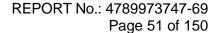




Page 50 of 150

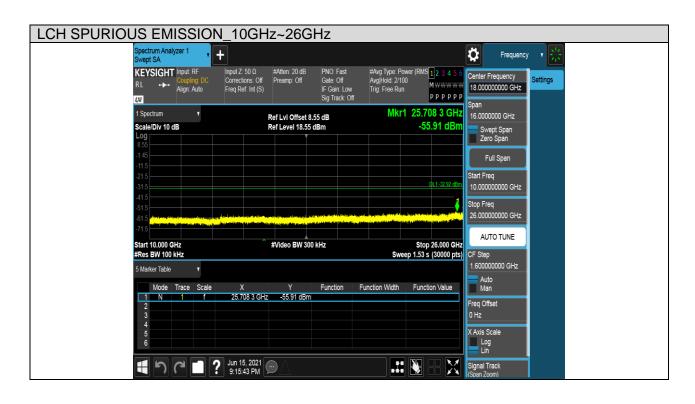
Test Mode	Channel	Verdict
11G	LCH	PASS







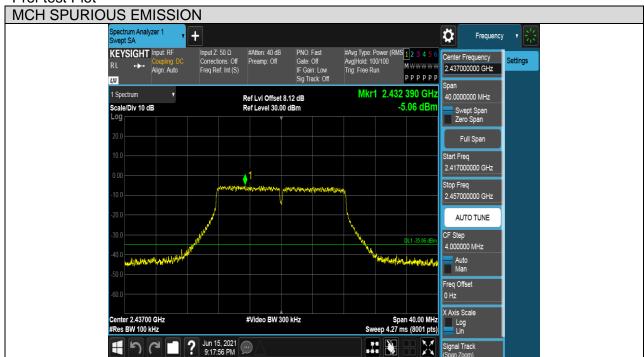


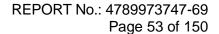




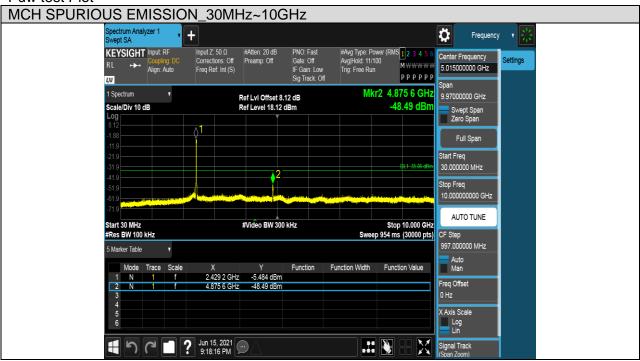
Page 52 of 150

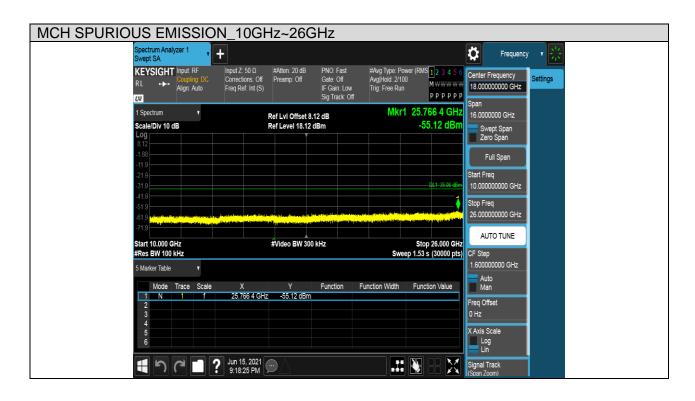
Test Mode	Channel	Verdict
11G	MCH	PASS







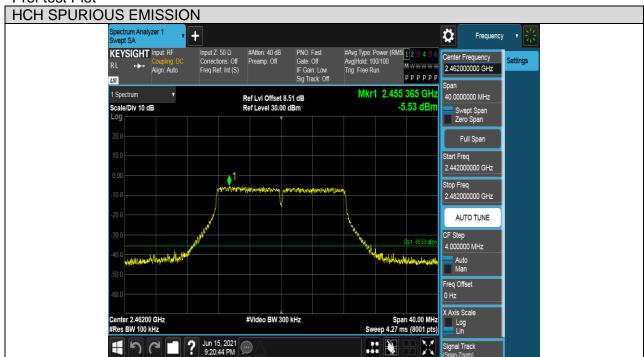


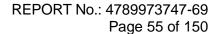




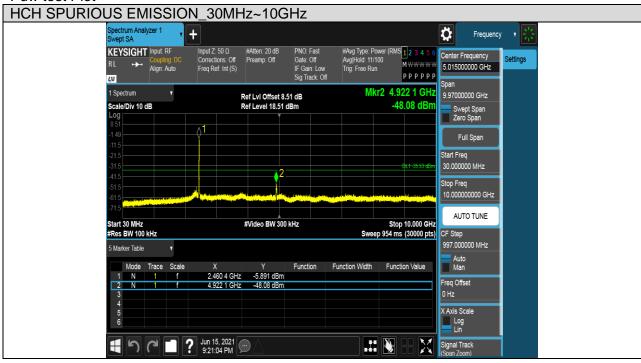
Page 54 of 150

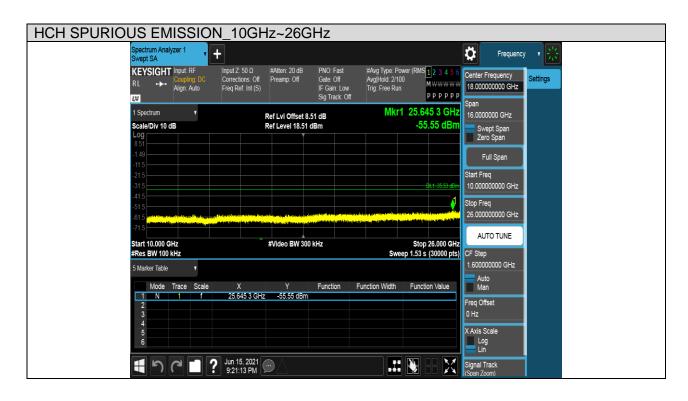
Test Mode	Channel	Verdict
11G	HCH	PASS







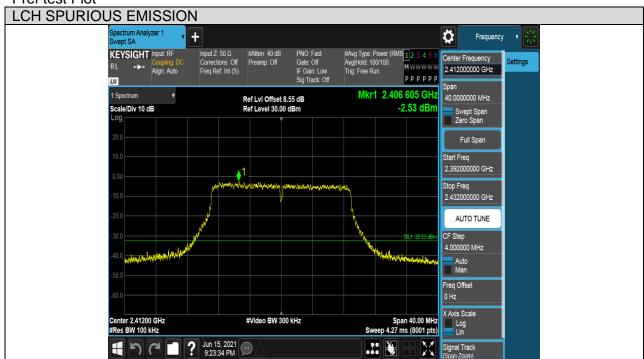


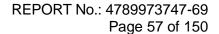




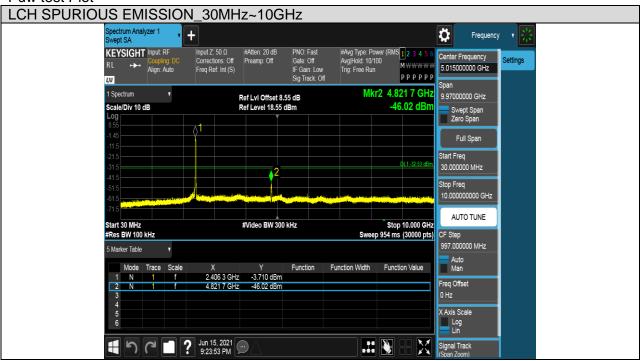
Page 56 of 150

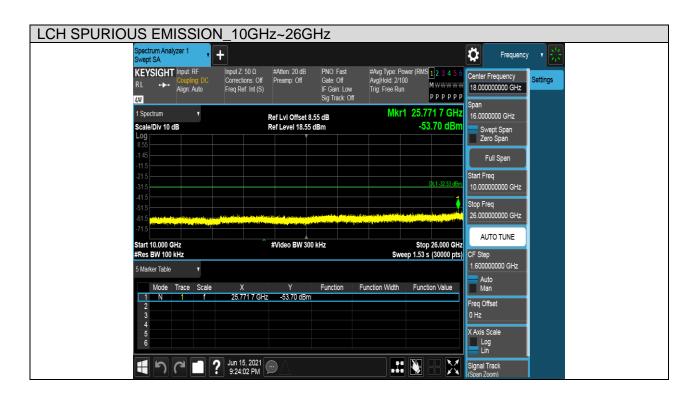
Test Mode	Channel	Verdict
11N HT20	LCH	PASS







