

FCC TEST REPORT

REPORT NO. : RF961121L16

MODEL NO. : PT-1010 (refer to item 3.1 for more detail)

RECEIVED : Nov. 21, 2007

TESTED : Dec. 05, 2007 ~ Jun. 03, 2008

ISSUED : Jun. 09, 2008

PREPARE BY : Teraoka Weigh-System Pte Ltd.

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ISSUED BY : Advance Data Technology Corporation

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1. CERTIFICATION

PRODUCT: ESL Tag

MODEL: PT-1010 (refer to item 3.1 for more detail)

BRAND: DIGI

PREPARE BY: Teraoka Weigh-System Pte Ltd.

TESTED: Dec. 05, 2007 ~ Jun. 03, 2008

TEST SAMPLE: ENGINEERING SAMPLE

STANDARDS: FCC Part 15, Subpart C (Section 15.249)

ANSI C63.4-2003

The above equipment (model: PT-1010, PT-2020) have been tested by **Advance Data Technology Corporation**, 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 : Andrea Hsia , **DATE:** Jun. 09, 2008
Andrea Hsia / Specialist

TECHNICAL
ACCEPTANCE : Long Chen , **DATE:** Jun. 09, 2008
Responsible for RF Long Chen / Senior Engineer

APPROVED BY : Gary Chang , **DATE:** Jun. 09, 2008
Gary Chang / Assistant Manager

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 3.0Vdc from batteries
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 -0.56dB at 2445.00MHz.

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
Conducted emissions	9kHz~30MHz	2.44 dB
Radiated emissions	30MHz ~ 200MHz	2.93 dB
	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	ESL Tag
MODEL NO.	PT-1010 (refer to note as below)
FCC ID	SUFPT001
POWER SUPPLY	3Vdc from built-in cell button battery
MODULATION TYPE	FSK (for transmitter); MSK (for receiver)
OPERATING FREQUENCY	2445 ~ 2459MHz
NUMBER OF CHANNEL	7
ANTENNA TYPE	Chip antenna with 1.7dBi gain Chip antenna with 2.0dBi gain
DATA CABLE	NA
I/O PORTS	NA
ACCESSORY DEVICES	NA

NOTE:

- The models as below are identical to each other except of the following options.

BRAND	MODEL NAME	REMARK	ANTENNA
DIGI	PT-1010	Small Size tag	Chip antenna with 1.7dBi gain (Taiyo Yuden.)
			Chip antenna with 2.0dBi gain (Walsin)
	PT-2020	Medium Size tag	Chip antenna with 1.7dBi gain (Taiyo Yuden.)
			Chip antenna with 2.0dBi gain (Walsin)

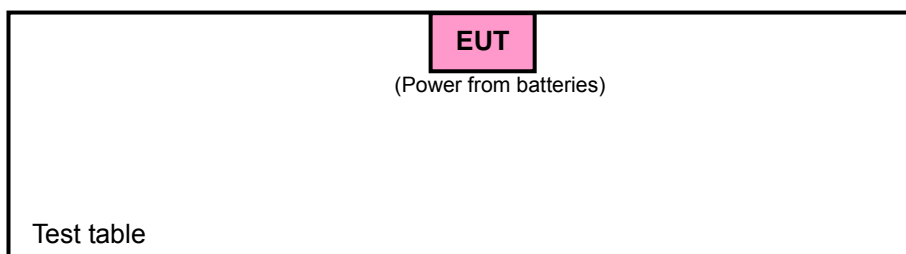
- The above EUT information was declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.

3.2 DESCRIPTION OF TEST MODES

7 channels are provided to this EUT.

Channel	Freq. (MHz)	Channel	Freq. (MHz)	Channel	Freq. (MHz)
1	2445	2	2447	3	2449
4	2451	5	2453	6	2455
7	2459				

3.2.1 CONFIGURATION OF SYSTEM UNDER TEST



3.2.2 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE \geq 1G	RE<1G	PLC	BM	
A	√	√	NOTE	√	For model: PT-1010 with 1.7dBi gain
B	√	√	NOTE	√	For model: PT-1010 with 2.0dBi gain
C	√	√	NOTE	√	For model: PT-2020 with 1.7dBi gain
D	√	√	NOTE	√	For model: PT-2020 with 2.0dBi gain

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

RE<1G: Radiated Emission below 1GHz

PLC: Power Line Conducted Emission

BM: Bandedge Measurement

NOTE: No need to concern of Conducted Emission due to the EUT is powered by batteries.

RADIATED EMISSION TEST (ABOVE 1 GHz):

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, XYZ axis 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	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TYPE	AXIS
A	1 to 7	1, 4, 7	FSK	Z
B	1 to 7	1, 4, 7	FSK	Z
C	1 to 7	1, 4, 7	FSK	Z
D	1 to 7	1, 4, 7	FSK	Z

RADIATED EMISSION TEST (BELOW 1 GHz):

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, XYZ axis 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	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TYPE	AXIS
A	1 to 7	1	FSK	Z
B	1 to 7	1	FSK	Z
C	1 to 7	1	FSK	Z
D	1 to 7	1	FSK	Z

BANDEDGE MEASUREMENT:

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations 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	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TYPE	AXIS
A	1 to 7	1, 7	FSK	Z
B	1 to 7	1, 7	FSK	Z
C	1 to 7	1, 7	FSK	Z
D	1 to 7	1, 7	FSK	Z

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

NOTE: The EUT is also considered as a kind of computer peripheral, because the connection to computer is necessary for typical use. It has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (DoC). The test report has been issued separately.

3.4 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit.

4. TEST TYPES AND RESULTS

4.1 RADIATED EMISSION MEASUREMENT

4.1.1 LIMITS OF RADIATED EMISSION MEASUREMENT

Emissions radiated outside of the specified bands, shall be according to the general radiated limits in 15.209, 15.249 as following:

15.209 Limit		
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
15.249 Limit		
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

NOTE:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. 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.

4.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
Test Receiver ROHDE & SCHWARZ	ESIB7	100212	May. 27, 2009
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100269	Aug. 05, 2008
BILOG Antenna SCHWARZBECK	VULB9168	9168-153	Jan. 03, 2009
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-563	Jul. 30, 2008
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170242	Jan. 06, 2009
Preamplifier Agilent	8449B	3008A01910	Sep. 19, 2008
Preamplifier Agilent	8447D	2944A10638	Dec. 19, 2008
RF signal cable HUBER+SUHNNER	SUCOFLEX 104	274039/223650	Nov. 07, 2008
RF signal cable Worken	8D-FB	Cable-HYCH9-01	Aug. 09, 2008
Software	ADT_Radiated_V7.6	NA	NA
Antenna Tower EMCO	2070/2080	512.835.4684	NA
Turn Table EMCO	2087-2.03	NA	NA
Antenna Tower & Turn Table Controller EMCO	2090	NA	NA

- NOTE:** 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Chamber 9.
3. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
4. The FCC Site Registration No. is 215374.
5. The IC Site Registration No. is IC3789B-9.

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.

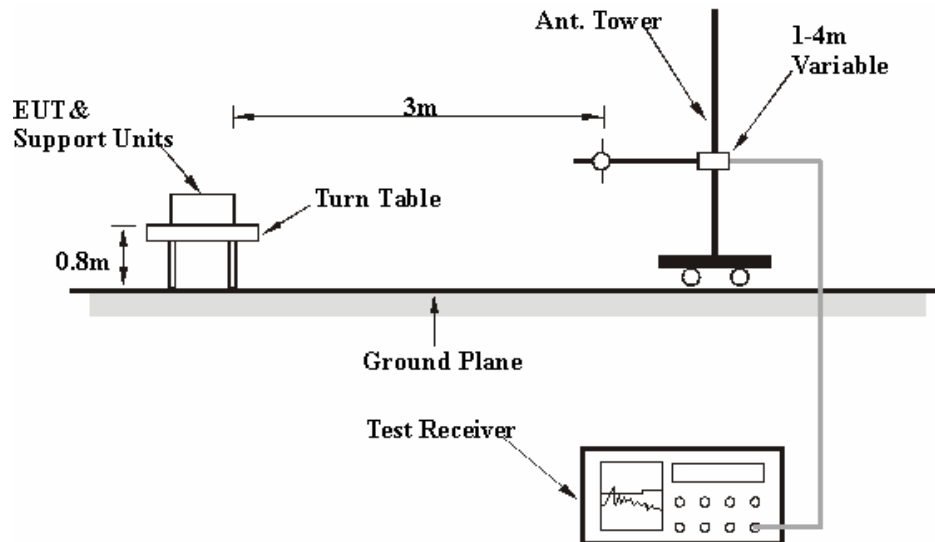
NOTE:

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 1 MHz 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.

