

# FOR 802.11N40 MODULATION

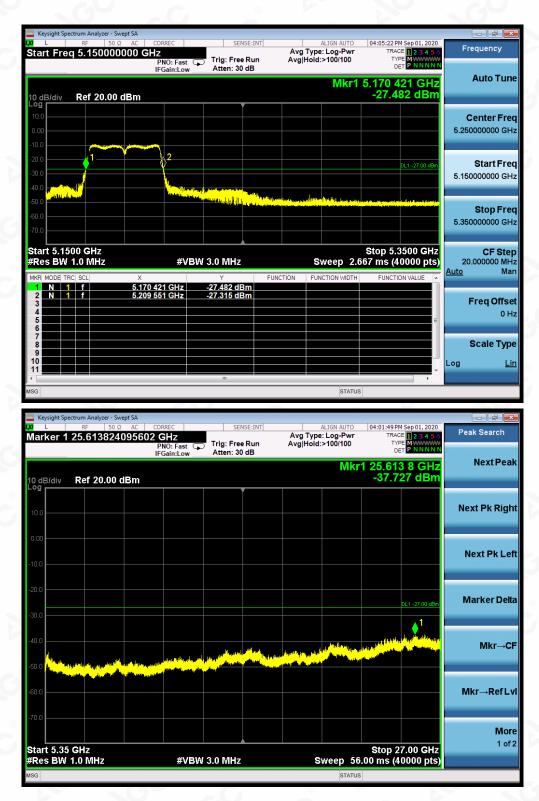
#### ght Spectrum Analyzer - Swept SA 04:00:13 PM Sep 01, 2020 ALIGN AUTO Avg Type: Log-Pwr Avg|Hold:>100/100 Peak Search 1 904.695117378 MHz Marke Trig: Free Run PNO: Fast IFGain:Low Atten: 30 dB Next Peak Mkr1 904.695 MHz -59.460 dBm 10 dB/div Ref 20.00 dBm Next Pk Right Next Pk Left Marker Delta Mkr→CF Mkr→RefLv More 1 of 2 Start 0.0300 GHz #Res BW 100 kHz Stop 1.0000 GHz Sweep 93.33 ms (40000 pts) #VBW 300 kHz :29 PM Sep 01, 2020 Peak Search Avg Type: Log-Pw Avg|Hold:>100/100 Marker 1 5.143463586590 GHz Trig: Free Run TYF PNO: Fast IFGain:Low Atten: 30 dB Next Peak Mkr1 5.143 46 GHz -43.395 dBm 10 dB/div Ref 20.00 dBm Next Pk Right Next Pk Left Marker Delta Mkr→CF Mkr→RefLvl More 1 of 2 Start 1.000 GHz #Res BW 1.0 MHz Stop 5.150 GHz Sweep 8.000 ms (40000 pts) #VBW 3.0 MHz

#### TEST PLOT OF OUT OF BAND EMISSIONS FOR MODULATION IN 5190MHz

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the "Dedicated Pesting/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGE" the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuence of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc~cert.com.

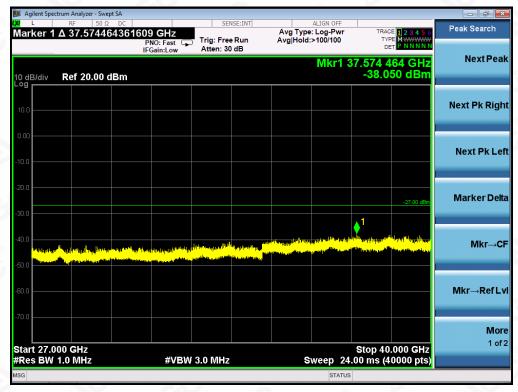
#### Report No.: AGC02852200605FE06 Page 52 of 87



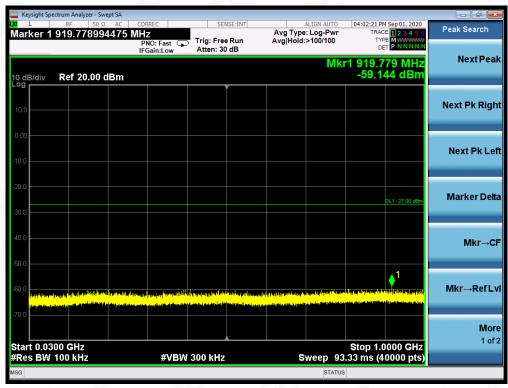


Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Festing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written approver, between the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issues of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc~cert.com.





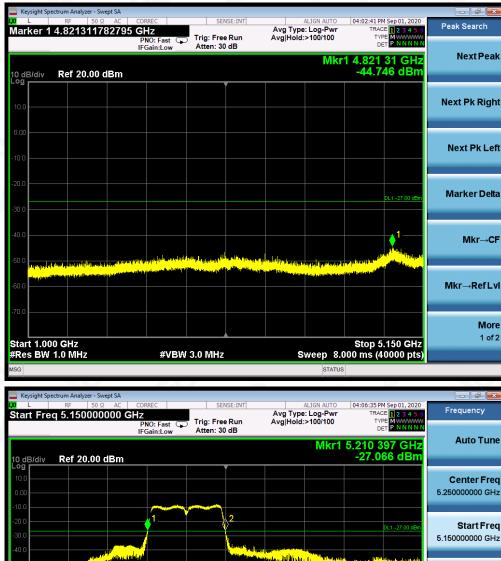
#### TEST PLOT OF OUT OF BAND EMISSIONS FOR MODULATION IN 5230MHz



Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the "Dedicated Pesting/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written approver, be test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuence of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc~cert.com.

