

RF Test Report

Product description:

Wireless LAN PCI Adapter

Application:

TRENDware International, Inc.

Manufacture:

TRENDware International, Inc.

Brand and Type/model number:

TRENDnet / TEW-423PI

Declaration of Conformity

We, the under signed,

Company	TRENDware International, Inc.
Address, City	3135 Kashiwa Street, Torrance, CA 90505,
Country	USA
Phone number	310-891-1100
Fax number	310-891-1111
E-mail	

certify and declare under our sole responsibility that the following equipment:

Product Description / Supplementary Info	802.11g Wireless LAN CardBus Adapter
Manufacturer	TRENDware International, Inc.
Brand	TRENDware
Type	TEW-423PI

is tested to and conforms with the essential radio test suites included in the following standards:

Standard	Issue date
ETSI EN 300 328-2	V1.2.1 Dec. 2001
ETSI EN 301 489-1	V1.4.1 Aug. 2002
ETSI EN 301 489-17	V1.2.1 Apr. 2002
EN 60950	2000

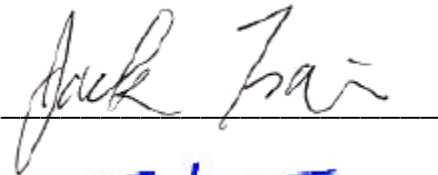
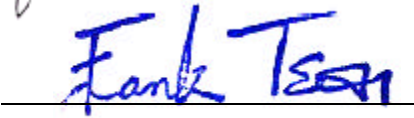
and therefore complies with the essential requirements and provisions of the **R&TTE directive 1999/5/EC** of the European Parliament and of the council of 9 March 1999 on radio equipment and Telecommunications Terminal Equipment and the mutual recognition of their conformity and the requirements of Annex III (conformity Assessment procedure referred to in article 10(4)).

The technical documentation as required by the Conformity Assessment procedure is kept at the following address:

Company	TRENDware International, Inc.
Address, City	3135 Kashiwa Street, Torrance, CA 90505,
Country	USA
Phone number	310-891-1100
Fax number	310-891-1111
E-mail	



Draw up in	USA
Date	2004/02/20
TRENDware International, Inc. 3135 Kashiwa Street, Torrance, CA 90505, USA	
Signature & company stamp	Mr. Pei C. Huang / President

Report No.	C51ET390	
Specifications	ETSI EN 300 328-1 (V.1.3.1) / December, 2001 ETSI EN 300 328-2 (V.1.2.1) / December, 2001	
Applicant	TRENDware International, Inc.	
Applicant address	3135 Kashiwa Street, Torrance, CA 90505, USA	
Items tested	Wireless PCI Adapter	
Model No.	TEW-423PI	
Results	Compliance (As detailed within this report)	
Date	11/20/2003 (month / day / year) (Sample received) 11/26/2003 (month / day / year) (Test)	
Prepared by		Project Engineer (Jack Tsai)
Authorized by		General Manager (Frank Tsai)
Issue date	December 5, 2003	(month / day / year)
Modifications	None	
Tested by	Training Research Co., Ltd.	
Office at	No. 255, Nan Yang Street, Shijr City, Taipei Hsien 221, Taiwan	
Laboratory at	1F, No. 255, Nan Yang Street, Shijr City, Taipei Hsien 221, Taiwan	
Open site at	No. 15, Lane 530, Balian Rd., Sec. 1, Shijr City, Taipei Hsien 221, Taiwan	

Conditions of issue:

This test report shall not be reproduced except in full, without written approval of TRC. And the test result contained within this report only relate to the sample submitted for testing.

★ Aut. No. ELA 131

We here by verify that:

The test data, data evaluation, test procedures and equipment configurations shown in this report were made mainly in accordance with the procedures given in ETSI EN 300328-2 (V.1.2.1) as a reference. All test were conducted by *Training Research Co., Ltd.*, 255 Nanyang Street, Shijr, Taipei Hsien 221, Taiwan, R.O.C. Also, we attest to the accuracy of each.

We further submit that the energy emitted by the sample EUT tested as described in the report is **in compliance with** the technical requirements set second edition in the European Telecommunication Standard ETSI EN 300328-2 (V.1.2.1).

Reservation:

The test results herein refer only to the tested sample. Training Research Co., Ltd. is not responsible for any generalizations or conclusions draw from these test results and concerning further samples. Any modification of the tested samples is prohibited and leads to the invalidity of this test report.

Test by :

Training Research Co., Ltd.

TEL: 886-2-26935155

FAX: 886-2-26934440

No. 255, Nanyang Street, Shijr, Taipei Hsien 221, Taiwan, R.O.C.

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I. GENERAL

1.1 Introduction

The following measurement report is submitted on behalf of Applicant in support of a wireless LAN measurement in accordance with ETSI EN 300328-2 (V.1.2.1) (Dec. 2001) of the European Telecommunication Standard.

1.2 Description of EUT

Product Name	:	Wireless PCI Adapter
Model	:	TEW-423PI
Frequency Range	:	2.400GHz ~ 2.4835GHz
Operating Frequency	:	2.412GHz ~ 2.472GHz
Support Channel	:	13 Channels
Modulation Skill	:	DBPSK, DQPSK, CCK, OFDM
Power Type	:	Power by Protocol Control Information Interface of PC

1.3 Test Method

1. The EUT can be equipped with two kinds of antennas. Besides, it has an integral (Undetachable) antenna, and the detachable antenna.
The detachable antenna is affixed to the EUT using a unique connector, which allows for replacement of a broken antenna, but does not use a standard antenna jack or electrical connector.
2. Put the EUT into a personal computer's PCI bus and screw it.
3. Using the computer and software provided by the manufacturer to control EUT. The software is operated under the Windows to control the EUT in the continuous transmission mode. The test is performed under those specific conditions.
4. Set different channels (CH1/CH7/CH13) being tested and making EUT to the mode of continuous transmission

1.4 Description of Support Equipment

In order to construct the minimum testing, following equipment were used as the support units.

PC : IBM 6840
 Model No. : 6840MJV
 Serial No. : 96CC 0BT
 FCC ID : DoC Approved
 檢磁 : 3892I279
 Power type : 100 ~ 127/ 200 ~ 240VAC, 4A/2A 50/60 Hz, Switching
 Power cord : Non-shielded, 182cm length, Plastic hood, No ferrite core

Monitor : HP 15' Color Monitor
 Model No. : D2827A
 Serial No. : KR91161716
 FCC ID : C5F7NFCMC1518X
 檢磁 : 3872B039
 Power type : 110 ~ 240 VAC / 50 ~ 60 Hz, Switching
 Power cord : Shielded, 1.83m long, No ferrite core
 Data cable : Shielded, 1.46m long, with two ferrite cores

PS/2 Keyboard : HP
 Model No. : 5181
 Serial No. : BE21700405
 FCC ID : Doc Approved
 檢磁 : 3892C981
 Power type : By PC
 Data cable : Shielded, 1.70m length, with ferrite core

PS/2 Mouse : HP
 Model No. : M-S34
 Serial No. : LZB90714106
 FCC ID : DZL211029
 檢磁 : 4862A011
 Power type : By PC
 Power cord : Non-shielded, 1.88m long, No ferrite core

Notebook : **IBM Think Pad X20**
Model No. : 2662-11T
Serial No. : FX-1192200/09
FCC ID : N/A, Doc Approved
檢磁 : 3892B565

Adaptor : **IBM**
Model No. : PA2450U
Serial No. : 02K6654
FCC ID : N/A, Doc Approved
Power type : I/P: 100 ~ 240vac, 50 ~ 60 Hz, 0.5A ~ 1.2A; O/P: 16Vdc, 4.5A
Power cord : Non-shielded, 1.80m length, Plastic, with ferrite core

Notebook : **IBM Think Pad X20**
Model No. : 2662-11T
Serial No. : FX-1192200/09
FCC ID : N/A, Doc Approved
檢磁 : 3892B565

Adaptor : **IBM**
Model No. : PA2450U
Serial No. : 02K6654
FCC ID : N/A, Doc Approved
Power type : I/P: 100 ~ 240vac, 50 ~ 60 Hz, 0.5A ~ 1.2A; O/P: 16Vdc, 4.5A
Power cord : Non-shielded, 1.80m length, Plastic, with ferrite core

WLAN Card : **Gemtek Technology Co., Ltd.**
Model No. : C911003
FCC ID : MXF-C911003

1.6 Verify the Frequency and Channel

CH	1	2	3	4	5	6	7	8	9	10
0	2412	2417	2422	2427	2432	2437	2442	2447	2452	2457
1	2462	2467	2472	---	---	---	---	---	---	---

Note:

- (1) This is for sure that all frequencies are in 2.4GHz – 2.4835 GHz.
- (2) After test, the EUT operating frequencies are in 2.412GHz to 2.472GHz. So all the item as followed in testing report are need to test these three frequencies:
channel 1, channel 7, and channel 13.
- (3) E.T.S.I (2400MHz ~ 2483.5MHz),
FRANCE outdoor use limited to 10mW e.i.r.p. within the band 2454MHz ~ 2483.5MHz.

1.7 Test Procedure

All measurements performed in this report were performed mainly according to the techniques described in ETSI EN 300328-2 (Dec., 2001) and the pre-setup was written on 1.4 test method, the detail setup was written on each test item.

1.8 Location of the Test Site

The radiated emissions measurements required by the rules were performed on the **three-meter, Anechoic Chamber (Registration Number: 93906)** maintained by *Training Research Co., Ltd.* 1F., No. 255 Nanyang Street, Shijr, Taipei Hsien 221, Taiwan, R.O.C. Complete description and measurement data have been placed on file with the commission. The conducted power line emissions tests and other test items were performed in a anechoic chamber also located at Training Research Co., Ltd.

No. 255 Nanyang Street, Shijr, Taipei Hsien 221, Taiwan, R.O.C. *Training Research Co., Ltd.* is listed by the FCC as a facility available to do measurement work for others on a contract basis.

