

# Port 1 -2145MHz-E-TM3.1

**Spectrum**
LTE X
☰

**Freq** 2.145 GHz  
**Mode** DL FDD, 100 RB (20 MHz), Normal (CP)  
TRG : FREE RUN

**Meas Setup** 1 TX x 1 RX  
**Sync State** OK  
**Frame** 1 Of 1 (1)

**Ext. Att** 42 dB  
**Capture Time** 20.1 ms

Result Summary

Frame Result 1/1	Min	Mean	Limit	Max	Limit	Unit
EVM PDSCH QPSK					18.50	%
EVM PDSCH 16QAM					13.50	%
EVM PDSCH 64QAM	<b>1.58</b>	<b>1.58</b>		<b>1.58</b>	9.00	%
EVM PDSCH 256QAM						%
Time Alignment Error 2,1						ns
Time Alignment Error 3,1						ns
Time Alignment Error 4,1						ns
Results for Selection	Subframe(s)	ALL	Selection	Antenna 1	Frame Result 1/1	
EVM All	<b>1.38</b>	<b>1.59</b>			<b>1.88</b>	%
EVM Phys. Channel	<b>1.37</b>	<b>1.58</b>			<b>1.89</b>	%
EVM Phys. Signal	<b>1.03</b>	<b>1.65</b>			<b>2.53</b>	%
Frequency Error	- 1.77	<b>0.15</b>			<b>2.34</b>	Hz
Sampling Error	- 0.06	- 0.00			<b>0.07</b>	ppm
IQ Offset	- 88.54	- 77.15			- 73.00	dB
IQ Gain Imbalance	- 0.00	<b>0.00</b>			<b>0.01</b>	dB
IQ Quadrature Error	- 0.05	- 0.00			<b>0.06</b>	°
RSTP	<b>5.70</b>	<b>5.71</b>			<b>5.72</b>	dBm
OSTP	<b>36.42</b>	<b>36.53</b>			<b>36.64</b>	dBm
Power	<b>36.46</b>	<b>36.49</b>			<b>36.53</b>	dBm
Crest Factor		<b>8.75</b>				dB

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# Port 1 -2145MHz-E-TM3.2

**Spectrum**
LTE X
☰

**Freq** 2.145 GHz
**Meas Setup** 1 TX x 1 RX
**Ext. Att** 42 dB

**Mode** DL FDD, 100 RB (20 MHz), Normal (CP)
**Sync State** OK
**Capture Time** 20.1 ms

TRG : FREE RUN
**Frame** 1 Of 1 (1)

**Result Summary**

Frame Result 1/1	Min	Mean	Limit	Max	Limit	Unit
EVM PDSCH QPSK	<b>1.21</b>	<b>1.21</b>		<b>1.21</b>	18.50	%
EVM PDSCH 16QAM	<b>1.77</b>	<b>1.77</b>		<b>1.77</b>	13.50	%
EVM PDSCH 64QAM					9.00	%
EVM PDSCH 256QAM						%
Time Alignment Error 2,1						ns
Time Alignment Error 3,1						ns
Time Alignment Error 4,1						ns
Results for Selection	Subframe(s)	ALL	Selection	Antenna 1	Frame Result 1/1	
EVM All		<b>1.29</b>	<b>1.57</b>		<b>1.99</b>	%
EVM Phys. Channel		<b>1.30</b>	<b>1.58</b>		<b>2.01</b>	%
EVM Phys. Signal		<b>0.94</b>	<b>1.42</b>		<b>2.14</b>	%
Frequency Error		<b>- 1.13</b>	<b>1.11</b>		<b>3.67</b>	Hz
Sampling Error		<b>- 0.03</b>	<b>0.01</b>		<b>0.08</b>	ppm
IQ Offset		<b>- 88.67</b>	<b>- 79.80</b>		<b>- 74.68</b>	dB
IQ Gain Imbalance		<b>- 0.00</b>	<b>0.00</b>		<b>0.01</b>	dB
IQ Quadrature Error		<b>- 0.04</b>	<b>0.00</b>		<b>0.04</b>	°
RSTP		<b>5.71</b>	<b>5.72</b>		<b>5.73</b>	dBm
OSTP		<b>36.19</b>	<b>36.23</b>		<b>36.27</b>	dBm
Power		<b>36.24</b>	<b>36.25</b>		<b>36.26</b>	dBm
Crest Factor			<b>9.05</b>			dB

