

# **10. MAXIMUM CONDUCTED OUTPUT POWER SPECTRAL DENSITY**

## **10.1 MEASUREMENT PROCEDURE**

- (1). Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
- (2). Set the EUT Work on the top, the middle and the bottom operation frequency individually.
- (3). Set SPA Trace 1 Max hold, then View.

Note: The method of AVGPSD-1 in the ANSI C63.10 (2013) item 11.10 was used in this testing.

## **10.2 TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)**

Refer To Section 8.2.

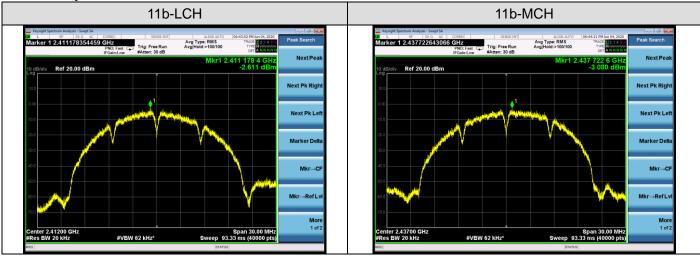
## **10.3 MEASUREMENT EQUIPMENT USED**

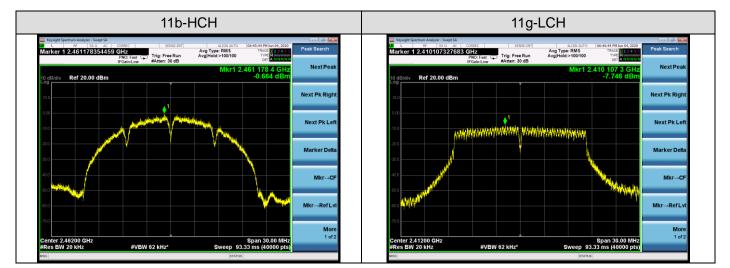
Refer To Section 6.

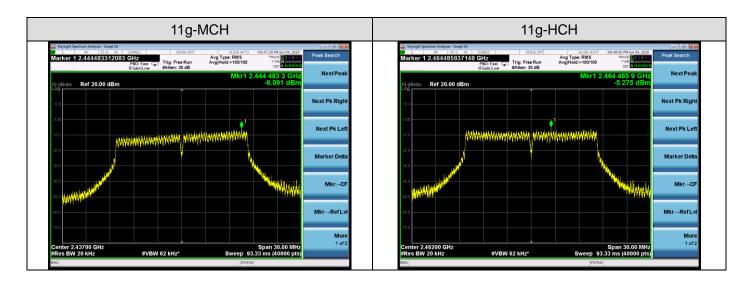
Mode	Channel	PSD [dBm/20kHz]	Limit[dBm/3kHz]	Verdict
	LCH	-2.611	8	PASS
11b	MCH	-3.080	8	PASS
	НСН	-0.664	8	PASS
	LCH	-7.746	8	PASS
11g	MCH	-6.091	8	PASS
	НСН	-5.275	8	PASS
	LCH	-6.748	8	PASS
11nHT20	MCH	-3.651	8	PASS
	НСН	-4.051	8	PASS
	LCH	-8.795	8	PASS
11NHT40	MCH	-6.409	8	PASS
	НСН	-8.191	8	PASS

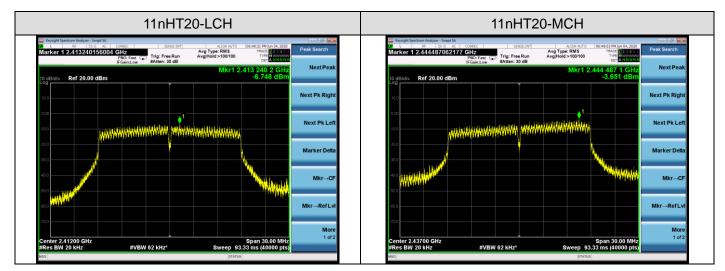
## **10.4 LIMITS AND MEASUREMENT RESULT**

