TEST REPORT

FCC ID: 2AJAN-SMH100

Product:Hero 100 DAS

Model No.: SMH100

Additional Model No.: SMHW100

Trade Mark: Signifi Mobile

Report No.: TCT201116E005

Issued Date: November 21, 2020

Issued for:

Signifi Mobile Inc

1001 Rue Lenoir Suite A-414, Montreal, Quebec, H4C2Z6 , Canada

Issued By:

Shenzhen Tongce Testing Lab.
1B/F., Building 1, Yibaolai Industrial Park, Qiaotou, Fuyong, Baoan District, Shenzhen, Guangdong, China
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Hotline: 400-6611-140 Tel: 86-755-27673339 Fax: 86-755-27673332 http://www.tct-lab.com

1. Test Certification

Product:	Hero 100 DAS
Model No.:	SMH100
Additional Model:	SMHW100
Trade Mark:	Signifi Mobile
Applicant:	Signifi Mobile Inc
Address:	1001 Rue Lenoir Suite A-414, Montreal, Quebec, H4C2Z6 , Canada
Manufacturer:	/
Address:	/
Date of Test:	November 9, 2020 ~ November 21, 2020
Applicable Standards:	FCC CFR 47 PART 2/Part90.219; ANSI C63.26-2015; KDB 935210 D05 Indus Booster Basic Meas v01r04.

The above equipment has been tested by Shenzhen Tongce Testing Lab. and found compliance with the requirements set forth in the technical standards mentioned above. The results of testing in this report apply only to the product/system, which was tested. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

Tested By:	Rleo	***Date:***	***November 21, 2020***
	Rleo		
Reviewed By:	Beryl Zhao	***Date:***	***November 21, 2020***
	Beryl Zhao		
Approved By:	Tomsin	***Date:***	***November 21, 2020***
	Tomsin		

2. Test Result Summary

Applied Standard: FCC CFR 47 PART 2/Part90.219		
FCC Rules	Description of Test	Result
§90.219	Out-of-band Rejection	Compliant
§90.219 (e)(1) KDB 935210 D05 v01r04	Input/output power and amplifier gain	Compliant
§90.219 (e)(4)(ii) KDB 935210 D05 v01r04	Input-versus-output signal comparison: Occupied Bandwidth	Compliant
§90.219 (d)(6) KDB 935210 D05 v01r04	Intermodulation	Compliant
§90.219 (e)(3) KDB 935210 D05 v01r04	Spurious emissions at antenna terminals	Compliant
§90.219 (e)(3) KDB 935210 D05 v01r04	Radiated spurious emission	Compliant
§90.219 (e)(2) KDB 935210 D05 v01r04	Noise Figure Measurements	Compliant
§2.1055 KDB 935210 D05 v01r04	Frequency tolerance	Not Applicable*
§ 2.1091	Maximum Permissible exposure (MPE)	See MPE Report

Note:

1. *Compliant: Test item meets the requirement.*
2. *Fail: Test item does not meet the requirement.*
3. *N/A: Test case does not apply to the test object.*
4. *The test result judgment is decided by the limit of test standard.*
5. *the booster does not alter the input signal in any way.*

3. EUT Description

Product Name:	Hero 100 DAS
Model :	SMH100
Additional Model:	SMHW100
Trade Mark:	Signifi Mobile
Operation Frequency:	Band 12 Uplink: 698 MHz - 716MHz, Downlink: 728 MHz - 746MHz Band 14 Uplink: 788 MHz - 798MHz, Downlink: 758 MHz - 768MHz
Emission Designator:	G7D,W7D
FCC Classification:	Industrial Signal Booster(B9B)
Power Supply:	DC 12V⎓ 3.0A,36W
AC adapter:	Adapter Information: MODEL: GM53-120300-F INPUT: AC 100-240V,50/60Hz, 2.0A OUTPUT: DC 12V⎓ 3.0A,36W
Remark:	PCB board,same design and work diagrams of these model(s) are the same, So no additional models were tested.

Note: *The antenna gain listed in this report is provided by applicant, and the test laboratory is not responsible for this parameter.*

Mode	Frequency (MHz)	Antenna Gain(dBi)		
		Yagi antenna	Outdoor Panel Antenna	Cable loss (dB)
UP LINK	698-716	9.5	7.0	0.8
	788-798	9.5	7.0	0.8
Mode	Frequency (MHz)	Indoor Omni Antenna	Indoor Panel Antenna	Cable loss (dB)
DOWN LINK	728-746	3.0	7.0	1.7
	758 -768	3.0	7.0	1.7

4. General Information

4.1. Test environment

Operating Environment:	
Temperature:	25.3 °C
Humidity:	52.3 % RH
Atmospheric Pressure:	1010 mbar

4.2. Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Equipment	Model No.	Serial No.	FCC ID	Trade Name
/	/	/	/	/

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5. Facilities and Accreditations

5.1. Facilities

The test facility is recognized, certified, or accredited by the following organizations:

- FCC - Registration No.: 645098
  Shenzhen Tongce Testing Lab
  The 3m Semi-anechoic chamber has been registered and fully described in a report with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files.
- IC - Registration No.: 10668A-1
  The 3m Semi-anechoic chamber of Shenzhen TCT Testing Technology Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing

5.2. Location

Shenzhen Tongce Testing Lab
Address: 1B/F., Building 1, Yibaolai Industrial Park, Qiaotou, Fuyong, Baoan District, Shenzhen, Guangdong, China
TEL: +86-755-27673339

5.3. Measurement Uncertainty

The reported uncertainty of measurement y ±U, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95 %.

No.	Item	MU
1	Conducted Emission	±2.56dB
2	RF power, conducted	±0.12dB
3	Spurious emissions, conducted	±0.11dB
4	All emissions, radiated(<1G)	±3.92dB
5	All emissions, radiated(>1G)	±4.28dB
6	Temperature	±0.1 ℃
7	Humidity	±1.0%

6. Test Results and Measurement Data

6.1. OUT-OF-BAND REJECTION

Applicable Standard

Signal booster passbands are limited to the service band or bands for which the operator is authorized. In general, signal boosters should utilize the minimum passband that is sufficient to accomplish the purpose. Except for distributed antenna systems (DAS) installed in buildings, the passband of a Class B booster should not encompass both commercial services (such as ESMR and Cellular Radiotelephone) and part90 Land Mobile and Public Safety Services.

Test Procedure

a) Connect a signal generator to the input of the EUT.
b) Configure a swept CW signal with the following parameters:
1) Frequency range = ±250 % of the manufacturer's specified pass band.
2) The CW amplitude shall be 3 dB below the AGC threshold (see 4.2), and shall not activate the AGC threshold throughout the test.
3) Dwell time = approximately 10 ms.
4) Frequency step = 50 kHz.
c) Connect a spectrum analyzer to the output of the EUT using appropriate attenuation.
d) Set the RBW of the spectrum analyzer to between 1 % and 5 % of the manufacturer's rated passband, and VBW = 3 × RBW.
e) Set the detector to Peak and the trace to Max-Hold.
f) After the trace is completely filled, place a marker at the peak amplitude, which is designated as f0, and with two additional markers (use the marker-delta method) at the 20 dB bandwidth (i.e., at the points where the level has fallen by 20 dB).
g) Capture the frequency response plot for inclusion in the test report.

Test Data

Temperature	22.4℃	Humidity	53.7%
Test Engineer	Diamond Lu	Test Mode	Transmitting

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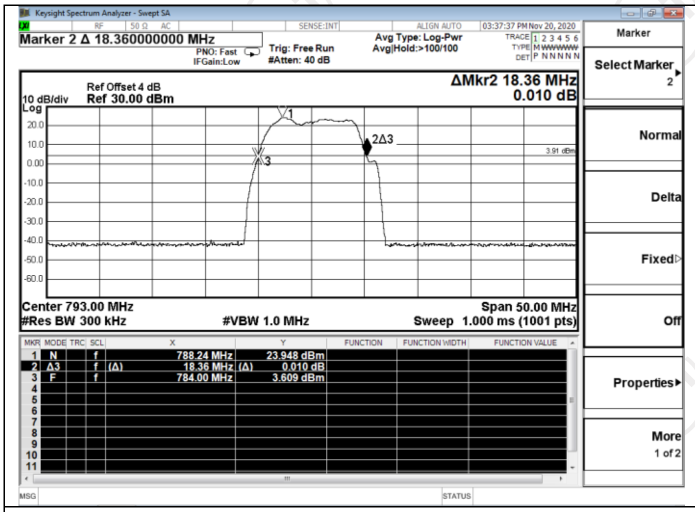
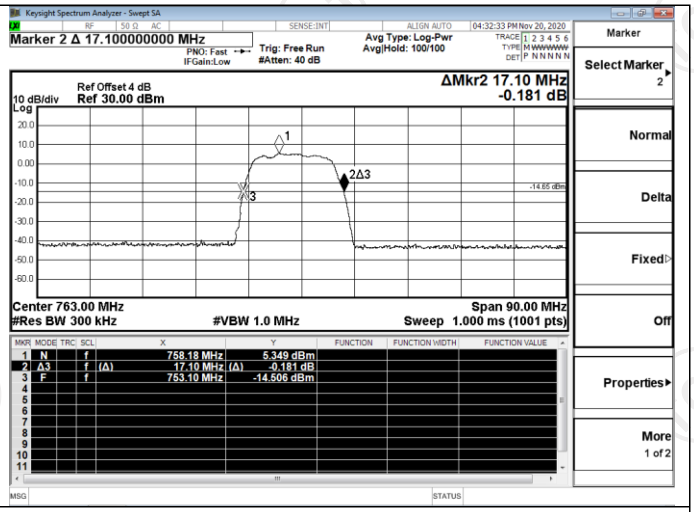


