FCC Test Report

FCC ID : SQG-MSD45N

Equipment : 45 Series Pluggable module

Model No. : MSD45N

Brand Name : Laird Technologies

Applicant : Laird Technologies

Address : 11160 Thompson Ave. / Lenexa, Kansas /

66219 / USA

Standard : 47 CFR FCC Part 15.247

Received Date : May 08, 2013

Tested Date : May 08 ~ Jul. 23, 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



Report No.: FR371704AC Report Version: Rev. 01 Page: 1 of 94

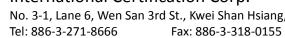


Table of Contents

1	GENERAL DESCRIPTION	5
1.1	Information	5
1.2	Test Setup Chart	7
1.3	The Equipment List	
1.4	Test Standards	
1.5	Measurement Uncertainty	11
2	TEST CONFIGURATION	12
2.1	Testing Condition	12
2.2	The Worst Test Modes and Channel Details	12
3	TRANSMITTER TEST RESULTS	13
3.1	Conducted Emissions	
3.2	6dB and Occupied Bandwidth	
3.3	RF Output Power	19
3.4	Power Spectral Density	21
3.5	Unwanted Emissions into Restricted Frequency Bands	23
3.6	Unwanted Emissions into Non-Restricted Frequency Bands	85



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

Release Record

Report No.	Version	Description	Issued Date
FR371704AC	Rev. 01	Initial issue	Aug. 19, 2013

Report No.: FR371704AC Page: 3 of 94

Summary of Test Results

FCC Rules	Test Items	Measured	Result
15.207	Conducted Emissions	[dBuV]: 0.150MHz 50.06 (Margin -15.94dB) - QP	Pass
15.247(d) 15.209	Radiated Emissions	[dBuV/m at 3m]: 4924.00MHz 52.93 (Margin -1.07dB) - AV	Pass
15.247(b)(3)	Fundamental Emission Output Power	Power [dBm]: 11b: 18.82 11g: 21.95 HT20: 22.61	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.: FR371704AC Page: 4 of 94

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

1 General Description

1.1 Information

1.1.1 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]	1	1-11 Mbps			
2400-2483.5	g	2412-2462	1-11 [11]	1	6-54 Mbps			
2400-2483.5	n (HT20)	2412-2462	1-11 [11]	1	MCS 0-7			

Note 1: RF output power specifies that Maximum Peak Conducted 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.

1.1.2 Antenna Details

Ant.	Brand / Model	Brand / Model Type		Operating Frequencies (MHz) / Antenna Gain (dBi)				
No.	Brana / Moder	Type	Connector	2400~2483.5	5150~5250	5250~5350	5470~5725	5725~5850
1	MAG.LAYERS EDA-1513-25GR 2-B2-CY	Dipole	SMA Jack Reverse	2	2	2	2	2
2	MAG.LAYERS PCA-4606-2G4C 1-A13-CY	PCB Dipole	UFL	2.21	2.21	2.21	2.21	2.21
3	Larid NanoBlade-IP04	PCB Dipole	UFL	2	3.9	3.9	4	4
4	Larid MAF95310 Mini NanoBlade Flex	PCB Dipole	UFL	2.79	3.38	3.38	3.38	3.38
5	Laird NanoBlue-IP04	PCB Dipole	UFL	2				
6	Ethertronics WLAN_1000146	PIFA	UFL	2.5	3.5	3.5	3.5	3.5

1.1.3 EUT Operational Condition

Supply Voltage	☐ AC mains	□ DC (3.3Vdc)	
Type of DC Source	☐ Internal DC supply	☐ External DC adapter	

Report No.: FR371704AC Page: 5 of 94

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

1.1.4 Accessories

N/A

1.1.5 Channel List

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

1.1.6 Test Tool and Duty Cycle

Test tool	ART V0.2
Duty Cycle Of Test Signal (%)	100.00% - IEEE 802.11b 99.30% - IEEE 802.11g 99.25% - IEEE 802.11n (HT20)
Duty Factor	0.00 - IEEE 802.11b 0.03 - IEEE 802.11g 0.03 - IEEE 802.11n (HT20)

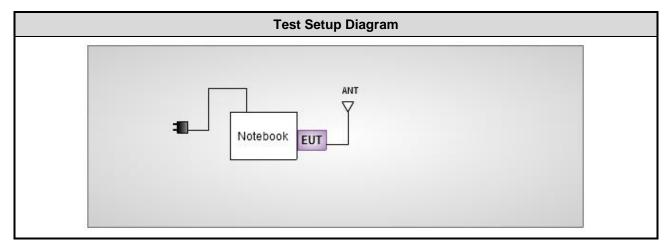
1.1.7 Power Setting

		Test Frequency (MHz)	
Modulation Mode		b/g/HT20	
	2412	2437	2462
b	16	16.5	14.5
g	15	19.5	13
n (HT20)	14.5	19.5	13.5

Report No.: FR371704AC Page: 6 of 94

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

1.2 **Test Setup Chart**



Report No.: FR371704AC Page: 7 of 94

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

The Equipment List 1.3

Test Item	Conducted Emission	Conducted Emission						
Test Site	Conduction room 1 / (C	O01-WS)						
Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Until			
EMC Receiver	R&S	ESCS 30	100169	Oct. 02, 2012	Oct. 01, 2013			
LISN	SCHWARZBECK MESS-ELEKTRONIK	Schwarzbeck 8127	8127-667	Dec. 04, 2012	Dec. 03, 2013			
LISN (Support Unit)	SCHWARZBECK MESS-ELEKTRONIK	Schwarzbeck 8127	8127-666	Dec. 04, 2012	Dec. 03, 2013			
ISN	TESEQ	ISN T800	34406	Apr. 08, 2013	Apr. 07, 2014			
ISN	TESEQ	ISN T200A	30494	Apr. 09, 2013	Apr. 08, 2014			
ISN	TESEQ	ISN T8-Cat6	27262	Sep. 17, 2012	Sep. 16, 2013			
ISN	TESEQ	ISN ST08	22589	Jan. 24, 2013	Jan. 23, 2014			
RF Current Probe	FCC	F-33-4	121630	Dec. 04, 2012	Dec. 03, 2013			
RF Cable-CON	Woken	CFD200-NL	CFD200-NL-001	Dec. 25, 2012	Dec. 24, 2013			
ESH3-Z6 V-Network(+)	R&S	ESH3-Z6	100920	Nov. 21, 2012	Nov. 20, 2013			
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			
Note: Calibration Inter-	val of instruments listed a	above is one year.						

Report No.: FR371704AC Page: 8 of 94



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Test Item	Radiated Emission above 1GHz							
Test Site	966 chamber1 / (03CH01-WS)							
Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Until			
3m semi-anechoic chamber	CHAMPRO	SAC-03	03CH01-WS	Jan. 04, 2013	Jan. 03, 2014			
Spectrum Analyzer	R&S	FSV40	101498	Jan. 24, 2013	Jan. 23, 2014			
Receiver	ROHDE&SCHWAR Z	ESR3	101658	Jan. 28, 2013	Jan. 27, 2014			
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-522	Jan. 11, 2013	Jan. 10, 2014			
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1096	Feb. 18, 2013	Feb. 17, 2014			
Horn Antenna 18G-40G	SCHWARZBECK	BBHA 9170	BBHA 9170517	Jan. 14, 2013	Jan. 13, 2014			
Amplifier	Burgeon	BPA-530	100219	Nov. 28, 2012	Nov. 27, 2013			
Amplifier	Agilent	83017A	MY39501308	Dec. 18, 2012	Dec. 17, 2013			
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16014/4	Dec. 25, 2012	Dec. 24, 2013			
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16019/4	Dec. 25, 2012	Dec. 24, 2013			
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16139/4	Dec. 25, 2012	Dec. 24, 2013			
RF Cable-R03m	Woken	CFD400NL-LW	CFD400NL-001	Dec. 25, 2012	Dec. 24, 2013			
RF Cable-R10m	Woken	CFD400NL-LW	CFD400NL-002	Dec. 25, 2012	Dec. 24, 2013			
control	EM Electronics	EM1000	60612	N/A	N/A			

Loop Antenna	R&S	HFH2-Z2	100330	Nov. 15, 2012	Nov. 14, 2014			
Amplifier	MITEQ	AMF-6F-260400	9121372	Apr. 19, 2013	Apr. 18, 2015			
Note: Calibration Interval of instruments listed above is two year.								

Report No.: FR371704AC Page: 9 of 94



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

Test Item	RF Conducted				
Test Site	(TH01-WS)				
Instrument	Manufacturer	Model No.	Model No. Serial No.		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	Nov. 29, 2012	Nov. 28, 2013
Power Meter	Anritsu	ML2495A	1241002	Oct. 15, 2012	Oct. 14, 2013
Power Sensor	Anritsu	MA2411B	1027366	Oct. 24, 2012	Oct. 23, 2013
Signal Generator	R&S	SMB100A	175727	Jan. 14, 2013	Jan. 13, 2014
Radio Communication Analyzer	Anritsu	MT8820C	6201240341	Mar. 13, 2013	Mar. 12, 2014
Wideband Radio Communication Tester	R&S	CMW500	106070	Jan. 29, 2013	Jan. 28, 2014
Bluetooth Tester	R&S	CBT	100959	Jan. 09, 2013	Jan. 08, 2014
MXG-B RF Vector Signal Generator	Agilent	N5182B	MY53050081	Apr. 19, 2013	Apr. 18, 2014

Test Standards 1.4

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 v03

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.: FR371704AC Page: 10 of 94

1.5 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.: FR371704AC Page: 11 of 94

No. 3-1, Lane 6, Wen San 3rd St., Kwei Shan Hsiang, Tao Yuan Hsien 333, Taiwan, R.O.C. Tel: 886-3-271-8666 Fax: 886-3-318-0155

2 Test Configuration

2.1 Testing Condition

Test Item	Test Site	Ambient Condition	Tested By
AC Conduction	CO01-WS	23°C / 63%	Peter Ling
Radiated Emissions	03CH01-WS	25°C / 65%	Aska Huang Haru Yang
RF Conducted	TH01-WS	22°C / 60%	Brad Wu Felix Sung

FCC site registration No.: 657002IC site registration No.: 10807A-1

2.2 The Worst Test Modes and Channel Details

Test item	Modulation Mode	Test Frequency (MHz)	Data rate (Mbps) / MCS	Test Configuration
Conducted Emissions	HT20	2437	MCS0	1
Radiated Emissions (below 1GHz)	HT20	2437	MCS0	1, 2, 3
Radiated Emissions (above 1GHz)	11b 11g HT20	2412 / 2437 / 2462 2412 / 2437 / 2462 2412 / 2437 / 2462	1 6 MCS 0	1, 2, 3
Fundamental Emission Output Power 6dB bandwidth Power spectral density	11b 11g HT20	2412 / 2437 / 2462 2412 / 2437 / 2462 2412 / 2437 / 2462	1 6 MCS 0	1

NOTE:

- 1. 3 types antenna are used for this device, highest gain antenna of each type is selected to perform radiated emission test as below test configuration
 - 1) Configuration 1 : Dipole antenna (Antenna No.1) , Y-plane
 - 2) Configuration 2: PCB Dipole antenna (Antenna No.4), Y-plane
 - 3) Configuration 3: PIFA antenna (Antenna No.6), Y-plane

Report No.: FR371704AC Page: 12 of 94

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

Transmitter Test Results 3

3.1 **Conducted Emissions**

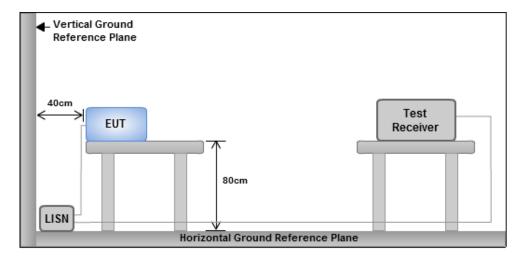
3.1.1 **Limit of Conducted Emissions**

	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

- 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.
- 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.
- This measurement was performed with AC 120V / 60Hz.

3.1.3 **Test Setup**



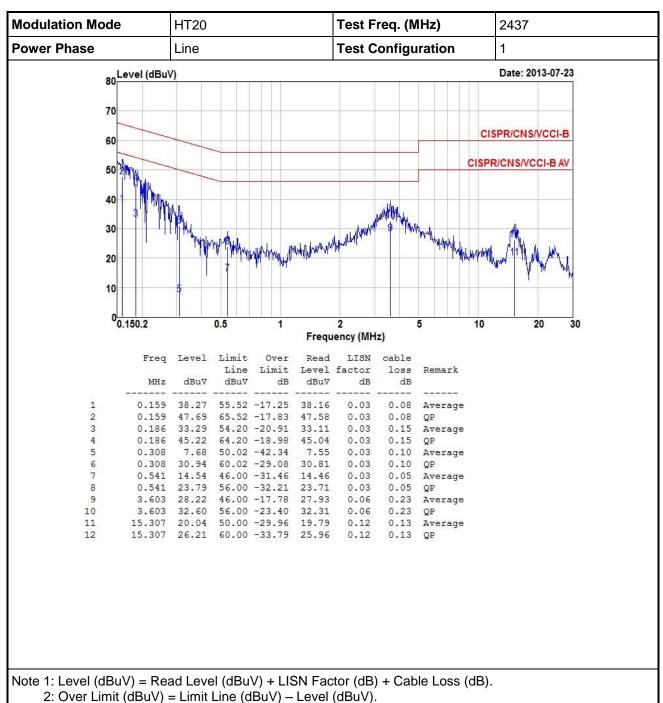
Note: 1. Support units were connected to second LISN.

