FCC TEST REPORT

REPORT NO.: RF931125H01D
MODEL NO.: USR5417
RECEIVED: June 01, 2005
TESTED: June 01, 2005
ISSUED: June 08, 2005

APPLICANT: UNIVERSAL SCIENTIFIC INDUSTRIAL CO., LTD.

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ISSUED BY: Advance Data Technology Corporation

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No. 2177-01

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1 CERTIFICATION

PRODUCT :	U.S. Robotics Wireless Maxg PCI Adapter
BRAND NAME :	USR
MODEL NO. :	USR5417
TESTED:	June 01, 2005
APPLICANT :	UNIVERSAL SCIENTIFIC INDUSTRIAL CO., LTD.
TEST ITEM:	R&D SAMPLE
STANDARDS :	47 CFR Part 15, Subpart C (Section 15.247), ANSI C63.4-2003

The above equipment (Model: USR5417) has 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 : Midoli Peng , **DATE:** June 08, 2005
(Midoli Peng)

TECHNICAL ACCEPTANCE : Hank Chung , **DATE:** June 08, 2005
Responsible for RF
(Hank Chung)

APPROVED BY : , **DATE:** June 08, 2005
(Eric Lin, Manager)

2 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: 47 CFR Part 15, Subpart C			
Standard Section	**Test Type and Limit**	**Result**	**REMARK**
15.247(b)	Maximum Peak Output Power Limit: max. 30dBm	PASS	Meet the requirement of limit
15.247(c)	Radiated Emissions Limit: Table 15.209	PASS	Meet the requirement of limit Minimum passing margin is –1.1dB at 2483.5MHz
15.247(c)	Band Edge Measurement Limit: 20dB less than the peak value of fundamental frequency	PASS	Meet the requirement of limit

NOTE: This report is prepared for FCC class II permissive change. Only radiated emission, Maximum Peak Output Power and Band Edge Measurement conducted emission were presented in this test report.

3 GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	U.S. Robotics Wireless Maxg PCI Adapter
MODEL NO.	USR5417
POWER SUPPLY	5.0VDC from host equipment
MODULATION TYPE	CCK, OFDM
RADIO TECHNOLOGY	DSSS, OFDM
TRANSFER RATE	1/2/5.5/6/9/11/12/18/24/36/48/54Mbps
FREQUENCY RANGE	2412MHz ~ 2462MHz
NUMBER OF CHANNEL	11
OUTPUT POWER	20.28dBm
ANTENNA TYPE	Dipole antenna with 2.0dBi antenna gain
DATA CABLE	NA
I/O PORTS	NA
ASSOCIATED DEVICES	NA

NOTE:

1. This report is prepared for FCC class II permissive change. The difference compared with the original design is as the following:
   - ◆ Changed the PCB layout.
   - ◆ The antenna gain of original antenna has been changed as following :

Original				
No.	Brand	Gain (dBi)	Antenna Type	Antenna Connector
1	Joymax	2dBi, 5dBi	Dipole	Reverse SMA
2	Centurion	2dBi		
3	WHA YU	2dBi, 3dBi, 5dBi		
Newly				
No.	Brand	Gain (dBi)	Antenna Type	Antenna Connector
1	Joymax	2dBi	Dipole	Reverse SMA
2	Centurion	2dBi		
3	WHA YU	2dBi		

   From the above antennas, brand: Joymax (2dBi) was selected as representative model for the test and its data were recorded in this report.

2. The above EUT information was 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

Eleven channels are provided in this EUT.

Channel	Frequency	Channel	Frequency
1	2412 MHz	7	2442 MHz
2	2417 MHz	8	2447 MHz
3	2422 MHz	9	2452 MHz
4	2427 MHz	10	2457 MHz
5	2432 MHz	11	2462 MHz
6	2437 MHz		

3.3 TEST MODE APPLICABLITY AND TESTED CHANNEL DETAIL:

EUT configure mode	Applicable to				Description
	PLC	RE<1G	RE≥1G	APCM	
-	-	x	x	-	NA

Where PLC: Power Line Conducted Emission RE<1G RE: Radiated Emission below 1GHz
RE≥1G: Radiated Emission above 1GHz APCM: Antenna Port Conducted Measurement

Power Line Conducted Emission Test:

☐ 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.

Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6

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.

Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
802.11g	1 to 11	11	OFDM	BPSK	6

☐ The EUT was pre-tested in chamber as the following test modes:

Test Mode	Model Name	Power
Mode A	**WRT54G v4**	**With Adapter 1**
Mode B	WRT54G v4	With Adapter 2
Mode C	**WRT54GS v3**	**With Adapter 1**
Mode D	WRT54GS v3	With Adapter 2

The worst was found in Mode A & C, the worst cases, were chosen for final test.

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.

Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
802.11b	1 to 11	1, 6, 11	DSSS	CCK	11
802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6

Bandedge 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.

Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
802.11b	1 to 11	1, 11	DSSS	CCK	11
802.11g	1 to 11	1, 11	OFDM	BPSK	6

Antenna Port Conducted 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.

Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type	Data Rate (Mbps)
802.11b	1 to 11	1, 6, 11	DSSS	CCK	11
802.11g	1 to 11	1, 6, 11	OFDM	BPSK	6

3.4 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is an U.S. Robotics Wireless Maxg PCI Adapter. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

47 CFR Part 15, Subpart C. (15.247)
ANSI C63.4 : 2003

All tests 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 47 CFR Part 15, Subpart B, Class B (DoC). The test report has been issued separately.

3.5 DESCRIPTION OF SUPPORT UNITS

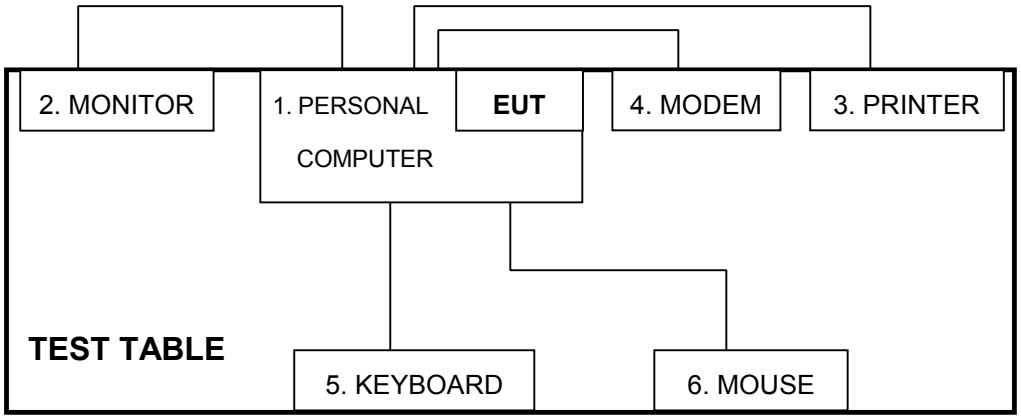
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

No.	Product	Brand	Model No.	Serial No.	FCC ID
1	PERSONAL COMPUTER	DELL	DH8	8H90618	NA
2	MONITOR	ADI	G1000	240058T00100081	NA
3	PRINTER	HP	C2642A	MY79F1C3MZ	B94C2642X
4	MODEM	ACEEX	1414	0206026773	IFAXDM1414
5	KEYBOARD	BTC	KB-5200T	F24800419	E5XKB5122WTH0110
6	MOUSE	BTC	M851	G00347024437	NA

No.	Signal cable description
1	NA
2	1.8 m braid shielded wire, terminated with VGA connector via metallic frame, w/o core
3	1.8 m braid shielded wire, terminated with DB25 and Centronics connector via metallic frame, w/o core
4	1.3 m braid shielded wire, terminated with DB25 and DB9 connector via metallic frame, w/o core.
5	1.8 m foil shielded wire, terminated with PS/2 connector via metallic frame, w/o core.
6	1.8 m foil shielded wire, terminated with PS/2 connector via metallic frame, w/o core.

