(Revised Version)

TEST REPORT FOR CERTIFICATION
On Behalf of
GPS Instant Fix Technology Co., Ltd.
GPS Instant FIX
Model No.: GPS-BT74R
FCC ID：TQAGPS-BT74R

Prepared for : GPS Instant Fix Technology Co., Ltd.
1F., No. 126, Sec. 2, Fongnian Rd.,
Beitou District, Taipei City 112,
Taiwan, R.O.C.

Prepared by : Audix Corporation
No. 53-11, Tin-Fu Tsun, Lin-Kou,
Taipei Hsien, Taiwan, R.O.C.

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File Number	:	EM941069
Report Number	:	EM-F940233
Date of Test	:	Sep. 26 ~ Oct. 06, 2005
Date of Report	:	Oct. 19, 2005

TABLE OF CONTENTS

TEST REPORT FOR CERTIFICATION

Applicant	:	GPS Instant Fix Technology Co., Ltd.
Manufacturer	:	GPS Instant Fix Technology Co., Ltd.
EUT Description	:	GPS Instant FIX
FCC ID	:	TQAGPS-BT74R
	(1) Model Number	: GPS-BT74R
	(2) Serial Number	: N/A
	(3) Power Supply	: DC 3.7V
	(4) Test Voltage	: AC 120V/60Hz Via AC Adapter

Measurement Procedure Used:

FCC RULES AND REGULATIONS PART 15 SUBPART C, SEP. 2005
AND FCC / ANSI C63.4-2003
(with FCC CFR 47 Part 15C, §15.205, §15.207, §15.209 and §15.247)

The device described above was tested by Audix Corporation to determine the maximum emission levels emanating from the device. The maximum emission levels were compared to the FCC Part 15 subpart C limits both radiated and conducted emissions.

The measurement results are contained in this test report and Audix Corporation is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT to be technically compliant with the FCC official limits and requirement.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of Audix Corporation.

Date of Test : Sep. 26 ~ Oct. 06, 2005

Prepared by : Kitty Ni Nov. 08, 2005
(Kitty Ni/Administrator)

Test Engineer : Ben Cheng Nov. 08, 2005
(Ben Cheng/Section Manager)

Approve & Authorized Signer : Allen Wang Nov. 10 '05
(Allen Wang/Manager)

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

Description	:	GPS Instant FIX (with bluetooth function)
Model Number	:	GPS-BT74R
FCC ID	:	TQAGPS-BT74R
Applicant	:	GPS Instant Fix Technology Co., Ltd. 1F., No. 126, Sec. 2, Fongnian Rd., Beitou District, Taipei City 112, Taiwan, R.O.C.
Manufacturer	:	GPS Instant Fix Technology Co., Ltd. 1F., No. 126, Sec. 2, Fongnian Rd., Beitou District, Taipei City 112, Taiwan, R.O.C.
Radio Technology	:	Bluetooth: FHSS Modulation
Fundamental Range	:	2400MHz ~ 2483.5MHz
Channel Number	:	Bluetooth: 79
Tested Channel	:	Bluetooth: 0, 39, 78
Antenna Gain	:	Bluetooth: 2.5dBi
GPS Receiver Antenna	:	M/N ANT-380, FCC by DoC Cable : Non-Shielded, Undetachable, 3.0m
GSP Receiver Frequency	:	L1, 1575.42MHz
Battery Pack	:	Whole Power, M/N WP-L111, DC 3.7V
AC Adapter	:	DVE, M/N DSA-0051-05CFEU I/P: 100-240Vac, 50/60Hz, 0.2A O/P: +5.3Vdc, 0.5A O/P Cable: Shielded, Undetachable, 1.8m
Date of Receipt of Sample	:	Sep. 19, 2005
Date of Test	:	Sep. 26 ~ Oct. 06, 2005

Remark :
Antenna requirement : The EUT's transmitter antenna is a multilayer ceramic antenna, which is design on circuit board, complied with §15.203 and inform to user that any change and modify is prohibited.

1.2. Tested Supporting System Details

【FOR CONDUCTED EMISSION MEASUREMENT】

1.2.1. PARTNER NOTEBOOK PC

Model Number	:	PP2130
Serial Number	:	5Y32KSQZ40ME
BSMI ID	:	3912A556
FCC ID	:	By DoC
Brand	:	Compaq Computer Corporation
Manufacturer	:	LG Electronics Ltd.
AC Adapter	:	Compaq, M/N PPP009L (LITE-ON, M/N PA-1650-02C) Shielded, Undetachable, 1.8m, Bonded a ferrite core
Power Cord	:	Non-Shielded, Detachable, 1.8m

1.2.2. BLUETOOTH USB ADAPTER

Model Number	:	UBTCR3C1E-N
Serial Number	:	N/A
Manufacturer	:	N/A

【FOR RADIATED EMISSION MEASUREMENT】

1.2.3. PARTNER PC SYSTEM

Model Number	:	D220 MT
Serial Number	:	SGH40709F2
FCC ID	:	By DoC
BSMI ID	:	R33001
Brand	:	HP
RS-232 Cable	:	Shielded, Detachable, 1.8m
Power Cord	:	Non-Shielded, Detachable, 1.8m

1.2.4. 15" LCD MONITOR

Model Number	:	D5063
Serial Number	:	CN206A7026
FCC ID	:	ARSLM562H
BSMI ID	:	R33037
Manufacturer	:	Top Victory Electronics (Fujian) Co., Ltd.
Data Cable (D-Sub)	:	Shielded, Detachable, 1.8m Bonded two ferrite cores
AC Adapter	:	Delta, M/N ADP-40TB BSMI ID 3892D142 Cord: Shielded, Undetachable, 1.8m Bonded a ferrite core
Power Cord	:	Non-Shielded, Detachable, 1.8m

1.2.5. PS2 KEYBOARD

Model Number	:	335192-AB1
Serial Number	:	M0401000824
FCC ID	:	GYUR84SK
BSMI ID	:	T3A002
Brand	:	HP
Data Cable	:	Non-Shielded, Undetachable, 1.8m

1.2.6. PS2 MOUSE

Model Number	:	M-S69
Serial Number	:	F6AB70S5BOY1NWZ
FCC ID	:	JNZ211443
BSMI ID	:	R41126
Manufacturer	:	HP
Data Cable	:	Non-Shielded, Undetachable, 1.8m

1.2.7. DEBUG BOARD

Model Number	:	N/A
Serial Number	:	N/A
Manufacturer	:	N/A
USB Data Cable	:	Shielded, Detachable, 1.0m

1.3. Description of Test Facility

Name of Firm : **Audix Corporation**
Technical Division EMC Department
No. 53-11, Tin-Fu Tsun, Lin-Kou Hsiang,
Taipei Hsien 24443, Taiwan, R.O.C.

Test Facility : **No. 2 Shielding Room**
No. 53-11, Tin-Fu Tsun, Lin-Kou Hsiang,
Taipei Hsien, Taiwan, R.O.C.

Semi-Anechoic Chamber
No. 53-11, Tin-Fu Tsun, Lin-Kou Hsiang,
Taipei Hsien, Taiwan, R.O.C.

May 16, 2003 Re-File on
Federal Communication Commission
Registration Number: 90993

NVLAP Lab. Code : 200077-0
(NVLAP is a NATA accredited body under Mutual Recognition Agreement)

DAR-Registration No. : DAT-P-145/03-01

1.4. Measurement Uncertainty

Test Item	Frequency Range	Uncertainty (dB)
Conduction Test	150kHz~30MHz	±1.73dB
Radiation Test (Distance: 3m)	30MHz~300MHz	±2.91dB
	300MHz~1000MHz	±2.94dB

Test Item	Uncertainty
Carrier Frequency Separation Measurement	$2.8x10^{-10}$
20dB Bandwidth Measurement	0.02%
Time of Occupancy Measurement	0.33dB
Number of Hopping Channels Measurement	95%
Maximum Peak Output Power Measurement	0.52dB
Power spectral density	0.52dB/Hz
Emission Limitations Measurement	0.13dB
Band Edges Measurement	0℃

Remark：Uncertainty = $ku_c(y)$

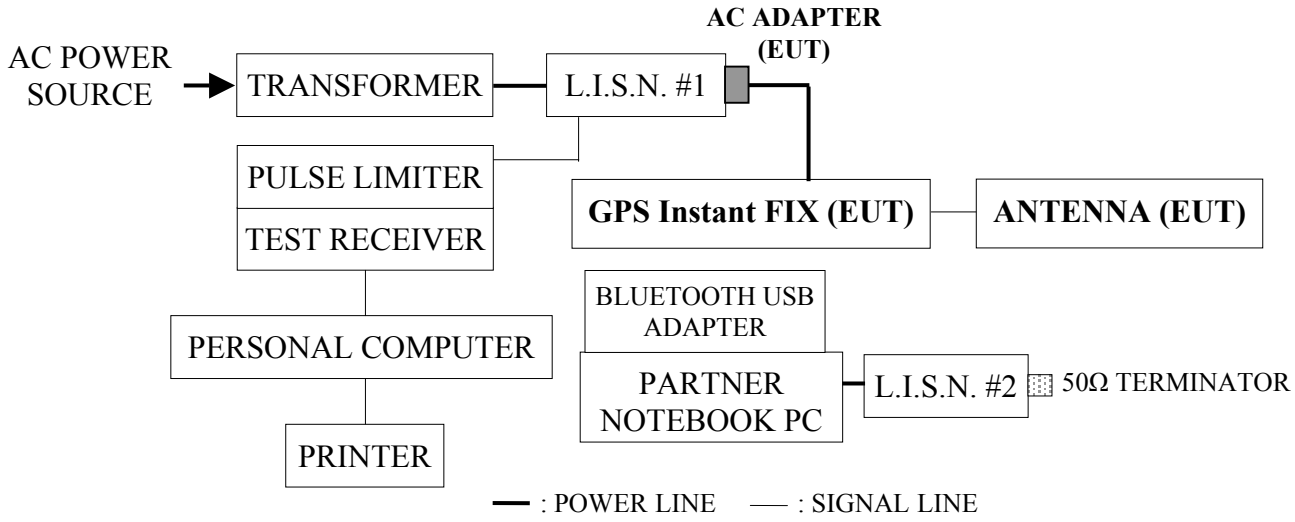
2. POWERLINE CONDUCTED EMISSION MEASUREMENT

2.1. Test Equipment

The following test equipment are used during the powerline conducted emission measurement：(No. 2 Shielded Room)

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Test Receiver	Rohde & Schwarz	ESCS30	100265	Oct. 05, 04’	Oct. 04, 05’
2.	L.I.S.N. #1	Kyoritsu	KNW-407	8-855-9	Apr. 20, 05’	Apr. 19, 06’
3.	L.I.S.N. #2	Kyoritsu	KNW-407	8-881-13	Apr. 20, 05’	Apr. 19, 06’
4.	Pulse Limiter	R & S	ESH3Z2	001	Apr. 09, 05’	Apr. 08, 06’

2.2. Block Diagram of Test Setup



2.3. Powerline Conducted Emission Limits (§15.207 Class B)

Frequency	Maximum RF Line Voltage (dBμV)	
	Quasi-Peak Level	Average Level
150kHz ~ 500kHz	66 ~ 56 dBμV*	56 ~ 46 dBμV*
500kHz ~ 5MHz	56 dBμV	46 dBμV
5MHz ~ 30MHz	60 dBμV	50 dBμV

Remark: 1. * Decreases with the logarithm of the frequency.
2. If the average limit is met when using a Quasi-Peak detector, the EUT shall be deemed to meet both limits and measurement with the average detector is unnecessary.

2.4. Operating Condition of EUT

2.4.1. Setup the EUT and simulator as shown on 2.2.

2.4.2. Turned on the power of all equipment.

2.4.3. The Partner Notebook PC run the test software "Nemerix Control Tool Lite V0.92" to receiving and transmitting satellite signal through the EUT (GPS Instant FIX) and GPS antenna during all testing.

2.5. Test Procedure

The EUT was put on table which was above the ground by 80cm and its AC Adapter connected to the power mains through a line impedance stabilization network (L.I.S.N. #1) and the other peripheral devices power cord were connected to the power mains through a line impedance stabilization network (L.I.S.N. #2) This provided a 50 ohm coupling impedance for the measuring equipment. (Please refer to the block diagram of the test setup and photographs.)
Both sides of A.C. line were checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables were changed according to FCC ANSI C63.4-2003 on conducted measurement.

The bandwidth of the R&S Test Receiver ESCS30 was set at 9kHz.

The frequency range from 150kHz to 30MHz was pre-scanned with a peak detector.

All the final readings of measurement were with the Quasi-Peak detector and Average detector. (Remark: If the Average limit is met when using a Quasi-Peak detector, the Average detector is unnecessary)

2.6. Powerline Conducted Emission Measurement Results

PASSED.
All the emissions not reported below are too low against the prescribed limits.

EUT was measured during this section testing and all the test results are attached in next pages.

EUT：GPS Instant FIX M/N：GPS-BT74R

Test Date：Sep. 26, 2005 Temperature：24℃ Humidity：47%

Reference Test Data No.: Neutral - # 2 ; Line - # 1

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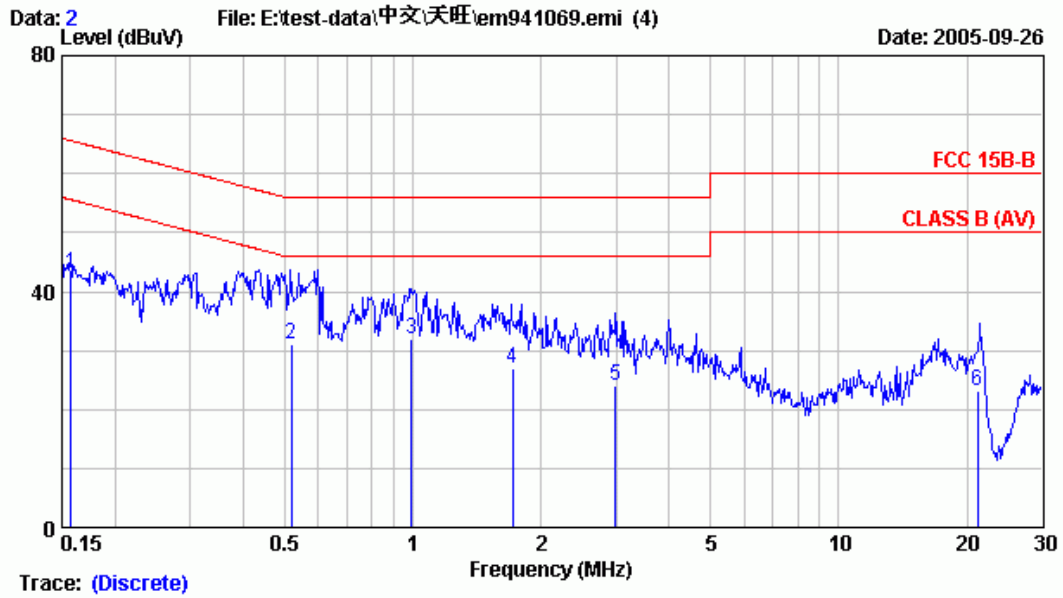

Site : No.2 Shielded room Data : 2
Condition : KNW-407 Phase : NEUTRAL
Limit : FCC 15B-B
Env. / Ins. : 24*C,47% / ESCS 30 Engineer: Cater Chou
EUT : GPS INSTANT FIX M/N:GPS-BT74R
Power Rating : 120Vac/60Hz
Test Mode : Operating

	Freq. (MHz)	LISN Factor (dB)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV)	Limits (dBμV)	Margin (dB)	Remark
1	0.157	0.28	0.24	42.57	43.09	65.60	22.50	QP
2	0.519	0.10	0.34	30.64	31.08	56.00	24.92	QP
3	0.994	0.10	0.40	31.39	31.89	56.00	24.11	QP
4	1.712	0.10	0.40	26.52	27.02	56.00	28.98	QP
5	2.994	0.10	0.40	23.62	24.12	56.00	31.88	QP
6	21.177	0.33	0.70	22.15	23.18	60.00	36.82	QP

Remarks: 1.Emission Level= LISN Factor + Cable Loss + Reading.
2.If the average limit is met when using a quasi-peak detector ,the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.

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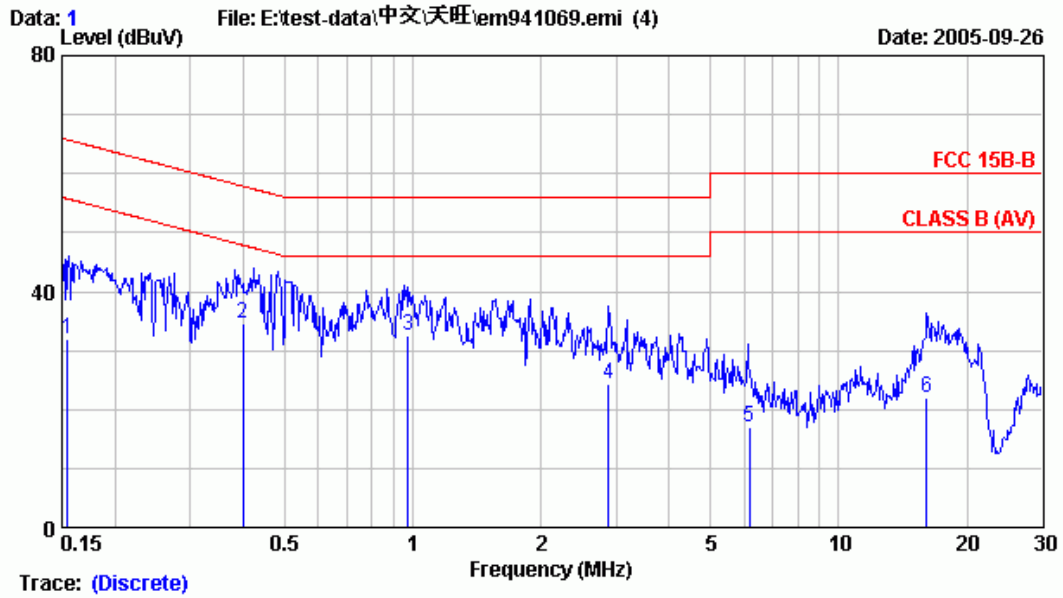


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Site          : No.2 Shielded room          Data     : 1
Condition     : KNW-407                     Phase    : LINE
Limit         : FCC 15B-B
Env. / Ins.   : 24*C,47% / ESCS 30          Engineer: Cater Chou
EUT           : GPS INSTANT FIX  M/N:GPS-BT74R
Power Rating  : 120Vac/60Hz
Test Mode     : Operating
```

	Freq. (MHz)	LISN Factor (dB)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV)	Limits (dBμV)	Margin (dB)	Remark
1	0.155	0.29	0.24	31.55	32.08	65.74	33.66	QP
2	0.399	0.10	0.32	34.04	34.46	57.88	23.42	QP
3	0.975	0.10	0.40	31.99	32.49	56.00	23.51	QP
4	2.877	0.10	0.40	23.71	24.21	56.00	31.79	QP
5	6.179	0.15	0.54	16.18	16.87	60.00	43.13	QP
6	16.058	0.22	0.70	21.03	21.95	60.00	38.05	QP

