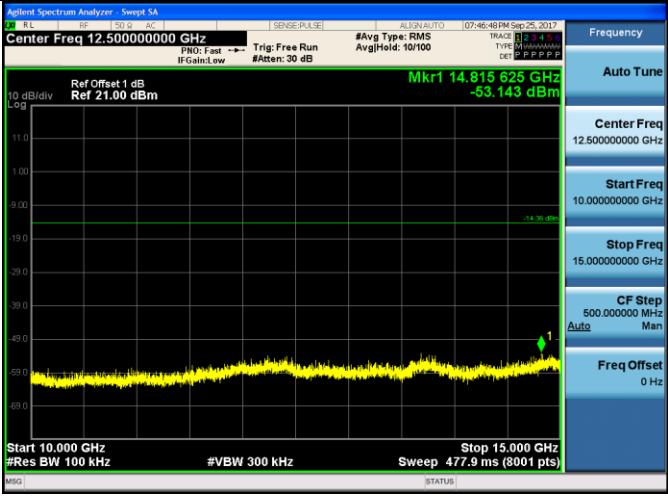

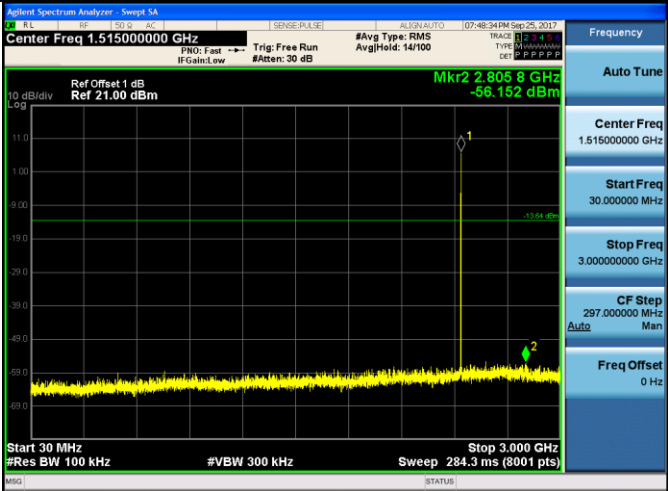
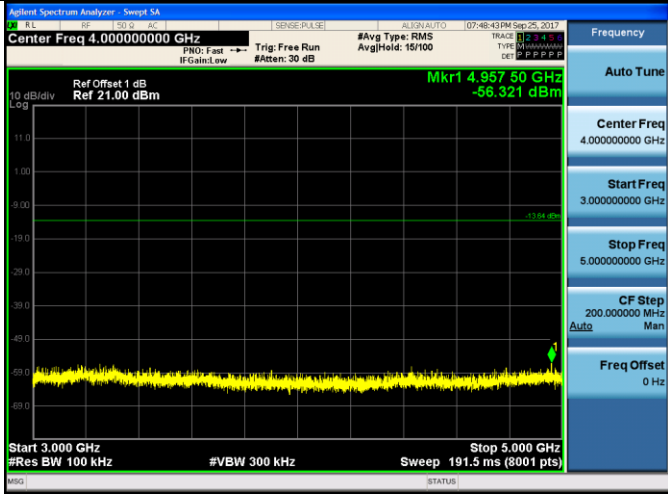
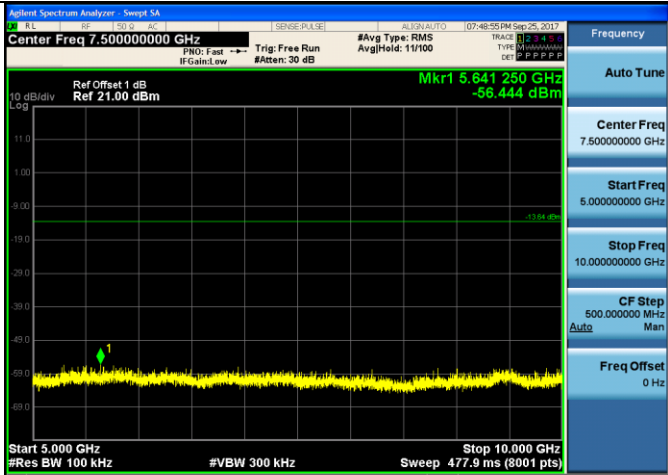
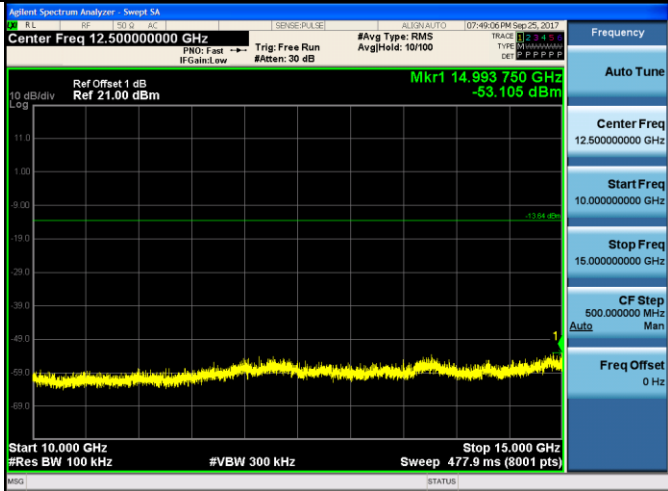