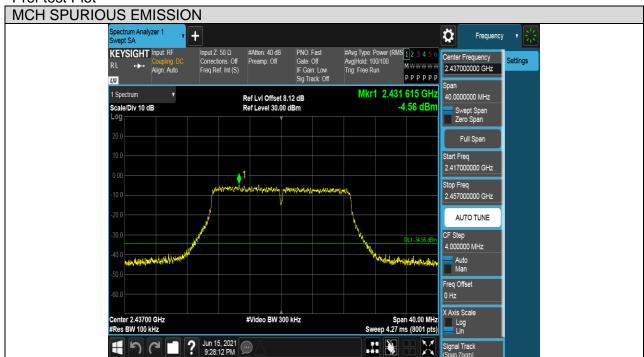


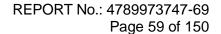




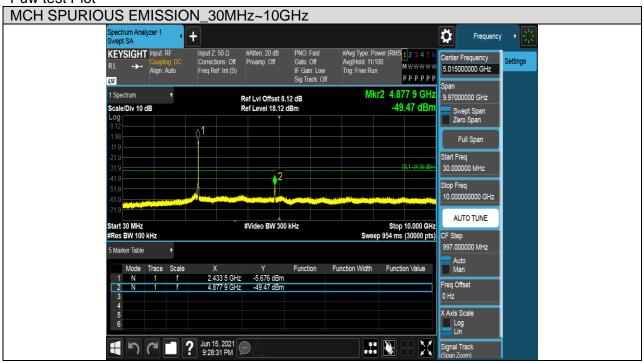
Page 58 of 150

Test Mode	Channel	Verdict
11N HT20	MCH	PASS







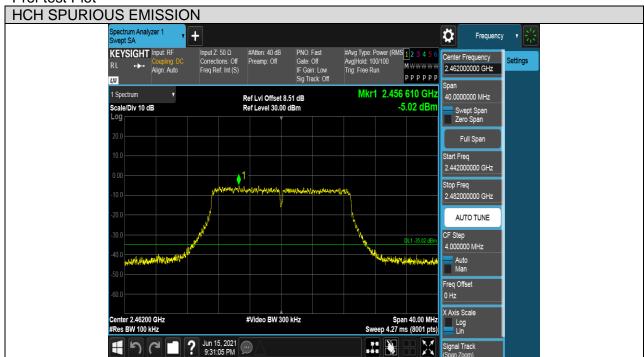




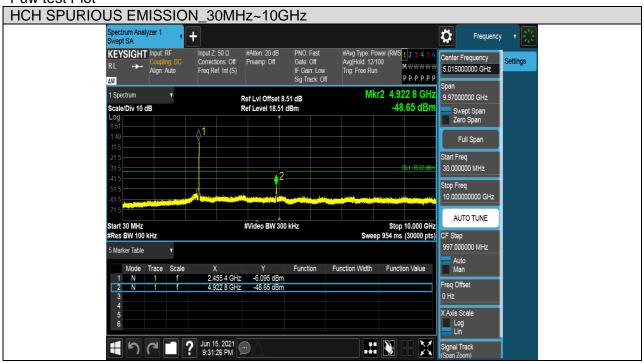


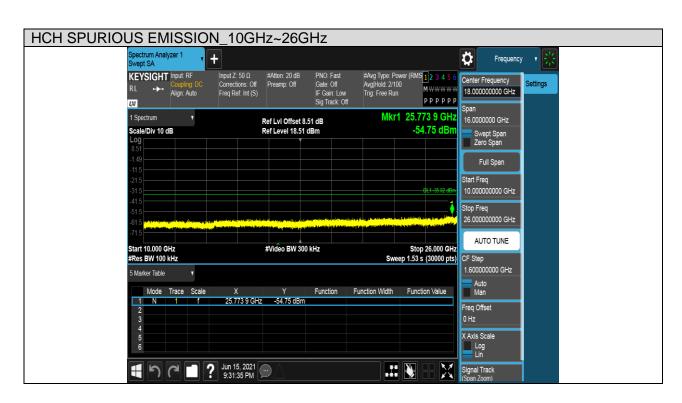
Page 60 of 150

Test Mode	Channel	Verdict
11N HT20	HCH	PASS





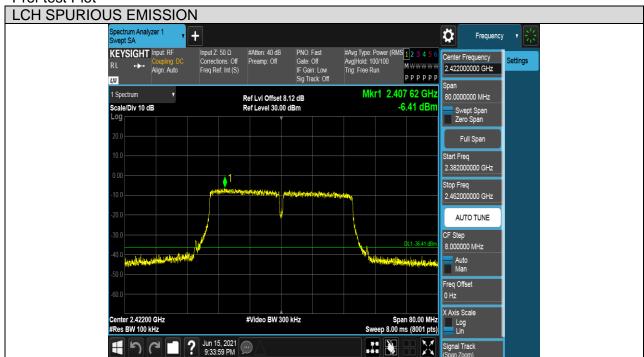


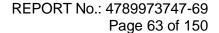




Page 62 of 150

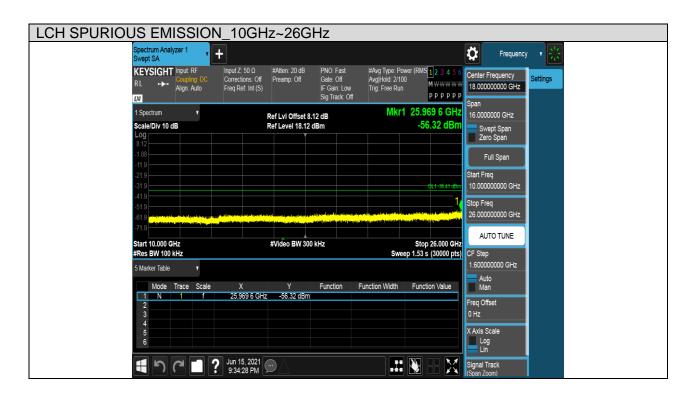
Test Mode	Channel	Verdict
11N HT40	LCH	PASS









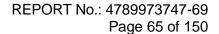




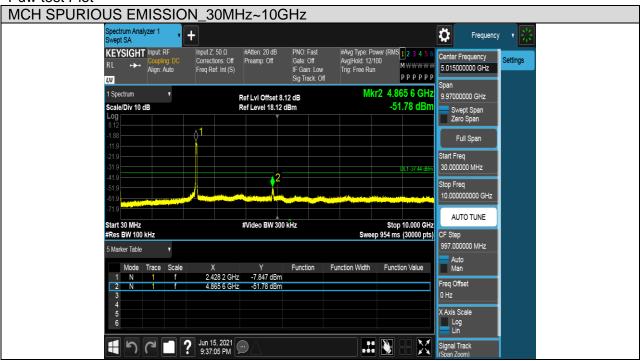
Page 64 of 150

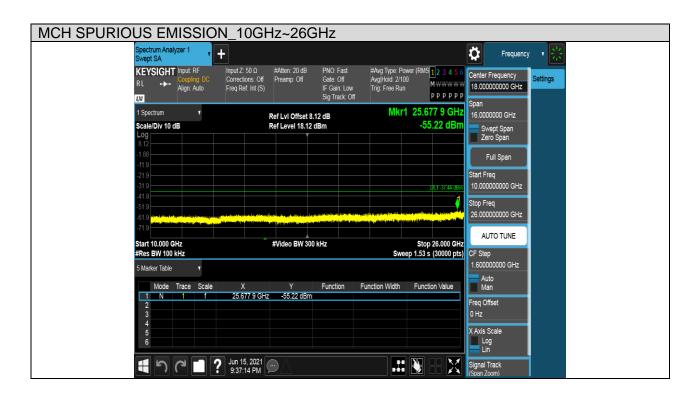
Test Mode	Channel	Verdict
11N HT40	MCH	PASS







