

FCC TEST REPORT

REPORT NO.: 061212FIA01

MODEL NO.: BT501

RECEIVED: Dec. 8, 2006

TESTED: Dec. 8 ~ Dec. 20, 2006

ISSUED: Dec. 20, 2006

APPLICANT: SHENZHEN AEE TECHNOLOGY CO., LTD

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ISSUED BY: ADT (Shanghai) Corporation

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ADT (Shanghai) Corporation.



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1 CERTIFICATION

PRODUCT: 2.4G wireless camera
BRAND NAME: AEE
MODEL NO.: BT501
APPLICANT: SHENZHEN AEE TECHNOLOGY CO., LTD
TESTED: Dec. 8 ~ Dec. 20, 2006
TEST ITEM: ENGINEERING SAMPLE
STANDARDS: 47 CFR Part 15, Subpart C (Section 15.249),
ANSI C63.4-2003

The above equipment has been tested by **ADT (Shanghai) 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.

TECHNICAL
ACCEPTANCE : _____ , **DATE:** DEC. 20, 2006
(Bright Tong)
Engineering Supervisor

APPROVED BY : _____ , **DATE:** DEC. 20, 2006
(Wallace Pan)
Director of Operations

2 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: 47 CFR Part 15, Subpart C			
Standard Paragraph	Test Type	Result	Remark
15.207	Conducted Emission Test (Mode A1)	PASS	Minimum passing margin is –22.32dB at 25.248MHz
15.249	Radiated Emission Test (Mode A1, Below 1GHz)	PASS	Minimum passing margin is –11.43dB at 31.44MHz
	Radiated Emission Test (Mode A2, Below 1GHz)	PASS	Minimum passing margin is –10.91dB at 31.44MHz
	Radiated Emission Test (Mode B1, Below 1GHz)	PASS	Minimum passing margin is –4.26dB at 252.50MHz
	Radiated Emission Test (Mode B2, Below 1GHz)	PASS	Minimum passing margin is –8.45dB at 31.45MHz
	Radiated Emission Test (Mode A1, Above 1GHz)	PASS	Minimum passing margin is –3.96dB at 4869.60MHz
	Radiated Emission Test (Mode B1, Above 1GHz)	PASS	Minimum passing margin is –3.04dB at 4861.90MHz
15.249	Band Edge 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:

Measurement	Value
Conducted emissions	1.8dB
Radiated emissions	3.5dB

3 GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	2.4G wireless camera
MODEL NO.	BT501
POWER SUPPLY	Powered by adapter: 120Vac, 60Hz Powered by Batteries: 6Vdc (4*AA)
POWER ADAPTER SUPPLIED	Cable out: 1.8m, non-shielded, non-detachable
MODULATION TYPE	FM
FREQUENCY RANGE OF OPERATION	2.414 ~ 2.468 MHz
CHANNEL SEPARATION	18 MHz
NUMBER OF CHANNEL	4
ANTENNA TYPE	Soldered on PCB
DATA CABLE SUPPLIED	N/A
I/O PORTS	N/A

NOTE: 1. The EUT contains two parts. One is TX (model No.: BT501, device name: 2.4G wireless camera) and the other one is RX (model No.: LR251, device name: 2.4G wireless USB Receiver). This test report only recorded the test results of TX. As to the test results of RX please refer to report 061213FA01, which produced under subcontract of Advance Data Technology Corp..

2. The followings are the specifications for the adapter used during the tests:

Adapter	Model No.	Input	Output
A	OH-41019DT	120Vac, 60Hz	8Vdc, 300mA

3. 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

4 channels are provided to this EUT:

Channel	Frequency
1	2.414 GHz
2	2.432 GHz
3	2.450 GHz
4	2.468 GHz

Test Mode Applicability AND TESTED CHANNEL DETAIL:

EUT configure mode	Applicable to					Description	
	PLC	RE<1G	RE≥1G	APM	BE		
A1	√	√	√	-	√	Daylight Mode	Powered by adapter
B1	-	√	√	-	-		Powered by battery
A2	-	√	-	-	-	Night Mode	Powered by adapter
B2	-	√	-	-	-		Powered by battery

Where PLC: Power Line Conducted Emission

RE<1G RE: Radiated Emission below 1GHz

RE≥1G: Radiated Emission above 1GHz

APM: Antenna Port Measurement

BE: Band Edge Measurement

Power Line Conducted Emission Test

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, and X.Y.Z. axis.
- ☒ Following channel(s) was (were) selected for the final test as listed below.

Test Mode	Available Channel	Tested Channel	Modulation Type	Axis
A1	1~4	1	FM	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, and X.Y.Z. axis.
- ☒ Following channel(s) was (were) selected for the final test as listed below.

Test Mode	Available Channel	Tested Channel	Modulation Type	Axis
A1	1~4	1	FM	Z
B1	1~4	1	FM	Z
A2	1~4	1	FM	Z
B2	1~4	1	FM	Z

Radiated Emission Test (Above 1 GHz):

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, and X.Y.Z. axis.
- ☒ Following channel(s) was (were) selected for the final test as listed below.

Test Mode	Available Channel	Tested Channel	Modulation Type	Axis
A1	1~4	1, 2, 4	FM	Z
B1	1~4	1, 2, 4	FM	Z

Band Edge Measurement

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, and X.Y.Z. axis.
- ☒ Following channel(s) was (were) selected for the final test as listed below.