```
Remarks: 1.Emission Level= LISN Factor + Cable Loss + Reading.
         2.If the average limit is met when using a quasi-peak detector
           ,the EUT shall be deemed to meet both limits and measurement
           with average detector is unnecessary.
```

3. RADIATED EMISSION MEASUREMENT

3.1. Test Equipment

The following test equipment are used during the radiated emission measurement：

3.1.1. 30MHz~1000MHz Frequency

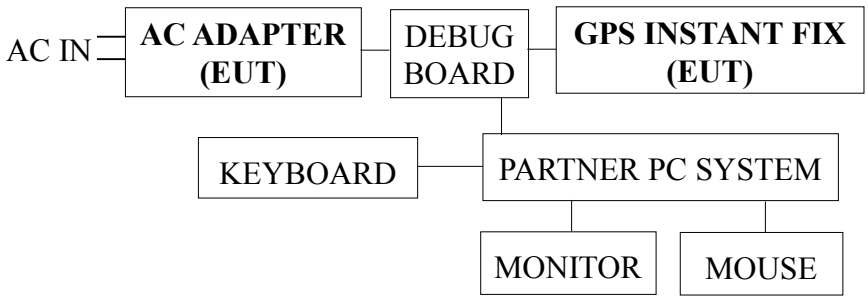
Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	HP	8593EM	3826A00248	Sep. 26, 05’	Sep. 25, 06
2.	Test Receiver	Schaffner	SCR 3502	008	Mar. 04, 05’	Mar. 03, 06’
3.	Amplifier	HP	8447D	2944A06305	Mar. 10, 05’	Mar. 09, 06’
4.	Double Cone Broadband Antenna	Schwarzbeck	VHA9103/ BBA9106	A3L	Feb. 18, 05’	Feb. 17, 06’
5.	Log Periodic Antenna	Schwarzbeck	UHALP9108-A	0139	Dec. 14, 04’	Dec. 13, 05

3.1.2. Above 1GHz frequency

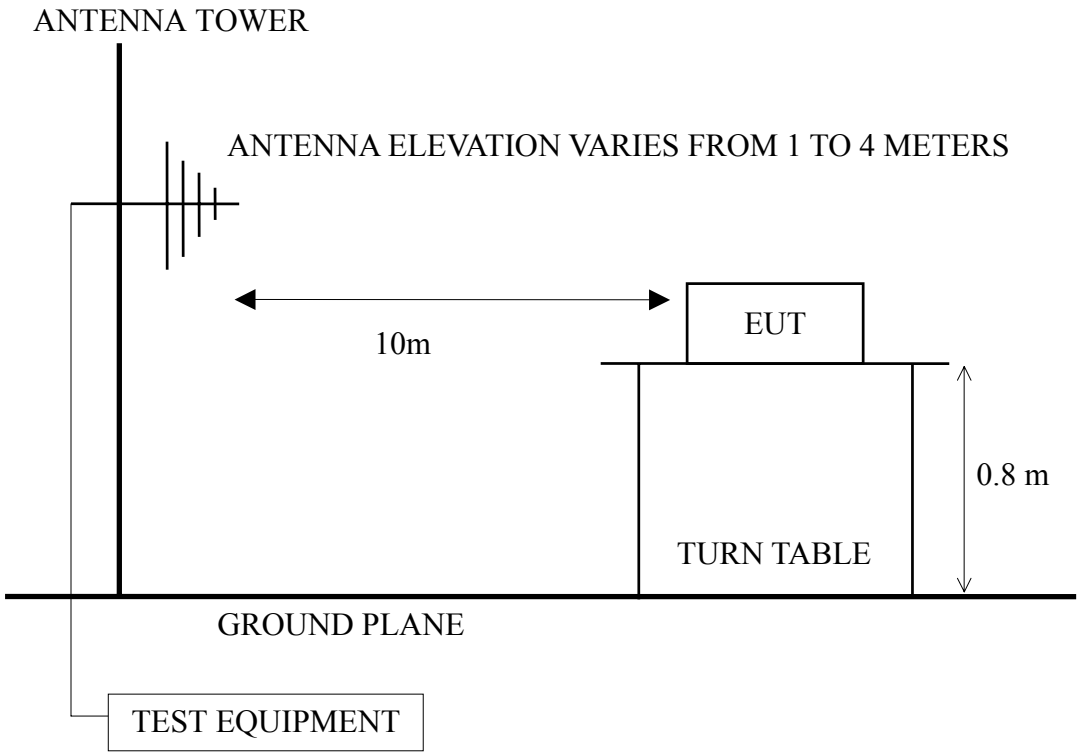
Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	HP	8593EM	3826A00248	Sep. 26, 05’	Sep. 25, 06’
2.	Amplifier (1GHz~26.5GHz)	HP	8449B	3008A01284	Jul. 05, 05’	Jul. 04, 06’
3.	Horn Antenna (1GHz~18GHz)	EMCO	3115	9112-3775	May 04, 05’	May 03, 06’
4.	Horn Antenna (18GHz~40GHz)	EMCO	3116	2653	Oct. 27, 04’	Oct. 26, 05’
5.	High Pass Filter	HP	84300-80038	005	Jan. 13, 05’	Jan. 12, 06’

3.2. Block Diagram of Test Setup

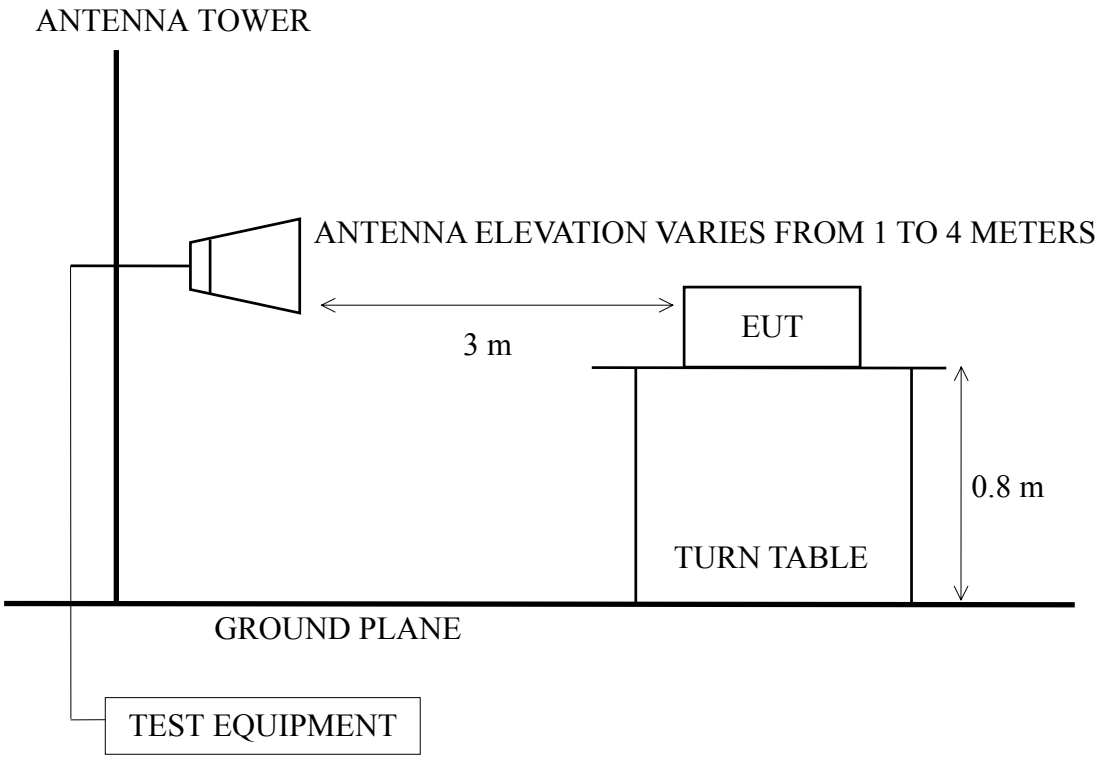
3.2.1. Block Diagram of connection between EUT and simulators



3.2.2. Semi-Anechoic Chamber (3m) Setup Diagram for 30 ~ 1000MHz



3.2.3. Semi-Anechoic Chamber Setup Diagram (3m) for above 1GHz



3.3. Radiated Emission Limits (§15.209 Class B)

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMITS	
		μV/m	dBμV/m
30 ~ 88	3	100	40.0
88 ~ 216	3	150	43.5
216 ~ 960	3	200	46.0
Above 960	3	500	54.0
Above 1000 *(5)	3	74.0 dBμV/m (Peak) 54.0 dBμV/m (Average)	

Remark： (1) Emission level (dBμV/m) = 20 log Emission level (μV/m)
(2) The tighter limit applies at the edge between two frequency bands.
(3) Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.
(4) The limits in this table are based on CFR 47 Part 15.205(a)(b) and Part 15.209 (a).
(5) The over 1GHz limit, FCC limit is used based on CFR 47 Part 15.35 (b) and Part 15.205(b) & Part 15.209(e) and Part 15.207(c).

3.4. Operating Condition of EUT

The configuration of EUT and its simulators were the same as those used in conducted measurement. Please refer to 2.4.

3.5. Test Procedure

The EUT was placed on a turn table which was 0.8 meter above ground. The turn table rotate 360 degrees to determine the position of the maximum emission level. EUT was set 3 meters away from the receiving antenna which were mounted on a antenna tower. The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level. Broadband antenna such as calibrated biconical and log- periodical antenna or horn antenna were used as a receiving antenna. Both horizontal and vertical polarization of the antenna were set on measurement. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.4-2003 on radiated measurement.

The bandwidth of the R&S Test Receiver SCR 3502 was set at 120kHz.
The frequency range from 30MHz to 1000MHz was pre-scanned with a Peak detector and all final readings of measurement from Test Receiver are Quasi-Peak values.

The resolution bandwidth of spectrum analyzer 8593EM was set at 1MHz.
The frequency range from 1GHz to 25GHz was checked and all final readings of measurement were with Peak and Average detector.

3.6. Radiated Emission Measurement Results

PASSED.

(All emissions not reported below are too low against the prescribed limits.)

For 30MHz~1000MHz frequency range:

EUT with following test modes were measured within semi-anechoic chamber and all the test results are listed in section 3.6.1.

Test Date：Oct. 04, 2005 Temperature：23℃ Humidity：59%

The details of test modes and reference test data are as follows：

No.	Operation Mode	Tested Channel	Reference Test Data No.			
			Horizontal		Vertical	
			30-300MHz	300-1000MHz	30-300MHz	300-1000MHz
1.	Transmitting	CH 0-2402MHz	# 2	# 3	# 1	# 4
2.		CH 39-2441MHz	# 4	# 2	# 3	# 1
3.		CH 78-2480MHz	# 3	# 1	# 4	# 2
4.	Receiving	CH 39-2441MHz	# 3	# 1	# 4	# 2

For 1GHz~25GHz frequency range:

EUT with following test modes were measured within semi-anechoic chamber and all the test results are listed in section 3.6.2.

Remark 1 :

For 2679MHz ~ 18000MHz, Measurement was up to 10^{th} harmonics (from fundamental frequency), but the emissions level were too low against the official limit and not reported.

Remark 2 :

For 18GHz ~ 25GHz, The EUT was measured with the spectrum analyzer from 18GHz to 25GHz, and found the noise from EUT was lower than ambient, therefore there is no data was attached. Please refer to section 12.2.2. for the photos of testing setup.

Test Date：Oct. 04, 2005 Temperature：23℃ Humidity：59%

The details of test modes and reference test data are as follows：

No.	Operation Mode	Tested Channel	Reference Test Data No.							
			Horizontal				Vertical			
1.	Transmitting	CH 0-2402MHz	1000-2678MHz				1000-2678MHz			
			Peak	# 10	Average	# 11	Peak	# 5	Average	# 12
			2679-5500MHz				2679-5500MHz			
			# 6				# 7			
			5500-18000MHz				5500-18000MHz			
			# 9				# 8			
2.		CH 39-2441MHz	1000-2678MHz				1000-2678MHz			
			Peak	# 5	Average	# 11	Peak	# 6	Average	# 12
			2679-5500MHz				2679-5500MHz			
			# 7				# 8			
			5500-18000MHz				5500-18000MHz			
			# 10				# 9			
3.		CH 78-2480MHz	1000-2678MHz				1000-2678MHz			
			Peak	# 6	Average	# 12	Peak	# 5	Average	# 11
			2679-5500MHz				2679-5500MHz			
			# 7				# 8			
			5500-18000MHz				5500-18000MHz			
			# 10				# 9			
4	Receiving	CH 39-2441MHz	1000-2678MHz				1000-2678MHz			
			Peak	# 6	Average	# 12	Peak	# 5	Average	# 11
			2679-5500MHz				2679-5500MHz			
			# 10				# 9			
			5500-18000MHz				5500-18000MHz			
			# 7				# 8			

For Restricted Bands measurement:

EUT with following test mode measured during restricted bands testing and all the test results are listed in section 3.6.3. (The restricted bands defined in part 15.205(a))

Test Date：Oct. 04, 2005 Temperature：23℃ Humidity：59%

The details of test modes and reference test data are as follows：

No.	Operation Mode	Tested Channel	Reference Test Data No.							
			Horizontal				Vertical			
1.	Transmitting	CH 0-2402MHz	2310-2450MHz				2310-2450MHz			
			Peak	# 5	Average	# 8	Peak	# 6	Average	# 7
2.		CH 78-2480MHz	2450-2570MHz				2450-2570MHz			
			Peak	# 1	Average	# 4	Peak	# 2	Average	# 3

3.6.1. 30 - 1000MHz Frequency Range Radiated Emission Measurement Results

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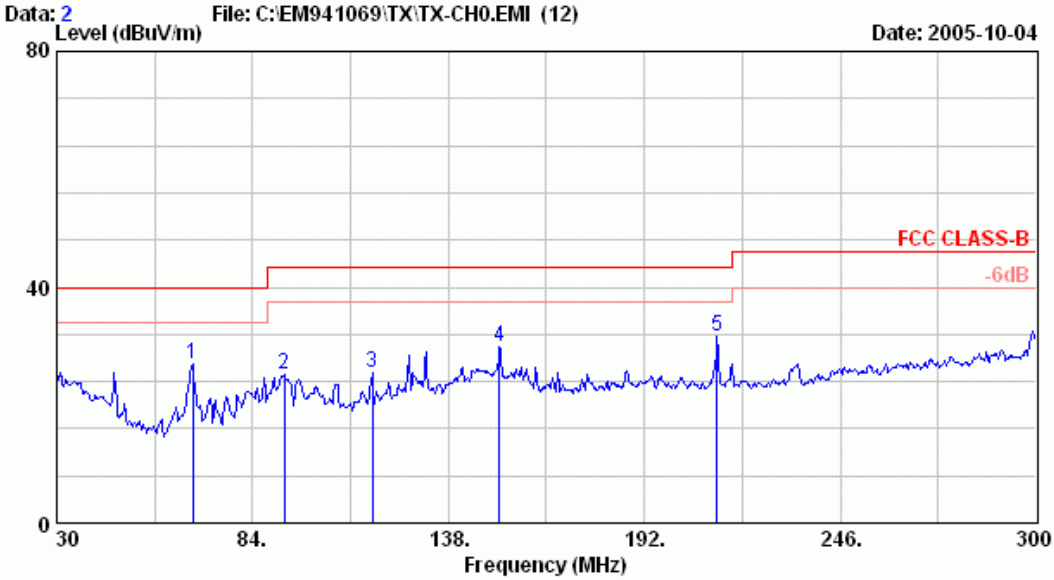

Site : A/C Chamber Date : 2
Condition : 3m BBA9106(A3L) Polarity: HORIZONTAL
Limit : FCC CLASS-B
Env. / Ins. : 8593EM 23*C/59% Engineer: henning
EUT : GPS Instant Fix M/N:GPS-BT74R
Power Rating : 120Vac/60Hz
Test Mode : TX (CH0)

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1	67.530	11.83	1.70	13.33	26.86	40.00	13.14	QP
2	92.640	16.16	2.00	7.00	25.16	43.50	18.34	
3	116.940	18.83	2.30	4.34	25.47	43.50	18.03	
4	152.040	20.67	2.60	6.57	29.84	43.50	13.66	
5	211.980	21.75	3.13	6.82	31.70	43.50	11.80	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

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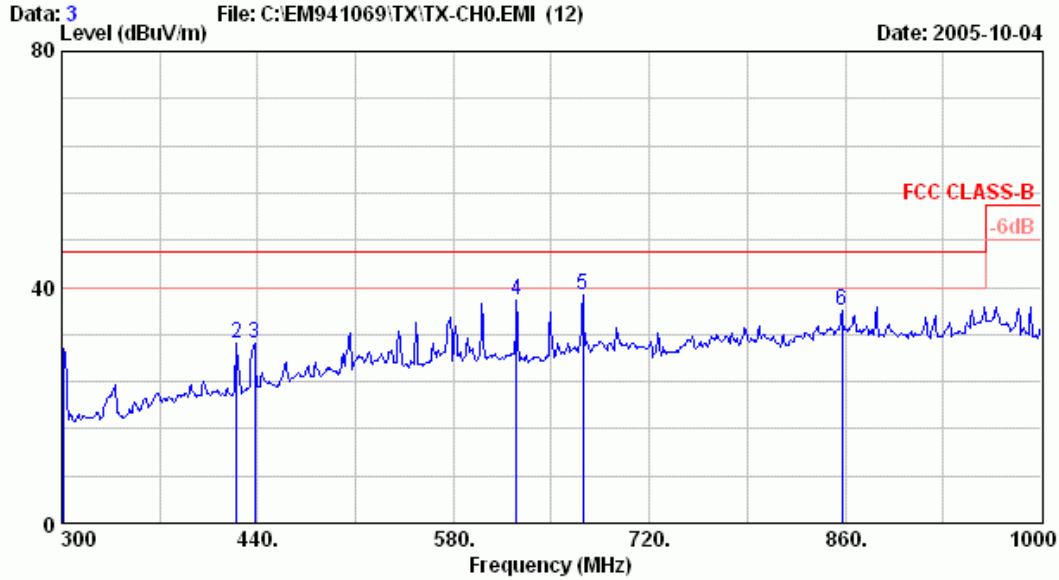
Email:ttemc@ttemc.com.tw



Site : A/C Chamber Date : 3
Condition : 3m UHALP9108-A(0138) Polarity: HORIZONTAL
Limit : FCC CLASS-B
Env. / Ins. : 8593EM 23*C/59% Engineer: henning
EUT : GPS Instant Fix M/N:GPS-BT74R
Power Rating : 120Vac/60Hz
Test Mode : TX (CH0)

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1	300.700	14.52	3.90	11.18	29.60	46.00	16.40	QP
2	425.300	17.16	5.10	8.35	30.61	46.00	15.39	
3	437.900	17.50	5.30	7.76	30.56	46.00	15.44	