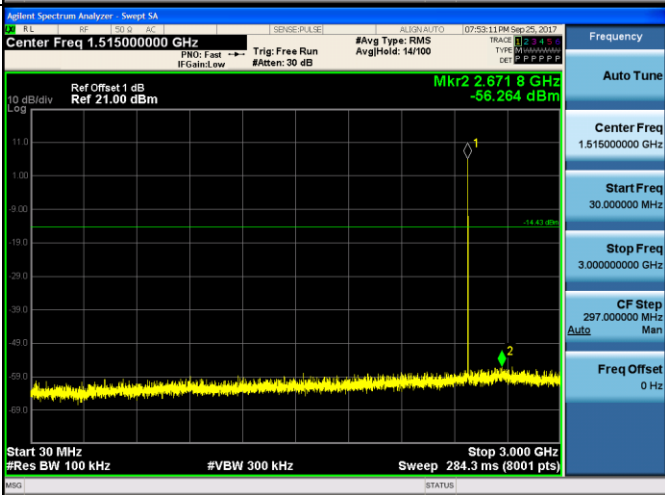
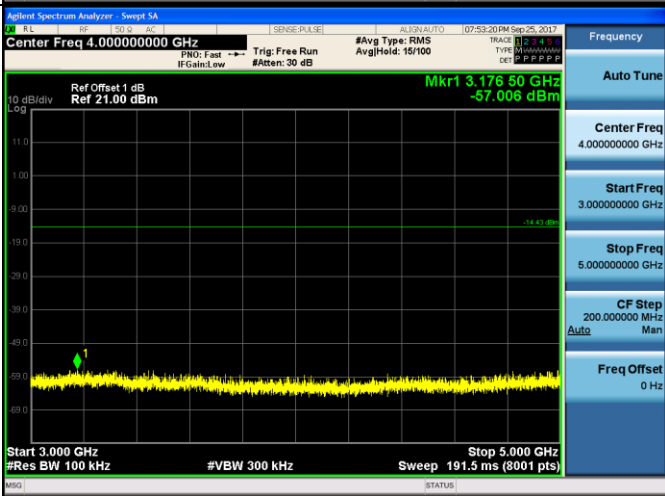
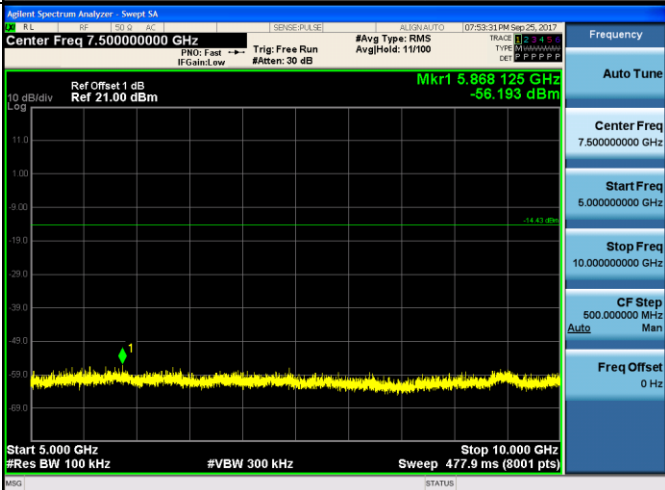
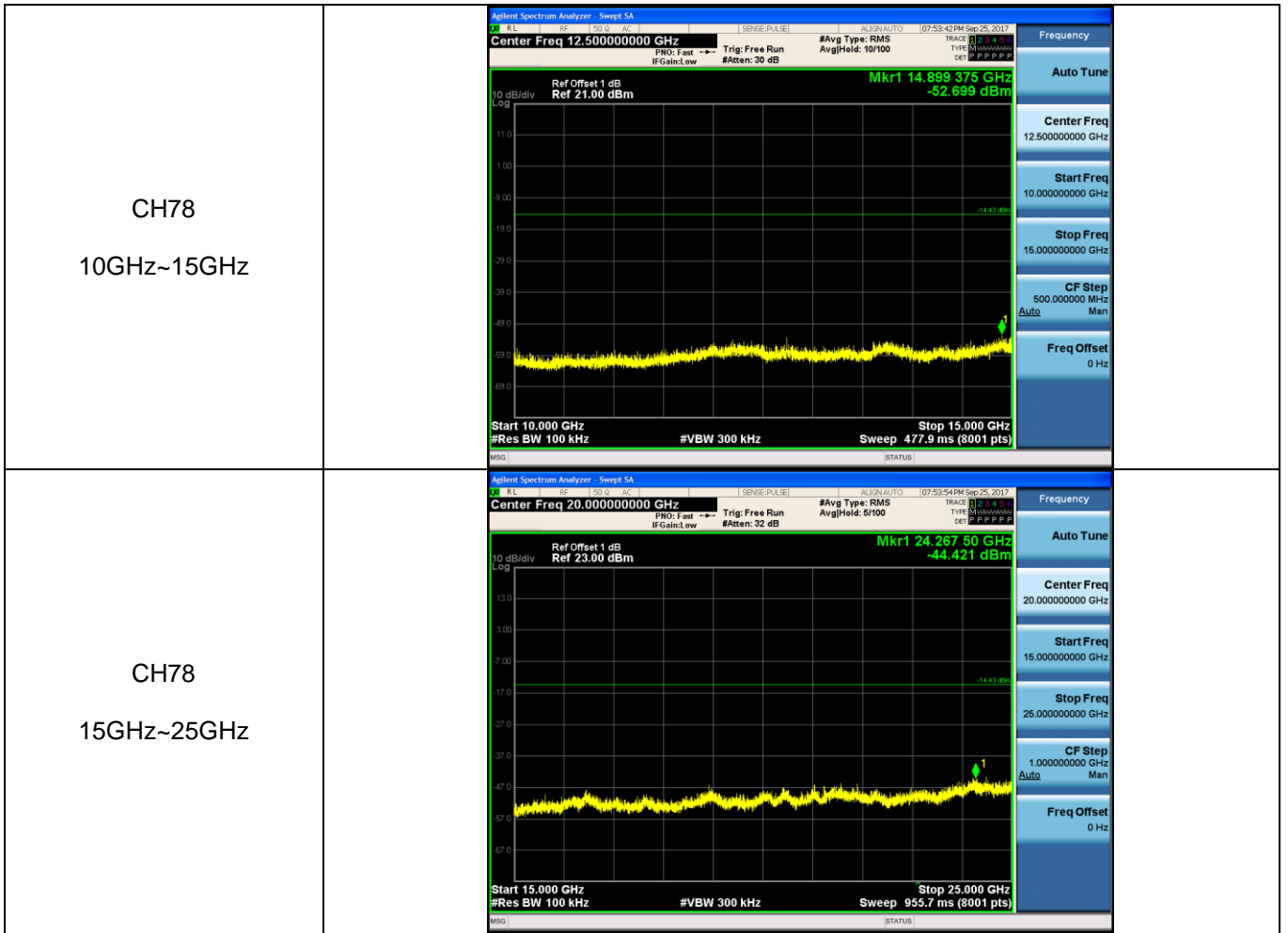
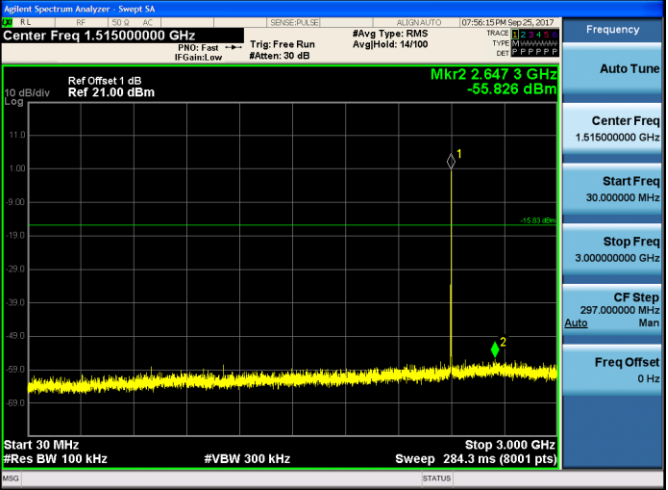
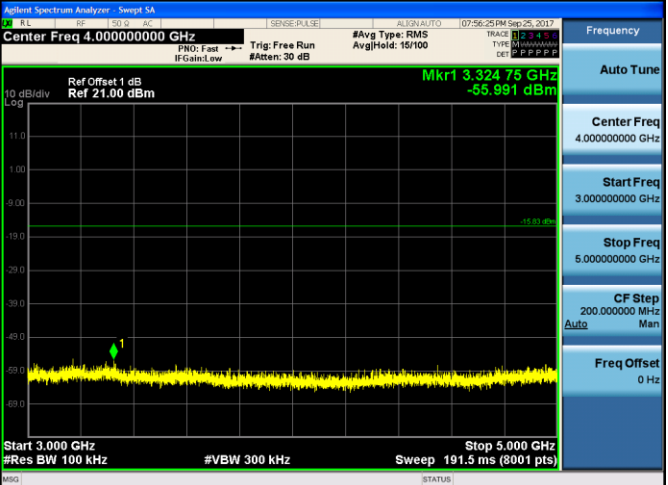
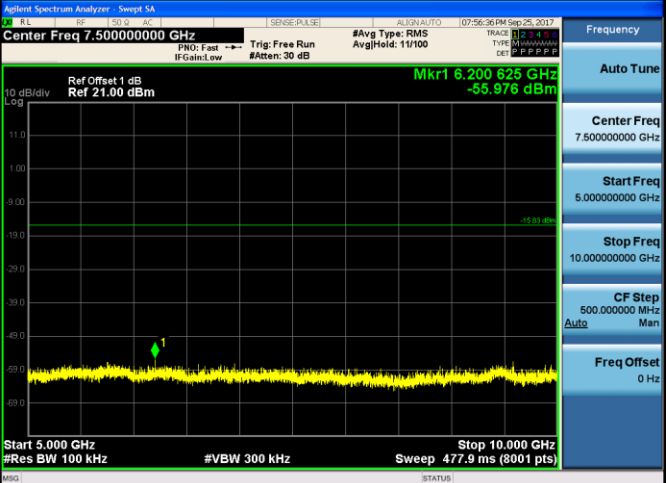


