7.2.5 Occupied Bandwidth

Test Method: FCC part 2.1049

The spectral shape of the output should look similar to input for all modulations.

EUT Operation:

Status: Drive the EUT to maximum output power. .

Conditions: Normal conditions

Application: Cellular Band RF output ports

Test Configuration:

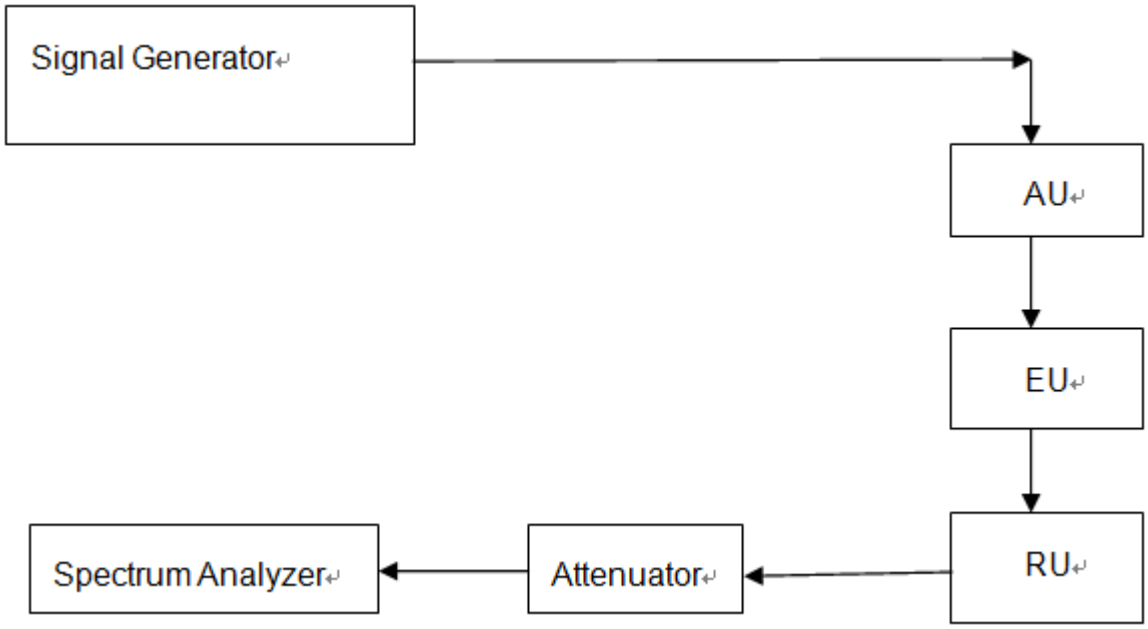


Fig.2. Conducted Spurious Emissions test configuration

Test Procedure:

a) Set the spectrum analyzer RBW 300 Hz or >1%&<2% emission bandwidth of carrier.

b) Capture the trace of input signal;

c) Connect the equipment as illustrated;

d) Capture the trace of output signal;

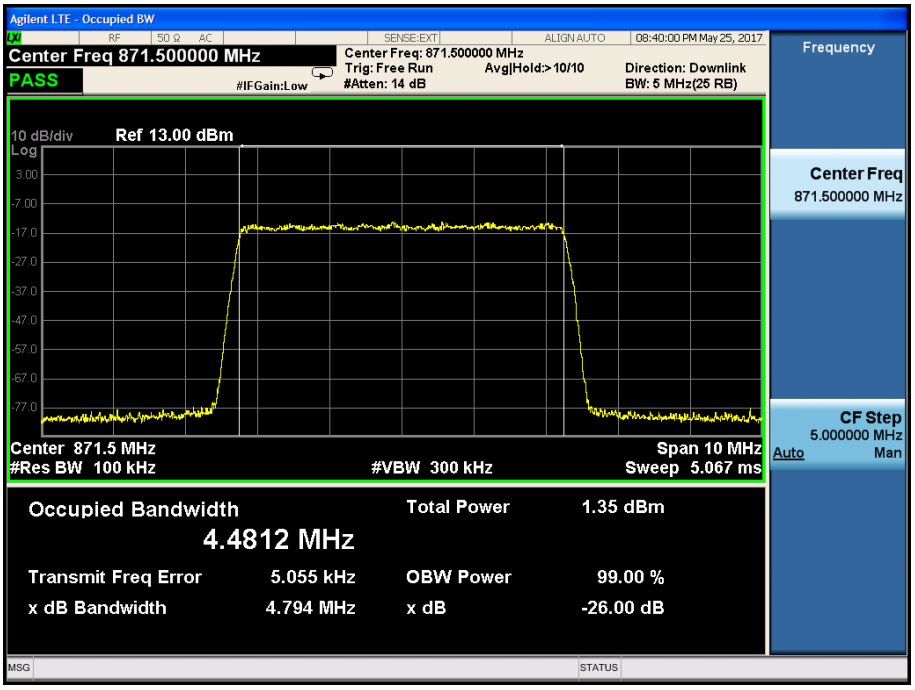
e) Set the signal power level of the Signal Generator to 0dBm, and the modulation of the signal are LTE(64QAM), CDMA and WCDMA

7.2.5.1 Measurement Record:

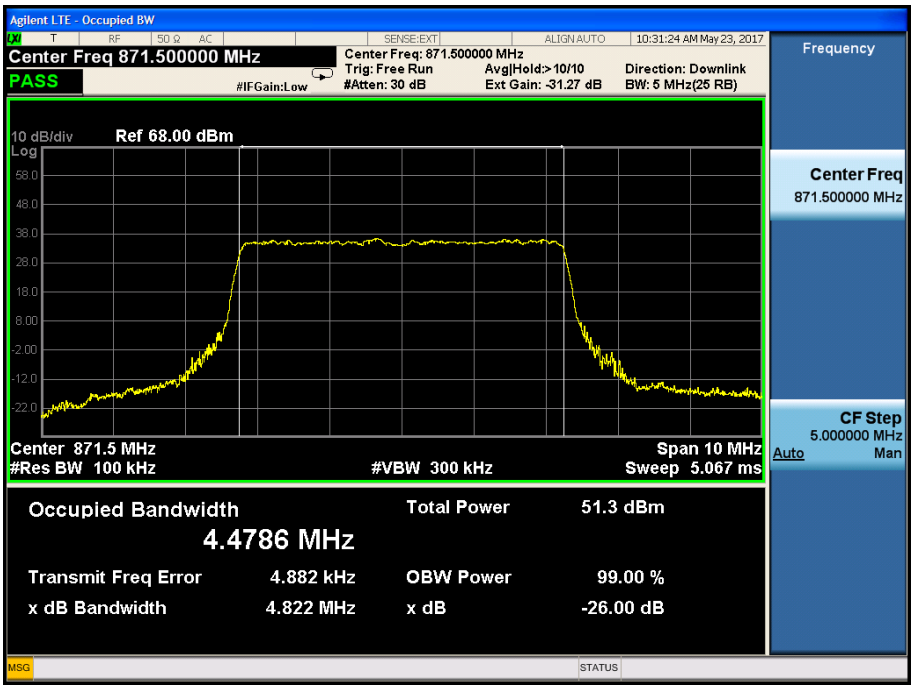
1.Downlink: 869MHz to 894MHz(LTE mode)

1.1 lowest frequency – 5MHz bandwidth

Input:

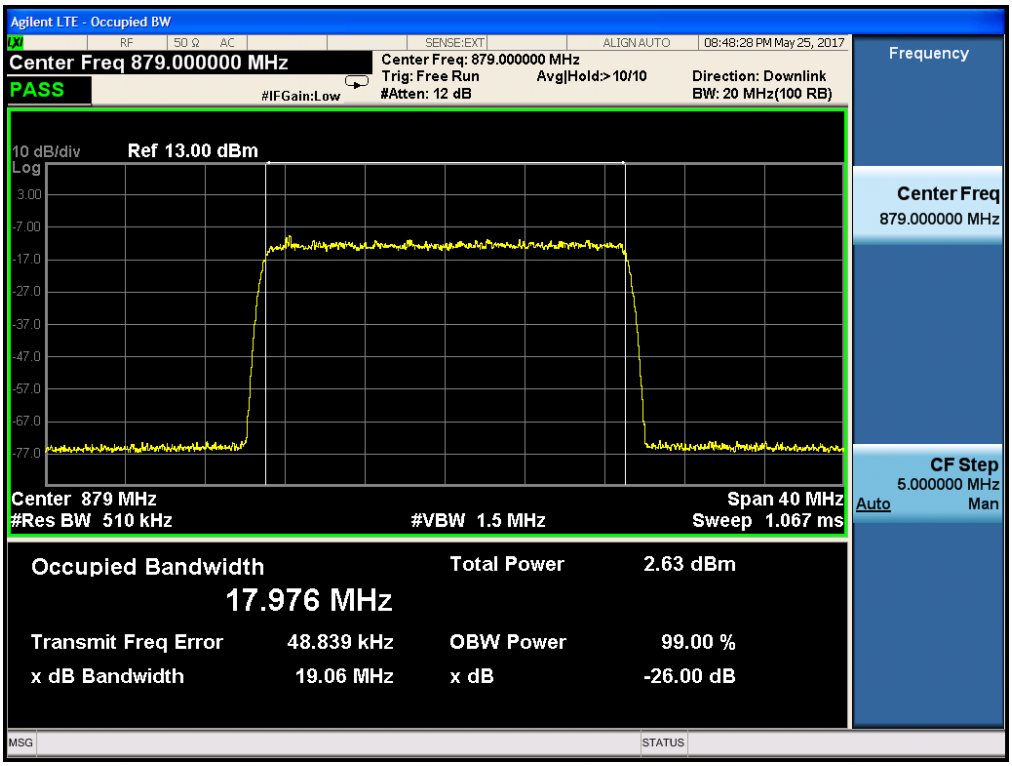


Output:

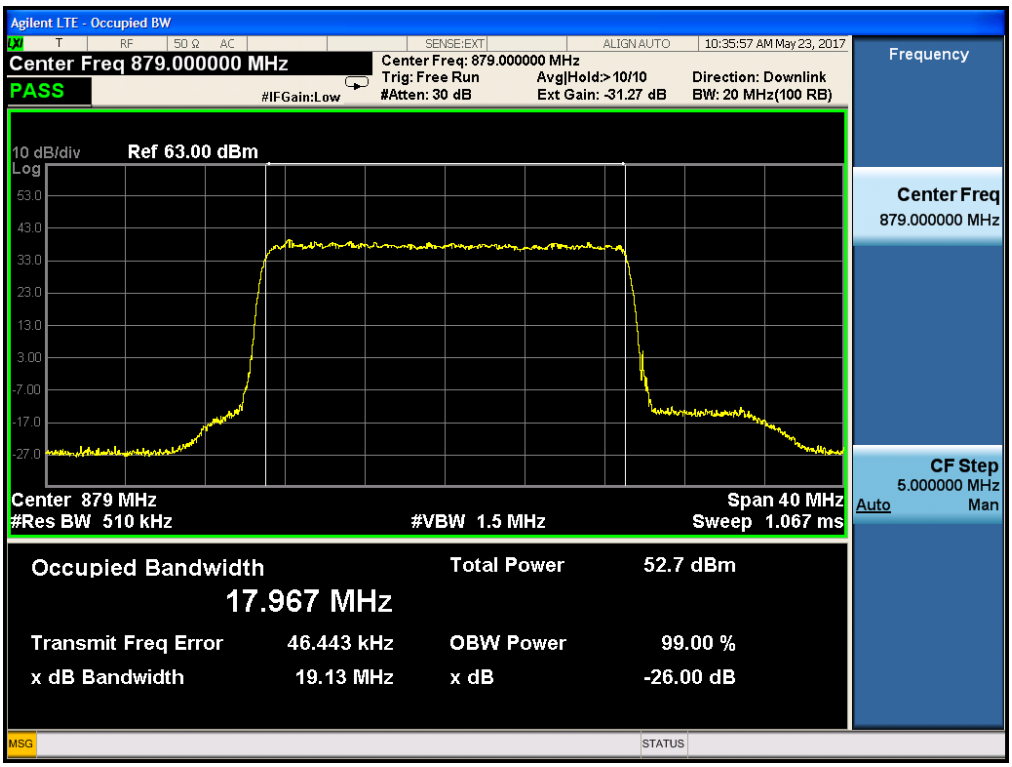


1.2 lowest frequency-- 20MHz bandwidth

Input:

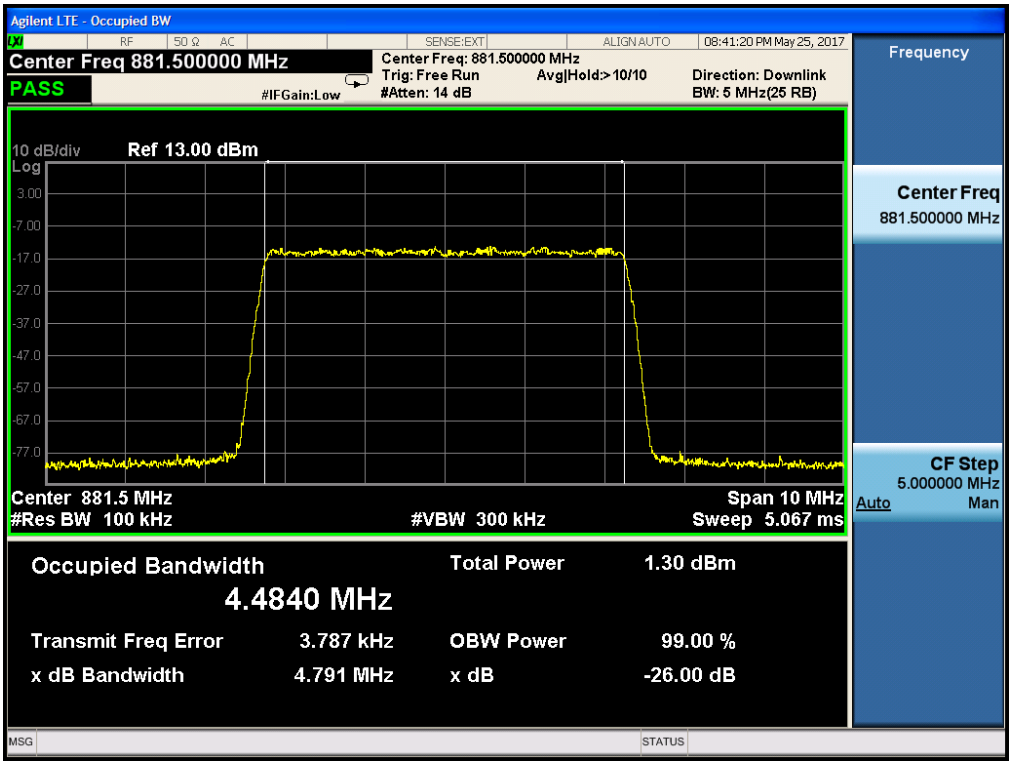


Output:

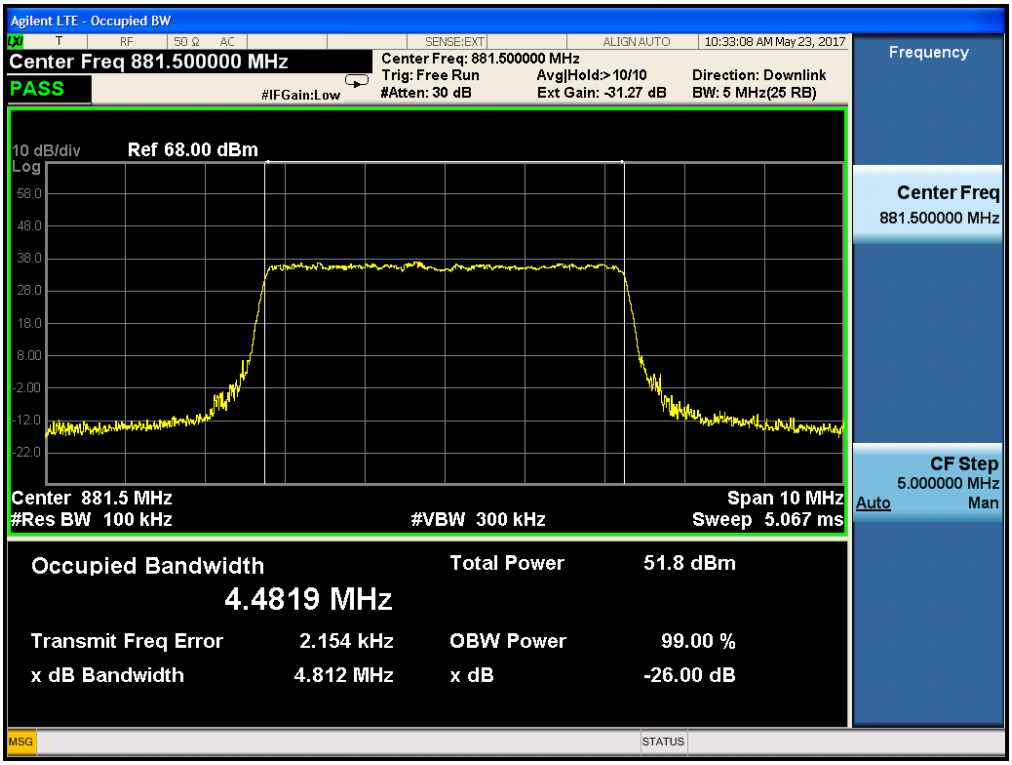


1.3 middle frequency-- 5MHz bandwidth

Input:

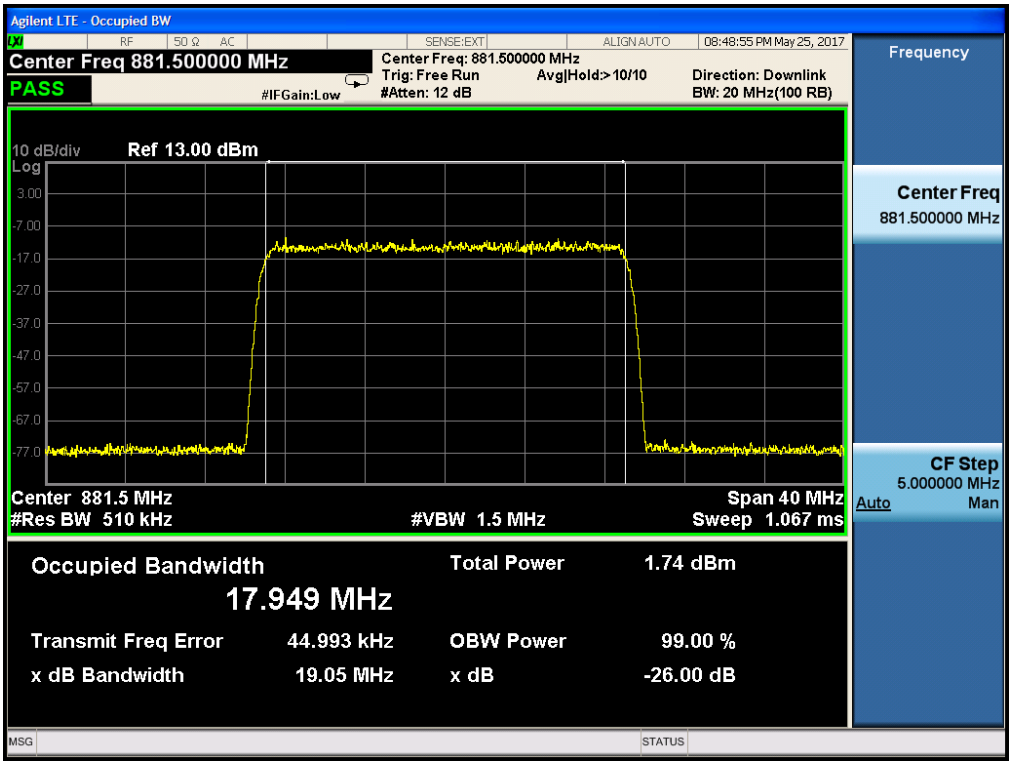


Output:

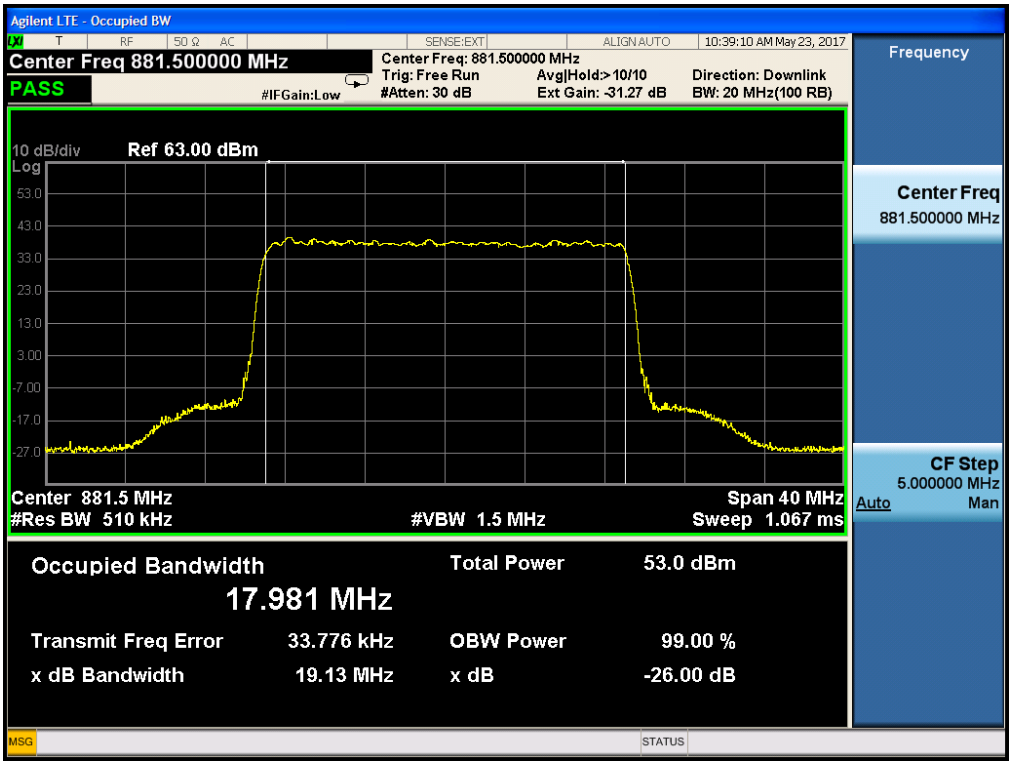


1.4 middle frequency-- 20MHz bandwidth

Input:

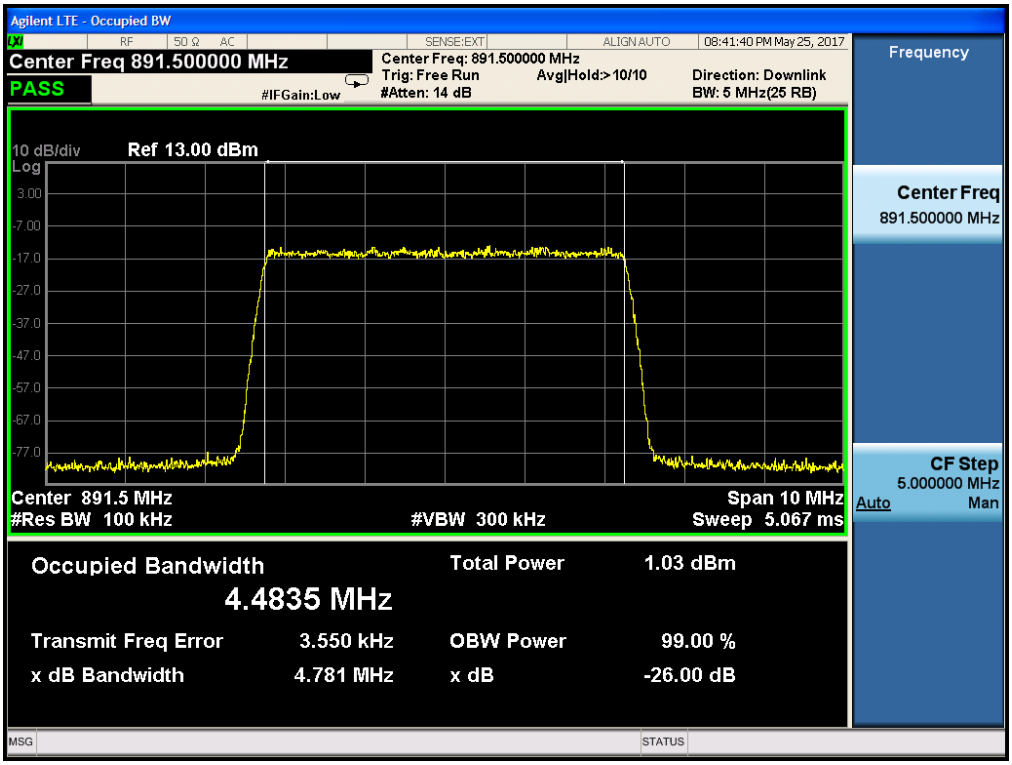


Output:

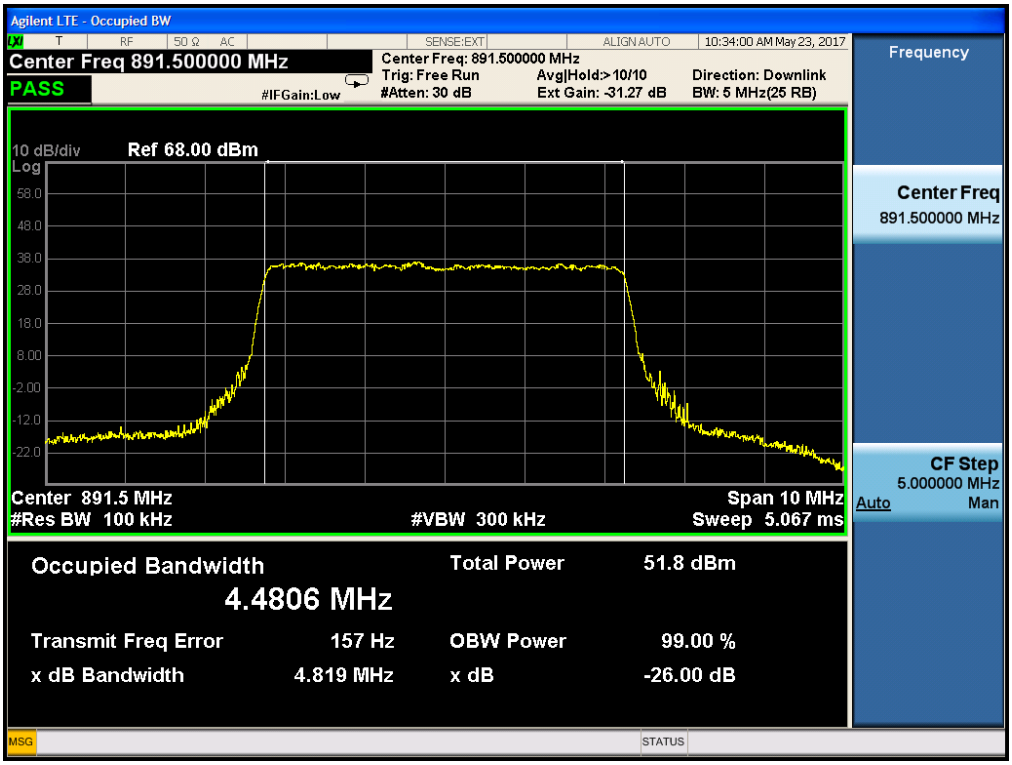


1.5 highest frequency—5MHz bandwidth

Input:

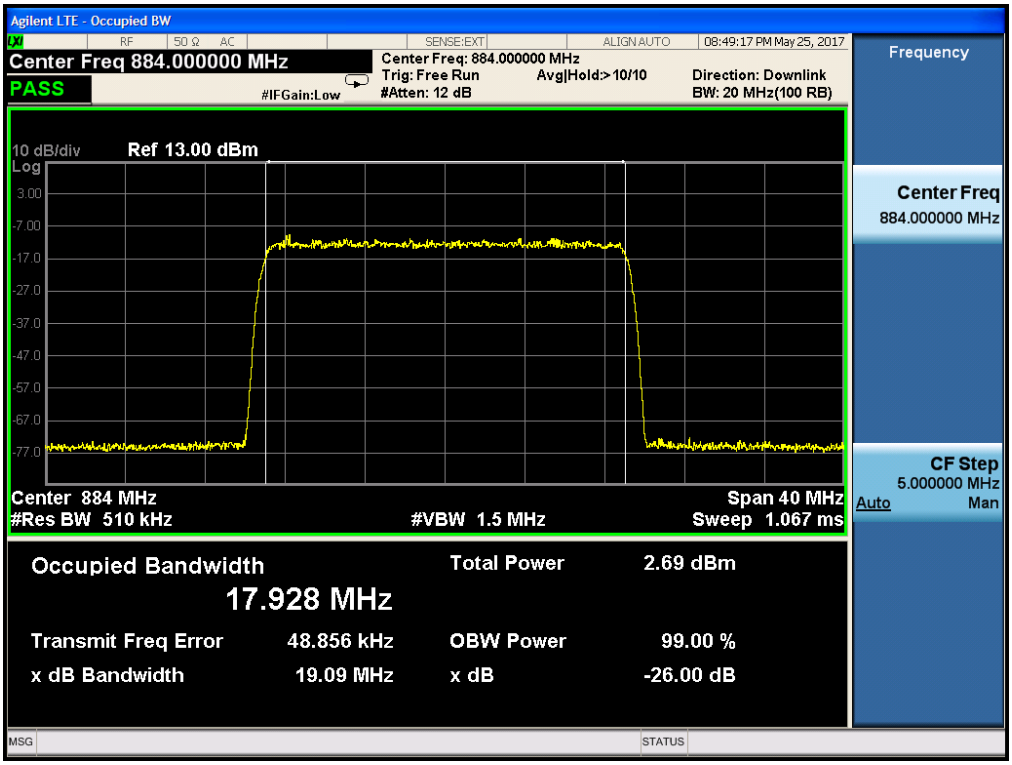


Output:

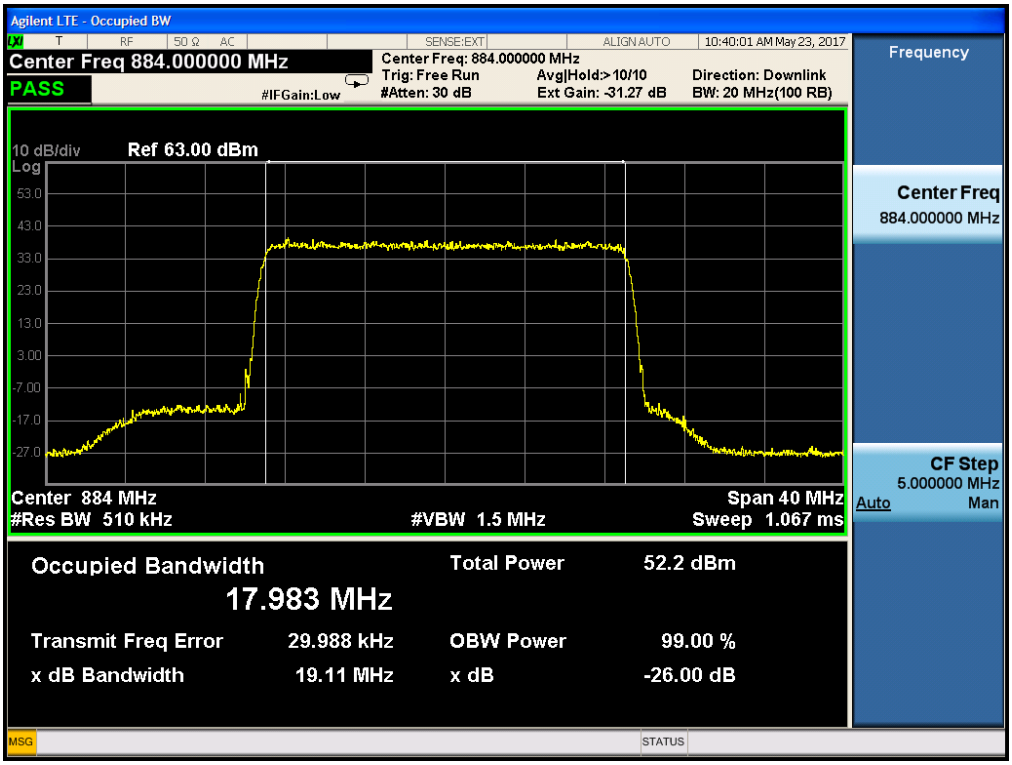


1.6 highest frequency--20MHz bandwidth

Input:



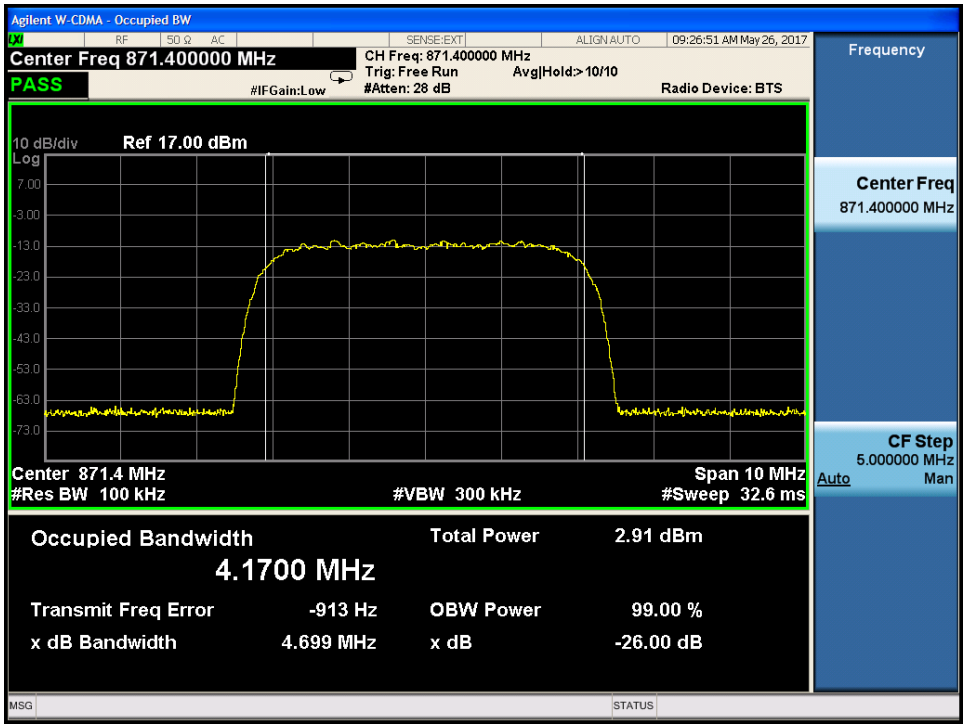
Output:



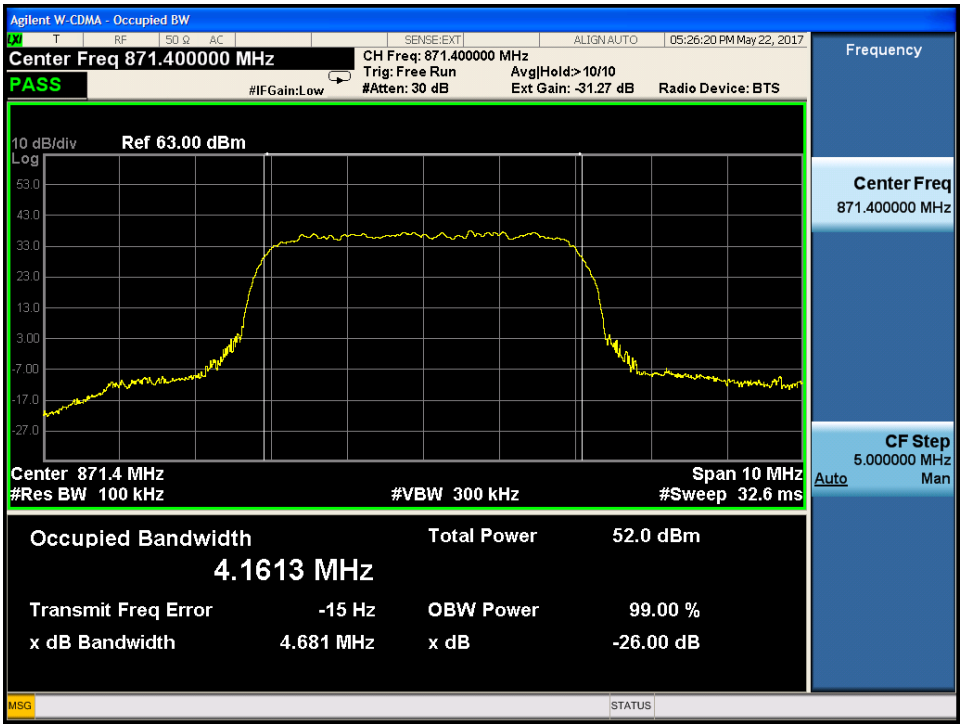
2.Downlink: 869MHz to 894MHz(WCDMA mode)