4	624.800	21.30	6.20	10.19	37.69	46.00	8.31	
5	672.400	22.85	6.40	9.57	38.82	46.00	7.18	
6	857.900	25.95	7.20	2.85	36.00	46.00	10.00	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

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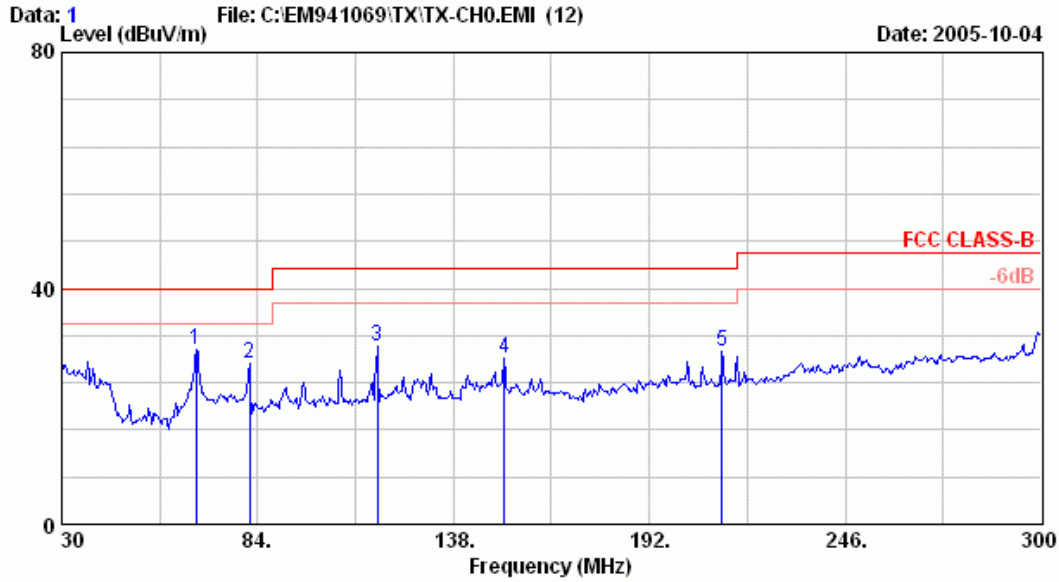

Site : A/C Chamber Date : 1
Condition : 3m BBA9106(A3L) Polarity: VERTICAL
Limit : FCC CLASS-B
Env. / Ins. : 8593EM 23*C/59% Engineer: henning
EUT : GPS Instant Fix M/N:GPS-BT74R
Power Rating : 120Vac/60Hz
Test Mode : TX (CH0)

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1	66.990	12.43	1.70	15.43	29.56	40.00	10.44	QP
2	81.840	14.35	1.90	10.95	27.20	40.00	12.80	
3	116.940	17.52	2.30	10.24	30.06	43.50	13.44	
4	152.040	21.54	2.60	4.06	28.20	43.50	15.30	
5	211.980	22.20	3.13	4.09	29.43	43.50	14.07	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

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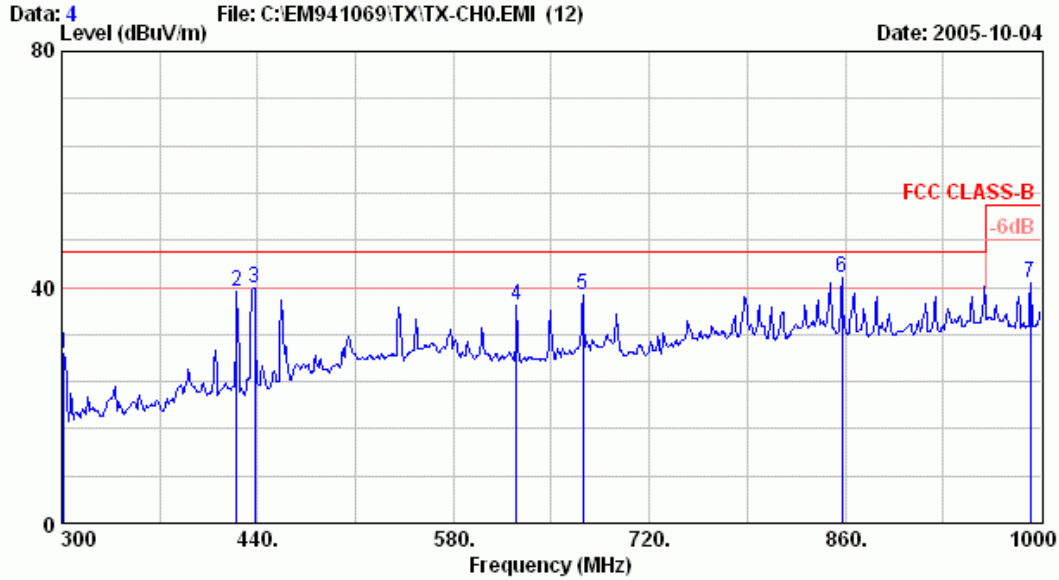

Site : A/C Chamber Date : 4
Condition : 3m UHALP9108-A(0138) Polarity: VERTICAL
Limit : FCC CLASS-B
Env. / Ins. : 8593EM 23*C/59% Engineer: henning
EUT : GPS Instant Fix M/N:GPS-BT74R
Power Rating : 120Vac/60Hz
Test Mode : TX (CH0)

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1	301.400	14.83	3.90	9.99	28.72	46.00	17.28	QP
2	425.300	17.22	5.10	16.89	39.21	46.00	6.79	
3	437.900	17.32	5.30	17.37	40.00	46.00	6.00	
4	624.800	21.14	6.20	9.72	37.07	46.00	8.93	
5	672.400	23.07	6.40	9.35	38.82	46.00	7.18	
6	857.900	25.75	7.20	8.73	41.68	46.00	4.32	
7	992.300	26.06	7.73	6.83	40.62	54.00	13.38	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

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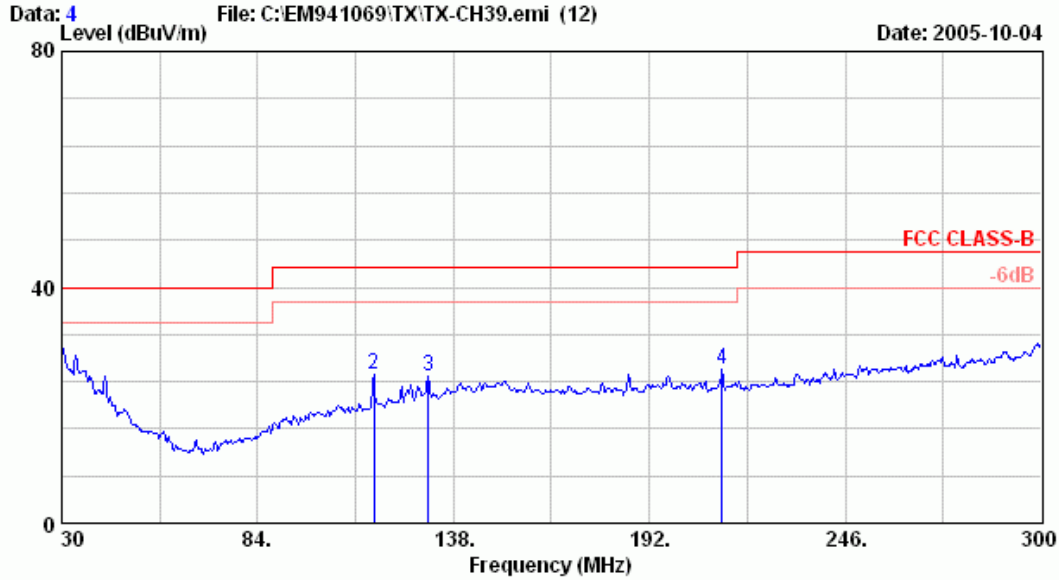

Site : A/C Chamber Date : 4
Condition : 3m BBA9106(A3L) Polarity: HORIZONTAL
Limit : FCC CLASS-B
Env. / Ins. : 8593EM 23*C/59% Engineer: henning
EUT : GPS Instant Fix M/N:GPS-BT74R
Power Rating : 120Vac/60Hz
Test Mode : TX (CH39)

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1	30.000	24.86	1.10	4.06	30.02	40.00	9.98	QP
2	116.130	18.76	2.30	4.21	25.27	43.50	18.23	
3	130.980	19.79	2.40	2.62	24.81	43.50	18.69	
4	211.980	21.75	3.13	1.24	26.12	43.50	17.38	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

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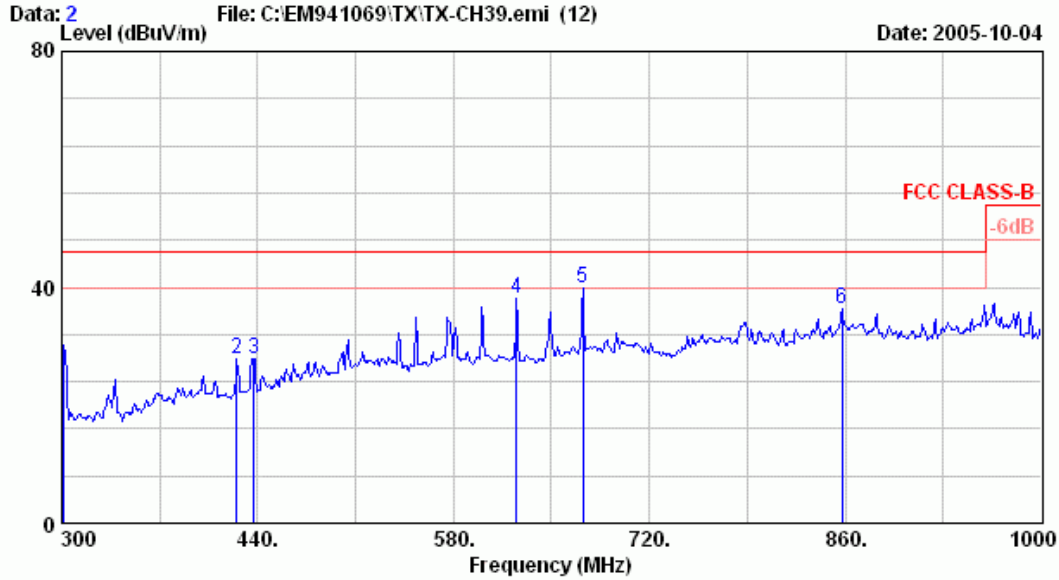

Site : A/C Chamber Date : 2
Condition : 3m UHALP9108-A(0138) Polarity: HORIZONTAL
Limit : FCC CLASS-B
Env. / Ins. : 8593EM 23*C/59% Engineer: henning
EUT : GPS Instant Fix M/N:GPS-BT74R
Power Rating : 120Vac/60Hz
Test Mode : TX (CH39)

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1	300.700	14.52	3.90	11.73	30.15	46.00	15.85	QP
2	425.300	17.16	5.10	5.56	27.82	46.00	18.18	
3	437.200	17.47	5.30	5.07	27.84	46.00	18.16	
4	624.800	21.30	6.20	10.47	37.97	46.00	8.03	
5	672.400	22.85	6.40	10.66	39.91	46.00	6.09	
6	857.900	25.95	7.20	3.24	36.39	46.00	9.61	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

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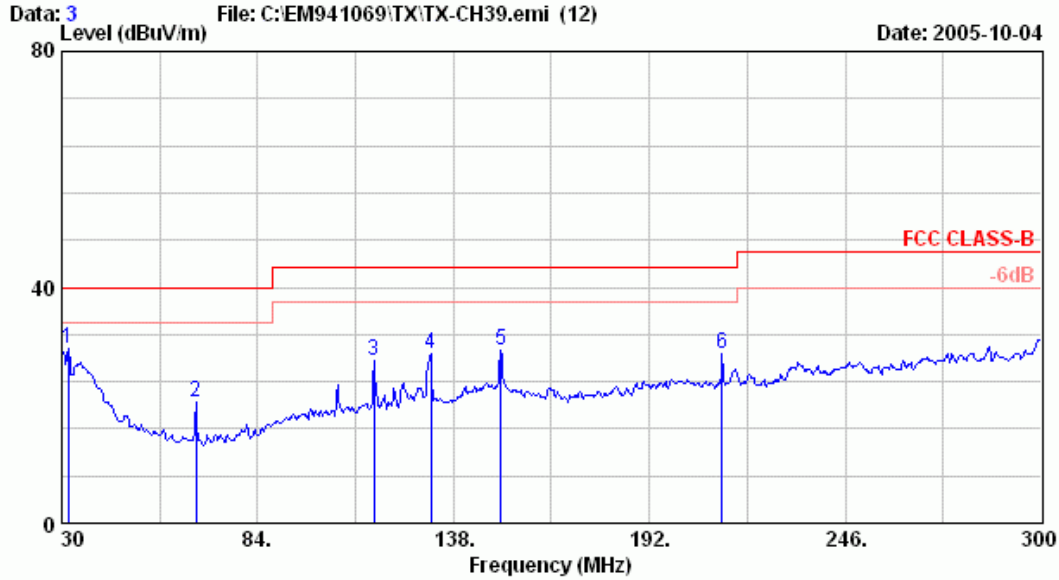

Site : A/C Chamber Date : 3
Condition : 3m BBA9106(A3L) Polarity: VERTICAL
Limit : FCC CLASS-B
Env. / Ins. : 8593EM 23*C/59% Engineer: henning
EUT : GPS Instant Fix M/N:GPS-BT74R
Power Rating : 120Vac/60Hz
Test Mode : TX (CH39)

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1	31.890	22.15	1.10	6.23	29.48	40.00	10.52	QP
2	66.990	12.43	1.70	6.24	20.37	40.00	19.63	
3	116.130	17.58	2.30	7.76	27.64	43.50	15.86	
4	131.790	18.94	2.40	7.34	28.68	43.50	14.82	
5	150.960	21.78	2.60	4.81	29.19	43.50	14.31	
6	211.980	22.20	3.13	3.29	28.63	43.50	14.87	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

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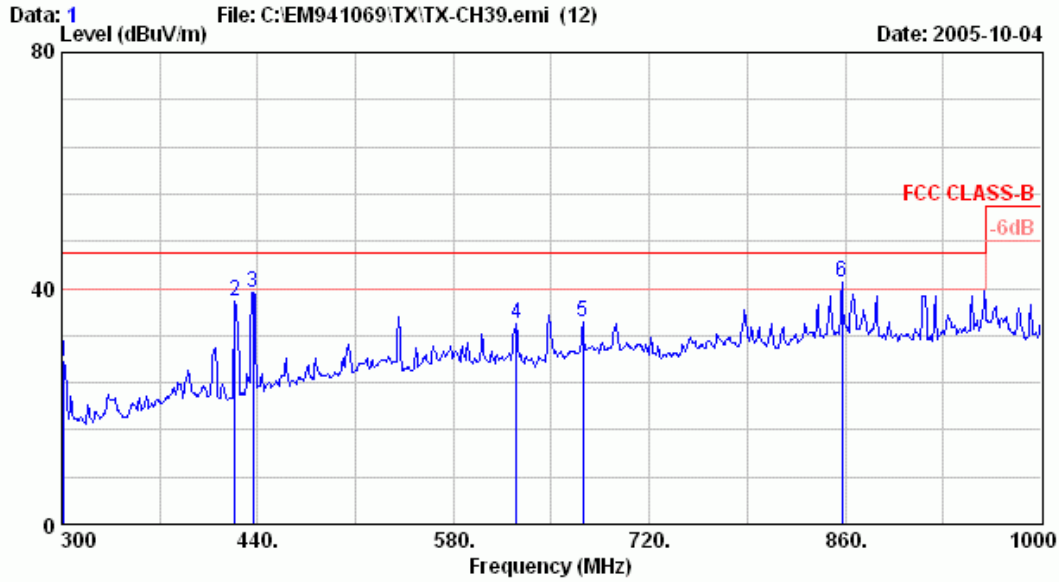

Site : A/C Chamber Date : 1
Condition : 3m UHALP9108-A(0138) Polarity: VERTICAL
Limit : FCC CLASS-B
Env. / Ins. : 8593EM 23*C/59% Engineer: henning
EUT : GPS Instant Fix M/N:GPS-BT74R
Power Rating : 120Vac/60Hz
Test Mode : TX (CH39)

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1	301.400	14.83	3.90	8.75	27.49	46.00	18.51	QP
2	423.900	17.21	5.10	15.39	37.70	46.00	8.30	
3	436.500	17.28	5.30	16.61	39.19	46.00	6.81	
4	624.800	21.14	6.20	6.59	33.93	46.00	12.07	
5	672.400	23.07	6.40	4.94	34.41	46.00	11.59	
6	857.900	25.75	7.20	8.03	40.97	46.00	5.03	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

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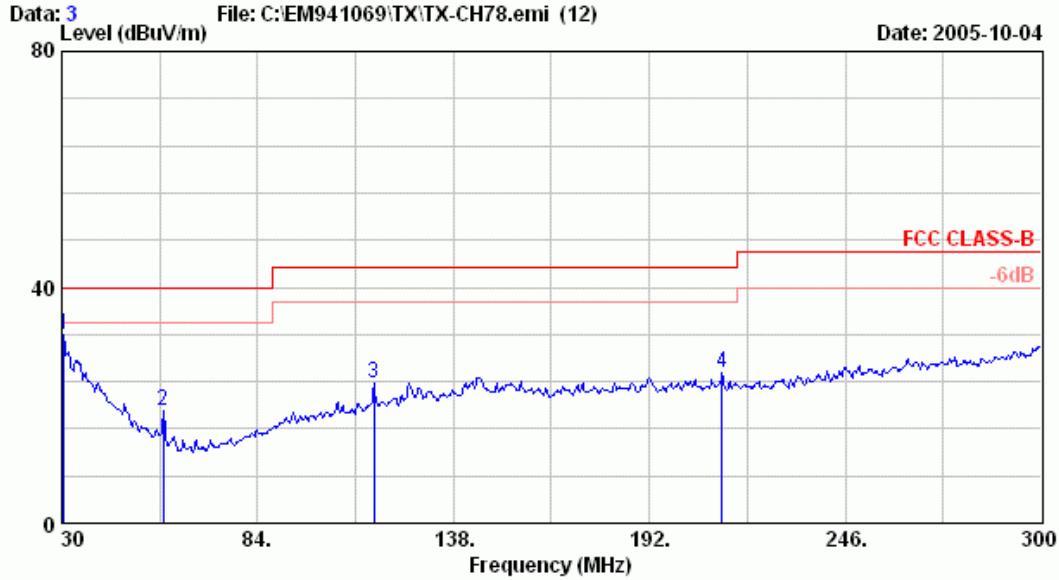

Site : A/C Chamber Date : 3
Condition : 3m BBA9106(A3L) Polarity: HORIZONTAL
Limit : FCC CLASS-B
Env. / Ins. : 8593EM 23*C/59% Engineer: henning
EUT : GPS Instant Fix M/N:GPS-BT74R
Power Rating : 120Vac/60Hz
Test Mode : TX (CH78)

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1	30.540	24.76	1.10	5.94	31.81	40.00	8.19	QP
2	58.080	13.25	1.60	4.17	19.02	40.00	20.98	
3	116.130	18.76	2.30	2.56	23.62	43.50	19.88	
4	211.980	21.75	3.13	0.57	25.45	43.50	18.05	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

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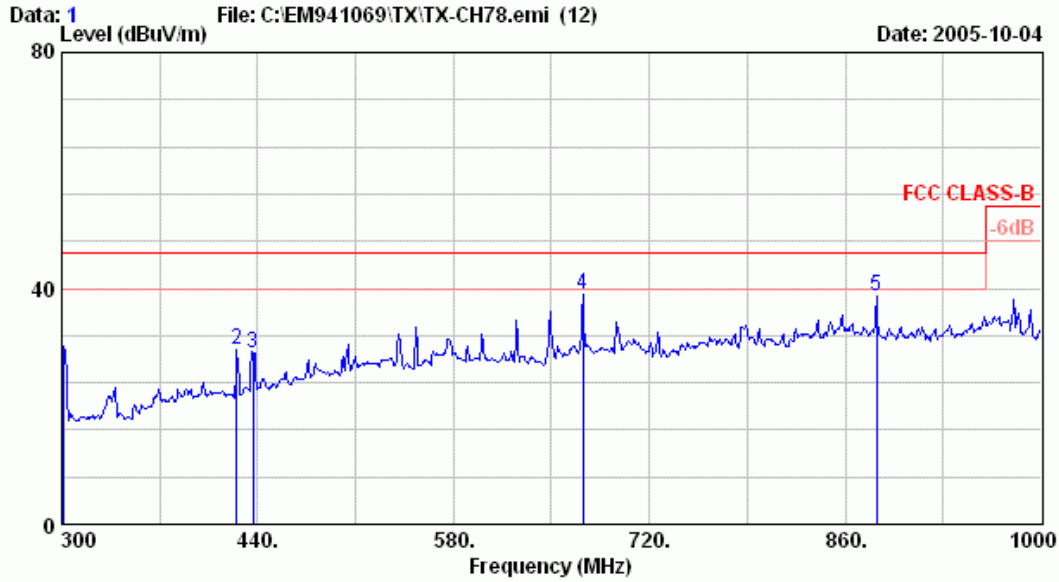

Site : A/C Chamber Date : 1
Condition : 3m UHALP9108-A(0138) Polarity: HORIZONTAL
Limit : FCC CLASS-B
Env. / Ins. : 8593EM 23*C/59% Engineer: henning
EUT : GPS Instant Fix M/N:GPS-BT74R
Power Rating : 120Vac/60Hz
Test Mode : TX (CH78)

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1	300.700	14.52	3.90	11.64	30.06	46.00	15.94	QP
2	425.300	17.16	5.10	7.35	29.61	46.00	16.39	
3	436.500	17.43	5.30	6.40	29.13	46.00	16.87	
4	672.400	22.85	6.40	9.85	39.10	46.00	6.90	
5	882.400	25.28	7.30	6.08	38.66	46.00	7.34	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

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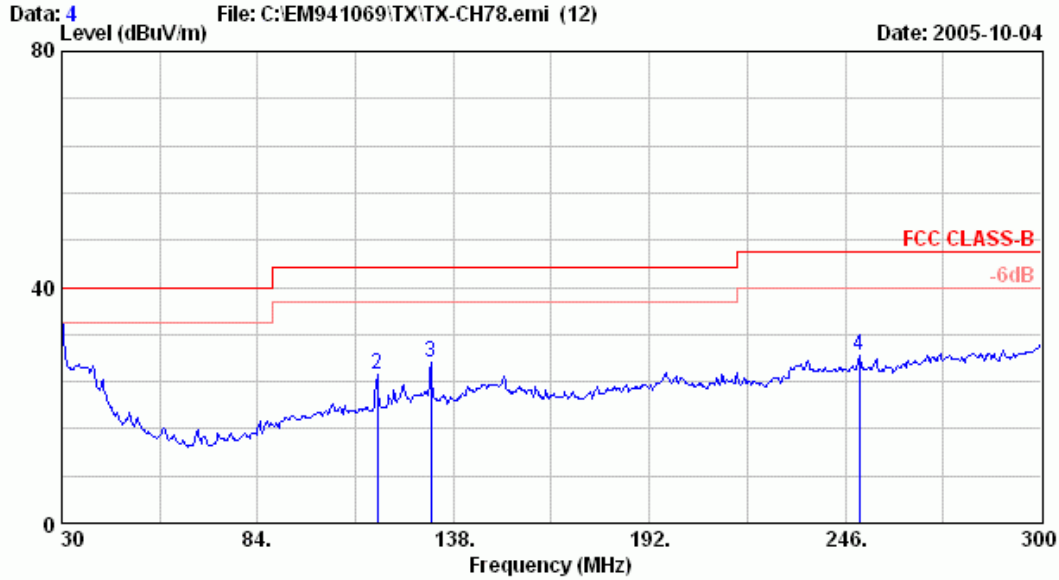

Site : A/C Chamber Date : 4
Condition : 3m BBA9106(A3L) Polarity: VERTICAL
Limit : FCC CLASS-B
Env. / Ins. : 8593EM 23*C/59% Engineer: henning
EUT : GPS Instant Fix M/N:GPS-BT74R
Power Rating : 120Vac/60Hz
Test Mode : TX (CH78)

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1	30.000	23.60	1.10	10.21	34.91	40.00	5.09	QP
2	116.940	17.52	2.30	5.47	25.29	43.50	18.21	
3	131.790	18.94	2.40	5.90	27.24	43.50	16.26	
4	249.780	25.00	3.50	-0.11	28.39	46.00	17.61	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

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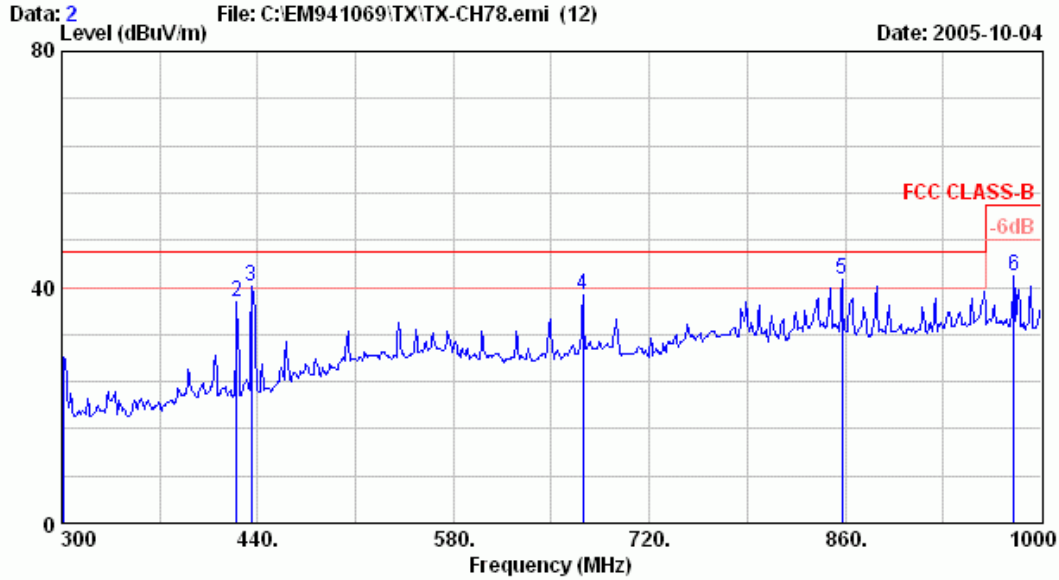

Site : A/C Chamber Date : 2
Condition : 3m UHALP9108-A(0138) Polarity: VERTICAL
Limit : FCC CLASS-B
Env. / Ins. : 8593EM 23*C/59% Engineer: henning
EUT : GPS Instant Fix M/N:GPS-BT74R
Power Rating : 120Vac/60Hz
Test Mode : TX (CH78)

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1	300.700	14.75	3.90	9.46	28.11	46.00	17.89	QP
2	425.300	17.22	5.10	15.05	37.37	46.00	8.63	
3	435.800	17.25	5.30	17.45	40.00	46.00	6.00	
4	672.400	23.07	6.40	9.10	38.57	46.00	7.43	
5	857.900	25.75	7.20	8.29	41.24	46.00	4.76	
6	980.400	26.26	7.70	7.93	41.89	54.00	12.11	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

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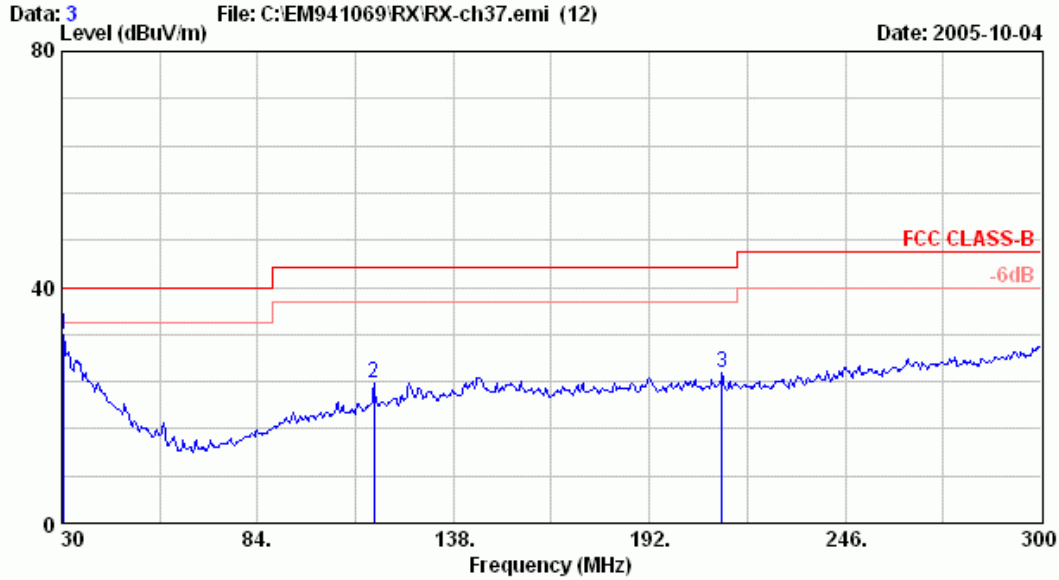

Site : A/C Chamber Date : 3
Condition : 3m BBA9106(A3L) Polarity: HORIZONTAL
Limit : FCC CLASS-B
Env. / Ins. : 8593EM 23*C/59% Engineer: henning
EUT : GPS Instant Fix M/N:GPS-BT74R
Power Rating : 120Vac/60Hz
Test Mode : RX (CH39)

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1	30.540	24.76	1.10	5.94	31.81	40.00	8.19	
2	116.130	18.76	2.30	2.56	23.62	43.50	19.88	
3	211.980	21.75	3.13	0.57	25.45	43.50	18.05	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

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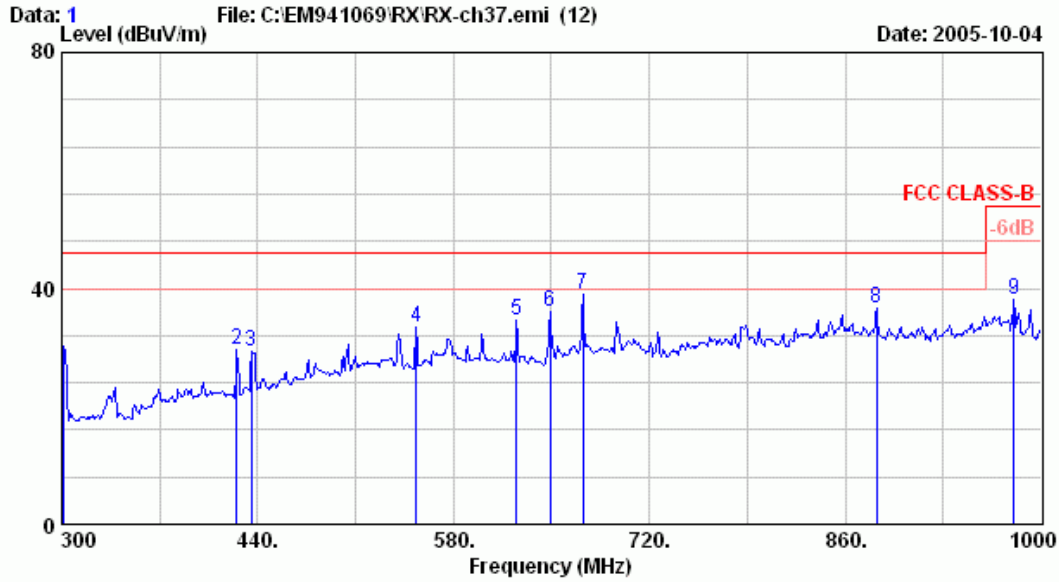

Site : A/C Chamber Date : 1
Condition : 3m UHALP9108-A(0138) Polarity: HORIZONTAL
Limit : FCC CLASS-B
Env. / Ins. : 8593EM 23*C/59% Engineer: henning