Uplink



Downlink

6.2. INPUT/OUTPUT POWER AND AMPLIFIER GAIN

Applicable Standard

FCC §2.1046 and §90.219 (e)(1)
The output power capability of a signal booster must be designed for deployments providing a radiated power not exceeding 5 Watts ERP for each retransmitted channel

Test Procedure

Apply the same guidance as in 3.5.2 to measure the maximum input and output power levels necessary for computing the mean EUT gain, but with the following modifications:

a) Configure the signal generator for CW operation, instead of AWGN,
b) Select the spectrum analyzer positive peak detector, instead of the power averaging (rms) detector,
c) Activate the max hold function, instead of the trace averaging function,
d) Use in conjunction with the guidance in 4.5.3.

4.5.3 Power measurement Method 1: using a spectrum or signal analyzer

a) Set the frequency span to at least 1 MHz.

b) Set RBW = 100 kHz.

c) Set VBW ≥ 3 × RBW.

d) Set the detector to PEAK, and trace mode to MAX HOLD.

e) Place a marker on the peak of the signal, and record the value as the maximum power.

f) Repeat step e) but with the EUT in place.

g) EUT gain may be calculated as described in 4.5.5.

4.5.5 Calculating amplifier, repeater, or industrial booster gain

NOTE–Sections 90.219 and 2.1033(c) do not require gain test data; inclusion of industrial booster gain test data in test reports submitted for FCC equipment authorization is optional.

After the input and output power levels have been measured as described in the preceding subclauses, the gain of the EUT can be determined from:

Gain (dB) = output power (dBm) − input power (dBm).

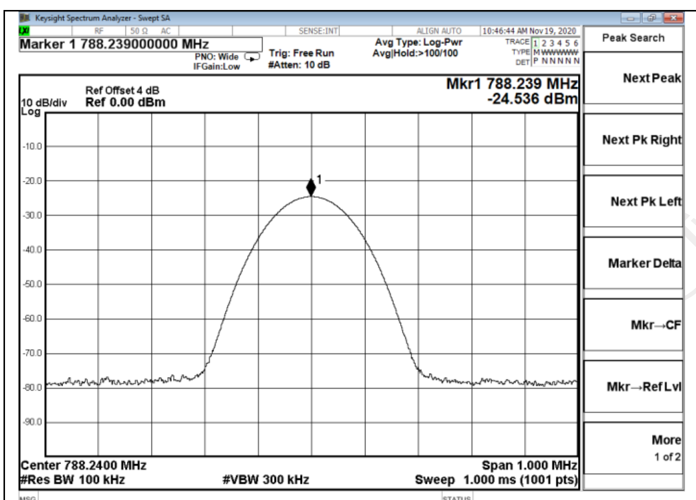
Report the gain for each authorized operating frequency band, and each test signal stimulus.

Test Data

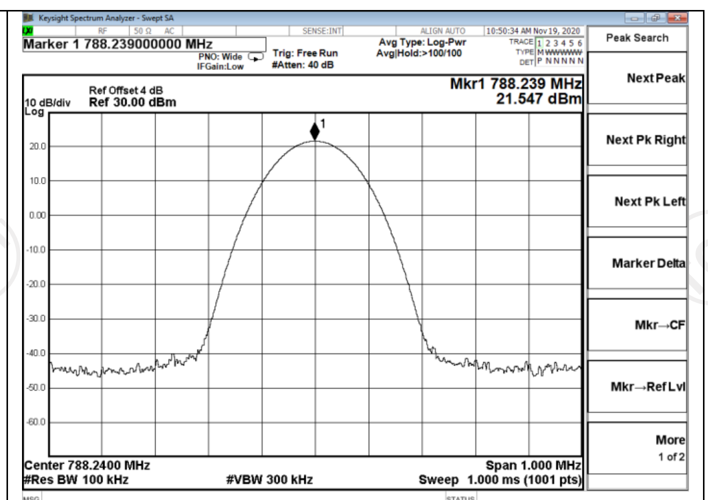
Temperature	22.4℃	Humidity	53.7%
Test Engineer	Diamond Lu	Test Mode	Transmitting

Mode	Frequency (MHz)	Signal Type	AGC threshold level (dBm)	Signal Level	Input Power (dBm)	Output Power (dBm)	Antenna Gain	ERP (dBm)	Gain (dB)	ERP Limit
Uplink	788.24	CW	-24.5	Pre-AGC	-24.536	21.547	7.0	26.397	46.083	36.99dBm
				3dB above AGC	-21.536	21.141	7.0	25.991	42.677	36.99dBm
Downlink	758.18	CW	-44.3	Pre-AGC	-44.310	5.661	9.5	12.661	49.971	36.99dBm
				3dB above AGC	-41.310	5.329	9.5	12.679	46.639	36.99dBm

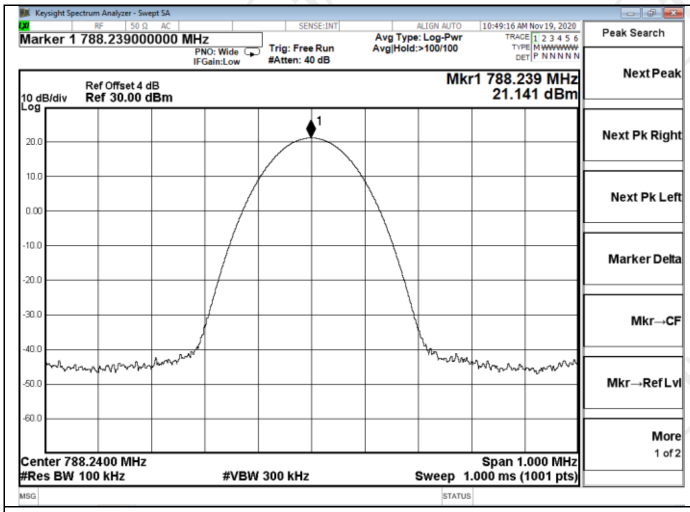
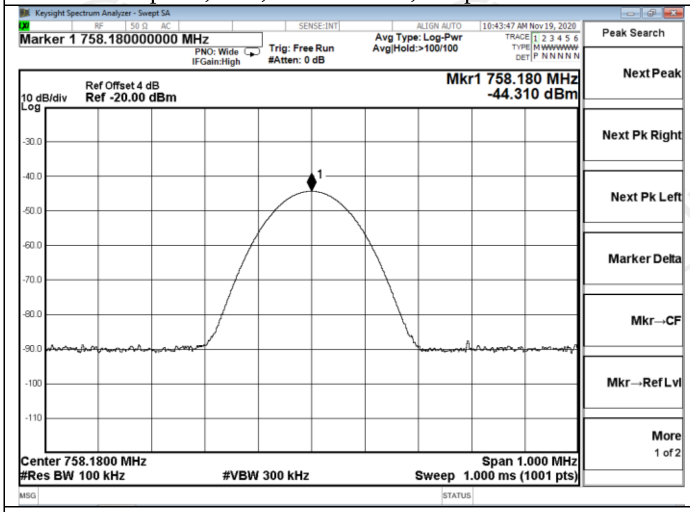
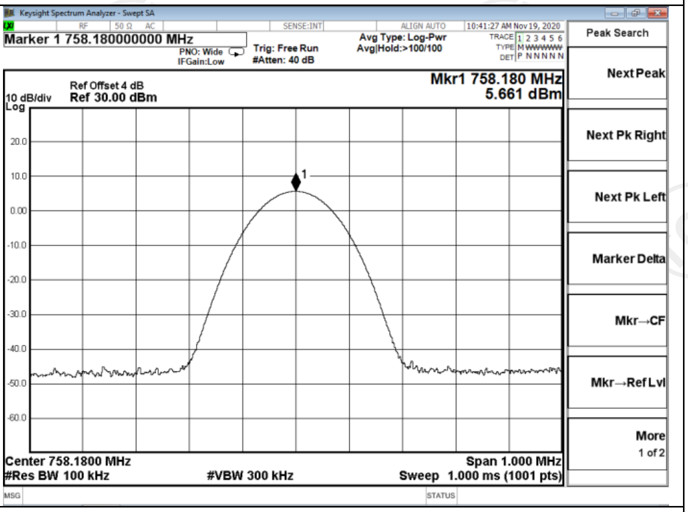
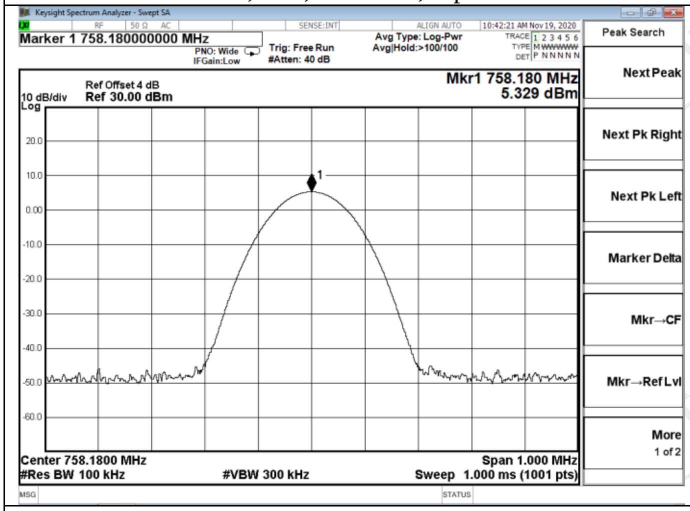
Note:
ERP= Measured Conducted Output Power (dBm) + Antenna Gain (dBi) - 2.15 (dB)
Rated power is 36dBm+/- 1dB.



