

# **FCC C2PC Test Report**

FCC ID : ZQ6-AP6234A

Equipment : Wifi Dual Band + BT combo module

Model No. : AP6234A, AP6234AL

Brand Name : Ampak

Applicant : Ampak Technology Inc

Address : No.1 Jen Al Road, Hsinchu Industrial Park,

Hukou, Hsinchu, Taiwan, 30352

Standard : 47 CFR FCC Part 15.247

Received Date : Jul. 03, 2014

Tested Date : Jul. 03 ~ Jul. 10, 2014

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



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Report No.: FR440102-11AC Report Version: Rev. 01



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## **Release Record**

Report No.	Version	Description	Issued Date
FR440102-11AC	Rev. 01	Initial issue	Sep. 18, 2014

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## **Summary of Test Results**

FCC Rules	Test Items	Measured	Result
15.207	Conducted Emissions	[dBuV]: 0.156MHz 55.66 (Margin -10.03dB) - QP	Pass
15.247(d) 15.209	Radiated Emissions	[dBuV/m at 3m]: 2390.00MHz 53.85(Margin -0.15dB) - AV	Pass

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## 1 General Description

### 1.1 Information

This report is prepared for FCC class II change.

This report is issued as a supplementary report to original ICC report no. FR440102-07AC. The modification is adding 2nd antenna (PIFA antenna), therefore, radiated emission and conducted emission has been re-tested after re-evaluation, and only its data was recorded in the following sections.

Brand Name	Model Name	Product Name	Description
Amnok	AP6234A	Wifi Dual Band + BT	Without 2.4G SAW filter
Ampak	AP6234AL	combo module	With 2.4G SAW filter

### 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 <sub>TX</sub> )	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			
2400-2483.5	n (HT40)	2422-2452	3-9 [7]	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. No.	Turno	Ol	Connector				
Ant. No.	Туре	2400~2483.5	5150~5250	5250~5350	5470~5725	5725~5850	Connector
1	Dipole(Original)	2	3	3	3	3	UFL
2	PIFA(New)	3.53	5.30	4.93	5.31	5.55	UFL

### 1.1.3 Power Supply Type of Equipment under Test (EUT)

Power Supply Type	3.3Vdc from host.

#### 1.1.4 Accessories

N/A

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## 1.1.5 Channel List

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

## 1.1.6 Test Tool and Duty Cycle

Model	AP6234A				
Test Tool	Mtool, V2.0.1.1				
	Mode	Duty cycle (%)	Duty factor (dB)		
	11b	100.00%	0.00		
Duty Cycle and Duty Factor	11g	99.31%	0.03		
	HT20	99.26%	0.03		
	HT40	98.52%	0.06		

Model	AP6234AL					
Test Tool	Mtool, V2.0.1.1					
	Mode	Duty cycle (%)	Duty factor (dB)			
	11b	100.00%	0.00			
<b>Duty Cycle and Duty Factor</b>	11g	99.31%	0.03			
	HT20	99.26%	0.03			
	HT40	98.52%	0.06			

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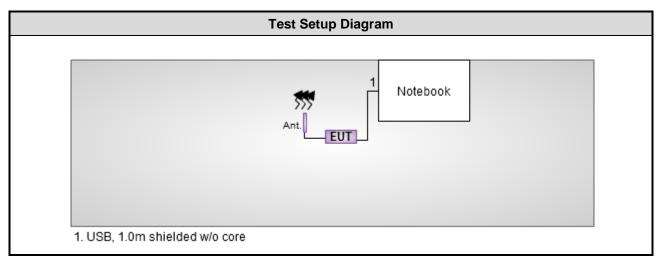
## 1.1.7 Power Setting

Modulation Mada	Toot Francisco (MIII-)	AP6234A	AP6234AL
Modulation Mode	e Test Frequency (MHz)	Power Set	Power Set
11b	2412	76	76
11b	2437	88	86
11b	2462	76	80
11g	2412	68	70
11g	2437	80	80
11g	2462	60	64
HT20	2412	68	70
HT20	2437	78	80
HT20	2462	60	64
HT40	2422	62	62
HT40	2437	64	66
HT40	2452	56	58

## 1.2 Local Support Equipment List

Support Equipment List							
No.	No. Equipment Brand Model S/N FCC ID Signal cable / Length (m)						
1	Notebook	DELL	E6430		DoC	USB 1.0m shielded cable w/o core.	

## 1.3 Test Setup Chart



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## 1.4 The Equipment List

Test Item	Conducted Emission								
Test Site	Conduction room 1 / (	Conduction room 1 / (CO01-WS)							
Instrument	Manufacturer	Manufacturer Model No. Serial No. Calibration Date Calibration Unt							
EMC Receiver	R&S	ESCS 30	100169	Oct. 15, 2013	Oct. 14, 2014				
LISN	SCHWARZBECK	Schwarzbeck 8127	8127-667	Nov. 23, 2013	Nov. 22, 2014				
LISN (Support Unit)	SCHWARZBECK	Schwarzbeck 8127	8127-666	Dec. 04, 2013	Dec. 03, 2014				
RF Cable-CON	Woken	CFD200-NL	CFD200-NL-001	Apr. 23, 2014	Apr. 22, 2015				
50 ohm terminal (Support Unit)	NA	50	04	Apr. 18, 2014	Apr. 17, 2015				

Test Item	Radiated Emission							
Test Site	966 chamber 2 / (03C	H02-WS)						
Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Until			
Spectrum Analyzer	R&S	FSV40	101499	Feb. 08, 2014	Feb. 07, 2015			
Receiver	R&S	ESR3	101657	Jan. 18, 2014	Jan. 17, 2015			
Bilog Antenna	SCHWARZBECK	VULB9168	VULB9168-524	Jan. 08, 2014	Jan. 07, 2015			
Horn Antenna 1G-18G	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D 1095	Jan. 07, 2014	Jan. 06, 2015			
Horn Antenna 18G-40G	SCHWARZBECK	BBHA 9170	BBHA 9170517	Dec. 27, 2013	Dec. 26, 2014			
Preamplifier	Burgeon	BPA-530	100218	Dec. 09, 2013	Dec. 08, 2014			
Preamplifier	Agilent	83017A	MY39501309	Dec. 09, 2013	Dec. 08, 2014			
Preamplifier	WM	TF-130N-R1	923365	Oct. 23, 2013	Oct. 22, 2014			
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16140/4	Dec. 17, 2013	Dec. 16, 2014			
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16018/4	Dec. 17, 2013	Dec. 16, 2014			
RF Cable	HUBER+SUHNER	SUCOFLEX104	MY16015/4	Dec. 17, 2013	Dec. 16, 2014			
LF cable 3M	Woken	CFD400NL-LW	CFD400NL-003	Dec. 17, 2013	Dec. 16, 2014			
LF cable 10M	Woken	Woken CFD400NL-LW CFD400NL-004 Dec. 17, 2013 Dec. 16, 20						
Note: Calibration Inter	rval of instruments listed	d above is one year.						

Instrument	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Until		
Loop Antenna	R&S	HFH2-Z2	100330	Nov. 15, 2012	Nov. 14, 2014		
Note: Calibration Interval of instruments listed above is two year.							

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### 1.5 Test Standards

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

47 CFR FCC Part 15.247

ANSI C63.10-2009

FCC KDB 558074 D01 DTS Meas Guidance v03r02

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

## 1.6 Measurement Uncertainty

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

Measurement Uncertainty					
Parameters	Uncertainty				
AC conducted emission	±2.92 dB				
Radiated emission < 1GHz	±3.26 dB				
Radiated emission > 1GHz	±4.94 dB				

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## 2 Test Configuration

## 2.1 Testing Condition

Test Item	Test Site	Ambient Condition	Tested By
AC Conduction	CO01-WS	21°C / 72%	Skys Huang
Radiated Emissions	03CH02-WS	21-24°C / 65-68%	Anderson Hung York Lin

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	6 Mbps	1, 2
Radiated Emissions ≤1GHz	HT20	2437	6 Mbps	1, 2
	11b	2412 / 2437 / 2462	1 Mbps	
Radiated Emissions >1GHz	11g	2412 / 2437 / 2462	6 Mbps	4.0
Nadiated Emissions > 10112	HT20	2412 / 2437 / 2462	MCS 0	1, 2
	HT40	2422 / 2437 / 2452	MCS 0	

#### NOTE:

1. The EUT was pretested with 3 orientations placed on the table for the radiated emission measurement – X, Y, and Z-plane. The **Z-plane** results were found as the worst case and were shown in this report.

2. Two samples had been tested on the following test configurations.

Configuration 1 : AP6234A
Configuration 2 : AP6234AL

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## 3 Transmitter Test Results

### 3.1 Conducted Emissions

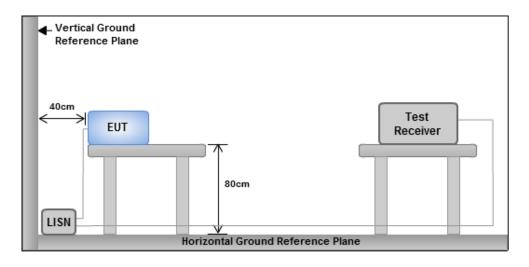
#### 3.1.1 Limit of Conducted Emissions

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

#### 3.1.2 Test Procedures

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

#### 3.1.3 Test Setup



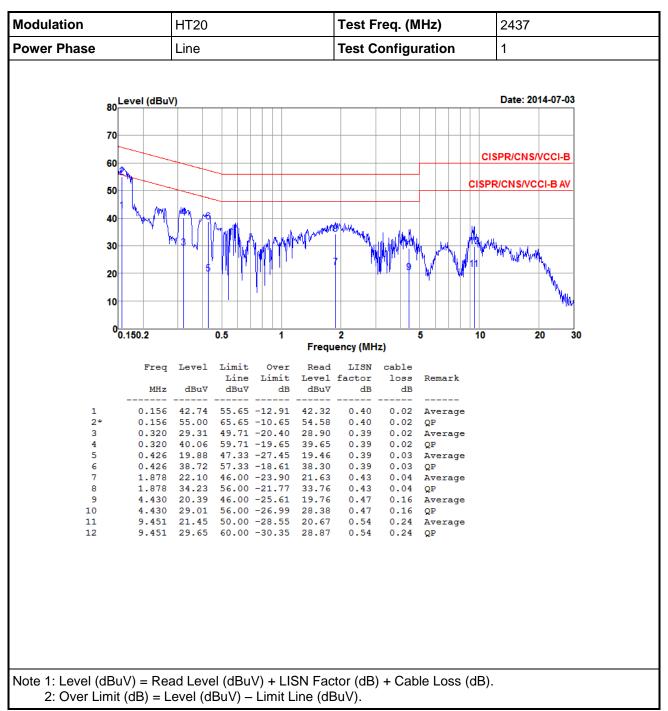
Note: 1. Support units were connected to second LISN.