Test Mode	Available Channel	Tested Channel	Modulation Type	Axis
A1	1~4	1, 4	FM	Z



3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a 2.4G wireless camera. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

47 CFR Part 15, Subpart C (Section 15.249)

ANSI C63.4: 2003

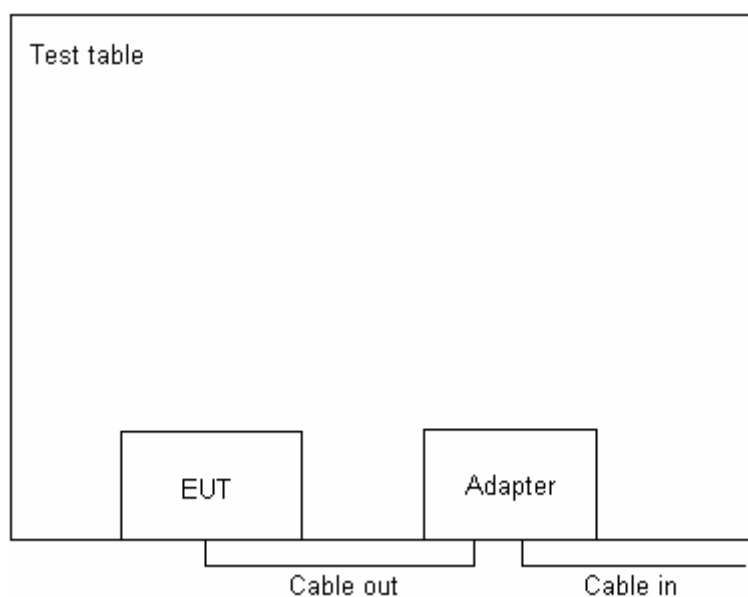
All test items have been performed and recorded as per the above standards.

3.4 DESCRIPTION OF SUPPORT UNITS

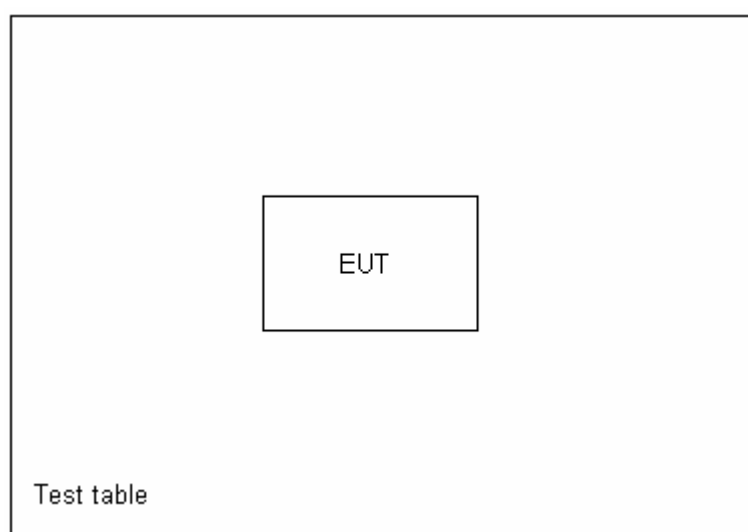
The EUT has been tested as an independent unit

Note: 2m non-shielded input power cable was used during the test mode A1 & A2.

For test mode: A1 & A2



For test mode: B1 & B2



4 EMISSION TEST

4.1 CONDUCTED EMISSION MEASUREMENT

4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

Frequency (MHz)	Quasi-peak	Average
0.15 - 0.5	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30.0	60	50

NOTES: 1. The lower limit shall apply at the transition frequencies.

2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50 MHz.

4.1.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
Test Receiver ROHDE & SCHWARZ	ESCS30	E1R1002	Jun. 12, 2007
LISN ROHDE & SCHWARZ	NSLK8127	E1L1001	Jan. 31, 2007
Software ADT	ADT_Cond_V7.3.0	N/A	N/A

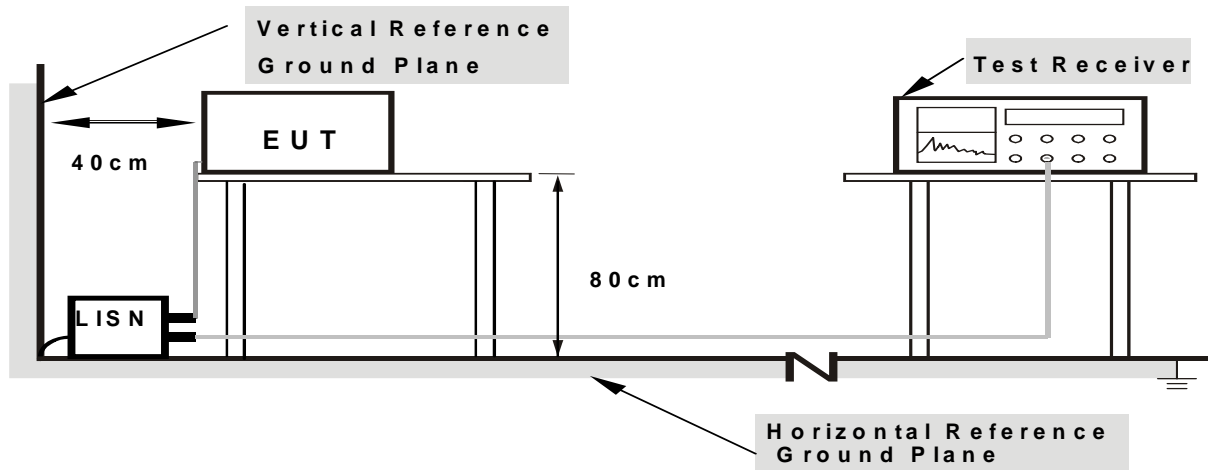
4.1.3 TEST PROCEDURE

a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.

b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

The frequency range from 150 kHz to 30 MHz was searched. Emission levels under (Limit - 20dB) were not reported.

4.1.4 TEST SETUP



Note: 1.Support units were connected to second LISN.

2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 cm from other units and other metal planes

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

4.1.5 EUT OPERATING CONDITIONS

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

4.1.6 TEST RESULTS

EUT	2.4G wireless camera	MODEL NO.	BT501
TEST MODE	Mode A1	6dB BANDWIDTH	9kHz
INPUT POWER	120Vac, 60Hz	PHASE	Line (L1)
ENVIRONMENTAL CONDITIONS	20deg. C, 50% RH, 1012hPa	TESTED BY: REBECCA	

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.151	1.79	34.96	7.07	36.75	8.86	65.97	55.97	-29.22	-47.11
2	0.233	0.80	37.06	8.80	37.86	9.60	62.35	52.35	-24.49	-42.75
3	0.367	0.62	35.08	8.75	35.70	9.37	58.57	48.57	-22.88	-39.21
4	0.489	0.45	26.04	8.43	26.49	8.88	56.19	46.19	-29.70	-37.31
5	20.109	0.86	24.22	19.03	25.08	19.89	60.00	50.00	-34.92	-30.11
6	25.469	0.95	31.29	26.23	32.24	27.18	60.00	50.00	-27.76	-22.82

REMARKS: 1. Margin value = Emission level - Limit value
 2. Correction factor = Insertion loss + Cable loss
 3. Emission Level = Correction Factor + Reading Value.