1.9 General Test Condition

The test condition shall be as follows: (See Clause 6)

The NORMAL temperature and humidity conditions for tests shall be any convenient combination of temperature and humidity within the following ranges:

-temperature: +15°C to +35°C;

-relative humidity: 20% to 75%.

The normal test voltage for equipment to be connected to the main shall be the nominal mains voltage.

For purpose of this ETS, the normal voltage shall be the declared voltage or any of the declared voltages for which the equipment was designed.

The frequency of the test power source corresponding to the AC mains shall be between 49Hz and 51Hz. When radio equipment is intended for operation from the usual, alternator fed lead-acid battery power source used on vehicles, then the normal test voltage shall be 1.1 times the nominal voltage of the battery (6V, 12V, etc.)

For operation from other power sources or types of battery (primary or secondary), the nominal test voltage shall be as declared by the equipment manufacturer. This shall be recorded in the test report.

For tests at EXTREME temperatures, measurements shall be made in accordance with the procedures specified in subclause 6.4.3, at the upper and lower temperatures of the range as follows:

- temperature: -20°C to +55°C;

Where the manufacturer's declared operating range does not include the range of -20°C to +55°C, the equipment shall be tested over the following temperature ranges:

a) 0°C to +35°C for equipment intended for INDOOR use only, or intended for use in areas where the temperature is controlled within this range;

b) Over the extremes of the operating temperature range(s) of the declared host equipment(s) in case of plug-in radio devices.

The frequency range as in subclause 5.2.3 and the e.i.r.p. Limit in subclause 5.2.1 shall not be exceeded.

Tests at extreme power source voltages specified below are not required when the equipment under test is designed for operation as part of and powered by another system or piece of equipment. Where this is the case, the limit values of the host system or host equipment shall apply. The appropriate limit values shall be declared by the manufacturer and recorded in the test report.

The EXTREME TEST VOLTAGE for equipment to be connected to an AC mains source shall be the nominal mains voltage $\pm 10\%$.

When radio equipment is intended for operation from the usual type of alternator fed lead-acid battery power source used on vehicles, then extreme test voltage shall be 1.3 and 0.9 times the nominal voltage of the battery (6V, 12V, etc.).

The lower extreme test voltage for equipment with power source using the following type of battery, shall be:

- for the Leclanche' or lithium type battery: 0.85 times the nominal voltage of the battery;
- for the mercury or nickel-cadmium type of battery: 0.9 times the nominal voltage of the battery.

In both cases, the upper extreme test voltage shall be 1.15 times the nominal voltage of the battery.

For equipment using other power sources, or capable of being operated from a variety of power sources (primary or secondary), the extreme test voltages shall be those declared by the manufacturer; these shall be recorded in the test report. Before measurements are made the equipment shall have reached thermal balance in the test chamber.

II. Section 5.2.1 : Effective Radiated Power

2.1 Test Result of Effective Radiated Power for 802.11b

Power level at which the measurement has been performed 53.95 mW

TEST CONDITION		TRANSMITTER PEAK POWER		
		Tx Peak (dBm)	Tx Ave. (dBm)	Cable Loss (dB)
Channel 1	25 °C	6.86	3.77	5.90
	0 °C	9.33	6.32	
	35 °C	6.15	3.12	
Channel 7	25 °C	6.95	3.88	5.90
	0 °C	9.51	6.51	
	35 °C	6.20	3.12	
Channel 13	25 °C	6.99	3.92	5.90
	0 °C	9.62	6.65	
	35 °C	6.26	3.18	
Limit		Tx Peak : 23dBm / -7dBW Tx Ave. : 20dBm / -10dBW		

NOTE:

- (1) The E.U.T is a stand-alone radio device (see the clause 6.2.2). The powered by the adaptor. So, the AC power is used as the extreme voltage source. (See clause 6.3.2.1)
- (2) The value of table is worst case during test condition, includes different combinations of transmitter rate antenna polarity and temperature
- (3) TX PEAK: Max Peak Power, TX Ave.: Average Peak.
Actually Power (Peak Power) = Tx Peak + Cable Loss,
E.I.R.P. = Actually Power + Antenna Gain
= 15.52dBm + 1.8dBi
= 17.32dBm
- (4) ETSI (2400MHz ~ 2483.5MHz),
FRANCE outdoor use limited to 10mW e.i.r.p. within the band 2454MHz ~ 2483.5MHz

2.2 Test Result of Effective Radiated Power for 802.11g

Power level at which the measurement has been performed **93.54** mW

TEST CONDITION		TRANSMITTER PEAK POWER		
		Tx Peak (dBm)	Tx Ave. (dBm)	Cable Loss (dB)
Channel 1	25 °C	10.12	-0.92	5.90
	0 °C	11.86	0.62	
	35 °C	9.31	-2.21	
Channel 7	25 °C	10.17	-0.96	5.90
	0 °C	12.01	1.01	
	35 °C	9.38	-2.17	
Channel 13	25 °C	9.25	-1.76	5.90
	0 °C	11.65	0.38	
	35 °C	8.06	-2.97	
Limit		Tx Peak : 23dBm / -7dBW Tx Ave. : 20dBm / -10dBW		

NOTE:

- (5) The E.U.T is a stand-alone radio device (see the clause 6.2.2). The powered by the adaptor. So, the AC power is used as the extreme voltage source. (See clause 6.3.2.1)
- (6) The value of table is worst case during test condition, includes different combinations of transmitter rate antenna polarity and temperature
- (7) TX PEAK: Max Peak Power, TX Ave.: Average Peak.
Actually Power (Peak Power) = Tx Peak + Cable Loss,
E.I.R.P. = Actually Power + Antenna Gain
= 17.91dBm + 1.8dBi
= 19.71dBm
- (8) ETSI (2400MHz ~ 2483.5MHz),
FRANCE outdoor use limited to 10mW e.i.r.p. within the band 2454MHz ~ 2483.5MHz

III. Section 5.2.2 : Peak Power Density

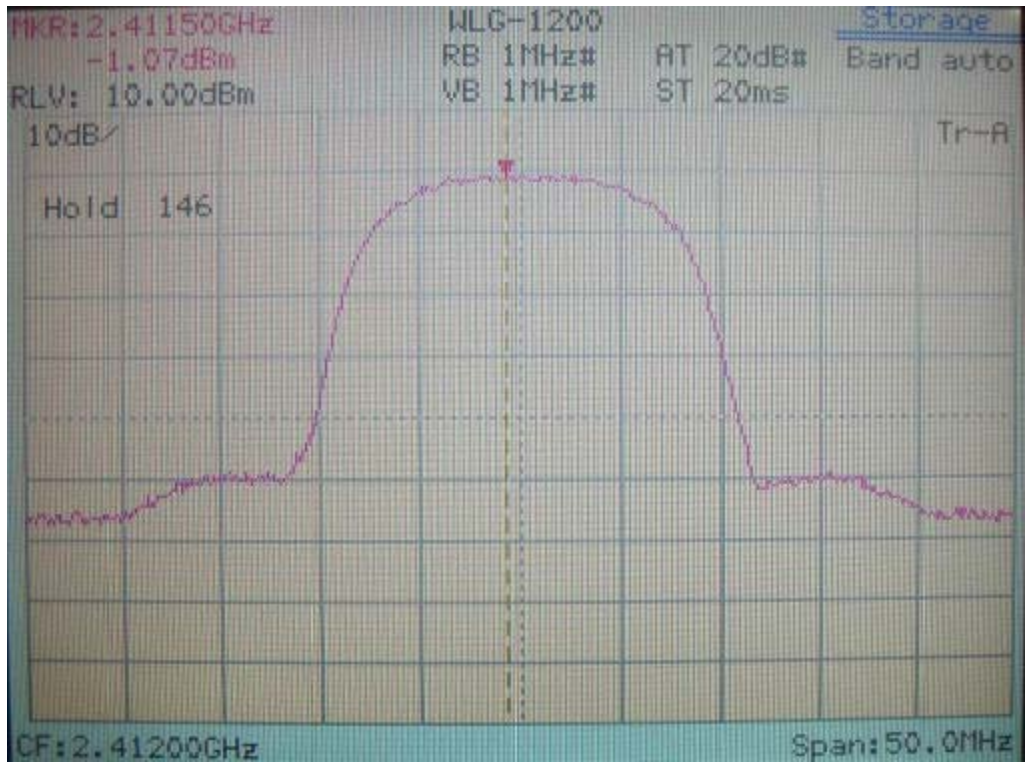
3.1 Test Result of Peak Power Density for 802.11b

Channel	Frequency (MHz)	Ppr (dBm)	CF (dB)	Ant.Gain (dBi)	Ppq (dBm)	Limit (dBm)	Margin (dB)
CH 01	2412	-1.07	6.60	1.80	7.33	10.00	-2.67
CH 07	2442	-0.95	6.60	1.80	7.45	10.00	-2.55
CH 13	2472	-1.08	6.60	1.80	7.32	10.00	-2.68