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# Port 1 -2145MHz-E-TM3.3

**Spectrum**
LTE X

**Freq** 2.145 GHz

**Mode** DL FDD, 100 RB (20 MHz), Normal (CP)

TRG : FREE RUN

**Meas Setup** 1 TX x 1 RX

**Sync State** OK

**Frame** 1 Of 1 (1)

**Ext. Att** 42 dB

**Capture Time** 20.1 ms

**Result Summary**

Frame Result 1/1	Min	Mean	Limit	Max	Limit	Unit
EVM PDSCH QPSK	2.32	2.32		2.32	18.50	%
EVM PDSCH 16QAM	1.24	1.24		1.24	13.50	%
EVM PDSCH 64QAM					9.00	%
EVM PDSCH 256QAM						%
Time Alignment Error 2,1						ns
Time Alignment Error 3,1						ns
Time Alignment Error 4,1						ns

Results for Selection	Subframe(s)	ALL	Selection	Antenna 1	Frame Result 1/1	Unit
EVM All		1.55	1.85		2.23	%
EVM Phys. Channel		1.56	1.86		2.26	%
EVM Phys. Signal		1.10	1.49		2.28	%
Frequency Error		- 1.17	0.57		1.92	Hz
Sampling Error		- 0.08	0.01		0.09	ppm
IQ Offset		- 92.88	- 82.49		- 73.64	dB
IQ Gain Imbalance		- 0.00	0.00		0.00	dB
IQ Quadrature Error		- 0.06	- 0.00		0.03	°
RSTP		5.73	5.74		5.75	dBm
OSTP		36.06	36.19		36.35	dBm
Power		36.14	36.19		36.23	dBm
Crest Factor			9.11			dB

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# Port 2 -2120MHz-E-TM2

**Spectrum**
LTE X
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**Freq** 2.12 GHz

**Mode** DL FDD, 100 RB (20 MHz), Normal (CP)

TRG : FREE RUN

**Meas Setup** 1 TX x 1 RX

**Sync State** OK

**Frame** 1 Of 1 (1)

**Ext. Att** 42 dB

**Capture Time** 20.1 ms

**Result Summary**

Frame Result 1/1	Min	Mean	Limit	Max	Limit	Unit
EVM PDSCH QPSK					18.50	%
EVM PDSCH 16QAM					13.50	%
EVM PDSCH 64QAM	<b>1.04</b>	<b>1.04</b>		<b>1.04</b>	9.00	%
EVM PDSCH 256QAM						%
Time Alignment Error 2,1						ns
Time Alignment Error 3,1						ns
Time Alignment Error 4,1						ns

Results for Selection


Subframe(s)	ALL	Selection	Antenna 1	Frame Result 1/1
EVM All	<b>0.54</b>	<b>0.63</b>		<b>0.71</b>
EVM Phys. Channel	<b>0.53</b>	<b>0.67</b>		<b>0.79</b>
EVM Phys. Signal	<b>0.51</b>	<b>0.57</b>		<b>0.64</b>
Frequency Error	- 2.14	- 0.13		1.47
Sampling Error	- 0.01	- 0.00		0.01
IQ Offset	- 67.56	- 64.45		- 62.31
IQ Gain Imbalance	0.00	0.01		0.03
IQ Quadrature Error	- 0.05	0.00		0.06
RSTP	5.65	5.65		5.65
OSTP	14.88	16.17		17.14
Power	24.43	24.67		25.73
Crest Factor		16.22		

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Port 2-2120MHz-E-TM3.1

**Spectrum** LTE (X) 

**Freq** 2.12 GHz **Meas Setup** 1 TX x 1 RX **Ext. Att** 42 dB  
**Mode** DL FDD, 100 RB (20 MHz), Normal (CP) **Sync State** OK **Capture Time** 20.1 ms  
**TRG** : FREE RUN **Frame** 1 Of 1 (1)

