

9. CONDUCTED SPURIOUS EMISSION

9.1. 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 EUT was tested according to KDB 558074 for compliance to FCC 47CFR 15.247 requirements. Owing to satisfy the requirements of the number of measurement points, we set the RBW=1MHz, VBW > RBW, scan up through 10th harmonic, and consider the tested results as the worst case, if the tested results conform to the requirement, we can deem that the real tested results(set the RBW=100KHz, VBW > RBW) are conform to the requirement.

9.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)

The same as described in section 8.2.

9.3. MEASUREMENT EQUIPMENT USED

The same as described in section 6.

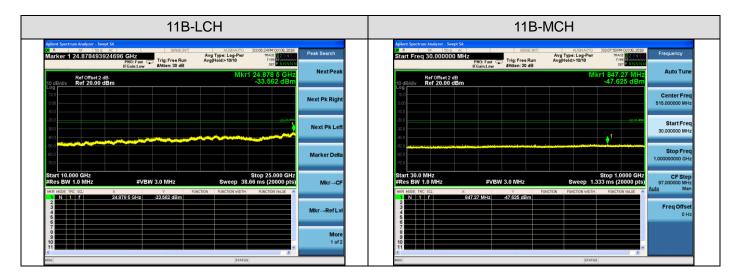


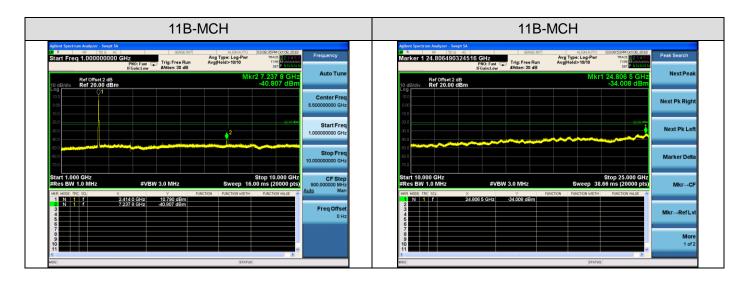
9.4. LIMITS AND MEASUREMENT RESULT

LIMITS AND MEASUREMENT RESULT						
Angliaghta Limite	Measurement Result					
Applicable Limits	Test Data	Criteria				
In any 100 KHz Bandwidth Outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produce by the intentional radiator shall be at least 30 dB below that in 100KHz bandwidth within the band that contains the highest level of the desired power. In addition, radiation emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in§15.209(a))	Refer Test Graph	PASS				



	11B-	LCH		11B-LCH
Aglent Spectrum Analyzer - Swept SA DE R RE SO AC Marker 1 766.60633031	SENSE:INT	ALIGNAUTO 03:02:50 PM Oct 08 Avg Type: Log-Pwr TRACE Avg Hoid>10/10 TVP	455 Peak Search	Addred Spectrum Analyzer, Swept SA SPECEINT 4,339,807.0 (28,05,46,040,02,02,218) Frequency Start Freq 1.0000000000 GHz Start Freq 1.0000000000 GHz Avg Type: Log-Por Tradition of the second secon
Ref Offset 2 dB		Mkr1 766.61 M -57.218 d	IHZ NextPeak Bm	Ref Offset 2 dB Mkr2 7,235 5 GHz 10 dB/div Ref 20.00 dBm -41.434 dBm
10.0 0.00 -10.0			Next Pk Right	100 01 Center 100 5.50000000 100 5.50000000
-20.0			Next Pk Left	20 0
40.0 60.0 -70.0			Marker Delta	500 Stop
Start 30.0 MHz #Res BW 100 kHz	#VBW 300 kHz	Stop 1.0000 Sweep 93.33 ms (2000	pts) Mkr→CF	Start 1.000 GHz Stop 10.000 GHz CF 5 #Res BW 1.0 MHz #VBW 3.0 MHz Sweep 16.00 ms (2000 PHz) 900.000000
MKR MODE TRC SCL >	< ү р 766.61 MHz -57.218 dBm	NCTION FUNCTION WIDTH FUNCTION VALUE	^ Mkr→RefLvl	NR I Z Y FUNCTION PUNCTION
			More	
8 9 10 11			1 of 2	





