

FCC Test Report

FCC ID : XU8TEW813DRU

Equipment : AC1200 Dual Band Wireless Router

Model No. : TEW-813DR, TEW-813DRU

Brand Name : TRENDnet

Applicant : TRENDnet, Inc.

Address : 20675 Manhattan Place, Torrance, CA 90501,

USA

Standard : 47 CFR FCC Part 15.247

Received Date : Jul. 03, 2013

Tested Date : Sep. 02 ~ Sep. 14, 2013

We, International Certification Corp., would like to declare that the tested sample has been evaluated and in compliance with the requirement of the above standards. The test results contained in this report refer exclusively to the product. It may be duplicated completely for legal use with the approval of the applicant. It shall not be reproduced except in full without the written approval of our laboratory.

Approved & Reviewed by:

Gary Chang / Manager

Iac MRA

Testing Laboratory

Report No.: FR370301AC Report Version: Rev. 01 Page: 1 of 65



Table of Contents

1	GENERAL DESCRIPTION	5
1.1	Information	5
1.2	Local Support Equipment List	
1.3	Test Setup Chart	g
1.4	The Equipment List	
1.5	Test Standards	
1.6	Measurement Uncertainty	12
2	TEST CONFIGURATION	13
2.1	Testing Condition	13
2.2	The Worst Test Modes and Channel Details	13
3	TRANSMITTER TEST RESULTS	14
3.1	Conducted Emissions	14
3.2	6dB and Occupied Bandwidth	19
3.3	RF Output Power	
3.4	Power Spectral Density	24
3.5	Unwanted Emissions into Restricted Frequency Bands	26
3.6	Emissions in Non-Restricted Frequency Bands	56
4	TEST LABORATORY INFORMATION	65



Release Record

Report No.	Version	Description	Issued Date
FR370301AC	Rev. 01	Initial issue	Apr. 23, 2014

Report No.: FR370301AC Page: 3 of 65



Summary of Test Results

FCC Rules	Test Items	Measured	Result
15.207	Conducted Emissions	[dBuV]: 0.175MHz 58.02 (Margin -6.70dB) – QP	Pass
		[dBuV/m at 3m]: 2341.00MHz 53.00 (Margin -1.00dB) – AV	
		[dBuV/m at 3m]: 2390.00MHz 53.00 (Margin -1.00dB) – AV	
15.247(d)	Radiated Emissions	[dBuV/m at 3m]: 2390.00MHz 73.00 (Margin -1.00dB) – PK	Door
15.209	Radiated Emissions	[dBuV/m at 3m]: 2377.00MHz 53.00 (Margin -1.00dB) – AV	Pass
		[dBuV/m at 3m]: 2483.50MHz 53.00 (Margin -1.00dB) – AV	
		[dBuV/m at 3m]: 2483.50MHz 73.00 (Margin -1.00dB) – PK	
15.247(b)(3)	Fundamental Emission Output Power	Power [dBm]: 11b: 27.33 11g: 25.62 HT20: 25.83 HT40: 19.58	Pass
15.247(a)(2)	6dB Bandwidth	Meet the requirement of limit	Pass
15.247(e)	Power Spectral Density	Meet the requirement of limit	Pass
15.203	Antenna Requirement	Meet the requirement of limit	Pass

Report No.: FR370301AC Page: 4 of 65



1 General Description

1.1 Information

1.1.1 Product Details

The following models are provided to this EUT.

Brand Name	Model Name	Product Name	Description
TRENDnet	TEW-813DR	AC1200 Dual Band Wireless Router	w/o USB port
	TEW-813DRU		with USB port

1.1.2 Specification of the Equipment under Test (EUT)

RF General Information							
Frequency Range (MHz)	IEEE Std. 802.11	Ch. Freq. (MHz)	Channel Number	Transmit Chains (N _{TX})	Data Rate / MCS		
2400-2483.5	b	2412-2462	1-11 [11]	2	1-11 Mbps		
2400-2483.5	g	2412-2462	1-11 [11]	2	6-54 Mbps		
2400-2483.5	n (HT20)	2412-2462	1-11 [11]	2	MCS 0-15		
2400-2483.5	n (HT40)	2422-2452	3-9 [7]	2	MCS 0-15		

Note 1: RF output power specifies that Maximum Conducted (Average) Output Power.

Note 2: 802.11b uses a combination of DSSS-DBPSK, DQPSK, CCK modulation.

Note 3: 802.11g/n uses a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.

1.1.3 Antenna Details

Ant. No.	Туре	Gain (dBi)	Connector	Remark
1	PCB	2	Ipex	
2	PCB	2	lpex	

1.1.4 EUT Operational Condition

Supply Voltage		☐ DC	
Type of DC Source	☐ Internal DC supply	☐ External DC adapter	☐ 5Vdc from Host

Report No.: FR370301AC Page: 5 of 65



1.1.5 Accessories

		Accessories
For T	EW-813DRU	
1	AC adapter 1	Brand Name: AMIGO Model Name: AMS3-1202000FU Power Rating: I/P: 100-240Vac, 50-60Hz, 0.8A O/P: 12Vdc, 2.0A Power Line: DC 1.2m non-shielded cable w/o core.
2	AC adapter 2	Brand Name: OEM Model Name: ADS0271-W 120200 Power Rating: I/P: 100-240Vac, 50-60Hz, 0.6A O/P: 12Vdc, 2.0A Power Line: DC 1.22m non-shielded cable w/o core.
For T	EW-813DR	
No.	Equipment	Description
3	AC adapter 3	Brand Name: AMIGO Model Name: AMS9-1201000FU2 Power Rating: I/P: 100-240Vac, 50-60Hz, 0.5A O/P: 12Vdc, 1.0A Power Line: DC 1.22m non-shielded cable w/o core.
4	AC adapter 4	Brand Name: FRECOM Model Name: F12W-120100SPAU Power Rating: I/P: 100-240Vac, 50-60Hz, 0.3A O/P: 12Vdc, 1.0A Power Line: DC 1.2m non-shielded cable w/o core.

Report No.: FR370301AC Page: 6 of 65



1.1.6 Channel List

Frequency	band (MHz)	2400~	2483.5	
802.11 b /	g / n HT20	802.11n HT40		
Channel	Frequency(MHz)	Channel	Frequency(MHz)	
1	2412	3	2422	
2	2417	4	2427	
3	2422	5	2432	
4	2427	6	2437	
5	2432	7	2442	
6	2437	8	2447	
7	2442	9	2452	
8	2447			
9	2452			
10	2457			
11	2462			

1.1.7 Test Tool and Duty Cycle

Test Tool	MP_TEST, V1.3.8.0				
	Mode	Duty cycle (%)	Duty factor (dB)		
	11b	97.51%	0.11		
Duty Cycle and Duty Factor	11g	93.51%	0.29		
	HT20	93.50%	0.29		
	HT40	94.71%	0.24		

Report No.: FR370301AC Page: 7 of 65



1.1.8 Power Setting

Modulation Mode	Test Frequency (MHz)	Power Set
11b	2412	33/36
11b	2437	43/45
11b	2462	32/38
11g	2412	43/46
11g	2437	56/61
11g	2462	43/48
HT20	2412	37/41
HT20	2437	56/61
HT20	2462	40/48
HT40	2422	37/40
HT40	2437	43/49
HT40	2452	40/46

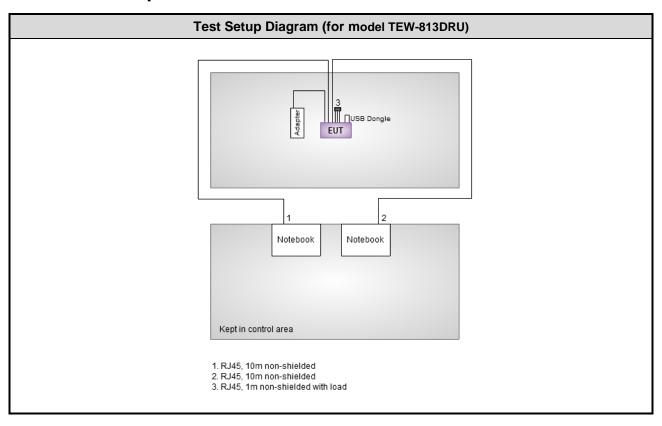
1.2 Local Support Equipment List

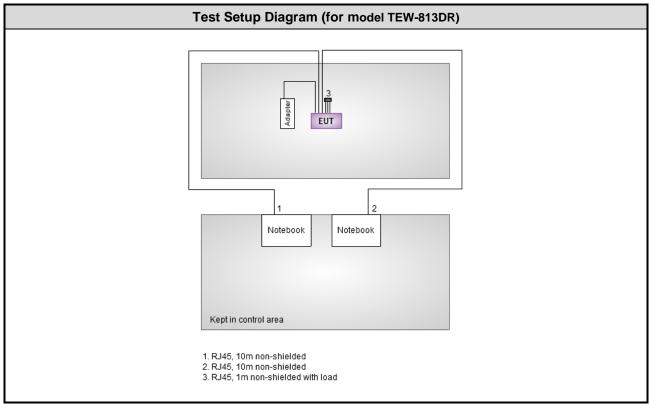
	Support Equipment List						
No.	Equipment	Brand	Model	S/N	FCC ID	Signal cable / Length (m)	
1	Notebook	DELL	E6430		DoC	RJ45 10m non-shielded cable w/o core.	
2	Notebook	DELL	E6430		DoC	RJ45 10m non-shielded cable w/o core.	
3	USB Dongle	Transcend 8G					

Report No.: FR370301AC Page: 8 of 65



1.3 Test Setup Chart





Report No.: FR370301AC Page: 9 of 65



1.4 The Equipment List

Test Item	Conducted Emission							
Test Site	Conduction room 1 / (C	Conduction room 1 / (CO01-WS)						
Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Until			
EMC Receiver	R&S	ESCS 30	100169	Oct. 15, 2013	Oct. 14, 2014			
LISN	SCHWARZBECK MESS-ELEKTRONIK	Schwarzbeck 8127	8127-667	Nov. 23, 2013	Nov. 22, 2014			
LISN (Support Unit)	SCHWARZBECK MESS-ELEKTRONIK	Schwarzbeck 8127	8127-666	Dec. 04, 2013	Dec. 03, 2014			
RF Cable-CON	Woken	CFD200-NL	CFD200-NL-001	Apr. 24, 2013	Apr. 23, 2014			
ESH3-Z6 V-Network(+)	R&S	ESH3-Z6	100920	Nov. 29, 2013	Nov. 28, 2014			
ESH3-Z6 V-Network(-)	R&S	ESH3-Z6	100951	Jan. 30, 2013	Jan. 29, 2014			
Two-Line V-Network	R&S	ENV216	101579	Jan. 07, 2013	Jan. 06, 2014			
50 ohm terminal	NA	50	01	Apr. 22, 2013	Apr. 21, 2014			
50 ohm terminal	NA	50	02	Apr. 22, 2013	Apr. 21, 2014			
50 ohm terminal	NA	50	03	Apr. 22, 2013	Apr. 21, 2014			
50 ohm terminal (Support Unit)	NA	50	04	Apr. 22, 2013	Apr. 21, 2014			
50 ohm terminal (Support Unit)	NA	50	04	Apr. 22, 2013	Apr. 21, 2014			
Note: Calibration Inter-	val of instruments listed a	above is one year.						