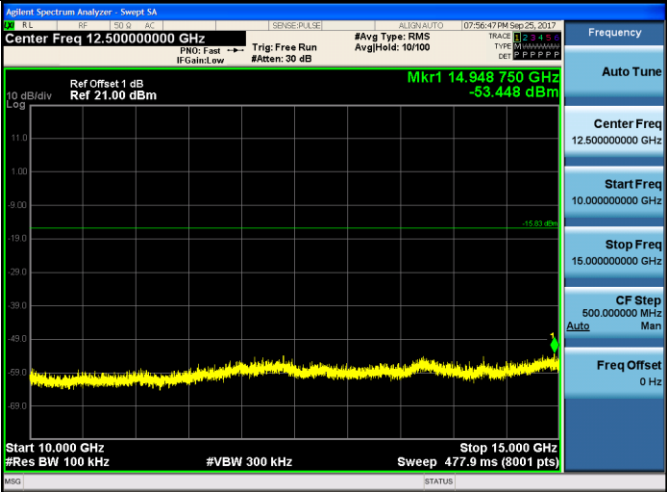

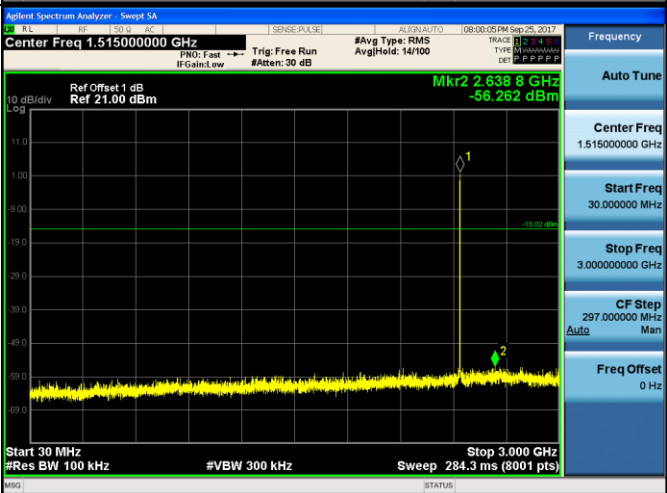
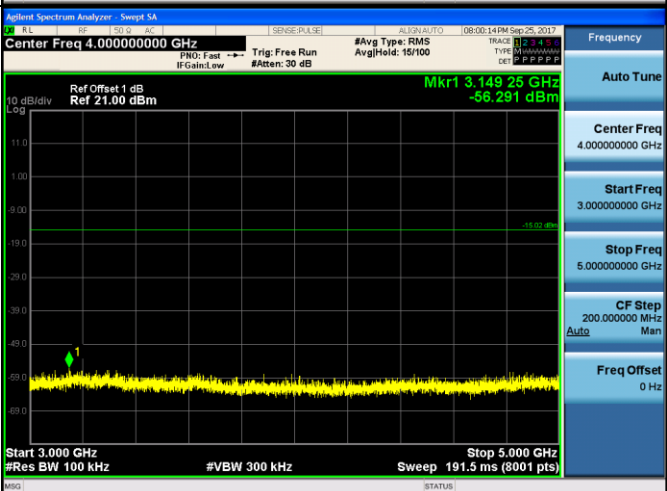
<p>CH00 10GHz~15GHz</p>	
<p>CH00 15GHz~25GHz</p>	
<p>CH39 30MHz~3GHz</p>	

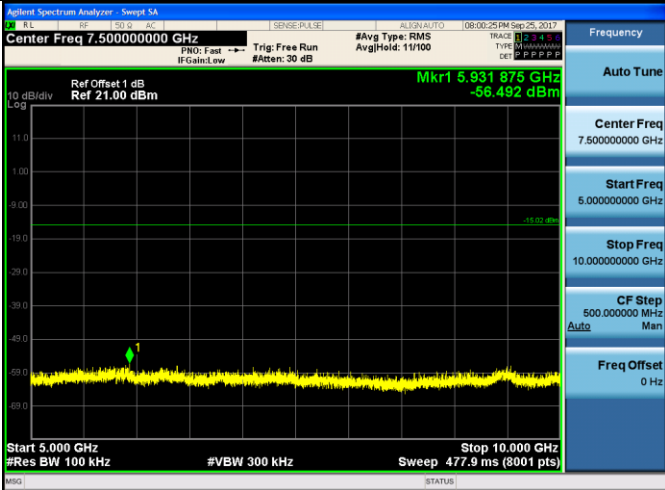
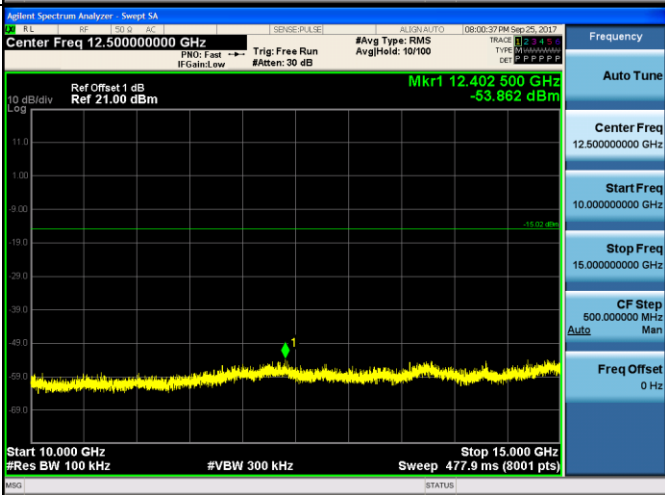

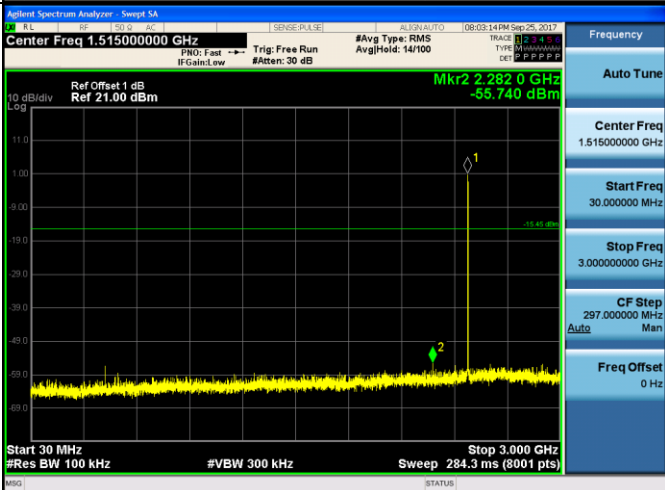
<p>CH39 3GHz~5GHz</p>	
<p>CH39 5GHz~10GHz</p>	
<p>CH39 10GHz~15GHz</p>	

<p>CH39 15GHz~25GHz</p>	
<p>CH78 30MHz~3GHz</p>	
<p>CH78 3GHz~5GHz</p>	
<p>CH78 5GHz~10GHz</p>	



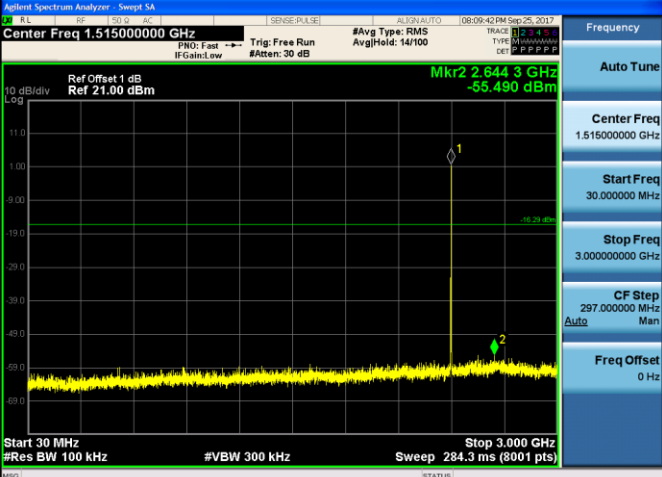
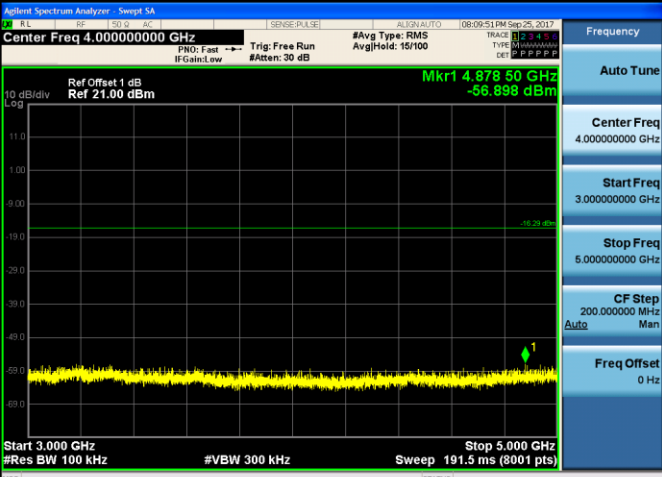
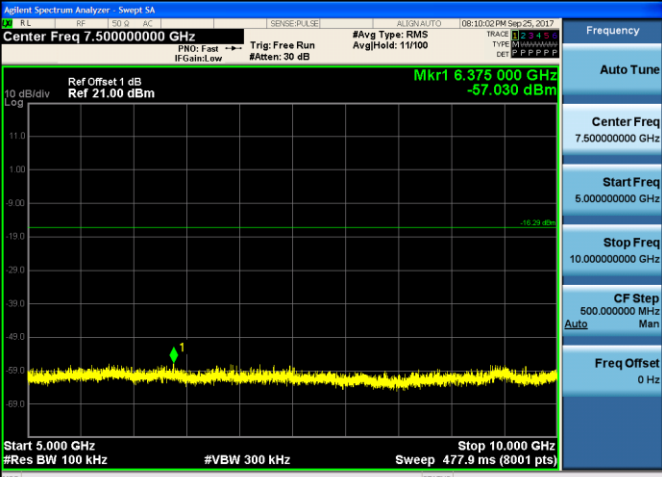
Test Item:	SE	Modulation type:	$\pi/4$ DQPSK
<p>CH00 30MHz~3GHz</p>			
<p>CH00 3GHz~5GHz</p>			
<p>CH00 5GHz~10GHz</p>			