Note: 1. All power cords of the above support units are unshielded (1.8m).

3.6 CONFIGURATION OF SYSTEM UNDER TEST



NOTE: 1. Please refer to the photos of test configuration in Item 5 also.

4 TEST TYPES AND RESULTS

4.1 RADIATED EMISSION MEASUREMENT

4.1.1 LIMITS OF RADIATED EMISSION MEASUREMENT

Field strength limits are at the distance of 3 meters, 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

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
HP Spectrum Analyzer	8594E	3710A04861	Sep. 23, 2005
ADVANTEST Spectrum Analyzer	R3271A	85060311	Jun. 29, 2005
CHASE RF Pre_Amplifier	CPA9232	1057	Aug 06, 2005
HP Pre_Amplifier	8449B	3008A01922	Oct. 13, 2005
ROHDE & SCHWARZ Test Receiver	ESCS30	100287	Dec. 08, 2005
CHASE Broadband Antenna	VULB9168	138	Dec. 21, 2005
Schwarzbeck Horn_Antenna	BBHA9120	D124	Jun. 16, 2005
Schwarzbeck Horn_Antenna	BBHA 9170	BBHA9170153	Jan. 30, 2006
SCHWARZBECK Biconical Antenna	VHBA9123	459	Jun. 26, 2006
SCHWARZBECK Periodic Antenna	UPA6108	1148	Jun. 26, 2006
RF Switches (ARNITSU)	CS-201	1565157	Jul. 15, 2005
RF CABLE (Chaintek) 1GHz-20GHz	SF102	22054-2	Nov. 15. 2005
RF Cable(RICHTEC)	9913-30M	STCCAB-30M-1GHz-021	Jul. 15, 2005
Software	ADT_Radiated_V 5.14	NA	NA
CHANCE MOST Antenna Tower	AT-100	0203	NA
CHANCE MOST Turn Table	TT-100	0203	NA

Note: 1. The calibration interval of the above test instruments is 12 months (36 months for Periodic Antenna)and the calibrations are traceable to NML/ROC and NIST/USA.
2. The horn antenna and HP preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
3. The test was performed in ADT 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 4824-3.
7. The following table is for the measurement uncertainty, which is calculated as per the document CISPR 16-4.

Measurement	Value
Radiated emissions (30MHz-1GHz)	2.98 dB
Radiated emissions (1GHz ~18GHz)	2.21 dB
Radiated emissions (18GHz ~20GHz)	1.88 dB

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 meter open area test 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 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.

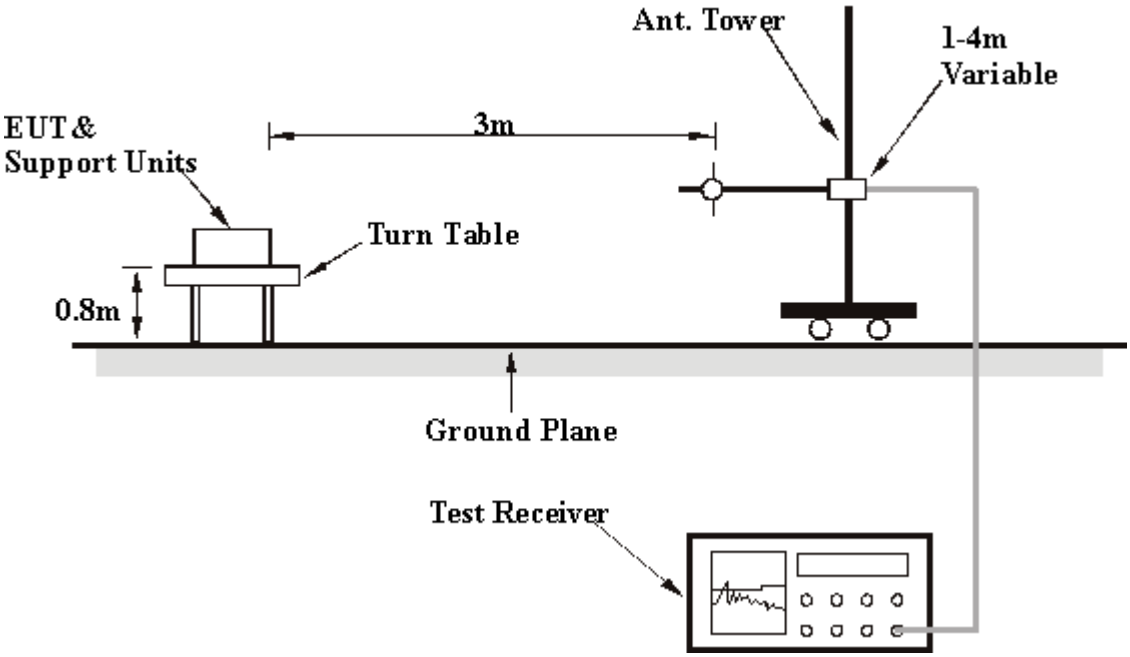
e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

f. If the emission level of the EUT in peak mode was 10 dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10 dB margin 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 Peak detection (PK) and Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1 MHz for Peak detection at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 300 Hz for Average detection (AV) at frequency above 1GHz.

4.1.4 TEST SETUP



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

4.1.5 EUT OPERATING CONDITIONS

a. Plug the EUT into the support unit 1 (Personal computer) which placed on a testing table.

b. The support unit 1 (Personal computer) ran a test program “MFGTEST” to enable EUT under transmission condition continuously at specific channel frequency.

c. Notebook computer sends "H" messages to modem.

d. Notebook computer sends "H" messages to printer, and the printer prints them on paper.

4.1.6 TEST RESULTS

EUT	U.S. Robotics Wireless Maxg PCI Adapter	**MODEL**	USR5417
MODE	Channel 11	**FREQUENCY RANGE**	30-1000 MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION & BANDWIDTH**	Quasi-Peak, 120kHz
ENVIRONMENTAL CONDITIONS	25 deg. C, 55%RH, 968 hPa	**TESTED BY**	Eric Lee

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	160.00	21.40 QP	43.50	-22.10	1.87 H	246	7.60	13.80
2	200.00	26.30 QP	43.50	-17.20	1.64 H	173	15.10	11.20
3	240.01	34.80 QP	46.00	-11.20	1.38 H	319	21.90	12.90
4	299.98	38.40 QP	46.00	-7.60	1.23 H	32	22.10	16.30
5	480.02	30.40 QP	46.00	-15.60	1.43 H	241	10.00	20.40
6	500.00	33.20 QP	46.00	-12.80	1.46 H	281	12.30	20.90
7	640.00	34.20 QP	46.00	-11.80	1.37 H	294	10.30	23.90
8	720.00	35.90 QP	46.00	-10.10	1.21 H	157	10.40	25.50
9	840.00	37.10 QP	46.00	-8.90	1.09 H	342	9.80	27.30

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	160.00	24.80 QP	43.50	-18.70	1.00 V	243	11.00	13.80
2	199.99	27.10 QP	43.50	-16.40	1.00 V	314	15.90	11.20
3	240.00	29.60 QP	46.00	-16.40	1.00 V	336	16.70	12.90
4	299.99	35.20 QP	46.00	-10.80	1.00 V	173	18.90	16.30
5	480.00	32.10 QP	46.00	-13.90	1.36 V	308	11.70	20.40
6	500.00	41.30 QP	46.00	-4.70	1.27 V	295	20.40	20.90
7	640.00	37.20 QP	46.00	-8.80	1.13 V	47	13.30	23.90
8	720.00	36.80 QP	46.00	-9.20	1.24 V	286	11.30	25.50
9	840.00	36.20 QP	46.00	-9.80	1.03 V	324	8.90	27.30

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.