Test Item	Radiated Emission						
Test Site	966 chamber 2 / (03C	966 chamber 2 / (03CH02-WS)					
Instrument	Manufacturer	Manufacturer Model No. Serial No. Calibration Date Calibrat					
Spectrum Analyzer	R&S	FSV40	101499	Jan. 28, 2013	Jan. 27, 2014		
Receiver	R&S	ESR3	101657	Jan. 30,2013	Jan. 29, 2014		
Bilog Antenna	ScHwarzbeck	VULB9168	VULB9168-524	Jan. 11, 2013	Jan. 10, 2014		
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120D	BBHA 9120 D 1095	Jan. 29, 2013	Jan. 28,2014		
Horn Antenna 18G-40G	SCHWARZBECK	BBHA 9170	BBHA 9170517	Jan. 14, 2013	Jan. 13, 2014		
Amplifier	Burgeon	BPA-530	100218	Dec. 09, 2013	Dec. 08, 2014		
Amplifier	Agilent	83017A	MY39501309	Dec. 09, 2013	Dec. 08, 2014		
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16140/4	Dec. 25, 2012	Dec. 24, 2013		
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16018/4	Dec. 25, 2012	Dec. 24, 2013		
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16015/4	Dec. 25, 2012	Dec. 24, 2013		
RF Cable-R03m	Woken	CFD400NL-LW	CFD400NL-003	Dec. 25, 2012	Dec. 24, 2013		
RF Cable-R10m	Woken	CFD400NL-LW	CFD400NL-004	Dec. 25, 2012	Dec. 24, 2013		
control	EM Electronics	EM1000	060608	N/A	N/A		
control	EM Electronics	EM1000	060608	N/A	N/A		
Note: Calibration Inter	val of instruments listed	l above is one year.					

Report No.: FR370301AC Page: 10 of 65



Test Item	Radiated Emission ab	Radiated Emission above 1GHz					
Test Site	966 chamber 2 / (03C	966 chamber 2 / (03CH02-WS)					
Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Until		
Loop Antenna	R&S	HFH2-Z2	100330	Nov. 15, 2012	Nov. 14, 2014		
Amplifier	EM	EM18G40G	060572	Jun. 20, 2013	Jun. 19, 2015		

Test Item	RF Conducted				
Test Site	(TH01-WS)				
Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Until
Spectrum Analyzer	R&S	FSV 40	101063	Feb. 18, 2013	Feb. 17, 2014
TEMP&HUMIDITY CHAMBER	GIANT FORCE	GCT-225-40-SP-SD	MAF1212-002	Dec. 11, 2013	Dec. 10, 2014
Power Meter	Anritsu	ML2495A	1241002	Oct. 24, 2013	Oct. 23, 2014
Power Sensor	Anritsu	MA2411B	1027366	Oct. 24, 2013	Oct. 23, 2014
Signal Generator	R&S	SMB100A	175727	Jan. 14, 2013	Jan. 13, 2014

1.5 Test Standards

According to the specification of EUT, the EUT must comply with following standards and KDB documents.

47 CFR FCC Part 15.247

ANSI C63.10-2009

FCC KDB 558074 D01 DTS Meas Guidance v03r01

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

Note: The EUT has been tested and complied with FCC part 15B requirement. FCC Part 15B test results are issued to another report.

Report No.: FR370301AC Page: 11 of 65



1.6 Measurement Uncertainty

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2)

Measurement Uncertainty				
Parameters	Uncertainty			
Bandwidth	±35.286 Hz			
Conducted power	±0.536 dB			
Frequency error	±35.286 Hz			
Temperature	±0.3 °C			
Conducted emission	±2.946 dB			
AC conducted emission	±2.43 dB			
Radiated emission	±2.49 dB			

Report No.: FR370301AC Page: 12 of 65



2 Test Configuration

2.1 Testing Condition

Test Item	Test Site	Ambient Condition	Tested By
AC Conduction	CO01-WS	23°C / 53%	Peter Lin
Radiated Emissions	03CH02-WS	23°C / 68%	Anderson Hong
RF Conducted	TH01-WS	24°C / 61%	Brad Wu

FCC site registration No.: 657002IC site registration No.: 10807A-2

2.2 The Worst Test Modes and Channel Details

Test item	Modulation Mode	Test Frequency (MHz)	Data Rate (Mbps) / MCS	Test Configuration
Conducted Emissions	11b	2437	6 Mbps	1, 2
Radiated Emissions ≤1GHz	11b	2437	6 Mbps	1, 2
Radiated Emissions >1GHz	11b	2412 / 2437 / 2462	1 Mbps	
Fundamental Emission Output Power	11g	2412 / 2437 / 2462	6 Mbps	4
6dB bandwidth	HT20	2412 / 2437 / 2462	MCS 0	1
Power spectral density	HT40	2422 / 2437 / 2452	MCS 0	

NOTE:

- 1. Adapter 1 & 2 had been pretested and found that adapter 2 was the worst for model TEW-813DRU for final testing.
- 2. Adapter 3 & 4 had been pretested and found that adapter 4 was the worst for model TEW-813DR for final testing.
- 3. Two samples had been tested on the following test configurations.
 - 1) Configuration 1: Model TEW-813DRU (with USB port), with adapter 2.
 - 2) Configuration 2: Model TEW-813DR (w/o USB port), with adapter 4.

Report No.: FR370301AC Page: 13 of 65



3 Transmitter Test Results

3.1 Conducted Emissions

3.1.1 Limit of Conducted Emissions

Conducted Emissions Limit					
Frequency Emission (MHz)	Quasi-Peak	Average			
0.15-0.5	66 - 56 *	56 - 46 *			
0.5-5	56	46			
5-30	60	50			
Note 1: * Decreases with the logarith	m of the frequency.				

3.1.2 Test Procedures

- 1. The device is placed on a test table, raised 80 cm above the reference ground plane. The vertical conducting plane is located 40 cm to the rear of the device.
- 2. The device is connected to line impedance stabilization network (LISN) and other accessories are connected to other LISN. Measured levels of AC power line conducted emission are across the 50 Ω LISN port.
- 3. AC conducted emission measurements is made over frequency range from 150 kHz to 30 MHz.
- 4. This measurement was performed with AC 120V / 60Hz.

3.1.3 Test Setup



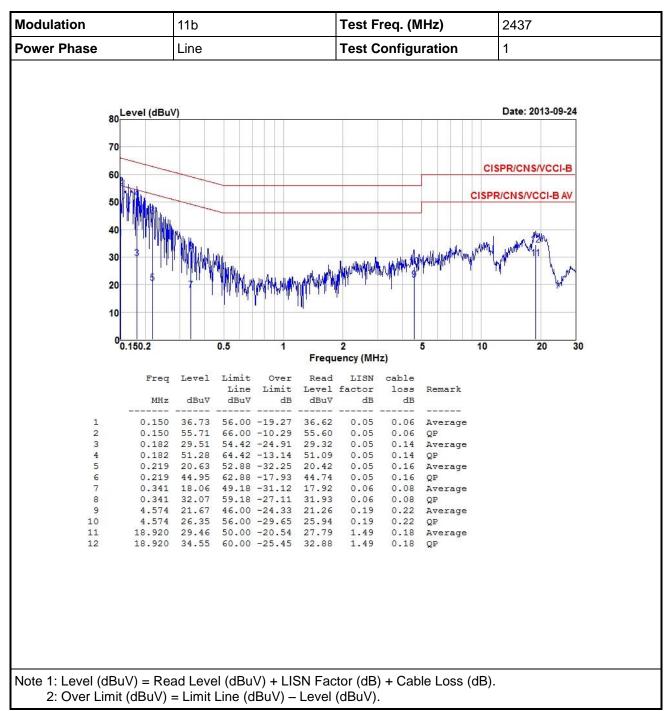
Note: 1. Support units were connected to second LISN.

