

## Shenzhen UnionTrust Quality and Technology Co., Ltd.

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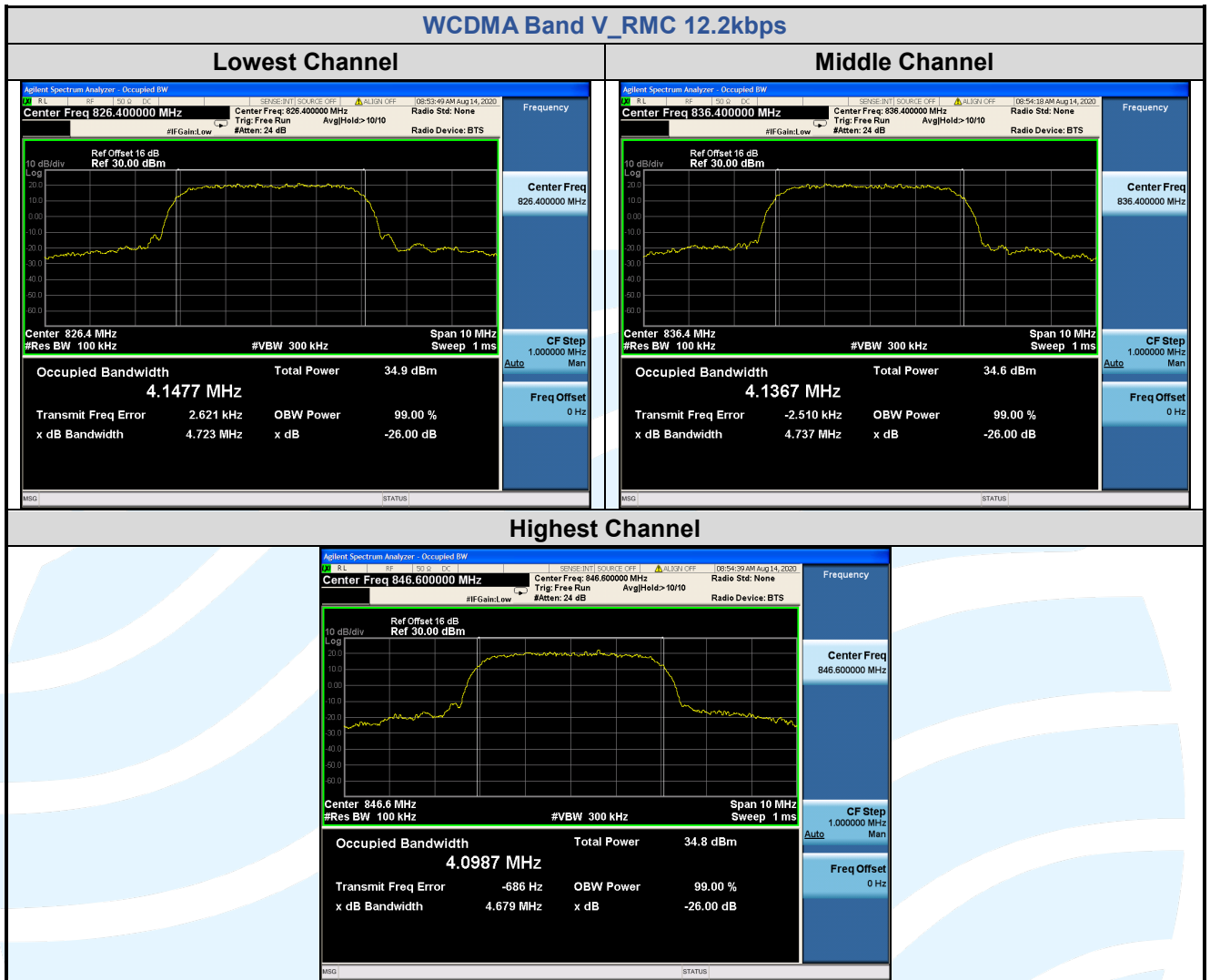
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UTTR-RF-FCC23G-V1.1