EUT : GPS Instant Fix M/N:GPS-BT74R
Power Rating : 120Vac/60Hz
Test Mode : RX (CH39)

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1	300.700	14.52	3.90	11.64	30.06	46.00	15.94	
2	425.300	17.16	5.10	7.35	29.61	46.00	16.39	
3	435.800	17.41	5.30	6.55	29.26	46.00	16.74	
4	553.400	19.34	6.80	7.39	33.54	46.00	12.46	
5	624.800	21.30	6.20	7.14	34.64	46.00	11.36	
6	649.300	21.42	6.30	8.28	36.00	46.00	10.00	
7	672.400	22.85	6.40	9.85	39.10	46.00	6.90	
8	882.400	25.28	7.30	4.08	36.66	46.00	9.34	
9	980.400	25.74	7.70	4.67	38.11	54.00	15.89	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

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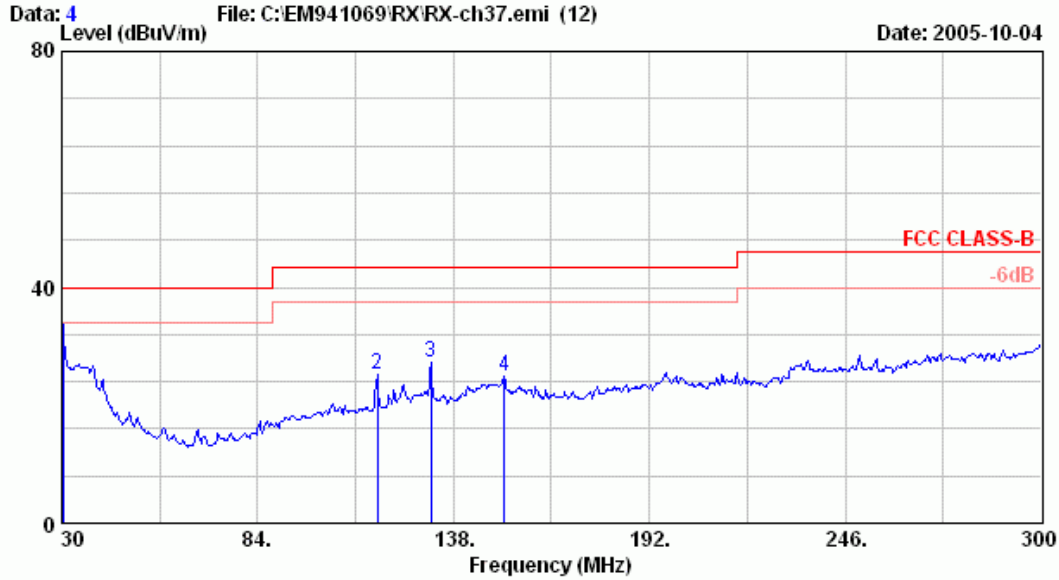

Site : A/C Chamber Date : 4
Condition : 3m BBA9106(A3L) Polarity: VERTICAL
Limit : FCC CLASS-B
Env. / Ins. : 8593EM 23*C/59% Engineer: henning
EUT : GPS Instant Fix M/N:GPS-BT74R
Power Rating : 120Vac/60Hz
Test Mode : RX (CH39)

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1	30.270	23.39	1.10	8.34	32.83	40.00	7.17	
2	116.940	17.52	2.30	5.47	25.29	43.50	18.21	
3	131.790	18.94	2.40	5.90	27.24	43.50	16.26	
4	152.040	21.54	2.60	0.90	25.04	43.50	18.46	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

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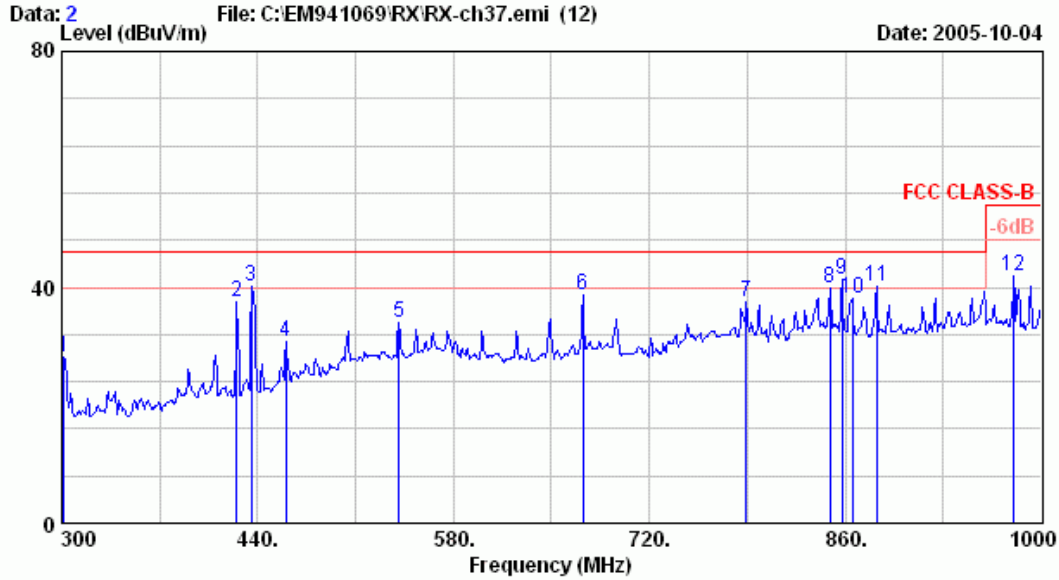

Site : A/C Chamber Date : 2
Condition : 3m UHALP9108-A(0138) Polarity: VERTICAL
Limit : FCC CLASS-B
Env. / Ins. : 8593EM 23*C/59% Engineer: henning
EUT : GPS Instant Fix M/N:GPS-BT74R
Power Rating : 120Vac/60Hz
Test Mode : RX (CH39)

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1	301.400	14.83	3.90	9.51	28.24	46.00	17.76	
2	425.300	17.22	5.10	15.05	37.37	46.00	8.63	
3	435.800	17.25	5.30	17.45	40.00	46.00	6.00	
4	460.300	18.73	5.70	6.46	30.89	46.00	15.11	
5	540.800	20.43	7.01	6.59	34.02	46.00	11.98	
6	672.400	23.07	6.40	9.10	38.57	46.00	7.43	
7	789.300	25.46	6.90	5.02	37.38	46.00	8.62	
8	848.800	26.48	7.10	6.20	39.78	46.00	6.22	
9	857.900	25.75	7.20	8.29	41.24	46.00	4.76	
10	864.900	25.38	7.20	5.49	38.07	46.00	7.93	
11	882.400	25.42	7.30	7.30	40.01	46.00	5.99	
12	980.400	26.26	7.70	7.93	41.89	54.00	12.11	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

3.6.2. 1GHz-25GHz Frequency Range Radiated Emission Measurement Results

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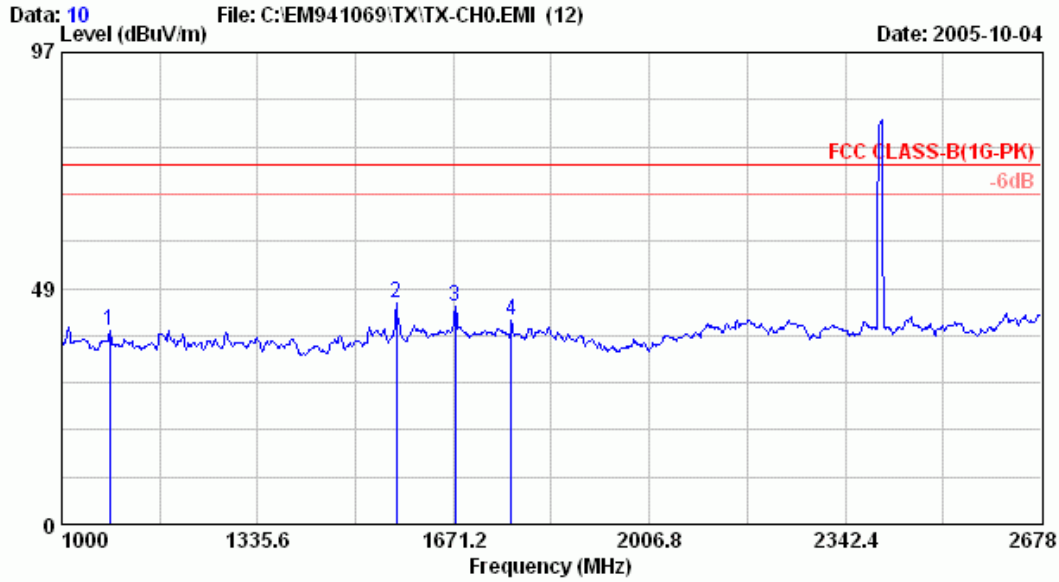

Site : A/C Chamber Date : 10
Condition : 3m 3115 Polarity: HORIZONTAL
Limit : FCC CLASS-B(1G-PK)
Env. / Ins. : 8593EM 23*C/59% Engineer: henning
EUT : GPS Instant Fix M/N:GPS-BT74R
Power Rating : 120Vac/60Hz
Test Mode : TX (CH0)

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1	1082.222	25.24	4.35	10.32	39.91	74.00	34.09	Peak
2	1573.876	25.81	5.94	13.60	45.35	74.00	28.65	
3	1674.556	26.31	6.65	11.81	44.77	74.00	29.23	
4	1770.202	26.79	7.07	7.89	41.75	74.00	32.25	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

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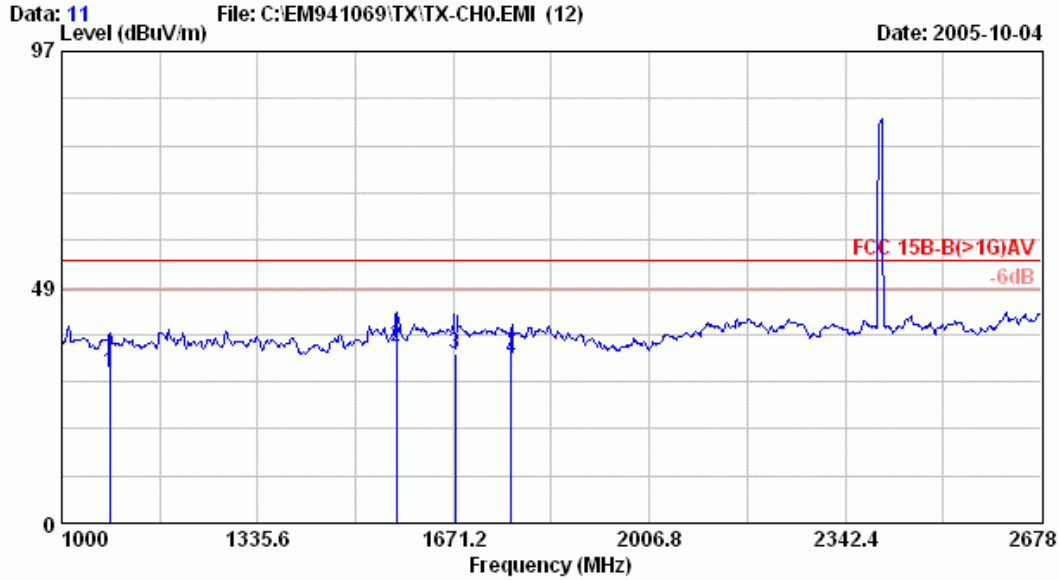

Site : A/C Chamber Date : 11
Condition : 3m 3115 Polarity: HORIZONTAL
Limit : FCC 15B-B(>1G)AV
Env. / Ins. : 8593EM 23*C/59% Engineer: henning
EUT : GPS Instant Fix M/N:GPS-BT74R
Power Rating : 120Vac/60Hz
Test Mode : TX (CH0)

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1	1082.222	25.24	4.35	1.32	30.91	54.00	23.09	Average
2	1573.876	25.81	5.94	4.60	36.35	54.00	17.65	
3	1674.556	26.31	6.65	1.81	34.77	54.00	19.23	
4	1770.202	26.79	7.07	-0.11	33.75	54.00	20.25	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

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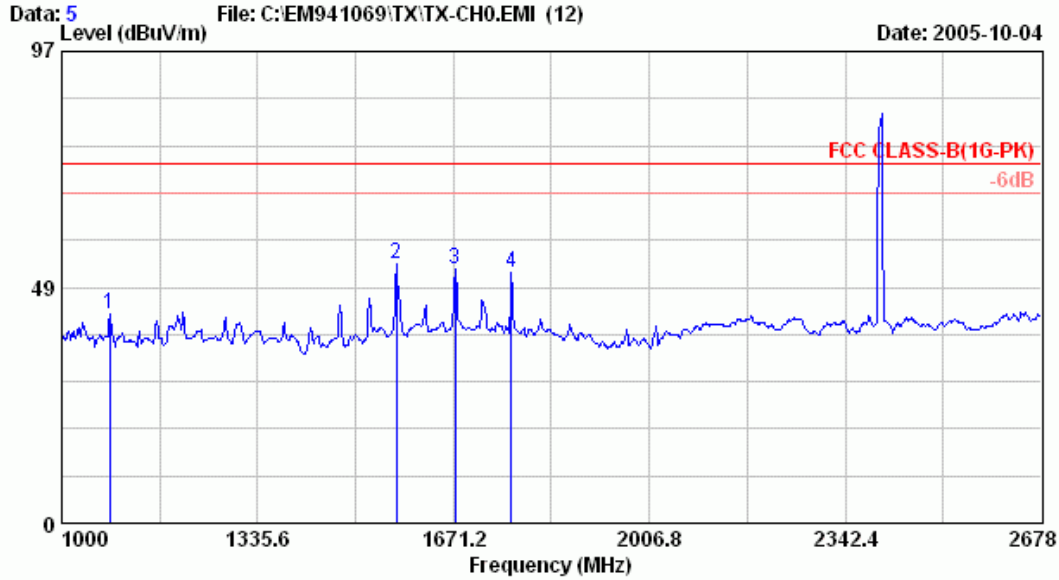

Site : A/C Chamber Date : 5
Condition : 3m 3115 Polarity: VERTICAL
Limit : FCC CLASS-B(1G-PK)
Env. / Ins. : 8593EM 23*C/59% Engineer: henning
EUT : GPS Instant Fix M/N:GPS-BT74R
Power Rating : 120Vac/60Hz
Test Mode : TX (CH0)

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1	1082.222	25.24	4.35	13.24	42.83	74.00	31.17	Peak
2	1573.876	25.81	5.94	21.57	53.32	74.00	20.68	
3	1674.556	26.31	6.65	19.40	52.36	74.00	21.64	
4	1770.202	26.79	7.07	17.72	51.58	74.00	22.42	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

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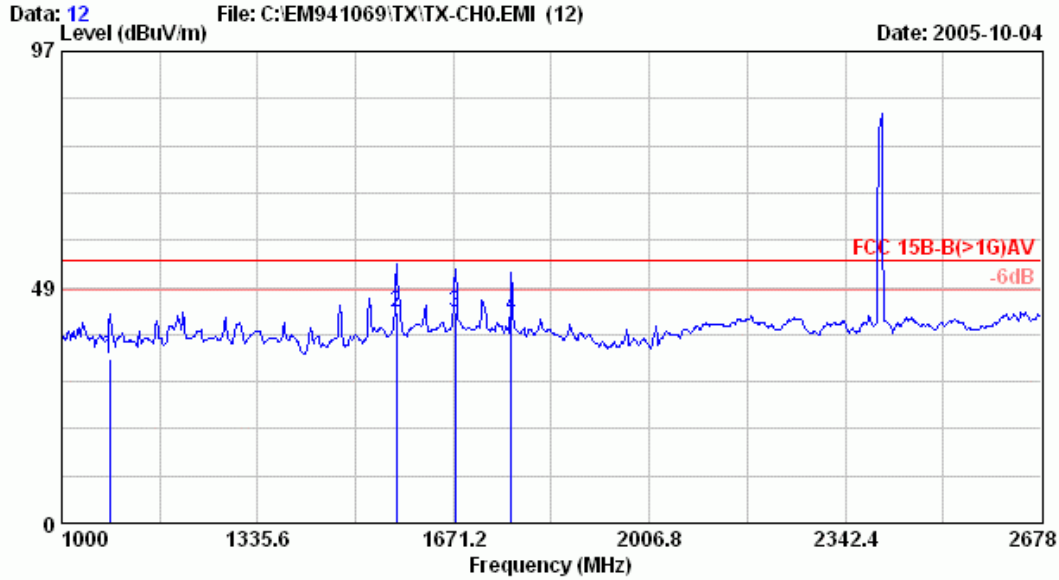

Site : A/C Chamber Date : 12
Condition : 3m 3115 Polarity: VERTICAL
Limit : FCC 15B-B(>1G)AV
Env. / Ins. : 8593EM 23*C/59% Engineer: henning
EUT : GPS Instant Fix M/N:GPS-BT74R
Power Rating : 120Vac/60Hz
Test Mode : TX (CH0)

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1	1082.222	25.24	4.35	4.24	33.83	54.00	20.17	Average
2	1573.876	25.81	5.94	11.57	43.32	54.00	10.68	
3	1674.556	26.31	6.65	10.40	43.36	54.00	10.64	
4	1770.202	26.79	7.07	8.72	42.58	54.00	11.42	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

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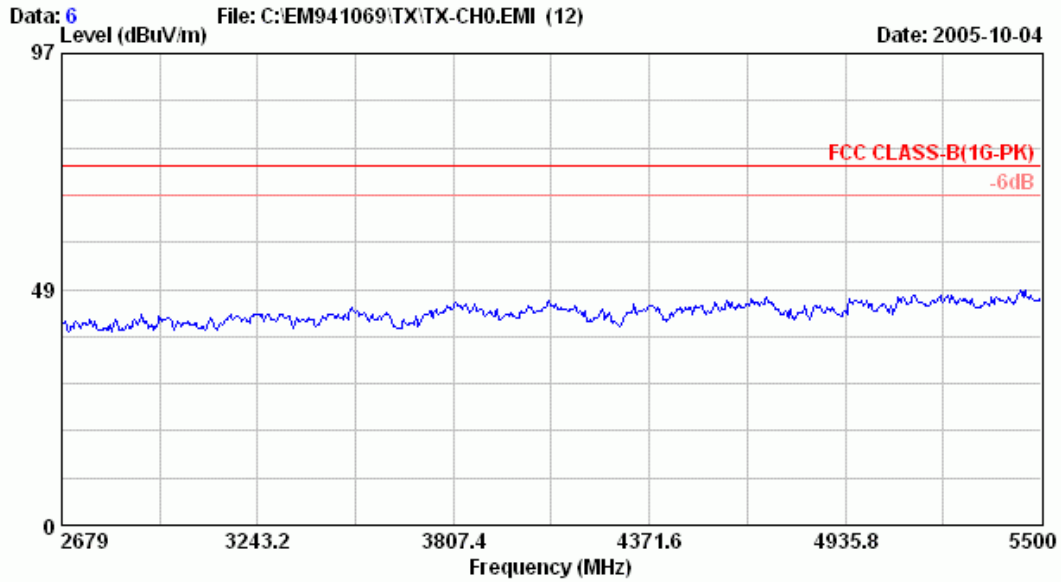

Site : A/C Chamber Date : 6
Condition : 3m 3115 Polarity: HORIZONTAL
Limit : FCC CLASS-B(1G-PK)
Env. / Ins. : 8593EM 23*C/59% Engineer: henning
EUT : GPS Instant Fix M/N:GPS-BT74R
Power Rating : 120Vac/60Hz
Test Mode : TX (CH0)

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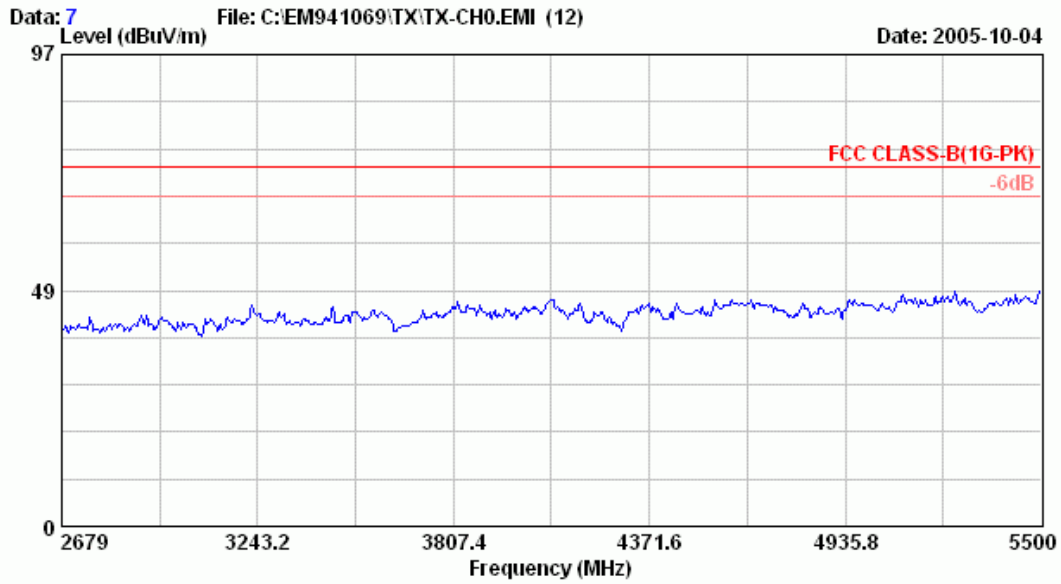

Site : A/C Chamber Date : 7
Condition : 3m 3115 Polarity: VERTICAL
Limit : FCC CLASS-B(1G-PK)
Env. / Ins. : 8593EM 23*C/59% Engineer: henning
EUT : GPS Instant Fix M/N:GPS-BT74R
Power Rating : 120Vac/60Hz
Test Mode : TX (CH0)

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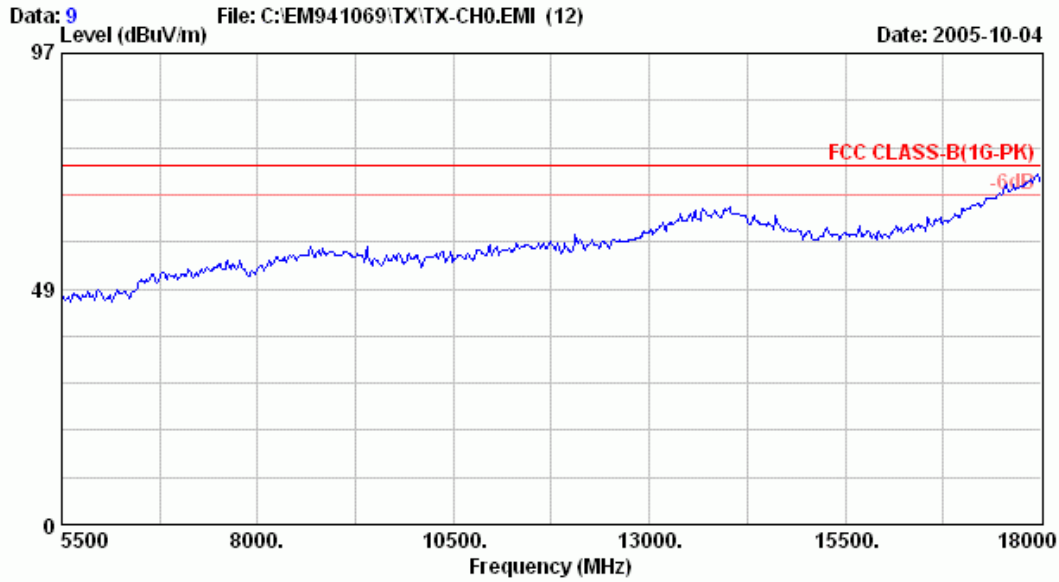

Site : A/C Chamber Date : 9
Condition : 3m 3115 Polarity: HORIZONTAL
Limit : FCC CLASS-B(1G-PK)
Env. / Ins. : 8593EM 23*C/59% Engineer: henning
EUT : GPS Instant Fix M/N:GPS-BT74R
Power Rating : 120Vac/60Hz
Test Mode : TX (CH0)

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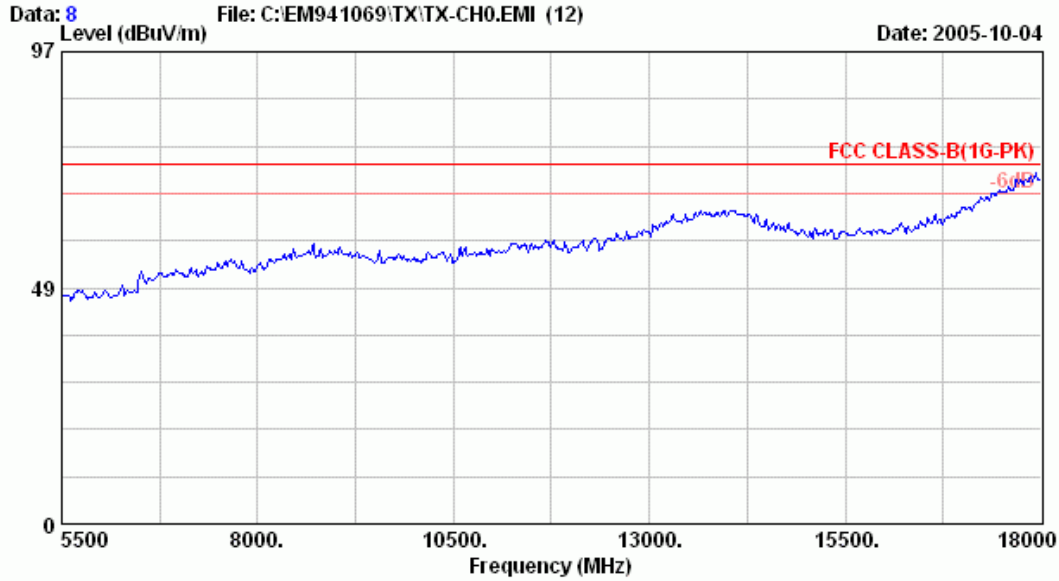

Site : A/C Chamber Date : 8
Condition : 3m 3115 Polarity: VERTICAL
Limit : FCC CLASS-B(1G-PK)
Env. / Ins. : 8593EM 23*C/59% Engineer: henning
EUT : GPS Instant Fix M/N:GPS-BT74R
Power Rating : 120Vac/60Hz
Test Mode : TX (CH0)

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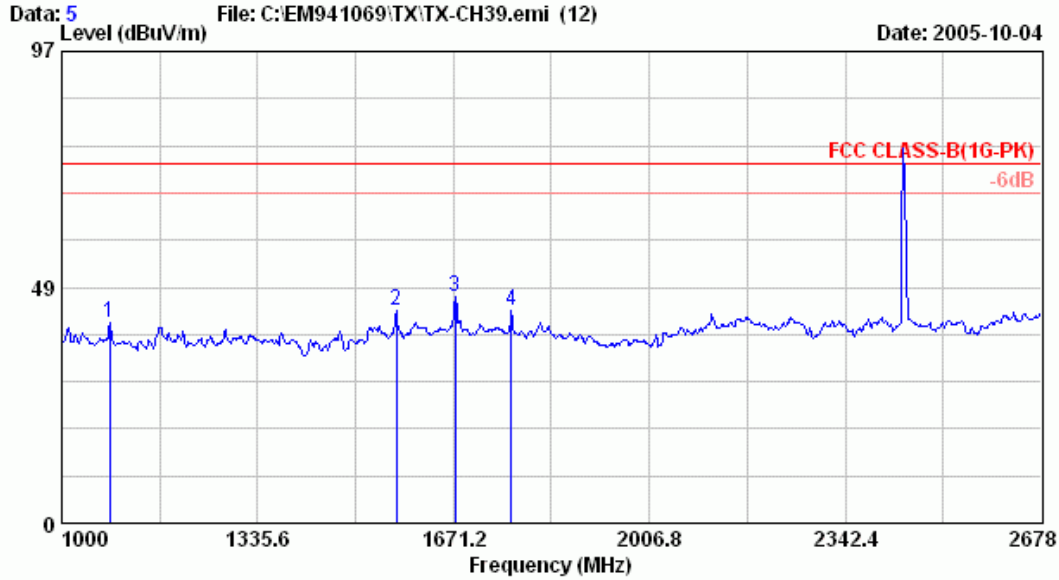

Site : A/C Chamber Date : 5
Condition : 3m 3115 Polarity: HORIZONTAL
Limit : FCC CLASS-B(1G-PK)
Env. / Ins. : 8593EM 23*C/59% Engineer: henning
EUT : GPS Instant Fix M/N:GPS-BT74R
Power Rating : 120Vac/60Hz
Test Mode : TX (CH39)

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1	1082.222	25.24	4.35	11.61	41.20	74.00	32.80	Peak
2	1573.876	25.81	5.94	12.02	43.77	74.00	30.23	
3	1674.556	26.31	6.65	13.75	46.71	74.00	27.29	
4	1770.202	26.79	7.07	9.75	43.61	74.00	30.39	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

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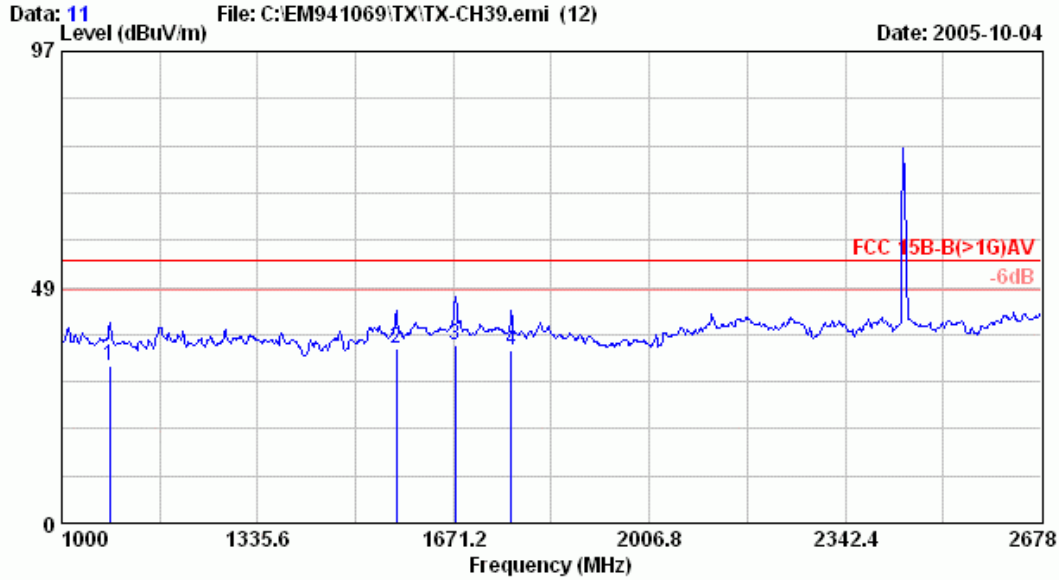

Site : A/C Chamber Date : 11
Condition : 3m 3115 Polarity: HORIZONTAL
Limit : FCC 15B-B(>1G)AV
Env. / Ins. : 8593EM 23*C/59% Engineer: henning
EUT : GPS Instant Fix M/N:GPS-BT74R
Power Rating : 120Vac/60Hz
Test Mode : TX (CH39)

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1	1082.222	25.24	4.35	2.61	32.20	54.00	21.80	Average
2	1573.876	25.81	5.94	4.02	35.77	54.00	18.23	
3	1674.556	26.31	6.65	3.75	36.71	54.00	17.29	
4	1770.202	26.79	7.07	1.75	35.61	54.00	18.39	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

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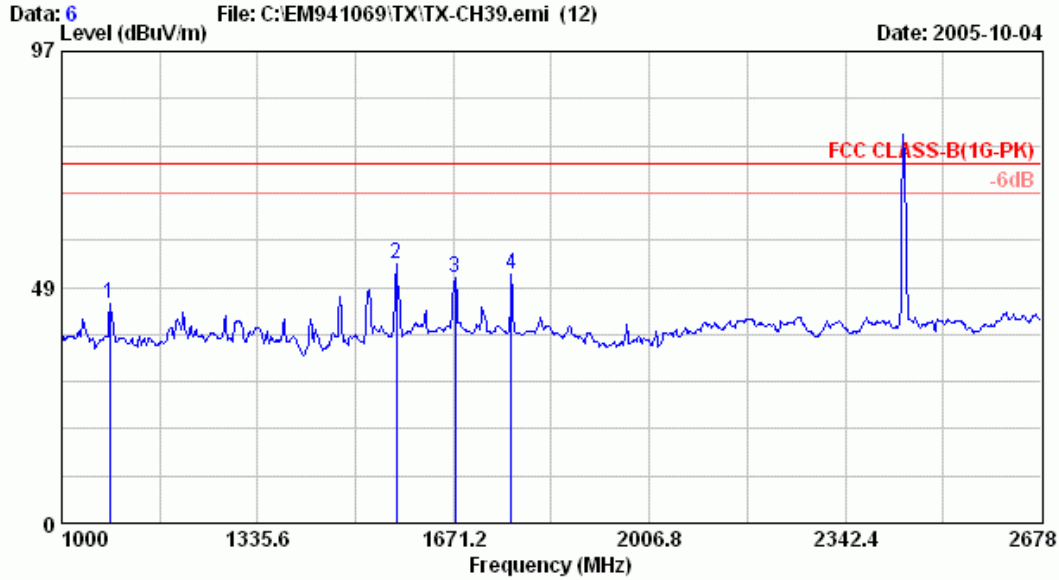

Site : A/C Chamber Date : 6
Condition : 3m 3115 Polarity: VERTICAL
Limit : FCC CLASS-B(1G-PK)
Env. / Ins. : 8593EM 23*C/59% Engineer: henning
EUT : GPS Instant Fix M/N:GPS-BT74R
Power Rating : 120Vac/60Hz
Test Mode : TX (CH39)

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1	1082.222	25.24	4.35	15.39	44.98	74.00	29.02	Peak
2	1573.876	25.81	5.94	21.54	53.29	74.00	20.71	
