

4.4 Channel Edge Measurement

4.4.1 Limits of Channel Edge Measurement

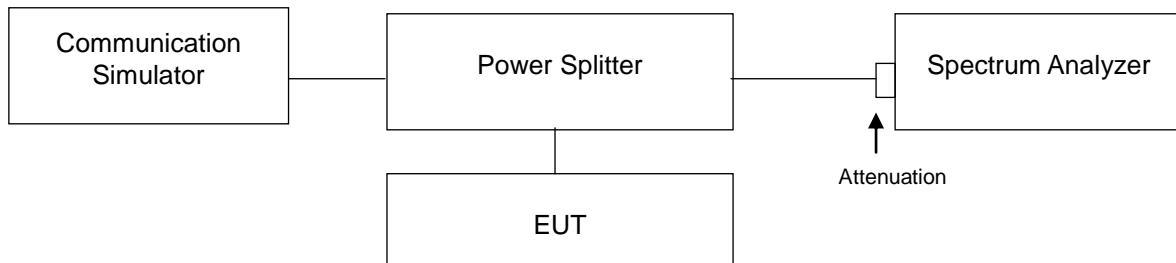
According to FCC 27.53(a)(4) For mobile and portable stations operating in the 2305-2315 MHz and 2350-2360 MHz bands: (i) By a factor of not less than: $43 + 10 \log (P)$ dB on all frequencies between 2305 and 2320 MHz and on all frequencies between 2345 and 2360 MHz that are outside the licensed band(s) of operation, not less than $55 + 10 \log (P)$ dB on all frequencies between 2320 and 2324 MHz and on all frequencies between 2341 and 2345 MHz, not less than $61 + 10 \log (P)$ dB on all frequencies between 2324 and 2328 MHz and on all frequencies between 2337 and 2341 MHz, and not less than $67 + 10 \log (P)$ dB on all frequencies between 2328 and 2337 MHz; (ii) By a factor of not less than $43 + 10 \log (P)$ dB on all frequencies between 2300 and 2305 MHz, $55 + 10 \log (P)$ dB on all frequencies between 2296 and 2300 MHz, $61 + 10 \log (P)$ dB on all frequencies between 2292 and 2296 MHz, $67 + 10 \log (P)$ dB on all frequencies between 2288 and 2292 MHz, and $70 + 10 \log (P)$ dB below 2288 MHz; (iii) By a factor of not less than $43 + 10 \log (P)$ dB on all frequencies between 2360 and 2365 MHz, and not less than $70 + 10 \log (P)$ dB above 2365 MHz.

According to FCC 27.53(g) For operations in the 600 MHz band and the 698-746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least $43 + 10 \log (P)$ dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

According to FCC 27.53(h) AWS emission limits— General protection levels. Except as otherwise specified below, for operations in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz, and 2180-2200 bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10} (P)$ dB.

According to FCC 27.53(v)(4) For mobile digital stations, the attenuation factor shall be not less than $40 + 10 \log (P)$ dB on all frequencies between the channel edge and 5 megahertz from the channel edge, $43 + 10 \log (P)$ dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and $55 + 10 \log (P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less than $43 + 10 \log (P)$ dB on all frequencies between 2490.5 MHz and 2496 MHz and $55 + 10 \log (P)$ dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

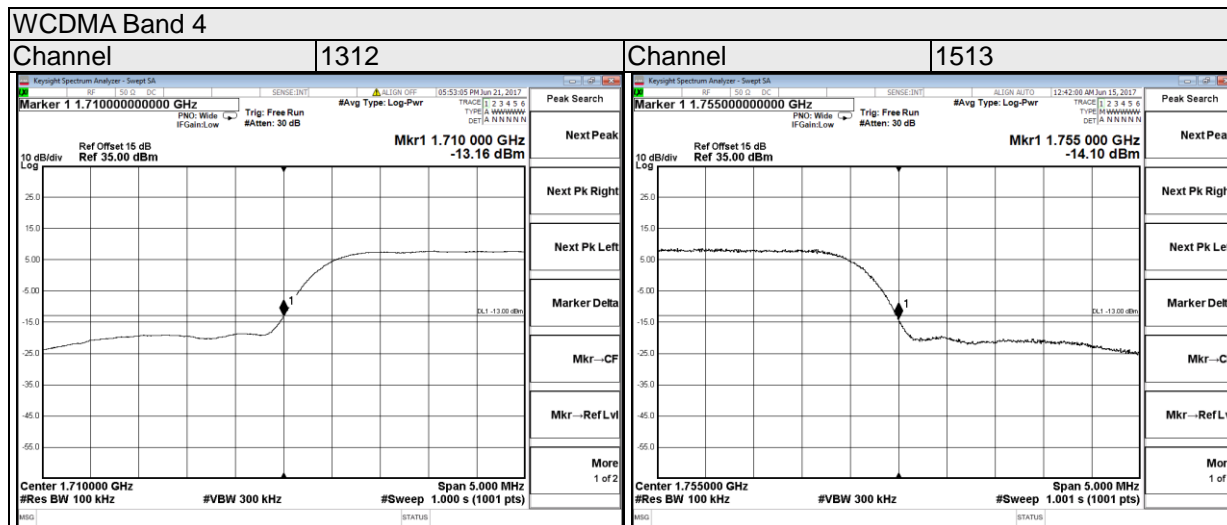
4.4.2 Test Setup



4.4.3 Test Procedures

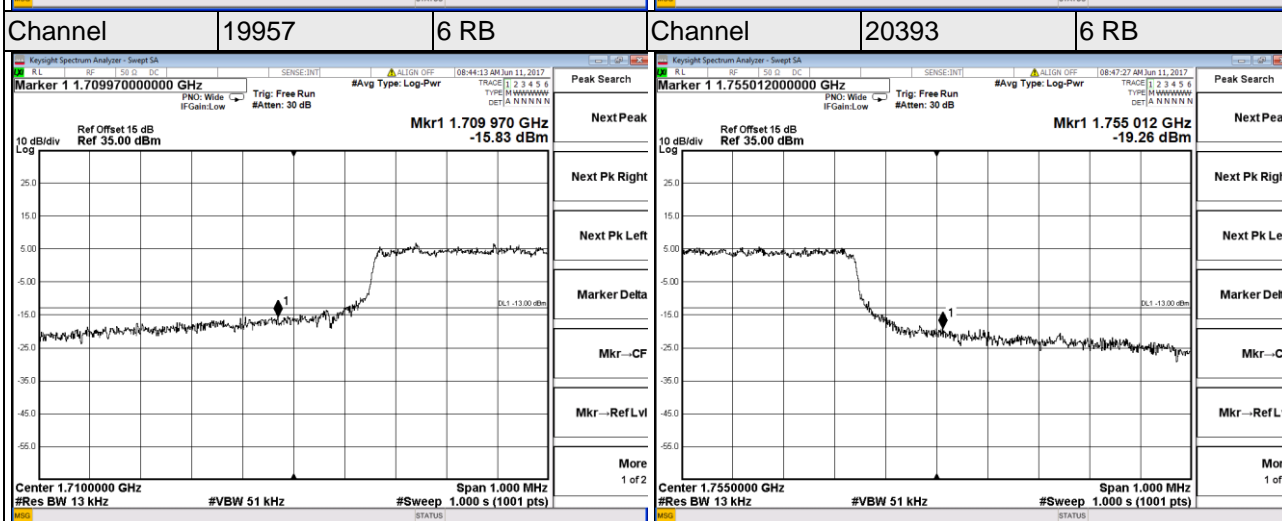
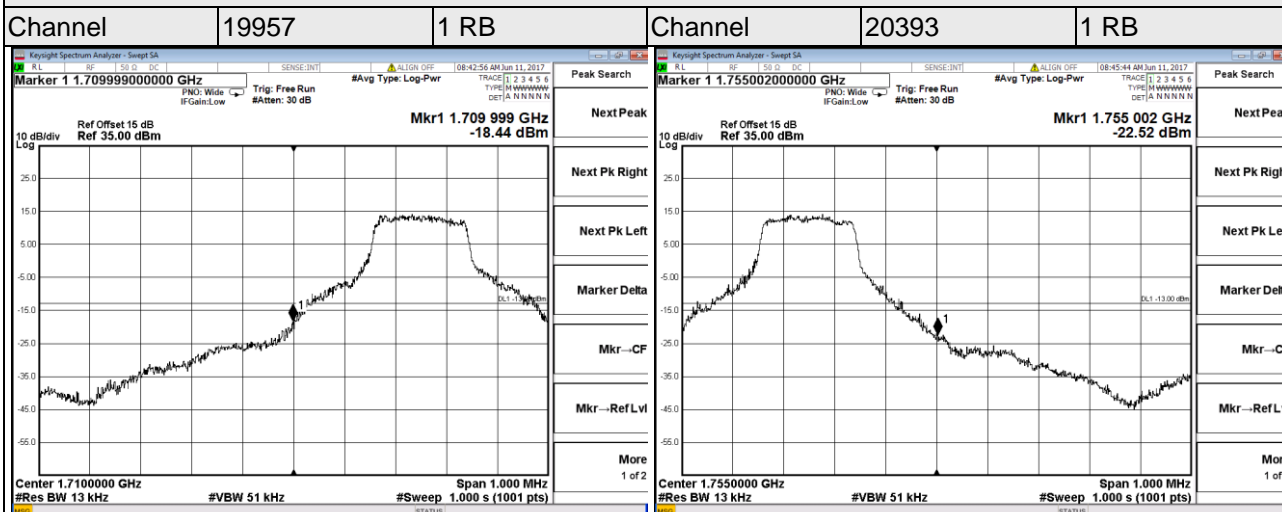
- All measurements were done at low and high operational frequency range.
- The center frequency of spectrum is the band edge frequency and s RB of the spectrum is $>1\%$ emission bandwidth and VB of the spectrum is $\geq 3*RB$.
- Record the max trace plot into the test report.