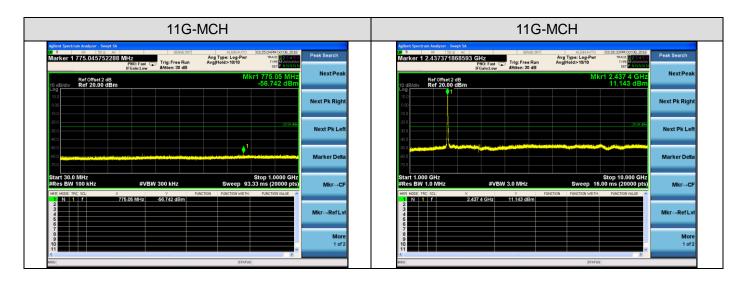


11B-HCH		11B-HCH
Applied Spectrum Analyser - Sampt SA SP (200 A C) SP (200 A C)	456 Peak Search	Agitant Spectrum Analyser - Swept 5A Sectors Augest 5A Sectors Augest 5A BW VI deo BW 3.0 MHz PR0: Fast Car Trig: Free Run Avgitelds+1010 031453PR0ct09,2018 BW VI deo BW 3.0 MHz PR0: Fast Car Trig: Free Run Avgitelds+1010 rot BR BW
RefOffset2.dB Mkr1.835.29 M 10 dB/div Ref 20.00 dBm -58.045 dB	Hz NextPeak 3m	Ref Offset2 dB 10 MHz 10 dB/dly Ref 20.00 dBm -39.999 dBm
	Next Pk Right	Cog ↓ Video BW 0.0 ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓
	Next Pk Left	00
800 600	Marker Delta	42.0 Span: 3dB R9W 100 70.0 Auto Man
Start 30.0 MHz Stop 1.0000 C #Res BW 100 kHz #VBW 300 kHz Sweep 93.33 ms (20000) MR NODE The Stul × Y N 10 f 835.29 MHz \$50.45 gBm)	pts) Mkr→CF	Start 1.000 GHz Stop 10.000 GHz #Res BW 1.0 MHz #VBW 3.0 MHz Sweep 16.00 ms (20000 pts) MR MORE TRC SQL X Y NI 1 2.459 9 GHz 9.599 Gm
1 1 1 00/042 MPM 00/042 MPM 2 1 1 00/042 MPM 00/042 MPM 3 1 1 00/042 MPM 00/042 MPM 4 1 1 1 00/042 MPM 00/042 MPM 5 1 1 1 00/042 MPM 00/042 MPM	Mkr→RefLvl	2 Y 1 Y 4992 2 VH 3090 00m 3 4 4324 2 OH 33999 00m 4 5 5 6 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7
	More 1 of 2	
MSG STATUS		NSG STATUS

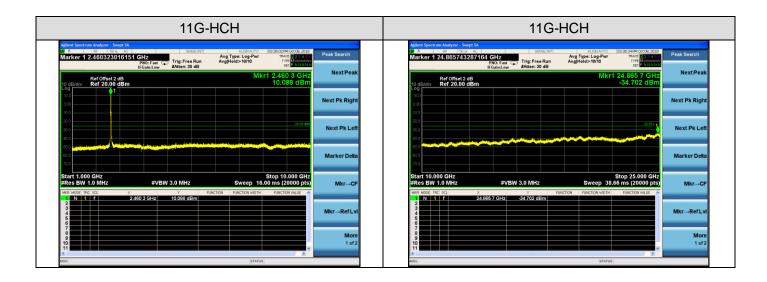
11B-HCH	11G-LCH
Agletif Synchram Analyzer Same	Agence Spectrum Analyzer Server 1 Accentum Analyzer Server 1 Accentum Analyzer Peak Search Marker 1 355,760938047 MHz FR0: Fast Trig: Free Run Avg Type: Log-Pur Trice Pare Run Avg/Index-N010 Peak Search Figure 1 0 Figure 1 0
Ref offset2 dB Mkr1 24.862 7 GHz Next Peak	RefOrmet2 dB Mkr1 858.76 MHz NextPeak
100 Next Pk Right	100
200	200
500 Marker Delta	100 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Start 10.000 CHz Stop 25.000 CHz #Res BW 1.0 MHz #VBW 3.0 MHz Sweep 38.66 ms (20000 pts) Mkr—CF	Start 30.0 MHz Stop 1.0000 CHz #Res BW 100 kHz ≢VBW 300 kHz Sweep 93.33 ms (20000 pts) Mkr.—CF
NR NGC Tr Y PARCTON PARCTON WOTH Parcton would Parcton would	NRM KR0E TES SGL X Y Pullchol Pullchol </td
9 More 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	9 More 10 10 10 10 10 10 10 10 10 10 10 10 10
K STATUS	K STATUS

· · · · · · · · · · · · · · · · · · ·	I1G-LCH	11G-LC	;H
Aglient Spectrum Analyzer - Swept SA ON R 50 20 AC Video BW 3.0 MHz PN0: Fast Tigs IFGaint.ow	Avg Type: Log-Pwr TRACE RESIDENT Tree Run Avg Hold>10/10 Type 20 dB Res BW	Agland Spectrum Analyzer - Swept SA (2) 8 50 0 - Ac SECEDIM Marker 124.8687434374172 GHz FNO: Fast FRO: Fast France August Aug	ALIGNAUTO 00921550M40ct08,2018 Type:Log-Pur THAC IP22C T IHeid>10/10 TYPE 20197110 cor 201971111
Ref Offset 2 dB 10 dB/div Ref 20.00 dBm	Mkr1 2.413 1 GHz 8.826 dBm	Ref Offset 2 dB 10 dB/div Ref 20.00 dBm	Mkr1 24.868 7 GHz -33.425 dBm
100 100 -100	Video BW 3.0 MHz Auto Man	10.0 0.00 	Next Pk Right
200	Object VBW:3dB RBW 10.0 Auto Man		Asses Next Pk Left
50.0 months and a second secon	Span:3dB RBW 106 Auto Man	60.0 60.0 70.0	Marker Delta
Start 1.000 GHz #Res BW 1.0 MHz #VBW 3.0 M	Stop 10.000 GHz Hz Sweep 16.00 ms (20000 pts) [Gaussian,3 dB]	Start 10.000 GHz #Res BW 1.0 MHz #VBW 3.0 MHz	Stop 25.000 GHz Sweep 38.66 ms (20000 pts) Mkr→CF
NRR Mode: Thr (SL) X Y 1 N 1 f 2.4131 GHz 8.621 2 2 3 4 5 6 6 6 6 6 6 6 7 7 1000 Hz 1		MRI MOC THC SLI X Y FUNCTION 1 N 1 F 24.6597 GHz - 33.425 dBm 2 N 1 F 24.6597 GHz - 33.425 dBm 3	
		7	More
8 9 10 11	×		1 of 2