EUT	2.4G wireless camera	MODEL NO.	BT501
TEST MODE	Mode A1	6dB BANDWIDTH	9kHz
INPUT POWER	120Vac, 60Hz	PHASE	N
ENVIRONMENTAL CONDITIONS	20deg. C, 50% RH, 1012hPa	TESTED BY: REBECCA	

No	Freq.	Corr. Factor	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.150	1.79	34.22	8.14	36.01	9.93	66.00	56.00	-29.99	-46.07
2	0.239	0.80	35.49	9.42	36.29	10.22	62.12	52.12	-25.83	-41.90
3	0.380	0.62	33.93	11.45	34.55	12.07	58.27	48.27	-23.73	-36.21
4	0.499	0.46	28.11	11.28	28.57	11.74	56.02	46.02	-27.45	-34.28
5	20.029	0.88	21.21	15.35	22.09	16.23	60.00	50.00	-37.91	-33.77
6	25.248	0.85	31.48	26.83	32.33	27.68	60.00	50.00	-27.67	-22.32

REMARKS: 1. Margin value = Emission level - Limit value
 2. Correction factor = Insertion loss + Cable loss
 3. Emission Level = Correction Factor + Reading Value.

4.2 RADIATED EMISSION MEASUREMENT

4.2.1 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	113.98	93.98

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

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.



4.2.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED UNTIL
Test Receiver ROHDE & SCHWARZ	ESCS30	E1R1001	Apr. 19, 2007
BILOG Antenna SCHWARZBECK	VULB9168	E1A1001	Sept. 26, 2007
Preamplifier Agilent	8447D	E1A2001	Jan. 27, 2007
Preamplifier Agilent	8449B	E1A2002	Jan. 27, 2007
Double Ridged Broadband Horn Antenna Schwarzbeck	BBHA 9120D	E1A1002	Feb. 15, 2007
Spectrum Analyzer Agilent	E4403B	E1S1001	Jan. 13, 2007
Spectrum Analyzer ROHDE & SCHWARZ	FSP	E1S1002	May. 15, 2007
RF signal cable Woken	RG-402	E1CBH01	May. 30, 2007
RF signal cable Woken	RG-402	E1CBH02	May. 30, 2007
RF signal cable Woken	RG-402	E1CBH03	May. 30, 2007
RF signal cable Woken	RG-412	E1CBL02	May. 30, 2007
RF signal cable Woken	RG-412	E1CBL03	May. 30, 2007
RF signal cable Woken	RG-412	E1CBL04	May. 30, 2007
Software ADT	ADT_Radiated_V7.5	N/A	N/A

- NOTE:**
1. The calibration interval of the above test instruments is 12 months.
 2. The horn antenna and Agilent preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
 3. The Spectrum Analyzer (model: FSP) and RF signal cable (SERIAL: E1CBH05&E1CBH07) are used only for the measurement of emission frequency above 1GHz if tested.

4.2.3 TEST PROCEDURE

- 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 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 the quasi-peak method or average method as specified and then reported in Data sheet peak mode and QP mode.

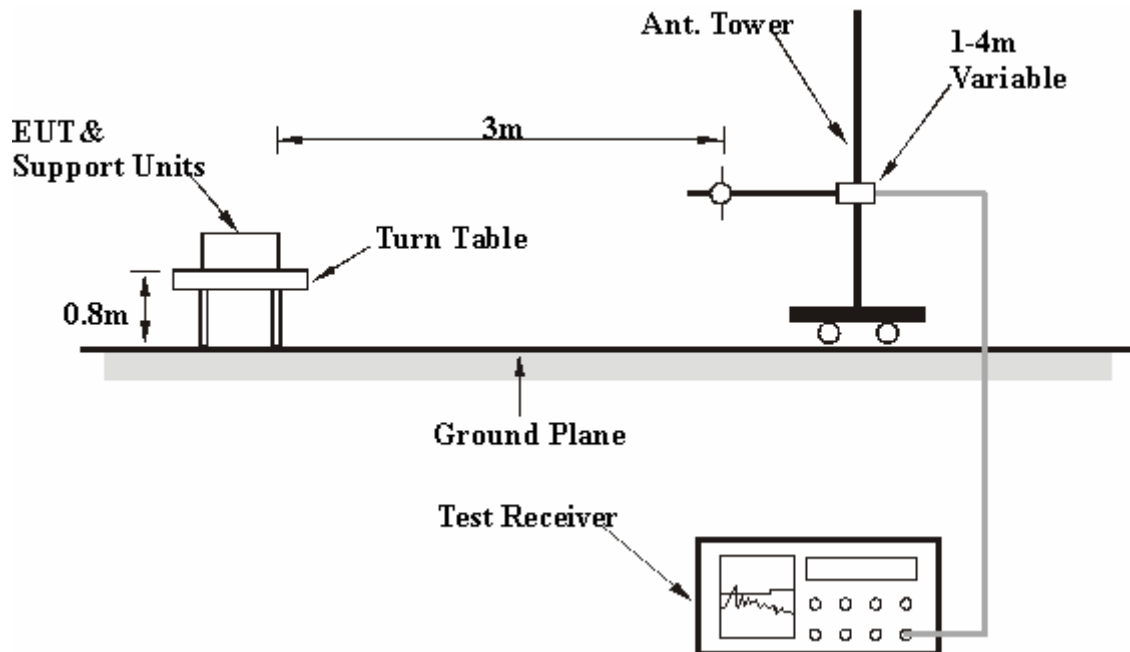
NOTE:

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

4.2.4 DEVIATION FROM TEST STANDARD

No deviation

4.2.5 TEST SETUP



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

4.2.6 EUT OPERATING CONDITIONS

Same as 4.1.6.