Result Summary						
Frame Result 1/1	Min	Mean	Limit	Max	Limit	Unit
EVM PDSCH QPSK					18.50	%
EVM PDSCH 16QAM					13.50	%
EVM PDSCH 64QAM	<b>1.50</b>	<b>1.50</b>		<b>1.50</b>	9.00	%
EVM PDSCH 256QAM						%
Time Alignment Error 2,1						ns
Time Alignment Error 3,1						ns
Time Alignment Error 4,1						ns
Results for Selection	Subframe(s)	ALL	Selection	Antenna 1	Frame Result 1/1	
EVM All	<b>1.27</b>		<b>1.51</b>		<b>1.85</b>	%
EVM Phys. Channel	<b>1.27</b>		<b>1.51</b>		<b>1.88</b>	%
EVM Phys. Signal	<b>1.05</b>		<b>1.56</b>		<b>2.49</b>	%
Frequency Error	- 1.74		- 0.31		<b>0.90</b>	Hz
Sampling Error	- 0.04		<b>0.02</b>		<b>0.11</b>	ppm
IQ Offset	- 79.18		- 74.23		- 70.05	dB
IQ Gain Imbalance	- 0.00		<b>0.00</b>		<b>0.01</b>	dB
IQ Quadrature Error	- 0.04		- 0.00		<b>0.05</b>	°
RSTP	<b>5.60</b>		<b>5.61</b>		<b>5.62</b>	dBm
OSTP	<b>36.32</b>		<b>36.44</b>		<b>36.54</b>	dBm
Power	<b>36.36</b>		<b>36.40</b>		<b>36.43</b>	dBm
Crest Factor			<b>8.84</b>			dB

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## Port 2 -2120MHz-E-TM3.2

**Spectrum** LTE (X) ☰

**Freq** 2.12 GHz **Meas Setup** 1 TX x 1 RX **Ext. Att** 42 dB  
**Mode** DL FDD, 100 RB (20 MHz), Normal (CP) **Sync State** OK **Capture Time** 20.1 ms  
**TRG** : FREE RUN **Frame** 1 Of 1 (1)

Result Summary						
Frame Result 1/1	Min	Mean	Limit	Max	Limit	Unit
EVM PDSCH QPSK	<b>1.18</b>	<b>1.18</b>		<b>1.18</b>	18.50	%
EVM PDSCH 16QAM	<b>1.68</b>	<b>1.68</b>		<b>1.68</b>	13.50	%
EVM PDSCH 64QAM					9.00	%
EVM PDSCH 256QAM						%
Time Alignment Error 2,1						ns
Time Alignment Error 3,1						ns
Time Alignment Error 4,1						ns
Results for Selection	Subframe(s)	ALL	Selection	Antenna 1	Frame Result 1/1	
EVM All	<b>1.25</b>		<b>1.51</b>		<b>1.95</b>	%
EVM Phys. Channel	<b>1.26</b>		<b>1.51</b>		<b>1.97</b>	%
EVM Phys. Signal	<b>0.92</b>		<b>1.39</b>		<b>2.08</b>	%
Frequency Error	- <b>1.41</b>		<b>0.54</b>		<b>1.86</b>	Hz
Sampling Error	- <b>0.06</b>		<b>0.01</b>		<b>0.09</b>	ppm
IQ Offset	- <b>86.30</b>		- <b>77.55</b>		- <b>73.75</b>	dB
IQ Gain Imbalance	- <b>0.00</b>		<b>0.00</b>		<b>0.01</b>	dB
IQ Quadrature Error	- <b>0.03</b>		<b>0.00</b>		<b>0.04</b>	°
RSTP	<b>5.65</b>		<b>5.65</b>		<b>5.66</b>	dBm
OSTP	<b>36.13</b>		<b>36.16</b>		<b>36.20</b>	dBm
Power	<b>36.17</b>		<b>36.18</b>		<b>36.20</b>	dBm
Crest Factor			<b>9.10</b>			dB

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# Port 2 -2120MHz-E-TM3.3

**Spectrum**
LTE X
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**Freq** 2.12 GHz

**Mode** DL FDD, 100 RB (20 MHz), Normal (CP)

TRG : FREE RUN

**Meas Setup** 1 TX x 1 RX

**Sync State** OK

**Frame** 1 Of 1 (1)

**Ext. Att** 42 dB

**Capture Time** 20.1 ms

**Result Summary**

Frame Result 1/1	Min	Mean	Limit	Max	Limit	Unit
EVM PDSCH QPSK	<b>2.20</b>	<b>2.20</b>		<b>2.20</b>	18.50	%
EVM PDSCH 16QAM	<b>1.17</b>	<b>1.17</b>		<b>1.17</b>	13.50	%
EVM PDSCH 64QAM					9.00	%
EVM PDSCH 256QAM						%
Time Alignment Error 2,1						ns
Time Alignment Error 3,1						ns
Time Alignment Error 4,1						ns