2.1 lowest frequency

Input:

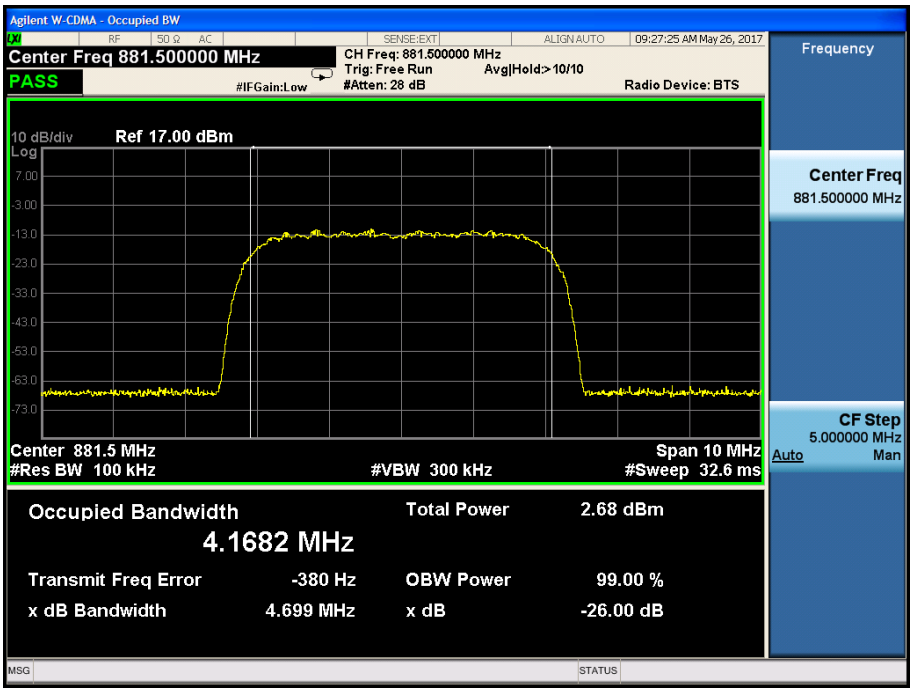


Output:

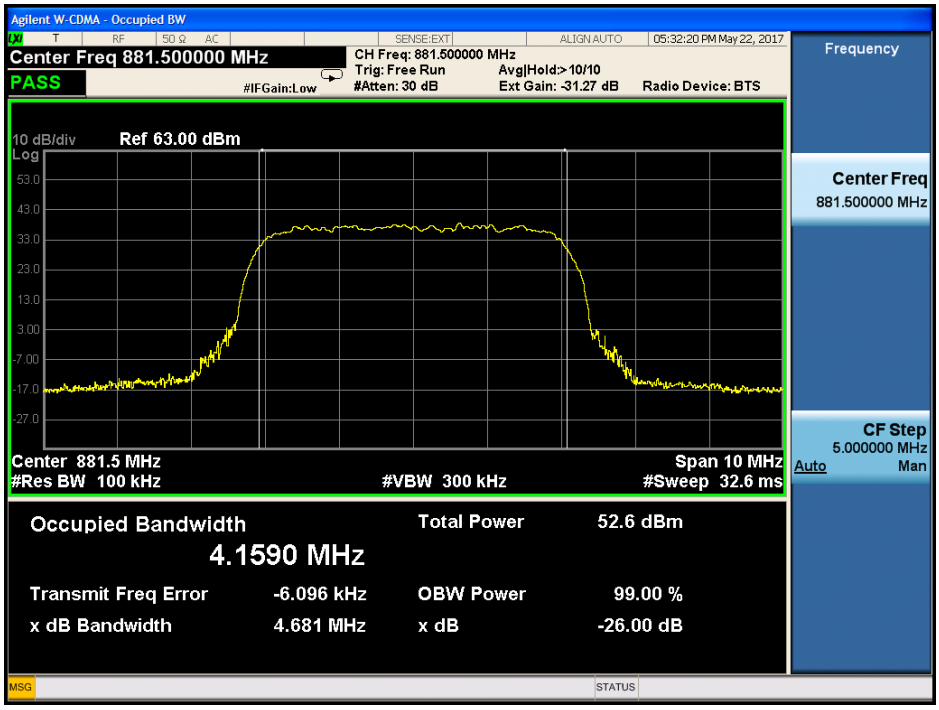


2.2 Middle frequency

Input:

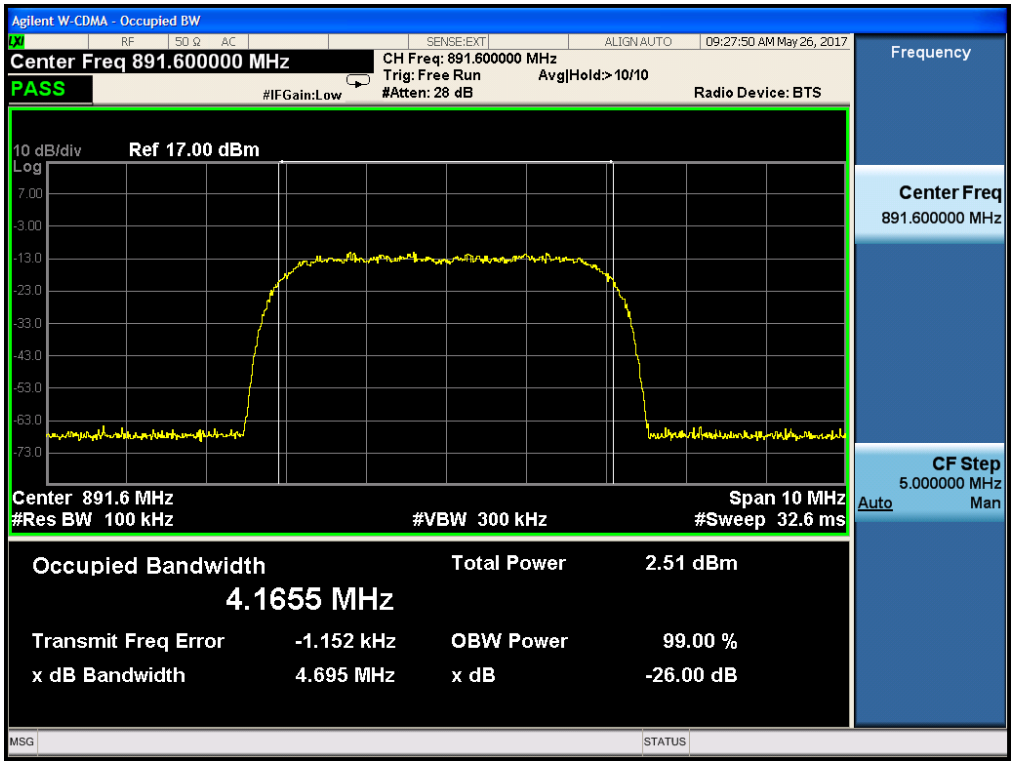


Output:

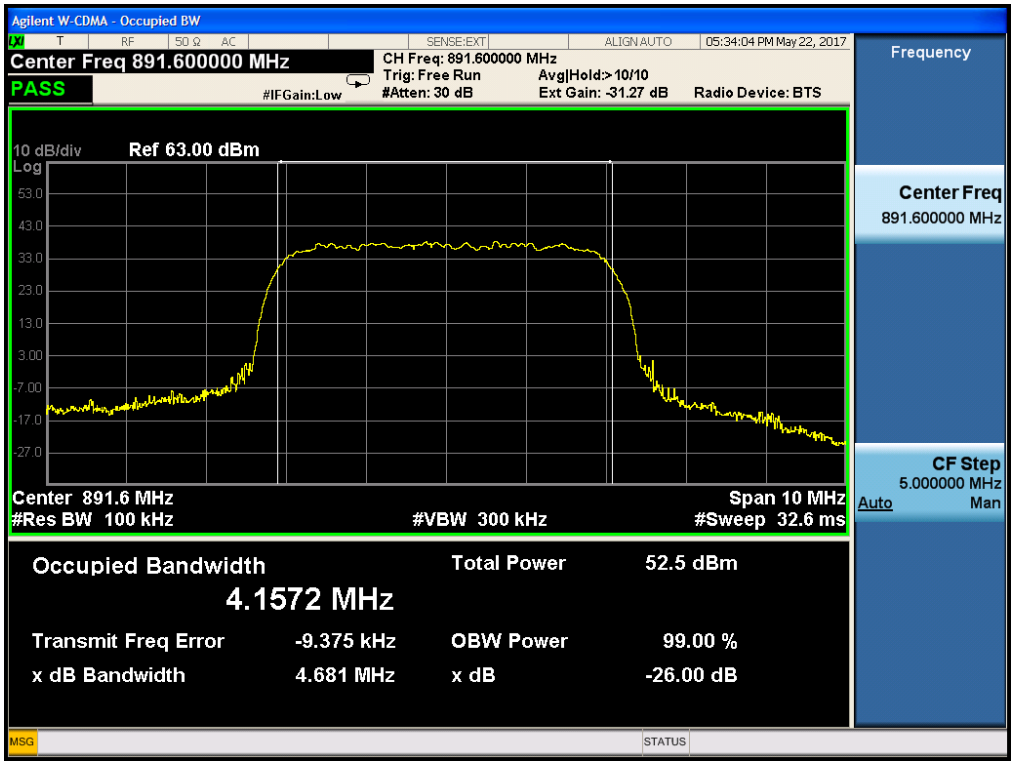


2.3 Highest frequency

Input:



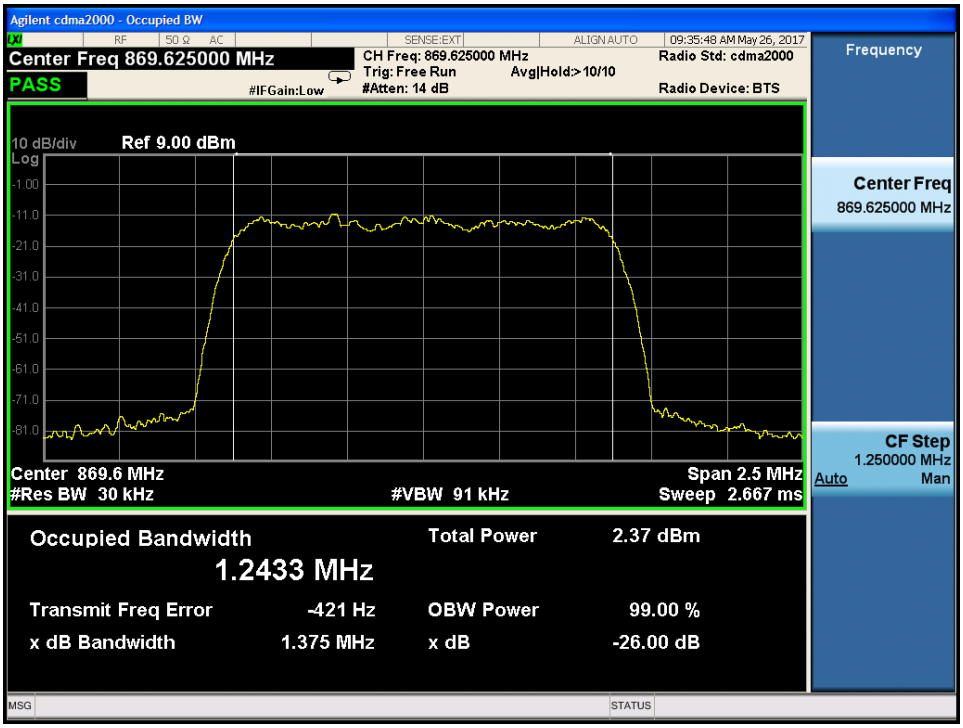
Output:



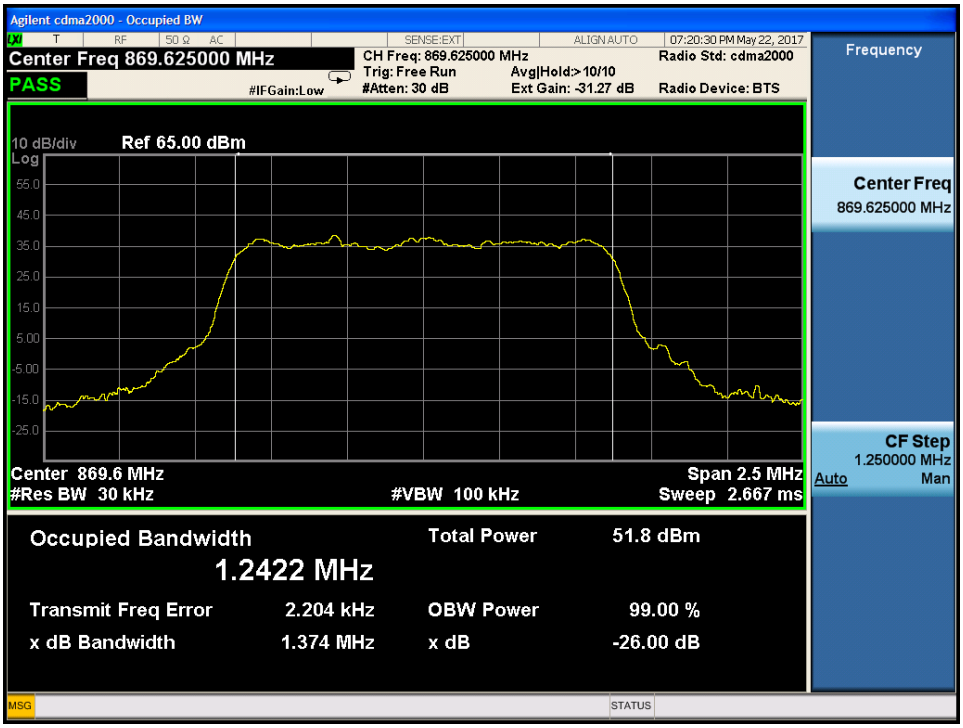
3.Downlink: 869MHz to 894MHz(CDMA mode)

3.1 lowest frequency

Input:

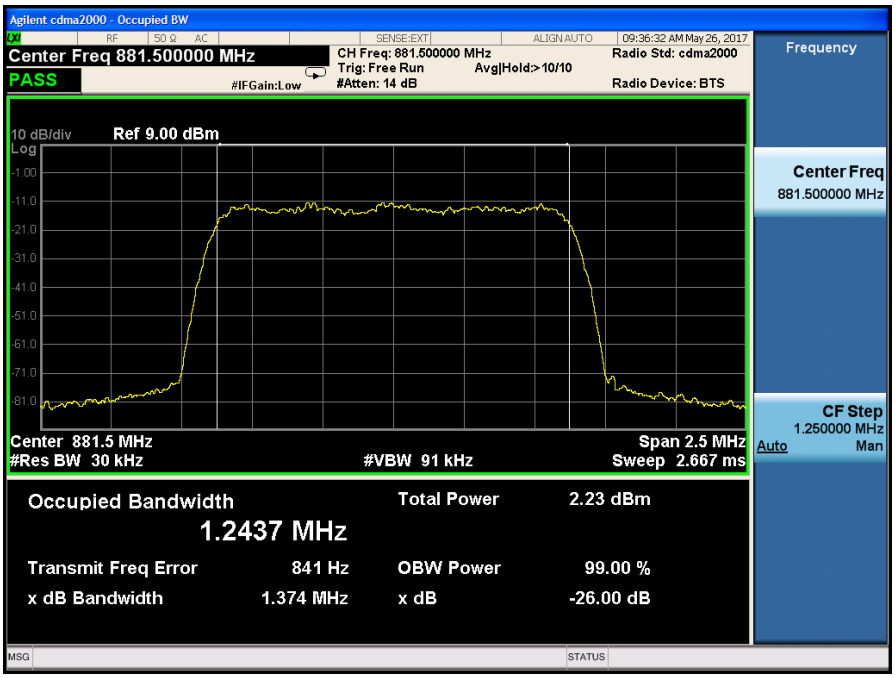


Output:

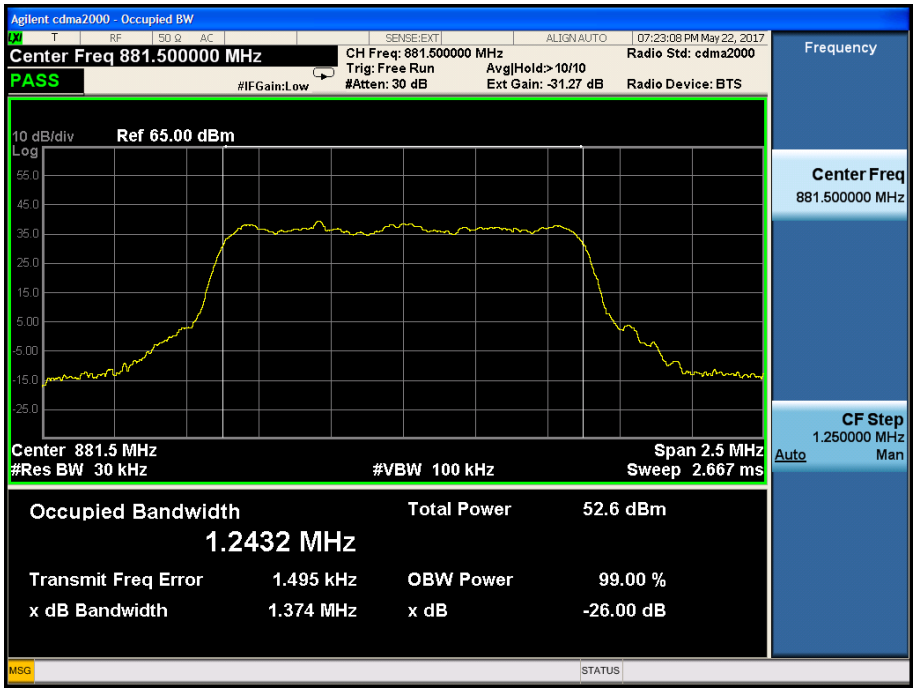


3.2 Middle frequency

Input:

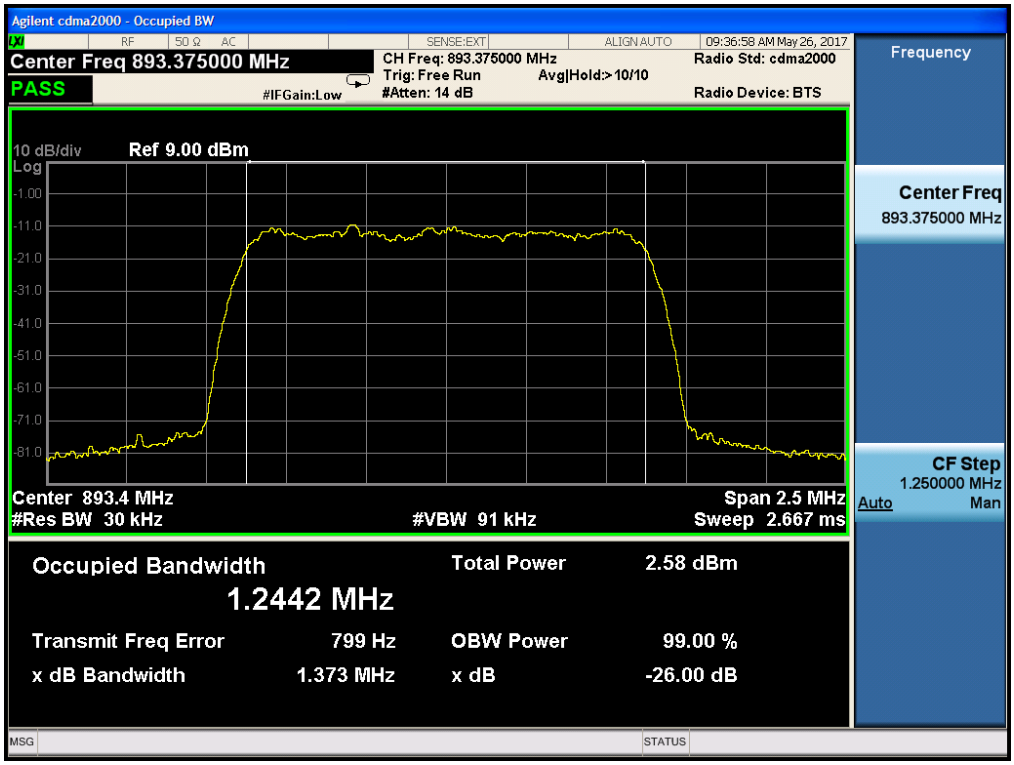


Output:

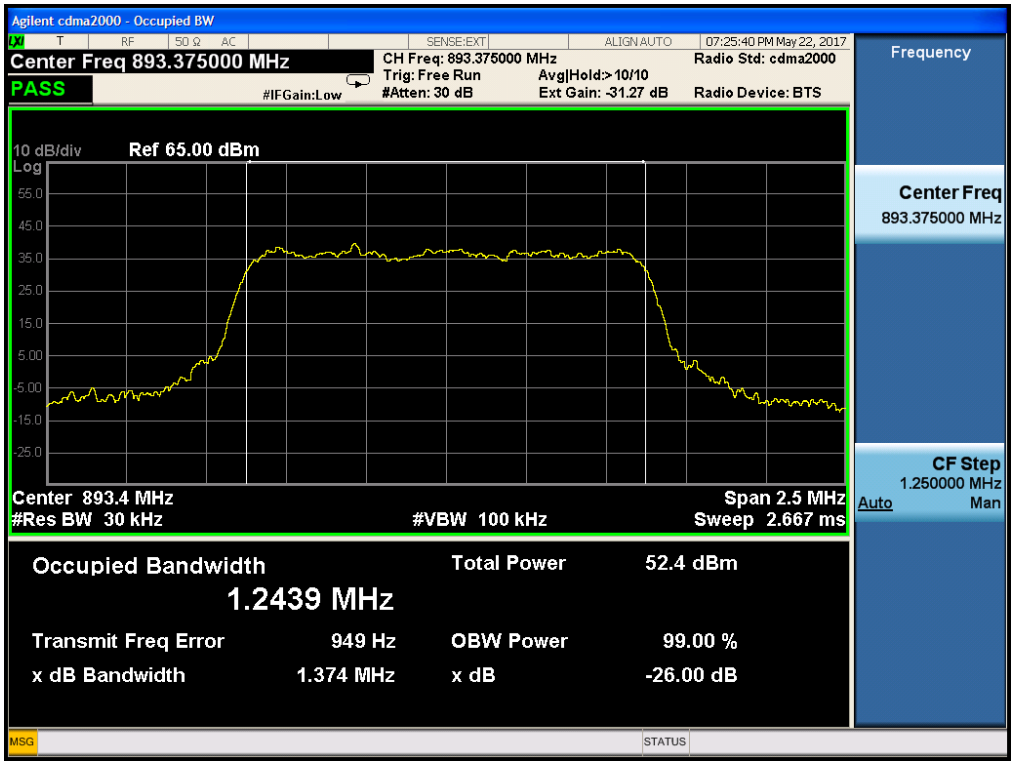


3.3 Highest frequency

Input:



Output:



7.2.6 Out of Band Rejection

Test Requirement: Section D.3(l) of KDB 935210 D02 Signal Booster Certification v03r02

Test for rejection of out of band signals. Filter freq. response plots are acceptable.

Test Method: KDB 935210 D05 Indus Booster Basic Meas v01r01

EUT Operation:

Status: Drive the EUT to maximum output power. .