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

Report No.: FR370301AC Page: 14 of 65

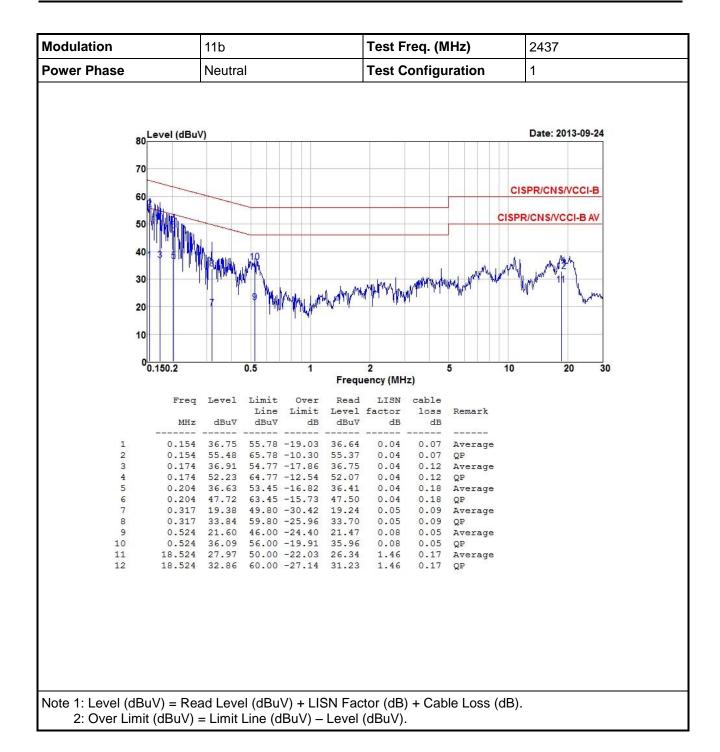


3.1.4 Test Result of Conducted Emissions



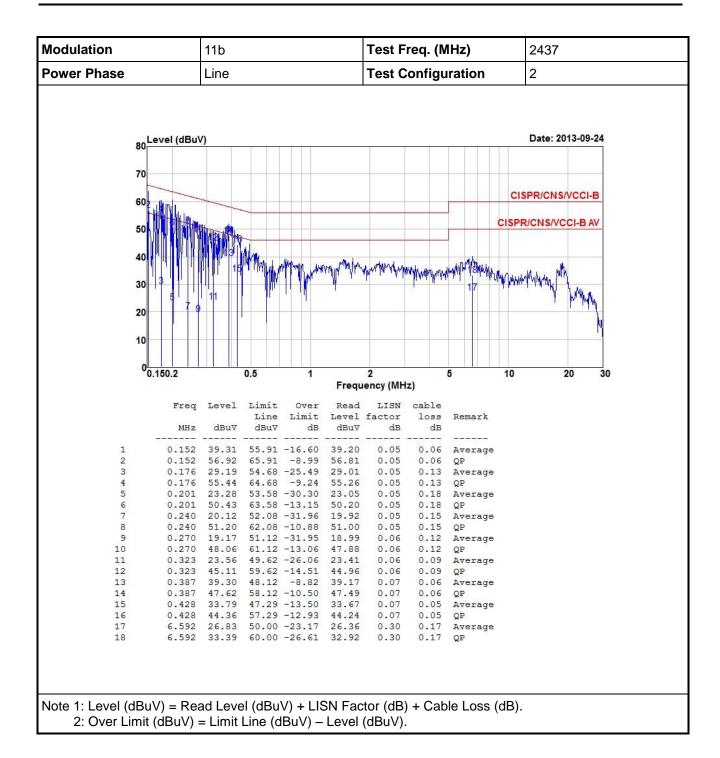
Report No.: FR370301AC Page: 15 of 65





Report No.: FR370301AC Page: 16 of 65





Report No.: FR370301AC Page: 17 of 65



Modulation	11b	Test Freq. (MHz)			2437	
ower Phase Neutral			Test C	onfigu	ıration	2
80 Level (dBu	ıV)					Date: 2013-09-24
80	''					
70						
60 ₂					C	ISPR/CNS/VCCI-B
	44				CISI	PR/CNS/VCCI-B AV
50						
40						46
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10						
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0.150.2	0.5 1		2		5 10	20 30
0.100.2	0.0		ency (MHz		0 10	20 00
		rrequ	ency (IVITIZ	۷)		
Frac	Level Limit Ove	r Read	LISN	cable		
rred	500				Damauk	
NW-	Line Limi		factor	loss	Remark	
MHz	dBuV dBuV d	lB dBuV	dB	dB		
4 0.456	40.00 55.00 45.4					
	40.87 55.87 -15.0		0.04	0.07	Average	
2 0.152		57.07	0.04	0.07	QP	
10100	22.07 54.72 -32.6		0.04	0.13		
4 0.175	C AND PROPERTY OF THE PROPERTY	CONTRACTOR OF THE PROPERTY OF THE	LIVYS CONTRACTOR	0.13	18-1/10	
5 0.189			0.04	0.16	Average	
6 0.189			0.04	0.16	3.3	
7 0.212			0.04	0.17		
8 0.212			0.04	0.17	QP	
9 0.227			0.04	0.16		
10 0.227		4 53.23	0.04	0.16		
11 0.262			0.05	0.13	STATE OF THE PARTY	
	49.02 61.38 -12.3		0.05	0.13		
13 0.385			0.06	0.06	Average	
14 0.385	48.39 58.17 -9.7	8 48.27	0.06	0.06	QP	
15 0.513	27.48 46.00 -18.5	27.35	0.08	0.05	Average	
16 0.513			0.08	0.05	QP	
	31.56 50.00 -18.4	4 29.86	1.52	0.18	Average	
		0 05 00	1.52	0.18		
17 18.920	36.98 60.00 -23.0	2 35.28				
17 18.920	36.98 60.00 -23.0	12 35.28				
17 18.920	36.98 60.00 -23.0	12 35.28				
17 18.920	36.98 60.00 -23.0	12 35.28				
17 18.920	36.98 60.00 -23.0	35.28				
17 18.920	36.98 60.00 -23.0	35.28	20.00 T 2000			

Report No.: FR370301AC Page: 18 of 65



3.2 6dB and Occupied Bandwidth

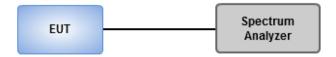
3.2.1 Limit of 6dB Bandwidth

The minimum 6dB bandwidth shall be at least 500 kHz.

3.2.2 Test Procedures

- 1. Set resolution bandwidth (RBW) = 100 kHz, Video bandwidth = 300 kHz.
- 2. Detector = Peak, Trace mode = max hold.
- 3. Sweep = auto couple, Allow the trace to stabilize.
- 4. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower) that are attenuated by 6dB relative to the maximum level measured in the fundamental emission.

3.2.3 Test Setup

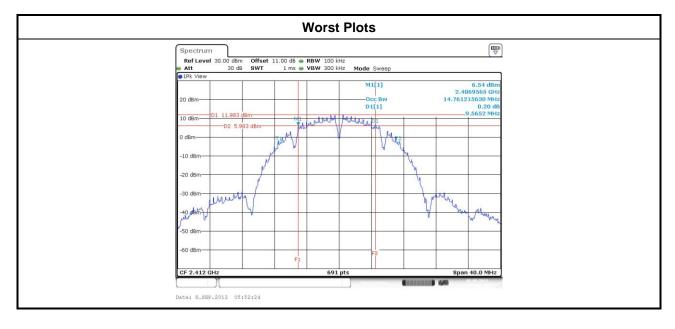


Report No.: FR370301AC Page: 19 of 65



3.2.4 Test Result of 6dB and Occupied Bandwidth

Modulation	N	Eron (MU=)		Limit (kU=)			
Mode	N _{TX}	Freq. (MHz)	Chain 0	Chain 1	Chain 2	Chain 3	Limit (kHz)
11b	2	2412	10.03	9.57			500
11b	2	2437	10.09	10.03			500
11b	2	2462	10.03	9.57			500
11g	2	2412	16.35	16.29			500
11g	2	2437	16.29	16.29			500
11g	2	2462	16.29	16.29			500
HT20	2	2412	17.04	16.93			500
HT20	2	2437	17.33	16.35			500
HT20	2	2462	17.10	17.33			500
HT40	2	2422	35.59	35.25			500
HT40	2	2437	35.48	35.36			500
HT40	2	2452	35.71	35.48			500



Report No.: FR370301AC Page: 20 of 65



Modulation	N	Freq.		99% Occupied E	Bandwidth (MHz)	
Mode	N _{TX}	(MHz)	Chain 0	Chain 1	Chain 2	Chain 3
11b	2	2412	15.05	14.93		
11b	2	2437	16.27	15.40		
11b	2	2462	15.11	15.05		
11g	2	2412	16.90	16.79		
11g	2	2437	19.28	17.66		
11g	2	2462	16.90	16.73		
HT20	2	2412	18.00	17.83		
HT20	2	2437	19.74	18.76		
HT20	2	2462	18.06	17.83		
HT40	2	2422	36.12	36.35		
HT40	2	2437	36.35	36.47		
HT40	2	2452	36.24	36.58		



Report No.: FR370301AC Page: 21 of 65



3.3 RF Output Power

3.3.1 Limit of RF Output Power

Con	duct	ed po	ower shall not exceed 1Watt.						
\boxtimes	Ante	ntenna gain <= 6dBi, no any corresponding reduction is in output power limit.							
	Ante	ntenna gain > 6dBi							
		The	Fixed, point to point operations. conducted output power from the intentional radiator shall be reduced by the amount in dB the directional gain of the antenna exceeds 6 dB						
		Syst Ope	ed, point to point operations tems operations. The substitute of t						
			tems operating in the 5725–5850 MHz band that are used exclusively for fixed, point-to-point rations ,no any corresponding reduction is in transmitter peak output power						
3.3.	2	Test	Procedures						
	Max	kimun	n Peak Conducted Output Power						
		Spe	ctrum analyzer						
		1.	Set RBW = 1MHz, VBW = 3MHz, Detector = Peak.						
		2.	Sweep time = auto, Trace mode = max hold, Allow trace to fully stabilize.						
		3.	Use the spectrum analyzer channel power measurement function with the band limits set equal to the DTS bandwidth edges.						
		Pov	ver meter						
		1.	A broadband Peak RF power meter is used for output power measurement. The video bandwidth of power meter is greater than DTS bandwidth of EUT. If duty cycle of test signal is not 100 %, trigger and gating function of power meter will be enabled to capture transmission burst for measuring output power.						
\boxtimes	Max	kimun	n Conducted Output Power						
	\boxtimes	Pov	ver meter						
		1.	A broadband Average RF power meter is used for output power measurement. The video bandwidth of power meter is greater than DTS bandwidth of EUT. If duty cycle of test signal is not 100 %, trigger and gating function of power meter will be enabled to capture transmission burst for measuring output power.						
3.3.	3	Test	Setup						

Report No.: FR370301AC Page: 22 of 65

Power Sensor

Power Meter

Report Version: Rev. 01

EUT



3.3.4 Test Result of Maximum Output Power

Modulation Mode	N _{TX}	Freq.	Conduc		age) outpu Bm)	Total Power	Total Power	Limit	
Wode		(IVITIZ)	Chain 0	Chain 1	Chain 2	Chain 3	(mW)	(dBm)	(dBm)
11b	2	2412	21.13	21.28			263.994	24.22	30
11b	2	2437	24.28	24.36			540.815	27.33	30
11b	2	2462	20.81	21.14			250.521	23.99	30
11g	2	2412	17.39	17.04			105.410	20.23	30
11g	2	2437	22.03	23.12			364.704	25.62	30
11g	2	2462	17.01	16.62			96.154	19.83	30
HT20	2	2412	14.53	14.89			59.211	17.72	30
HT20	2	2437	22.25	23.33			383.159	25.83	30
HT20	2	2462	15.46	16.05			75.428	18.78	30
HT40	2	2422	14.12	14.15			51.824	17.15	30
HT40	2	2437	16.22	16.89			90.745	19.58	30
HT40	2	2452	14.52	14.71			57.894	17.63	30

Report No.: FR370301AC Page: 23 of 65



3.4 Power Spectral Density

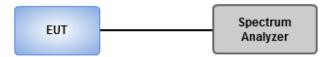
3.4.1 Limit of Power Spectral Density

Power spectral density shall not be greater than 8 dBm in any 3 kHz band.

3.4.2 Test Procedures

- Maximum peak conducted output power was used to demonstrate compliance to the fundamental output power limit.
 - Set the RBW = 30kHz, VBW = 100kHz.
 - Detector = Peak, Sweep time = auto couple.
 - 3. Trace mode = max hold, allow trace to fully stabilize.
 - 4. Use the peak marker function to determine the maximum amplitude level.
- Maximum (average) conducted output power was used to demonstrate compliance to the fundamental output power limit.
 - 1. Set the RBW = 30kHz, VBW = 100 kHz.
 - 2. Detector = RMS, Sweep time = auto couple.
 - 3. Set the sweep time to: ≥ 10 x (number of measurement points in sweep) x (maximum data rate per stream).
 - 4. Perform the measurement over a single sweep.
 - 5. Use the peak marker function to determine the maximum amplitude level.
 - 6. Add 10 log (1/x), where x is the duty cycle measured in step (a, to the measured PSD to compute the average PSD during the actual transmission time

3.4.3 Test Setup



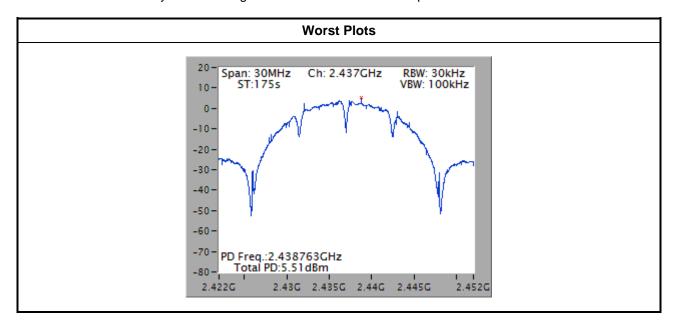
Report No.: FR370301AC Page: 24 of 65



3.4.4 Test Result of Power Spectral Density

Modulation Mode	N _{TX}	Freq. (MHz)	Total Power Spectral Density (dBm/30kHz)	Limit (dBm/3kHz)
11b	2	2412	0.50	8
11b	2	2437	5.51	8
11b	2	2462	2.66	8
11g	2	2412	-4.95	8
11g	2	2437	0.89	8
11g	2	2462	-5.74	8
HT20	2	2412	-7.20	8
HT20	2	2437	0.92	8
HT20	2	2462	-6.23	8
HT40	2	2422	-9.86	8
HT40	2	2437	-6.94	8
HT40	2	2452	-8.71	8

Note: Test result is bin-by-bin summing measured value of each TX port.