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

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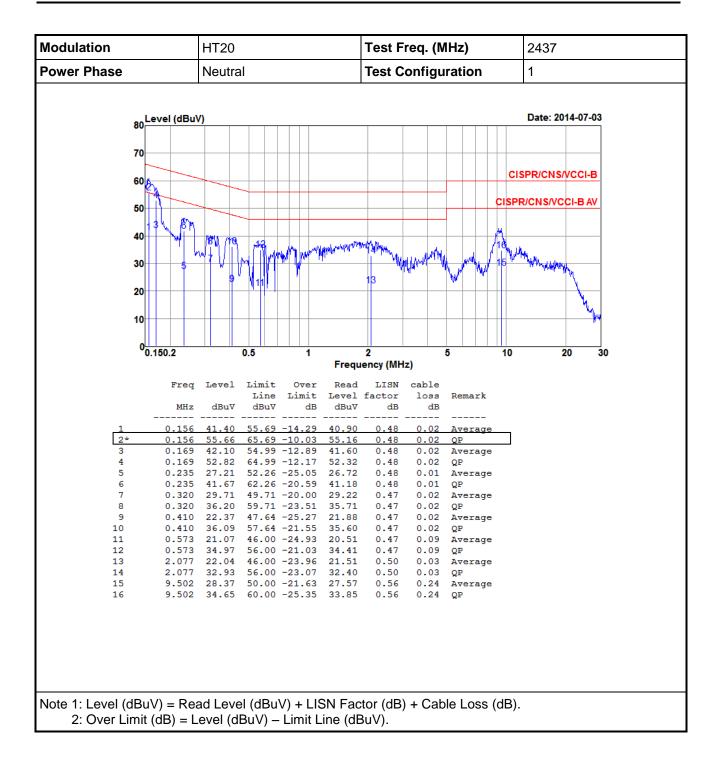


#### 3.1.4 Test Result of Conducted Emissions



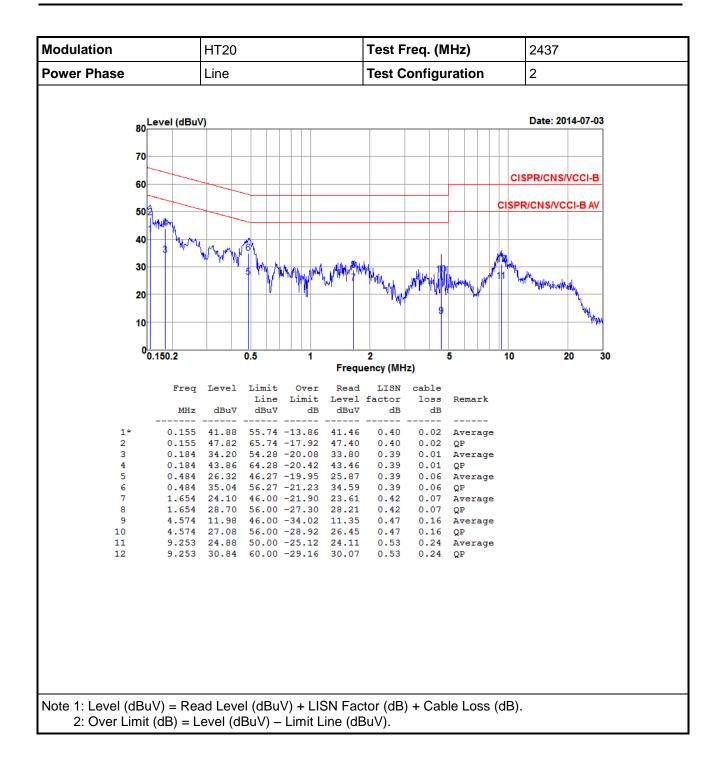
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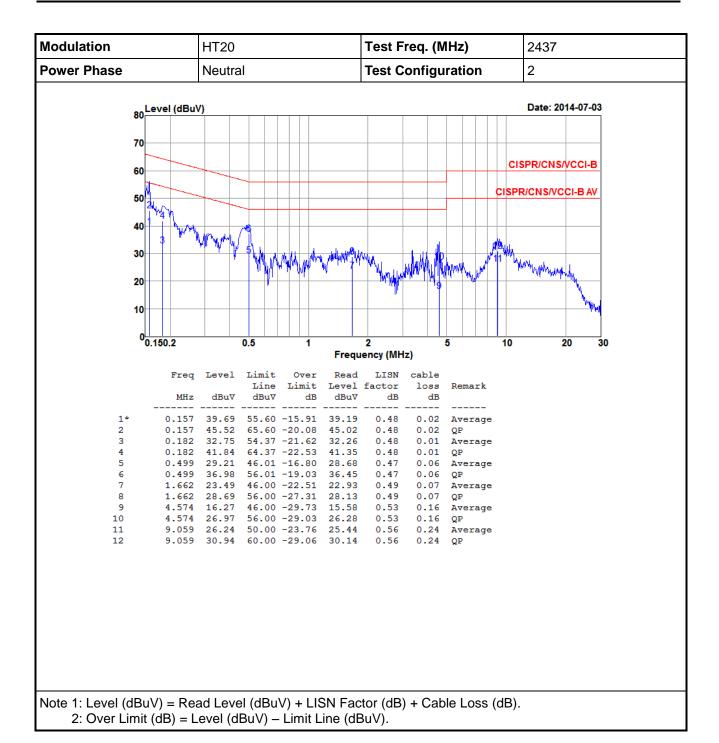
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### 3.2 Unwanted Emissions into Restricted Frequency Bands

### 3.2.1 Limit of Unwanted Emissions into Restricted Frequency Bands

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

#### Note 1:

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

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

#### 3.2.2 Test Procedures

- 1. 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.

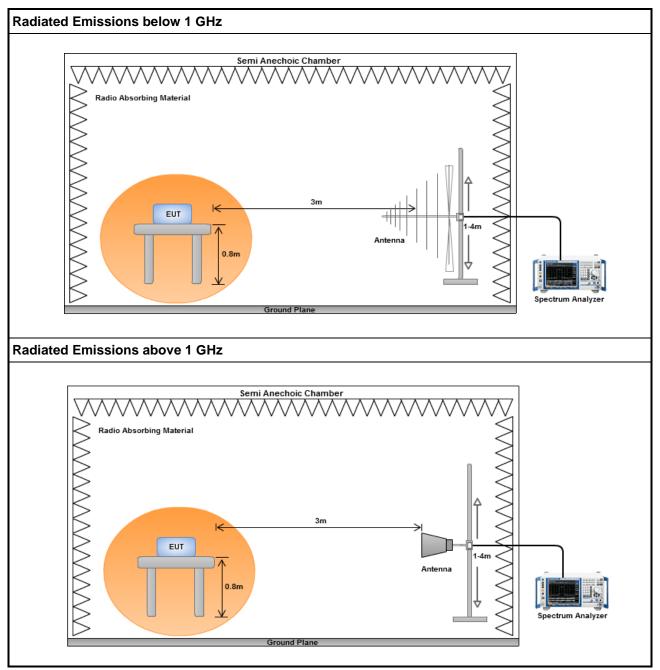
#### Note:

- 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.

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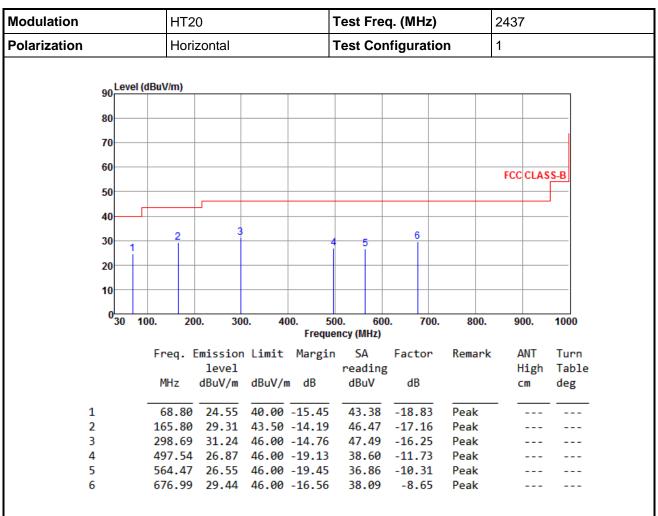
## 3.2.3 Test Setup



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### 3.2.4 Transmitter Radiated Unwanted Emissions (Below 1GHz)



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

\*Factor includes antenna factor, cable loss and amplifier gain

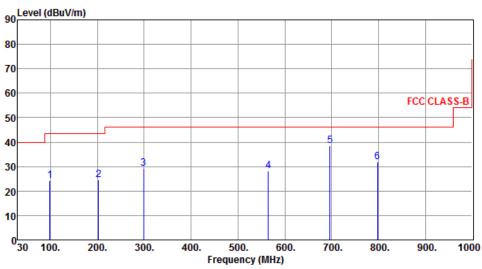
Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

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Modulation	HT20	Test Freq. (MHz)	2437
Polarization	Vertical	Test Configuration	1



	Freq.	Emission level	Limit	Margin	SA reading		Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	98.87	24.39	43.50	-19.11	46.19	-21.80	Peak		
2	202.66	24.53	43.50	-18.97	44.29	-19.76	Peak		
3	298.69	29.18	46.00	-16.82	45.43	-16.25	Peak		
4	564.47	28.10	46.00	-17.90	38.41	-10.31	Peak		
5	696.39	38.46	46.00	-7.54	46.83	-8.37	Peak		
6	798.24	31.90	46.00	-14.10	38.60	-6.70	Peak		