Conditions: Normal conditions

Application: Cellular Band RF output ports

Test Configuration:

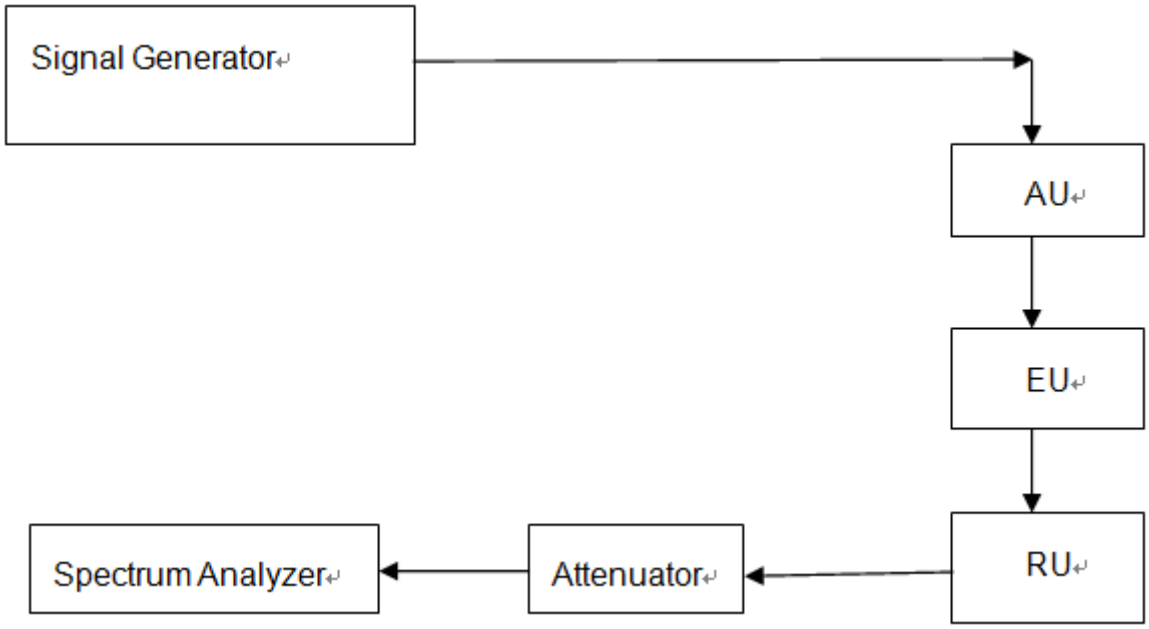


Fig.4. Out of Band rejection test configuration

Test Procedure:

1. Connect the equipment as illustrated;

2. Test the background noise level with all the test facilities;

3. Keep one transmitting path, all other connectors shall be connected by normal power or RF leads;

4. Select the attenuator to avoid the test receiver or spectrum analyzer being destroyed;

5. Keep the EUT continuously transmitting in max power;

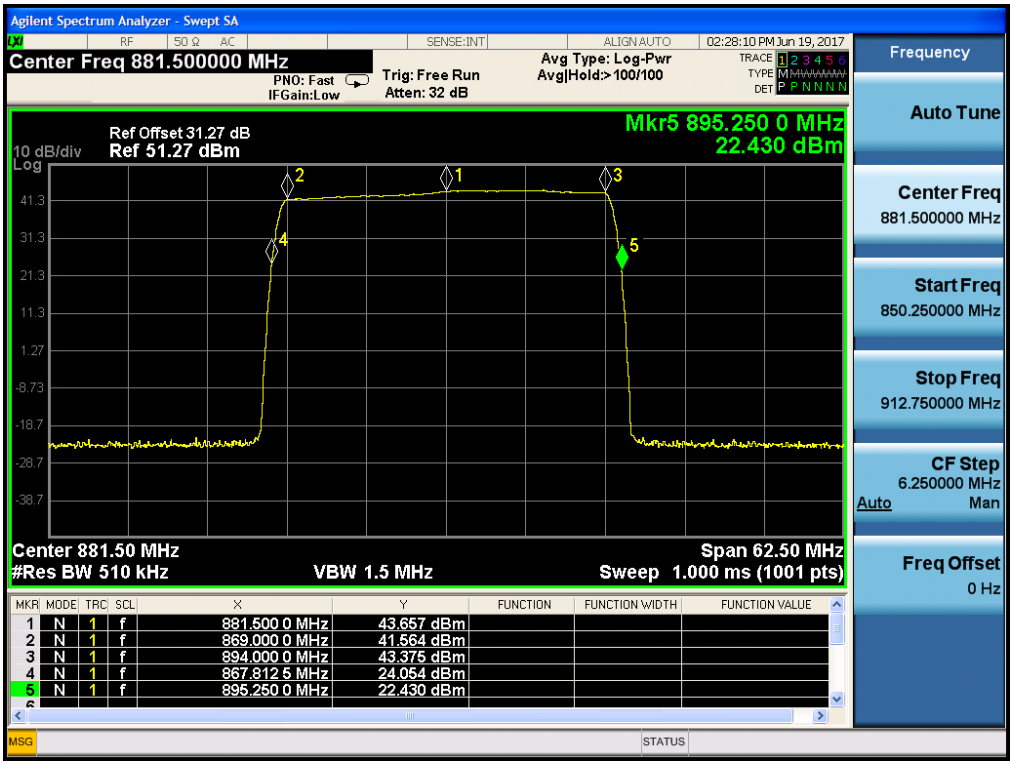
6. Signal generator sweep from the frequency more lower than the product frequency to the frequency more higher than it, find the product band filter characteristic;

· CW signal rather than typical signal is acceptable (for FM).

· Multiple band filter will need test each other.

7.2.6.1 Measurement Record:

Downlink: 869MHz to 894MHz



7.2.7 Frequency Stability

Test Requirement: FCC part 22.355

The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

EUT Operation:

Status: Drive the EUT to maximum output power.

Conditions: Temperature conditions, voltage conditions

Application: Cellular Band RF output ports

Test Procedure:

1. Temperature conditions:
   a) The RF output port of the EUT was connected to Frequency Meter;
   b) Set the working Frequency in the middle channel;
   c) Record the 20℃ and normal voltage frequency value as reference point;
   d) Vary the temperature from -40℃ to 50℃ with step 10℃
   e) When reach a temperature point, keep the temperature balance at least 1 hour to make the product working in this status;
   f) Read the frequency at the relative temperature.

2. Voltage conditions:
   a) record the 20℃ and normal voltage frequency value as reference point;
   b) vary the voltage from -15% normal voltage to +15% voltage;
   c) Read the frequency at the relative voltage.

7.2.7.1 Measurement Record:

Frequency Stability vs temperature:

1.Test for Downlink: 869~894MHz (middle channel=881.5MHz)

Temperature(℃)	Frequency(MHz)	Tolerance(ppm)
50	881.500005	0.00567
40	881.500005	0.00567
30	881.500005	0.00567
20	881.500005	0.00567
10	881.500005	0.00567
0	881.500005	0.00567
-10	881.500005	0.00567
-20	881.500005	0.00567
-30	881.500005	0.00567
-40	881.500005	0.00567

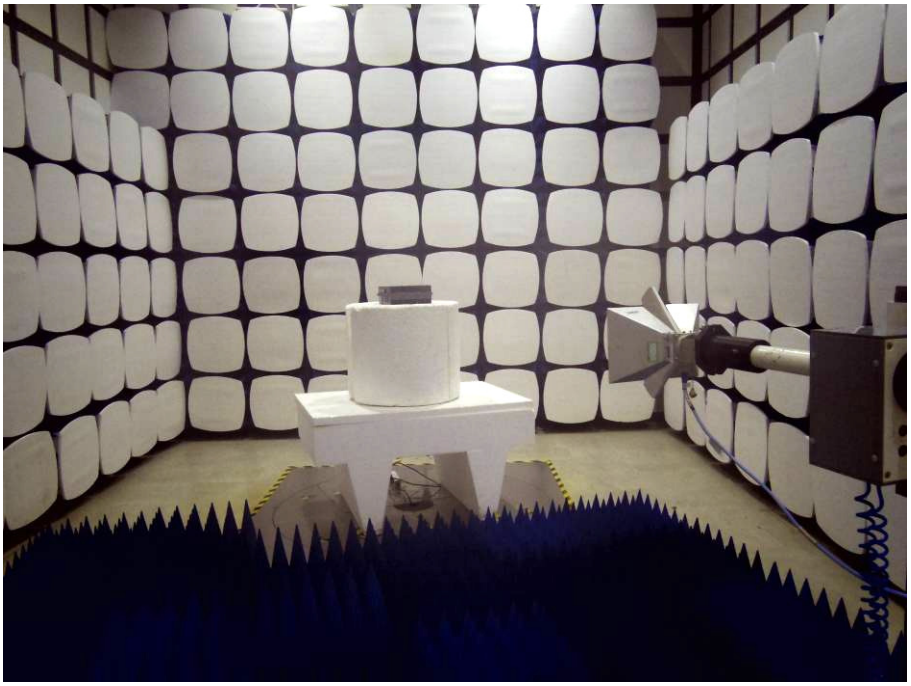
Frequency Stability vs voltage:

1.Test for Downlink: 869~894MHz (middle channel=881.5MHz)

Voltage(V ac)	Frequency(MHz)	Tolerance(ppm)
102	881.500005	0.00567
120	881.500005	0.00567
138	881.500005	0.00567