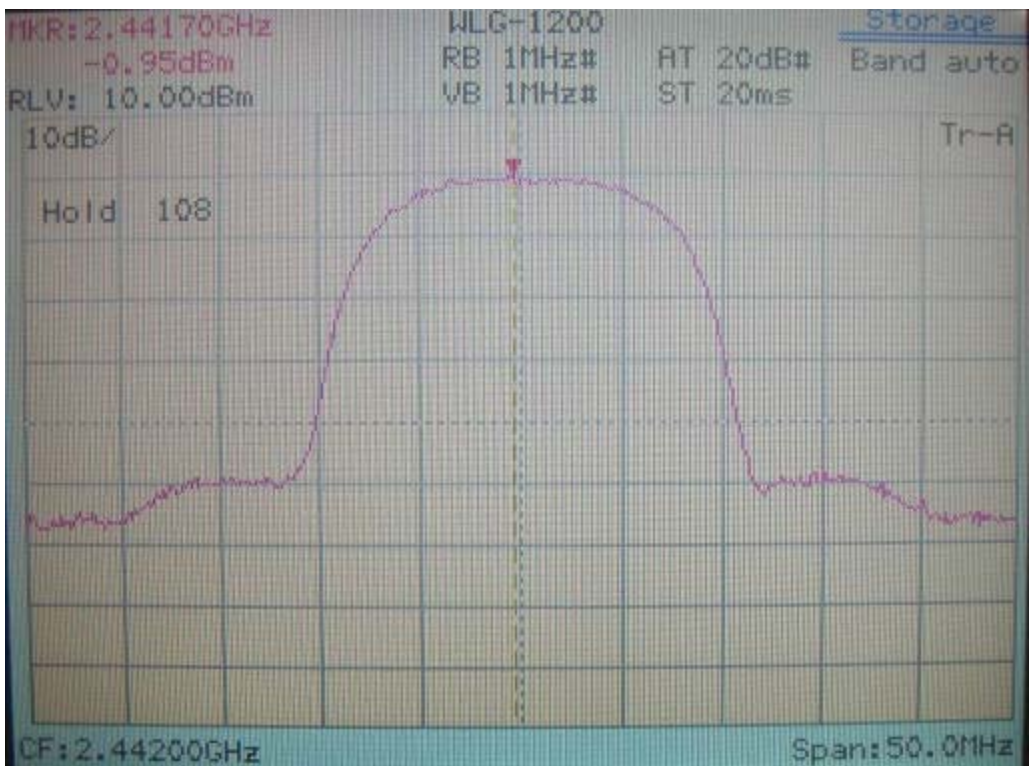
NOTE:

- (1) For equipment using FHSS modulation, the peak power density shall be limit to -10dBW(100mW) per 100kHz E.I.R.P.
- (2) For equipment using other types modulation, the peak power density shall be limit -20dBW(10mW) per MHz E.I.R.P.
- (3) Ppr: spectrum read power density (using peak search mode), CF: correct factor, Ppq: actual peak power density in the spread spectrum band. $Ppq = Ppr + CF$
- (4) The value of table is worst case during test condition, includes different combination s of transmitter rate, antenna polarity and temperature
- (5) The data in the above table are summarizing the following attachment spectrum analyzer hard copy.
- (6) ETSI (2400MHz ~ 2483.5MHz), FRANCE outdoor use limited to 10mW e.i.r.p. within the band 2454MHz ~ 2483.5MHz

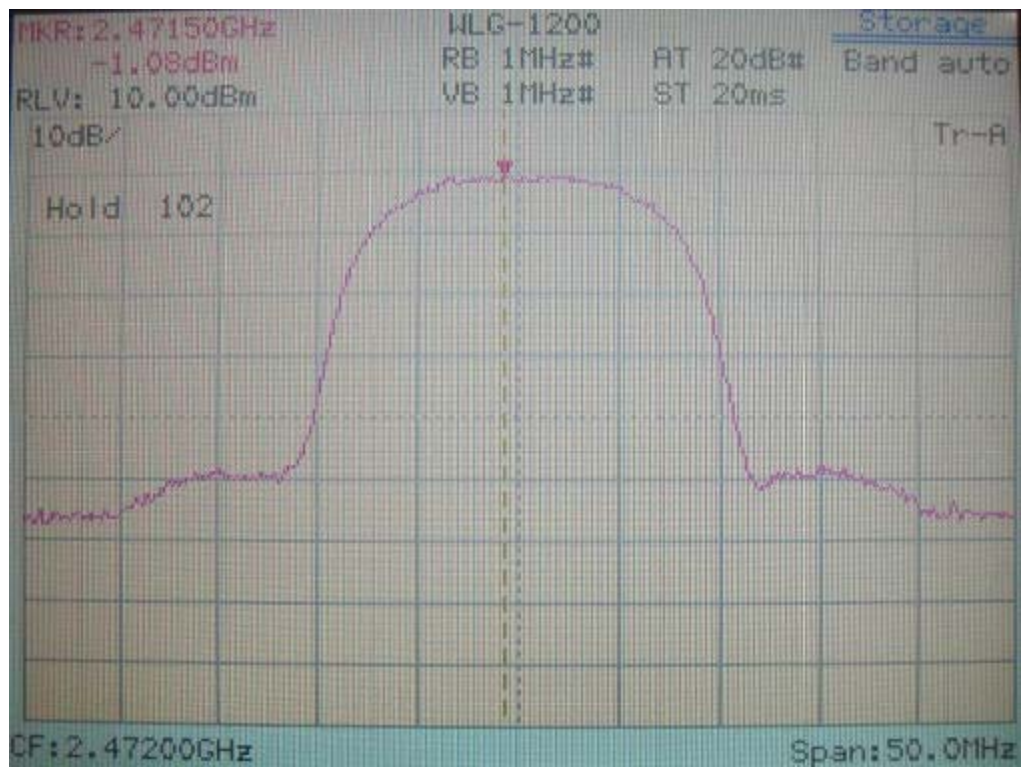
Channel 1



Channel 7



Channel 13



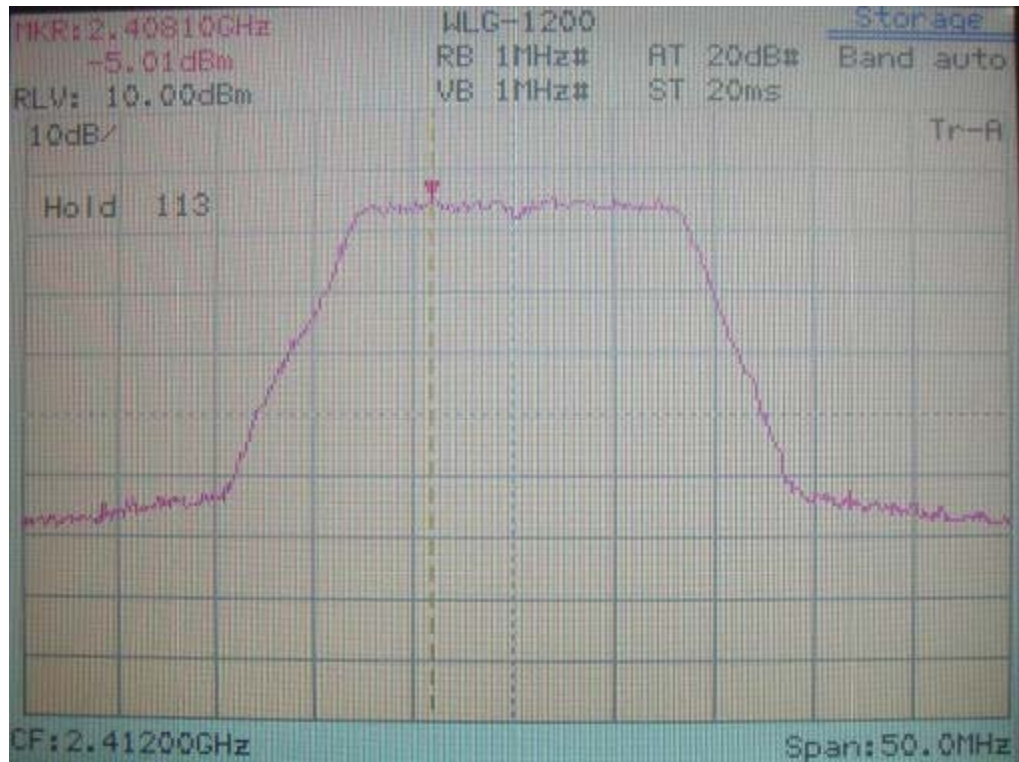
3.2 Test Result of Peak Power Density for 802.11g

Channel	Frequency (MHz)	Ppr (dBm)	CF (dB)	Ant.Gain (dBi)	Ppq (dBm)	Limit (dBm)	Margin (dB)
CH 01	2412	-5.01	6.60	1.80	3.39	10.00	-6.61
CH 07	2442	-4.98	6.60	1.80	3.42	10.00	-6.58
CH 13	2472	-4.69	6.60	1.80	3.71	10.00	-6.29

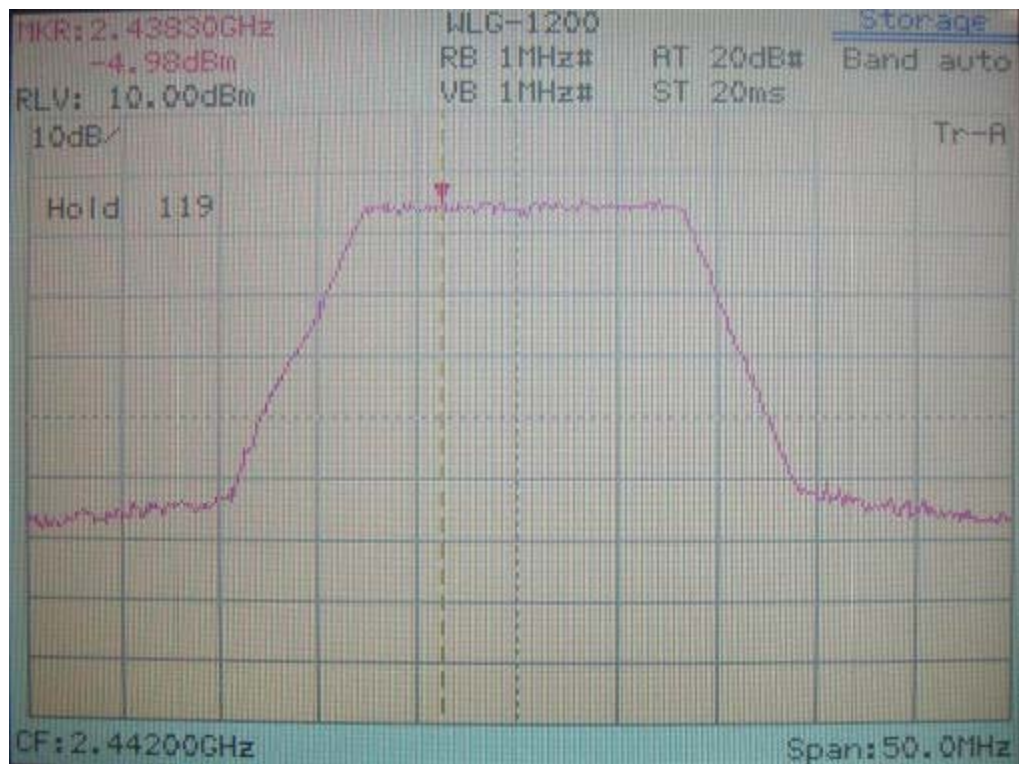
NOTE:

- (7) For equipment using FHSS modulation, the peak power density shall be limit to -10dBW(100mW) per 100kHz E.I.R.P.
- (8) For equipment using other types modulation, the peak power density shall be limit -20dBW(10mW) per MHz E.I.R.P.
- (9) Ppr: spectrum read power density (using peak search mode), CF: correct factor, Ppq: actual peak power density in the spread spectrum band. $Ppq = Ppr + CF$
- (10) The value of table is worst case during test condition, includes different combination s of transmitter rate, antenna polarity and temperature
- (11) The data in the above table are summarizing the following attachment spectrum analyzer hard copy.
- (12) ETSI (2400MHz ~ 2483.5MHz), FRANCE outdoor use limited to 10mW e.i.r.p. within the band 2454MHz ~ 2483.5MHz

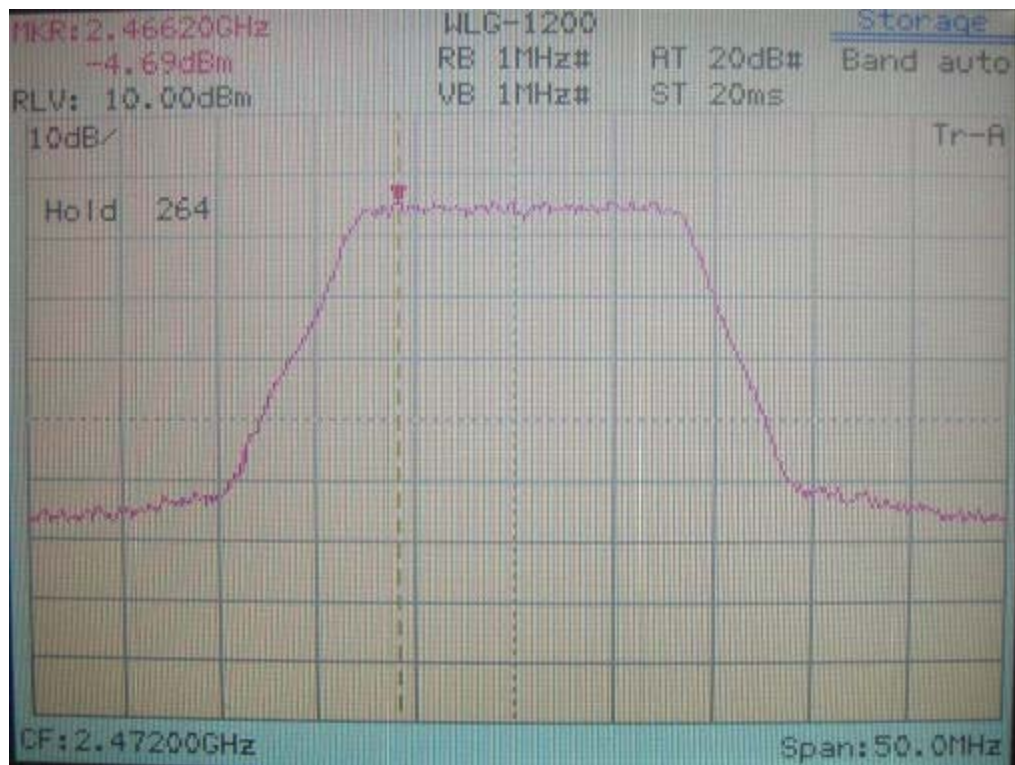
Channel 1



Channel 7



Channel 13



IV. Section 5.2.3 : Frequency Range

4.1 Test Result of Frequency Range for 802.11b

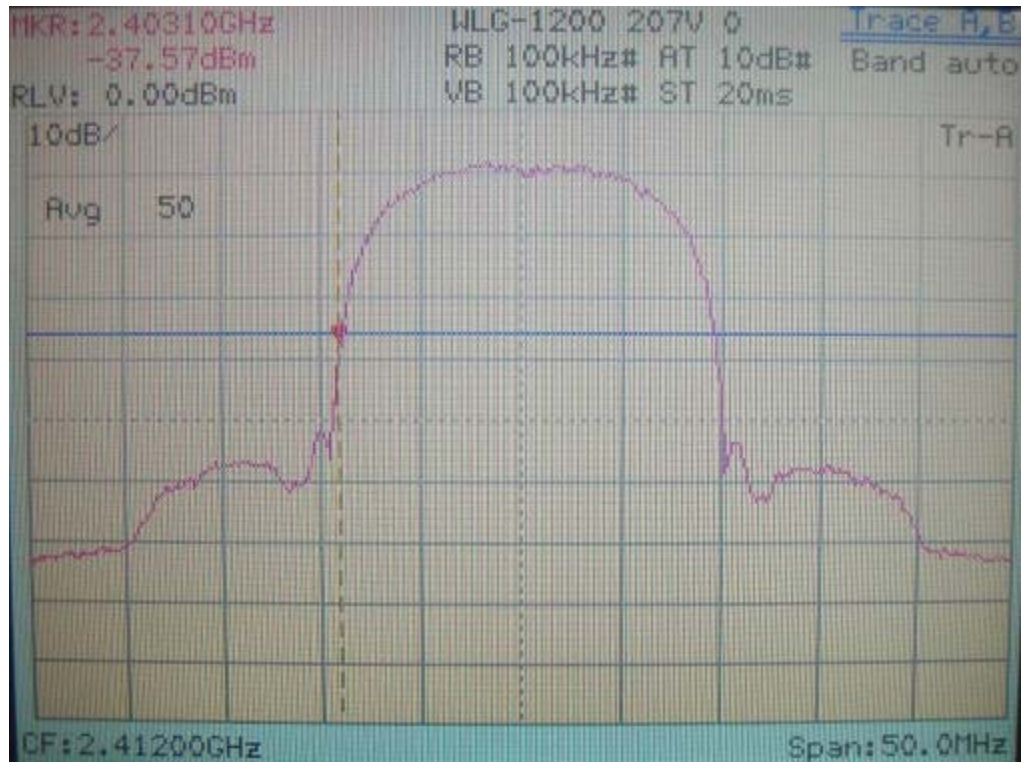
Transmitter Frequency Range – DSSS Equipment

TEST CONDITION		FREQUENCY(MHz)			
		Lowest Channel		Highest Channel	
		Channel 1		Channel 13	
		Frequency	Rate (Mbps)	Frequency	Rate (Mbps)
0°C	207 V	2403.10	11	2481.80	11
	253 V	2403.10	11	2481.70	11
25°C	230 V	2403.20	11	2481.50	11
35°C	207 V	2403.20	11	2481.40	11
	253 V	2403.20	11	2481.40	11
Measured frequencies (lowest and highest)		FL = 2403.10 MHz		FH = 2481.80 MHz	
Limit		FL > 2400MHz		FH < 2483.5MHz	

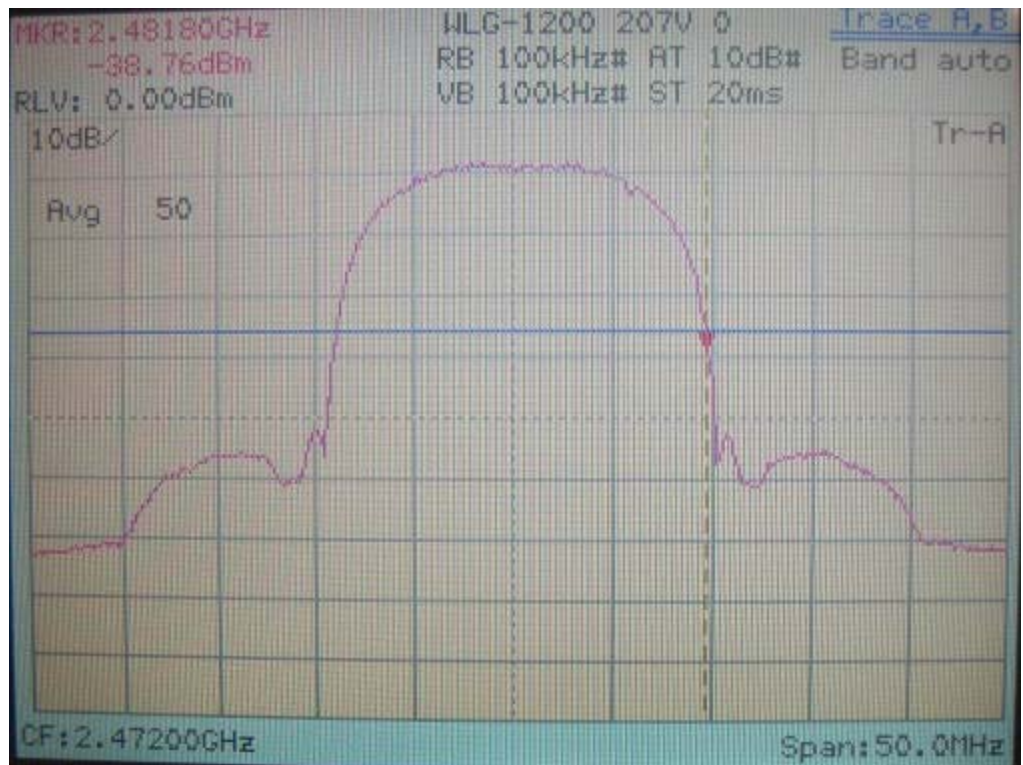
Note:

- (1) The E.U.T is a stand-alone radio device (see the clause 6.2.2). This is powered by the main. So, the AC power is used as the extreme voltage source. (see clause 6.3.2.1).
- (2) B: Battery, AC: AC Source, Rate: Transmitter Rate.
- (3) The value of table is worst case during test condition, includes different combinations of transmitter rate, antenna polarity and temperature.
- (4) The data in the above table are summarizing the following attachment spectrum analyzer hard copy.
- (5) ETSI(2400MHz~2483.5MHz),
FRANCE outdoor use limited to 10mW e.i.r.p. within the band 2454MHz ~ 2483.5MHz

