FCC PART 15C TEST REPORT FOR CERTIFICATION On Behalf of

Shenyang Tongfang Multimedia Technology Co., Limited

LED TV

Model Number: WD32FBE1001

Additional Model: WD32HBB101, WD32FE2120, ELEFW328,

ELST3216H, ELEFW328B, ELEFT328, 8502809, 1129265,

WD32******,EL******, maybe followed by character

FCC ID: 2ACWIELST3216

Prepared for:	pared for: Shenyang Tongfang Multimedia Technology Co., Limited						
	No.10 Nanping East Road HunNan New District, Shenyang, LiaoNing						
	Province, China						
Prepared By:	EST Technology Co., Ltd.						
	Chilingxiang, Qishantou, Santun, Houjie, Dongguan, Guangdong, China						
	Tel: 86-769-83081888-808						

Report Number:	ESTE-R1901065
Date of Test:	Jan. 03~22, 2019
Date of Report:	Jan. 22, 2019



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EST Technology Co., Ltd.

Applicant: Address:	Shenyang Tongfang Multimedia Technology Co., Limited No.10 Nanping East Road HunNan New District, Shenyang, LiaoNing Province, China					
Manufacturer Address:	Shenyang Tongfang Multimedia Technology Co., Limited No.10 Nanping East Road HunNan New District, Shenyang, LiaoNing Province, China					
E.U.T:	LED TV					
Model Number:	WD32FBE1001					
Additional Model:	WD32HBB101, WD32FE2120, E ELEFT328, 8502809, 1129265, W maybe followed by character	LEFW328, ELST3216H, ELEFW328B, /D32******,EL*******,				
Power Supply:	AC 100-240V, 50/60Hz					
Test Voltage:	AC 120V/60Hz, AC 240V/50Hz					
Trade Name:	WESTINGHOUSE, ELEMENT	Serial No.:				
Date of Receipt:	Jan. 03, 2019	Date of Test: Jan. 03~22, 2019				
Test Specification:	FCC Rules and Regulations Part 1 ANSI C63.10:2013	5 Subpart C:2018				
Test Result:	measurement results were contained. Ltd. was assumed full responsibility measurements. Also, this report showith the FCC Rules and Regulation. This report applies to above tested.	ed by EST Technology Co., Ltd The ed in this test report and EST Technology Co., ty for the accuracy and completeness of these ows that the EUT to be technically compliance as Part 15 Subpart C requirements. sample only and shall not be reproduced in				
	part without written approval of ES					
Prepared by:	Reviewed by:	Date: Jan. 22, 2019				
Ry	tow	EST EST				
Ring / Assistant	Tony / Engineer	Iceman HO Manager				
Other Aspects: None.						
	ssed fail/F=failed n.a/N=not appl	licable E.U.T=equipment under tested				

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

Product Name	:	LED TV					
Model Number	:	WD32FBE1001					
FCC ID	:	2ACWIELST3216					
Modulation	:	IEEE 802.11b mode: DSSS(CCK,QPSK, BPSK) IEEE 802.11g mode: OFDM (BPSK/QPSK/16QAM/64QAM) IEEE 802.11n HT20 mode: OFDM (BPSK/QPSK/16QAM/64QAM) IEEE 802.11n HT40 mode: OFDM (BPSK/QPSK/16QAM/64QAM)					
Operation Frequency	:	IEEE 802.11b/g: 2412 ~ 2462 MHz IEEE 802.11n HT20 : 2412 ~ 2462 MHz IEEE 802.11n HT40: 2422 ~ 2452 MHz					
Number of channel	:	IEEE 802.11b 2412 ~ 2462 MHz: 11 Channels IEEE 802.11g 2412 ~ 2462 MHz: 11 Channels IEEE 802.11n HT20 2412 ~ 2462 MHz: 11 Channels IEEE 802.11n HT20 2422 ~ 2452 MHz: 7 Channels					
Antenna			i G)+10*LOG(N)=1.21+10 Antenna 0)*LOG(2)) Antenna 1			
		Frequency Range 2400~2483.5 MHz	1.21 dBi	1.21 dBi			
		Note: 11a,b,g,n uses Antenna 0 / Antenna 1 11n,ac uses MIMO					
Sample Type	:	Prototype production					



2. SUMMARY OF TEST

Summary of test result 2.1.

Description of Test Item	Standard	Results
	FCC Part 15: 15.207	DACC
Power Line Conducted Emission	ANSI C63.10:2013	PASS
	FCC Part 15: 15.209	
Radiated Emission	ANSI C63.10:2013	PASS
	KDB 558074	
	FCC Part 15: 15.247	
Band Edge Compliance	ANSI C63.10:2013	PASS
	KDB 558074	
	FCC Part 15: 15.247	
Conducted spurious emissions	ANSI C63.10:2013	PASS
	KDB 558074	
	FCC Part 15: 15.247	
6dB Bandwidth	ANSI C63.10:2013	PASS
	KDB 558074	
	FCC Part 15: 15.247	
Peak Output Power	ANSI C63.10:2013	PASS
	KDB 558074	
	FCC Part 15: 15.247	
Power Spectral Density	ANSI C63.10:2013	PASS
	KDB 558074	
Antenna requirement	FCC Part 15: 15.203	PASS
Note: KDB 558074 D01 15.247 Meas G	uidance v05	

KDB 662911 D01 Multiple Transmitter Output v02r01



2.2. Test Facilities

EMC Lab

: Certificated by CNAS, CHINA

Registration No.: L5288

Date of registration: November 13, 2017

Certificated by FCC, USA Designation Number: CN1215

Test Firm Registration Number: 722932 Date of registration: November 21, 2017

Certificated by A2LA, USA Registration No.: 4366.01

Date of registration: November 07, 2017

Certificated by Industry Canada CAB identifier No.: CN0035

Date of registration: January 04, 2019

Certificated by VCCI, Japan

Registration No.: R-13663; C-14103 Date of registration: July 25, 2017

This Certificate is valid until: July 24, 2020

Certificated by TUV Rheinland, Germany Registration No.: UA 50413872 0001 Date of registration: July 31, 2018

Certificated by TUV/PS, Shenzhen

Registration No.: SCN1017

Date of registration: January 27, 2011

Certificated by Intertek ETL SEMKO Registration No.: 2011-RTL-L2-64 Date of registration: April 28, 2011

Certificated by Nemko, Hong Kong

Registration No.: 175193

Date of registration: May 4, 2011

Name of Firm : EST Technology Co., Ltd.

Site Location : Chilingxiang, Qishantou, Santun, Houjie, Dongguan, Guangdong,

China



2.3. Measurement uncertainty

Test Item	Uncertainty	
Uncertainty for Conduction emission test	±3.48dB	
Uncertainty for spurious emissions test	±4.60 dB(Polarize: H)	
(30MHz-1GHz)	±4.68 dB(Polarize: V)	
Uncertainty for spurious emissions test (1GHz to 18GHz)	±4.96dB	
Uncertainty for radio frequency	7×10 ⁻⁸	
Uncertainty for conducted RF Power	0.20dB	
Uncertainty for Power density test	0.26dB	

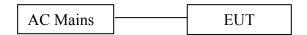
Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

2.4. Assistant equipment used for test

2.4.1. N/A

2.5. Block Diagram

For radiated emissions test: EUT was placed on a turn table, which is 0.8 or 1.5 meter high above ground. EUT was be set into Wi-Fi test mode by software before test.



(EUT: LED TV)

2.6. Test mode

A special test software was used to control EUT work in Continuous TX mode, and select test channel, wireless mode and data rate.

Test mode	Lower	Center	Upper
	channel	channel	channel
IEEE 802.11b;IEEE 802.11g;IEEE 802.11n HT20	2412MHz	2437MHz	2462MHz
Transmitting			
IEEE 802.11b;IEEE 802.11g;IEEE 802.11n HT20	2412MHz	2437MHz	2462MHz
Receiving			
IEEE 802.11n HT40 Transmitting	2422MHz	2437MHz	2452MHz
IEEE 802.11n HT40 Receiving	2422MHz	2437MHz	2452MHz

2.7. Channel List

IEEE 802.11b;IEEE 802.11g;IEEE 802.11n HT20							
Channel	Frequency	Channel	Frequency	Channel	Frequency		
Chaimei	(MHz)	Channel	(MHz)	Channel	(MHz)		
1	2412	6	2437	11	2462		
2	2417	7	2442				
3	2422	8	2447				
4	2427	9	2452				
5	2432	10	2457				
	IEEE 802.11n HT40						
Channel	Frequency	Channel	Frequency	Channel	Frequency		
Chamilei	(MHz)	Chamilei	(MHz)	Chamilei	(MHz)		
3	2422	6	2437	9	2452		
4	2427	7	2442				
5	2432	8	2447				

2.8. Test Equipment

2.8.1. For conducted emission test

Equipment	Manufacturer	Model No.	Serial No.	Calibration	Last Cal.	Next Cal.
				Body		
EMI Test Receiver	Rohde	ESHS30	832354	CEPREI	June 15,18	1 Year
	& Schwarz					
Artificial Mains Network	Rohde	ENV216	101260	CEPREI	June 15,18	1 Year
	& Schwarz					
Pulse Limiter	Rohde	ESH3-Z2	101100	CEPREI	June 15,18	1 Year
	& Schwarz					
Test Software	Audix	e3-6.111221a	N/A	N/A	N/A	N/A

2.8.2. For radiated emission test(9 kHz-30MHz)

Equipment	Manufacturer	Model No.	Serial No.	Calibration	Last Cal.	Next Cal.
				Body		
EMI Test	Rohde	ESR7	101780	CEPREI	June 15,18	1 Year
Receiver	& Schwarz					
Active Loop Antenna	SCHWAREB	FMZB 1519B	1519B-088	N/A	Aug. 01,18	1 Year
	ECK					
Test Software	Audix	e3-6.111221a	N/A	N/A	N/A	N/A

2.8.3. For radiated emissions test (30-1000MHz)

Equipment	Manufacturer	Model No.	Serial No.	Calibration	Last Cal.	Next Cal.
				Body		
EMI Test	Rohde	ESR7	101780	CEPREI	June 15,18	1 Year
Receiver	& Schwarz					
Bilog Antenna	Teseq	CBL 6111D	27090	CEPREI	June 15,18	1 Year
Test Software	Audix	e3-6.111221a	N/A	N/A	N/A	N/A

2.8.4. For radiated emission test(above 1GHz)

Equipment	Manufacturer	Model No.	Serial No.	Calibration	Last Cal.	Next Cal.
				Body		
Horn Antenna	SCHWARZB	BBHA 9120 D	BBHA912	CEPREI	June 18,18	1 Year
	ECK		0D1002			
Horn Antenna	SCHWARZB	BBHA9170	BBHA917	CEPREI	June 18,18	1Year
	ECK		0242			
Signal Amplifier	SCHWARZB	BBV9718	9718-212	CEPREI	June 18,18	1 Year
	ECK					
Spectrum Analyzer	Rohde	FSV	103173	CEPREI	June 15,18	1 Year
	&Schwarz					
PSA Series Spertrum	Agilent	E4447A	MY50180	CEPREI	June 15,18	1Year
Analyzer			031			
Test Software	Audix	e3-6.111221a	N/A	N/A	N/A	N/A

2.8.5. For connect EUT antenna terminal test

Equipment	Manufacturer	Model No.	Serial No.	Calibration Body	Last Cal.	Next Cal.
Nnectrum Analyzer	Rohde &Schwarz	FSV	103173	CEPREI	June 15,18	1 Year
Spectrum Analyzer	Agilent	E4408B	MY44211139	CEPREI	June 15,18	1 Year

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3 POWER LINE CONDUCTED EMISSION TEST

3.1. Limit

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

Notes: 1. * Decreasing linearly with logarithm of frequency.

2. The lower limit shall apply at the transition frequencies.

3.2. Test Procedure

The EUT was placed on a non-metallic table, 80cm above the ground plane. The EUT Power connected to the power mains through a line impedance stabilization network (L.I.S.N. 1#). This provides a 50 ohm coupling impedance for the EUT (Please refer the block diagram of the test setup and photographs). The AC line are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to ANSI C63.10: 2013 on Conducted Emission Test.

The bandwidth of test receiver (R & S ESHS30) is set at 10kHz.

The frequency range from 150kHz to 30MHz is checked.

3.3. Test Result

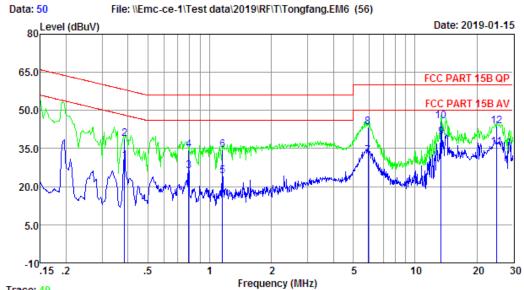
PASS.



3.4. Test data

EST Technology

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Trace: 49

Site no. : 844 Shield Room Data no. : 50 Dis. / Ant. : -----antenna Ant. pol. : LINE

Limit : FCC PART 15B QP

Env. / Ins. : Temp:25.8°C Humi:57% Press:101.50kPa

Engineer : WS
EUT : LED TV
Power : AC 120V/60Hz
M/N : WD32FBE1001
Test Mode : TX Mode

	Freq.	LISN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuv)	Limits (dBuv)	Margin (dB)	Remark
1	0.39	9.73	0.05	20.28	30.06	48.17	18.11	Average
2	0.39	9.73	0.05	29.01	38.79	58.17	19.38	QP
3	0.79	9.78	0.05	16.30	26.13	46.00	19.87	Average
4	0.79	9.78	0.05	24.75	34.58	56.00	21.42	QP
5	1.15	9.80	0.06	14.19	24.05	46.00	21.95	Average
6	1.15	9.80	0.06	24.68	34.54	56.00	21.46	QP
7	5.90	9.86	0.07	22.41	32.34	50.00	17.66	Average
8	5.90	9.86	0.07	33.70	43.63	60.00	16.37	QP
9	13.41	9.91	0.08	29.48	39.47	50.00	10.53	Average
10	13.41	9.91	0.08	35.87	45.86	60.00	14.14	QP
11	24.92	9.94	0.09	25.31	35.34	50.00	14.66	Average
12	24.92	9.94	0.09	33.61	43.64	60.00	16.36	QP

Remarks: 1. Emission Level= LISN Factor + Cable Loss + Reading.

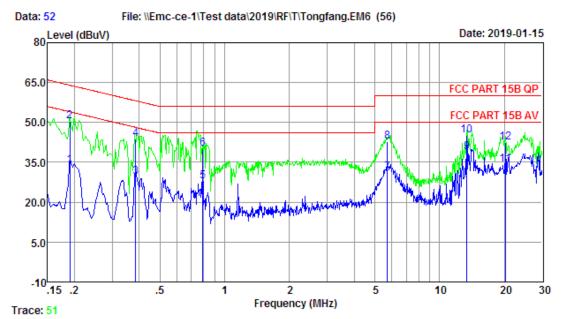
- 2. Margin= Limit Emission Level.
- If the average limit is met when useing a quasi-peak detector, the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.



EST Technology Co. , Ltd

Report No. ESTE-R1901065

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Site no. : 844 Shield Room Data no. : 52
Dis. / Ant. : -----antenna Ant. pol. : NEUTRAL

Limit : FCC PART 15B QP

Env. / Ins. : Temp:25.8°C Humi:57% Press:101.50kPa

Engineer : WS
EUT : LED TV
Power : AC 120V/60Hz
M/N : WD32FBE1001
Test Mode : TX Mode

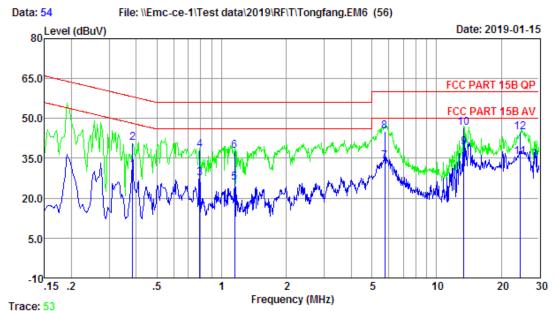
	Freq.	LISN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuv)	Limits (dBuv)	Margin (dB)	Remark
1	0.19	9.66	0.04	24.25	33.95	54.02	20.07	Average
2	0.19	9.66	0.04	40.86	50.56	64.02	13.46	QP
3	0.39	9.73	0.05	19.76	29.54	48.17	18.63	Average
4	0.39	9.73	0.05	33.93	43.71	58.17	14.46	QP
5	0.79	9.80	0.05	17.85	27.70	46.00	18.30	Average
6	0.79	9.80	0.05	30.18	40.03	56.00	15.97	QP
7	5.71	9.92	0.07	21.26	31.25	50.00	18.75	Average
8	5.71	9.92	0.07	32.90	42.89	60.00	17.11	QP
9	13.41	10.04	0.08	28.66	38.78	50.00	11.22	Average
10	13.41	10.04	0.08	35.09	45.21	60.00	14.79	QP
11	20.27	10.14	0.09	23.90	34.13	50.00	15.87	Average
12	20.27	10.14	0.09	32.24	42.47	60.00	17.53	QP

Remarks: 1. Emission Level= LISN Factor + Cable Loss + Reading.

- 2. Margin= Limit Emission Level.
- If the average limit is met when useing a quasi-peak detector, the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.



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Site no. : 844 Shield Room Data no. : 54
Dis. / Ant. : -----antenna Ant. pol. : LINE

Limit : FCC PART 15B QP

Env. / Ins. : Temp:25.8°C Humi:57% Press:101.50kPa

Engineer : WS
EUT : LED TV
Power : AC 240V/50Hz
M/N : WD32FBE1001
Test Mode : TX Mode

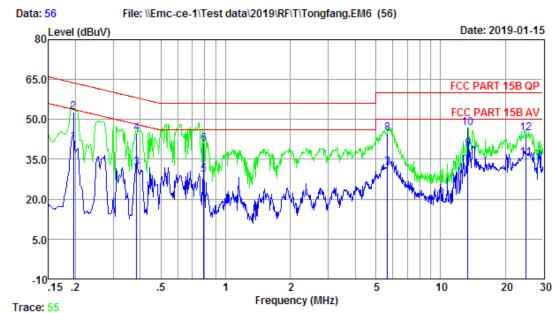
	Freq.	LISN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuv)	Limits (dBuv)	Margin (dB)	Remark
1	0.39	9.73	0.05	20.75	30.53	48.17	17.64	Average
2	0.39	9.73	0.05	30.95	40.73	58.17	17.44	QP
3	0.79	9.78	0.05	17.61	27.44	46.00	18.56	Average
4	0.79	9.78	0.05	28.16	37.99	56.00	18.01	QP
5	1.15	9.80	0.06	15.96	25.82	46.00	20.18	Average
6	1.15	9.80	0.06	27.92	37.78	56.00	18.22	QP
7	5.74	9.86	0.07	23.99	33.92	50.00	16.08	Average
8	5.74	9.86	0.07	35.17	45.10	60.00	14.90	QP
9	13.41	9.91	0.08	29.12	39.11	50.00	10.89	Average
10	13.41	9.91	0.08	36.60	46.59	60.00	13.41	QP
11	24.53	9.94	0.09	25.36	35.39	50.00	14.61	Average
12	24.53	9.94	0.09	34.61	44.64	60.00	15.36	QP

Remarks: 1. Emission Level= LISN Factor + Cable Loss + Reading.

- 2. Margin= Limit Emission Level.
- If the average limit is met when useing a quasi-peak detector, the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.



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Site no. : 844 Shield Room Data no. : 56
Dis. / Ant. : -----antenna Ant. pol. : NEUTRAL

Limit : FCC PART 15B QP

Env. / Ins. : Temp:25.8°C Humi:57% Press:101.50kPa

Engineer : WS
EUT : LED TV
Power : AC 240V/50Hz
M/N : WD32FBE1001
Test Mode : TX Mode

	Freq.	LISN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuv)	Limits (dBuv)	Margin (dB)	Remark
1	0.20	9.66	0.04	31.77	41.47	53.80	12.33	Average
2	0.20	9.66	0.04	43.08	52.78	63.80	11.02	QP
3	0.39	9.73	0.05	21.91	31.69	48.17	16.48	Average
4	0.39	9.73	0.05	34.95	44.73	58.17	13.44	QP
5	0.79	9.80	0.05	19.31	29.16	46.00	16.84	Average
6	0.79	9.80	0.05	30.86	40.71	56.00	15.29	QP
7	5.65	9.92	0.07	22.02	32.01	50.00	17.99	Average
8	5.65	9.92	0.07	34.79	44.78	60.00	15.22	QP
9	13.41	10.04	0.08	28.71	38.83	50.00	11.17	Average
10	13.41	10.04	0.08	36.83	46.95	60.00	13.05	QP
11	24.92	10.22	0.09	25.07	35.38	50.00	14.62	Average
12	24.92	10.22	0.09	34.46	44.77	60.00	15.23	QP

Remarks: 1. Emission Level= LISN Factor + Cable Loss + Reading.

- 2. Margin= Limit Emission Level.
- If the average limit is met when useing a quasi-peak detector, the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.



4 RADIATED EMISSION TEST

4.1 Limit

All the emissions appearing within 15.205 restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions shall be at least 20dB below the fundamental emissions, or comply with 15.209 limits.

15.205 Restricted frequency band

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
¹ 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	(2)

15 209 Limit

0.009-0.490 2400/F(kHz) 300 0.490-1.705 24000/F(kHz) 30 1.705-30 30 30 30-88 100 3 88-216 150 3 216-960 200 3	13.207 Lillit		
0.490-1.705 24000/F(kHz) 30 1.705-30 30 30 30-88 100 3 88-216 150 3 216-960 200 3	Frequency (MHz)	Field Strength(μV/m)	Distance(m)
1.705-30 30 30-88 100 88-216 150 216-960 200 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 4 4 5 6 7 8 9 9 10 10 3 2 10 2 10 3 3 4 4 5 6 6 7 8 9 9 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 <	0.009-0.490	2400/F(kHz)	300
30-88 100 3 88-216 150 3 216-960 200 3	0.490-1.705	24000/F(kHz)	30
88-216 150 3 216-960 200 3	1.705-30	30	30
216-960 200 3	30-88	100	3
	88-216	150	3
Above 960 500 3	216-960	200	3
300	Above 960	500	3

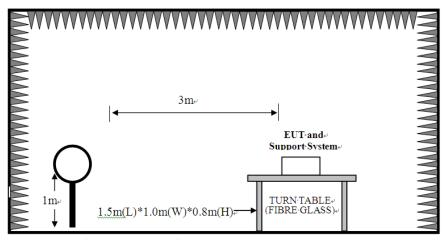
Remark : (1) Emission level $dB\mu V = 20 \log Emission level \mu V/m$

- (2) The smaller limit shall apply at the cross point between two frequency bands.
- (3) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.

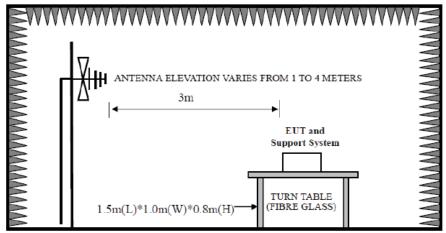


4.2. Block Diagram of Test setup

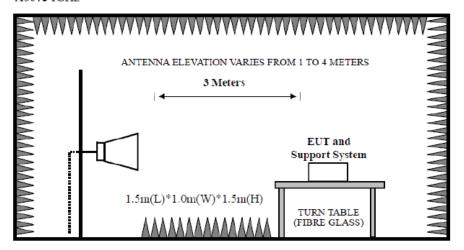
9kHz~30MHz+



30~1000MHz



Above 1GHz





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4.3. Test Procedure

EUT was placed on a turn table, which is 0.8 meter high above ground for 9kHz~1000MHz test, and which is 1.5 meter high above ground for above 1GHz test. The turn table can rotate 360 degrees to determine the position of the maximum emission level. Power on the EUT and let it working in test mode, then test it. EUT is set 3 meters away from the receiving antenna, which is mounted on a antenna tower. The antenna can be moved up and down between 1 meter and 4 meters to find out the maximum emission level. Both horizontal and vertical polarization of the antenna are set on test.

The test frequency analyzer system was set to Peak Detect (300Hz RBW in 9kHz to 150kHz and 10kHz RBW in 150kHz to 30MHz) Function and Specified Bandwidth with Maximum Hold Mode.

The bandwidth of the EMI test receiver (R&S ESVS10) is set at 120kHz for frequency range from 30MHz to 1000 MHz.

The bandwidth of the Spectrum's VBW is set at 1MHz and RBW is set at 1MHz for peak emissions measurement above 1GHz and 1MHz RBW, 10Hz VBW for average emissions measure above 1GHz

PEAK detector, 1MHz/1MHz for PAEK measurement,

PEAK detector, 1MHz/10Hz for Average measurement

The frequency range from 30MHz to 10th harmonic (25GHz) are checked.

4.4. Test Result

PASS.

- Note: 1. For emissions above 1GHz, if peak level comply with average limit, then the average level is deemed to comply with average limit.
 - 2. The frequency 2412MHz . 2422MHz . 2437 MHz . 2452MHz and 2462 MHz is fundamental frequency which no limit, the limit on plots is automatically generated by the software, it's not fundamental limit, we can't remove it.

Report No. ESTE-R1901065



4.5. Test Data

9 kHz – 30 MHz

Pass

Note: The amplitude of spurious emission that is attenuated by more than 20dB below the permissible limit has no need to be reported.

