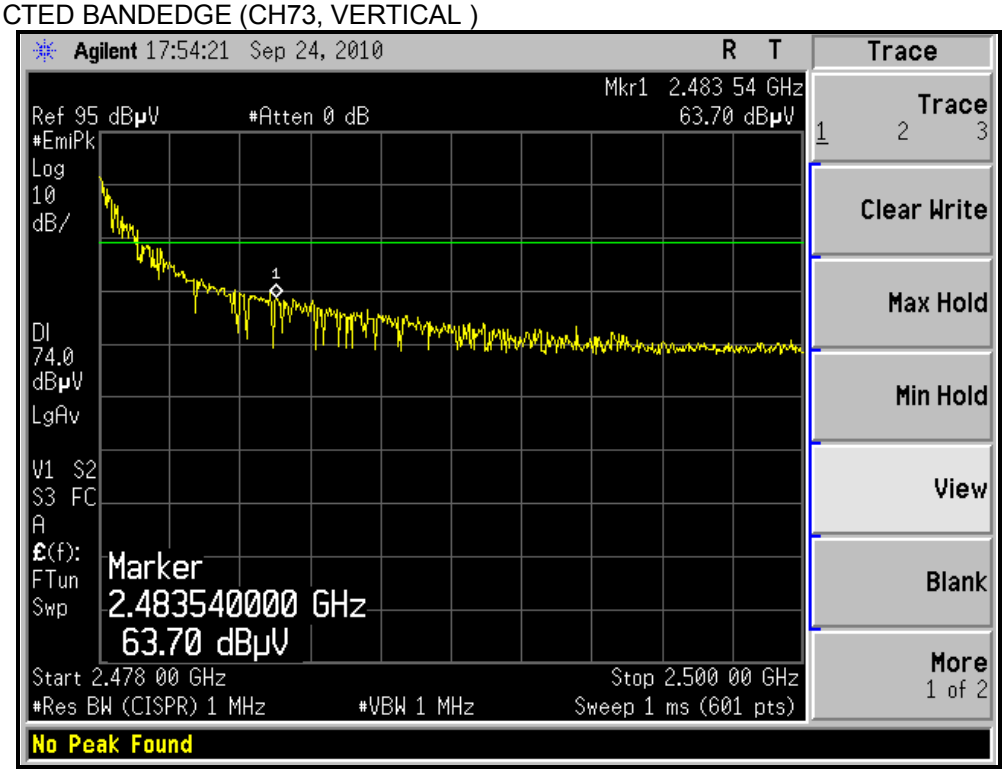


* The average value of fundamental frequency is: Average = Peak value + 20log(Duty cycle). And it meets the requirement of limit.

RESTRICTED BANDEDGE (CH73, HORIZONTAL)



RESTRICTED BANDEDGE (CH73, VERTICAL)



* The average value of fundamental frequency is: Average = Peak value + 20log(Duty cycle). And it meets the requirement of limit.

4.2 CONDUCTED - OUT BAND MEASUREMENT

4.2.1 LIMITS OF CONDUCTED - OUT BAND MEASUREMENT

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 in Section 15.209, whichever is the lesser attenuation.

4.2.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSP40	100036	Dec. 18, 2009	Dec. 17, 2010

NOTE:

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

4.2.3 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer via a low lose cable. Set both RBW and VBW of spectrum analyzer to 100 kHz and 300 KHz with suitable frequency span from band edge. The band edges was measured and recorded.