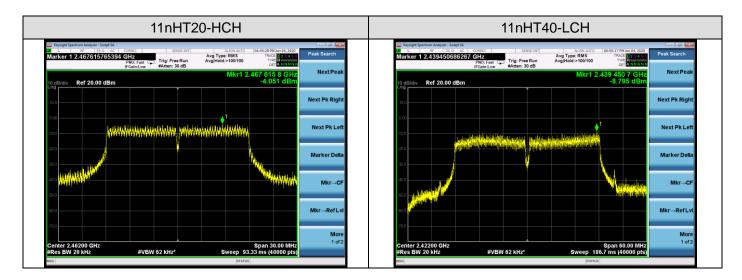


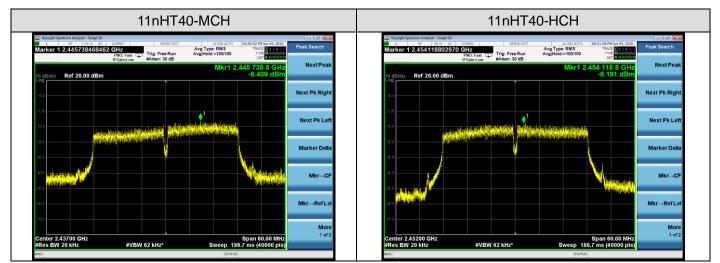












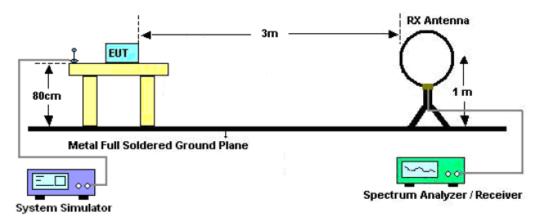
## **11. RADIATED EMISSION**

## **11.1. MEASUREMENT PROCEDURE**

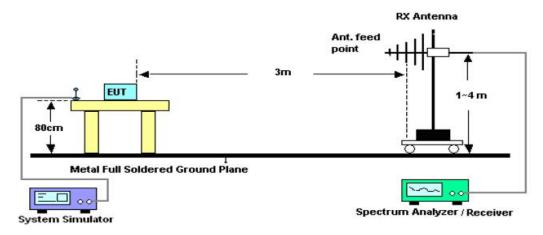
- 1. The EUT was placed on the top of the turntable 0.8 or 1.5 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
- 2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
- 3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
- 4. For each suspected emissions, the antenna tower was scan (from 1 M to 4 M) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
- 5. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
- 6. For emissions above 1GHz, use 1MHz VBW and RBW for peak reading. Then 1MHz RBW and 10Hz VBW for average reading in spectrum analyzer. Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.
- 7. When the radiated emissions limits are expressed in terms of the average value of the emissions, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum values.
- 8.If the emissions level of the EUT in peak mode was 3 dB lower than the average limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method for below 1GHz.
- 9. For testing above 1GHz, the emissions level of the EUT in peak mode was lower than average limit (that means the emissions level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
- 10. In case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded data should be QP measured by receiver. High Low scan is not required in this case.

## 11.2. TEST SETUP

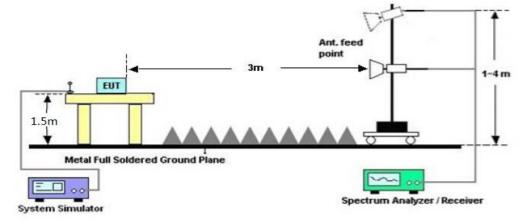
Radiated Emission Test-Setup Frequency Below 30MHz



## RADIATED EMISSION TEST SETUP 30MHz-1000MHz



## RADIATED EMISSION TEST SETUP ABOVE 1000MHz



## **11.3. LIMITS AND MEASUREMENT RESULT**

15.209(a) Limit in the below table has to be followed

Frequencies (MHz)	Field Strength (micorvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

Note: All modes were tested For restricted band radiated emission,

the test records reported below are the worst result compared to other modes.