Channel 1 (The lowest one in the frequency range)



Channel 13 (The greatest one in the frequency range)



4.2 Test Result of Frequency Range for 802.11g

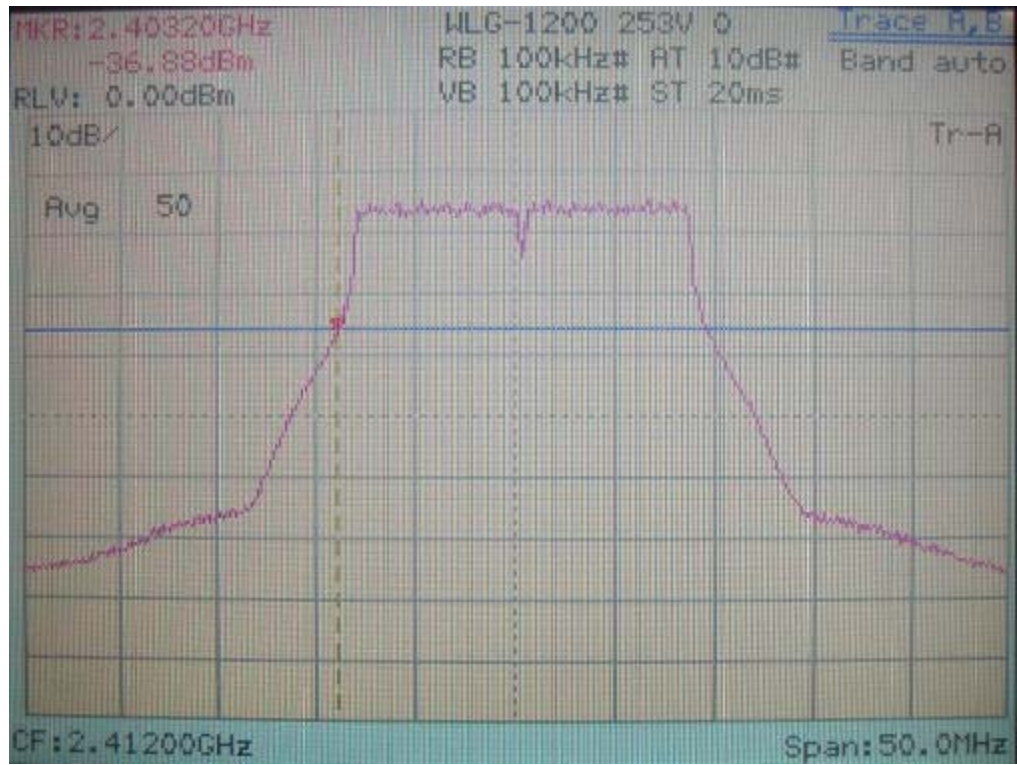
Transmitter Frequency Range – DSSS Equipment

TEST CONDITION		FREQUENCY(MHz)			
		Lowest Channel		Highest Channel	
		Channel 1		Channel 13	
		Frequency	Rate (Mbps)	Frequency	Rate (Mbps)
0°C	207 V	2403.20	11	2481.60	11
	253 V	2403.20	11	2481.70	11
25°C	230 V	2403.30	11	2481.20	11
35°C	207 V	2403.60	11	2481.10	11
	253 V	2403.50	11	2481.10	11
Measured frequencies (lowest and highest)		FL = 2403.20 MHz		FH = 248.70 MHz	
Limit		FL > 2400MHz		FH < 2483.5MHz	

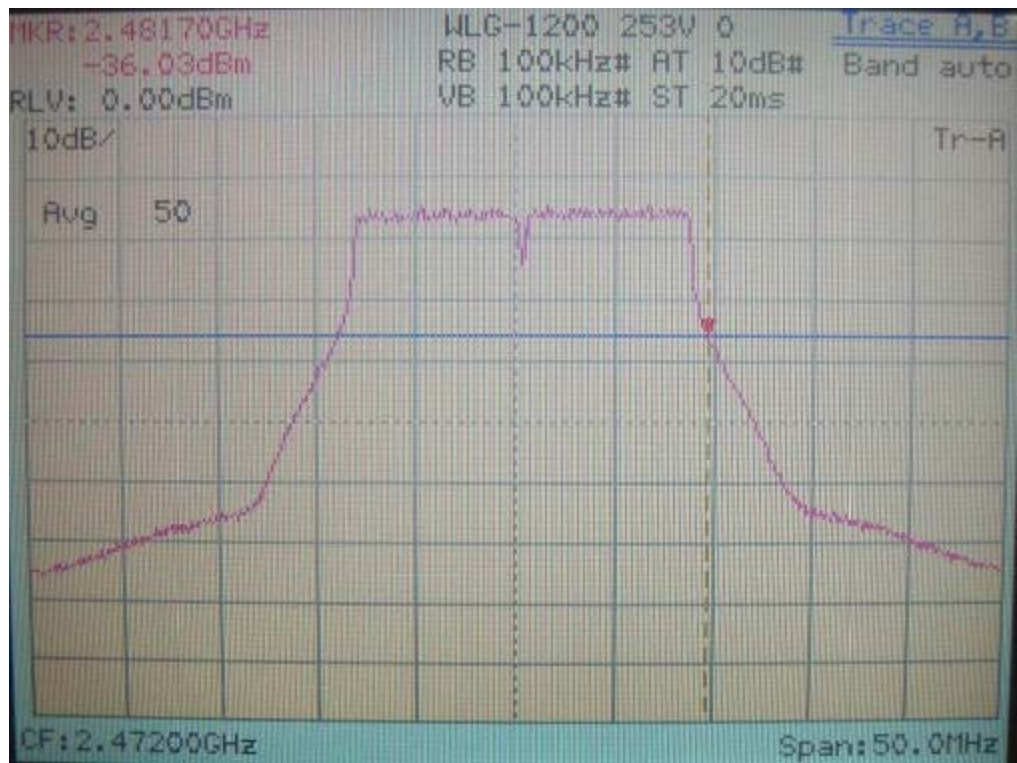
Note:

- (6) The E.U.T is a stand-alone radio device (see the clause 6.2.2). This is powered by the main. So, the AC power is used as the extreme voltage source. (see clause 6.3.2.1).
- (7) B: Battery, AC: AC Source, Rate: Transmitter Rate.
- (8) The value of table is worst case during test condition, includes different combinations of transmitter rate, antenna polarity and temperature.
- (9) The data in the above table are summarizing the following attachment spectrum analyzer hard copy.
- (10) ETSI(2400MHz~2483.5MHz),
FRANCE outdoor use limited to 10mW e.i.r.p. within the band 2454MHz ~ 2483.5MHz

Channel 1 (The lowest one in the frequency range)



Channel 13 (The greatest one in the frequency range)



V. Section 5.2.4 : Transmitter Spurious Emissions (Radiated)

5.1 Test Result of IEEE 802.11b for Detachable antenna

Channel 1 (30MHz to 1GHz)

Frequency (MHz)	A. P. (H/V)	LEVEL (dBm)	Limit (dBm)	Margin (dB)	Rate (Mbps)
101.54	H	-70.79	-36.00	-34.79	11
213.09	H	-73.99	-36.00	-37.99	11
376.77	H	-69.07	-36.00	-33.07	11
501.66	H	-70.88	-36.00	-34.88	11
625.34	H	-68.28	-36.00	-32.28	11
795.09	H	-62.13	-36.00	-26.13	11
125.79	V	-62.52	-36.00	-26.52	11
167.01	V	-69.57	-36.00	-33.57	11
274.92	V	-54.24	-36.00	-18.24	11
367.07	V	-67.52	-36.00	-31.52	11
521.06	V	-60.93	-36.00	-24.93	11
625.34	V	-66.41	-36.00	-30.41	11

Note:

- (1) A. P. means antenna polarization, horizontal and vertical.
 Amplitude means the fundamental emission measured
 C F. means Correct Factor, Rate means transmitter rate
 Corrected Factor (C. F.) = Cable Loss + Antenna Factor – Amplified Gain
 LEVEL = Amplitude + Corrected Factor
- (2) The margin is minus that means under limit.
- (3) The value of table is the worst case during test condition. This is including different combinations of transmitter rate antenna polarity and temperature.
- (4) ETSI (2400MHz~2483.5MHz),
 FRANCE outdoor use limited to 10mW e.i.r.p. within the band 2454MHz ~ 2483.5MHz

Channel 13 (30MHz to 1GHz)

Frequency (MHz)	A. P. (H/V)	LEVEL (dBm)	Limit (dBm)	Margin (dB)	Rate (Mbps)
103.96	H	-71.46	-36.00	-35.46	11
220.36	H	-75.08	-36.00	-39.08	11
375.56	H	-69.41	-36.00	-33.41	11
500.45	H	-70.62	-36.00	-34.62	11
625.34	H	-69.11	-36.00	-33.11	11
801.15	H	-62.54	-36.00	-26.54	11
103.96	V	-71.18	-36.00	-35.18	11
375.56	V	-69.20	-36.00	-33.20	11
500.45	V	-69.98	-36.00	-33.98	11
521.06	V	-70.26	-36.00	-34.26	11
625.34	V	-68.56	-36.00	-32.56	11
801.15	V	-61.88	-36.00	-25.88	11

Channel 1 (1GHz to 12.75GHz)

Frequency (MHz)	A. P. (H/V)	LEVEL (dBm)	Limit (dBm)	Margin (dB)	Rate (Mbps)
2947.92	H	-53.38	-30.00	-23.38	11
3035.42	H	-54.43	-30.00	-24.43	11
3425.00	H	-55.35	-30.00	-25.35	11
7415.83	H	-61.25	-30.00	-31.25	11
9890.21	H	-57.94	-30.00	-27.94	11
2945.83	V	-54.05	-30.00	-24.05	11
3800.62	V	-58.12	-30.00	-28.12	11
6895.52	V	-55.84	-30.00	-25.84	11
7238.54	V	-57.52	-30.00	-27.52	11
9647.40	V	-58.33	-30.00	-28.33	11