4.1.5 TEST SETUP



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 WORST-CASE DATA

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
MODULATION TYPE	FSK	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 68%RH, 991hPa	TEST MODE	A
TESTED BY	Brad Wu		

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	56.24 PK	74.00	-17.76	1.00 H	203	23.92	32.32
2	2390.00	43.98 AV	54.00	-10.02	1.00 H	203	11.66	32.32
3	2400.00	57.35 PK	74.00	-16.65	1.00 H	203	25.04	32.31
4	2400.00	45.08 AV	54.00	-8.92	1.00 H	203	12.77	32.31
5	*2445.00	92.98 PK	114.00	-21.02	1.00 H	203	60.63	32.35
6	*2445.00	92.98 AV	94.00	-1.02	1.00 H	203	60.63	32.35
7	4890.00	50.62 PK	74.00	-23.38	1.15 H	23	12.46	38.16
8	4890.00	44.49 AV	54.00	-9.51	1.15 H	23	6.33	38.16

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	54.86 PK	74.00	-19.14	1.17 V	288	22.54	32.32
2	2390.00	42.13 AV	54.00	-11.87	1.17 V	288	9.81	32.32
3	2400.00	55.12 PK	74.00	-18.88	1.17 V	288	22.81	32.31
4	2400.00	42.56 AV	54.00	-11.44	1.17 V	288	10.25	32.31
5	*2445.00	89.75 PK	114.00	-24.25	1.17 V	288	57.40	32.35
6	*2445.00	89.75 AV	94.00	-4.25	1.17 V	288	57.40	32.35
7	4890.00	50.95 PK	74.00	-23.05	1.17 V	236	12.79	38.16
8	4890.00	44.82 AV	54.00	-9.18	1.17 V	236	6.66	38.16

- 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 + $20\log(\text{Duty cycle})$ Where the duty factor is calculated from following formula:
 $20\log(\text{Duty cycle}) = 20\log(100\%) = 0\text{dB}$
Please see page 26 for plotted duty

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 4	FREQUENCY RANGE	1 ~ 25GHz
MODULATION TYPE	FSK	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 68%RH, 991hPa	TEST MODE	A
TESTED BY	Brad Wu		

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	*2451.00	92.76 PK	114.00	-21.24	1.07 H	198	60.40	32.36
2	*2451.00	92.76 AV	94.00	-1.24	1.07 H	198	60.40	32.36
3	4902.00	49.85 PK	74.00	-24.15	1.23 H	50	11.67	38.18
4	4902.00	44.06 AV	54.00	-9.94	1.23 H	50	5.88	38.18

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	*2451.00	89.62 PK	114.00	-24.38	1.14 V	301	57.26	32.36
2	*2451.00	89.62 AV	94.00	-4.38	1.14 V	301	57.26	32.36
3	4902.00	50.49 PK	74.00	-23.51	1.11 V	37	12.31	38.18
4	4902.00	44.37 AV	54.00	-9.63	1.11 V	37	6.19	38.18

- 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 + $20\log(\text{Duty cycle})$ Where the duty factor is calculated from following formula:
 $20\log(\text{Duty cycle}) = 20\log(100\%) = 0\text{dB}$
Please see page 26 for plotted duty

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 7	FREQUENCY RANGE	1 ~ 25GHz
MODULATION TYPE	FSK	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 68%RH, 991hPa	TEST MODE	A
TESTED BY	Brad Wu		

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	*2459.00	92.41 PK	114.00	-21.59	1.01 H	205	60.05	32.36
2	*2459.00	92.41 AV	94.00	-1.59	1.01 H	205	60.05	32.36
3	2483.50	55.21 PK	74.00	-18.79	1.01 H	205	22.82	32.39
4	2483.50	42.93 AV	54.00	-11.07	1.01 H	205	10.54	32.39
5	4918.00	50.43 PK	74.00	-23.57	1.12 H	46	12.21	38.22
6	4918.00	44.25 AV	54.00	-9.75	1.12 H	46	6.03	38.22

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	*2459.00	89.52 PK	114.00	-24.48	1.19 V	291	57.16	32.36
2	*2459.00	89.52 AV	94.00	-4.48	1.19 V	291	57.16	32.36
3	2483.50	53.86 PK	74.00	-20.14	1.19 V	291	21.47	32.39
4	2483.50	41.25 AV	54.00	-12.75	1.19 V	291	8.86	32.39
5	4918.00	50.25 PK	74.00	-23.75	1.13 V	27	12.03	38.22
6	4918.00	44.06 AV	54.00	-9.94	1.13 V	27	5.84	38.22

- 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 + $20\log(\text{Duty cycle})$ Where the duty factor is calculated from following formula:
 $20\log(\text{Duty cycle}) = 20\log(100\%) = 0\text{dB}$
Please see page 26 for plotted duty

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
MODULATION TYPE	FSK	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 68%RH, 991hPa	TEST MODE	B
TESTED BY	Brad Wu		

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	55.71 PK	74.00	-18.29	1.02 H	192	23.39	32.32
2	2390.00	43.42 AV	54.00	-10.58	1.02 H	192	11.10	32.32
3	2400.00	56.86 PK	74.00	-17.14	1.02 H	192	24.55	32.31
4	2400.00	44.55 AV	54.00	-9.45	1.02 H	192	12.24	32.31
5	*2445.00	92.39 PK	114.00	-21.61	1.02 H	192	60.04	32.35
6	*2445.00	92.39 AV	94.00	-1.61	1.02 H	192	60.04	32.35
7	4890.00	52.74 PK	74.00	-21.26	1.11 H	201	14.59	38.16
8	4890.00	46.61 AV	54.00	-7.39	1.11 H	201	8.46	38.16

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	55.56 PK	74.00	-18.44	1.09 V	206	23.24	32.32
2	2390.00	43.25 AV	54.00	-10.75	1.09 V	206	10.93	32.32
3	2400.00	56.62 PK	74.00	-17.38	1.09 V	206	24.31	32.31
4	2400.00	44.33 AV	54.00	-9.67	1.09 V	206	12.02	32.31
5	*2445.00	92.11 PK	114.00	-21.89	1.09 V	206	59.76	32.35
6	*2445.00	92.11 AV	94.00	-1.89	1.09 V	206	59.76	32.35
7	4890.00	51.38 PK	74.00	-22.62	1.09 V	283	13.23	38.16
8	4890.00	43.60 AV	54.00	-10.40	1.09 V	283	5.45	38.16

- 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 + $20\log(\text{Duty cycle})$ Where the duty factor is calculated from following formula:
 $20\log(\text{Duty cycle}) = 20\log(100\%) = 0\text{dB}$
Please see page 26 for plotted duty

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 4	FREQUENCY RANGE	1 ~ 25GHz
MODULATION TYPE	FSK	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 68%RH, 991hPa	TEST MODE	B
TESTED BY	Brad Wu		

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	*2451.00	91.56 PK	114.00	-22.44	1.11 H	301	59.20	32.36
2	*2451.00	91.56 AV	94.00	-2.44	1.11 H	301	59.20	32.36
3	4902.00	52.12 PK	74.00	-21.88	1.06 H	311	13.94	38.18
4	4902.00	45.96 AV	54.00	-8.04	1.06 H	311	7.78	38.18

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	*2451.00	91.42 PK	114.00	-22.58	1.07 V	187	59.06	32.36
2	*2451.00	91.42 AV	94.00	-2.58	1.07 V	187	59.06	32.36
3	4902.00	51.17 PK	74.00	-22.83	1.13 V	217	12.99	38.18
4	4902.00	43.89 AV	54.00	-10.11	1.13 V	217	5.71	38.18

- 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 + $20\log(\text{Duty cycle})$ Where the duty factor is calculated from following formula:
 $20\log(\text{Duty cycle}) = 20\log(100\%) = 0\text{dB}$
Please see page 26 for plotted duty

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 7	FREQUENCY RANGE	1 ~ 25GHz
MODULATION TYPE	FSK	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 68%RH, 991hPa	TEST MODE	B
TESTED BY	Brad Wu		

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	*2459.00	91.76 PK	114.00	-22.24	1.00 H	203	59.40	32.36
2	*2459.00	91.76 AV	94.00	-2.24	1.00 H	203	59.40	32.36
3	2483.50	55.06 PK	74.00	-18.94	1.00 H	203	22.67	32.39
4	2483.50	42.72 AV	54.00	-11.28	1.00 H	203	10.33	32.39
5	4918.00	51.80 PK	74.00	-22.20	1.09 H	196	13.58	38.22
6	4918.00	44.72 AV	54.00	-9.28	1.09 H	196	6.50	38.22

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	*2459.00	91.23 PK	114.00	-22.77	1.08 V	209	58.87	32.36
2	*2459.00	91.23 AV	94.00	-2.77	1.08 V	209	58.87	32.36
3	2483.50	54.69 PK	74.00	-19.31	1.08 V	209	22.30	32.39
4	2483.50	42.35 AV	54.00	-11.65	1.08 V	209	9.96	32.39
5	4918.00	51.46 PK	74.00	-22.54	1.11 V	208	13.24	38.22
6	4918.00	44.28 AV	54.00	-9.72	1.11 V	208	6.06	38.22

- 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 + $20\log(\text{Duty cycle})$ Where the duty factor is calculated from following formula:
 $20\log(\text{Duty cycle}) = 20\log(100\%) = 0\text{dB}$
Please see page 26 for plotted duty

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
MODULATION TYPE	FSK	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 68%RH, 991hPa	TEST MODE	C
TESTED BY	Brad Wu		

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	55.04 PK	74.00	-18.96	1.00 H	173	22.72	32.32
2	2390.00	42.75 AV	54.00	-11.25	1.00 H	173	10.43	32.32
3	2400.00	56.18 PK	74.00	-17.82	1.00 H	173	23.87	32.31
4	2400.00	43.82 AV	54.00	-10.18	1.00 H	173	11.51	32.31
5	*2445.00	91.55 PK	114.00	-22.45	1.00 H	173	59.20	32.35
6	*2445.00	91.55 AV	94.00	-2.45	1.00 H	173	59.20	32.35
7	4890.00	51.63 PK	74.00	-22.37	1.19 H	236	13.47	38.16
8	4890.00	45.44 AV	54.00	-8.56	1.19 H	236	7.28	38.16

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	54.76 PK	74.00	-19.24	1.18 V	165	22.44	32.32
2	2390.00	42.43 AV	54.00	-11.57	1.18 V	165	10.11	32.32
3	2400.00	55.62 PK	74.00	-18.38	1.18 V	165	23.31	32.31
4	2400.00	43.35 AV	54.00	-10.65	1.18 V	165	11.04	32.31
5	*2445.00	90.82 PK	114.00	-23.18	1.18 V	165	58.47	32.35
6	*2445.00	90.82 AV	94.00	-3.18	1.18 V	165	58.47	32.35
7	4890.00	51.04 PK	74.00	-22.96	1.23 V	56	12.88	38.16
8	4890.00	44.89 AV	54.00	-9.11	1.23 V	56	6.73	38.16

- 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 + $20\log(\text{Duty cycle})$ Where the duty factor is calculated from following formula:
 $20\log(\text{Duty cycle}) = 20\log(100\%) = 0\text{dB}$
Please see page 27 for plotted duty

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 4	FREQUENCY RANGE	1 ~ 25GHz
MODULATION TYPE	FSK	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 68%RH, 991hPa	TEST MODE	C
TESTED BY	Brad Wu		

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	*2451.00	91.74 PK	114.00	-22.26	1.00 H	189	59.38	32.36
2	*2451.00	91.74 AV	94.00	-2.26	1.00 H	189	59.38	32.36
3	4902.00	51.98 PK	74.00	-22.02	1.10 H	300	13.80	38.18
4	4902.00	46.12 AV	54.00	-7.88	1.10 H	300	7.94	38.18