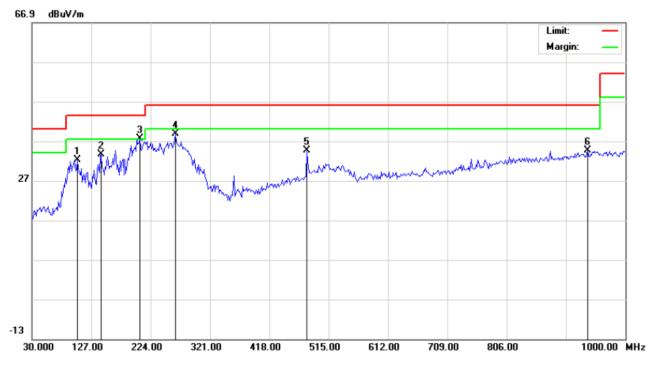
## 11.4. TEST RESULT

## **RADIATED EMISSION BELOW 30MHZ**

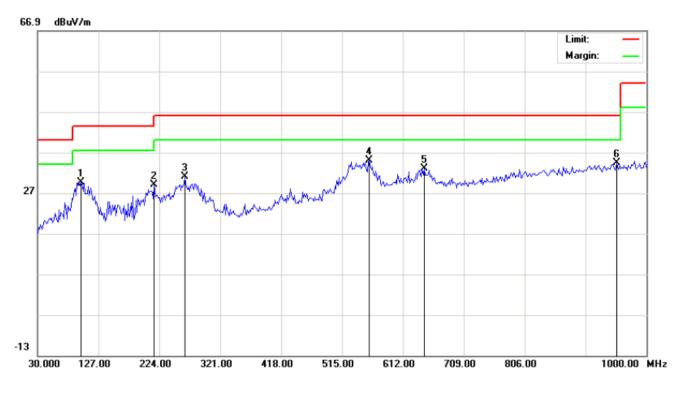
No emission found between lowest internal used/generated frequencies to 30MHz.

# RADIATED EMISSION BELOW 1GHZ

RADIATED EMISSION TEST- (30MHZ-1GHZ) -HORIZONTAL



No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
	•	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	degree	
1		104.3667	15.79	16.44	32.23	43.50	-11.27	peak			
2		143.1667	14.34	19.22	33.56	43.50	-9.94	peak			
3	*	206.2167	21.11	16.43	37.54	43.50	-5.96	peak			
4		264.4166	20.21	18.67	38.88	46.00	-7.12	peak			
5		479.4333	10.03	24.58	34.61	46.00	-11.39	peak			
6		938.5667	2.56	32.03	34.59	46.00	-11.41	peak			



## RADIATED EMISSION TEST- (30MHZ-1GHZ) -VERTICAL

No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
	•	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	degree	
1		99.5167	13.62	15.96	29.58	43.50	-13.92	peak			
2		215.9167	11.97	17.00	28.97	43.50	-14.53	peak			
3		264.4166	12.43	18.67	31.10	46.00	-14.90	peak			
4	*	558.6500	8.82	26.14	34.96	46.00	-11.04	peak			
5		645.9500	5.49	27.50	32.99	46.00	-13.01	peak			
6		953.1167	2.23	32.16	34.39	46.00	-11.61	peak			

#### **RESULT: PASS**

Note: 1. Factor=Antenna Factor + Cable loss, Margin= Result -Limit.

2. The "Factor" value can be calculated automatically by software of measurement system.

3. All test modes had been pre-tested. The 802.11b at low channel is the worst case and recorded in the report.

## **RADIATED EMISSION ABOVE 1GHZ**

Frequency	Emission Level	Limits	Margin	Detector	Comment
(MHz)	(dBµV/m)	(dBµV/m)	(dB)	Туре	Comment
		TX 11b 2412M	Hz		
4824	51.77	74	-22.23	Pk	Horizontal
4824	37.62	54	-16.38	AV	Horizontal
7236	51.39	74	-22.61	pk	Horizontal
7236	39.41	54	-14.59	AV	Horizontal
4824	52.66	74	-21.34	Pk	Vertical
4824	39.43	54	-14.57	AV	Vertical
7236	53.46	74	-20.54	Pk	Vertical
7236	41.21	54	-12.79	AV	Vertical
		TX 11b 2437M	Hz		
4874	52.88	74	-21.12	Pk	Horizontal
4874	39.50	54	-14.50	AV	Horizontal
7311	52.72	74	-21.28	Pk	Horizontal
7311	39.18	54	-14.82	AV	Horizontal
4874	52.48	74	-21.52	Pk	Vertical
4874	39.17	54	-14.83	AV	Vertical
7311	53.21	74	-20.79	Pk	Vertical
7311	39.80	54	-14.20	AV	Vertical
		TX 11b 2462M	Hz		
4924	50.19	74	-23.81	Pk	Horizontal
4924	31.88	54	-22.12	AV	Horizontal
7386	47.68	74	-26.32	Pk	Horizontal
7386	32.42	54	-21.58	AV	Horizontal
4924	51.34	74	-22.66	Pk	Vertical
4924	38.85	54	-15.15	AV	Vertical
7386	45.41	74	-28.59	Pk	Vertical
7386	37.28	54	-16.72	AV	Vertical

## **RESULT: PASS**

Note:

1. Margin = Emission Level - Limit

2.1GHz-25GHz(All test modes had been pre-tested. The 802.11b mode is the worst case and recorded in the report. No recording in the test report at least have 20dB margin).