4.1.7 TEST RESULTS – DSSS

EUT	U.S. Robotics Wireless Maxg PCI Adapter	**MODEL**	USR5417
MODE	Channel 1	**FREQUENCY RANGE**	1000~25000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION & BANDWIDTH**	Peak (PK) Average (AV) 1 MHz
ENVIRONMENTAL CONDITIONS	22 deg. C, 68%RH, 968 hPa	**TESTED BY**	Rex Huang

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	1608.00	41.10 PK	74.00	-32.90	1.64 H	346	13.80	27.40
1	1608.00	33.60 AV	54.00	-20.40	1.64 H	346	6.30	27.40
2	2390.00	50.30 PK	74.00	-23.70	1.56 H	305	16.60	33.70
2	2390.00	37.50 AV	54.00	-16.50	1.56 H	305	3.80	33.70
3	*2412.00	105.50 PK			1.56 H	305	75.70	29.80
3	*2412.00	98.70 AV			1.56 H	305	68.90	29.80
4	4824.00	44.90 PK	74.00	-29.10	1.37 H	267	9.80	35.10
4	4824.00	38.50 AV	54.00	-15.50	1.37 H	267	3.40	35.10
5	7236.00	48.10 PK	74.00	-25.90	1.28 H	28	7.60	40.50
5	7236.00	37.50 AV	54.00	-16.50	1.28 H	28	-3.00	40.50
6	9648.00	58.80 PK	85.50	-26.70	1.08 H	86	14.90	43.80
6	9648.00	55.10 AV	78.70	-23.60	1.08 H	86	11.20	43.80

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1608.00	43.80 PK	74.00	-30.20	1.00 V	43	16.50	27.40
1	1608.00	39.30 AV	54.00	-14.70	1.00 V	43	12.00	27.40
2	2390.00	56.10 PK	74.00	-17.90	1.08 V	349	22.40	33.70
2	2390.00	43.40 AV	54.00	-10.60	1.08 V	349	9.70	33.70
3	*2412.00	111.30 PK			1.08 V	349	81.50	29.80
3	*2412.00	104.60 AV			1.08 V	349	74.80	29.80
4	4824.00	48.70 PK	74.00	-25.30	1.42 V	217	13.60	35.10
4	4824.00	43.90 AV	54.00	-10.10	1.42 V	217	8.80	35.10
5	7236.00	48.50 PK	74.00	-25.50	1.34 V	312	8.00	40.50
5	7236.00	37.70 AV	54.00	-16.30	1.34 V	312	-2.80	40.50
6	9648.00	61.00 PK	91.30	-30.30	1.62 V	25	17.10	43.80
6	9648.00	57.80 AV	84.60	-26.80	1.62 V	25	13.90	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. The limit value is defined as per 15.247
6. " * " : Fundamental frequency

EUT	U.S. Robotics Wireless Maxg PCI Adapter	**MODEL**	USR5417
MODE	Channel 6	**FREQUENCY RANGE**	1000~25000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION & BANDWIDTH**	Peak (PK) Average (AV) 1 MHz
ENVIRONMENTAL CONDITIONS	22 deg. C, 68%RH, 968 hPa	**TESTED BY**	Rex Huang

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	1624.60	41.00 PK	74.00	-33.00	1.64 H	352	13.60	27.40
1	1624.60	33.60 AV	54.00	-20.40	1.64 H	352	6.20	27.40
2	*2437.00	105.80 PK			1.58 H	309	75.90	29.90
2	*2437.00	99.50 AV			1.58 H	309	69.60	29.90
3	4874.00	45.10 PK	74.00	-28.90	1.32 H	264	9.80	35.30
3	4874.00	38.20 AV	54.00	-15.80	1.32 H	264	2.90	35.30
4	7311.00	48.60 PK	74.00	-25.40	1.31 H	34	7.90	40.70
4	7311.00	37.90 AV	54.00	-16.10	1.31 H	34	-2.80	40.70
5	9748.00	56.30 PK	85.80	-29.50	1.15 H	92	12.70	43.60
5	9748.00	50.80 AV	79.50	-28.70	1.15 H	92	7.20	43.60

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	1624.60	43.60 PK	74.00	-30.40	1.00 V	46	16.20	27.40
1	1624.60	39.20 AV	54.00	-14.80	1.00 V	46	11.80	27.40
2	*2437.00	113.10 PK			1.07 V	346	83.20	29.90
2	*2437.00	106.10 AV			1.07 V	346	76.20	29.90
3	4874.00	48.60 PK	74.00	-25.40	1.43 V	242	13.30	35.30
3	4874.00	43.80 AV	54.00	-10.20	1.43 V	242	8.50	35.30
4	7311.00	49.40 PK	74.00	-24.60	1.38 V	304	8.70	40.70
4	7311.00	38.30 AV	54.00	-15.70	1.38 V	304	-2.40	40.70
5	9748.00	58.60 PK	93.10	-34.50	1.59 V	18	15.00	43.60
5	9748.00	54.40 AV	86.10	-31.70	1.59 V	18	10.80	43.60

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. The limit value is defined as per 15.247
6. " * " : Fundamental frequency

EUT	U.S. Robotics Wireless Maxg PCI Adapter	**MODEL**	USR5417
MODE	Channel 11	**FREQUENCY RANGE**	1000~25000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION & BANDWIDTH**	Peak (PK) Average (AV) 1 MHz
ENVIRONMENTAL CONDITIONS	22 deg. C, 68%RH, 968 hPa	**TESTED BY**	Rex Huang

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	*2462.00	107.90 PK			1.56 H	314	77.90	30.00
1	*2462.00	100.90 AV			1.56 H	314	70.90	30.00
2	2483.50	51.70 PK	74.00	-22.30	1.56 H	314	21.60	30.10
2	2483.50	39.70 AV	54.00	-14.30	1.56 H	314	9.60	30.10
3	3282.60	46.10 PK	74.00	-27.90	1.53 H	307	14.00	32.20
3	3282.60	42.20 AV	54.00	-11.80	1.53 H	307	10.10	32.20
4	4924.00	45.00 PK	74.00	-29.00	1.35 H	253	9.40	35.50
4	4924.00	36.30 AV	54.00	-17.70	1.35 H	253	0.70	35.50
5	7386.00	48.40 PK	74.00	-25.60	1.24 H	31	7.60	40.80
5	7386.00	38.00 AV	54.00	-16.00	1.24 H	31	-2.80	40.80
6	9848.00	55.20 PK	87.90	-32.70	1.03 H	91	11.80	43.40
6	9848.00	48.70 AV	80.90	-32.20	1.03 H	91	5.30	43.40

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	113.10 PK			1.07 V	355	83.10	30.00
1	*2462.00	105.90 AV			1.07 V	355	75.90	30.00
2	2483.50	56.90 PK	74.00	-17.10	1.07 V	355	26.80	30.10
2	2483.50	44.70 AV	54.00	-9.30	1.07 V	355	14.60	30.10
3	3282.60	50.90 PK	74.00	-23.10	1.31 V	176	18.80	32.20
3	3282.60	49.00 AV	54.00	-5.00	1.31 V	176	16.90	32.20
4	4924.00	48.50 PK	74.00	-25.50	1.46 V	251	12.90	35.50
4	4924.00	43.60 AV	54.00	-10.40	1.46 V	251	8.00	35.50
5	7386.00	49.00 PK	74.00	-25.00	1.33 V	343	8.20	40.80
5	7386.00	38.40 AV	54.00	-15.60	1.33 V	343	-2.40	40.80
6	9848.00	55.80 PK	93.10	-37.30	1.61 V	16	12.40	43.40
6	9848.00	50.60 AV	85.90	-35.30	1.61 V	16	7.20	43.40