4.4.4 Test Results (Subcontract Item)



LTE Band 4

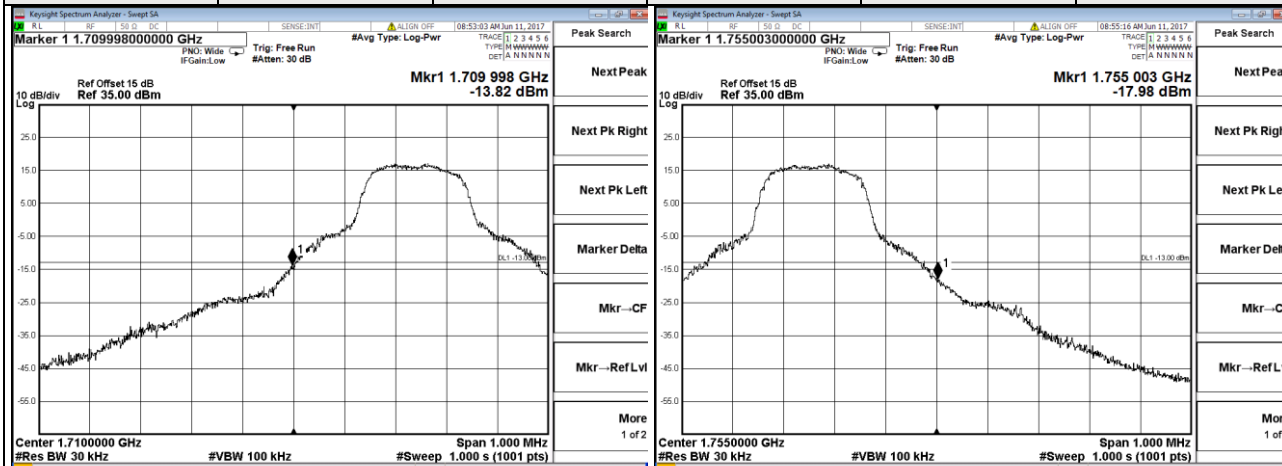
Channel Bandwidth 1.4MHz



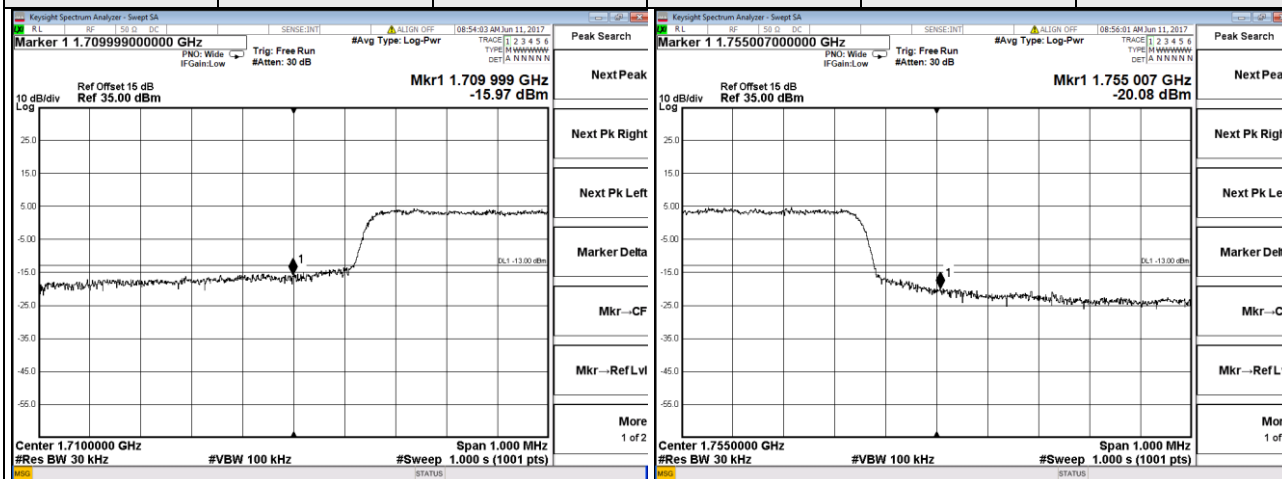
LTE Band 4

Channel Bandwidth 3MHz

Channel	19965	1 RB	Channel	20385	1 RB
---------	-------	------	---------	-------	------



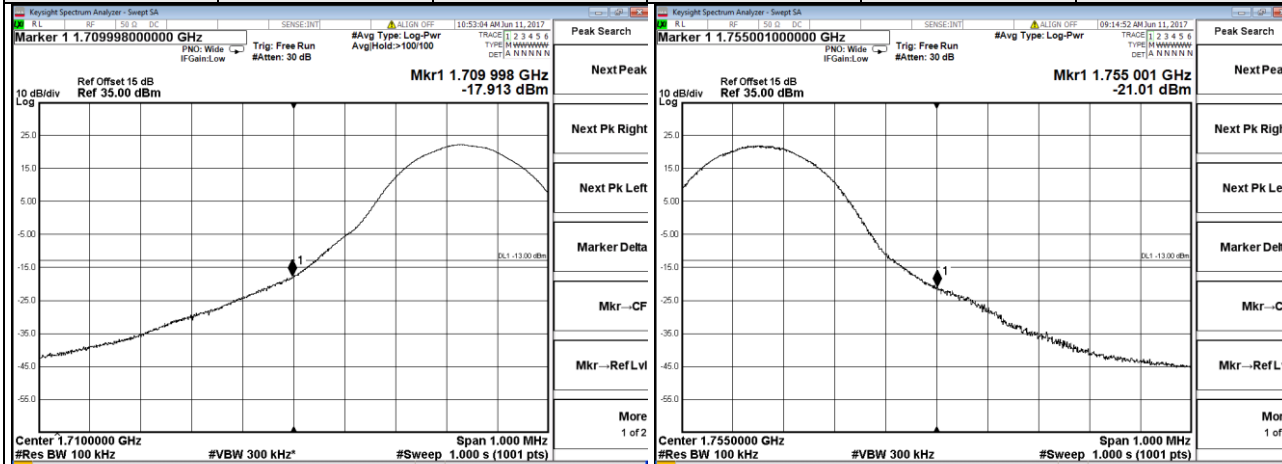
Channel	19965	15 RB	Channel	20385	15 RB
---------	-------	-------	---------	-------	-------



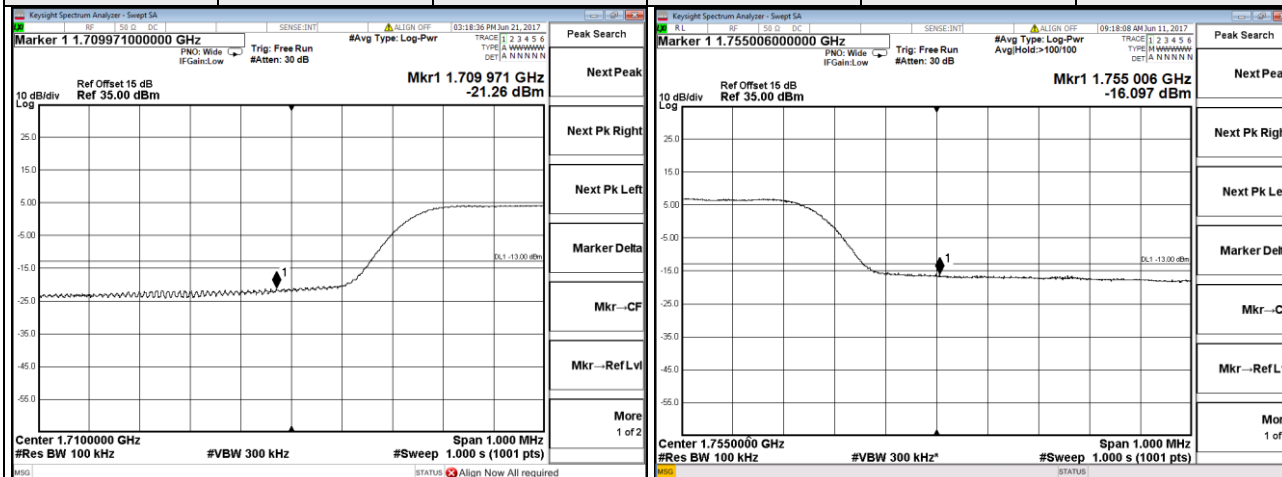
LTE Band 4

Channel Bandwidth 5MHz

Channel	19975	1 RB	Channel	20375	1 RB
---------	-------	------	---------	-------	------