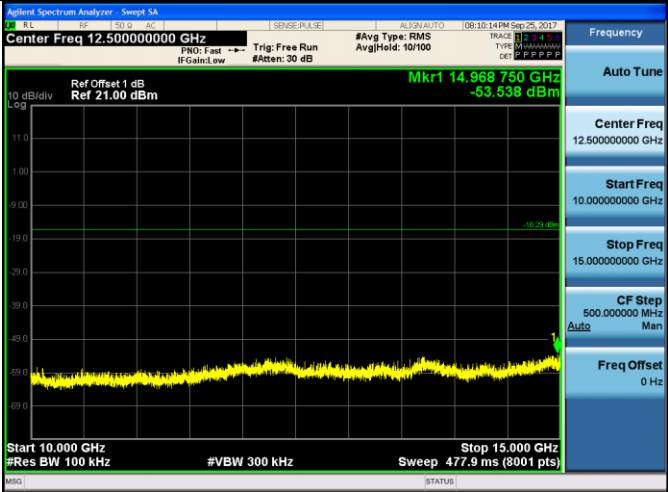

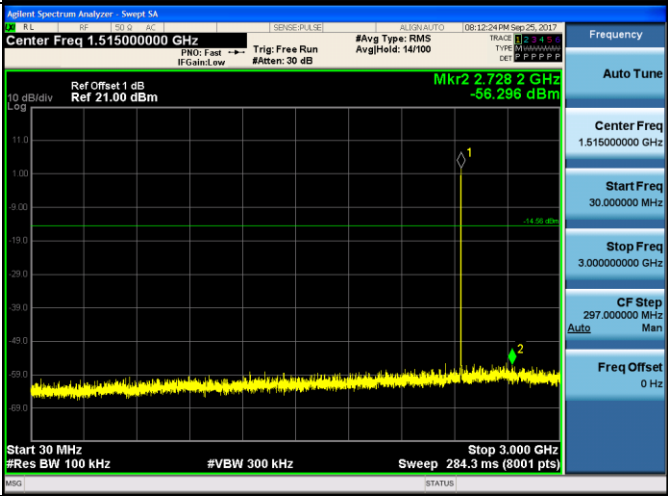
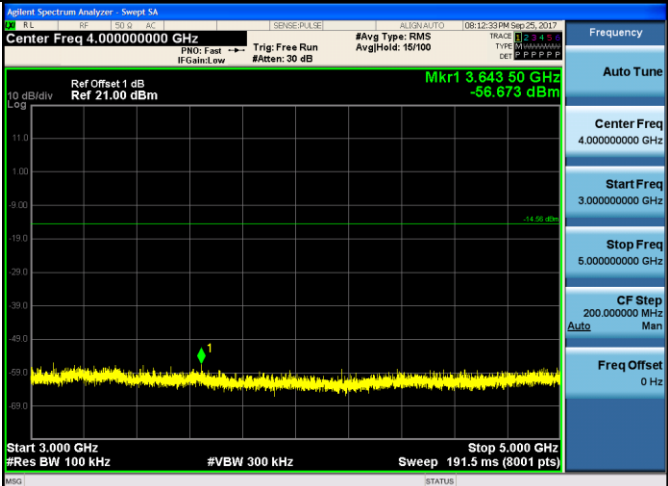
<p>CH00 10GHz~15GHz</p>		<p>Frequency</p> <p>Auto Tune</p> <p>Center Freq 12.500000000 GHz</p> <p>Start Freq 10.000000000 GHz</p> <p>Stop Freq 15.000000000 GHz</p> <p>CF Step 500.000000 MHz Auto Man</p> <p>Freq Offset 0 Hz</p>
<p>CH00 15GHz~25GHz</p>		<p>Frequency</p> <p>Auto Tune</p> <p>Center Freq 20.000000000 GHz</p> <p>Start Freq 15.000000000 GHz</p> <p>Stop Freq 25.000000000 GHz</p> <p>CF Step 1.000000000 GHz Auto Man</p> <p>Freq Offset 0 Hz</p>
<p>CH39 30MHz~3GHz</p>		<p>Frequency</p> <p>Auto Tune</p> <p>Center Freq 1.515000000 GHz</p> <p>Start Freq 30.000000 MHz</p> <p>Stop Freq 3.000000000 GHz</p> <p>CF Step 297.000000 MHz Auto Man</p> <p>Freq Offset 0 Hz</p>
<p>CH39 3GHz~5GHz</p>		<p>Frequency</p> <p>Auto Tune</p> <p>Center Freq 4.000000000 GHz</p> <p>Start Freq 3.000000000 GHz</p> <p>Stop Freq 5.000000000 GHz</p> <p>CF Step 200.000000 MHz Auto Man</p> <p>Freq Offset 0 Hz</p>

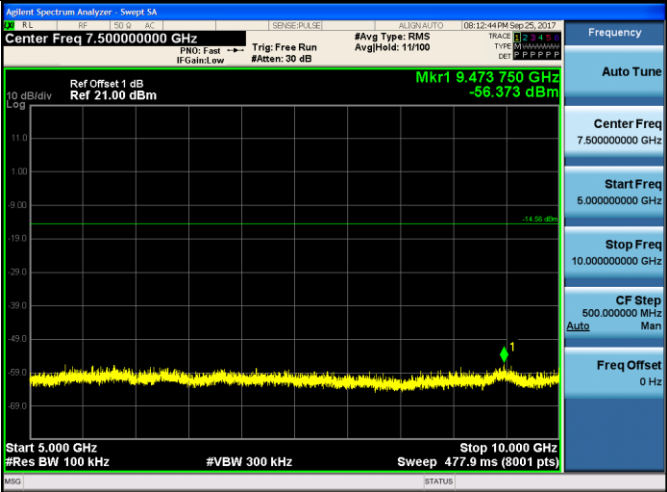
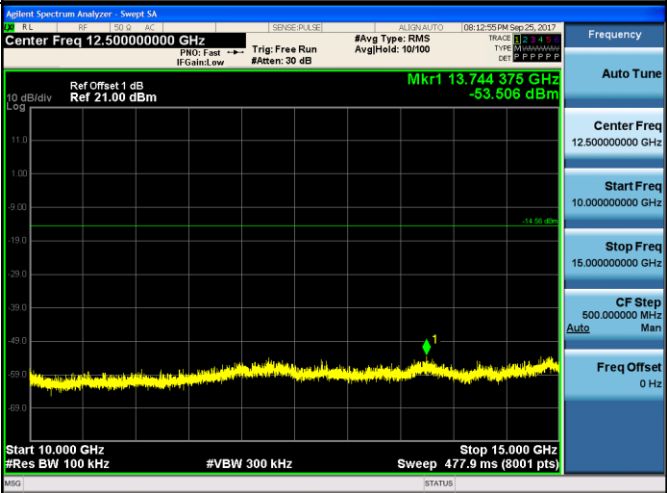