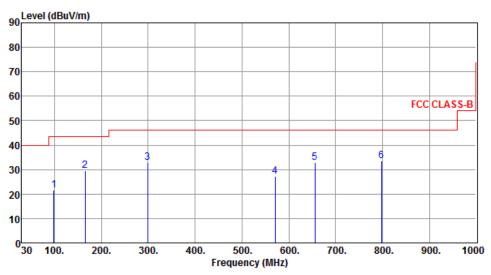
\*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

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Modulation	HT20	Test Freq. (MHz)	2437
Polarization	Horizontal	Test Configuration	2



	Freq.	Emission level	Limit	Margin	SA reading		Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		CM	deg
1	98.87	21.56	43.50	-21.94	43.36	-21.80	Peak		
2	165.80	29.59	43.50	-13.91	46.75	-17.16	Peak		
3	298.69	32.77	46.00	-13.23	49.02	-16.25	Peak		
4	571.26	27.07	46.00	-18.93	37.23	-10.16	Peak		
5	655.65	32.85	46.00	-13.15	41.81	-8.96	Peak		
6	798.24	33.50	46.00	-12.50	40.20	-6.70	Peak		

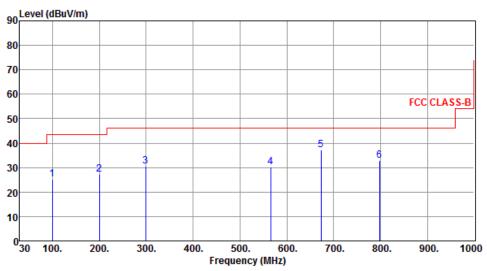
\*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

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Modulation	HT20	Test Freq. (MHz)	2437
Polarization	Vertical	Test Configuration	2



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Ū	SA reading dBuV		Remark	ANT High cm	Turn Table deg
1	90 84	25.12	13 50	19 39	16 79	-21.66	Peak		
1	33.04	23.12	43.30	-10.50	40.70	-21.00	reak		
2	199.75	27.17	43.50	-16.33	47.04	-19.87	Peak		
3	298.69	30.44	46.00	-15.56	46.69	-16.25	Peak		
4	565.44	30.13	46.00	-15.87	40.42	-10.29	Peak		
5	673.11	37.21	46.00	-8.79	45.92	-8.71	Peak		
6	798.24	32.73	46.00	-13.27	39.43	-6.70	Peak		

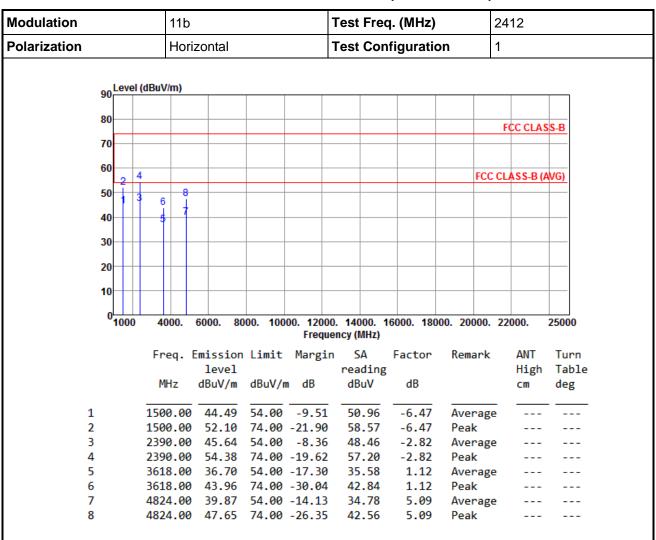
\*Factor includes antenna factor , cable loss and amplifier gain Note 2: Margin (dB) = Emission level (dBuV/m) – Limit (dBuV/m).

Note 3: All spurious emissions below 30MHz are more than 20 dB below the limit.

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



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

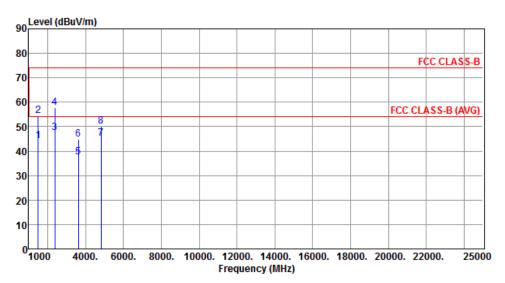
\*Factor includes antenna factor, cable loss and amplifier gain

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

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Modulation	11b	Test Freq. (MHz)	2412
Polarization	Vertical	Test Configuration	1



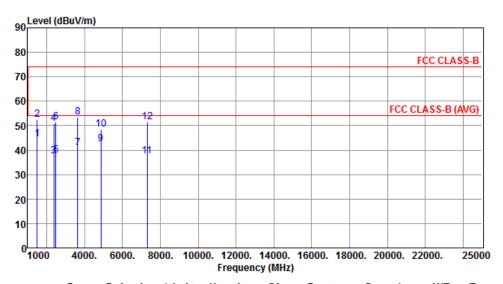
	Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	1500.00	44.22	54.00	-9.78	50.69	-6.47	Average		
2	1500.00	54.35	74.00	-19.65	60.82	-6.47	Peak		
3	2390.00	47.62	54.00	-6.38	50.44	-2.82	Average		
4	2390.00	57.67	74.00	-16.33	60.49	-2.82	Peak		
5	3618.00	37.55	54.00	-16.45	36.43	1.12	Average		
6	3618.00	44.73	74.00	-29.27	43.61	1.12	Peak		
7	4824.00	45.01	54.00	-8.99	39.92	5.09	Average		
8	4824.00	49.99	74.00	-24.01	44.90	5.09	Peak		

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

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



	Freq. E	mission	Limit	Margin	SA	Factor	Remark	ANT	Turn
		level			reading			High	Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	1500.00	44.61	54.00	-9.39	51.08	-6.47	Average		
2	1500.00	52.36	74.00	-21.64	58.83	-6.47	Peak		
3	2390.00	37.66	54.00	-16.34	40.48	-2.82	Average		
4	2390.00	50.89	74.00	-23.11	53.71	-2.82	Peak		
5	2483.50	37.87	54.00	-16.13	40.26	-2.39	Average		
6	2483.50	51.33	74.00	-22.67	53.72	-2.39	Peak		
7	3655.00	40.80	54.00	-13.20	39.57	1.23	Average		
8	3655.00	53.58	74.00	-20.42	52.35	1.23	Peak		
9	4874.00	42.44	54.00	-11.56	37.26	5.18	Average		
10	4874.00	48.59	74.00	-25.41	43.41	5.18	Peak		
11	7311.00	37.68	54.00	-16.32	26.94	10.74	Average		
12	7311.00	51.63	74.00	-22.37	40.89	10.74	Peak		

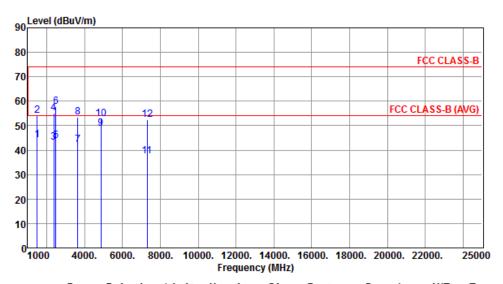
\*Factor includes antenna factor, cable loss and amplifier gain

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

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



	Freq. E	Emission	Limit	Margin	SA	Factor	Remark	ANT	Turn
		level			reading			High	Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	1500.00	44.30	54.00	-9.70	50.77	-6.47	Average		
2	1500.00	54.18	74.00	-19.82	60.65	-6.47	Peak		
3	2390.00	43.04	54.00	-10.96	45.86	-2.82	Average		
4	2390.00	55.04	74.00	-18.96	57.86	-2.82	Peak		
5	2483.50	43.70	54.00	-10.30	46.09	-2.39	Average		
6	2483.50	57.88	74.00	-16.12	60.27	-2.39	Peak		
7	3655.00	42.20	54.00	-11.80	40.97	1.23	Average		
8	3655.00	53.32	74.00	-20.68	52.09	1.23	Peak		
9	4874.00	48.89	54.00	-5.11	43.71	5.18	Average		
10	4874.00	52.91	74.00	-21.09	47.73	5.18	Peak		
11	7311.00	37.69	54.00	-16.31	26.95	10.74	Average		
12	7311.00	52.61	74.00	-21.39	41.87	10.74	Peak		

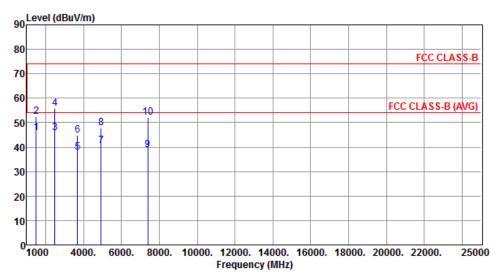
\*Factor includes antenna factor, cable loss and amplifier gain

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

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Modulation	11b	Test Freq. (MHz)	2462
Polarization	Horizontal	Test Configuration	1



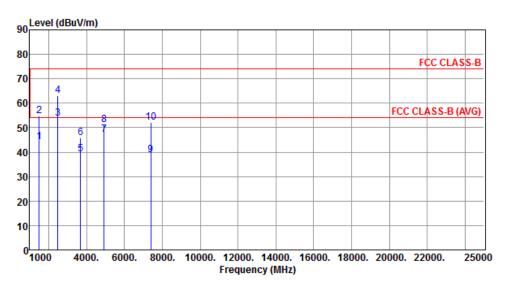
	Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	1500.00	45.72	54.00	-8.28	52.19	-6.47	Average		
2	1500.00	52.50	74.00	-21.50	58.97	-6.47	Peak		
3	2483.50	45.85	54.00	-8.15	48.24	-2.39	Average		
4	2483.50	55.65	74.00	-18.35	58.04	-2.39	Peak		
5	3692.00	37.73	54.00	-16.27	36.39	1.34	Average		
6	3692.00	44.90	74.00	-29.10	43.56	1.34	Peak		
7	4924.00	40.45	54.00	-13.55	35.17	5.28	Average		
8	4924.00	47.78	74.00	-26.22	42.50	5.28	Peak		
9	7386.00	38.71	54.00	-15.29	27.87	10.84	Average		
10	7386.00	52.26	74.00	-21.74	41.42	10.84	Peak		