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

Report No.: FR371704AC Page: 13 of 94

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

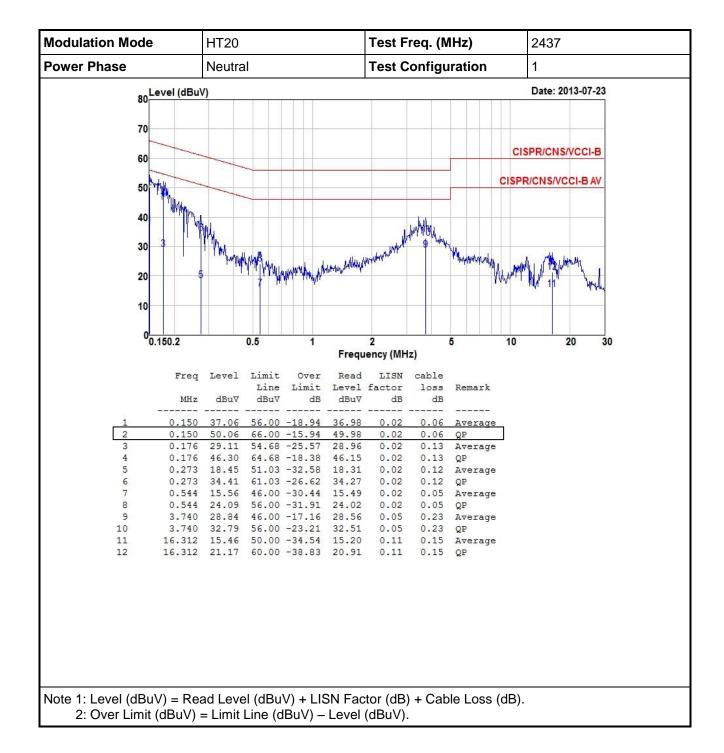
3.1.4 Test Result of Conducted Emissions



Report No.: FR371704AC Page: 14 of 94



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



Report No.: FR371704AC Page: 15 of 94

3.2 6dB and Occupied Bandwidth

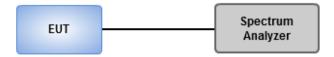
3.2.1 Limit of 6dB Bandwidth

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

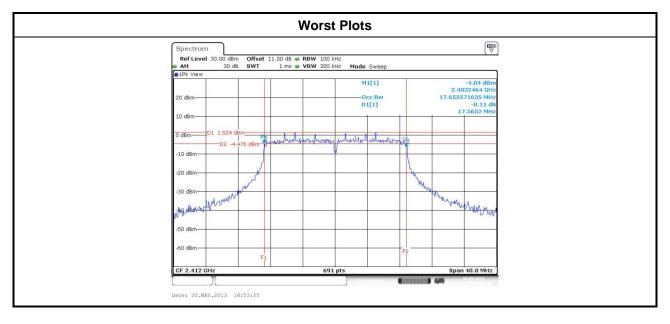


Report No.: FR371704AC Page: 16 of 94

No. 3-1, Lane 6, Wen San 3rd St., Kwei Shan Hsiang, Tao Yuan Hsien 333, Taiwan, R.O.C. Tel: 886-3-271-8666 Fax: 886-3-318-0155

3.2.4 Test Result of 6dB and Occupied Bandwidth

Modulation	N	Freq. (MHz)		6dB Bandv	vidth (MHz)		Limit (kHz)
Mode	N _{TX}	rieq. (MITZ)	Chain 0	Chain 1	Chain 2	Chain 3	LIIIII (KHZ)
11b	1	2412	10.09				500
11b	1	2437	10.09				500
11b	1	2462	10.09				500
11g	1	2412	16.29				500
11g	1	2437	16.35				500
11g	1	2462	16.35				500
HT20	1	2412	17.57				500
HT20	1	2437	17.28				500
HT20	1	2462	17.51				500



Report No.: FR371704AC Page: 17 of 94



HT20

HT20

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2437

2462

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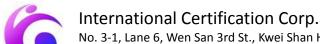
99% Occupied Bandwidth (MHz) Modulation Freq. (MHz) Mode Chain 0 Chain 1 Chain 2 Chain 3 11b 13.84 2412 11b 2437 13.95 ---11b 2462 13.84 11g 2412 17.08 ---------2437 21.94 11g ---------2462 17.13 11g HT20 2412 18.18

23.50

18.12



Report No.: FR371704AC Page: 18 of 94



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

3.3 RF Output Power

3.3.1 Limit of RF Output Power

Cor	duct	ed po	ower shall not exceed 1Watt.
\boxtimes	Ante	enna	gain <= 6dBi, no any corresponding reduction is in output power limit.
	Ante	enna	gain > 6dBi
		The	n Fixed, point to point operations. e conducted output power from the intentional radiator shall be reduced by the amount in dB the directional gain of the antenna exceeds 6 dB
		Sys Ope	ed, point to point operations tems operations in the 2400–2483.5 MHz band that are used exclusively for fixed, point-to-point erations, maximum peak output power of the intentional radiator is reduced by 1 dB for every 3 that the directional gain of the antenna exceeds 6 dBi.
			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
\boxtimes	Max	kimur	m Peak Conducted Output Power
		Spe	ectrum 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.
	\boxtimes	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	kimur	m Conducted Output Power (For reference only)
		Spe	ectrum analyzer
		1.	Set RBW = 1MHz, VBW = 3MHz, Detector = RMS.
		2.	Set the sweep time to: \geq 10 x (number of measurement points in sweep) x (maximum data rate per stream).
		3.	Perform the measurement over a single sweep.
		4.	Use the spectrum analyzer's band power measurement function with band limits set equal to the EBW(26dBc) band edges.

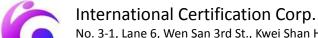
Report No.: FR371704AC Page: 19 of 94

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

Report Version: Rev. 01

Nower meter

burst for measuring output power.





Test Setup 3.3.3



3.3.4 Test Result of Maximum Output Power

Modulation	N _{TX}	Freq.	Peak		d output p 3m)	Total Power	Total Power	Limit	
Mode		(MHz)	Chain 0	Chain 1	Chain 2	Chain 3	(mW)	(dBm)	(dBm)
11b	1	2412	17.93				62.09	17.93	30
11b	1	2437	18.82				76.21	18.82	30
11b	1	2462	15.58				36.14	15.58	30
11g	1	2412	20.91				123.31	20.91	30
11g	1	2437	21.95				156.68	21.95	30
11g	1	2462	18.75				74.99	18.75	30
HT20	1	2412	20.43				110.41	20.43	30
HT20	1	2437	22.61				182.39	22.61	30
HT20	1	2462	18.97				78.89	18.97	30

Modulation	N		Conducted (average) output power (dBm)				Total Power	Total Power	Limit
Mode		(MHz)	Chain 0	Chain 1	Chain 2	Chain 3	(mW)	(dBm)	(dBm)
11b	1	2412	15.82				38.19	15.82	30
11b	1	2437	16.53				44.98	16.53	30
11b	1	2462	13.59				22.86	13.59	30
11g	1	2412	13.82				24.1	13.82	30
11g	1	2437	18.25				66.83	18.25	30
11g	1	2462	11.95				15.67	11.95	30
HT20	1	2412	13.26				21.18	13.26	30
HT20	1	2437	18.48				70.47	18.48	30
HT20	1	2462	12.43				17.5	12.43	30

Note: Conducted average output power is for reference only.

Report No.: FR371704AC Page: 20 of 94

3.4 Power Spectral Density

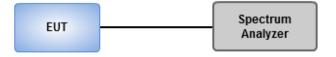
3.4.1 Limit of Power Spectral Density

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 = 100kHz, VBW = 300 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.\

3.4.3 Test Setup

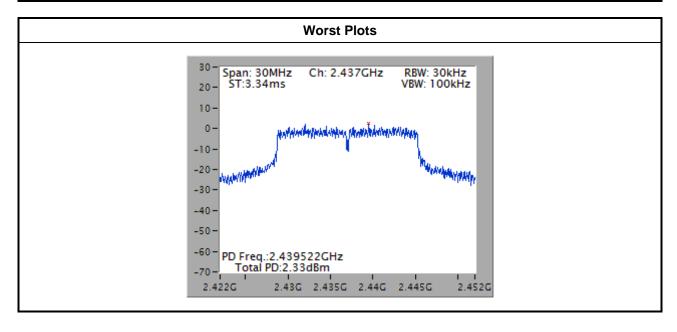


Report No.: FR371704AC Page: 21 of 94

No. 3-1, Lane 6, Wen San 3rd St., Kwei Shan Hsiang, Tao Yuan Hsien 333, Taiwan, R.O.C. Tel: 886-3-271-8666 Fax: 886-3-318-0155

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	1	2412	0.52	8
11b	1	2437	1.38	8
11b	1	2462	-1.37	8
11g	1	2412	-3.48	8
11g	1	2437	2.33	8
11g	1	2462	-4.48	8
HT20	1	2412	-3.77	8
HT20	1	2437	1.86	8
HT20	1	2462	-4.38	8



Report No.: FR371704AC Page: 22 of 94

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

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.

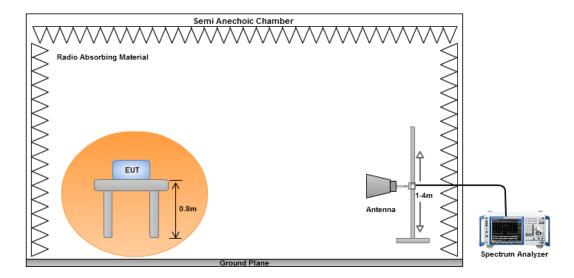
Note:

- 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.: FR371704AC Page: 23 of 94

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Test Setup 3.5.3



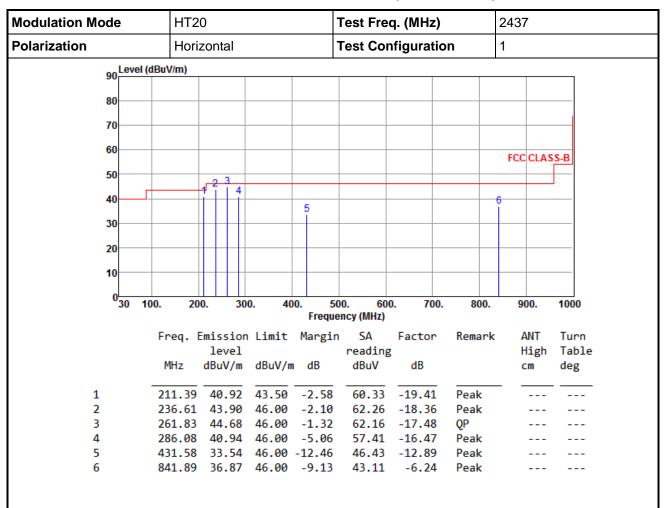
Note: Distance between EUT and antenna is 3 m

Report No.: FR371704AC Page: 24 of 94



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3.5.4 Transmitter Radiated Unwanted Emissions (Below 1GHz)

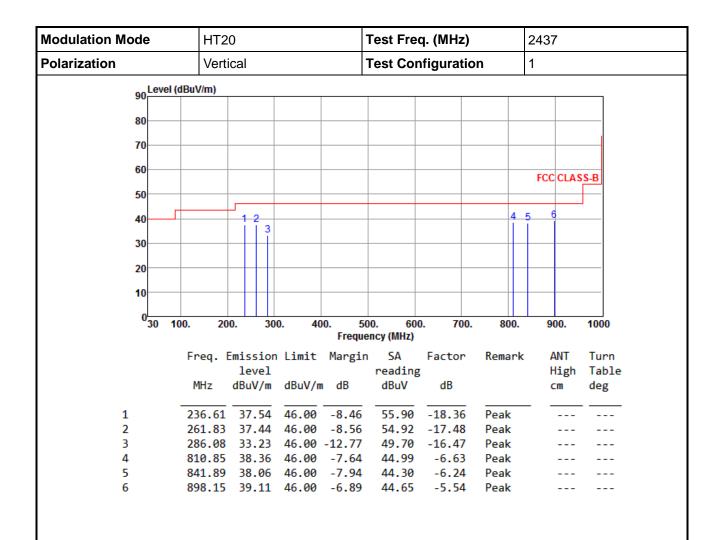


Note 1: Level (dBuV/m) = Read Level (dBuV/m) + Antenna Factor (dB) + Cable Loss (dB) - Preamp Factor (dB). 2: Over Limit (dBuV/m) = Limit Line (dBuV/m) - Level (dBuV/m).

Report No.: FR371704AC Page: 25 of 94



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Note 1: Level (dBuV/m) = Read Level (dBuV/m) + Antenna Factor (dB) + Cable Loss (dB) - Preamp Factor (dB). 2: Over Limit (dBuV/m) = Limit Line (dBuV/m) - Level (dBuV/m).

Report No.: FR371704AC Page: 26 of 94



5

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No. 3-1, Lane 6, Wen San 3rd St., Kwei Shan Hsiang, Tao Yuan Hsien 333, Taiwan, R.O.C. Fax: 886-3-318-0155

Modulation Mode	HT2	0			Test Fre	q. (MHz)		2437	
Polarization	Horiz	zontal			Test Cor	nfiguratio	n	2	
gn_Leve	l (dBuV/m)			•					
30									
80									
70									
60								FCC CLAS	S.R
50								TOUGLAS	5-5
30		127							J
40				4 5					
30									
20									
10									
0 30	100. 20	0. 30	0. 40	0. 50	00. 60	0. 700.	800.	900.	1000
				Freque	ency (MHz)				
	Freq. E	mission	Limit	Margin	n SA	Factor	Remark	ANT	Turn
		level			reading	•		High	Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		CM	deg
1	211.38	41.96	43.50	-1.54	61.37	-19.41	QP		
2		42.40	46.00		60.76	-18.36	Peak		
3	260.86	44.83	46.00	-1.17	62.36	-17.53	QP		
A	422 FF	24.00	46 00	44 04	47 00	42.00			

Peak

Note 1: Level (dBuV/m) = Read Level (dBuV/m) + Antenna Factor (dB) + Cable Loss (dB) - Preamp Factor (dB). 2: Over Limit (dBuV/m) = Limit Line (dBuV/m) - Level (dBuV/m).

432.55 34.96 46.00 -11.04 47.82 -12.86 Peak 497.54 34.22 46.00 -11.78 45.93 -11.71

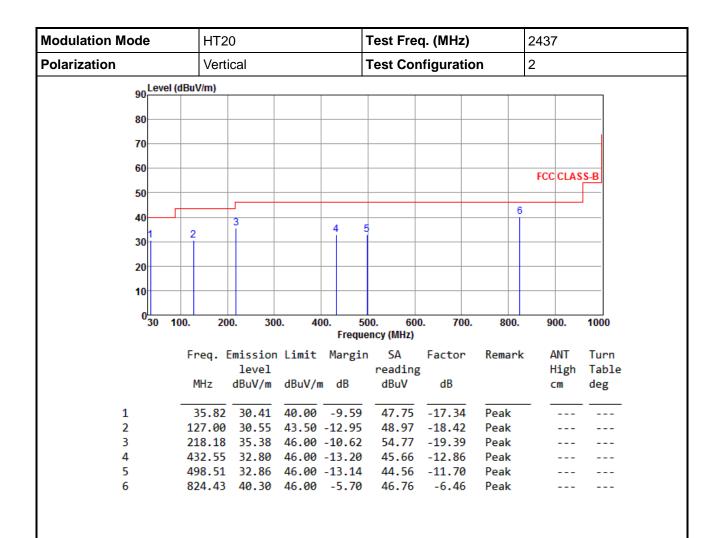
841.89 37.81 46.00 -8.19 44.05 -6.24 Peak

Report No.: FR371704AC Page: 27 of 94



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

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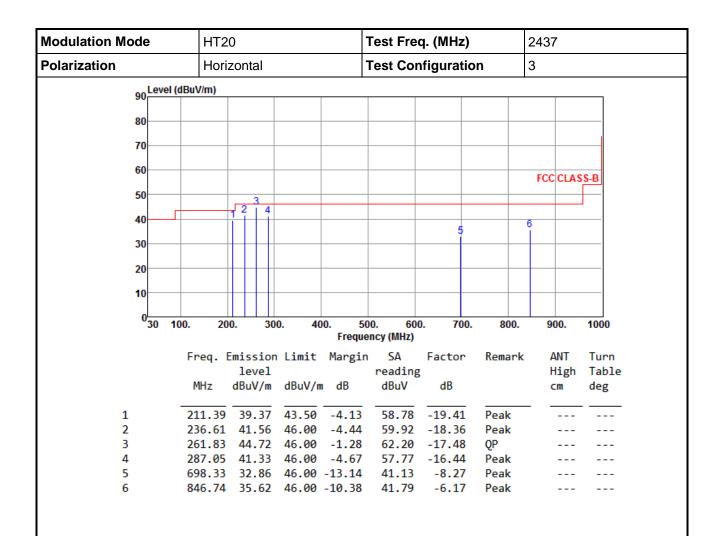


Note 1: Level (dBuV/m) = Read Level (dBuV/m) + Antenna Factor (dB) + Cable Loss (dB) - Preamp Factor (dB). 2: Over Limit (dBuV/m) = Limit Line (dBuV/m) - Level (dBuV/m).