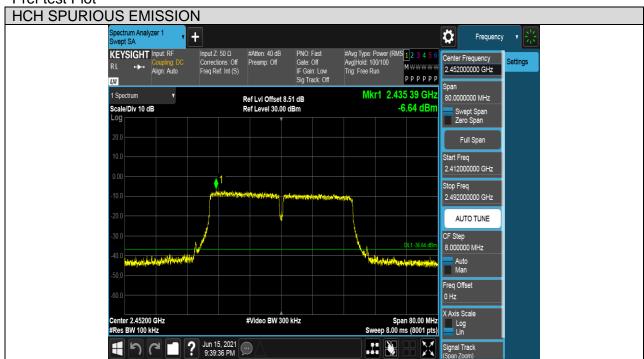


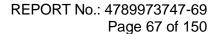




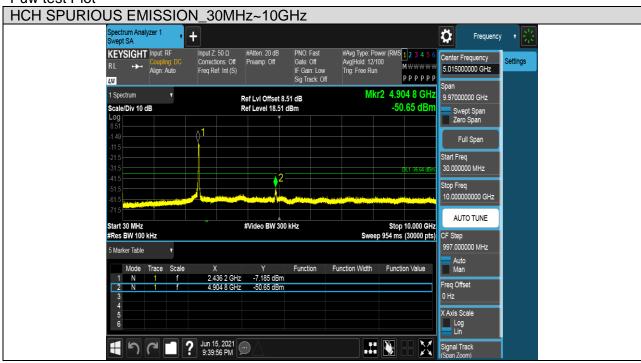
Page 66 of 150

Test Mode	Channel	Verdict
11N HT40	HCH	PASS













Page 68 of 150

## 7.6. RADIATED TEST RESULTS

## 7.6.1. LIMITS AND PROCEDURE

#### **LIMITS**

Please refer to FCC §15.205 and §15.209

Please refer to FCC KDB 558074

Radiation Disturbance Test Limit for FCC (Class B)(9KHz-1GHz)

Frequency	Field Strength	Measurement Distance
(MHz)	(microvolts/meter)	(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
960~1000	500	3

Note: 1) At frequencies at or above 30 MHz, measurements may be performed at a distance other than what is specified provided: measurements are not made in the near field except where it can be shown that near field measurements are appropriate due to the characteristics of the device; and it can be demonstrated that the signal levels needed to be measured at the distance employed can be detected by the measurement equipment. Measurements shall not be performed at a distance greater than 30 meters unless it can be further demonstrated that measurements at a distance of 30 meters or less are impractical. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse linear-distance for field strength measurements; inverse-linear-distance-squared for power density measurements).

(2) At frequencies below 30 MHz, measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field. Pending the development of an appropriate measurement procedure for measurements performed below 30 MHz, when performing measurements at a closer distance than specified, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade). This paragraph (f) shall not apply to Access BPL devices operating below 30 MHz.



Page 69 of 150

# Radiation Disturbance Test Limit for FCC (Above 1G)

Frequency (MHz)	dB(uV/m) (at 3 meters)	
	Peak	Average
Above 1000	74	54

## Restricted bands of operation

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
<sup>1</sup> 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	( <sup>2</sup> )
13.36-13.41			

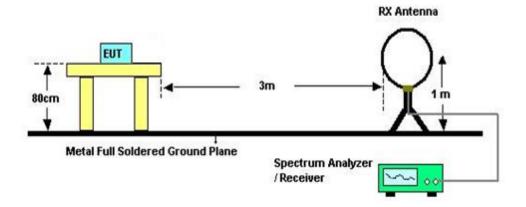
Note:  $^1$ Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.  $^2$ Above 38.6c



Page 70 of 150

#### TEST SETUP AND PROCEDURE

Below 30MHz



The setting of the spectrum analyser

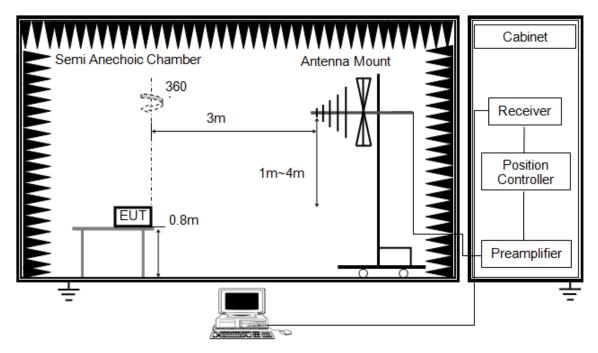
RBW	200Hz (From 9kHz to 0.15MHz)/ 9KHz (From 0.15MHz to 30MHz)
VBW	200Hz (From 9kHz to 0.15MHz)/ 9KHz (From 0.15MHz to 30MHz)
Sweep	Auto
Detector	Peak/QP/ Average
Trace	Max hold

- 1. The testing follows the guidelines in ANSI C63.10-2013
- 2. The EUT was arranged to its worst case and then turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both Horizontal, Face-on and Face-off polarizations of the antenna are set to make the measurement.
- 3. The EUT was placed on a turntable with 0.8 meter above ground.
- 4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a 1m height antenna tower.
- 5. The radiated emission limits are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector
- 6. For measurement below 1GHz, the initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured. If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.
- 7. For the actual test configuration, please refer to the related item in this test report (Photographs of the Test Configuration)



Page 71 of 150

Below 1G



## The setting of the spectrum analyser

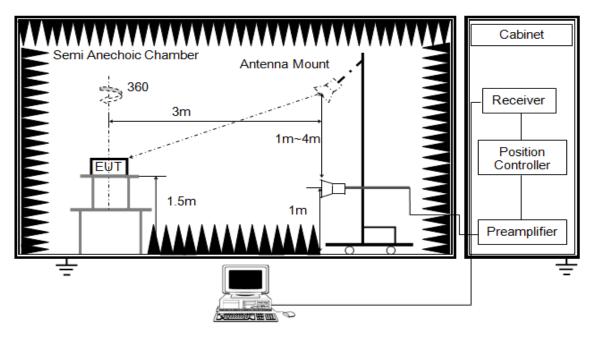
RBW	120K
VBW	300K
Sweep	Auto
Detector	Peak/QP
Trace	Max hold

- 1. The testing follows the guidelines in ANSI C63.10-2013.
- 2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- 3. The EUT was placed on a turntable with 0.8 meter above ground.
- 4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
- 5. For measurement below 1GHz, the initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured. If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.
- 6. For the actual test configuration, please refer to the related item in this test report (Photographs of the Test Configuration)



Page 72 of 150

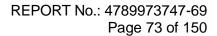
#### Above 1G



## The setting of the spectrum analyser

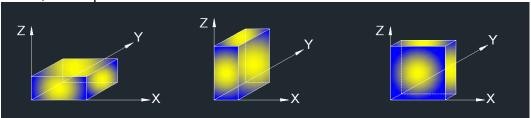
RBW	1M
VBW	PEAK:3M AVG: See note6
Sweep	Auto
Detector	Peak/Average(10Hz)
Trace	Max hold

- 1. The testing follows the guidelines in ANSI C63.10-2013.
- 2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- 3. The EUT was placed on a turntable with 1.5m above ground.
- 4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
- 5. For measurement above 1GHz, the emission measurement will be measured by the peak detector. This peak level, once corrected, must comply with the limit specified in Section 15.209.
- 6. For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 3 MHz for peak measurements and 1 MHz resolution bandwidth with set VBW ≤RBW/100, but not less than list in section 7.1 with average detector, max hold to run for at least 50 traces for average measurements.
- 7. For the actual test configuration, please refer to the related item in this test report (Photographs of the Test Configuration)





X axis, Y axis positions:



Note: For all radiated test, EUT in each of two orthogonal axis emissions had been tested, but only the worse case (X axis) data recorded in the report.