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

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Modulation	11b	Test Freq. (MHz)	2462
Polarization	Vertical	Test Configuration	1



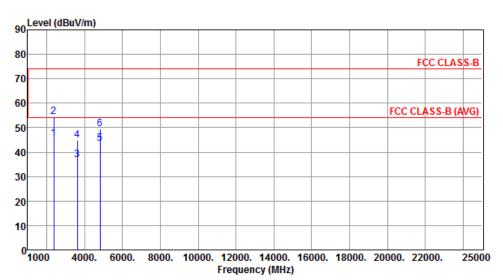
	Freq. l	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	1500.00	44.27	54.00	-9.73	50.74	-6.47	Average		
2	1500.00	54.76	74.00	-19.24	61.23	-6.47	Peak		
3	2483.50	53.67	54.00	-0.33	56.06	-2.39	Average		
4	2483.50	62.94	74.00	-11.06	65.33	-2.39	Peak		
5	3692.00	39.35	54.00	-14.65	38.01	1.34	Average		
6	3692.00	45.96	74.00	-28.04	44.62	1.34	Peak		
7	4924.00	47.12	54.00	-6.88	41.84	5.28	Average		
8	4924.00	51.02	74.00	-22.98	45.74	5.28	Peak		
9	7386.00	38.79	54.00	-15.21	27.95	10.84	Average		
10	7386.00	52.23	74.00	-21.77	41.39	10.84	Peak		

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

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Modulation	11b	Test Freq. (MHz)	2412
Polarization	Horizontal	Test Configuration	2



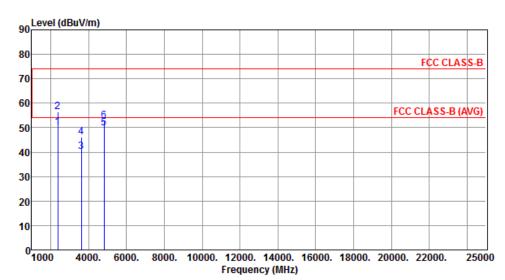
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Ū	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	45.57	54.00	-8.43	48.39	-2.82	Average		
2	2390.00		74.00		57.27	-2.82	Peak		
3	3618.00	37.01	54.00	-16.99	35.89	1.12	Average		
4	3618.00	44.90	74.00	-29.10	43.78	1.12	Peak		
5	4824.00	43.64	54.00	-10.36	38.55	5.09	Average		
6	4824.00	49.64	74.00	-24.36	44.55	5.09	Peak		

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

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Modulation	11b	Test Freq. (MHz)	2412
Polarization	Vertical	Test Configuration	2



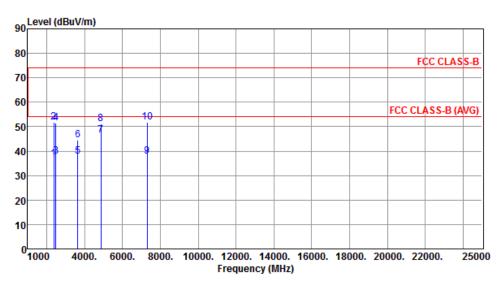
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m		SA reading dBuV		Remark	ANT High cm	Turn Table deg
1	2390.00	50.05	54.00	-3.95	52.87	-2.82	Average		
2	2390.00		74.00		59.29	-2.82	Peak		
3	3618.00	40.14	54.00	-13.86	39.02	1.12	Average		
4	3618.00	46.14	74.00	-27.86	45.02	1.12	Peak		
5	4824.00	49.68	54.00	-4.32	44.59	5.09	Average		
6	4824.00	52.95	74.00	-21.05	47.86	5.09	Peak		

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

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



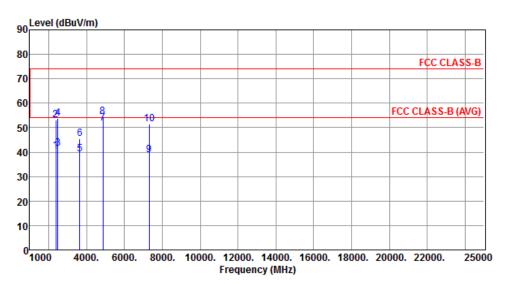
	Freq. 1	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	2390.00	36.90	54.00	-17.10	39.72	-2.82	Average		
2	2390.00	51.67	74.00	-22.33	54.49	-2.82	Peak		
3	2483.50	37.71	54.00	-16.29	40.10	-2.39	Average		
4	2483.50	51.48	74.00	-22.52	53.87	-2.39	Peak		
5	3655.00	37.82	54.00	-16.18	36.59	1.23	Average		
6	3655.00	44.66	74.00	-29.34	43.43	1.23	Peak		
7	4874.00	46.65	54.00	-7.35	41.47	5.18	Average		
8	4874.00	51.22	74.00	-22.78	46.04	5.18	Peak		
9	7311.00	37.80	54.00	-16.20	27.06	10.74	Average		
10	7311.00	51.87	74.00	-22.13	41.13	10.74	Peak		

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

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



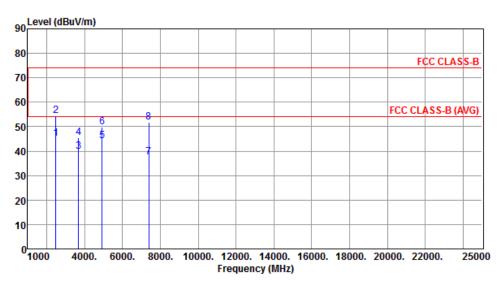
	Freq. 1	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	2390.00	40.49	54.00	-13.51	43.31	-2.82	Average		
2	2390.00	53.30	74.00	-20.70	56.12	-2.82	Peak		
3	2483.50	41.67	54.00	-12.33	44.06	-2.39	Average		
4	2483.50	53.94	74.00	-20.06	56.33	-2.39	Peak		
5	3655.00	39.05	54.00	-14.95	37.82	1.23	Average		
6	3655.00	45.64	74.00	-28.36	44.41	1.23	Peak		
7	4874.00	51.79	54.00	-2.21	46.61	5.18	Average		
8	4874.00	54.56	74.00	-19.44	49.38	5.18	Peak		
9	7311.00	38.71	54.00	-15.29	27.97	10.74	Average		
10	7311.00	51.52	74.00	-22.48	40.78	10.74	Peak		

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

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Modulation	11b	Test Freq. (MHz)	2462
Polarization	Horizontal	Test Configuration	2



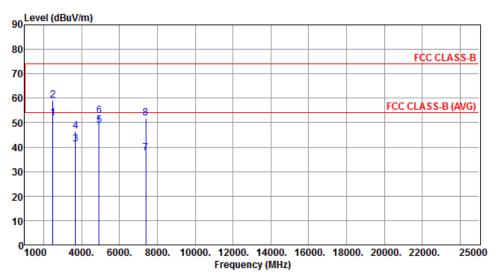
	Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	2483.50	45.27	54.00	-8.73	47.66	-2.39	Average		
2	2483.50	54.48	74.00	-19.52	56.87	-2.39	Peak		
3	3692.00	39.93	54.00	-14.07	38.59	1.34	Average		
4	3692.00	45.39	74.00	-28.61	44.05	1.34	Peak		
5	4924.00	44.14	54.00	-9.86	38.86	5.28	Average		
6	4924.00	49.95	74.00	-24.05	44.67	5.28	Peak		
7	7386.00	37.57	54.00	-16.43	26.73	10.84	Average		
8	7386.00	51.67	74.00	-22.33	40.83	10.84	Peak		

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

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Modulation	11b	Test Freq. (MHz)	2462
Polarization	Vertical	Test Configuration	2



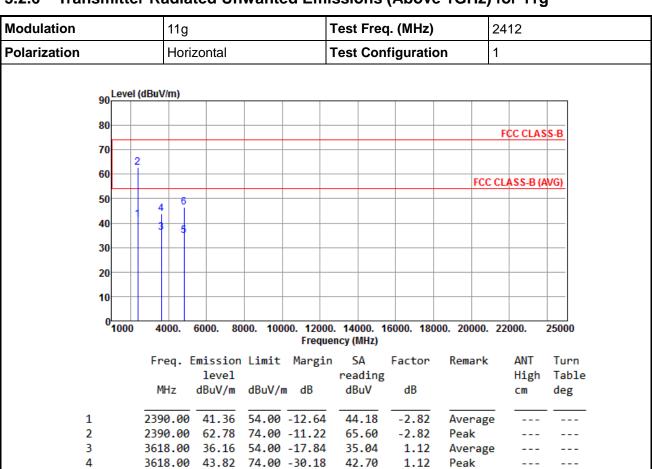
		Emission level		Ū	SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	2483.50	51.97	54.00	-2.03	54.36	-2.39	Average		
2	2483.50	58.96	74.00	-15.04	61.35	-2.39	Peak		
3	3692.00	41.26	54.00	-12.74	39.92	1.34	Average		
4	3692.00	46.66	74.00	-27.34	45.32	1.34	Peak		
5	4924.00	48.97	54.00	-5.03	43.69	5.28	Average		
6	4924.00	52.83	74.00	-21.17	47.55	5.28	Peak		
7	7386.00	37.42	54.00	-16.58	26.58	10.84	Average		
8	7386.00	51.95	74.00	-22.05	41.11	10.84	Peak		

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

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



29.75

41.35

5.09

5.09

Average

Peak

54.00 -19.16

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

\*Factor includes antenna factor, cable loss and amplifier gain

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

4824.00 34.84

4824.00 46.44 74.00 -27.56

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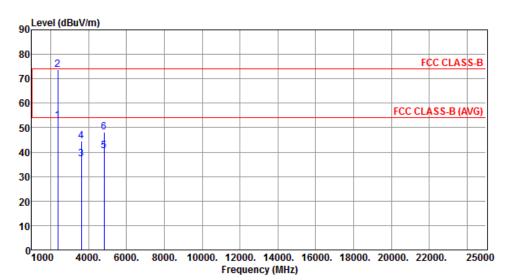
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5