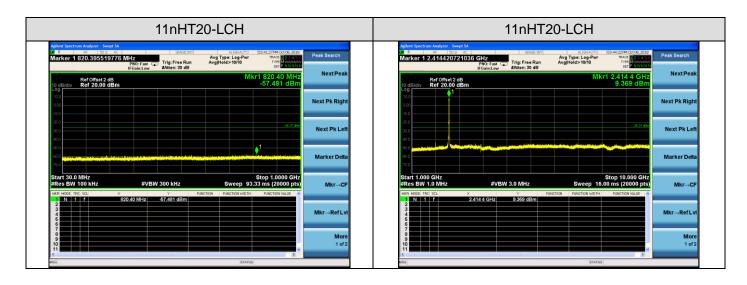


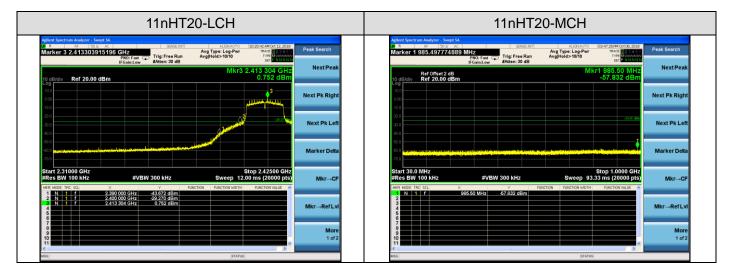


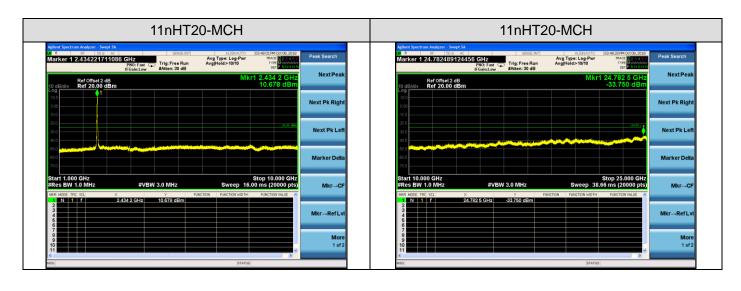
11G-M0	СН	11G-HCH			
Aglent Spectrum Analyzer , Swept SA D R Sector State Control Spectrum Marker 1 24,852242612131 GHz PR00: Fast Control Feat Control B #Rten: 30 dB	ALIGNAUTO 002205419400100,2018 vg Type: Log-Pwr mac Part and gHold>1010 per 2010	Adlend Spectrum Andyrer, Swygl 33 27 8 99 99 90 90 90 90 Marker 1 919.631481574 MHz PN0: Fast Trig: Free Run Avg]Hold>1 #Ktern: 30 dB	DET P N N N N N		
Ref Offset 2 dB 10 dB/div Ref 20.00 dBm	Mkr1 24.852 2 GHz -34.330 dBm	Ref Offset 2 dB 10 dB/div Ref 20.00 dBm	Mkr1 919.63 MHz -57.113 dBm		
	Next Pk Right		Next Pk Right		
	Next Pk Left		Next Pk Left		
	Marker Delta		1 Marker Delta		
Start 10.000 GHz #Res BW 1.0 MHz #VBW 3.0 MHz	Stop 25.000 GHz Sweep 38.66 ms (20000 pts) Mkr⊸CF		Stop 1.0000 GHz eep 93.33 ms (20000 pts)		
MM Mode Tric: SQ, X Y Punction N 1 f 24/852/2 GHz -34/380 dBm 3 4 4 5 5 5 5 2 GHz -34/380 dBm	PUNCTION WIDTH PUNCTION VALUE A	NRR MOCE THE SEL: X Y PUNCTON PUNCT N 1 7 919.63 MHz - 577.113 dBm 3 4 4 5 4 5 4 5 4 5 5 5 5 5 5 5 5	NON WOTH FUNCTION VALUE A		
7 8 9 10	More 1 of 2	7 8 9 10	More v		
<	2	(C)	>		