Page 74 of 150

# 7.6.2. TEST ENVIRONMENT

Temperature	22°C	Relative Humidity	56%
Atmosphere Pressure	101kPa	Test Voltage	AC 120V

# 7.6.3. RESTRICTED BANDEDGE

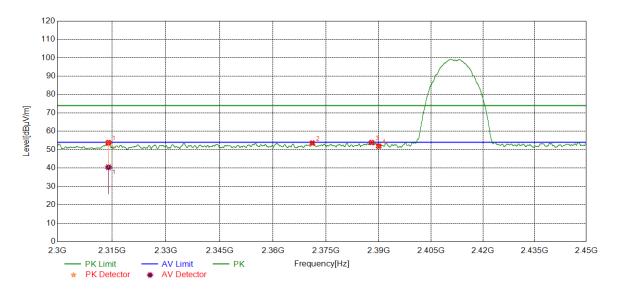
# **TEST RESULT TABLE**

Test Mode	Channel	Puw(dBm)	Verdict
	LCH	<limit< td=""><td>PASS</td></limit<>	PASS
11B	MCH	<limit< td=""><td>PASS</td></limit<>	PASS
	HCH	<limit< td=""><td>PASS</td></limit<>	PASS
	LCH	<limit< td=""><td>PASS</td></limit<>	PASS
11G	MCH	<limit< td=""><td>PASS</td></limit<>	PASS
	HCH	<limit< td=""><td>PASS</td></limit<>	PASS
	LCH	<limit< td=""><td>PASS</td></limit<>	PASS
11N HT20	MCH	<limit< td=""><td>PASS</td></limit<>	PASS
	HCH	<limit< td=""><td>PASS</td></limit<>	PASS
	LCH	<limit< td=""><td>PASS</td></limit<>	PASS
11N HT40	MCH	<limit< td=""><td>PASS</td></limit<>	PASS
	HCH	<limit< td=""><td>PASS</td></limit<>	PASS

Page 75 of 150

#### **TEST GRAPHS**

Test Mode	Channel	Polarization	Verdict
11B	LCH	Horizontal	PASS



#### PK Result:

No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2314.0643	41.53	12.32	53.85	74.00	-20.15	Horizontal
2	2371.1089	40.66	12.94	53.60	74.00	-20.40	Horizontal
3	2387.9672	40.82	13.07	53.89	74.00	-20.11	Horizontal
4	2390.0000	38.86	13.07	51.93	74.00	-22.07	Horizontal

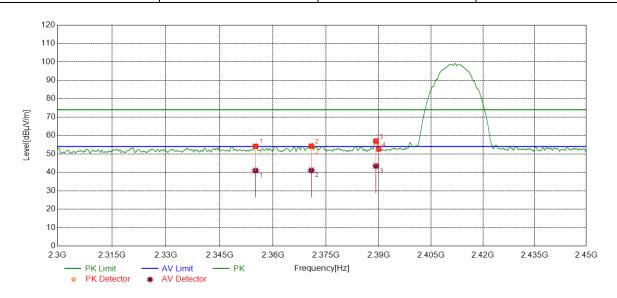
#### AV Result:

No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2314.0643	28.12	12.32	40.44	54.00	-13.56	Horizontal

- 2. Average detector: RBW: 1 MHz, VBW: 1/T MHz(refer to clause 7.1.);
- 3. Measurement = Reading Level + Correct Factor;
- 4. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



Test Mode	Channel	Polarization	Verdict
11B	LCH	Vertical	PASS



#### PK Result:

No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2355.0944	41.49	12.73	54.22	74.00	-19.78	Vertical
2	2370.8464	41.42	12.94	54.36	74.00	-19.64	Vertical
3	2389.2049	43.99	13.07	57.06	74.00	-16.94	Vertical
4	2390.0000	39.57	13.07	52.64	74.00	-21.36	Vertical

## AV Result:

No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2355.0944	28.23	12.73	40.96	54.00	-13.04	Vertical
2	2370.8464	28.13	12.94	41.07	54.00	-12.93	Vertical
3	2389.2049	30.36	13.07	43.43	54.00	-10.57	Vertical

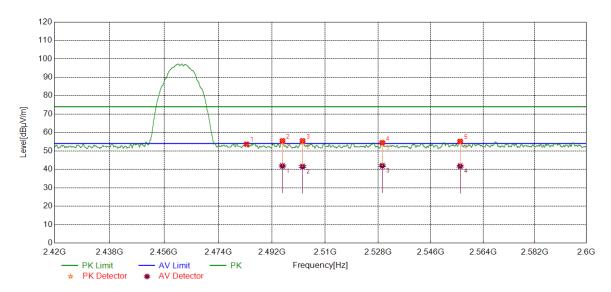
- 2. Average detector: RBW: 1 MHz, VBW: 1/T MHz(refer to clause 7.1.);
- 3. Measurement = Reading Level + Correct Factor;
- 4. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.





Page 77 of 150

Test Mode	Channel	Polarization	Verdict
11B	HCH	Horizontal	PASS



## PK Result:

LIV IVES	FR Result.									
No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark			
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]				
1	2483.5000	40.71	12.97	53.68	74.00	-20.32	Horizontal			
2	2495.5644	42.45	13.08	55.53	74.00	-18.47	Horizontal			
3	2502.3378	42.36	13.15	55.51	74.00	-18.49	Horizontal			
4	2529.3862	41.03	13.41	54.44	74.00	-19.56	Horizontal			
5	2556.0970	41.78	13.39	55.17	74.00	-18.83	Horizontal			

#### **AV Result:**

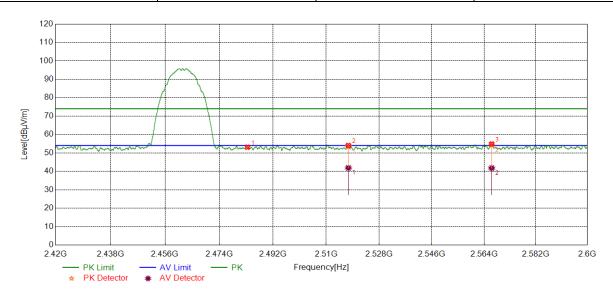
No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2495.5644	28.77	13.08	41.85	54.00	-12.15	Horizontal
2	2502.3378	28.35	13.15	41.50	54.00	-12.50	Horizontal
3	2529.3862	28.54	13.41	41.95	54.00	-12.05	Horizontal
4	2556.0970	28.36	13.39	41.75	54.00	-12.25	Horizontal

- 2. Average detector: RBW: 1 MHz, VBW: 1/T MHz(refer to clause 7.1.);
- 3. Measurement = Reading Level + Correct Factor;
- 4. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



REPORT No.: 4789973747-69 Page 78 of 150

Test Mode	Test Mode Channel		Verdict	
11B	11B HCH		PASS	



## PK Result:

No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2483.5000	40.15	12.97	53.12	74.00	-20.88	Vertical
2	2517.5047	40.82	13.21	54.03	74.00	-19.97	Vertical
3	2566.6283	41.39	13.44	54.83	74.00	-19.17	Vertical

#### AV Result:

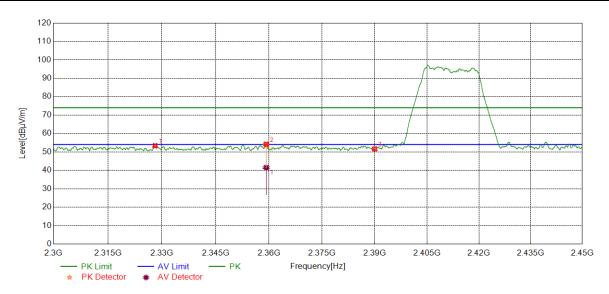
No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2517.5047	28.65	13.21	41.86	54.00	-12.14	Vertical
2	2566.6283	28.34	13.44	41.78	54.00	-12.22	Vertical

- 2. Average detector: RBW: 1 MHz, VBW: 1/T MHz(refer to clause 7.1.);
- 3. Measurement = Reading Level + Correct Factor;
- 4. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



Page 79 of 150

Test Mode	Test Mode Channel		Verdict	
11G	LCH	Horizontal	PASS	



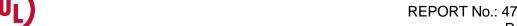
## PK Result:

No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2328.0910	40.91	12.45	53.36	74.00	-20.64	Horizontal
2	2359.2012	41.37	12.77	54.14	74.00	-19.86	Horizontal
3	2390.0000	38.58	13.07	51.65	74.00	-22.35	Horizontal

#### AV Result:

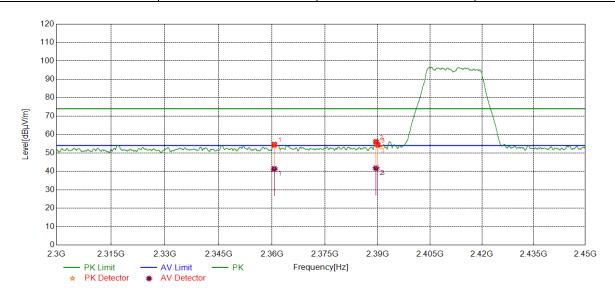
No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2359.2012	28.66	12.77	41.43	54.00	-12.57	Horizontal