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	*2451.00	91.12 PK	114.00	-22.88	1.30 V	147	58.76	32.36
2	*2451.00	91.12 AV	94.00	-2.88	1.30 V	147	58.76	32.36
3	4902.00	51.47 PK	74.00	-22.53	1.18 V	80	13.29	38.18
4	4902.00	45.13 AV	54.00	-8.87	1.18 V	80	6.95	38.18

- 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 + $20\log(\text{Duty cycle})$ Where the duty factor is calculated from following formula:
 $20\log(\text{Duty cycle}) = 20\log(100\%) = 0\text{dB}$
 Please see page 27 for plotted duty

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 7	FREQUENCY RANGE	1 ~ 25GHz
MODULATION TYPE	FSK	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 68%RH, 991hPa	TEST MODE	C
TESTED BY	Brad Wu		

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	*2459.00	91.84 PK	114.00	-22.16	1.01 H	175	59.48	32.36
2	*2459.00	91.84 AV	94.00	-2.16	1.01 H	175	59.48	32.36
3	2483.50	54.21 PK	74.00	-19.79	1.01 H	175	21.82	32.39
4	2483.50	41.86 AV	54.00	-12.14	1.01 H	175	9.47	32.39
5	4918.00	51.65 PK	74.00	-22.35	1.15 H	201	13.43	38.22
6	4918.00	44.58 AV	54.00	-9.42	1.15 H	201	6.36	38.22

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	*2459.00	91.04 PK	114.00	-22.96	1.20 V	168	58.68	32.36
2	*2459.00	91.04 AV	94.00	-2.96	1.20 V	168	58.68	32.36
3	2483.50	53.95 PK	74.00	-20.05	1.20 V	168	21.56	32.39
4	2483.50	41.52 AV	54.00	-12.48	1.20 V	168	9.13	32.39
5	4918.00	50.85 PK	74.00	-23.15	1.05 V	306	12.63	38.22
6	4918.00	43.96 AV	54.00	-10.04	1.05 V	306	5.74	38.22

- 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 + $20\log(\text{Duty cycle})$ Where the duty factor is calculated from following formula:
 $20\log(\text{Duty cycle}) = 20\log(100\%) = 0\text{dB}$
Please see page 27 for plotted duty

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	1 ~ 25GHz
MODULATION TYPE	FSK	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 68%RH, 991hPa	TEST MODE	D
TESTED BY	Brad Wu		

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	56.58 PK	74.00	-17.42	1.00 H	159	24.26	32.32
2	2390.00	44.25 AV	54.00	-9.75	1.00 H	159	11.93	32.32
3	2400.00	57.08 PK	74.00	-16.92	1.00 H	159	24.77	32.31
4	2400.00	44.81 AV	54.00	-9.19	1.00 H	159	12.50	32.31
5	*2445.00	93.44 PK	114.00	-20.56	1.00 H	159	61.09	32.35
6	*2445.00	93.44 AV	94.00	-0.56	1.00 H	159	61.09	32.35
7	4890.00	51.26 PK	74.00	-22.74	1.01 H	92	13.10	38.16
8	4890.00	45.03 AV	54.00	-8.97	1.01 H	92	6.87	38.16

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	56.03 PK	74.00	-17.97	1.17 V	191	23.71	32.32
2	2390.00	43.80 AV	54.00	-10.20	1.17 V	191	11.48	32.32
3	2400.00	56.35 PK	74.00	-17.65	1.17 V	191	24.04	32.31
4	2400.00	44.13 AV	54.00	-9.87	1.17 V	191	11.82	32.31
5	*2445.00	91.19 PK	114.00	-22.88	1.17 V	191	58.84	32.35
6	*2445.00	91.19 AV	94.00	-2.81	1.17 V	191	58.84	32.35
7	4890.00	50.35 PK	74.00	-23.65	1.09 V	62	12.19	38.16
8	4890.00	44.26 AV	54.00	-9.74	1.09 V	62	6.10	38.16

- 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 + $20\log(\text{Duty cycle})$ Where the duty factor is calculated from following formula:
 $20\log(\text{Duty cycle}) = 20\log(100\%) = 0\text{dB}$
Please see page 27 for plotted duty

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 4	FREQUENCY RANGE	1 ~ 25GHz
MODULATION TYPE	FSK	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 68%RH, 991hPa	TEST MODE	D
TESTED BY	Brad Wu		

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	*2451.00	92.19 PK	114.00	-21.81	1.00 H	169	59.83	32.36
2	*2451.00	92.19 AV	94.00	-1.81	1.00 H	169	59.83	32.36
3	4902.00	51.62 PK	74.00	-22.38	1.03 H	104	13.44	38.18
4	4902.00	45.52 AV	54.00	-8.48	1.03 H	104	7.34	38.18

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	*2451.00	89.82 PK	114.00	-24.18	1.14 V	126	57.46	32.36
2	*2451.00	89.82 AV	94.00	-4.18	1.14 V	126	57.46	32.36
3	4902.00	50.96 PK	74.00	-23.04	1.05 V	78	12.78	38.18
4	4902.00	44.58 AV	54.00	-9.42	1.05 V	78	6.40	38.18

- 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 + $20\log(\text{Duty cycle})$ Where the duty factor is calculated from following formula:
 $20\log(\text{Duty cycle}) = 20\log(100\%) = 0\text{dB}$
 Please see page 27 for plotted duty

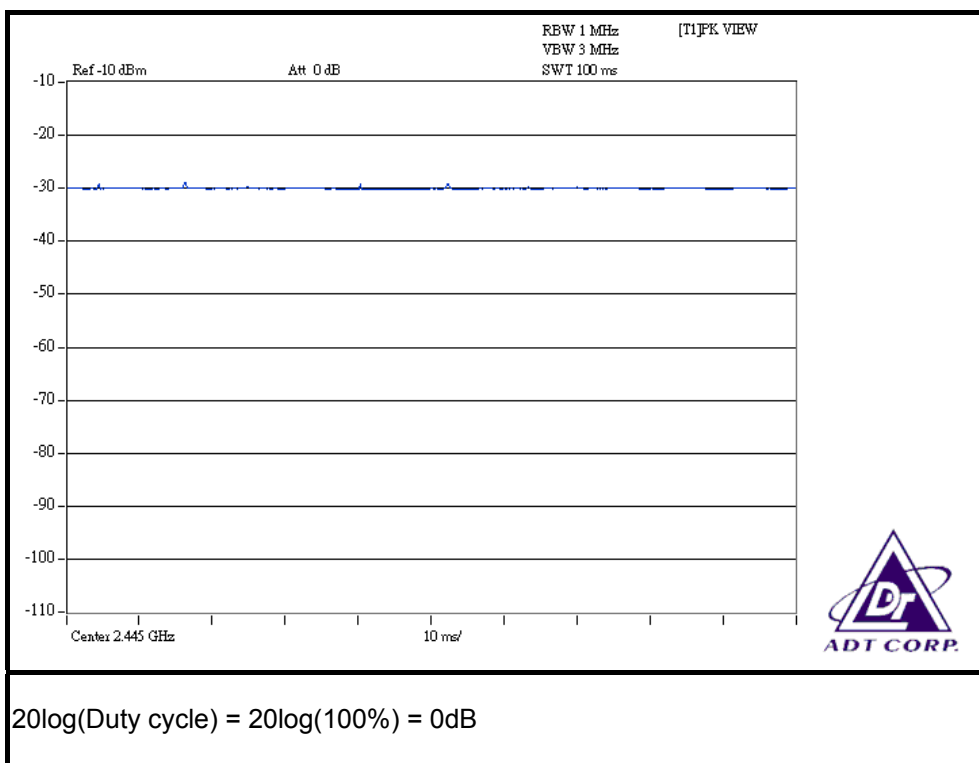
EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 7	FREQUENCY RANGE	1 ~ 25GHz
MODULATION TYPE	FSK	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	23deg. C, 68%RH, 991hPa	TEST MODE	D
TESTED BY	Brad Wu		

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	*2459.00	92.82 PK	114.00	-21.18	1.01 H	162	60.46	32.36
2	*2459.00	92.82 AV	94.00	-1.18	1.01 H	162	60.46	32.36
3	2483.50	55.36 PK	74.00	-18.64	1.01 H	162	22.97	32.39
4	2483.50	42.91 AV	54.00	-11.09	1.01 H	162	10.52	32.39
5	4918.00	51.02 PK	74.00	-22.98	1.15 H	136	12.80	38.22
6	4918.00	44.83 AV	54.00	-9.17	1.15 H	136	6.61	38.22

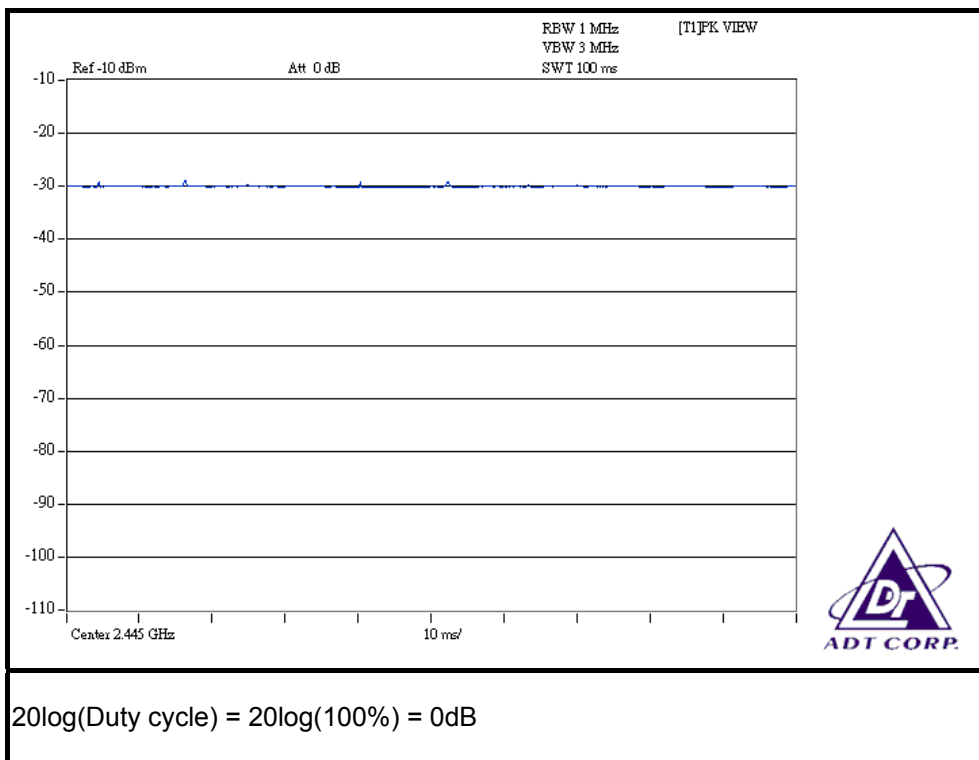
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2459.00	90.86 PK	114.00	-23.14	1.16 V	193	58.50	32.36
2	*2459.00	90.86 AV	94.00	-3.14	1.16 V	193	58.50	32.36
3	2483.50	55.11 PK	74.00	-18.89	1.16 V	193	22.72	32.39
4	2483.50	42.69 AV	54.00	-11.31	1.16 V	193	10.30	32.39
5	4918.00	50.26 PK	74.00	-23.74	1.01 V	86	12.04	38.22
6	4918.00	44.08 AV	54.00	-9.92	1.01 V	86	5.86	38.22