# **12. BAND EDGE EMISSION**

## **12.1. MEASUREMENT PROCEDURE**

1)Radiated restricted band edge measurements

The radiated restricted band edge measurements are measured with an EMI test receiver connected to the receive antenna while the EUT is transmitting

2)Conducted Emissions at the bang edge

a)The transmitter output was connected to the spectrum analyzer

b)Set RBW=1MHz,VBW=3MHz

c)Suitable frequency span including 100kHz bandwidth from band edge

## 12.2. TEST SET-UP

Radiated same as 11.2

## Note:

1. Factor=Antenna Factor + Cable loss - Amplifier gain. Field Strength=Factor + Reading level 2. The factor had been edited in the "Input Correction" of the Spectrum Analyzer. So the Amplitude of test plots is equal to Reading level plus the Factor in dB. Use the A dB( $\mu$ V) to represent the Amplitude. Use the F dB( $\mu$ V/m) to represent the Field Strength. So A=F.

## 12.3. TEST RESULT

EUT	4G Wireless Router	Model Name	D523F
Temperature	26°C	Relative Humidity	52%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11b with data rate 1 2412MHZ	Antenna	Horizontal



ΡK

AV

110.00 dBµV/r	n		/			1 2.410 7 99.415 dl	4 GHz 3μV/m	Next Pea Next Pk Righ
			/					Next Pk Righ
			/					
								Next Pk Le
								Marker Del
	#VBW	3.0 MHz*	FUNCTIO		Sweep 1	.066 ms (1	000 pts)	Mkr→C
		15 dBµV/m 73 dBµV/m					=	Mkr→RefL
								<b>Mo</b> 1 of
	2.410 7	Hz #VBW	Hz #VBW 3.0 MHz*	Iz #VBW 3.0 MHz*   X Y   2.410 74 GHz 99.415 dBuV/m   2.390 00 GHz 45.773 dBuV/m	Hz #VBW 3.0 MHz* S   X Y FUNCTION FUNCTION   2.410 74 GHz 99 416 dBUV/m FUNCTION FUNCTION   2.390 00 GHz 45.773 dBuV/m FUNCTION FUNCTION	Iz #VEW 3.0 MHz* Sweep 1   X 9 Y FUNCTION FUNCTION WIDTH   2.410.74 CHz 99.415 dBIV/m FUNCTION FUNCTION WIDTH   2.390.00 GHz 99.15 dBIV/m FUNCTION FUNCTION	Hz #VBW 3.0 MHz* Sweep 1.066 ms (10   X Y FUNCTION FUNCTION VIDTH FUNCTION VIDTH   2.410 74 GHz 99.416 dBuV/m FUNCTION VIDTH FUNCTION VIDTH FUNCTION VIDTH   2.390 00 GHz 45.773 dBuV/m FUNCTION VIDTH FUNCTION VIDTH FUNCTION VIDTH	Iz #VBW 3.0 MHz* Sweep 1.066 ms (1000 pts)   X Y FUNCTION FUNCTION WIDTH FUNCTION VALUE   2.410 74 GHz 99415 dByV/m FUNCTION FUNCTION WIDTH FUNCTION VALUE   2.390 00 GHz 45.773 dByV/m FUNCTION FUNCTION FUNCTION VALUE

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EUT	4G Wireless Router	Model Name	D523F
Temperature	26°C	Relative Humidity	52%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11b with data rate 1 2412MHZ	Antenna	Vertical

ΡK







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EUT	4G Wireless Router	Model Name	D523F
Temperature	26°C	Relative Humidity	52%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11b with data rate 1 2462MHZ	Antenna	Horizontal