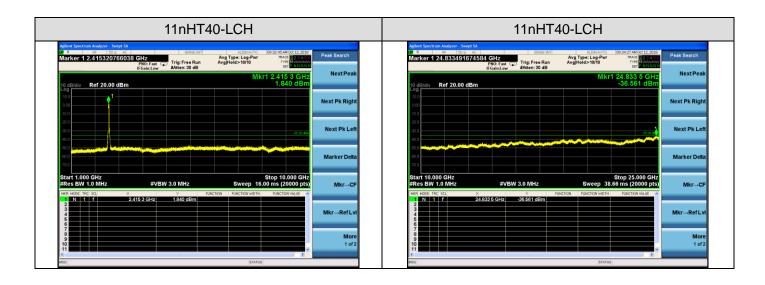




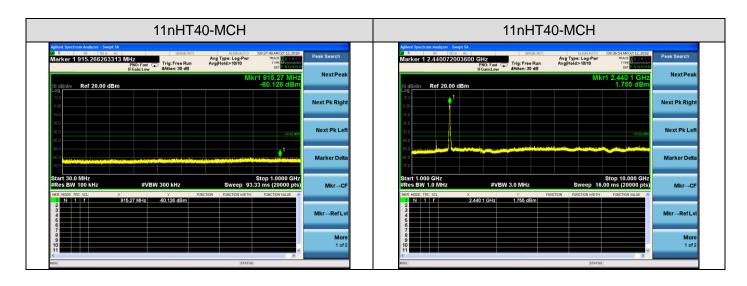


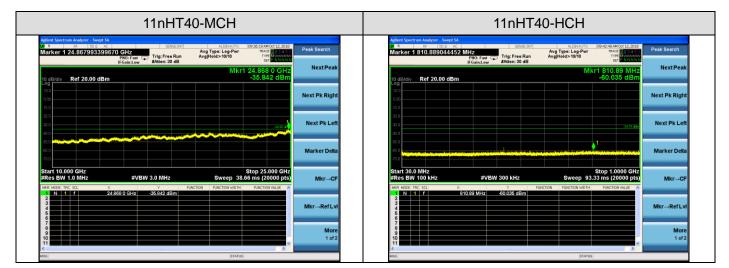
	11nHT2	0-HCH		11r	HT20-HCH	
Aglient Spectrum Analyzer - Swept SA Un R RE 50 Q AC Marker 1 820.929046452		ALIGNAUTO 0352-42PM Oct 08, 2018 Avg Type: Log-Pwr Avg Hold>10/10 Treat 12 4 4 5 Oct Physics 10 10 Cot Physics 10 10 10 10 10 10 10 10 10 10 10 10 10	Peak Search Next Peak	Marker 1 2.4652732636653 GHz PNO: Fast IFGein:Low #Atte	SENCE.INT ALIGNAUTO (03:52:15PM Oct:08, 2019 Avg Type: Log-Pwr maxim Poct 8, 2019 Free Run Avg Hold>10/10 r/vc n: 30 dB ref Putternant MKr1 2,455 3,GHz	Peak Search Next Peak
Ref Offset 2 dB 10 dB/div Ref 20.00 dBm 10 0 10.0 0.0		-58.178 dBm	Next Pk Right	Ref Offset2 dB Ref 20.00 dBm Log 0 0 100 0 0	8.790 dBm	Next Pk Right
-10.0 -20.0 -30.0 -40.0		-25.57 404	Next Pk Left	-100 		Next Pk Left
-60.0 -60.0 -70.0			Marker Delta	40.0 4000 4000 4000 4000 4000 4000 4000		Marker Delta
Start 30.0 MHz #Res BW 100 kHz MKR MODE TRE SCL X		Stop 1.0000 GHz Sweep 93.33 ms (20000 pts)	Mkr→CF	Start 1.000 GHz #VBW 3.0 M #Res BW 1.0 MHz #VBW 3.0 M MKR MODE TRC SCL X Y	FUNCTION FUNCTION WIDTH FUNCTION VALUE	Mkr→CF
1 N 1 f	820.93 MHz 58.178 dBm		Mkr→RefLvl	1 N 1 f 2.485 3 GHz 8.79 2 3 4 5 6 9	9 dBm	Mkr→RefLvl
8 9 10 11		×	More 1 of 2	/ 8 9 10 11 €		More 1 of 2
		STATUS			STATUS	

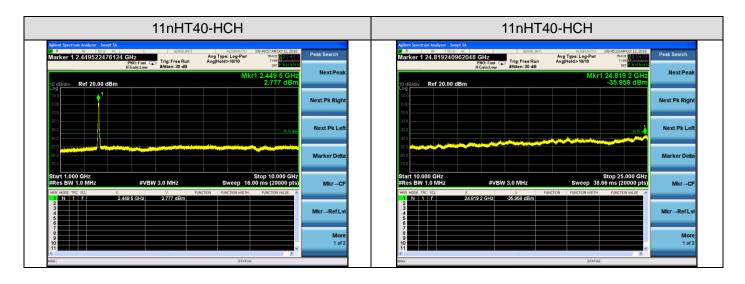
Aglent Spectrum Analyzer . Swept SA Cl. R RS 502 AC SENSE NT Marker 1 24,836491824591 GHz PN0: Fast Trig: Free Run IF6and upw	Avg Type: Log-Pwr TRACE Black 5.6 Peak Search	Aglent Spectrum Analyzer - Swept SA 0. R 100 AC 100 AC 100 AC 100 Marker 1 918.273413671 MHz PNO: Fast C IFGand.ow	SENSE:INT] ALIGNAUTO [00 Avg Type: Log-Pwr Trig: Free Run Avg[Hold>10/10 #Atten: 30 dB	9:32:13 AM Oct 12, 2018 TRACE 12, 3 4 5 5 TYPE MANUAL N
Ref Offset 2 dB 10 dB/div Ref 20.00 dBm	Mkr1 24.836 5 GHz NextPeak -34.219 dBm	10 dB/div Ref 20.00 dBm		918.27 MHz Next Peak -59.839 dBm
	Next Pk Right	10.0 0.00 		Next Pk Righ
	Next Pk Left	-20.0 		Next Pk Lef
300	Next Pk Left	30.0		Next Pk Lef
Start 10.000 GHz #Res BW 1.0 MHz #VBW 3.0 MHz	Next Pk Left Marker Delta Stop 25.000 GHz Sweep 38.66 ms (20000 pts) MkrCF		W 300 kHz Sweep 93.33	0.000 CHz 1 ms (20000 CHz 1 ms (20000 CHz) Mkr.→CF
500	Next Pk Left Marker Delta Stop 25.000 GHz		W 300 kHz Sweep 93.33 V 36839 dBm Ancton Anthony S9839 dBm	top 1.0000 GHz