Report No.: FR371704AC Page: 28 of 94



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

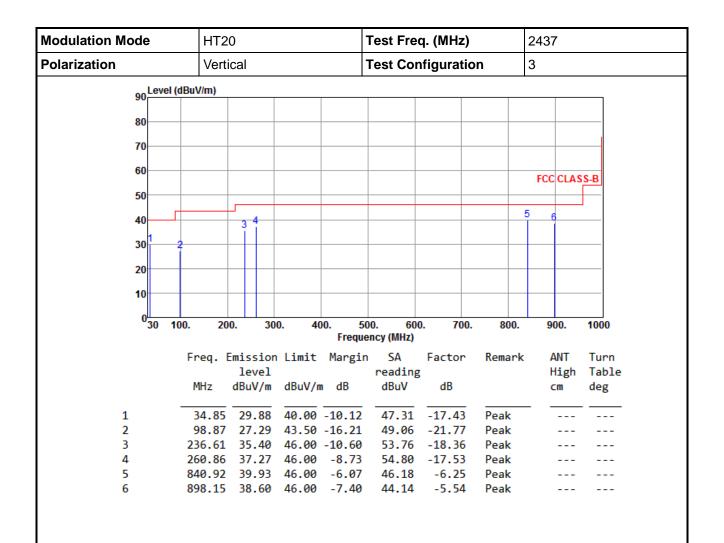


Note 1: Level (dBuV/m) = Read Level (dBuV/m) + Antenna Factor (dB) + Cable Loss (dB) - Preamp Factor (dB). 2: Over Limit (dBuV/m) = Limit Line (dBuV/m) - Level (dBuV/m).

Report No.: FR371704AC Page: 29 of 94



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



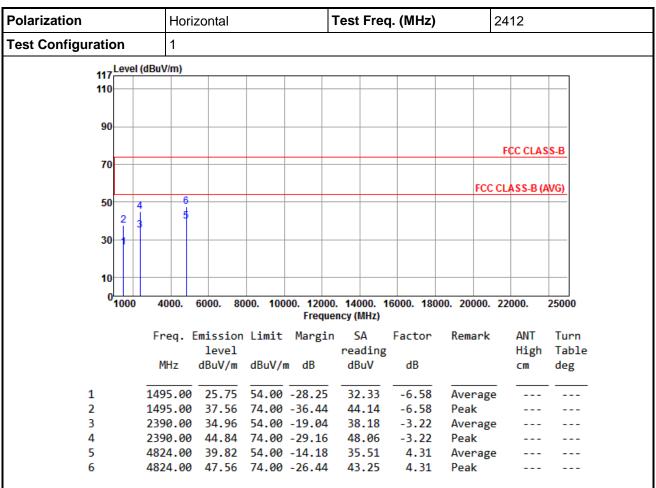
Note 1: Level (dBuV/m) = Read Level (dBuV/m) + Antenna Factor (dB) + Cable Loss (dB) - Preamp Factor (dB). 2: Over Limit (dBuV/m) = Limit Line (dBuV/m) - Level (dBuV/m).

Report No.: FR371704AC Page: 30 of 94



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

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



Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

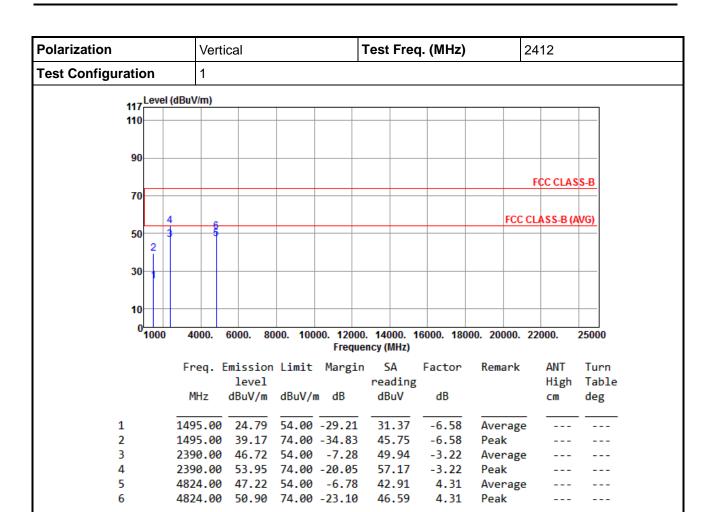
Note 2: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 3: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.

Report No.: FR371704AC Page: 31 of 94



No. 3-1, Lane 6, Wen San 3rd St., Kwei Shan Hsiang, Tao Yuan Hsien 333, Taiwan, R.O.C. Tel: 886-3-271-8666 Fax: 886-3-318-0155



Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

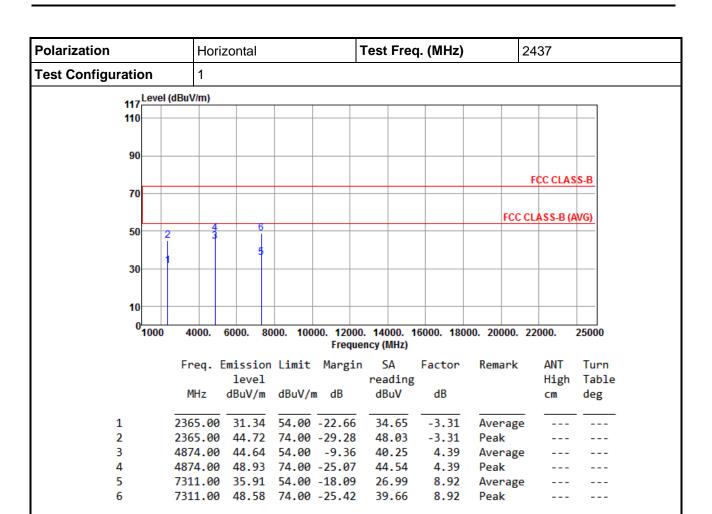
Note 2: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 3: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.

Report No.: FR371704AC Page: 32 of 94



No. 3-1, Lane 6, Wen San 3rd St., Kwei Shan Hsiang, Tao Yuan Hsien 333, Taiwan, R.O.C. Tel: 886-3-271-8666 Fax: 886-3-318-0155



Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 3: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.

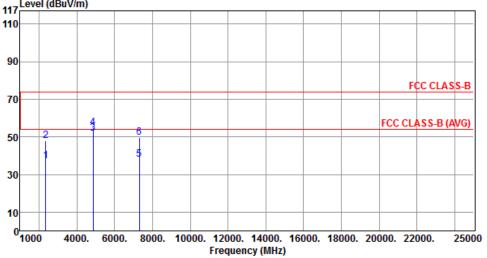
Report No.: FR371704AC Page: 33 of 94



No. 3-1, Lane 6, Wen San 3rd St., Kwei Shan Hsiang, Tao Yuan Hsien 333, Taiwan, R.O.C. Tel: 886-3-271-8666 Fax: 886-3-318-0155

Polarization Vertical Test Freq. (MHz) 2437

Test Configuration 1



	Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	2365.00	37.21	54.00	-16.79	40.52	-3.31	Average		
2	2365.00	48.04	74.00	-25.96	51.35	-3.31	Peak		
3	4874.00	51.94	54.00	-2.06	47.55	4.39	Average		
4	4874.00	54.69	74.00	-19.31	50.30	4.39	Peak		
5	7311.00	37.85	54.00	-16.15	28.93	8.92	Average		
6	7311.00	49.71	74.00	-24.29	40.79	8.92	Peak		

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

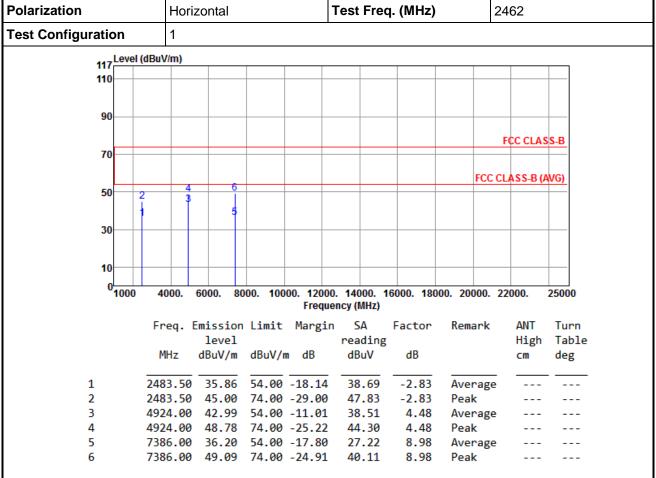
Note 2: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 3: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.

Report No.: FR371704AC Page: 34 of 94



No. 3-1, Lane 6, Wen San 3rd St., Kwei Shan Hsiang, Tao Yuan Hsien 333, Taiwan, R.O.C. Tel: 886-3-271-8666 Fax: 886-3-318-0155



Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

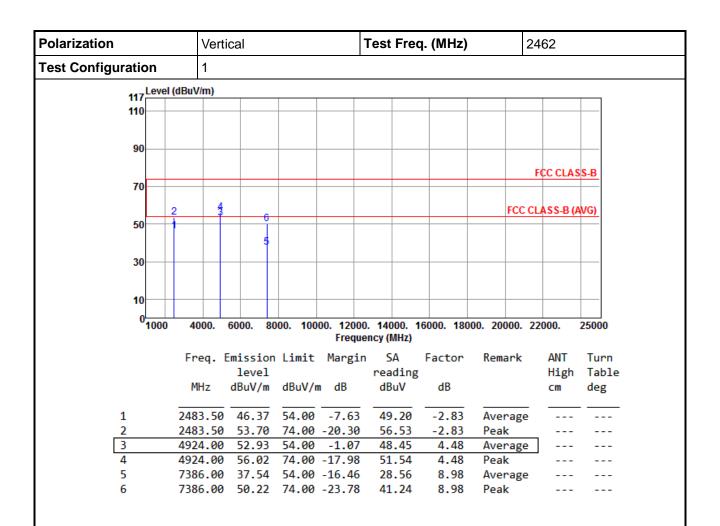
Note 3: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.

Report No.: FR371704AC Page: 35 of 94



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

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



Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

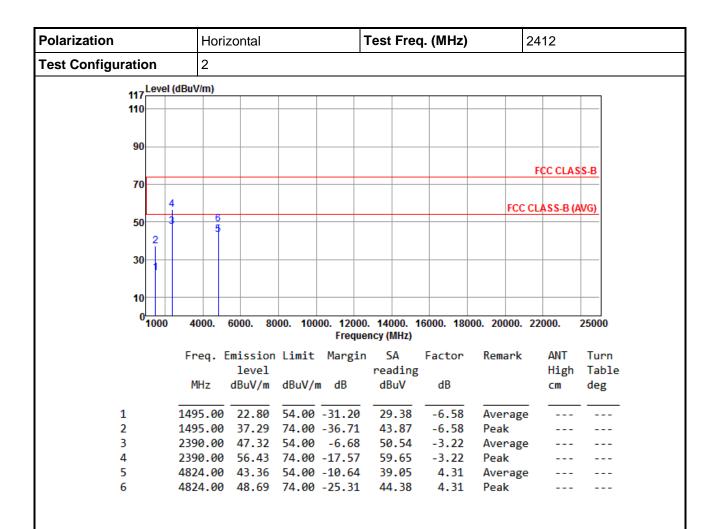
Note 3: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.

Report No.: FR371704AC Page: 36 of 94



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

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Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

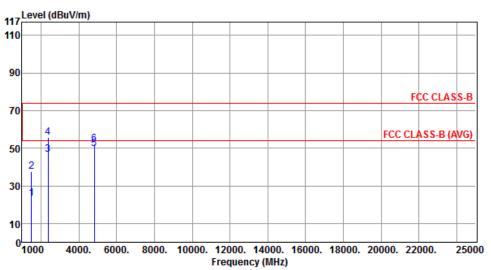
Note 3: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.

Report No.: FR371704AC Page: 37 of 94



No. 3-1, Lane 6, Wen San 3rd St., Kwei Shan Hsiang, Tao Yuan Hsien 333, Taiwan, R.O.C. Tel: 886-3-271-8666 Fax: 886-3-318-0155

PolarizationVerticalTest Freq. (MHz)2412Test Configuration2



		Emission level			SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	ав	dBuV	dB		CM	deg
1	1495.00	23.14	54.00	-30.86	29.72	-6.58	Average		
2	1495.00	37.56	74.00	-36.44	44.14	-6.58	Peak		
3	2390.00	46.46	54.00	-7.54	49.68	-3.22	Average		
4	2390.00	55.60	74.00	-18.40	58.82	-3.22	Peak		
5	4824.00	49.57	54.00	-4.43	45.26	4.31	Average		
6	4824.00	52.26	74.00	-21.74	47.95	4.31	Peak		

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

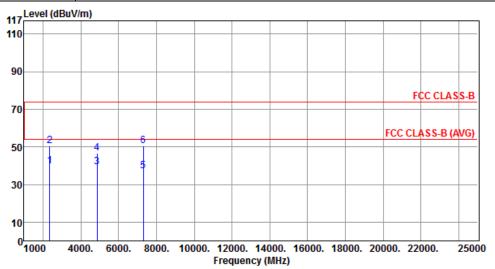
Note 3: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.