- 2. Average detector: RBW: 1 MHz, VBW: 1/T MHz(refer to clause 7.1.);
- 3. Measurement = Reading Level + Correct Factor;
- 4. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



REPORT No.: 4789973747-69 Page 80 of 150

Test Mode	Channel	Polarization	Verdict	
11G	LCH	Vertical	PASS	



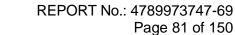
## PK Result:

No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2360.6451	41.79	12.78	54.57	74.00	-19.43	Vertical
2	2389.5237	42.99	13.07	56.06	74.00	-17.94	Vertical
3	2390.0000	41.32	13.07	54.39	74.00	-19.61	Vertical

#### AV Result:

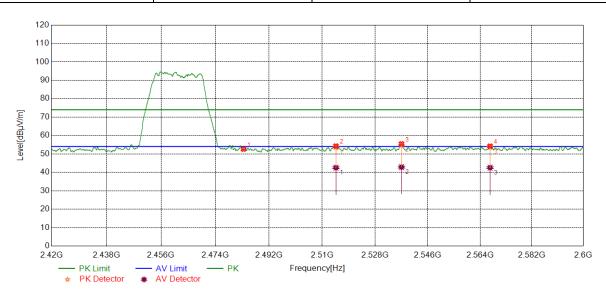
No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2360.6451	28.56	12.78	41.34	54.00	-12.66	Vertical
2	2389.5237	28.67	13.07	41.74	54.00	-12.26	Vertical
3	2390.0000	28.72	13.07	41.79	54.00	-12.21	Vertical

- 2. Average detector: RBW: 1 MHz, VBW: 1/T MHz(refer to clause 7.1.);
- 3. Measurement = Reading Level + Correct Factor;
- 4. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.





Test Mode Channel Polarization Verdict
11G HCH Horizontal PASS



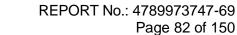
#### PK Result:

No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2483.5000	39.62	12.97	52.59	74.00	-21.41	Horizontal
2	2514.6468	41.06	13.21	54.27	74.00	-19.73	Horizontal
3	2536.9696	42.05	13.42	55.47	74.00	-18.53	Horizontal
4	2567.4609	40.78	13.44	54.22	74.00	-19.78	Horizontal

#### **AV Result:**

No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2514.6468	29.31	13.21	42.52	54.00	-11.48	Horizontal
2	2536.9696	29.43	13.42	42.85	54.00	-11.15	Horizontal
3	2567.4609	29.11	13.44	42.55	54.00	-11.45	Horizontal

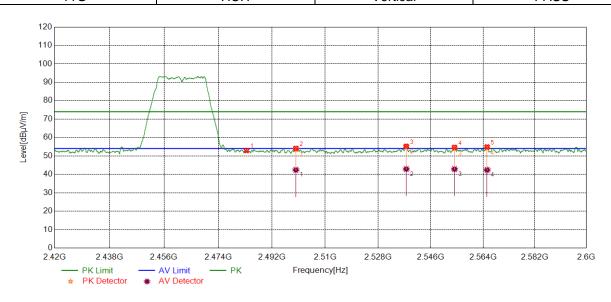
- 2. Average detector: RBW: 1 MHz, VBW: 1/T MHz(refer to clause 7.1.);
- 3. Measurement = Reading Level + Correct Factor;
- 4. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.





Test Mode Channel Polarization Verdict

11G HCH Vertical PASS



## PK Result:

FK Nesuit.								
No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark	
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]		
1	2483.5000	39.92	12.97	52.89	74.00	-21.11	Vertical	
2	2500.0875	40.98	13.14	54.12	74.00	-19.88	Vertical	
3	2537.5772	41.82	13.42	55.24	74.00	-18.76	Vertical	
4	2554.1393	41.30	13.38	54.68	74.00	-19.32	Vertical	
5	2565.3907	41.45	13.43	54.88	74.00	-19.12	Vertical	

#### **AV Result:**

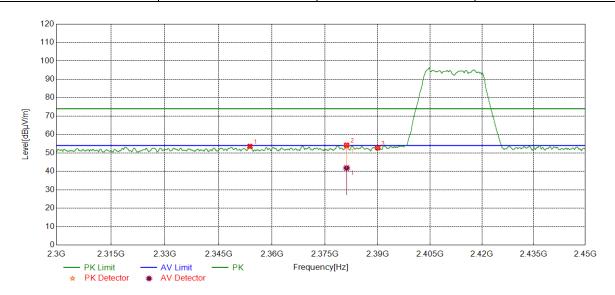
No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2500.0875	29.27	13.14	42.41	54.00	-11.59	Vertical
2	2537.5772	29.46	13.42	42.88	54.00	-11.12	Vertical
3	2554.1393	29.45	13.38	42.83	54.00	-11.17	Vertical
4	2565.3907	28.96	13.43	42.39	54.00	-11.61	Vertical

- 2. Average detector: RBW: 1 MHz, VBW: 1/T MHz(refer to clause 7.1.);
- 3. Measurement = Reading Level + Correct Factor;
- 4. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



Page 83 of 150

Test Mode	Channel	Polarization	Verdict	
11N HT20	LCH	Horizontal	PASS	



## PK Result:

No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2353.7817	40.84	12.72	53.56	74.00	-20.44	Horizontal
2	2381.1414	41.16	13.06	54.22	74.00	-19.78	Horizontal
3	2390.0000	39.68	13.07	52.75	74.00	-21.25	Horizontal

#### AV Result:

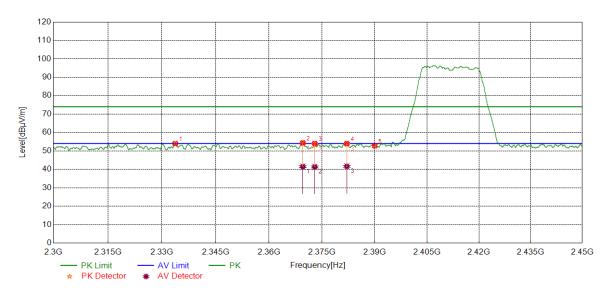
No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2381.1414	28.75	13.06	41.81	54.00	-12.19	Horizontal

- 2. Average detector: RBW: 1 MHz, VBW: 1/T MHz(refer to clause 7.1.);
- 3. Measurement = Reading Level + Correct Factor;
- 4. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.





Test Mode	Channel	Polarization	Verdict	
11N HT20	LCH	Vertical	PASS	



## PK Result:

No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2333.7167	41.46	12.52	53.98	74.00	-20.02	Vertical
2	2369.5524	41.45	12.92	54.37	74.00	-19.63	Vertical
3	2372.9466	41.08	12.97	54.05	74.00	-19.95	Vertical
4	2382.0603	40.91	13.06	53.97	74.00	-20.03	Vertical
5	2390.0000	39.75	13.07	52.82	74.00	-21.18	Vertical

#### **AV Result:**

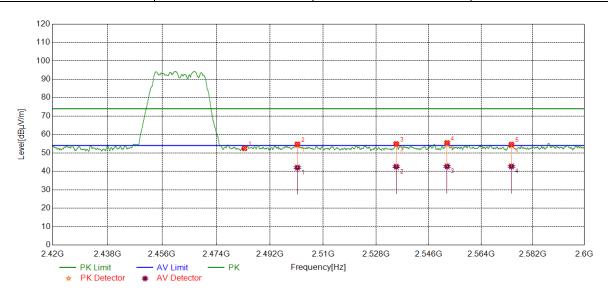
No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2369.5524	28.54	12.92	41.46	54.00	-12.54	Vertical
2	2372.9466	28.36	12.97	41.33	54.00	-12.67	Vertical
3	2382.0603	28.57	13.06	41.63	54.00	-12.37	Vertical

- 2. Average detector: RBW: 1 MHz, VBW: 1/T MHz(refer to clause 7.1.);
- 3. Measurement = Reading Level + Correct Factor;
- 4. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.