- 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 + $20\log(\text{Duty cycle})$ Where the duty factor is calculated from following formula:
 $20\log(\text{Duty cycle}) = 20\log(100\%) = 0\text{dB}$
Please see page 27 for plotted duty

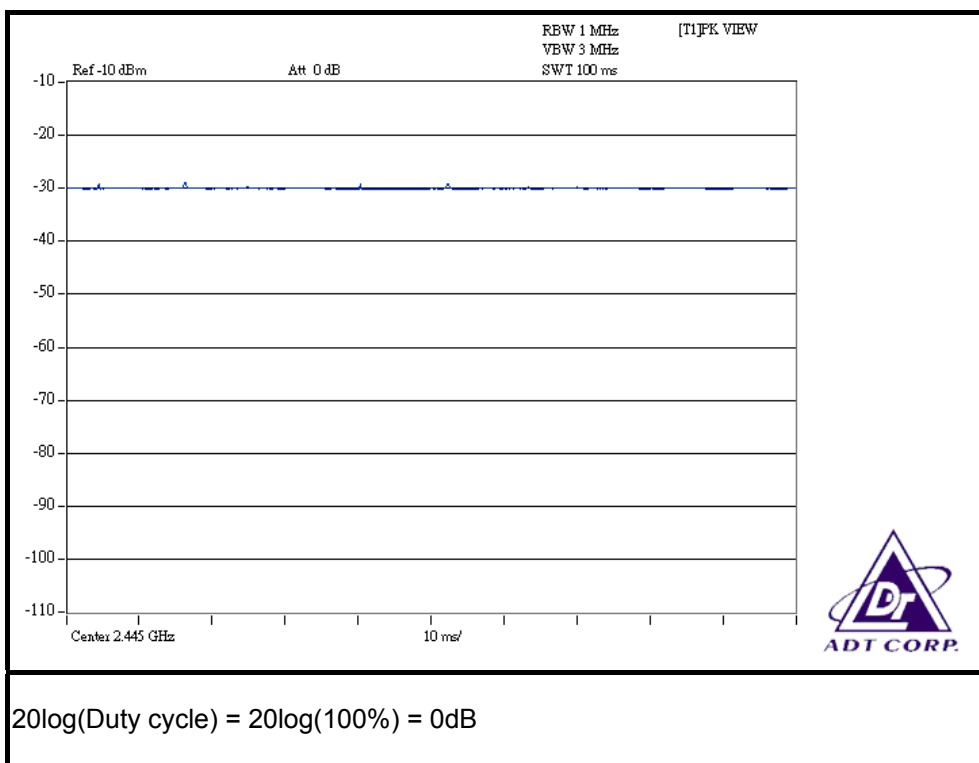
TEST MODE A



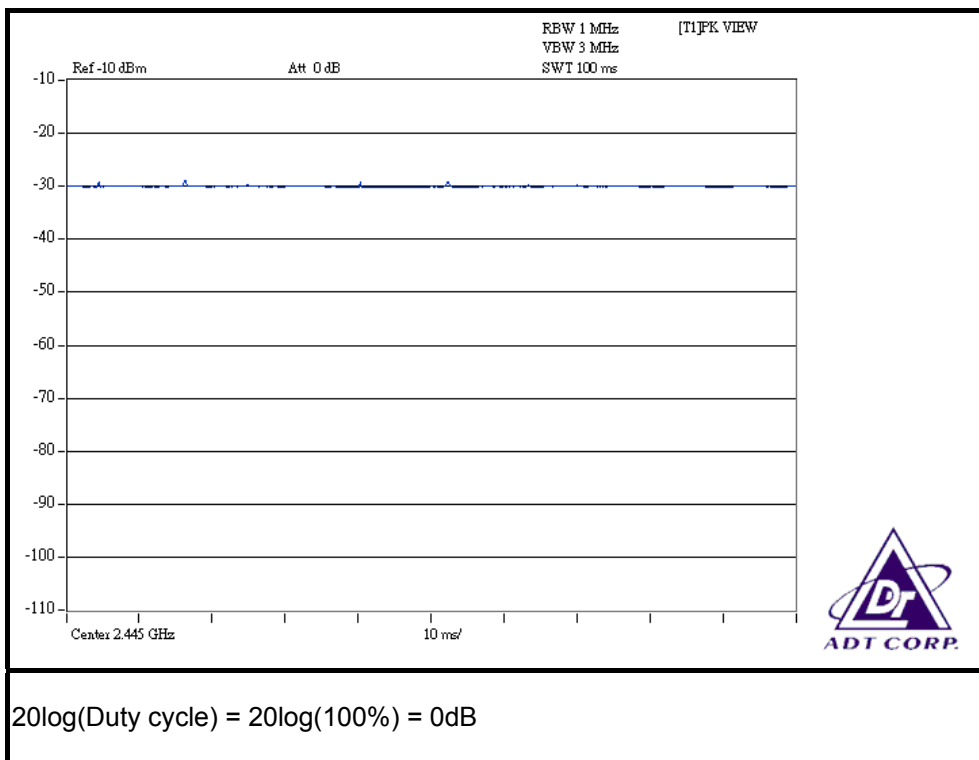
TEST MODE B



TEST MODE C



TEST MODE D



RADIATED WORST-CASE DATA: BELOW 1GHz

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	Below 1000MHz
MODULATION TYPE	FSK	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	25deg. C, 66%RH, 991hPa	TEST MODE	A
TESTED BY	Dean Wang		

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	27.74 QP	40.00	-12.26	1.50 H	76	13.51	14.23
2	755.12	25.08 QP	46.00	-20.92	1.00 H	10	-0.59	25.67
3	801.78	25.69 QP	46.00	-20.31	1.50 H	139	-0.24	25.92
4	844.56	26.16 QP	46.00	-19.84	1.25 H	100	-0.68	26.84
5	867.89	26.85 QP	46.00	-19.15	1.00 H	295	-0.33	27.19
6	891.22	27.08 QP	46.00	-18.92	1.50 H	10	-0.41	27.49
7	928.16	27.37 QP	46.00	-18.63	2.00 H	40	-0.64	28.00

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	45.45	27.95 QP	40.00	-12.05	1.25 V	355	13.73	14.23
2	66.84	21.97 QP	40.00	-18.03	1.25 V	286	8.87	13.10
3	129.06	22.83 QP	43.50	-20.67	1.25 V	319	9.69	13.14
4	807.62	25.46 QP	46.00	-20.54	1.50 V	145	-0.59	26.05
5	830.95	26.05 QP	46.00	-19.95	1.25 V	319	-0.50	26.55
6	875.67	26.77 QP	46.00	-19.23	2.00 V	271	-0.52	27.29
7	900.94	27.43 QP	46.00	-18.57	1.50 V	133	-0.19	27.61
8	926.22	27.94 QP	46.00	-18.06	1.25 V	292	-0.04	27.98
9	945.66	28.35 QP	46.00	-17.65	1.50 V	121	0.09	28.26

- 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.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	Below 1000MHz
MODULATION TYPE	FSK	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	25deg. C, 66%RH, 991hPa	TEST MODE	B
TESTED BY	Dean Wang		

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	27.54 QP	40.00	-12.46	1.50 H	304	13.32	14.23
2	66.84	19.16 QP	40.00	-20.84	1.25 H	121	6.06	13.10
3	751.23	24.86 QP	46.00	-21.14	1.25 H	283	-0.80	25.65
4	780.40	25.56 QP	46.00	-20.44	1.00 H	88	-0.24	25.79
5	813.45	25.23 QP	46.00	-20.77	1.50 H	163	-0.94	26.17
6	832.89	25.99 QP	46.00	-20.01	2.00 H	79	-0.60	26.59
7	867.89	26.71 QP	46.00	-19.29	1.50 H	151	-0.48	27.19
8	895.11	27.08 QP	46.00	-18.92	2.00 H	58	-0.45	27.54
9	922.33	26.99 QP	46.00	-19.01	1.00 H	301	-0.93	27.92

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	45.45	27.89 QP	40.00	-12.11	1.25 V	301	13.66	14.23
2	66.84	22.72 QP	40.00	-17.28	1.25 V	226	9.62	13.10
3	99.89	22.63 QP	43.50	-20.87	1.50 V	313	12.45	10.18
4	129.06	22.70 QP	43.50	-20.80	1.00 V	160	9.55	13.14
5	753.18	25.38 QP	46.00	-20.62	1.00 V	187	-0.28	25.66
6	803.73	25.84 QP	46.00	-20.16	2.00 V	196	-0.13	25.96
7	836.78	25.86 QP	46.00	-20.14	1.00 V	250	-0.82	26.67
8	881.50	27.20 QP	46.00	-18.80	2.00 V	100	-0.16	27.36
9	933.99	27.34 QP	46.00	-18.66	1.00 V	181	-0.75	28.09
10	951.49	29.19 QP	46.00	-16.81	1.50 V	130	0.86	28.33