Report No.: FR371704AC Page: 38 of 94



No. 3-1, Lane 6, Wen San 3rd St., Kwei Shan Hsiang, Tao Yuan Hsien 333, Taiwan, R.O.C. Tel: 886-3-271-8666 Fax: 886-3-318-0155

PolarizationHorizontalTest Freq. (MHz)2437Test Configuration2



	Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	2365.00	39.52	54.00	-14.48	42.83	-3.31	Average		
2	2365.00	50.50	74.00	-23.50	53.81	-3.31	Peak		
3	4874.00	39.45	54.00	-14.55	35.06	4.39	Average		
4	4874.00	46.76	74.00	-27.24	42.37	4.39	Peak		
5	7311.00	37.23	54.00	-16.77	28.31	8.92	Average		
6	7311.00	50.45	74.00	-23.55	41.53	8.92	Peak		

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

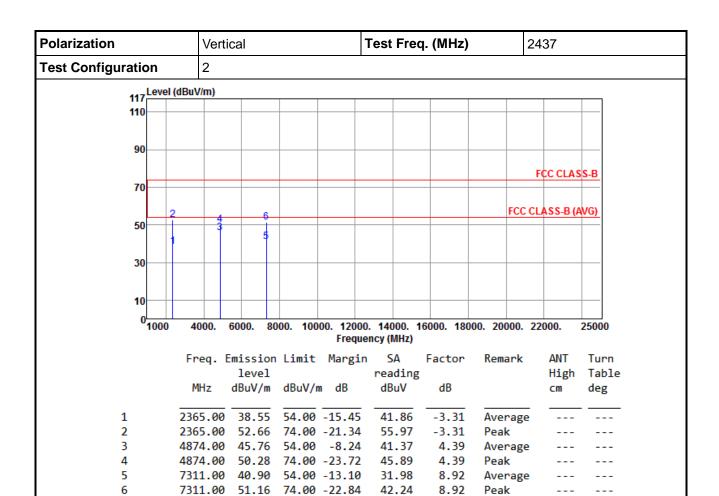
Note 3: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.

Report No.: FR371704AC Page: 39 of 94



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

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



Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 3: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.

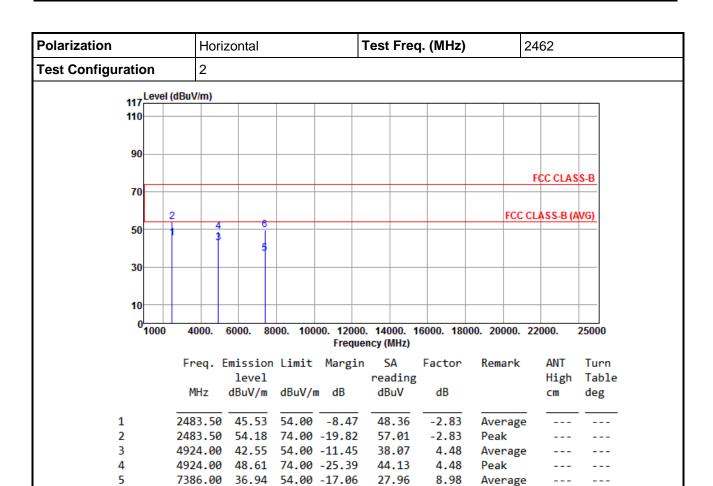
Report No.: FR371704AC Page: 40 of 94



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

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

7386.00 49.70 74.00 -24.30



40.72

8.98

Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 3: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.

Report No.: FR371704AC Page: 41 of 94

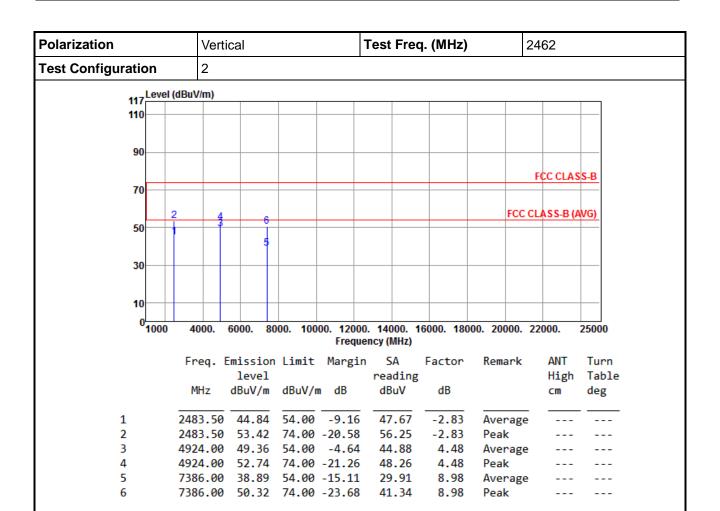
Report Version: Rev. 01

6



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

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



Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 3: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.

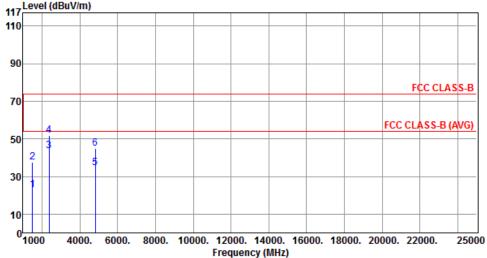
Report No.: FR371704AC Page: 42 of 94



No. 3-1, Lane 6, Wen San 3rd St., Kwei Shan Hsiang, Tao Yuan Hsien 333, Taiwan, R.O.C. Tel: 886-3-271-8666 Fax: 886-3-318-0155

Polarization Horizontal Test Freq. (MHz) 2412

Test Configuration 3



	Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	1495.00	22.86	54.00	-31.14	29.44	-6.58	Average		
2	1495.00	37.37	74.00	-36.63	43.95	-6.58	Peak		
3	2390.00	43.60	54.00	-10.40	46.82	-3.22	Average		
4	2390.00	51.97	74.00	-22.03	55.19	-3.22	Peak		
5	4824.00	34.56	54.00	-19.44	30.25	4.31	Average		
6	4824.00	45.08	74.00	-28.92	40.77	4.31	Peak		

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

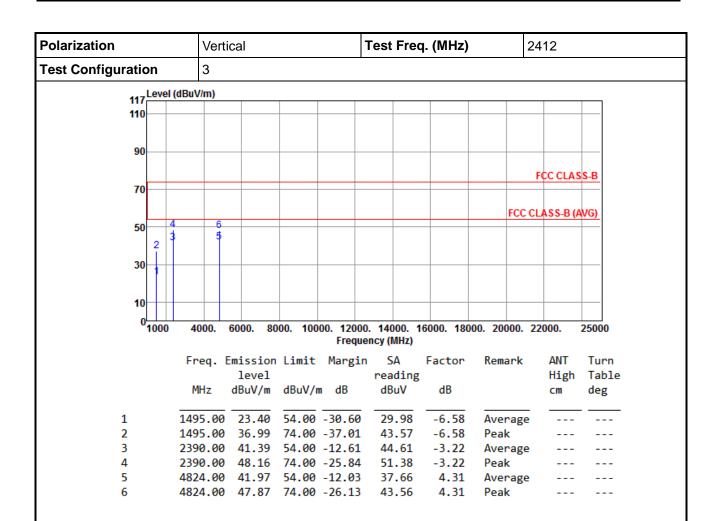
Note 3: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.

Report No.: FR371704AC Page: 43 of 94



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

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



Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 3: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.

Report No.: FR371704AC Page: 44 of 94



7311.00 49.09 74.00 -24.91

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Polarization Horizontal Test Freq. (MHz) 2437 **Test Configuration** 3 117 Level (dBuV/m) 110 90 FCC CLASS-B 70 FCC CLASS-B (AVG) 50 30 10 0<mark>1000</mark> 6000. 8000. 10000. 12000. 14000. 16000. 18000. 20000. 22000. 25000 4000. Frequency (MHz) Freq. Emission Limit Margin SA Factor Remark ANT Turn level reading High Table MHz dBuV/m dBuV/m dB dBuV dΒ cmdeg 1 2365.00 34.41 54.00 -19.59 37.72 -3.31 Average 2 2365.00 45.41 74.00 -28.59 48.72 -3.31 Peak 3 4874.00 44.22 54.00 -9.78 39.83 4.39 Average 4 4874.00 48.63 74.00 -25.37 44.24 4.39 Peak 5 7311.00 36.24 54.00 -17.76 27.32 8.92 Average ---

40.17

8.92

Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 3: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.

Report No.: FR371704AC Page: 45 of 94

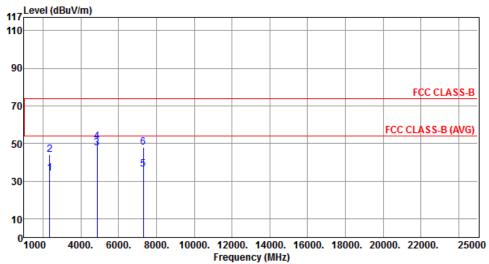
Report Version: Rev. 01

6



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PolarizationVerticalTest Freq. (MHz)2437Test Configuration3



	Freq. E	mission level dBuV/m	Limit dBuV/m		SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2365.00	33.89	54.00	-20.11	37.20	-3.31	Average		
2	2365.00	44.23			47.54	-3.31	Peak		
3	4874.00	47.67	54.00	-6.33	43.28	4.39	Average		
4	4874.00	50.95	74.00	-23.05	46.56	4.39	Peak		
5	7311.00	36.33	54.00	-17.67	27.41	8.92	Average		
6	7311.00	47.96	74.00	-26.04	39.04	8.92	Peak		

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 3: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.

Report No.: FR371704AC Page: 46 of 94



5

6

4924.00

7386.00

48.93

37.53

7386.00 48.66 74.00 -25.34

74.00 -25.07

54.00 -16.47

44.45

28.55

39.68

4.48

8.98

8.98

Peak

Peak

Average

International Certification Corp.

No. 3-1, Lane 6, Wen San 3rd St., Kwei Shan Hsiang, Tao Yuan Hsien 333, Taiwan, R.O.C. Tel: 886-3-271-8666 Fax: 886-3-318-0155

Polarization Horizontal Test Freq. (MHz) 2462 **Test Configuration** 3 Level (dBuV/m) 117 110 90 FCC CLASS-B 70 FCC CLASS-B (AVG) 50 30 10 0<mark>1000</mark> 4000. 6000. 8000. 10000. 12000. 14000. 16000. 18000. 20000. 22000. 25000 Frequency (MHz) Freq. Emission Limit Margin SA Factor Remark ANT Turn High level reading Table MHz dBuV/m dBuV/m dB dBuV dΒ cmdeg 2483.50 48.86 54.00 -5.14 51.69 -2.83 Average 1 2 2483.50 55.45 74.00 -18.55 58.28 -2.83 Peak 3 4924.00 44.35 54.00 -9.65 39.87 4.48 Average

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

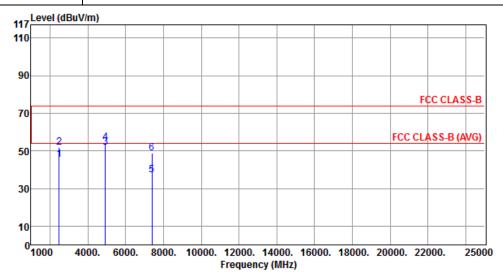
Note 3: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.

Report No.: FR371704AC Page: 47 of 94



No. 3-1, Lane 6, Wen San 3rd St., Kwei Shan Hsiang, Tao Yuan Hsien 333, Taiwan, R.O.C. Tel: 886-3-271-8666 Fax: 886-3-318-0155

PolarizationVerticalTest Freq. (MHz)2462Test Configuration3



	Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	2483.50	45.28	54.00	-8.72	48.11	-2.83	Average		
2	2483.50	51.75	74.00	-22.25	54.58	-2.83	Peak		
3	4924.00	51.94	54.00	-2.06	47.46	4.48	Average		
4	4924.00	54.40	74.00	-19.60	49.92	4.48	Peak		
5	7386.00	37.12	54.00	-16.88	28.14	8.98	Average		
6	7386.00	48.70	74.00	-25.30	39.72	8.98	Peak		

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

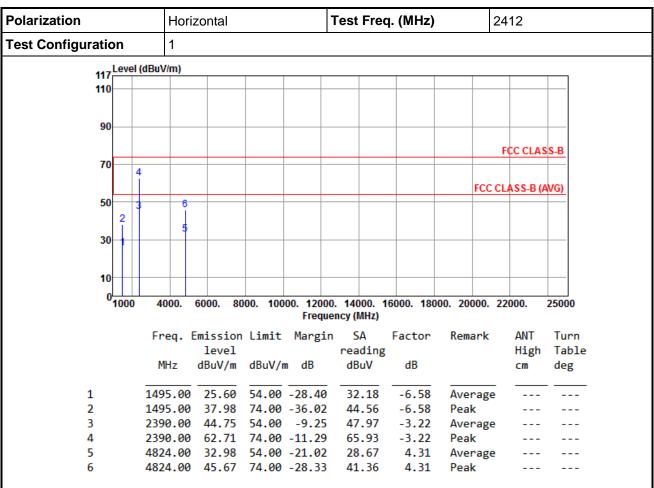
Note 3: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.

Report No.: FR371704AC Page: 48 of 94



No. 3-1, Lane 6, Wen San 3rd St., Kwei Shan Hsiang, Tao Yuan Hsien 333, Taiwan, R.O.C. Tel: 886-3-271-8666 Fax: 886-3-318-0155

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



Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 3: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.

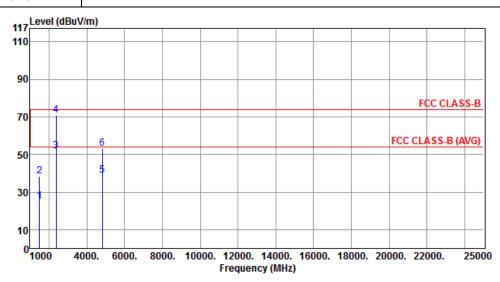
Report No.: FR371704AC Page: 49 of 94



No. 3-1, Lane 6, Wen San 3rd St., Kwei Shan Hsiang, Tao Yuan Hsien 333, Taiwan, R.O.C. Tel: 886-3-271-8666 Fax: 886-3-318-0155

 Polarization
 Vertical
 Test Freq. (MHz)
 2412

 Test Configuration
 1



	Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	1495.00	25.05	54.00	-28.95	31.63	-6.58	Average		
2	1495.00	38.63	74.00	-35.37	45.21	-6.58	Peak		
3	2390.00	51.84	54.00	-2.16	55.06	-3.22	Average		
4	2390.00	70.75	74.00	-3.25	73.97	-3.22	Peak		
5	4824.00	38.96	54.00	-15.04	34.65	4.31	Average		
6	4824.00	53.01	74.00	-20.99	48.70	4.31	Peak		

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

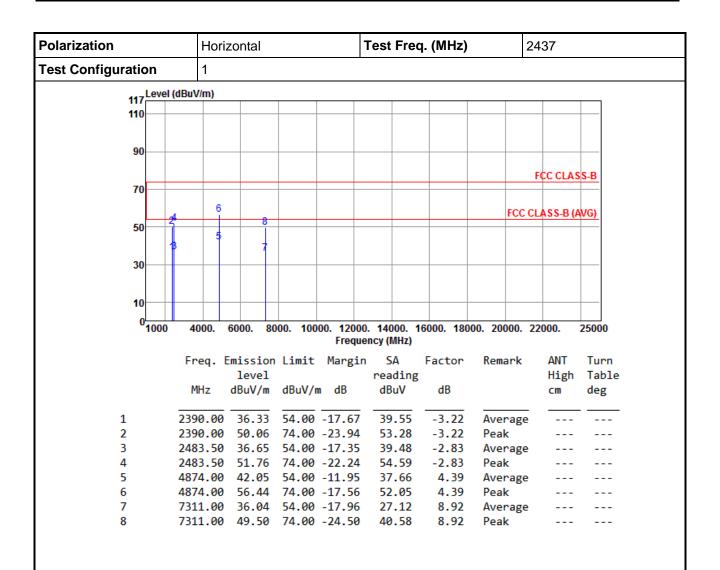
Note 3: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.