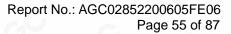
#### Report No.: AGC02852200605FE06 Page 54 of 87



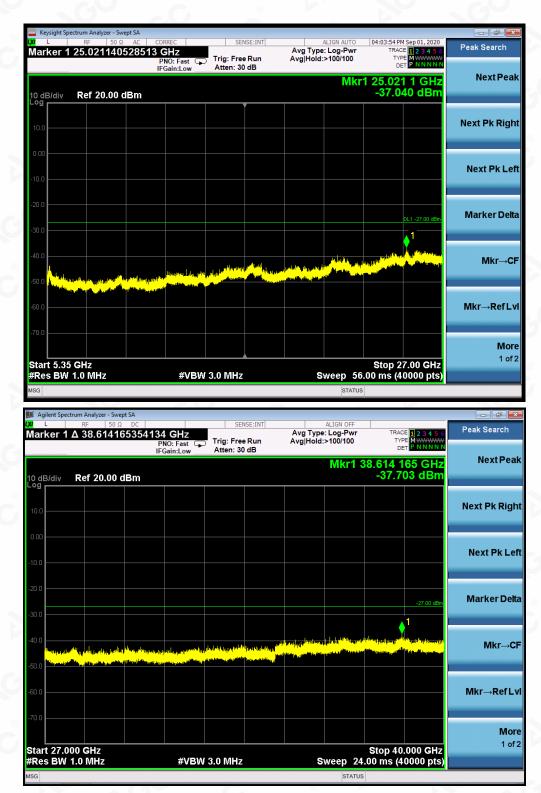


البر إرابا بالألالسط Stop Freq 5.35000000 GHz Start 5.1500 GHz #Res BW 1.0 MHz Stop 5.3500 GHz Sweep 2.667 ms (40000 pts) CF Step 20.000000 MHz #VBW 3.0 MHz Mar Auto 5.210 397 GHz 5.249 677 GHz -27.066 dBm -27.073 dBm Freq Offset 0 Hz Scale Type Log Lin

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Festing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written approver, between the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issues of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc~cert.com.



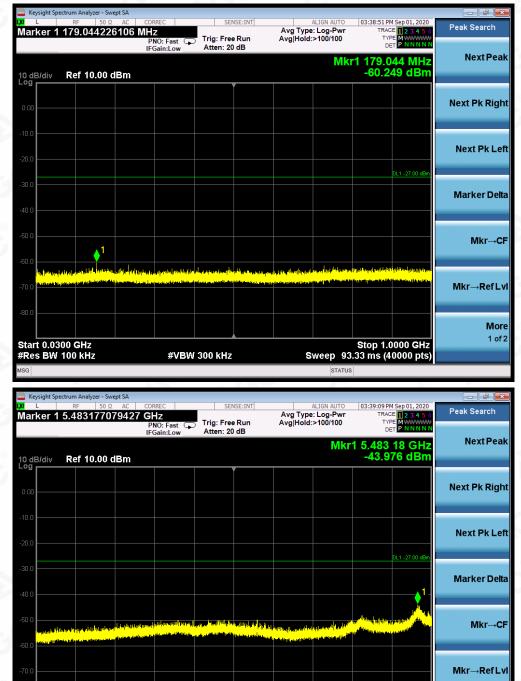




Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Specificated Festing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written approver, and the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issues of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc~cert.com.

More 1 of 2

Stop 5.650 GHz Sweep 8.000 ms (40000 pts)



### TEST PLOT OF OUT OF BAND EMISSIONS FOR MODULATION IN 5755MHz

R

AGC

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Pesting/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the writter approvation of AGE, the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc~cert.com.

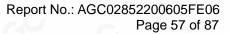
#VBW 3.0 MHz

 Attestation of Global Compliance(Shenzhen)Co., Ltd

 Attestation of Global Compliance(Shenzhen)Std & Tech Co., Ltd

 Tel: +86-755 2523 4088
 E-mail: agc@agc-cert.com

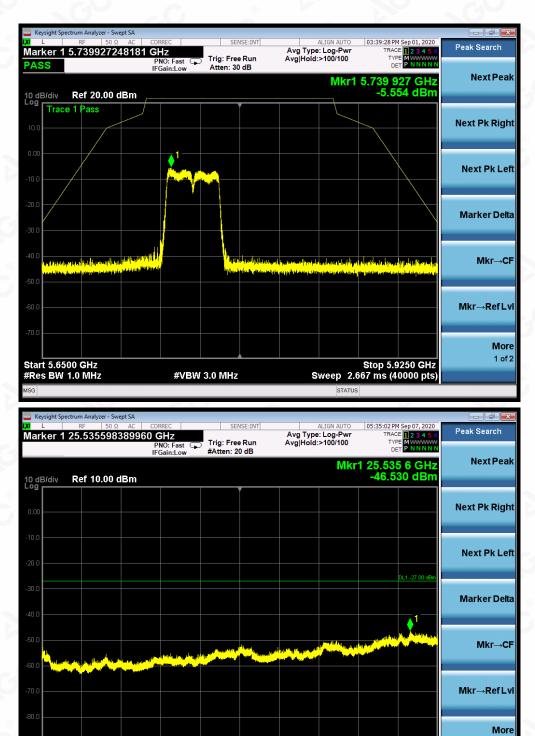
Start 1.000 GHz #Res BW 1.0 MHz



1 of 2

Stop 27.00 GHz Sweep 53.33 ms (40000 pts)





Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Festing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the writter approver, and AGC the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issues of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.