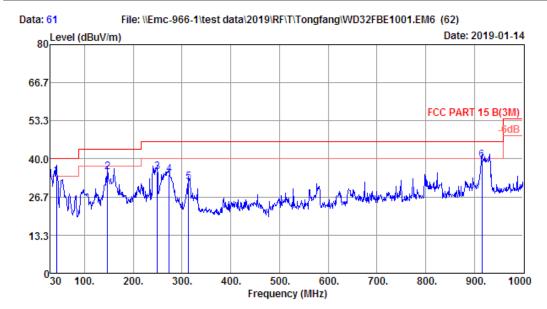


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30-1000 MHz

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Site no. : 1# 966 Chamber Data no. : 61
Dis. / Ant. : 3m 37062 Ant. pol. : VERTICAL

Limit : FCC PART 15 B(3M)

Env. / Ins. : Temp:26.9'; Humi:53.4%; Press:101.52kPa

Engineer : Bible
EUT : LED TV
Power : AC 120V/60Hz
M/N : WD32FBE1001
Test Mode : TX Mode

	Freq.	ANT Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	42.18	11.05	0.24	22.70	33.99	40.00	6.01	QP
2	147.37	11.72	1.29	22.44	35.45	43.50	8.05	QP
3	249.22	12.16	1.82	21.49	35.47	46.00	10.53	QP
4	273.47	12.83	1.95	19.70	34.48	46.00	11.52	QP
5	313.24	13.99	2.10	15.88	31.97	46.00	14.03	QP
6	915.61	24.15	4.11	11.41	39.67	46.00	6.33	QP

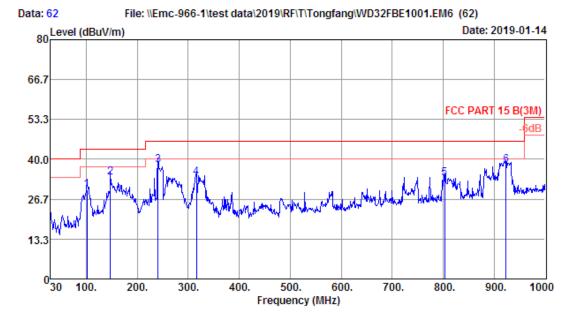
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.

2. Margin= Limit - Emission Level.

3. The emission levels that are 20dB below the official limit are not reported.



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Site no. : 1# 966 Chamber

Data no. : 62 Ant. pol. : HORIZONTAL : 3m 37062 Dis. / Ant.

: FCC PART 15 B (3M)

Env. / Ins. : Temp:26.9'; Humi:53.4%; Press:101.52kPa

: Bible Engineer : LED TV EUT : AC 120V/60Hz Power M/N : WD32FBE1001 Test Mode : TX Mode

	Freq.	ANT Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	101.78	10.04	1.06	18.82	29.92	43.50	13.58	QP
2	147.37	11.72	1.29	20.80	33.81	43.50	9.69	QP
3	240.49	11.10	1.77	25.30	38.17	46.00	7.83	QP
4	316.15	14.08	2.12	17.69	33.89	46.00	12.11	QP
5	803.09	22.83	3.81	6.92	33.56	46.00	12.44	QP
6	923.37	24.20	4.21	9.56	37.97	46.00	8.03	QP

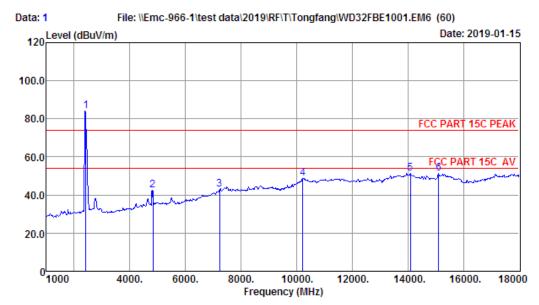
- 2. Margin= Limit Emission Level.
- 3. The emission levels that are 20dB below the official limit are not reported.



1000-18000 MHz

EST Technology

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Site no. : site Data no. : 1
Dis. / Ant. : 3m 9120D 1-18G Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:27.3'; Humi:54%; Press:101.52kPa

Engineer : Seven
EUT : LED TV
Power : AC 120V/60Hz
M/N : WD32FBE1001

Test Mode : IEEE 802.11b TX 2412MHz

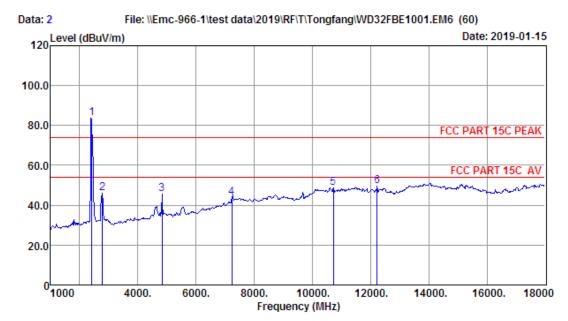
ANT 0

	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2412.00	27.39	3.23	35.71	89.17	84.08	74.00	-10.08	Peak
2	4824.00	32.09	4.69	36.10	41.80	42.48	74.00	31.52	Peak
3	7236.00	36.63	6.03	34.69	34.84	42.81	74.00	31.19	Peak
4	10214.00	39.19	9.77	34.83	34.47	48.60	74.00	25.40	Peak
5	14090.00	41.61	10.14	33.64	33.23	51.34	74.00	22.66	Peak
6	15110.00	40.13	10.87	33.13	33.29	51.16	74.00	22.84	Peak

- 2. Margin= Limit Emission Level.
- The emission levels that are 20dB below the official limit are not reported.



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Site no. : site

Data no. : 2 Ant. pol. : HORIZONTAL Dis. / Ant. : 3m 9120D 1-18G

: FCC PART 15C PEAK

Env. / Ins. : Temp:27.3'; Humi:54%; Press:101.52kPa

: Seven Engineer : LED TV EUT : AC 120V/60Hz Power M/N : WD32FBE1001

: IEEE 802.11b TX 2412MHz Test Mode

ANT 0

	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2412.00	27.39	3.23	35.71	88.63	83.54	74.00	-9.54	Peak
2	2785.00	28.05	3.51	36.28	50.57	45.85	74.00	28.15	Peak
3	4824.00	32.09	4.69	36.10	45.03	45.71	74.00	28.29	Peak
4	7236.00	36.63	6.03	34.69	35.96	43.93	74.00	30.07	Peak
5	10724.00	39.57	9.00	34.42	34.40	48.55	74.00	25.45	Peak
6	12220.00	39.36	8.39	33.42	35.19	49.52	74.00	24.48	Peak

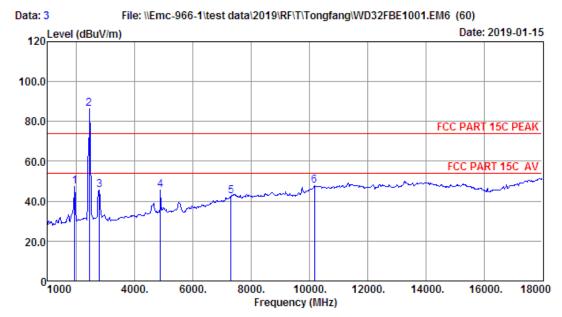
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.

- 2. Margin= Limit Emission Level.
- 3. The emission levels that are 20dB below the official limit are not reported.



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Site no. : 1# 966 Chamber

Data no. : 3 Ant. pol. : HORIZONTAL Dis. / Ant. : 3m 9120D 1-18G

: FCC PART 15C PEAK

Env. / Ins. : Temp:27.3'; Humi:54%; Press:101.52kPa

: Seven Engineer : LED TV EUT : AC 120V/60Hz Power M/N : WD32FBE1001

Test Mode : IEEE 802.11b TX 2437MHz

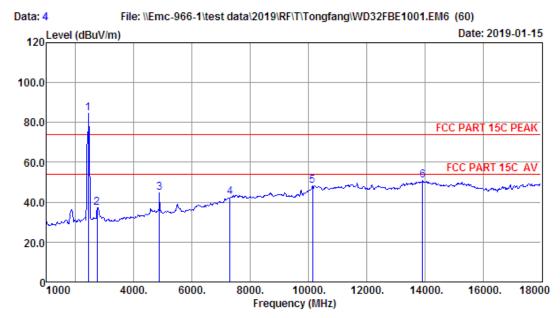
ANT 0

	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	1935.00	26.29	2.87	35.12	53.34	47.38	74.00	26.62	Peak
2	2437.00	27.48	3.26	35.76	91.30	86.28	74.00	-12.28	Peak
3	2785.00	28.05	3.51	36.28	50.23	45.51	74.00	28.49	Peak
4	4874.00	32.18	4.73	36.10	44.74	45.55	74.00	28.45	Peak
5	7311.00	36.78	6.09	34.75	34.51	42.63	74.00	31.37	Peak
6	10180.00	39.17	9.62	34.86	34.05	47.98	74.00	26.02	Peak

- 2. Margin= Limit Emission Level.
- 3. The emission levels that are 20dB below the official limit are not reported.



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Site no. : 1# 966 Chamber Data no. : 4
Dis. / Ant. : 3m 9120D 1-18G Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:27.3'; Humi:54%; Press:101.52kPa

Engineer : Seven
EUT : LED TV
Power : AC 120V/60Hz
M/N : WD32FBE1001

Test Mode : IEEE 802.11b TX 2437MHz

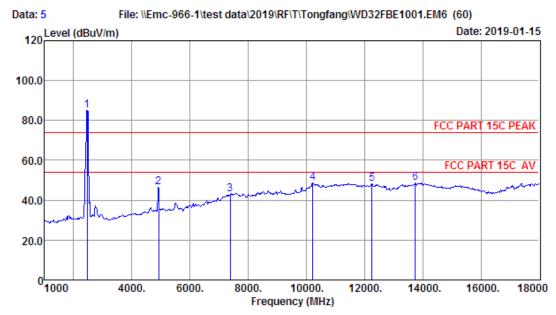
ANT 0

	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2437.00	27.48	3.26	35.76	89.67	84.65	74.00	-10.65	Peak
2	2734.00	27.97	3.47	36.21	41.92	37.15	74.00	36.85	Peak
3	4874.00	32.18	4.73	36.10	44.11	44.92	74.00	29.08	Peak
4	7311.00	36.78	6.09	34.75	34.32	42.44	74.00	31.56	Peak
5	10146.00	39.16	9.48	34.89	34.44	48.19	74.00	25.81	Peak
6	13920.00	41.63	10.11	33.69	32.94	50.99	74.00	23.01	Peak

- 2. Margin= Limit Emission Level.
- The emission levels that are 20dB below the official limit are not reported.



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Site no. : 1# 966 Chamber Data no. : 5
Dis. / Ant. : 3m 9120D 1-18G Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:27.3'; Humi:54%; Press:101.52kPa

Engineer : Seven
EUT : LED TV
Power : AC 120V/60Hz
M/N : WD32FBE1001

Test Mode : IEEE 802.11b TX 2462MHz

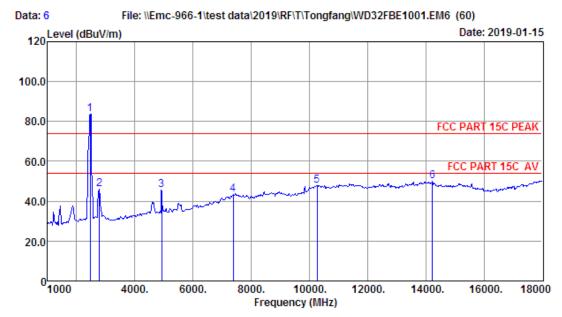
ANT 0

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2462.00	27.52	3.27	35.78	90.05	85.06	74.00	-11.06	Peak
2	4924.00	32.28	4.77	36.10	45.65	46.60	74.00	27.40	Peak
3	7386.00	36.97	6.12	34.80	34.60	42.89	74.00	31.11	Peak
4	10214.00	39.19	9.77	34.83	34.51	48.64	74.00	25.36	Peak
5	12254.00	39.35	8.42	33.43	34.03	48.37	74.00	25.63	Peak
6	13750.00	41.50	10.01	33.65	30.90	48.76	74.00	25.24	Peak

- 2. Margin= Limit Emission Level.
- The emission levels that are 20dB below the official limit are not reported.



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Site no. : site

Data no. : 6 Ant. pol. : HORIZONTAL Dis. / Ant. : 3m 9120D 1-18G

: FCC PART 15C PEAK

Env. / Ins. : Temp:27.3'; Humi:54%; Press:101.52kPa

: Seven Engineer : LED TV EUT : AC 120V/60Hz Power M/N : WD32FBE1001

: IEEE 802.11b TX 2462MHz Test Mode

ANT 0

	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2462.00	27.52	3.27	35.78	88.87	83.88	74.00	-9.88	Peak
2	2785.00	28.05	3.51	36.28	50.65	45.93	74.00	28.07	Peak
3	4924.00	32.28	4.77	36.10	44.62	45.57	74.00	28.43	Peak
4	7386.00	36.97	6.12	34.80	35.03	43.32	74.00	30.68	Peak
5	10265.00	39.21	9.98	34.79	33.63	48.03	74.00	25.97	Peak
6	14226.00	41.48	10.16	33.57	32.19	50.26	74.00	23.74	Peak

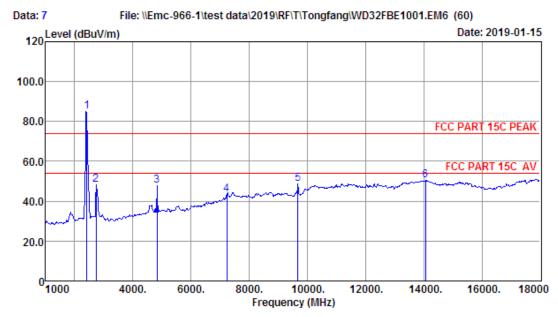
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.

- 2. Margin= Limit Emission Level.
- 3. The emission levels that are 20dB below the official limit are not reported.



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Site no. : 1# 966 Chamber

Data no. : 7
Ant. pol. : HORIZONTAL Dis. / Ant. : 3m 9120D 1-18G

: FCC PART 15C PEAK

Env. / Ins. : Temp:27.3'; Humi:54%; Press:101.52kPa

: Seven Engineer : LED TV EUT : AC 120V/60Hz Power M/N : WD32FBE1001

: IEEE 802.11b TX 2412MHz Test Mode

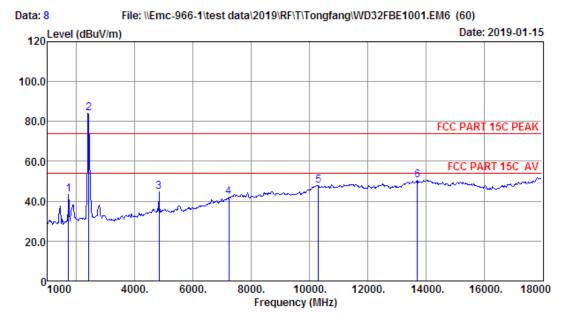
ANT 1

	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2412.00	27.39	3.23	35.71	90.11	85.02	74.00	-11.02	Peak
2	2734.00	27.97	3.47	36.21	53.00	48.23	74.00	25.77	Peak
3	4824.00	32.09	4.69	36.10	46.98	47.66	74.00	26.34	Peak
4	7236.00	36.63	6.03	34.69	35.48	43.45	74.00	30.55	Peak
5	9670.00	38.90	7.78	34.90	37.10	48.88	74.00	25.12	Peak
6	14056.00	41.65	10.13	33.66	32.31	50.43	74.00	23.57	Peak

- 2. Margin= Limit Emission Level.
- 3. The emission levels that are 20dB below the official limit are not reported.



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Site no. : 1# 966 Chamber Data no. : 8
Dis. / Ant. : 3m 9120D 1-18G Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:27.3'; Humi:54%; Press:101.52kPa

Engineer : Seven
EUT : LED TV
Power : AC 120V/60Hz
M/N : WD32FBE1001

Test Mode : IEEE 802.11b TX 2412MHz

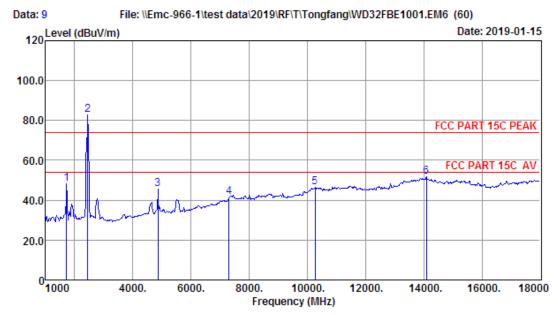
ANT 1

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	1714.00	25.95	2.72	35.19	49.69	43.17	74.00	30.83	Peak
2	2412.00	27.39	3.23	35.71	89.05	83.96	74.00	-9.96	Peak
3	4824.00	32.09	4.69	36.10	43.96	44.64	74.00	29.36	Peak
4	7236.00	36.63	6.03	34.69	33.95	41.92	74.00	32.08	Peak
5	10316.00	39.23	10.20	34.75	33.31	47.99	74.00	26.01	Peak
6	13716.00	41.47	9.96	33.64	32.65	50.44	74.00	23.56	Peak

- 2. Margin= Limit Emission Level.
- The emission levels that are 20dB below the official limit are not reported.



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Site no. : 1# 966 Chamber Data no. : 9
Dis. / Ant. : 3m 9120D 1-18G Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:27.3'; Humi:54%; Press:101.52kPa

Engineer : Seven
EUT : LED TV
Power : AC 120V/60Hz
M/N : WD32FBE1001

Test Mode : IEEE 802.11b TX 2437MHz

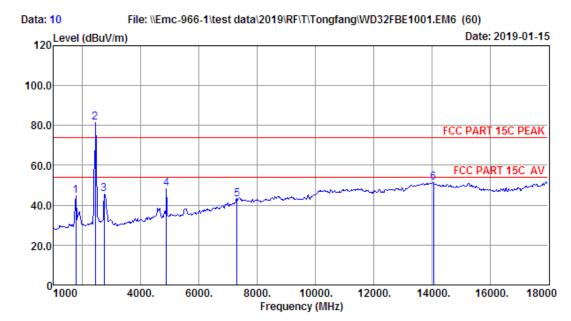
ANT 1

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	1714.00	25.95	2.72	35.19	54.63	48.11	74.00	25.89	Peak
2	2445.00	27.48	3.26	35.76	87.64	82.62	74.00	-8.62	Peak
3	4859.00	32.15	4.71	36.10	44.73	45.49	74.00	28.51	Peak
4	7311.00	36.78	6.09	34.75	33.45	41.57	74.00	32.43	Peak
5	10265.00	39.21	9.98	34.79	32.07	46.47	74.00	27.53	Peak
6	14090.00	41.61	10.14	33.64	33.66	51.77	74.00	22.23	Peak

- 2. Margin= Limit Emission Level.
- The emission levels that are 20dB below the official limit are not reported.



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Site no. : 1# 966 Chamber

Data no. : 10 Ant. pol. : HORIZONTAL Dis. / Ant. : 3m 9120D 1-18G

: FCC PART 15C PEAK

Env. / Ins. : Temp:27.3'; Humi:54%; Press:101.52kPa

: Seven Engineer : LED TV EUT : AC 120V/60Hz Power M/N : WD32FBE1001

Test Mode : IEEE 802.11b TX 2437MHz

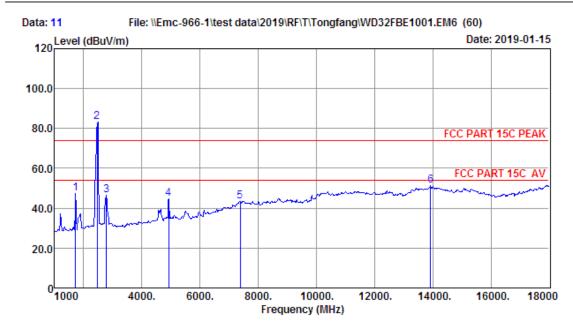
ANT 1

	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	1765.00	26.03	2.78	35.17	51.10	44.74	74.00	29.26	Peak
2	2437.00	27.48	3.26	35.76	86.68	81.66	74.00	-7.66	Peak
3	2734.00	27.97	3.47	36.21	50.20	45.43	74.00	28.57	Peak
4	4874.00	32.18	4.73	36.10	47.24	48.05	74.00	25.95	Peak
5	7311.00	36.78	6.09	34.75	34.65	42.77	74.00	31.23	Peak
6	14056.00	41.65	10.13	33.66	33.36	51.48	74.00	22.52	Peak

- 2. Margin= Limit Emission Level.
- 3. The emission levels that are 20dB below the official limit are not reported.



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Site no. : 1# 966 Chamber

Data no. : 11 Ant. pol. : HORIZONTAL Dis. / Ant. : 3m 9120D 1-18G

: FCC PART 15C PEAK

Env. / Ins. : Temp:27.3'; Humi:54%; Press:101.52kPa

: Seven Engineer : LED TV EUT : AC 120V/60Hz Power M/N : WD32FBE1001

Test Mode : IEEE 802.11b TX 2462MHz

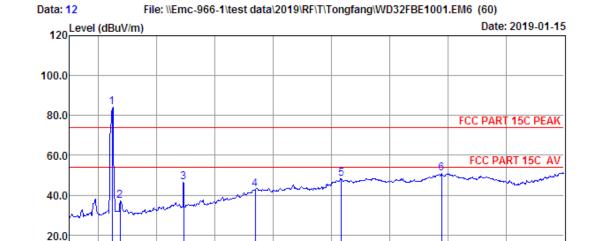
ANT 1

	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	1714.00	25.95	2.72	35.19	53.89	47.37	74.00	26.63	Peak
2	2462.00	27.52	3.27	35.78	88.10	83.11	74.00	-9.11	Peak
3	2785.00	28.05	3.51	36.28	51.25	46.53	74.00	27.47	Peak
4	4924.00	32.28	4.77	36.10	43.96	44.91	74.00	29.09	Peak
5	7386.00	36.97	6.12	34.80	34.99	43.28	74.00	30.72	Peak
6	13920.00	41.63	10.11	33.69	33.19	51.24	74.00	22.76	Peak

- 2. Margin= Limit Emission Level.
- 3. The emission levels that are 20dB below the official limit are not reported.



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Site no. : 1# 966 Chamber Data no. : 12
Dis. / Ant. : 3m 9120D 1-18G Ant. pol. : VERTICAL

6000.

8000.

10000.

Frequency (MHz)

12000.

14000.

16000.

18000

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:27.3'; Humi:54%; Press:101.52kPa

4000.

Engineer : Seven
EUT : LED TV
Power : AC 120V/60Hz
M/N : WD32FBE1001

0<mark>1000</mark>

Test Mode : IEEE 802.11b TX 2462MHz

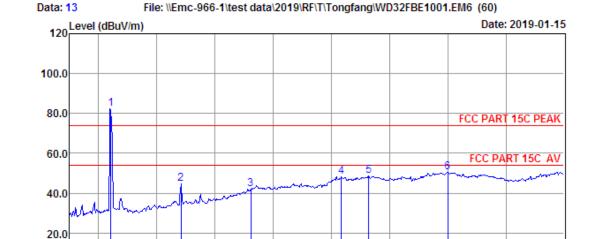
ANT 1

	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2462.00	27.52	3.27	35.78	88.99	84.00	74.00	-10.00	Peak
2	2734.00	27.97	3.47	36.21	42.05	37.28	74.00	36.72	Peak
3	4924.00	32.28	4.77	36.10	45.69	46.64	74.00	27.36	Peak
4	7386.00	36.97	6.12	34.80	34.81	43.10	74.00	30.90	Peak
5	10350.00	39.24	10.10	34.72	33.82	48.44	74.00	25.56	Peak
6	13784.00	41.53	10.05	33.66	32.86	50.78	74.00	23.22	Peak

- 2. Margin= Limit Emission Level.
- The emission levels that are 20dB below the official limit are not reported.



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Site no. : 1# 966 Chamber Data no. : 13
Dis. / Ant. : 3m 9120D 1-18G Ant. pol. : VERTICAL

6000.

8000.

10000.

Frequency (MHz)

12000.

14000.

16000.

18000

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:27.3'; Humi:54%; Press:101.52kPa

4000.

Engineer : Seven
EUT : LED TV
Power : AC 120V/60Hz
M/N : WD32FBE1001

0<mark>1000</mark>

Test Mode : IEEE 802.11g TX 2412MHz

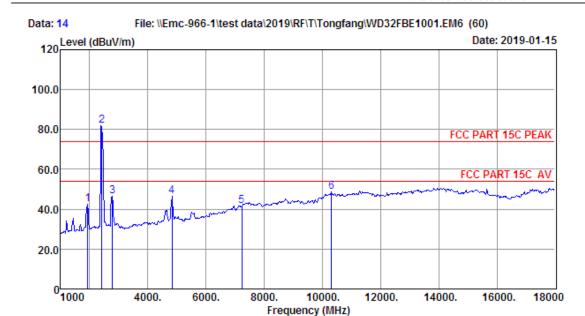
ANT 0

	Freq.	Ant. Factor			Reading	Emission Level	Limits	Margin	Remark
	(MHz)	z) (dB/m)	(dB)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)	
1	2412.00	27.39	3.23	35.71	87.48	82.39	74.00	-8.39	Peak
2	4824.00	32.09	4.69	36.10	43.84	44.52	74.00	29.48	Peak
3	7236.00	36.63	6.03	34.69	33.89	41.86	74.00	32.14	Peak
4	10350.00	39.24	10.10	34.72	33.84	48.46	74.00	25.54	Peak
5	11285.00	40.01	8.36	33.98	34.39	48.78	74.00	25.22	Peak
6	14005.00	41.70	10.13	33.69	32.28	50.42	74.00	23.58	Peak

- 2. Margin= Limit Emission Level.
- The emission levels that are 20dB below the official limit are not reported.