Report No.: FR371704AC Page: 50 of 94



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

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



Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 3: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.

Report No.: FR371704AC Page: 51 of 94



4

5

6

7

8

2483.50

2483.50

4874.00

4874.00 49.23

43.74

59.96

62.59

7311.00 38.14 54.00 -15.86

7311.00 50.45 74.00 -23.55

54.00 -10.26

74.00 -14.04

54.00 -4.77

74.00 -11.41

46.57

62.79

44.84

58.20

29.22

41.53

-2.83

-2.83

4.39

4.39

8.92

8.92

Average

Average

Average

Peak

Peak

Peak

International Certification Corp.

No. 3-1, Lane 6, Wen San 3rd St., Kwei Shan Hsiang, Tao Yuan Hsien 333, Taiwan, R.O.C. Tel: 886-3-271-8666 Fax: 886-3-318-0155

Polarization Vertical Test Freq. (MHz) 2437 **Test Configuration** Level (dBuV/m) 117 110 90 FCC CLASS-B 70 FCC CLASS-B (AVG) 50 30 10 0<mark>1000</mark> 4000. 6000. 8000. 10000. 12000. 14000. 16000. 18000. 20000. 22000. 25000 Frequency (MHz) Freq. Emission Limit Margin SA Factor Remark ANT Turn level reading High Table MHz dBuV/m dBuV/m dB dBuV dΒ cmdeg 2390.00 45.45 54.00 -8.55 48.67 -3.22 1 Average ---74.00 -12.82 64.40 2 2390.00 61.18 -3.22 Peak ---

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

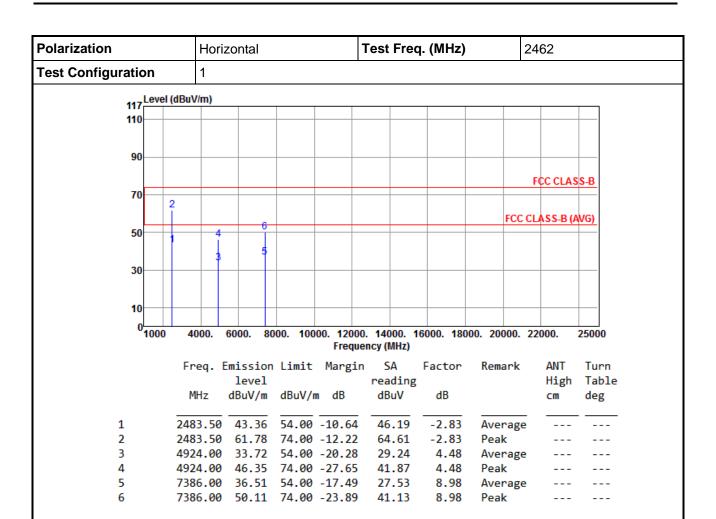
Note 2: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 3: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.

Report No.: FR371704AC Page: 52 of 94



No. 3-1, Lane 6, Wen San 3rd St., Kwei Shan Hsiang, Tao Yuan Hsien 333, Taiwan, R.O.C. Tel: 886-3-271-8666 Fax: 886-3-318-0155



Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

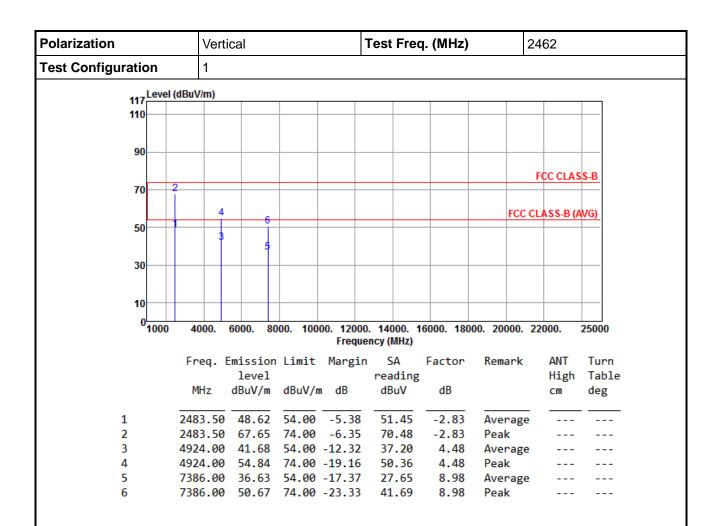
Note 3: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.

Report No.: FR371704AC Page: 53 of 94



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

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



Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 3: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.

Report No.: FR371704AC Page: 54 of 94



No. 3-1, Lane 6, Wen San 3rd St., Kwei Shan Hsiang, Tao Yuan Hsien 333, Taiwan, R.O.C. Tel: 886-3-271-8666 Fax: 886-3-318-0155

Polarization Test Freq. (MHz) Horizontal 2412 2 **Test Configuration** Level (dBuV/m) 117 110 90 FCC CLASS-B 70 FCC CLASS-B (AVG) 50 30 10 0 1000 4000. 6000. 8000. 10000. 12000. 14000. 16000. 18000. 20000. 22000. 25000 Frequency (MHz) Freq. Emission Limit Margin SA Factor Remark ANT Turn

		level		reading		High	Table	
	MHz	dBuV/m	dBuV/m dB	dBuV	dB		cm	deg
1	1495.00	23.63	54.00 -30.37	30.21	-6.58	Average		
2	1495.00	37.61	74.00 -36.39	44.19	-6.58	Peak		
3	2390.00	52.60	54.00 -1.40	55.82	-3.22	Average		
4	2390.00	70.47	74.00 -3.53	73.69	-3.22	Peak		
5	4824.00	33.80	54.00 -20.20	29.49	4.31	Average		
6	4824.00	48.60	74.00 -25.40	44.29	4.31	Peak		

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

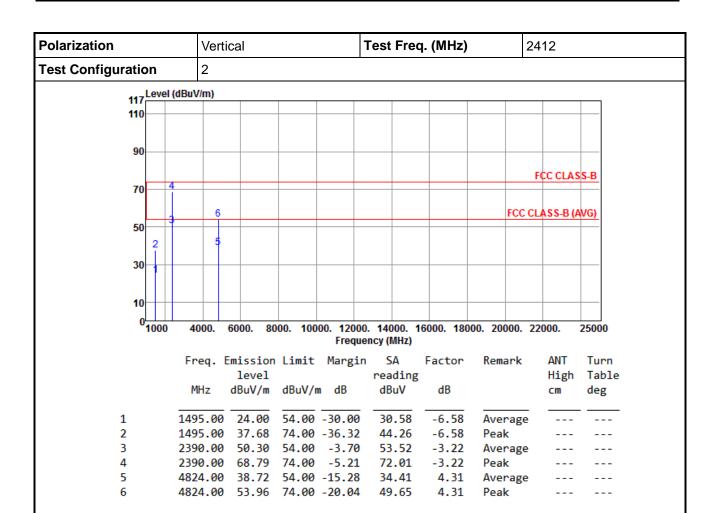
Note 3: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.

Report No.: FR371704AC Page: 55 of 94



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

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



Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

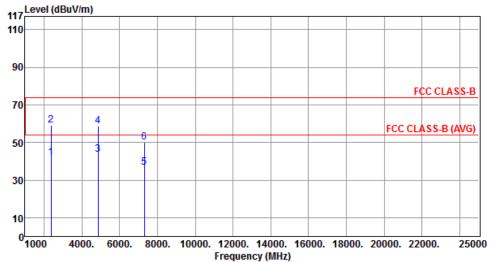
Note 3: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.

Report No.: FR371704AC Page: 56 of 94



No. 3-1, Lane 6, Wen San 3rd St., Kwei Shan Hsiang, Tao Yuan Hsien 333, Taiwan, R.O.C. Tel: 886-3-271-8666 Fax: 886-3-318-0155

PolarizationHorizontalTest Freq. (MHz)2437Test Configuration2



				-					
	Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz		dBuV/m	dB	dBuV	dB		cm	deg
1	2390.00	42.03	54.00	-11.97	45.25	-3.22	Average		
2	2390.00	59.21	74.00	-14.79	62.43	-3.22	Peak		
3	4874.00	43.60	54.00	-10.40	39.21	4.39	Average		
4	4874.00	58.92	74.00	-15.08	54.53	4.39	Peak		
5	7311.00	36.89	54.00	-17.11	27.97	8.92	Average		
6	7311.00	49.87	74.00	-24.13	40.95	8.92	Peak		

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 3: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.

Report No.: FR371704AC Page: 57 of 94



No. 3-1, Lane 6, Wen San 3rd St., Kwei Shan Hsiang, Tao Yuan Hsien 333, Taiwan, R.O.C. Tel: 886-3-271-8666 Fax: 886-3-318-0155

Polarization Vertical Test Freq. (MHz) 2437 **Test Configuration** 2 117 Level (dBuV/m) 110 90 FCC CLAS S-B 70 FCC CLASS-B (AVG) 50 30 10 0 1000 8000. 10000. 12000. 14000. 16000. 18000. 20000. 22000. 4000. 6000. 25000 Frequency (MHz) Freq. Emission Limit Margin SA Factor Remark ANT Turn level reading High Table MHz dBuV/m dBuV/m dB dBuV dΒ deg 2390.00 42.49 54.00 -11.51 45.71 -3.22 ---1 Average ---2 2390.00 59.57 74.00 -14.43 62.79 -3.22 Peak ---4874.00 48.30 54.00 -5.70 3 43.91 4.39 Average 4 4874.00 63.58 74.00 -10.42 59.19 4.39 Peak 8.92 5 Average 7311.00 39.12 54.00 -14.88 30.20 ---

8.92

Peak

7311.00 52.09 74.00 -21.91 43.17

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 3: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.

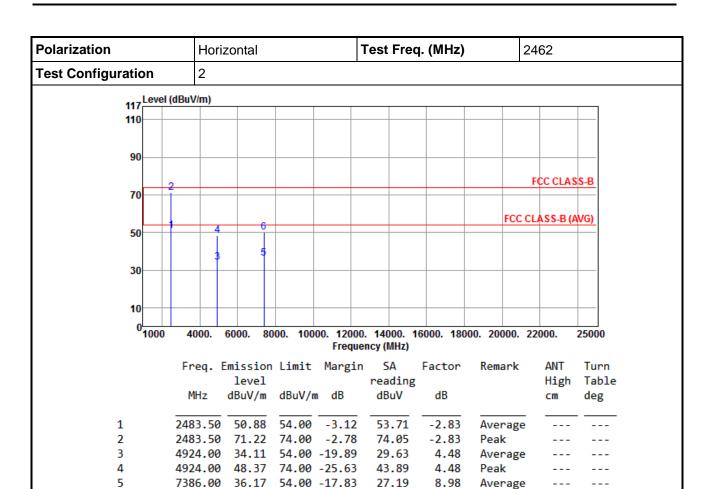
Report No.: FR371704AC Page: 58 of 94



International Certification Corp.

7386.00 50.11 74.00 -23.89

No. 3-1, Lane 6, Wen San 3rd St., Kwei Shan Hsiang, Tao Yuan Hsien 333, Taiwan, R.O.C. Tel: 886-3-271-8666 Fax: 886-3-318-0155



41.13

8.98

Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

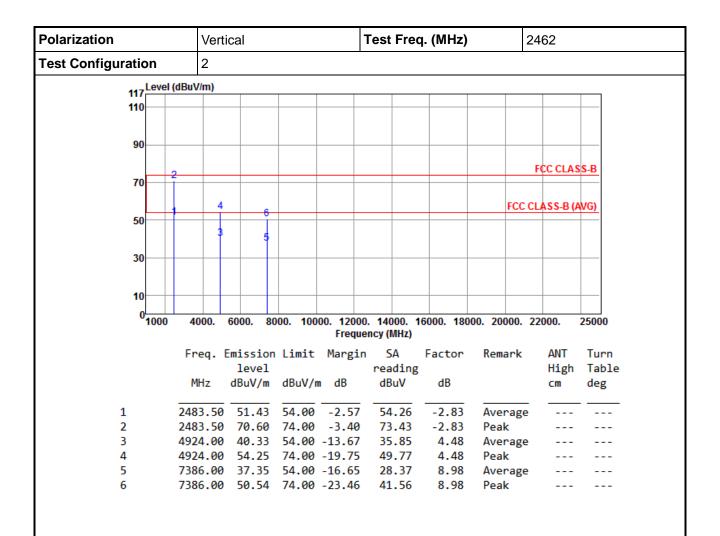
Note 3: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.

Report No.: FR371704AC Page: 59 of 94



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

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



Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

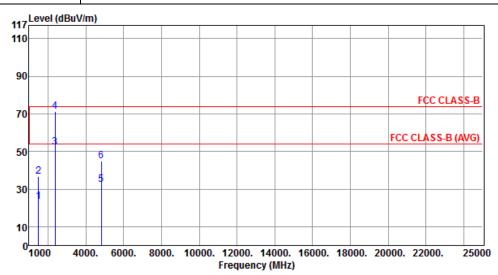
Note 3: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.

Report No.: FR371704AC Page: 60 of 94



No. 3-1, Lane 6, Wen San 3rd St., Kwei Shan Hsiang, Tao Yuan Hsien 333, Taiwan, R.O.C. Tel: 886-3-271-8666 Fax: 886-3-318-0155

Polarization Horizontal Test Freq. (MHz) 2412
Test Configuration 3



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m		SA reading dBuV		Remark	ANT High cm	Turn Table deg
1	1495.00	23.37	54.00	-30.63	29.95	-6.58	Average		
2	1495.00	36.55	74.00	-37.45	43.13	-6.58	Peak		
3	2390.00	52.44	54.00	-1.56	55.66	-3.22	Average		
4	2390.00	71.04	74.00	-2.96	74.26	-3.22	Peak		
5	4824.00	32.42	54.00	-21.58	28.11	4.31	Average		
6	4824.00	44.90	74.00	-29.10	40.59	4.31	Peak		

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

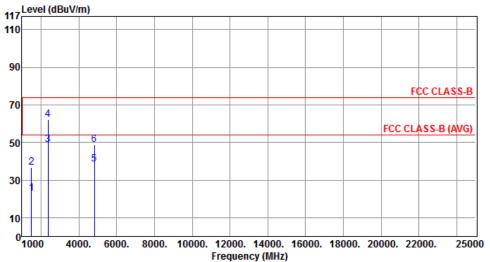
Note 3: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.