6



Modulation	11g	Test Freq. (MHz)	2412
Polarization	Vertical	Test Configuration	1



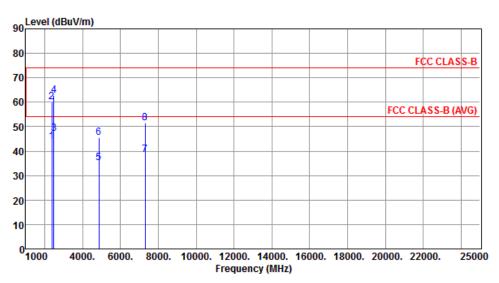
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Ū	SA reading dBuV		Remark	ANT High cm	Turn Table deg
1	2390.00	52.75	54.00	-1.25	55.57	-2.82	Average		
2	2390.00	73.81			76.63	-2.82	Peak		
3	3618.00	37.32	54.00	-16.68	36.20	1.12	Average		
4	3618.00	44.46	74.00	-29.54	43.34	1.12	Peak		
5	4824.00	40.68	54.00	-13.32	35.59	5.09	Average		
6	4824.00	48.01	74.00	-25.99	42.92	5.09	Peak		

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

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Modulation	11g	Test Freq. (MHz)	2437
Polarization	Horizontal	Test Configuration	1



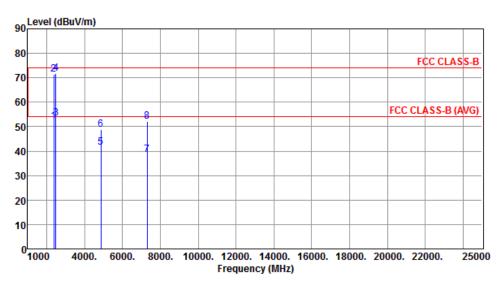
	Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	2390.00	43.94	54.00	-10.06	46.76	-2.82	Average		
2	2390.00	60.20	74.00	-13.80	63.02	-2.82	Peak		
3	2483.50	47.29	54.00	-6.71	49.68	-2.39	Average		
4	2483.50	62.71	74.00	-11.29	65.10	-2.39	Peak		
5	4874.00	35.15	54.00	-18.85	29.97	5.18	Average		
6	4874.00	45.61	74.00	-28.39	40.43	5.18	Peak		
7	7311.00	38.39	54.00	-15.61	27.65	10.74	Average		
8	7311.00	51.44	74.00	-22.56	40.70	10.74	Peak		

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

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



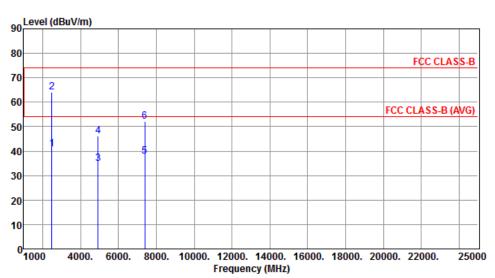
	Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	2390.00	52.21	54.00	-1.79	55.03	-2.82	Average		
2	2390.00	71.31	74.00	-2.69	74.13	-2.82	Peak		
3	2483.50	53.33	54.00	-0.67	55.72	-2.39	Average		
4	2483.50	71.74	74.00	-2.26	74.13	-2.39	Peak		
5	4874.00	41.57	54.00	-12.43	36.39	5.18	Average		
6	4874.00	48.97	74.00	-25.03	43.79	5.18	Peak		
7	7311.00	38.59	54.00	-15.41	27.85	10.74	Average		
8	7311.00	52.05	74.00	-21.95	41.31	10.74	Peak		

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

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Modulation	11g	Test Freq. (MHz)	2462
Polarization	Horizontal	Test Configuration	1



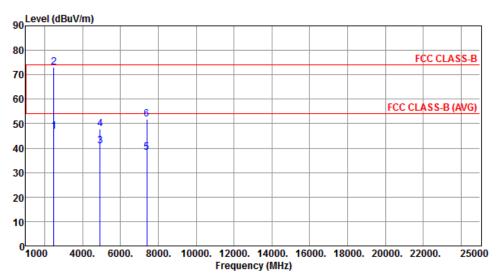
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Ū	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2483.50	40.80	54.00	-13.20	43.19	-2.39	Average		
2	2483.50	64.25	74.00	-9.75	66.64	-2.39	Peak		
3	4924.00	34.90	54.00	-19.10	29.62	5.28	Average		
4	4924.00	46.31	74.00	-27.69	41.03	5.28	Peak		
5	7386.00	37.86	54.00	-16.14	27.02	10.84	Average		
6	7386.00	52.14	74.00	-21.86	41.30	10.84	Peak		

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

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Modulation	11g	Test Freq. (MHz)	2462
Polarization	Vertical	Test Configuration	1



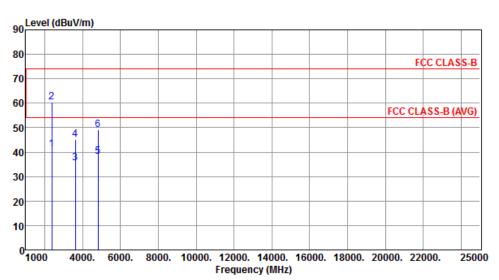
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Ū	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2483.50	46.79	54.00	-7.21	49.18	-2.39	Average		
2	2483.50	73.13	74.00	-0.87	75.52	-2.39	Peak		
3	4924.00	40.77	54.00	-13.23	35.49	5.28	Average		
4	4924.00	47.96	74.00	-26.04	42.68	5.28	Peak		
5	7386.00	38.07	54.00	-15.93	27.23	10.84	Average		
6	7386.00	51.80	74.00	-22.20	40.96	10.84	Peak		

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

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Modulation	11g	Test Freq. (MHz)	2412
Polarization	Horizontal	Test Configuration	2



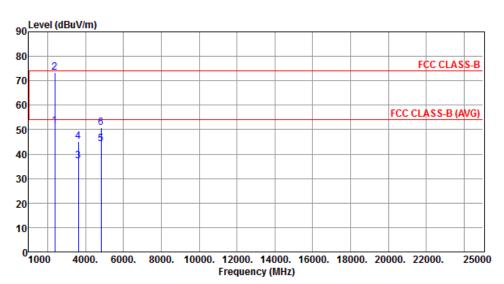
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Ū	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	41.10	54.00	-12.90	43.92	-2.82	Average		
2	2390.00	60.50	74.00	-13.50	63.32	-2.82	Peak		
3	3618.00	35.58	54.00	-18.42	34.46	1.12	Average		
4	3618.00	45.31	74.00	-28.69	44.19	1.12	Peak		
5	4824.00	38.14	54.00	-15.86	33.05	5.09	Average		
6	4824.00	49.24	74.00	-24.76	44.15	5.09	Peak		

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

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Modulation	11g	Test Freq. (MHz)	2412
Polarization	Vertical	Test Configuration	2



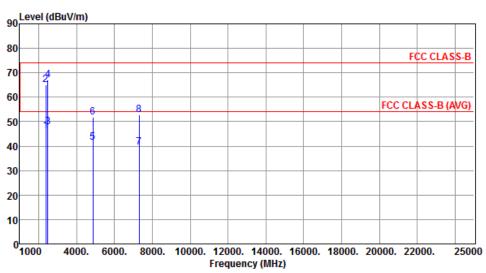
	Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	2390.00	51.54	54.00	-2.46	54.36	-2.82	Average		
2	2390.00	73.56	74.00	-0.44	76.38	-2.82	Peak		
3	3618.00	37.15	54.00	-16.85	36.03	1.12	Average		
4	3618.00	45.19	74.00	-28.81	44.07	1.12	Peak		
5	4824.00	44.02	54.00	-9.98	38.93	5.09	Average		
6	4824.00	50.87	74.00	-23.13	45.78	5.09	Peak		

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

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



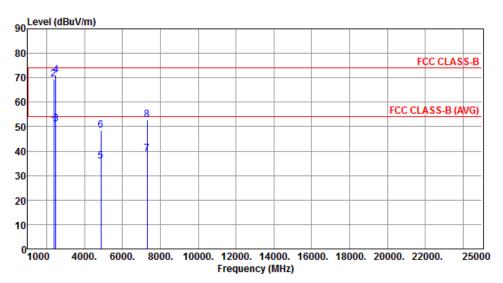
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Ū	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	46.27	54.00	-7.73	49.09	-2.82	Average		
2	2390.00		74.00	-9.03	67.79	-2.82	Peak		
3	2483.50	47.95	54.00	-6.05	50.34	-2.39	Average		
4	2483.50	67.18	74.00	-6.82	69.57	-2.39	Peak		
5	4874.00	41.57	54.00	-12.43	36.39	5.18	Average		
6	4874.00	51.69	74.00	-22.31	46.51	5.18	Peak		
7	7311.00	39.66	54.00	-14.34	28.92	10.74	Average		
8	7311.00	52.90	74.00	-21.10	42.16	10.74	Peak		

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

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



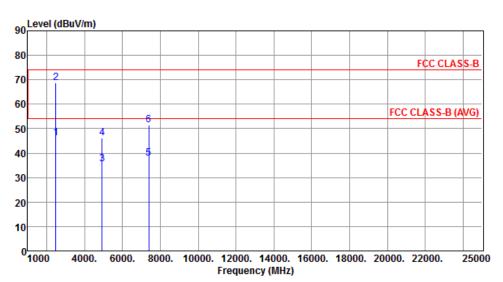
	Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	2390.00	50.38	54.00	-3.62	53.20	-2.82	Average		
2	2390.00	69.31	74.00	-4.69	72.13	-2.82	Peak		
3	2483.50	51.01	54.00	-2.99	53.40	-2.39	Average		
4	2483.50	71.17	74.00	-2.83	73.56	-2.39	Peak		
5	4874.00	35.71	54.00	-18.29	30.53	5.18	Average		
6	4874.00	48.35	74.00	-25.65	43.17	5.18	Peak		
7	7311.00	38.83	54.00	-15.17	28.09	10.74	Average		
8	7311.00	52.87	74.00	-21.13	42.13	10.74	Peak		