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Site no. : 1# 966 Chamber

Data no. : 14 Ant. pol. : HORIZONTAL Dis. / Ant. : 3m 9120D 1-18G

: FCC PART 15C PEAK

Env. / Ins. : Temp:27.3'; Humi:54%; Press:101.52kPa

: Seven Engineer : LED TV EUT : AC 120V/60Hz Power M/N : WD32FBE1001

Test Mode : IEEE 802.11g TX 2412MHz

ANT 0

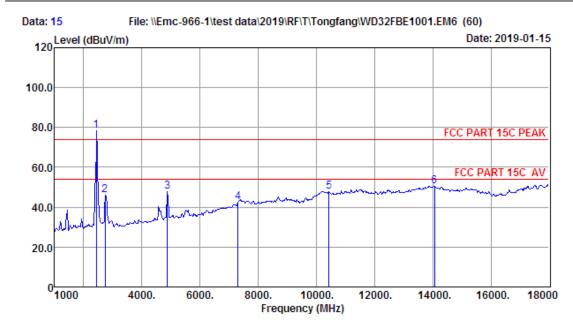
	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
					40.50	40.55			
1	1935.00	26.29	2.87	35.12	48.53	42.57	74.00	31.43	Peak
2	2412.00	27.39	3.23	35.71	87.22	82.13	74.00	-8.13	Peak
3	2785.00	28.05	3.51	36.28	51.21	46.49	74.00	27.51	Peak
4	4824.00	32.09	4.69	36.10	45.88	46.56	74.00	27.44	Peak
5	7236.00	36.63	6.03	34.69	33.80	41.77	74.00	32.23	Peak
6	10316.00	39.23	10.20	34.75	33.81	48.49	74.00	25.51	Peak

Report No. ESTE-R1901065

- 2. Margin= Limit Emission Level.
- 3. The emission levels that are 20dB below the official limit are not reported.



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Site no. : 1# 966 Chamber

Data no. : 15 Ant. pol. : HORIZONTAL Dis. / Ant. : 3m 9120D 1-18G

: FCC PART 15C PEAK

Env. / Ins. : Temp:27.3'; Humi:54%; Press:101.52kPa

: Seven Engineer : LED TV EUT : AC 120V/60Hz Power M/N : WD32FBE1001

Test Mode : IEEE 802.11g TX 2437MHz

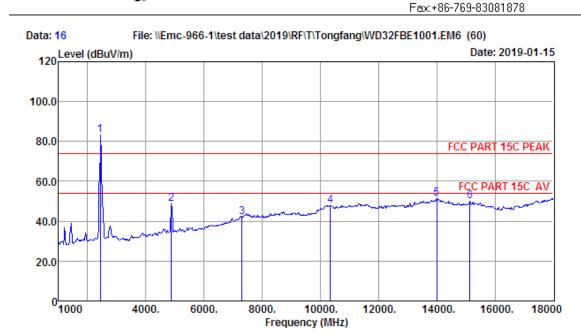
ANT 0

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2437.00	27.48	3.26	35.76	83.55	78.53	74.00	-4.53	Peak
2	2734.00	27.97	3.47	36.21	50.86	46.09	74.00	27.91	Peak
3	4874.00	32.18	4.73	36.10	46.98	47.79	74.00	26.21	Peak
4	7311.00	36.78	6.09	34.75	34.22	42.34	74.00	31.66	Peak
5	10435.00	39.27	9.85	34.65	33.40	47.87	74.00	26.13	Peak
6	14056.00	41.65	10.13	33.66	32.50	50.62	74.00	23.38	Peak

- 2. Margin= Limit Emission Level.
- 3. The emission levels that are 20dB below the official limit are not reported.



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Site no. : 1# 966 Chamber Data no. : 16
Dis. / Ant. : 3m 9120D 1-18G Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:27.3'; Humi:54%; Press:101.52kPa

Engineer : Seven
EUT : LED TV
Power : AC 120V/60Hz
M/N : WD32FBE1001

Test Mode : IEEE 802.11g TX 2437MHz

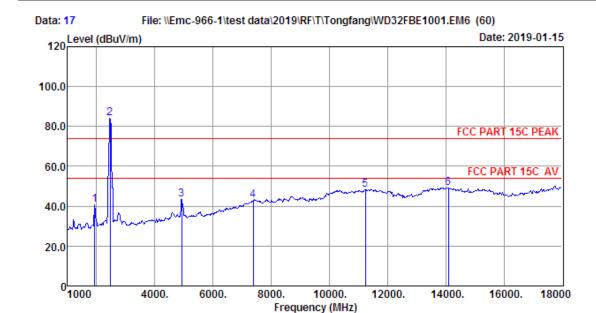
ANT 0

	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2437.00	27.48	3.26	35.76	88.47	83.45	74.00	-9.45	Peak
2	4874.00	32.18	4.73	36.10	48.04	48.85	74.00	25.15	Peak
3	7311.00	36.78	6.09	34.75	33.85	41.97	74.00	32.03	Peak
4	10350.00	39.24	10.10	34.72	33.38	48.00	74.00	26.00	Peak
5	14005.00	41.70	10.13	33.69	33.04	51.18	74.00	22.82	Peak
6	15144.00	40.08	10.90	33.14	32.01	49.85	74.00	24.15	Peak

- 2. Margin= Limit Emission Level.
- The emission levels that are 20dB below the official limit are not reported.



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Site no. : 1# 966 Chamber Data no. : 17
Dis. / Ant. : 3m 9120D 1-18G Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:27.3'; Humi:54%; Press:101.52kPa

Engineer : Seven
EUT : LED TV
Power : AC 120V/60Hz
M/N : WD32FBE1001

Test Mode : IEEE 802.11g TX 2462MHz

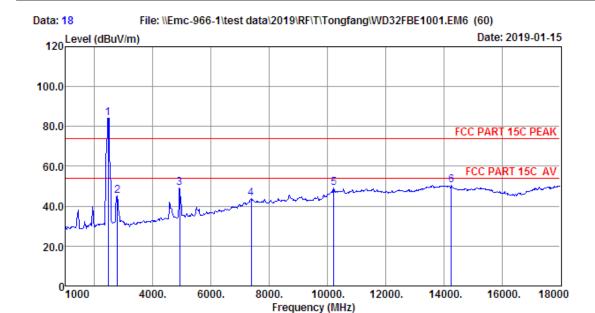
ANT 0

	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	1935.00	26.29	2.87	35.12	46.51	40.55	74.00	33.45	Peak
2	2462.00		3.27	35.78	89.27	84.28	74.00	-10.28	Peak
3	4924.00	32.28	4.77	36.10	42.63	43.58	74.00	30.42	Peak
4	7386.00	36.97	6.12	34.80	34.72	43.01	74.00	30.99	Peak
5	11234.00	39.99	8.40	34.02	33.99	48.36	74.00	25.64	Peak
6	14090.00	41.61	10.14	33.64	31.04	49.15	74.00	24.85	Peak

- 2. Margin= Limit Emission Level.
- The emission levels that are 20dB below the official limit are not reported.



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Site no. : 1# 966 Chamber

Data no. : 18 Ant. pol. : HORIZONTAL Dis. / Ant. : 3m 9120D 1-18G

: FCC PART 15C PEAK

Env. / Ins. : Temp:27.3'; Humi:54%; Press:101.52kPa

: Seven Engineer : LED TV EUT : AC 120V/60Hz Power M/N : WD32FBE1001

Test Mode : IEEE 802.11g TX 2462MHz

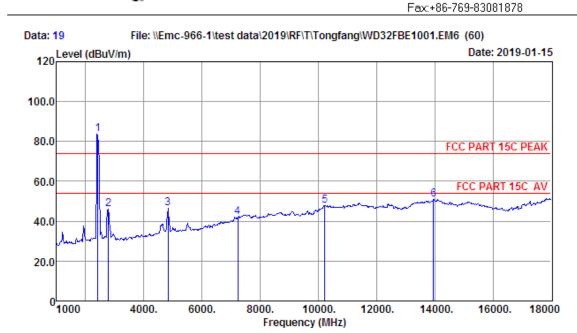
ANT 0

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2462.00	27.52	3.27	35.78	89.33	84.34	74.00	-10.34	Peak
2	2785.00	28.05	3.51	36.28	49.84	45.12	74.00	28.88	Peak
3	4924.00	32.28	4.77	36.10	48.20	49.15	74.00	24.85	Peak
4	7386.00	36.97	6.12	34.80	35.41	43.70	74.00	30.30	Peak
5	10214.00	39.19	9.77	34.83	35.00	49.13	74.00	24.87	Peak
6	14260.00	41.44	10.16	33.54	32.52	50.58	74.00	23.42	Peak

- 2. Margin= Limit Emission Level.
- 3. The emission levels that are 20dB below the official limit are not reported.



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Site no. : 1# 966 Chamber

Data no. : 19 Ant. pol. : HORIZONTAL Dis. / Ant. : 3m 9120D 1-18G

: FCC PART 15C PEAK

Env. / Ins. : Temp:27.3'; Humi:54%; Press:101.52kPa

: Seven Engineer : LED TV EUT : AC 120V/60Hz Power M/N : WD32FBE1001

Test Mode : IEEE 802.11g TX 2412MHz

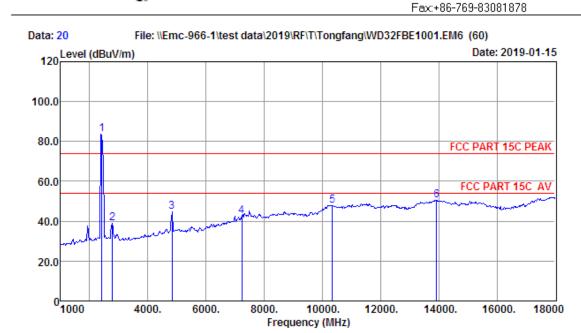
ANT 1

	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2412.00	27.39	3.23	35.71	88.59	83.50	74.00	-9.50	Peak
2	2785.00		3.51	36.28	50.73	46.01	74.00	27.99	Peak
3	4824.00	32.09	4.69	36.10	45.84	46.52	74.00	27.48	Peak
4	7236.00	36.63	6.03	34.69	34.11	42.08	74.00	31.92	Peak
5	10214.00	39.19	9.77	34.83	33.89	48.02	74.00	25.98	Peak
6	13954.00	41.66	10.12	33.69	32.99	51.08	74.00	22.92	Peak

- 2. Margin= Limit Emission Level.
- 3. The emission levels that are 20dB below the official limit are not reported.



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Site no. : 1# 966 Chamber Data no. : 20
Dis. / Ant. : 3m 9120D 1-18G Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:27.3'; Humi:54%; Press:101.52kPa

Engineer : Seven
EUT : LED TV
Power : AC 120V/60Hz
M/N : WD32FBE1001

Test Mode : IEEE 802.11g TX 2412MHz

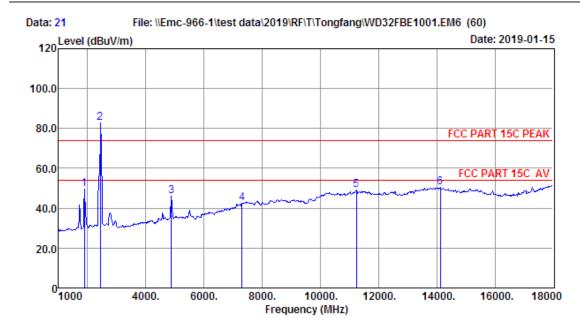
ANT 1

	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2412.00	27.39	3.23	35.71	88.84	83.75	74.00	-9.75	Peak
2	2785.00	28.05	3.51	36.28	43.75	39.03	74.00	34.97	Peak
3	4825.00	32.09	4.69	36.10	44.15	44.83	74.00	29.17	Peak
4	7236.00	36.63	6.03	34.69	34.63	42.60	74.00	31.40	Peak
5	10350.00	39.24	10.10	34.72	33.42	48.04	74.00	25.96	Peak
6	13920.00	41.63	10.11	33.69	32.61	50.66	74.00	23.34	Peak

- 2. Margin= Limit Emission Level.
- The emission levels that are 20dB below the official limit are not reported.



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Site no. : 1# 966 Chamber Data no. : 21
Dis. / Ant. : 3m 9120D 1-18G Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:27.3'; Humi:54%; Press:101.52kPa

Engineer : Seven
EUT : LED TV
Power : AC 120V/60Hz
M/N : WD32FBE1001

Test Mode : IEEE 802.11g TX 2437MHz

ANT 1

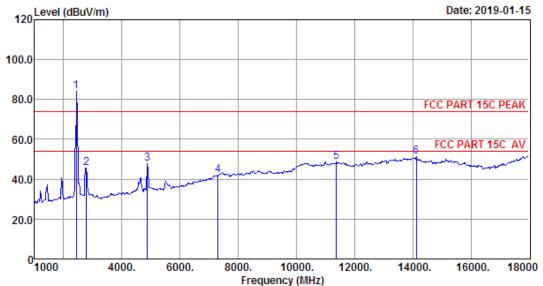
		Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
		1884.00	26 21	2.82	35.14	55.51	49.40	74.00	24.60	Peak
	2	2437.00		3.26	35.76	87.90	82.88	74.00	-8.88	Peak
	3	4874.00	32.18	4.73	36.10	45.33	46.14	74.00	27.86	Peak
4	4	7311.00	36.78	6.09	34.75	34.41	42.53	74.00	31.47	Peak
į	5	11234.00	39.99	8.40	34.02	34.82	49.19	74.00	24.81	Peak
	6	14124.00	41.58	10.14	33.62	32.16	50.26	74.00	23.74	Peak

- 2. Margin= Limit Emission Level.
- The emission levels that are 20dB below the official limit are not reported.



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Data: 22 File: \\Emc-966-1\\test data\\2019\\RF\T\Tongfang\\WD32FBE1001.EM6 (60)



Site no. : 1# 966 Chamber

Data no. : 22 Ant. pol. : HORIZONTAL Dis. / Ant. : 3m 9120D 1-18G

: FCC PART 15C PEAK

Env. / Ins. : Temp:27.3'; Humi:54%; Press:101.52kPa

: Seven Engineer : LED TV EUT : AC 120V/60Hz Power M/N : WD32FBE1001

Test Mode : IEEE 802.11g TX 2437MHz

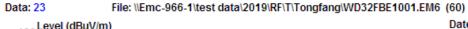
ANT 1

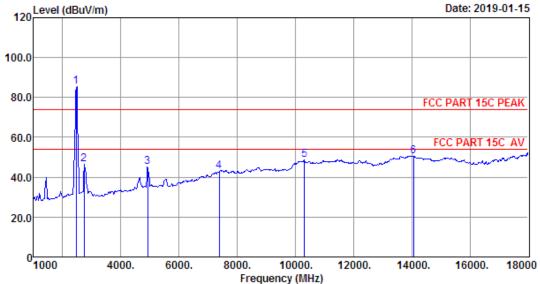
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2437.00	27.48	3.26	35.76	88.96	83.94	74.00	-9.94	Peak
2	2785.00	28.05	3.51	36.28	50.28	45.56	74.00	28.44	Peak
3	4874.00	32.18	4.73	36.10	47.13	47.94	74.00	26.06	Peak
4	7311.00	36.78	6.09	34.75	33.84	41.96	74.00	32.04	Peak
5	11370.00	40.05	8.30	33.91	34.33	48.77	74.00	25.23	Peak
6	14124.00	41.58	10.14	33.62	33.05	51.15	74.00	22.85	Peak

- 2. Margin= Limit Emission Level.
- 3. The emission levels that are 20dB below the official limit are not reported.



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Site no. : 1# 966 Chamber

Data no. : 23 Ant. pol. : HORIZONTAL Dis. / Ant. : 3m 9120D 1-18G

: FCC PART 15C PEAK

Env. / Ins. : Temp:27.3'; Humi:54%; Press:101.52kPa

: Seven Engineer : LED TV EUT : AC 120V/60Hz Power M/N : WD32FBE1001

Test Mode : IEEE 802.11g TX 2462MHz

ANT 1

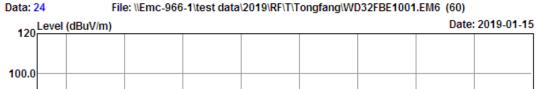
	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2462.00	27.52	3.27	35.78	90.56	85.57	74.00	-11.57	Peak
2	2734.00	27.97	3.47	36.21	51.37	46.60	74.00	27.40	Peak
3	4924.00	32.28	4.77	36.10	44.24	45.19	74.00	28.81	Peak
4	7386.00	36.97	6.12	34.80	34.76	43.05	74.00	30.95	Peak
5	10316.00	39.23	10.20	34.75	33.96	48.64	74.00	25.36	Peak
6	14056.00	41.65	10.13	33.66	32.46	50.58	74.00	23.42	Peak

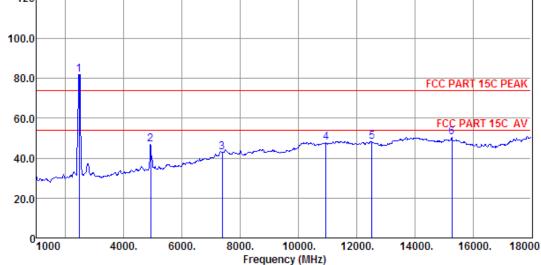
- 2. Margin= Limit Emission Level.
- 3. The emission levels that are 20dB below the official limit are not reported.



Data: 24

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Data no. : 24 Ant. pol. : VERTICAL Site no. : 1# 966 Chamber Dis. / Ant. : 3m 9120D 1-18G

: FCC PART 15C PEAK

Env. / Ins. : Temp:27.3'; Humi:54%; Press:101.52kPa

: Seven Engineer : LED TV EUT : AC 120V/60Hz Power M/N : WD32FBE1001

Test Mode : IEEE 802.11g TX 2462MHz

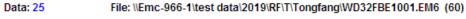
ANT 1

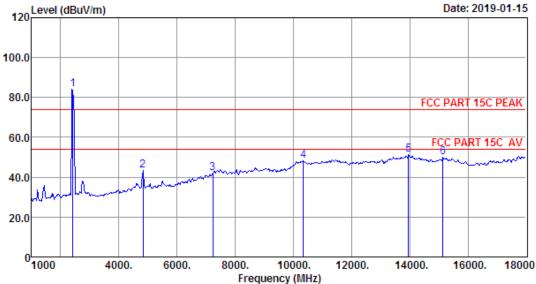
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2462.00	27.52	3.27	35.78	86.85	81.86	74.00	-7.86	Peak
2	4924.00	32.28	4.77	36.10	46.06	47.01	74.00	26.99	Peak
3	7386.00	36.97	6.12	34.80	34.58	42.87	74.00	31.13	Peak
4	10945.00	39.84	8.61	34.24	33.53	47.74	74.00	26.26	Peak
5	12526.00	39.35	8.60	33.45	33.87	48.37	74.00	25.63	Peak
6	15280.00	39.86	10.97	33.18	32.77	50.42	74.00	23.58	Peak

- 2. Margin= Limit Emission Level.
- 3. The emission levels that are 20dB below the official limit are not reported.



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Site no. : 1# 966 Chamber Data no. : 25
Dis. / Ant. : 3m 9120D 1-18G Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:27.3'; Humi:54%; Press:101.52kPa

Engineer : Seven
EUT : LED TV
Power : AC 120V/60Hz
M/N : WD32FBE1001

Test Mode : IEEE 802.11n HT20 TX 2412MHz

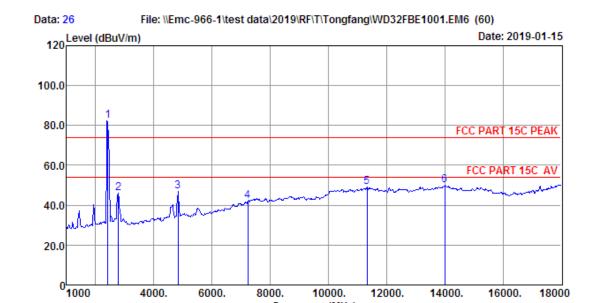
ANT 0+ANT 1

	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2412.00	27.39	3.23	35.71	89.36	84.27	74.00	-10.27	Peak
2	4824.00	32.09	4.69	36.10	42.63	43.31	74.00	30.69	Peak
3	7236.00	36.63	6.03	34.69	34.04	42.01	74.00	31.99	Peak
4	10350.00	39.24	10.10	34.72	33.83	48.45	74.00	25.55	Peak
5	13954.00	41.66	10.12	33.69	33.08	51.17	74.00	22.83	Peak
6	15144.00	40.08	10.90	33.14	32.32	50.16	74.00	23.84	Peak

- 2. Margin= Limit Emission Level.
- The emission levels that are 20dB below the official limit are not reported.



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Frequency (MHz)

Site no. : 1# 966 Chamber

Data no. : 26 Ant. pol. : HORIZONTAL Dis. / Ant. : 3m 9120D 1-18G

: FCC PART 15C PEAK

Env. / Ins. : Temp:27.3'; Humi:54%; Press:101.52kPa

: Seven Engineer : LED TV EUT : AC 120V/60Hz Power M/N : WD32FBE1001

: IEEE 802.11n HT20 TX 2412MHz Test Mode

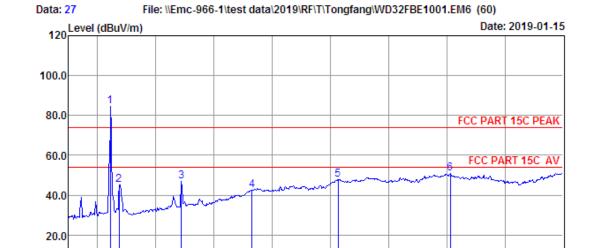
ANT 0+ANT 1

	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2412.00	27.39	3.23	35.71	87.52	82.43	74.00	-8.43	Peak
2	2785.00	28.05	3.51	36.28	50.72	46.00	74.00	28.00	Peak
3	4824.00	32.09	4.69	36.10	46.14	46.82	74.00	27.18	Peak
4	7236.00	36.63	6.03	34.69	34.05	42.02	74.00	31.98	Peak
5	11336.00	40.03	8.32	33.93	34.58	49.00	74.00	25.00	Peak
6	14005.00	41.70	10.13	33.69	31.94	50.08	74.00	23.92	Peak

- 2. Margin= Limit Emission Level.
- 3. The emission levels that are 20dB below the official limit are not reported.



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Site no. : 1# 966 Chamber

Data no. : 27 Ant. pol. : HORIZONTAL Dis. / Ant. : 3m 9120D 1-18G

6000.

8000.

10000.

Frequency (MHz)

12000.

14000.

16000.

18000

: FCC PART 15C PEAK

Env. / Ins. : Temp:27.3'; Humi:54%; Press:101.52kPa

: Seven Engineer : LED TV EUT : AC 120V/60Hz Power M/N : WD32FBE1001

0<mark>1000</mark>

: IEEE 802.11n HT20 TX 2437MHz Test Mode

4000.

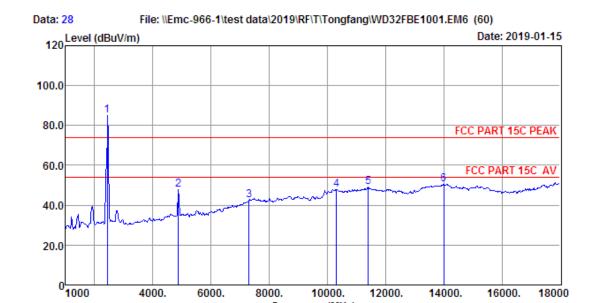
ANT 0+ANT 1

	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2437.00	27.48	3.26	35.76	89.51	84.49	74.00	-10.49	Peak
2	2734.00	27.97	3.47	36.21	49.89	45.12	74.00	28.88	Peak
3	4874.00	32.18	4.73	36.10	45.92	46.73	74.00	27.27	Peak
4	7311.00	36.78	6.09	34.75	34.45	42.57	74.00	31.43	Peak
5	10265.00	39.21	9.98	34.79	33.55	47.95	74.00	26.05	Peak
6	14124.00	41.58	10.14	33.62	32.60	50.70	74.00	23.30	Peak

- 2. Margin= Limit Emission Level.
- 3. The emission levels that are 20dB below the official limit are not reported.



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Frequency (MHz)

Site no. : 1# 966 Chamber Data no. : 28
Dis. / Ant. : 3m 9120D 1-18G Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:27.3'; Humi:54%; Press:101.52kPa

Engineer : Seven
EUT : LED TV
Power : AC 120V/60Hz
M/N : WD32FBE1001

Test Mode : IEEE 802.11n HT20 TX 2437MHz

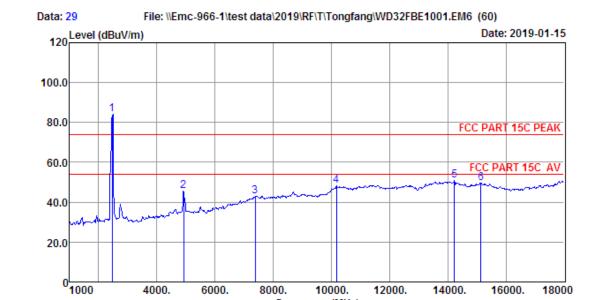
ANT 0+ANT 1

	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2437.00	27.48	3.26	35.76	89.83	84.81	74.00	-10.81	Peak
2	4874.00	32.18	4.73	36.10	47.06	47.87	74.00	26.13	Peak
3	7311.00	36.78	6.09	34.75	34.17	42.29	74.00	31.71	Peak
4	10316.00	39.23	10.20	34.75	33.29	47.97	74.00	26.03	Peak
5	11404.00	40.06	8.29	33.88	34.62	49.09	74.00	24.91	Peak
6	14005.00	41.70	10.13	33.69	32.42	50.56	74.00	23.44	Peak

- 2. Margin= Limit Emission Level.
- The emission levels that are 20dB below the official limit are not reported.