#VBW 3.0 MHz

Attestation of Global Compliance(Shenzhen)Co., Ltd Attestation of Global Compliance(Shenzhen)Std & Tech Co., Ltd Tel: +86-755 2523 4088 E-mail: agc@agc-cert.com Web: http://cn.agc-cert.com/

Start 5.93 GHz #Res BW 1.0 MHz

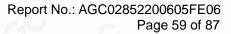




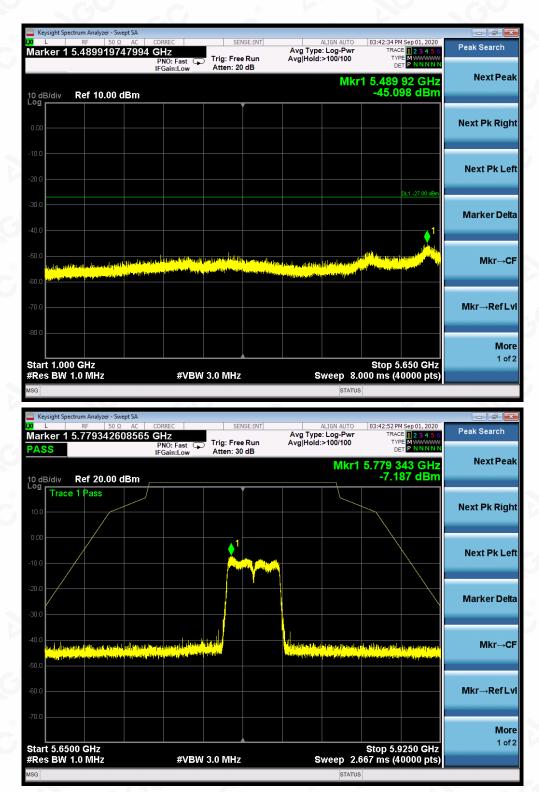
#### TEST PLOT OF OUT OF BAND EMISSIONS FOR MODULATION IN 5795M



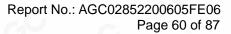
Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the selecicated resting/inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written approver, be test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issuence of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc~cert.com.



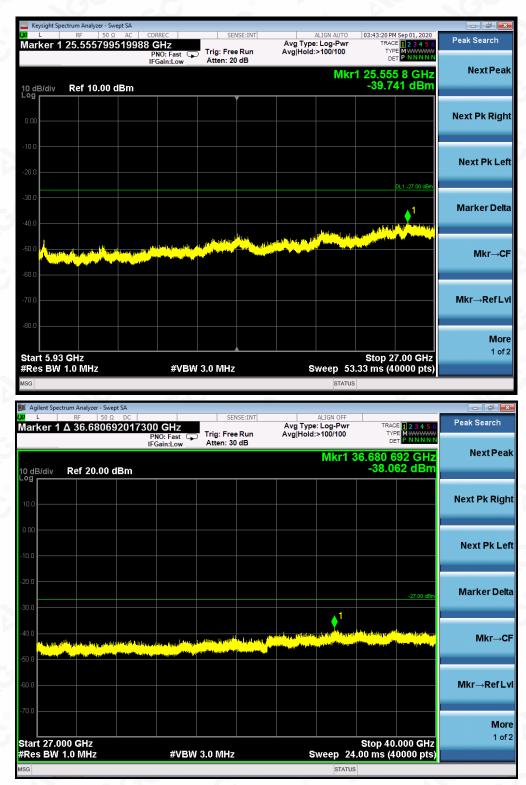




Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Festing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the writter approver, and AGC the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issues of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.







Note: All the 20MHz bandwidth modulation had been tested, the 802.11a20 was the worst case and record in his test report. All the 40MHz bandwidth modulation had been tested, the 802.11N40 was the worst case and record in his test report.

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the "Dedicated Pesting/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGE. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issues of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc~cert.com.



# **12. RADIATED EMISSION**

## **12.1. MEASUREMENT PROCEDURE**

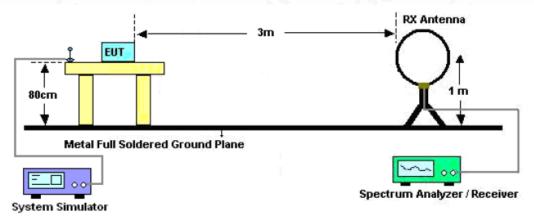
- 1. The EUT was placed on the top of the turntable 0.8 or 1.5 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
- 2. Power on the EUT and all the supporting units. The turntable was rotated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

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Besting/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGE. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issues of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc~cert.com.

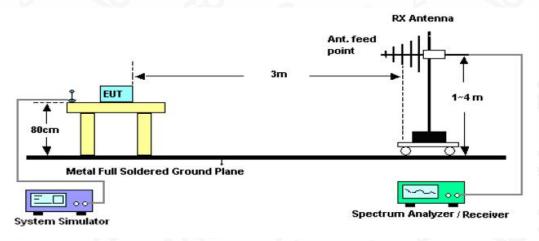


# 12.2. TEST SETUP

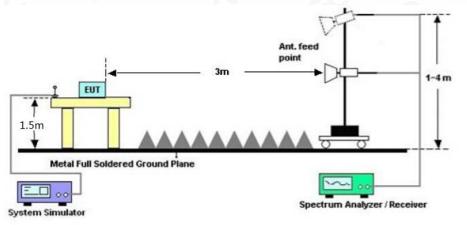
Radiated Emission Test-Setup Frequency Below 30MHz



## RADIATED EMISSION TEST SETUP 30MHz-1000MHz



# RADIATED EMISSION TEST SETUP ABOVE 1000MHz



Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the stand inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGE in the test estimates and the test estimates and the test estimates are presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issues of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.

## **12.3. 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.

# 12.4. TEST RESULT

# **RADIATED EMISSION BELOW 30MHZ**

The amplitude of spurious emissions from 9kHz to 30MHz which are attenuated more than 20 dB below the permissible value need not be reported.

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the stand in the stand in the report is not permitted without the written authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issues of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.