Channel 13 (1GHz to 12.75GHz)

Frequency (MHz)	A. P. (H/V)	LEVEL (dBm)	Limit (dBm)	Margin (dB)	Rate (Mbps)
2322.92	H	-49.04	-30.00	-19.04	11
2947.92	H	-53.38	-30.00	-23.38	11
4945.31	H	-61.43	-30.00	-31.43	11
7415.83	H	-61.92	-30.00	-31.92	11
9890.21	H	-57.77	-30.00	-27.77	11
2327.08	V	-43.68	-30.00	-13.68	11
2947.92	V	-54.38	-30.00	-24.38	11
3800.62	V	-58.62	-30.00	-28.62	11
5893.44	V	-57.08	-30.00	-27.08	11
9890.21	V	-58.77	-30.00	-28.77	11

5.2 Test Result of IEEE 802.11g for Detachable antenna

Channel 1 (30MHz to 1GHz)

Frequency (MHz)	A. P. (H/V)	LEVEL (dBm)	Limit (dBm)	Margin (dB)	Rate (Mbps)
103.96	H	-70.94	-36.00	-34.94	54
214.30	H	-72.35	-36.00	-36.35	54
375.56	H	-69.45	-36.00	-33.45	54
500.45	H	-70.29	-36.00	-34.29	54
521.06	H	-71.64	-36.00	-35.64	54
625.34	H	-67.99	-36.00	-31.99	54
102.75	V	-66.01	-36.00	-30.01	54
125.79	V	-75.36	-36.00	-39.36	54
213.09	V	-77.05	-36.00	-41.05	54
301.60	V	-78.40	-36.00	-42.40	54
367.07	V	-72.48	-36.00	-36.48	54
521.06	V	-63.55	-36.00	-27.55	54

Channel 13 (30MHz to 1GHz)

Frequency (MHz)	A. P. (H/V)	LEVEL (dBm)	Limit (dBm)	Margin (dB)	Rate (Mbps)
102.75	H	-70.70	-36.00	-34.70	54
211.87	H	-75.59	-36.00	-39.59	54
227.64	H	-72.04	-36.00	-36.04	54
375.56	H	-70.02	-36.00	-34.02	54
501.66	H	-70.45	-36.00	-34.45	54
801.15	H	-61.22	-36.00	-25.22	54
101.54	V	-65.76	-36.00	-29.76	54
125.79	V	-76.20	-36.00	-40.20	54
216.72	V	-76.74	-36.00	-40.74	54
365.86	V	-72.84	-36.00	-36.84	54
375.56	V	-74.92	-36.00	-38.92	54
521.06	V	-59.68	-36.00	-23.68	54

Channel 1 (1GHz to 12.75GHz)

Frequency (MHz)	A. P. (H/V)	LEVEL (dBm)	Limit (dBm)	Margin (dB)	Rate (Mbps)
2037.50	H	-62.09	-30.00	-32.09	54
2945.83	H	-53.38	-30.00	-23.38	54
4825.83	H	-64.19	-30.00	-34.19	54
7238.54	H	-59.52	-30.00	-29.52	54
9647.40	H	-60.50	-30.00	-30.50	54
2037.50	V	-59.26	-30.00	-29.26	54
2947.92	V	-53.54	-30.00	-23.54	54
3804.48	V	-57.61	-30.00	-27.61	54
5893.44	V	-54.24	-30.00	-24.24	54
9647.40	V	-59.17	-30.00	-29.17	54

Channel 13 (1GHz to 12.75GHz)

Frequency (MHz)	A. P. (H/V)	LEVEL (dBm)	Limit (dBm)	Margin (dB)	Rate (Mbps)
2322.92	H	-54.21	-30.00	-24.21	54
2947.92	H	-52.54	-30.00	-22.54	54
4945.31	H	-62.59	-30.00	-32.59	54
7415.83	H	-60.25	-30.00	-30.25	54
9890.21	H	-58.77	-30.00	-28.77	54
2322.92	V	-48.38	-30.00	-18.38	54
3447.92	V	-55.03	-30.00	-25.03	54
3800.62	V	-57.62	-30.00	-27.62	54
6074.58	V	-56.72	-30.00	-26.72	54
9890.21	V	-58.44	-30.00	-28.44	54

5.3 Test Result of IEEE 802.11b for Un-detachable antenna

Channel 1 (30MHz to 1GHz)

Frequency (MHz)	A. P. (H/V)	LEVEL (dBm)	Limit (dBm)	Margin (dB)	Rate (Mbps)
133.06	H	-65.97	-36.00	-29.97	11
222.79	H	-71.14	-36.00	-35.14	11
368.29	H	-71.07	-36.00	-35.07	11
398.60	H	-71.46	-36.00	-35.46	11
458.01	H	-72.23	-36.00	-36.23	11
500.45	H	-71.33	-36.00	-35.33	11
90.62	V	-67.29	-36.00	-31.29	11
107.60	V	-68.56	-36.00	-32.56	11
268.86	V	-72.94	-36.00	-36.94	11
443.46	V	-71.65	-36.00	-35.65	11
521.06	V	-61.80	-36.00	-25.80	11
568.35	V	-68.85	-36.00	-32.85	11

Channel 13 (30MHz to 1GHz)

Frequency (MHz)	A. P. (H/V)	LEVEL (dBm)	Limit (dBm)	Margin (dB)	Rate (Mbps)
133.06	H	-65.23	-36.00	-29.23	11
221.57	H	-69.47	-36.00	-33.47	11
368.29	H	-70.91	-36.00	-34.91	11
498.02	H	-71.42	-36.00	-35.42	11
521.06	H	-70.74	-36.00	-34.74	11
672.62	H	-67.36	-36.00	-31.36	11
108.81	V	-69.09	-36.00	-33.09	11
233.70	V	-73.97	-36.00	-37.97	11
327.06	V	-73.37	-36.00	-37.37	11
398.60	V	-67.53	-36.00	-31.53	11
521.06	V	-65.69	-36.00	-29.69	11
586.54	V	-67.75	-36.00	-31.75	11

Channel 1 (1GHz to 12.75GHz)

Frequency (MHz)	A. P. (H/V)	LEVEL (dBm)	Limit (dBm)	Margin (dB)	Rate (Mbps)
3135.42	H	-54.66	-30.00	-24.66	11
4825.83	H	-62.52	-30.00	-32.52	11
7238.54	H	-59.52	-30.00	-29.52	11
9647.40	H	-58.50	-30.00	-28.50	11
2035.42	V	-60.44	-30.00	-30.44	11
2783.33	V	-59.31	-30.00	-29.31	11
3447.92	V	-55.37	-30.00	-25.37	11
7238.54	V	-58.36	-30.00	-28.36	11
9647.40	V	-57.50	-30.00	-27.50	11

Channel 13 (1GHz to 12.75GHz)

Frequency (MHz)	A. P. (H/V)	LEVEL (dBm)	Limit (dBm)	Margin (dB)	Rate (Mbps)
2322.92	H	-53.54	-30.00	-23.54	11
2947.92	H	-55.71	-30.00	-25.71	11
4945.31	H	-64.43	-30.00	-34.43	11
7415.83	H	-60.25	-30.00	-30.25	11
9890.21	H	-58.44	-30.00	-28.44	11
2325.00	V	-43.03	-30.00	-13.03	11
2618.75	V	-58.42	-30.00	-28.42	11
4945.31	V	-64.59	-30.00	-34.59	11
7415.83	V	-59.59	-30.00	-29.59	11
9890.21	V	-58.61	-30.00	-28.61	11

5.4 Test Result of IEEE 802.11g for Un-detachable antenna

Channel 1 (30MHz to 1GHz)

Frequency (MHz)	A. P. (H/V)	LEVEL (dBm)	Limit (dBm)	Margin (dB)	Rate (Mbps)
131.85	H	-65.19	-36.00	-29.19	54
196.11	H	-72.21	-36.00	-36.21	54
233.70	H	-71.86	-36.00	-35.86	54
401.02	H	-72.14	-36.00	-36.14	54
456.80	H	-71.15	-36.00	-35.15	54
521.06	H	-70.54	-36.00	-34.54	54
108.81	V	-69.23	-36.00	-33.23	54
233.70	V	-73.29	-36.00	-37.29	54
327.06	V	-71.23	-36.00	-35.23	54
398.60	V	-69.69	-36.00	-33.69	54
422.25	V	-72.22	-36.00	-36.22	54
521.06	V	-65.64	-36.00	-29.64	54

Channel 13 (30MHz to 1GHz)

Frequency (MHz)	A. P. (H/V)	LEVEL (dBm)	Limit (dBm)	Margin (dB)	Rate (Mbps)
135.49	H	-65.26	-36.00	-29.26	54
221.57	H	-70.18	-36.00	-34.18	54
367.07	H	-71.44	-36.00	-35.44	54
456.80	H	-71.71	-36.00	-35.71	54
501.66	H	-69.71	-36.00	-33.71	54
90.62	V	-68.38	-36.00	-32.38	54
102.75	V	-68.19	-36.00	-32.19	54
261.59	V	-68.53	-36.00	-32.53	54
398.60	V	-70.40	-36.00	-34.40	54
442.25	V	-71.34	-36.00	-35.34	54
521.06	V	-64.24	-36.00	-28.24	54

Channel 1 (1GHz to 12.75GHz)

Frequency (MHz)	A. P. (H/V)	LEVEL (dBm)	Limit (dBm)	Margin (dB)	Rate (Mbps)
2947.92	H	-56.04	-30.00	-26.04	54
4825.83	H	-61.86	-30.00	-31.86	54
7238.54	H	-58.86	-30.00	-28.86	54
9647.40	H	-57.17	-30.00	-27.17	54
2037.50	V	-61.42	-30.00	-31.42	54
2947.92	V	-62.54	-30.00	-32.54	54
4825.83	V	-61.86	-30.00	-31.86	54
7238.54	V	-59.19	-30.00	-29.19	54
9647.40	V	-57.83	-30.00	-27.83	54