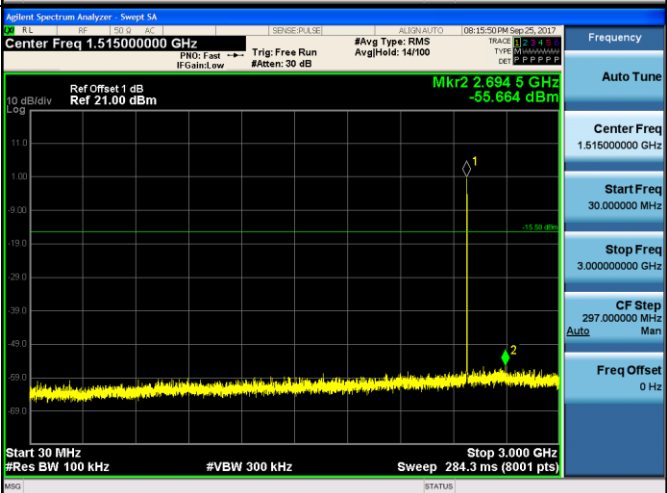
<p>CH39 5GHz~10GHz</p>		<p>Frequency</p> <p>Auto Tune</p> <p>Center Freq 7.500000000 GHz</p> <p>Start Freq 5.000000000 GHz</p> <p>Stop Freq 10.000000000 GHz</p> <p>CF Step 500.000000 MHz Auto Man</p> <p>Freq Offset 0 Hz</p>
<p>CH39 10GHz~15GHz</p>		<p>Frequency</p> <p>Auto Tune</p> <p>Center Freq 12.500000000 GHz</p> <p>Start Freq 10.000000000 GHz</p> <p>Stop Freq 15.000000000 GHz</p> <p>CF Step 500.000000 MHz Auto Man</p> <p>Freq Offset 0 Hz</p>
<p>CH39 15GHz~25GHz</p>		<p>Frequency</p> <p>Auto Tune</p> <p>Center Freq 20.000000000 GHz</p> <p>Start Freq 15.000000000 GHz</p> <p>Stop Freq 25.000000000 GHz</p> <p>CF Step 1.000000000 GHz Auto Man</p> <p>Freq Offset 0 Hz</p>
<p>CH78 30MHz~3GHz</p>		<p>Frequency</p> <p>Auto Tune</p> <p>Center Freq 1.515000000 GHz</p> <p>Start Freq 30.000000 MHz</p> <p>Stop Freq 3.000000000 GHz</p> <p>CF Step 297.000000 MHz Auto Man</p> <p>Freq Offset 0 Hz</p>

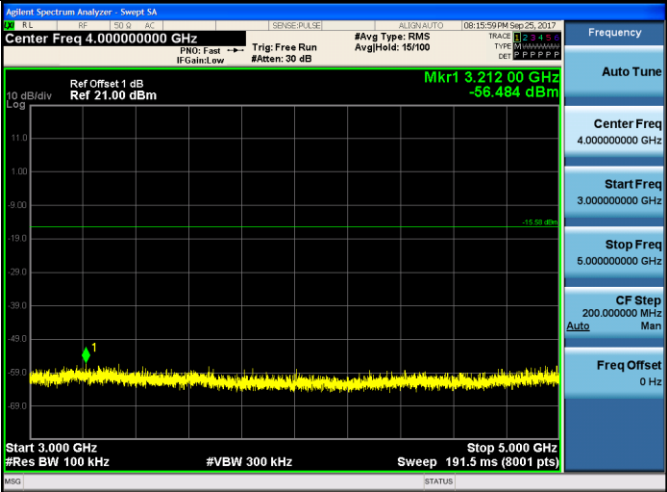
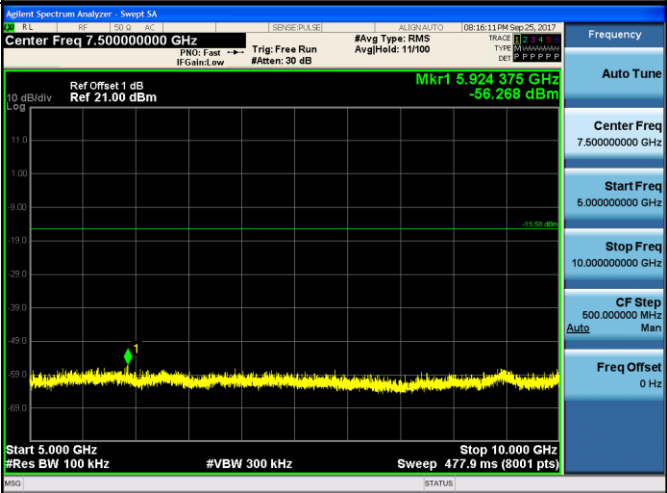
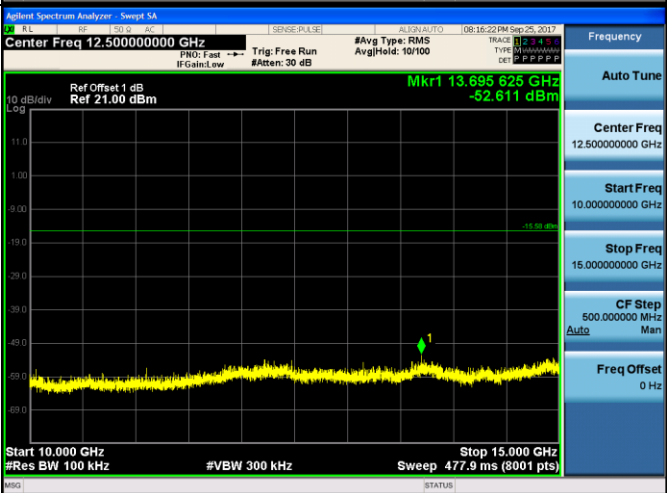
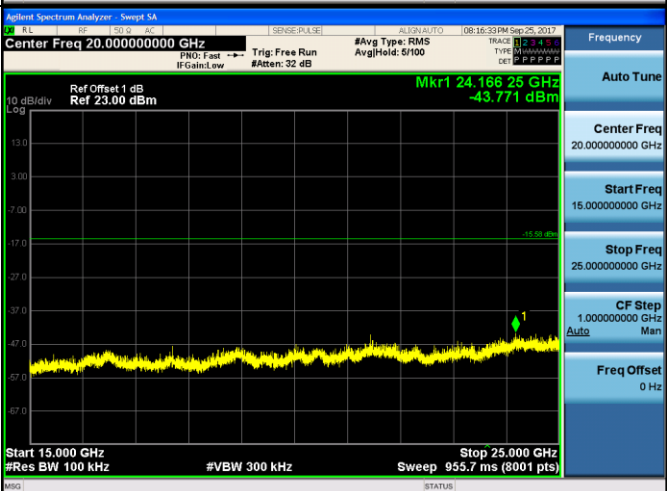
<p>CH78 3GHz~5GHz</p>	<p>Agilent Spectrum Analyzer - Sweep SA Center Freq 4.00000000 GHz Mkr1 3.267 50 GHz -56.600 dBm Start 3.000 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 191.5 ms (8001 pts)</p>	<p>Frequency</p> <p>Auto Tune</p> <p>Center Freq 4.00000000 GHz</p> <p>Start Freq 3.00000000 GHz</p> <p>Stop Freq 5.00000000 GHz</p> <p>CF Step 200.000000 MHz Auto Man</p> <p>Freq Offset 0 Hz</p>
<p>CH78 5GHz~10GHz</p>	<p>Agilent Spectrum Analyzer - Sweep SA Center Freq 7.50000000 GHz Mkr1 5.720 625 GHz -56.752 dBm Start 5.000 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 477.9 ms (8001 pts)</p>	<p>Frequency</p> <p>Auto Tune</p> <p>Center Freq 7.50000000 GHz</p> <p>Start Freq 5.00000000 GHz</p> <p>Stop Freq 10.00000000 GHz</p> <p>CF Step 500.000000 MHz Auto Man</p> <p>Freq Offset 0 Hz</p>
<p>CH78 10GHz~15GHz</p>	<p>Agilent Spectrum Analyzer - Sweep SA Center Freq 12.50000000 GHz Mkr1 14.828 125 GHz -53.103 dBm Start 10.000 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 477.9 ms (8001 pts)</p>	<p>Frequency</p> <p>Auto Tune</p> <p>Center Freq 12.50000000 GHz</p> <p>Start Freq 10.00000000 GHz</p> <p>Stop Freq 15.00000000 GHz</p> <p>CF Step 500.000000 MHz Auto Man</p> <p>Freq Offset 0 Hz</p>
<p>CH78 15GHz~25GHz</p>	<p>Agilent Spectrum Analyzer - Sweep SA Center Freq 20.00000000 GHz Mkr1 24.192 50 GHz -44.215 dBm Start 15.000 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 955.7 ms (8001 pts)</p>	<p>Frequency</p> <p>Auto Tune</p> <p>Center Freq 20.00000000 GHz</p> <p>Start Freq 15.00000000 GHz</p> <p>Stop Freq 25.00000000 GHz</p> <p>CF Step 1.00000000 GHz Auto Man</p> <p>Freq Offset 0 Hz</p>