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.

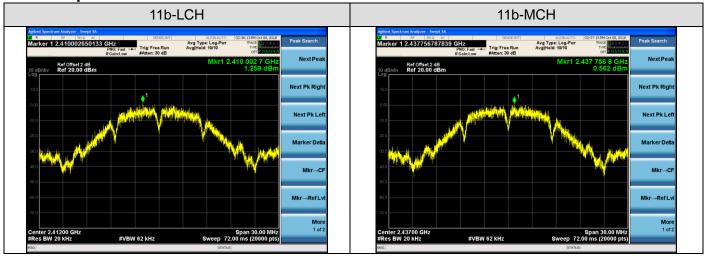


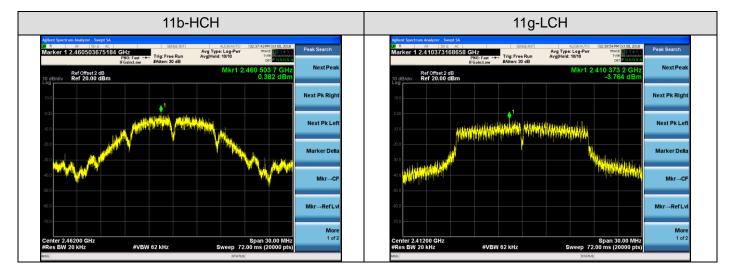
10.4 LIMITS AND MEASUREMENT RESULT

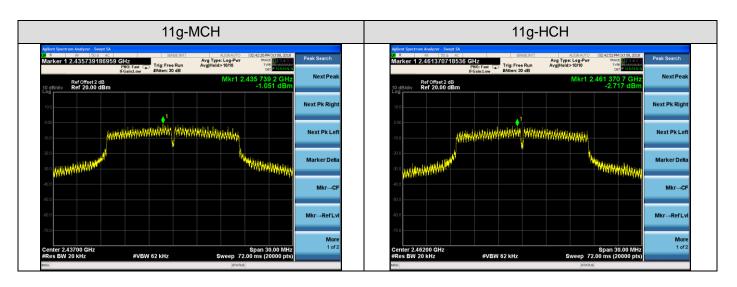
Mode	Channel	PSD [dBm/20kHz]	Limit[dBm/3kHz]	Verdict
	LCH	1.259	8	PASS
11b	MCH	0.562	8	PASS
	НСН	0.382	8	PASS
	LCH	-3.764	8	PASS
11g	MCH	-1.051	8	PASS
	НСН	-2.717	8	PASS
	LCH	-2.655	8	PASS
11nHT20	MCH	-1.279	8	PASS
	НСН	-1.455	8	PASS
	LCH	-11.944	8	PASS
11NHT40	MCH	-11.890	8	PASS
	HCH	-11.686	8	PASS