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. The limit value is defined as per 15.247
6. " * " : Fundamental frequency

4.1.8 TEST RESULTS –OFDM

EUT	U.S. Robotics Wireless Maxg PCI Adapter	**MODEL**	USR5417
MODE	Channel 1	**FREQUENCY RANGE**	1000~25000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION & BANDWIDTH**	Peak (PK) Average (AV) 1 MHz
ENVIRONMENTAL CONDITIONS	22 deg. C, 68%RH, 968 hPa	**TESTED BY**	Rex Huang

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	1608.00	40.80 PK	74.00	-33.20	1.66 H	351	13.50	27.40
1	1608.00	33.20 AV	54.00	-20.80	1.66 H	351	5.90	27.40
2	2390.00	58.70 PK	74.00	-15.30	1.31 H	313	25.00	33.70
2	2390.00	44.20 AV	54.00	-9.80	1.31 H	313	10.50	33.70
3	*2412.00	105.40 PK			1.31 H	313	75.60	29.80
3	*2412.00	99.10 AV			1.31 H	313	69.30	29.80
4	4824.00	45.10 PK	74.00	-28.90	1.42 H	274	10.00	35.10
4	4824.00	38.90 AV	54.00	-15.10	1.42 H	274	3.80	35.10
5	7236.00	48.10 PK	74.00	-25.90	1.31 H	29	7.60	40.50
5	7236.00	37.70 AV	54.00	-16.30	1.31 H	29	-2.80	40.50
6	9648.00	56.40 PK	85.40	-29.00	1.12 H	93	12.50	43.80
6	9648.00	52.80 AV	79.10	-26.30	1.12 H	93	8.90	43.80

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1608.00	43.30 PK	74.00	-30.70	1.00 V	44	16.00	27.40
1	1608.00	39.00 AV	54.00	-15.00	1.00 V	44	11.70	27.40
2	2390.00	63.30 PK	74.00	-10.70	1.07 V	21	29.60	33.70
2	2390.00	49.00 AV	54.00	-5.00	1.07 V	21	15.30	33.70
3	*2412.00	110.00 PK			1.07 V	21	80.20	29.80
3	*2412.00	103.90 AV			1.07 V	21	74.10	29.80
4	4824.00	47.50 PK	74.00	-26.50	1.37 V	232	12.40	35.10
4	4824.00	41.80 AV	54.00	-12.20	1.37 V	232	6.70	35.10
5	7236.00	48.60 PK	74.00	-25.40	1.29 V	328	8.10	40.50
5	7236.00	37.90 AV	54.00	-16.10	1.29 V	328	-2.60	40.50
6	9648.00	57.30 PK	90.00	-32.70	1.58 V	43	13.40	43.80
6	9648.00	53.60 AV	83.90	-30.30	1.58 V	43	9.70	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. The limit value is defined as per 15.247
6. " * " : Fundamental frequency

EUT	U.S. Robotics Wireless Maxg PCI Adapter	**MODEL**	USR5417
MODE	Channel 6	**FREQUENCY RANGE**	1000~25000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION & BANDWIDTH**	Peak (PK) Average (AV) 1 MHz
ENVIRONMENTAL CONDITIONS	22 deg. C, 68%RH, 968 hPa	**TESTED BY**	Rex Huang

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	1624.60	40.60 PK	74.00	-33.40	1.63 H	346	13.20	27.40
1	1624.60	33.10 AV	54.00	-20.90	1.63 H	346	5.70	27.40
2	*2437.00	106.40 PK			1.37 H	317	76.50	29.90
2	*2437.00	100.00 AV			1.37 H	317	70.10	29.90
3	4874.00	45.10 PK	74.00	-28.90	1.46 H	294	9.80	35.30
3	4874.00	38.50 AV	54.00	-15.50	1.46 H	294	3.20	35.30
4	7311.00	48.40 PK	74.00	-25.60	1.30 H	37	7.70	40.70
4	7311.00	37.80 AV	54.00	-16.20	1.30 H	37	-2.90	40.70
5	9748.00	55.40 PK	86.40	-31.00	1.09 H	118	11.70	43.60
5	9748.00	51.80 AV	80.00	-28.20	1.09 H	118	8.20	43.60

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	1624.60	41.90 PK	74.00	-32.10	1.00 V	45	14.50	27.40
1	1624.60	38.70 AV	54.00	-15.30	1.00 V	45	11.30	27.40
2	*2437.00	111.00 PK			1.07 V	343	81.10	29.90
2	*2437.00	105.10 AV			1.07 V	343	75.20	29.90
3	4874.00	48.00 PK	74.00	-26.00	1.41 V	246	12.70	35.30
3	4874.00	41.50 AV	54.00	-12.50	1.41 V	246	6.20	35.30
4	7311.00	49.10 PK	74.00	-24.90	1.28 V	324	8.40	40.70
4	7311.00	38.10 AV	54.00	-15.90	1.28 V	324	-2.60	40.70
5	9748.00	55.90 PK	91.00	-35.10	1.57 V	52	12.30	43.60
5	9748.00	52.30 AV	85.10	-32.80	1.57 V	52	8.70	43.60

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. The limit value is defined as per 15.247
6. " * " : Fundamental frequency

EUT	U.S. Robotics Wireless Maxg PCI Adapter	**MODEL**	USR5417
MODE	Channel 11	**FREQUENCY RANGE**	1000~25000MHz
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**DETECTOR FUNCTION & BANDWIDTH**	Peak (PK) Average (AV) 1 MHz
ENVIRONMENTAL CONDITIONS	22 deg. C, 68%RH, 968 hPa	**TESTED BY**	Rex Huang

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	*2462.00	107.40 PK			1.40 H	320	77.40	30.00
1	*2462.00	101.00 AV			1.40 H	320	71.00	30.00
2	2483.50	60.20 PK	74.00	-13.80	1.40 H	320	30.10	30.10
2	2483.50	44.90 AV	54.00	-9.10	1.40 H	320	14.80	30.10
3	3282.60	45.60 PK	74.00	-28.40	1.56 H	314	13.50	32.20
3	3282.60	41.60 AV	54.00	-12.40	1.56 H	314	9.50	32.20
4	4924.00	46.00 PK	74.00	-28.00	1.47 H	291	10.40	35.50
4	4924.00	39.00 AV	54.00	-15.00	1.47 H	291	3.40	35.50
5	7386.00	48.40 PK	74.00	-25.60	1.25 H	35	7.60	40.80
5	7386.00	38.10 AV	54.00	-15.90	1.25 H	35	-2.70	40.80
6	9848.00	55.50 PK	87.40	-31.90	1.13 H	102	12.10	43.40
6	9848.00	51.10 AV	81.00	-29.90	1.13 H	102	7.70	43.40

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*2462.00	112.00 PK			1.06 V	358	82.00	30.00
1	*2462.00	106.00 AV			1.06 V	358	76.00	30.00
2	2483.50	64.80 PK	74.00	-9.20	1.06 V	358	34.70	30.10
2	**2483.50**	**52.90 AV**	**54.00**	**-1.10**	**1.06 V**	**358**	**22.80**	**30.10**
3	3282.60	50.30 PK	74.00	-23.70	1.35 V	157	18.20	32.20
3	3282.60	48.20 AV	54.00	-5.80	1.35 V	157	16.10	32.20
4	4924.00	48.10 PK	74.00	-25.90	1.39 V	248	12.50	35.50
4	4924.00	42.40 AV	54.00	-11.60	1.39 V	248	6.80	35.50
5	7386.00	48.80 PK	74.00	-25.20	1.33 V	330	8.00	40.80
5	7386.00	38.40 AV	54.00	-15.60	1.33 V	330	-2.40	40.80
6	9848.00	55.10 PK	92.00	-36.90	1.64 V	82	11.70	43.40
6	9848.00	51.60 AV	86.00	-34.40	1.64 V	82	8.20	43.40

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. The limit value is defined as per 15.247
6. " * " : Fundamental frequency

4.2 MAXIMUM PEAK OUTPUT POWER

4.2.1 LIMITS OF MAXIMUM PEAK OUTPUT POWER MEASUREMENT

The Maximum Peak Output Power Measurement is 30dBm.