Channel 13 (1GHz to 12.75GHz)

Frequency (MHz)	A. P. (H/V)	LEVEL (dBm)	Limit (dBm)	Margin (dB)	Rate (Mbps)
2329.17	H	-59.66	-30.00	-29.66	54
3422.92	H	-54.18	-30.00	-24.18	54
4945.31	H	-63.93	-30.00	-33.93	54
7415.83	H	-59.75	-30.00	-29.75	54
9890.21	H	-58.94	-30.00	-28.94	54
2320.83	V	-48.73	-30.00	-18.73	54
2608.33	V	-61.28	-30.00	-31.28	54
2947.92	V	-62.21	-30.00	-32.21	54
7415.83	V	-60.25	-30.00	-30.25	54
9890.21	V	-58.94	-30.00	-28.94	54

VI. Section 5.3.2 : Receiver Spurious Emissions (Radiated)

6.1 Test Result of IEEE 802.11b for Detachable antenna

Channel 1 (30MHz to 1GHz)

Frequency (MHz)	A. P. (H/V)	LEVEL (dBm)	Limit (dBm)	Margin (dB)	Rate (Mbps)
103.96	H	-70.94	-57.00	-13.94	11
214.30	H	-75.34	-57.00	-18.34	11
375.56	H	-70.06	-57.00	-13.06	11
500.45	H	-71.19	-57.00	-14.19	11
521.06	H	-70.70	-57.00	-13.70	11
798.72	H	-60.98	-57.00	-3.98	11
102.75	V	-66.36	-57.00	-9.36	11
125.79	V	-75.48	-57.00	-18.48	11
215.51	V	-77.30	-57.00	-20.30	11
365.86	V	-72.61	-57.00	-15.61	11
521.06	V	-63.83	-57.00	-6.83	11
625.34	V	-67.23	-57.00	-10.23	11

Note:

- (1) A. P. means antenna polarization, horizontal and vertical.
 Amplitude means the fundamental emission measured.
 C F. means Correct Factor, Rate means transmitter rate
 Corrected Factor (C. F.) = Cable Loss + Antenna Factor – Amplified Gain
 LEVEL = Amplitude + Corrected Factor
- (2) The value of table is worst case during test condition, includes different combinations of transmitter rate antenna polarity and temperature
- (3) ETSI (2400MHz~2483.5MHz),
 FRANCE outdoor use limited to 10mW e.i.r.p. within the band 2454MHz ~ 2483.5MHz

Channel 13 (30MHz to 1GHz)

Frequency (MHz)	A. P. (H/V)	LEVEL (dBm)	Limit (dBm)	Margin (dB)	Rate (Mbps)
102.75	H	-68.91	-57.00	-11.91	11
220.36	H	-75.17	-57.00	-18.17	11
375.56	H	-69.33	-57.00	-12.33	11
500.45	H	-70.95	-57.00	-13.95	11
625.34	H	-68.66	-57.00	-11.66	11
797.51	H	-60.12	-57.00	-3.12	11
102.75	V	-66.29	-57.00	-9.29	11
125.79	V	-75.17	-57.00	-18.17	11
367.07	V	-72.69	-57.00	-15.69	11
375.56	V	-73.79	-57.00	-16.79	11
521.06	V	-66.97	-57.00	-9.97	11
625.34	V	-67.90	-57.00	-10.90	11

Channel 1 (1GHz to 12.75GHz)

Frequency (MHz)	A. P. (H/V)	LEVEL (dBm)	Limit (dBm)	Margin (dB)	Rate (Mbps)
2037.91	H	-69.47	-47.00	-22.47	11
3353.26	H	-55.12	-47.00	-8.12	11
4077.85	H	-66.21	-47.00	-19.21	11
6114.52	H	-63.95	-47.00	-16.95	11
8151.18	H	-59.64	-47.00	-12.64	11
2037.91	V	-70.14	-47.00	-23.14	11
3297.78	V	-50.49	-47.00	-3.49	11
4077.85	V	-65.54	-47.00	-18.54	11
6114.52	V	-62.29	-47.00	-15.29	11
8151.18	V	-58.14	-47.00	-11.14	11

Channel 13 (1GHz to 12.75GHz)

Frequency (MHz)	A. P. (H/V)	LEVEL (dBm)	Limit (dBm)	Margin (dB)	Rate (Mbps)
2099.93	H	-68.43	-47.00	-21.43	11
4198.61	H	-63.54	-47.00	-16.54	11
6294.03	H	-62.99	-47.00	-15.99	11
8392.71	H	-62.23	-47.00	-15.23	11
2099.93	V	-68.10	-47.00	-21.10	11
3421.80	V	-54.76	-47.00	-7.76	11
4198.61	V	-64.04	-47.00	-17.04	11
6294.03	V	-63.66	-47.00	-16.66	11
8392.71	V	-61.40	-47.00	-14.40	11

6.2 Test Result of IEEE 802.11g for Detachable antenna

Channel 1 (30MHz to 1GHz)

Frequency (MHz)	A. P. (H/V)	LEVEL (dBm)	Limit (dBm)	Margin (dB)	Rate (Mbps)
103.96	H	-69.59	-57.00	-12.59	54
375.56	H	-69.13	-57.00	-12.13	54
500.45	H	-69.96	-57.00	-12.96	54
521.06	H	-70.08	-57.00	-13.08	54
625.34	H	-68.31	-57.00	-11.31	54
801.15	H	-61.46	-57.00	-4.46	54
102.75	V	-66.54	-57.00	-9.54	54
125.79	V	-75.80	-57.00	-18.80	54
211.87	V	-77.04	-57.00	-20.04	54
301.60	V	-77.60	-57.00	-20.60	54
365.86	V	-71.45	-57.00	-14.45	54
521.06	V	-63.34	-57.00	-6.34	54

Channel 13 (30MHz to 1GHz)

Frequency (MHz)	A. P. (H/V)	LEVEL (dBm)	Limit (dBm)	Margin (dB)	Rate (Mbps)
101.54	H	-70.56	-57.00	-13.56	54
375.56	H	-69.73	-57.00	-12.73	54
501.66	H	-70.01	-57.00	-13.01	54
533.19	H	-71.07	-57.00	-14.07	54
625.34	H	-68.80	-57.00	-11.80	54
801.15	H	-60.71	-57.00	-3.71	54
102.75	V	-66.47	-57.00	-9.47	54
327.06	V	-76.46	-57.00	-19.46	54
365.86	V	-72.01	-57.00	-15.01	54
521.06	V	-65.39	-57.00	-8.39	54
797.51	V	-64.11	-57.00	-7.11	54
883.60	V	-63.48	-57.00	-6.48	54

Channel 1 (1GHz to 12.75GHz)

Frequency (MHz)	A. P. (H/V)	LEVEL (dBm)	Limit (dBm)	Margin (dB)	Rate (Mbps)
2037.91	H	-69.47	-47.00	-22.47	54
3421.80	H	-56.76	-47.00	-9.76	54
4077.85	H	-67.37	-47.00	-20.37	54
6114.52	H	-63.29	-47.00	-16.29	54
8151.18	H	-60.31	-47.00	-13.31	54
2037.91	V	-68.47	-47.00	-21.47	54
3356.53	V	-51.28	-47.00	-4.28	54
4077.85	V	-67.21	-47.00	-20.21	54
6114.52	V	-62.95	-47.00	-15.95	54
8151.18	V	-59.14	-47.00	-12.14	54

Channel 13 (1GHz to 12.75GHz)

Frequency (MHz)	A. P. (H/V)	LEVEL (dBm)	Limit (dBm)	Margin (dB)	Rate (Mbps)
2099.93	H	-68.43	-47.00	-21.43	54
3421.80	H	-56.76	-47.00	-9.76	54
4198.61	H	-64.04	-47.00	-17.04	54
6294.03	H	-63.82	-47.00	-16.82	54
8392.71	H	-62.73	-47.00	-15.73	54
2099.93	V	-68.77	-47.00	-21.77	54
3353.26	V	-51.12	-47.00	-4.12	54
4198.61	V	-64.37	-47.00	-17.37	54
6294.03	V	-62.32	-47.00	-15.32	54
8392.71	V	-62.73	-47.00	-15.73	54

6.3 Test Result of IEEE 802.11b for Un-detachable antenna

Channel 1 (30MHz to 1GHz)

Frequency (MHz)	A. P. (H/V)	LEVEL (dBm)	Limit (dBm)	Margin (dB)	Rate (Mbps)
73.65	H	-65.91	-57.00	-8.91	11
131.85	H	-66.78	-57.00	-9.78	11
233.70	H	-71.79	-57.00	-14.79	11
367.07	H	-71.93	-57.00	-14.93	11
456.80	H	-72.87	-57.00	-15.87	11
576.84	H	-70.04	-57.00	-13.04	11
135.49	V	-70.47	-57.00	-13.47	11
160.95	V	-70.98	-57.00	-13.98	11
242.19	V	-72.35	-57.00	-15.35	11
385.26	V	-72.21	-57.00	-15.21	11
433.76	V	-68.12	-57.00	-11.12	11
521.06	V	-59.49	-57.00	-2.49	11

Channel 13 (30MHz to 1GHz)

Frequency (MHz)	A. P. (H/V)	LEVEL (dBm)	Limit (dBm)	Margin (dB)	Rate (Mbps)
73.65	H	-65.23	-57.00	-8.23	11
131.85	H	-66.87	-57.00	-9.87	11
137.91	H	-66.91	-57.00	-9.91	11
234.91	H	-71.53	-57.00	-14.53	11
365.86	H	-72.75	-57.00	-15.75	11
561.08	H	-69.54	-57.00	-12.54	11
108.81	V	-68.42	-57.00	-11.42	11
127.00	V	-69.95	-57.00	-12.95	11
147.61	V	-71.07	-57.00	-14.07	11
300.39	V	-73.02	-57.00	-16.02	11
402.24	V	-68.92	-57.00	-11.92	11
519.85	V	-64.31	-57.00	-7.31	11