0 dB/div Re 0 d 0 d 0 d 0 d 0 d 0 d 0 d 0 d	ef 115.00 dB	PNO: F IFGain:L		Free Run n: 30 dB		g Type: RMS  Hold:>100/10	<sup>00</sup>	TRACE   2345 TYPE   2345 Det   246 NINNN 61 01 GH2 2 dBµV/m	NextPe
<b>og</b> 105 95.0 85.0 75.0 66.0 65.0	ef 115.00 dBj	IFGain:L					lkr1 2.4	61 01 GH	Next Pe Next Pk Rig
<b>og</b> 105 95.0 85.0 75.0 66.0 65.0	ef 115.00 dBj	4V/m				M			Next Pk Rig
• 9 105 95.0 85.0 75.0 65.0 55.0 .0 .0 .0 .0 .0 .0 .0	ef 115.00 dBj	uV/m					100.18	2 dBµV/n	Next Pk Rig
105 95.0 75.0 65.0 55.0									
95.0 85.0 75.0 66.0									
85.0 75.0 65.0 55.0									Next Pk L
75.0 65.0 55.0									Next Pk L
65.0 55.0									Next Pk L
55.0									NEXTERL
55.0 <b>/</b> 45.0									
45.0						<sup>2</sup>			
35.0									Marker De
25.0									
tart 2.45000							Stop (	50000 CH	
Res BW 1.0			#VBW 3.0 N	H7*		Sween	ວເບp 1.066 m	2.50000 GH; is (1000 pts	2 Mkr→0
MODE TRC SCL	X		×		ICTION	FUNCTION WIDTH		TION VALUE	4
N 1 f	2.40		100.139 dBµ	V/m	CHON	POINCTION WIDTH	POIN	TION VALUE	
N 1 f	2.48	83 50 GHz	46.706 dBµ	V/m					
									Mkr→RefL
									Mo
									10
				m				•	

**RESULT: PASS** 

ΡK

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EUT	4G Wireless Router	Model Name	D523F
Temperature	26°C	Relative Humidity	52%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11b with data rate 1 2462MHZ	Antenna	Vertical

ΡK

ctrum Analyzer - Swept 5 06:54:30 PM Jun 04, 2020 TRACE 1 2 3 4 5 TYPE M ALIGN AUTO Avg Type: Log-Pwr Avg|Hold:>100/100 Peak Search Next Pea Mkr1 2.461 91 102.639 dBu Ref 115.00 dBµV/m Next Pk Right Next Pk Left ⊘<mark>2</mark> Marker Delta Stop 2.50000 GHz 1.066 ms (1000 pts) Start 2.45000 GHz #Res BW 1.0 MHz #VBW 3.0 MHz Mkr→CF Sweep 2.461 91 GHz 102.639 dBµV/m 2.483 50 GHz 56.779 dBµV/m N 1 f N 1 f Mkr→RefLvl More 1 of 2 STATUS



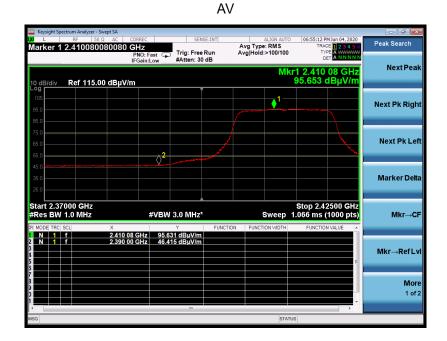


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EUT	4G Wireless Router	Model Name	D523F
Temperature	26°C	Relative Humidity	52%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11g with data rate 6 2412MHZ	Antenna	Horizontal

ΡK





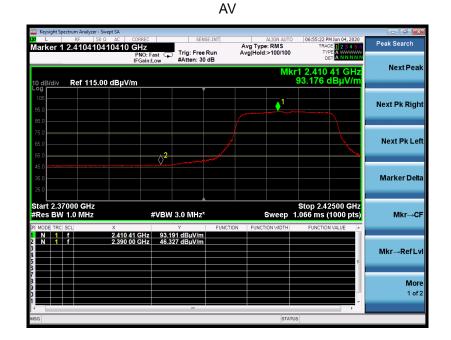
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EUT	4G Wireless Router	Model Name	D523F
Temperature	26°C	Relative Humidity	52%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11g with data rate 6 2412MHZ	Antenna	Vertical