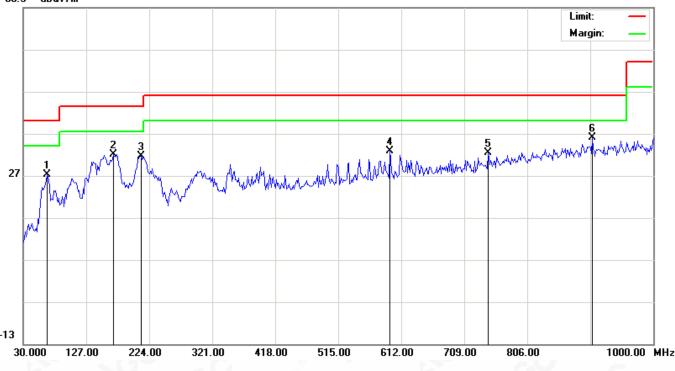


#### Report No.: AGC02852200605FE06 Page 64 of 87

#### **RADIATED EMISSION BELOW 1GHZ**

EUT	WIFI/BLUETOOTH SPEAKER	Model Name	MSY5
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11a20 5180MHz	Antenna	Horizontal

#### 66.9 dBuV/m



No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector
	-	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1		67.1833	10.47	16.76	27.23	40.00	-12.77	peak
2		169.0333	13.81	18.26	32.07	43.50	-11.43	peak
3		211.0667	17.33	14.27	31.60	43.50	-11.90	peak
4		594.2167	5.87	26.84	32.71	46.00	-13.29	peak
5		746.1833	3.14	29.19	32.33	46.00	-13.67	peak
6	*	906.2333	4.23	31.75	35.98	46.00	-10.02	peak

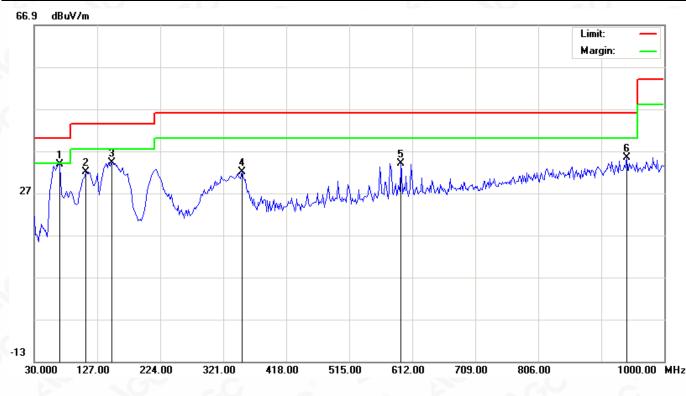
## **RESULT: PASS**

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the stand of the stand of the test results of the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day affective report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



#### Report No.: AGC02852200605FE06 Page 65 of 87

EUT	WIFI/BLUETOOTH SPEAKER	Model Name	MSY5
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11a20 5180MHz	Antenna	Vertical



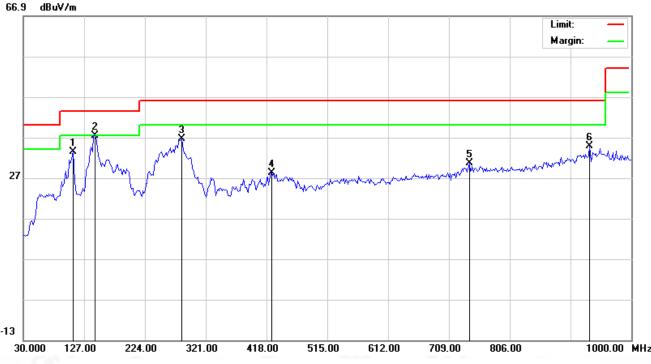
No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector
	-	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	
1	*	68.8000	16.76	16.96	33.72	40.00	-6.28	peak
2		109.2167	15.18	16.91	32.09	43.50	-11.41	peak
3		149.6333	15.09	19.21	34.30	43.50	-9.20	peak
4		350.1000	10.77	21.23	32.00	46.00	-14.00	peak
5		594.2167	7.21	26.84	34.05	46.00	-11.95	peak
6		941.8000	3.28	32.06	35.34	46.00	-10.66	peak

## **RESULT: PASS**

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Pesting/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the writter explorization of AGC the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issues of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



EUT	WIFI/BLUETOOTH SPEAKER	Model Name	MSY5
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11a20 5745MHz	Antenna	Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1		109.2167	16.55	16.91	33.46	43.50	-10.04	peak
2	* '	144.7831	18.28	19.22	37.50	43.50	-6.00	peak
3	2	282.1999	16.77	19.89	36.66	46.00	-9.34	peak
4	4	426.0833	4.67	23.50	28.17	46.00	-17.83	peak
5	1	741.3333	1.50	29.08	30.58	46.00	-15.42	peak
6	(	933.7166	2.84	31.99	34.83	46.00	-11.17	peak

### **RESULT: PASS**

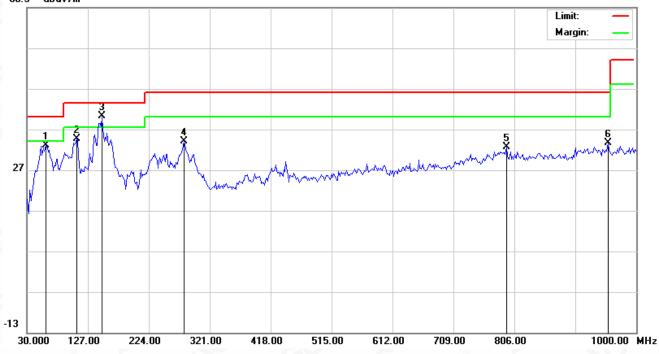
Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the bedicated restriction of Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuer of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



#### Report No.: AGC02852200605FE06 Page 67 of 87

EUT	WIFI/BLUETOOTH SPEAKER	Model Name	MSY5
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11a20 5745MHz	Antenna	Vertical

66.9 dBuV/m



	Over	Limit	Measure- ment	Correct Factor	Reading Level	Freq.	Mk.	No.
Detector	dB	dBuV/m	dBuV/m	dB	dBuV	MHz		
peak	-7.03	40.00	32.97	15.96	17.01	60.7167		1
peak	-8.81	43.50	34.69	16.91	17.78	09.2167	,	2
peak	-3.26	43.50	40.24	19.21	21.03	49.6332	* *	3
peak	-12.00	46.00	34.00	19.93	14.07	280.5833	2	4
peak	-13.37	46.00	32.63	30.25	2.38	793.0665	1	5
peak	-12.45	46.00	33.55	32.17	1.38	954.7332	ę	6

# RESULT: PASS Note:

1.All modes had been tested. And the worst case and recorded in the test report.
2.Factor = Antenna Factor + Cable loss - Amplifier gain, Margin= Limit-Level.
The "Factor" value can be calculated automatically by software of measurement system.