Results for Selection	Subframe(s)	ALL	Selection	Antenna 1	Frame Result 1/1
EVM All		<b>1.46</b>	<b>1.75</b>		<b>2.07</b> %
EVM Phys. Channel		<b>1.47</b>	<b>1.77</b>		<b>2.10</b> %
EVM Phys. Signal		<b>1.08</b>	<b>1.44</b>		<b>2.20</b> %
Frequency Error		<b>- 0.84</b>	<b>0.54</b>		<b>2.30</b> Hz
Sampling Error		<b>- 0.02</b>	<b>0.02</b>		<b>0.06</b> ppm
IQ Offset		<b>- 84.12</b>	<b>- 75.39</b>		<b>- 69.72</b> dB
IQ Gain Imbalance		<b>- 0.00</b>	<b>- 0.00</b>		<b>0.00</b> dB
IQ Quadrature Error		<b>- 0.06</b>	<b>- 0.00</b>		<b>0.04</b> °
RSTP		<b>5.65</b>	<b>5.66</b>		<b>5.66</b> dBm
OSTP		<b>35.96</b>	<b>36.10</b>		<b>36.27</b> dBm
Power		<b>36.04</b>	<b>36.11</b>		<b>36.14</b> dBm
Crest Factor			<b>9.31</b>		dB

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# Port 2-2132.5MHz-E-TM2

Spectrum
LTE X
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**Freq** 2.1325 GHz
**Meas Setup** 1 TX x 1 RX
**Ext. Att** 42 dB

**Mode** DL FDD, 100 RB (20 MHz), Normal (CP)
**Sync State** OK
**Capture Time** 20.1 ms

TRG : FREE RUN
**Frame** 1 Of 1 (1)

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Result Summary

Frame Result 1/1	Min	Mean	Limit	Max	Limit	Unit
EVM PDSCH QPSK					18.50	%
EVM PDSCH 16QAM					13.50	%
EVM PDSCH 64QAM	<b>1.06</b>	<b>1.06</b>		<b>1.06</b>	9.00	%
EVM PDSCH 256QAM						%
Time Alignment Error 2,1						ns
Time Alignment Error 3,1						ns
Time Alignment Error 4,1						ns

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Results for Selection	Subframe(s)	ALL	Selection	Antenna 1	Frame Result 1/1	Unit
EVM All		<b>0.57</b>	<b>0.68</b>		<b>0.85</b>	%
EVM Phys. Channel		<b>0.63</b>	<b>0.75</b>		<b>1.03</b>	%
EVM Phys. Signal		<b>0.49</b>	<b>0.59</b>		<b>0.70</b>	%
Frequency Error		- 0.95	<b>0.38</b>		<b>1.79</b>	Hz
Sampling Error		- 0.05	- 0.01		<b>0.02</b>	ppm
IQ Offset		- 65.73	- 63.79		- 62.65	dB
IQ Gain Imbalance		<b>0.01</b>	<b>0.02</b>		<b>0.03</b>	dB
IQ Quadrature Error		- 0.10	- 0.04		<b>0.03</b>	°
RSTP		<b>5.50</b>	<b>5.50</b>		<b>5.51</b>	dBm
OSTP		<b>14.75</b>	<b>16.05</b>		<b>16.99</b>	dBm
Power		<b>24.29</b>	<b>24.53</b>		<b>25.61</b>	dBm
Crest Factor			<b>16.60</b>			dB

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# Port 2 -2132.5MHz-E-TM3.1

**Spectrum**
LTE X
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**Freq** 2.1325 GHz
**Meas Setup** 1 TX x 1 RX
**Ext. Att** 42 dB

**Mode** DL FDD, 100 RB (20 MHz), Normal (CP)
**Sync State** OK
**Capture Time** 20.1 ms

TRG : FREE RUN
**Frame** 1 Of 1 (1)