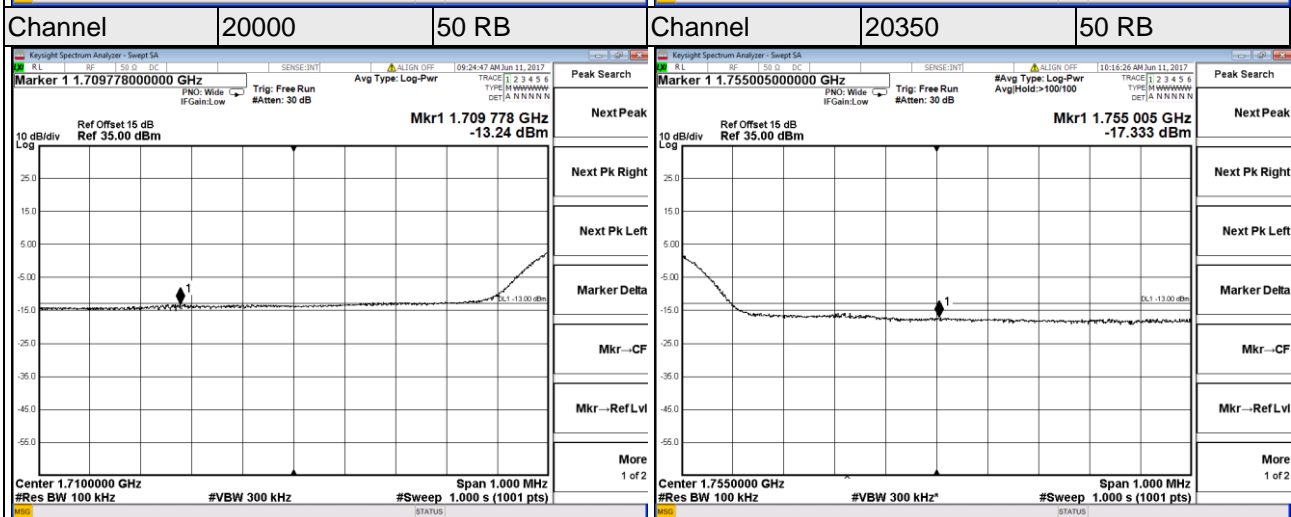
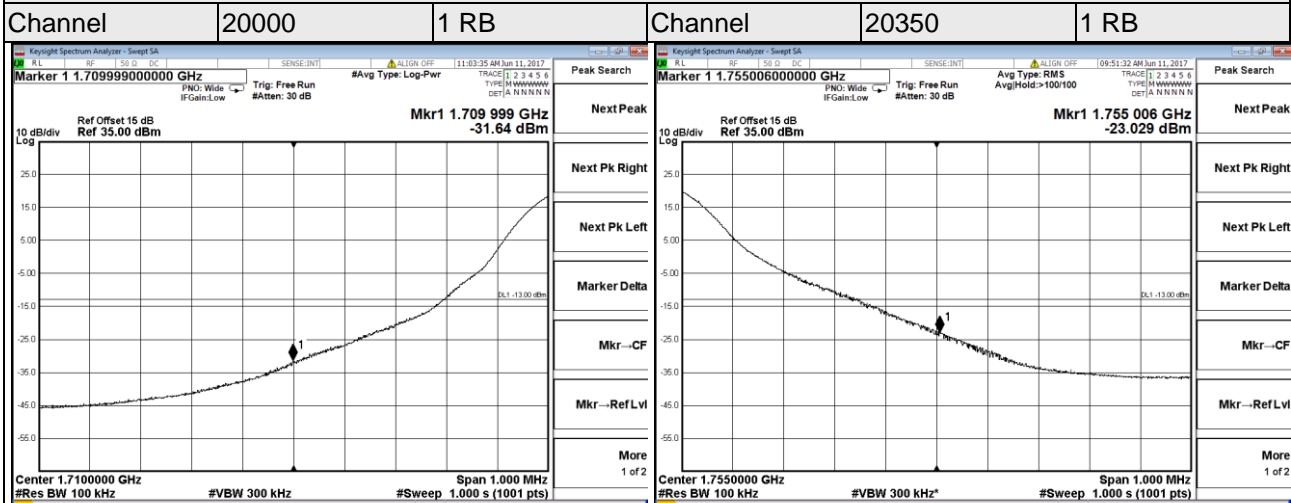


Channel	19975	25 RB	Channel	20375	25 RB
---------	-------	-------	---------	-------	-------



LTE Band 4

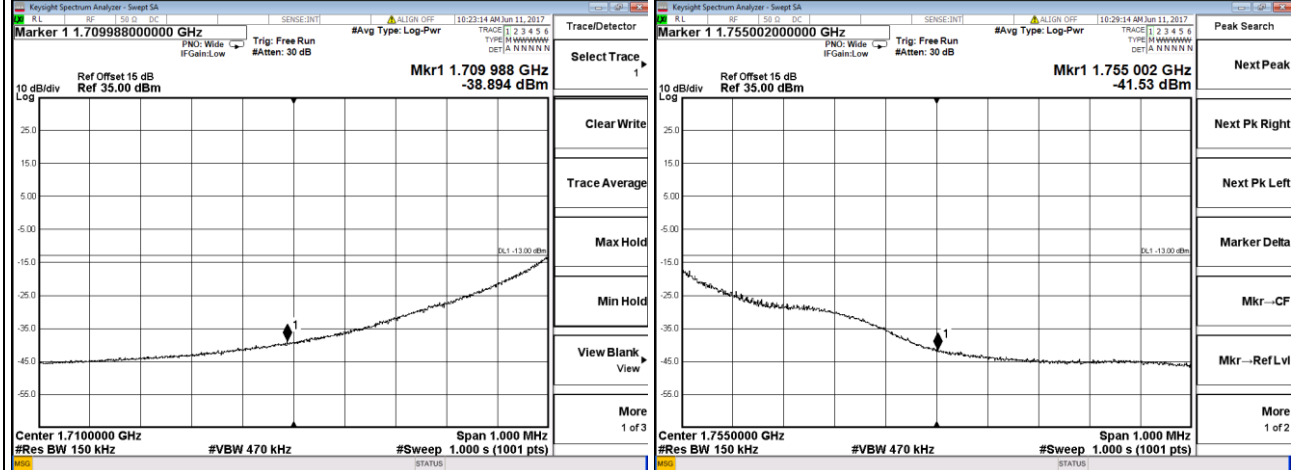
Channel Bandwidth 10MHz



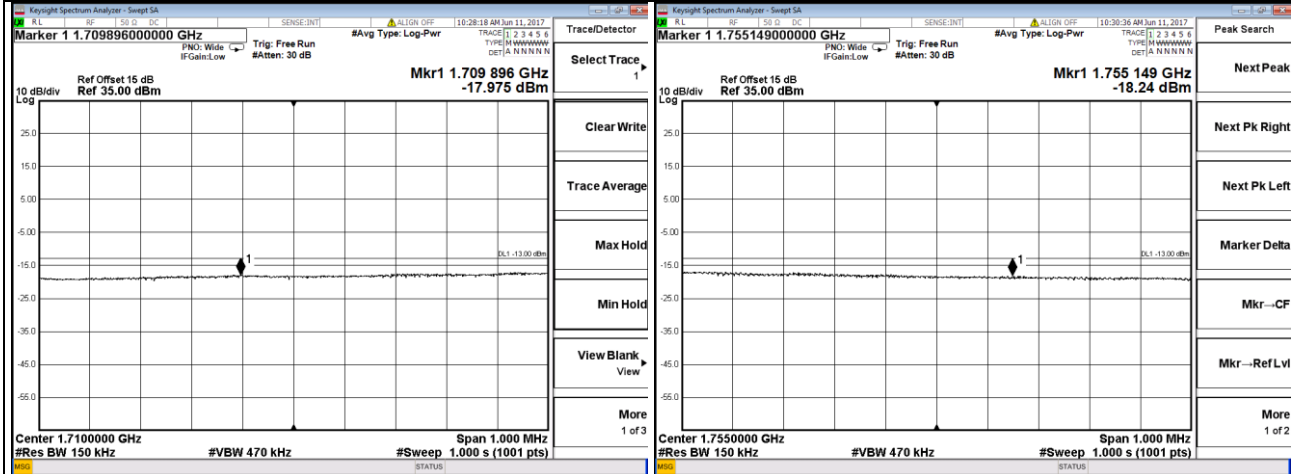
LTE Band 4

Channel Bandwidth 15MHz

Channel	20025	1 RB	Channel	20325	1 RB
---------	-------	------	---------	-------	------