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the "Bedicated Pesting/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGE. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issues of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



# **RADIATED EMISSION ABOVE 1GHZ**

EUT	WIFI/BLUETOOTH SPEAKER	Model Name	MSY5
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11a20 5180MHz	Antenna	Horizontal/Vertical

### RADIATED EMISSION ABOVE 1GHZ-Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Value Type
10360.042	45.37	9.14	51.71	68.20	-22.29	peak
15540.063	40.28	10.22	45.08	74.00	-28.92	peak
15540.063	30.63	10.22	41.11	54.00	-12.89	AVG
Remark:	8			- C.	®	
Eastern Austr		- Distant and E				0

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

#### RADIATED EMISSION ABOVE 1GHZ-Vertical

	IB) (dE	βμV/m) (dBμV/	/m) (dB)	Value Type
10 0				
.19 9	14 5	3.71 68.20	0 -20.29	) peak
.34 10	.22 4	5.91 74.00	0 -28.09	) peak
.56 10	.22 4	2.00 54.00	0 -12.00	) AVG

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Pesting/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuer of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc~cert.com.



EUT	WIFI/BLUETOOTH SPEAKER	Model Name	MSY5
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11a20 5240MHz	Antenna	Horizontal/Vertical

#### RADIATED EMISSION ABOVE 1GHZ–Horizontal

Meter Reading	Factor	Emission Level	Limits	Margin	Value Type
(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type
46.38	9.27	52.47	68.20	-21.53	peak
41.35	10.38	46.66	74.00	-27.34	peak
32.94	10.38	42.78	54.00	-11.22	AVG
8			- C.	®	
	46.38 41.35 32.94	46.38         9.27           41.35         10.38           32.94         10.38	46.38         9.27         52.47           41.35         10.38         46.66	46.38         9.27         52.47         68.20           41.35         10.38         46.66         74.00           32.94         10.38         42.78         54.00	(dBµV)         (dB)         (dBµV/m)         (dBµV/m)         (dB)           46.38         9.27         52.47         68.20         -21.53           41.35         10.38         46.66         74.00         -27.34           32.94         10.38         42.78         54.00         -11.22

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

#### RADIATED EMISSION ABOVE 1GHZ–Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type
10480.042	44.98	9.27	51.92	68.20	-22.08	peak
15720.063	40.19	10.38	46.58	74.00	-27.42	peak
15720.063	29.55	10.38	43.91	54.00	-10.09	AVG

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Pesting/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuer of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc~cert.com.



EUT	WIFI/BLUETOOTH SPEAKER	Model Name	MSY5
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11a20 5745MHz	Antenna	Horizontal/Vertical

#### RADIATED EMISSION ABOVE 1GHZ–Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Trees
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Value Type
11490.042	45.61	9.42	53.72	74.00	-20.28	peak
11490.042	36.17	9.42	48.16	54.00	-5.84	AVG
17235.063	39.82	10.51	45.05	68.20	-28.95	peak

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

#### RADIATED EMISSION ABOVE 1GHZ-Vertical

βµV)				largin (dB)	alue Type
, (2)	(dB) (	dBµV/m) (dl	BµV/m)	(dB)	alue Type
~~				()	(A)
.28	9.42	54.44	74.00	19.56	peak
.11	9.42	48.64	54.00 -	5.36	AVG
.29 1	0.51	45.05 6	68.20 -:	28.95	peak

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Pesting/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuer of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc~cert.com.



#### Report No.: AGC02852200605FE06 Page 71 of 87

EUT	WIFI/BLUETOOTH SPEAKER	Model Name	MSY5
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11a20 5825MHz	Antenna	Horizontal/Vertical

### RADIATED EMISSION ABOVE 1GHZ-Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type
11650.042	44.35	9.62	52.98	74.00	-21.02	peak
11650.042	34.18	9.62	45.05	54.00	-8.95	AVG
17475.063	38.62	10.75	47.61	68.20	-26.39	peak
Remark:	0				(2)	
$=$ actor = $\Delta$ nte	enna Eactor + C	able Loss - F	Pre-amplifier			0

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

### RADIATED EMISSION ABOVE 1GHZ–Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Type	
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type	
11650.042	45.13	9.62	53.55	74.00	-20.45	peak	
11650.042	36.65	9.62	47.64	54.00	-6.36	AVG	
17475.063	39.48	10.75	48.61	68.20	-25.39	peak	
Remark:	Remark:						
Factor = Ante	enna Factor + Ca	able Loss – Pi	re-amplifier.		G	8	

Note: All the case had been tested, and only the worst case and recorded in the test report.

Other frequencies radiation emission from 1GHz to 40GHz at least have 20dB margin and not recorded in the test report.

Factor = Antenna Factor + Cable loss - Amplifier gain, Margin= Level-Limit.

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

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the stead of the stand of t



# **13. BAND EDGE EMISSION**

### **13.1. MEASUREMENT PROCEDURE**

1. The EUT operates at transmitting mode. The operate channel is tested to verify the largest transmission and spurious emissions power at the continuous transmission mode.