4.2.2 TEST INSTRUMENTS

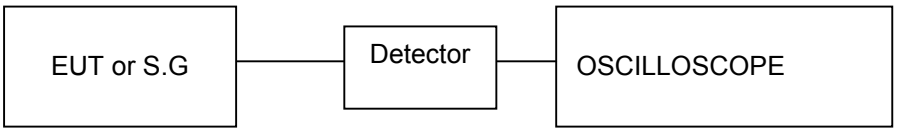
Description & Manufacturer	Model No.	Serial No.	Calibrated Until
R&S SPECTRUM ANALYZER	FSP40	100036	Nov. 23, 2005
Agilent SIGNAL GENERATOR	E8257C	MY43320668	Dec. 07, 2005
TEKTRONIX OSCILLOSCOPE	TDS 220	B027241	Jun. 18, 2005
NARDA DETECTOR	4503A	0306	NA

NOTE:
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 PROCEDURES

1. A detector was used on the output port of the EUT. An oscilloscope was used to read the peak response of the detector.
2. Replaced the EUT by the signal generator. The center frequency of the S.G was adjusted to the center frequency of the measured channel.
3. Adjusted the power to have the same peak reading on oscilloscope. Record the power level.

4.2.4 TEST SETUP



4.2.5 EUT OPERATING CONDITIONS

Same as Item 4.3.5

4.2.6 TEST RESULTS - DSSS

EUT	U.S. Robotics Wireless Maxg PCI Adapter		
MODEL	USR5417	**ENVIRONMENTAL CONDITIONS**	25 deg. C, 55%RH, 968 hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**TESTED BY**	Eric Lee

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
1	2412	18.17	30	PASS
6	2437	18.24	30	PASS
11	2462	18.32	30	PASS

4.2.7 TEST RESULTS - OFDM

EUT	U.S. Robotics Wireless Maxg PCI Adapter		
MODEL	USR5417	**ENVIRONMENTAL CONDITIONS**	25 deg. C, 55%RH, 968 hPa
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**TESTED BY**	Eric Lee

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER OUTPUT (dBm)	PEAK POWER LIMIT (dBm)	PASS/FAIL
1	2412	20.23	30	PASS
6	2437	20.28	30	PASS
11	2462	20.21	30	PASS

4.3 BAND EDGES MEASUREMENT

4.3.1 LIMITS OF BAND EDGES MEASUREMENT

Below –20dB 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
R&S SPECTRUM ANALYZER	FSP40	100036	Nov. 23, 2005

NOTE:

1. The measurement uncertainty is less than +/- 2.6dB, which is calculated as per the NAMAS document NIS81.
2. 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 lose cable. Set RBW spectrum analyzer to 1 MHz and set VBW spectrum analyzer to 10 Hz with suitable frequency span including 1 MHz bandwidth from band edge. The band edges was measured and recorded.

The spectrum plots (Peak RBW=VBW=100kHz ; Average RBW=1MHz, VBW=1KHz) are attached on the following pages.

4.3.4 EUT OPERATING CONDITION

Same as Item 4.3.5

4.3.5 TEST RESULTS – DSSS

The spectrum plots are attached on the following page. D1 line indicates the highest level, D2 line indicates the 20dB offset below D1. It shows compliance with the requirement in part 15.247(C).

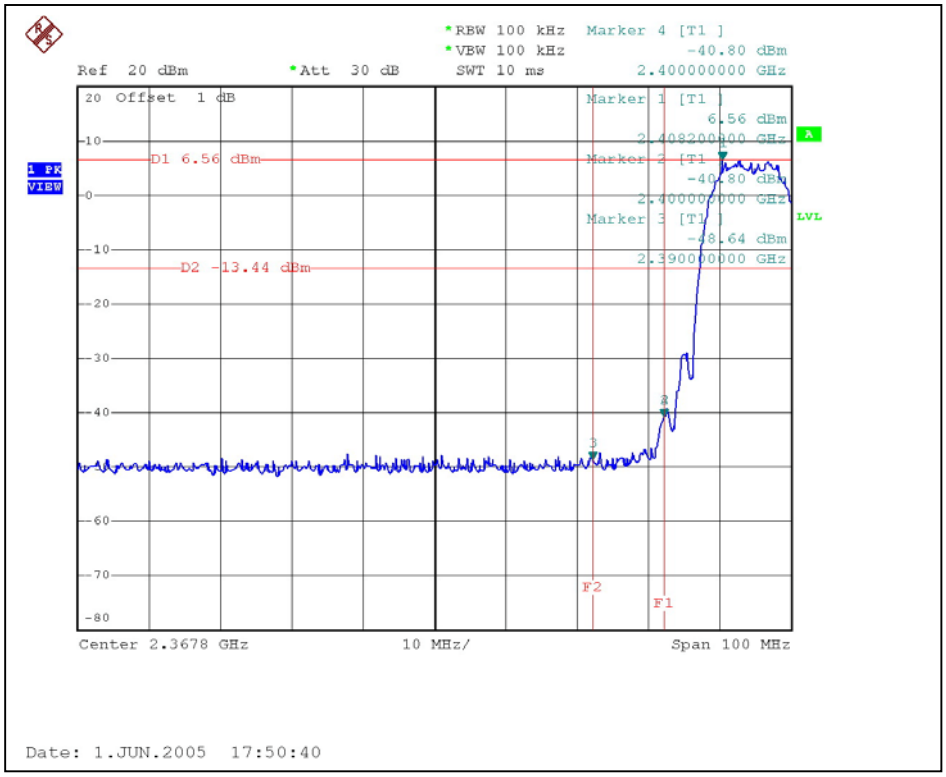
Note - The delta method is only used up to 2 MHz away from the restricted bandage, The radiated emissions which located in other restricted frequency band, the result, please refer to 4.2.

NOTE (Peak):
The band edge emission plot of DSSS technique on the following first page show 55.20dB delta between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2 is 111.30dBuV/m, so the maximum field strength in restrict band is 111.30-55.20=56.10dBuV/m which is under 74 dBuV/m limit.

The band edge emission plot of DSSS technique on the following first page shows 56.21dB delta between carrier maximum power and local maximum emission in restrict band (2.4835GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2 is 104.60dBuV/m, so the maximum field strength in restrict band is 113.10-56.21=56.89dBuV/m which is under 74 dBuV/m limit.

NOTE (Average):
The band edge emission plot of DSSS technique on the following second page shows 61.01strict band (2.3900GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2 is 104.60dBuV/m, so the maximum field strength in restrict band is 104.60-61.01=43.59dBuV/m which is under 54 dBuV/m limit.