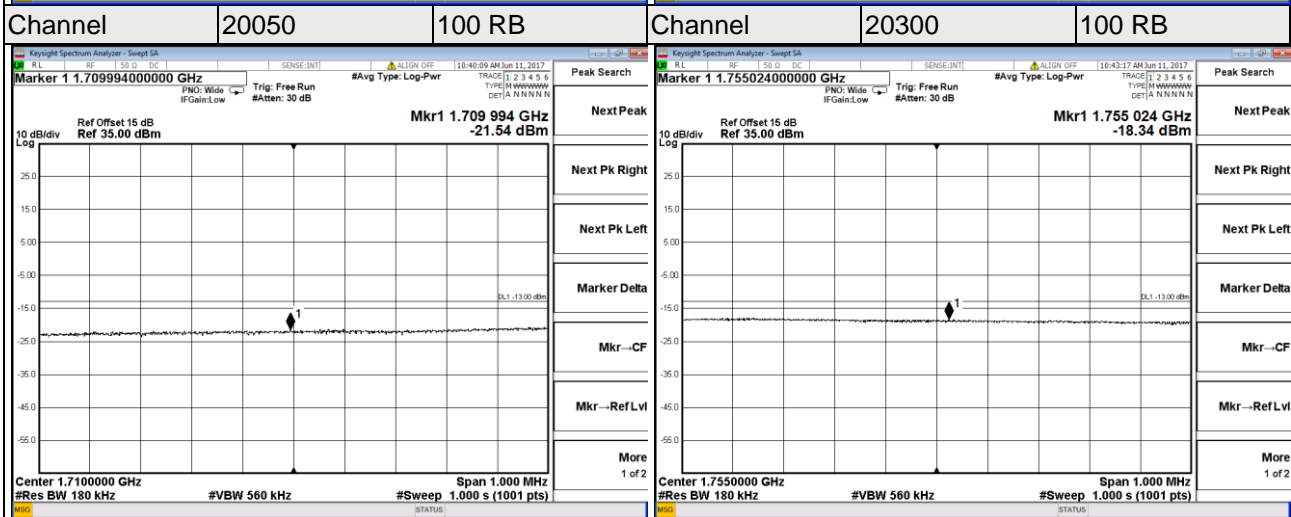
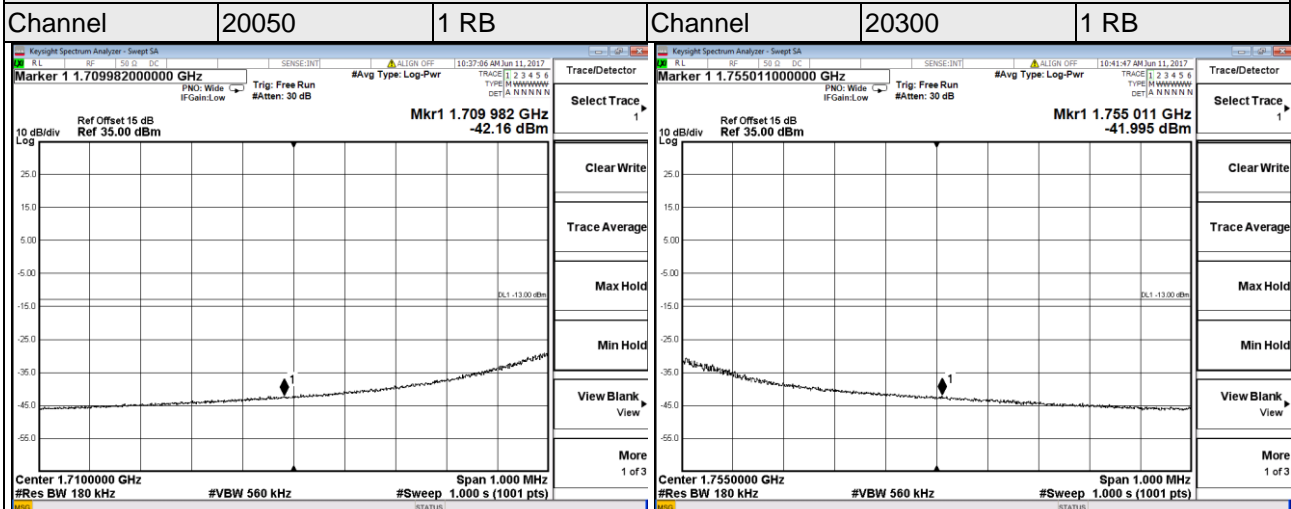


Channel	20025	75 RB	Channel	20325	75 RB
---------	-------	-------	---------	-------	-------