Test Mode	Channel	Polarization	Verdict
11N HT20	HCH	Horizontal	PASS



# PK Result:

No.	Frequency	' ' Level Factor		Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2483.5000	39.48	12.97	52.45	74.00	-21.55	Horizontal
2	2501.2802	41.58	13.15	54.73	74.00	-19.27	Horizontal
3	2534.8319	41.49	13.42	54.91	74.00	-19.09	Horizontal
4	2552.2715	42.13	13.36	55.49	74.00	-18.51	Horizontal
5	2574.5268	41.13	13.45	54.58	74.00	-19.42	Horizontal

## **AV Result:**

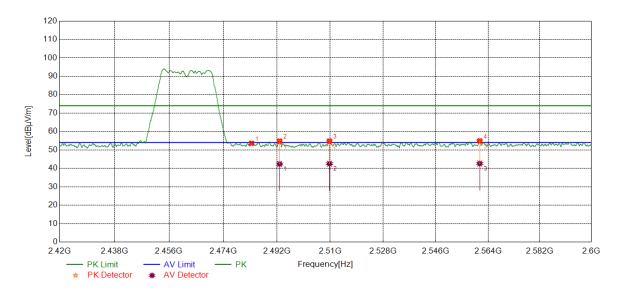
No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2501.2802	28.89	13.15	42.04	54.00	-11.96	Horizontal
2	2534.8319	29.11	13.42	2 42.53 54.00		-11.47	Horizontal
3	2552.2715	29.32	13.36	42.68	54.00	-11.32	Horizontal
4	2574.5268	29.24	13.45	42.69	54.00	-11.31	Horizontal

- 2. Average detector: RBW: 1 MHz, VBW: 1/T MHz(refer to clause 7.1.);
- 3. Measurement = Reading Level + Correct Factor;
- 4. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



Page 86 of 150

Test Mode	Channel	Polarization	Verdict
11N HT20	HCH	Vertical	PASS



## PK Result:

No.	Frequency	Reading Level	Y Result I		Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2483.5000	40.63	12.97	53.60	74.00	-20.40	Vertical
2	2492.9316	41.74	13.04	54.78	74.00	-19.22	Vertical
3	2509.7412	41.55	13.20	54.75	74.00	-19.25	Vertical
4	2561.1151	41.48	13.42	54.90	74.00	-19.10	Vertical

## AV Result:

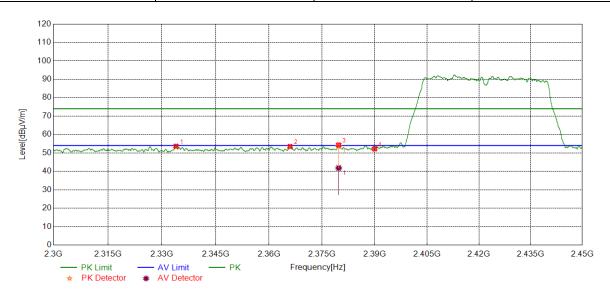
No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark	
	[MHz]	[dBuV/m] [dB]		[dBuV/m]	[dBuV/m]	[dB]		
1	2492.9316	29.32	13.04	42.36	54.00	-11.64	Vertical	
2	2509.7412	29.32	13.20	42.52	54.00	-11.48	Vertical	
3	2561.1151	29.20	13.42	42.62	54.00	-11.38	Vertical	

- 2. Average detector: RBW: 1 MHz, VBW: 1/T MHz(refer to clause 7.1.);
- 3. Measurement = Reading Level + Correct Factor;
- 4. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



REPORT No.: 4789973747-69 Page 87 of 150

Test Mode	Channel	Polarization	Verdict
11N HT40	LCH	Horizontal	PASS



# PK Result:

No.	Frequency	Reading Level	- Result   Limit		Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2333.9417	41.09	12.52	53.61	74.00	-20.39	Horizontal
2	2365.9520	40.59	12.87	53.46	74.00	-20.54	Horizontal
3	2379.7350	41.26	13.06	54.32	74.00	-19.68	Horizontal
4	2390.0000	39.16	13.07	52.23	74.00	-21.77	Horizontal

# AV Result:

No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark	
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]		
1	2379.7350	28.76	13.06	41.82	54.00	-12.18	Horizontal	

- 2. Average detector: RBW: 1 MHz, VBW: 1/T MHz(refer to clause 7.1.);
- 3. Measurement = Reading Level + Correct Factor;
- 4. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



PASS



11N HT40

Test Mode Channel Polarization Verdict

Vertical

LCH

110				1					<b>†</b>		+							<b> </b>			
100				+-																	
90				-					ļ							-/	h	h	المحمحدالة	~~~	
80									ļ									ļ.,			
70				+												/					-
60				1					ļ		2			4				ļ			+-
50		<u>~~~</u>	~~**	***	V~~^	~~^	~~~	~~~	~~	~~~	1/2		ww	¥.5	**************************************						
40			*	ŧ,							* 2	*	3	<b>*</b> 4				ļ			
30				-					ļ												
20				-							-										
10				+					ļ		+							ļ			
0																					

## PK Result:

♠ PK Detector

AV Detector

FN Kes	uit.						
No.	Frequency	uency Reading Correct Level Factor Result Limit		Margin	Remark		
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2327.5847	41.91	12.44	54.35	74.00	-19.65	Vertical
2	2374.3530	41.57	12.99	12.99 54.56 74.00		-19.44	Vertical
3	2379.9412	41.74	13.06	54.80	74.00	-19.20	Vertical
4	2386.5421	41.86	13.06	54.92	74.00	-19.08	Vertical
5	2390.0000	39.62	13.07	52.69	74.00	-21.31	Vertical

### **AV Result:**

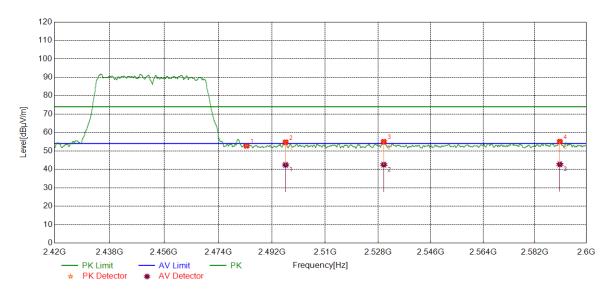
No.	Frequency	Reading Correct Level Factor Result Limit		Limit	Margin	Remark	
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2327.5847	29.25	12.44	41.69	54.00	-12.31	Vertical
2	2374.3530	29.32	12.99	42.31	54.00	-11.69	Vertical
3	2379.9412	29.34	13.06	42.40	54.00	-11.60	Vertical
4	2386.5421	29.37	13.06	42.43	54.00	-11.57	Vertical

- 2. Average detector: RBW: 1 MHz, VBW: 1/T MHz(refer to clause 7.1.);
- 3. Measurement = Reading Level + Correct Factor;
- 4. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.





Test Mode	Channel	Polarization	Verdict	
11N HT40	HCH	Horizontal	PASS	



# PK Result:

No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2483.5000	39.74	12.97	52.71	74.00	-21.29	Horizontal
2	2496.6221	41.65	13.09	54.74	74.00	-19.26	Horizontal
3	2529.9037	41.63	13.42	55.05	74.00	-18.95	Horizontal
4	2590.6838	41.56	13.52	55.08	74.00	-18.92	Horizontal

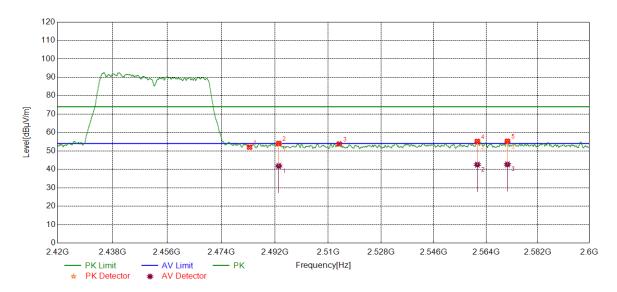
#### **AV Result:**

No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2496.6221	29.31	13.09	42.40	54.00	-11.60	Horizontal
2	2529.9037	29.12	13.42	42.54	54.00	-11.46	Horizontal
3	2590.6838	29.21	13.52	42.73	54.00	-11.27	Horizontal

- 2. Average detector: RBW: 1 MHz, VBW: 1/T MHz(refer to clause 7.1.);
- 3. Measurement = Reading Level + Correct Factor;
- 4. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



Test Mode	Channel	Polarization	Verdict	
11N HT40	HCH	Vertical	PASS	



## PK Result:

No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2483.5000	39.05	12.97	52.02	74.00	-21.98	Vertical
2	2493.3142	41.05	13.04	54.09	74.00	-19.91	Vertical
3	2513.7467	40.60	13.21	53.81	74.00	-20.19	Vertical
4	2560.9801	41.79	13.42	55.21	74.00	-18.79	Vertical
5	2571.3989	41.83	13.45	55.28	74.00	-18.72	Vertical