2. Set the spectrum analyzer in the following setting in order to capture the lower and upper band-edges of the emission: (a) PEAK: RBW=1MHz, VBW=3MHz / Sweep=AUTO

(b) AVERAGE: RBW=1MHz ; VBW=3MHz / Sweep=AUTO

3. Other procedures refer to clause 11.2.

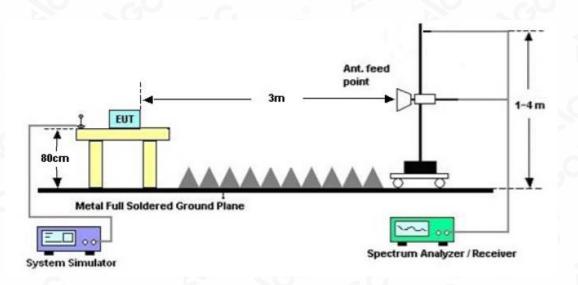
Note:

1. Factor=Antenna Factor + Cable loss - Amplifier gain. Field Strength=Factor + Reading level

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

3. Only the data of band edge emission at the restricted band 4.5GHz-5.15GHz and 5.35GHz-5.46GHz record in the report. Other restricted band 7.25GHz-7.77GHz were considered as ambient noise. No recording in the test report.

13.2. TEST SET-UP



Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the stead festing/inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the writter authorization of AGC the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day Safter the issues of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc~cert.com.



#### Report No.: AGC02852200605FE06 Page 73 of 87

### **13.3. TEST RESULT**

EUT	WIFI/BLUETOOTH SPEAKER	Model Name	MSY5
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11a20 5180MHz	Antenna	Horizontal





AV Value



Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Perturg/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuer of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



#### Report No.: AGC02852200605FE06 Page 74 of 87

EUT	WIFI/BLUETOOTH SPEAKER	Model Name	MSY5
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11a20 5180MHz	Antenna	Vertical



#### PK Value

AV Value



Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Pesting/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written approver, and the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuer of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



#### Report No.: AGC02852200605FE06 Page 75 of 87

EUT	WIFI/BLUETOOTH SPEAKER	Model Name	MSY5
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11n40 5190MHz	Antenna	Horizontal



PK Value

AV Value



Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the submitted resting/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written aphorization of AGS. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issues of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



#### Report No.: AGC02852200605FE06 Page 76 of 87

EUT	WIFI/BLUETOOTH SPEAKER	Model Name	MSY5
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11n40 5190MHz	Antenna	Vertical



PK Value

AV Value



# **RESULT: PASS**

Note: All the 20MHz bandwidth modulation had been tested, the 802.11a20 was the worst case and record in his test report. All the 40MHz bandwidth modulation had been tested, the 802.11N40 was the worst case and record in his test report.

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Dedicated Pesting/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issues of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.

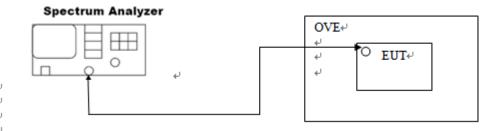


# **14. FREQUENCY STABILITY**

### **14.1. MEASUREMENT PROCEDURE**

- 1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
- 2. Set the EUT Work on the operation frequency.
- 3. Set SPA Centre Frequency = Operation Frequency. SPAN=enough to measure the emission is maintained within the band
- 4. Set SPA Trace 1 Max hold, then View.
- 5. Extreme temperature rule is -10°C~60°C.

# 14.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)



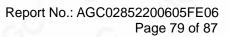
Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the stand of the stand of the test results for the test results are apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day and a test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc~cert.com.



# **14.3. MEASUREMENT RESULTS**

Test Mode	Temperature	Measurement Frequency (MHz)	Result	Conclusior
	- 10℃	5180	5180.032	PASS
8	0°C	5180	5180.034	PASS
C _	<b>10</b> ℃	5180	5180.035	PASS
	<b>20</b> ℃	5180	5180.037	PASS
	<b>30</b> ℃	5180	5180.038	PASS
	<b>40</b> ℃	5180	5180.036	PASS
	<b>50</b> ℃	5180	5180.035	PASS
- 60	<b>60</b> ℃	5180	5180.034	PASS
	- 10℃	5240	5240.065	PASS
®	0°C	5240	5240.065	PASS
C	ା <b>10</b> °C	5240	5240.064	PASS
G ,	<b>20</b> ℃	5240	5240.065	PASS
	<b>30</b> ℃	5240	5240.067	PASS
0	<b>40</b> ℃	5240	5240.068	PASS
C .	<b>50</b> ℃	5240	5240.065	PASS
802.11a	<b>60</b> ℃	5240	5240.062	PASS
802.11a	- <b>10</b> ℃	5745	5745.044	PASS
	0°C	5745	5745.046	PASS
3	<b>10</b> ℃	5745	5745.044	PASS
	<b>20</b> ℃	5745	5745.045	PASS
	<b>30</b> ℃	5745	5745.045	PASS
	<b>40</b> ℃	5745	5745.045	PASS
C.	<b>50</b> ℃	5745	5745.044	PASS
60 -	<b>60</b> ℃	5240	5745.044	PASS
	- 10℃	5825	5825.052	PASS
0	0°C	5825	5825.053	PASS
6	<b>10</b> ℃	5825	5825.054	PASS
- C	<b>20</b> ℃	5825	5825.056	PASS
	<b>30</b> ℃	5825	5825.056	PASS
	<b>40</b> ℃	5825	5825.052	PASS
Ø	<b>50</b> ℃	5825	5825.053	PASS
C.C	<b>60</b> ℃	5825	5825.051	PASS

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Pesting/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written approver, and the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuerce of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.