Report No.: FR371704AC Page: 61 of 94



No. 3-1, Lane 6, Wen San 3rd St., Kwei Shan Hsiang, Tao Yuan Hsien 333, Taiwan, R.O.C. Tel: 886-3-271-8666 Fax: 886-3-318-0155

PolarizationVerticalTest Freq. (MHz)2412Test Configuration3



				-					
	Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz		dBuV/m	dB	dBuV	dB		cm	deg
4	4405.00		<u></u>	24.40	20.40				
1	1495.00	22.90	54.00	-31.10	29.48	-6.58	Average		
2	1495.00	36.68	74.00	-37.32	43.26	-6.58	Peak		
3	2390.00	48.92	54.00	-5.08	52.14	-3.22	Average		
4	2390.00	62.00	74.00	-12.00	65.22	-3.22	Peak		
5	4824.00	38.52	54.00	-15.48	34.21	4.31	Average		
6	4824.00	48.66	74.00	-25.34	44.35	4.31	Peak		

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

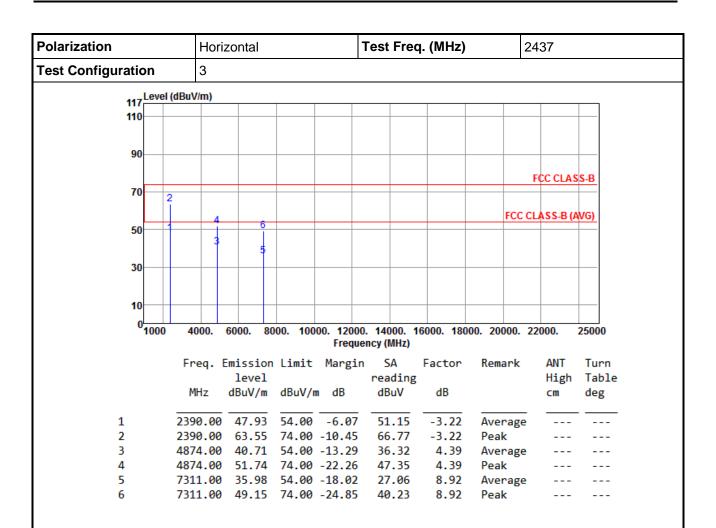
Note 3: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.

Report No.: FR371704AC Page: 62 of 94



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

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



Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 3: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.

Report No.: FR371704AC Page: 63 of 94

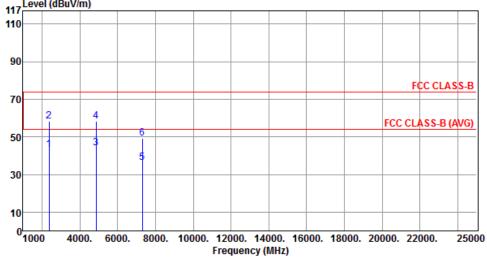


No. 3-1, Lane 6, Wen San 3rd St., Kwei Shan Hsiang, Tao Yuan Hsien 333, Taiwan, R.O.C. Tel: 886-3-271-8666 Fax: 886-3-318-0155

Polarization Vertical Test Freq. (MHz) 2437

Test Configuration 3

117
Level (dBuV/m)
110



	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	43.37	54.00	-10.63	46.59	-3.22	Average		
2	2390.00	58.11	74.00	-15.89	61.33	-3.22	Peak		
3	4874.00	43.84	54.00	-10.16	39.45	4.39	Average		
4	4874.00	58.11	74.00	-15.89	53.72	4.39	Peak		
5	7311.00	36.24	54.00	-17.76	27.32	8.92	Average		
6	7311.00	49.33	74.00	-24.67	40.41	8.92	Peak		

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

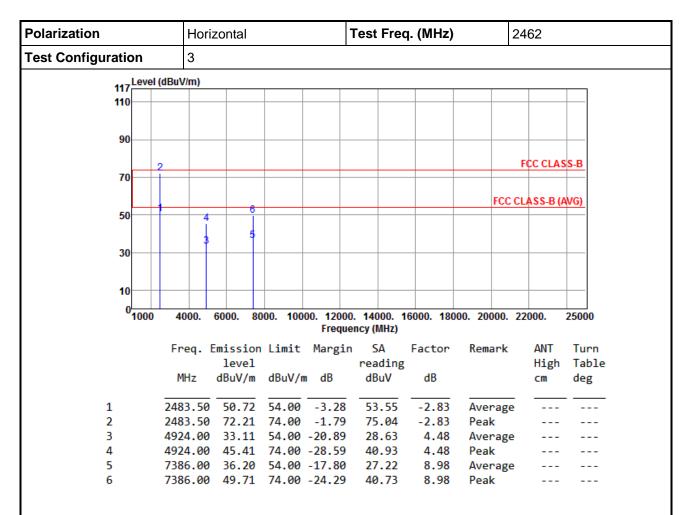
Note 3: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.

Report No.: FR371704AC Page: 64 of 94



No. 3-1, Lane 6, Wen San 3rd St., Kwei Shan Hsiang, Tao Yuan Hsien 333, Taiwan, R.O.C. Tel: 886-3-271-8666 Fax: 886-3-318-0155

Tell. 660-3-2/1-6000 Fdx. 660-3-316-0133



Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

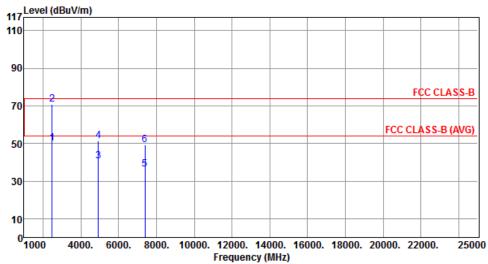
Note 3: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.

Report No.: FR371704AC Page: 65 of 94



No. 3-1, Lane 6, Wen San 3rd St., Kwei Shan Hsiang, Tao Yuan Hsien 333, Taiwan, R.O.C. Tel: 886-3-271-8666 Fax: 886-3-318-0155

PolarizationVerticalTest Freq. (MHz)2462Test Configuration3



				_					
	Freq. 1	Emission level	Limit	Margin	SA reading		Remark	ANT High	Turn Table
	MHz		dBuV/m	dB	dBuV	dB		cm	deg
1	2483.00	50.18	54.00	-3.82	53.01	-2.83	Average		
2	2483.00	70.82	74.00	-3.18	73.65	-2.83	Peak		
3	4924.00	40.71	54.00	-13.29	36.23	4.48	Average		
4	4924.00	51.44	74.00	-22.56	46.96	4.48	Peak		
5	7386.00	36.20	54.00	-17.80	27.22	8.98	Average		
6	7386.00	49.24	74.00	-24.76	40.26	8.98	Peak		

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

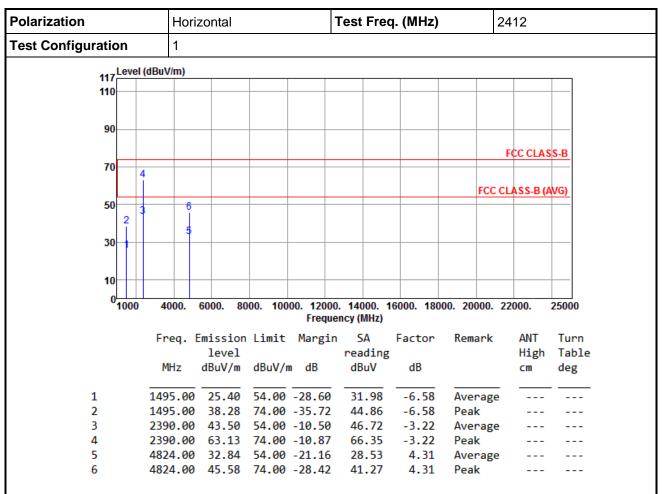
Note 3: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.

Report No.: FR371704AC Page: 66 of 94

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

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

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



Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

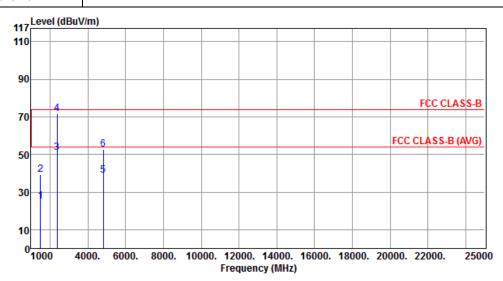
Note 3: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.

Report No.: FR371704AC Page: 67 of 94



No. 3-1, Lane 6, Wen San 3rd St., Kwei Shan Hsiang, Tao Yuan Hsien 333, Taiwan, R.O.C. Tel: 886-3-271-8666 Fax: 886-3-318-0155

PolarizationVerticalTest Freq. (MHz)2412Test Configuration1



	Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		CM	deg
1	1495.00	24.97	54.00	-29.03	31.55	-6.58	Average		
2	1495.00	39.31	74.00	-34.69	45.89	-6.58	Peak		
3	2390.00	51.00	54.00	-3.00	54.22	-3.22	Average		
4	2390.00	71.63	74.00	-2.37	74.85	-3.22	Peak		
5	4824.00	38.69	54.00	-15.31	34.38	4.31	Average		
6	4824.00	52.60	74.00	-21.40	48.29	4.31	Peak		

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 3: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.

Report No.: FR371704AC Page: 68 of 94



No. 3-1, Lane 6, Wen San 3rd St., Kwei Shan Hsiang, Tao Yuan Hsien 333, Taiwan, R.O.C. Tel: 886-3-271-8666 Fax: 886-3-318-0155

Polarization Horizontal Test Freq. (MHz) 2437 **Test Configuration** 117 Level (dBuV/m) 110 90 FCC CLASS-B 70 FCC CLASS-B (AVG) 50 30 10 0<mark>1000</mark> 6000. 8000. 10000. 12000. 14000. 16000. 18000. 20000. 22000. 25000 4000. Frequency (MHz) Freq. Emission Limit Margin SA Factor Remark ANT Turn level reading High Table MHz dBuV/m dBuV/m dB dBuV dΒ cmdeg 1 2390.00 36.75 54.00 -17.25 39.97 -3.22 Average 2 2390.00 53.82 74.00 -20.18 57.04 -3.22 Peak 3 2483.50 54.00 -17.51 39.32 -2.83 36.49 Average 4 2483.50 53.16 74.00 -20.84 55.99 -2.83 Peak 5 4874.00 42.95 54.00 -11.05 38.56 4.39 Average 4874.00 56.19 74.00 -17.81 6 51.80 4.39 Peak ---7 7311.00 35.85 54.00 -18.15 26.93 8.92 Average ------7311.00 49.17 74.00 -24.83 40.25 8.92 Peak ---

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 3: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.

Report No.: FR371704AC Page: 69 of 94



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International Certification Corp.

2483.50 60.28 74.00 -13.72

4874.00 49.38 54.00 -4.62

7311.00 37.87 54.00 -16.13

4874.00 66.90 74.00 -7.10

7311.00 50.18 74.00 -23.82 41.26

No. 3-1, Lane 6, Wen San 3rd St., Kwei Shan Hsiang, Tao Yuan Hsien 333, Taiwan, R.O.C. Tel: 886-3-271-8666 Fax: 886-3-318-0155

Polarization Vertical Test Freq. (MHz) 2437 **Test Configuration** 117 Level (dBuV/m) 110 90 FCC CLAS S-B 70 FCC CLASS-B (AVG) 50 30 10 0 1000 4000. 6000. 8000. 10000. 12000. 14000. 16000. 18000. 20000. 22000. 25000 Frequency (MHz) Freq. Emission Limit Margin SA Factor Remark ANT Turn level reading High Table MHz dBuV/m dBuV/m dB dBuV dΒ deg cm 2390.00 45.48 54.00 -8.52 48.70 -3.22 ---1 Average ---2 2390.00 61.18 74.00 -12.82 64.40 -3.22 Peak ---3 2483.50 43.85 54.00 -10.15 46.68 -2.83 Average

63.11

62.51

28.95

44.99

-2.83

4.39

4.39

8.92

8.92

Peak Average

Peak

Peak

Average

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 3: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.

Report No.: FR371704AC Page: 70 of 94



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4924.00

4924.00

7386.00

33.54

46.12

36.06

7386.00 49.71 74.00 -24.29

54.00 -20.46

74.00 -27.88

54.00 -17.94

29.06

41.64

27.08

40.73

4.48

4.48

8.98

8.98

Average

Average

Peak

Peak

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No. 3-1, Lane 6, Wen San 3rd St., Kwei Shan Hsiang, Tao Yuan Hsien 333, Taiwan, R.O.C. Tel: 886-3-271-8666 Fax: 886-3-318-0155

Polarization Horizontal Test Freq. (MHz) 2462 **Test Configuration** Level (dBuV/m) 117 110 90 FCC CLASS-B 70 FCC CLASS-B (AVG) 50 30 10 0 1000 4000. 6000. 8000. 10000. 12000. 14000. 16000. 18000. 20000. 22000. 25000 Frequency (MHz) Freq. Emission Limit Margin SA Factor Remark ANT Turn High level reading Table MHz dBuV/m dBuV/m dB dBuV dΒ cmdeg 2483.50 42.65 54.00 -11.35 45.48 -2.83 Average 1 74.00 -10.99 65.84 2 2483.50 63.01 -2.83 Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 3: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.

Report No.: FR371704AC Page: 71 of 94



3

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2483.50

69.58

4924.00 41.31 54.00 -12.69

4924.00 53.89 74.00 -20.11

7386.00 36.40 54.00 -17.60

7386.00 49.35 74.00 -24.65 40.37

74.00 -4.42

72.41

36.83

27.42

49.41

-2.83

4.48

4.48

8.98

8.98

Peak

Peak

Peak

Average

Average

International Certification Corp.

No. 3-1, Lane 6, Wen San 3rd St., Kwei Shan Hsiang, Tao Yuan Hsien 333, Taiwan, R.O.C. Tel: 886-3-271-8666 Fax: 886-3-318-0155

Polarization Vertical Test Freq. (MHz) 2462 **Test Configuration** 117 Level (dBuV/m) 110 90 FCC CLAS S-B 70 FCC CLASS-B (AVG) 50 30 10 0 1000 8000. 10000. 12000. 14000. 16000. 18000. 20000. 22000. 4000. 6000. 25000 Frequency (MHz) Freq. Emission Limit Margin SA Factor Remark ANT Turn level reading High Table MHz dBuV/m dBuV/m dB dBuV dΒ deg 2483.50 50.21 54.00 -3.79 53.04 -2.83 ---1 Average ---

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

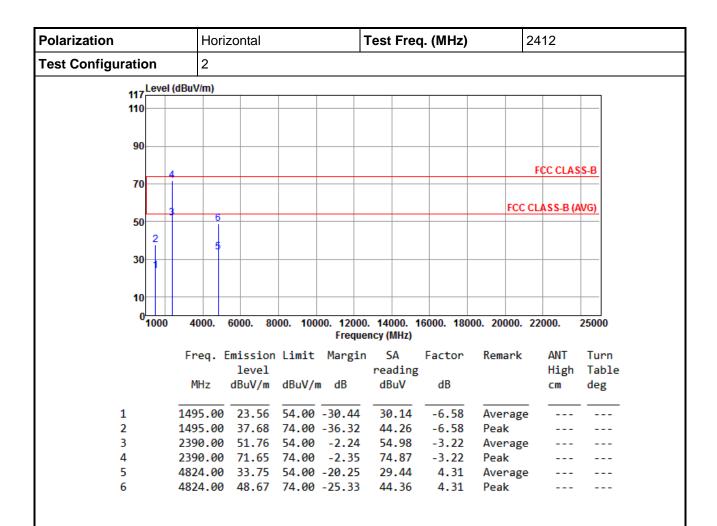
Note 2: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 3: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.