### **AV Result:**

No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2493.3142	28.79	13.04	41.83	54.00	-12.17	Vertical
2	2560.9801	29.13	13.42	42.55	54.00	-11.45	Vertical
3	2571.3989	29.24	13.45	42.69	54.00	-11.31	Vertical

- 2. Average detector: RBW: 1 MHz, VBW: 1/T MHz(refer to clause 7.1.);
- 3. Measurement = Reading Level + Correct Factor;
- 4. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

REPORT No.: 4789973747-69

Page 91 of 150

# 7.6.4. SPURIOUS EMISSIONS

### **TEST RESULTS TABLE**

# 1) For 1GHz~18GHz

Test Mode	Channel Puw(dBm)		Verdict
	LCH	<limit< td=""><td>PASS</td></limit<>	PASS
11B	MCH	<limit< td=""><td>PASS</td></limit<>	PASS
	HCH	<limit< td=""><td>PASS</td></limit<>	PASS
	LCH	<limit< td=""><td>PASS</td></limit<>	PASS
11G	MCH	<limit< td=""><td>PASS</td></limit<>	PASS
	HCH	<limit< td=""><td>PASS</td></limit<>	PASS
	LCH	<limit< td=""><td>PASS</td></limit<>	PASS
11N HT20	MCH	<limit< td=""><td>PASS</td></limit<>	PASS
	HCH	<limit< td=""><td>PASS</td></limit<>	PASS
11N HT40	LCH	<limit< td=""><td>PASS</td></limit<>	PASS
	MCH	<limit< td=""><td>PASS</td></limit<>	PASS
	HCH	<limit< td=""><td>PASS</td></limit<>	PASS

## 2) For 9KHz~30MHz

Test Mode	Channel	Puw(dBm)	Verdict	
11B	LCH	<limit< th=""><th>PASS</th></limit<>	PASS	

#### Remark:

1) Through pre-testing all the test modes and test channels, but only the data of the worst case is included in this test report.

# 3) For 30MHz~1GHz

Test Mode	Channel	Puw(dBm)	Verdict	
11B	LCH	<limit< th=""><th>PASS</th></limit<>	PASS	

## Remark:

1) Through pre-testing all the test modes and test channels, but only the data of the worst case is included in this test report.

## 4) For 18GHz~26.5GHz

Test Mode	Channel	Puw(dBm)	Verdict	
11B	LCH	<limit< th=""><th>PASS</th></limit<>	PASS	

# Remark:

1) Through pre-testing all the test modes and test channels, but only the data of the worst case is included in this test report.



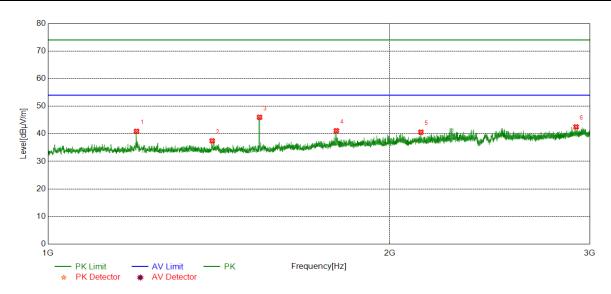
REPORT No.: 4789973747-69

Page 92 of 150

# Part I: 1GHz~3GHz

## **HARMONICS AND SPURIOUS EMISSIONS**

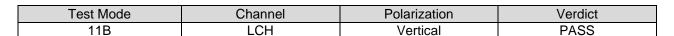
Test Mode	Channel	Polarization	Verdict
11B	LCH	Horizontal	PASS

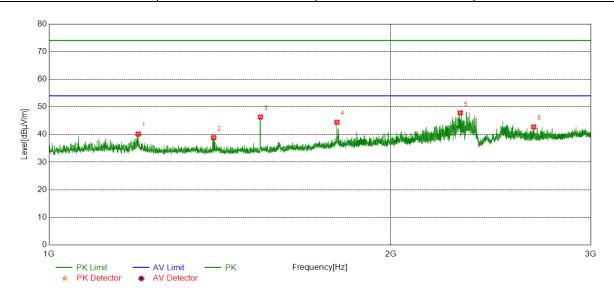


No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	1196.7746	46.46	-5.56	40.90	74.00	-33.10	Horizontal
2	1395.2994	43.15	-5.71	37.44	74.00	-36.56	Horizontal
3	1535.8170	51.74	-5.75	45.99	74.00	-28.01	Horizontal
4	1794.5993	44.90	-3.79	41.11	74.00	-32.89	Horizontal
5	2130.3913	42.91	-2.33	40.58	74.00	-33.42	Horizontal
6	2917.9897	41.90	0.60	42.50	74.00	-31.50	Horizontal

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
- 4. Peak: Peak detector.
- 5. For below 3GHz part, filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band Reject Filter losses.
- 6. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.





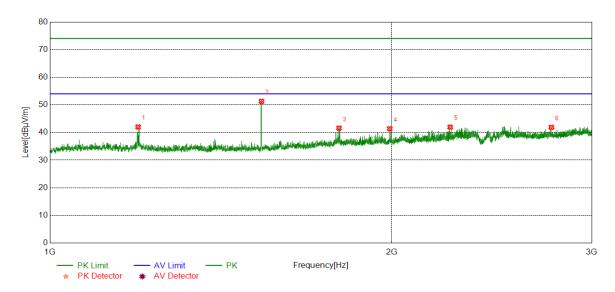


No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	1198.5248	45.73	-5.56	40.17	74.00	-33.83	Vertical
2	1396.5496	44.57	-5.70	38.87	74.00	-35.13	Vertical
3	1535.8170	52.07	-5.75	46.32	74.00	-27.68	Vertical
4	1793.3492	48.21	-3.77	44.44	74.00	-29.56	Vertical
5	2302.4128	49.61	-1.80	47.81	74.00	-26.19	Vertical
6	2672.2090	43.46	-0.72	42.74	74.00	-31.26	Vertical

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
- 4. Peak: Peak detector.
- 5. For below 3GHz part, filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band Reject Filter losses.
- 6. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



Test Mode	Channel	Polarization	Verdict
11B	MCH	Horizontal	PASS

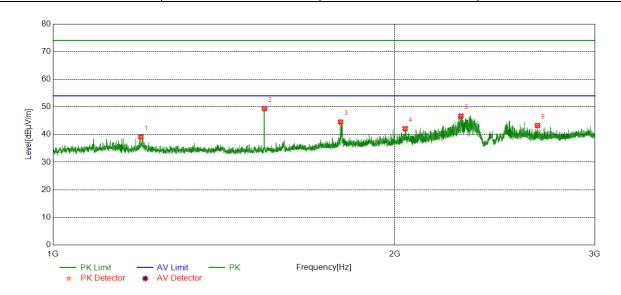


No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	1195.7745	47.59	-5.56	42.03	74.00	-31.97	Horizontal
2	1535.8170	57.03	-5.75	51.28	74.00	-22.72	Horizontal
3	1797.0996	45.40	-3.81	41.59	74.00	-32.41	Horizontal
4	1991.8740	44.43	-3.07	41.36	74.00	-32.64	Horizontal
5	2251.4064	44.04	-2.08	41.96	74.00	-32.04	Horizontal
6	2764.4706	42.11	-0.25	41.86	74.00	-32.14	Horizontal

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
- 4. Peak: Peak detector.
- 5. For below 3GHz part, filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band Reject Filter losses.
- 6. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

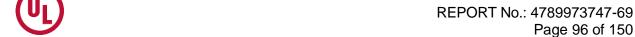


Test Mode	Channel	Polarization	Verdict
11R	MCH	Vertical	DASS

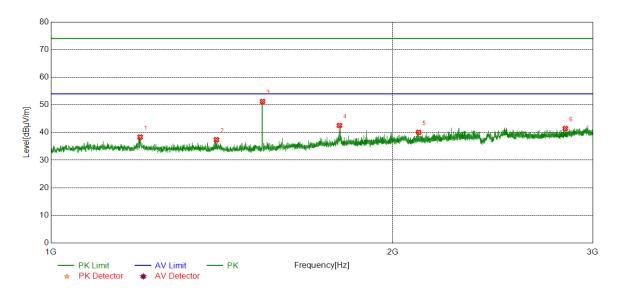


No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	1195.0244	44.66	-5.57	39.09	74.00	-34.91	Vertical
2	1535.8170	55.15	-5.75	49.40	74.00	-24.60	Vertical
3	1791.8490	48.31	-3.76	44.55	74.00	-29.45	Vertical
4	2042.6303	44.50	-2.39	42.11	74.00	-31.89	Vertical
5	2287.1609	48.64	-1.94	46.70	74.00	-27.30	Vertical
6	2671.2089	43.99	-0.73	43.26	74.00	-30.74	Vertical

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
- 4. Peak: Peak detector.
- 5. For below 3GHz part, filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band Reject Filter losses.
- 6. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.