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.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	Below 1000MHz
MODULATION TYPE	FSK	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	25deg. C, 66%RH, 991hPa	TEST MODE	C
TESTED BY	Dean Wang		

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	27.35 QP	40.00	-12.65	1.25 H	16	13.12	14.23
2	755.12	24.98 QP	46.00	-21.02	1.50 H	208	-0.69	25.67
3	805.67	24.96 QP	46.00	-21.04	1.25 H	316	-1.05	26.01
4	848.45	26.69 QP	46.00	-19.31	1.25 H	103	-0.23	26.92
5	893.16	27.02 QP	46.00	-18.98	1.50 H	157	-0.49	27.51
6	930.11	27.94 QP	46.00	-18.06	2.00 H	64	-0.09	28.03
7	957.33	29.15 QP	46.00	-16.85	1.25 H	169	0.78	28.37

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	45.45	27.79 QP	40.00	-12.21	1.25 V	307	13.56	14.23
2	66.84	22.27 QP	40.00	-17.73	1.25 V	193	9.17	13.10
3	99.89	22.60 QP	43.50	-20.90	1.50 V	64	12.42	10.18
4	129.06	22.84 QP	43.50	-20.66	1.25 V	166	9.69	13.14
5	757.06	25.60 QP	46.00	-20.40	2.00 V	283	-0.08	25.68
6	797.89	25.33 QP	46.00	-20.67	2.00 V	28	-0.55	25.87
7	846.50	26.47 QP	46.00	-19.53	1.50 V	310	-0.41	26.88
8	906.77	27.57 QP	46.00	-18.43	1.25 V	346	-0.12	27.70
9	945.66	28.58 QP	46.00	-17.42	1.50 V	121	0.32	28.26

- 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.

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 1	FREQUENCY RANGE	Below 1000MHz
MODULATION TYPE	FSK	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	25deg. C, 66%RH, 991hPa	TEST MODE	D
TESTED BY	Dean Wang		

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	27.67 QP	40.00	-12.33	1.50 H	31	13.44	14.23
2	784.28	25.67 QP	46.00	-20.33	1.25 H	61	-0.14	25.81
3	838.72	25.89 QP	46.00	-20.11	1.00 H	40	-0.83	26.72
4	865.94	26.61 QP	46.00	-19.39	1.25 H	346	-0.55	27.16
5	899.00	27.02 QP	46.00	-18.98	1.25 H	109	-0.56	27.59
6	930.11	27.70 QP	46.00	-18.30	1.50 H	73	-0.33	28.03
7	947.60	28.61 QP	46.00	-17.39	1.50 H	19	0.32	28.28

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	45.45	28.02 QP	40.00	-11.98	1.25 V	334	13.79	14.23
2	66.84	22.66 QP	40.00	-17.34	1.25 V	31	9.56	13.10
3	129.06	23.19 QP	43.50	-20.31	1.00 V	1	10.05	13.14
4	786.23	25.33 QP	46.00	-20.67	1.25 V	4	-0.49	25.82
5	821.23	26.67 QP	46.00	-19.33	1.25 V	352	0.33	26.34
6	865.94	26.71 QP	46.00	-19.29	1.00 V	130	-0.45	27.16
7	891.22	26.60 QP	46.00	-19.40	2.00 V	250	-0.89	27.49
8	928.16	27.67 QP	46.00	-18.33	1.50 V	322	-0.34	28.00
9	945.66	28.44 QP	46.00	-17.56	1.50 V	319	0.18	28.26

- 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.

4.2 CONDUCTED EMISSION MEASUREMENT

NA

4.3 BAND EDGES MEASUREMENT

4.3.1 LIMITS OF BAND EDGES MEASUREMENT

Below –50dB of the highest emission level of operating band (in 100kHz Resolution Bandwidth).

4.3.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
SPECTRUM ANALYZER	FSP40	100040	Jun. 28, 2008

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

4.3.3 TEST PROCEDURE

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

The spectrum plots are attached on the following pages.

4.3.4 DEVIATION FROM TEST STANDARD

No deviation.

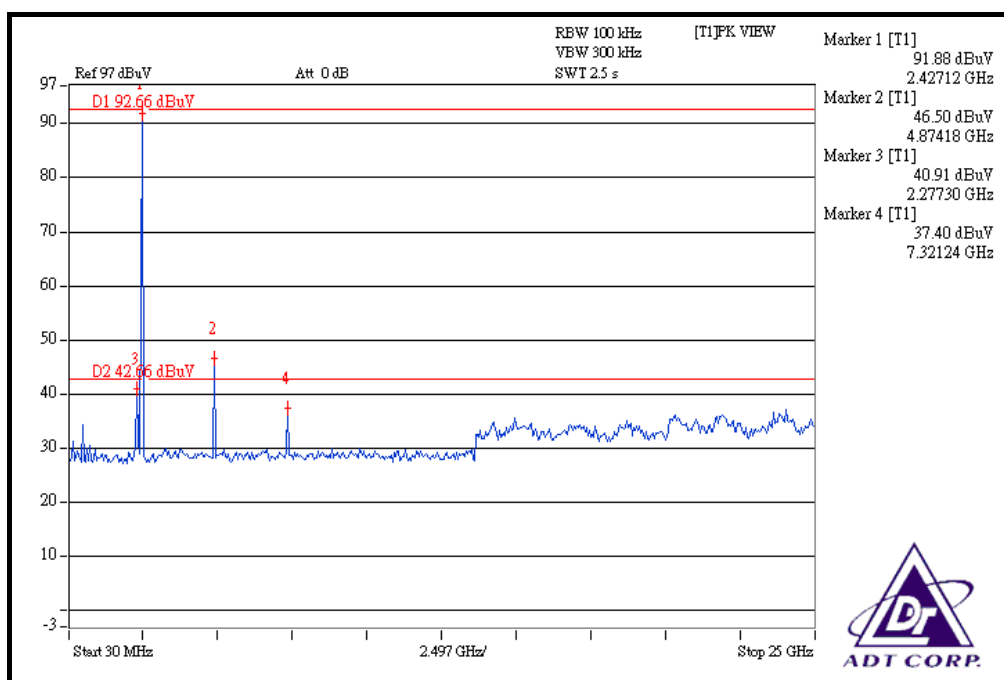
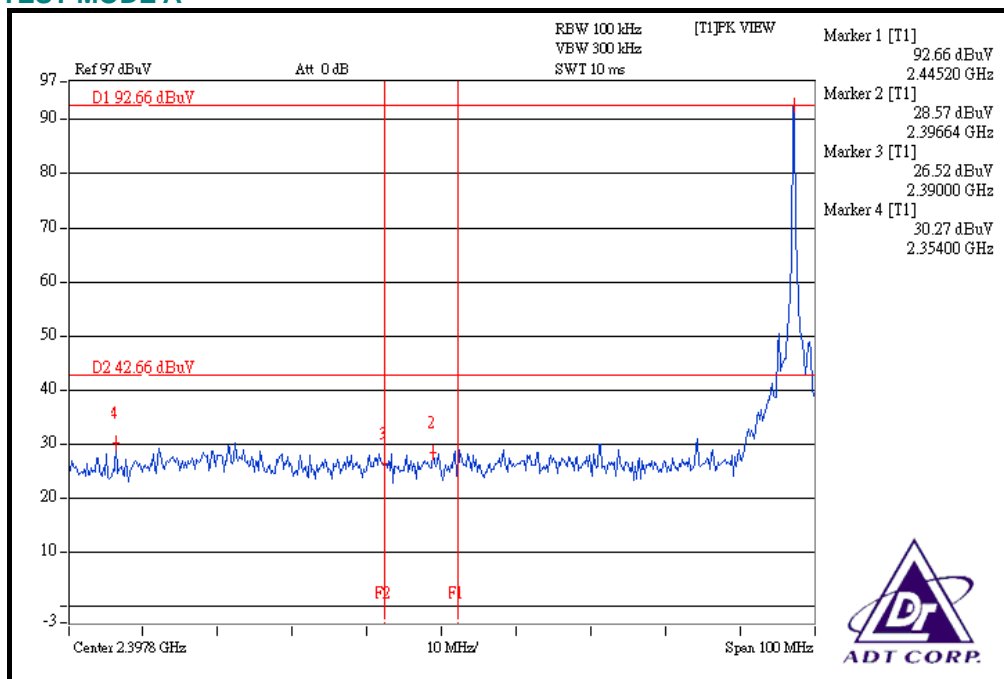
4.3.5 EUT OPERATING CONDITION