Test Item:	SE	Modulation type:	8DPSK
<p>CH00 30MHz~3GHz</p>			
<p>CH00 3GHz~5GHz</p>			
<p>CH00 5GHz~10GHz</p>			

<p>CH00 10GHz~15GHz</p>	
<p>CH00 15GHz~25GHz</p>	
<p>CH39 30MHz~3GHz</p>	
<p>CH39 3GHz~5GHz</p>	

<p>CH39 5GHz~10GHz</p>		<p>Frequency</p> <p>Auto Tune</p> <p>Center Freq 7.500000000 GHz</p> <p>Start Freq 5.000000000 GHz</p> <p>Stop Freq 10.000000000 GHz</p> <p>CF Step 500.000000 MHz Auto Man</p> <p>Freq Offset 0 Hz</p>
<p>CH39 10GHz~15GHz</p>		<p>Frequency</p> <p>Auto Tune</p> <p>Center Freq 12.500000000 GHz</p> <p>Start Freq 10.000000000 GHz</p> <p>Stop Freq 15.000000000 GHz</p> <p>CF Step 500.000000 MHz Auto Man</p> <p>Freq Offset 0 Hz</p>
<p>CH39 15GHz~25GHz</p>		<p>Frequency</p> <p>Auto Tune</p> <p>Center Freq 20.000000000 GHz</p> <p>Start Freq 15.000000000 GHz</p> <p>Stop Freq 25.000000000 GHz</p> <p>CF Step 1.000000000 GHz Auto Man</p> <p>Freq Offset 0 Hz</p>
<p>CH78 30MHz~3GHz</p>		<p>Frequency</p> <p>Auto Tune</p> <p>Center Freq 1.515000000 GHz</p> <p>Start Freq 30.000000 MHz</p> <p>Stop Freq 3.000000000 GHz</p> <p>CF Step 297.000000 MHz Auto Man</p> <p>Freq Offset 0 Hz</p>

<p>CH78 3GHz~5GHz</p>	 <p>Agilent Spectrum Analyzer - Sweep SA Center Freq 4.00000000 GHz Ref Offset 1 dB Ref 21.00 dBm Mkr1 3.212 00 GHz -56.484 dBm Start 3.000 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 191.5 ms (8001 pts)</p>
<p>CH78 5GHz~10GHz</p>	 <p>Agilent Spectrum Analyzer - Sweep SA Center Freq 7.50000000 GHz Ref Offset 1 dB Ref 21.00 dBm Mkr1 5.924 375 GHz -56.268 dBm Start 5.000 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 477.9 ms (8001 pts)</p>
<p>CH78 10GHz~15GHz</p>	 <p>Agilent Spectrum Analyzer - Sweep SA Center Freq 12.50000000 GHz Ref Offset 1 dB Ref 21.00 dBm Mkr1 13.695 625 GHz -52.611 dBm Start 10.000 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 477.9 ms (8001 pts)</p>
<p>CH78 15GHz~25GHz</p>	 <p>Agilent Spectrum Analyzer - Sweep SA Center Freq 20.00000000 GHz Ref Offset 1 dB Ref 23.00 dBm Mkr1 24.166 25 GHz -43.771 dBm Start 15.000 GHz #Res BW 100 kHz #VBW 300 kHz Sweep 955.7 ms (8001 pts)</p>

### 5.11. Spurious Emissions (radiated)

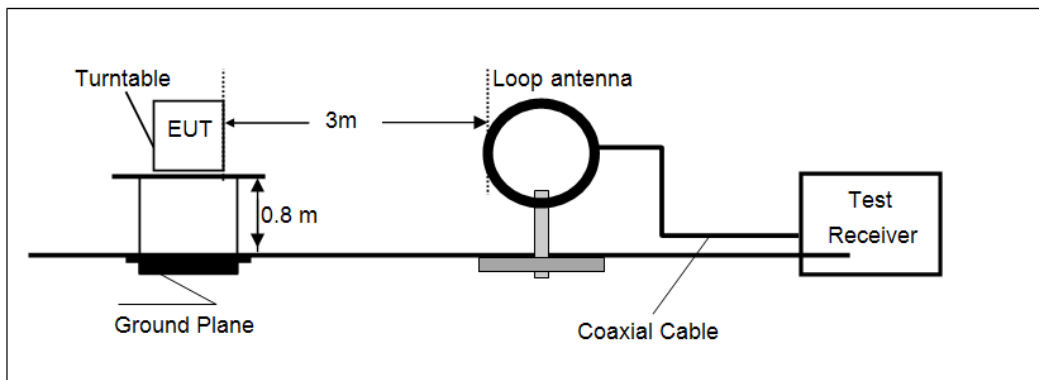
#### LIMIT

#### FCC CFR Title 47 Part 15 Subpart C Section 15.209

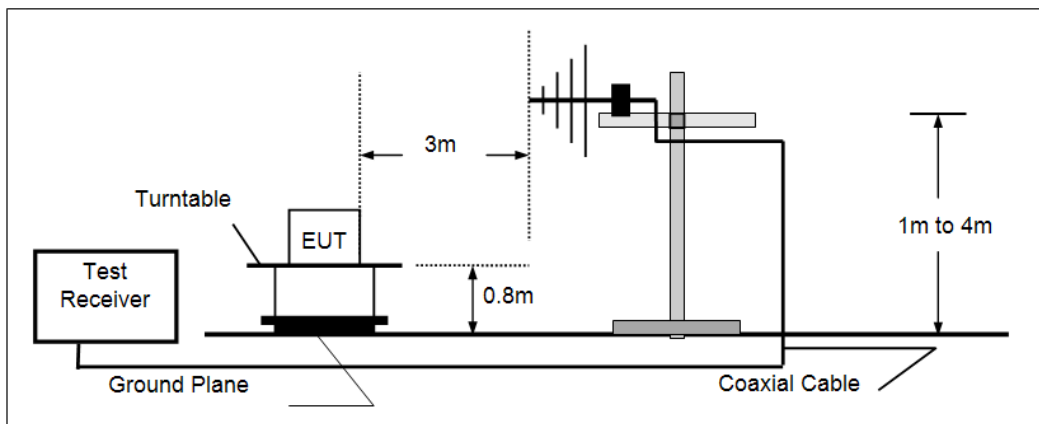
Frequency	Limit (dBuV/m @3m)	Value
30 MHz ~ 88 MHz	40.00	Quasi-peak
88 MHz ~ 216 MHz	43.50	Quasi-peak
216 MHz ~ 960 MHz	46.00	Quasi-peak
960 MHz ~ 1 GHz	54.00	Quasi-peak
Above 1 GHz	54.00	Average
	74.00	Peak

#### TEST CONFIGURATION

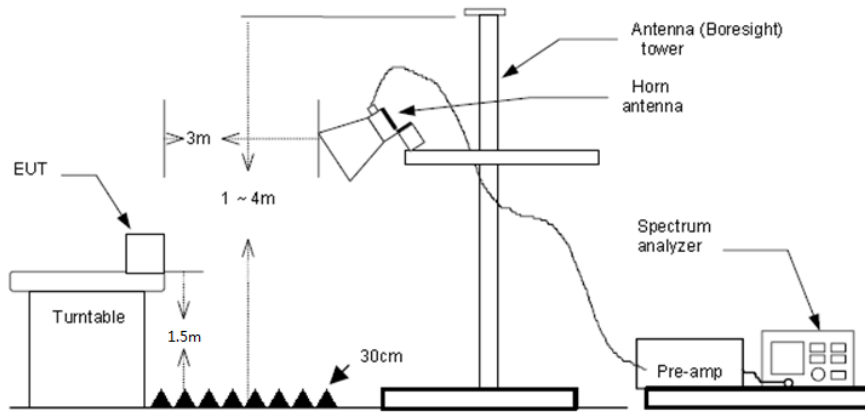
- Below 30 MHz



- 30 MHz ~1000 MHz



- Above 1 GHz



## TEST PROCEDURE

1. The EUT was tested according to ANSI C63.10:2013.
2. The EUT is placed on a turn table which is 0.8 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level.
3. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.
4. The antenna is scanned from 1 meter to 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna.
5. Use the following spectrum analyzer settings
  - (1) Span shall wide enough to fully capture the emission being measured;
  - (2) Below 1 GHz, RBW=120 kHz, VBW=300 kHz, Sweep=auto, Detector function=peak, Trace=max hold; 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.
  - (3) Above 1 GHz, RBW=1 MHz, VBW=3 MHz Peak detector for Peak value  
RBW=1 MHz, VBW=10 Hz Peak detector for Average value.