4.2.7 TEST RESULTS

Below 1GHz Worst-Case Data

Mode A1

EUT	2.4G wireless camera	MODEL NO.	BT501
CHANNEL	Channel 1	FREQUENCY RANGE	30 ~ 1000 MHz
MODULATION TYPE	FM	INPUT POWER (SYSTEM)	120Vac, 60Hz
ENVIRONMENTAL CONDITIONS	20 deg. C, 65% RH, 1000 hPa	DETECTOR FUNCTION	Quasi-Peak
TESTED BY	REBECCA		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Factor (dB/M)	Reading (dBuV/M)	Emission (dBuV/M)	Limit (dBuV/M)	Margin (dB)	Ant. Height (cm)	Table Angle (Deg.)
1	31.41	15.07	6.98	22.04	40.00	-17.96	243.00	109.00
2	113.78	14.02	2.23	16.24	43.50	-27.26	139.00	43.00
3	212.81	13.33	4.91	18.24	43.50	-25.26	99.00	12.00
4	307.39	16.72	6.18	22.90	46.00	-23.10	99.00	89.00
5	350.34	17.48	3.94	21.42	46.00	-24.58	185.00	78.00
6	369.27	18.01	-1.45	16.56	46.00	-29.44	166.00	19.00

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Factor (dB/M)	Reading (dBuV/M)	Emission (dBuV/M)	Limit (dBuV/M)	Margin (dB)	Ant. Height (cm)	Table Angle (Deg.)
1	31.44	15.07	13.51	28.57	40.00	-11.43	100.00	18.00
2	98.05	12.41	8.16	20.56	43.50	-22.94	110.00	122.00
3	107.87	13.35	9.72	23.06	43.50	-20.44	106.00	133.00
4	113.75	14.01	14.93	28.94	43.50	-14.56	99.00	170.00
5	137.28	15.99	8.02	24.01	43.50	-19.49	99.00	19.00
6	313.32	16.86	5.27	22.13	46.00	-23.87	99.00	248.00

- NOTE:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB)
 2. Correction Factor (dB) = Antenna Factor (dB) + Cable Factor (dB)
 3. The other emission levels were very low against the limit.
 4. Margin value = Emission level – Limit value.

**Mode A2**

EUT	2.4G wireless camera	MODEL NO.	BT501
CHANNEL	Channel 1	FREQUENCY RANGE	30 ~ 1000 MHz
MODULATION TYPE	FM	INPUT POWER (SYSTEM)	120Vac, 60Hz
ENVIRONMENTAL CONDITIONS	20 deg. C, 65% RH, 1000 hPa	DETECTOR FUNCTION	Quasi-Peak
TESTED BY	REBECCA		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Factor (dB/M)	Reading (dBuV/M)	Emission (dBuV/M)	Limit (dBuV/M)	Margin (dB)	Ant. Height (cm)	Table Angle (Deg.)
1	31.44	15.07	12.01	27.07	40.00	-12.93	100.00	155.00
2	212.81	13.33	3.21	16.54	43.50	-26.96	100.00	352.00
3	283.75	15.97	8.56	24.53	46.00	-21.47	100.00	279.00
4	301.49	16.58	6.66	23.23	46.00	-22.77	99.00	324.00
5	313.31	16.86	5.60	22.46	46.00	-23.54	100.00	84.00
6	319.22	17.00	2.23	19.23	46.00	-26.77	100.00	136.00

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Factor (dB/M)	Reading (dBuV/M)	Emission (dBuV/M)	Limit (dBuV/M)	Margin (dB)	Ant. Height (cm)	Table Angle (Deg.)
1	31.44	15.07	14.03	29.09	40.00	-10.91	100.00	332.00
2	98.04	12.40	8.08	20.48	43.50	-23.02	107.00	138.00
3	105.89	13.15	15.60	28.74	43.50	-14.76	106.00	161.00
4	115.70	14.25	7.41	21.66	43.50	-21.84	99.00	153.00
5	137.26	15.98	9.05	25.04	43.50	-18.46	100.00	19.00
6	313.32	16.86	5.09	21.95	46.00	-24.05	99.00	148.00

- NOTE:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB)
 2. Correction Factor (dB) = Antenna Factor (dB) + Cable Factor (dB)
 3. The other emission levels were very low against the limit.
 4. Margin value = Emission level – Limit value.

Mode B1

EUT	2.4G wireless camera	MODEL NO.	BT501
CHANNEL	Channel 1	FREQUENCY RANGE	30 ~ 1000 MHz
MODULATION TYPE	FM	INPUT POWER (SYSTEM)	6Vdc from batteries
ENVIRONMENTAL CONDITIONS	20 deg. C, 65% RH, 1000 hPa	DETECTOR FUNCTION	Quasi-Peak
TESTED BY	REBECCA		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Factor (dB/M)	Reading (dBuV/M)	Emission (dBuV/M)	Limit (dBuV/M)	Margin (dB)	Ant. Height (cm)	Table Angle (Deg.)
1	31.43	15.07	8.02	23.08	40.00	-16.92	100.00	156.00
2	240.50	14.75	15.61	30.36	46.00	-15.64	100.00	135.00
3	252.28	14.88	16.65	31.53	46.00	-14.47	100.00	286.00
4	281.93	15.90	16.38	32.28	46.00	-13.72	100.00	286.00
5	350.32	17.48	1.29	18.77	46.00	-27.23	100.00	168.00
6	395.20	18.55	2.72	21.27	46.00	-24.73	100.00	135.00

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Factor (dB/M)	Reading (dBuV/M)	Emission (dBuV/M)	Limit (dBuV/M)	Margin (dB)	Ant. Height (cm)	Table Angle (Deg.)
1	31.43	15.07	18.27	33.33	40.00	-6.67	101.00	214.00
2	230.30	14.54	15.73	30.27	46.00	-15.73	100.00	98.00
3	252.50	14.89	26.85	41.74	46.00	-4.26	101.00	70.00
4	280.27	15.83	20.58	36.41	46.00	-9.59	100.00	61.00
5	302.35	16.60	8.92	25.52	46.00	-20.48	100.00	21.00
6	543.67	21.89	7.31	29.20	46.00	-16.80	100.00	224.00

- NOTE:** 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB)
 2. Correction Factor (dB) = Antenna Factor (dB) + Cable Factor (dB)
 3. The other emission levels were very low against the limit.
 4. Margin value = Emission level – Limit value.