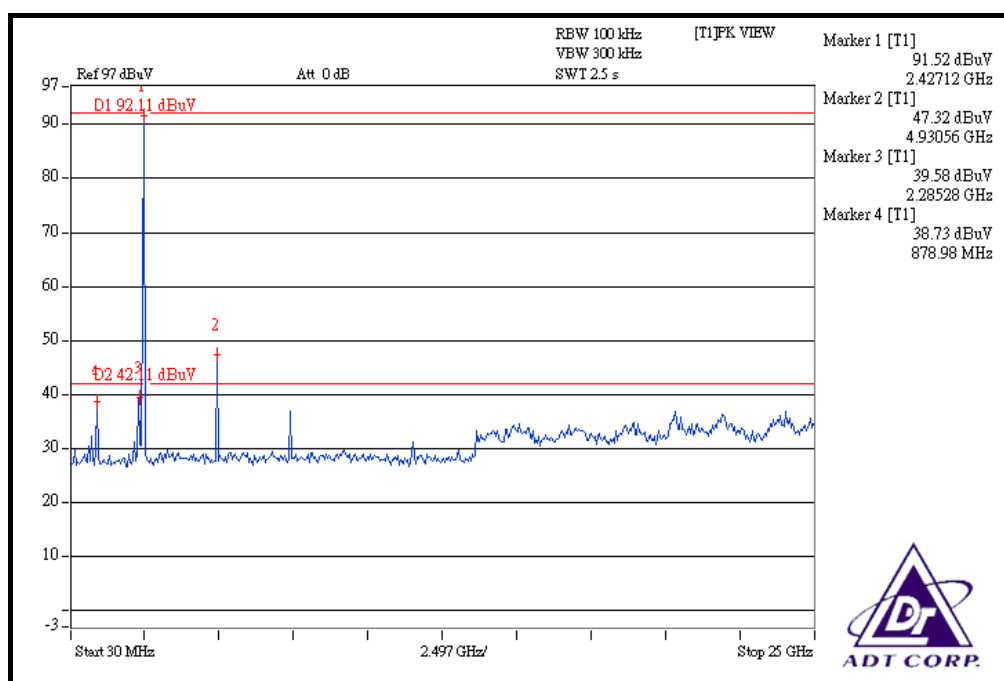
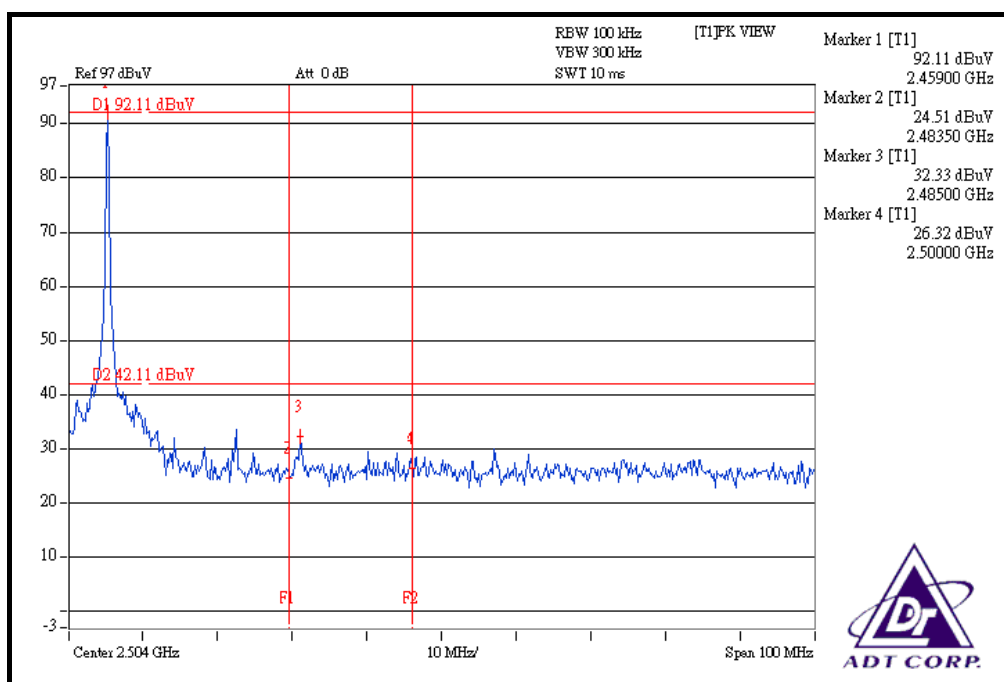
The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.3.6 TEST RESULTS

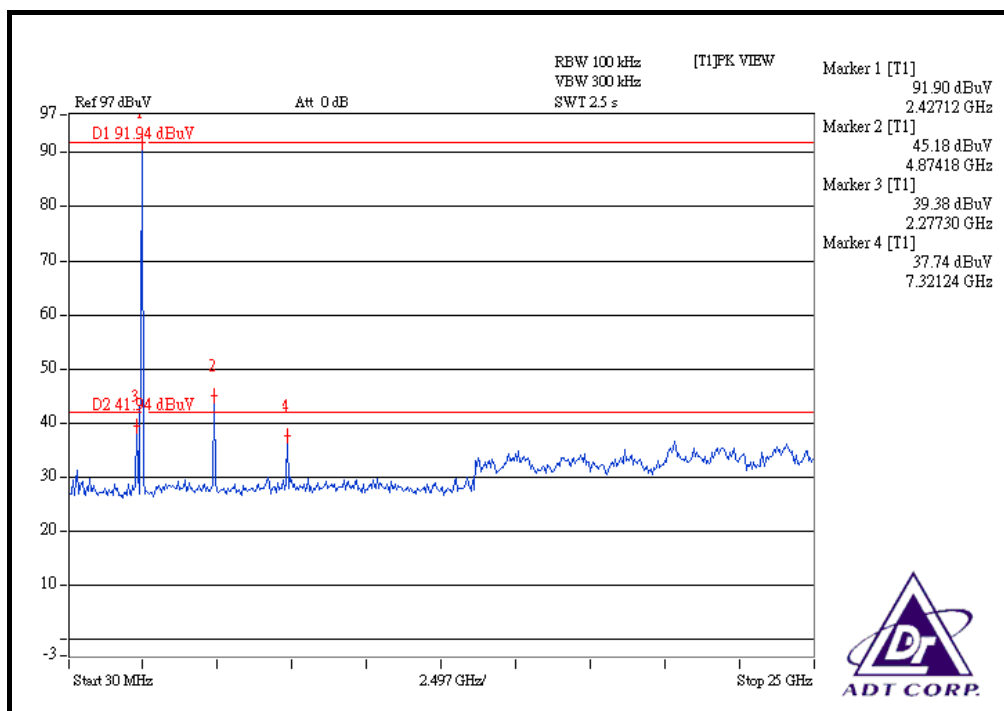
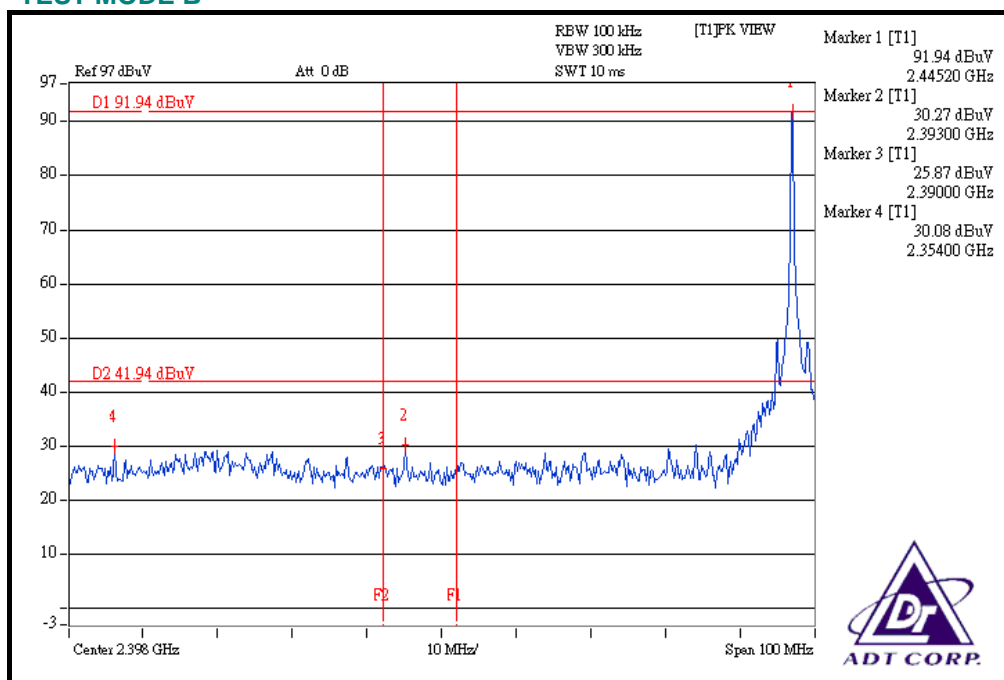
The spectrum plots are attached on the following 4 images. D1 line indicates the highest level, and D2 line indicates the 50dB offset below D1. It shows compliance with the requirement in part 15.249 (d).

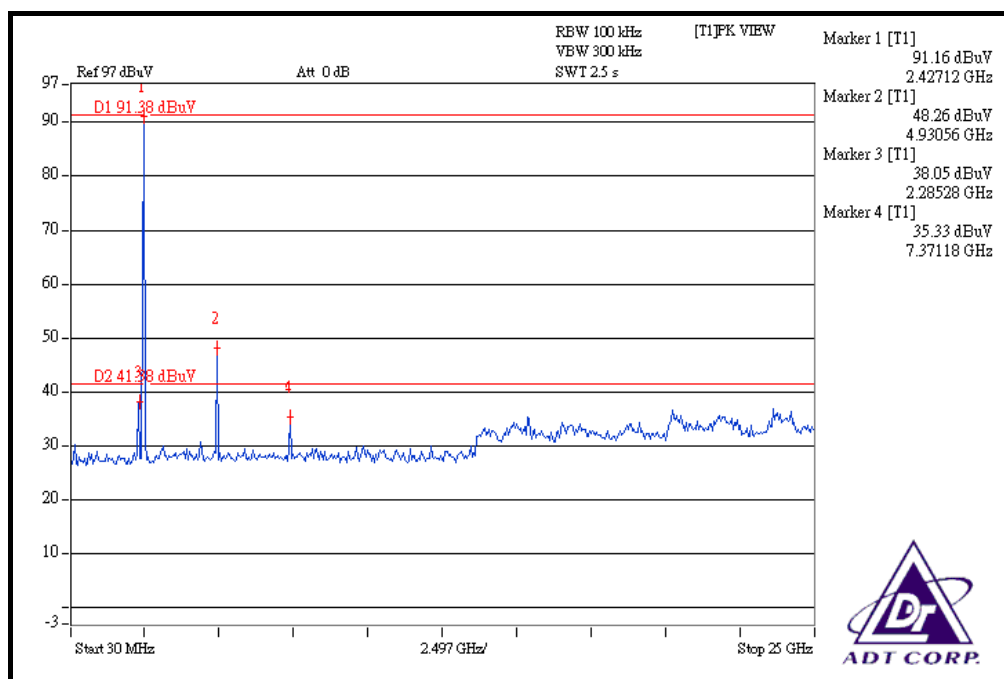
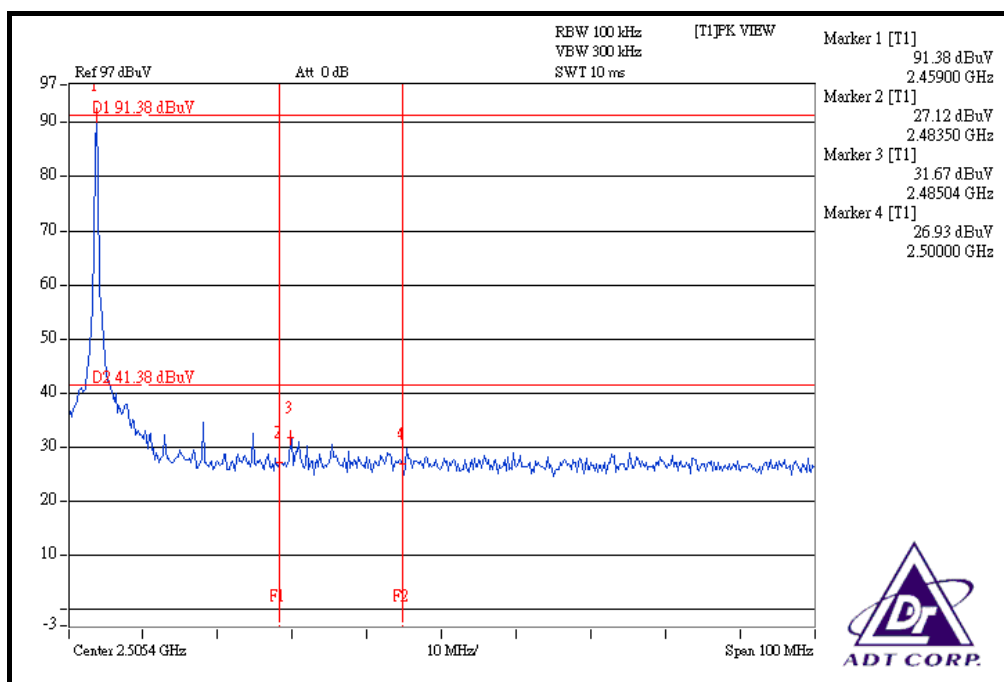
TEST MODE A