Uplink, CW, Pre-AGC, Input Power



Uplink, CW, Pre-AGC, Output Power

	
Uplink, CW, Above-AGC, Output Power	
	
Downlink, CW, Pre-AGC, Input Power	Downlink, CW,Pre-AGC, Output Power
	
Downlink, CW, Above-AGC, Output Power	

6.3. INPUT-VERSUS-OUTPUT SIGNAL COMPARISON:OCCUPIED BANDWIDTH

Applicable Standard

According to FCC §90.219 (e)(4)(ii), There is no change in the occupied bandwidth of the retransmitted signals.

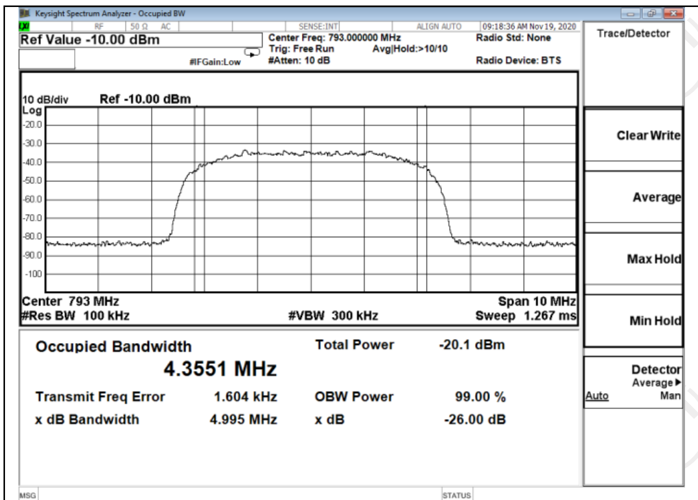
Test Procedure

Connect a signal generator to the input of the EUT.
b) Configure the signal generator to transmit the appropriate test signal associated with the public safety emission designation (see Table 1).
c) Configure the signal level to be just below the AGC threshold (see results from 4.2).
d) Connect a spectrum analyzer to the output of the EUT using appropriate attenuation as necessary.
e) Set the spectrum analyzer center frequency to the nominal EUT channel center frequency. The span range for the spectrum analyzer shall be between 2 × to 5 × the EBW (or OBW).
f) The nominal RBW shall be 300 Hz for 16K0F3E, and 100 Hz for all other emissions types.
g) Set the reference level of the spectrum analyzer to accommodate the maximum input amplitude level, i.e., the level at f 0 per 4.3.
h) Set spectrum analyzer detection mode to peak, and trace mode to max hold.
i) Allow the trace to fully stabilize.
j) Confirm that the signal is contained within the appropriate emissions mask.
k) Use the marker function to determine the maximum emission level and record the associated frequency.
l) Capture the emissions mask plot for inclusion in the test report (output signal spectral).
m) Measure the EUT input signal power (signal generator output signal) directly from the signal generator using power measurement guidance provided in KDB Publication 971168 [R8] (input signal spectra).
n) Compare the spectral plot of the output signal (determined in step k), to the input signal (determined in step l) to affirm they are similar (in passband and rolloff characteristic features and relative spectral locations).
o) Repeat steps d) to n) with the input signal amplitude set 3 dB above the AGC threshold.
p) Repeat steps b) to o) for all authorized operational bands and emissions types (see applicable regulatory specifications, e.g., Section 90.210).
q) Include all accumulated spectral plots depicting EUT input signal and EUT output signal in the test report, and note any observed dissimilarities.

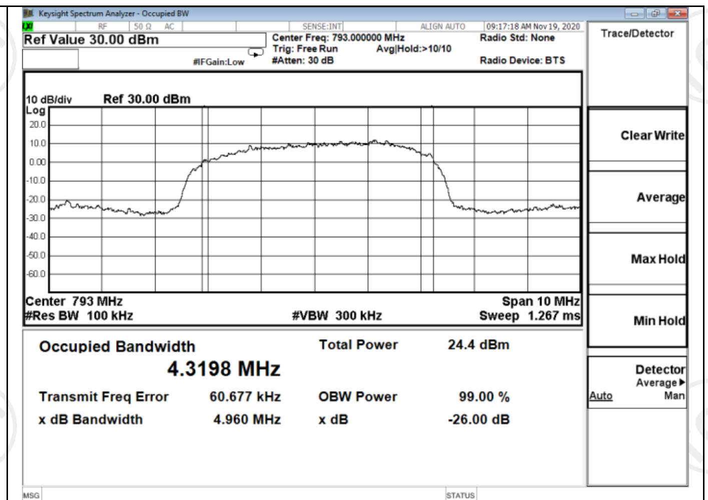
Test Data

Temperature	22.4℃	Humidity	53.7%
Test Engineer	Diamond Lu	Test Mode	Transmitting

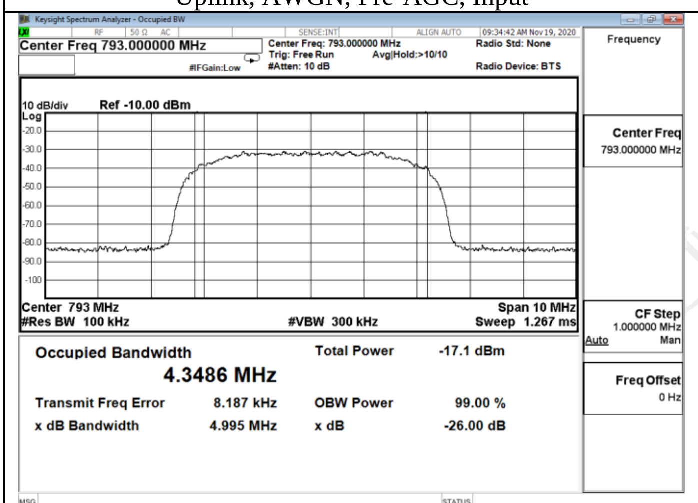
Mode	Signal Type	Signal Level	99% Occupied Bandwidth (MHz)		26 dB Bandwidth (MHz)	
			Input	Output	Input	Output
Uplink	AWGN	Pre-AGC	4.3551	4.3198	4.995	4.960
		3dB above AGC	4.3486	4.3151	4.995	4.959
Downlink	AWGN	Pre-AGC	4.4227	4.3820	5.025	4.961
		3dB above AGC	4.3841	4.3740	5.003	4.965