ΡK







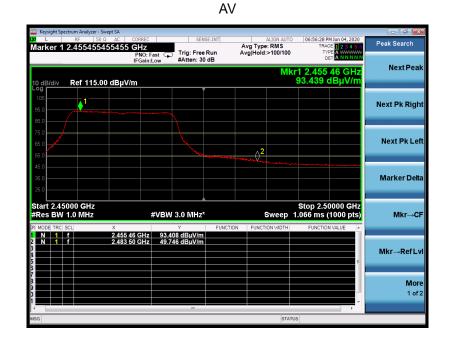
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EUT	4G Wireless Router	Model Name	D523F
Temperature	26°C	Relative Humidity	52%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11g with data rate 6 2462MHZ	Antenna	Horizontal

ΡK







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EUT	4G Wireless Router	Model Name	D523F
Temperature	26°C	Relative Humidity	52%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11g with data rate 6 2462MHZ	Antenna	Vertical

ΡK

aht Spectrum Analyzer - Swept S L RF 50.0. AC COREC L RF 50.0. AC COREC Narker 1 2.456506506507 GHz PNO: Fast IFGain:Low #Atten: 30 dB 06:56:35 PM Jun 04, 2020 TRACE 1 2 3 4 5 TYPE M ALIGN AUTO Avg Type: Log-Pwr Avg|Hold:>100/100 Peak Search Next Pea Mkr1 2.456 51 G 101.004 dBuV Ref 115.00 dBµV/m <u>↓</u>1 Next Pk Right \_\_\_\_\_\_<sup>2</sup> Next Pk Left Marker Delta Stop 2.50000 GHz Sweep 1.066 ms (1000 pts) Start 2.45000 GHz #Res BW 1.0 MHz #VBW 3.0 MHz Mkr→CF 2.456 51 GHz 101.004 dBµV/m 2.483 50 GHz 62.586 dBµV/m N 1 f N 1 f Mkr→RefLvl More 1 of 2 STATUS





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EUT	4G Wireless Router	Model Name	D523F
Temperature	26°C	Relative Humidity	52%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11n 20 with data rate 6.5 2412MHZ	Antenna	Horizontal

ΡK







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EUT	4G Wireless Router	Model Name	D523F
Temperature	26°C	Relative Humidity	52%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11n 20 with data rate 6.5 2412MHZ	Antenna	Vertical

ΡK







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EUT	4G Wireless Router	Model Name	D523F
Temperature	26°C	Relative Humidity	52%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11n 20 with data rate 6.5 2462MHZ	Antenna	Horizontal



AV

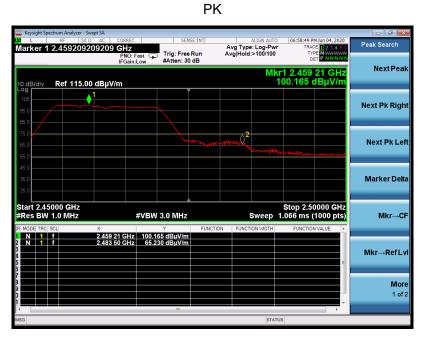


**RESULT: PASS** 

ΡK

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EUT	4G Wireless Router	Model Name	D523F
Temperature	26°C	Relative Humidity	52%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11n 20 with data rate 6.5 2462MHZ	Antenna	Vertical







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EUT	4G Wireless Router	Model Name	D523F
Temperature	26°C	Relative Humidity	52%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11n 40 with data rate 13.5 2422MHZ	Antenna	Horizontal

ΡK







EUT	4G Wireless Router	Model Name	D523F
Temperature	26°C	Relative Humidity	52%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11n 40 with data rate 13.5 2422MHZ	Antenna	Vertical

ΡK







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EUT	4G Wireless Router	Model Name	D523F	
Temperature	26°C	Relative Humidity	52%	
Pressure	960hPa	Test Voltage	Normal Voltage	
Test Mode	802.11n 40with data rate 13.5 2452MHZ	Antenna	Horizontal	
PK				