**Mode B2**

EUT	2.4G wireless camera	MODEL NO.	BT501
CHANNEL	Channel 1	FREQUENCY RANGE	30 ~ 1000 MHz
MODULATION TYPE	FM	INPUT POWER (SYSTEM)	6Vdc from batteries
ENVIRONMENTAL CONDITIONS	20 deg. C, 65% RH, 1000 hPa	DETECTOR FUNCTION	Quasi-Peak
TESTED BY	REBACCA		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Factor (dB/M)	Reading (dBuV/M)	Emission (dBuV/M)	Limit (dBuV/M)	Margin (dB)	Ant. Height (cm)	Table Angle (Deg.)
1	31.43	15.07	9.01	24.07	40.00	-15.93	100.00	19.00
2	228.50	14.43	3.60	18.03	46.00	-27.97	101.00	285.00
3	241.80	14.76	10.15	24.91	46.00	-21.09	100.00	310.00
4	245.82	14.78	9.86	24.64	46.00	-21.36	100.00	288.00
5	257.50	15.04	14.00	29.04	46.00	-16.96	101.00	285.00
6	258.85	15.08	12.50	27.59	46.00	-18.41	101.00	285.00

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Factor (dB/M)	Reading (dBuV/M)	Emission (dBuV/M)	Limit (dBuV/M)	Margin (dB)	Ant. Height (cm)	Table Angle (Deg.)
1	31.45	15.07	16.49	31.55	40.00	-8.45	99.00	330.00
2	221.57	13.96	10.17	24.12	46.00	-21.88	100.00	43.00
3	231.28	14.56	14.39	28.95	46.00	-17.05	100.00	43.00
4	250.93	14.84	21.79	36.63	46.00	-9.37	100.00	215.00
5	255.12	14.97	18.45	33.42	46.00	-12.58	100.00	43.00
6	258.50	15.07	16.31	31.38	46.00	-14.62	100.00	66.00

- NOTE:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB)
 2. Correction Factor (dB) = Antenna Factor (dB) + Cable Factor (dB)
 3. The other emission levels were very low against the limit.
 4. Margin value = Emission level – Limit value.



Above 1GHz Worst-Case Data

Mode A1

EUT	2.4G wireless camera	MODEL NO.	BT501
CHANNEL	Channel 1	FREQUENCY RANGE	Above 1GHz
MODULATION TYPE	FM	INPUT POWER (SYSTEM)	120Vac, 60Hz
ENVIRONMENTAL CONDITIONS	20 deg. C, 65% RH, 1000 hPa	DETECTOR FUNCTION	PK / AV: 1MHz
TESTED BY	REBECCA		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Factor (dB/M)	Reading (dBuV/M)	Emission (dBuV/M)	Limit (dBuV/M)	Margin (dB)	Ant. Height (cm)	Table Angle (Deg.)
1*	2414.00 PK	32.62	50.71	83.33	114.00	-30.67	100	33
1*	2413.44 AV	32.62	48.39	81.01	94.00	-12.99	100	33
2	4828.00 PK	38.14	19.83	57.97	74.00	-16.03	212	334
2	4828.00 AV	38.14	2.89	41.03	54.00	-12.97	212	334
3	7242.00 PK	45.25	11.37	56.62	74.00	-17.38	123	213
3	7242.00 AV	45.25	-0.85	44.40	54.00	-9.60	123	213
4	9656.00 PK	48.04	10.08	58.12	74.00	-15.88	234	19
4	9656.00 AV	48.04	-1.69	46.35	54.00	-7.65	234	19
5	12070.00 PK	49.08	10.92	60.00	74.00	-14.00	178	74
5	12070.00 AV	49.08	-1.06	48.02	54.00	-5.98	178	74

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Factor (dB/M)	Reading (dBuV/M)	Emission (dBuV/M)	Limit (dBuV/M)	Margin (dB)	Ant. Height (cm)	Table Angle (Deg.)
1*	2414.00 PK	32.62	46.44	79.06	114.00	-34.94	101	117
1*	2412.92 AV	32.62	45.25	77.87	94.00	-16.13	101	117
2	4828.00 PK	38.30	21.43	59.73	74.00	-14.27	101	224
2	4828.00 AV	38.30	3.72	42.02	54.00	-11.98	101	224
3	7242.00 PK	45.26	12.94	58.20	74.00	-15.80	101	147
3	7242.00 AV	45.26	-0.31	44.95	54.00	-9.05	101	147
4	9656.00 PK	48.22	9.75	57.97	74.00	-16.03	101	112
4	9656.00 AV	48.22	-1.87	46.35	54.00	-7.65	101	112
5	12070.00 PK	49.13	10.20	59.33	74.00	-14.67	101	233
5	12070.00 AV	49.13	-1.16	47.97	54.00	-6.03	101	233

- NOTE:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB)
 2. Correction Factor (dB) = Antenna Factor (dB) + 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 other emission levels were very low against the limit.



EUT	2.4G wireless camera	MODEL NO.	BT501
CHANNEL	Channel 2	FREQUENCY RANGE	Above 1GHz
MODULATION TYPE	FM	INPUT POWER (SYSTEM)	120Vac, 60Hz
ENVIRONMENTAL CONDITIONS	20 deg. C, 65% RH, 1000 hPa	DETECTOR FUNCTION	PK / AV: 1MHz
TESTED BY	REBECCA		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Factor (dB/M)	Reading (dBuV/M)	Emission (dBuV/M)	Limit (dBuV/M)	Margin (dB)	Ant. Height (cm)	Table Angle (Deg.)
1*	2432.00 PK	32.65	48.00	80.65	114.00	-33.35	100	133
1*	2430.84 AV	32.65	46.18	78.83	94.00	-15.17	100	133
2	4869.70 PK	38.30	22.78	57.08	74.00	-16.92	100	246
2	4869.60 AV	45.26	11.78	50.04	54.00	-3.96	100	246
3	7296.00 PK	48.22	8.57	56.79	74.00	-17.21	100	76
3	7296.00 AV	49.13	-4.04	45.09	54.00	-8.91	100	76
4	9728.00 PK	38.30	18.09	56.39	74.00	-17.61	100	38
4	9728.00 AV	45.26	0.24	45.50	54.00	-8.50	100	38
5	12160.00 PK	48.22	10.93	59.15	74.00	-14.85	100	99
5	12160.00 AV	49.13	-1.05	48.08	54.00	-5.92	100	99