## 5.6 BAND EDGE AT ANTENNA TERMINALS

**Test Requirement:** FCC 47 CFR Part 2.1051,  
 FCC 47 CFR Part 22.917(a),  
 FCC 47 CFR Part 24.238(a),  
 FCC 47 CFR Part 27.53(h)(1),  
 RSS-132 Issue 3, Section 5.5,  
 RSS-133 Issue 6, Section 6.5,  
 RSS-139 Issue 3, Section 6.6

**Test Method:** ANSI C63.26-2015 & KDB 971168 D01v03r01

**Limit:**

**FCC 47 CFR Part 22.917(a), FCC 47 CFR Part 24.238(a), FCC 47 CFR Part 27.53(h)(1),**  
 The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $43 + 10 \log(P)$  dB. The emission limit equal to -13 dBm.

**RSS-132 Issue 3, Section 5.5,**  
 In the first 1.0 MHz band immediately outside and adjacent to each of the sub-bands specified in Section 5.1, the power of emissions per any 1% of the occupied bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least  $43 + 10 \log_{10} p$  (watts).

After the first 1.0 MHz immediately outside and adjacent to each of the sub-bands, the power of emissions in any 100 kHz bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least  $43 + 10 \log_{10} p$  (watts). If the measurement is performed using 1% of the occupied bandwidth, power integration over 100 kHz is required.

**RSS-133 Issue 6, Section 6.5,**  
 In the 1.0 MHz bands immediately outside and adjacent to the equipment's operating frequency block, the emission power per any 1% of the emission bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least  $43 + 10 \log_{10} p$  (watts).

After the first 1.0 MHz, the emission power in any 1 MHz bandwidth shall be attenuated (in dB) below the transmitter output power P (dBW) by at least  $43 + 10 \log_{10} p$  (watts). If the measurement is performed using 1% of the emission bandwidth, power integration over 1.0 MHz is required.

**RSS-139 Issue 3, Section 6.6,**  
 In the first 1.0 MHz bands immediately outside and adjacent to the equipment's smallest operating frequency block, which can contain the equipment's occupied bandwidth, the emission power per any 1% of the emission bandwidth shall be attenuated below the transmitter output power P (in dBW) by at least  $43 + 10 \log_{10} p$  (watts) dB.  
 After the first 1.0 MHz outside the equipment's smallest operating frequency block, which can contain the equipment's occupied bandwidth, the emission power in any 1 MHz bandwidth shall be attenuated below the transmitter output power P (in dBW) by at least  $43 + 10 \log_{10} p$  (watts) dB.

**Test Procedure:**  
 The transmitter output was connected to a calibrated coaxial cable and coupler, the other end of which was connected to a spectrum analyzer.  
 For each band edge measurement:

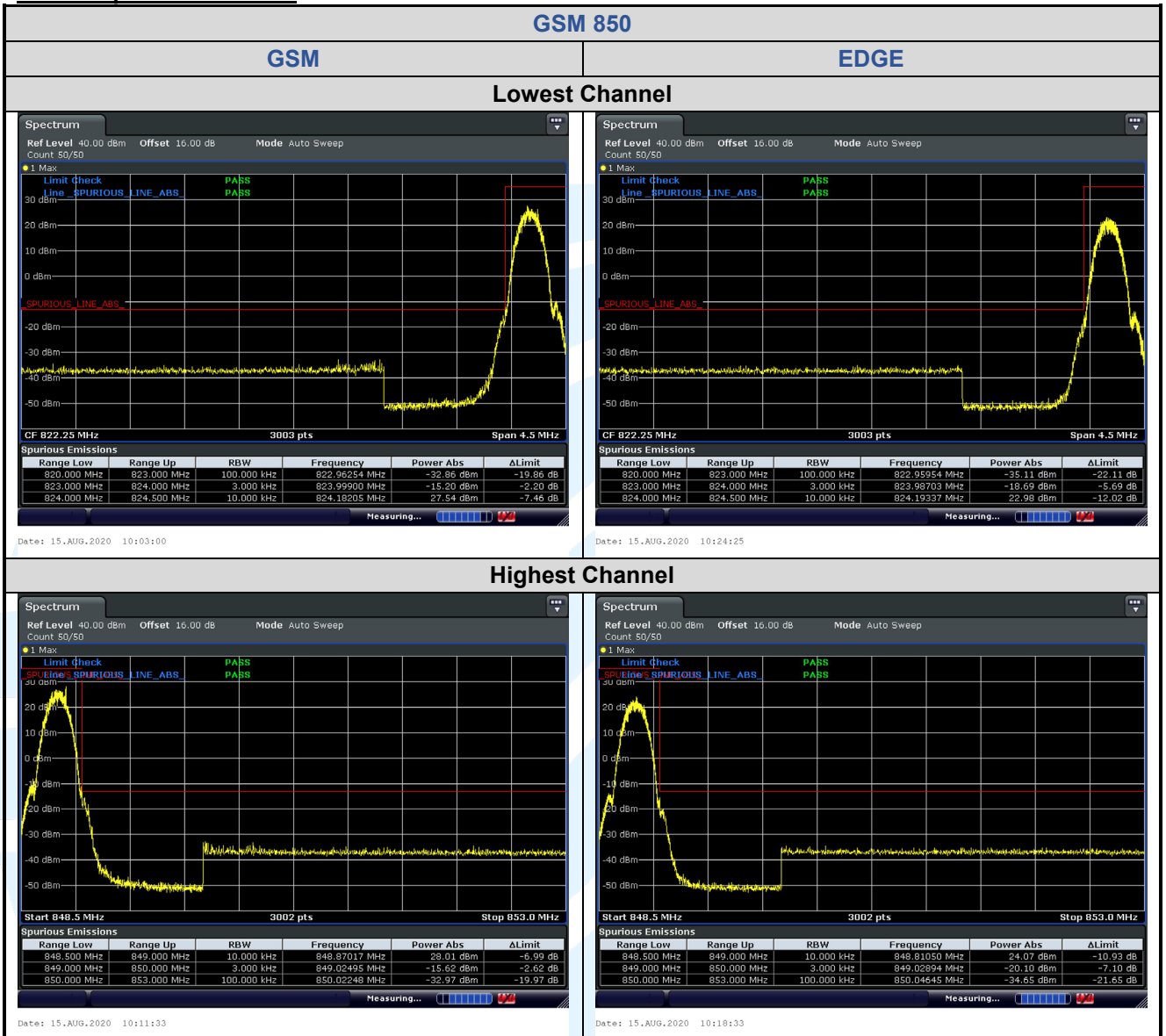
- 1) Set the spectrum analyzer span to include the block edge frequency.
- 2) Set a marker to point the corresponding band edge frequency in each test case.
- 3) Set display line at -13 dBm
- 4) Set resolution bandwidth to at least 1% of emission bandwidth.
- 5) Set spectrum analyzer with RMS detector.
- 6) Record the max trace plot into the test report