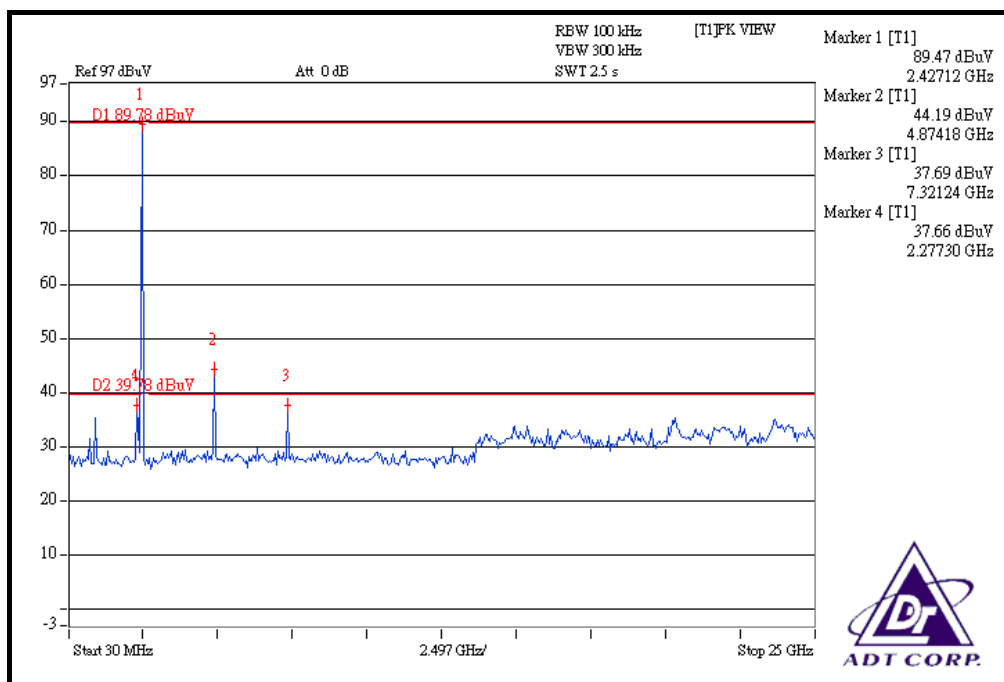
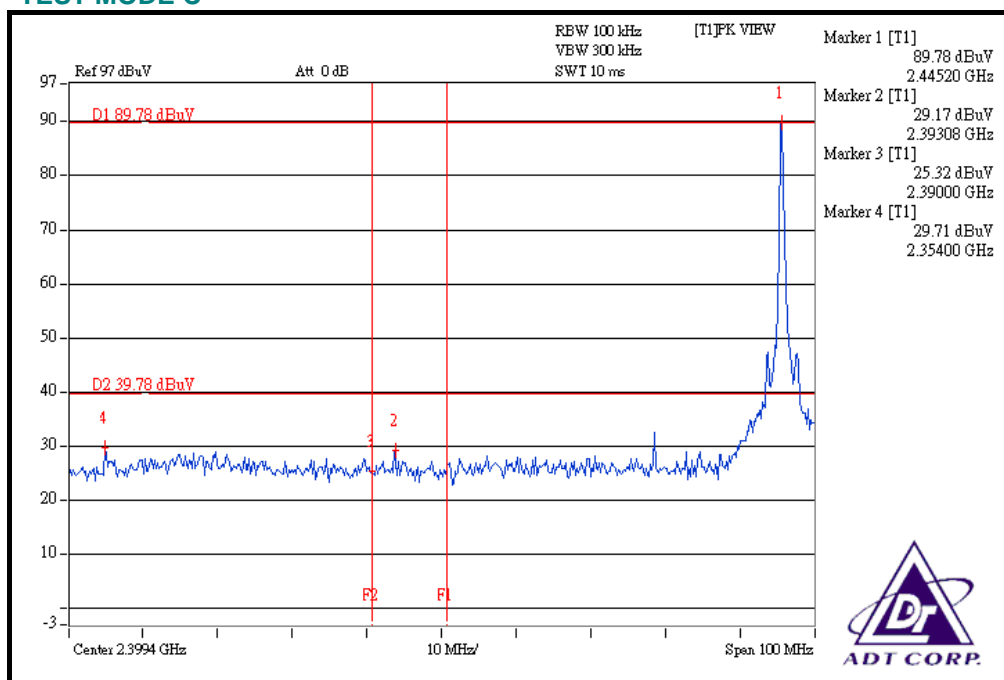


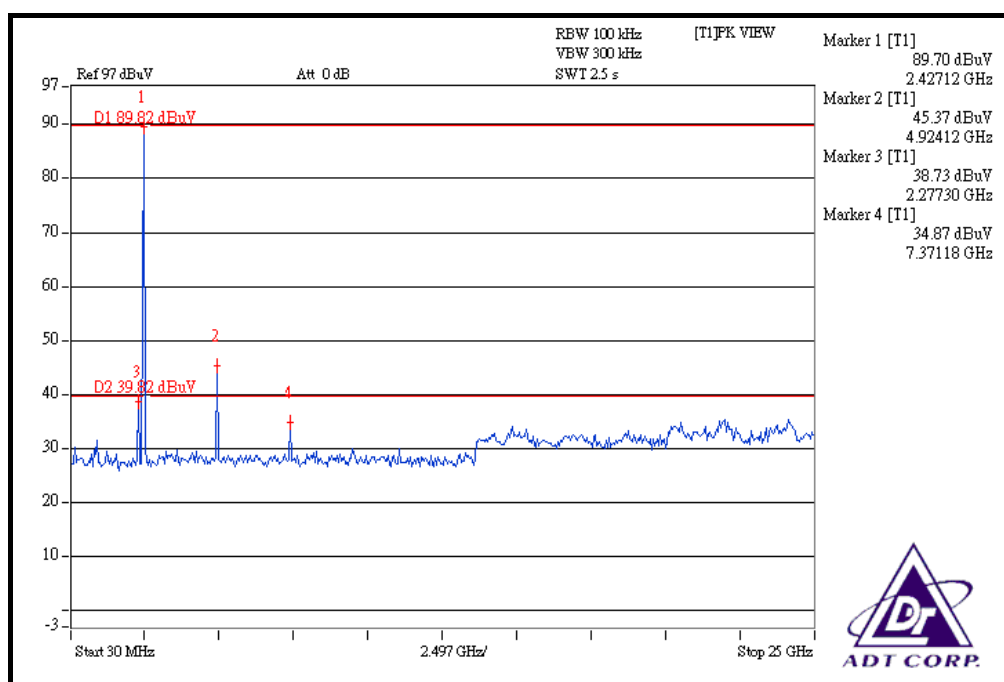
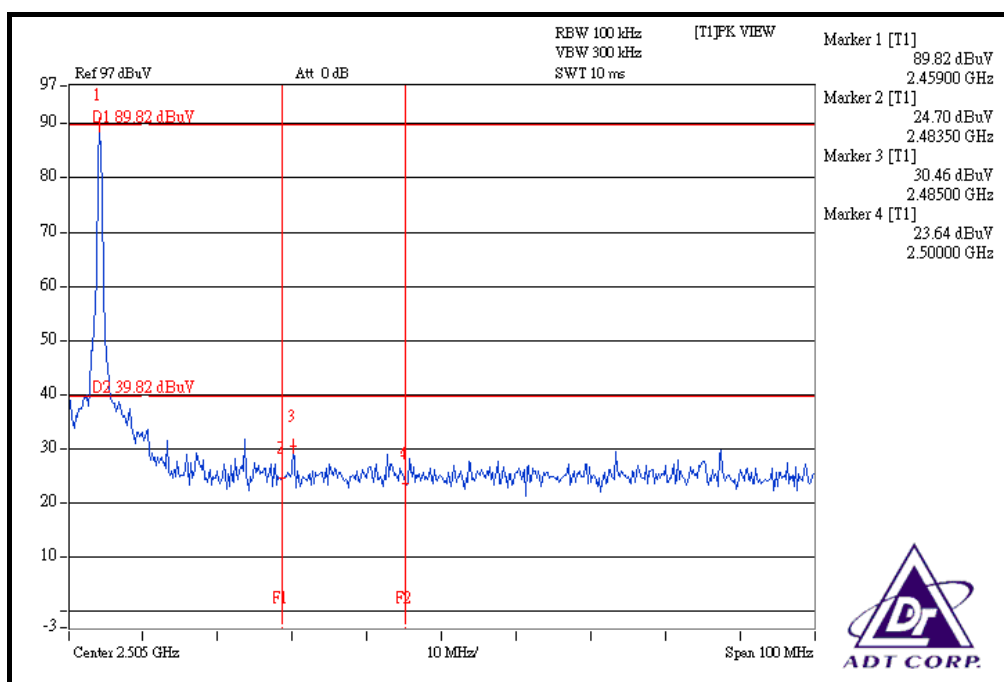
TEST MODE B