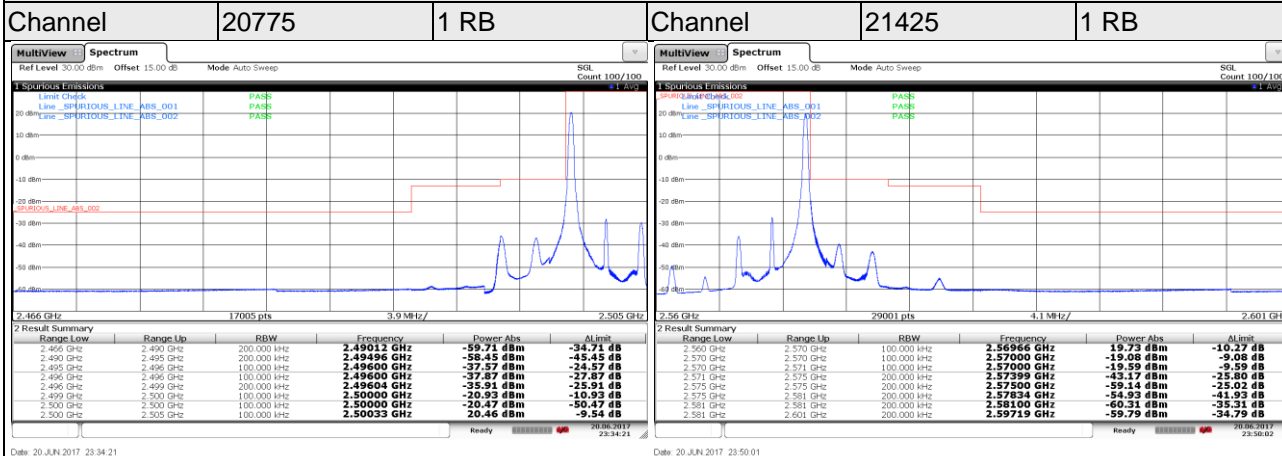
LTE Band 4

Channel Bandwidth 20MHz

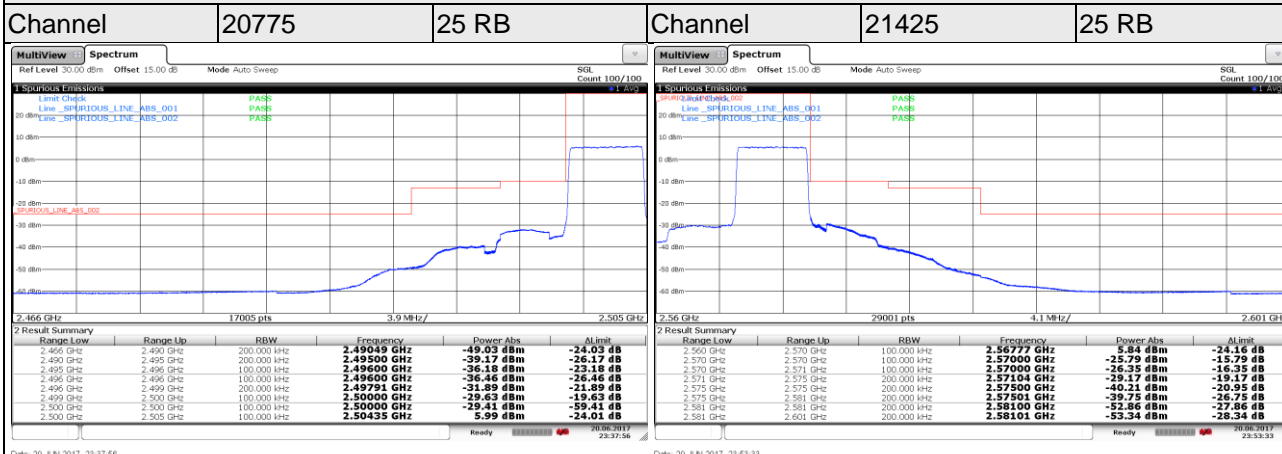


LTE Band 7

Channel Bandwidth 5MHz

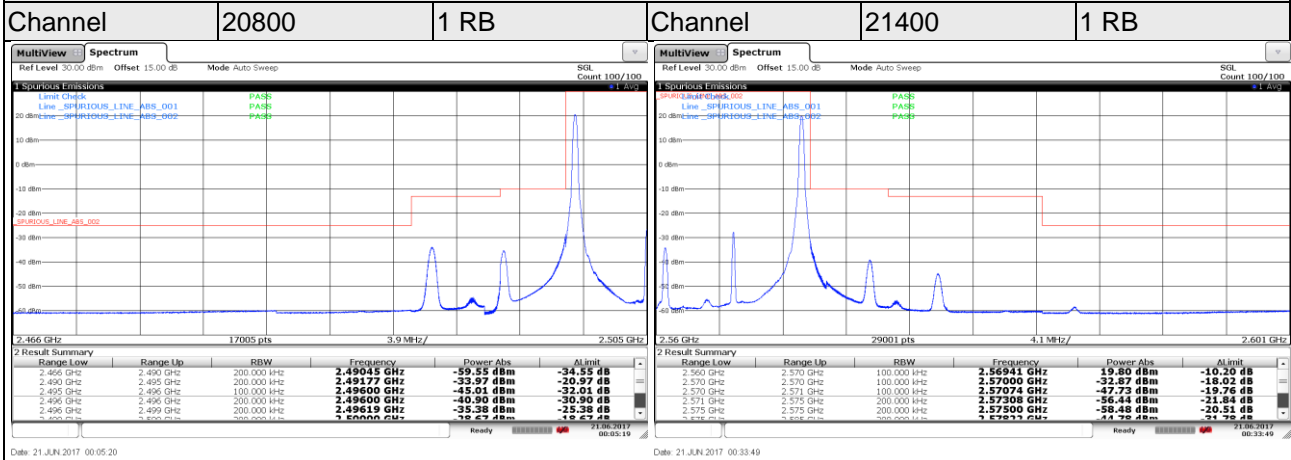


Channel Bandwidth 5MHz

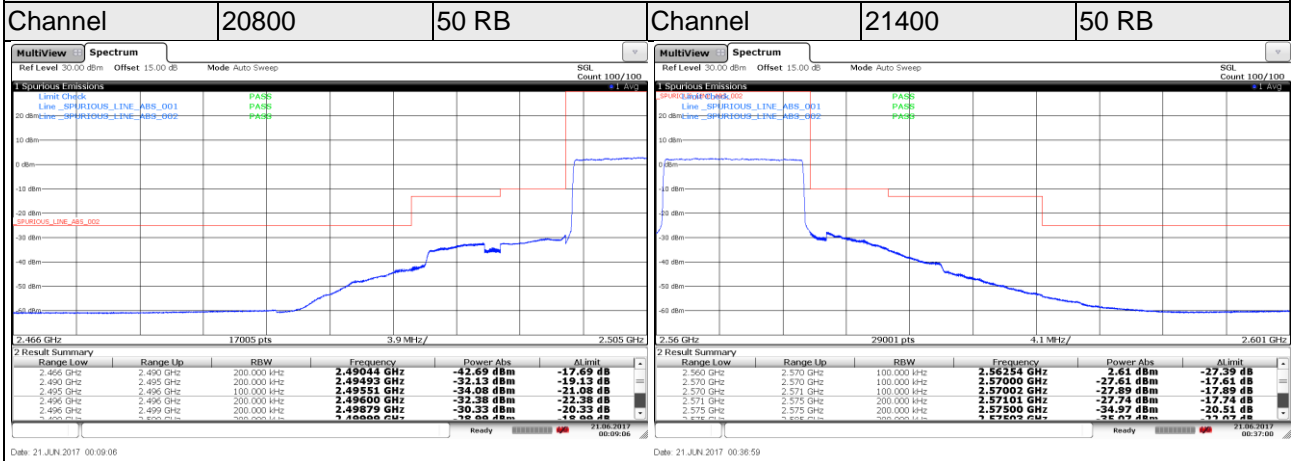


LTE Band 7

Channel Bandwidth 10MHz

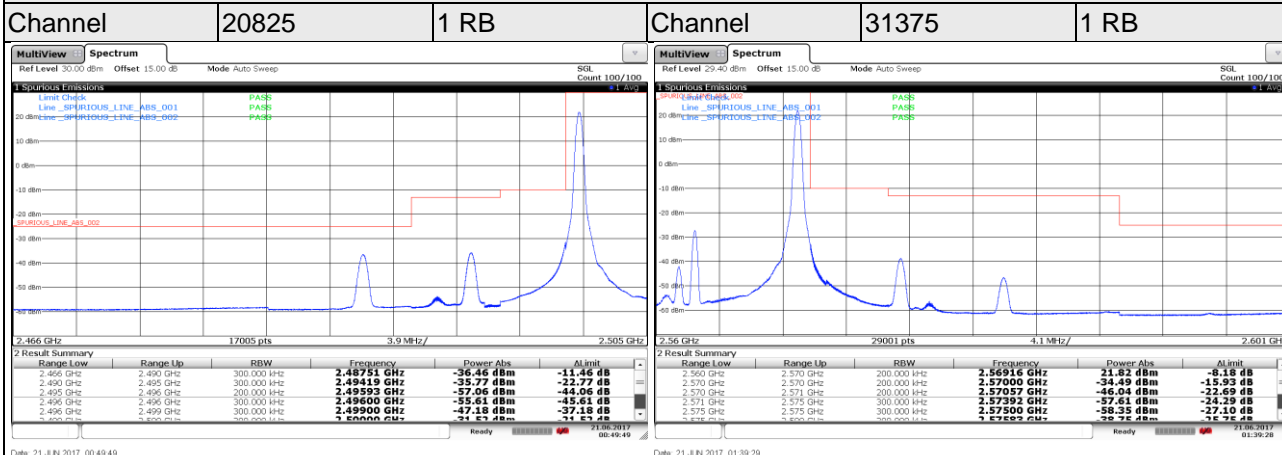


Channel Bandwidth 10MHz

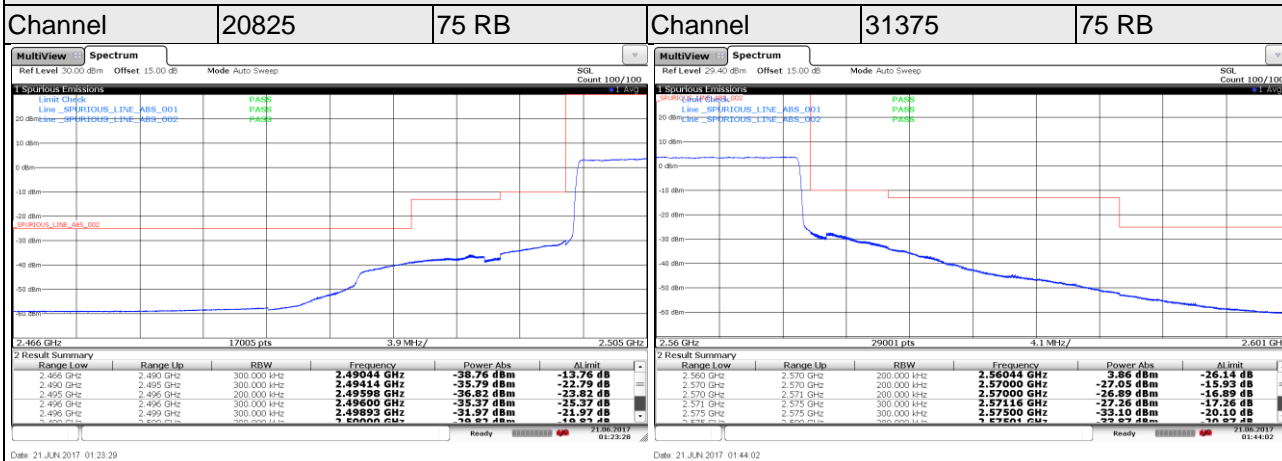


LTE Band 7

Channel Bandwidth 15MHz

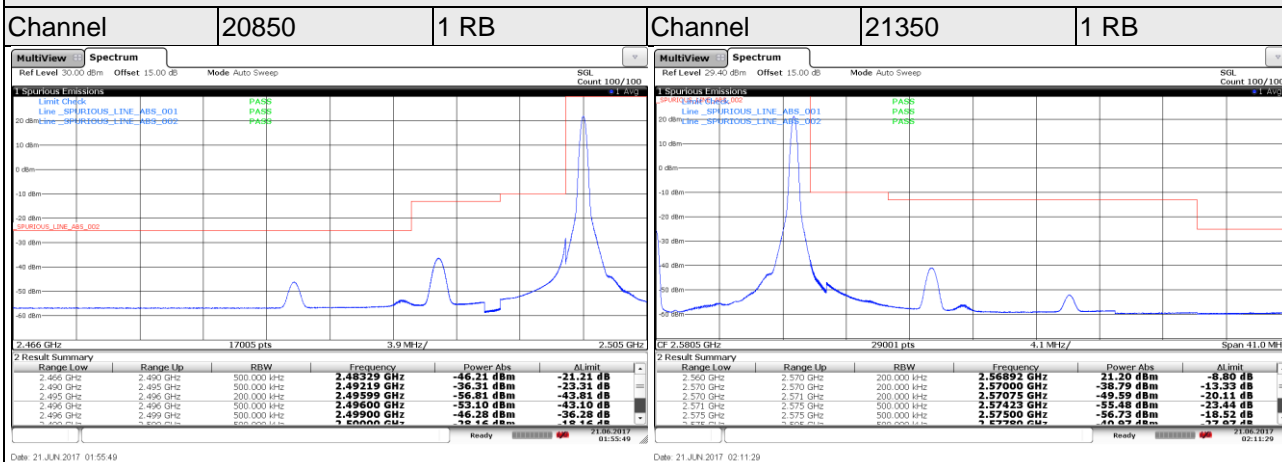