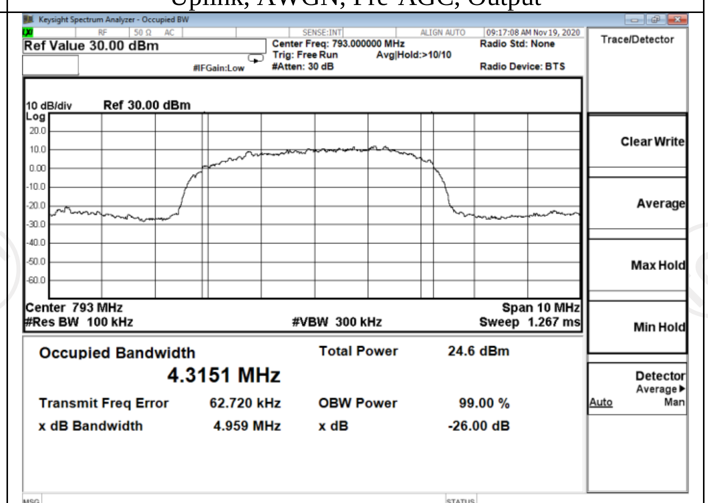
Uplink, AWGN, Pre-AGC, Input



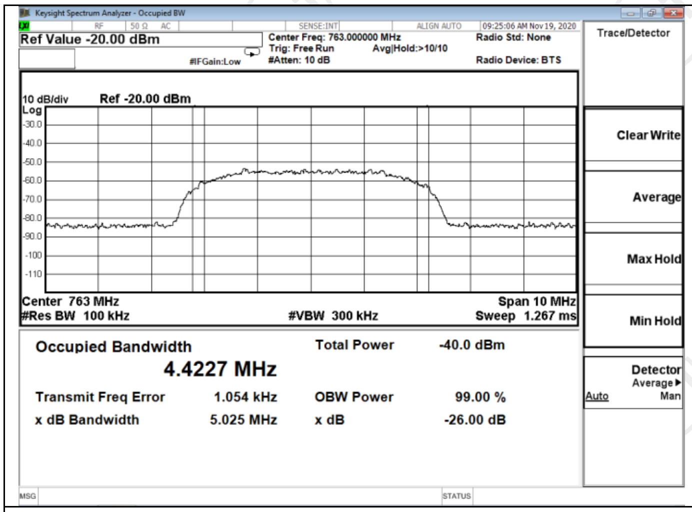
Uplink, AWGN, Pre-AGC, Output



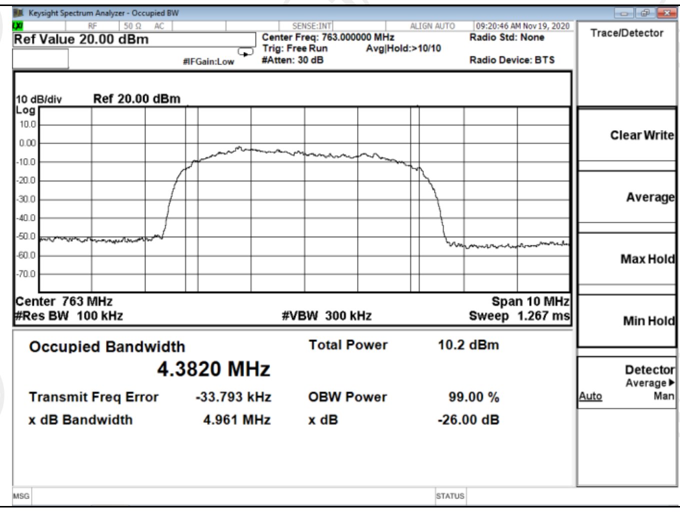
Uplink, AWGN, Above-AGC, Input



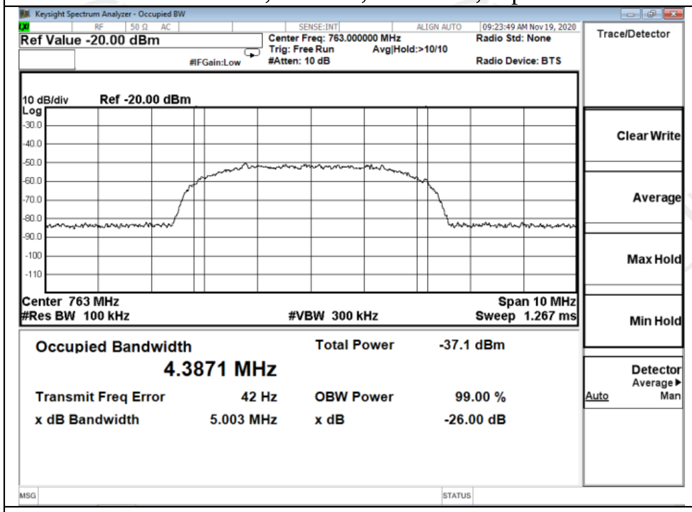
Uplink, AWGN, Above-AGC, Output



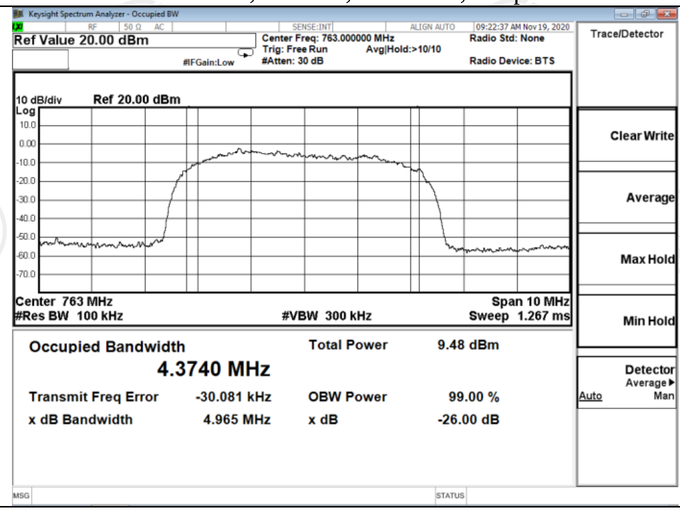
Downlink, AWGN, Pre-AGC, Input



Downlink, AWGN, Pre-AGC, Output

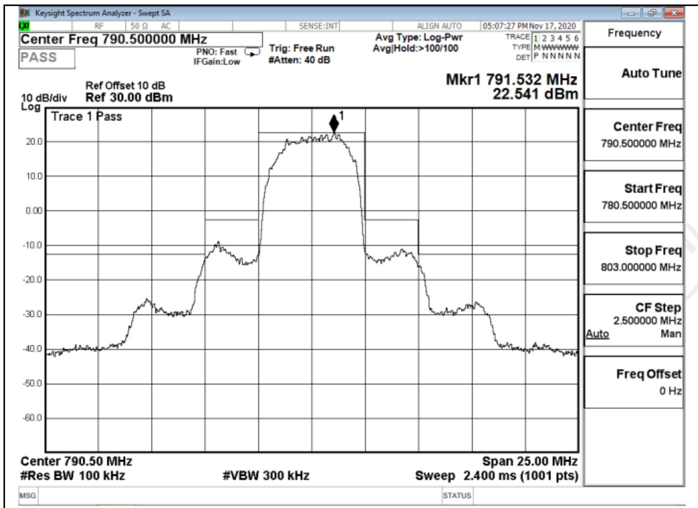


Downlink, AWGN, Above-AGC, Input

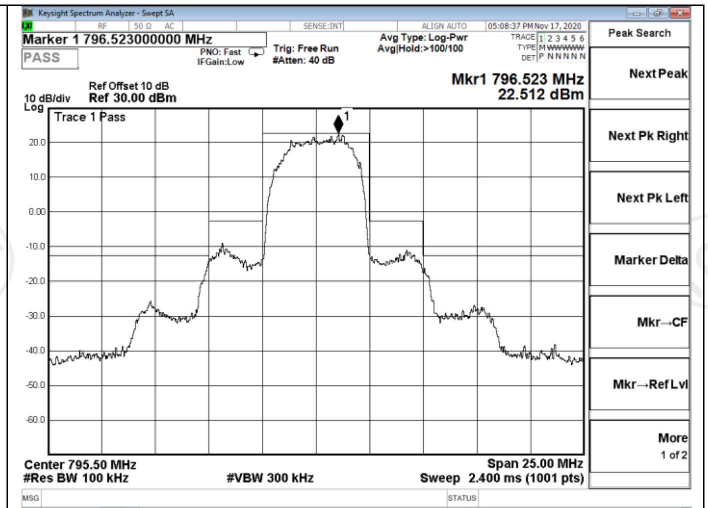


Downlink, AWGN, Above-AGC, Output

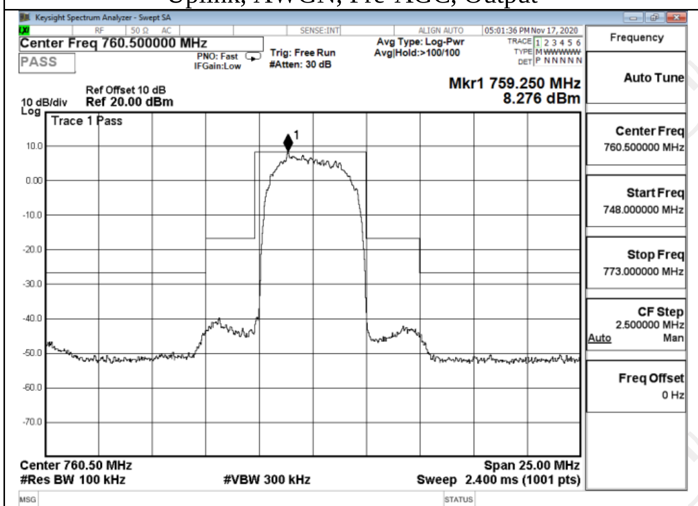
Emission Mask B



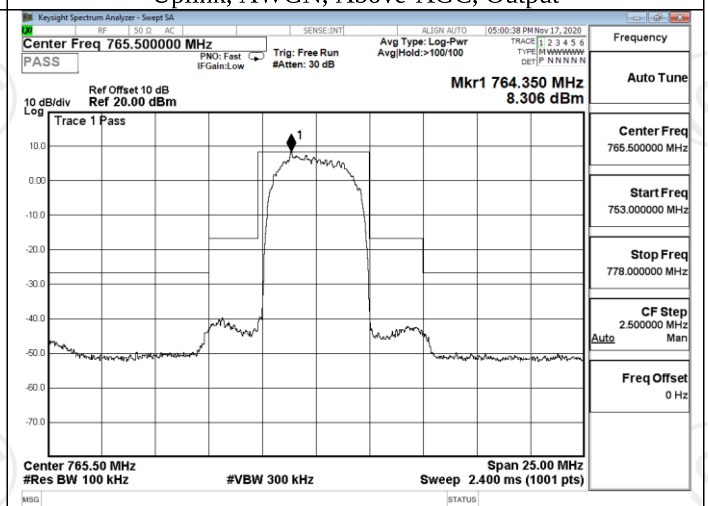
Uplink, AWGN, Pre-AGC, Output



Uplink, AWGN, Above-AGC, Output



Downlink, AWGN, Pre-AGC, Output



Downlink, AWGN, Above-AGC, Output

6.4. OUT-OF-BAND/BLOCK EMISSIONS(INCLUDING INTERNODULATION PRODUCTS)

Applicable Standards

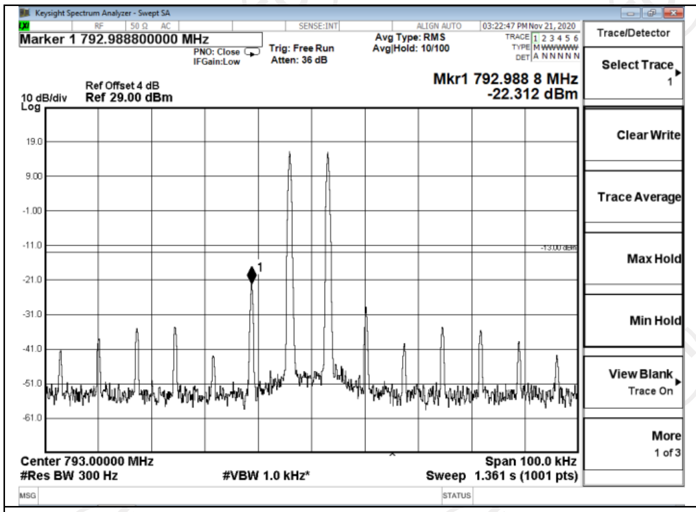
According to FCC §90.219 (e)(3) Spurious emissions from a signal booster must not exceed −13 dBm within any 100 kHz measurement bandwidth

Test Procedure

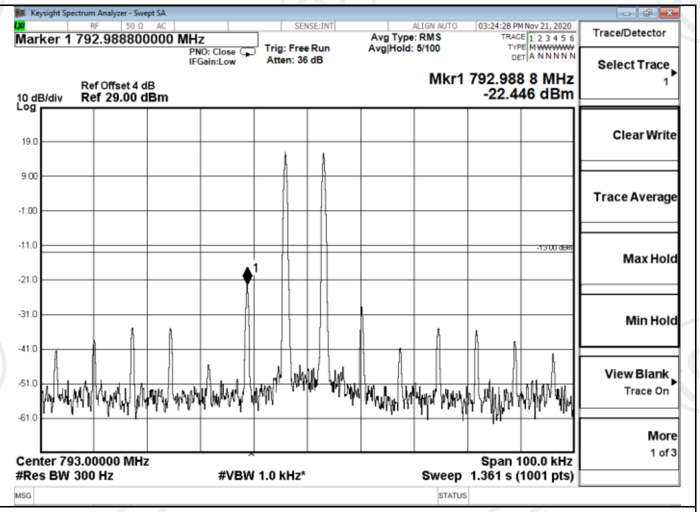