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Frequency (MHz)

Site no. : 1# 966 Chamber Data no. : 29
Dis. / Ant. : 3m 9120D 1-18G Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:27.3'; Humi:54%; Press:101.52kPa

Engineer : Seven
EUT : LED TV
Power : AC 120V/60Hz
M/N : WD32FBE1001

Test Mode : IEEE 802.11n HT20 TX 2462MHz

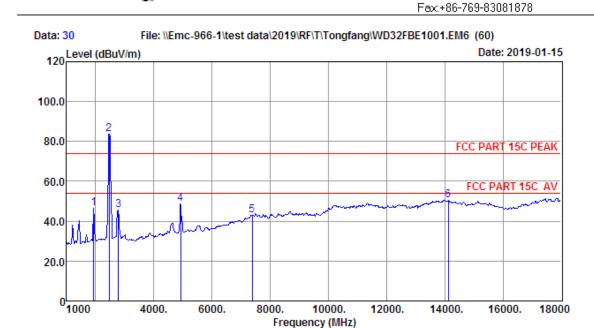
ANT 0+ANT 1

	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2462.00	27.52	3.27	35.78	89.15	84.16	74.00	-10.16	Peak
2	4924.00	32.28	4.77	36.10	44.61	45.56	74.00	28.44	Peak
3	7386.00	36.97	6.12	34.80	34.57	42.86	74.00	31.14	Peak
4	10180.00	39.17	9.62	34.86	34.25	48.18	74.00	25.82	Peak
5	14226.00	41.48	10.16	33.57	32.65	50.72	74.00	23.28	Peak
6	15144.00	40.08	10.90	33.14	31.89	49.73	74.00	24.27	Peak

- 2. Margin= Limit Emission Level.
- The emission levels that are 20dB below the official limit are not reported.



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Site no. : 1# 966 Chamber Data no. : 30
Dis. / Ant. : 3m 9120D 1-18G Ant. pol. : HORIZONTAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:27.3'; Humi:54%; Press:101.52kPa

Engineer : Seven
EUT : LED TV
Power : AC 120V/60Hz
M/N : WD32FBE1001

Test Mode : IEEE 802.11n HT20 TX 2462MHz

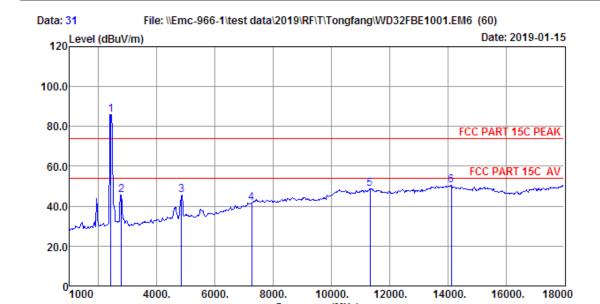
ANT 0+ANT 1

	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	1935.00	26.29	2.87	35.12	52.63	46.67	74.00	27.33	Peak
2	2462.00	27.52	3.27	35.78	88.75	83.76	74.00	-9.76	Peak
3	2785.00	28.05	3.51	36.28	50.31	45.59	74.00	28.41	Peak
4	4924.00	32.28	4.77	36.10	47.88	48.83	74.00	25.17	Peak
5	7386.00	36.97	6.12	34.80	34.67	42.96	74.00	31.04	Peak
6	14124.00	41.58	10.14	33.62	32.37	50.47	74.00	23.53	Peak

- 2. Margin= Limit Emission Level.
- The emission levels that are 20dB below the official limit are not reported.



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Frequency (MHz)

Site no. : 1# 966 Chamber Data no. : 31
Dis. / Ant. : 3m 9120D 1-18G Ant. pol. : HORIZONTAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:27.3'; Humi:54%; Press:101.52kPa

Engineer : Seven
EUT : LED TV
Power : AC 120V/60Hz
M/N : WD32FBE1001

Test Mode : IEEE 802.11n HT40 TX 2422MHz

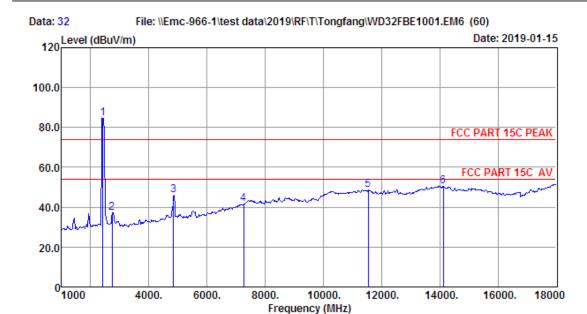
ANT 0+ANT 1

	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2422.00	27.43	3.24	35.73	91.09	86.03	74.00	-12.03	Peak
2	2785.00	28.05	3.51	36.28	50.25	45.53	74.00	28.47	Peak
3	4844.00	32.12	4.70	36.10	44.90	45.62	74.00	28.38	Peak
4	7266.00	36.71	6.05	34.72	33.73	41.77	74.00	32.23	Peak
5	11336.00	40.03	8.32	33.93	34.48	48.90	74.00	25.10	Peak
6	14124.00	41.58	10.14	33.62	32.22	50.32	74.00	23.68	Peak

- 2. Margin= Limit Emission Level.
- The emission levels that are 20dB below the official limit are not reported.



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Site no. : 1# 966 Chamber Data no. : 32
Dis. / Ant. : 3m 9120D 1-18G Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:27.3'; Humi:54%; Press:101.52kPa

Engineer : Seven
EUT : LED TV
Power : AC 120V/60Hz
M/N : WD32FBE1001

Test Mode : IEEE 802.11n HT40 TX 2422MHz

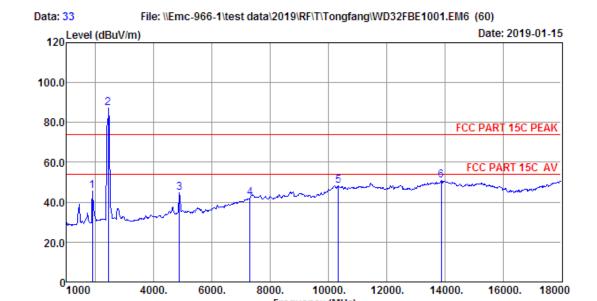
ANT 0+ANT 1

	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2422.00	27.43	3.24	35.73	89.72	84.66	74.00	-10.66	Peak
2	2734.00	27.97	3.47	36.21	41.98	37.21	74.00	36.79	Peak
3	4844.00	32.12	4.70	36.10	45.50	46.22	74.00	27.78	Peak
4	7266.00	36.71	6.05	34.72	33.45	41.49	74.00	32.51	Peak
5	11540.00	40.05	8.27	33.76	34.21	48.77	74.00	25.23	Peak
6	14124.00	41.58	10.14	33.62	32.27	50.37	74.00	23.63	Peak

- 2. Margin= Limit Emission Level.
- The emission levels that are 20dB below the official limit are not reported.



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Frequency (MHz)

Site no. : 1# 966 Chamber Data no. : 33
Dis. / Ant. : 3m 9120D 1-18G Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:27.3'; Humi:54%; Press:101.52kPa

Engineer : Seven
EUT : LED TV
Power : AC 120V/60Hz
M/N : WD32FBE1001

Test Mode : IEEE 802.11n HT40 TX 2437MHz

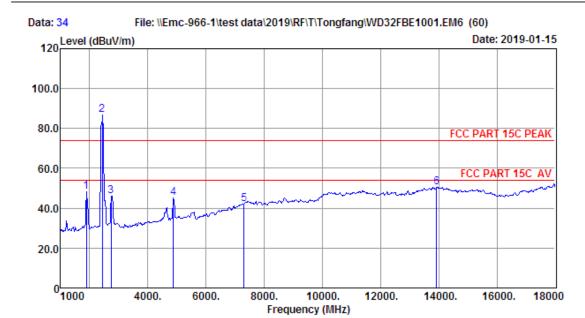
ANT 0+ANT 1

	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	1884.00	26.21	2.82	35.14	51.66	45.55	74.00	28.45	Peak
2	2437.00	27.48	3.26	35.76	92.41	87.39	74.00	-13.39	Peak
3	4874.00	32.18	4.73	36.10	43.73	44.54	74.00	29.46	Peak
4	7311.00	36.78	6.09	34.75	33.82	41.94	74.00	32.06	Peak
5	10350.00	39.24	10.10	34.72	33.51	48.13	74.00	25.87	Peak
6	13886.00	41.61	10.11	33.68	32.98	51.02	74.00	22.98	Peak

- 2. Margin= Limit Emission Level.
- The emission levels that are 20dB below the official limit are not reported.



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Site no. : 1# 966 Chamber

Data no. : 34 Ant. pol. : HORIZONTAL Dis. / Ant. : 3m 9120D 1-18G

: FCC PART 15C PEAK

Env. / Ins. : Temp:27.3'; Humi:54%; Press:101.52kPa

: Seven Engineer : LED TV EUT : AC 120V/60Hz Power M/N : WD32FBE1001

: IEEE 802.11n HT40 TX 2437MHz Test Mode

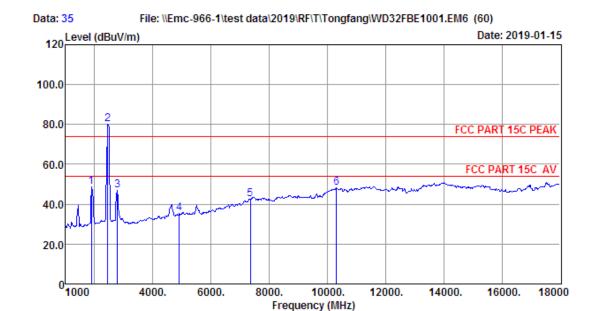
ANT 0+ANT 1

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	1884.00	26.21	2.82	35.14	54.39	48.28	74.00	25.72	Peak
2	2437.00	27.48	3.26	35.76	91.67	86.65	74.00	-12.65	Peak
3	2734.00	27.97	3.47	36.21	50.95	46.18	74.00	27.82	Peak
4	4874.00	32.18	4.73	36.10	44.19	45.00	74.00	29.00	Peak
5	7311.00	36.78	6.09	34.75	33.99	42.11	74.00	31.89	Peak
6	13920.00	41.63	10.11	33.69	32.62	50.67	74.00	23.33	Peak

- 2. Margin= Limit Emission Level.
- 3. The emission levels that are 20dB below the official limit are not reported.



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Site no. : 1# 966 Chamber Data no. : 35
Dis. / Ant. : 3m 9120D 1-18G Ant. pol. : HORIZONTAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:27.3'; Humi:54%; Press:101.52kPa

Engineer : Seven
EUT : LED TV
Power : AC 120V/60Hz
M/N : WD32FBE1001

Test Mode : IEEE 802.11n HT40 TX 2452MHz

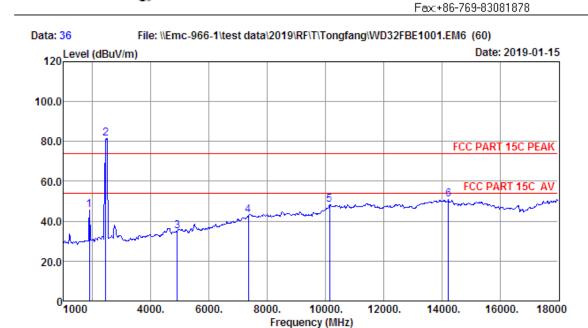
ANT 0+ANT 1

	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	1884.00	26.21	2.82	35.14	54.77	48.66	74.00	25.34	Peak
2	2452.00	27.48	3.26	35.78	84.99	79.95	74.00	-5.95	Peak
3	2785.00	28.05	3.51	36.28	51.65	46.93	74.00	27.07	Peak
4	4904.00	32.24	4.76	36.10	34.36	35.26	74.00	38.74	Peak
5	7356.00	36.90	6.11	34.79	34.31	42.53	74.00	31.47	Peak
6	10316.00	39.23	10.20	34.75	33.64	48.32	74.00	25.68	Peak

- 2. Margin= Limit Emission Level.
- The emission levels that are 20dB below the official limit are not reported.



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Site no. : 1# 966 Chamber Data no. : 36
Dis. / Ant. : 3m 9120D 1-18G Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:27.3'; Humi:54%; Press:101.52kPa

Engineer : Seven
EUT : LED TV
Power : AC 120V/60Hz
M/N : WD32FBE1001

Test Mode : IEEE 802.11n HT40 TX 2452MHz

ANT 0+ANT 1

	Freq.	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	1884.00	26.21	2.82	35.14	51.75	45.64	74.00	28.36	Peak
2	2452.00	27.48	3.26	35.78	86.71	81.67	74.00	-7.67	Peak
3	4904.00	32.24	4.76	36.10	34.11	35.01	74.00	38.99	Peak
4	7356.00	36.90	6.11	34.79	34.70	42.92	74.00	31.08	Peak
5	10146.00	39.16	9.48	34.89	34.58	48.33	74.00	25.67	Peak
6	14226.00	41.48	10.16	33.57	32.64	50.71	74.00	23.29	Peak

- 2. Margin= Limit Emission Level.
- The emission levels that are 20dB below the official limit are not reported.



18000MHz - 25000MHz

Pass

Note: The amplitude of spurious emission that is attenuated by more than 20dB below the permissible limit has no need to be reported.

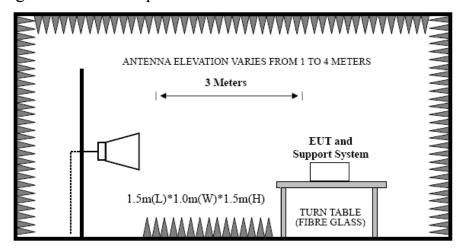


5 BAND EDGE COMPLIANCE TEST

5.1 Limit

All the lower and upper band-edges emissions appearing within 2310MHz to 2390MHz and 2483.5MHz to 2500MHz restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions outside operation frequency band 2400MHz to 2483.5MHz shall be at least 20dB below the fundamental emissions, or comply with 15.209 limits

5.2 Block Diagram of Test setup



5.3 Test Procedure

EUT was placed on a turn table, which is 1.5 m high above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. Power on the EUT and let it working in test mode, then test it. EUT is set 3 meters away from the receiving antenna, which is mounted on a antenna tower. The antenna can be moved up and down between 1 meter and 4 meters to find out the maximum emission level. Both horizontal and vertical polarization of the antenna are set on test.

Set the spectrum analyzer in the following setting in order to capture the lower and upper band-edges of emissions

Peak: RBW = 1MHz, VBW = 1MHz, Detector=PEAK detector, Sweep time = auto.

AV: RBW = 1MHz, VBW = 10Hz, Detector=PEAK detector, Sweep time = auto.

5.4 Test Result

Pass (The testing data was attached in the next pages.)

- Note: 1. For emissions above 1GHz, if peak level comply with average limit, then the average level is deemed to comply with average limit.
 - 2. The frequency 2412 MHz . 2422MHz. 2452MHz and 2462 MHz is fundamental frequency which no limit, the limit on plots is automatically generated by the software, it's not fundamental limit, we can't remove it.



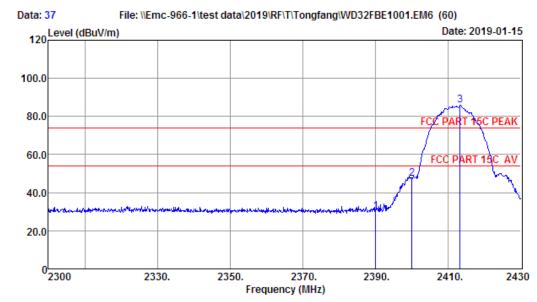
EST Technology Co. , Ltd

Report No. ESTE-R1901065

5.5 Test Data

EST Technology

Chilingxiang, Qishantou, Santun, Houjie, Dongguan, Guangdong, China Tel:+86-769-83081888 Fax:+86-769-83081878



Site no. : 1# 966 Chamber Data no. : 37
Dis. / Ant. : 3m 9120D 1-18G Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:27.3'; Humi:54%; Press:101.52kPa

Engineer : Seven
EUT : LED TV
Power : AC 120V/60Hz
M/N : WD32FBE1001

Test Mode : IEEE 802.11b TX 2412MHz

ANT 0

	Freq.			-	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.00	27.35	3.21	35.68	35.24	30.12	74.00	43.88	Peak
2	2400.00	27.35	3.21	35.71	52.67	47.52	74.00	26.48	Peak
3	2413.23	27.39	3.23	35.71	90.95	85.86	74.00	-11.86	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.

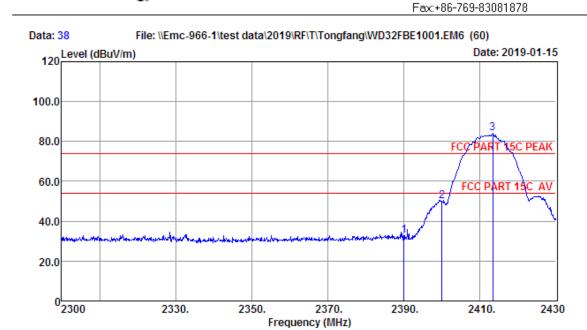
- 2. Margin= Limit Emission Level.
 - The emission levels that are 20dB below the official limit are not reported.



EST Technology Co. , Ltd

Report No. ESTE-R1901065

Chilingxiang, Qishantou, Santun, Houjie, Dongguan, Guangdong, China Tel:+86-769-83081888



Site no. : 1# 966 Chamber

Data no. : 38 Ant. pol. : HORIZONTAL Dis. / Ant. : 3m 9120D 1-18G

: FCC PART 15C PEAK

Env. / Ins. : Temp:27.3'; Humi:54%; Press:101.52kPa

: Seven Engineer : LED TV EUT : AC 120V/60Hz Power M/N : WD32FBE1001

Test Mode : IEEE 802.11b TX 2412MHz

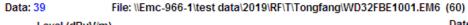
ANT 0

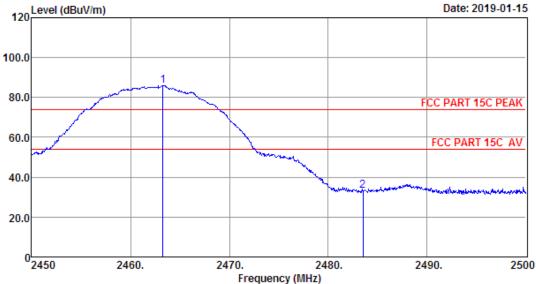
	Freq.			-	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.00	27.35	3.21	35.68	38.02	32.90	74.00	41.10	Peak
2	2400.00	27.35	3.21	35.71	55.31	50.16	74.00	23.84	Peak
3	2413.36	27.39	3.23	35.71	89.08	83.99	74.00	-9.99	Peak

- 2. Margin= Limit Emission Level.
- 3. The emission levels that are 20dB below the official limit are not reported.



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Site no. : 1# 966 Chamber Data no. : 39
Dis. / Ant. : 3m 9120D 1-18G Ant. pol. : HORIZONTAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:27.3'; Humi:54%; Press:101.52kPa

Engineer : Seven
EUT : LED TV
Power : AC 120V/60Hz
M/N : WD32FBE1001

Test Mode : IEEE 802.11b TX 2462MHz

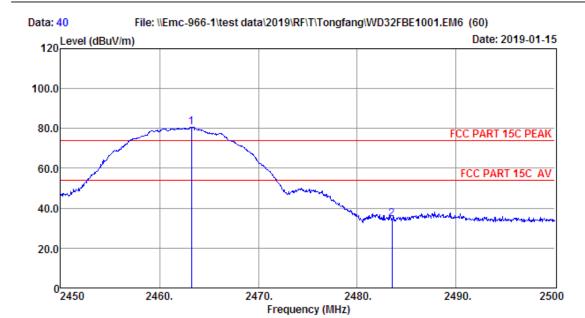
ANT 0

Freq. (MHz)		Factor	_	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
2463.30 2483.50			90.91 38.33	85.92 33.37	74.00 74.00	-11.92 40.63	Peak Peak

- 2. Margin= Limit Emission Level.
- 3. The emission levels that are 20dB below the official limit are not reported.



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Site no. : 1# 966 Chamber Data no. : 40
Dis. / Ant. : 3m 9120D 1-18G Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:27.3'; Humi:54%; Press:101.52kPa

Engineer : Seven
EUT : LED TV
Power : AC 120V/60Hz
M/N : WD32FBE1001

Test Mode : IEEE 802.11b TX 2462MHz

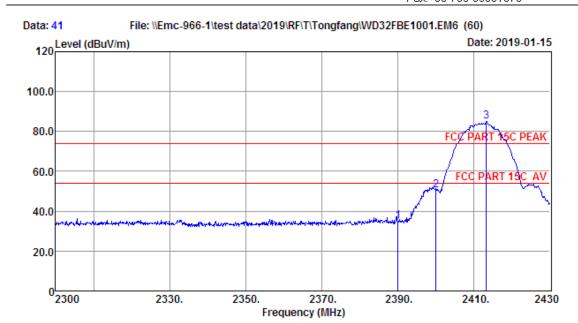
ANT 0

Freq.		Factor	_	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
2463.25 2483.50			85.75 39.50	80.76 34.54	74.00 74.00	-6.76 39.46	Peak Peak

- 2. Margin= Limit Emission Level.
- 3. The emission levels that are 20dB below the official limit are not reported.



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Site no. : 1# 966 Chamber

Data no. : 41 Ant. pol. : HORIZONTAL : 3m 9120D 1-18G Dis. / Ant.

: FCC PART 15C PEAK

Env. / Ins. : Temp:27.3'; Humi:54%; Press:101.52kPa

: Seven Engineer : LED TV EUT : AC 120V/60Hz Power M/N : WD32FBE1001

Test Mode : IEEE 802.11b TX 2412MHz

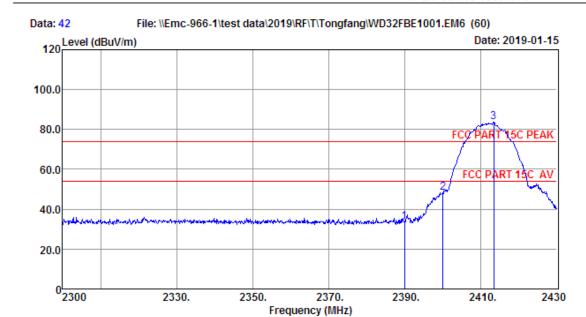
ANT 1

	Freq.			-	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.00	27.35	3.21	35.68	40.29	35.17	74.00	38.83	Peak
2	2400.00	27.35	3.21	35.71	55.69	50.54	74.00	23.46	Peak
3	2413.23	27.39	3.23	35.71	90.01	84.92	74.00	-10.92	Peak

- 2. Margin= Limit Emission Level.
- 3. The emission levels that are 20dB below the official limit are not reported.



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Site no. : 1# 966 Chamber Data no. : 42
Dis. / Ant. : 3m 9120D 1-18G Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:27.3'; Humi:54%; Press:101.52kPa

Engineer : Seven
EUT : LED TV
Power : AC 120V/60Hz
M/N : WD32FBE1001

Test Mode : IEEE 802.11b TX 2412MHz

ANT 1

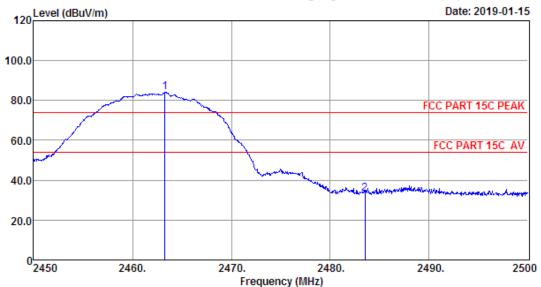
	Freq.			-	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2389.96	27.35	3.21	35.68	38.60	33.48	74.00	40.52	Peak
2	2399.97	27.35	3.21	35.71	53.28	48.13	74.00	25.87	Peak
3	2413.36	27.39	3.23	35.71	88.73	83.64	74.00	-9.64	Peak

- 2. Margin= Limit Emission Level.
- The emission levels that are 20dB below the official limit are not reported.



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Data: 43 File: \\Emc-966-1\\test data\\2019\\RF\T\\Tongfang\\WD32FBE1001.EM6 (60)



Site no. : site Data no. : 43
Dis. / Ant. : 3m 9120D 1-18G Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:27.3'; Humi:54%; Press:101.52kPa

Engineer : Seven
EUT : LED TV
Power : AC 120V/60Hz
M/N : WD32FBE1001

Test Mode : IEEE 802.11b TX 2462MHz

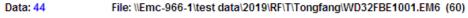
ANT 1

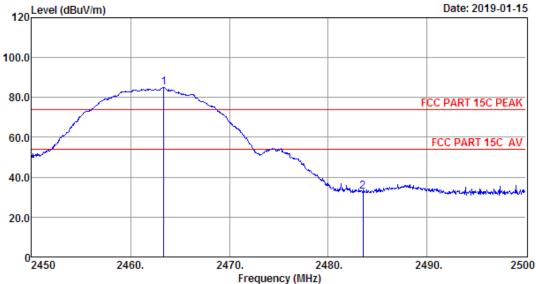
	-			Factor	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2463.30	27.52	3.27	35.78	88.97	83.98	74.00	-9.98	Peak
2	2483.50	27.56	3.29	35.81	38.27	33.31	74.00	40.69	Peak

- 2. Margin= Limit Emission Level.
- 3. The emission levels that are 20dB below the official limit are not reported.