Test Mode	Temperature Measurement Frequency (MHz)		Result	Conclusion	
6. V	- 10℃	5180	5180.041	PASS	
	<b>0</b> °C	5180	5180.044	PASS	
	<b>10</b> ℃	5180	5180.048	PASS	
	<b>20</b> ℃	5180	5180.047	PASS	
	<b>30</b> ℃	5180	5180.049	PASS	
	<b>40</b> ℃	5180	5180.044	PASS	
3	<b>50</b> ℃	5180	5180.045	PASS	
	<b>60</b> ℃	5180	5180.046	PASS	
	- 10℃	5240	5240.052	PASS	
	0°C	5240	5240.054	PASS	
	<b>10</b> ℃	5240	5240.053	PASS	
G	<b>20</b> ℃	5240	5240.058	PASS	
	<b>30</b> ℃	5240	5240.057	PASS	
	<b>40</b> ℃	5240	5240.055	PASS	
C	<b>50</b> ℃	5240	5240.056	PASS	
802.11n20	<b>60</b> ℃	5240	5240.051	PASS	
802.TTh20	- 10℃	5745	5700.054	PASS	
	0°C	5745	5700.059	PASS	
8	<b>10</b> ℃	5745	5745.042	PASS	
C.C	<b>20</b> ℃	5745	5745.045	PASS	
	<b>30</b> ℃	5745	5745.046	PASS	
	<b>40</b> ℃	5745	5745.044	PASS	
8	<b>50</b> ℃	5745	5745.047	PASS	
6	<b>60</b> ℃	5240	5745.048	PASS	
	- 10℃	5825	5745.042	PASS	
	<b>0</b> °C	5825	5745.043	PASS	
	<b>10</b> ℃	5825	5825.055	PASS	
	<b>20</b> °C	5825	5825.054	PASS	
	<b>30</b> ℃	5825	5825.046	PASS	
	<b>40</b> ℃	5825	5825.047	PASS	
8	<b>50</b> ℃	5825	5825.048	PASS	
- C	<b>60</b> ℃	5825	5825.046	PASS	

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Pesting/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written approver, and the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuerce of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



Test Mode	Temperature	Measurement Frequency (MHz)	Result	Conclusion
6	- 10℃	5190	5190.056	PASS
	0°C	5190	5190.054	PASS
G	<b>10</b> ℃	5190	5190.051	PASS
	<b>20</b> ℃	5190	5190.058	PASS
	<b>30</b> ℃	5190	5190.057	PASS
	<b>40</b> ℃	5190	5190.056	PASS
3	<b>50</b> ℃	5190	5190.054	PASS
	<b>60</b> ℃	5190	5190.055	PASS
	- 10℃	5230	5230.042	PASS
	0°C	5230	5230.043	PASS
	<b>10</b> ℃	5230	5230.044	PASS
G	<b>20</b> ℃	5230	5230.044	PASS
	<b>30</b> ℃	5230	5230.045	PASS
0	<b>40</b> ℃	5230	5230.047	PASS
C. I	<b>50</b> ℃	5230	5230.048	PASS
802.11n40	<b>60</b> ℃	5230	5230.049	PASS
002.11140	- <b>10</b> ℃	5755	5755.045	PASS
	0°C	5755	5755.044	PASS
8	<b>10</b> ℃	5755	5755.042	PASS
C.C	<b>20</b> ℃	5755	5755.041	PASS
	<b>30</b> ℃	5755	5755.046	PASS
	<b>40</b> ℃	5755	5755.048	PASS
0	<b>50</b> ℃	5755	5755.0454	PASS
C C	<b>60</b> ℃	5755	5755.049	PASS
	- 10℃	5795	5795.062	PASS
	0°C	5795	5795.064	PASS
	<b>10</b> ℃	5795	5795.063	PASS
	<b>20</b> °C	5795	5795.065	PASS
	<b>30</b> ℃	5795	5795.063	PASS
	<b>40</b> ℃	5795	5795.064	PASS
8	<b>50</b> ℃	5795	5795.063	PASS
	<b>60</b> ℃	5795	5795.067	PASS

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Pesting/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written approver, or having not been stamped by the Bedicated Pesting/Inspection presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuerce of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.

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

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

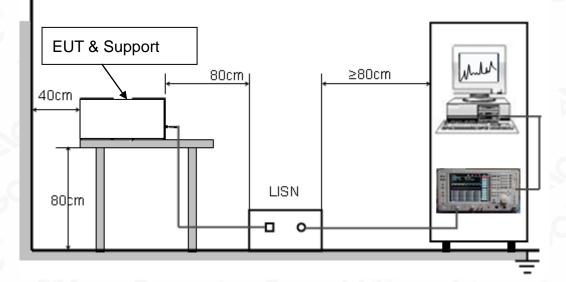
Francisco	Maximum RF Line Voltage				
Frequency	Q.P.( dBuV)	Average( dBuV)			
150kHz~500kHz	66-56	56-46			
500kHz~5MHz	56	46			
5MHz~30MHz	60	50			

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 0.50MHz.

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



Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the stand inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGE the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issues of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc~cert.com.



# 15.3. 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.

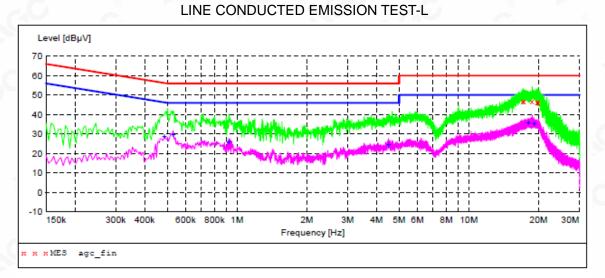
## 15.4. FINAL PROCEDURE OF LINE CONDUCTED EMISSION TEST

- 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.

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the stead residual/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written aphroization of AGS. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issues of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc~cert.com.