3	1674.556	26.31	6.65	17.42	50.38	74.00	23.62	
4	1770.202	26.79	7.07	17.41	51.27	74.00	22.73	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

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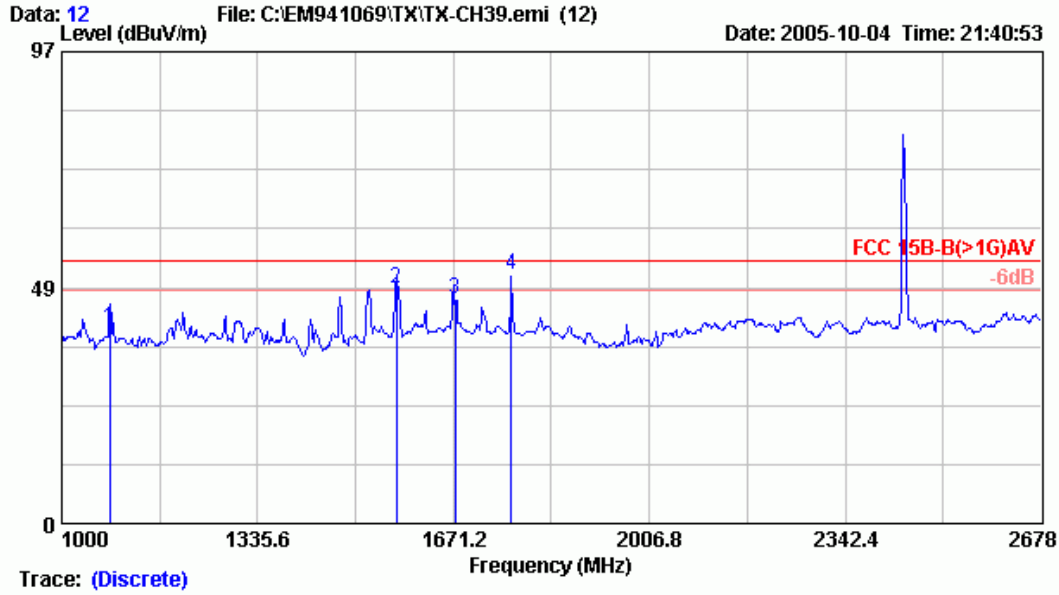

Site no. : A/C Chamber Data no. : 12
Dis. / Ant. : 3m 3115 Ant. pol. : VERTICAL
Limit : FCC 15B-B(>1G)AV
Env. / Ins. : 8593EM 23*C/59% Engineer : henning
EUT : GPS Instant Fix M/N:GPS-BT74R
Power Rating : 120Vac/60Hz
Test Mode : TX (CH39)

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1	1082.222	25.24	4.35	10.64	40.24	54.00	13.76	Average
2	1573.876	25.81	5.94	16.53	48.27	54.00	5.73	
3	1674.556	26.31	6.65	13.32	46.28	54.00	7.72	
4	1770.202	26.79	7.07	17.41	51.27	54.00	2.73	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

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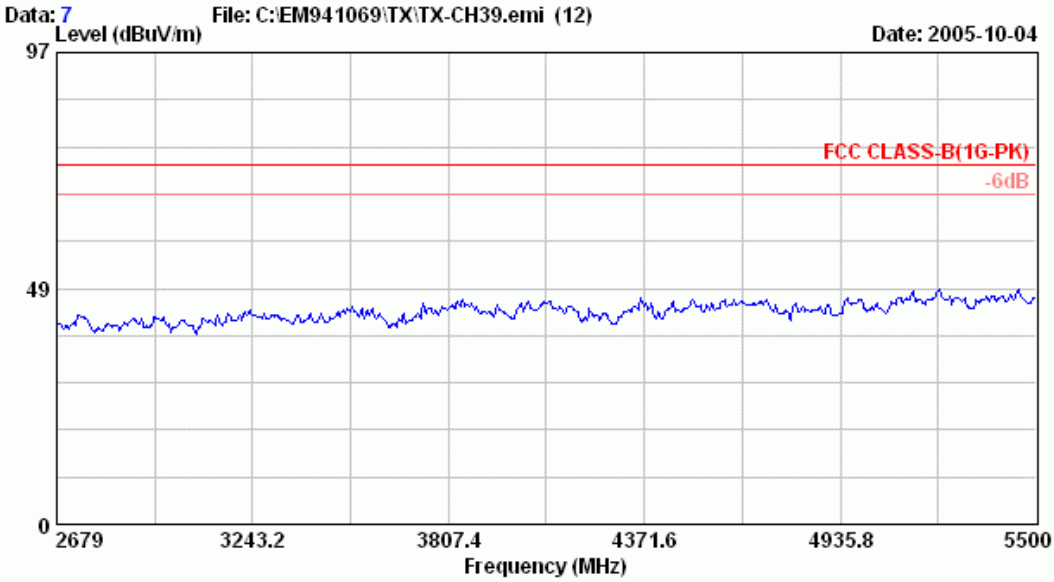

Site : A/C Chamber Date : 7
Condition : 3m 3115 Polarity: HORIZONTAL
Limit : FCC CLASS-B(1G-PK)
Env. / Ins. : 8593EM 23*C/59% Engineer: henning
EUT : GPS Instant Fix M/N:GPS-BT74R
Power Rating : 120Vac/60Hz
Test Mode : TX (CH39)

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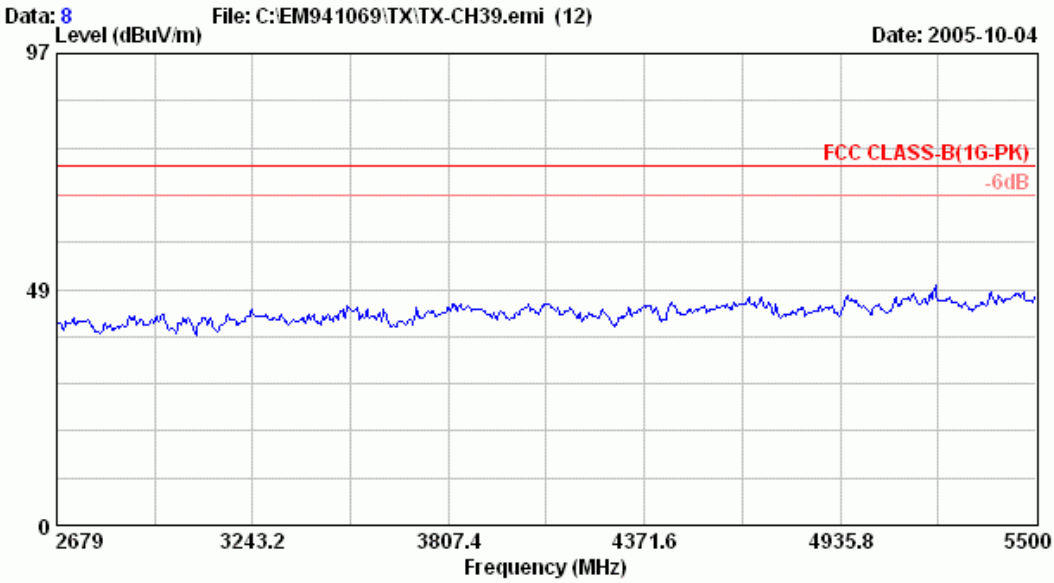

Site : A/C Chamber Date : 8
Condition : 3m 3115 Polarity: VERTICAL
Limit : FCC CLASS-B(1G-PK)
Env. / Ins. : 8593EM 23*C/59% Engineer: henning
EUT : GPS Instant Fix M/N:GPS-BT74R
Power Rating : 120Vac/60Hz
Test Mode : TX (CH39)

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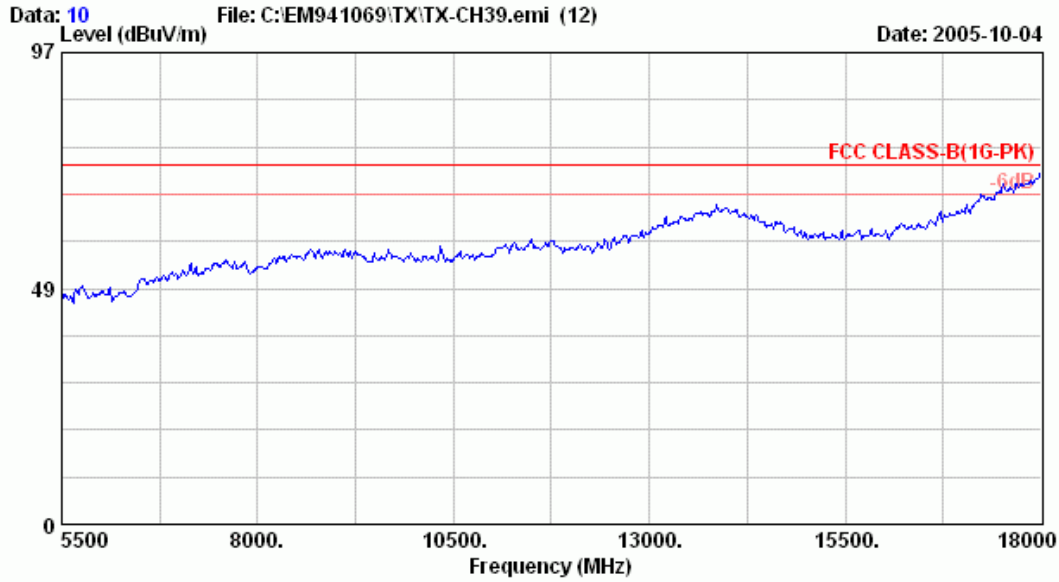

Site : A/C Chamber Date : 10
Condition : 3m 3115 Polarity: HORIZONTAL
Limit : FCC CLASS-B(1G-PK)
Env. / Ins. : 8593EM 23*C/59% Engineer: henning
EUT : GPS Instant Fix M/N:GPS-BT74R
Power Rating : 120Vac/60Hz
Test Mode : TX (CH39)

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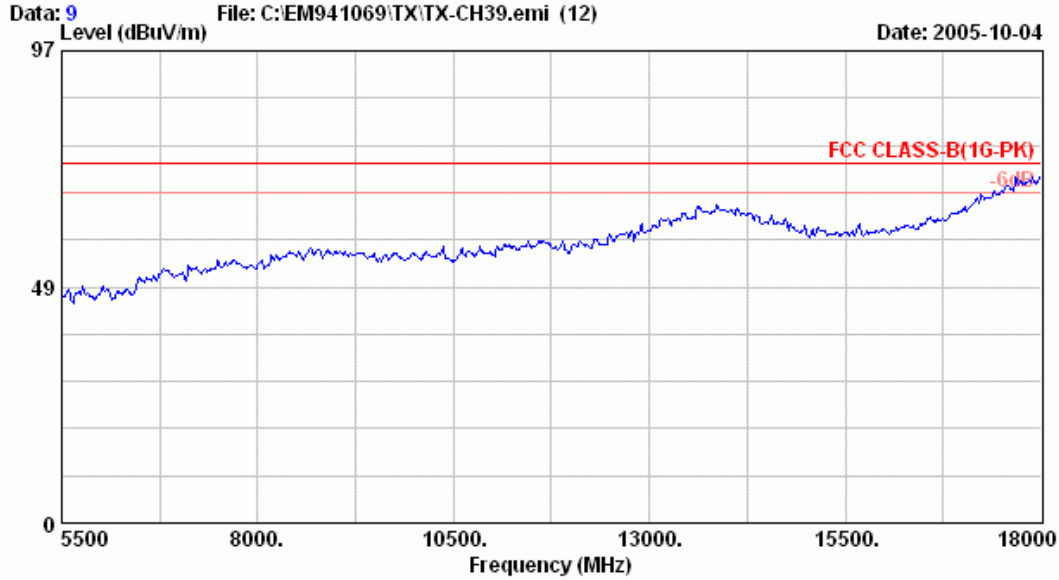

Site : A/C Chamber Date : 9
Condition : 3m 3115 Polarity: VERTICAL
Limit : FCC CLASS-B(1G-PK)
Env. / Ins. : 8593EM 23*C/59% Engineer: henning
EUT : GPS Instant Fix M/N:GPS-BT74R
Power Rating : 120Vac/60Hz
Test Mode : TX (CH39)

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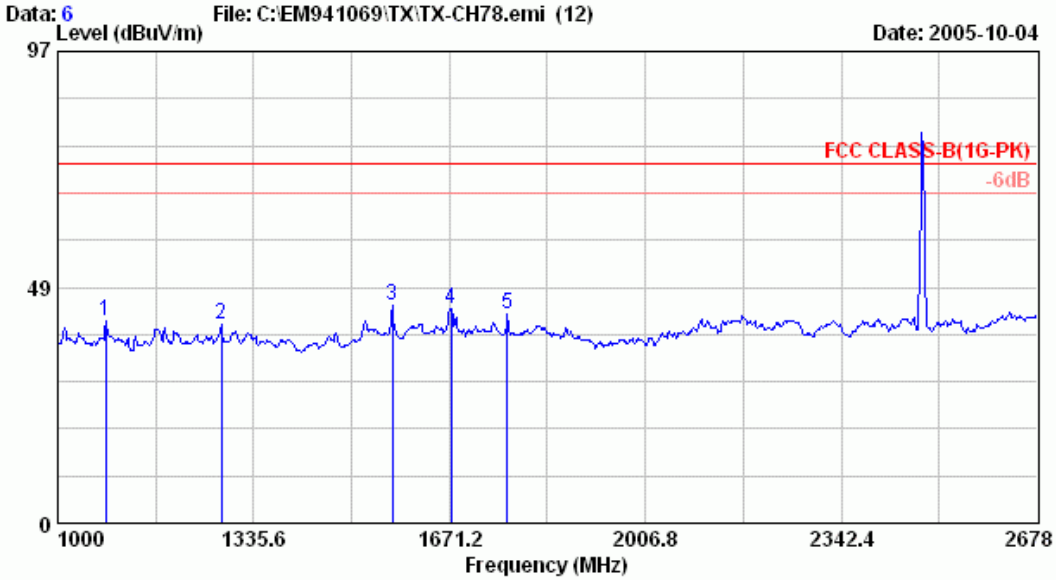

Site : A/C Chamber Date : 6
Condition : 3m 3115 Polarity: HORIZONTAL
Limit : FCC CLASS-B(1G-PK)
Env. / Ins. : 8593EM 23*C/59% Engineer: henning
EUT : GPS Instant Fix M/N:GPS-BT74R
Power Rating : 120Vac/60Hz
Test Mode : TX (CH78)

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1	1082.222	25.24	4.35	12.03	41.62	74.00	32.38	Peak
2	1280.226	25.32	4.77	10.64	40.72	74.00	33.28	
3	1573.876	25.81	5.94	12.91	44.66	74.00	29.34	
4	1674.556	26.31	6.65	11.23	44.19	74.00	29.81	
5	1770.202	26.79	7.07	9.22	43.08	74.00	30.92	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

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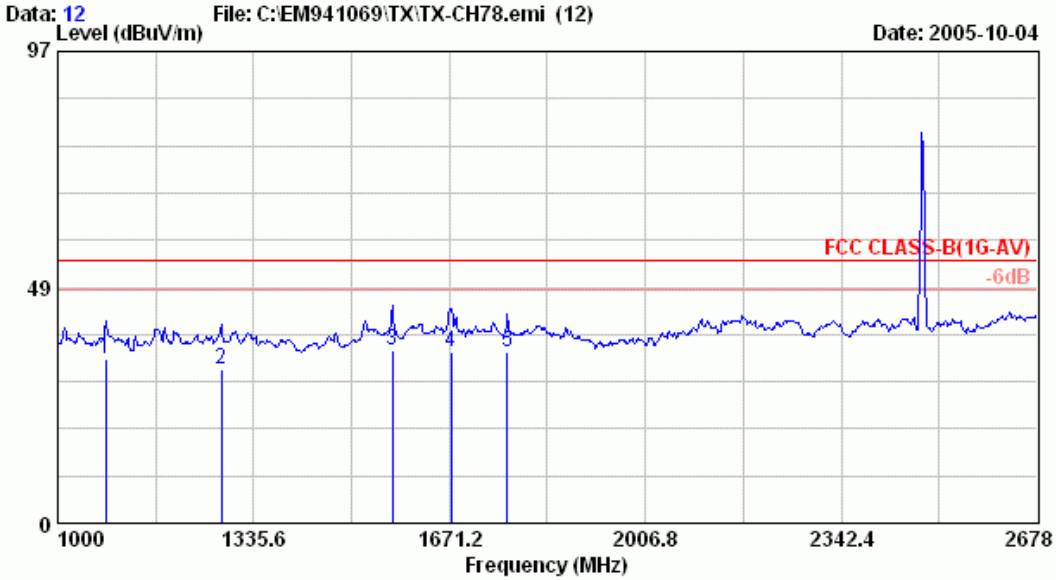

Site : A/C Chamber Date : 12
Condition : 3m 3115 Polarity: HORIZONTAL
Limit : FCC CLASS-B(1G-AV)
Env. / Ins. : 8593EM 23*C/59% Engineer: henning
EUT : GPS Instant Fix M/N:GPS-BT74R
Power Rating : 120Vac/60Hz
Test Mode : TX (CH78)

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1	1082.222	25.24	4.35	4.03	33.62	54.00	20.38	Average
2	1280.226	25.32	4.77	1.64	31.72	54.00	22.28	
3	1573.876	25.81	5.94	3.91	35.66	54.00	18.34	
4	1674.556	26.31	6.65	2.23	35.19	54.00	18.81	
5	1770.202	26.79	7.07	1.22	35.08	54.00	18.92	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

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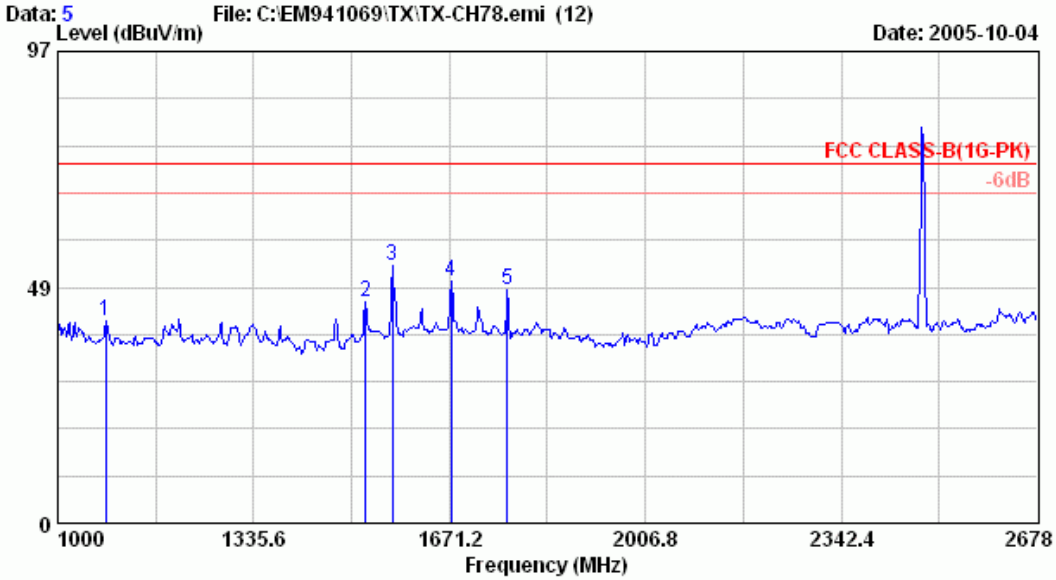

Site : A/C Chamber Date : 5
Condition : 3m 3115 Polarity: VERTICAL
Limit : FCC CLASS-B(1G-PK)
Env. / Ins. : 8593EM 23*C/59% Engineer: henning
EUT : GPS Instant Fix M/N:GPS-BT74R
Power Rating : 120Vac/60Hz
Test Mode : TX (CH78)

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1	1082.222	25.24	4.35	12.01	41.60	74.00	32.40	Peak
2	1526.892	25.54	5.61	14.18	45.34	74.00	28.66	
3	1573.876	25.81	5.94	21.03	52.78	74.00	21.22	
4	1674.556	26.31	6.65	16.65	49.61	74.00	24.39	
5	1770.202	26.79	7.07	14.12	47.98	74.00	26.02	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

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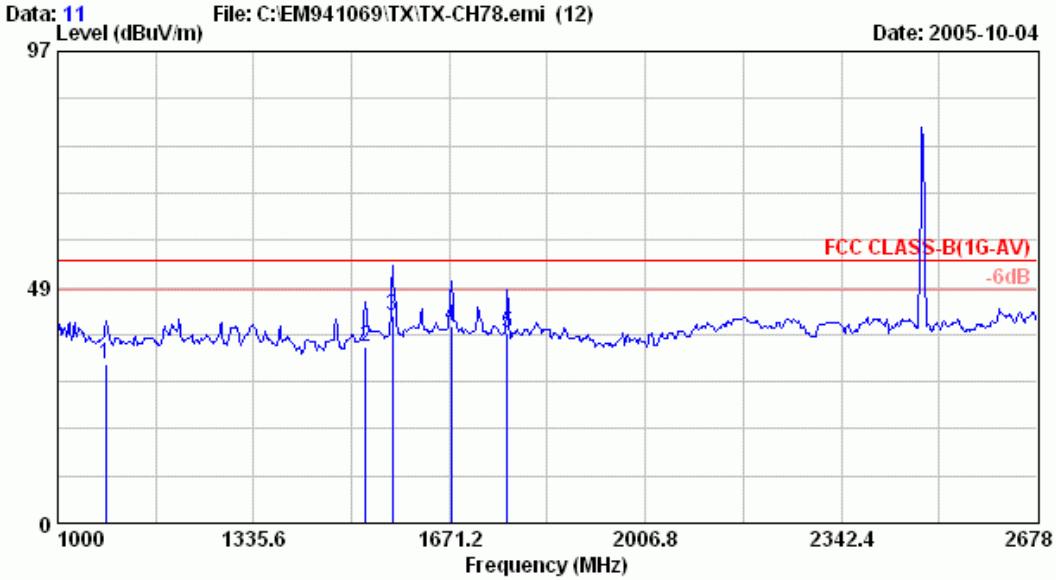

Site : A/C Chamber Date : 11
Condition : 3m 3115 Polarity: VERTICAL
Limit : FCC CLASS-B(1G-AV)
Env. / Ins. : 8593EM 23*C/59% Engineer: henning
EUT : GPS Instant Fix M/N:GPS-BT74R
Power Rating : 120Vac/60Hz
Test Mode : TX (CH78)

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1	1082.222	25.24	4.35	3.01	32.60	54.00	21.40	Average
2	1526.892	25.54	5.61	5.18	36.34	54.00	17.66	
3	1573.876	25.81	5.94	11.03	42.78	54.00	11.22	
4	1674.556	26.31	6.65	7.65	40.61	54.00	13.39	
5	1770.202	26.79	7.07	5.12	38.98	54.00	15.02	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

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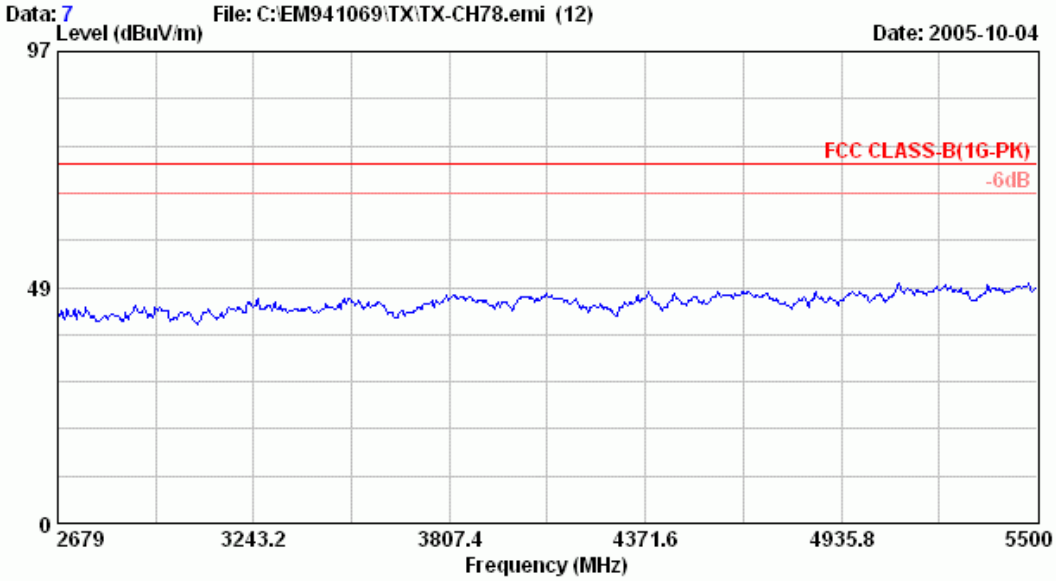

Site : A/C Chamber Date : 7
Condition : 3m 3115 Polarity: HORIZONTAL
Limit : FCC CLASS-B(1G-PK)
Env. / Ins. : 8593EM 23*C/59% Engineer: henning
EUT : GPS Instant Fix M/N:GPS-BT74R
Power Rating : 120Vac/60Hz
Test Mode : TX (CH78)

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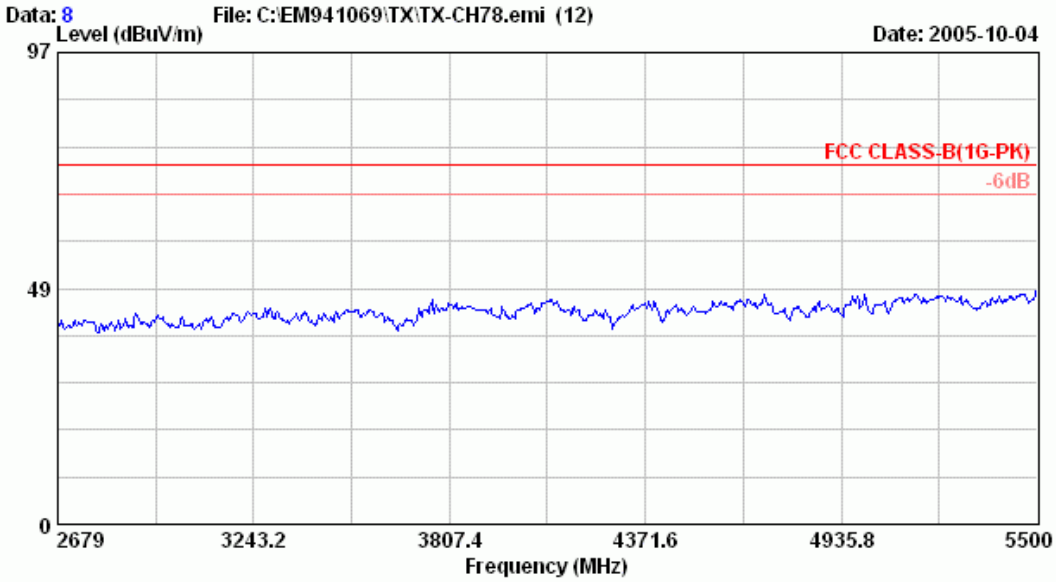

Site : A/C Chamber Date : 8
Condition : 3m 3115 Polarity: VERTICAL
Limit : FCC CLASS-B(1G-PK)
Env. / Ins. : 8593EM 23*C/59% Engineer: henning
EUT : GPS Instant Fix M/N:GPS-BT74R
Power Rating : 120Vac/60Hz
Test Mode : TX (CH78)

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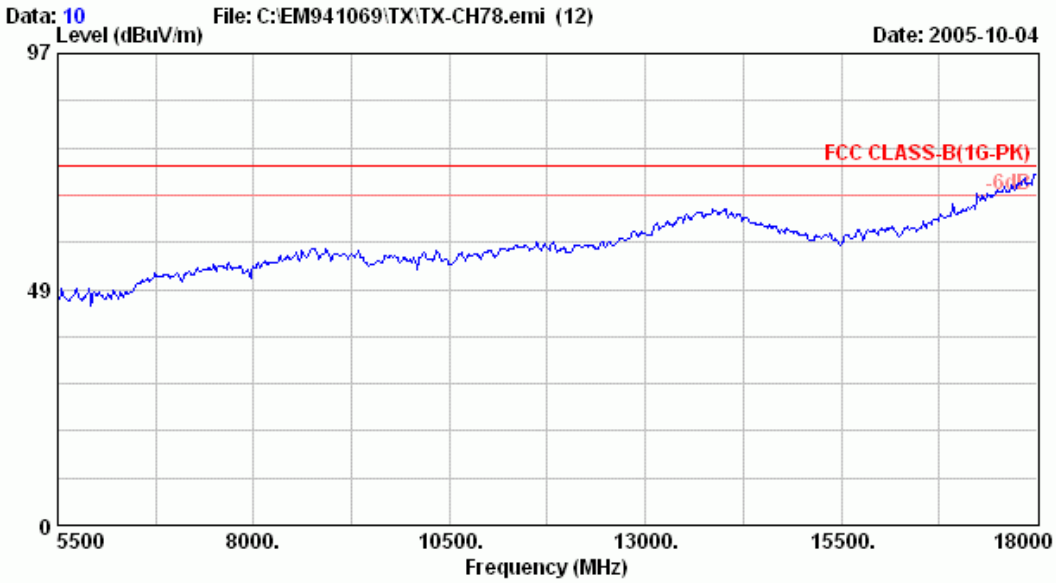

Site : A/C Chamber Date : 10
Condition : 3m 3115 Polarity: HORIZONTAL
Limit : FCC CLASS-B(1G-PK)
Env. / Ins. : 8593EM 23*C/59% Engineer: henning
EUT : GPS Instant Fix M/N:GPS-BT74R
Power Rating : 120Vac/60Hz
Test Mode : TX (CH78)

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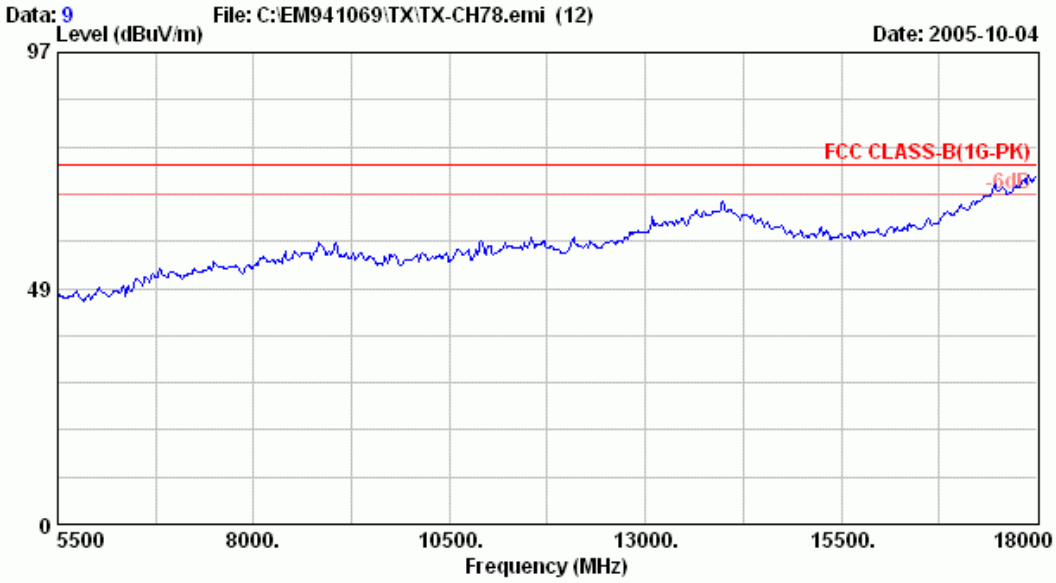

Site : A/C Chamber Date : 9
Condition : 3m 3115 Polarity: VERTICAL
Limit : FCC CLASS-B(1G-PK)
Env. / Ins. : 8593EM 23*C/59% Engineer: henning
EUT : GPS Instant Fix M/N:GPS-BT74R
Power Rating : 120Vac/60Hz
Test Mode : TX (CH78)

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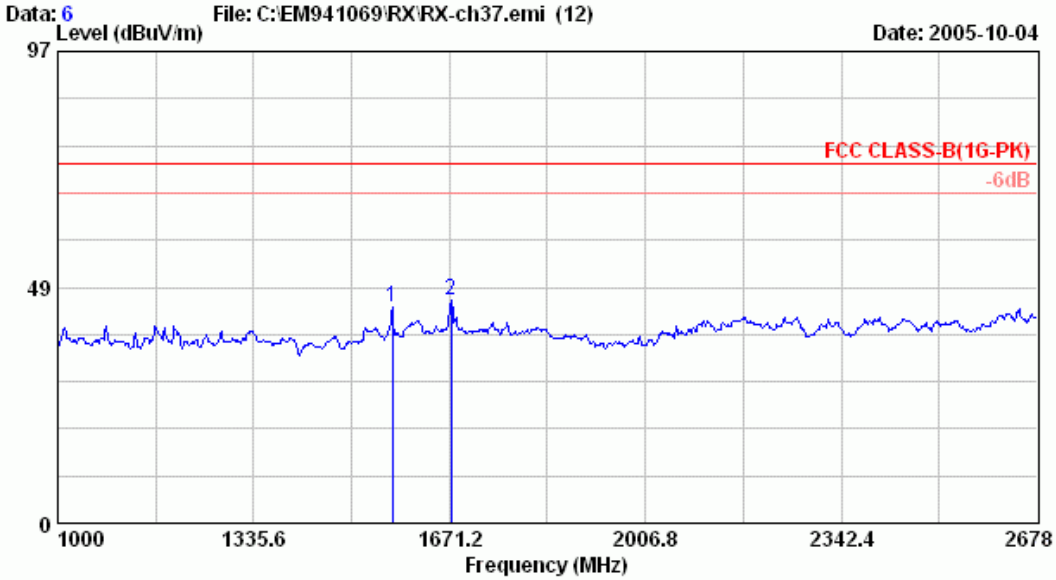

Site : A/C Chamber Date : 6
Condition : 3m 3115 Polarity: HORIZONTAL
Limit : FCC CLASS-B(1G-PK)
Env. / Ins. : 8593EM 23*C/59% Engineer: henning
EUT : GPS Instant Fix M/N:GPS-BT74R
Power Rating : 120Vac/60Hz
Test Mode : RX (CH39)

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1	1573.876	25.81	5.94	12.77	44.52	74.00	29.48	
2	1674.556	26.31	6.65	12.90	45.86	74.00	28.14	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

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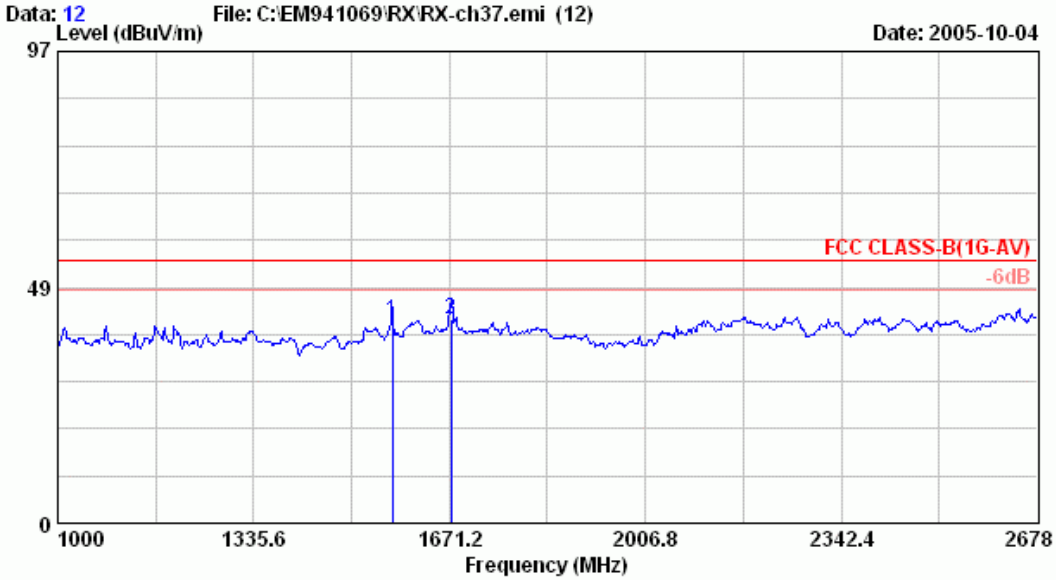

Site : A/C Chamber Date : 12
Condition : 3m 3115 Polarity: HORIZONTAL
Limit : FCC CLASS-B(1G-AV)
Env. / Ins. : 8593EM 23*C/59% Engineer: henning
EUT : GPS Instant Fix M/N:GPS-BT74R
Power Rating : 120Vac/60Hz
Test Mode : RX (CH39)

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1	1573.876	25.81	5.94	9.90	41.65	54.00	12.35	
2	1674.556	26.31	6.65	9.07	42.03	54.00	11.97	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

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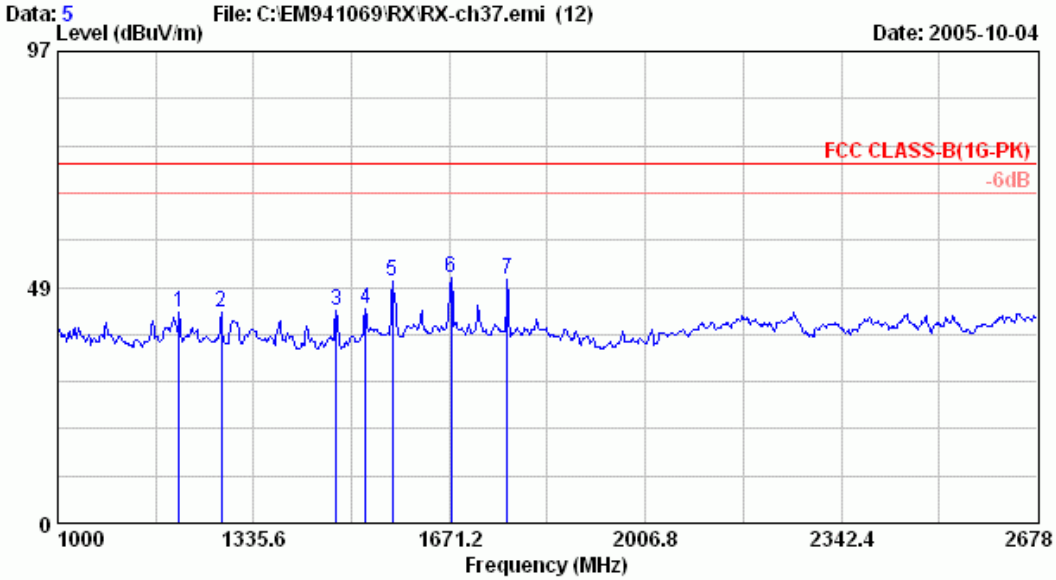

Site : A/C Chamber Date : 5
Condition : 3m 3115 Polarity: VERTICAL
Limit : FCC CLASS-B(1G-PK)
Env. / Ins. : 8593EM 23*C/59% Engineer: henning
EUT : GPS Instant Fix M/N:GPS-BT74R
Power Rating : 120Vac/60Hz
Test Mode : RX (CH39)

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1	1208.072	25.29	4.60	13.35	43.24	74.00	30.76	
2	1280.226	25.32	4.77	13.12	43.20	74.00	30.80	
3	1476.552	25.39	5.36	13.01	43.75	74.00	30.25	
4	1526.892	25.54	5.61	13.07	44.23	74.00	29.77	
5	1573.876	25.81	5.94	18.09	49.84	74.00	24.16	