Channel 1 (1GHz to 12.75GHz)

Frequency (MHz)	A. P. (H/V)	LEVEL (dBm)	Limit (dBm)	Margin (dB)	Rate (Mbps)
4077.85	H	-66.37	-47.00	-19.37	11
6114.52	H	-61.62	-47.00	-14.62	11
8151.18	H	-58.31	-47.00	-11.31	11
2037.91	V	-69.31	-47.00	-22.31	11
3137.84	V	-57.80	-47.00	-10.80	11
3297.78	V	-57.99	-47.00	-10.99	11
4077.85	V	-66.21	-47.00	-19.21	11
6114.52	V	-62.45	-47.00	-15.45	11
8151.18	V	-58.31	-47.00	-11.31	11

Channel 13 (1GHz to 12.75GHz)

Frequency (MHz)	A. P. (H/V)	LEVEL (dBm)	Limit (dBm)	Margin (dB)	Rate (Mbps)
2099.93	H	-68.43	-47.00	-21.43	11
3137.84	H	-61.13	-47.00	-14.13	11
4195.35	H	-64.38	-47.00	-17.38	11
6294.03	H	-63.49	-47.00	-16.49	11
8392.71	H	-62.06	-47.00	-15.06	11
2099.93	V	-66.27	-47.00	-19.27	11
3137.84	V	-57.13	-47.00	-10.13	11
3297.78	V	-59.15	-47.00	-12.15	11
4195.35	V	-63.88	-47.00	-16.88	11
6294.03	V	-63.32	-47.00	-16.32	11
8392.71	V	-61.90	-47.00	-14.90	11

6.4 Test Result of IEEE 802.11g for Un-detachable antenna

Channel 1 (30MHz to 1GHz)

Frequency (MHz)	A. P. (H/V)	LEVEL (dBm)	Limit (dBm)	Margin (dB)	Rate (Mbps)
40.91	H	-65.57	-57.00	-8.57	54
127.00	H	-65.73	-57.00	-8.73	54
233.70	H	-72.12	-57.00	-15.12	54
265.23	H	-74.04	-57.00	-17.04	54
456.80	H	-71.90	-57.00	-14.90	54
561.08	H	-68.41	-57.00	-11.41	54
101.54	V	-69.18	-57.00	-12.18	54
130.64	V	-69.83	-57.00	-12.83	54
398.60	V	-68.13	-57.00	-11.13	54
521.06	V	-64.71	-57.00	-7.71	54
773.26	V	-65.69	-57.00	-8.69	54
883.60	V	-62.02	-57.00	-5.02	54

Channel 13 (30MHz to 1GHz)

Frequency (MHz)	A. P. (H/V)	LEVEL (dBm)	Limit (dBm)	Margin (dB)	Rate (Mbps)
135.49	H	-65.23	-57.00	-8.23	54
151.25	H	-61.47	-57.00	-4.47	54
233.70	H	-71.91	-57.00	-14.91	54
521.06	H	-69.14	-57.00	-12.14	54
567.14	H	-68.14	-57.00	-11.14	54
906.64	H	-62.26	-57.00	-5.26	54
91.84	V	-69.45	-57.00	-12.45	54
108.81	V	-68.93	-57.00	-11.93	54
131.85	V	-68.45	-57.00	-11.45	54
401.02	V	-67.90	-57.00	-10.90	54
442.25	V	-71.13	-57.00	-14.13	54
521.06	V	-66.30	-57.00	-9.30	54

Channel 1 (1GHz to 12.75GHz)

Frequency (MHz)	A. P. (H/V)	LEVEL (dBm)	Limit (dBm)	Margin (dB)	Rate (Mbps)
2037.91	H	-69.81	-47.00	-22.81	54
4077.85	H	-66.87	-47.00	-19.87	54
6114.52	H	-62.12	-47.00	-15.12	54
8151.18	H	-60.14	-47.00	-13.14	54
2037.91	V	-67.97	-47.00	-20.97	54
4077.85	V	-66.21	-47.00	-19.21	54
6114.52	V	-63.45	-47.00	-16.45	54
8151.18	V	-59.81	-47.00	-12.81	54

Channel 13 (1GHz to 12.75GHz)

Frequency (MHz)	A. P. (H/V)	LEVEL (dBm)	Limit (dBm)	Margin (dB)	Rate (Mbps)
2099.93	H	-67.60	-47.00	-20.60	54
4195.35	H	-64.71	-47.00	-17.71	54
6294.03	H	-63.32	-47.00	-16.32	54
8392.71	H	-62.40	-47.00	-15.40	54
1287.22	V	-68.64	-47.00	-21.64	54
2099.93	V	-68.27	-47.00	-21.27	54
3134.58	V	-59.63	-47.00	-12.63	54
3353.26	V	-58.46	-47.00	-11.46	54
4195.35	V	-63.21	-47.00	-16.21	54
5187.57	V	-58.79	-47.00	-11.79	54
6294.03	V	-62.82	-47.00	-15.82	54
8392.71	V	-62.73	-47.00	-15.73	54

6.5 Test Result of Standby mode

Detachable antenna (30MHz to 12.5GHz)

Frequency (MHz)	A. P. (H/V)	LEVEL (dBm)	Limit (dBm)	Margin (dB)	Rate (Mbps)
125.79	H	-61.96	-57.00	-4.96	---
375.56	H	-65.72	-57.00	-8.72	---
500.45	H	-69.05	-57.00	-12.05	---
625.34	H	-67.12	-57.00	-10.12	---
799.94	H	-62.67	-57.00	-5.67	---
904.21	H	-61.18	-57.00	-4.18	---
3137.84	H	-60.96	-47.00	-13.96	---
3297.78	H	-61.49	-47.00	-14.49	---
6891.32	H	-58.26	-47.00	-11.26	---
7730.14	H	-57.11	-47.00	-10.11	---
125.79	V	-62.52	-57.00	-5.52	---
261.59	V	-70.42	-57.00	-13.42	---
375.56	V	-71.33	-57.00	-14.33	---
553.80	V	-69.40	-57.00	-12.40	---
625.34	V	-67.54	-57.00	-10.54	---
883.60	V	-61.10	-57.00	-4.10	---
3137.84	V	-58.63	-47.00	-11.63	---
3297.78	V	-55.32	-47.00	-8.32	---
4250.83	V	-61.13	-47.00	-14.13	---
7717.08	V	-57.55	-47.00	-10.55	---

Un-detachable antenna (30MHz to 12.5GHz)

Frequency (MHz)	A. P. (H/V)	LEVEL (dBm)	Limit (dBm)	Margin (dB)	Rate (Mbps)
125.79	H	-64.48	-57.00	-7.48	---
135.49	H	-64.70	-57.00	-7.70	---
233.70	H	-70.91	-57.00	-13.91	---
375.56	H	-67.31	-57.00	-10.31	---
500.45	H	-67.27	-57.00	-10.27	---
567.14	H	-67.70	-57.00	-10.70	---
625.34	H	-65.21	-57.00	-8.21	---
3137.84	H	-60.96	-47.00	-13.96	---
6891.32	H	-58.26	-47.00	-11.26	---
7730.14	H	-57.11	-47.00	-10.11	---
102.75	V	-65.92	-57.00	-8.92	---
130.64	V	-68.60	-57.00	-11.60	---
148.82	V	-70.39	-57.00	-13.39	---
261.59	V	-68.92	-57.00	-11.92	---
442.25	V	-71.29	-57.00	-14.29	---
883.60	V	-61.40	-57.00	-4.40	---
3137.84	V	-58.63	-47.00	-11.63	---
3297.78	V	-55.32	-47.00	-8.32	---
4250.83	V	-61.13	-47.00	-14.13	---
7717.08	V	-57.55	-47.00	-10.55	---

VII. Instrument and Ancillaries Equipment of List

No.	Type of Equipment	Brand Name	Model No.	Serial No.
01	EMI Receiver	H P	8546A	3520A00242
02	RF Filter Section	H P	85460A	3448A00217
03	Auto Switch Box	TRC	ASB-01	9904-01
04	Spectrum Analyzer	H P	8564E	3720A00840
05	Spectrum Analyzer	Anritsu	MS2665C	6200175476
06	Microwave Pre. Amp.	H P	84125C	US36433002
07	Horn Antenna	EMCO	3115	9104-3668
08	EM Rad. Monitor	WG	EMC-20	Y-0026
09	E-Field Sensor 3GHz	WG	TYP-8	Z-0001
10	RF Power Meter	BOONTON	4532	117501
11	Signal Generator	HP	83711A	3429A00434
12	Bi-log Antenna	Schaffner	CBL6141A	4151
13	Bi-log Antenna	CHASE	CBL6141A	4206
14	Temp.& Hum. Chamber	King Son	THS-ML1	240
15	EMC Analyzer	HP	8594EM	3710A00279
16	DC Power Supply	GW	GPC-3030D	8050381
17	AC Power Supply	Ch. Hong	CF-3000E	974302
18	Digital Multimeter	GW	GDM-8055	8080365
19	Small Bi-con. Ant.	Schwarzbeck	UBAA9114	127 (CE use)
20				128 (FCC use)

Appendix A

Antenna Specification

RF Antenna Cable Assembly

Specification

1. Electrical Properties :

- 1.1 Frequency Rang..... 2.4GHz ~ 2.5GHz
- 1.2 Impedance 50 Ω Nominal
- 1.3 VSWR 1.92 Max.
- 1.4 Return Loss..... -10dB Maximum
- 1.5 Electrical Wave..... 1/2 λ Diople
- 1.6 Gain..... 1.8 dBi
- 1.7 Admitted Power..... 1W

2. Physical Properties :

- 2.1 Cable..... RG-178 Cable
- 2.2 Antenna Cover..... TPE
- 2.3 Antenna Base..... PC
- 2.4 Operating Temp. -20 $^{\circ}$ C ~ +65 $^{\circ}$ C
- 2.5 Storage Temp. -30 $^{\circ}$ C ~ +75 $^{\circ}$ C
- 2.6 Color Black
- 2.7 Connector..... SMA Plug Reverse