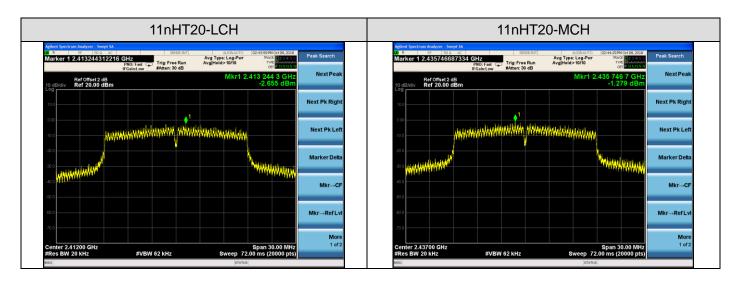
Test Graph

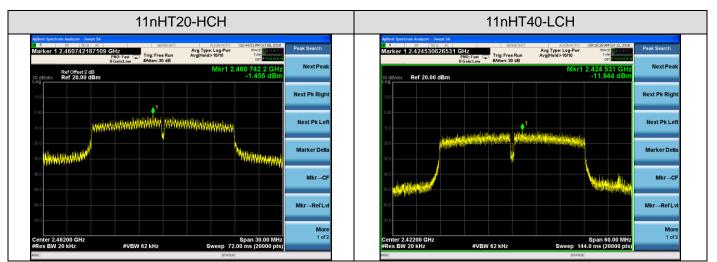


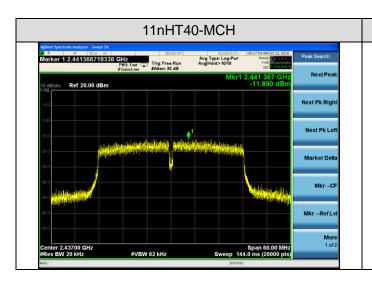


















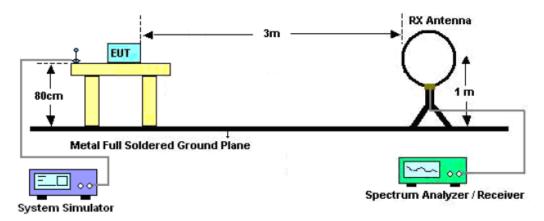
11. RADIATED EMISSION

11.1. MEASUREMENT PROCEDURE

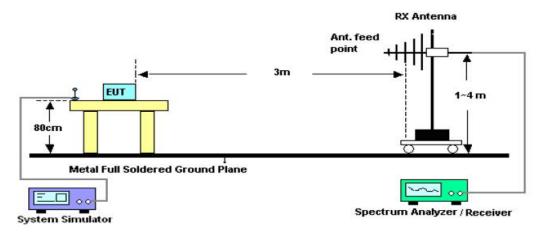
- 1. The EUT was placed on the top of the turntable 0.8 or 1.5 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
- 2. Power on the EUT and all the supporting units. The turntable was rotated 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.



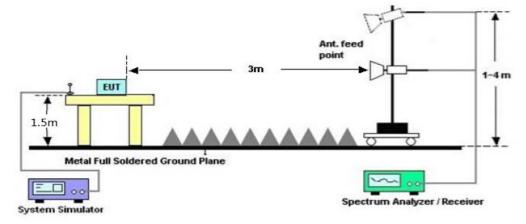
Radiated Emission Test-Setup Frequency Below 30MHz



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.

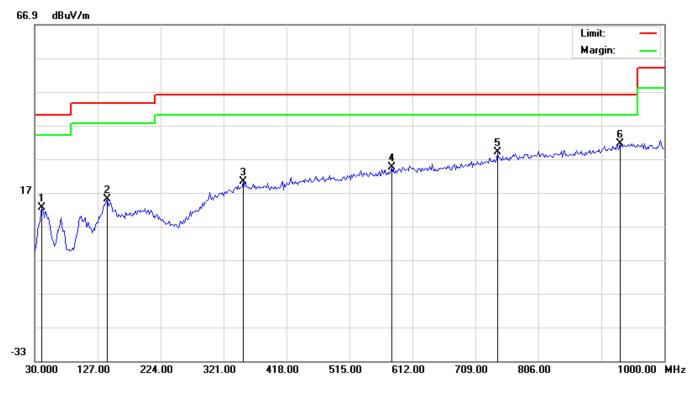


RADIATED EMISSION BELOW 30MHZ

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

RADIATED EMISSION BELOW 1GHZ

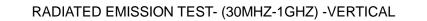
RADIATED EMISSION TEST- (30MHZ-1GHZ) -HORIZONTAL

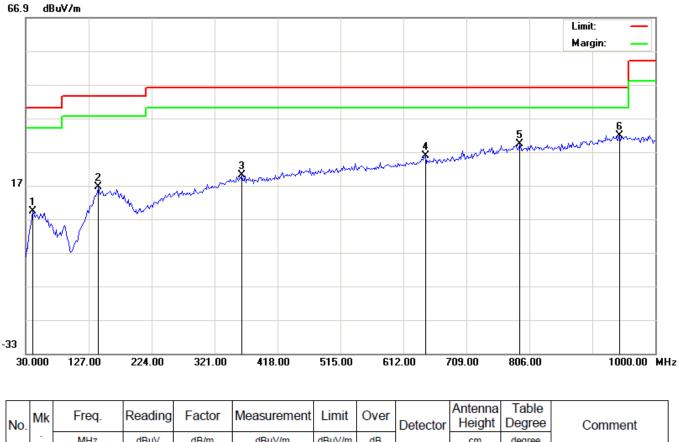


No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height		Comment
	•	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	degree	
1		41.3167	0.64	11.81	12.45	40.00	-27.55	peak			
2		141.5500	0.18	14.82	15.00	43.50	-28.50	peak			
3		351.7167	1.41	18.75	20.16	46.00	-25.84	peak			
4		579.6667	1.39	23.22	24.61	46.00	-21.39	peak			
5		742.9500	2.48	26.43	28.91	46.00	-17.09	peak			
6	*	932.1000	2.06	29.50	31.56	46.00	-14.44	peak			