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Result Summary

Frame Result 1/1	Min	Mean	Limit	Max	Limit	Unit
EVM PDSCH QPSK					18.50	%
EVM PDSCH 16QAM					13.50	%
EVM PDSCH 64QAM	<b>1.55</b>	<b>1.55</b>		<b>1.55</b>	9.00	%
EVM PDSCH 256QAM						%
Time Alignment Error 2,1						ns
Time Alignment Error 3,1						ns
Time Alignment Error 4,1						ns

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Results for Selection	Subframe(s)	ALL	Selection	Antenna 1	Frame Result 1/1
EVM All		<b>1.36</b>	<b>1.56</b>		<b>1.91</b> %
EVM Phys. Channel		<b>1.37</b>	<b>1.56</b>		<b>1.93</b> %
EVM Phys. Signal		<b>0.97</b>	<b>1.58</b>		<b>2.48</b> %
Frequency Error		- 2.24	<b>0.01</b>		<b>1.79</b> Hz
Sampling Error		- 0.08	- 0.00		<b>0.10</b> ppm
IQ Offset		- 84.18	- 75.13		- 68.87 dB
IQ Gain Imbalance		- 0.00	<b>0.00</b>		<b>0.01</b> dB
IQ Quadrature Error		- 0.05	<b>0.00</b>		<b>0.05</b> °
RSTP		<b>5.44</b>	<b>5.45</b>		<b>5.46</b> dBm
OSTP		<b>36.16</b>	<b>36.27</b>		<b>36.38</b> dBm
Power		<b>36.19</b>	<b>36.23</b>		<b>36.27</b> dBm
Crest Factor			<b>8.79</b>		dB

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Date: 6.DEC.2017 11:34:34

# Port 2 -2132.5MHz-E-TM3.2

**Spectrum**
LTE X

**Freq** 2.1325 GHz
**Meas Setup** 1 TX x 1 RX
**Ext. Att** 42 dB

**Mode** DL FDD, 100 RB (20 MHz), Normal (CP)
**Sync State** OK
**Capture Time** 20.1 ms

TRG : FREE RUN
**Frame** 1 Of 1 (1)

**Result Summary**

Frame Result 1/1	Min	Mean	Limit	Max	Limit	Unit
EVM PDSCH QPSK	<b>1.24</b>	<b>1.24</b>		<b>1.24</b>	18.50	%
EVM PDSCH 16QAM	<b>1.74</b>	<b>1.74</b>		<b>1.74</b>	13.50	%
EVM PDSCH 64QAM					9.00	%
EVM PDSCH 256QAM						%
Time Alignment Error 2,1						ns
Time Alignment Error 3,1						ns
Time Alignment Error 4,1						ns
<b>Results for Selection</b>	<b>Subframe(s)</b>	<b>ALL</b>	<b>Selection</b>	<b>Antenna 1</b>	<b>Frame Result 1/1</b>	
EVM All	<b>1.30</b>	<b>1.57</b>		<b>1.98</b>		%
EVM Phys. Channel	<b>1.31</b>	<b>1.57</b>		<b>1.99</b>		%
EVM Phys. Signal	<b>1.14</b>	<b>1.47</b>		<b>2.13</b>		%
Frequency Error	<b>- 1.61</b>	<b>- 0.14</b>		<b>1.90</b>		Hz
Sampling Error	<b>- 0.04</b>	<b>0.01</b>		<b>0.05</b>		ppm
IQ Offset	<b>- 85.93</b>	<b>- 77.02</b>		<b>- 72.99</b>		dB
IQ Gain Imbalance	<b>- 0.00</b>	<b>0.00</b>		<b>0.01</b>		dB
IQ Quadrature Error	<b>- 0.04</b>	<b>0.00</b>		<b>0.04</b>		°
RSTP	<b>5.46</b>	<b>5.47</b>		<b>5.48</b>		dBm
OSTP	<b>35.94</b>	<b>35.98</b>		<b>36.02</b>		dBm
Power	<b>35.99</b>	<b>36.00</b>		<b>36.01</b>		dBm
Crest Factor		<b>9.00</b>				dB

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# Port 2 -2132.5MHz-E-TM3.3

**Spectrum** LTE (X) ☰

**Freq** 2.1325 GHz **Meas Setup** 1 TX x 1 RX **Ext. Att** 42 dB  
**Mode** DL FDD, 100 RB (20 MHz), Normal (CP) **Sync State** OK **Capture Time** 20.1 ms  
 TRG : FREE RUN **Frame** 1 Of 1 (1)