a) Connect a signal generator to the input of the EUT.
If the signal generator is not capable of producing two independent modulated carriers simultaneously, then two discrete signal generators can be connected, with an appropriate combining network to support the two-signal test.
b) Configure the two signal generators to produce CW on frequencies spaced consistent with 4.7.1, with amplitude levels set to just below the AGC threshold (see 4.2). Set the signal generator amplitudes so that the power from each into the EUT is equivalent.
c) Connect a spectrum analyzer to the EUT output.
d) Set the span to 100 kHz.
e) Set RBW = 300 Hz with VBW ≥ 3 × RBW.
f) Set the detector to power averaging (rms).
g) Place a marker on highest intermodulation product amplitude.
h) Capture the plot for inclusion in the test report.
i) Repeat steps c) to h) with the composite input power level set to 3 dB above the AGC threshold.
j) Repeat steps b) to i) for all operational bands.

Test Data

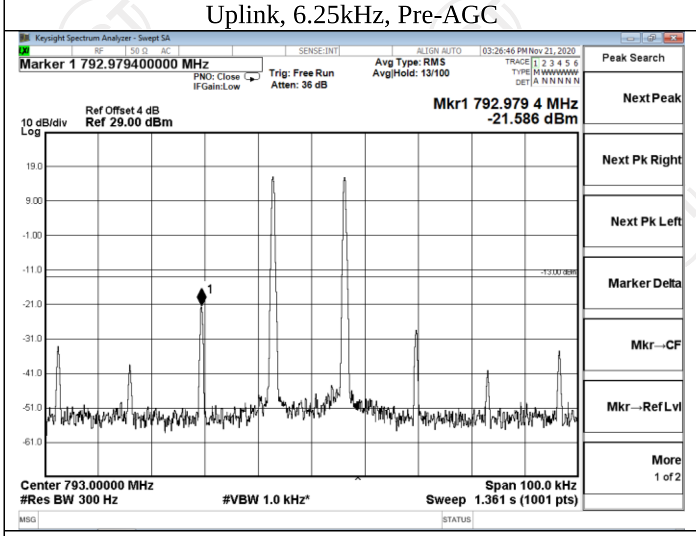
Temperature	22.4℃	Humidity	53.7%
Test Engineer	Diamond Lu	Test Mode	Transmitting