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Site no. : 1# 966 Chamber Dis. / Ant. : 3m 9120D 1-18G

Data no. : 44 Ant. pol. : HORIZONTAL

: FCC PART 15C PEAK

Env. / Ins. : Temp:27.3'; Humi:54%; Press:101.52kPa

: Seven Engineer : LED TV EUT : AC 120V/60Hz Power M/N : WD32FBE1001

Test Mode : IEEE 802.11b TX 2462MHz

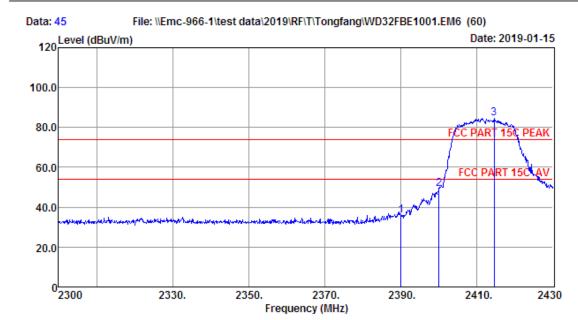
ANT 1

Freq. (MHz)	Factor	Factor	_	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
2463.35 2483.50				84.91 32.99	74.00 74.00	-10.91 41.01	Peak Peak

- 2. Margin= Limit Emission Level.
- 3. The emission levels that are 20dB below the official limit are not reported.



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Site no. : 1# 966 Chamber Data no. : 45
Dis. / Ant. : 3m 9120D 1-18G Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:27.3'; Humi:54%; Press:101.52kPa

Engineer : Seven
EUT : LED TV
Power : AC 120V/60Hz
M/N : WD32FBE1001

Test Mode : IEEE 802.11g TX 2412MHz

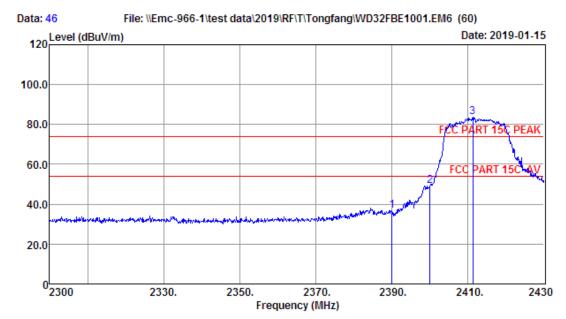
ANT 0

	Freq.			-	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.00	27.35	3.21	35.68	40.94	35.82	74.00	38.18	Peak
2	2400.00	27.35	3.21	35.71	54.25	49.10	74.00	24.90	Peak
3	2414.53	27.39	3.23	35.71	89.65	84.56	74.00	-10.56	Peak

- 2. Margin= Limit Emission Level.
- The emission levels that are 20dB below the official limit are not reported.



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Site no. : 1# 966 Chamber

Data no. : 46 Ant. pol. : HORIZONTAL : 3m 9120D 1-18G Dis. / Ant.

: FCC PART 15C PEAK

Env. / Ins. : Temp:27.3'; Humi:54%; Press:101.52kPa

: Seven Engineer : LED TV EUT : AC 120V/60Hz Power M/N : WD32FBE1001

Test Mode : IEEE 802.11g TX 2412MHz

ANT 0

	Freq.			-	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.00	27.35	3.21	35.68	41.73	36.61	74.00	37.39	Peak
2	2400.00	27.35	3.21	35.71	54.41	49.26	74.00	24.74	Peak
3	2411.28	27.39	3.23	35.71	88.90	83.81	74.00	-9.81	Peak

- 2. Margin= Limit Emission Level.
- 3. The emission levels that are 20dB below the official limit are not reported.

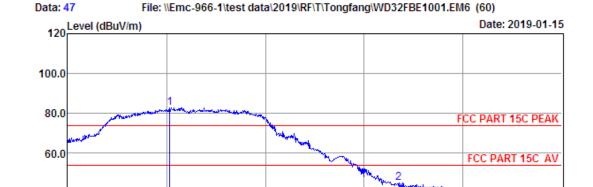


40.0

20.0

0<mark>2450</mark>

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Site no. : 1# 966 Chamber Data no. : 47
Dis. / Ant. : 3m 9120D 1-18G Ant. pol. : HORIZONTAL

2470.

Frequency (MHz)

2480.

2490.

2500

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:27.3'; Humi:54%; Press:101.52kPa

2460.

Engineer : Seven
EUT : LED TV
Power : AC 120V/60Hz
M/N : WD32FBE1001

Test Mode : IEEE 802.11g TX 2462MHz

ANT 0

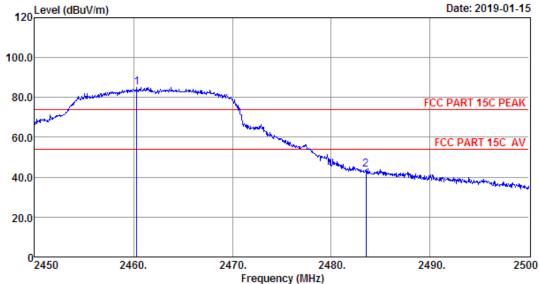
Freq.		Factor	_	Emission Level (dBuV/m)		Margin (dB)	Remark
2460.35 2483.50				82.97 45.21	74.00 74.00	-8.97 28.79	Peak Peak

- 2. Margin= Limit Emission Level.
- 3. The emission levels that are 20dB below the official limit are not reported.



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Data: 48 File: \\Emc-966-1\\test data\\2019\\RF\\T\\Tongfang\\WD32FBE1001.EM6 (60)



Site no. : 1# 966 Chamber Data no. : 48
Dis. / Ant. : 3m 9120D 1-18G Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:27.3'; Humi:54%; Press:101.52kPa

Engineer : Seven
EUT : LED TV
Power : AC 120V/60Hz
M/N : WD32FBE1001

Test Mode : IEEE 802.11g TX 2462MHz

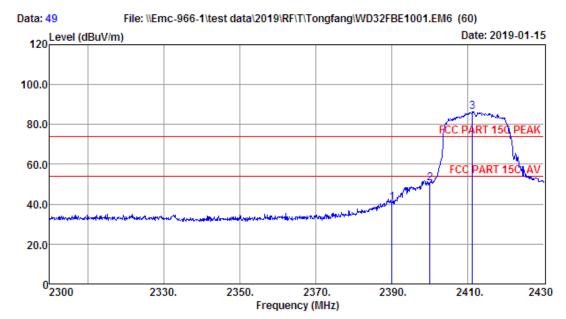
ANT 0

	-			Factor	Reading	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2460.35					85.08	74.00	-11.08	Peak
2	2483.50	27.56	3.29	35.81	48.94	43.98	74.00	30.02	Peak

- 2. Margin= Limit Emission Level.
- 3. The emission levels that are 20dB below the official limit are not reported.



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Site no. : 1# 966 Chamber

Data no. : 49 Ant. pol. : HORIZONTAL : 3m 9120D 1-18G Dis. / Ant.

: FCC PART 15C PEAK

Env. / Ins. : Temp:27.3'; Humi:54%; Press:101.52kPa

: Seven Engineer : LED TV EUT : AC 120V/60Hz Power M/N : WD32FBE1001

Test Mode : IEEE 802.11g TX 2412MHz

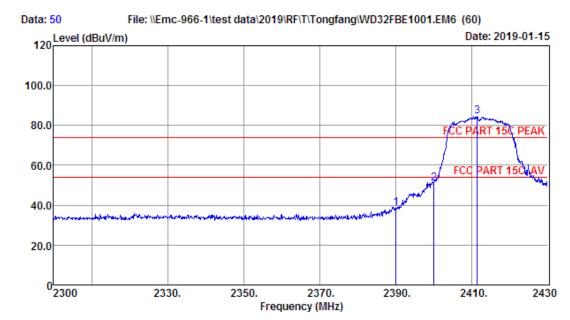
ANT 1

	Freq.			-	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.00	27.35	3.21	35.68	45.90	40.78	74.00	33.22	Peak
2	2400.00	27.35	3.21	35.71	55.62	50.47	74.00	23.53	Peak
3	2411.15	27.39	3.23	35.71	91.40	86.31	74.00	-12.31	Peak

- 2. Margin= Limit Emission Level.
- 3. The emission levels that are 20dB below the official limit are not reported.



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Site no. : 1# 966 Chamber Data no. : 50
Dis. / Ant. : 3m 9120D 1-18G Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:27.3'; Humi:54%; Press:101.52kPa

Engineer : Seven
EUT : LED TV
Power : AC 120V/60Hz
M/N : WD32FBE1001

Test Mode : IEEE 802.11g TX 2412MHz

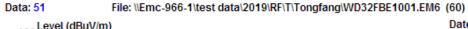
ANT 1

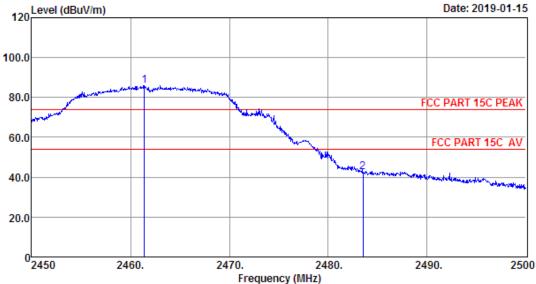
	Freq. (MHz)		Cable Loss (dB)	-	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.00	27.35	3.21	35.68	43.72	38.60	74.00	35.40	Peak
2	2400.00	27.35	3.21	35.71	56.22	51.07	74.00	22.93	Peak
3	2411.41	27.39	3.23	35.71	89.85	84.76	74.00	-10.76	Peak

- 2. Margin= Limit Emission Level.
- The emission levels that are 20dB below the official limit are not reported.



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Site no. : site Data no. : 51
Dis. / Ant. : 3m 9120D 1-18G Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:27.3'; Humi:54%; Press:101.52kPa

Engineer : Seven
EUT : LED TV
Power : AC 120V/60Hz
M/N : WD32FBE1001

Test Mode : IEEE 802.11g TX 2462MHz

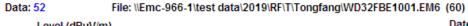
ANT 1

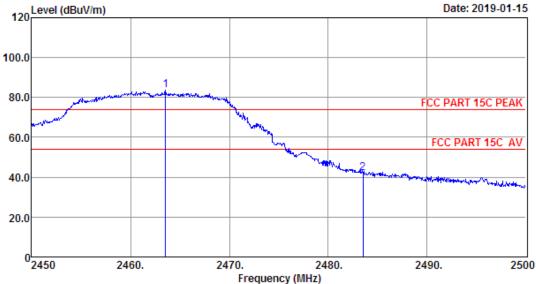
	-		Factor	Reading	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2	2461.40 2483.50				85.82 42.62	74.00 74.00	-11.82 31.38	Peak Peak

- 2. Margin= Limit Emission Level.
- 3. The emission levels that are 20dB below the official limit are not reported.



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Site no. : 1# 966 Chamber

Data no. : 52 Ant. pol. : HORIZONTAL Dis. / Ant. : 3m 9120D 1-18G

: FCC PART 15C PEAK

Env. / Ins. : Temp:27.3'; Humi:54%; Press:101.52kPa

: Seven Engineer : LED TV EUT : AC 120V/60Hz Power M/N : WD32FBE1001

Test Mode : IEEE 802.11g TX 2462MHz

ANT 1

Freq.		Factor	_	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
2463.55 2483.50				83.57 42.13	74.00 74.00	-9.57 31.87	Peak Peak

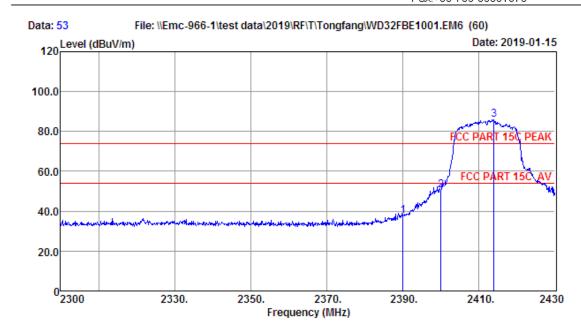
Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.

- 2. Margin= Limit Emission Level.
- 3. The emission levels that are 20dB below the official limit are not reported.



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Site no. : 1# 966 Chamber Data no. : 53
Dis. / Ant. : 3m 9120D 1-18G Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:27.3'; Humi:54%; Press:101.52kPa

Engineer : Seven
EUT : LED TV
Power : AC 120V/60Hz
M/N : WD32FBE1001

Test Mode : IEEE 802.11n HT20 TX 2412MHz

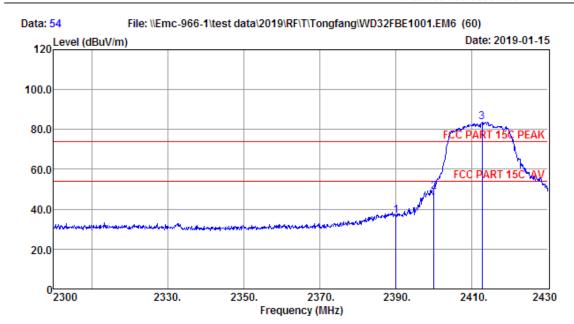
ANT 0+ANT 1

		Freq.			-	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
	1	2390.00	27.35	3.21	35.68	42.69	37.57	74.00	36.43	Peak
- 2	2	2400.00	27.35	3.21	35.71	55.71	50.56	74.00	23.44	Peak
3	3	2413.88	27.39	3.23	35.71	91.08	85.99	74.00	-11.99	Peak

- 2. Margin= Limit Emission Level.
- The emission levels that are 20dB below the official limit are not reported.



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Site no. : 1# 966 Chamber

Data no. : 54 Ant. pol. : HORIZONTAL : 3m 9120D 1-18G Dis. / Ant.

: FCC PART 15C PEAK

Env. / Ins. : Temp:27.3'; Humi:54%; Press:101.52kPa

: Seven Engineer : LED TV EUT : AC 120V/60Hz Power M/N : WD32FBE1001

: IEEE 802.11n HT20 TX 2412MHz Test Mode

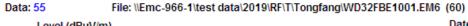
ANT 0+ANT 1

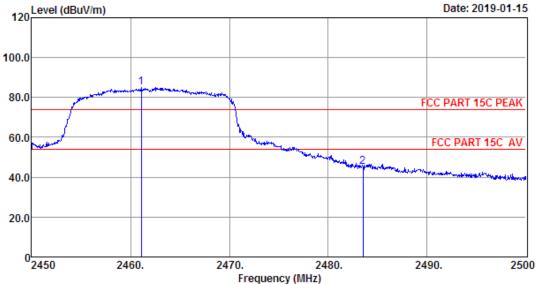
	Freq.	Factor	Cable Loss (dB)	Factor	Reading	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.00	27.35	3.21	35.68	41.98	36.86	74.00	37.14	Peak
2	2400.00	27.35	3.21	35.71	53.71	48.56	74.00	25.44	Peak
3	2412.71	27.39	3.23	35.71	88.94	83.85	74.00	-9.85	Peak

- 2. Margin= Limit Emission Level.
- 3. The emission levels that are 20dB below the official limit are not reported.



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Site no. : 1# 966 Chamber

Data no. : 55 Ant. pol. : HORIZONTAL Dis. / Ant. : 3m 9120D 1-18G

: FCC PART 15C PEAK

Env. / Ins. : Temp:27.3'; Humi:54%; Press:101.52kPa

: Seven Engineer : LED TV EUT : AC 120V/60Hz Power M/N : WD32FBE1001

: IEEE 802.11n HT20 TX 2462MHz Test Mode

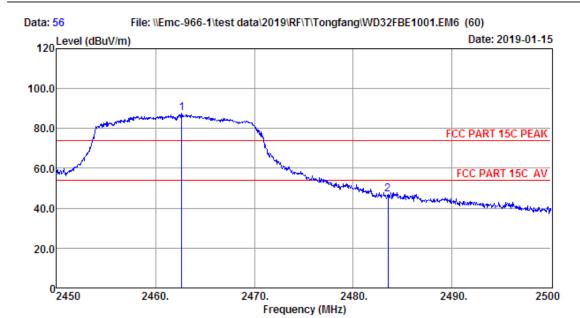
ANT 0+ANT 1

Freq.	Factor	Factor	Reading	Emission Level (dBuV/m)		Margin (dB)	Remark
2461.10 2483.50				84.88 45.15	74.00 74.00	-10.88 28.85	Peak Peak

- 2. Margin= Limit Emission Level.
- 3. The emission levels that are 20dB below the official limit are not reported.



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Site no. : 1# 966 Chamber Data no. : 56
Dis. / Ant. : 3m 9120D 1-18G Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:27.3'; Humi:54%; Press:101.52kPa

Engineer : Seven
EUT : LED TV
Power : AC 120V/60Hz
M/N : WD32FBE1001

Test Mode : IEEE 802.11n HT20 TX 2462MHz

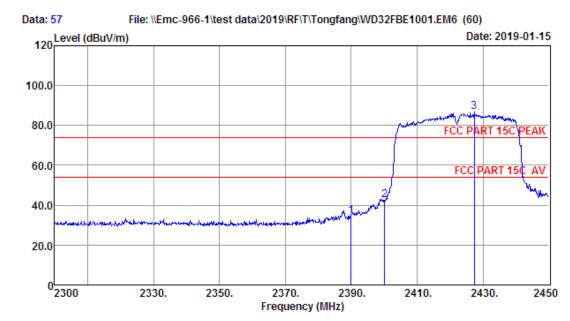
ANT 0+ANT 1

	Freq.		Factor	_	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2	2462.65 2483.50	 			87.53 47.09	74.00 74.00	-13.53 26.91	Peak Peak

- 2. Margin= Limit Emission Level.
- 3. The emission levels that are 20dB below the official limit are not reported.



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Site no. : 1# 966 Chamber Data no. : 57
Dis. / Ant. : 3m 9120D 1-18G Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:27.3'; Humi:54%; Press:101.52kPa

Engineer : Seven
EUT : LED TV
Power : AC 120V/60Hz
M/N : WD32FBE1001

Test Mode : IEEE 802.11n HT40 TX 2422MHz

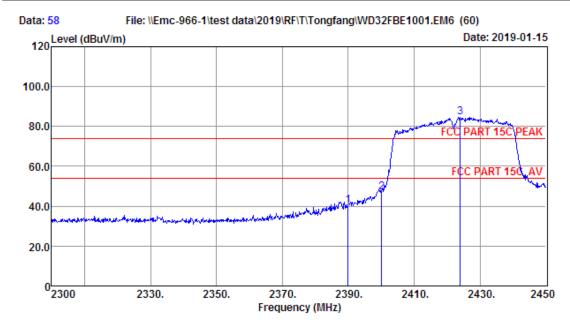
ANT 0+ANT 1

	Freq.			-	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.00	27.35	3.21	35.68	39.45	34.33	74.00	39.67	Peak
2	2400.05	27.35	3.21	35.71	47.77	42.62	74.00	31.38	Peak
3	2427.35	27.43	3.24	35.73	91.67	86.61	74.00	-12.61	Peak

- 2. Margin= Limit Emission Level.
- The emission levels that are 20dB below the official limit are not reported.



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Site no. : 1# 966 Chamber

Data no. : 58 Ant. pol. : HORIZONTAL : 3m 9120D 1-18G Dis. / Ant.

: FCC PART 15C PEAK

Env. / Ins. : Temp:27.3'; Humi:54%; Press:101.52kPa

: Seven Engineer : LED TV EUT : AC 120V/60Hz Power M/N : WD32FBE1001

: IEEE 802.11n HT40 TX 2422MHz Test Mode

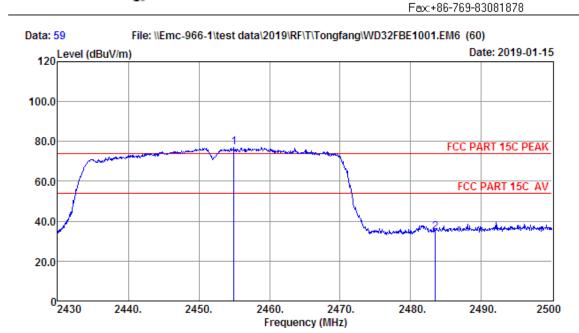
ANT 0+ANT 1

	Freq.			-	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.00	27.35	3.21	35.68	45.62	40.50	74.00	33.50	Peak
2	2400.05	27.35	3.21	35.71	51.96	46.81	74.00	27.19	Peak
3	2423.90	27.43	3.24	35.73	89.62	84.56	74.00	-10.56	Peak

- 2. Margin= Limit Emission Level.
- 3. The emission levels that are 20dB below the official limit are not reported.



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Site no. : 1# 966 Chamber Dis. / Ant. : 3m 9120D 1-18G

Data no. : 59 Ant. pol. : HORIZONTAL

: FCC PART 15C PEAK

Env. / Ins. : Temp:27.3'; Humi:54%; Press:101.52kPa

: Seven Engineer : LED TV EUT : AC 120V/60Hz Power M/N : WD32FBE1001

: IEEE 802.11n HT40 TX 2452MHz Test Mode

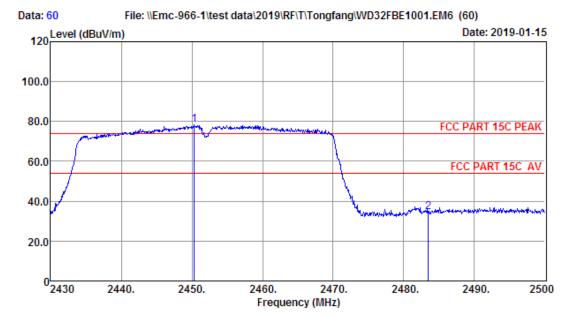
ANT 0+ANT 1

	Freq.		Factor	_	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2	2454.99 2483.50	 		82.06 39.61	77.07 34.65	74.00 74.00	-3.07 39.35	Peak Peak

- 2. Margin= Limit Emission Level.
- 3. The emission levels that are 20dB below the official limit are not reported.



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Site no. : 1# 966 Chamber Data no. : 60
Dis. / Ant. : 3m 9120D 1-18G Ant. pol. : VERTICAL

Limit : FCC PART 15C PEAK

Env. / Ins. : Temp:27.3'; Humi:54%; Press:101.52kPa

Engineer : Seven
EUT : LED TV
Power : AC 120V/60Hz
M/N : WD32FBE1001

Test Mode : IEEE 802.11n HT40 TX 2452MHz

ANT 0+ANT 1

	Freq.		-	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1 2	2450.37 2483.48			83.51 39.55	78.49 34.59	74.00 74.00	-4.49 39.41	Peak Peak

- 2. Margin= Limit Emission Level.
- 3. The emission levels that are 20dB below the official limit are not reported.



6 6dB & 20dB Bandwidth Test

6.1 Limit

For direct sequence systems, the minimum 6dB bandwidth shall be at least 500kHz

6.2 Test Procedure for 6dB

- 1, The transmitter output (antenna port) was connected to the spectrum analyzer. Connect EUT antenna terminal to the spectrum analyzer with a low loss SMA cable.
- 2, Follow the test procedure as described in KDB 558074
 - (1). Set resolution bandwidth (RBW) = 100 kHz.
 - (2). Set the video bandwidth (VBW) $\geq 3 \times RBW$.
 - (3). Detector = Peak.
 - (4). Trace mode = \max hold.
 - (5). Sweep = auto couple.
 - (6). Allow the trace to stabilize.
 - (7). 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 6 dB relative to the maximum level measured in the fundamental emission.

6.3 Test Procedure for 20dB

- 1, The transmitter output (antenna port) was connected to the spectrum analyzer. Connect EUT antenna terminal to the spectrum analyzer with a low loss SMA cable.
- 2, Follow the test procedure as described in C63.10
 - (1). The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The span range for the EMI receiver or spectrum analyzer shall be between two times and five times the OBW.
 - (2). The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% of the OBW andvideo bandwidth (VBW) shall be approximately three times RBW, unless otherwise specified by the applicable requirement.
 - (3). Set the reference level of the instrument as required, keeping the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope shall be more than [10 log (OBW/RBW)] below the reference level. Specific guidance is given in 4.1.5.2.
 - (4). Steps a) through c) might require iteration to adjust within the specified tolerances.
 - (5). The dynamic range of the instrument at the selected RBW shall be more than 10 dB below the target "-xx dB down" requirement; that is, if the requirement calls for measuring the -20 dB OBW, the instrument noise floor at the selected RBW shall be at least 30 dB below the reference value.
 - (6). Set detection mode to peak and trace mode to max hold.
 - (7). Determine the reference value: Set the EUT to transmit an unmodulated carrier or modulated signal, as applicable. Allow the trace to stabilize. Set the spectrum analyzer marker to the highest level of the displayed trace (this is the reference value).
 - (8). Determine the "-xx dB down amplitude" using [(reference value) -xx]. Alternatively, this calculation may be made by using the marker-delta function of the instrument.
 - (9). If the reference value is determined by an unmodulated carrier, then turn the EUT modulation ON, and either clear the existing trace or start a new trace on the spectrum analyzer and allow the new trace to stabilize. Otherwise, the trace from step g) shall be used for step j).
 - (10). Place two markers, one at the lowest frequency and the other at the highest frequency of the envelope of the spectral display, such that each marker is at or slightly below the "_xx dB down amplitude" determined in step h). If a marker is below this "-xx dB down amplitude" value,



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then it shall be as close as possible to this value. The occupied bandwidth is the frequency difference between the two markers. Alternatively, set a marker at the lowest frequency of the envelope of the spectral display, such that the marker is at or slightly below the "_xx dB down amplitude" determined in step h). Reset the marker-delta function and move the marker to the other side of the emission until the delta marker amplitude is at the same level as the reference marker amplitude. The marker-delta frequency reading at this point is the specified emission bandwidth.