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Factor (dB/M)	Reading (dBuV/M)	Emission (dBuV/M)	Limit (dBuV/M)	Margin (dB)	Ant. Height (cm)	Table Angle (Deg.)
1*	2432.00 PK	32.65	47.95	80.60	114.00	-33.40	100	221
1*	2430.92 AV	32.65	46.16	78.81	94.00	-15.19	100	221
2	4856.50 PK	38.30	24.32	62.62	74.00	-11.38	100	67
2	4859.70 AV	45.26	0.02	45.28	54.00	-8.72	100	67
3	7296.00 PK	48.22	10.36	58.58	74.00	-15.42	100	97
3	7296.00 AV	49.13	-3.64	45.49	54.00	-8.51	100	97
4	9728.00 PK	38.30	19.31	57.61	74.00	-16.39	100	34
4	9728.00 AV	45.26	0.23	45.49	54.00	-8.51	100	34
5	12160.00 PK	48.22	11.27	59.49	74.00	-14.51	100	68
5	12160.00 AV	49.13	-1.02	48.11	54.00	-5.89	100	68

- NOTE:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB)
 2. Correction Factor (dB) = Antenna Factor (dB) + 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 other emission levels were very low against the limit.



EUT	2.4G wireless camera	MODEL NO.	BT501
CHANNEL	Channel 4	FREQUENCY RANGE	Above 1GHz
MODULATION TYPE	FM	INPUT POWER (SYSTEM)	120Vac, 60Hz
ENVIRONMENTAL CONDITIONS	20 deg. C, 65% RH, 1000 hPa	DETECTOR FUNCTION	PK / AV: 1MHz
TESTED BY	REBECCA		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Factor (dB/M)	Reading (dBuV/M)	Emission (dBuV/M)	Limit (dBuV/M)	Margin (dB)	Ant. Height (cm)	Table Angle (Deg.)
1*	2468.00 PK	32.73	48.25	80.98	114.00	-33.02	100	23
1*	2467.36 AV	32.73	47.17	79.90	94.00	-14.10	100	23
2	4936.00 PK	38.55	21.27	59.82	74.00	-14.18	100	19
2	4936.00 AV	38.55	2.54	41.09	54.00	-12.91	100	19
3	7404.00 PK	45.25	10.82	56.07	74.00	-17.93	100	47
3	7404.00 AV	45.25	-1.18	44.07	54.00	-9.93	100	47
4	9872.00 PK	48.48	10.18	58.66	74.00	-15.34	100	66
4	9872.00 AV	48.48	-1.49	46.99	54.00	-7.01	100	66
5	12340.00 PK	49.23	10.74	59.97	74.00	-14.03	100	113
5	12340.00 AV	49.23	-0.58	48.65	54.00	-5.35	100	113

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Factor (dB/M)	Reading (dBuV/M)	Emission (dBuV/M)	Limit (dBuV/M)	Margin (dB)	Ant. Height (cm)	Table Angle (Deg.)
1*	2468.00 PK	32.73	49.91	82.64	114.00	-31.36	100	221
1*	2466.80 AV	45.25	35.20	80.45	94.00	-13.55	100	221
2	4936.00 PK	32.73	28.99	61.72	74.00	-12.28	100	10
2	4936.00 AV	48.48	-7.03	41.45	54.00	-12.55	100	10
3	7404.00 PK	38.55	19.44	57.99	74.00	-16.01	100	0
3	7404.00 AV	48.48	-3.72	44.76	54.00	-9.24	100	0
4	9872.00 PK	38.55	19.26	57.81	74.00	-16.19	100	19
4	9872.00 AV	49.23	-2.16	47.07	54.00	-6.93	100	19
5	12340.00 PK	45.25	14.45	59.70	74.00	-14.30	100	33
5	12340.00 AV	49.23	-0.54	48.69	54.00	-5.31	100	33

- NOTE:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB)
 2. Correction Factor (dB) = Antenna Factor (dB) + 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 other emission levels were very low against the limit.

**Mode B1**

EUT	2.4G wireless camera	MODEL NO.	BT501
CHANNEL	Channel 1	FREQUENCY RANGE	Above 1GHz
MODULATION TYPE	FM	INPUT POWER (SYSTEM)	6Vdc from batteries
ENVIRONMENTAL CONDITIONS	20 deg. C, 65% RH, 1000 hPa	DETECTOR FUNCTION	PK / AV: 1MHz
TESTED BY	REBECCA		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Factor (dB/M)	Reading (dBuV/M)	Emission (dBuV/M)	Limit (dBuV/M)	Margin (dB)	Ant. Height (cm)	Table Angle (Deg.)
1*	2411.04 PK	32.62	68.62	77.00	114.00	-12.76	100	313
1*	2414.00 AV	32.62	40.12	72.74	94.00	-21.26	100	313
2	4828.00 PK	38.14	19.82	57.96	74.00	-16.04	212	33
2	4828.00 AV	38.14	3.65	41.79	54.00	-12.21	212	33
3	7242.00 PK	45.25	13.04	58.29	74.00	-15.71	123	23
3	7242.00 AV	45.25	-0.53	44.72	54.00	-9.28	123	23
4	9656.00 PK	48.04	10.70	58.74	74.00	-15.26	234	192
4	9656.00 AV	48.04	-1.42	46.62	54.00	-7.38	234	192
5	12070.00 PK	49.08	9.70	58.78	74.00	-15.22	178	14
5	12070.00 AV	49.08	-0.89	48.19	54.00	-5.81	178	14

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Factor (dB/M)	Reading (dBuV/M)	Emission (dBuV/M)	Limit (dBuV/M)	Margin (dB)	Ant. Height (cm)	Table Angle (Deg.)
1*	2414.00 PK	32.62	35.50	68.12	114.00	-45.88	101	17
1*	2414.00 AV	32.62	32.90	65.52	94.00	-28.48	101	11
2	4828.00 PK	38.30	20.87	59.17	74.00	-14.83	101	124
2	4828.00 AV	38.30	3.29	41.59	54.00	-12.41	101	124
3	7242.00 PK	45.26	11.09	56.35	74.00	-17.65	101	17
3	7242.00 AV	45.26	-0.56	44.70	54.00	-9.30	101	17
4	9656.00 PK	48.22	8.60	56.82	74.00	-17.18	101	152
4	9656.00 AV	48.22	-2.02	46.20	54.00	-7.80	101	152
5	12070.00 PK	49.13	10.73	59.86	74.00	-14.14	101	23
5	12070.00 AV	49.13	-0.97	48.16	54.00	-5.84	101	23

- NOTE:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB)
 2. Correction Factor (dB) = Antenna Factor (dB) + 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 other emission levels were very low against the limit.