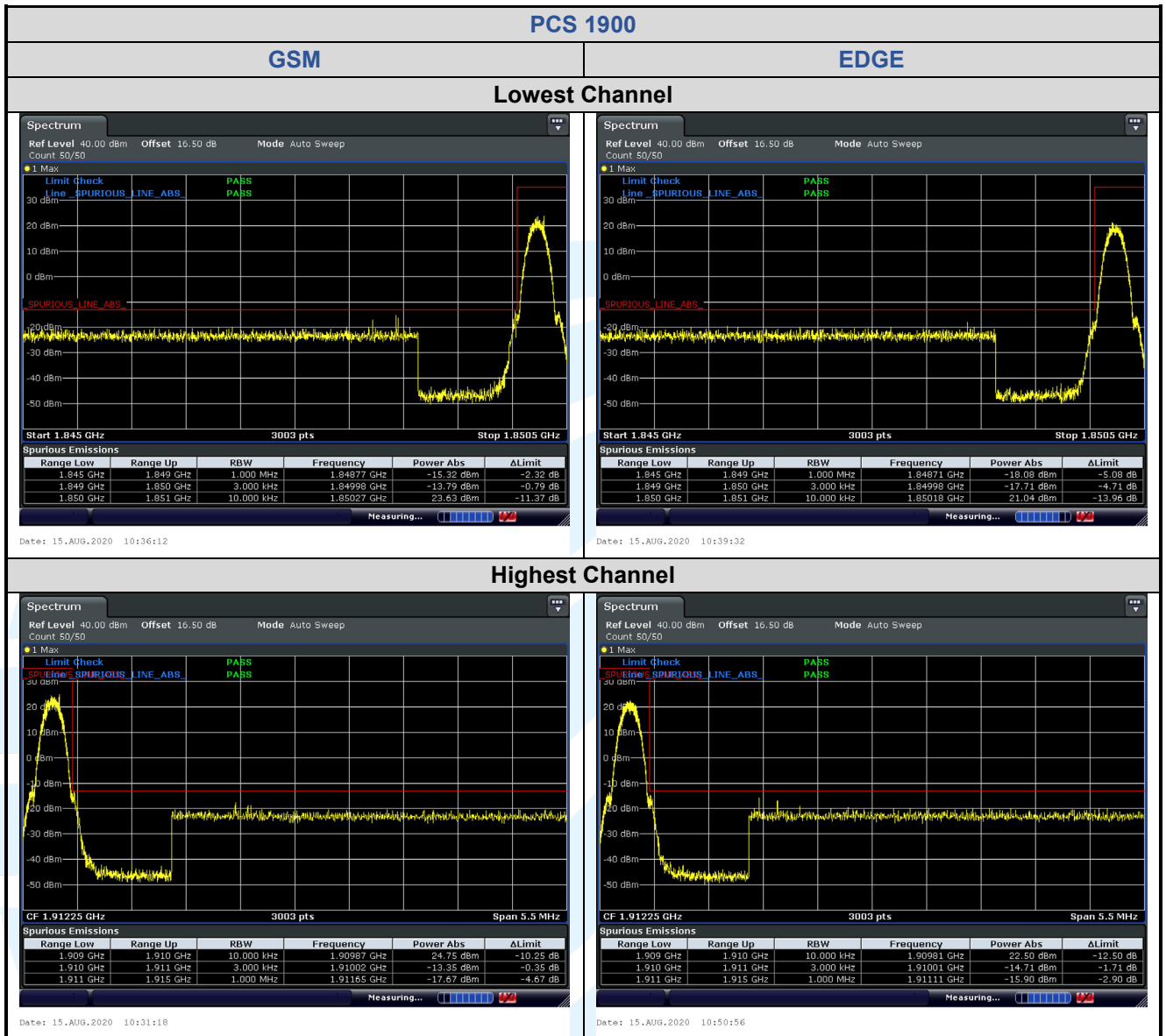
Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.