(11). The occupied bandwidth shall be reported by providing plot(s) of the measuring instrument display; the plot axes and the scale units per division shall be clearly labeled. Tabular data may be reported in addition to the plot(s).



Report No. ESTE-R1901065

6.4 Test Result

EUT: LED TV					
M/N: WD32FBE100	1				
Test date: 2019-01-03	5	Test site: RF Site		Tested by	: Seven
		CdD handwidth	20dD bandaridth	Lir	nit
Test Mode	СН	6dB bandwidth (MHz)	20dB bandwidth (MHz)	6dB BW (KHz)	20dB BW
1		Antenna 0			
	CH1	9.540	16.121	>500	/
IEEE 802.11 b	СН6	9.320	16.028	>500	/
	CH11	9.483	16.016	>500	/
	CH1	15.733	18.456	>500	/
IEEE 802.11 g	CH6	15.202	18.255	>500	/
	CH11	15.910	18.505	>500	/
IEEE 000 11	CH1	15.810	18.161	>500	/
IEEE 802.11 n HT 20	СН6	15.796	18.271	>500	/
П1 20	CH11	15.494	18.125	>500	/
IEEE 002 11	CH3	35.077	39.757	>500	/
IEEE 802.11 n HT 40	CH6	35.082	39.143	>500	/
111 40	CH9	35.116	39.508	>500	/
·		Antenna 1			
	CH1	9.583	16.284	>500	/
IEEE 802.11 b	CH6	9.544	16.195	>500	/
	CH11	9.583	16.214	>500	/
	CH1	15.743	18.326	>500	/
IEEE 802.11 g	CH6	15.727	18.284	>500	/
	CH11	15.705	18.566	>500	/
IEEE 902 11 a	CH1	15.189	18.312	>500	/
IEEE 802.11 n HT 20	CH6	15.737	18.029	>500	/
111 20	CH11	15.181	18.069	>500	/
IEEE 902 11 a	СН3	35.077	39.606	>500	/
IEEE 802.11 n HT 40	CH6	35.109	39.354	>500	/
111 40	СН9	35.106	39.272	>500	/

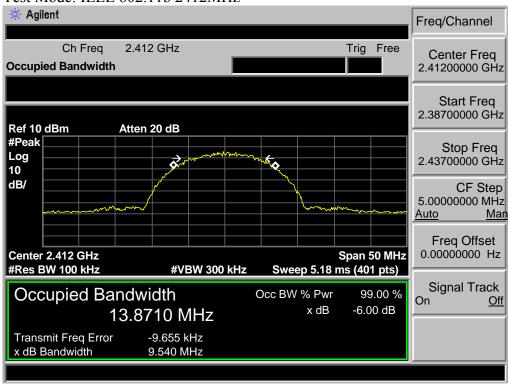


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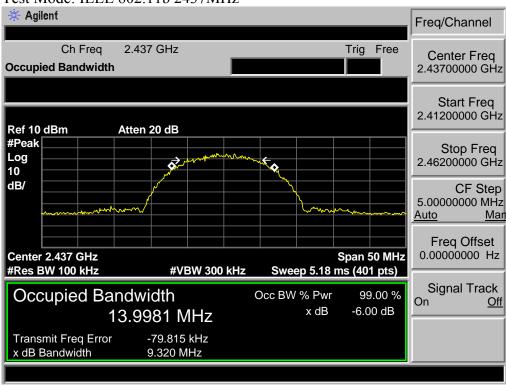
6.5 6dB Test Data