Report No.: FR370301AC Page: 25 of 65



3.5 Unwanted Emissions into Restricted Frequency Bands

3.5.1 Limit of Unwanted Emissions into Restricted Frequency Bands

	Restricted Band	Emissions Limit	
Frequency Range (MHz)	Field Strength (uV/m)	Field Strength (dBuV/m)	Measure Distance (m)
0.009~0.490	2400/F(kHz)	48.5 - 13.8	300
0.490~1.705	24000/F(kHz)	33.8 - 23	30
1.705~30.0	30	29	30
30~88	100	40	3
88~216	150	43.5	3
216~960	200	46	3
Above 960	500	54	3

Note 1:

Qusai-Peak value is measured for frequency below 1GHz except for 9–90 kHz, 110–490 kHz frequency band. Peak and average value are measured for frequency above 1GHz. The limit on average radio frequency emission is as above table. The limit on peak radio frequency emissions is 20 dB above the maximum permitted average emission limit **Note 2:**

Measurements may be performed at a distance other than what is specified provided. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor as below, Frequency at or above 30 MHz: 20 dB/decade Frequency below 30 MHz: 40 dB/decade.

3.5.2 Test Procedures

- Measurement is made at a semi-anechoic chamber that incorporates a turntable allowing a EUT rotation of 360°. A continuously-rotating, remotely-controlled turntable is installed at the test site to support the EUT and facilitate determination of the direction of maximum radiation for each EUT emission frequency. The EUT is placed at a height of 0.8 m test table above the ground plane.
- 2. Measurement is made with the antenna positioned in both the horizontal and vertical planes of polarization. The measurement antenna is varied in height (1m ~ 4m) above the reference ground plane to obtain the maximum signal strength. Distance between EUT and antenna is 3 m.
- 3. This investigation is performed with the EUT rotated 360°, the antenna height scanned between 1 m and 4 m, and the antenna rotated to repeat the measurements for both the horizontal and vertical antenna polarizations.

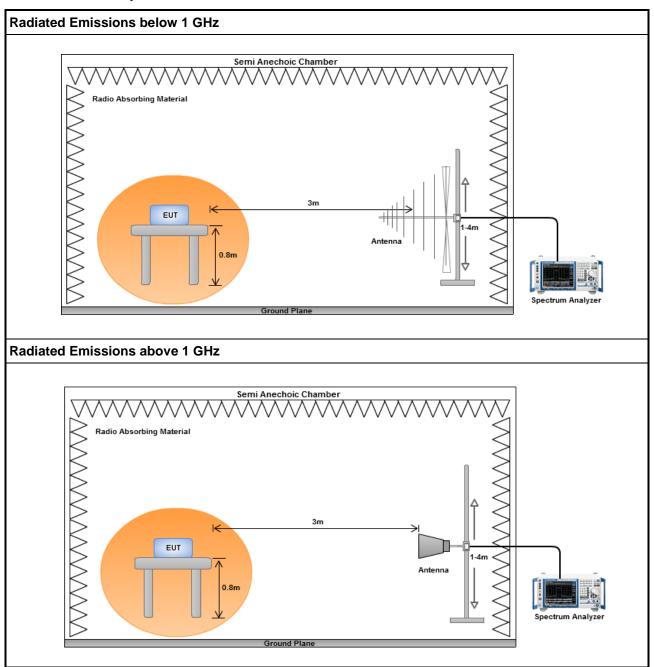
Note:

- 1. 120kHz measurement bandwidth of test receiver and Quasi-peak detector is for radiated emission below 1GHz.
- 2. RBW=1MHz, VBW=3MHz and Peak detector is for peak measured value of radiated emission above 1GHz.
- 3. RBW=1MHz, VBW=1/T and Peak detector is for average measured value of radiated emission above 1GHz.

Report No.: FR370301AC Page: 26 of 65



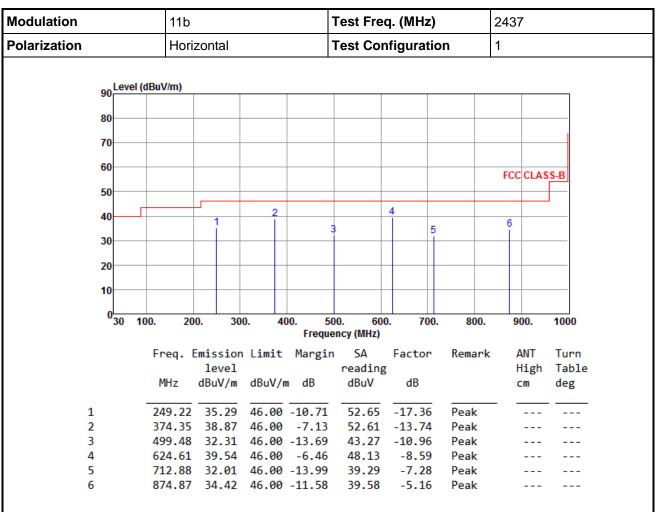
3.5.3 Test Setup



Report No.: FR370301AC Page: 27 of 65



3.5.4 Transmitter Radiated Unwanted Emissions (Below 1GHz)



Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

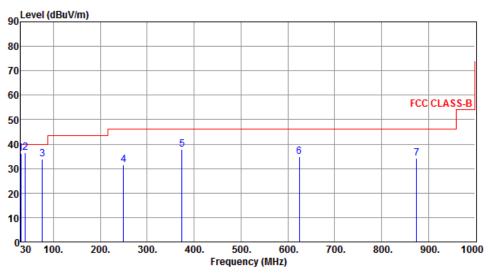
*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) - Limit (dBuV/m).

Report No.: FR370301AC Page: 28 of 65



Modulation	11b	Test Freq. (MHz)	2437
Polarization	Vertical	Test Configuration	1



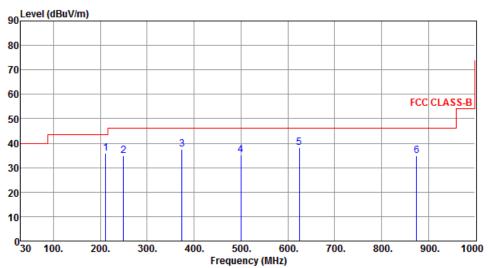
	Freq.	Emission level	Limit	Margin	SA reading		Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	30.00	36.18	40.00	-3.82	53.22	-17.04	QP		
2	39.70	36.66	40.00	-3.34	53.08	-16.42	QP		
3	76.56	33.95	40.00	-6.05	54.16	-20.21	QP		
4	249.22	31.50	46.00	-14.50	48.86	-17.36	Peak		
5	374.35	37.81	46.00	-8.19	51.55	-13.74	Peak		
6	624.61	34.74	46.00	-11.26	43.33	-8.59	Peak		
7	874.87	34.23	46.00	-11.77	39.39	-5.16	Peak		

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR370301AC Page: 29 of 65



Modulation	11b	Test Freq. (MHz)	2437
Polarization	Horizontal	Test Configuration	2



	Freq. MHz	Emission level dBuV/m			SA reading dBuV		Remark	ANT High cm	Turn Table deg
1	211.39	35.97	43.50	-7.53	54.77	-18.80	Peak		
2	249.22	34.78	46.00	-11.22	52.14	-17.36	Peak		
3	374.35	37.55	46.00	-8.45	51.29	-13.74	Peak		
4	499.48	35.14	46.00	-10.86	46.10	-10.96	Peak		
5	624.61	38.21	46.00	-7.79	46.80	-8.59	Peak		
6	874.87	34.77	46.00	-11.23	39.93	-5.16	Peak		

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

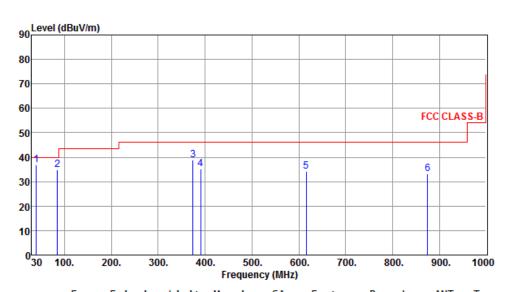
*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) - Limit (dBuV/m).

Report No.: FR370301AC Page: 30 of 65



Modulation	11b	Test Freq. (MHz)	2437
Polarization	Vertical	Test Configuration	2



	Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	39.70	36.84	40.00	-3.16	53.26	-16.42	QP		
2	85.29	34.76	40.00	-5.24	56.52	-21.76	QP		
3	374.35	38.98	46.00	-7.02	52.72	-13.74	Peak		
4	390.84	35.29	46.00	-10.71	48.58	-13.29	Peak		
5	615.88	34.36	46.00	-11.64	43.06	-8.70	Peak		
6	874.87	33.25	46.00	-12.75	38.41	-5.16	Peak		

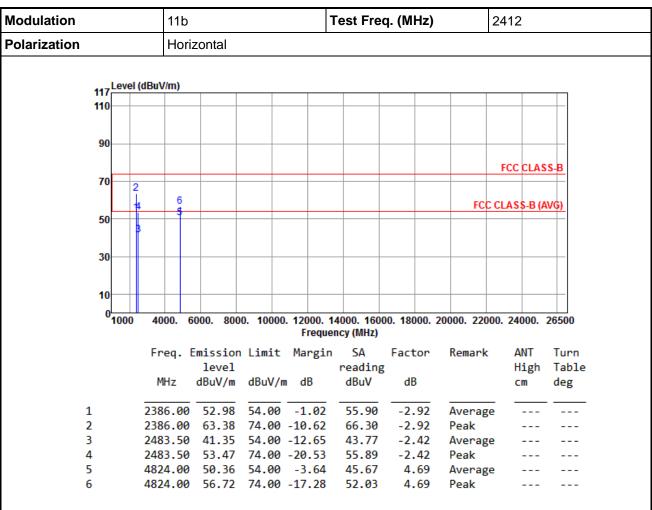
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR370301AC Page: 31 of 65



3.5.5 Transmitter Radiated Unwanted Emissions (Above 1GHz) for 11b



Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

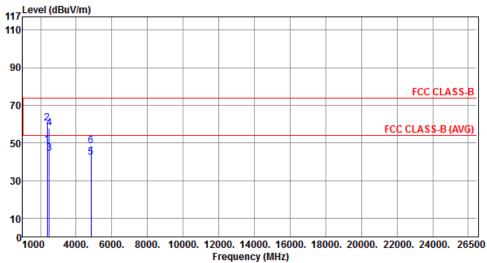
*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) - Limit (dBuV/m).