Result Summary						
Frame Result 1/1	Min	Mean	Limit	Max	Limit	Unit
EVM PDSCH QPSK	2.20	2.20		2.20	18.50	%
EVM PDSCH 16QAM	1.20	1.20		1.20	13.50	%
EVM PDSCH 64QAM					9.00	%
EVM PDSCH 256QAM						%
Time Alignment Error 2,1						ns
Time Alignment Error 3,1						ns
Time Alignment Error 4,1						ns
Results for Selection	Subframe(s)	ALL	Selection	Antenna 1	Frame Result 1/1	
EVM All	1.54		1.77		2.08	%
EVM Phys. Channel	1.55		1.78		2.10	%
EVM Phys. Signal	1.09		1.44		2.18	%
Frequency Error	- 1.13		- 0.07		1.79	Hz
Sampling Error	- 0.09		- 0.00		0.07	ppm
IQ Offset	- 82.06		- 74.93		- 69.59	dB
IQ Gain Imbalance	- 0.00		0.00		0.01	dB
IQ Quadrature Error	- 0.05		0.01		0.03	°
RSTP	5.44		5.45		5.45	dBm
OSTP	35.76		35.89		36.06	dBm
Power	35.85		35.90		35.94	dBm
Crest Factor			9.09			dB

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Date: 6.DEC.2017 11:36:31

# Port 2 -2145MHz-E-TM2

Spectrum
LTE X
☰

**Freq** 2.145 GHz
**Meas Setup** 1 TX x 1 RX
**Ext. Att** 42 dB

**Mode** DL FDD, 100 RB (20 MHz), Normal (CP)
**Sync State** OK
**Capture Time** 20.1 ms

TRG : FREE RUN
**Frame** 1 Of 1 (1)

**Result Summary**

Frame Result 1/1	Min	Mean	Limit	Max	Limit	Unit
EVM PDSCH QPSK					18.50	%
EVM PDSCH 16QAM					13.50	%
EVM PDSCH 64QAM	<b>0.93</b>	<b>0.93</b>		<b>0.93</b>	9.00	%
EVM PDSCH 256QAM						%
Time Alignment Error 2,1						ns
Time Alignment Error 3,1						ns
Time Alignment Error 4,1						ns
Results for Selection	Subframe(s)	ALL	Selection	Antenna 1	Frame Result 1/1	
EVM All	<b>0.52</b>	<b>0.60</b>			<b>0.67</b>	%
EVM Phys. Channel	<b>0.56</b>	<b>0.64</b>			<b>0.74</b>	%
EVM Phys. Signal	<b>0.46</b>	<b>0.55</b>			<b>0.64</b>	%
Frequency Error	- 0.69	<b>0.64</b>			<b>1.46</b>	Hz
Sampling Error	- 0.04	<b>0.00</b>			<b>0.04</b>	ppm
IQ Offset	- 67.21	- 64.64			- 63.06	dB
IQ Gain Imbalance	- 0.00	- 0.00			- 0.00	dB
IQ Quadrature Error	- 0.03	<b>0.04</b>			<b>0.11</b>	°
RSTP	<b>6.05</b>	<b>6.05</b>			<b>6.05</b>	dBm
OSTP	<b>15.41</b>	<b>16.58</b>			<b>17.49</b>	dBm
Power	<b>24.82</b>	<b>25.07</b>			<b>26.14</b>	dBm
Crest Factor		<b>16.79</b>				dB

Running ...
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Date: 6.DEC.2017 11:46:50

# Port 2 -2145MHz-E-TM3.1

**Spectrum**
LTE X

**Freq** 2.145 GHz

**Mode** DL FDD, 100 RB (20 MHz), Normal (CP)

TRG : FREE RUN

**Meas Setup** 1 TX x 1 RX

**Sync State** OK

**Frame** 1 Of 1 (1)

**Ext. Att** 42 dB

**Capture Time** 20.1 ms

**Result Summary**

Frame Result 1/1	Min	Mean	Limit	Max	Limit	Unit
EVM PDSCH QPSK					18.50	%
EVM PDSCH 16QAM					13.50	%
EVM PDSCH 64QAM	<b>1.55</b>	<b>1.55</b>		<b>1.55</b>	9.00	%
EVM PDSCH 256QAM						%
Time Alignment Error 2,1						ns
Time Alignment Error 3,1						ns
Time Alignment Error 4,1						ns