4.2.4 DEVIATION FROM TEST STANDARD

No deviation

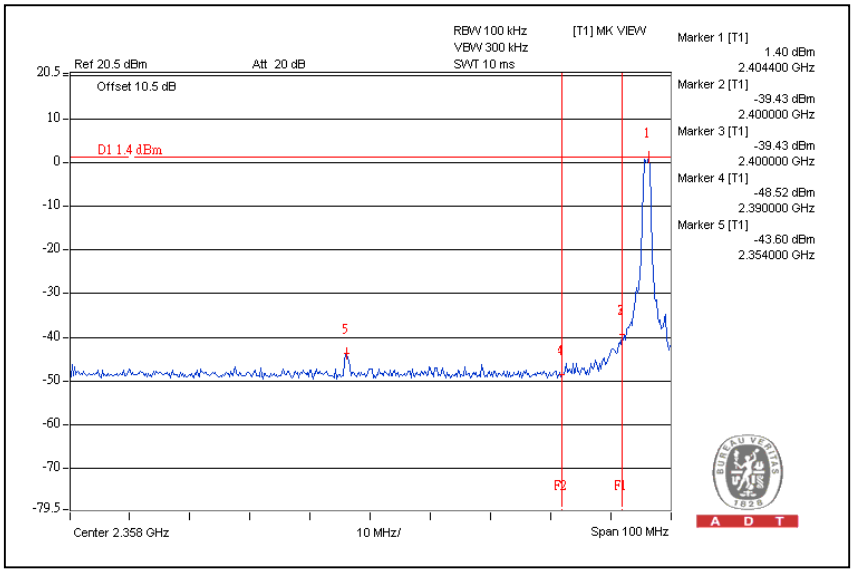
4.2.5 EUT OPERATING CONDITION

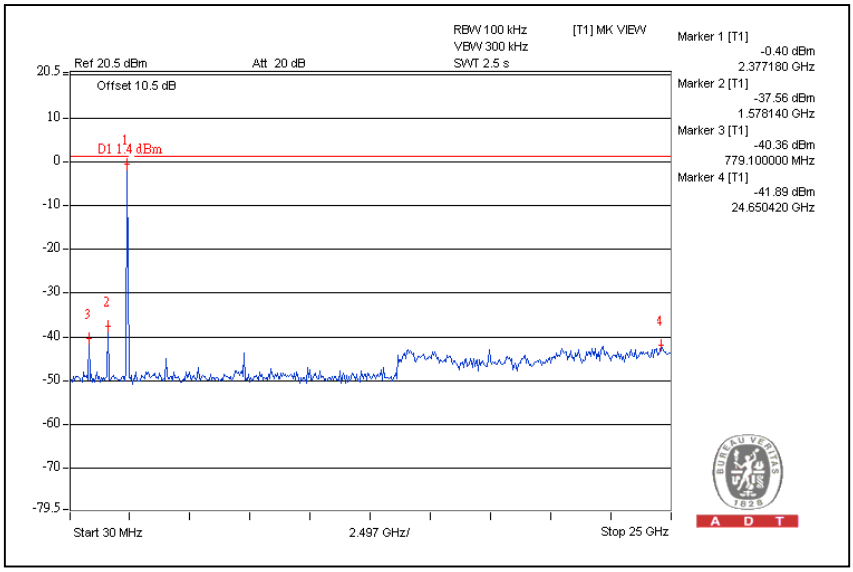
The software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel frequencies individually.

4.2.6 TEST RESULTS

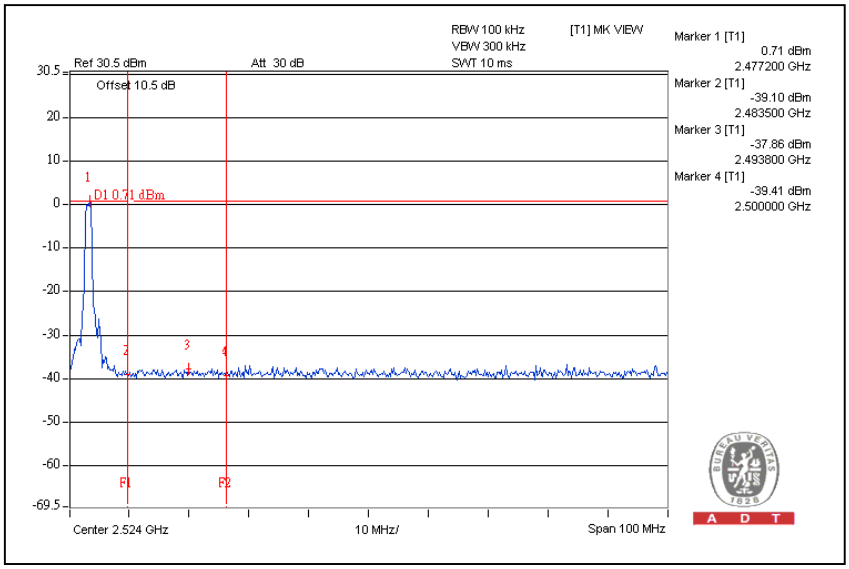
Emissions radiated outside of the specified frequency bands, please refer following pages for met the requirement of the general radiated emission limits in § 15.209.