Channel Bandwidth 15MHz

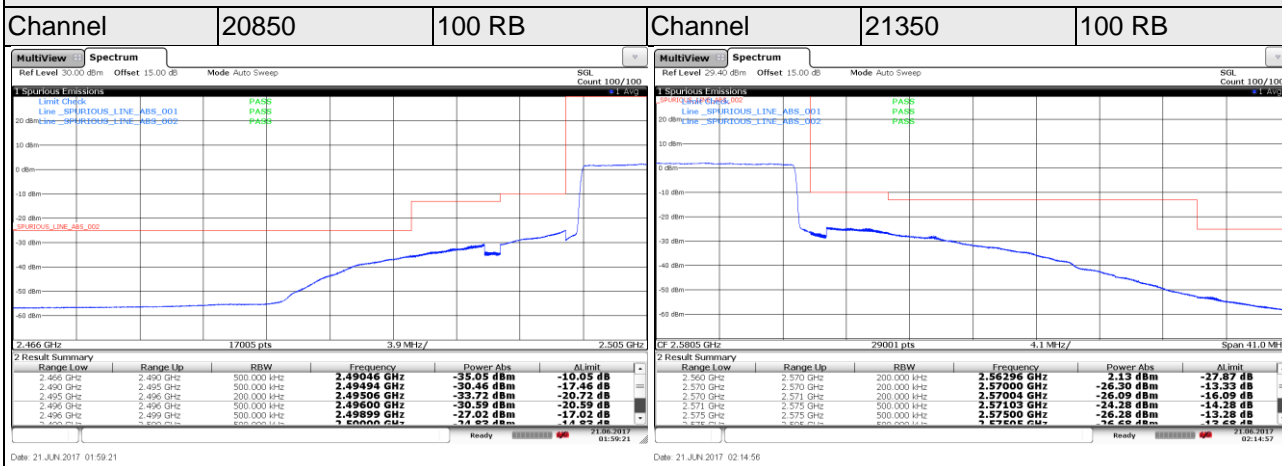


LTE Band 7

Channel Bandwidth 20MHz



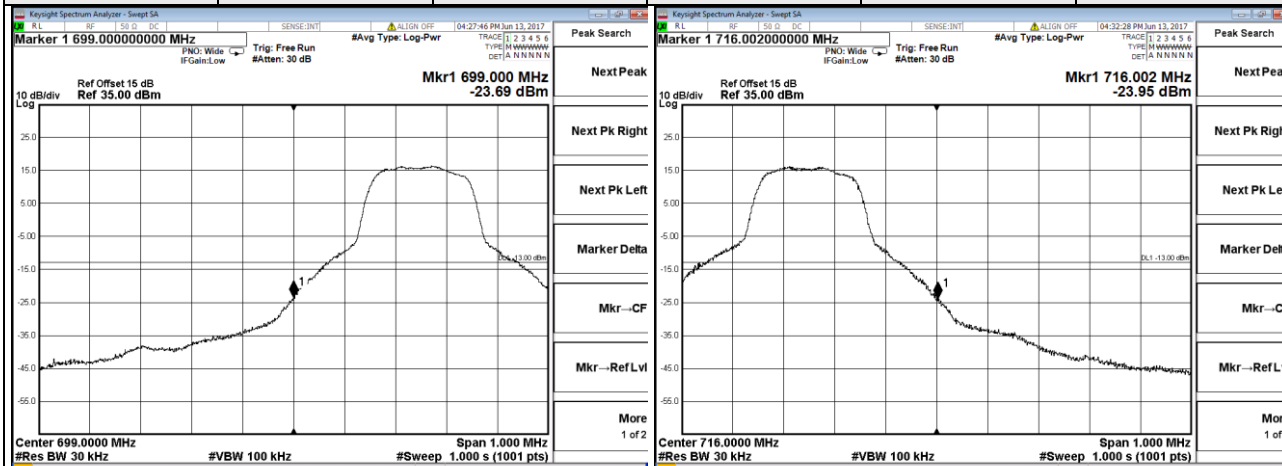
Channel Bandwidth 20MHz



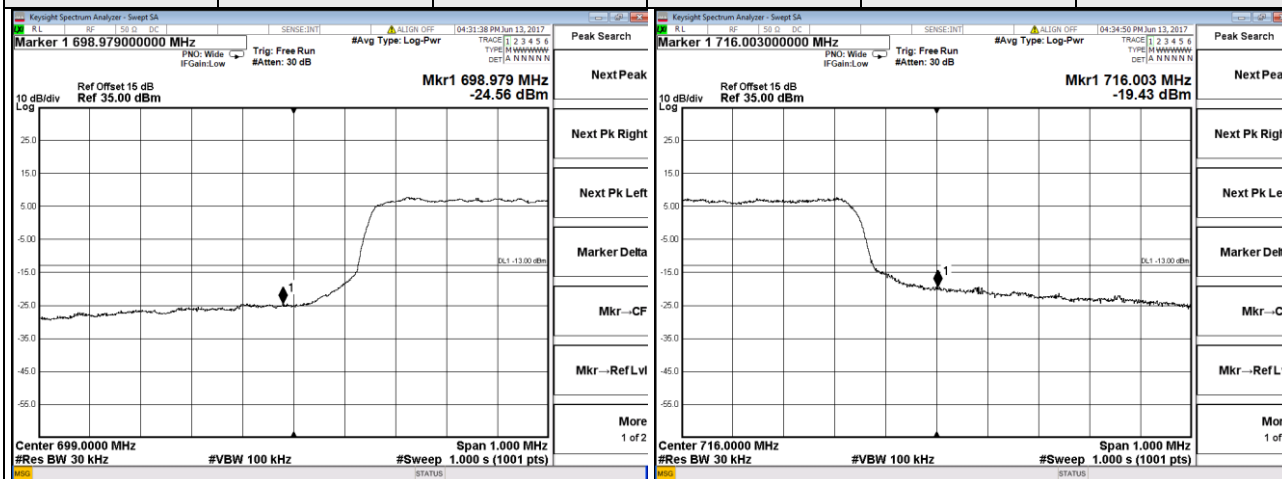
LTE Band 12

Channel Bandwidth 1.4MHz

Channel	23017	1 RB	Channel	23173	1 RB
---------	-------	------	---------	-------	------



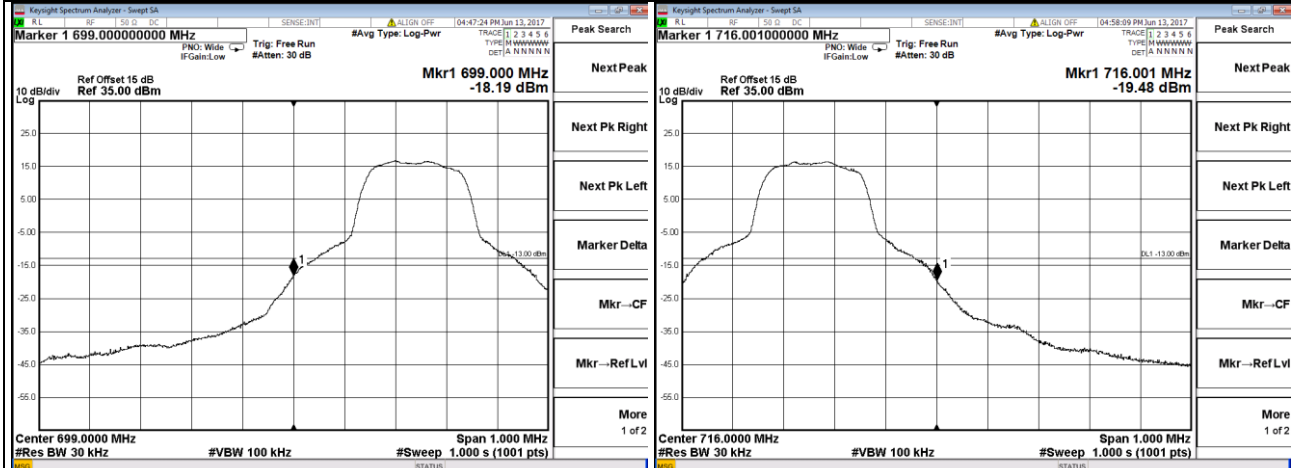
Channel	23017	6 RB	Channel	23173	6 RB
---------	-------	------	---------	-------	------