Report No.: FR370301AC Page: 32 of 65



Modulation	11b	Test Freq. (MHz)	2412
Polarization	Vertical		
117 Level (dBu	V/m)		
117			



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Ū	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2386.00	48.68	54 00	-5 32	51.60	-2.92	Average		
2	2386.00		74.00		63.51	-2.92	Peak		
3	2483.50				47.06	-2.42	Average		
4	2483.50	57.71	74.00	-16.29	60.13	-2.42	Peak		
5	4824.00	42.42	54.00	-11.58	37.73	4.69	Average		
6	4824.00	48.45	74.00	-25.55	43.76	4.69	Peak		

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR370301AC Page: 33 of 65



2

3

4

5

Modulation 11b		Test Freq. (MHz)	2437	
Polarization	Horizontal			
117 Level (dBu	V/m)			
110				
90				
			FCC CLASS-B	
70 2	,			
50	3 6	FC	C CLASS-B (AVG)	
50	5			
30				
30				
10				
0				
~1000 4	000. 6000. 8000. 10000. 12000. Frequ	14000. 16000. 18000. 20000. 220 ency (MHz)	000. 24000. 26500	
Fi	req. Emission Limit Margi	n SA Factor Remark	c ANT Turn	
	level	reading	High Table	
ı	MHz dBuV/m dBuV/m dB	dBuV dB	cm deg	
1 23	54.00 52.12 54.00 -1.88	55.20 -3.08 Averag		

-3.08

4.77

4.77

9.57

9.57

47.90

52.30

Peak

Average

Average

Peak

Peak

2354.00 64.32 74.00 -9.68 67.40

7311.00 39.52 54.00 -14.48 29.95 7311.00 50.96 74.00 -23.04 41.39

4874.00 52.67 54.00 -1.33 4874.00 57.07 74.00 -16.93

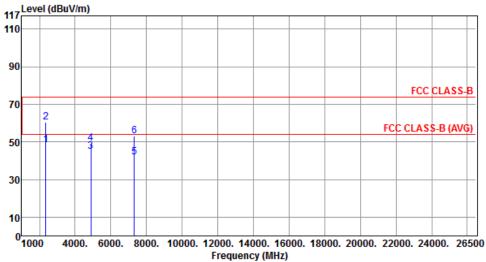
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB) *Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR370301AC Page: 34 of 65



Modulation	11b	Test Freq. (MHz)	2437					
Polarization	Vertical							
117 Level (dBuV/m)								

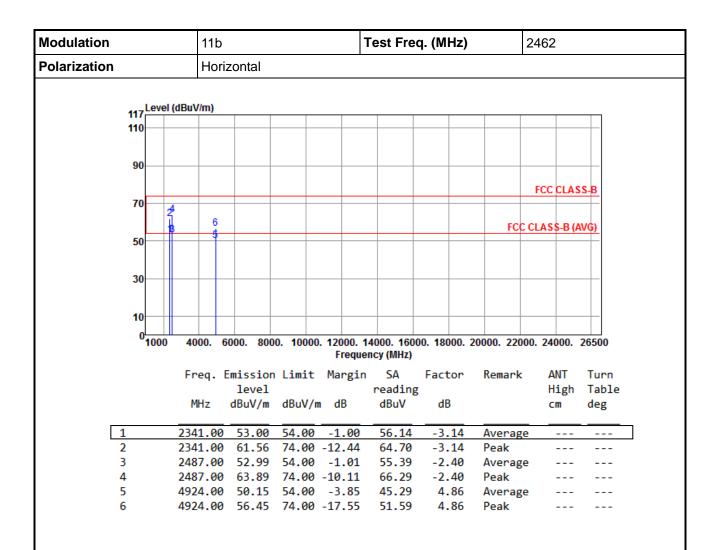


	Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	2354.00	48.23	54.00	-5.77	51.31	-3.08	Average		
2	2354.00	60.57	74.00	-13.43	63.65	-3.08	Peak		
3	4874.00	44.88	54.00	-9.12	40.11	4.77	Average		
4	4874.00	49.13	74.00	-24.87	44.36	4.77	Peak		
5	7311.00	41.69	54.00	-12.31	32.12	9.57	Average		
6	7311.00	53.04	74.00	-20.96	43.47	9.57	Peak		

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR370301AC Page: 35 of 65





Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

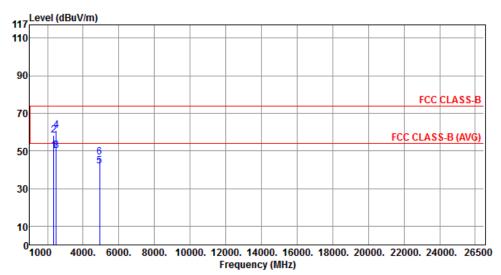
*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR370301AC Page: 36 of 65



Modulation	11b	Test Freq. (MHz)	2462
Polarization	Vertical		



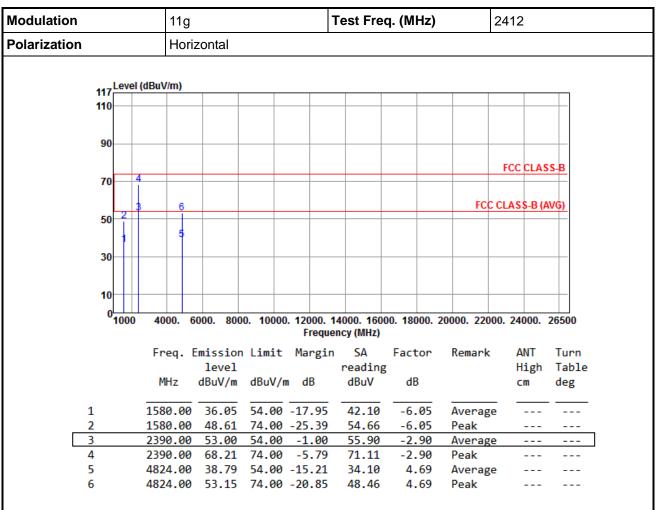
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Ū	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2341.00	49.92	54 00	-4.08	53.06	-3.14	Average		
2	2341.00		74.00		61.58	-3.14	Peak		
3	2487.00	49.97	54.00	-4.03	52.37	-2.40	Average		
4	2487.00	60.73	74.00	-13.27	63.13	-2.40	Peak		
5	4924.00	41.78	54.00	-12.22	36.92	4.86	Average		
6	4924.00	46.50	74.00	-27.50	41.64	4.86	Peak		

*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR370301AC Page: 37 of 65



3.5.6 Transmitter Radiated Unwanted Emissions (Above 1GHz) for 11g



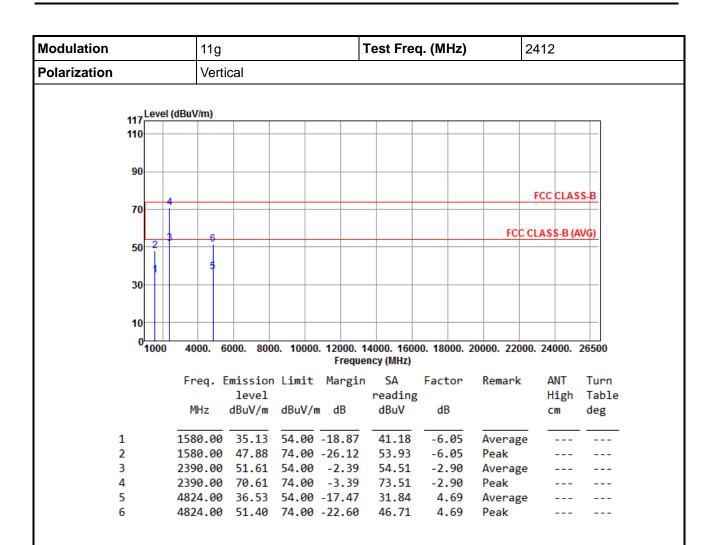
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR370301AC Page: 38 of 65



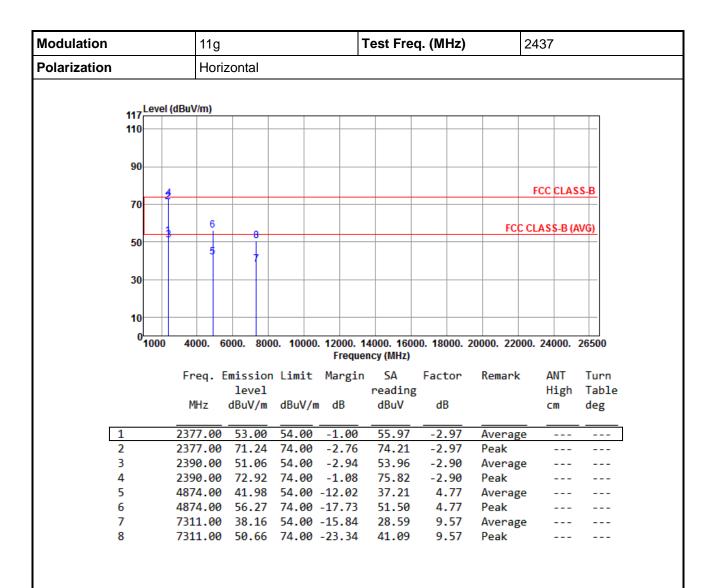


*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR370301AC Page: 39 of 65





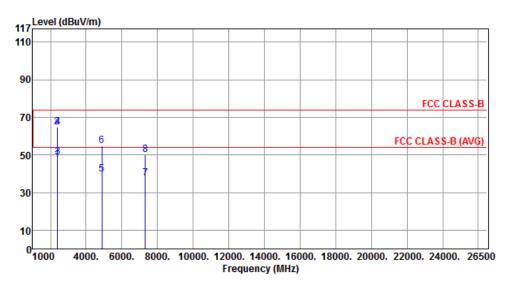
*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR370301AC Page: 40 of 65



Modulation	11g	Test Freq. (MHz)	2437
Polarization	Vertical		



	Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	2377.00	47.67	54.00	-6.33	50.64	-2.97	Average		
2	2377.00	64.84	74.00	-9.16	67.81	-2.97	Peak		
3	2390.00	48.75	54.00	-5.25	51.65	-2.90	Average		
4	2390.00	64.86	74.00	-9.14	67.76	-2.90	Peak		
5	4874.00	39.69	54.00	-14.31	34.92	4.77	Average		
6	4874.00	54.66	74.00	-19.34	49.89	4.77	Peak		
7	7311.00	37.50	54.00	-16.50	27.93	9.57	Average		
8	7311.00	49.97	74.00	-24.03	40.40	9.57	Peak		

*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR370301AC Page: 41 of 65



Modulation	11g			Test Fre	eq. (MHz)	2	2462	
Polarization	Horiz	ontal						
117 Leve	l (dBuV/m)							
110								+
90								
							FCC CLAS	SS-B
70	2							
	4					FCC C	CLASS-B (A	AVG)
50		6						
	3	5						
30								
10								
0								
1000	4000. 60	00. 8000.	10000. 12000 Freq	. 14000. 160 uency (MHz)		20000. 22000). 24000.	26500
	Frea. Fr	mission L	imit Marg	in SA	Factor	Remark	ANT	Turn
		level		reading			High	Tabl
	MHz o	dBuV/m d	BuV/m dB	dBuV	dB		cm	deg
1	2483.50	49.78 5	4.00 -4.2	52.20	-2.42	Average		
2			4.00 -6.0			Peak		
3			4.00 -13.90			Average		
4			4.00 -19.7			Peak		
5			4.00 -17.7			Average		
6	/386.00	48.43 7	4.00 -25.5	7 38.75	9.68	Peak		

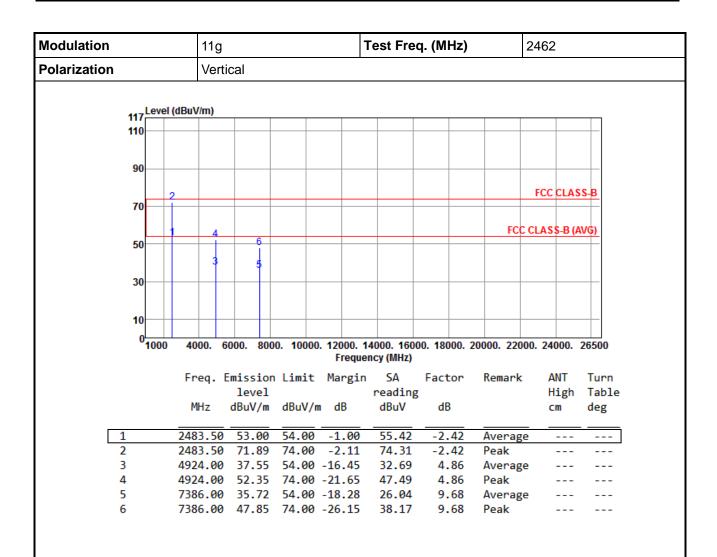
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR370301AC Page: 42 of 65

Report Version: Rev. 01





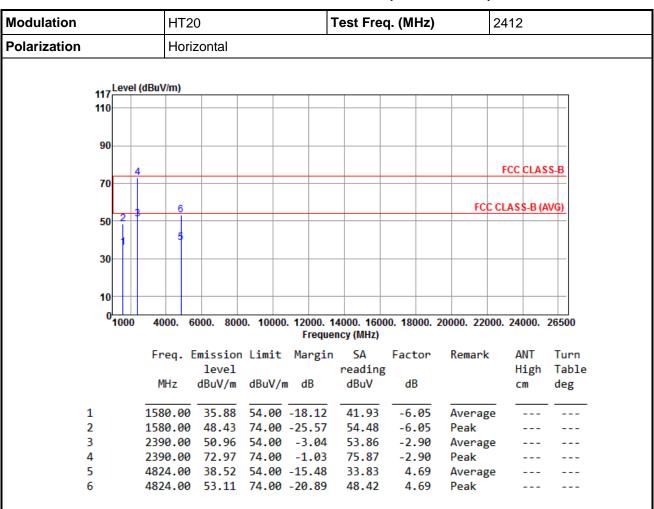
*Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR370301AC Page: 43 of 65



3.5.7 Transmitter Radiated Unwanted Emissions (Above 1GHz) for HT20



Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain

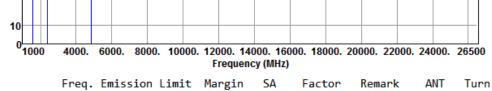
Note 2: Margin (dB) = Emission level (dBuV/m) - Limit (dBuV/m).