Results for Selection

Subframe(s)	ALL	Selection	Antenna 1	Frame Result 1/1
EVM All	<b>1.34</b>	<b>1.55</b>		<b>1.86</b>
EVM Phys. Channel	<b>1.34</b>	<b>1.55</b>		<b>1.89</b>
EVM Phys. Signal	<b>1.10</b>	<b>1.58</b>		<b>2.42</b>
Frequency Error	- <b>1.66</b>	- <b>0.11</b>		<b>1.27</b>
Sampling Error	- <b>0.08</b>	- <b>0.01</b>		<b>0.06</b>
IQ Offset	- <b>87.86</b>	- <b>75.31</b>		- <b>69.30</b>
IQ Gain Imbalance	- <b>0.00</b>	<b>0.00</b>		<b>0.01</b>
IQ Quadrature Error	- <b>0.04</b>	- <b>0.01</b>		<b>0.06</b>
RSTP	<b>5.93</b>	<b>5.94</b>		<b>5.95</b>
OSTP	<b>36.65</b>	<b>36.76</b>		<b>36.86</b>
Power	<b>36.68</b>	<b>36.72</b>		<b>36.75</b>
Crest Factor		<b>8.94</b>		

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Date: 6.DEC.2017 11:46:05

# Port 2 -2145MHz-E-TM3.2

**Spectrum**
LTE X
☰

**Freq** 2.145 GHz
**Meas Setup** 1 TX x 1 RX
**Ext. Att** 42 dB

**Mode** DL FDD, 100 RB (20 MHz), Normal (CP)
**Sync State** OK
**Capture Time** 20.1 ms

TRG : FREE RUN
**Frame** 1 Of 1 (1)

**Result Summary**

Frame Result 1/1	Min	Mean	Limit	Max	Limit	Unit
EVM PDSCH QPSK	<b>1.18</b>	<b>1.18</b>		<b>1.18</b>	18.50	%
EVM PDSCH 16QAM	<b>1.69</b>	<b>1.69</b>		<b>1.69</b>	13.50	%
EVM PDSCH 64QAM					9.00	%
EVM PDSCH 256QAM						%
Time Alignment Error 2,1						ns
Time Alignment Error 3,1						ns
Time Alignment Error 4,1						ns
Results for Selection	Subframe(s)	ALL	Selection	Antenna 1	Frame Result 1/1	
EVM All			<b>1.51</b>		<b>1.90</b>	%
EVM Phys. Channel			<b>1.52</b>		<b>1.92</b>	%
EVM Phys. Signal			<b>1.38</b>		<b>2.03</b>	%
Frequency Error	- 1.42		- 0.01		<b>1.96</b>	Hz
Sampling Error	- 0.06		- 0.01		<b>0.07</b>	ppm
IQ Offset	- 99.53		- 76.30		- 72.63	dB
IQ Gain Imbalance	- 0.00		<b>0.00</b>		<b>0.01</b>	dB
IQ Quadrature Error	- 0.03		<b>0.00</b>		<b>0.05</b>	°
RSTP	<b>5.62</b>		<b>5.63</b>		<b>5.64</b>	dBm
OSTP	<b>36.10</b>		<b>36.14</b>		<b>36.19</b>	dBm
Power	<b>36.14</b>		<b>36.16</b>		<b>36.18</b>	dBm
Crest Factor			<b>9.23</b>			dB

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Date: 6.DEC.2017 11:47:18

# Port 2 -2145MHz-E-TM3.3

**Spectrum**
LTE X
⌵

**Freq** 2.145 GHz

**Mode** DL FDD, 100 RB (20 MHz), Normal (CP)

TRG : FREE RUN

**Meas Setup** 1 TX x 1 RX

**Sync State** OK

**Frame** 1 Of 1 (1)

**Ext. Att** 42 dB

**Capture Time** 20.1 ms

**Result Summary**

Frame Result 1/1	Min	Mean	Limit	Max	Limit	Unit
EVM PDSCH QPSK	<b>2.16</b>	<b>2.16</b>		<b>2.16</b>	18.50	%
EVM PDSCH 16QAM	<b>1.16</b>	<b>1.16</b>		<b>1.16</b>	13.50	%
EVM PDSCH 64QAM					9.00	%
EVM PDSCH 256QAM						%
Time Alignment Error 2,1						ns
Time Alignment Error 3,1						ns
Time Alignment Error 4,1						ns