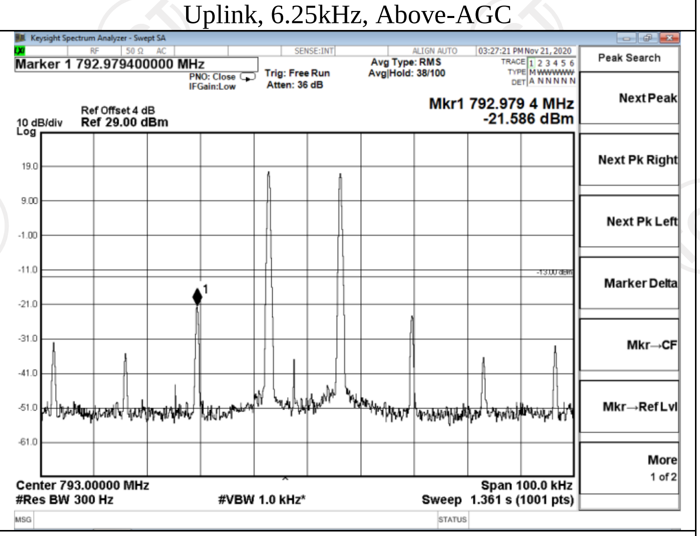
Uplink, 6.25kHz, Pre-AGC



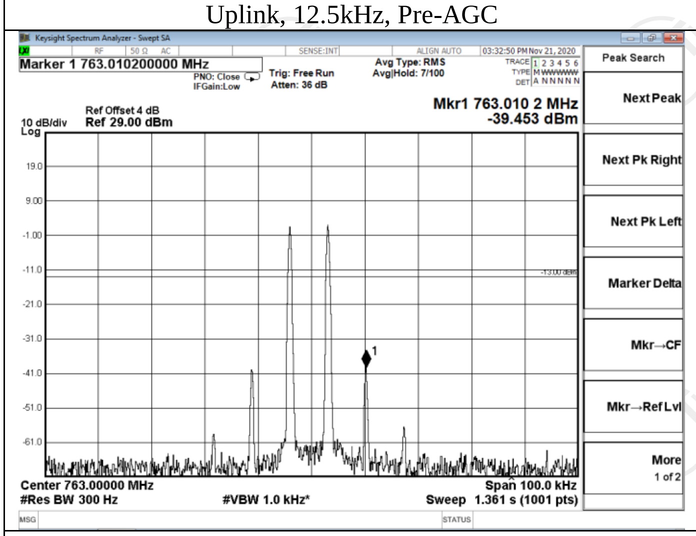
Uplink, 6.25kHz, Above-AGC



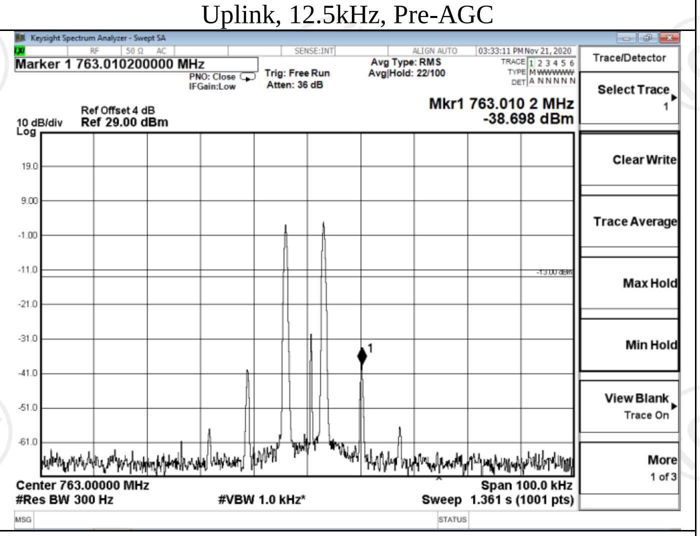
Uplink, 12.5kHz, Pre-AGC



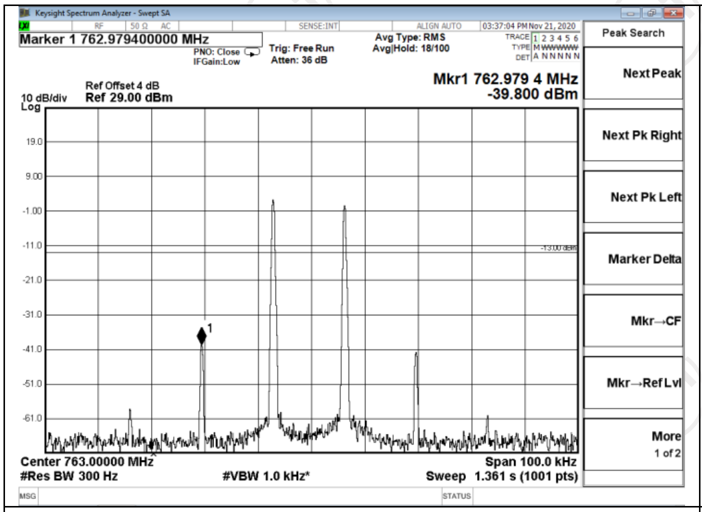
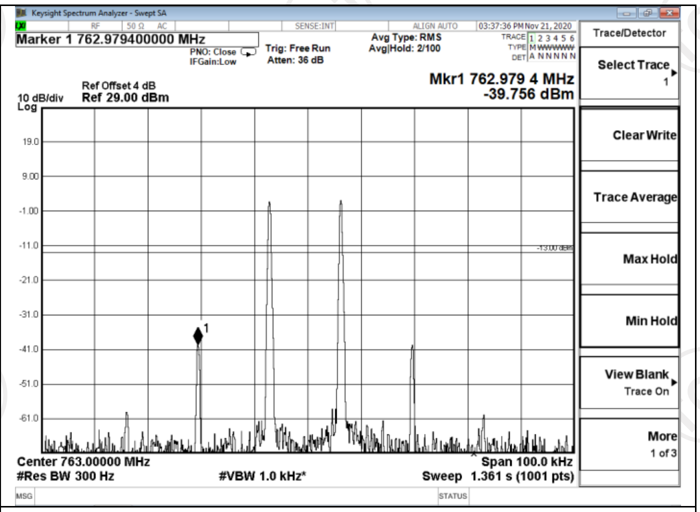
Uplink, 12.5kHz, Pre-AGC



Downlink, 6.25kHz, Pre-AGC



Downlink, 6.25kHz, Above-AGC

	
Downlink, 12.5kHz, Pre-AGC	Downlink, 12.5kHz, Above-AGC

6.5. SPURIOUS EMISSIONS AT ANTENNA TERMINALS

Applicable Standards

According to FCC §90.219 (e)(3) Spurious emissions from a signal booster must not exceed −13 dBm within any 100 kHz measurement bandwidth

Test Procedure

a) Connect a signal generator to the input of the EUT.
b) Configure the signal generator to produce a CW signal.
c) Set the frequency of the CW signal to the center channel of the EUT passband.
d) Set the output power level so that the resultant signal is just below the AGC threshold (see 4.2).
e) Connect a spectrum analyzer to the output of the EUT, using appropriate attenuation as necessary.
f) Set the RBW = 100 kHz. (i.e., for 30 MHz to 1 GHz PLMRS and/or PSRS booster devices)
g) Set the VBW = 3 × RBW.
h) Set the Sweep time = auto-couple.
i) Set the detector to PEAK.
j) Set the spectrum analyzer start frequency to 30 MHz (or the lowest radio frequency signal generated in the EUT, without going below 9 kHz if the EUT has additional internal clock frequencies), and the stop frequency to 10 × the highest allowable frequency of the EUT passband.
k) Select MAX HOLD, and use the marker peak function to find the highest emission(s) outside the passband. (This could be either at a frequency lesser or greater than the passband frequencies.)
l) Capture a plot for inclusion in the test report.
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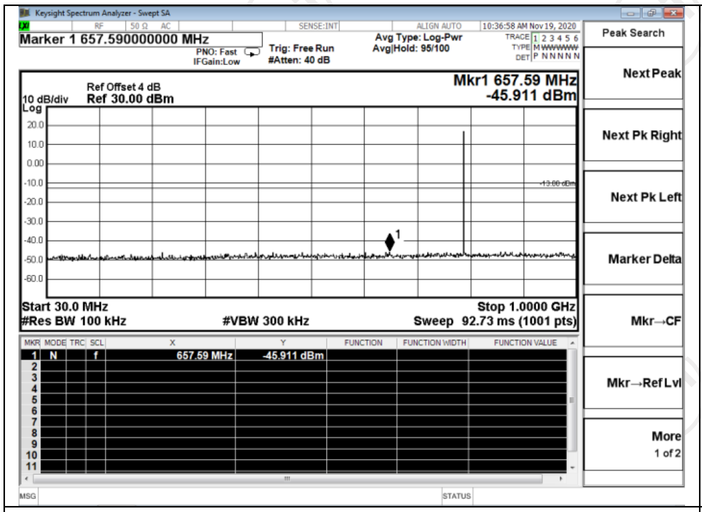
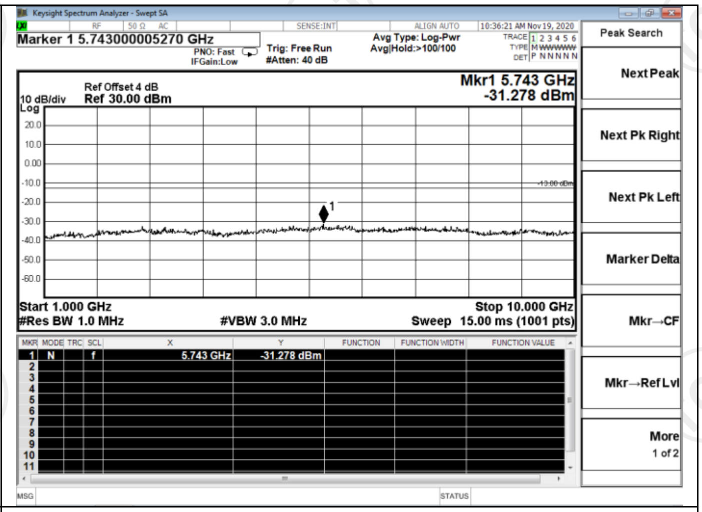
m) Repeat steps c) to l) for each authorized frequency band/block of operation.