Antenna 0

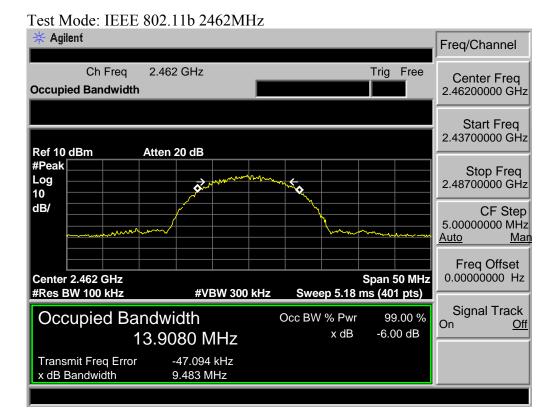
Test Mode: IEEE 802.11b 2412MHz



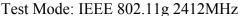
Test Mode: IEEE 802.11b 2437MHz

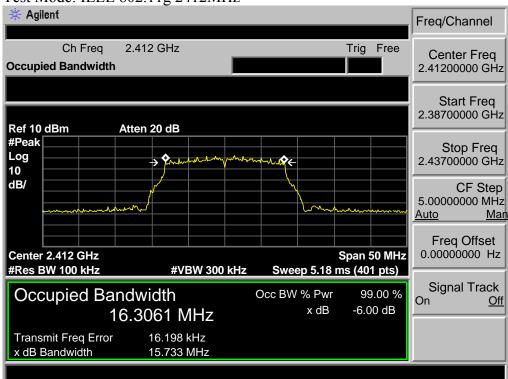




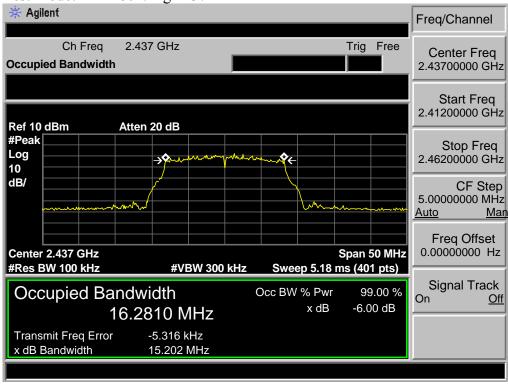




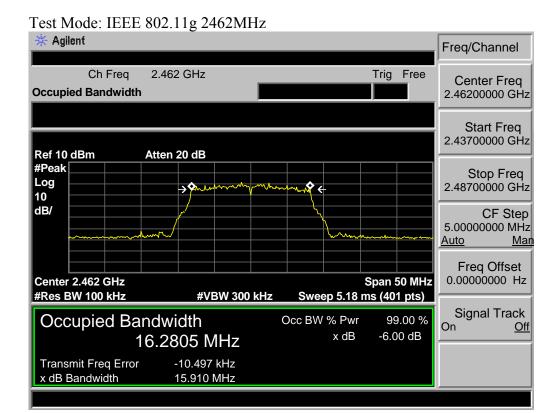




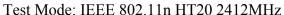
Test Mode: IEEE 802.11g 2437MHz

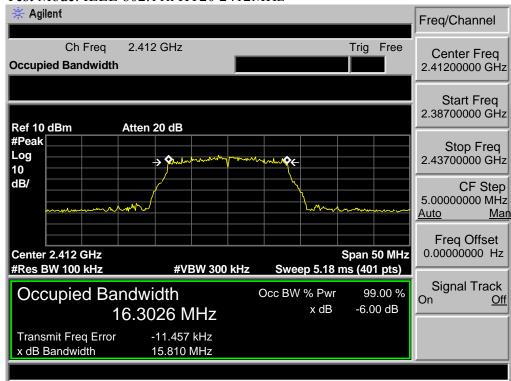




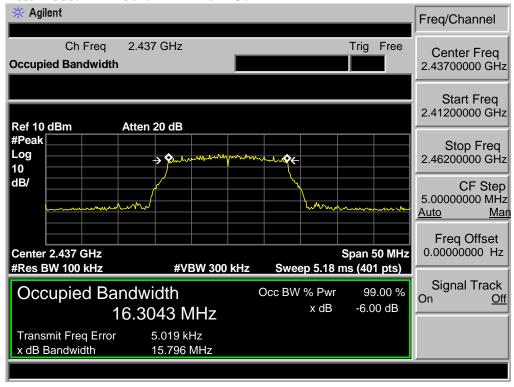




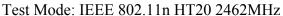


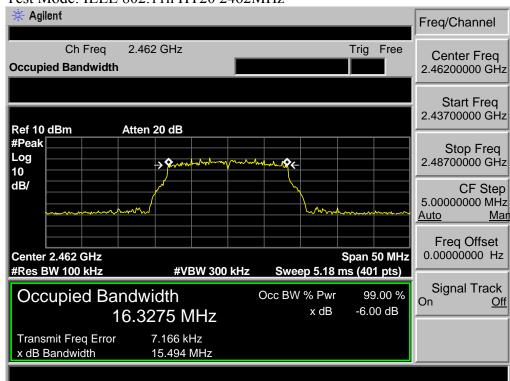


Test Mode: IEEE 802.11n HT20 2437MHz

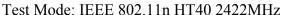


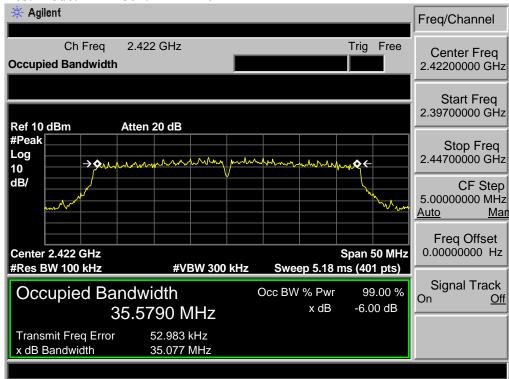




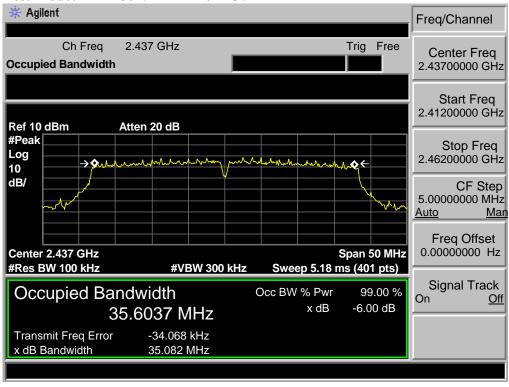




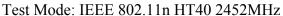


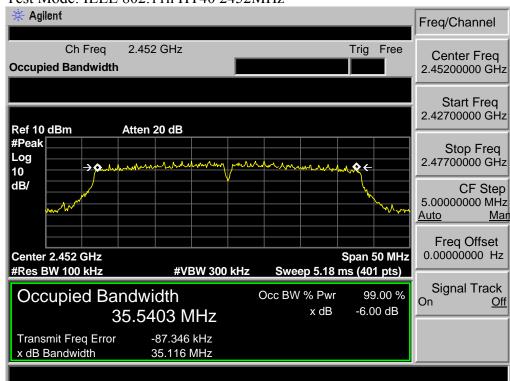


Test Mode: IEEE 802.11n HT40 2437MHz





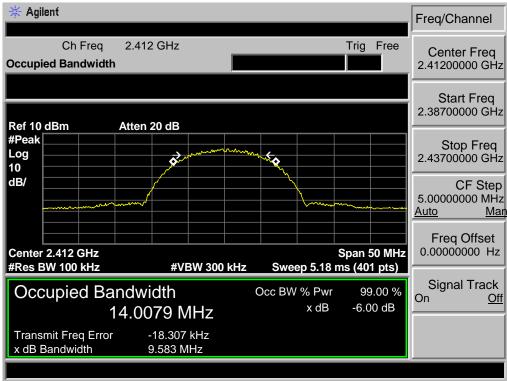




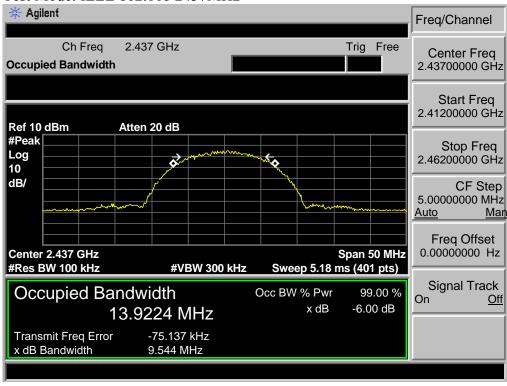


Antenna 1

Test Mode: IEEE 802.11b 2412MHz

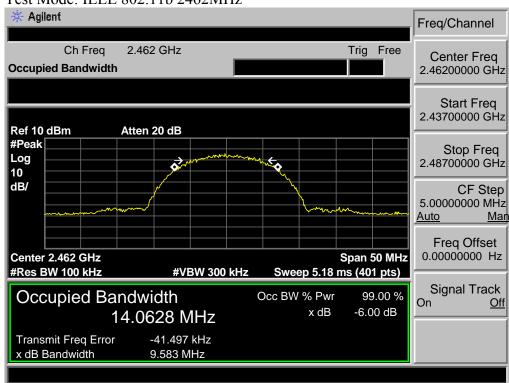


Test Mode: IEEE 802.11b 2437MHz

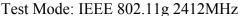


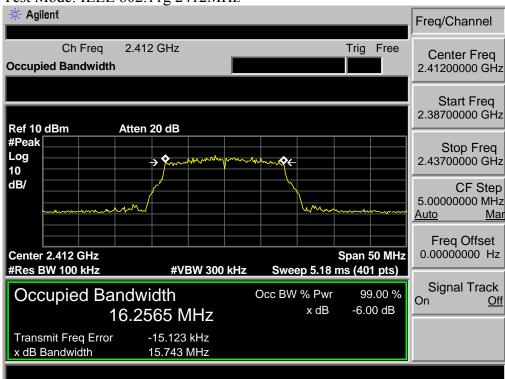




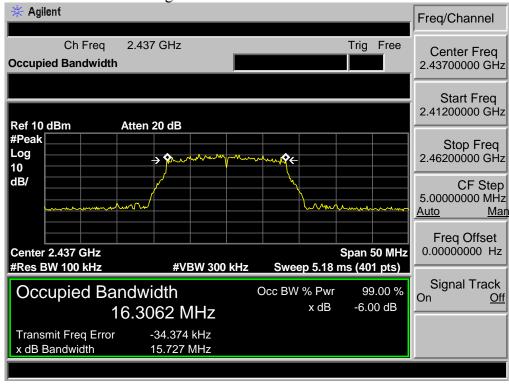




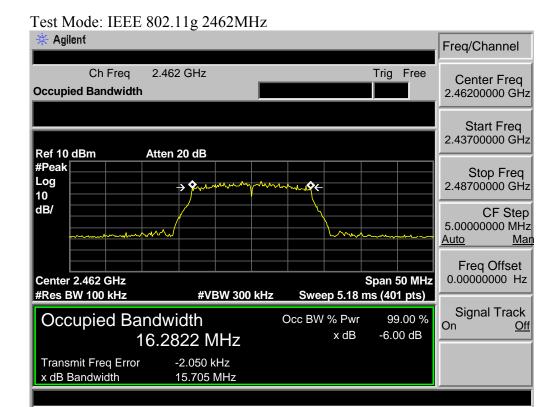




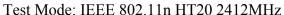
Test Mode: IEEE 802.11g 2437MHz

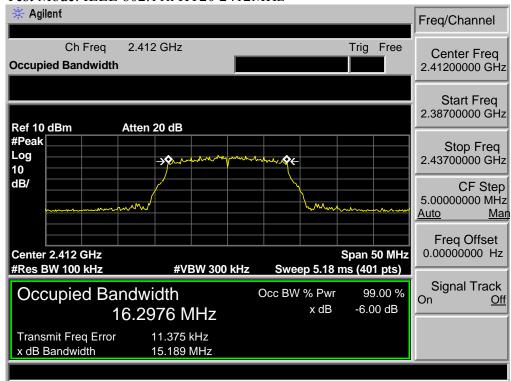




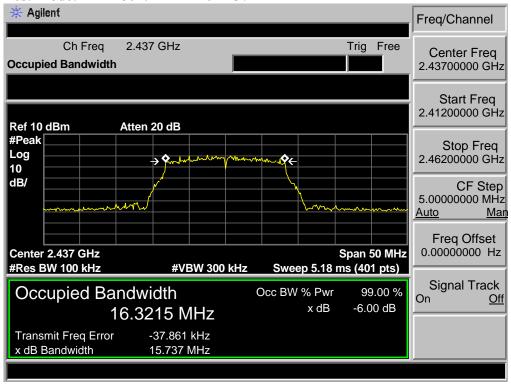






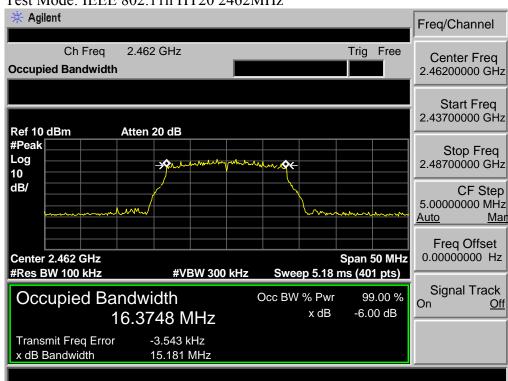


Test Mode: IEEE 802.11n HT20 2437MHz

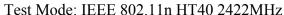


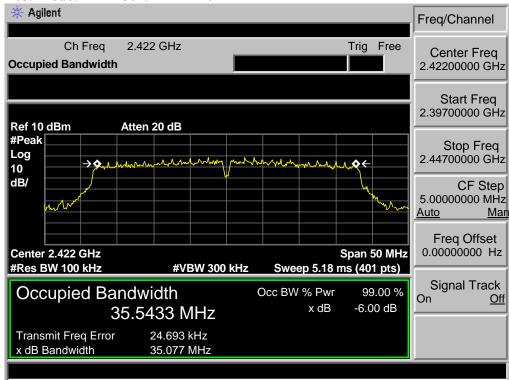


Test Mode: IEEE 802.11n HT20 2462MHz

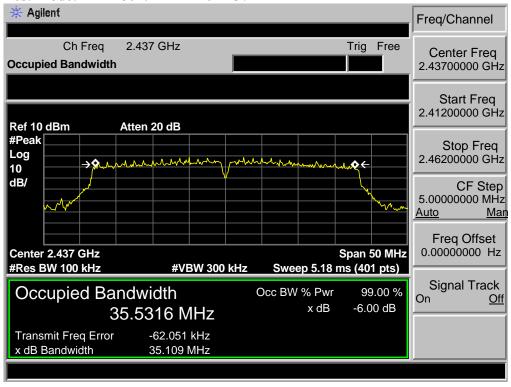




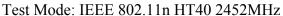


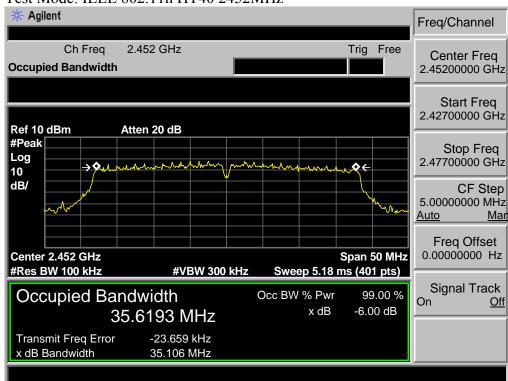


Test Mode: IEEE 802.11n HT40 2437MHz







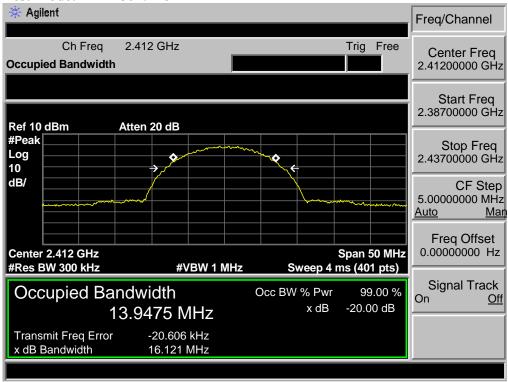




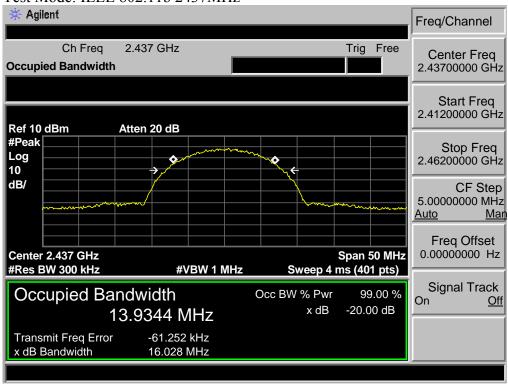
6.6 20dB Test Data

Antenna 0

Test Mode: IEEE 802.11b 2412MHz

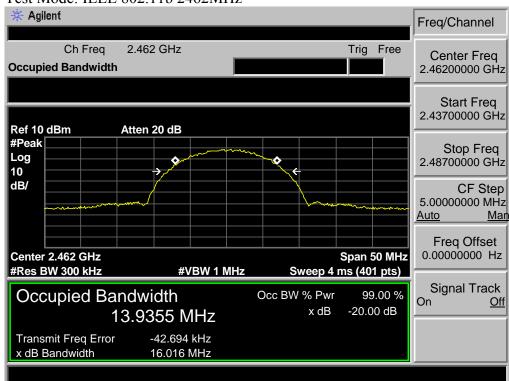


Test Mode: IEEE 802.11b 2437MHz

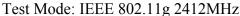


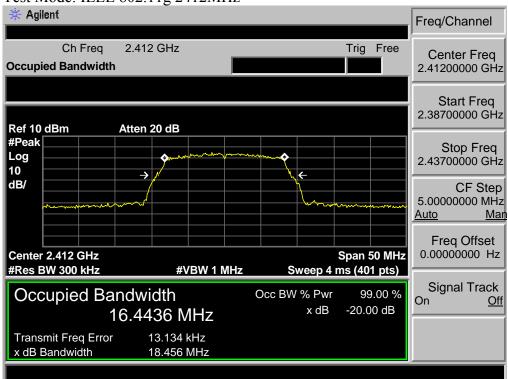




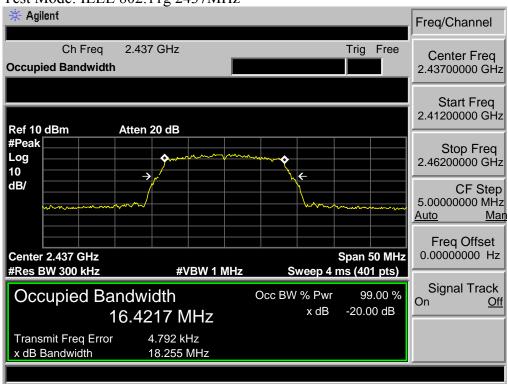


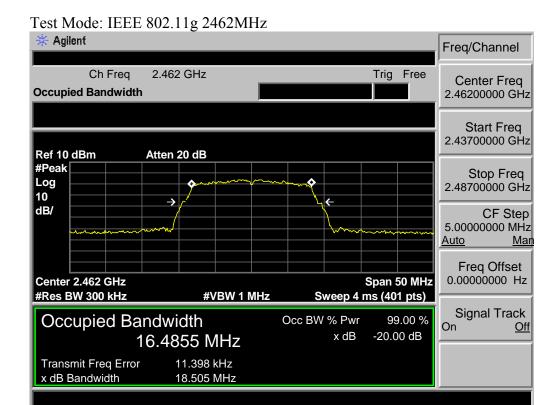




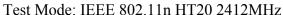


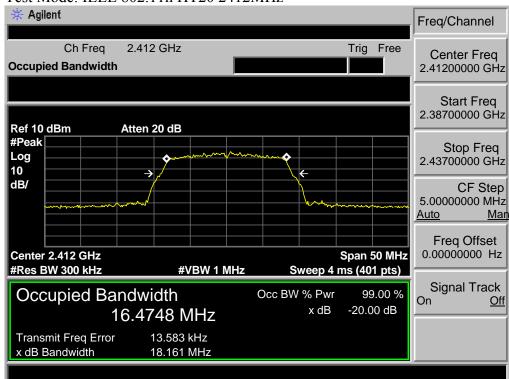
Test Mode: IEEE 802.11g 2437MHz



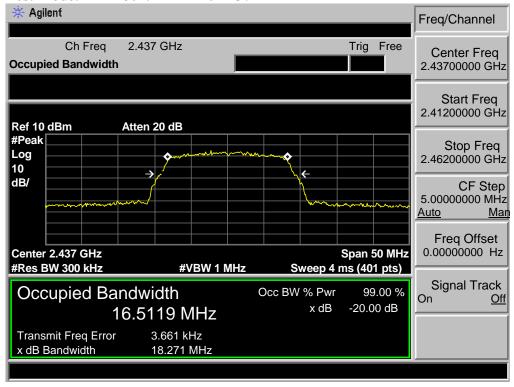




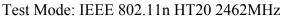


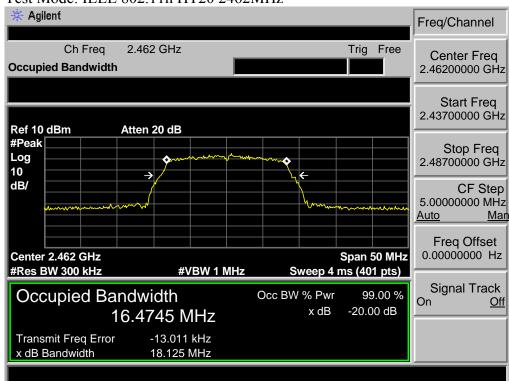


Test Mode: IEEE 802.11n HT20 2437MHz



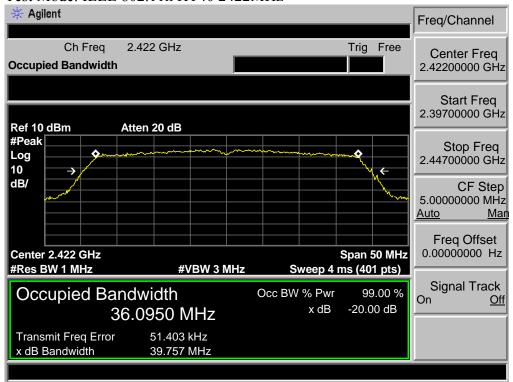




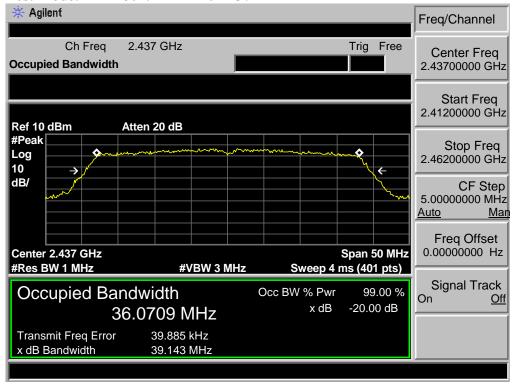




Test Mode: IEEE 802.11n HT40 2422MHz

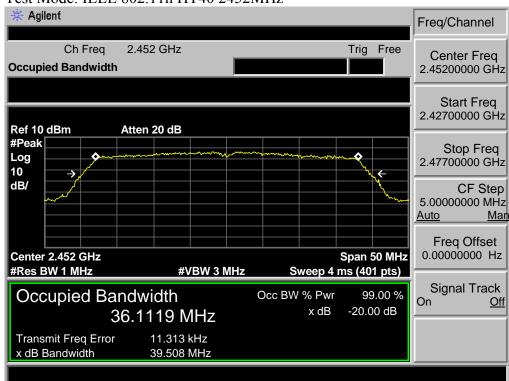


Test Mode: IEEE 802.11n HT40 2437MHz





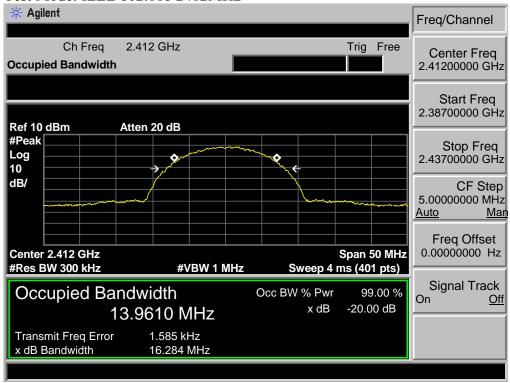




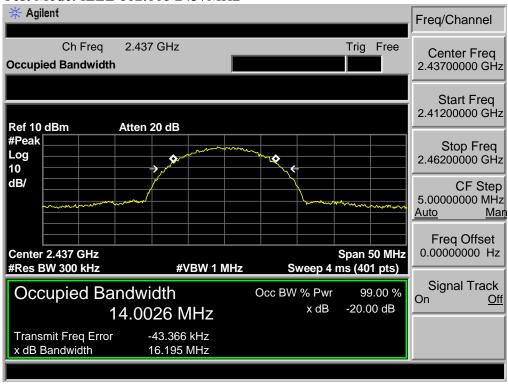


Antenna 1

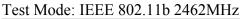
Test Mode: IEEE 802.11b 2412MHz

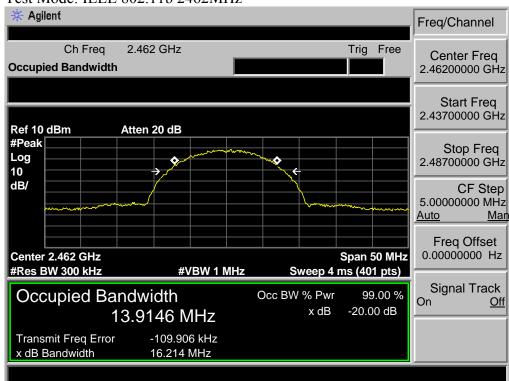


Test Mode: IEEE 802.11b 2437MHz

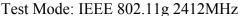


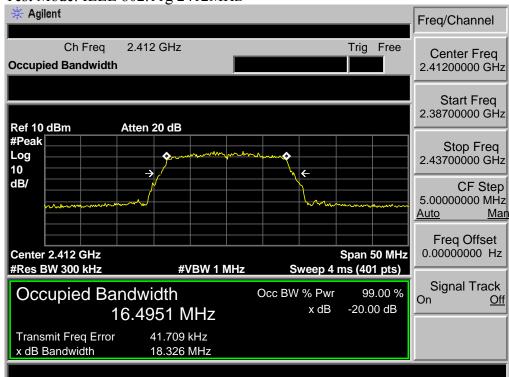




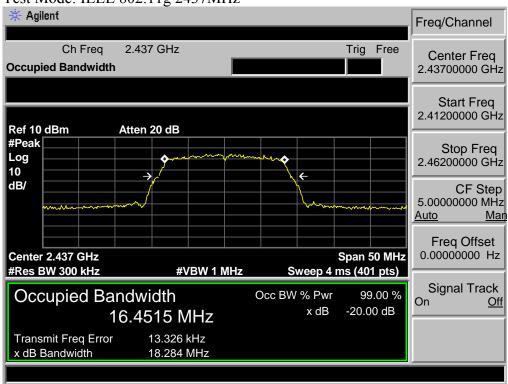




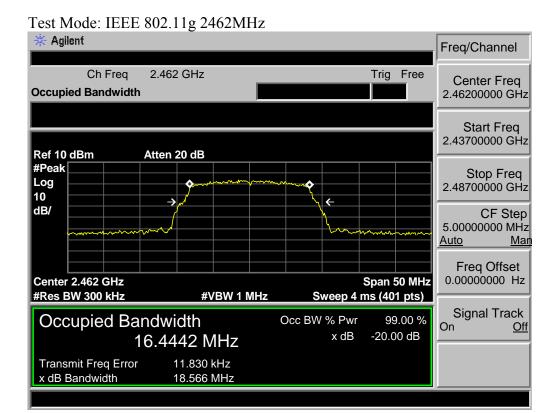




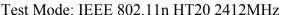
Test Mode: IEEE 802.11g 2437MHz

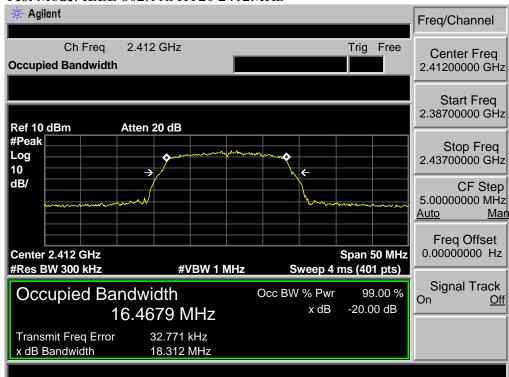




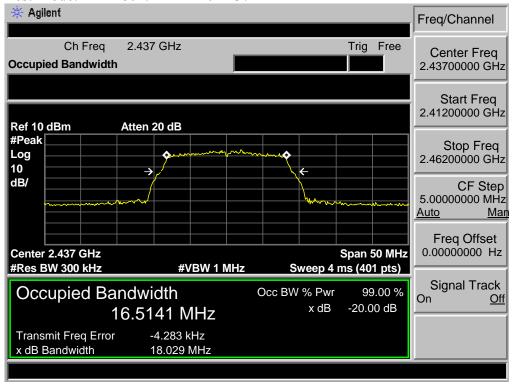




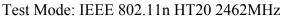


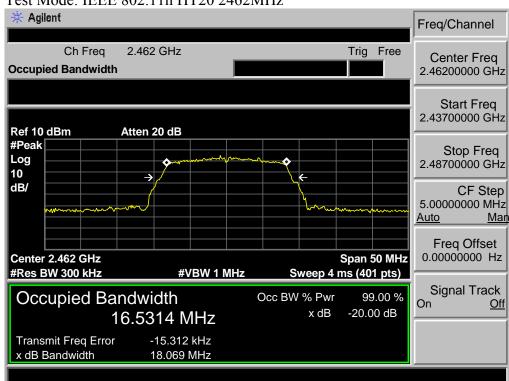


Test Mode: IEEE 802.11n HT20 2437MHz



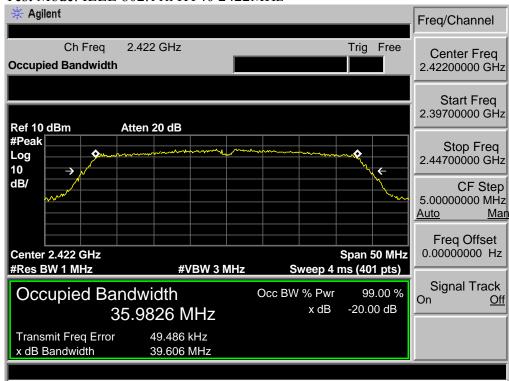




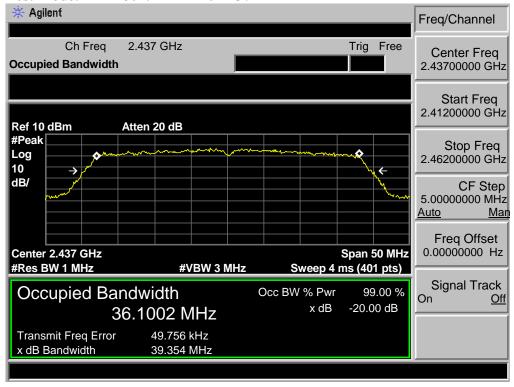




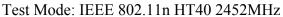
Test Mode: IEEE 802.11n HT40 2422MHz

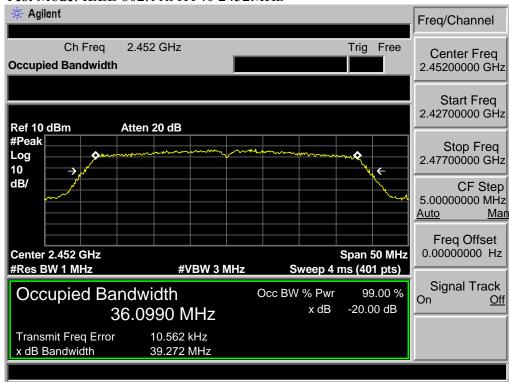


Test Mode: IEEE 802.11n HT40 2437MHz











7 OUTPUT POWER TEST

7.1 Limit

For systems using digital modulation in the 2400—2483.5MHz, The Peak out put Power shall not exceed 1W(30dBm)

7.2 Test Procedure

- 1, The transmitter output (antenna port) was connected to the spectrum analyzer. Connect EUT antenna terminal to the spectrum analyzer with a low loss SMA cable.
- 2, Follow the test procedure as described in KDB 558074
 - (1)Set span to at least 1.5 times the OBW.
 - (2)Set RBW = 1-5% of the OBW, not to exceed 1 MHz.
 - (3)Set VBW \geq 3 x RBW.
 - (4)Number of points in sweep $\geq 2 \times \text{span} / \text{RBW}$. (This gives bin-to-bin spacing $\leq \text{RBW}/2$, so that narrowband signals are not lost between frequency bins.)
 - (4)Sweep time = auto.
 - (5) Detector = RMS (i.e., power averaging), if available. Otherwise, use sample detector mode.
 - (6)If transmit duty cycle < 98 %, use a sweep trigger with the level set to enable triggering only on full power pulses. The transmitter shall operate at maximum power control level for the entire duration of every sweep. If the EUT transmits continuously (i.e., with no off intervals) or at duty cycle ≥ 98 %, and if each transmission is entirely at the maximum power control level, then the trigger shall be set to "free run".
 - (7)Trace average at least 100 traces in power averaging (i.e., RMS) mode.
 - (8)Compute power by integrating the spectrum across the OBW of the signal using the instrument's band power measurement function, with band limits set equal to the OBW band edges. If the instrument does not have a band power function, sum the spectrum levels (in power units) at intervals equal to the RBW extending across the entire OBW of the spectrum.

Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.



7.3 Test Result

EUT: LED TV					
M/N: WD32FI	BE1001				
Test date: 2019-01-05		Test site: RF Site			Tested by: Seven
			Pass		
Test Mode	СН	Conducted Power (dBm)			Limit
		Ant 0	Ant 1	Total	(dBm)
IEEE 802.11 b	CH1	9.66	9.78	/	30
	СН6	9.63	9.86	/	30
	CH11	9.68	8.71	/	30
IEEE 802.11 g	CH1	5.90	5.55	/	30
	СН6	5.63	5.91	/	30
	CH11	5.43	5.63	/	30
IEEE 802.11 n HT 20	CH1	5.18	4.93	8.07	30
	CH6	5.52	5.62	8.58	30
	CH11	5.46	5.37	8.43	30
IEEE 802.11 n HT 40	СНЗ	3.36	2.80	6.10	30
	СН6	3.22	2.39	5.84	30
	СН9	3.14	3.69	6.43	30
Conclusion: PA	SS				

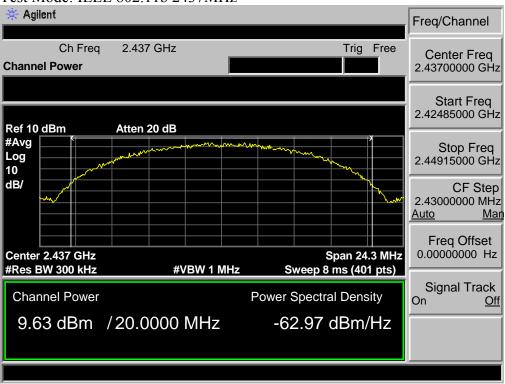
7.4 Test Data

Antenna 0

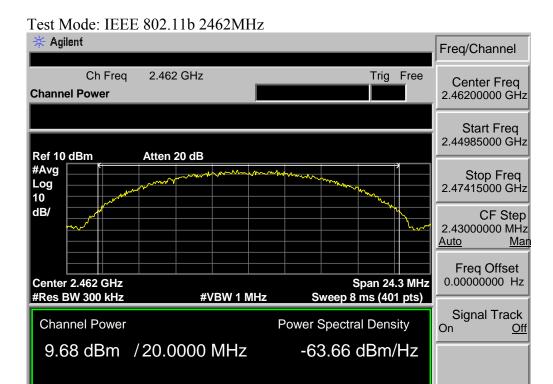
Test Mode: IEEE 802.11b 2412MHz



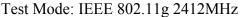
Test Mode: IEEE 802.11b 2437MHz

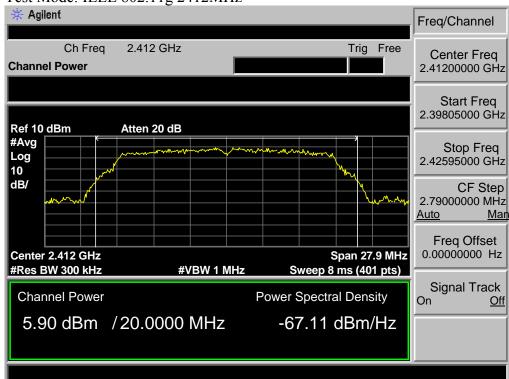




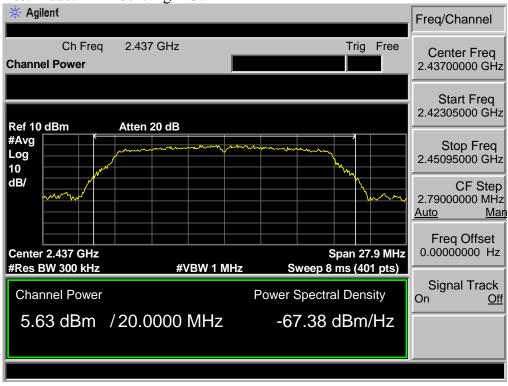




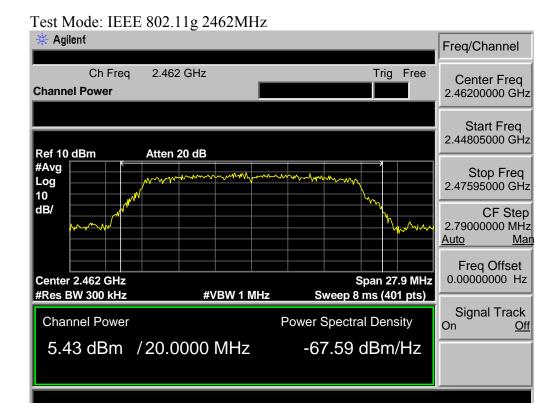




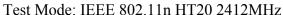
Test Mode: IEEE 802.11g 2437MHz





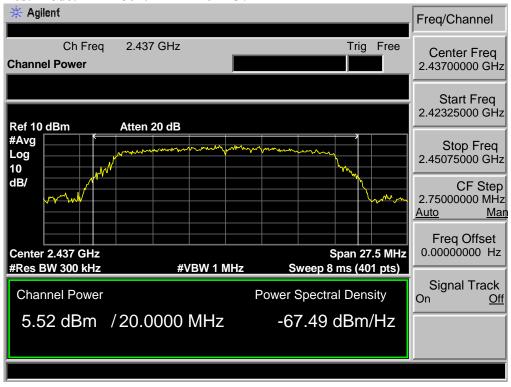




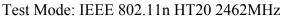


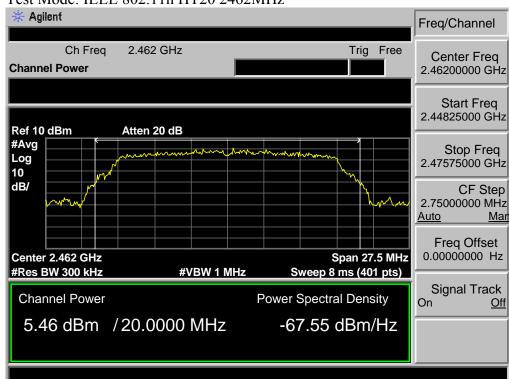


Test Mode: IEEE 802.11n HT20 2437MHz

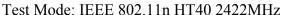






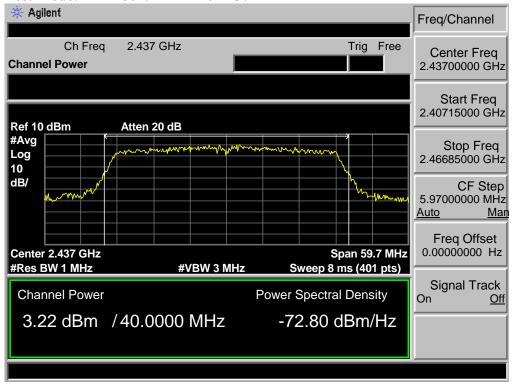




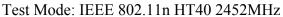


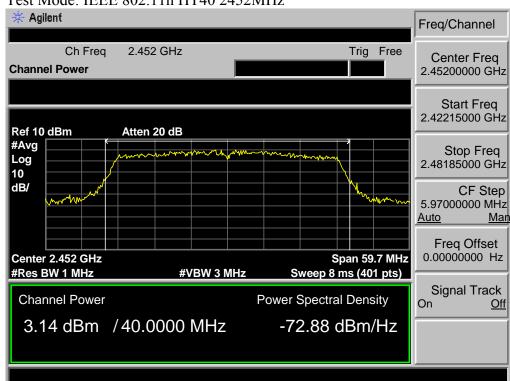


Test Mode: IEEE 802.11n HT40 2437MHz











Antenna 1

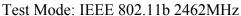
Test Mode: IEEE 802.11b 2412MHz



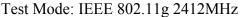
Test Mode: IEEE 802.11b 2437MHz

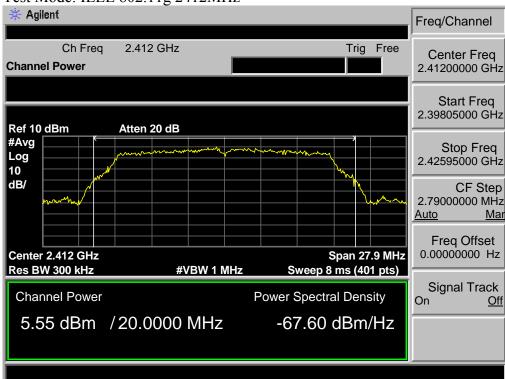




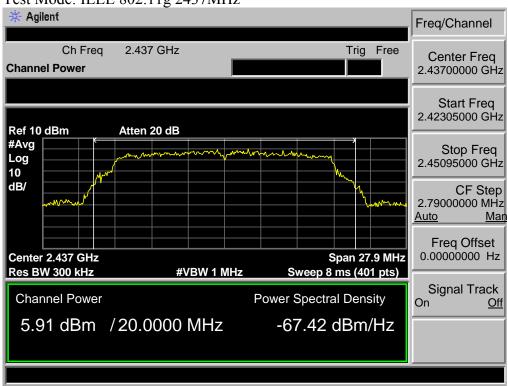




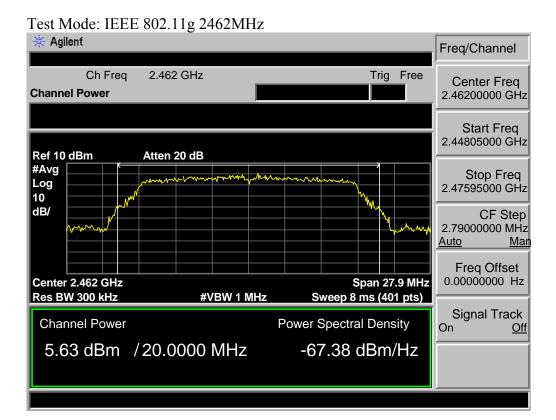




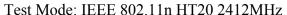
Test Mode: IEEE 802.11g 2437MHz

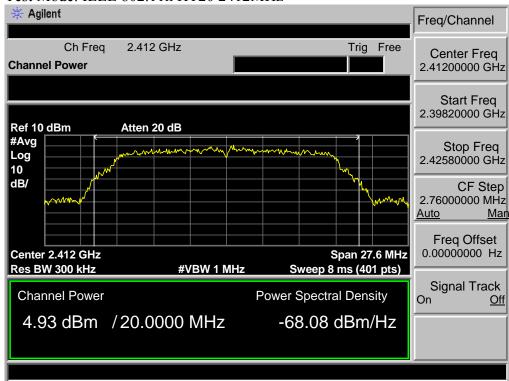




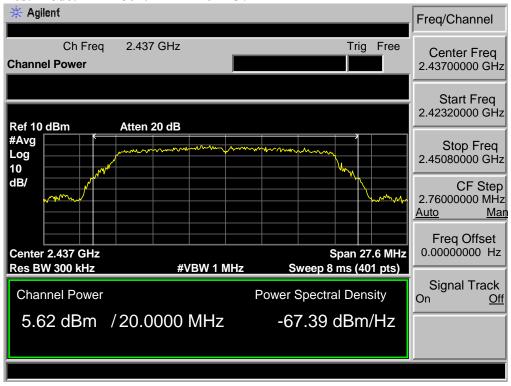




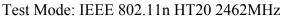


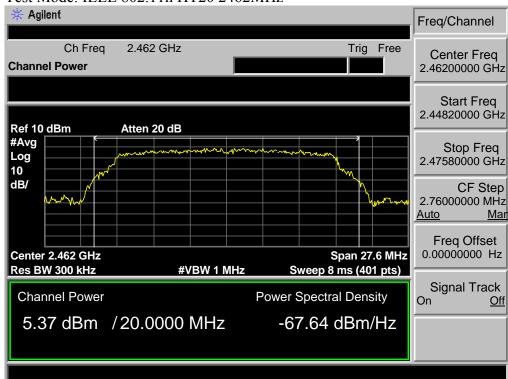


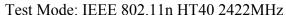
Test Mode: IEEE 802.11n HT20 2437MHz

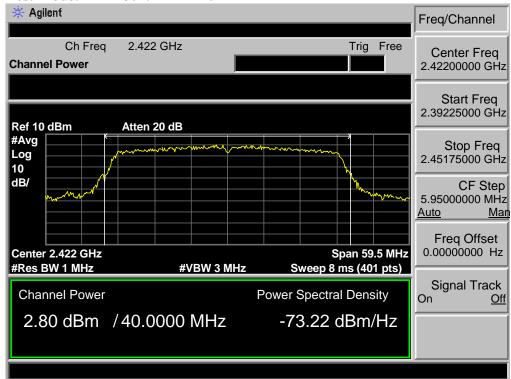




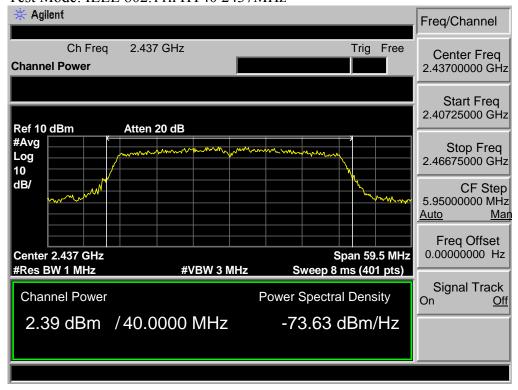




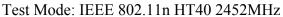


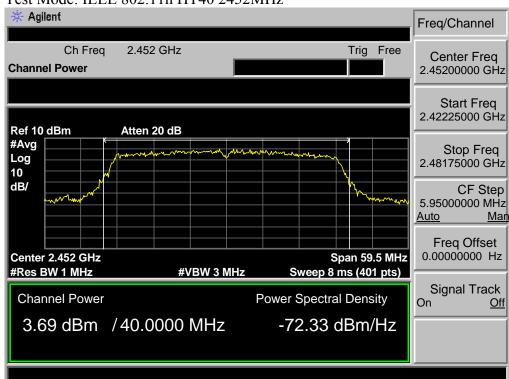


Test Mode: IEEE 802.11n HT40 2437MHz











8 POWER SPECTRAL DENSITY TEST

8.1 Limit

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8dBm in any 3kHz band during any time interval of continuous transmission.