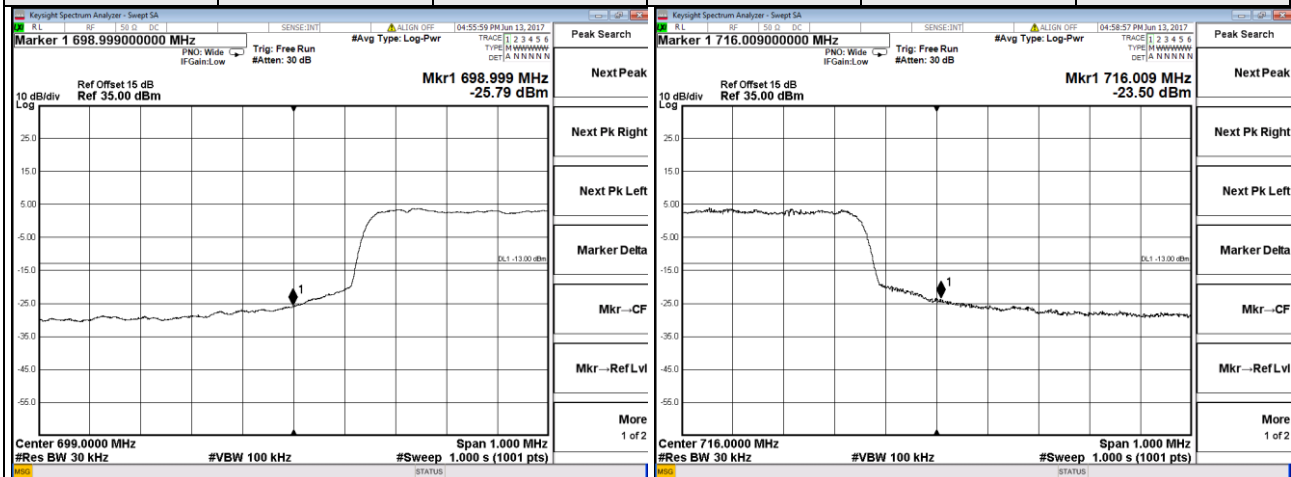
LTE Band 12

Channel Bandwidth 3MHz

Channel	23025	1 RB	Channel	23165	1 RB
---------	-------	------	---------	-------	------



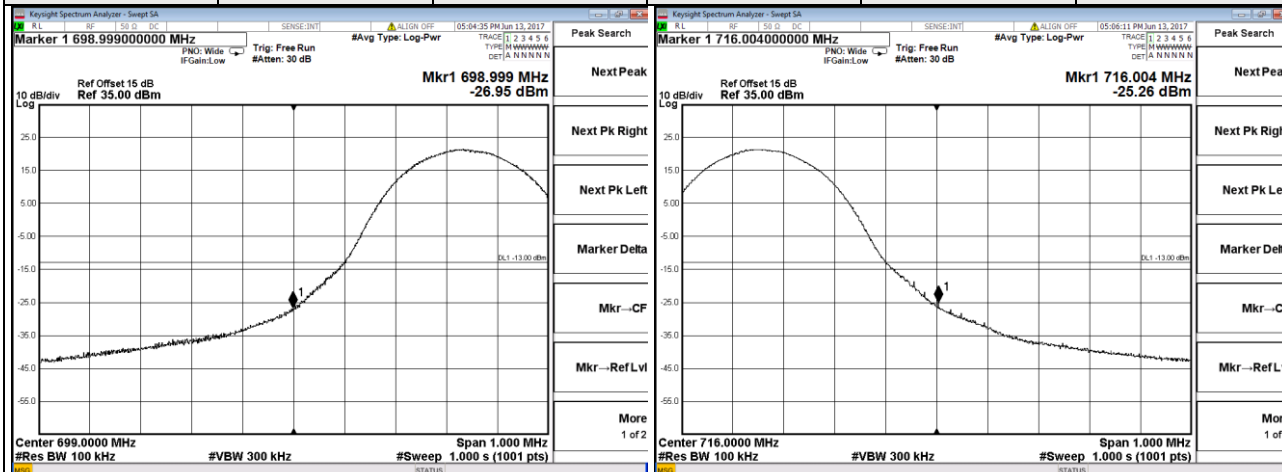
Channel	23025	15 RB	Channel	23165	15 RB
---------	-------	-------	---------	-------	-------



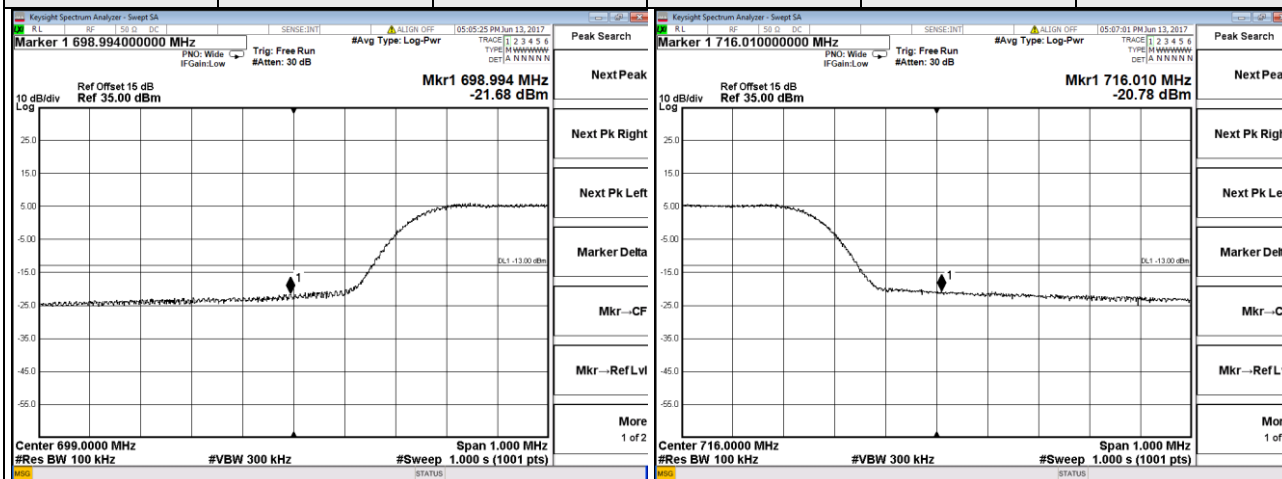
LTE Band 12

Channel Bandwidth 5MHz

Channel	23035	1 RB	Channel	23155	1 RB
---------	-------	------	---------	-------	------



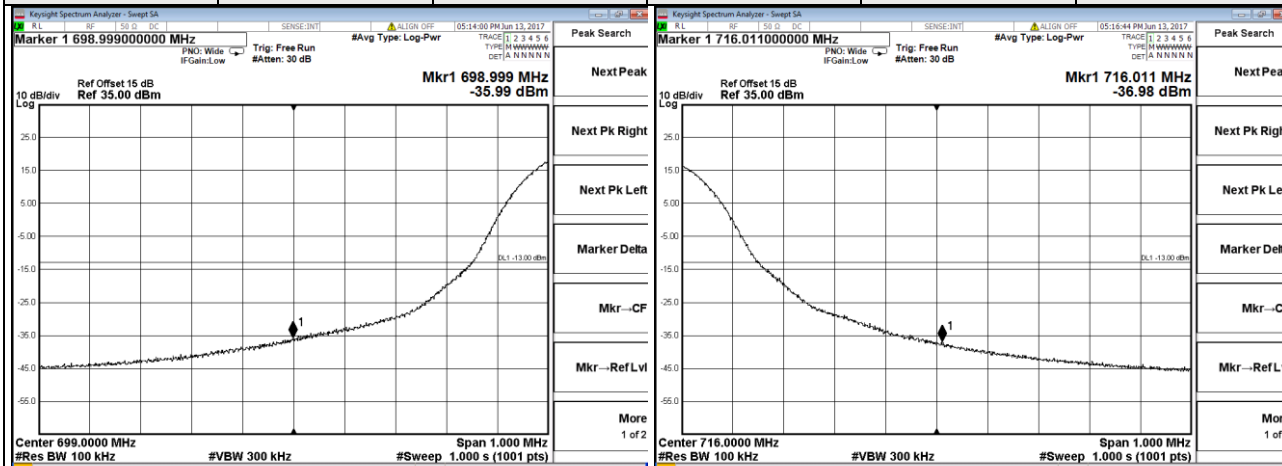
Channel	23035	25 RB	Channel	23155	25 RB
---------	-------	-------	---------	-------	-------