Test Data

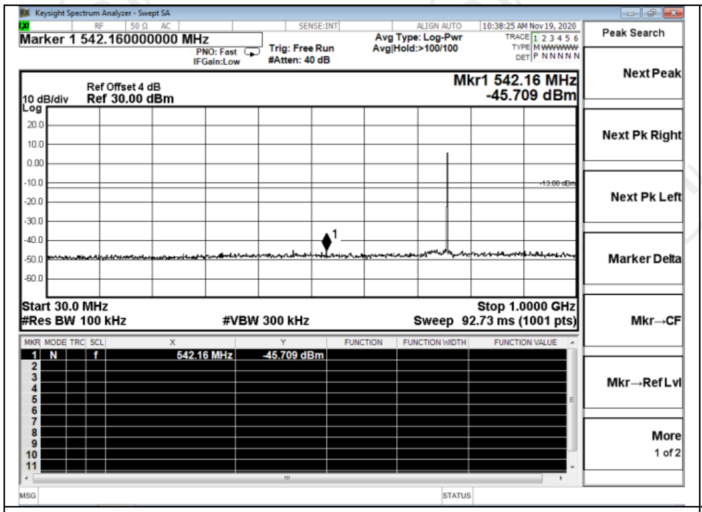
Temperature	22.4℃	Humidity	53.7%
Test Engineer	Diamond Lu	Test Mode	Transmitting



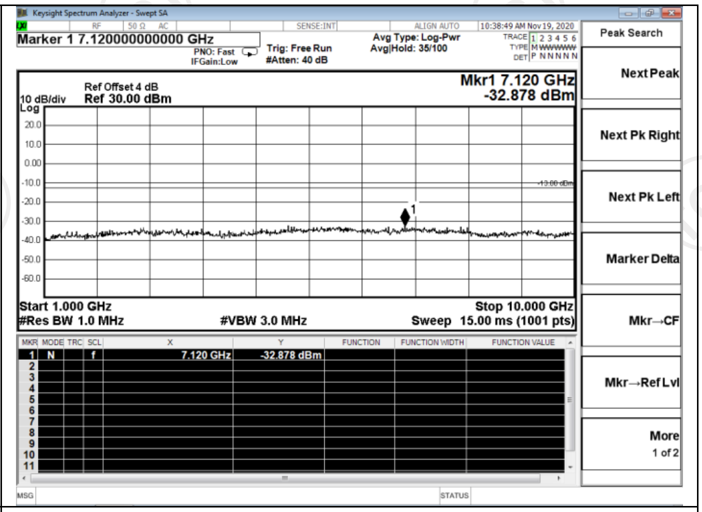
Uplink（30M-1G）



Uplink（1G-10G）



Downlink(30M-1G）



Downlink(1-10G）

6.6 RADIATED SPURIOUS EMISSIONS

Applicable Standard

According to FCC §90.219 (e)(3) Spurious emissions from a signal booster must not exceed −13 dBm within any 100 kHz measurement bandwidth

Test Procedure

1.EUT was placed on a 1.50 meter high non-conductive stand at a 3 meter test distance from the receive antenna. A receiving antenna was placed on the antenna mast 3 meters from the EUT for emission measurements. The height of receiving antenna is 1.50m. Detected emissions were maximized at each frequency by rotating the EUT through 360 °and adjusting the receiving antenna polarization. The radiated emission measurements of all transmit frequencies in three channels (High, Middle, Low) were measured with peak detector.
2.A log-periodic antenna or double-ridged waveguide horn antenna shall be substituted in place of the EUT. The log-periodic antenna will be driven by a signal generator and the level will be adjusted till the same power value on the

spectrum analyzer or receiver. The level of the spurious emissions can be calculated through the level of the signal generator, cable loss, the gain of the substitution antenna and the reading of the spectrum analyzer or receiver.
3.The EUT is then put into continuously transmitting mode at its maximum power level during the test.Set Test Receiver RBW=1MHz,VBW=3MHz for above 1GHz,RBW=120KHz,VBW=300KHz for below 1GHz,, And the maximum value of the receiver should be recorded as (Pr).
4.The EUT shall be replaced by a substitution antenna.In the chamber, an substitution antenna for the frequency band of interest is placed at the reference point of the chamber. An RF Signal source for the frequency band of interest is connected to the substitution antenna with a cable that has been constructed to not interfere with the radiation pattern of the antenna. A power (PMea) is applied to the input of the substitution antenna, and adjust the level of the signal generator output until the value of the receiver reach the previously recorded (Pr). The power of signal source (PMea) is recorded. The test should be performed by rotating the test item and adjusting the receiving antenna polarization.
5.A amplifier should be connected to the Signal Source output port. And the cable should be connect between the Amplifier and the Substitution Antenna. The cable loss (Pcl) and the Substitution Antenna Gain (Ga) should be recorded after test.
The measurement results are obtained as described below:
Power(EIRP)=PMea- Pcl + Ga
6.This value is EIRP since the measurement is calibrated using an antenna of known gain (2.15 dBi) and known input power.
7.ERP can be calculated from EIRP by subtracting the gain of the dipole, ERP = EIRP -2.15dBi.
8.In order to make sure test results more clearly,we set frequency range as follows table:

Frequency	Channel	Frequency Range	Verdict
LTE FDD Band 14	Low	9KHz -8GHz	PASS
	Middle	9KHz -8GHz	PASS
	High	9KHz -8GHz	PASS

Test Data

Temperature	21.8℃	Humidity	53.6%
Test Engineer	Diamond Lu	Test Mode	Transmitting

Uplink, Test Frequency 790.5MHz

Frequency (MHz)	P_{Mea} (dBm)	P_{cl} (dB)	Diatance	G_a Antenna Gain(dB)	Convert Factor	Peak EIRP (dBm)	Limit (dBm)	Polarization
114.3	-45.69	4.87	3.00	3.12	2.15	-49.59	-13.00	H
1581.3	-44.31	5.74	3.00	10.23	2.15	-41.97	-13.00	H
2371.8	-55.46	6.65	3.00	12.03	2.15	-52.23	-13.00	H
156.3	-43.20	4.94	3.00	3.34	2.15	-46.95	-13.00	V
1581.3	-43.63	5.74	3.00	10.23	2.15	-41.29	-13.00	V
2371.8	-49.37	6.65	3.00	12.03	2.15	-46.14	-13.00	V

Uplink, Test Frequency 793.0MHz

Frequency (MHz)	P_{Mea} (dBm)	P_{cl} (dB)	Diatance	G_a Antenna Gain(dB)	Convert Factor	Peak EIRP (dBm)	Limit (dBm)	Polarization
135.2	-42.17	4.77	3.00	3.21	2.15	-45.88	-13.00	H
1586.3	-45.39	5.81	3.00	10.27	2.15	-43.08	-13.00	H
2379.2	-50.71	6.71	3.00	12.05	2.15	-47.52	-13.00	H
158.2	-40.55	4.62	3.00	3.36	2.15	-43.96	-13.00	V
1586.3	-45.79	5.81	3.00	10.27	2.15	-43.48	-13.00	V
2379.2	-55.44	6.71	3.00	12.05	2.15	-52.25	-13.00	V

Uplink, Test Frequency 795.5MHz

Frequency (MHz)	P_{Mea} (dBm)	P_{cl} (dB)	Diatance	G_a Antenna Gain(dB)	Convert Factor	Peak EIRP (dBm)	Limit (dBm)	Polarization
146.2	-45.34	4.21	3.00	3.23	2.15	-48.47	-13.00	H
1591.3	-40.81	5.92	3.00	10.31	2.15	-38.57	-13.00	H
2387.0	-48.10	6.82	3.00	12.32	2.15	-44.75	-13.00	H
203.5	-42.38	4.31	3.00	3.21	2.15	-45.63	-13.00	V
1591.3	-41.57	5.92	3.00	10.31	2.15	-39.33	-13.00	V
2387.0	-55.53	6.82	3.00	12.32	2.15	-52.18	-13.00	V

Downlink, Test Frequency 760.5MHz

Frequency (MHz)	P_{Mea} (dBm)	P_{cl} (dB)	Diatance	G_a Antenna Gain(dB)	Convert Factor	Peak EIRP (dBm)	Limit (dBm)	Polarization
156.3	-41.44	4.32	3.00	3.19	2.15	-44.72	-13.00	H
1521.3	-44.85	5.12	3.00	9.94	2.15	-42.18	-13.00	H
2281.8	-50.78	6.32	3.00	11.86	2.15	-47.39	-13.00	H
203.5	-40.09	4.03	3.00	3.52	2.15	-42.75	-13.00	V
1521.3	-41.97	5.12	3.00	9.94	2.15	-39.30	-13.00	V
2281.8	-47.50	6.32	3.00	11.86	2.15	-44.11	-13.00	V