AV

Keysight Spectrum A						
l RF Narker 1 2.45	50 Ω AC CORRE 4104104104 GHz PNO:	Fast Trig: Free	eRun A	ALIGN AUTO vg Type: RMS vg Hold:>100/100	TRACE 1 2 3 4 5 6	Peak Search
10 dB/div Ref	IFGai	#Atten: 30	0 dB	MI	ст1 2.454 10 GHz 91.314 dBµV/m	Next Pea
- <b>09</b> 105 95.0 85.0		▲ <sup>1</sup>				Next Pk Rigi
75.0 65.0 55.0					2	Next Pk Le
45.0 35.0 25.0						Marker Del
Start 2.43000 0 Res BW 1.0 N		#VBW 3.0 MHz*	FUNCTION	Sweep	Stop 2.50000 GHz 1.066 ms (1000 pts)	Mkr→C
N 1 f N 1 f	2.454 10 GH 2.483 50 GH				н.	Mkr→RefL
						<b>Mo</b> 1 of
					*	

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EUT	4G Wireless Router	Model Name	D523F
Temperature	26°C	Relative Humidity	52%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11n 40 with data rate 13.5 2452MHZ	Antenna	Vertical





L	RF 50 S 2.4503203	2 AC COP 20320 GI				Avg Typ Avg Hold		TRA	PM Jun 04, 2020 ICE 1 2 3 4 5 6 IPE A WWWWWW DET A N N N N N	Peak Search
0 dB/div	Ref 115.00		Junicow				Mk		32 GHz dBµV/m	Next Pea
105 95.0 85.0			1							Next Pk Rigl
65.0 65.0						horne have a second				Next Pk Le
45.0 35.0 25.0										Marker Del
	000 GHz 1.0 MHz	X	#VBW	/ 3.0 MHz*	FUNCTION		Sweep	Stop 2.5 1.066 ms	0000 GHz (1000 pts)	Mkr→C
N 1		2.450 32 0 2.483 50 0		17 dBµV/m 02 dBµV/m				Tonone	E	Mkr→RefL
										Moi 1 of
G				m			STATU	JS	•	

# **13. FCC LINE CONDUCTED EMISSION TEST**

## **13.1. LIMITS OF LINE CONDUCTED EMISSION TEST**

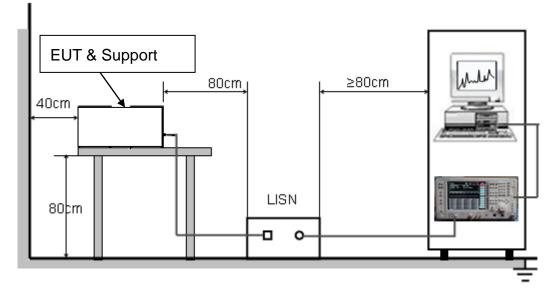
Frequency	Maximum RF Line Voltage				
Frequency	Q.P.( dBuV)	Average( dBuV)			
150kHz~500kHz	66-56	56-46			
500kHz~5MHz	56	46			
5MHz~30MHz	60	50			

Note:

1. The lower limit shall apply at the transition frequency.

2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.

## **13.2. BLOCK DIAGRAM OF LINE CONDUCTED EMISSION TEST**



## 13.3. PRELIMINARY PROCEDURE OF LINE CONDUCTED EMISSION TEST

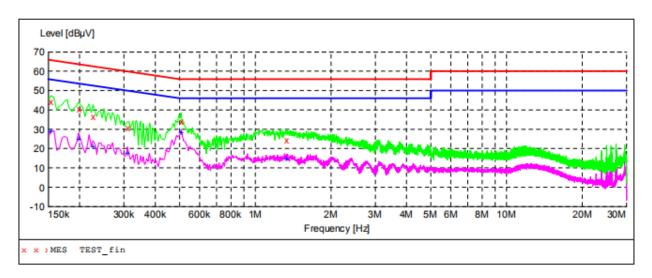
- The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. When the EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.10 (see Test Facility for the dimensions of the ground plane used). When the EUT is a floor-standing equipment, it is placed on the ground plane which has a 3-12 mm non-conductive covering to insulate the EUT from the ground plane.
- 2. Support equipment, if needed, was placed as per ANSI C63.10.
- 3. All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10.
- 4. All support equipments received AC120V/60Hz power from a LISN, if any.
- 5. The EUT received charging voltage by adapter which received 120V/60Hzpower by a LISN..
- 6. The test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
- 7. Analyzer / Receiver scanned from 150 kHz to 30MHz for emissions in each of the test modes.
- 8. During the above scans, the emissions were maximized by cable manipulation.
- 9. The test mode(s) were scanned during the preliminary test.