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

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Modulation	11g	Test Freq. (MHz)	2462
Polarization	Horizontal	Test Configuration	2



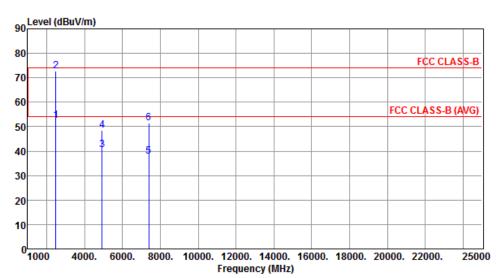
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Ū	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2483 50	46.16	54 00	-7.84	48.55	-2.39	Average		
2		68.82			71.21	-2.39	Peak		
3	4924.00	35.51	54.00	-18.49	30.23	5.28	Average		
4	4924.00	46.21	74.00	-27.79	40.93	5.28	Peak		
5	7386.00	37.74	54.00	-16.26	26.90	10.84	Average		
6	7386.00	51.57	74.00	-22.43	40.73	10.84	Peak		

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

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Modulation	11g	Test Freq. (MHz)	2462
Polarization	Vertical	Test Configuration	2



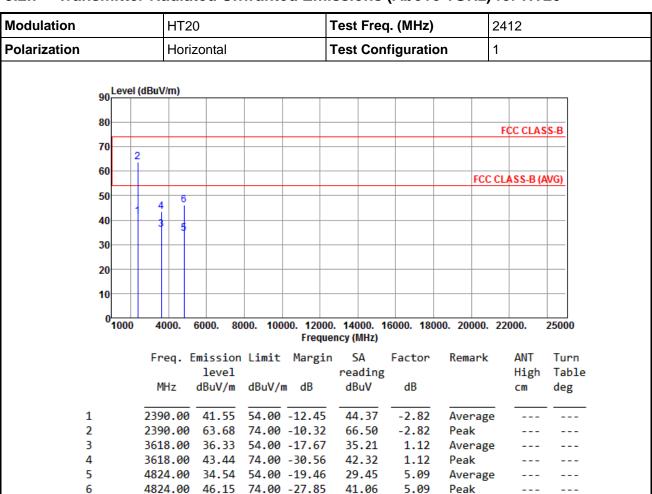
	Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	2483.50	52.41	54.00	-1.59	54.80	-2.39	Average		
2	2483.50	72.69	74.00	-1.31	75.08	-2.39	Peak		
3	4924.00	40.49	54.00	-13.51	35.21	5.28	Average		
4	4924.00	48.35	74.00	-25.65	43.07	5.28	Peak		
5	7386.00	37.80	54.00	-16.20	26.96	10.84	Average		
6	7386.00	51.46	74.00	-22.54	40.62	10.84	Peak		

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

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## 3.2.7 Transmitter Radiated Unwanted Emissions (Above 1GHz) for HT20



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

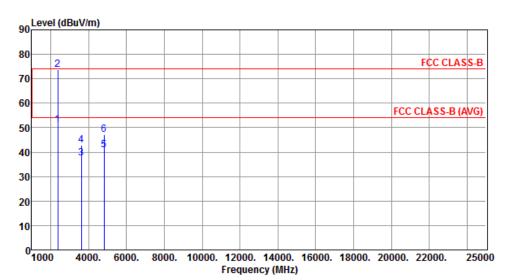
\*Factor includes antenna factor, cable loss and amplifier gain

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

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Modulation	HT20	Test Freq. (MHz)	2412
Polarization	Vertical	Test Configuration	1



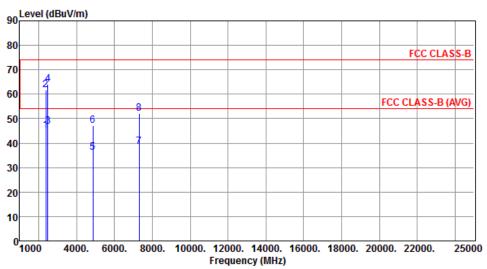
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m		SA reading dBuV		Remark	ANT High cm	Turn Table deg
1	2390.00	51.11	54 00	2 80	53.93	-2.82	Average		
_									
2	2390.00	73.59	74.00	-0.41	76.41	-2.82	Peak		
3	3618.00	37.53	54.00	-16.47	36.41	1.12	Average		
4	3618.00	42.77	74.00	-31.23	41.65	1.12	Peak		
5	4824.00	40.70	54.00	-13.30	35.61	5.09	Average		
6	4824.00	47.20	74.00	-26.80	42.11	5.09	Peak		

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

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Modulation	HT20	Test Freq. (MHz)	2437
Polarization	Horizontal	Test Configuration	1



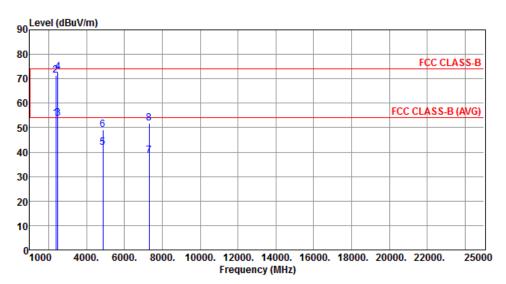
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Ū	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	45.33	54.00	-8.67	48.15	-2.82	Average		
2	2390.00	61.82	74.00	-12.18	64.64	-2.82	Peak		
3	2483.50	46.72	54.00	-7.28	49.11	-2.39	Average		
4	2483.50	64.12	74.00	-9.88	66.51	-2.39	Peak		
5	4874.00	36.29	54.00	-17.71	31.11	5.18	Average		
6	4874.00	47.02	74.00	-26.98	41.84	5.18	Peak		
7	7311.00	38.44	54.00	-15.56	27.70	10.74	Average		
8	7311.00	52.22	74.00	-21.78	41.48	10.74	Peak		

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

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Modulation	HT20	Test Freq. (MHz)	2437
Polarization	Vertical	Test Configuration	1



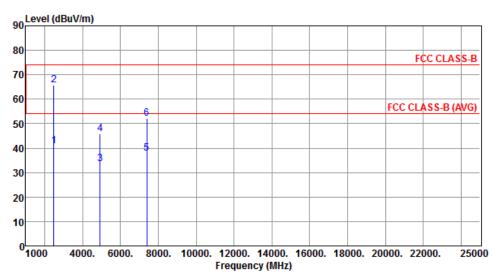
	Freq.	Emission	Limit	Margin	SA	Factor	Remark	ANT	Turn
		level			reading			High	Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	2390.00	53.78	54.00	-0.22	56.60	-2.82	Average		
2	2390.00	71.25	74.00	-2.75	74.07	-2.82	Peak		
3	2483.50	53.67	54.00	-0.33	56.06	-2.39	Average		
4	2483.50	72.87	74.00	-1.13	75.26	-2.39	Peak		
5	4874.00	41.70	54.00	-12.30	36.52	5.18	Average		
6	4874.00	49.26	74.00	-24.74	44.08	5.18	Peak		
7	7311.00	38.47	54.00	-15.53	27.73	10.74	Average		
8	7311.00	51.91	74.00	-22.09	41.17	10.74	Peak		

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

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Modulation	HT20	Test Freq. (MHz)	2462
Polarization	Horizontal	Test Configuration	1



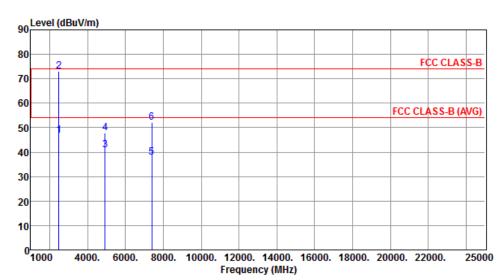
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Ü	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2483.50	40.93	54.00	-13.07	43.32	-2.39	Average		
2	2483.50	65.71	74.00	-8.29	68.10	-2.39	Peak		
3	4924.00	33.71	54.00	-20.29	28.43	5.28	Average		
4	4924.00	45.99	74.00	-28.01	40.71	5.28	Peak		
5	7386.00	37.87	54.00	-16.13	27.03	10.84	Average		
6	7386.00	52.19	74.00	-21.81	41.35	10.84	Peak		

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

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Modulation	HT20	Test Freq. (MHz)	2462
Polarization	Vertical	Test Configuration	1



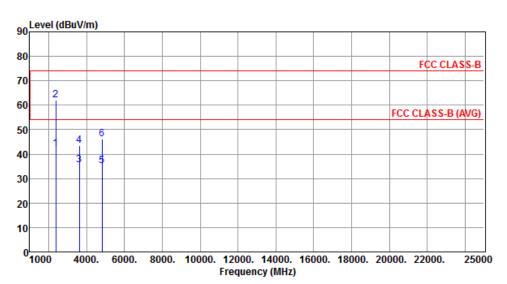
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Ū	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2483.50	46.87	54.00	-7.13	49.26	-2.39	Average		
2		72.95			75.34	-2.39	Peak		
3	4924.00	40.92	54.00	-13.08	35.64	5.28	Average		
4	4924.00	47.99	74.00	-26.01	42.71	5.28	Peak		
5	7386.00	37.86	54.00	-16.14	27.02	10.84	Average		
6	7386.00	52.04	74.00	-21.96	41.20	10.84	Peak		

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

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Modulation	HT20	Test Freq. (MHz)	2412
Polarization	Horizontal	Test Configuration	2



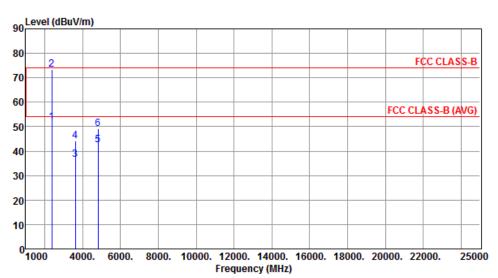
	Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	2390.00	42.15	54.00	-11.85	44.97	-2.82	Average		
2	2390.00	61.95	74.00	-12.05	64.77	-2.82	Peak		
3	3618.00	35.69	54.00	-18.31	34.57	1.12	Average		
4	3618.00	43.48	74.00	-30.52	42.36	1.12	Peak		
5	4824.00	35.26	54.00	-18.74	30.17	5.09	Average		
6	4824.00	46.11	74.00	-27.89	41.02	5.09	Peak		