Downlink, Test Frequency763.0MHz

Frequency (MHz)	P_{Mea} (dBm)	P_{cl} (dB)	Diatance	G_a Antenna Gain(dB)	Convert Factor	Peak EIRP (dBm)	Limit (dBm)	Polarization
145.6	-51.35	4.29	3.00	3.98	2.15	-53.81	-13.00	H
1526.3	-44.00	5.23	3.00	10.03	2.15	-41.35	-13.00	H
2289.3	-50.40	5.32	3.00	12.00	2.15	-45.87	-13.00	H
193.2	-43.05	4.32	3.00	3.63	2.15	-45.89	-13.00	V
1526.3	-43.30	5.23	3.00	10.03	2.15	-40.65	-13.00	V
2289.3	-48.14	5.32	3.00	12.00	2.15	-43.61	-13.00	V

Downlink, Test Frequency 765.5MHz

Frequency (MHz)	P_{Mea} (dBm)	P_{cl} (dB)	Diatance	G_a Antenna Gain(dB)	Convert Factor	Peak EIRP (dBm)	Limit (dBm)	Polarization
126.3	-55.72	4.29	3.00	3.36	2.15	-58.80	-13.00	H
1531.3	-43.39	5.31	3.00	10.04	2.15	-40.81	-13.00	H
2297.0	-51.11	6.41	3.00	11.99	2.15	-47.68	-13.00	H
231.3	-45.22	4.62	3.00	3.66	2.15	-48.33	-13.00	V
1531.3	-44.35	5.31	3.00	10.04	2.15	-41.77	-13.00	V
2297.0	-55.99	4.63	3.00	3.85	2.15	-58.92	-13.00	V

Note:For Outdoor Antenna（SYN-BY-9D),Indoor Antenna(SYN-IPA-8D);Outdoor Antenna（SYN-OPA-8D),Indoor Antenna(SYN-CA-3D) were estimated ,the report recorded the worst result of Outdoor Antenna（SYN-BY-9D),Indoor Antenna(SYN-IPA-8D)

6.7 NOISE FIGURE MEASUREMENTS

Applicable Standard

Section 90.219(e)(2) limits the noise figure of a signal booster to ≤ 9 dB in either direction. The following discussion provides guidance for demonstrating compliance with this requirement.

Test Procedure

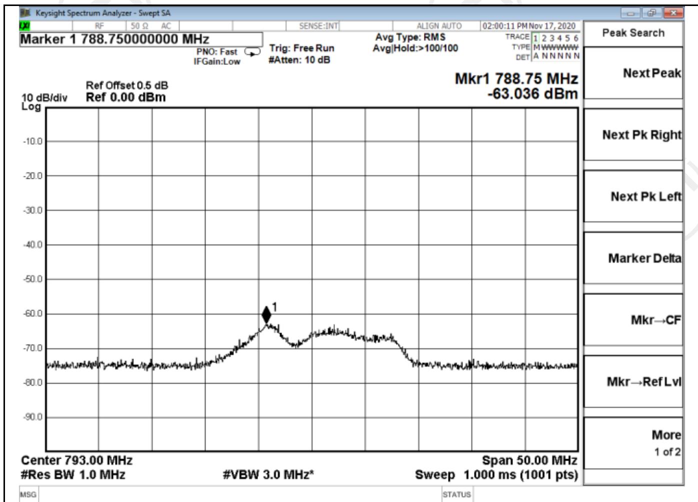
a) A spectrum analyzer was connected to output port
b) The input was terminated
c) The spectrum analyzer was set to 100 trace average in the RMS average mode
d) A peak reading was recorded
e) The noise figure was calculated using the following formula
NF= Max reading - (-174dBm/Hz +10*log 10 (RBW)+ Booster gain)
Note: 174= Thermal noise for 1Hz RBW at room temperature
RBW= Resolution Bandwidth of Spectrum Analyzer in Hz

Test Data

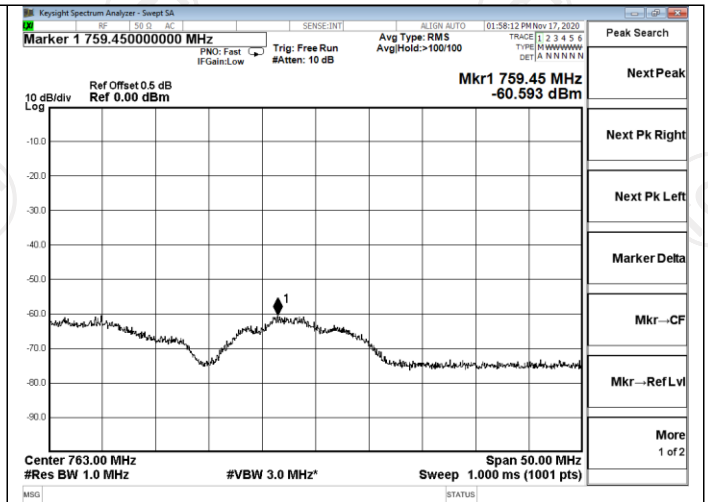
Temperature	22.4℃	Humidity	53.7%
Test Engineer	Diamond Lu	Test Mode	Transmitting

Analyzer Settings			Max Reading (dBm/MHz)	Booster Gain (dB)	Thermal Noise (dBm/MHz)	Noise Figure (dB)	Limit (dB)
Frequency (MHz)	RBW (MHz)	VBW (MHz)					
793.0	1	3	-63.036	46.083	-114	4.881	9
763.0	1	3	-60.593	49.971	-114	3.436	9

Note: Noise Figure=Max reading-(-174dBm/Hz+10*Log 10 (RBW)+booster gain)



Uplink



Downlink

7. Test Instruments

Name	Model No.	Manufacturer	Date of Cal.	Due Date
EMI Test Receiver	ESIB7	R&S	Jul. 28, 2020	Jul. 27, 2021
Spectrum Analyzer	N9020A	Agilent	Sep. 11, 2020	Sep. 10, 2021
Amplifier	8447D	HP	Sep. 08, 2020	Sep. 08, 2021
Amplifier	EM30265	EM Electronics Corporation CO.,LTD	Sep. 08, 2020	Sep. 08, 2021
Broadband Antenna	VULB9163	Schwarzbeck	Sep. 06, 2020	Sep. 05, 2021
Horn Antenna	BBHA 9120D	Schwarzbeck	Sep. 06, 2020	Sep. 05, 2021
Coax cable (9KHz-40GHz)	RE-high-02	TCT	Sep. 08, 2020	Sep. 07, 2021
Coax cable (9KHz-40GHz)	RE-high-04	TCT	Sep. 08, 2020	Sep. 07, 2021
Loop antenna	ZN30900A	ZHINAN	Sep. 11, 2020	Sep. 10, 2021
Signal Generator	N5182A	Agilent	Sep. 11, 2020	Sep. 10, 2021
Signal Generator	Agilent	E4421B	Jul. 27, 2020	Jul. 26, 2021
RF Combiner	SUNVNDN	SUD-CS0800	Sep. 11, 2020	Sep. 10, 2021
Attenuator	50FP-006-H3	JFW	Sep. 11, 2020	Sep. 10, 2021
Band Pass Filter	4CS10-781.5/E12.2-O/O	N/A	Sep. 11, 2020	Sep. 10, 2021
Band Pass Filter	4CS10-751.5/E12-O/O	N/A	Sep. 11, 2020	Sep. 10, 2021
1 dB step Attenuator	8494B	N/A	Sep. 11, 2020	Sep. 10, 2021
10dB step Attenuator	8496B	N/A	Sep. 11, 2020	Sep. 10, 2021
RF Coupler	722-10-1.500V	N/A	Sep. 11, 2020	Sep. 10, 2021
Band Pass Filter	4CS10-781.5/E12.2-O/O	N/A	Sep. 11, 2020	Sep. 10, 2021

Hotline: 400-6611-140 Tel: 86-755-27673339 Fax: 86-755-27673332 http://www.tct-lab.com

8. TEST SETUP PHOTOGRAPHS OF EUT

Please refer to separated files for Test Setup Photos of the EUT.

9. EXTERIOR PHOTOGRAPHS OF EUT

Please refer to separated files for External Photos of the EUT.

10. INTERIOR PHOTOGRAPHS OF EUT

Please refer to separated files for Internal Photos of the EUT.

********END OF REPORT********

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