Report No.: FR370301AC Page: 44 of 65



30

Modulation		HT20	HT20				eq. (M	Hz)	2412		
Polarization		Vertical									
117 110	_evel (dBu	V/m)									
90-											
70	4								FCC	CLASS-E	



level reading Hig MHz dBuV/m dBuV/m dB dBuV dB cm	h Table deg
Till abaviii abaviii ab	
1 1580.00 34.89 54.00 -19.11 40.94 -6.05 Average	
2 1580.00 47.53 74.00 -26.47 53.58 -6.05 Peak	
3 2390.00 51.33 54.00 -2.67 54.23 -2.90 Average	
4 2390.00 70.41 74.00 -3.59 73.31 -2.90 Peak	
5 4824.00 36.11 54.00 -17.89 31.42 4.69 Average	
6 4824.00 50.78 74.00 -23.22 46.09 4.69 Peak	

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR370301AC Page: 45 of 65



Modulation				НТ	Γ20				Т	est Fre	q. (M	Hz)		2437	7	
Polarization				Нс	rizor	ntal			•							
	117	Level	(dBu\	//m)												
	110															
	90															
	90															
			4											FCC	CLAS	S-B
	70	1	f													
			3	6	}								FC	C CLAS	S-B (#	(VG)
	50			Η,		8										\equiv
				1		†										
	30															
	40															
	10															
	0	1000	40	00.	6000	. 80	000. 100				00. 180	000. 2	20000. 220	000. 24	000.	26500
								ı	requen	icy (MHz)						
			Fr	eq.			on Limi	it Ma	_		Fact	tor	Remark		MT	Turn
					_	eve]				reading					ligh	Table
			М	Ηz	dB	uV/r	n dBu\	//m c	IR	dBuV	dE	3		C	m	deg
	1		237	77.0	00 5	2.94	54.6	00 -1	.06	55.91	-2	.97	Averag			
	2		237			7.74			.26	70.71	-2.		Peak	,~		
	3		239			3.00			.00	55.90	-2.		Averag	ge		
_	4		239	0.0	0 7	2.28	74.6	00 -1	.72	75.18	-2.		Peak			
	5		487			1.52		00 -12		36.75		.77	Averag	ge		
	6		487			6.03		00 -17		51.26		.77	Peak			
	7		731	1.0	90 3	/.88	3 54.6	00 -16	.12	28.31	9.	.57	Averag	ge		

9.57

Peak

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

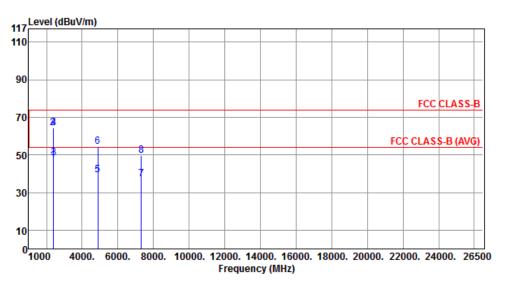
7311.00 50.29 74.00 -23.71 40.72

*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR370301AC Page: 46 of 65



Modulation	HT20	Test Freq. (MHz)	2437
Polarization	Vertical		

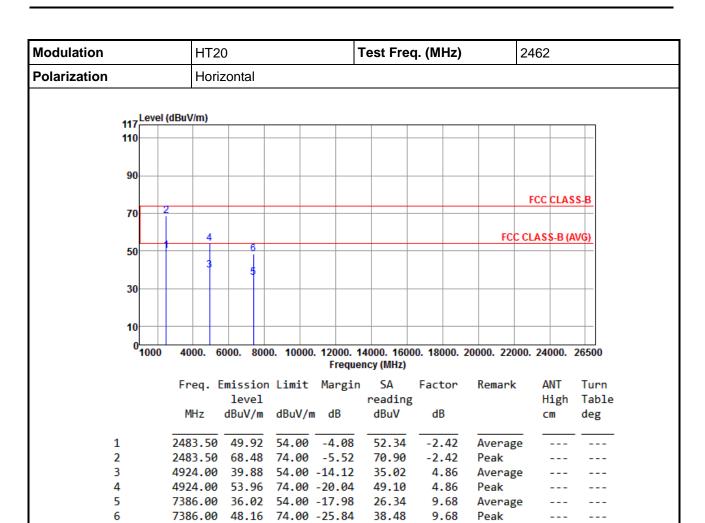


	Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	2377.00	47.25	54.00	-6.75	50.22	-2.97	Average		
2	2377.00	64.27	74.00	-9.73	67.24	-2.97	Peak		
3	2390.00	48.52	54.00	-5.48	51.42	-2.90	Average		
4	2390.00	64.53	74.00	-9.47	67.43	-2.90	Peak		
5	4874.00	39.28	54.00	-14.72	34.51	4.77	Average		
6	4874.00	54.23	74.00	-19.77	49.46	4.77	Peak		
7	7311.00	37.11	54.00	-16.89	27.54	9.57	Average		
8	7311.00	49.66	74.00	-24.34	40.09	9.57	Peak		

*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR370301AC Page: 47 of 65



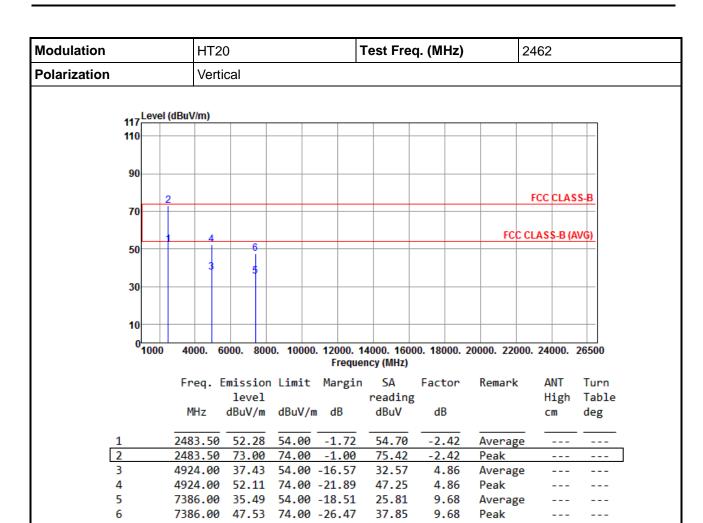


Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB) *Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) - Limit (dBuV/m).

Report No.: FR370301AC Page: 48 of 65





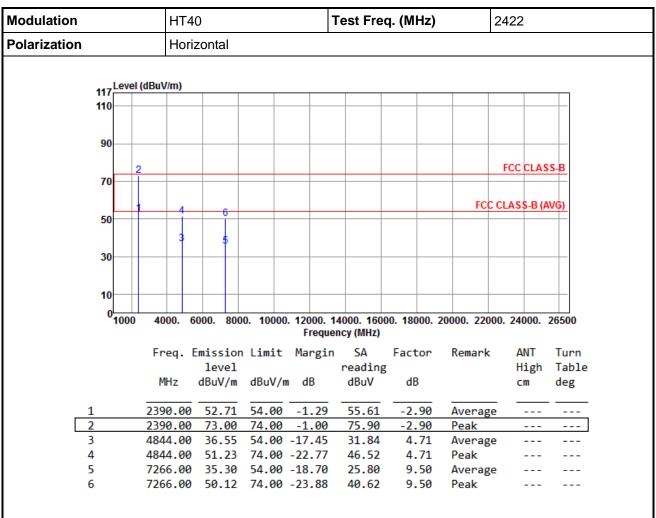
Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB) *Factor includes antenna factor, cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR370301AC Page: 49 of 65



3.5.8 Transmitter Radiated Unwanted Emissions (Above 1GHz) for HT40



Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)

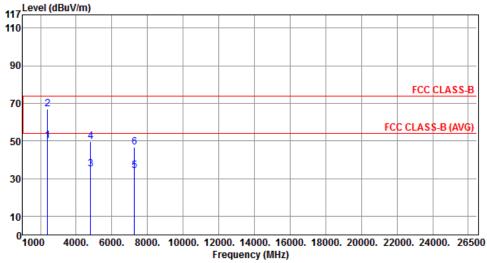
*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) - Limit (dBuV/m).

Report No.: FR370301AC Page: 50 of 65



Modulation	HT40				Test Freq. (MHz)				2422				
Polarization		Vertical											
1.	aval (dRu\	//m)											
117 110	evel (dBu\												



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Ū	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	50.26	54 00	-3.74	53.16	-2.90	Average		
_									
2	2390.00	66.92	74.00	-7.08	69.82	-2.90	Peak		
3	4804.00	35.02	54.00	-18.98	30.37	4.65	Average		
4	4804.00	49.73	74.00	-24.27	45.08	4.65	Peak		
5	7266.00	34.11	54.00	-19.89	24.61	9.50	Average		
6	7266.00	46.83	74.00	-27.17	37.33	9.50	Peak		

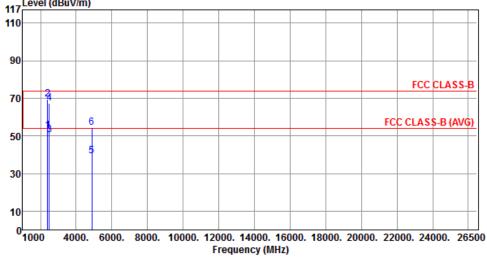
*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR370301AC Page: 51 of 65



Modulation			HT40			Te	Test Freq. (MHz)				2437				
Polarization			Horizontal												
447	Level	(dBuV	/m)												
117															



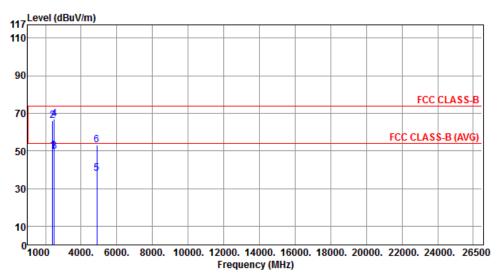
	Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	2390.00	52.51	54.00	-1.49	55.41	-2.90	Average		
2	2390.00	69.61	74.00	-4.39	72.51	-2.90	Peak		
3	2483.50	50.58	54.00	-3.42	53.00	-2.42	Average		
4	2483.50	67.38	74.00	-6.62	69.80	-2.42	Peak		
5	4874.00	39.29	54.00	-14.71	34.52	4.77	Average		
6	4874.00	54.22	74.00	-19.78	49.45	4.77	Peak		