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

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Modulation	HT20	Test Freq. (MHz)	2412
Polarization	Vertical	Test Configuration	2



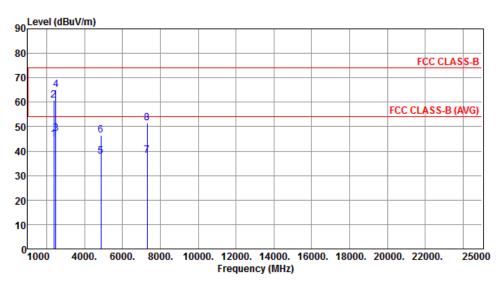
	Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		CM	deg
1	2390.00	51.92	54.00	-2.08	54.74	-2.82	Average		
2	2390.00	73.25	74.00	-0.75	76.07	-2.82	Peak		
3	3618.00	36.39	54.00	-17.61	35.27	1.12	Average		
4	3618.00	44.08	74.00	-29.92	42.96	1.12	Peak		
5	4824.00	42.61	54.00	-11.39	37.52	5.09	Average		
6	4824.00	49.07	74.00	-24.93	43.98	5.09	Peak		

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

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Modulation	HT20	Test Freq. (MHz)	2437
Polarization	Horizontal	Test Configuration	2



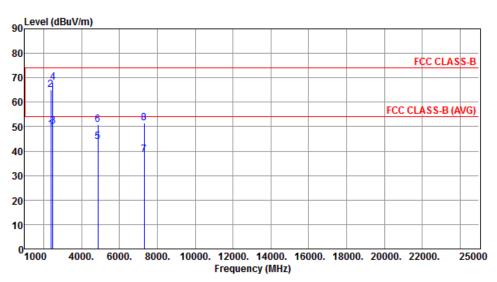
	Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	2390.00	44.70	54.00	-9.30	47.52	-2.82	Average		
2	2390.00	60.85	74.00	-13.15	63.67	-2.82	Peak		
3	2483.50	47.23	54.00	-6.77	49.62	-2.39	Average		
4	2483.50	65.03	74.00	-8.97	67.42	-2.39	Peak		
5	4874.00	37.77	54.00	-16.23	32.59	5.18	Average		
6	4874.00	46.62	74.00	-27.38	41.44	5.18	Peak		
7	7311.00	38.34	54.00	-15.66	27.60	10.74	Average		
8	7311.00	51.45	74.00	-22.55	40.71	10.74	Peak		

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

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Modulation	HT20	Test Freq. (MHz)	2437
Polarization	Vertical	Test Configuration	2



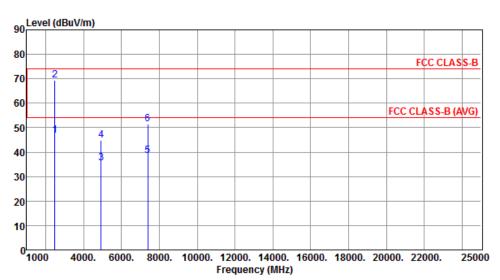
	Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	2390.00	48.77	54.00	-5.23	51.59	-2.82	Average		
2	2390.00	65.11	74.00	-8.89	67.93	-2.82	Peak		
3	2483.50	50.29	54.00	-3.71	52.68	-2.39	Average		
4	2483.50	68.21	74.00	-5.79	70.60	-2.39	Peak		
5	4874.00	43.89	54.00	-10.11	38.71	5.18	Average		
6	4874.00	50.91	74.00	-23.09	45.73	5.18	Peak		
7	7311.00	38.38	54.00	-15.62	27.64	10.74	Average		
8	7311.00	51.42	74.00	-22.58	40.68	10.74	Peak		

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

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Modulation	HT20	Test Freq. (MHz)	2462
Polarization	Horizontal	Test Configuration	2



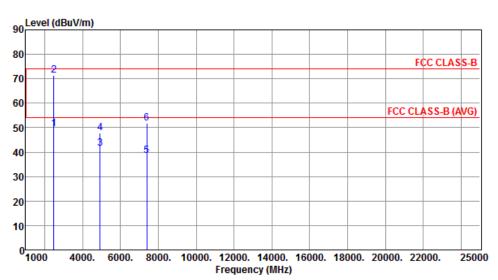
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Ū	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2483.50	46.77	54.00	-7.23	49.16	-2.39	Average		
2	2483.50	69.57		-4.43	71.96	-2.39	Peak		
3	4924.00	35.44	54.00	-18.56	30.16	5.28	Average		
4	4924.00	44.69	74.00	-29.31	39.41	5.28	Peak		
5	7386.00	38.37	54.00	-15.63	27.53	10.84	Average		
6	7386.00	51.56	74.00	-22.44	40.72	10.84	Peak		

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

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Modulation	HT20	Test Freq. (MHz)	2462
Polarization	Vertical	Test Configuration	2



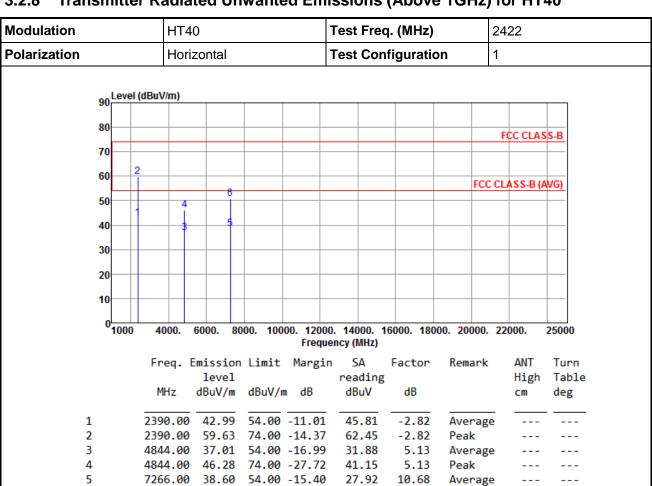
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Ū	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2483.50	49.43	54.00	-4.57	51.82	-2.39	Average		
2		71.49			73.88	-2.39	Peak		
3	4924.00	41.67	54.00	-12.33	36.39	5.28	Average		
4	4924.00	47.77	74.00	-26.23	42.49	5.28	Peak		
5	7386.00	38.48	54.00	-15.52	27.64	10.84	Average		
6	7386.00	51.96	74.00	-22.04	41.12	10.84	Peak		

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

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## 3.2.8 Transmitter Radiated Unwanted Emissions (Above 1GHz) for HT40



10.68

Peak

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

\*Factor includes antenna factor, cable loss and amplifier gain

7266.00 50.77 74.00 -23.23 40.09

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

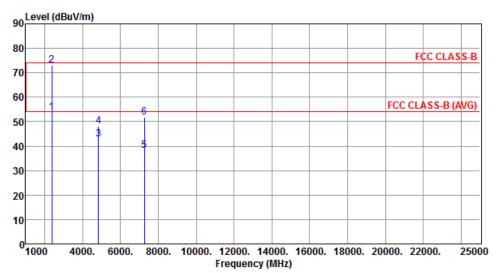
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Modulation	HT40	Test Freq. (MHz)	2422
Polarization	Vertical	Test Configuration	1



Freq.	Emission	Limit	Margin	SA	Factor	Remark	ANT	Turn
	level			reading			High	Table
MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg

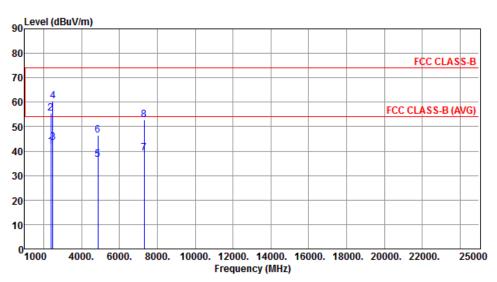
1	2390.00	53.85	54.00	-0.15	56.67	-2.82	Average	 
2	2390.00	73.12	74.00	-0.88	75.94	-2.82	Peak	 
3	4844.00	43.00	54.00	-11.00	37.87	5.13	Average	 
4	4844.00	48.20	74.00	-25.80	43.07	5.13	Peak	 
5	7266.00	38.32	54.00	-15.68	27.64	10.68	Average	 
6	7266.00	51.92	74.00	-22.08	41.24	10.68	Peak	 

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

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Modulation	HT40	Test Freq. (MHz)	2437
Polarization	Horizontal	Test Configuration	1



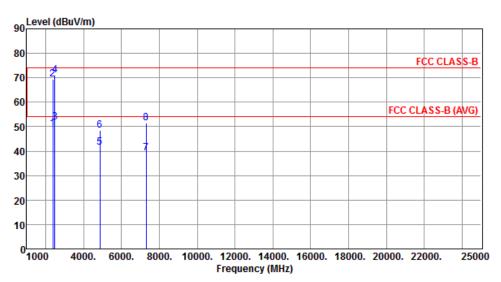
	Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	2390.00	41.99	54.00	-12.01	44.81	-2.82	Average		
2	2390.00	55.39	74.00	-18.61	58.21	-2.82	Peak		
3	2483.50	43.51	54.00	-10.49	45.90	-2.39	Average		
4	2483.50	60.40	74.00	-13.60	62.79	-2.39	Peak		
5	4874.00	36.44	54.00	-17.56	31.26	5.18	Average		
6	4874.00	46.38	74.00	-27.62	41.20	5.18	Peak		
7	7311.00	39.07	54.00	-14.93	28.33	10.74	Average		
8	7311.00	52.71	74.00	-21.29	41.97	10.74	Peak		

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

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Modulation	HT40	Test Freq. (MHz)	2437
Polarization	Vertical	Test Configuration	1