RESULT: PASS







No.	IVIN	1104.	licuality	1 40101	mododiomoni	2	0.0.	Detector	Height	Degree	Comment
	•	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	degree	
1		41.3167	0.35	8.81	9.16	40.00	-30.84	peak			
2		141.5500	1.31	15.21	16.52	43.50	-26.98	peak			
3		363.0333	1.20	18.83	20.03	46.00	-25.97	peak			
4		645.9500	2.13	23.76	25.89	46.00	-20.11	peak			
5		791.4500	2.15	27.20	29.35	46.00	-16.65	peak			
6	*	945.0333	1.99	29.86	31.85	46.00	-14.15	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 2412MHz									
4824	50.11	74	-23.89	Pk	Horizontal				
4824	38.42	54	-15.58	AV	Horizontal				
7236	50.12	74	-23.88	pk	Horizontal				
7236	36.39	54	-17.61	AV	Horizontal				
4824	51.26	74	-22.74	Pk	Vertical				
4824	35.55	54	-18.45	AV	Vertical				
7236	51.16	74	-22.84	Pk	Vertical				
7236	39.22	54	-14.78	AV	Vertical				
		TX 11b 2437Mł	Ηz						
4874	49.42	74	-24.58	Pk	Horizontal				
4874	36.23	54	-17.77	AV	Horizontal				
7311	45.51	74	-28.49	Pk	Horizontal				
7311	35.29	54	-18.71	AV	Horizontal				
4874	49.42	74	-24.58	Pk	Vertical				
4874	40.69	54	-13.31	AV	Vertical				
7311	48.34	74	-25.66	Pk	Vertical				
7311	38.47	54	-15.53	AV	Vertical				
		TX 11b 2462M	Ηz						
4924	49.66	74	-24.34	Pk	Horizontal				
4924	35.97	54	-18.03	AV	Horizontal				
7386	49.16	74	-24.84	Pk	Horizontal				
7386	40.65	54	-13.35	AV	Horizontal				
4924	50.33	74	-23.67	Pk	Vertical				
4924	38.49	54	-15.51	AV	Vertical				
7386	49.25	74	-24.75	Pk	Vertical				
7386	37.36	54	-16.64	AV	Vertical				

RESULT: PASS Note:

1. Margin = Emission Leve - 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

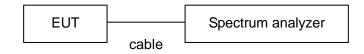
b)Set RBW=100kHz,VBW=300kHz

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

12.2. TEST SET-UP

Radiated same as 11.2

Conducted set up





12.3. RADIATED TEST RESULT

Frequency	Emission Level	Limits	Margin	Detector	Comment				
(MHz)	(dBµV/m)	(dBµV/m)	(dB)	Туре	Comment				
TX 11b 2412MHz									
2399.9	48.11	74	-25.89	pk	Horizontal				
2399.9	42.33	54	-11.67	AV	Horizontal				
2400	50.66	74	-23.34	pk	Horizontal				
2400	35.97	54	-18.03	AV	Horizontal				
2399.9	53.42	74	-20.58	pk	Vertical				
2399.9	38.39	54	-15.61	AV	Vertical				
2400	49.47	74	-24.53	pk	Vertical				
2400	38.53	54	-15.47	AV	Vertical				
		TX 11b 2	2462MHz						
2483.5	49.33	74	-24.67	pk	Horizontal				
2483.5	37.06	54	-16.94	AV	Horizontal				
2483.6	45.49	74	-28.51	pk	Horizontal				
2483.6	40.09	54	-13.91	AV	Horizontal				
2483.5	45.44	74	-28.56	pk	Vertical				
2483.5	34.16	54	-19.84	AV	Vertical				
2483.6	53.34	74	-20.66	pk	Vertical				
2483.6	39.19	54	-14.81	AV	Vertical				

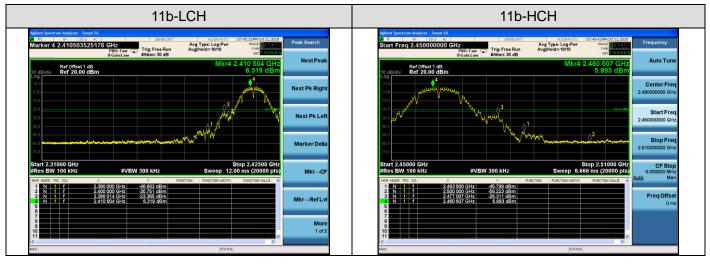
RESULT: PASS

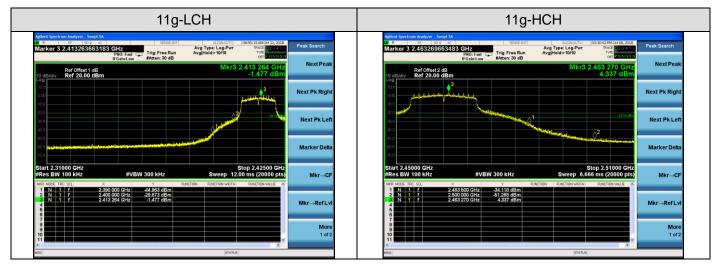
Note: Scan with 11b,11g,11n, the worst case is 11b Mode Margin= Emission Level -Limit.



12.4. CONDUCTED TEST RESULT

Test Graph











13. FCC LINE CONDUCTED EMISSION TEST

13.1. LIMITS OF LINE CONDUCTED EMISSION TEST

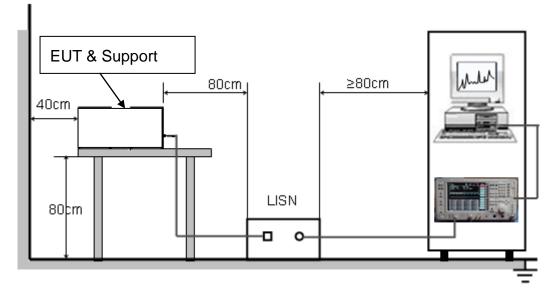
Frequency	Maximum RF Line Voltage				
Frequency	Q.P.(dBuV)	Average(dBuV)			
150kHz~500kHz	66-56	56-46			
500kHz~5MHz	56	46			
5MHz~30MHz	60	50			

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.