6	1674.556	26.31	6.65	17.47	50.43	74.00	23.57	
7	1770.202	26.79	7.07	16.34	50.20	74.00	23.80	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

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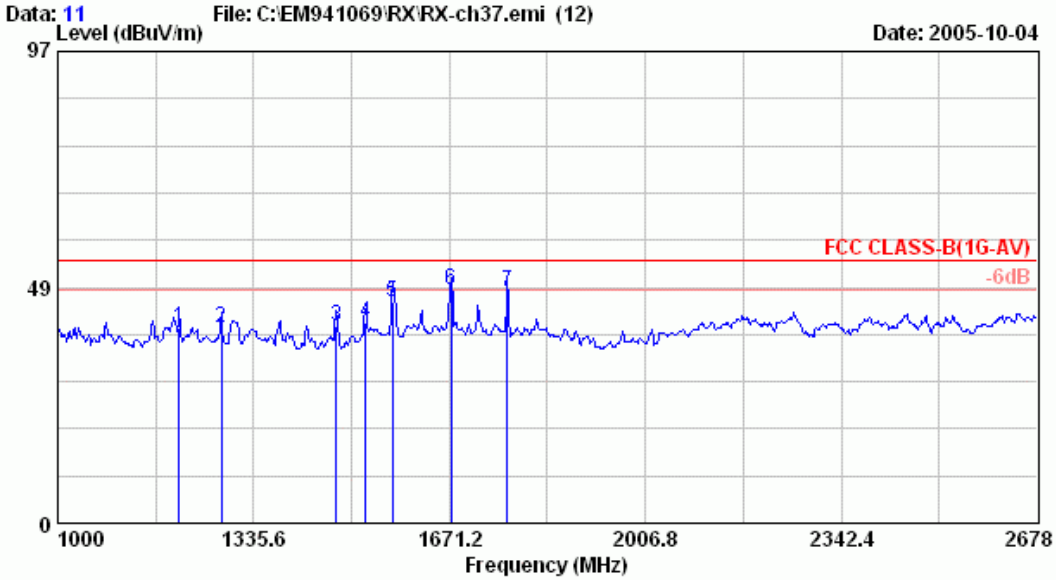

Site : A/C Chamber Date : 11
Condition : 3m 3115 Polarity: VERTICAL
Limit : FCC CLASS-B(1G-AV)
Env. / Ins. : 8593EM 23*C/59% Engineer: henning
EUT : GPS Instant Fix M/N:GPS-BT74R
Power Rating : 120Vac/60Hz
Test Mode : RX (CH39)

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark
1	1208.072	25.29	4.60	10.40	40.29	54.00	13.71	
2	1280.226	25.32	4.77	9.95	40.04	54.00	13.96	
3	1476.552	25.39	5.36	9.75	40.50	54.00	13.50	
4	1526.892	25.54	5.61	10.07	41.23	54.00	12.77	
5	1573.876	25.81	5.94	13.64	45.39	54.00	8.61	
6	1674.556	26.31	6.65	15.15	48.11	54.00	5.89	
7	1770.202	26.79	7.07	13.77	47.63	54.00	6.37	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

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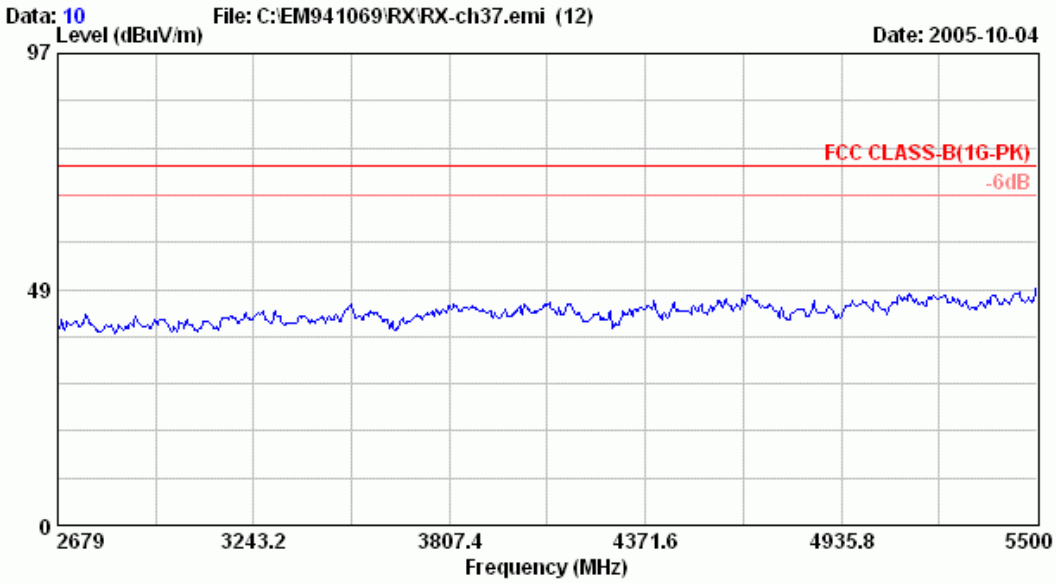

Site : A/C Chamber Date : 10
Condition : 3m 3115 Polarity: HORIZONTAL
Limit : FCC CLASS-B(1G-PK)
Env. / Ins. : 8593EM 23*C/59% Engineer: henning
EUT : GPS Instant Fix M/N:GPS-BT74R
Power Rating : 120Vac/60Hz
Test Mode : RX (CH39)

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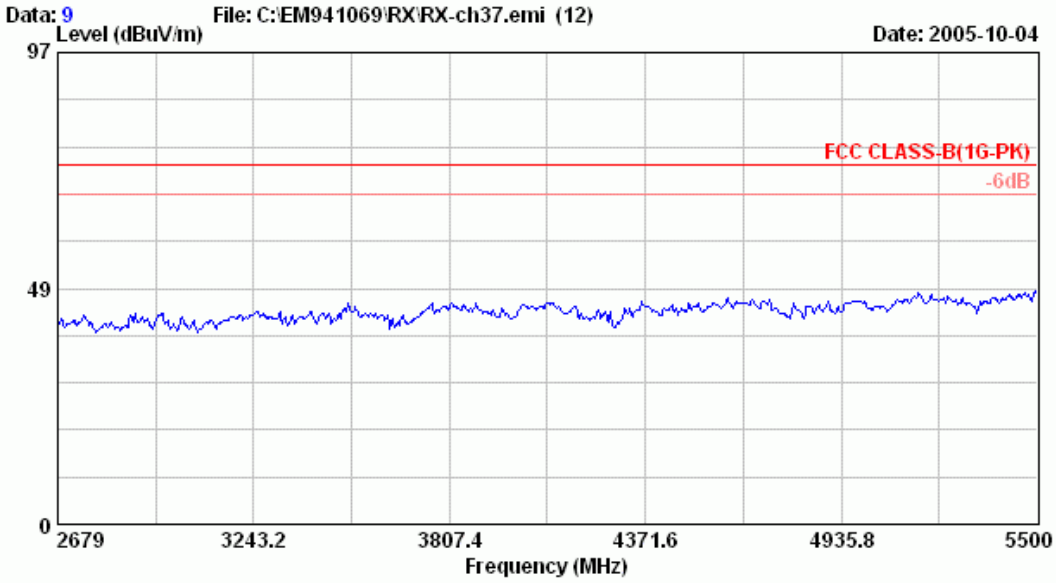

Site : A/C Chamber Date : 9
Condition : 3m 3115 Polarity: VERTICAL
Limit : FCC CLASS-B(1G-PK)
Env. / Ins. : 8593EM 23*C/59% Engineer: henning
EUT : GPS Instant Fix M/N:GPS-BT74R
Power Rating : 120Vac/60Hz
Test Mode : RX (CH39)

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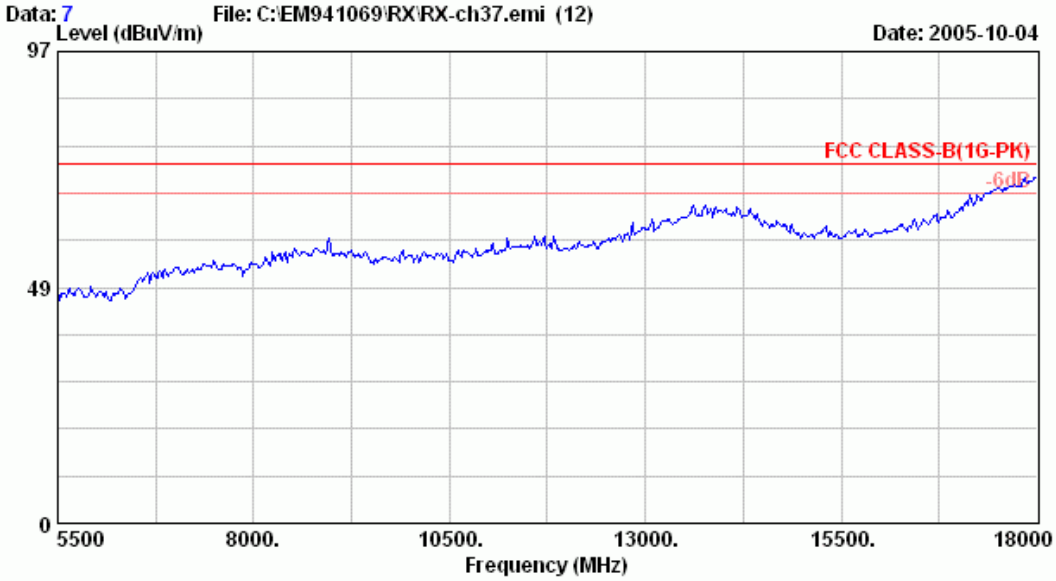

Site : A/C Chamber Date : 7
Condition : 3m 3115 Polarity: HORIZONTAL
Limit : FCC CLASS-B(1G-PK)
Env. / Ins. : 8593EM 23*C/59% Engineer: henning
EUT : GPS Instant Fix M/N:GPS-BT74R
Power Rating : 120Vac/60Hz
Test Mode : RX (CH39)

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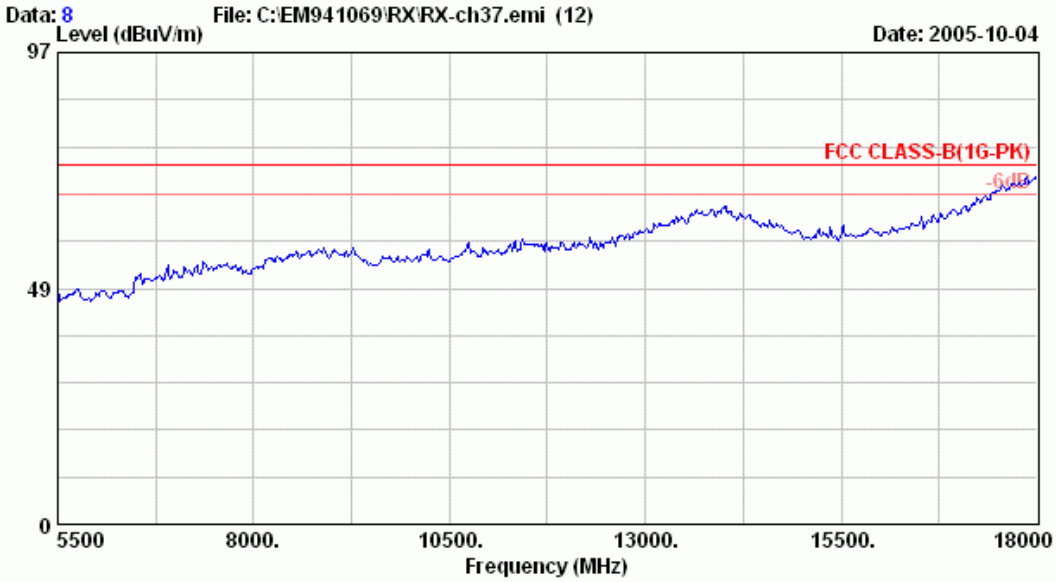

Site : A/C Chamber Date : 8
Condition : 3m 3115 Polarity: VERTICAL
Limit : FCC CLASS-B(1G-PK)
Env. / Ins. : 8593EM 23*C/59% Engineer: henning
EUT : GPS Instant Fix M/N:GPS-BT74R
Power Rating : 120Vac/60Hz
Test Mode : RX (CH39)

3.6.3. Restricted Bands Measurement Results

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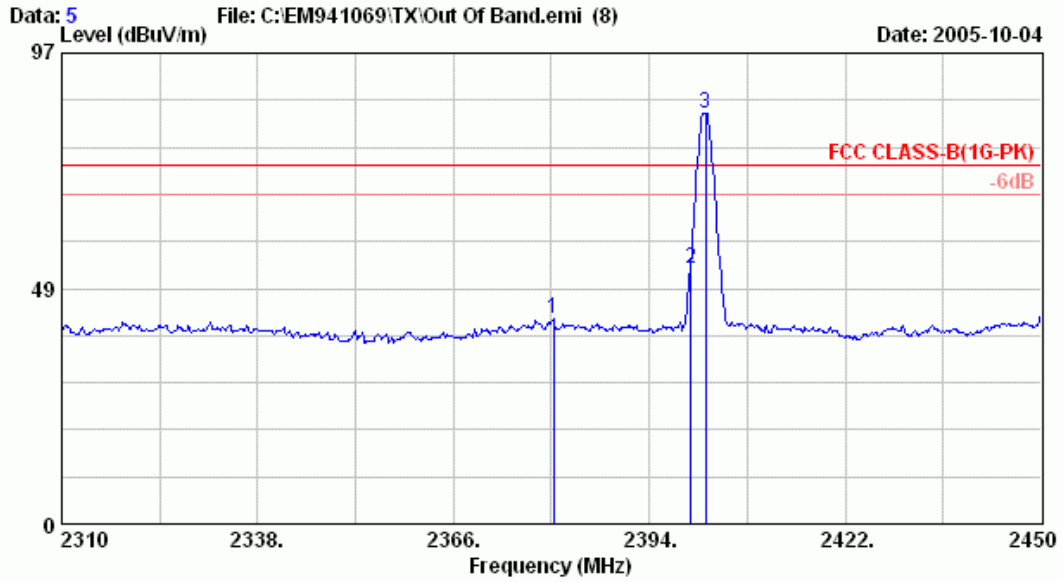

Site : A/C Chamber Date : 5
Condition : 3m 3115 Polarity: HORIZONTAL
Limit : FCC CLASS-B(1G-PK)
Env. / Ins. : 8593EM 23*C/59% Engineer: henning
EUT : GPS Instant Fix M/N:GPS-BT74R
Power Rating : 120Vac/60Hz
Test Mode : Out Of Band---2402MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark	
1	2380.280	28.58	6.32	7.44	42.34	74.00	31.66	Peak	
2	2399.880	28.62	6.35	17.50	52.47	74.00	21.53		
3	2401.980	28.62	6.36	49.67	84.64	74.00	-10.64		*

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.
3. "*" means that the fundamental frequency shall be ignored. According to FCC 15.209(d).

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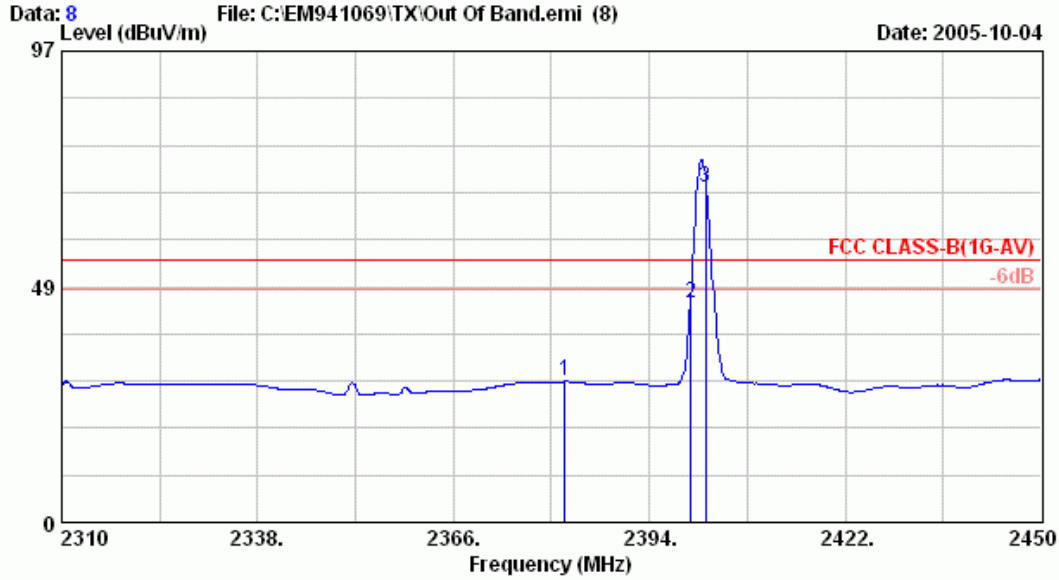

Site : A/C Chamber Date : 8
Condition : 3m 3115 Polarity: HORIZONTAL
Limit : FCC CLASS-B(1G-AV)
Env. / Ins. : 8593EM 23*C/59% Engineer: henning
EUT : GPS Instant Fix M/N:GPS-BT74R
Power Rating : 120Vac/60Hz
Test Mode : Out Of Band---2402MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark	
1	2381.960	28.58	6.33	-5.95	28.96	54.00	25.04	Average	
2	2399.880	28.62	6.35	9.98	44.95	54.00	9.05		
3	2401.980	28.62	6.36	34.02	69.00	54.00	-15.00		*

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.
3. "*" means that the fundamental frequency shall be ignored. According to FCC 15.209(d).

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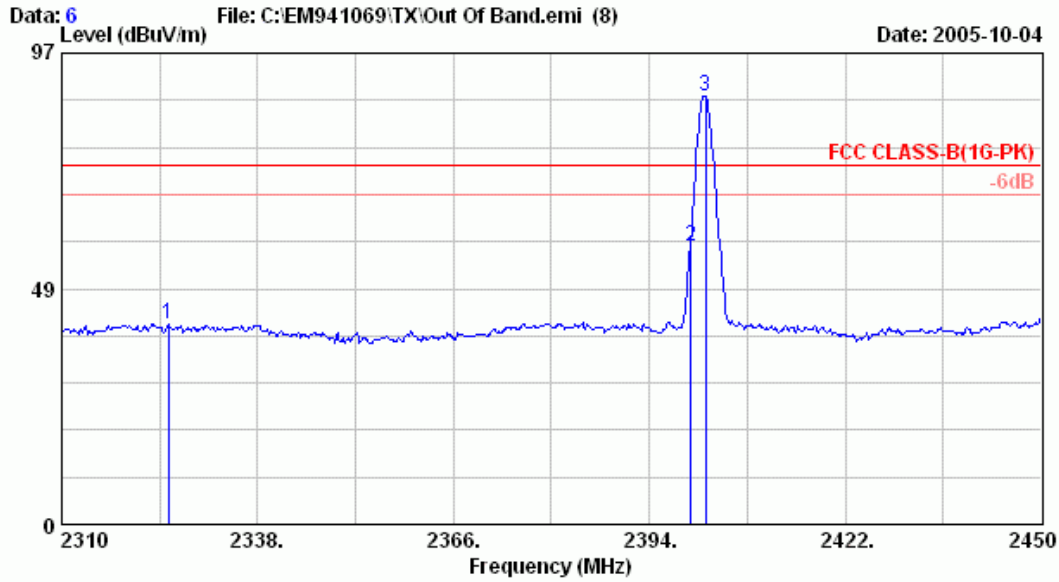

Site : A/C Chamber Date : 6
Condition : 3m 3115 Polarity: VERTICAL
Limit : FCC CLASS-B(1G-PK)
Env. / Ins. : 8593EM 23*C/59% Engineer: henning
EUT : GPS Instant Fix M/N:GPS-BT74R
Power Rating : 120Vac/60Hz
Test Mode : Out Of Band---2402MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark	
1	2325.260	28.48	6.26	6.62	41.36	74.00	32.64	Peak	
2	2399.880	28.62	6.35	22.26	57.23	74.00	16.77		
3	2401.980	28.62	6.36	53.02	87.99	74.00	-13.99		*

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.
3. "*" means that the fundamental frequency shall be ignored. According to FCC 15.209(d).

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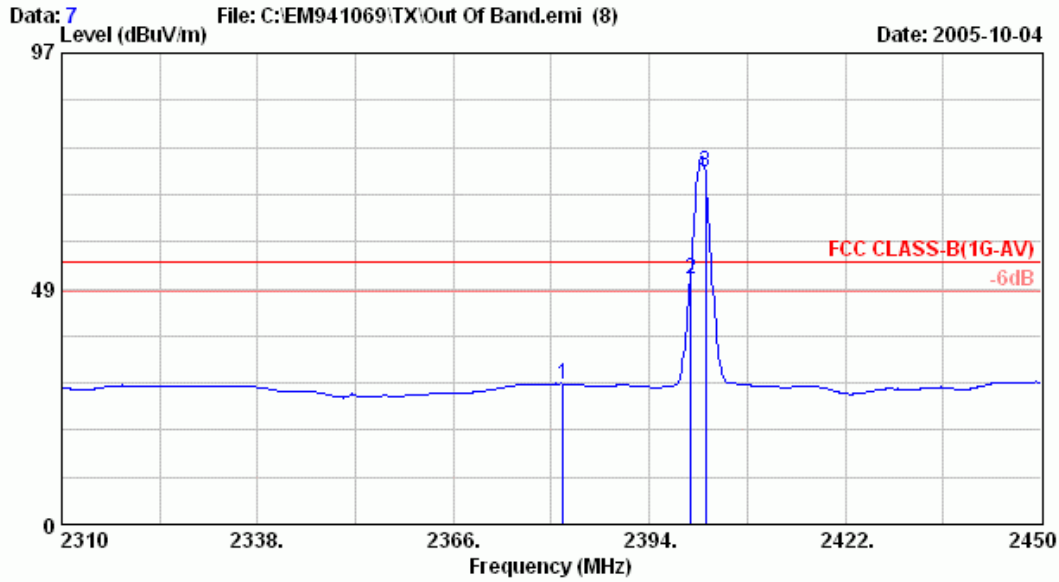

Site : A/C Chamber Date : 7
Condition : 3m 3115 Polarity: VERTICAL
Limit : FCC CLASS-B(1G-AV)
Env. / Ins. : 8593EM 23*C/59% Engineer: henning
EUT : GPS Instant Fix M/N:GPS-BT74R
Power Rating : 120Vac/60Hz
Test Mode : Out Of Band---2402MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark	
1	2381.680	28.58	6.33	-5.98	28.93	54.00	25.07	Average	
2	2399.880	28.62	6.35	15.55	50.52	54.00	3.48		
3	2401.980	28.62	6.36	37.62	72.59	54.00	-18.59		*

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.
3. "*" means that the fundamental frequency shall be ignored. According to FCC 15.209(d).

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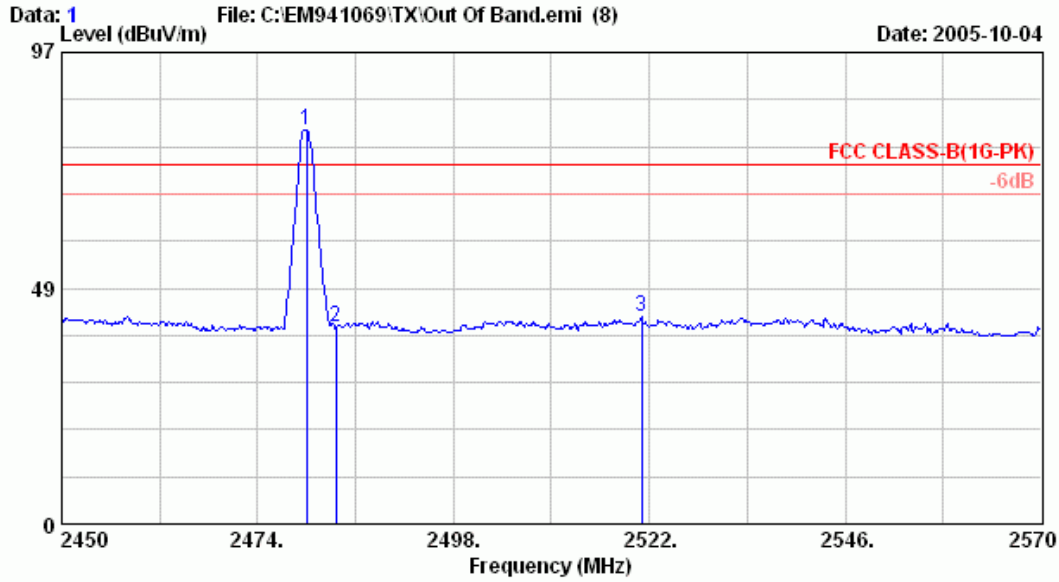

Site : A/C Chamber Date : 1
Condition : 3m 3115 Polarity: HORIZONTAL
Limit : FCC CLASS-B(1G-PK)
Env. / Ins. : 8593EM 23*C/59% Engineer: henning
EUT : GPS Instant Fix M/N:GPS-BT74R
Power Rating : 120Vac/60Hz
Test Mode : Out Of Band---2480MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark	
1	2480.000	28.76	6.44	45.65	80.86	74.00	-6.86	Peak	*
2	2483.600	28.77	6.45	5.18	40.41	74.00	33.59		
3	2521.040	28.90	6.50	7.11	42.50	74.00	31.50		

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.
3. "*" means that the fundamental frequency shall be ignored. According to FCC 15.209(d).

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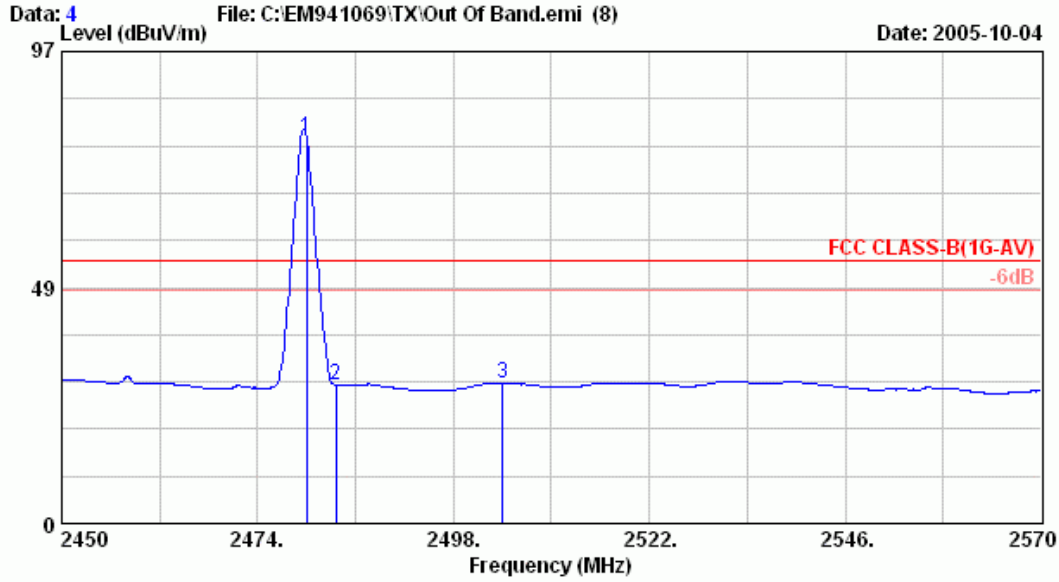

Site : A/C Chamber Date : 4
Condition : 3m 3115 Polarity: HORIZONTAL
Limit : FCC CLASS-B(1G-AV)
Env. / Ins. : 8593EM 23*C/59% Engineer: henning
EUT : GPS Instant Fix M/N:GPS-BT74R
Power Rating : 120Vac/60Hz
Test Mode : Out Of Band---2480MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark	
1	2480.000	28.76	6.44	44.13	79.33	54.00	-25.33	Average	*
2	2483.600	28.77	6.45	-6.84	28.39	54.00	25.61		
3	2504.000	28.83	6.47	-6.45	28.85	54.00	25.15		

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.
3. "*" means that the fundamental frequency shall be ignored. According to FCC 15.209(d).

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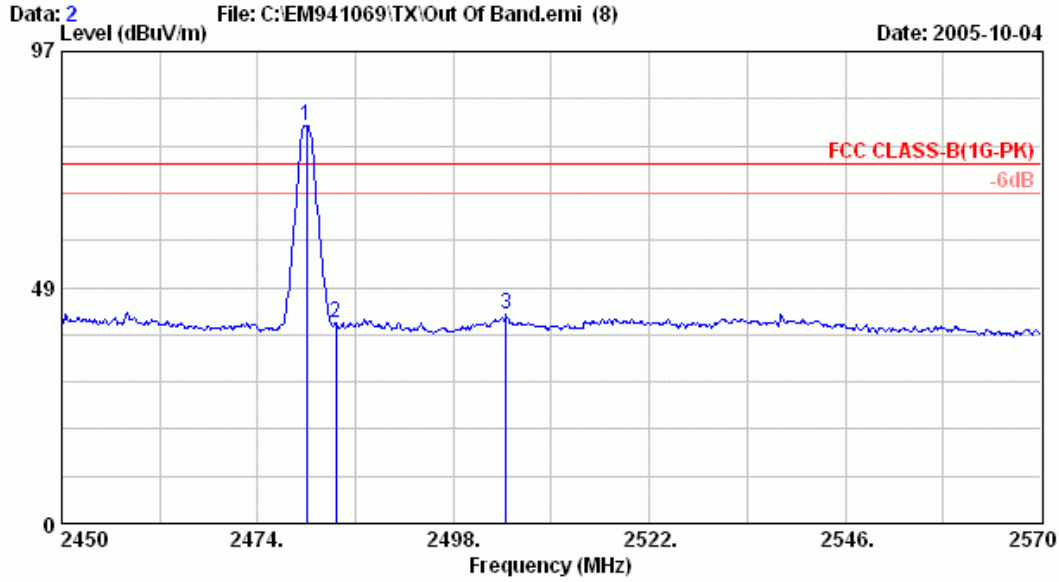

Site : A/C Chamber Date : 2
Condition : 3m 3115 Polarity: VERTICAL
Limit : FCC CLASS-B(1G-PK)
Env. / Ins. : 8593EM 23*C/59% Engineer: henning
EUT : GPS Instant Fix M/N:GPS-BT74R
Power Rating : 120Vac/60Hz
Test Mode : Out Of Band---2480MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark	
1	2480.000	28.76	6.44	46.60	81.80	74.00	-7.80	Peak	*
2	2483.600	28.77	6.45	5.86	41.08	74.00	32.92		
3	2504.480	28.83	6.47	7.70	43.00	74.00	31.00		

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.
3. "*" means that the fundamental frequency shall be ignored. According to FCC 15.209(d).

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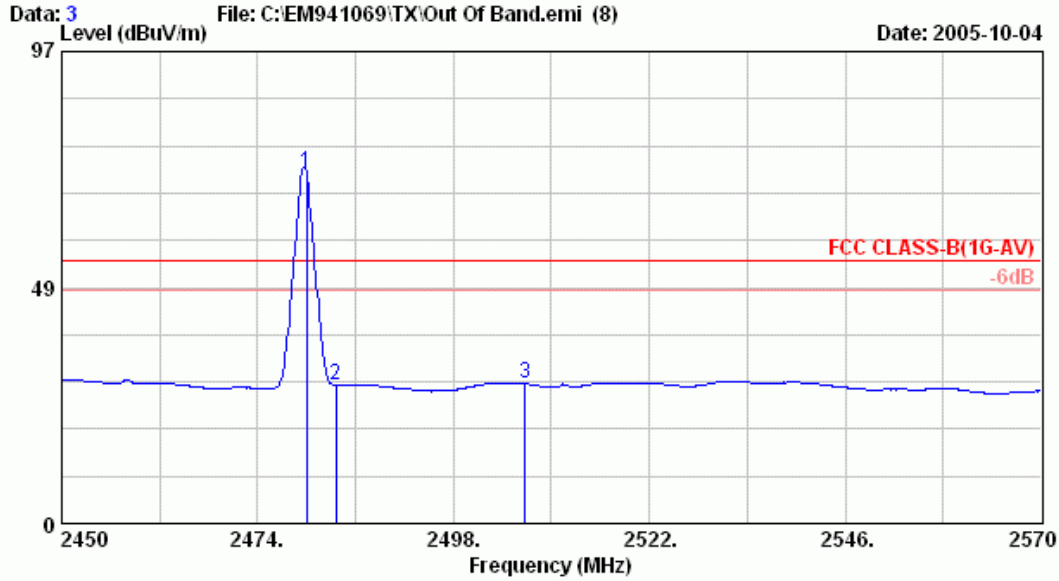


Site : A/C Chamber Date : 3
Condition : 3m 3115 Polarity: VERTICAL
Limit : FCC CLASS-B(1G-AV)
Env. / Ins. : 8593EM 23*C/59% Engineer: henning
EUT : GPS Instant Fix M/N:GPS-BT74R
Power Rating : 120Vac/60Hz
Test Mode : Out Of Band---2480MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBµV)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Remark	
1	2480.000	28.76	6.44	36.82	72.02	54.00	-18.02	Average	*
2	2483.600	28.77	6.45	-6.87	28.35	54.00	25.65		
3	2506.760	28.83	6.48	-6.39	28.93	54.00	25.07		

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.