Report No.: FR371704AC Page: 72 of 94



No. 3-1, Lane 6, Wen San 3rd St., Kwei Shan Hsiang, Tao Yuan Hsien 333, Taiwan, R.O.C. Fax: 886-3-318-0155



Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

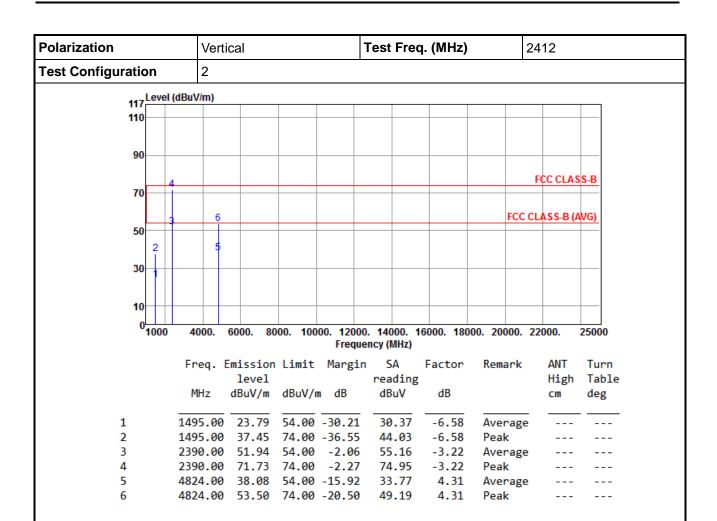
Note 3: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.

Report No.: FR371704AC Page: 73 of 94



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

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



Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

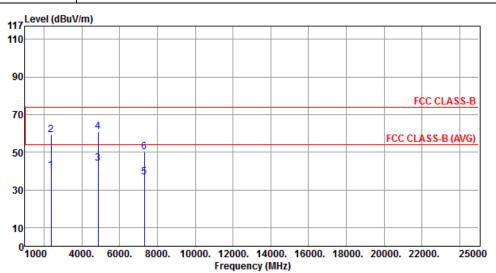
Note 3: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.

Report No.: FR371704AC Page: 74 of 94



No. 3-1, Lane 6, Wen San 3rd St., Kwei Shan Hsiang, Tao Yuan Hsien 333, Taiwan, R.O.C. Tel: 886-3-271-8666 Fax: 886-3-318-0155

PolarizationHorizontalTest Freq. (MHz)2437Test Configuration2



	Freq. 6	Emission level dBuV/m	Limit dBuV/m	Ü	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	40.13	54.00	-13.87	43.35	-3.22	Average		
2	2390.00	59.23	74.00	-14.77	62.45	-3.22	Peak		
3	4874.00	43.95	54.00	-10.05	39.56	4.39	Average		
4	4874.00	60.82	74.00	-13.18	56.43	4.39	Peak		
5	7311.00	36.80	54.00	-17.20	27.88	8.92	Average		
6	7311.00	50.11	74.00	-23.89	41.19	8.92	Peak		

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

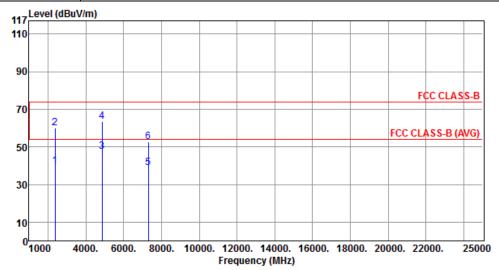
Note 3: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.

Report No.: FR371704AC Page: 75 of 94



No. 3-1, Lane 6, Wen San 3rd St., Kwei Shan Hsiang, Tao Yuan Hsien 333, Taiwan, R.O.C. Tel: 886-3-271-8666 Fax: 886-3-318-0155

PolarizationVerticalTest Freq. (MHz)2437Test Configuration2



	Freq.	Emission level	Limit	Margin	SA reading		Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
4	2200 00	70.64		44.30	42.02				
1	2390.00	39.61	54.00	-14.39	42.83	-3.22	Average		
2	2390.00	60.01	74.00	-13.99	63.23	-3.22	Peak		
3	4874.00	47.68	54.00	-6.32	43.29	4.39	Average		
4	4874.00	63.49	74.00	-10.51	59.10	4.39	Peak		
5	7311.00	38.78	54.00	-15.22	29.86	8.92	Average		
6	7311.00	52.58	74.00	-21.42	43.66	8.92	Peak		

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 3: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.

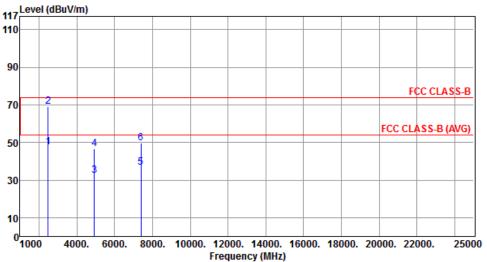
Report No.: FR371704AC Page: 76 of 94



No. 3-1, Lane 6, Wen San 3rd St., Kwei Shan Hsiang, Tao Yuan Hsien 333, Taiwan, R.O.C. Tel: 886-3-271-8666 Fax: 886-3-318-0155

 Polarization
 Horizontal
 Test Freq. (MHz)
 2462

 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	2483.50	47.28	54.00	-6.72	50.11	-2.83	Average		
2	2483.50	69.09	74.00	-4.91	71.92	-2.83	Peak		
3	4924.00	32.45	54.00	-21.55	27.97	4.48	Average		
4	4924.00	46.49	74.00	-27.51	42.01	4.48	Peak		
5	7386.00	36.71	54.00	-17.29	27.73	8.98	Average		
6	7386.00	49.83	74.00	-24.17	40.85	8.98	Peak		

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

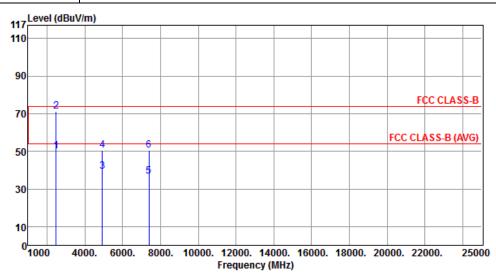
Note 3: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.

Report No.: FR371704AC Page: 77 of 94



No. 3-1, Lane 6, Wen San 3rd St., Kwei Shan Hsiang, Tao Yuan Hsien 333, Taiwan, R.O.C. Tel: 886-3-271-8666 Fax: 886-3-318-0155

PolarizationVerticalTest Freq. (MHz)2462Test Configuration2



	Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
	2402 50	40.07		4.43					
1	2483.50	49.87	54.00	-4.13	52.70	-2.83	Average		
2	2483.50	71.31	74.00	-2.69	74.14	-2.83	Peak		
3	4924.00	39.49	54.00	-14.51	35.01	4.48	Average		
4	4924.00	50.44	74.00	-23.56	45.96	4.48	Peak		
5	7386.00	36.74	54.00	-17.26	27.76	8.98	Average		
6	7386.00	50.32	74.00	-23.68	41.34	8.98	Peak		

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 3: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.

Report No.: FR371704AC Page: 78 of 94



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1495.00

36.91

2390.00 52.60 54.00 -1.40

2390.00 72.79 74.00 -1.21

4824.00 32.42 54.00 -21.58

4824.00 45.52 74.00 -28.48

74.00 -37.09

43.49

55.82

76.01

28.11

41.21

-6.58

-3.22

-3.22

4.31

4.31

International Certification Corp.

No. 3-1, Lane 6, Wen San 3rd St., Kwei Shan Hsiang, Tao Yuan Hsien 333, Taiwan, R.O.C. Tel: 886-3-271-8666 Fax: 886-3-318-0155

Polarization Horizontal Test Freq. (MHz) 2412 **Test Configuration** 3 117 Level (dBuV/m) 110 90 FCC CLAS S-B 70 FCC CLASS-B (AVG) 50 30 10 0 1000 8000. 10000. 12000. 14000. 16000. 18000. 20000. 22000. 4000. 6000. 25000 Frequency (MHz) Freq. Emission Limit Margin SA Factor Remark ANT Turn level reading High Table MHz dBuV/m dBuV/m dB dBuV dΒ deg 1495.00 23.18 54.00 -30.82 29.76 -6.58 ---

Average

Average

Average

Peak

Peak

Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

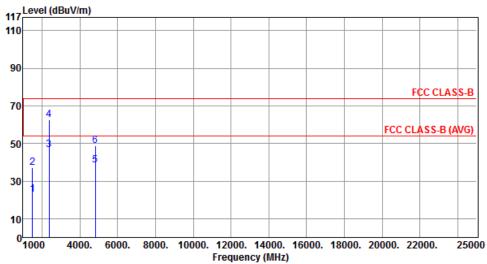
Note 3: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.

Report No.: FR371704AC Page: 79 of 94



No. 3-1, Lane 6, Wen San 3rd St., Kwei Shan Hsiang, Tao Yuan Hsien 333, Taiwan, R.O.C. Tel: 886-3-271-8666 Fax: 886-3-318-0155

PolarizationVerticalTest Freq. (MHz)2412Test Configuration3



	Freq. 1	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	1495.00	22.85	54.00	-31.15	29.43	-6.58	Average		
2	1495.00	37.27	74.00	-36.73	43.85	-6.58	Peak		
3	2390.00	46.84	54.00	-7.16	50.06	-3.22	Average		
4	2390.00	62.80	74.00	-11.20	66.02	-3.22	Peak		
5	4824.00	38.57	54.00	-15.43	34.26	4.31	Average		
6	4824.00	48.90	74.00	-25.10	44.59	4.31	Peak		

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

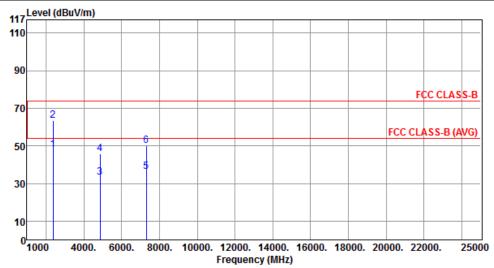
Note 3: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.

Report No.: FR371704AC Page: 80 of 94



No. 3-1, Lane 6, Wen San 3rd St., Kwei Shan Hsiang, Tao Yuan Hsien 333, Taiwan, R.O.C. Tel: 886-3-271-8666 Fax: 886-3-318-0155

PolarizationHorizontalTest Freq. (MHz)2437Test Configuration3



	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	47.83	54.00	-6.17	51.05	-3.22	Average		
2	2390.00	63.56	74.00	-10.44	66.78	-3.22	Peak		
3	4874.00	33.07	54.00	-20.93	28.68	4.39	Average		
4	4874.00	45.62	74.00	-28.38	41.23	4.39	Peak		
5	7311.00	36.37	54.00	-17.63	27.45	8.92	Average		
6	7311.00	50.28	74.00	-23.72	41.36	8.92	Peak		

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

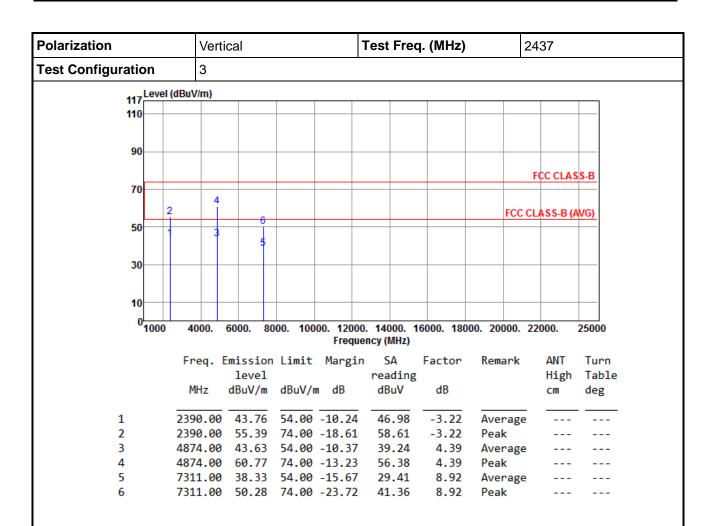
Note 3: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.

Report No.: FR371704AC Page: 81 of 94



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

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



Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 3: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.

Report No.: FR371704AC Page: 82 of 94



30

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4000.

6000.

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Polarization Horizontal Test Freq. (MHz) 2462

Test Configuration 3

Test Configuration FCC CLASS-B (AVG)

FCC CLASS-B (AVG)

				_					
	Freq.	Emission level	Limit	Margin	SA reading		Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	2483.50	50.95	54.00	-3.05	53.78	-2.83	Average		
2	2483.50	69.43	74.00	-4.57	72.26	-2.83	Peak		
3	4924.00	32.93	54.00	-21.07	28.45	4.48	Average		
4	4924.00	45.43	74.00	-28.57	40.95	4.48	Peak		
5	7311.00	36.47	54.00	-17.53	27.55	8.92	Average		
6	7311.00	49.13	74.00	-24.87	40.21	8.92	Peak		

Frequency (MHz)

8000. 10000. 12000. 14000. 16000. 18000. 20000. 22000.

25000

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 3: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.

Report No.: FR371704AC Page: 83 of 94



No. 3-1, Lane 6, Wen San 3rd St., Kwei Shan Hsiang, Tao Yuan Hsien 333, Taiwan, R.O.C. Tel: 886-3-271-8666 Fax: 886-3-318-0155

Polarization Vertical Test Freq. (MHz) 2462 3 **Test Configuration** Level (dBuV/m) 110 90 FCC CLASS-B 70 FCC CLASS-B (AVG) 50 30 10 0 1000 4000. 6000. 8000. 10000. 12000. 14000. 16000. 18000. 20000. 22000. 25000

				_					
	Freq. 1	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz		dBuV/m	dB	dBuV	dB		cm	deg
1	2483.50	48.00	54.00	-6.00	50.83	-2.83	Average		
2	2483.50	68.66	74.00	-5.34	71.49	-2.83	Peak		
3	4924.00	39.81	54.00	-14.19	35.33	4.48	Average		
4	4924.00	50.43	74.00	-23.57	45.95	4.48	Peak		
5	7386.00	37.41	54.00	-16.59	28.43	8.98	Average		
6	7386.00	49.55	74.00	-24.45	40.57	8.98	Peak		

Frequency (MHz)

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 3: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level.