8 Photographs - Test Setup

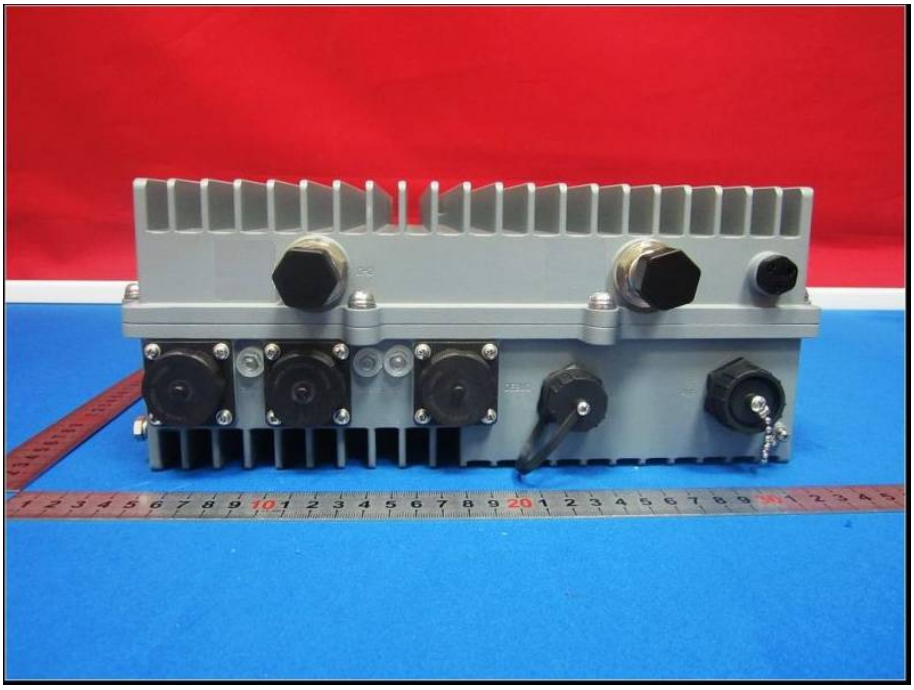
Above 1GHz Radiated Emission

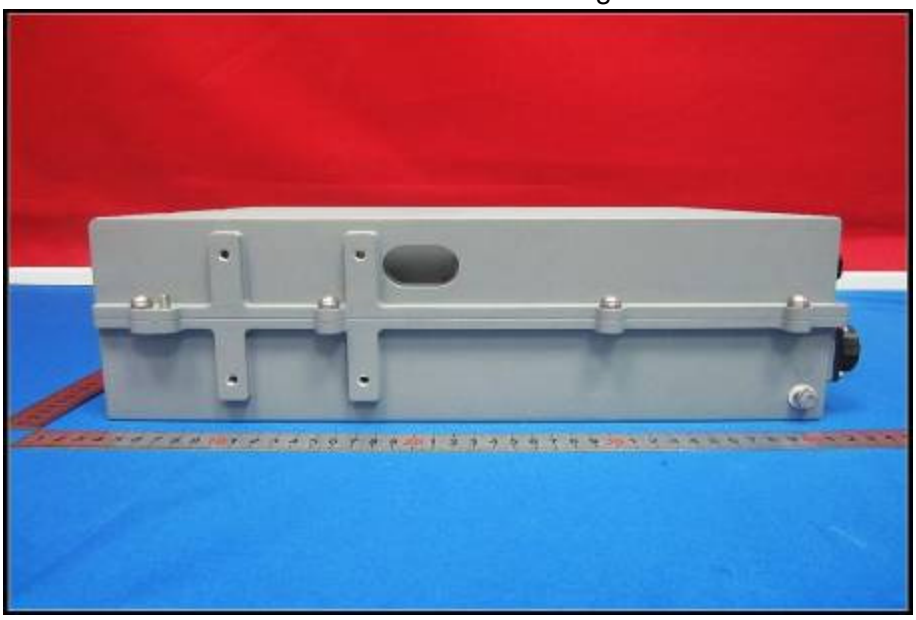


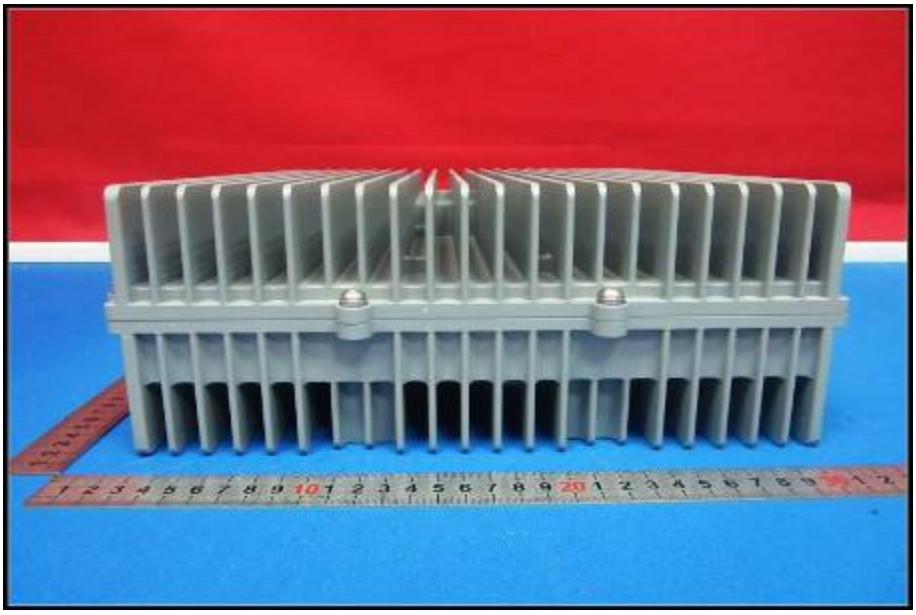
30MHz ~ 1GHz Radiated Emission

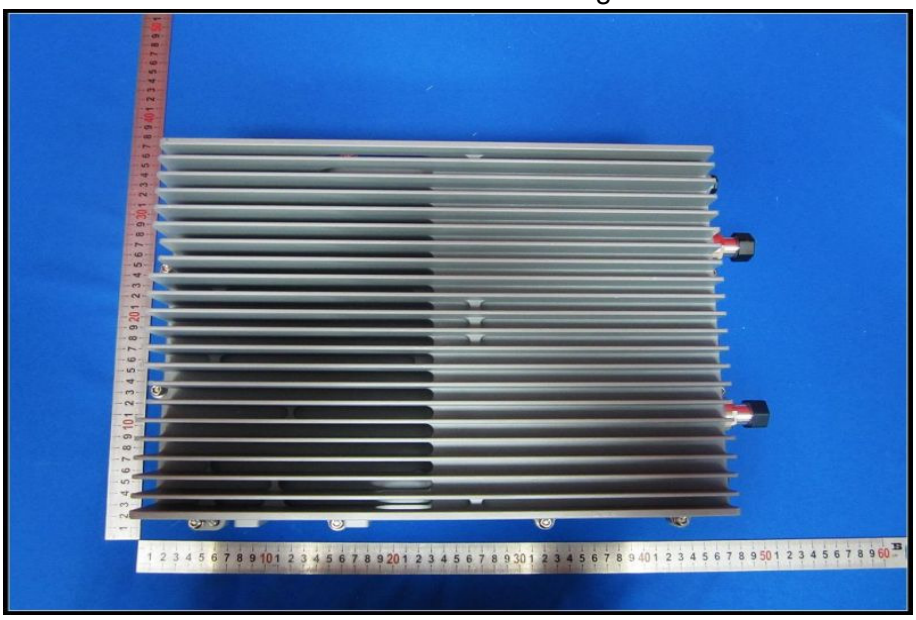
9 Photographs - EUT Constructional Details