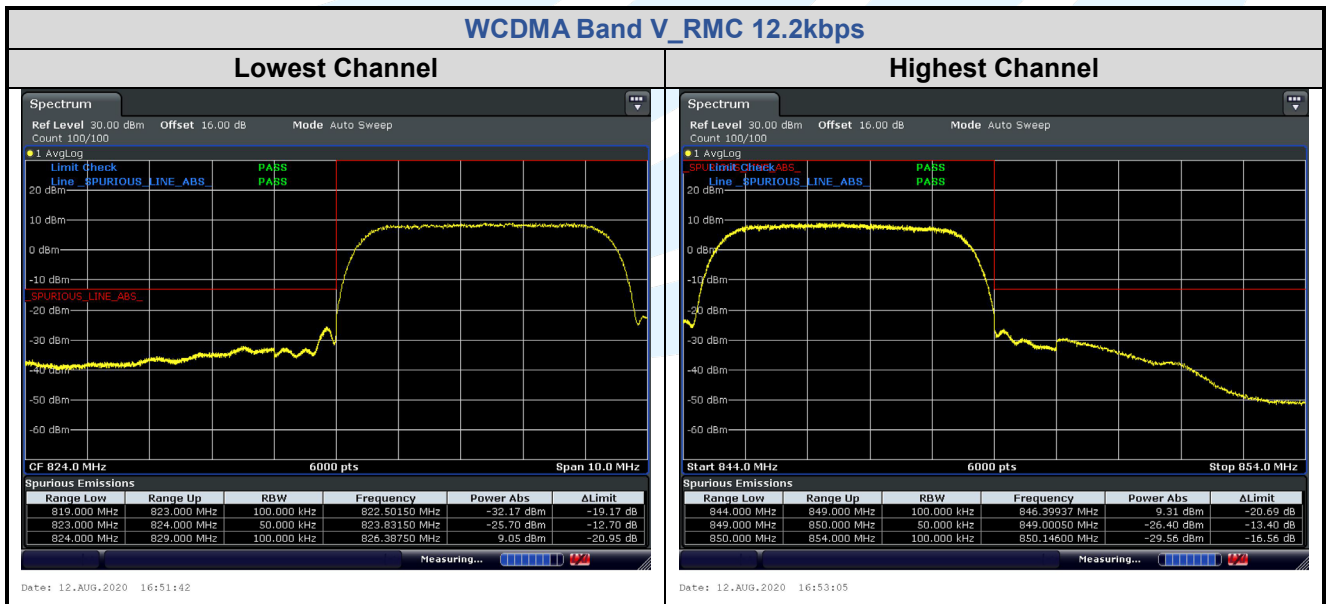
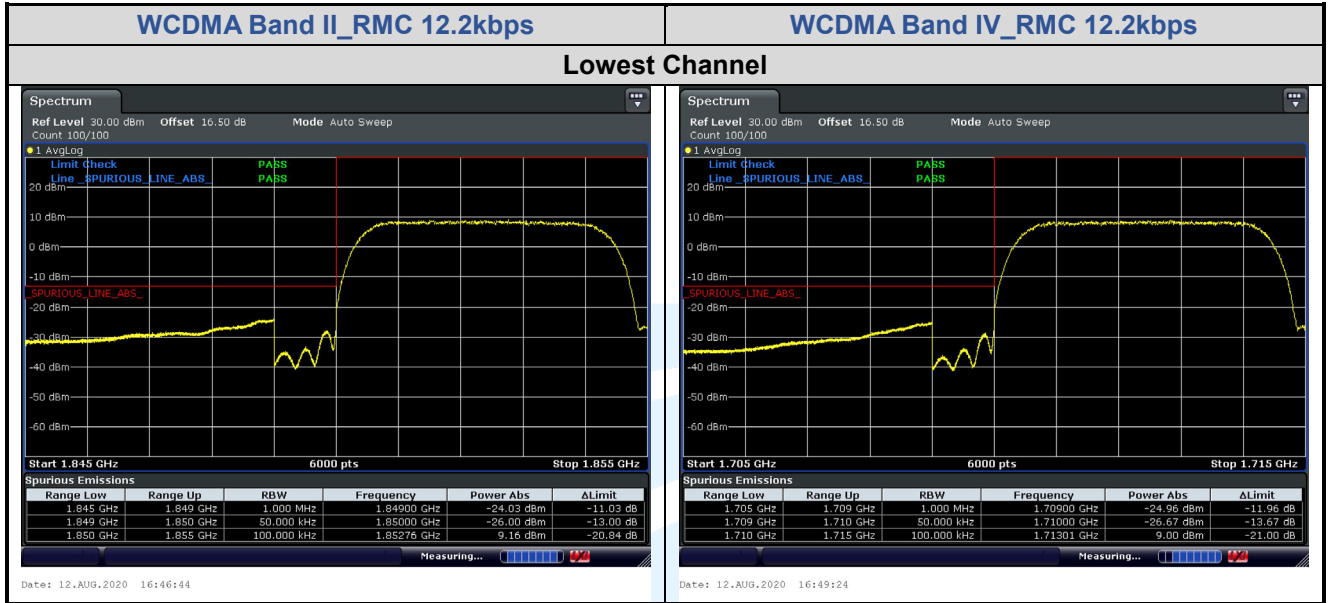
**Test Setup:** Refer to section 4.2.2 for details.  
**Instruments Used:** Refer to section 3 for details  
**Test Mode:** Link mode  
**Test Results:** Pass

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The test plots as follows:







### 5.7 SPURIOUS EMISSIONS AT ANTENNA TERMINALS

**Test Requirement:** FCC 47 CFR Part 2.1051,  
 FCC 47 CFR Part 22.917(a)(b),  
 FCC 47 CFR Part 24.238(a)(b),  
 FCC 47 CFR Part 27.53(h)(1),  
 RSS-132 Issue 3, Section 5.5,  
 RSS-133 Issue 6, Section 6.5,  
 RSS-139 Issue 3, Section 6.6

**Test Method:** ANSI C63.26-2015 & KDB 971168 D01v03r01

**Limit:**

**FCC 47 CFR Part 22.917(a), FCC 47 CFR Part 24.238(a), FCC 47 CFR Part 27.53(h)(1),**

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $43 + 10 \log(P)$  dB. The emission limit equal to -13 dBm.

**RSS-132 Issue 3, Section 5.5, RSS-133 Issue 6, Section 6.6, RSS-139 Issue 3, Section 6.5,**

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $43 + 10 \log(P)$  dB. The emission limit equal to -13 dBm.

**Test Procedure:**

The EUT makes a phone call to the communication simulator. All measurements were done at low, middle and high operational frequency range. b. Measuring frequency range is from 30 MHz to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower. Set RBW & VBW to 100 kHz for the measurement below 1 GHz, and 1 MHz for the measurement above 1 GHz.

Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.

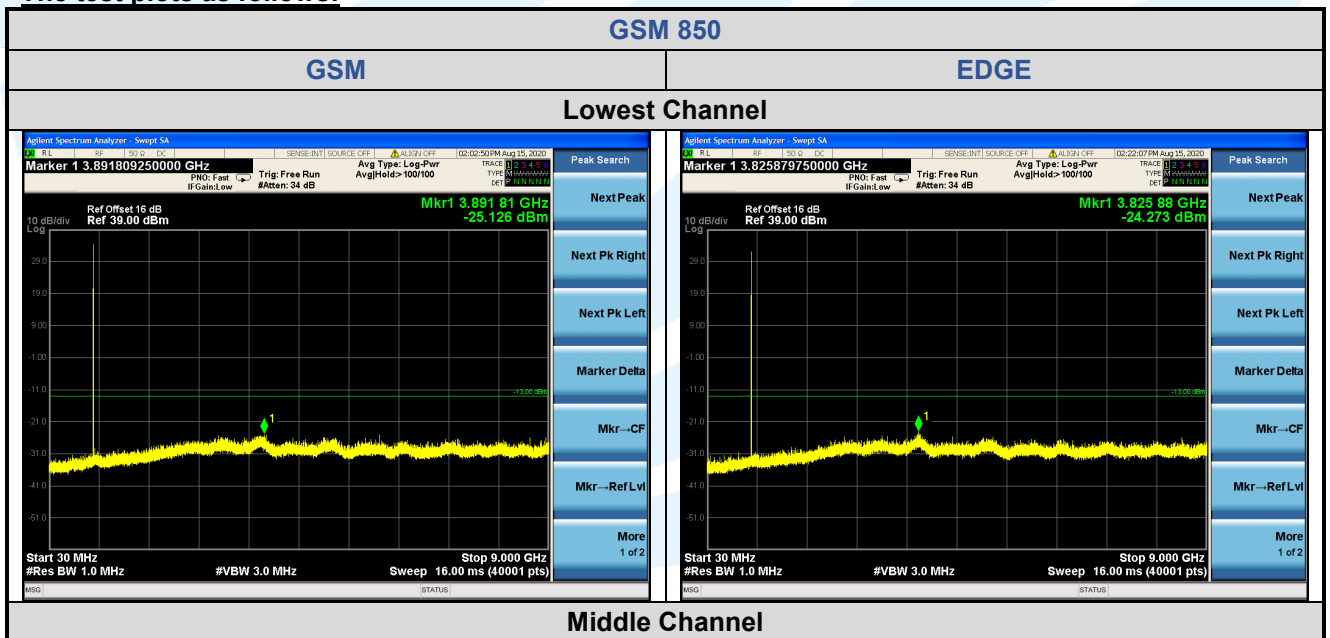
**Test Setup:** Refer to section 4.2.2 for details.