## TEST MODE:

Please refer to the clause 3.3

## TEST RESULTS

Passed       Not Applicable

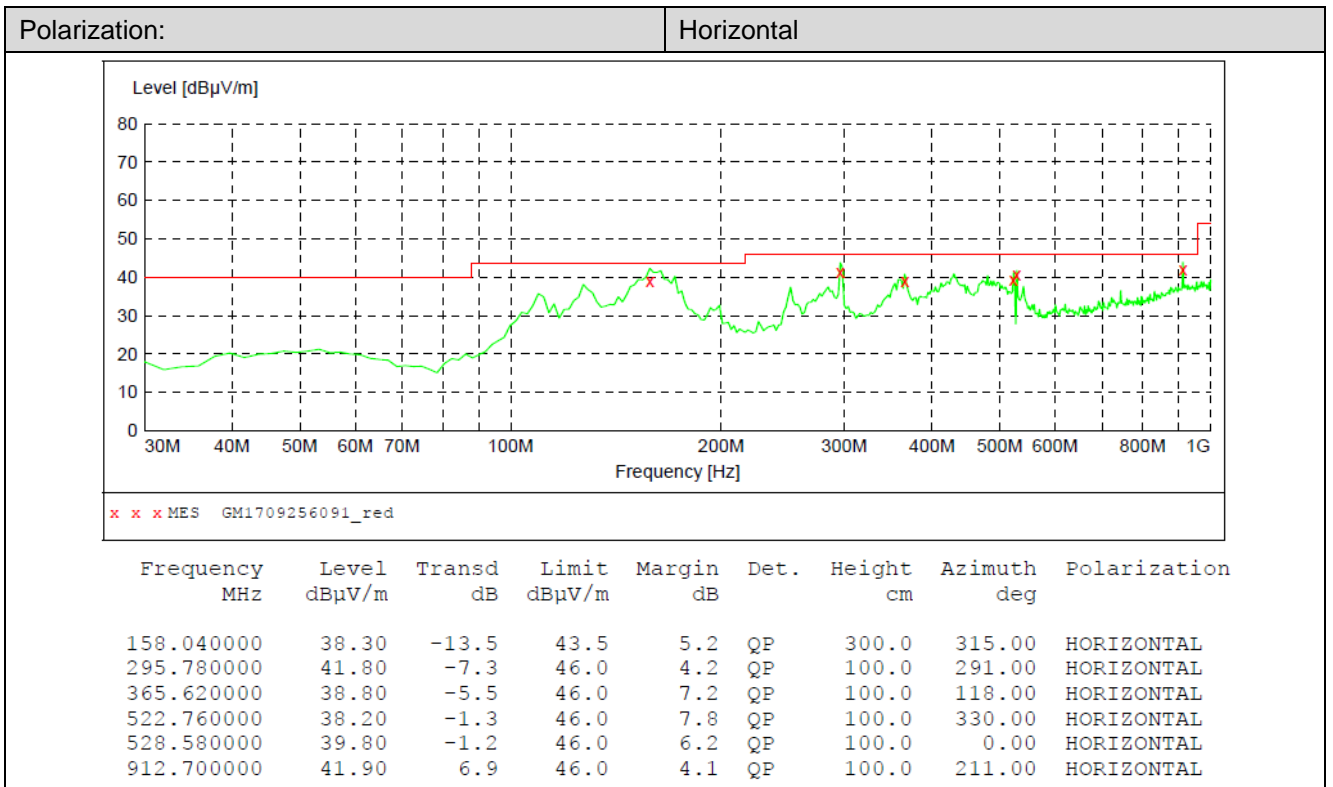
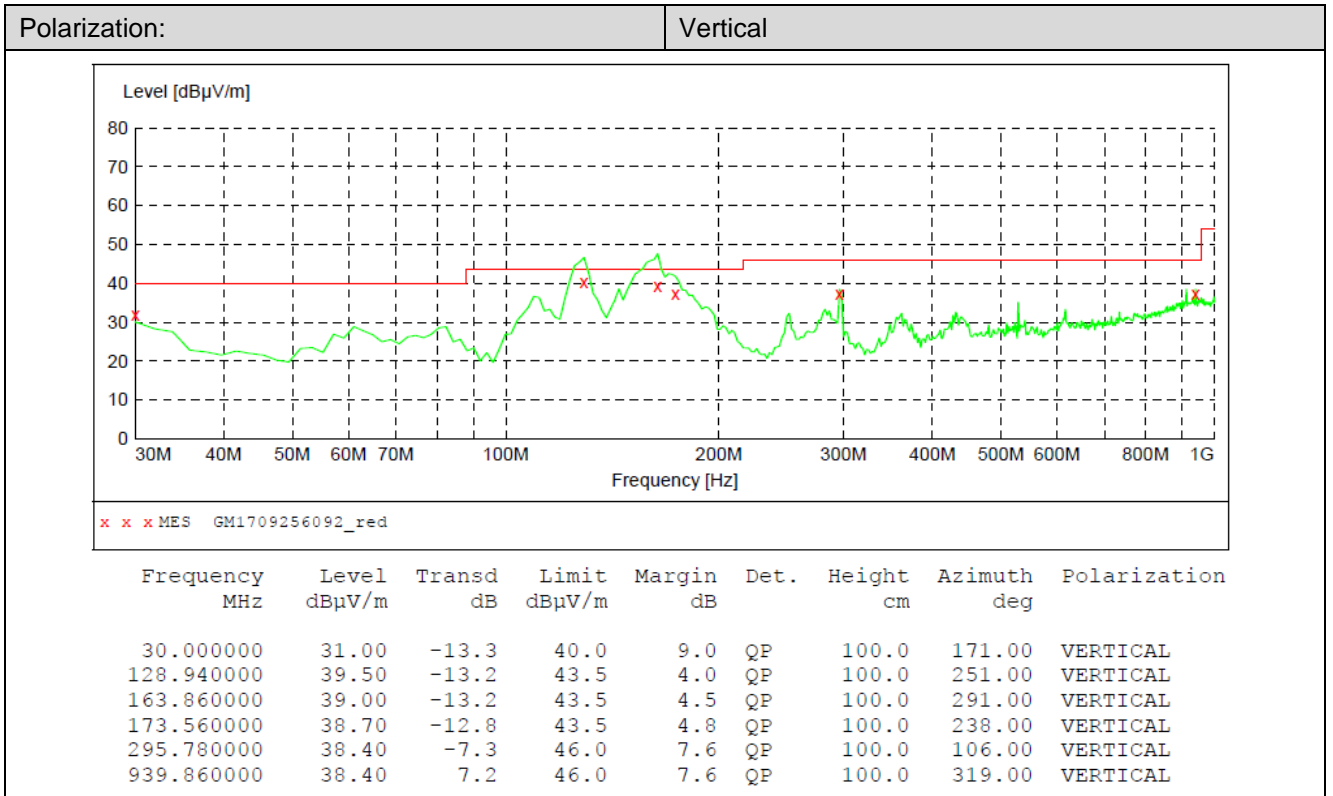
Note:

- 1) Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
- 2) The emission levels of other frequencies are very lower than the limit and not show in test report.
- 3) Below 1 GHz, Have pre-scan all modulation mode, found the GFSK modulation High channel which it was worst case, so only the worst case's data on the test report.
- 4) Above 1 GHz, Have pre-scan all modulation mode, found the GFSK modulation which it was worst case, so only the worst case's data on the test report
- 5) The peak level is lower than average limit (54 dBuV/m), this data is the too weak instrument of signal is unable to test.

### ➤ 9 kHz ~ 30 MHz

The low frequency, which started from 9 kHz to 30 MHz, was pre-scanned and the result which was 20 dB lower than the limit line per 15.31(o) was not reported.