8.2 Test Procedure

- 1, The transmitter output (antenna port) was connected to the spectrum analyzer. Connect EUT antenna terminal to the spectrum analyzer with a low loss SMA cable.
- 2, Follow the test procedure as described in KDB 558074
- (1). Set analyzer center frequency to DTS channel center frequency.
- (2). Set the span to 1.5 times the DTS bandwidth.
- (3). Set the RBW to: $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$.
- (4). Set the VBW \geq 3 RBW.
- (5). Detector = peak.
- (6). Sweep time = auto couple.
- (7). Trace mode = max hold.
- (8). Allow trace to fully stabilize.
- (9). Use the peak marker function to determine the maximum amplitude level.
- (10). If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.



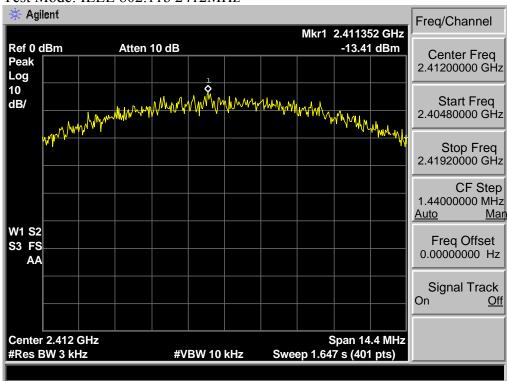
8.3 Test Result

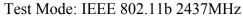
EUT: LED TV	= 1001				
M/N: WD32FB					T
Test date: 2019-01-05		Test site: RF Site			Tested by: Seven
			Pass		T
Test Mode	СН	Power density (dBm/3kHz)			Limit
		Ant 0	Ant 1	Total	(dBm/3kHz)
IEEE 802.11 b	CH1	-13.41	-13.88	/	8
	СН6	-13.01	-13.28	/	8
	CH11	-12.60	-11.78	/	8
IEEE 802.11 g	CH1	-17.83	-18.29	/	8
	СН6	-18.52	-18.50	/	8
	CH11	-17.52	-17.82	/	8
IEEE 802.11 n HT 20	CH1	-17.69	-19.26	-15.394	8
	СН6	-18.50	-17.32	-14.860	8
	CH11	-18.22	-17.50	-14.835	8
IEEE 802.11 n HT 40	СНЗ	-21.85	-20.06	-17.853	8
	СН6	-22.21	-22.37	-19.279	8
	CH9	-21.45	-21.72	-18.573	8

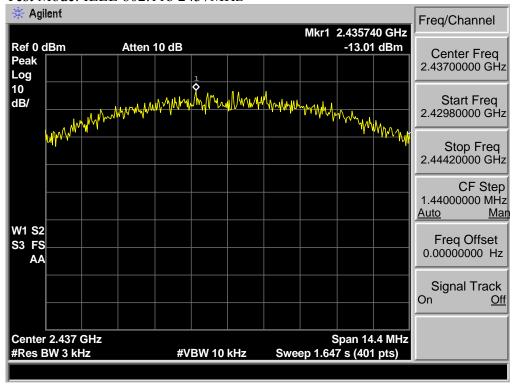
8.4 Test Data

Antenna 0

Test Mode: IEEE 802.11b 2412MHz

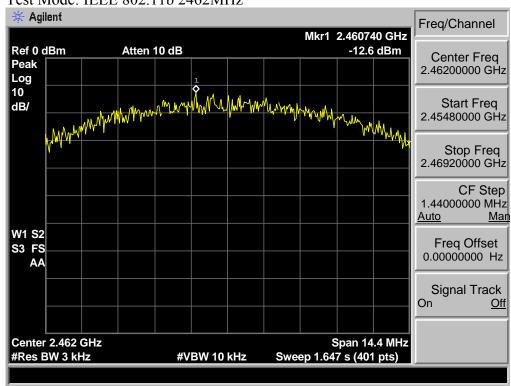




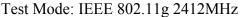


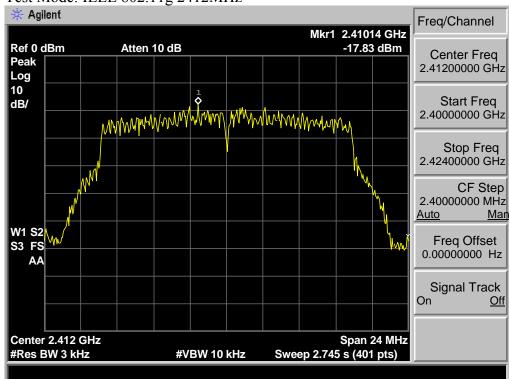




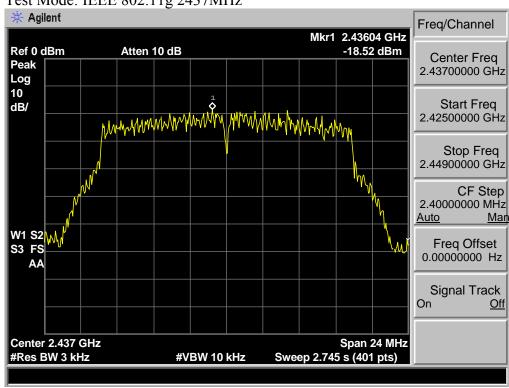






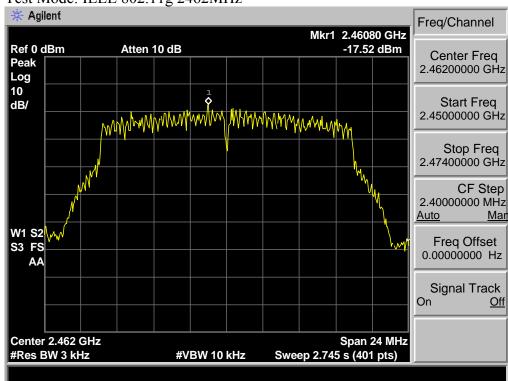


Test Mode: IEEE 802.11g 2437MHz

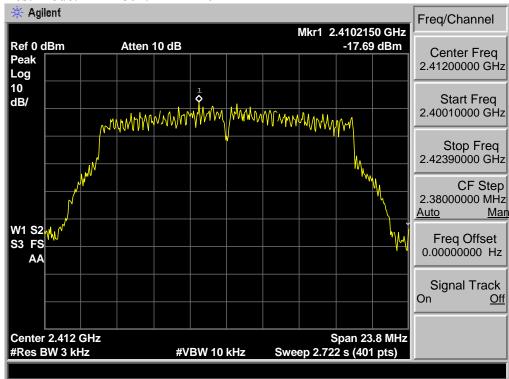




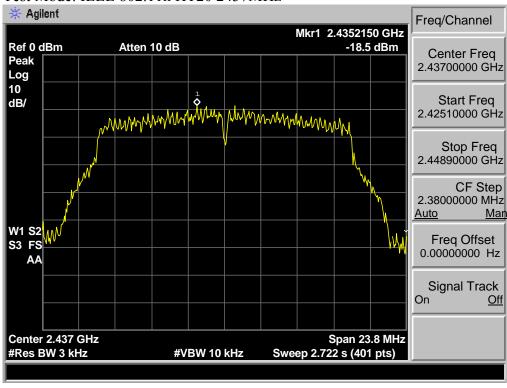






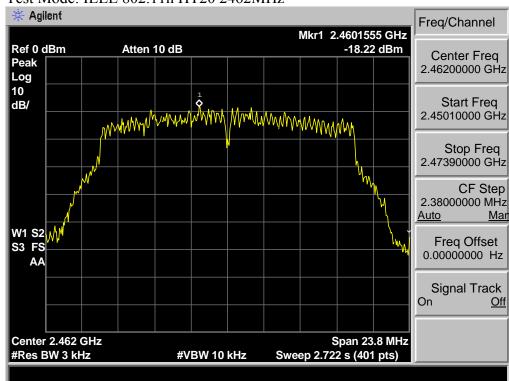


Test Mode: IEEE 802.11n HT20 2437MHz



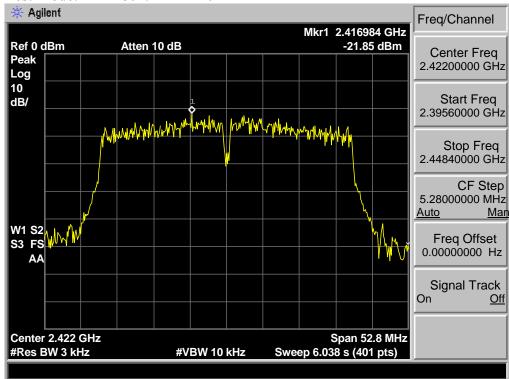


Test Mode: IEEE 802.11n HT20 2462MHz

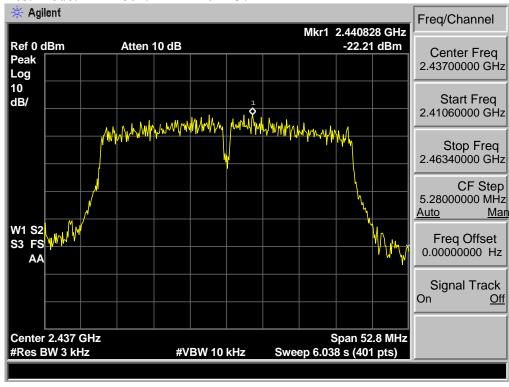






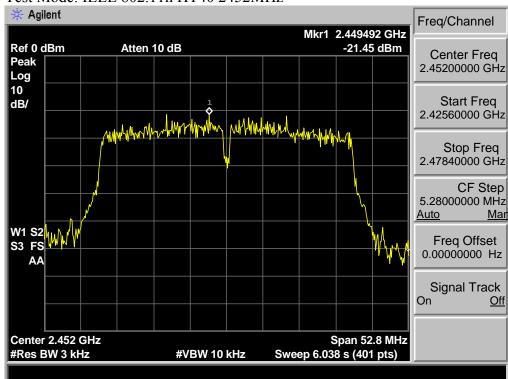


Test Mode: IEEE 802.11n HT40 2437MHz



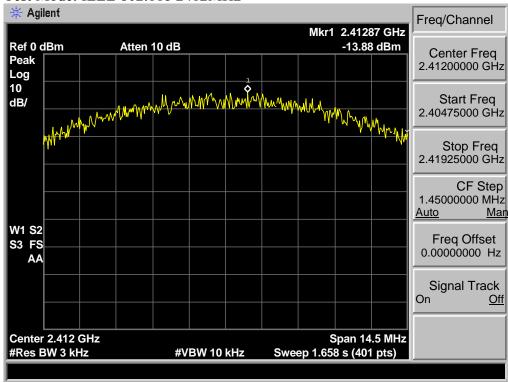


Test Mode: IEEE 802.11n HT40 2452MHz

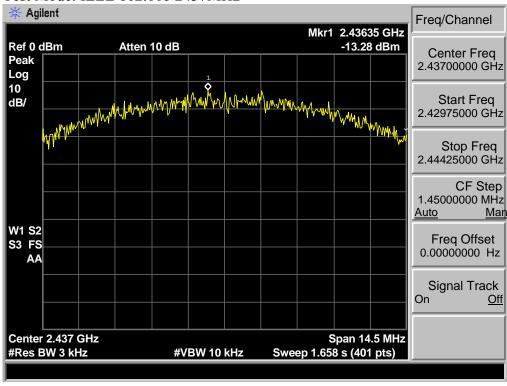


Antenna 1

Test Mode: IEEE 802.11b 2412MHz

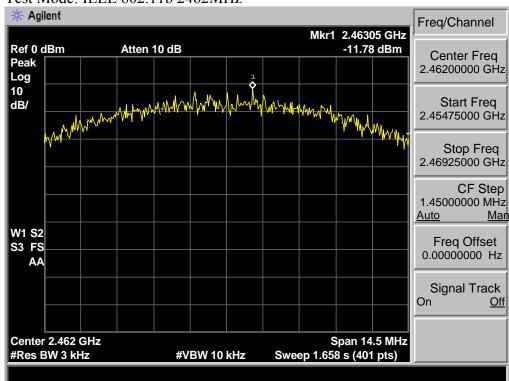


Test Mode: IEEE 802.11b 2437MHz

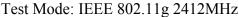


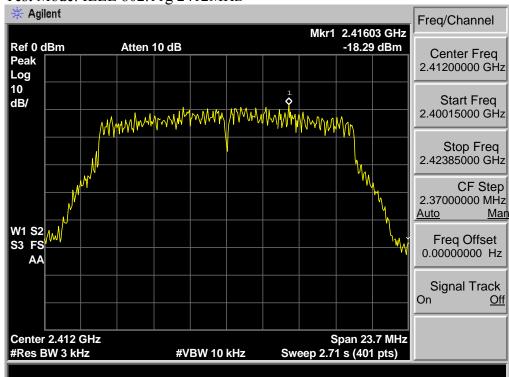


Test Mode: IEEE 802.11b 2462MHz

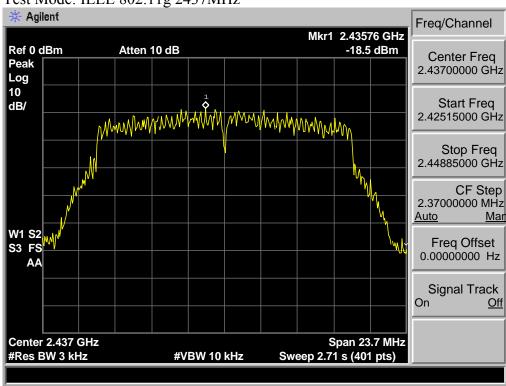






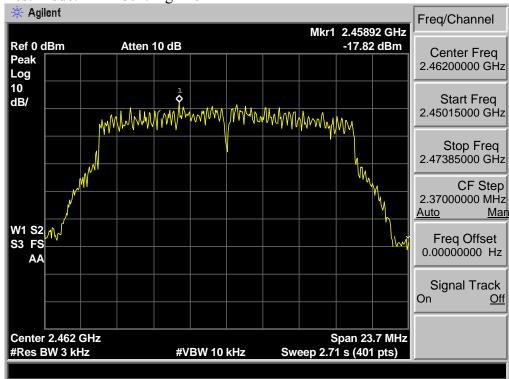


Test Mode: IEEE 802.11g 2437MHz

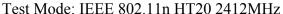


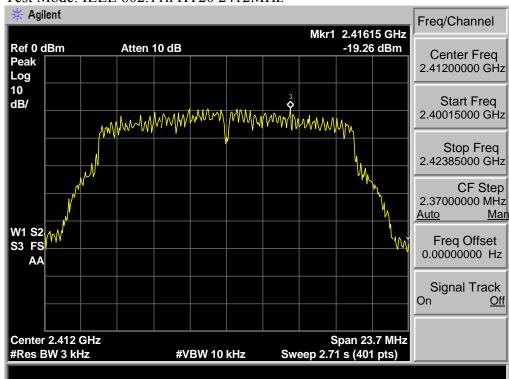




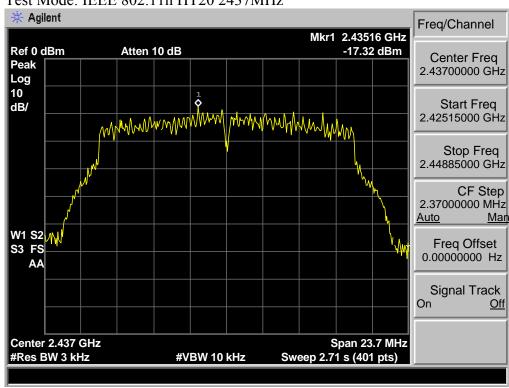






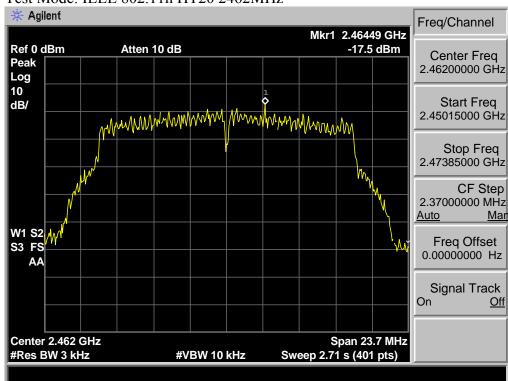


Test Mode: IEEE 802.11n HT20 2437MHz

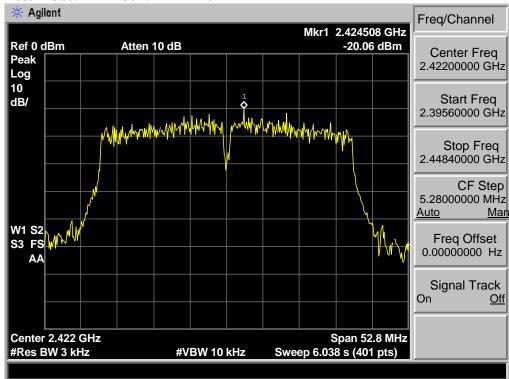




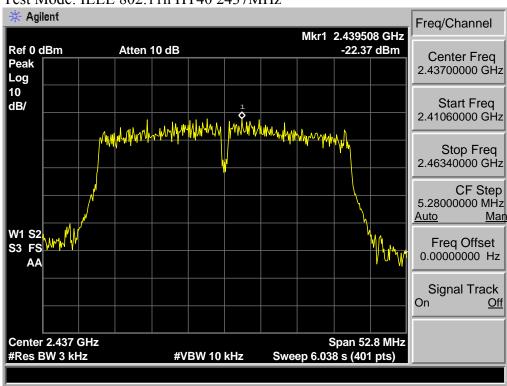
Test Mode: IEEE 802.11n HT20 2462MHz





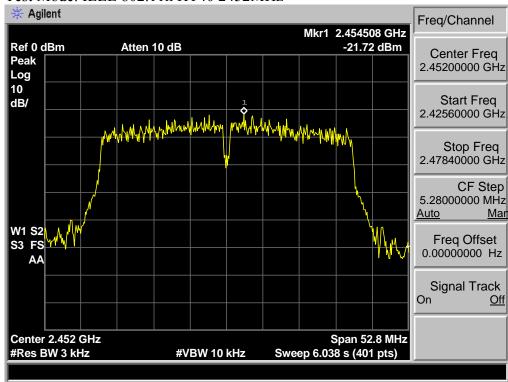


Test Mode: IEEE 802.11n HT40 2437MHz





Test Mode: IEEE 802.11n HT40 2452MHz





9 ANTENNA REQUIREMENTS

9.1 Limit

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

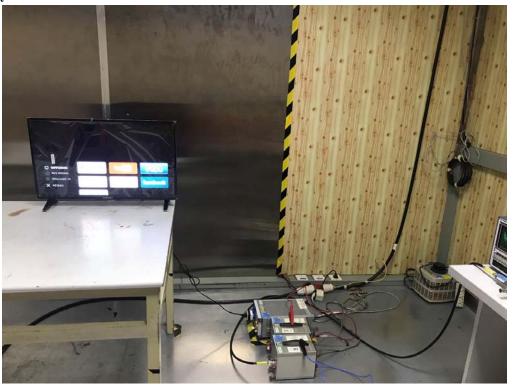
9.2 Result

The antennas used for this product are Internal antenna and that no antenna other than that furnished by the responsible party shall be used with the device, the maximum peak gain of the transmit antenna is only 1.21 dBi.

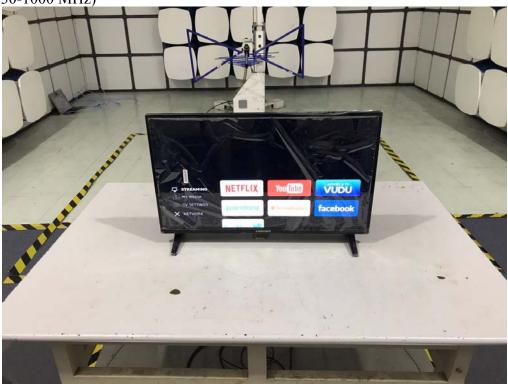


10 TEST SETUP PHOTO

Conducted Test_



Radiated Test (30-1000 MHz)



Radiated Test (Above 1000 MHz)



11 PHOTOS OF EUT

External Photos M/N: WD32FBE1001







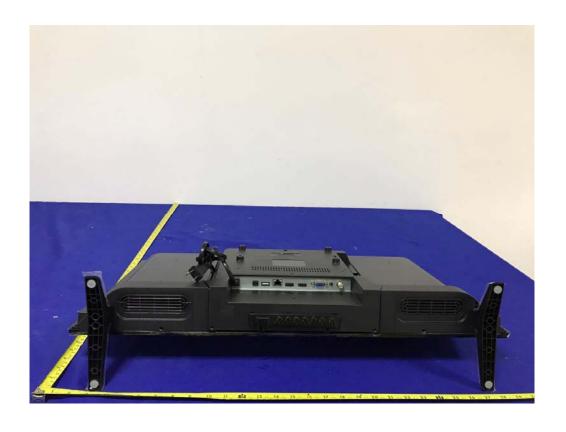
External Photos M/N: WD32FBE1001





External Photos M/N: WD32FBE1001



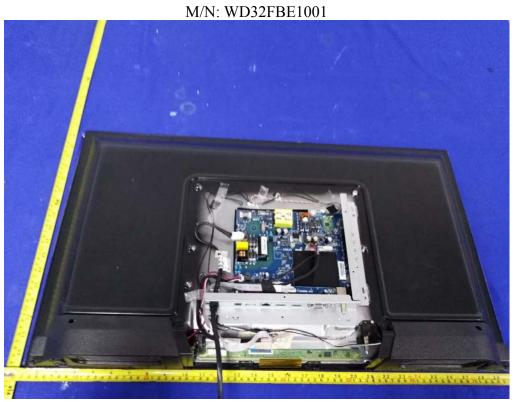


External Photos M/N: WD32FBE1001





Internal Photos





Internal Photos M/N: WD32FBE1001





Internal Photos M/N: WD32FBE1001





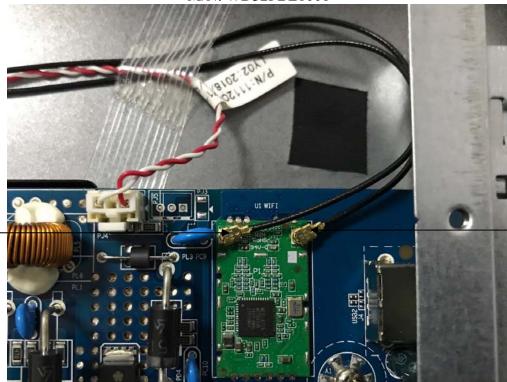


Wi-Fi

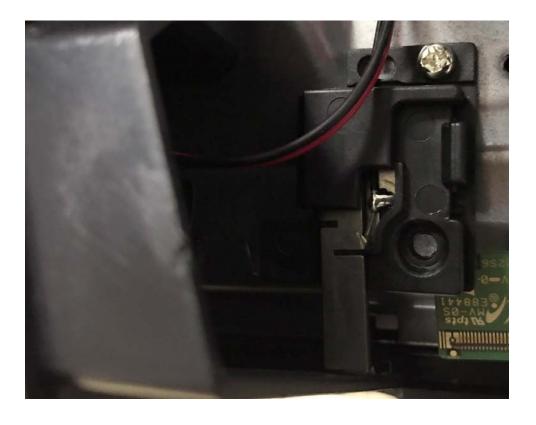
Port

Antenna 0

Internal Photos M/N: WD32FBE1001

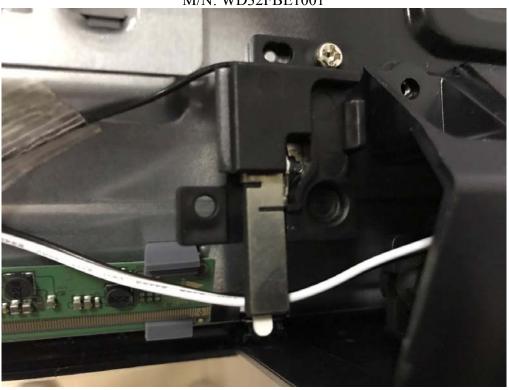


Wi-Fi Antenna 1 Port

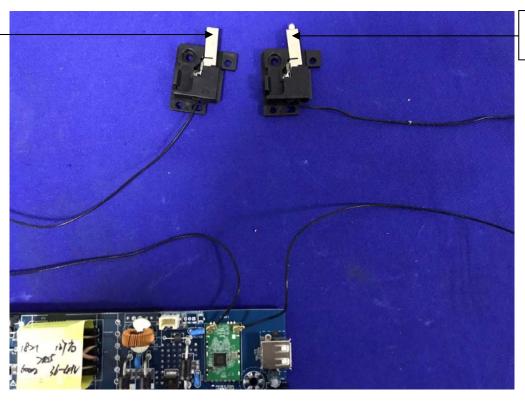




Internal Photos M/N: WD32FBE1001



Wi-Fi Antenna 0



Wi-Fi Antenna 1