The band edge emission plot of DSSS technique on the following second page shows 61.16dB delta between carrier maximum power and local maximum emission in restrict band (2.4835GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2 is 105.90dBuV/m, so the maximum field strength in restrict band is 105.90-61.16=44.74dBuV/m which is under 54 dBuV/m limit.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VBW 100 kHz
SWT 10 ms
Ref 20 dBm
Att 30 dB
Marker 4 [T1]
-40.80 dBm
2.400000000 GHz
20 Offset 1 dB
Marker 1 [T1]
6.56 dBm
2.408200000 GHz
Marker 2 [T1]
-40.80 dBm
2.400000000 GHz
Marker 3 [T1]
-48.64 dBm
2.390000000 GHz
D1 6.56 dBm
D2 -13.44 dBm
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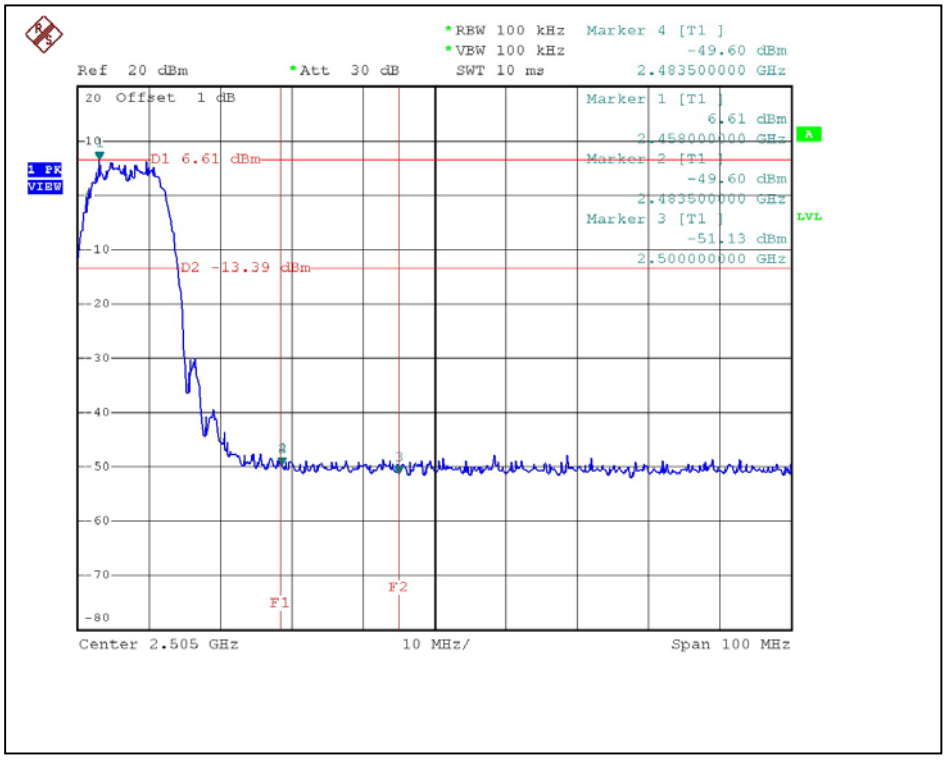
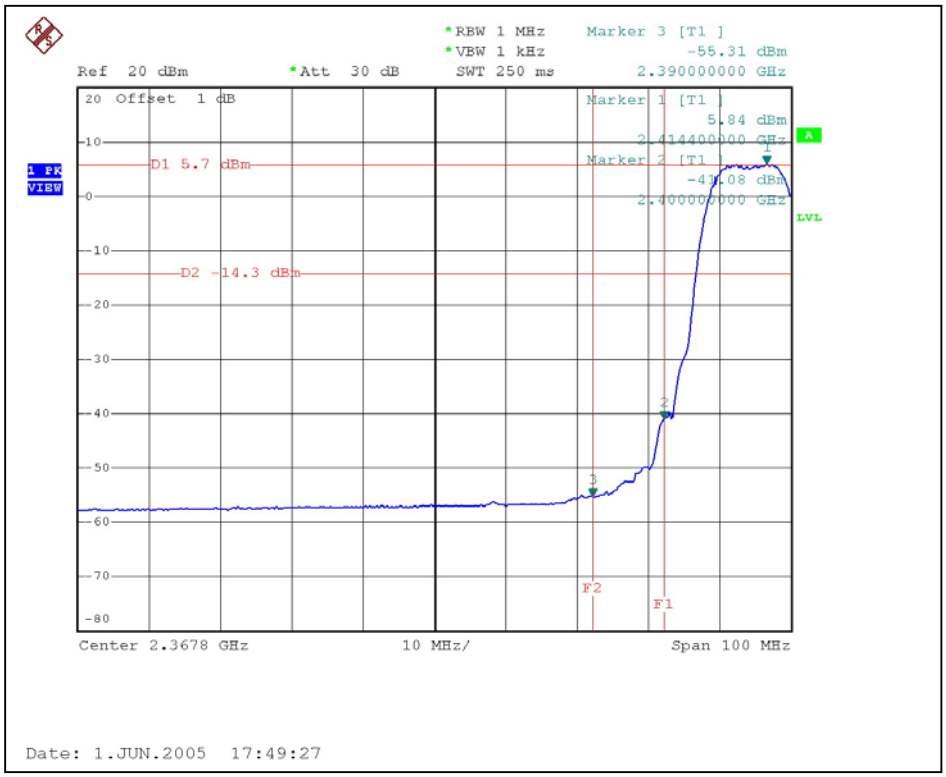
A
LVL
F2
F1
Center 2.3678 GHz
10 MHz/
Span 100 MHz
Date: 1.JUN.2005 17:50:40


RBW 100 kHz
VBW 100 kHz
SWT 10 ms
Ref 20 dBm
Att 30 dB
Marker 4 [T1]
-49.60 dBm
2.483500000 GHz
20 Offset 1 dB
Marker 1 [T1]
6.61 dBm
2.458000000 GHz
Marker 2 [T1]
-49.60 dBm
2.483500000 GHz
Marker 3 [T1]
-51.13 dBm
2.500000000 GHz
D1 6.61 dBm
D2 -13.39 dBm
1 PK VIEW
A
LVL
F1
F2
Center 2.505 GHz
10 MHz/
Span 100 MHz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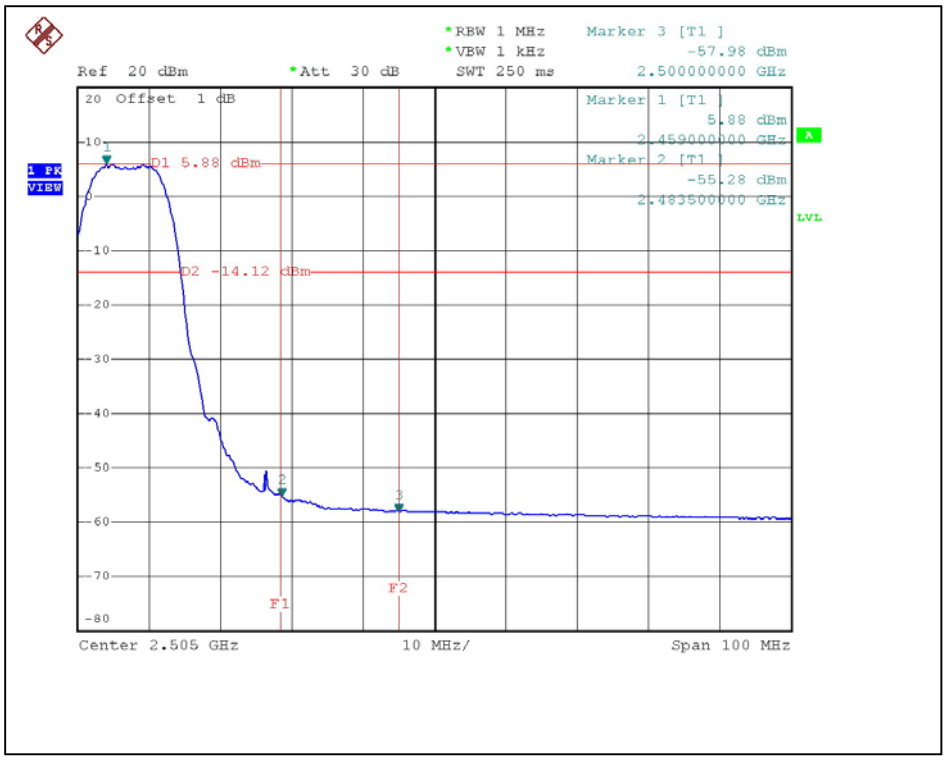
*VBW 1 kHz
SWT 250 ms
Marker 3 [T1]
-55.31 dBm
2.390000000 GHz
Ref 20 dBm
*Att 30 dB
20 Offset 1 dB
Marker 1 [T1]
5.84 dBm
2.414400000 GHz
Marker 2 [T1]
-41.08 dBm
2.400000000 GHz
D1 5.7 dBm
D2 -14.3 dBm
F2
F1
Center 2.3678 GHz
10 MHz/
Span 100 MHz
Date: 1.JUN.2005 17:49:27