Then, the EUT configuration and cable configuration of the above highest emission level were recorded for reference of final testing.

## **13.4. FINAL PROCEDURE OF LINE CONDUCTED EMISSION TEST**

- 1. EUT and support equipment was set up on the test bench as per step 2 of the preliminary test.
- 2. A scan was taken on both power lines, Line 1 and Line 2, recording at least the six highest emissions. Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit. If EUT emission level was less –2dB to the A.V. limit in Peak mode, then the emission signal was re-checked using Q.P and Average detector.
- 3. The test data of the worst case condition(s) was reported on the Summary Data page.

## 13.5. TEST RESULT OF LINE CONDUCTED EMISSION TEST



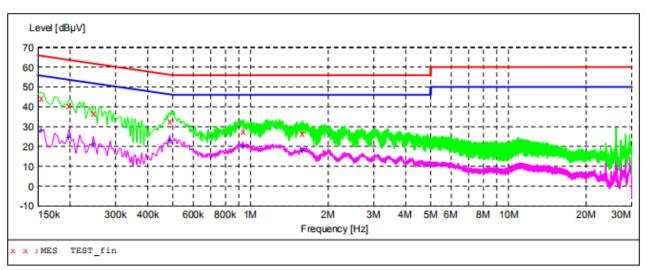
## LINE CONDUCTED EMISSION TEST LINE 1-L

#### MEASUREMENT RESULT: "TEST fin"

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.154000 0.198000 0.226000 0.310000 0.506000 1.334000	44.40 40.80 36.60 30.70 34.40 24.40	10.8 10.9 10.9 10.9 11.2 11.5	66 64 63 56 56	21.4 22.9 26.0 29.3 21.6 31.6	QP QP QP QP QP QP	L1 L1 L1 L1 L1 L1	FLO FLO FLO FLO FLO

#### MEASUREMENT RESULT: "TEST fin2"

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.154000 0.198000 0.226000 0.310000 0.506000 1.334000	28.70 25.00 21.00 17.90 28.60 14.80	10.8 10.9 10.9 10.9 11.2 11.5	56 54 53 50 46 46	27.1 28.7 31.6 32.1 17.4 31.2	AV AV AV AV AV	L1 L1 L1 L1 L1 L1	FLO FLO FLO FLO FLO



#### Line Conducted Emission Test Line 2-N

#### MEASUREMENT RESULT: "TEST\_fin"

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.154000 0.198000 0.246000 0.486000 0.934000 1.590000	44.50 40.70 36.80 33.10 27.90 26.80	10.8 10.9 10.9 11.1 11.2 11.5	66 64 56 56 56	21.3 23.0 25.1 23.1 28.1 29.2	QP QP QP QP QP QP	N N N N N	FLO FLO FLO FLO FLO

#### MEASUREMENT RESULT: "TEST\_fin2"

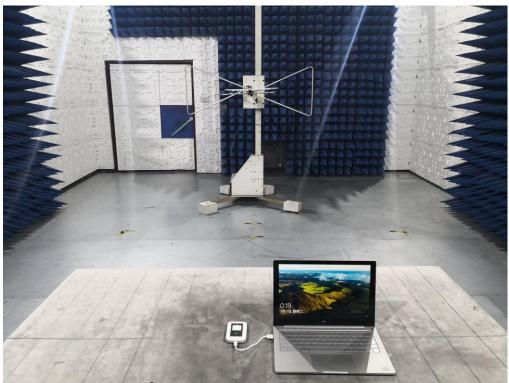
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.154000	28.10	10.8	56	27.7	AV	N	FLO
0.198000	24.80	10.9	54	28.9	AV	N	FLO
0.246000	21.20	10.9	52	30.7	AV	N	FLO
0.486000	23.30	11.1	46	22.9	AV	N	FLO
0.934000	20.10	11.2	46	25.9	AV	N	FLO
1.590000	17.70	11.5	46	28.3	AV	N	FLO

# APPENDIX A: PHOTOGRAPHS OF TEST SETUP

LINE CONDUCTED EMISSION TEST SETUP



RADIATED EMISSION TEST SETUP





RADIATED EMISSION ABOVE 1G TEST SETUP

----END OF REPORT----