Note 1: Emission Level (dBuV/m) = SA Reading (dBuV/m) + Factor* (dB)
*Factor includes antenna factor , cable loss and amplifier gain
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR370301AC Page: 52 of 65



Modulation	HT40	Test Freq. (MHz)	2437
Polarization	Vertical		

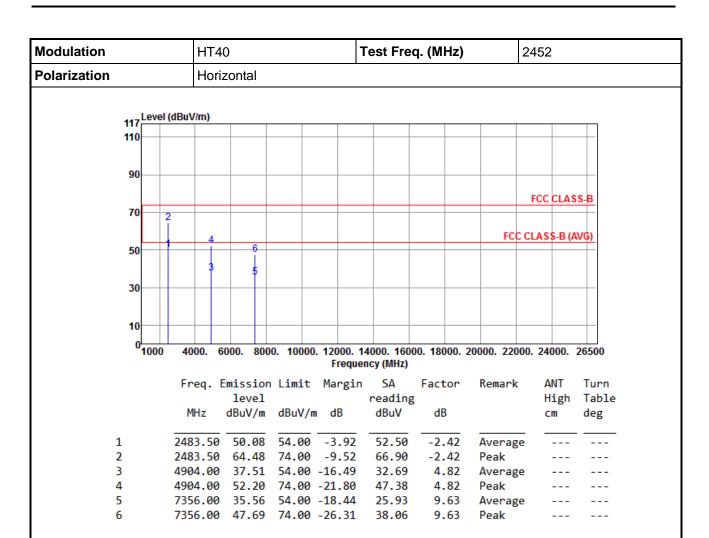


	Freq.	Emission level dBuV/m		Ü	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	50.11	54.00	-3.89	53.01	-2.90	Average		
2	2390.00			-7.92	68.98	-2.90	Peak		
3	2483.50	49.48	54.00	-4.52	51.90	-2.42	Average		
4	2483.50	66.98	74.00	-7.02	69.40	-2.42	Peak		
5	4874.00	38.10	54.00	-15.90	33.33	4.77	Average		
6	4874.00	53.02	74.00	-20.98	48.25	4.77	Peak		

*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR370301AC Page: 53 of 65



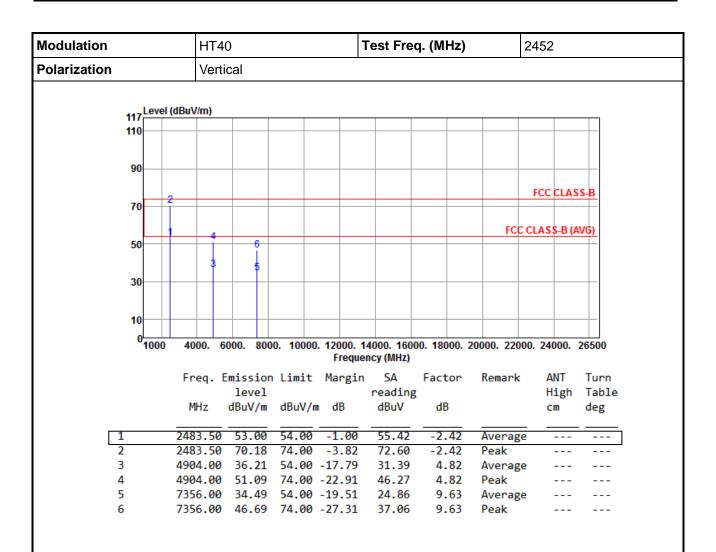


*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR370301AC Page: 54 of 65





*Factor includes antenna factor , cable loss and amplifier gain

Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Report No.: FR370301AC Page: 55 of 65



3.6 Emissions in Non-Restricted Frequency Bands

3.6.1 Emissions in Non-Restricted Frequency Bands Limit

Peak power in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 30 dB relative to the maximum in-band peak PSD level in 100 kHz

3.6.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.6.3 Test Procedures

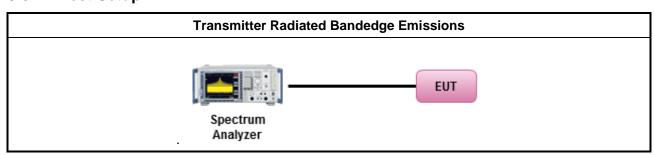
Reference level measurement

- 1. Set RBW=100kHz, VBW = 300kHz, Detector = Peak, Sweep time = Auto
- 2. Trace = max hold, Allow Trace to fully stabilize
- 3. Use the peak marker function to determine the maximum PSD level

Emission level measurement

- 1. Set RBW=100kHz, VBW = 300kHz, Detector = Peak, Sweep time = Auto
- 2. Trace = max hold, Allow Trace to fully stabilize
- 3. Scan Frequency range is up to 25GHz
- 4. Use the peak marker function to determine the maximum amplitude level

3.6.4 Test Setup



3.6.5 Test Result of Emissions in non-restricted frequency bands

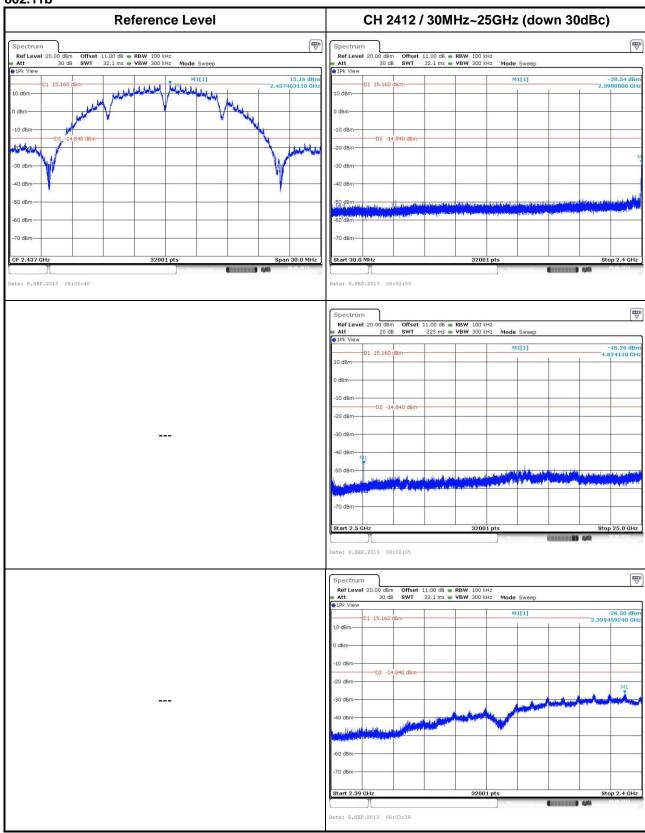
This test item is performed on each TX output individually without summing or adding 10 $log(N_{ANT})$ since measurements are made relative to the in-band emissions on the individual outputs. Only worst test result of each operating mode is presented.

Report No.: FR370301AC Page: 56 of 65



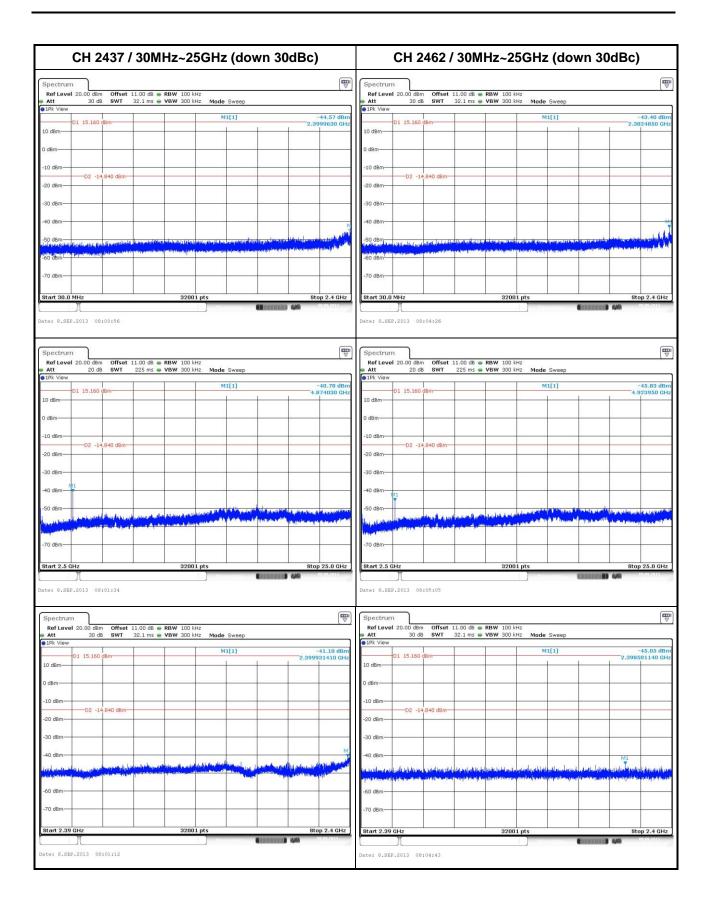
3.6.6 Unwanted Emissions into Non-Restricted Frequency Bands

802.11b



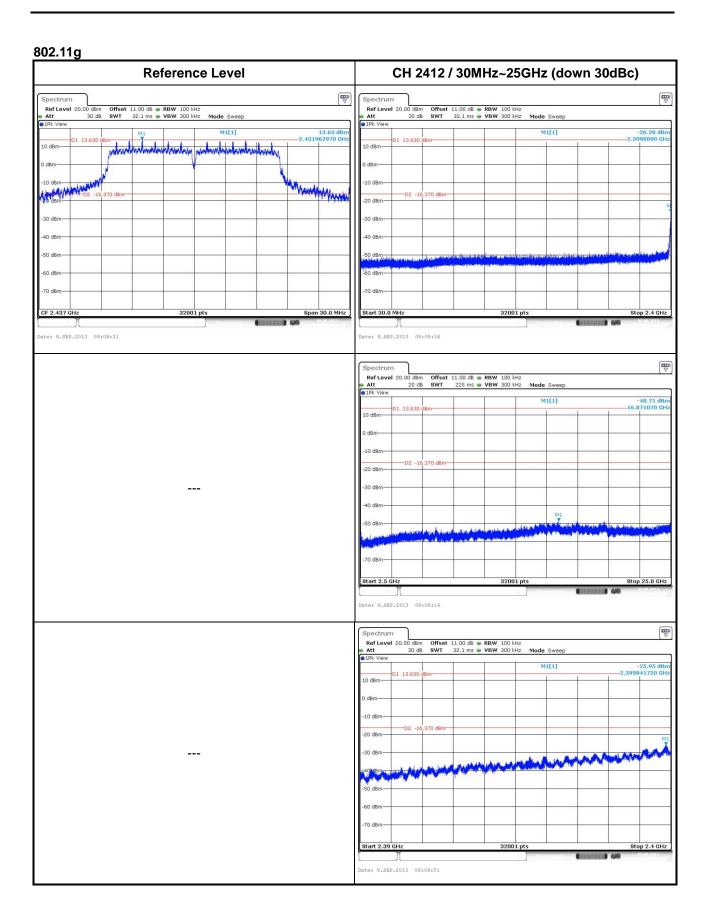
Report No.: FR370301AC Report Version: Rev. 01