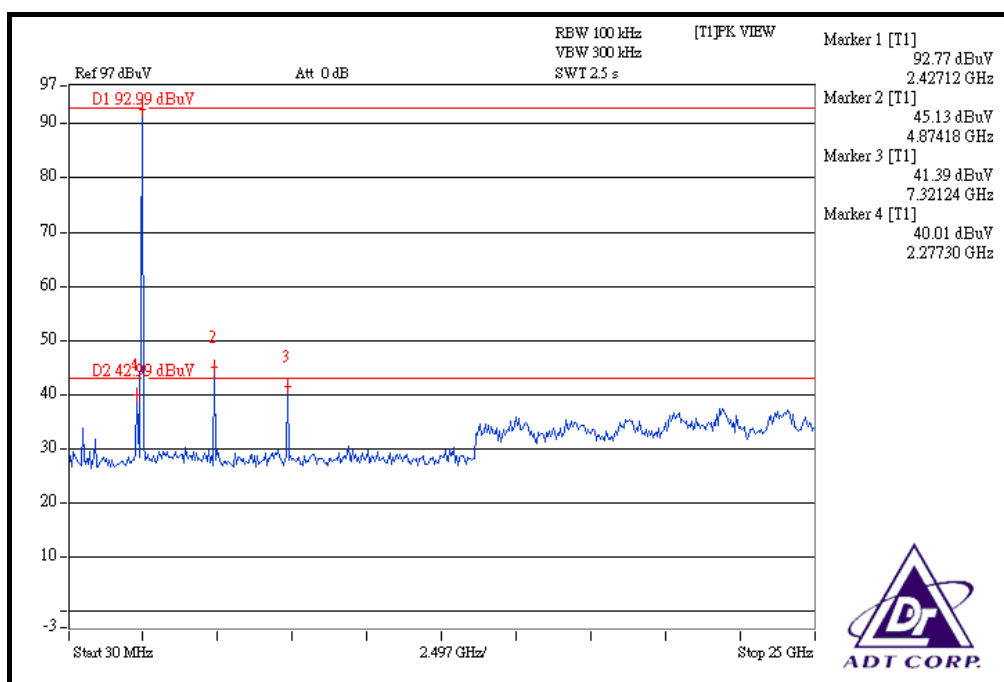
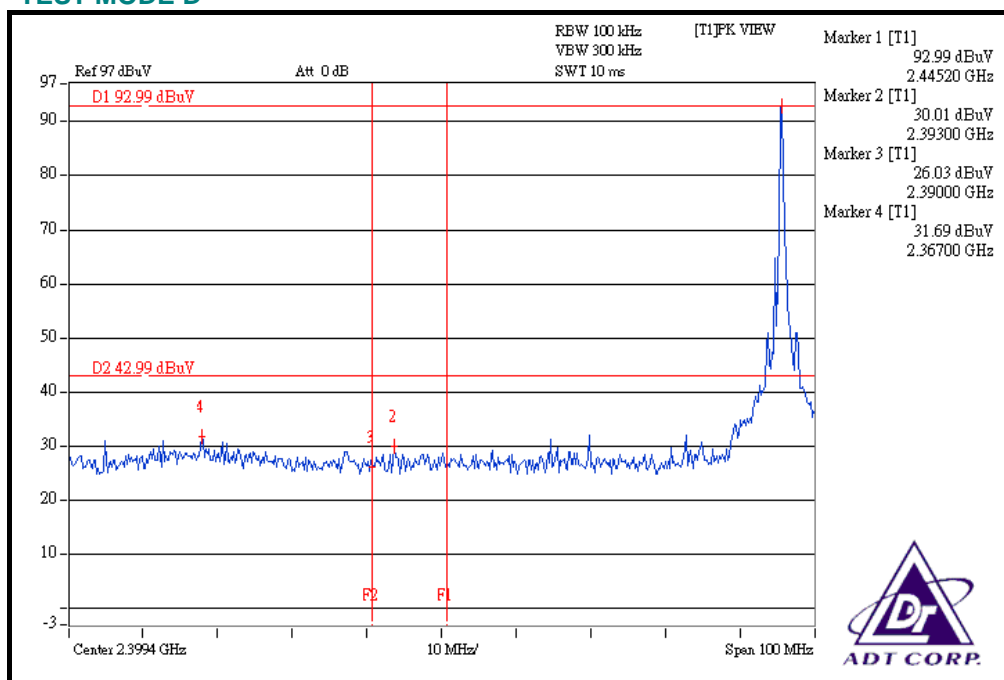


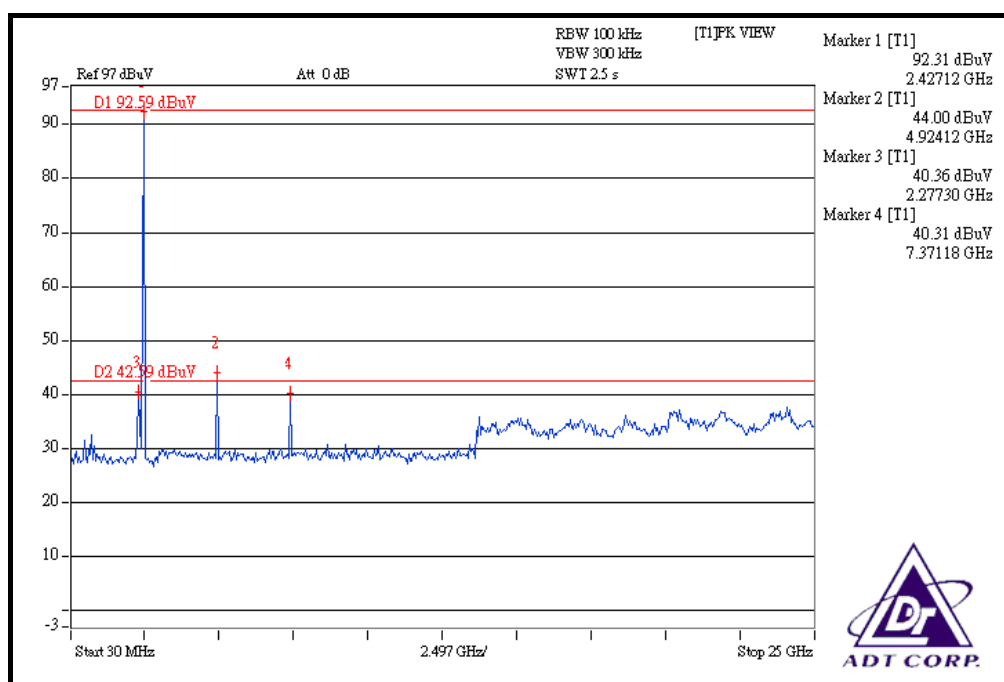
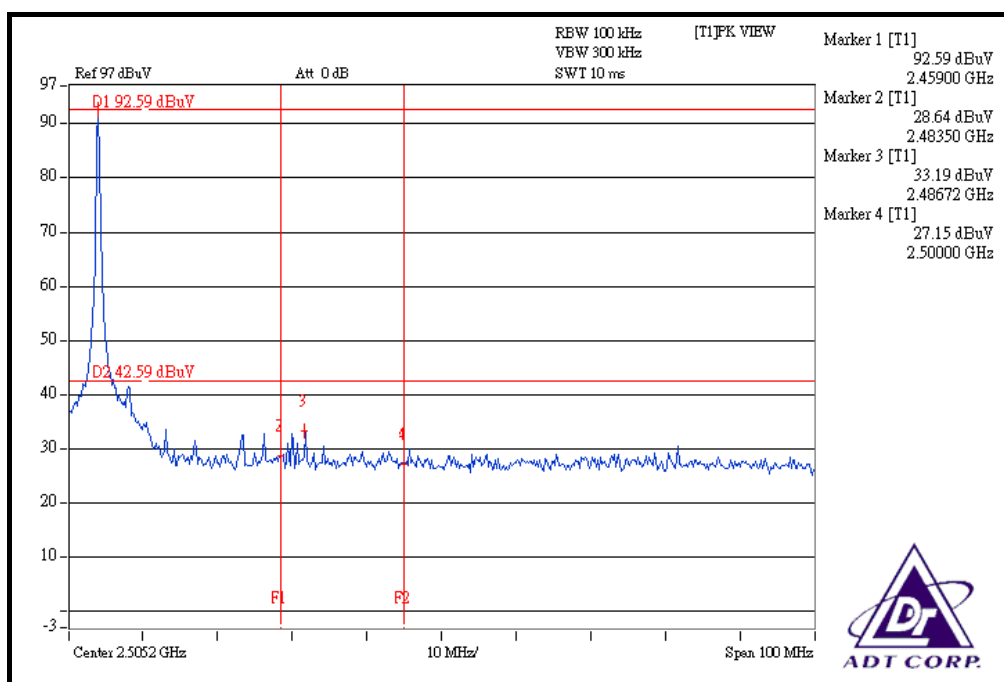
TEST MODE C





TEST MODE D





5. PHOTOGRAPHS OF THE TEST CONFIGURATION

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

6. INFORMATION ON THE TESTING LABORATORIES

We, ADT Corp., were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved by the following approval agencies according to ISO/IEC 17025.

USA	FCC, UL, A2LA
Germany	TUV Rheinland
Japan	VCCI
Norway	NEMKO
Canada	INDUSTRY CANADA, CSA
R.O.C.	TAF, BSMI, NCC
Netherlands	Telefication
Singapore	GOST-ASIA(MOU)
Russia	CERTIS(MOU)

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: 886-2-26051924

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

Web Site: www.adt.com.tw

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

7. 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.