**Instruments Used:** Refer to section 3 for details

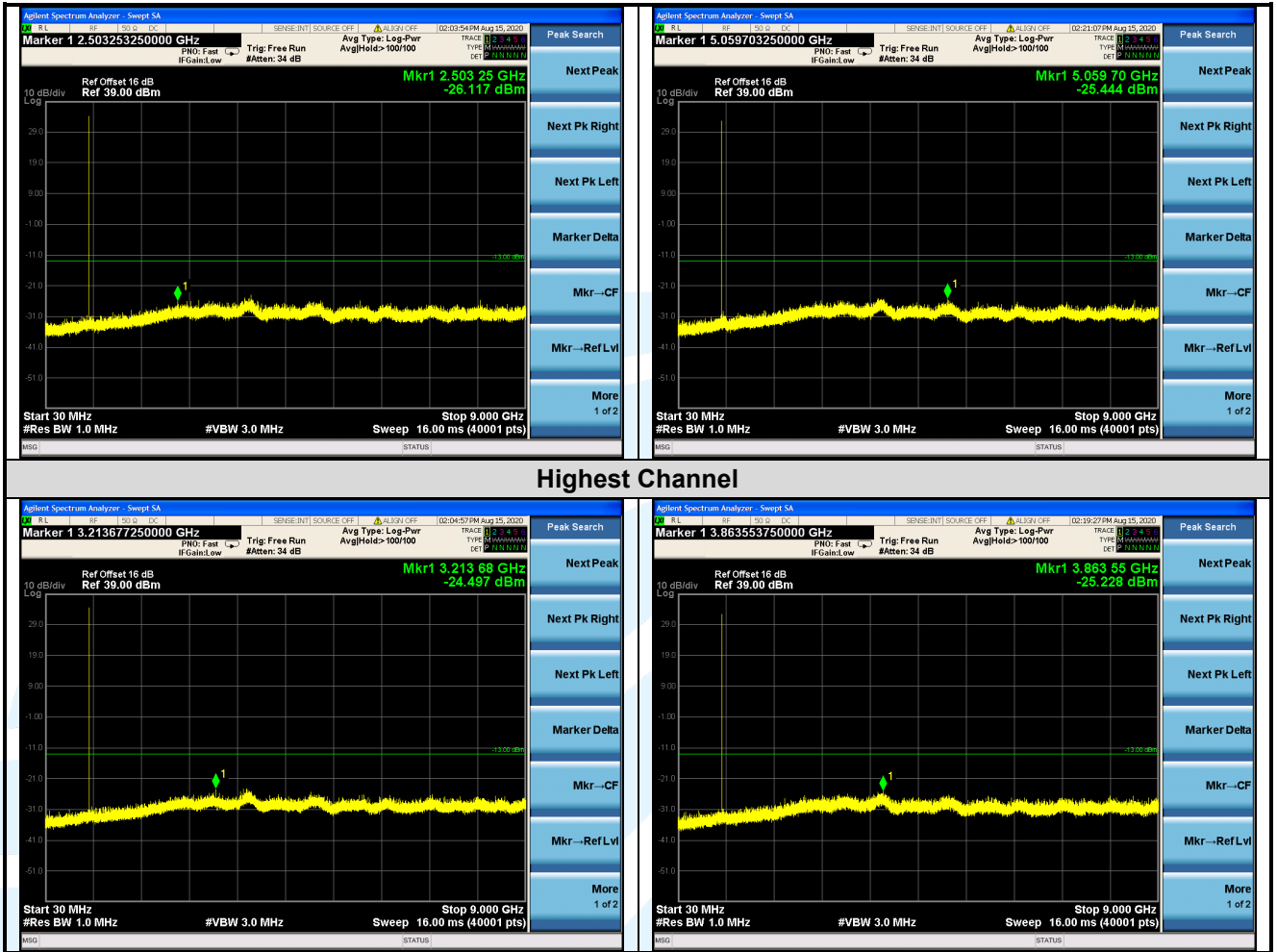
**Test Mode:** Link mode

**Test Results:** Pass

The test plots as follows:







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