3. "*" means that the fundamental frequency shall be ignored. According to FCC 15.209(d).

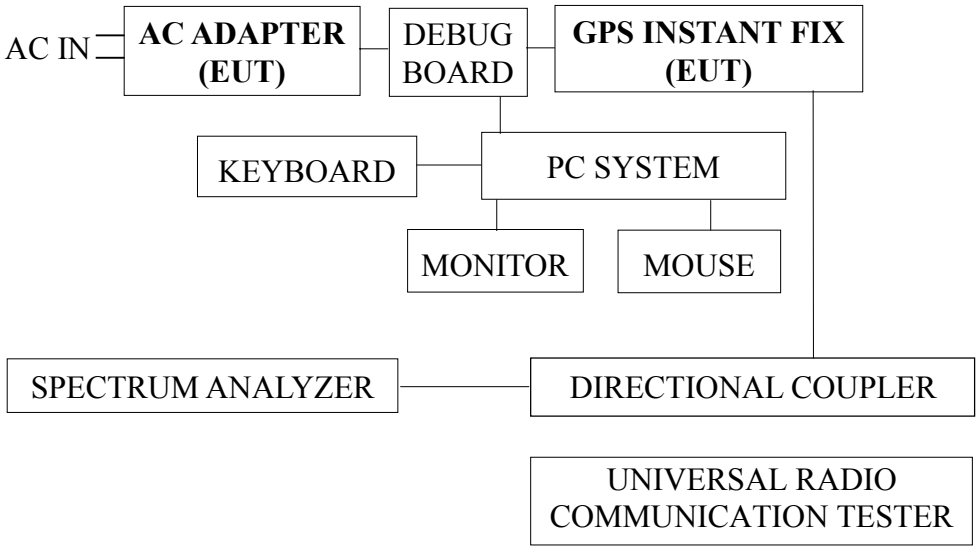
4. 20dB BANDWIDTH MEASUREMENT

4.1. Test Equipment

The following test equipment were used during the bandwidth measurement：

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	Agilent	E4446A	US43300366	Aug. 23, 05'	Aug. 22. 06'
2.	Directional Coupler	A/R	DC7144	304087	Dec. 01, 04'	Nov. 30. 05'
3.	Communication Tester	R & S	CMU200	102280	Nov. 23, 04'	Nov. 22, 05'

4.2. Block Diagram of Test Setup



4.3. Specification Limits (§15.247(a)(1))

Frequency hopping systems operating in the 2400-2483.5MHz band may have hopping channel carrier frequencies that are separated by 25kHz or two-thirds of the 20dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW.

4.4. Test Procedure

The transmitter output was connected to the spectrum analyzer. The bandwidth of the fundamental frequency was measure by spectrum analyzer with 100kHz RBW and 100kHz VBW. The 20dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 20dB.

4.5. Test Results

PASSED.

The testing data was attached in the next pages.

(Test Date: Oct. 06, 2005, Temperature: 23℃, Humidity: 55%)

Channel	Frequency	**20dB Bandwidth**	**2/3 of the 20dB Bandwidth**	Refer to Figure
0	2402MHz	**1.120MHz**	**746.6kHz**	Figure 1.
39	2441MHz	**1.123MHz**	**748.6kHz**	Figure 2.
78	2480MHz	**1.120MHz**	**746.6kHz**	Figure 3.

Figure 1. (20dB Bandwidth, Test Channel 0: 2402MHz)

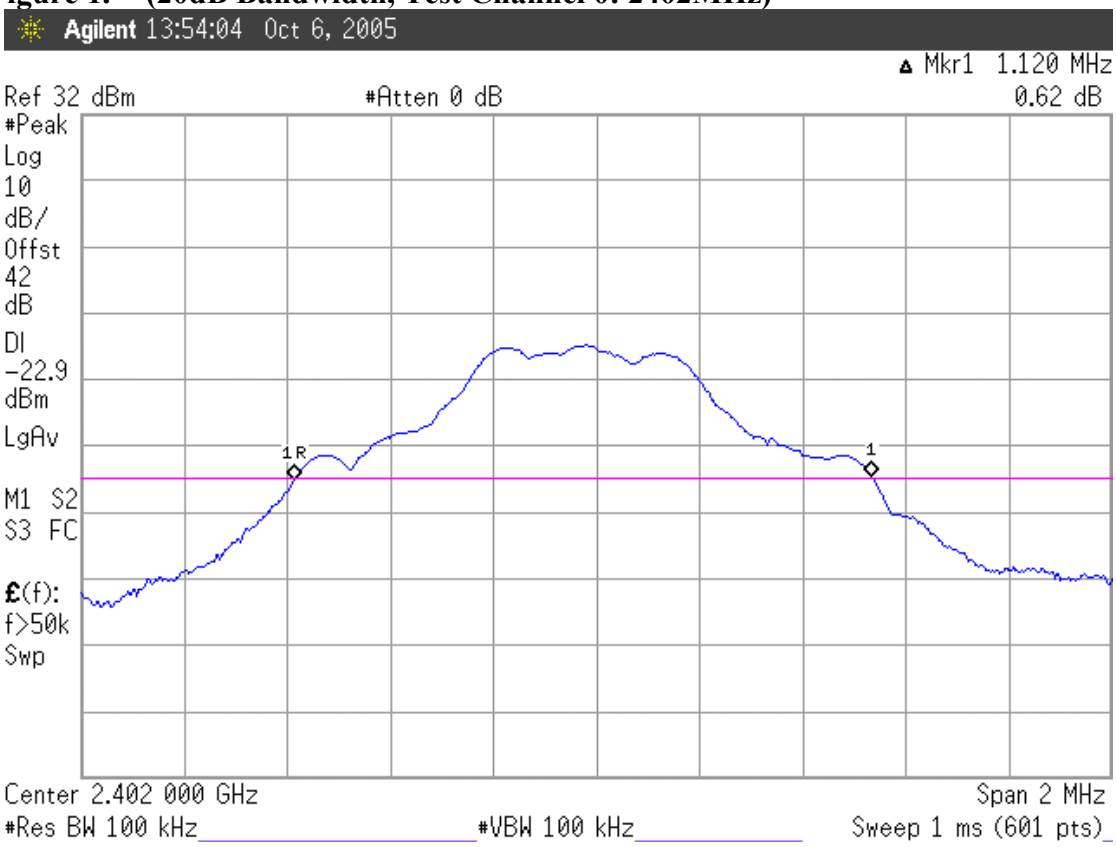


Figure 2. (20dB Bandwidth, Test Channel 39: 2441MHz)

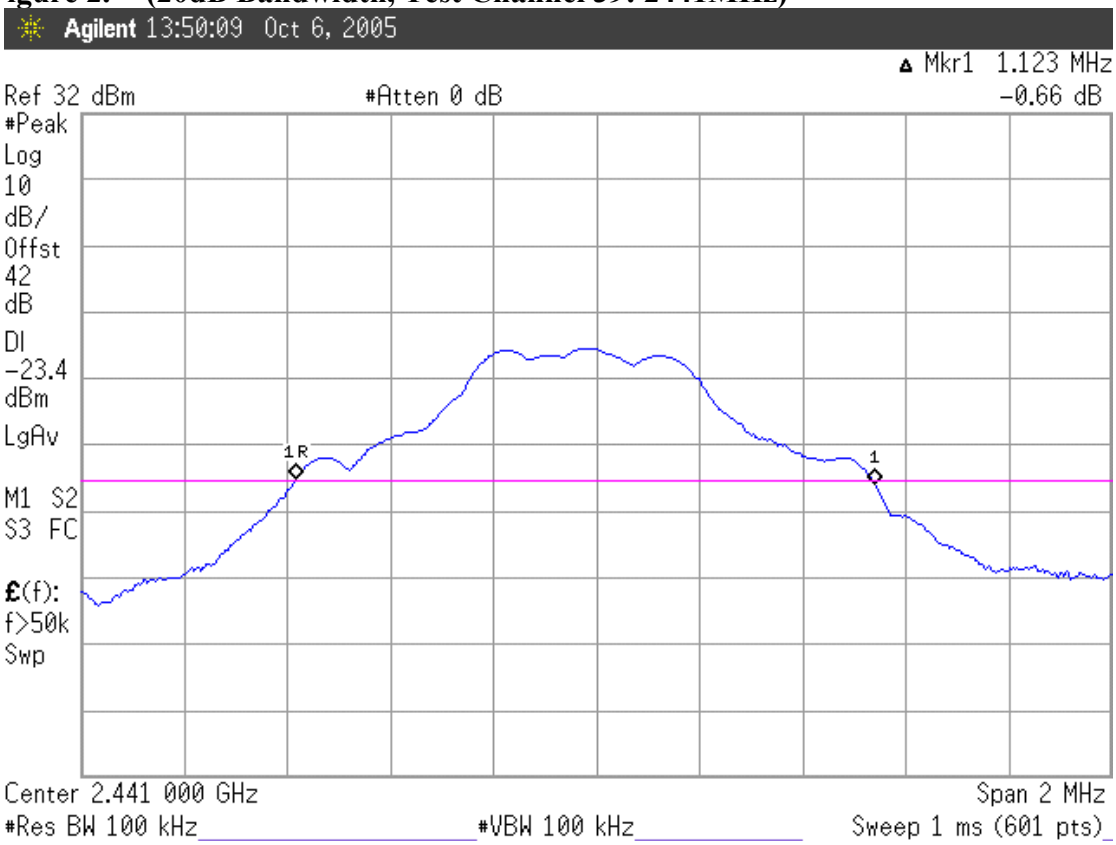
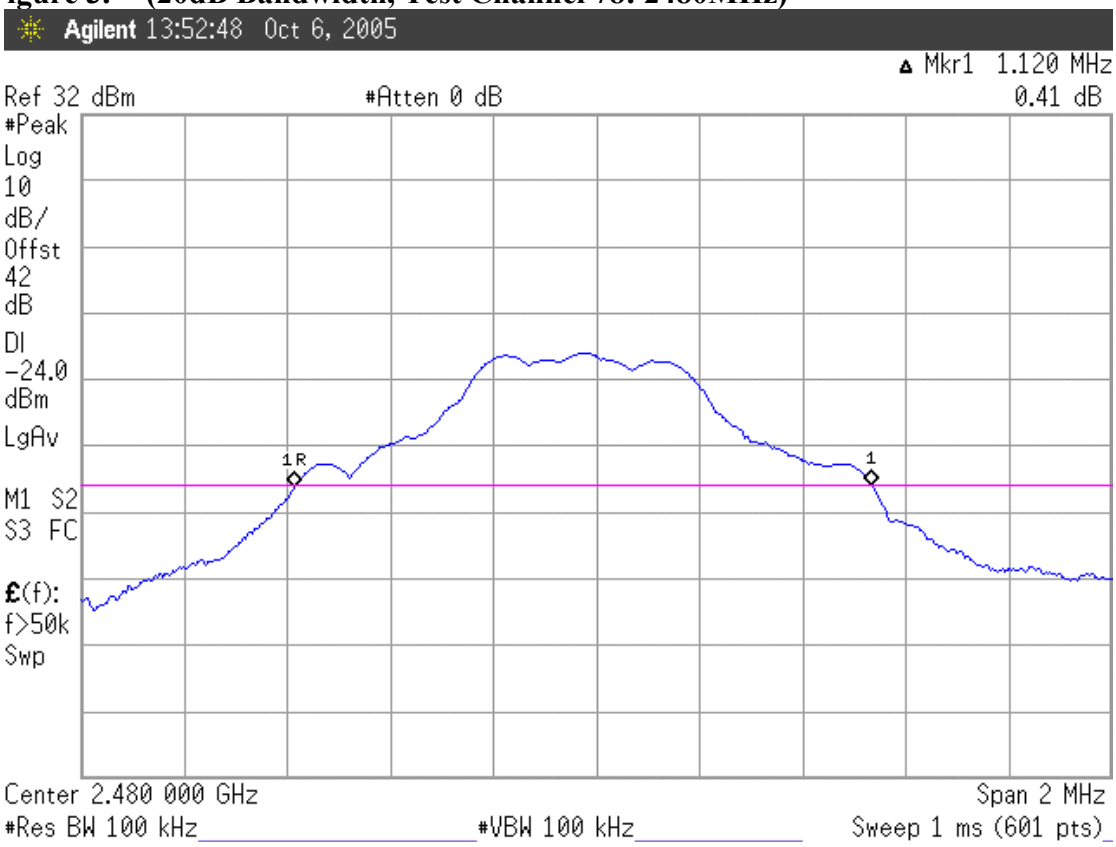


Figure 3. (20dB Bandwidth, Test Channel 78: 2480MHz)



5. CARRIER FREQUENCY SEPARATION MEASUREMENT

5.1. Test Equipment

The following test equipment were used during the carrier frequency measurement：

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	Agilent	E4446A	US43300366	Aug. 23, 05'	Aug. 22. 06'
2.	Directional Coupler	A/R	DC7144	304087	Dec. 01, 04'	Nov. 30. 05'
3.	Communication Tester	R & S	CMU200	102280	Nov. 23, 04'	Nov. 22, 05'

5.2. Block Diagram of Test Setup

The same as section.4.2.

5.3. Specification Limits (§15.247(a)(1))

Frequency hopping systems operating in the 2400-2483.5MHz band may have hopping channel carrier frequencies that are separated by 25kHz or two-thirds of the 20dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW.

5.4. Test Procedure

The transmitter output was connected to the spectrum analyzer. The bandwidth of the center frequency (2441MHz) was measure by spectrum analyzer with 100kHz RBW and 100kHz VBW. The video bandwidth not to be smaller than resolution bandwidth, the peak was mark on adjacent bandwidth, the between of peak is carrier frequency separation.

5.5. Test Results

PASSED.
The testing data was attached in the next pages.

(Test Date: Oct. 05, 2005, Temperature: 23℃, Humidity: 55%)

1. 2441MHz adjacent channel of right carrier frequency separation: 995kHz。
   (Refer to Figure 4.)
2. 2441MHz adjacent channel of left carrier frequency separation: 1.000MHz。
   (Refer to Figure 5.)

Figure 4. (Adjacent Channel of Right Carrier Frequency Separation, 2441MHz)

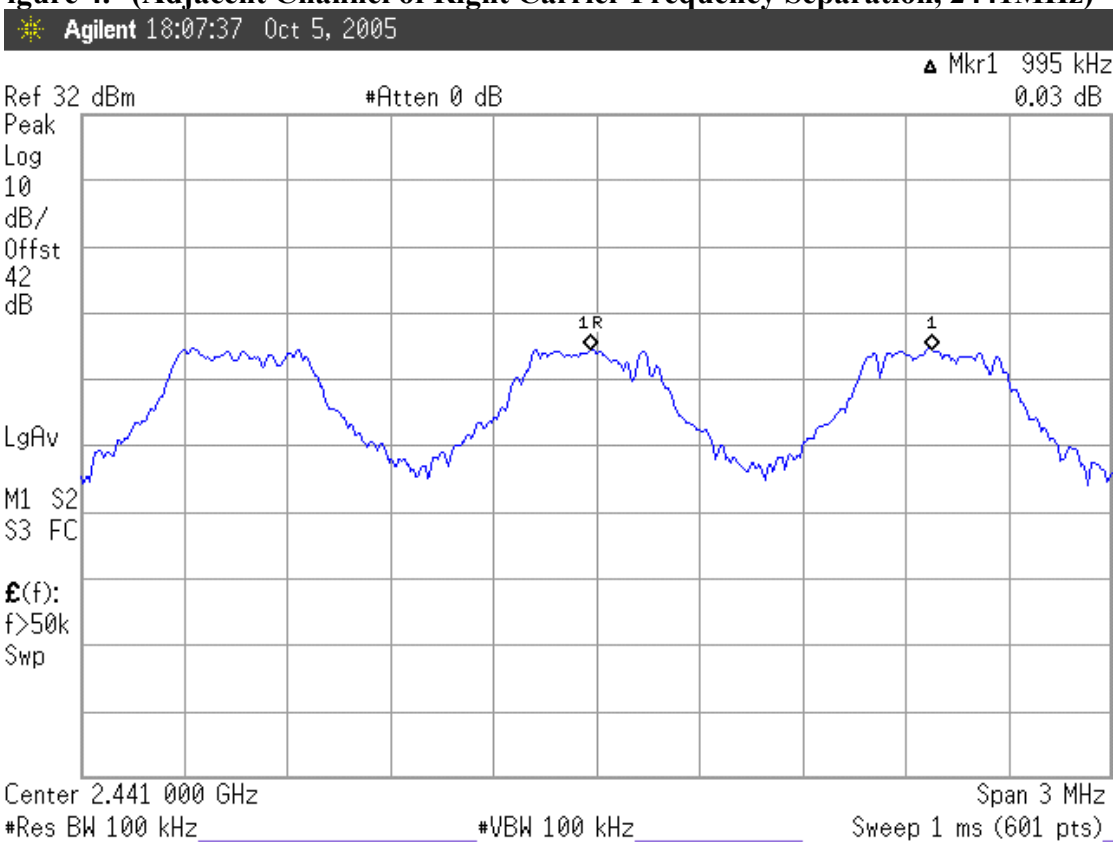
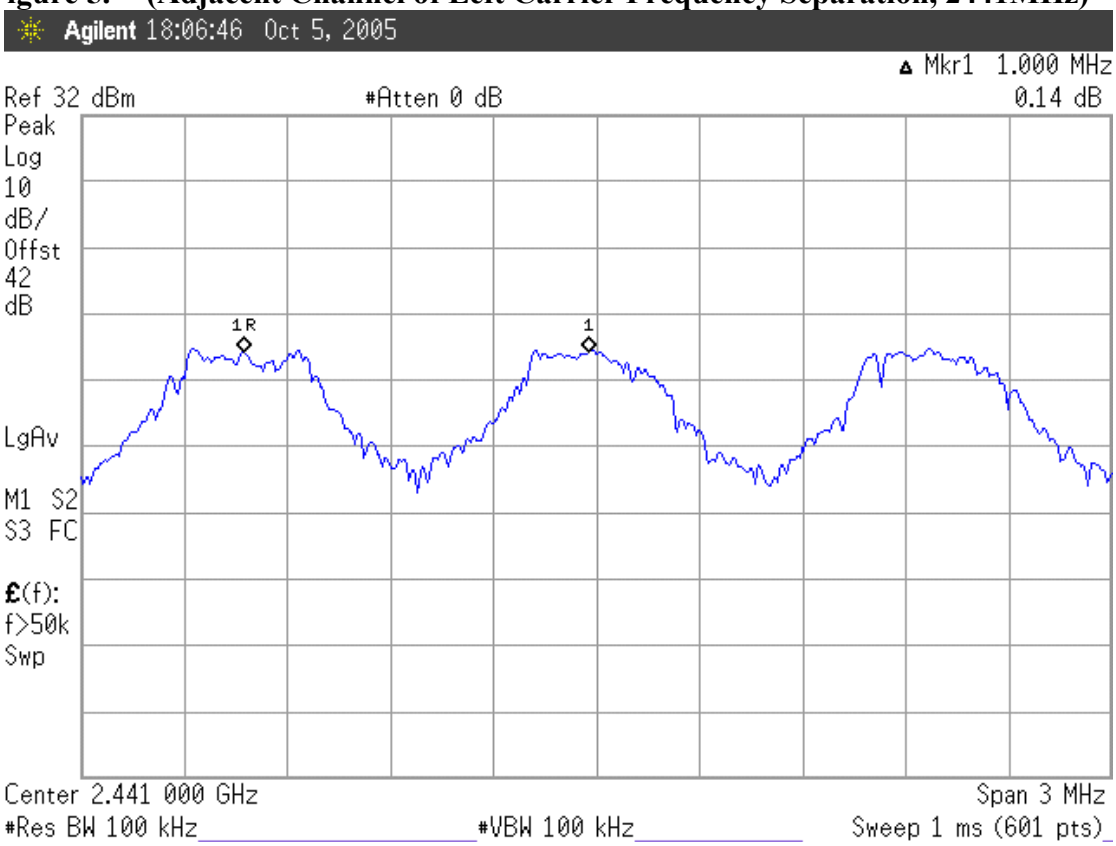


Figure 5. (Adjacent Channel of Left Carrier Frequency Separation, 2441MHz)



6. TIME OF OCCUPANCY MEASUREMENT

6.1. Test Equipment

The following test equipment were used during the time of occupancy measurement：

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	Agilent	E4446A	US43300366	Aug. 23, 05’	Aug. 22. 06’
2.	Directional Coupler	A/R	DC7144	304087	Dec. 01, 04’	Nov. 30. 05’
3.	Communication Tester	R & S	CMU200	102280	Nov. 23, 04’	Nov. 22, 05’

6.2. Block Diagram of Test Setup

The same as section.4.2.

6.3. Specification Limits (§15.247(a)(1)(iii))

Frequency hopping systems in the 2400-2483.5MHz shall use at least 15 non-overlapping channels. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by number of hopping channels employed.

6.4. Test Procedure

A The transmitter output was connected to the spectrum analyzer. The bandwidth of the fundamental frequency was measure by spectrum analyzer with 1MHz RBW and 1MHz VBW. VBW≥RBW ; Span=zero span.
Centered on a hopping channel sweep=as necessary to capture the entire dwell time per hopping channel ; Detector function=peak ; Trace=view

B The transmitter output was connected to the spectrum analyzer. The bandwidth of the fundamental frequency was measure by spectrum analyzer with 100kHz RBW and 100kHz VBW. VBW≥RBW ; Span=zero span.
Centered on a hopping channel sweep=as necessary to capture the entire dwell time per hopping channel ; Detector function=peak ; Trace= view

6.5. Test Results

PASSED.

The testing data was attached in the next pages.

(Test Date: Oct. 06, 2005, Temperature: 23℃, Humidity: 55%)

Duty cycle: 79 channels*0.4 seconds = 31.6 seconds

DH1 : The system makes worst case 1600 hops per second or 1 time slot has a length of 625us with 79 channels.

A. DH1 packet need 1 time slot for transmitting and 1 time slot for receiving. Then the system makes worst case 800 hops per second with 79 channels. So you have each channel 10.13 time per second and so for 31.6 seconds you have 320 time of appearance.

Each Tx-time per appearance is 366.7us.

10.13 time*31.6 seconds*0.3667ms = 117.38ms (<400ms)

(Refer to Figure 6)

B. There are 50 channels in 5 second. Time period of each channel is 0.3667ms. So the average time of occupancy within 31.6 (0.4 seconds*79 number of hopping channels) is :

50 channel*31.6 seconds* 0.3667ms = 115.88ms (<400ms)

(Refer to Figure 7)

DH3 : The system makes worst case 1600 hops per second or 1 time slot has a length of 625us with 79 channels.

A DH3 packet need 3 time slot for transmitting and 1 time slot for receiving. Then the system makes worst case 400 hops per second with 79 channels. So you have each channel 5.1 time per second and so for 31.6 seconds you have 161 time of appearance.

Each Tx-time per appearance is 1.625ms.

5.1 time*31.6 seconds* 1.625ms = 261.885ms (<400ms)

(Refer to Figure 8)

B. There are 25 channels in 5 second. Time period of each channel is 0.3667ms. So the average time of occupancy within 31.6 (0.4 seconds*79 number of hopping channels) is :

25 channel*31.6 seconds* 1.625ms = 256.75ms (<400ms)

(Refer to Figure 9)

DH5 : The system makes worst case 1600 hops per second or 1 time slot has a length of 625us with 79 channels.

A DH5 packet need 5 time slot for transmitting and 1 time slot for receiving. Then the system makes worst case 266.7 hops per second with 79 channels. So you have each channel 3.37 time per second and so for 31.6 seconds you have 106 time of appearance.

Each Tx-time per appearance is 2.875ms.

3.37 time*31.6 seconds* 2.875ms = 301.16ms (<400ms)

(Refer to Figure 10)

B. There are 17 channels is 5 second. Time period of each channel is 0.3667ms. So the average time of occupancy within 31.6 (0.4 seconds*79 number of hopping channels) is :

17 channel*31.6 seconds* 2.875ms = 308.89ms (<400ms)

(Refer to Figure 11)

Figure 6. (Time of Occupancy, DH1 A)

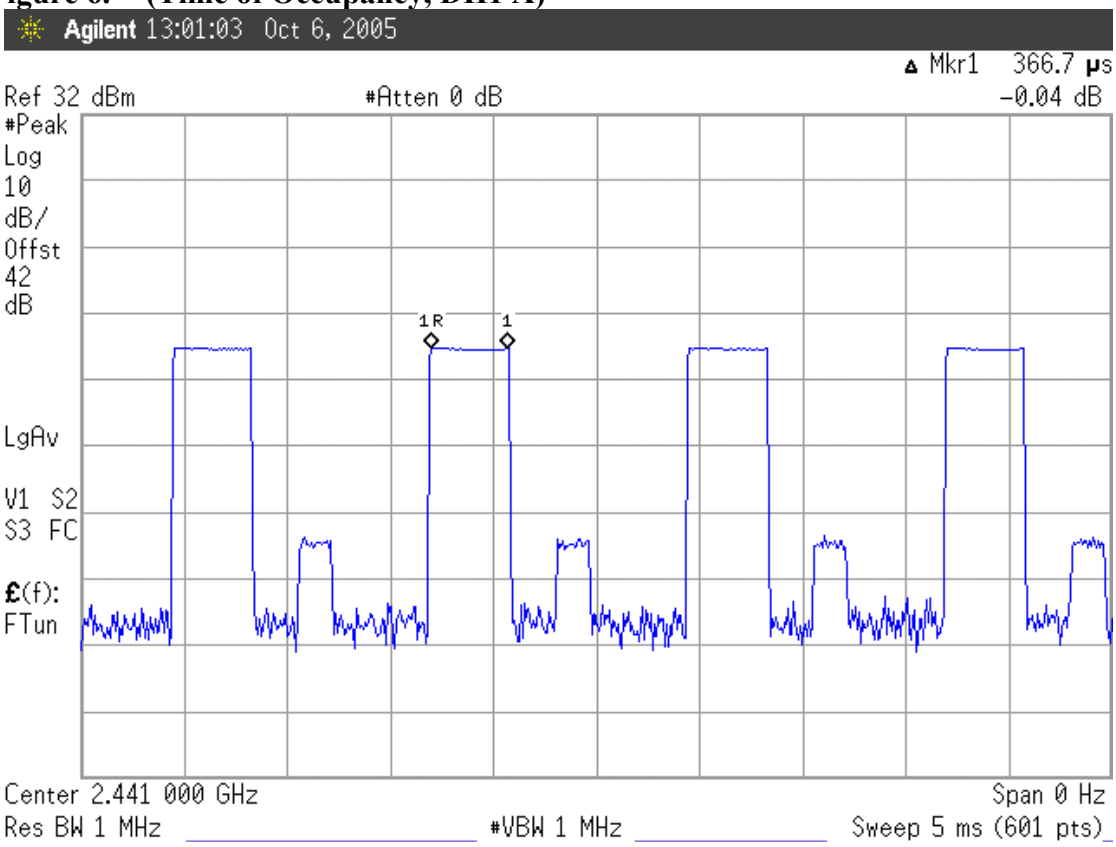


Figure 7. (Time of Occupancy, DH1 B)

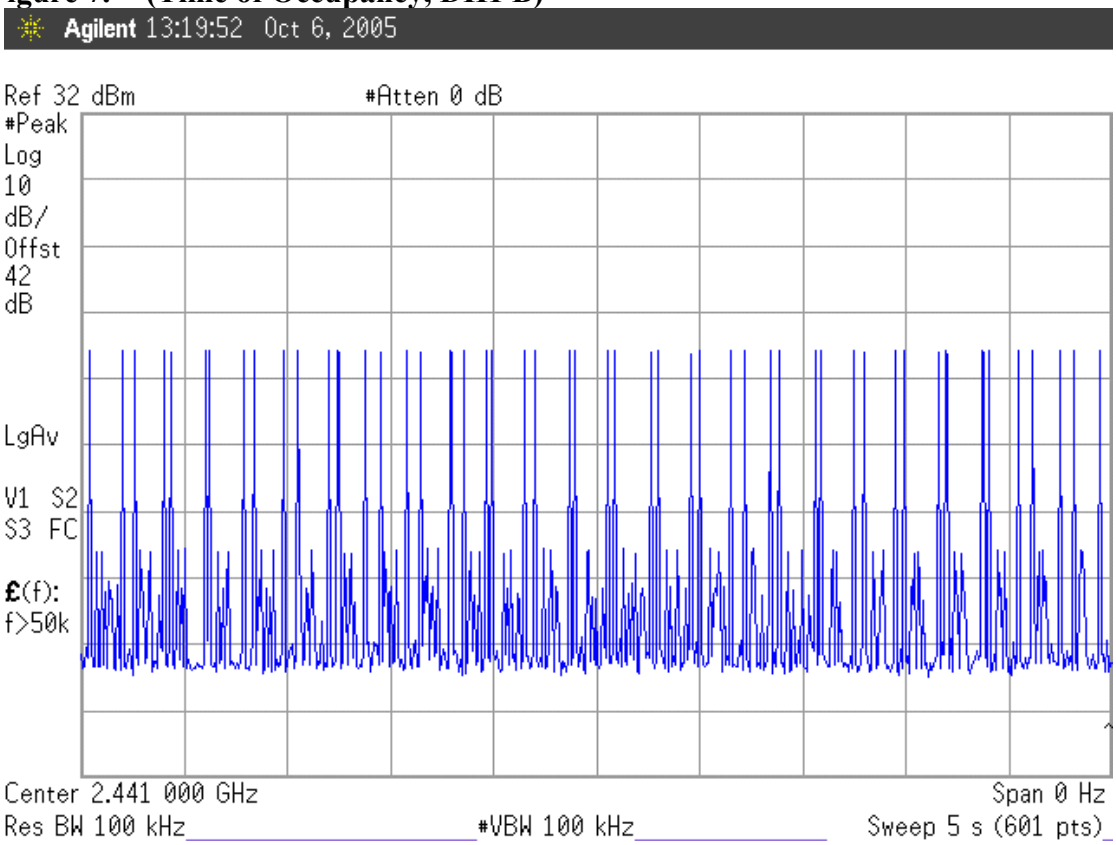


Figure 8. (Time of Occupancy, DH3 A)

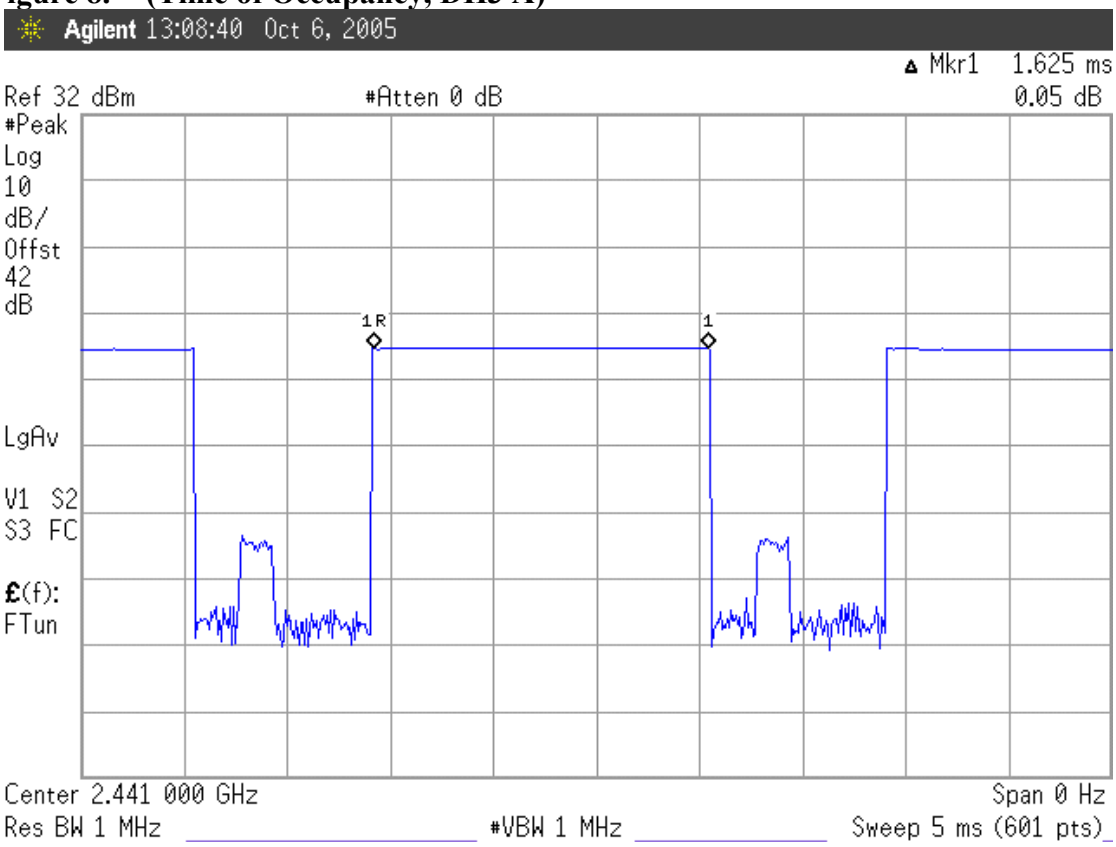


Figure 9. (Time of Occupancy, DH3 B)

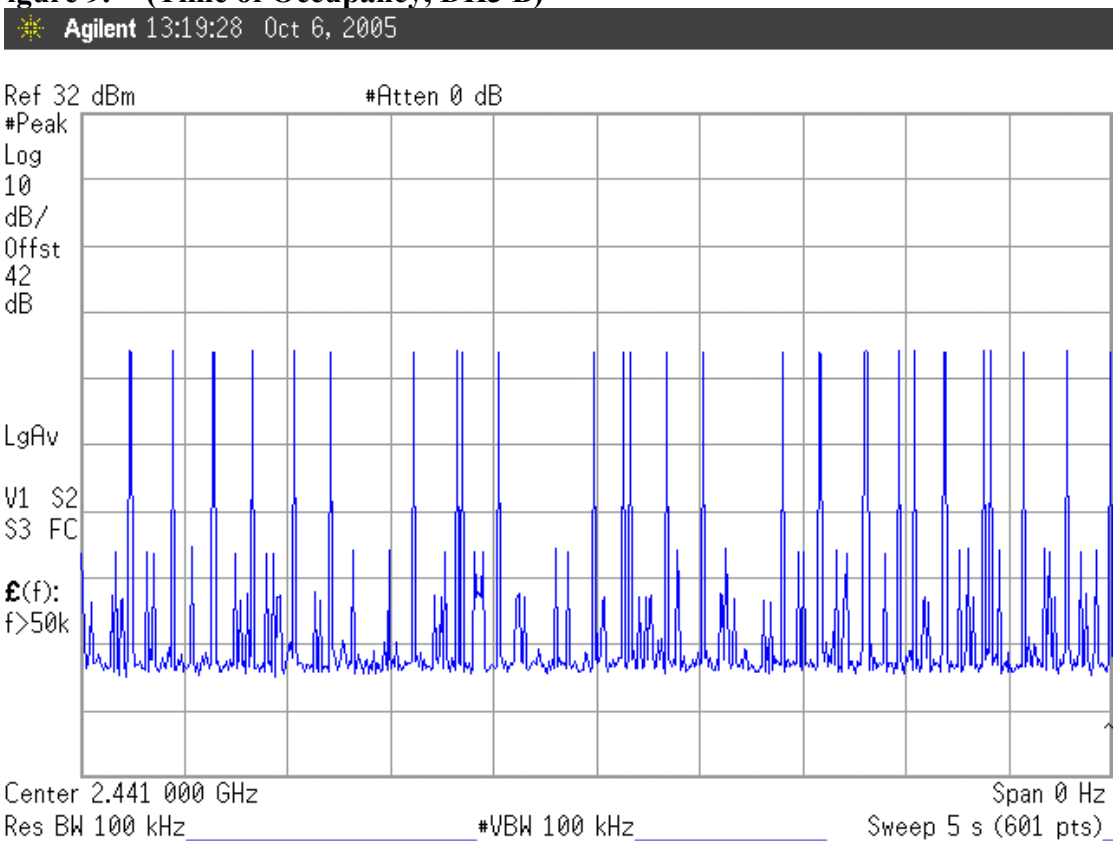


Figure 10. (Time of Occupancy, DH5 A)

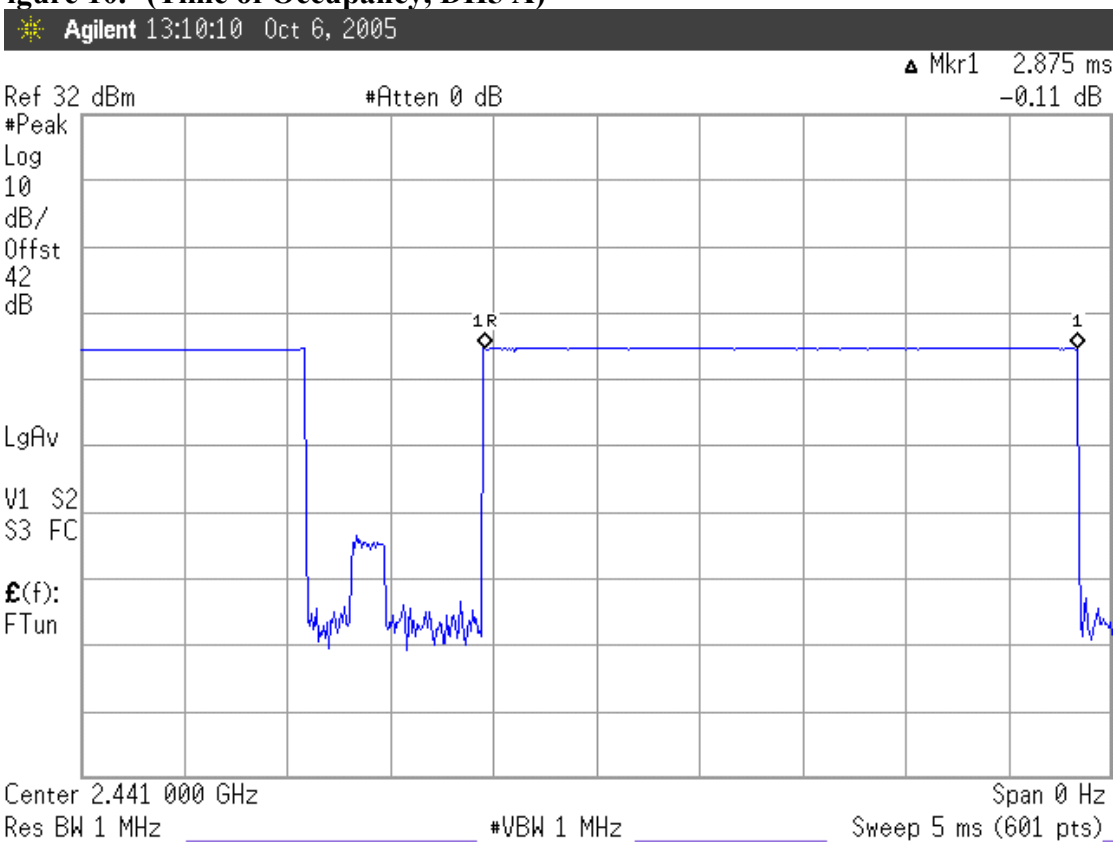
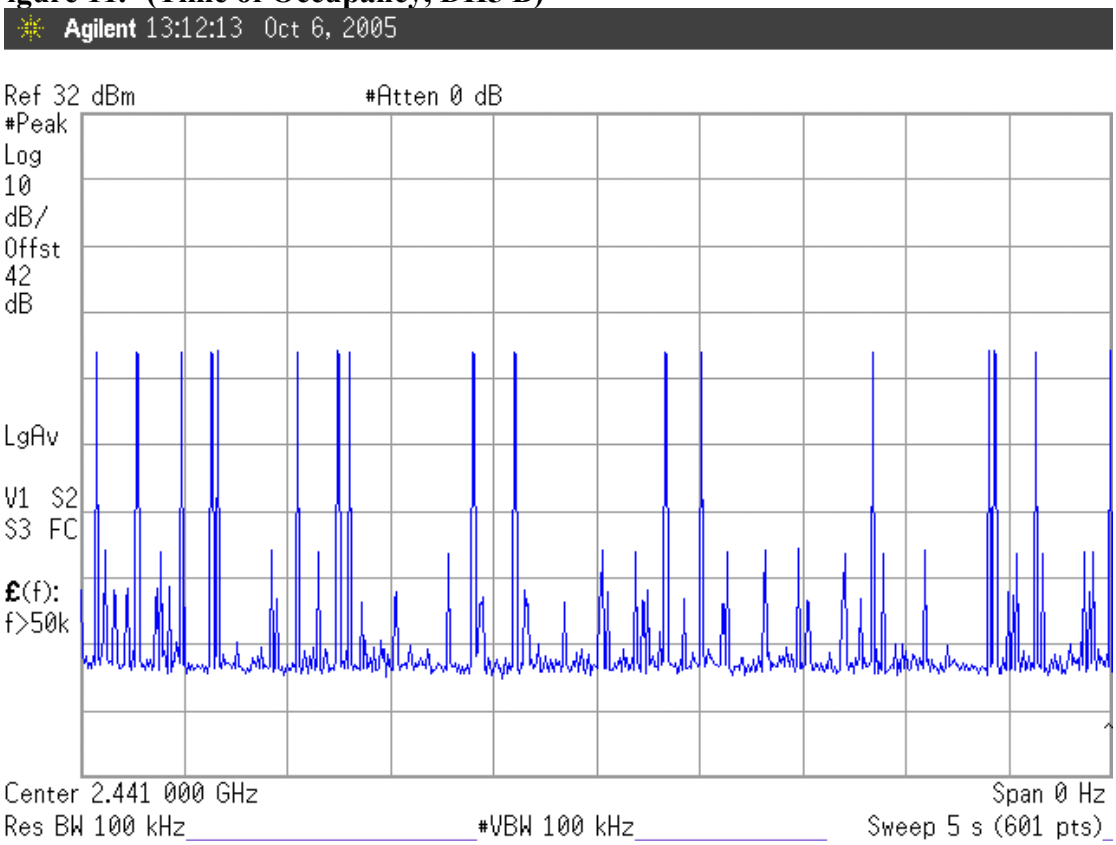


Figure 11. (Time of Occupancy, DH5 B)



7. NUMBER OF HOPPING CHANNELS MEASUREMENT

7.1. Test Equipment

The following test equipment were used during the number of hopping channels measurement：