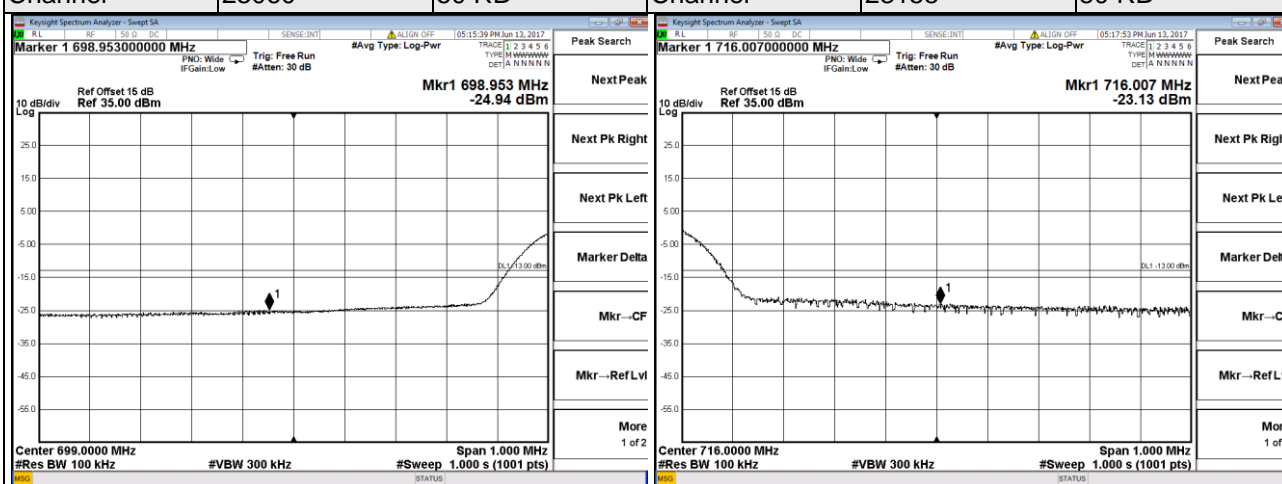
LTE Band 12

Channel Bandwidth 10MHz

Channel	23060	1 RB	Channel	23155	1 RB
---------	-------	------	---------	-------	------



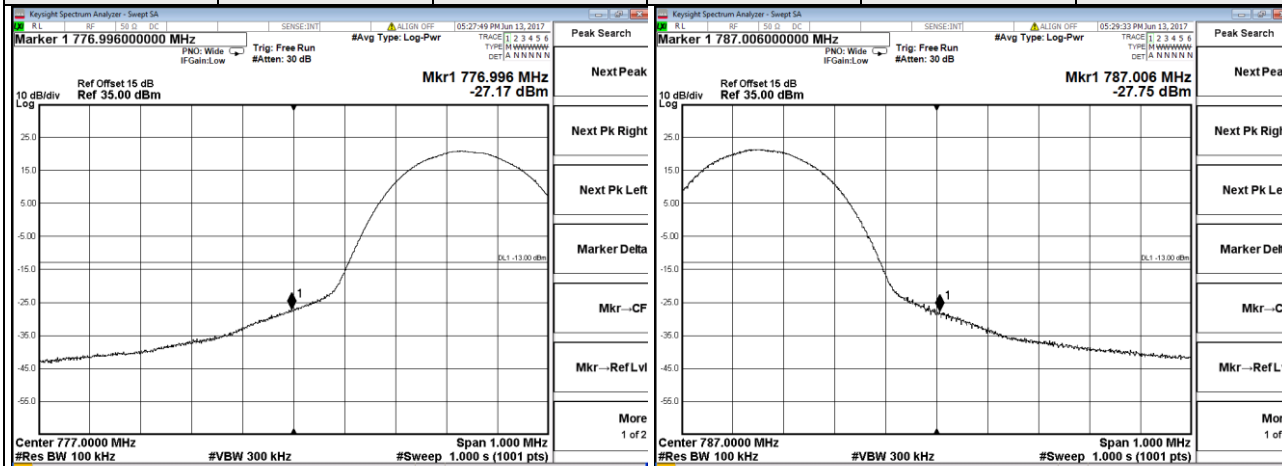
Channel	23060	50 RB	Channel	23155	50 RB
---------	-------	-------	---------	-------	-------



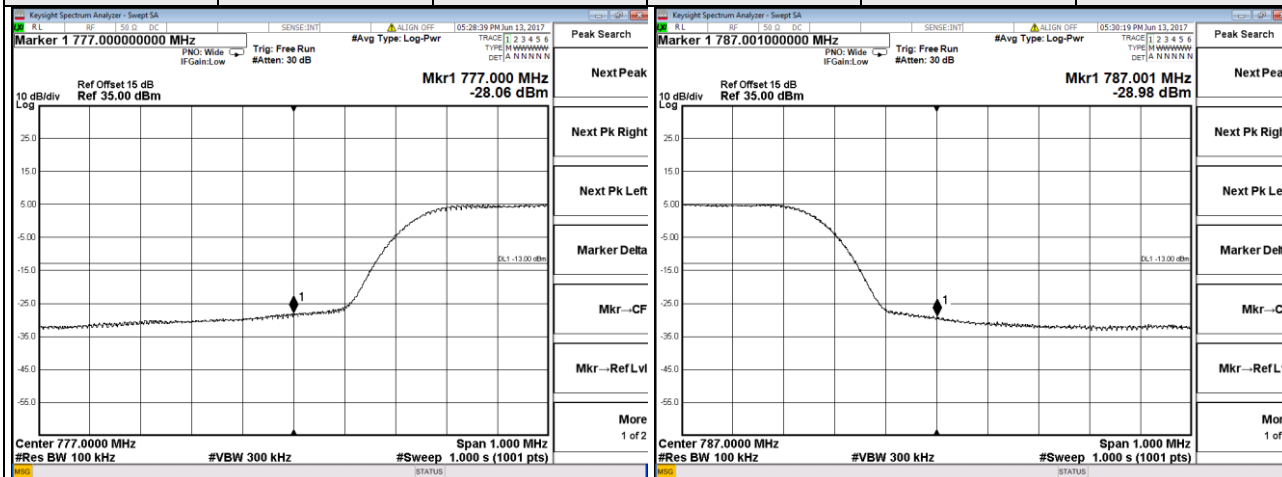
LTE Band 13

Channel Bandwidth 5MHz

Channel	23205	1 RB	Channel	23255	1 RB
---------	-------	------	---------	-------	------



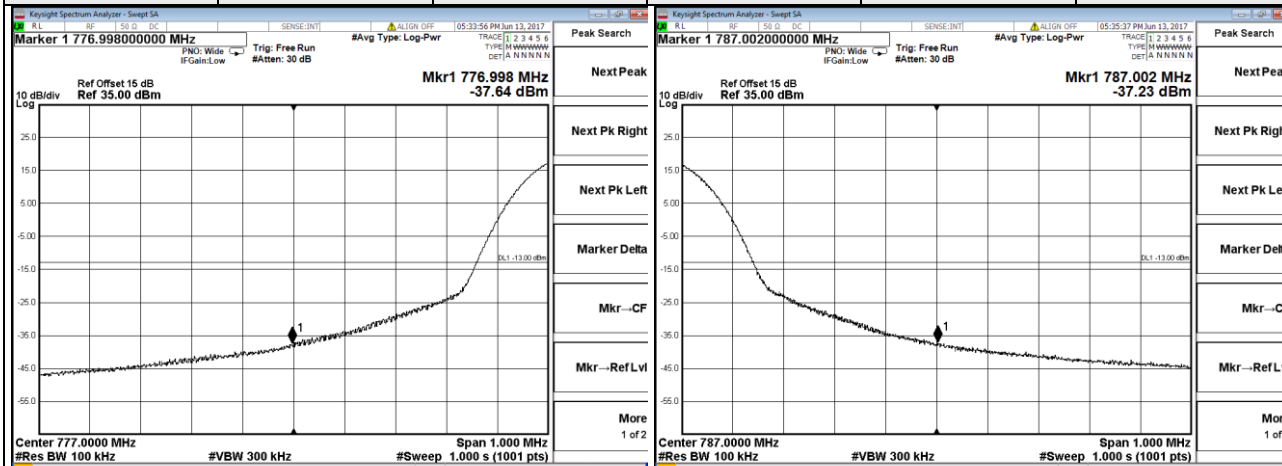
Channel	23205	25 RB	Channel	23255	25 RB
---------	-------	-------	---------	-------	-------



LTE Band 13

Channel Bandwidth 10MHz

Channel	23230	1 RB	Channel	23230	1 RB
---------	-------	------	---------	-------	------



Channel	23230	50 RB	Channel	23230	50 RB
---------	-------	-------	---------	-------	-------