➤ 30 MHz ~ 1 GHz



## ➤ Above 1 GHz

CH00									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	Test value
1953.21	36.32	25.84	6.20	37.26	31.10	74.00	-42.90	Vertical	Peak
3690.85	35.67	29.30	8.37	38.25	35.09	74.00	-38.91	Vertical	Peak
4809.50	60.05	31.58	9.55	36.93	64.25	74.00	-9.75	Vertical	Peak
7209.02	42.49	36.21	11.87	35.07	55.50	74.00	-18.50	Vertical	Peak
4809.50	40.62	31.58	9.55	36.93	44.82	54.00	-9.18	Vertical	Average
7209.02	23.71	36.21	11.87	35.07	36.72	54.00	-17.28	Vertical	Average
1856.26	36.23	25.34	6.05	37.19	30.43	74.00	-43.57	Horizontal	Peak
3151.99	36.78	28.80	7.66	38.21	35.03	74.00	-38.97	Horizontal	Peak
4809.50	53.78	31.58	9.55	36.93	57.98	74.00	-16.02	Horizontal	Peak
7209.02	40.57	36.21	11.87	35.07	53.58	74.00	-20.42	Horizontal	Peak
4809.50	33.84	31.58	9.55	36.93	38.04	54.00	-15.96	Horizontal	Average

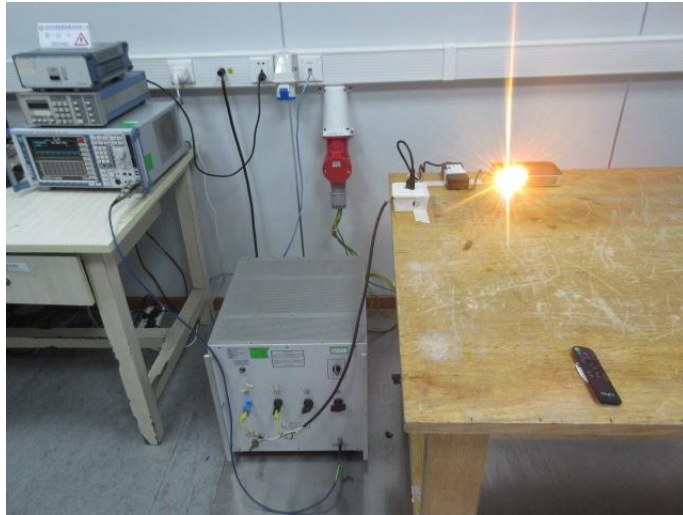
CH39									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	Test value
1502.73	36.54	25.77	5.29	36.59	31.01	74.00	-42.99	Vertical	Peak
3834.51	35.03	29.63	8.55	38.21	35.00	74.00	-39.00	Vertical	Peak
4883.52	38.72	31.43	9.59	36.73	43.01	74.00	-30.99	Vertical	Peak
7027.82	31.84	35.38	11.85	34.83	44.24	74.00	-29.76	Vertical	Peak
1213.44	37.41	26.29	4.68	36.56	31.82	74.00	-42.18	Horizontal	Peak
3096.33	36.23	28.79	7.60	38.22	34.40	74.00	-39.60	Horizontal	Peak
4883.52	37.91	31.43	9.59	36.73	42.20	74.00	-31.80	Horizontal	Peak
6428.77	32.92	33.50	11.04	35.32	42.14	74.00	-31.86	Horizontal	Peak

CH78									
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization	Test value
1121.37	44.20	25.68	4.48	36.61	37.75	74.00	-36.25	Vertical	Peak
4299.89	35.19	30.20	9.03	37.61	36.81	74.00	-37.19	Vertical	Peak
4958.68	58.19	31.46	9.64	36.52	62.77	74.00	-11.23	Vertical	Peak
7451.57	42.92	36.20	12.24	34.86	56.50	74.00	-17.50	Vertical	Peak
4958.68	39.50	31.46	9.64	36.52	44.08	54.00	-9.92	Vertical	Average
7451.57	24.82	36.20	12.24	34.86	38.40	54.00	-15.60	Vertical	Average
1406.50	36.11	25.89	5.02	36.47	30.55	74.00	-43.45	Horizontal	Peak
3507.65	37.35	29.02	8.13	38.40	36.10	74.00	-37.90	Horizontal	Peak
4958.68	58.28	31.46	9.64	36.52	62.86	74.00	-11.14	Horizontal	Peak
7451.57	42.28	36.20	12.24	34.86	55.86	74.00	-18.14	Horizontal	Peak
4958.68	42.48	31.46	9.64	36.52	47.06	54.00	-6.94	Horizontal	Average
7451.57	27.87	36.20	12.24	34.86	41.45	54.00	-12.55	Horizontal	Average

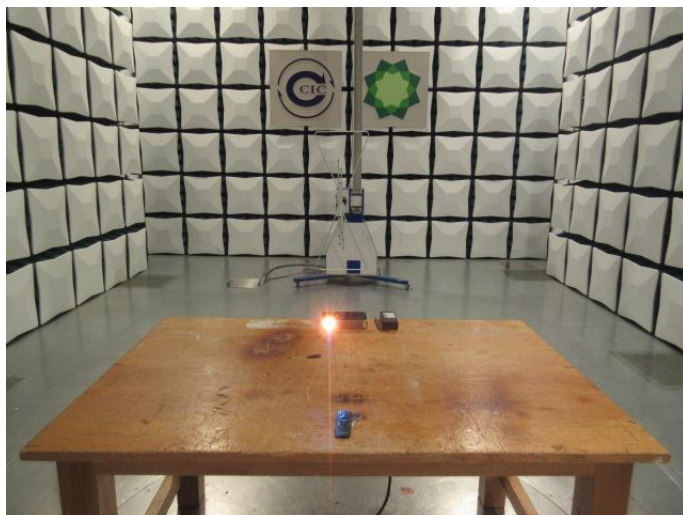
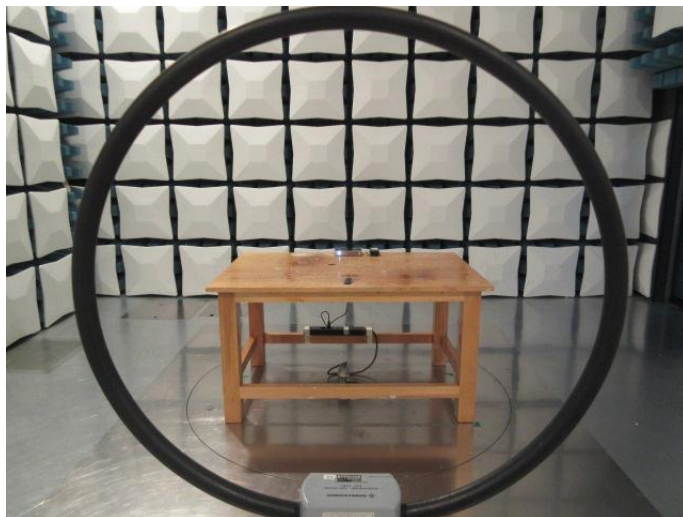


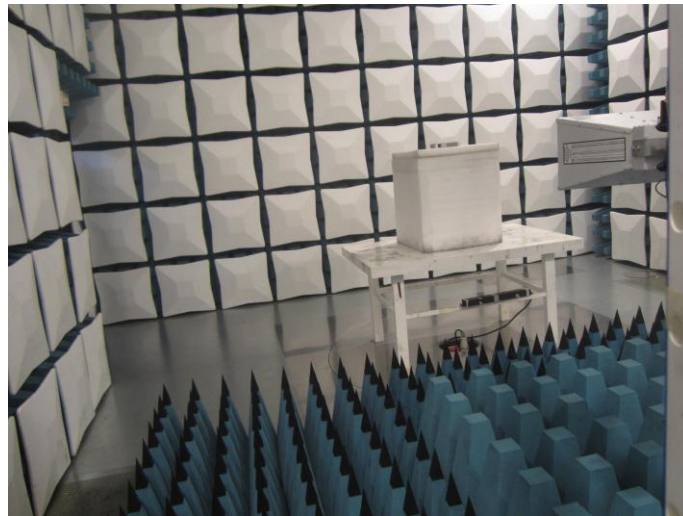
## 6. TEST SETUP PHOTOS

Conducted Emissions (AC Mains)



Radiated Emissions





## **7. EXTERANAL AND INTERNAL PHOTOS**

Reference to Test Report No.: TRE1709017301.

.....**End of Report**.....