Report No.: FR371704AC Page: 84 of 94

3.6 Unwanted Emissions into Non-Restricted Frequency Bands

3.6.1 Limit of Unwanted Emissions into Non-Restricted Frequency Bands

\boxtimes	The peak output power measured in any 100 kHz bandwidth outside of the authorized frequency band
	shall be attenuated by at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz.
	The peak power in any 100 kHz handwidth outside of the authorized frequency hand shall be

The 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 Test Procedures

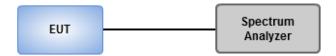
Reference Level Measurement

- 1. Set the RBW = 100 kHz, VBW = 300 kHz, Detector = peak.
- 2. Set Sweep time = auto couple, Trace mode = max hold.
- 3. Allow trace to fully stabilize.
- 4. Use the peak marker function to determine the maximum amplitude level.

Unwanted Emissions Level Measurement

- 1. Set RBW = 100 kHz, VBW = 300 kHz, Detector = peak.
- 2. Trace Mode = max hold, Sweep = auto couple.
- 3. Allow the trace to stabilize.
- 4. Use peak marker function to determine maximum amplitude of all unwanted emissions within any 100 kHz bandwidth.

3.6.3 Test Setup



Report No.: FR371704AC Page: 85 of 94

3.6.4 Unwanted Emissions into Non-Restricted Frequency Bands for 11b

	Tr	ansmitter Ra	diated Bar	ndedge Emis	sions Resul	t		
Test Configuration	on 1							
Modulation		11b, chain 0)	N _{TX}	1			
Non-restricted Band (MHz)	Test Ch. Freq. (MHz)	In-band PSD [i] (dBuV/100kHz)	NBE Freq. (MHz)	Out-band PSD [o] (dBuV/100kHz)	[i] – [o] (dB)	Limit (dB)	Level Type	Pol
2390-2400	2412	90.17	2397.02	45.88	44.29	20	PK	Н
2390-2400	2412	100.66	2397.47	58.02	42.64	20	PK	V
2500-2690	2462	90.61	2522	33.06	57.55	20	PK	Н
2500-2690	2462	99.85	2522	40.51	59.34	20	PK	V
Lo	w Bande	dge - H			Up Ban	dedge - H	•	
10				30	and a supplementation of the supplementation	2	The state of the s	makaulipulist
10 2310 2320. 2340.	2360. Frequency (N	2380. 2400 Hz)	0. 2422	10 0 2452 2460. 2470	0. 2480. 2490. 2	500. 2510. 2520. eency (MHz)	2530. 2540.	. 255
0 2310 2320. 2340.		IHZ)	0. 2422	10	0. 2480. 2490. 2: Frequ	500. 2510. 2520.	2530. 2540.	. 25:

Report No.: FR371704AC Page: 86 of 94



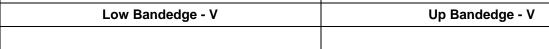
Test Configuration	on 2							
Modulation		11b, chain 0		N _{TX}	1			
Non-restricted Band (MHz)	Test Ch. Freq. (MHz)	In-band PSD [i]	NBE Freq. (MHz)	Out-band PSD [o]	[i] – [o] (dB)	Limit (dB)	Level Type	Pol
2390-2400	2412	101.95	2397.02	59.46	42.49	20	PK	Н
2390-2400	2412	102.43	2397.47	60.09	42.34	20	PK	V
2500-2690	2462	100.66	2520.6	39.87	60.79	20	PK	Н
2500-2690	2462	100.25	2513.3	38.35	61.9	20	PK	V
Lo	w Banded	lae - H			Up Ban	dedge - H	1	
	Frequency (MF			0 ¹ 2452 2460. 2470		dedge - V		
				117 Level (dBuV/m) 110				
117 Level (dBuV/m) 110 90 70 50 30	Naccount Management Annual Control	The state of the s	FCC CLASS-B C CLASS-B (AVG)	90 70 50 30	Marine Marine	2	FCC CLASS	S-B (AVG)

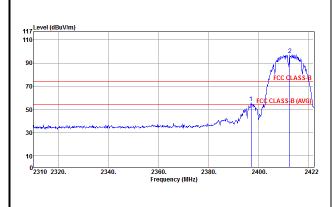
Report No.: FR371704AC Page: 87 of 94

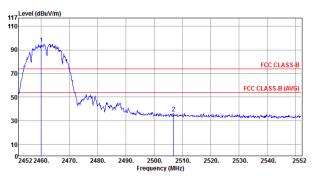


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Transmitter Radiated Bandedge Emissions Result Test Configuration 3 Modulation 11b, chain 0 N_{TX} Test Ch. In-band **NBE Out-band** Non-restricted [i] **–** [o] Level Pol. PSD [i] PSD [o] Limit (dB) Freq. Freq. Band (MHz) (dB) Type note 1 (MHz) (MHz) (dBuV/100kHz) (dBuV/100kHz) 2390-2400 100.39 59.26 2412 2397.02 41.13 20 PΚ Η ٧ 2390-2400 2412 97.2 2397.02 55.6 41.6 20 PΚ 2500-2690 2462 98.62 2522 38.42 60.2 20 PΚ Н 2500-2690 2462 95.14 2506.8 36.4 58.74 PΚ V 20 Low Bandedge - H Up Bandedge - H FCC CLASS-B (AVG Mymmy 0<mark>2310 2320.</mark> 2340 2360. Frequency (MHz) 2400.







Note 1: Measurement worst emissions of receive antenna polarization: H (Horizontal) or V (Vertical)

Report No.: FR371704AC Page: 88 of 94

3.6.5 Unwanted Emissions into Non-Restricted Frequency Bands for 11a

	Tra	ansmitter Ra	diated Bai	ndedge Emis	sions Result			
Test Configurat	ion 1							
Modulation		11g, chain 0		N _{TX}	1			
Non-restricted Band (MHz)	Test Ch. Freq. (MHz)	In-band PSD [i] (dBuV/100kHz)	NBE Freq. (MHz)	Out-band PSD [o] (dBuV/100kHz)	[i] – [o] (dB)	Limit (dB)	Level Type	Pol
2390-2400	2412	89.13	2400	56.6	32.53	20	PK	Н
2390-2400	2412	99.26	2400	71.12	28.14	20	PK	V
2500-2690	2462	87.87	2500.1	36.99	50.88	20	PK	Н
2500-2690	2462	96.24	2501.1	41.98	54.26	20	PK	V
L	ow Banded	lge - H			Up Ban	dedge - H		
⁰ 23222330. 2340. 2350). 2360. 2370. Frequency (f	2380. 2390. 2400. MHz)	2410. 2422	⁰ 2452 2460. 241		500. 2510. 2520. uency (MHz)	2530. 2540.	255
L	ow Banded	lge - V			Up Ban	dedge - V		

Report No.: FR371704AC Page: 89 of 94



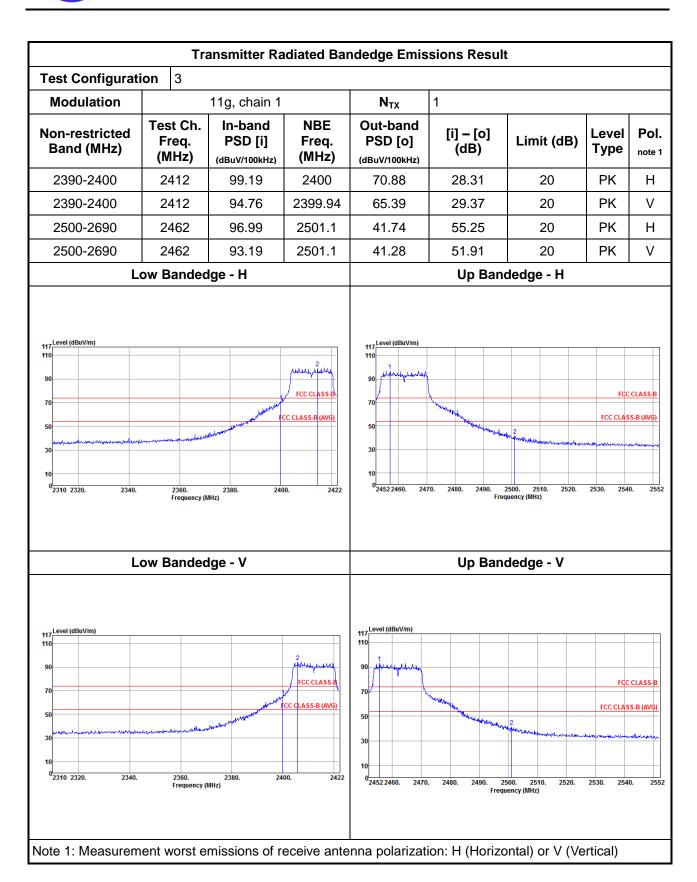
	ion 2							
Modulation		11g, chain 1		N _{TX}	1			
Non-restricted Band (MHz)	Test Ch. Freq. (MHz)	In-band PSD [i] (dBuV/100kHz)	NBE Freq. (MHz)	Out-band PSD [o]	[i] – [o] (dB)	Limit (dB)	Level Type	Po
2390-2400	2412	98.25	2400	69.99	28.26	20	PK	Н
2390-2400	2412	97.36	2400	69.72	27.64	20	PK	V
2500-2690	2462	97.49	2501.1	43.84	53.65	20	PK	Н
2500-2690	2462	97.57	2500.4	44.28	53.29	20	PK	V
Low Bandedge - H					Up Ban	dedge - H		
02310 2320. 2340.	Frequency (ency (MHz)		
		1 \ \ /			Up Ban	dedge - V		
L	ow Bande	age - v			·			

Report No.: FR371704AC Page: 90 of 94



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

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Report No.: FR371704AC Page: 91 of 94

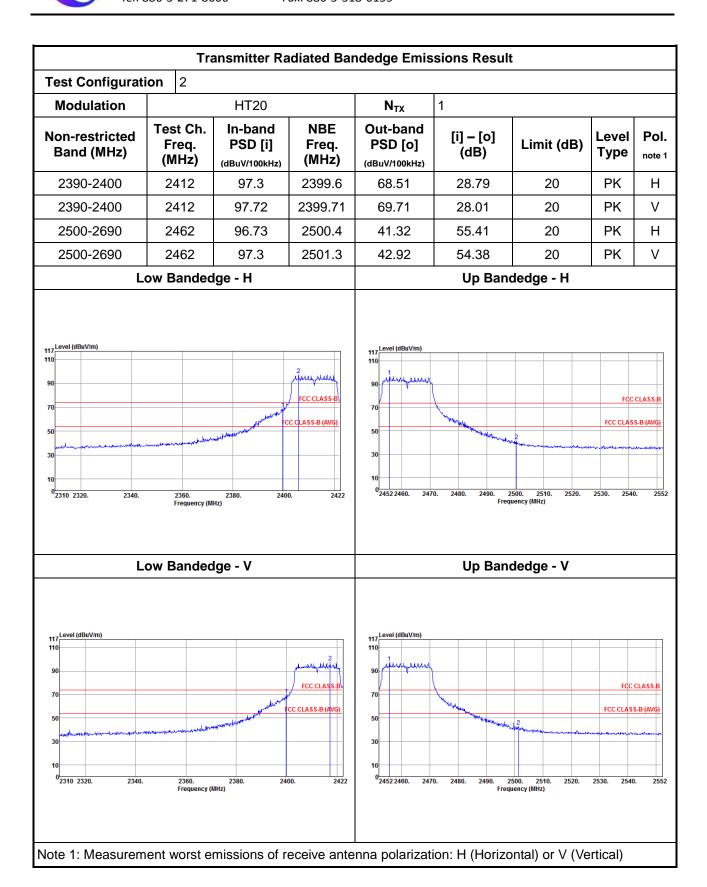
3.6.6 Unwanted Emissions into Non-Restricted Frequency Bands for HT20

		Transmitter Ra	adiated Ba	ndedge Emis	sions Result	t		
Test Configurat	ion 1							
Modulation		HT20		N _{TX}	1			
Non-restricted Band (MHz)	Test C Freq. (MHz)	PSD [i]	NBE Freq. (MHz)	Out-band PSD [o]	[i] – [o] (dB)	Limit (dB)	Level Type	Po
2390-2400	2412	89.14	2399.8	60.06	29.08	20	PK	Н
2390-2400	2412	99.11	2399.7	69.16	29.95	20	PK	V
2500-2690	2462	88.82	2500.1	37.91	50.91	20	PK	Н
2500-2690	2462	97.76	2500.1	43.37	54.39	20	PK	V
Low Bandedge - H					Up Band	dedge - H		
30	aghiricaga na gairtíg ann agus na Aire Pha	water broken broken de	FCC CLASS-B (AVG)	30	And the second s	Anna friend a second by make a decoration of the second	FCC CLASS-E	B (AVG)
		and the second s				00. 2510. 2520. 2 ncy (MHz)	FCC CLASS-E	· · · · · · · · · · · · · · · · · · ·
30 10 0 2322 2330. 2340. 235	Frequ	70. 2380. 2390. 240		30	Freque		ng talaggan salama, ang panalaman	2552

Report No.: FR371704AC Page: 92 of 94



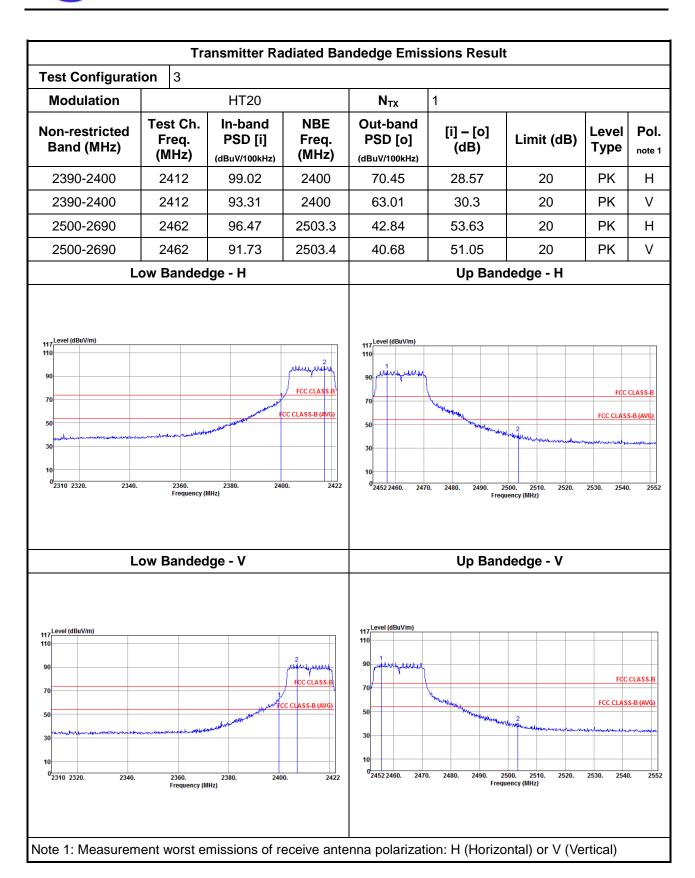
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Report No.: FR371704AC Page: 93 of 94

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Report No.: FR371704AC Page: 94 of 94