EUT	2.4G wireless camera	MODEL NO.	BT501
CHANNEL	Channel 2	FREQUENCY RANGE	Above 1GHz
MODULATION TYPE	FM	INPUT POWER (SYSTEM)	6Vdc from batteries
ENVIRONMENTAL CONDITIONS	20 deg. C, 65% RH, 1000 hPa	DETECTOR FUNCTION	PK / AV: 1MHz
TESTED BY	REBECCA		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
No.	Freq. (MHz)	Factor (dB/M)	Reading (dBuV/M)	Emission (dBuV/M)	Limit (dBuV/M)	Margin (dB)	Ant. Height (cm)	Table Angle (Deg.)
1*	2432.00 PK	32.65	42.25	74.90	114.00	-39.10	100	217
1*	2430.76 AV	49.13	24.13	73.26	94.00	-20.74	100	217
2	4864.00 PK	32.65	21.38	54.03	74.00	-19.97	100	132
2	4861.90 AV	38.30	12.66	50.96	54.00	-3.04	100	132
3	7296.00 PK	38.30	18.17	56.47	74.00	-17.53	100	78
3	7296.00 AV	45.26	-0.15	45.11	54.00	-8.89	100	78
4	9728.00 PK	45.26	12.13	57.39	74.00	-16.61	100	6
4	9728.00 AV	48.22	-2.62	45.60	54.00	-8.40	100	6
5	12160.00 PK	48.22	10.47	58.69	74.00	-15.31	100	149
5	12160.00 AV	49.13	-1.12	48.01	54.00	-5.99	100	149

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
No.	Freq. (MHz)	Factor (dB/M)	Reading (dBuV/M)	Emission (dBuV/M)	Limit (dBuV/M)	Margin (dB)	Ant. Height (cm)	Table Angle (Deg.)
1*	2432.00 PK	32.65	40.96	73.61	114.00	-40.39	100	174
1*	2430.52 AV	49.13	22.79	71.92	94.00	-22.08	100	174
2	4864.00 PK	32.65	23.45	56.10	74.00	-17.90	100	33
2	4860.80 AV	38.30	11.97	50.27	54.00	-3.73	100	33
3	7296.00 PK	38.30	19.26	57.56	74.00	-16.44	100	79
3	7296.00 AV	45.26	0.22	45.48	54.00	-8.52	100	79
4	9728.00 PK	45.26	12.12	57.38	74.00	-16.62	100	68
4	9728.00 AV	48.22	-2.72	45.50	54.00	-8.50	100	68
5	12160.00 PK	48.22	10.64	58.86	74.00	-15.14	100	118
5	12160.00 AV	49.13	-1.07	48.06	54.00	-5.94	100	118

- NOTE:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB)
 2. Correction Factor (dB) = Antenna Factor (dB) + 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 other emission levels were very low against the limit.



EUT	2.4G wireless camera	MODEL NO.	BT501
CHANNEL	Channel 4	FREQUENCY RANGE	Above 1GHz
MODULATION TYPE	FM	INPUT POWER (SYSTEM)	6Vdc from batteries
ENVIRONMENTAL CONDITIONS	20 deg. C, 65% RH, 1000 hPa	DETECTOR FUNCTION	PK / AV: 1MHz
TESTED BY	REBECCA		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Freq. (MHz)	Factor (dB/M)	Reading (dBuV/M)	Emission (dBuV/M)	Limit (dBuV/M)	Margin (dB)	Ant. Height (cm)	Table Angle (Deg.)
1*	2468.00	32.73	45.16	77.89	114.00	-36.11	100	213
1*	2468.00	45.25	30.67	75.92	94.00	-18.08	100	213
2	4936.00	32.73	25.78	58.51	74.00	-15.49	100	109
2	4936.00	48.48	-7.44	41.04	54.00	-12.96	100	109
3	7404.00	38.55	17.43	55.98	74.00	-18.02	100	247
3	7404.00	48.48	-4.27	44.21	54.00	-9.79	100	247
4	9872.00	38.55	19.78	58.33	74.00	-15.67	100	6
4	9872.00	49.23	-1.98	47.25	54.00	-6.75	100	6
5	12340.00	45.25	14.30	59.55	74.00	-14.45	100	13
5	12340.00	49.23	-0.52	48.71	54.00	-5.29	100	13

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Freq. (MHz)	Factor (dB/M)	Reading (dBuV/M)	Emission (dBuV/M)	Limit (dBuV/M)	Margin (dB)	Ant. Height (cm)	Table Angle (Deg.)
1*	2467.60	32.73	46.60	79.33	114.00	-34.67	100	121
1*	2468.00	45.25	30.12	75.37	94.00	-18.63	100	121
2	4936.00	32.73	25.47	58.20	74.00	-15.80	100	103
2	4936.00	48.48	-7.58	40.90	54.00	-13.10	100	103
3	7404.00	38.55	18.50	57.05	74.00	-16.95	100	90
3	7404.00	48.48	-4.05	44.43	54.00	-9.57	100	90
4	9872.00	38.55	19.05	57.60	74.00	-16.40	100	119
4	9872.00	49.23	-2.31	46.92	54.00	-7.08	100	119
5	12340.00	45.25	15.45	60.70	74.00	-13.30	100	313
5	12340.00	49.23	-0.53	48.70	54.00	-5.30	100	313

- NOTE:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB)
 2. Correction Factor (dB) = Antenna Factor (dB) + 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 other emission levels were very low against the limit.