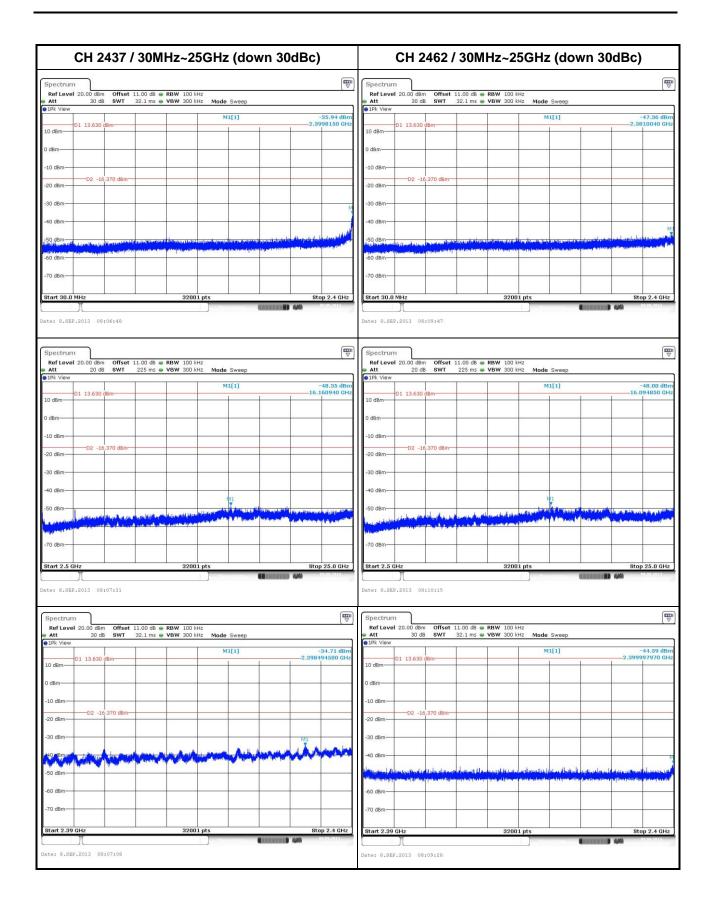
Report No.: FR370301AC Page: 58 of 65





Report No.: FR370301AC Page: 59 of 65

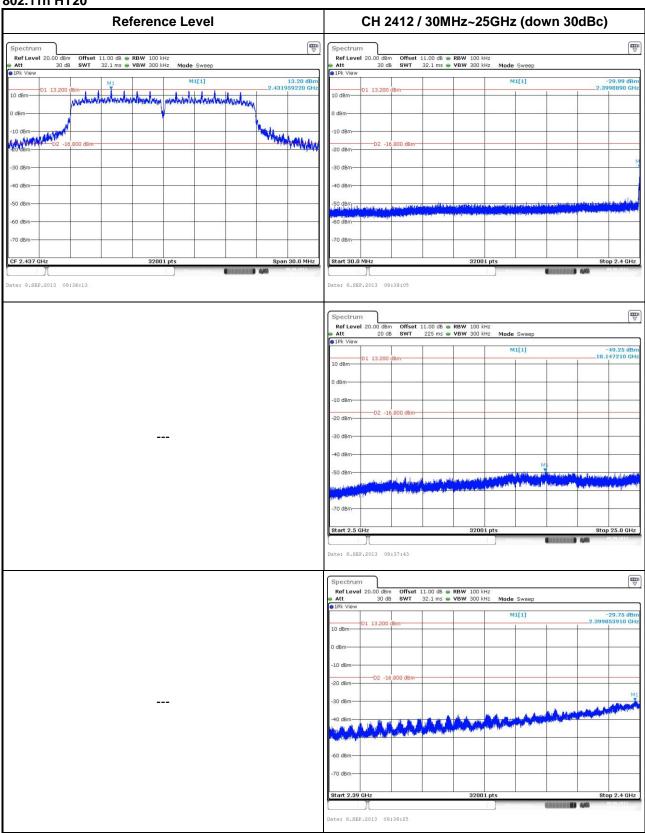




Report No.: FR370301AC Page: 60 of 65

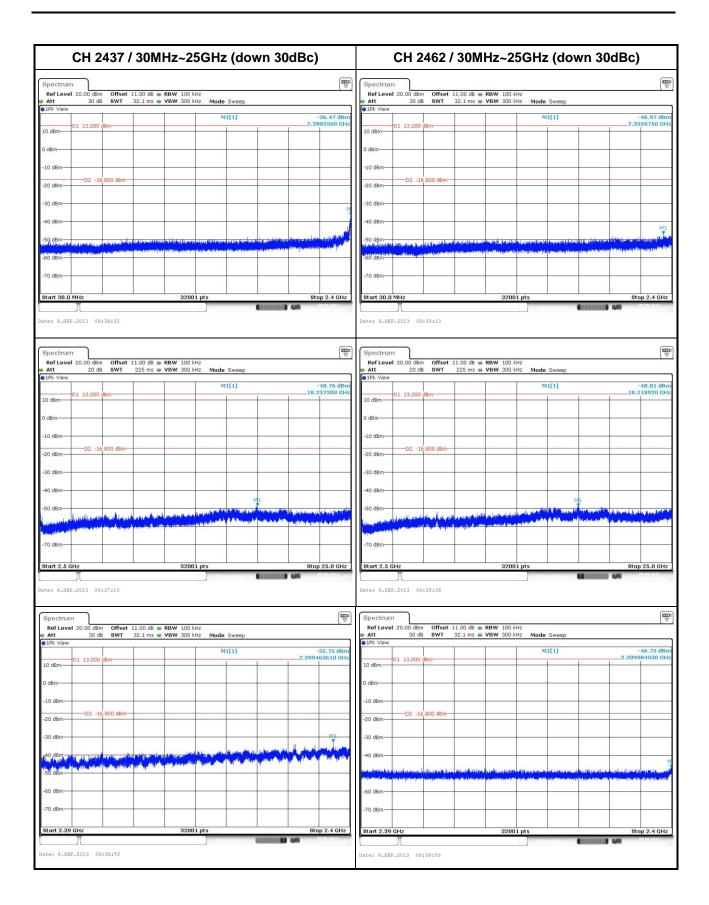


802.11n HT20



Report No.: FR370301AC Page: 61 of 65

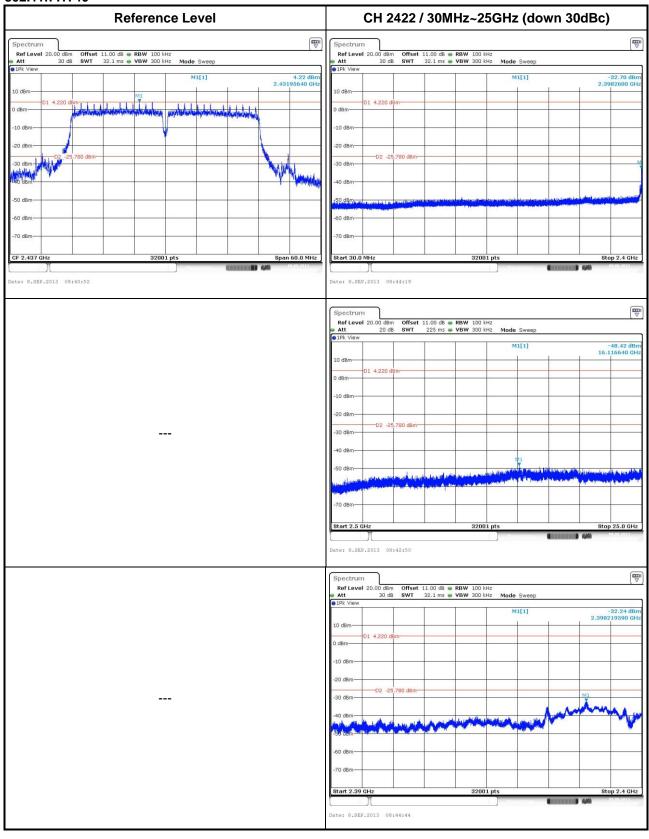




Report No.: FR370301AC Page: 62 of 65

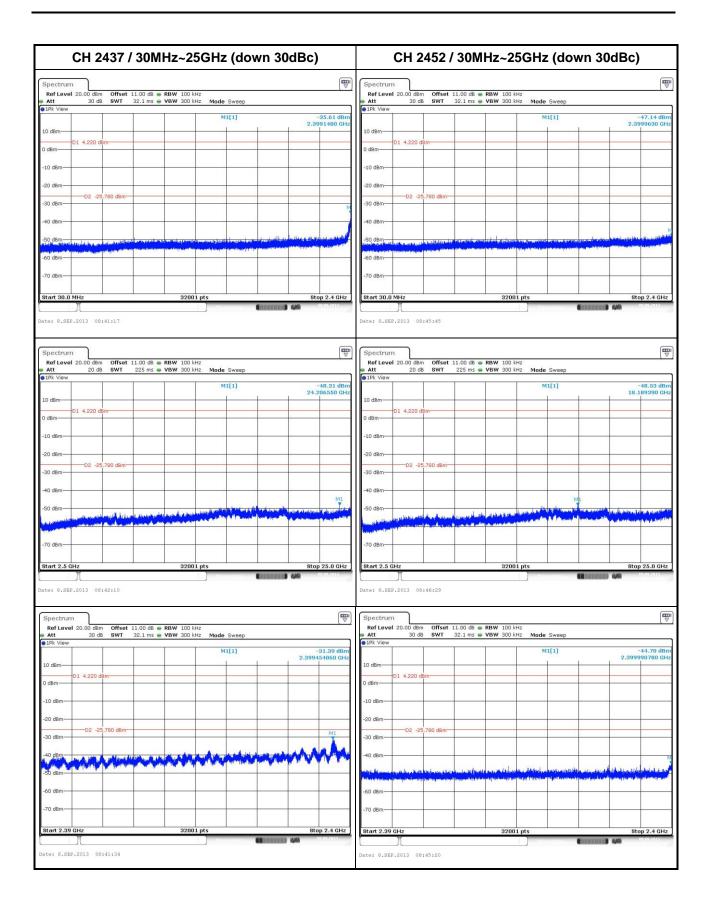


802.11n HT40



Report No.: FR370301AC Page: 63 of 65





Report No.: FR370301AC Page: 64 of 65



4 Test laboratory information

Established in 2012, ICC provides foremost EMC & RF Testing and advisory consultation services by our skilled engineers and technicians. Our services employ a wide variety of advanced edge test equipment and one of the widest certification extents in the business.

International Certification Corp, it is our definitive objective is to institute long term, trust-based associations with our clients. The expectation we set up with our clients is based on outstanding service, practical expertise and devotion to a certified value structure. Our passion is to grant our clients with best EMC / RF services by oriented knowledgeable and accommodating staff.

Our Test sites are located at Linkou District and Kwei Shan Hsiang. Location map can be found on our website http://www.icertifi.com.tw.

Linkou Kwei Shan

Tel: 886-2-2601-1640

No. 30-2, Ding Fwu Tsuen, Lin Kou District, New Taipei

City, Taiwan, R.O.C.

Tel: 886-3-271-8666

No. 3-1, Lane 6, Wen San 3rd St., Kwei Shan Hsiang, Tao Yuan Hsien 333, Taiwan, R.O.C.

If you have any suggestion, please feel free to contact us as below information

Tel: 886-3-271-8666 Fax: 886-3-318-0155

Email: ICC_Service@icertifi.com.tw

==END==

Report No.: FR370301AC Page: 65 of 65