*RBW 1 MHz
*VBW 1 kHz
SWT 250 ms
Marker 3 [T1]
-57.98 dBm
2.500000000 GHz
Ref 20 dBm
*Att 30 dB
20 Offset 1 dB
Marker 1 [T1]
5.88 dBm
2.459000000 GHz
Marker 2 [T1]
-55.28 dBm
2.483500000 GHz
D1 5.88 dBm
D2 -14.12 dBm
F1
F2
Center 2.505 GHz
10 MHz/
Span 100 MHz

4.3.6 TEST RESULTS – OFDM

The spectrum plots are attached on the following page. D1 line indicates the highest level, D2 line indicates the 20dB offset below D1. It shows compliance with the requirement in part 15.247(C).

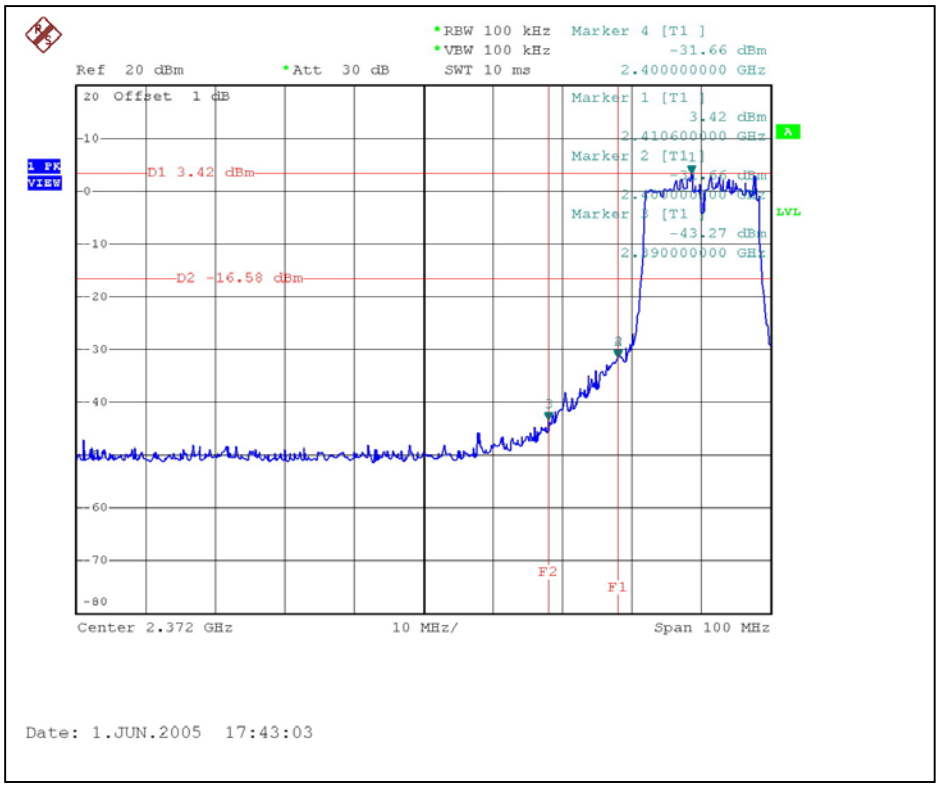
Note - The delta method is only used up to 2 MHz away from the restricted bandage, The radiated emissions which located in other restricted frequency band, the result, please refer to 4.2.

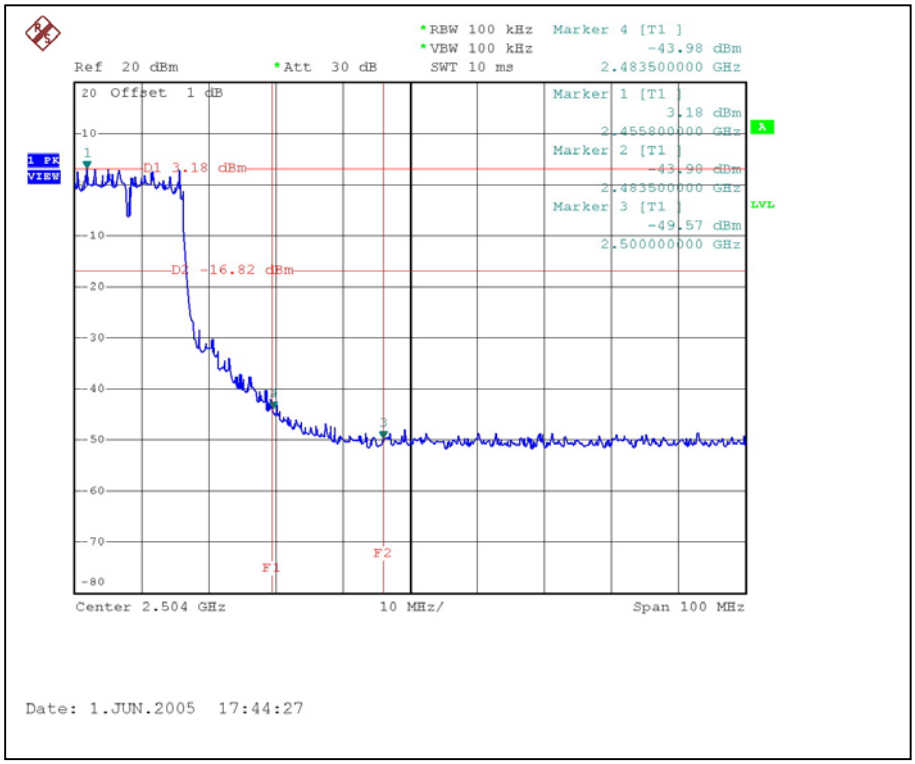
NOTE (Peak) :
The band edge emission plot of OFDM technique on the following first page show 46.69dB delta between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2 is 110.00dBuV/m, so the maximum field strength in restrict band is 110.00-46.69=63.31dBuV/m which is under 74 dBuV/m limit.