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	Agilent	E4446A	US43300366	Aug. 23, 05’	Aug. 22. 06’
2.	Directional Coupler	A/R	DC7144	304087	Dec. 01, 04’	Nov. 30. 05’
3.	Communication Tester	R & S	CMU200	102280	Nov. 23, 04’	Nov. 22, 05’

7.2. Block Diagram of Test Setup

The same as section.4.2.

7.3. Specification Limits (§15.247(a)(1)(iii))

Frequency hopping systems which use fewer than 75 hopping frequencies may employ intelligent hopping techniques to avoid interference to other transmissions. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 non-overlapping channels.

7.4. Test Procedure

The transmitter output was connected to the spectrum analyzer. The bandwidth of the fundamental frequency was measure by spectrum analyzer with 100kHz RBW and 100kHz VBW. Sweep=Auto ; Detector function=peak ; Trace=Max hold

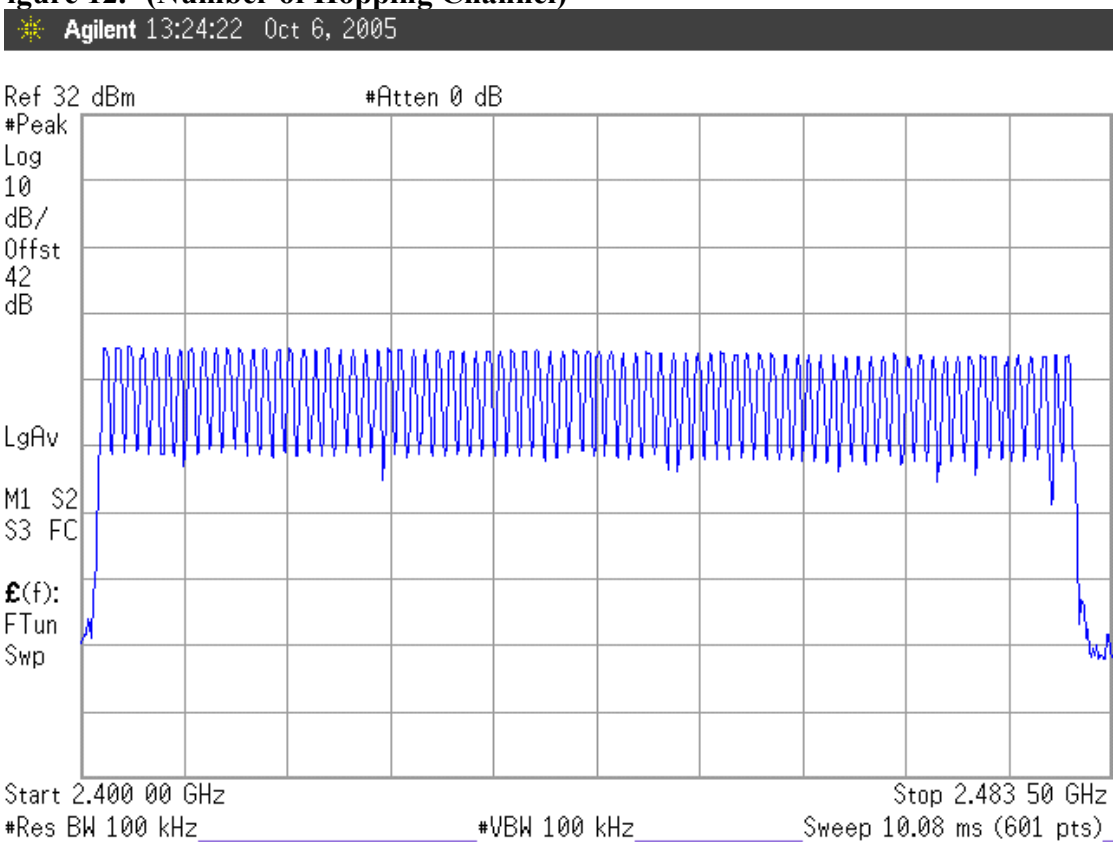
7.5. Test Results

PASSED.
The testing data was attached in the next page.

(Test Date: Oct. 06, 2005, Temperature: 23℃, Humidity: 55%)

The number hopping channel is 79. (Refer to Figure 12)

Figure 12. (Number of Hopping Channel)



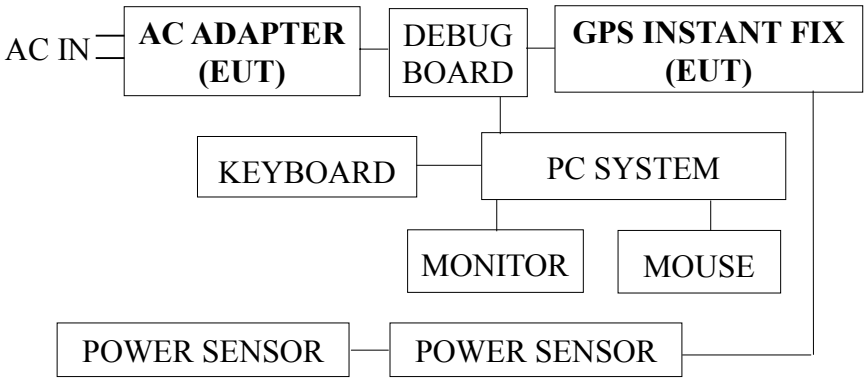
8. MAXIMUM PEAK OUTPUT POWER MEASUREMENT

8.1. Test Equipment

The following test equipment were used during the peak output power measurement：

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Power Meter	Anritsu	ML2487A	6K00001563	Jan. 15, 05’	Jan. 14, 06’
2.	Power Sensor	Anritsu	MA2491A	030873	Jan. 15, 05’	Jan. 14, 06’

8.2. Block Diagram of Test Setup



8.3. Specification Limits (§15.247(a)-(1) & (b)-(4))

The Limits of maximum Peak Output Power for frequency hopping systems in 2400-2483.5MHz is: 125mW. (21dBm)

8.4. Test Procedure

The transmitter output was connected to the power sensor to measured and recorded the peak output power.

8.5. Test Results

PASSED.

(Test Date: Oct. 01, 2005, Temperature: 23℃, Humidity: 53%)

Channel	Frequency	**Peak Output Power**	Limit
1	2402MHz	**-3.10dBm**	21dBm
39	2441MHz	**-3.62dBm**	21dBm
78	2480MHz	**-3.10dBm**	21dBm

9. POWER SPECTRAL DENSITY MEASUREMENT

9.1. Test Equipment

The following test equipment was used during the power spectral density measurement:

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	Agilent	E4446A	US43300366	Aug. 23, 05'	Aug. 22. 06'
2.	Directional Coupler	A/R	DC7144	304087	Dec. 01, 04'	Nov. 30. 05'
3.	Communication Tester	R & S	CMU200	102280	Nov. 23, 04'	Nov. 22, 05'

9.2. Block Diagram of Test Setup

The same as section.4.2.

9.3. Specification Limits (§15.247(d))

The peak power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8dBm in any 3kHz band.

9.4. Test Procedure

The RF output of EUT was connected to the spectrum analyzer. The bandwidth of the fundamental frequency was measured with the spectrum analyzer using 3kHz RBW and 30kHz VBW, span 300kHz set sweep time = span/3kHz.

9.5. Test Results

PASSED.
The testing data was attached in the next pages.

(Test Date : Oct. 06, 2005 Temperature : 23℃ Humidity : 55 %)

Channel	Frequency	**Power Spectral Density**	Limit	Refer to Figure
0	2402MHz	**-15.39dBm**	8dBm	Figure 13.
39	2441MHz	**-15.82dBm**	8dBm	Figure 14.
78	2480MHz	**-14.78dBm**	8dBm	Figure 15.

Figure 13. (Power Spectral Density, Test Channel 0 : 2402MHz)

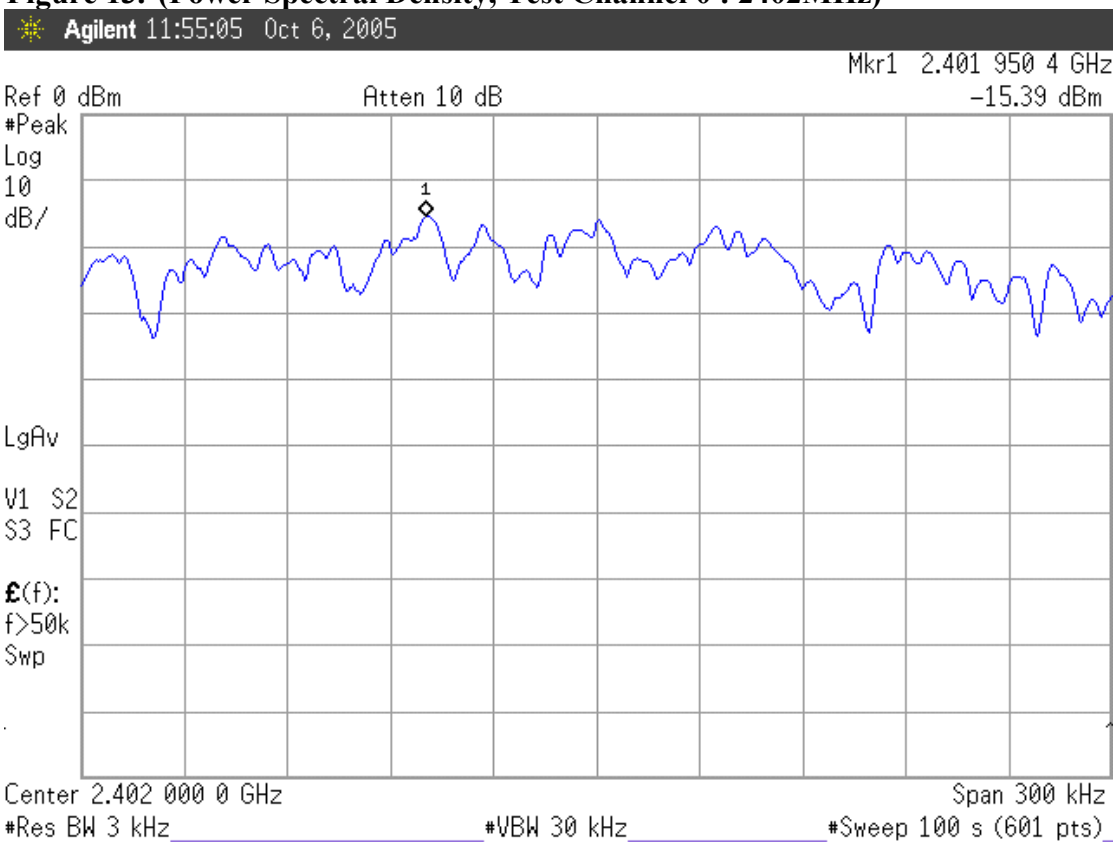


Figure 14. (Power Spectral Density, Test Channel 39 : 2441MHz)

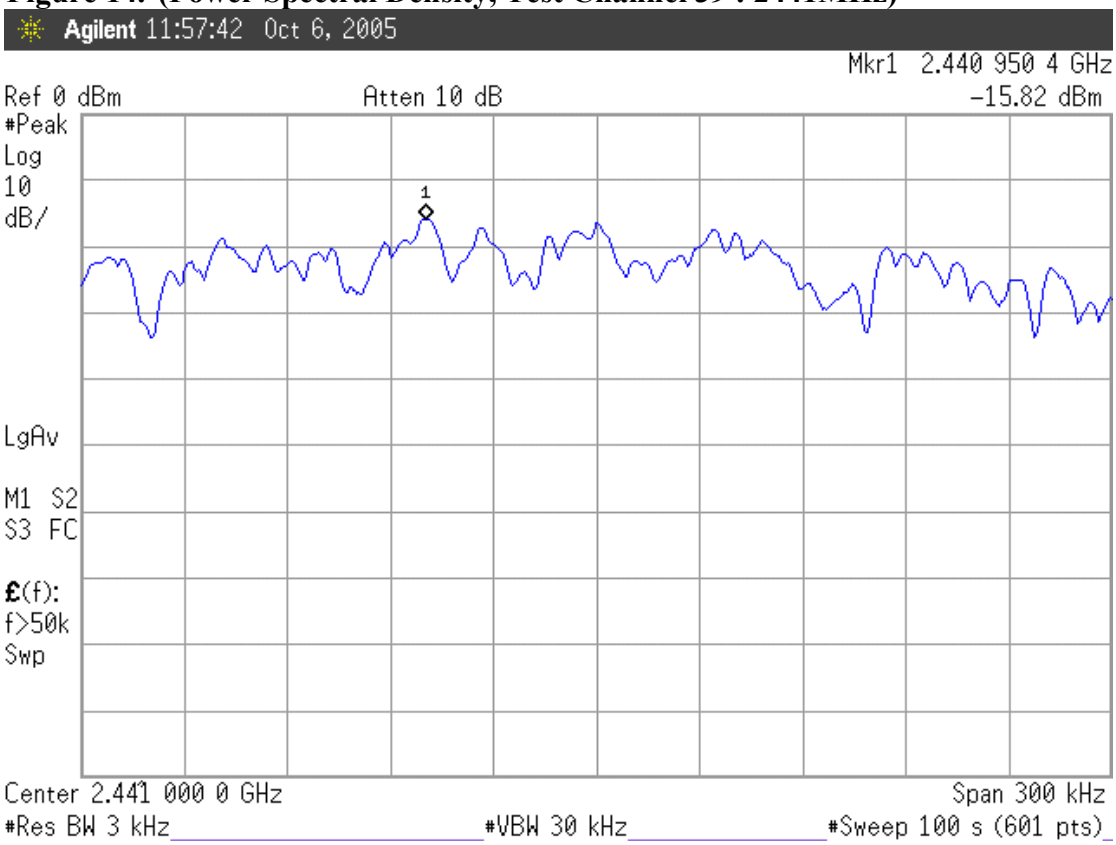
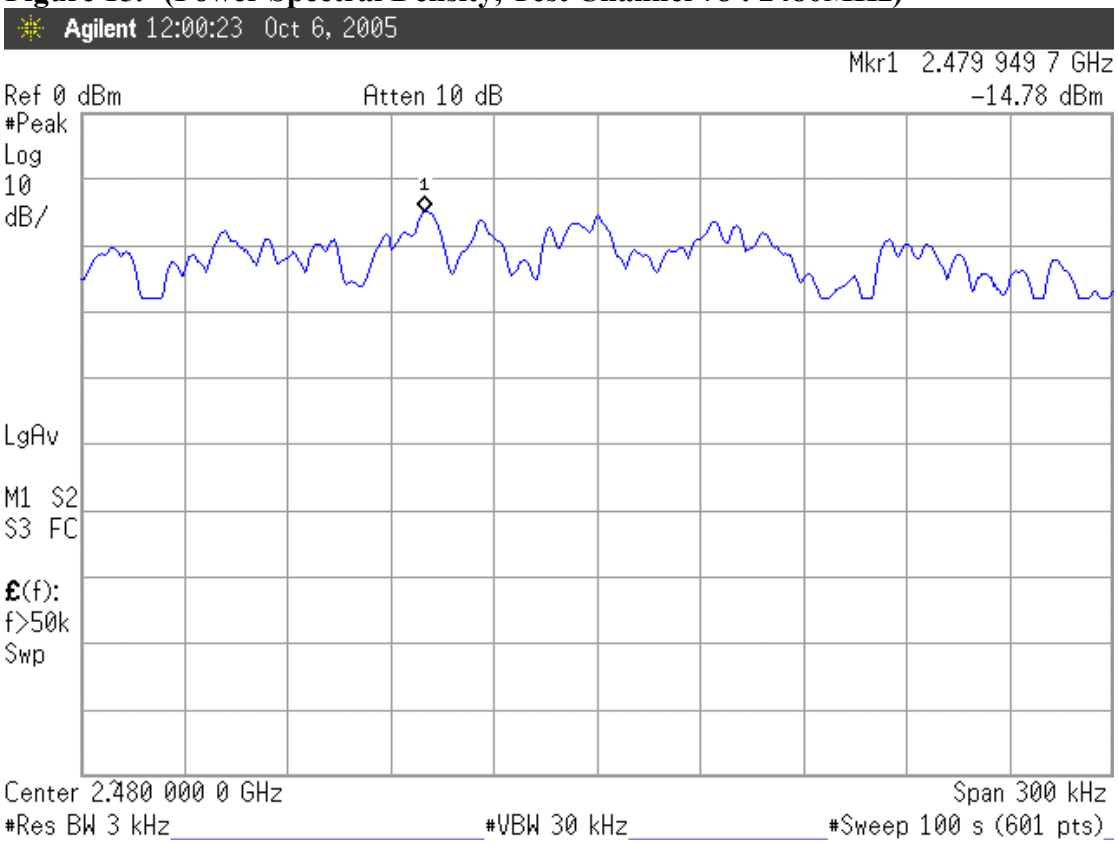


Figure 15. (Power Spectral Density, Test Channel 78 : 2480MHz)



10. EMISSION LIMITATIONS MEASUREMENT

10.1. Test Equipment

The following test equipment were used during the emission limitations measurement：

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
4.	Spectrum Analyzer	Agilent	E4446A	US43300366	Aug. 23, 05’	Aug. 22. 06’
5.	Directional Coupler	A/R	DC7144	304087	Dec. 01, 04’	Nov. 30. 05’
6.	Communication Tester	R & S	CMU200	102280	Nov. 23, 04’	Nov. 22, 05’

10.2. Block Diagram of Test Setup

The same as section.4.2.

10.3. Specification Limits (§15.247(c))

In any 100kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (See Section 15.205(c)).(※ This test result attaching to §3.6.3)

10.4. Test Procedure

The transmitter output was connected to the spectrum analyzer. Set both RBW and VBW of spectrum analyzer to 100kHz with suitable frequency span including 100kHz bandwidth from band edge.

10.5. Test Results

PASSED.

The testing data was attached in the next pages.

(Test Date: Oct. 05, 2005, Temperature: 23℃, Humidity: 55%)

1. 2402MHz: During 30MHz~25GHz bandwidth. In the 2.4GHz, the –38.85dBm is max value that is lower than 20dB of primary channel. (Refer to figure 16.)
2. 2441MHz: During 30MHz~25GHz bandwidth. In the 2.4GHz, the –39.95dBm is max value that is lower than 20dB of primary channel. (Refer to figure 17.)
3. 2480MHz: During 30MHz~25GHz bandwidth. In the 2.4GHz, the –40.03dBm is max value that is lower than 20dB of primary channel. (Refer to figure 18.)

Note: The peak above the limit line is the carrier frequency.

Figure 16. (Emission Limitations, Test Channel 0: 2402MHz)

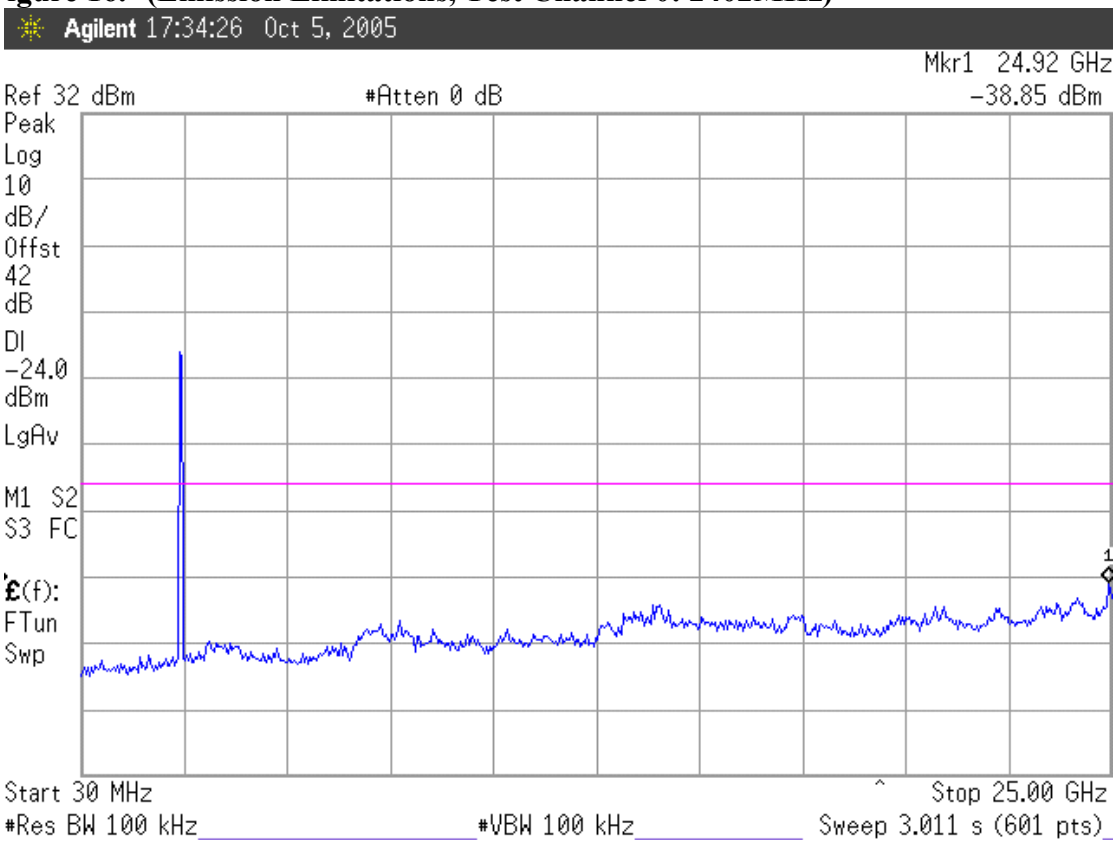


Figure 17. (Emission Limitations, Test Channel 39: 2441MHz)

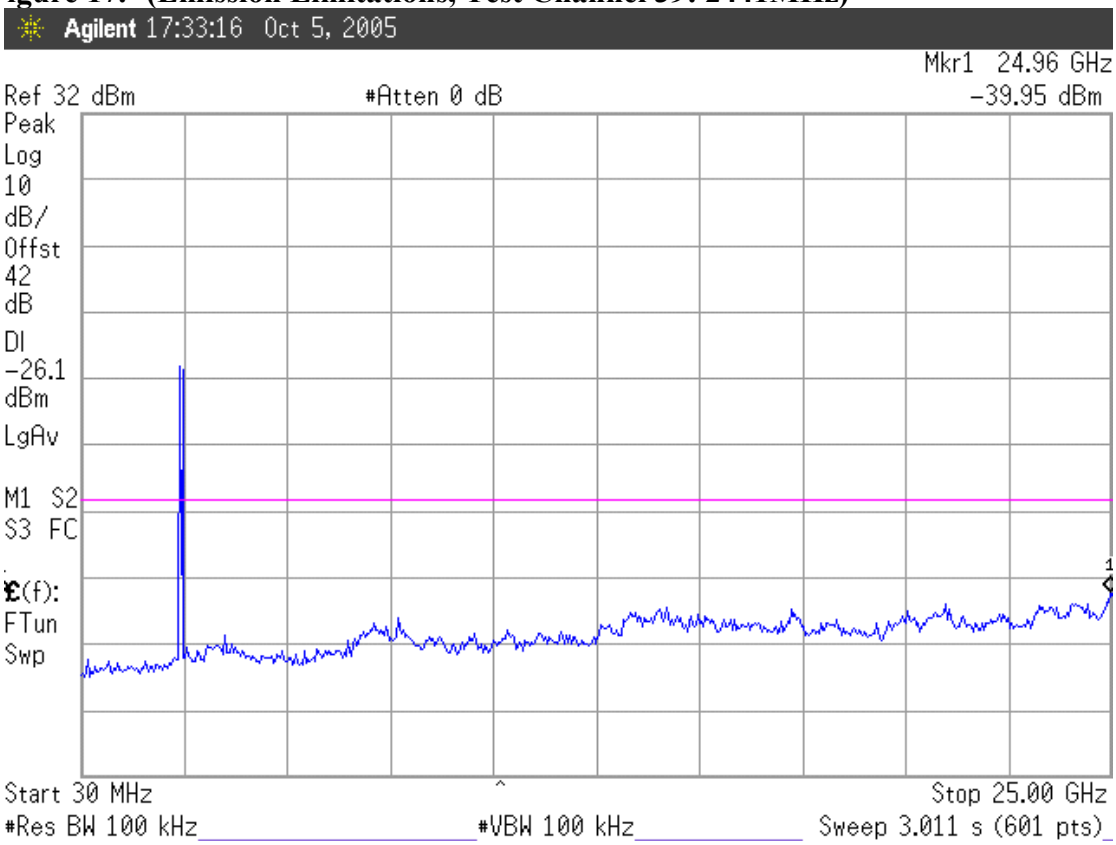
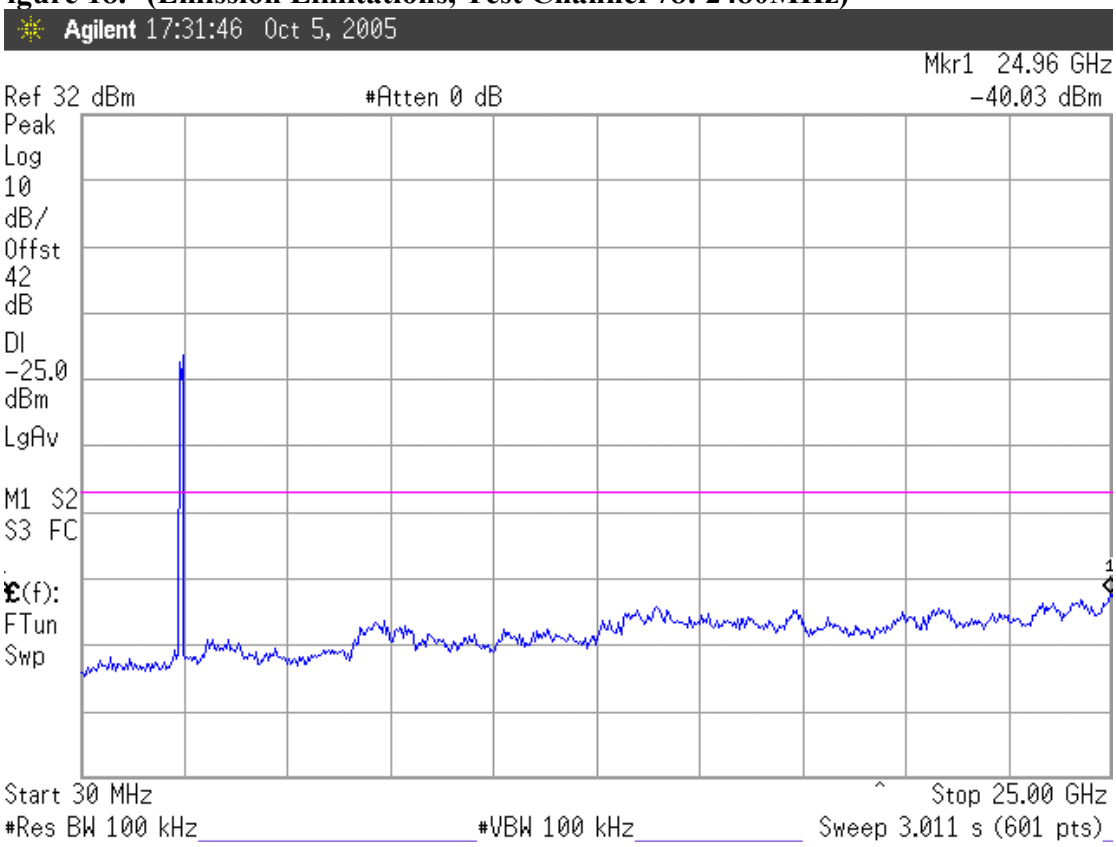


Figure 18. (Emission Limitations, Test Channel 78: 2480MHz)



11. BAND EDGES MEASUREMENT

11.1. Test Equipment

The following test equipment were used during the band edges measurement：

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	Agilent	E4446A	US43300366	Aug. 23, 05’	Aug. 22. 06’
2.	Directional Coupler	A/R	DC7144	304087	Dec. 01, 04’	Nov. 30. 05’
3.	Communication Tester	R & S	CMU200	102280	Nov. 23, 04’	Nov. 22, 05’

11.2. Block Diagram of Test Setup

The same as section.4.2.

11.3. Specification Limits (§15.247(c))

In any 100kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (See Section 15.205(c)). (※ This test result attaching to §3.6.3)

11.4. Test Procedure

The transmitter output was connected to the spectrum analyzer. Set RBW of spectrum analyzer to 100kHz and VBW of spectrum analyzer to 300kHz with suitable frequency span including 100kHz bandwidth from band edge.

11.5. Test Results

PASSED.

The testing data was attached in the next pages.

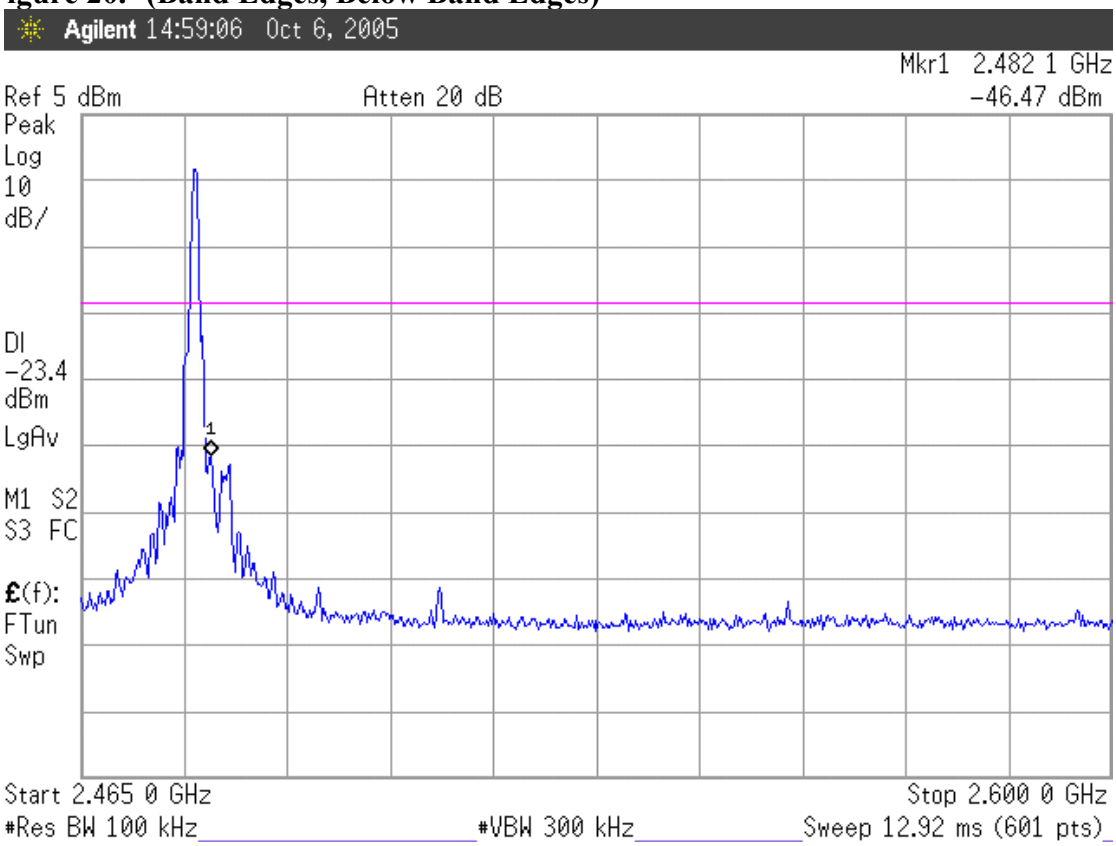
(Test Date: Oct. 06, 2005, Temperature: 23℃, Humidity: 55%)

1. Upper Band edge : The highest emission level is – 29.64dBm on 2.40067GHz。(Refer to Figure 19.)

2. Below Band edge: The highest emission level is – 46.47dBm on 2.4821GHz。(Refer to Figure 20.)

Figure 19. (Band Edges, Upper Band Edges)

Figure 20. (Band Edges, Below Band Edges)



12. DEVIATION TO TEST SPECIFICATIONS

【NONE】

13. PHOTOGRAPHS

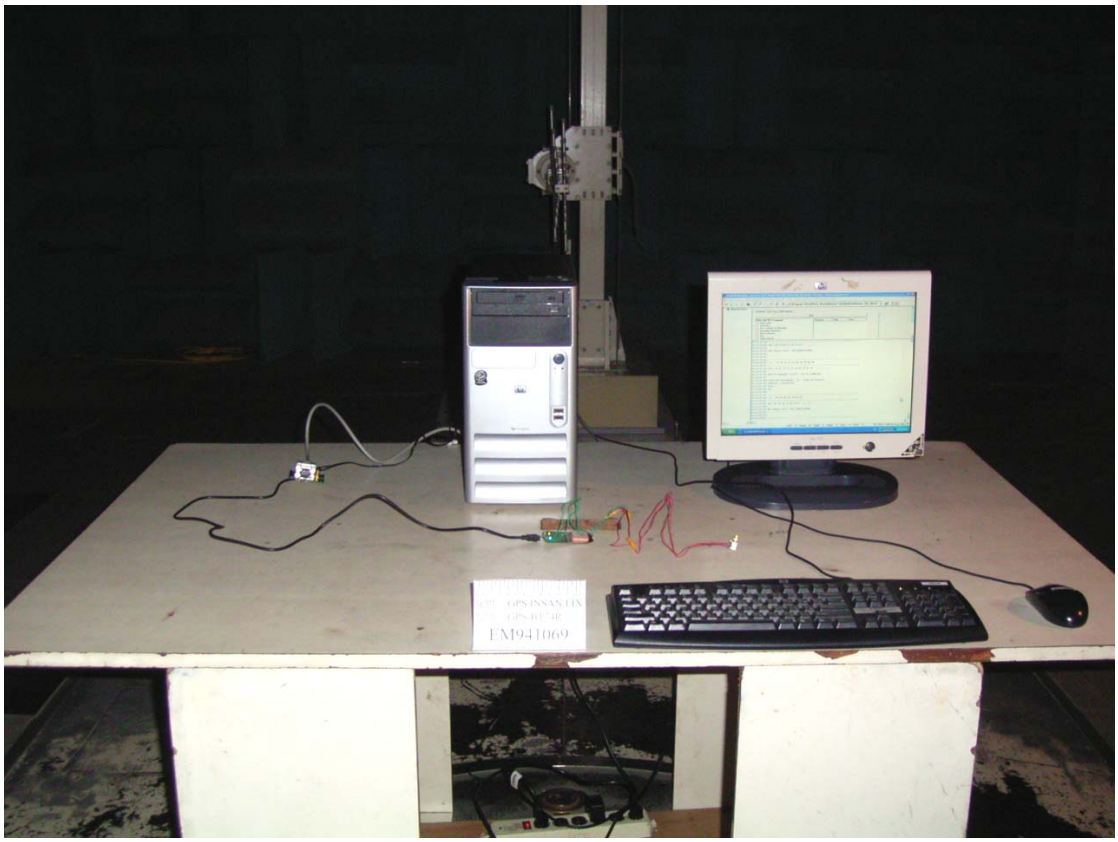
13.1. Photos of Conducted Emission Measurement

FRONT VIEW OF CONDUCTED MEASUREMENT

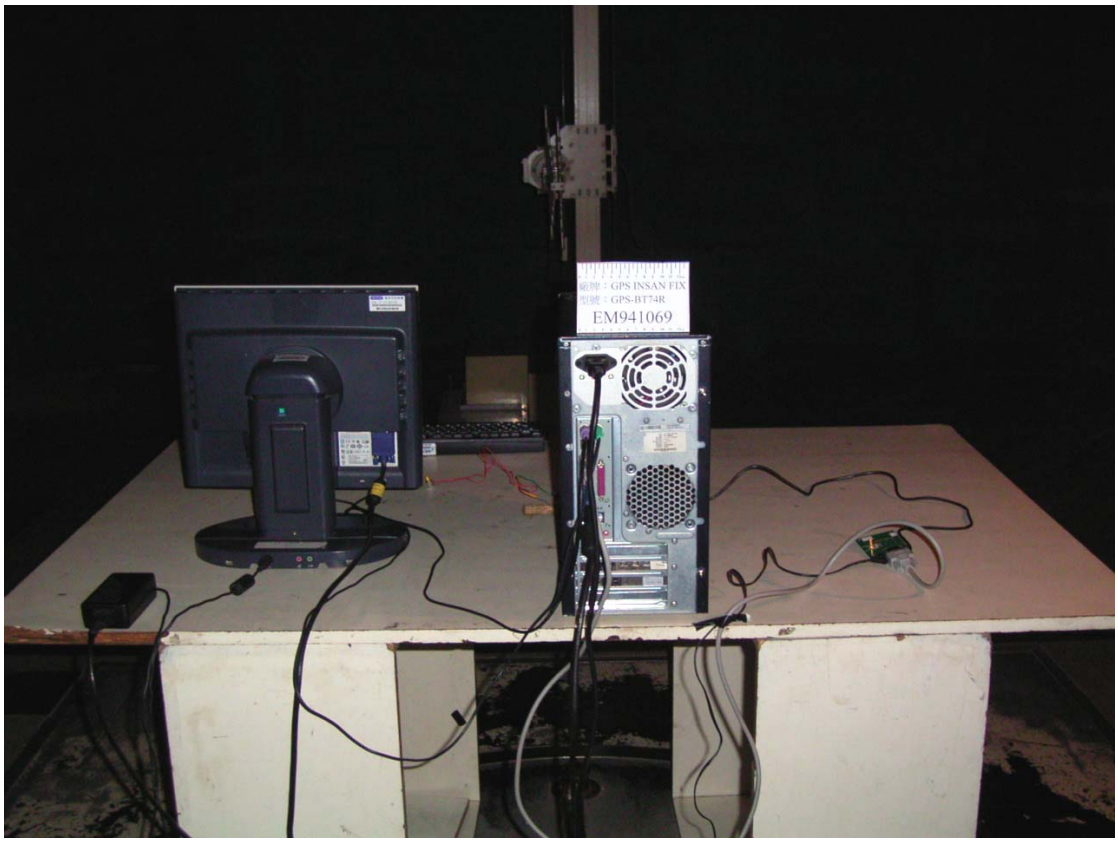
BACK VIEW OF CONDUCTED MEASUREMENT

13.2.Photos of Radiated Emission Measurement at Semi-Anechoic Chamber

13.2.1. 30-1000MHz Frequency Range

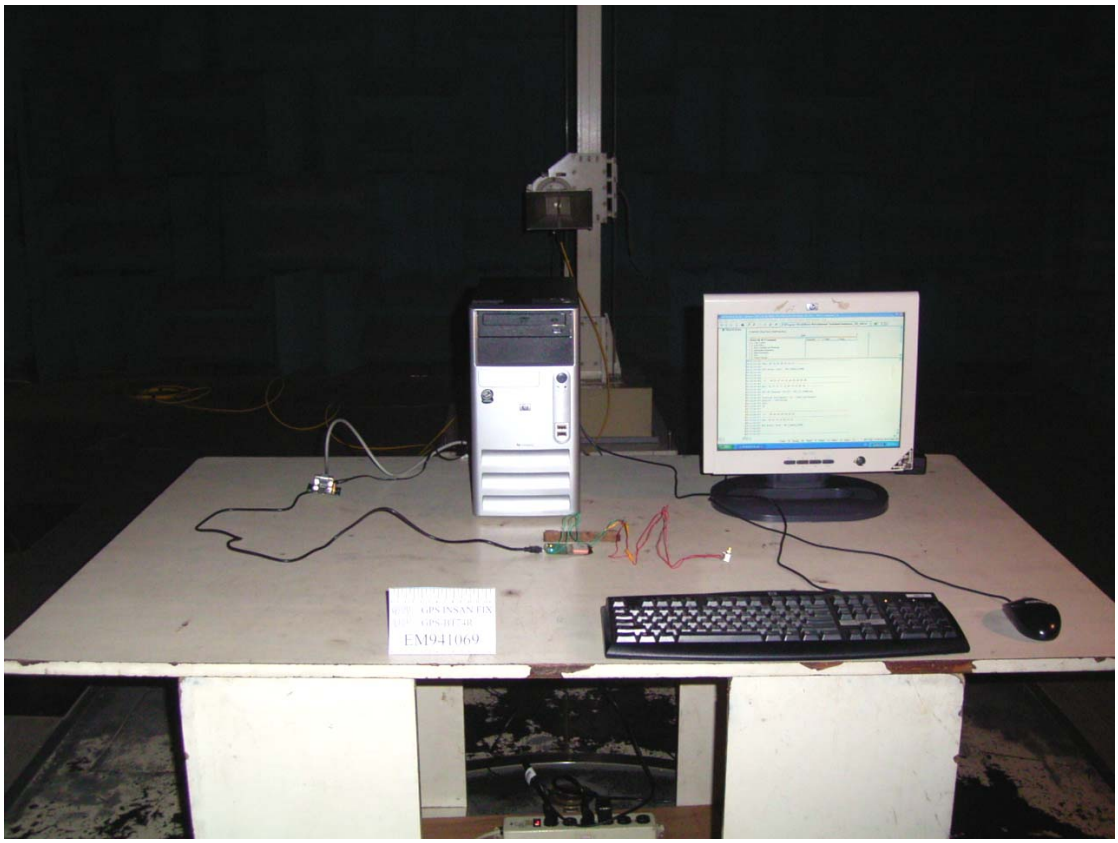


FRONT VIEW OF RADIATED MEASUREMENT

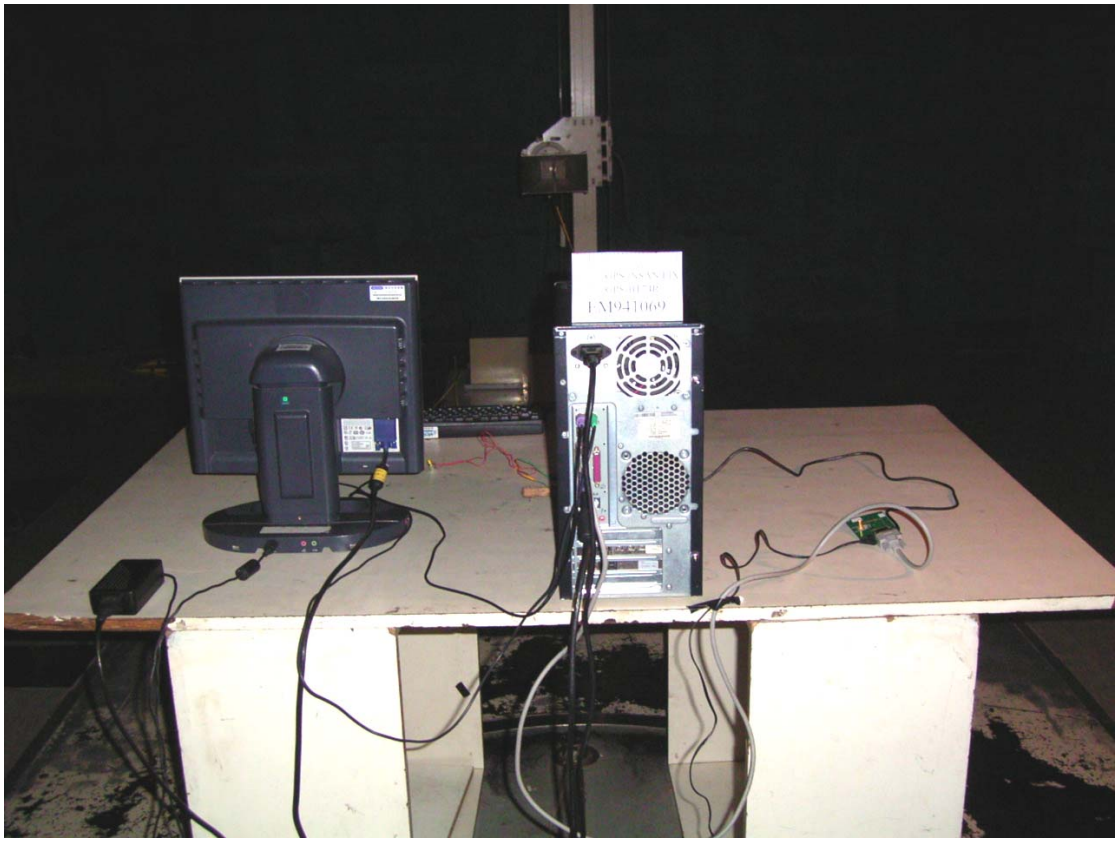


BACK VIEW OF RADIATED MEASUREMENT

13.2.2. 1-25GHz Frequency Range



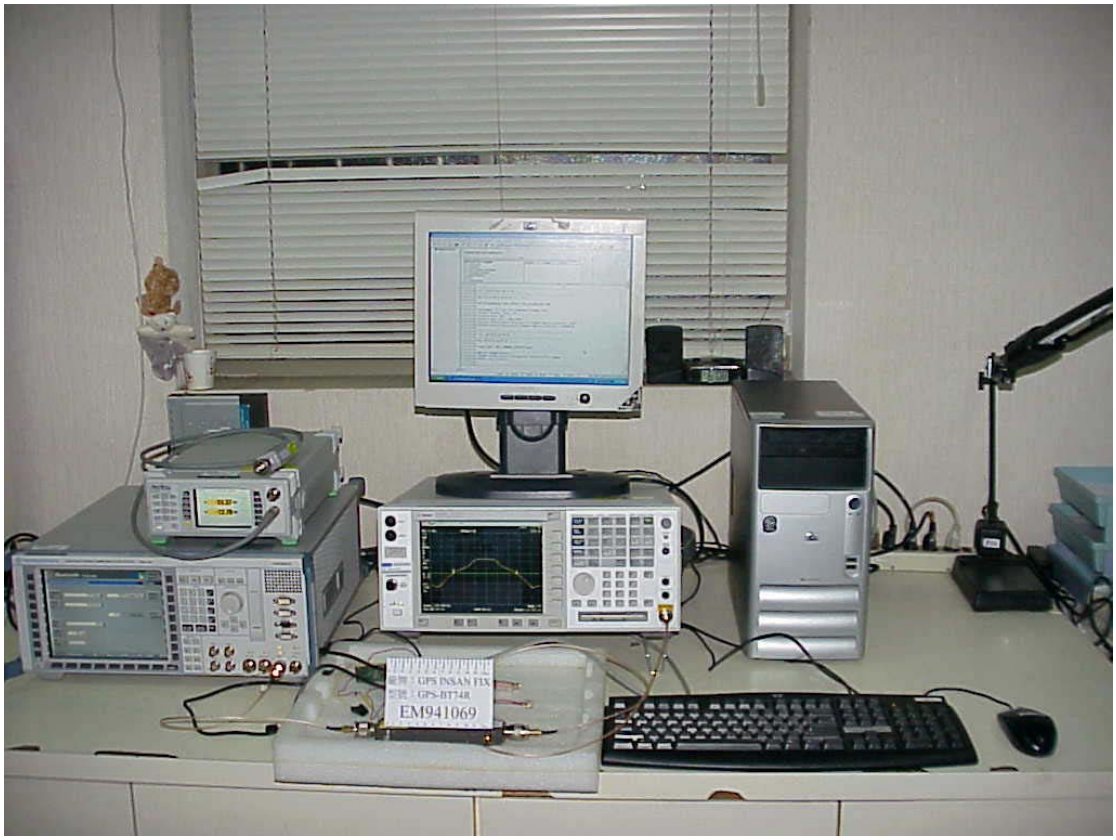
FRONT VIEW OF RADIATED MEASUREMENT



BACK VIEW OF RADIATED MEASUREMENT

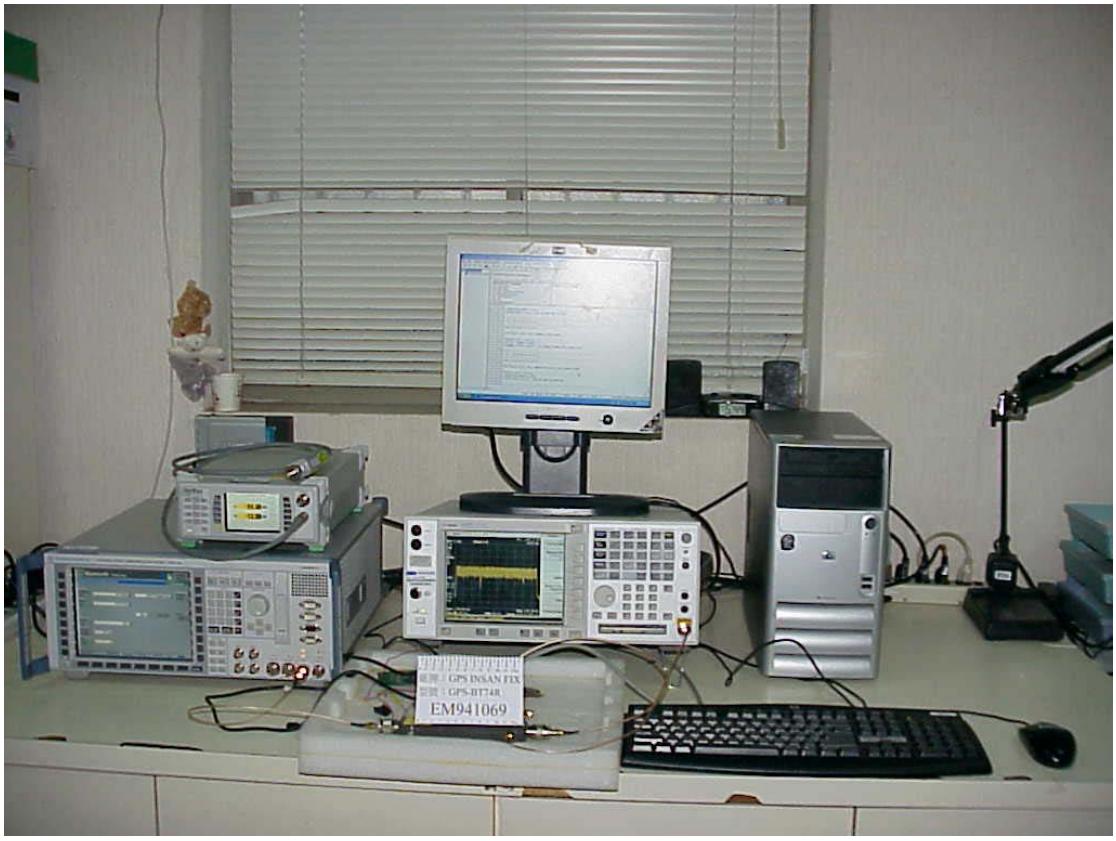
13.3.Photos of Carrier Frequency Separation Measurement

13.4.Photos of 20dB Bandwidth Measurement



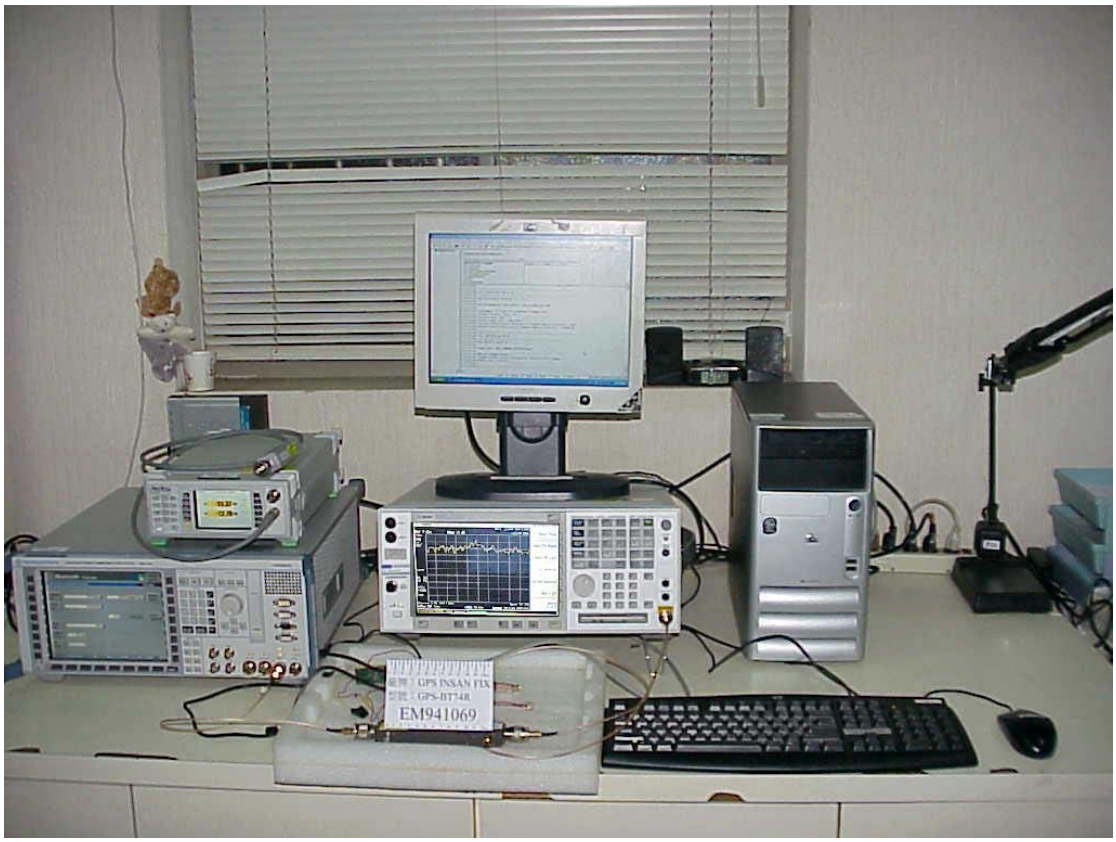
13.5.Photos of Time of Occupancy Measurement

13.6.Photos of Number of Hoping Channels Measurement



13.7.Photos of Maximum Peak Output Power Measurement

13.8.Photos of Power Spectral Density Measurement



13.9.Photos of Emission Limitations & Band Edges Measurement