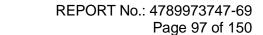


Test Mode	Channel	Polarization	Verdict
11B	HCH	Horizontal	PASS



No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	1198.2748	43.91	-5.56	38.35	74.00	-35.65	Horizontal
2	1398.7999	43.05	-5.67	37.38	74.00	-36.62	Horizontal
3	1535.8170	56.98	-5.75	51.23	74.00	-22.77	Horizontal
4	1795.0994	46.34	-3.79	42.55	74.00	-31.45	Horizontal
5	2107.6385	42.62	-2.54	40.08	74.00	-33.92	Horizontal
6	2837.7297	41.36	0.07	41.43	74.00	-32.57	Horizontal

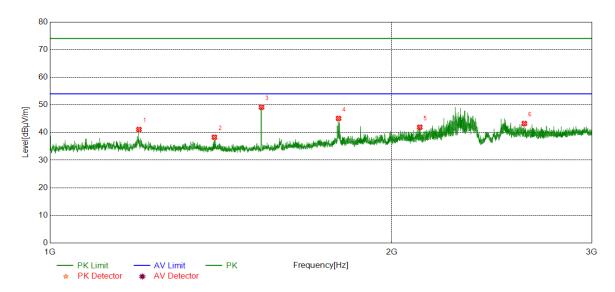
- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
- 4. Peak: Peak detector.
- 5. For below 3GHz part, filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band Reject Filter losses.
- 6. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.





Test Mode Channel Polarization Verdict

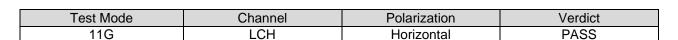
11B HCH Vertical PASS

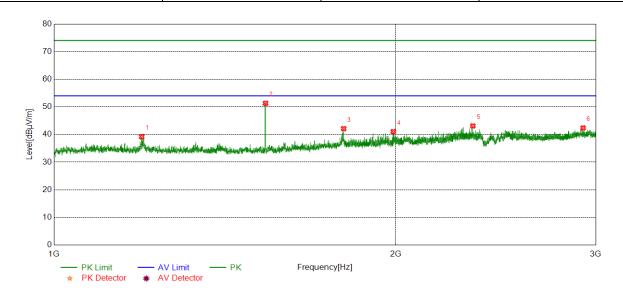


No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	1197.7747	46.66	-5.56	41.10	74.00	-32.90	Vertical
2	1395.7995	44.00	-5.71	38.29	74.00	-35.71	Vertical
3	1535.8170	54.89	-5.75	49.14	74.00	-24.86	Vertical
4	1795.3494	48.88	-3.79	45.09	74.00	-28.91	Vertical
5	2116.6396	44.37	-2.45	41.92	74.00	-32.08	Vertical
6	2616.9521	43.46	-0.21	43.25	74.00	-30.75	Vertical

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
- 4. Peak: Peak detector.
- 5. For below 3GHz part, filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band Reject Filter losses.
- 6. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.





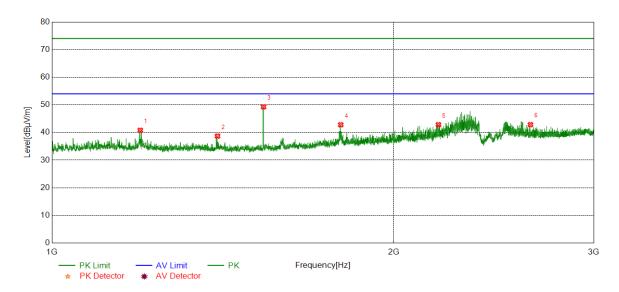


No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	1194.7743	44.76	-5.57	39.19	74.00	-34.81	Horizontal
2	1535.8170	57.06	-5.75	51.31	74.00	-22.69	Horizontal
3	1799.3499	45.95	-3.84	42.11	74.00	-31.89	Horizontal
4	1989.8737	44.14	-3.09	41.05	74.00	-32.95	Horizontal
5	2338.4173	44.92	-1.81	43.11	74.00	-30.89	Horizontal
6	2923.9905	41.79	0.59	42.38	74.00	-31.62	Horizontal

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
- 4. Peak: Peak detector.
- 5. For below 3GHz part, filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band Reject Filter losses.
- 6. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



Test Mode	Channel	Polarization	Verdict
11G	I CH	Vertical	PASS

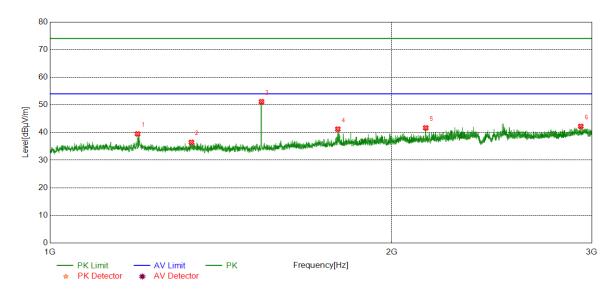


No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	1196.2745	46.37	-5.56	40.81	74.00	-33.19	Vertical
2	1399.0499	44.37	-5.67	38.70	74.00	-35.30	Vertical
3	1535.8170	55.04	-5.75	49.29	74.00	-24.71	Vertical
4	1796.0995	46.60	-3.80	42.80	74.00	-31.20	Vertical
5	2189.6487	45.16	-2.33	42.83	74.00	-31.17	Vertical
6	2638.7048	43.66	-0.82	42.84	74.00	-31.16	Vertical

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
- 4. Peak: Peak detector.
- 5. For below 3GHz part, filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band Reject Filter losses.
- 6. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



Test Mode	Channel	Polarization	Verdict
11G	MCH	Horizontal	PASS

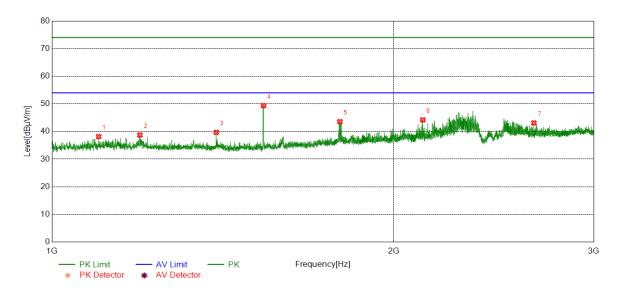


No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	1194.5243	45.07	-5.57	39.50	74.00	-34.50	Horizontal
2	1332.2915	42.13	-5.68	36.45	74.00	-37.55	Horizontal
3	1535.8170	56.90	-5.75	51.15	74.00	-22.85	Horizontal
4	1792.8491	44.99	-3.77	41.22	74.00	-32.78	Horizontal
5	2142.6428	44.05	-2.38	41.67	74.00	-32.33	Horizontal
6	2933.9917	41.74	0.48	42.22	74.00	-31.78	Horizontal

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
- 4. Peak: Peak detector.
- 5. For below 3GHz part, filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band Reject Filter losses.
- 6. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



Test Mode	Channel	Polarization	Verdict
11G	MCH	Vertical	PASS



No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	1099.5124	43.73	-5.58	38.15	74.00	-35.85	Vertical
2	1195.2744	44.28	-5.57	38.71	74.00	-35.29	Vertical
3	1395.5494	45.39	-5.71	39.68	74.00	-34.32	Vertical
4	1535.8170	55.12	-5.75	49.37	74.00	-24.63	Vertical
5	1792.8491	47.33	-3.77	43.56	74.00	-30.44	Vertical
6	2121.1401	46.58	-2.39	44.19	74.00	-29.81	Vertical
7	2656.9571	43.80	-0.71	43.09	74.00	-30.91	Vertical

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
- 4. Peak: Peak detector.
- 5. For below 3GHz part, filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band Reject Filter losses.
- 6. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.