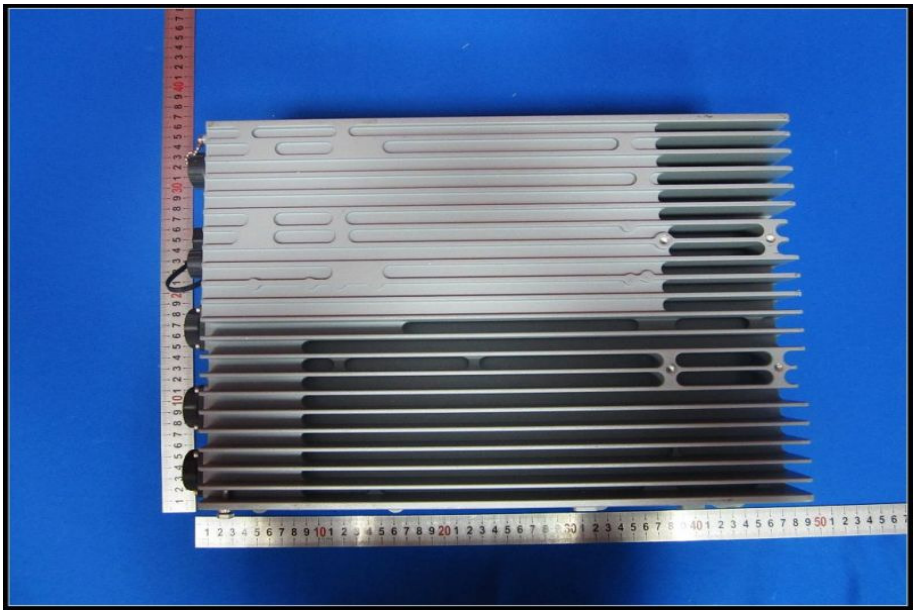
Test Model No.: iDAS-R211

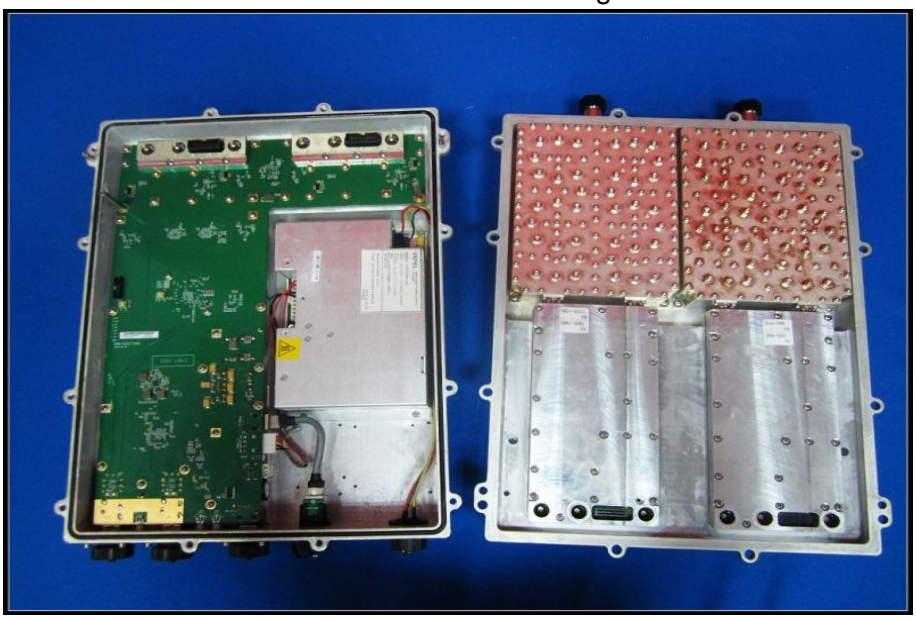


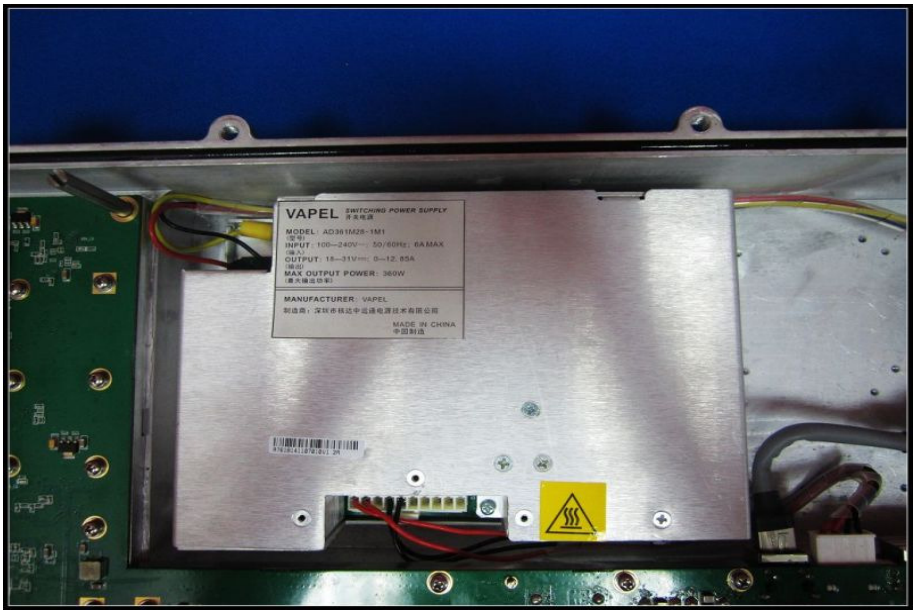


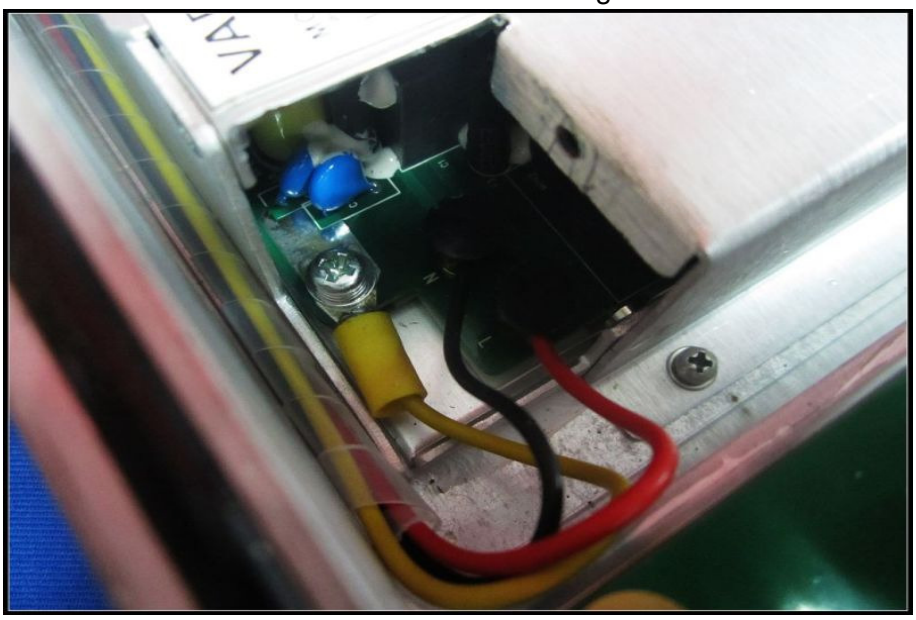


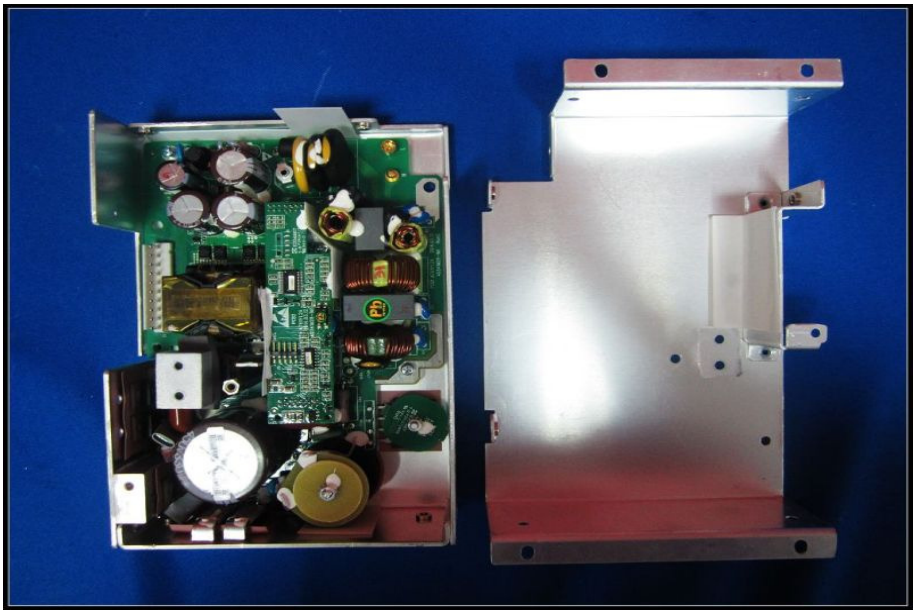


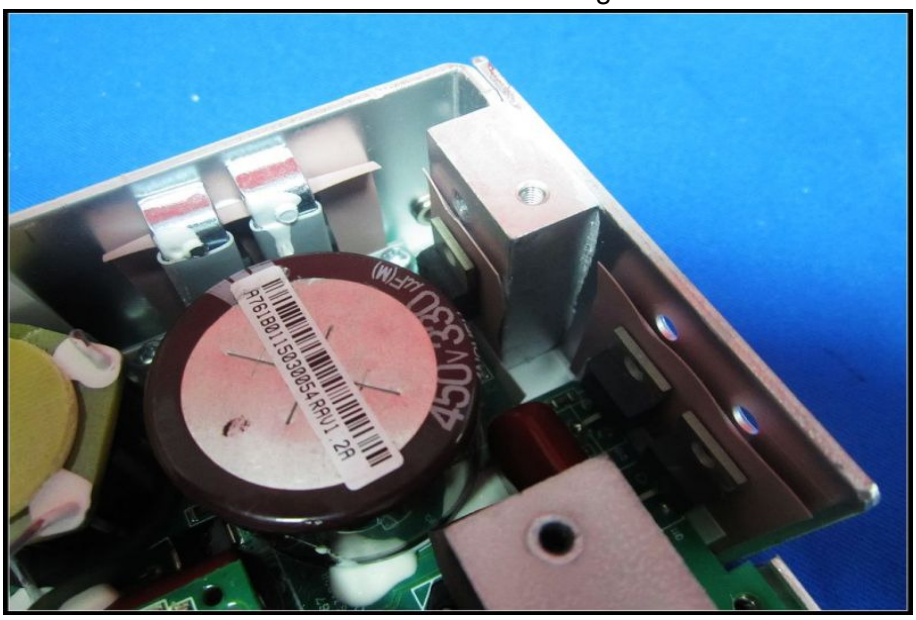


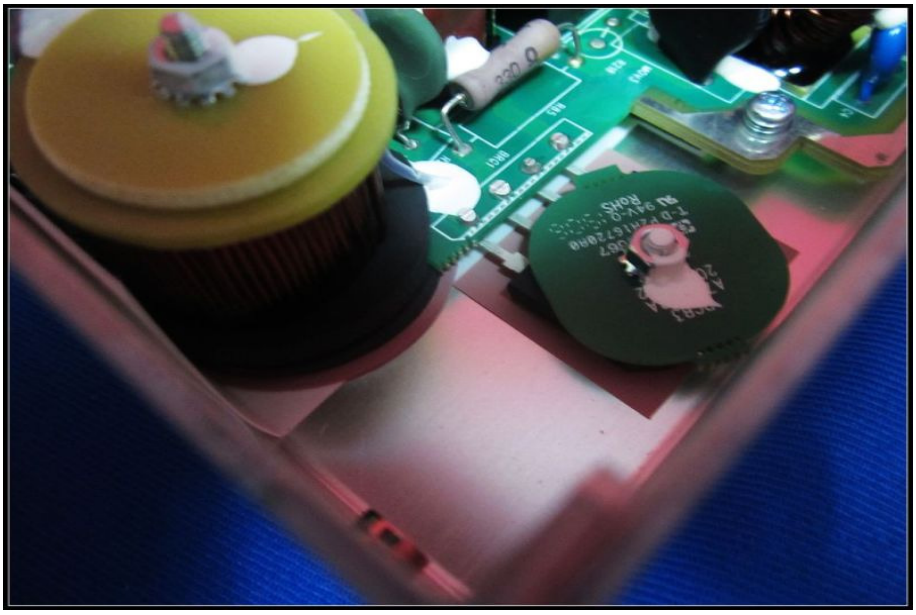


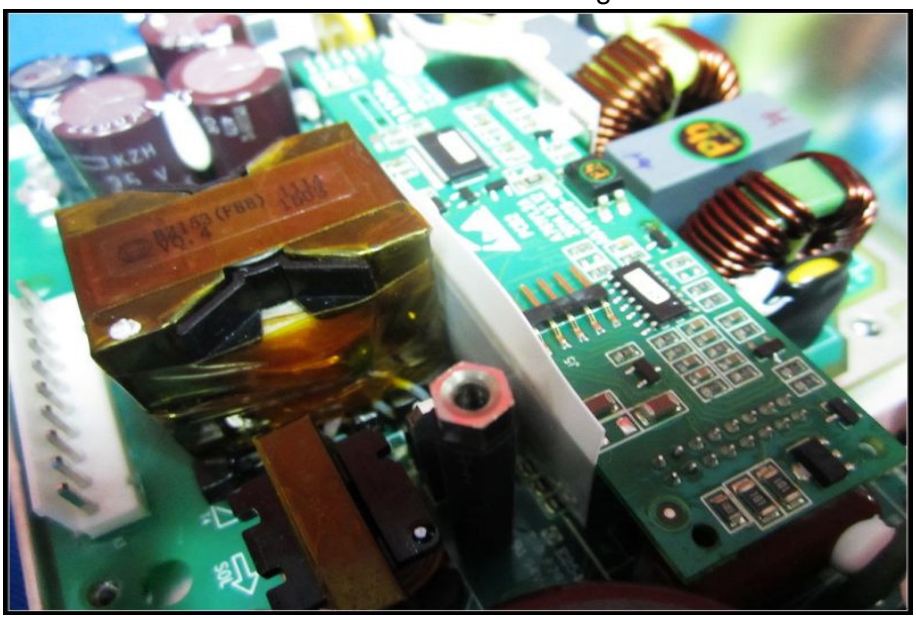


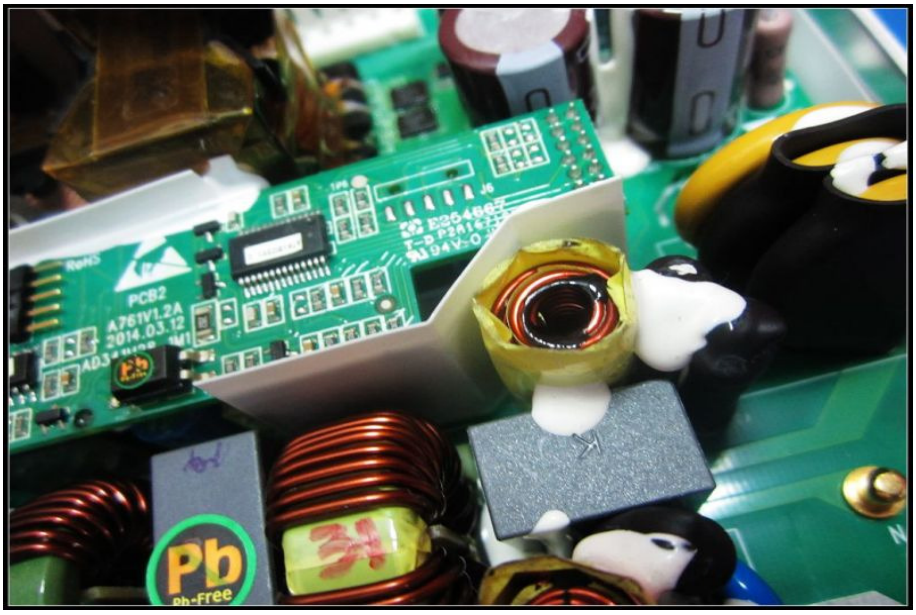


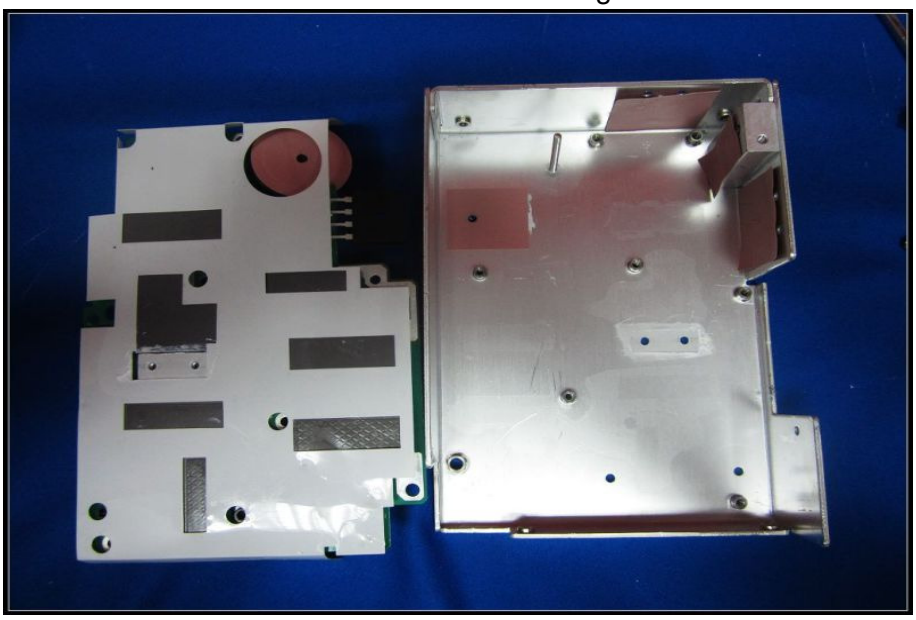


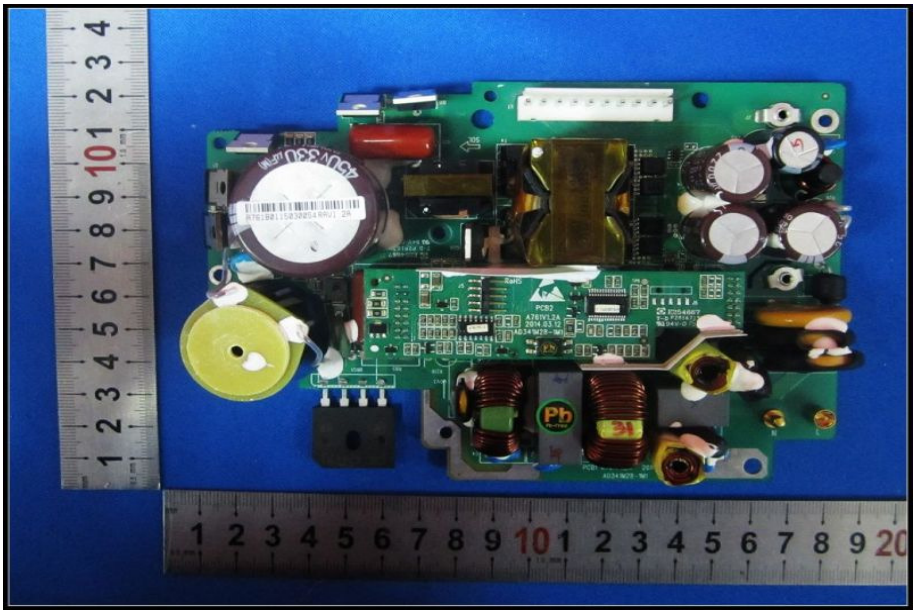


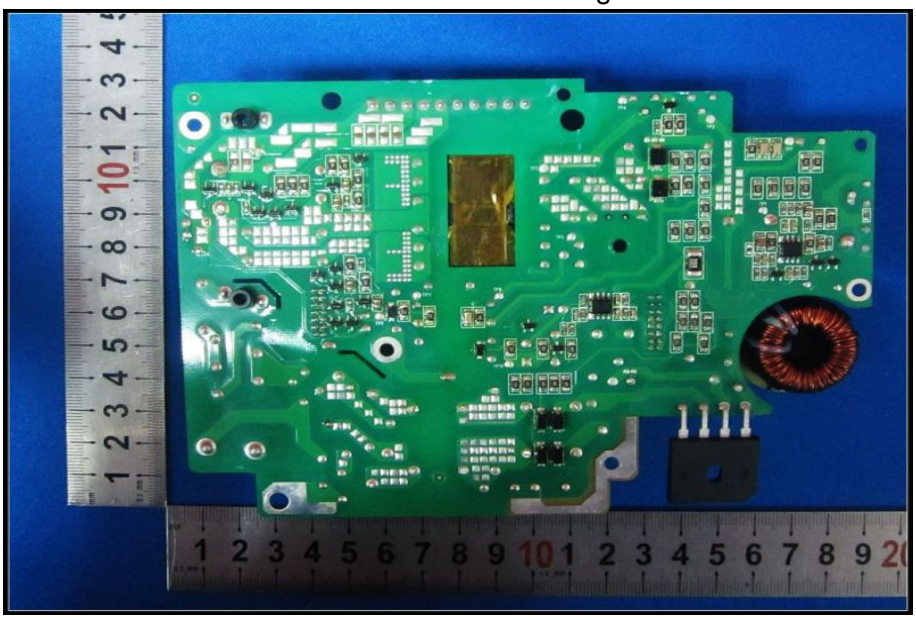












--The End of Report--