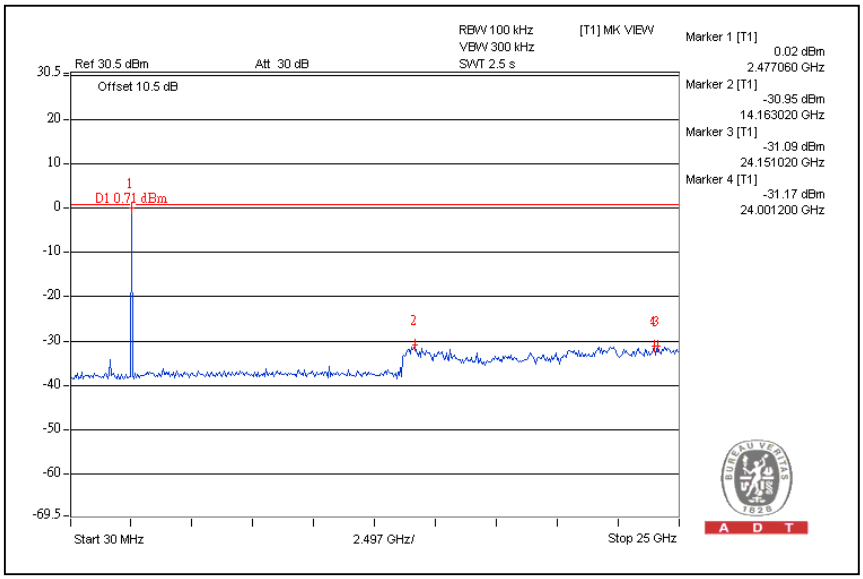
CH0





CH73


RBW 100 kHz
VBW 300 kHz
SWT 10 ms
[T1] MK VIEW
Ref 30.5 dBm
Att 30 dB
Offset 10.5 dB
D1 0.71 dBm
Marker 1 [T1]
0.71 dBm
2.477200 GHz
Marker 2 [T1]
-39.10 dBm
2.483500 GHz
Marker 3 [T1]
-37.86 dBm
2.493800 GHz
Marker 4 [T1]
-39.41 dBm
2.500000 GHz
30.5
20
10
0
-10
-20
-30
-40
-50
-60
-69.5
F1
F2
Center 2.524 GHz
10 MHz/
Span 100 MHz


RBW 100 kHz
VBW 300 kHz
SWT 2.5 s
[T1] MK VIEW
Ref 30.5 dBm
Att 30 dB
Offset 10.5 dB
D1 0.71 dBm
Marker 1 [T1]
0.02 dBm
2.477060 GHz
Marker 2 [T1]
-30.95 dBm
14.163020 GHz
Marker 3 [T1]
-31.09 dBm
24.151020 GHz
Marker 4 [T1]
-31.17 dBm
24.001200 GHz
30.5
20
10
0
-10
-20
-30
-40
-50
-60
-69.5
Start 30 MHz
2.497 GHz/
Stop 25 GHz

5 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:

Copies of accreditation certificates of our laboratories obtained from approval agencies can be downloaded from our web site: www.adt.com.tw/index.5/phtml. If you have any comments, please feel free to contact us at the following:

Linko EMC/RF Lab:
Tel: 886-2-26052180
Fax: 886-2-26052943

Hsin Chu EMC/RF Lab:
Tel: 886-3-5935343
Fax: 886-3-5935342

Hwa Ya EMC/RF/Safety/Telecom Lab:
Tel: 886-3-3183232
Fax: 886-3-3185050

Email: service@adt.com.tw
Web Site: www.adt.com.tw

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

6 APPENDIX A - MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

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

--- END ---