### 15.5. TEST RESULT OF LINE CONDUCTED EMISSION TEST



#### MEASUREMENT RESULT: "agc\_fin"

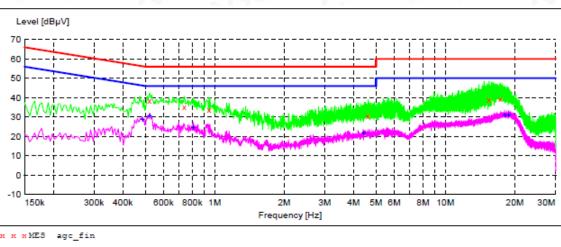
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
17.070000 17.274000 18.714000 19.654000 19.810000 19.858000	46.90 47.00 46.60 46.40 46.50 46.50	12.1 12.1 12.2 12.3 12.3 12.3	60 60 60 60 60	13.1 13.0 13.4 13.6 13.5 13.5	QP QP QP QP	L1 L1 L1 L1 L1 L1	FLO FLO FLO FLO FLO FLO

#### MEASUREMENT RESULT: "agc fin2"

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.486000 0.530000 0.922000 4.502000 18.026000 19.046000	28.60 29.60 25.80 24.50 35.50 35.20	11.0 11.0 11.1 11.3 12.2 12.2	46 46 46 50 50	17.6 16.4 20.2 21.5 14.5 14.8	AV AV AV	L1 L1 L1 L1 L1 L1	FLO FLO FLO FLO FLO FLO

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Festing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the writter authorization of AGE. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issues of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.





### LINE CONDUCTED EMISSION TEST-N

#### MEASUREMENT RESULT: "agc\_fin"

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.522000 0.738000 0.946000 4.622000 15.430000 17.294000	38.60 35.30 33.60 30.70 38.90 39.50	11.0 11.1 11.1 11.3 11.9 12.1	56 56 56 60 60	17.4 20.7 22.4 25.3 21.1 20.5	QP QP QP QP	N N N N N	FLO FLO FLO FLO FLO FLO

#### MEASUREMENT RESULT: "agc\_fin2"

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.486000 0.522000 0.806000 4.402000 18.042000 18.738000	28.90 30.40 24.50 21.60 31.20 31.10	11.0 11.0 11.1 11.3 12.2 12.2	46 46 46 50 50	17.3 15.6 21.5 24.4 18.8 18.9	AV AV AV	N N N N N	FLO FLO FLO FLO FLO FLO

# **RESULT: PASS**

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Festing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the writter authorization of AGE. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issues of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



Report No.: AGC02852200605FE06 Page 85 of 87

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



FCC RADIATED EMISSION TEST SETUP BELOW 1GHZ



Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the stead of the stamp of the stamp. Stamp is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issues of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



Report No.: AGC02852200605FE06 Page 86 of 87



FCC RADIATED EMISSION TEST SETUP ABOVE 1GHZ

CONDUCTED TEST SETUP



Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Pesting/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuer of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc~cert.com.



Report No.: AGC02852200605FE06 Page 87 of 87

# APPENDIX B: PHOTOGRAPHS OF EUT

Refer to the Report No.: AGC02852200605AP01

----END OF REPORT----

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the "Dedicated Festiva/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the writter approximation of AGC, the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issues of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



#### Conditions of Issuance of Test Reports

1. All samples and goods are accepted by the Attestation of Global Compliance (Shenzhen) Co., Ltd (the "Company") solely for testing and reporting in accordance with the following terms and conditions. The company provides its services on the basis that such terms and conditions constitute express agreement between the company and any person, firm or company requesting its services (the "Clients").

2. Any report issued by Company as a result of this application for testing services (the "Report") shall be issued in confidence to the Clients and the Report will be strictly treated as such by the Company. It may not be reproduced either in its entirety or in part and it may not be used for advertising or other unauthorized purposes without the written consent of the Company. The Clients to whom the Report is issued may, however, show or send it, or a certified copy thereof prepared by the Company to its customer, supplier or other persons directly concerned. The Company will not, without the consent of the Clients, enter into any discussion or correspondence with any third party concerning the contents of the Report, unless required by the relevant governmental authorities, laws or court orders.

3. The Company shall not be called or be liable to be called to give evidence or testimony on the Report in a court of law without its prior written consent, unless required by the relevant governmental authorities, laws or court orders.

4. The non-CMA report issued by AGC is only permitted to be used by the client as internal reference use and shall not be used for public demonstration purpose.

5. In the event of the improper use of the report as determined by the Company, the Company reserves the right to withdraw it, and to adopt any other additional remedies which may be appropriate.

6. Samples submitted for testing are accepted on the understanding that the Report issued cannot form the basis of, or be the instrument for, any legal action against the Company.

7. The Company will not be liable for or accept responsibility for any loss or damage however arising from the use of information contained in any of its Reports or in any communication whatsoever about its said tests or investigations.

8. Clients wishing to use the Report in court proceedings or arbitration shall inform the Company to that effect prior to submitting the sample for testing.

9. The Company is not responsible for recalling the electronic version of the original report when any revision is made to them. The Client assumes the responsibility to providing the revised version to any interested party who uses them.

10. Subject to the variable length of retention time for test data and report stored hereinto as otherwise specifically required by individual accreditation authorities, the Company will only keep the supporting test data and information of the test report for a period of six years. The data and information will be disposed of after the aforementioned retention period has elapsed. Under no circumstances shall we provide any data and information which has been disposed of after retention period. Under no circumstances shall we be liable for damage of any kind, including (but not limited to) compensatory damages, lost profits, lost data, or any form of special, incidental, indirect, consequential or punitive damages of any kind, whether based on breach of contract of warranty, tort (including negligence), product liability or otherwise, even if we are informed in advance of the possibility of such damages.

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Perturn/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the writter authorization of AGC, the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issues of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc~cert.com.