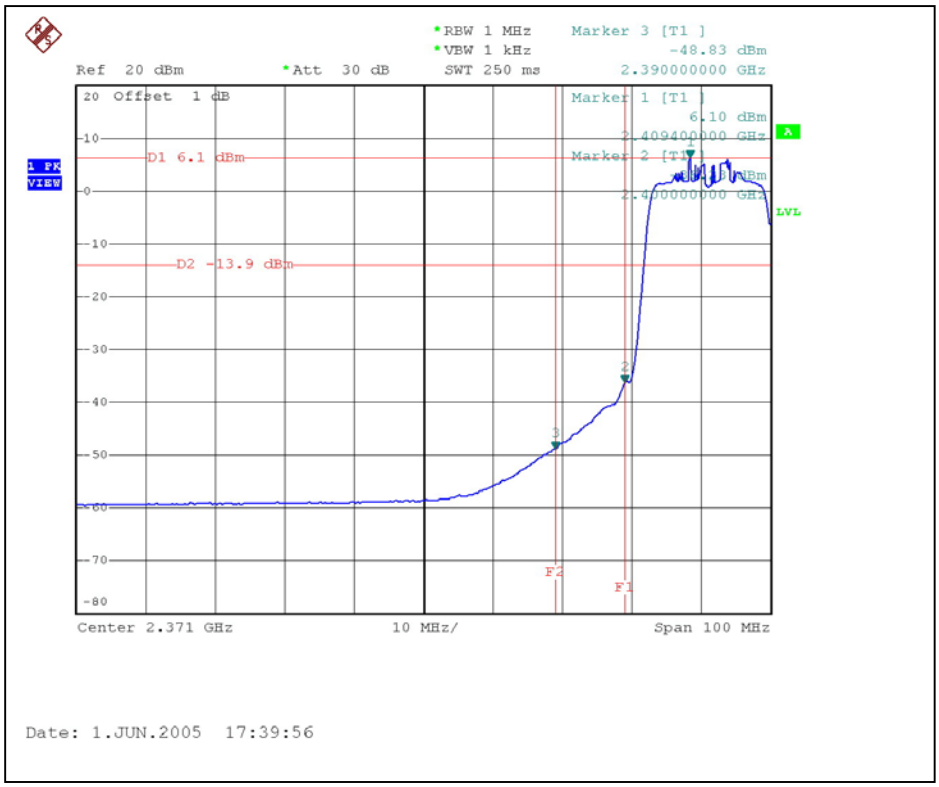
The band edge emission plot of OFDM technique on the following first page shows 47.08dB delta between carrier maximum power and local maximum emission in restrict band (2.4835GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2 is 112.00dBuV/m, so the maximum field strength in restrict band is 112.00-47.08=64.92dBuV/m which is under 74 dBuV/m limit.

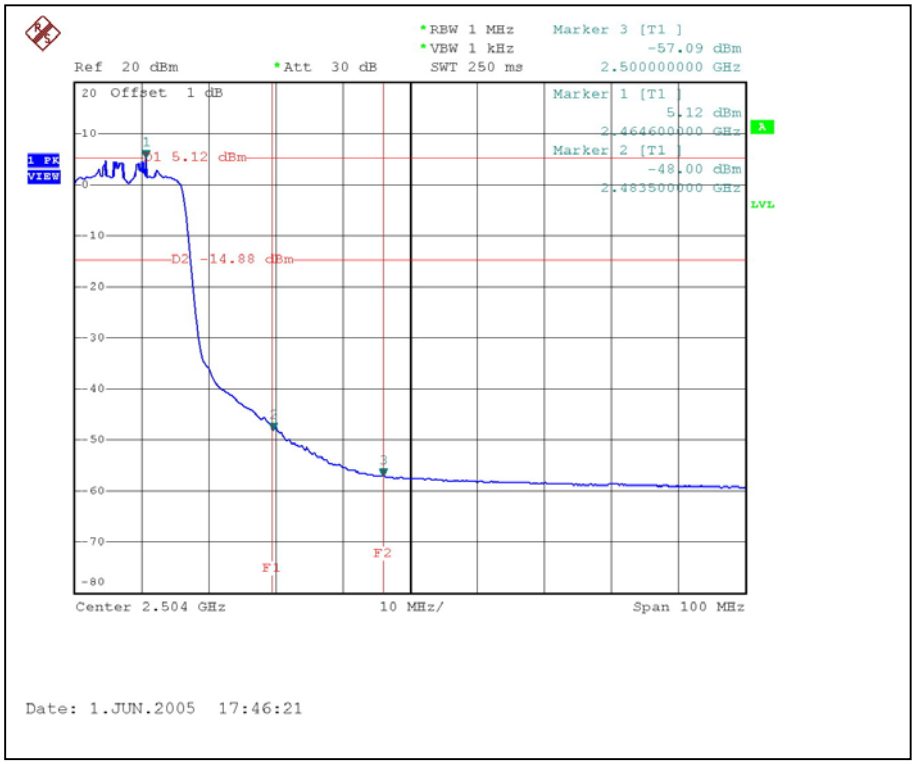
NOTE (Average):
The band edge emission plot of OFDM technique on the following second page shows 54.93dB delta between carrier maximum power and local maximum emission in restrict band (2.3900GHz). The emission of carrier strength list in the test result of channel 1 at the item 4.2 is 103.90dBuV/m, so the maximum field strength in restrict band is 103.90-54.93=48.97dBuV/m which is under 54 dBuV/m limit.

The band edge emission plot of OFDM technique on the following second page shows 53.12dB delta between carrier maximum power and local maximum emission in restrict band (2.4835GHz). The emission of carrier strength list in the test result of channel 11 at the item 4.2 is 106.00dBuV/m, so the maximum field strength in restrict band is 106.00-53.12=52.88dBuV/m which is under 54 dBuV/m limit.


RBW 100 kHz
VBW 100 kHz
SWT 10 ms
Marker 4 [T1]
-31.66 dBm
2.400000000 GHz
Ref 20 dBm
Att 30 dB
20 Offset 1 dB
Marker 1 [T1]
3.42 dBm
2.410600000 GHz
Marker 2 [T1]
Marker 3 [T1]
-43.27 dBm
2.390000000 GHz
D1 3.42 dBm
D2 -16.58 dBm
F2
F1
Center 2.372 GHz
10 MHz/
Span 100 MHz
Date: 1.JUN.2005 17:43:03


RBW 100 kHz
VBW 100 kHz
SWT 10 ms
Marker 4 [T1]
-43.98 dBm
2.483500000 GHz
Ref 20 dBm
Att 30 dB
20 Offset 1 dB
Marker 1 [T1]
3.18 dBm
2.455800000 GHz
Marker 2 [T1]
-43.90 dBm
2.483500000 GHz
Marker 3 [T1]
-49.57 dBm
2.500000000 GHz
D1 3.18 dBm
D2 -16.82 dBm
F1
F2
Center 2.504 GHz
10 MHz/
Span 100 MHz
Date: 1.JUN.2005 17:44:27


RBW 1 MHz
VBW 1 kHz
SWT 250 ms
Marker 3 [T1]
-48.83 dBm
2.390000000 GHz
Ref 20 dBm
Att 30 dB
20 Offset 1 dB
Marker 1 [T1]
6.10 dBm
2.409400000 GHz
Marker 2 [T1]
2.400000000 GHz
D1 6.1 dBm
D2 -13.9 dBm
1 PK VIEW
A
LVL
F2
F1
Center 2.371 GHz
10 MHz/
Span 100 MHz
Date: 1.JUN.2005 17:39:56


RBW 1 MHz
VBW 1 kHz
SWT 250 ms
Marker 3 [T1]
-57.09 dBm
2.500000000 GHz
Ref 20 dBm
Att 30 dB
20 Offset 1 dB
Marker 1 [T1]
5.12 dBm
2.464600000 GHz
Marker 2 [T1]
-48.00 dBm
2.483500000 GHz
D1 5.12 dBm
D2 -14.88 dBm
1 PK VIEW
A
LVL
F1
F2
Center 2.504 GHz
10 MHz/
Span 100 MHz
Date: 1.JUN.2005 17:46:21

4.4 ANTENNA REQUIREMENT

4.4.1 STANDARD APPLICABLE

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

4.4.2 ANTENNA CONNECTED CONSTRUCTION

The antenna used in this product are as following.

No.	Brand	Gain (dBi)	Antenna Type	Antenna Connector
1	Joymax	2dBi	Dipole Antenna	Reverse SMA
2	Centurion	2dBi		
3	WHA YU	2dBi		

5 PHOTOGRAPHS OF THE TEST CONFIGURATION

RADIATED EMISSION TEST

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, NVLAP, UL, A2LA
Germany	TUV Rheinland
Japan	VCCI
Norway	NEMKO
Canada	INDUSTRY CANADA, CSA
R.O.C.	CNLA, BSMI, DGT
Netherlands	Telefication
Singapore	PSB, 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:

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Fax: 886-2-26052943

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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.