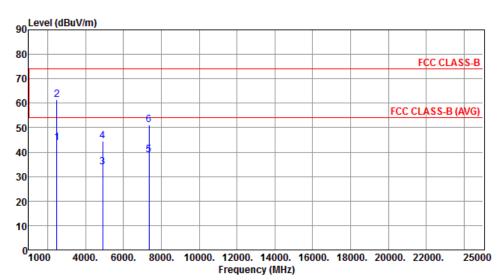
	Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	2390.00	49.05	54.00	-4.95	51.87	-2.82	Average		
2	2390.00	69.26	74.00	-4.74	72.08	-2.82	Peak		
3	2483.50	51.66	54.00	-2.34	54.05	-2.39	Average		
4	2483.50	71.06	74.00	-2.94	73.45	-2.39	Peak		
5	4874.00	41.51	54.00	-12.49	36.33	5.18	Average		
6	4874.00	48.54	74.00	-25.46	43.36	5.18	Peak		
7	7311.00	39.15	54.00	-14.85	28.41	10.74	Average		
8	7311.00	51.50	74.00	-22.50	40.76	10.74	Peak		

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

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Modulation	HT40	Test Freq. (MHz)	2452
Polarization	Horizontal	Test Configuration	1



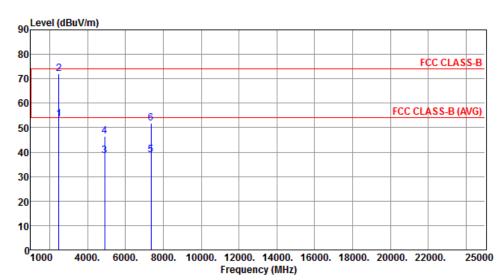
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Ū	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2483.50	43.76	54.00	-10.24	46.15	-2.39	Average		
2	2483.50	61.33	74.00	-12.67	63.72	-2.39	Peak		
3	4904.00	33.86	54.00	-20.14	28.62	5.24	Average		
4	4904.00	44.61	74.00	-29.39	39.37	5.24	Peak		
5	7356.00	38.95	54.00	-15.05	28.15	10.80	Average		
6	7356.00	51.31	74.00	-22.69	40.51	10.80	Peak		

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

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Modulation	HT40	Test Freq. (MHz)	2452
Polarization	Vertical	Test Configuration	1



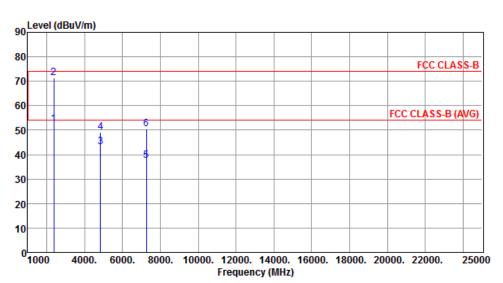
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Ū	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2492 50	53.33	E4 00	0.67		2 20	Avanaga		
1	2403.30	33.33	54.00	-0.67	55.72	-2.39	Average		
2	2483.50	72.10	74.00	-1.90	74.49	-2.39	Peak		
3	4904.00	38.38	54.00	-15.62	33.14	5.24	Average		
4	4904.00	46.37	74.00	-27.63	41.13	5.24	Peak		
5	7356.00	38.84	54.00	-15.16	28.04	10.80	Average		
6	7356.00	51.86	74.00	-22.14	41.06	10.80	Peak		

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

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Modulation	HT40	Test Freq. (MHz)	2422
Polarization	Horizontal	Test Configuration	2



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Ü	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	52.57	54.00	-1.43	55.39	-2.82	Average		
2	2390.00	71.47	74.00	-2.53	74.29	-2.82	Peak		
3	4844.00	43.33	54.00	-10.67	38.20	5.13	Average		
4	4844.00	49.29	74.00	-24.71	44.16	5.13	Peak		
5	7266.00	37.67	54.00	-16.33	26.99	10.68	Average		
6	7266.00	50.50	74.00	-23.50	39.82	10.68	Peak		

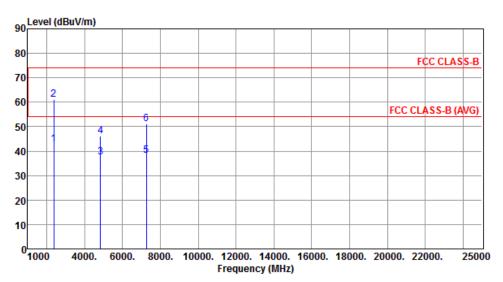
\*Factor includes antenna factor, cable loss and amplifier gain

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

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Modulation	HT40	Test Freq. (MHz)	2422
Polarization	Vertical	Test Configuration	2



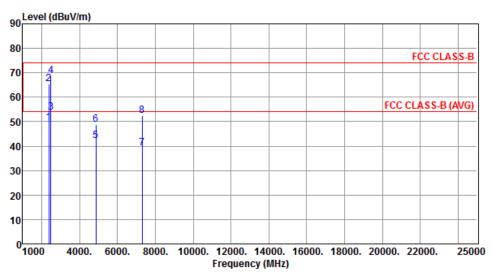
	Freq.	Emission level	Limit	Margin	SA reading		Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	2390.00	43.01	54.00	-10.99	45.83	-2.82	Average		
2	2390.00	61.03	74.00	-12.97	63.85	-2.82	Peak		
3	4844.00	37.44	54.00	-16.56	32.31	5.13	Average		
4	4844.00	46.32	74.00	-27.68	41.19	5.13	Peak		
5	7266.00	38.26	54.00	-15.74	27.58	10.68	Average		
6	7266.00	51.24	74.00	-22.76	40.56	10.68	Peak		

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

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Modulation	HT40	Test Freq. (MHz)	2437
Polarization	Horizontal	Test Configuration	2



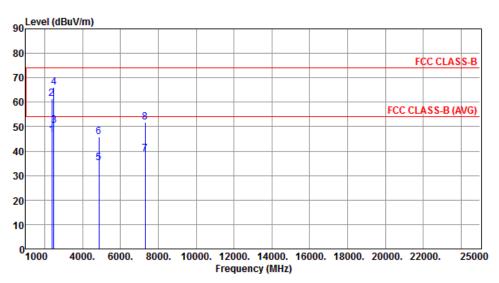
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Ū	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2390.00	49.55	54.00	-4.45	52.37	-2.82	Average		
2	2390.00		74.00	-8.47	68.35	-2.82	Peak		
3	2483.50	53.76	54.00	-0.24	56.15	-2.39	Average		
4	2483.50	68.86	74.00	-5.14	71.25	-2.39	Peak		
5	4874.00	42.03	54.00	-11.97	36.85	5.18	Average		
6	4874.00	48.66	74.00	-25.34	43.48	5.18	Peak		
7	7311.00	39.13	54.00	-14.87	28.39	10.74	Average		
8	7311.00	52.40	74.00	-21.60	41.66	10.74	Peak		

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

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Modulation	HT40	Test Freq. (MHz)	2437
Polarization	Vertical	Test Configuration	2



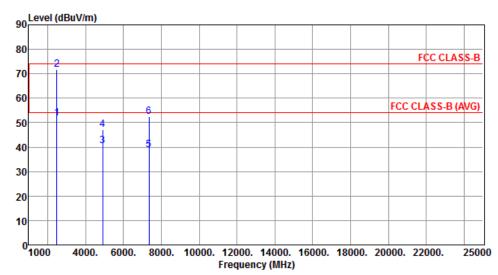
	Freq.	Emission level	Limit	Margin	SA reading	Factor	Remark	ANT High	Turn Table
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB		cm	deg
1	2390.00	46.45	54.00	-7.55	49.27	-2.82	Average		
2	2390.00	61.43	74.00	-12.57	64.25	-2.82	Peak		
3	2483.50	50.58	54.00	-3.42	52.97	-2.39	Average		
4	2483.50	66.14	74.00	-7.86	68.53	-2.39	Peak		
5	4874.00	35.22	54.00	-18.78	30.04	5.18	Average		
6	4874.00	45.89	74.00	-28.11	40.71	5.18	Peak		
7	7311.00	39.02	54.00	-14.98	28.28	10.74	Average		
8	7311.00	51.96	74.00	-22.04	41.22	10.74	Peak		

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

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Modulation	HT40	Test Freq. (MHz)	2452
Polarization	Horizontal	Test Configuration	2



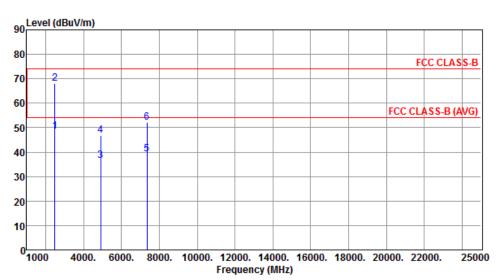
	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Ū	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2483 50	51.85	54 00	-2 15	54.24	-2.39	Average		
2		71.70			74.09	-2.39	Peak		
3	4904.00	40.64	54.00	-13.36	35.40	5.24	Average		
4	4904.00	47.19	74.00	-26.81	41.95	5.24	Peak		
5	7356.00	38.96	54.00	-15.04	28.16	10.80	Average		
6	7356.00	52.50	74.00	-21.50	41.70	10.80	Peak		

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

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Modulation	HT40	Test Freq. (MHz)	2452
Polarization	Vertical	Test Configuration	2



	Freq. MHz	Emission level dBuV/m	Limit dBuV/m	Ū	SA reading dBuV	Factor dB	Remark	ANT High cm	Turn Table deg
1	2483.50	48.42	54.00	-5.58	50.81	-2.39	Average		
2	2483.50		74.00		70.53	-2.39	Peak		
3	4904.00	36.41	54.00	-17.59	31.17	5.24	Average		
4	4904.00	46.88	74.00	-27.12	41.64	5.24	Peak		
5	7356.00	39.15	54.00	-14.85	28.35	10.80	Average		
6	7356.00	52.12	74.00	-21.88	41.32	10.80	Peak		

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

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## 4 Test laboratory information

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

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

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

Linkou

Tel: 886-2-2601-1640

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

R.O.C.

Kwei Shan

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

Tel: 886-3-271-8640

No. 14-1, Lane 19, Wen San 3rd St., Kwei Shan Hsiang, Tao Yuan Hsien 333, Taiwan, R.O.C.

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

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

Email: ICC\_Service@icertifi.com.tw

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