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
SIGNAL ANALYZER Rohde & Schwarz	FSP	E1S1002	May. 16. 2007

4.3.3 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 with suitable frequency span. The band edges was measured and recorded.

4.3.4 DEVIATION FROM TEST STANDARD

No deviation.

4.3.5 EUT OPERATING CONDITION

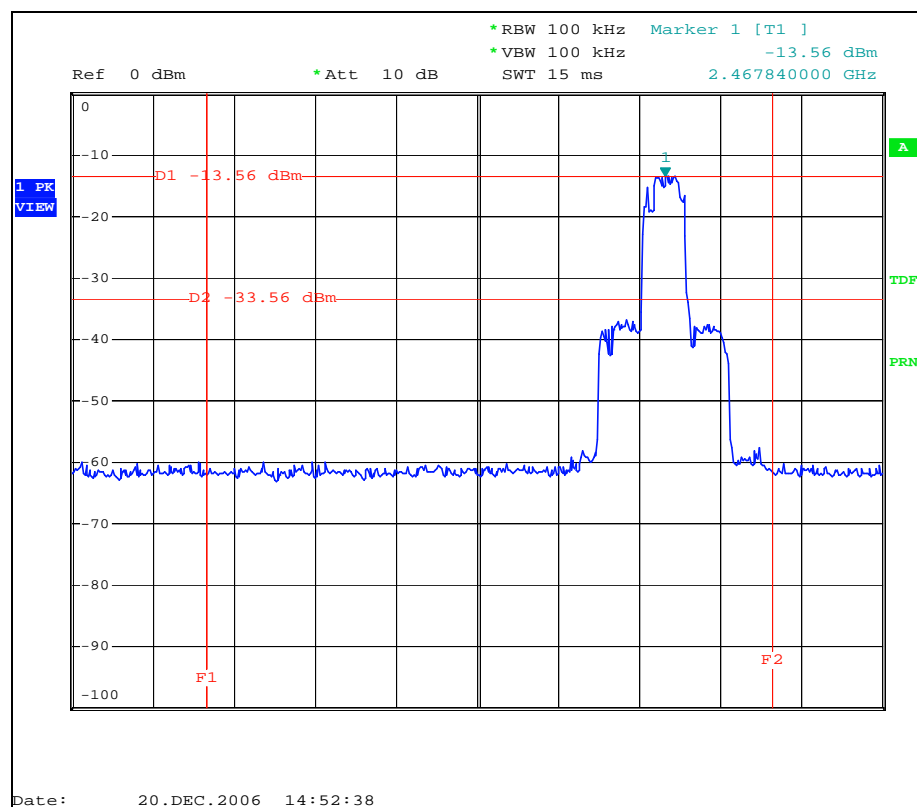
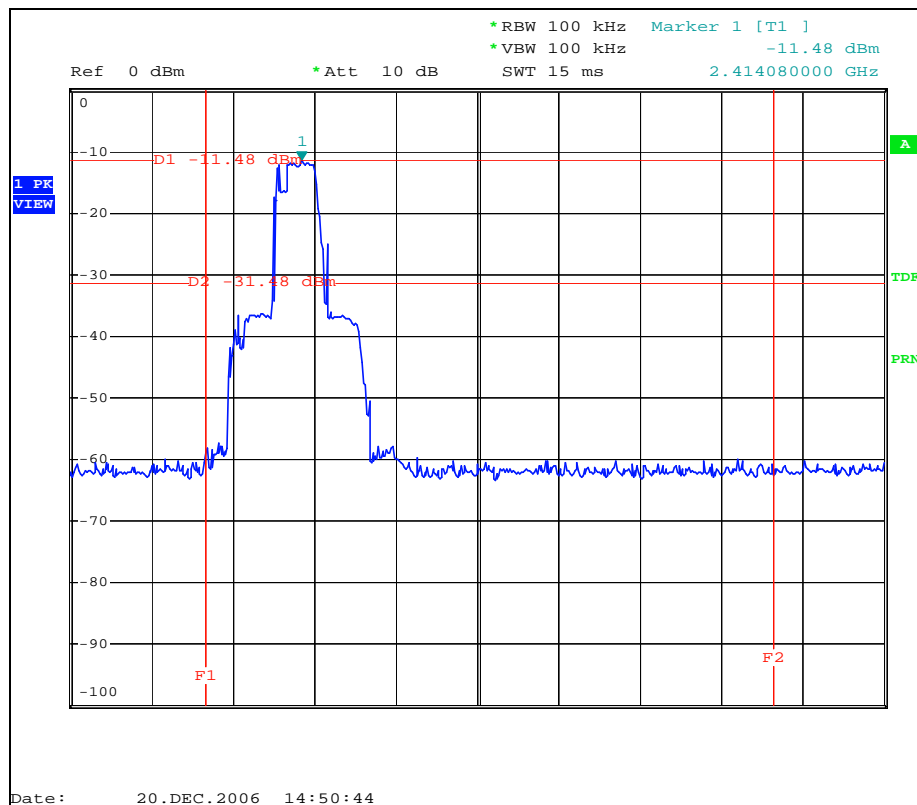
Enable the EUT to transmit data at lowest and highest channel frequencies individually.



4.3.6 TEST RESULTS

For Emissions outside of the specified frequency bands (Radiated), please refer to report section 4.2.7 which met the requirement of the general radiated emission limits in § 15.209.

For Emissions outside of the specified frequency bands (Conducted), the spectrum plots are attached on the following 2 plots. D2 line indicates the highest level, D1 line indicates the 20dB offset below D2. It shows compliance with the requirement in part 15.249.



5 APPENDIX - INFORMATION ON THE TESTING LABORATORY

We, ADT (Shanghai) Corp., was founded in 2003 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratory is accredited and approved by the following approval agencies according to ISO / IEC 17025 (2005).

The client should not use it to claim product endorsement by CNLS, A2LA, or any government agency.

Japan	VCCI
USA	FCC, A2LA
Norway	DNV
China	CNAS



Copies of accreditation certificates of our laboratory obtained from approval agencies can be downloaded from our web site: www.cnadt.com

If you have any comments, please feel free to contact us at the following:

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