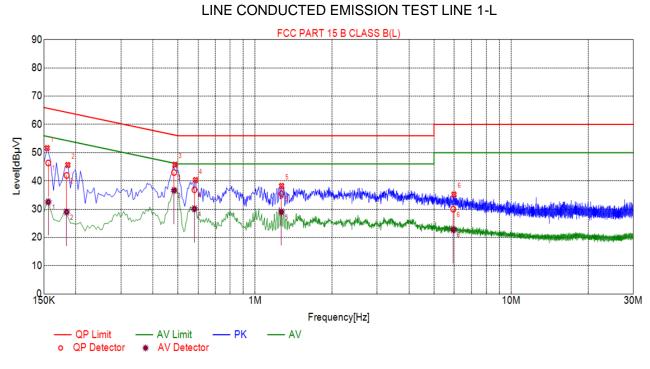


13.4. FINAL PROCEDURE OF LINE CONDUCTED EMISSION TEST

- 1. EUT and support equipment was set up on the test bench as per step 2 of the preliminary test.
- 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.



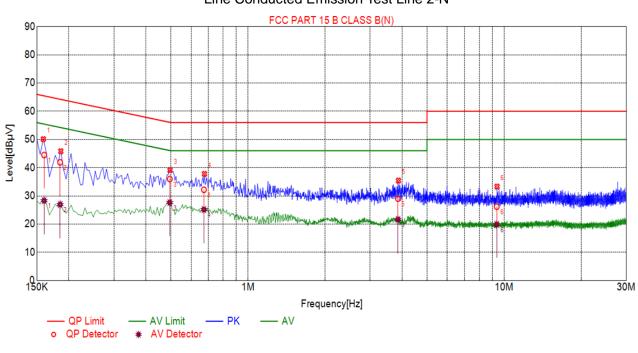




Suspected List									
NO.	Freq. [MHz]	Level [dBµV]	Factor [dB]	Limit [dBµV]	Margin [dB]	Detector			
1	0.1545	51.60	10.03	65.75	14.15	PK			
2	0.1860	45.64	10.05	64.21	18.57	РК			
3	0.4875	45.75	10.04	56.21	10.46	PK			
4	0.5865	40.29	10.05	56.00	15.71	PK			
5	1.2705	38.23	10.09	56.00	17.77	PK			
6	5.9820	35.20	10.23	60.00	24.80	PK			

Final Data List									
NO.	Freq. [MHz]	Factor [dB]	QP Value [dBµV]	QP Limit [dBµV]	QP Margin [dB]	AV Value [dBμV]	AV Limit [dBμV]	AV Margin [dB]	
1	0.1560	10.02	46.35	65.67	19.32	32.57	55.67	23.10	
2	0.1841	10.05	41.95	64.30	22.35	28.99	54.30	25.31	
3	0.4834	10.04	42.97	56.28	13.31	36.64	46.28	9.64	
4	0.5806	10.05	36.86	56.00	19.14	30.13	46.00	15.87	
5	1.2694	10.09	35.47	56.00	20.53	29.03	46.00	16.97	
6	5.9441	10.23	30.00	60.00	30.00	22.75	50.00	27.25	





Line Conducted Emission Test Line 2-N

Susp	Suspected List									
NO.	Freq. [MHz]	Level [dBµV]	Factor [dB]	Limit [dBµV]	Margin [dB]	Detector				
1	0.1590	50.11	10.01	65.52	15.41	PK				
2	0.1860	45.84	10.05	64.21	18.37	РК				
3	0.4965	39.09	10.04	56.06	16.97	PK				
4	0.6765	37.80	10.05	56.00	18.20	PK				
5	3.8670	35.42	10.25	56.00	20.58	PK				
6	9.3840	33.29	10.10	60.00	26.71	PK				

Final Data List								
NO.	Freq. [MHz]	Factor [dB]	QP Value [dBµV]	QP Limit [dBµV]	QP Margin [dB]	AV Value [dBμV]	AV Limit [dBµV]	AV Margin [dB]
1	0.1601	10.00	44.49	65.46	20.97	28.31	55.46	27.15
2	0.1849	10.05	41.88	64.26	22.38	26.95	54.26	27.31
3	0.4954	10.04	35.97	56.08	20.11	27.61	46.08	18.47
4	0.6732	10.05	32.17	56.00	23.83	25.15	46.00	20.85
5	3.8519	10.25	29.02	56.00	26.98	21.62	46.00	24.38
6	9.3528	10.10	26.16	60.00	33.84	19.90	50.00	30.10



APPENDIX A: PHOTOGRAPHS OF TEST SETUP LINE CONDUCTED EMISSION TEST SETUP

RADIATED EMISSION TEST SETUP





RADIATED EMISSION ABOVE 1G TEST SETUP



----END OF REPORT----