Results for Selection

Subframe(s)	ALL	Selection	Antenna 1	Frame Result 1/1
EVM All	<b>1.51</b>	<b>1.73</b>		<b>2.05</b>
EVM Phys. Channel	<b>1.52</b>	<b>1.74</b>		<b>2.07</b>
EVM Phys. Signal	<b>1.03</b>	<b>1.43</b>		<b>2.15</b>
Frequency Error	- <b>0.35</b>	<b>0.60</b>		<b>1.83</b>
Sampling Error	- <b>0.03</b>	<b>0.01</b>		<b>0.05</b>
IQ Offset	- <b>85.71</b>	- <b>75.65</b>		- <b>70.25</b>
IQ Gain Imbalance	- <b>0.00</b>	<b>0.00</b>		<b>0.01</b>
IQ Quadrature Error	- <b>0.06</b>	- <b>0.00</b>		<b>0.02</b>
RSTP	<b>5.58</b>	<b>5.59</b>		<b>5.59</b>
OSTP	<b>35.91</b>	<b>36.04</b>		<b>36.20</b>
Power	<b>35.99</b>	<b>36.04</b>		<b>36.08</b>
Crest Factor		<b>9.22</b>		

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11:47:47

Date: 6.DEC.2017 11:47:47

### 3.4. Spurious Emissions Radiated

#### 3.4.1. Applicable Standard: FCC§2.1053

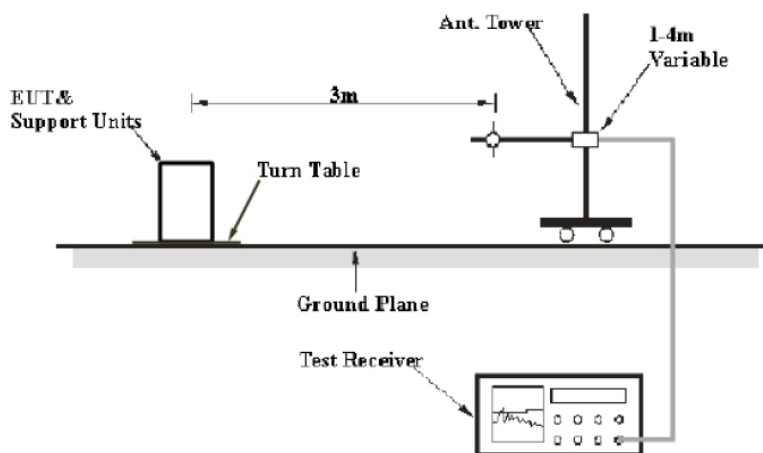
The power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least  $43 + 10 \log (P)$  dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or less, but at least one percent of the emission bandwidth of the fundamental emission of the transmitter, provided the measured energy is integrated over a 1 MHz bandwidth.

#### 3.4.2. Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	EMI Test Receiver	ESU40	SB8501/09	2017.3.21	2018.3.20
Schwarzbeck	Bilog Antenna	VULB9163	SB3955	2017.3.21	2018.3.20
R&S	Horn Antenna	HF906	SB3435	2017.1.3	2012.1.2
R&S	Preamplifier	SCU-03	SB8501/14	2017.3.6	2018.3.5
R&S	Preamplifier	SCU-18	SB8501/17	2017.3.6	2018.3.5

**\*statement of traceability:** SMQ attests that all calibration has been performed per the A2LA requirements, traceable to NIM.

#### 3.4.3. Test Procedure



1. Connect the equipment as shown in the above diagram with the EUT's antenna in a horizontal orientation.
2. The RRU Controlled by CPRI via to set the EUT to its maximum power at the required channel.
3. Set the spectrum analyzer to measure peak hold with the required settings.
4. Place the measurement antenna in a horizontal orientation. Rotate the EUT 360 . Raise the measurement antenna at 1.5 meters increments and rotate the EUT 360 at maximize all emissions. Measure and record all spurious emissions (LVL) up to the tenth harmonic of the carrier frequency.  
Spectrum analyzer settings: RBW=VBW=1MHz



#### 3.4.4.Environmental Conditions

Temperature:	26°C
Relative Humidity:	60 %
ATM Pressure:	1009 mbar

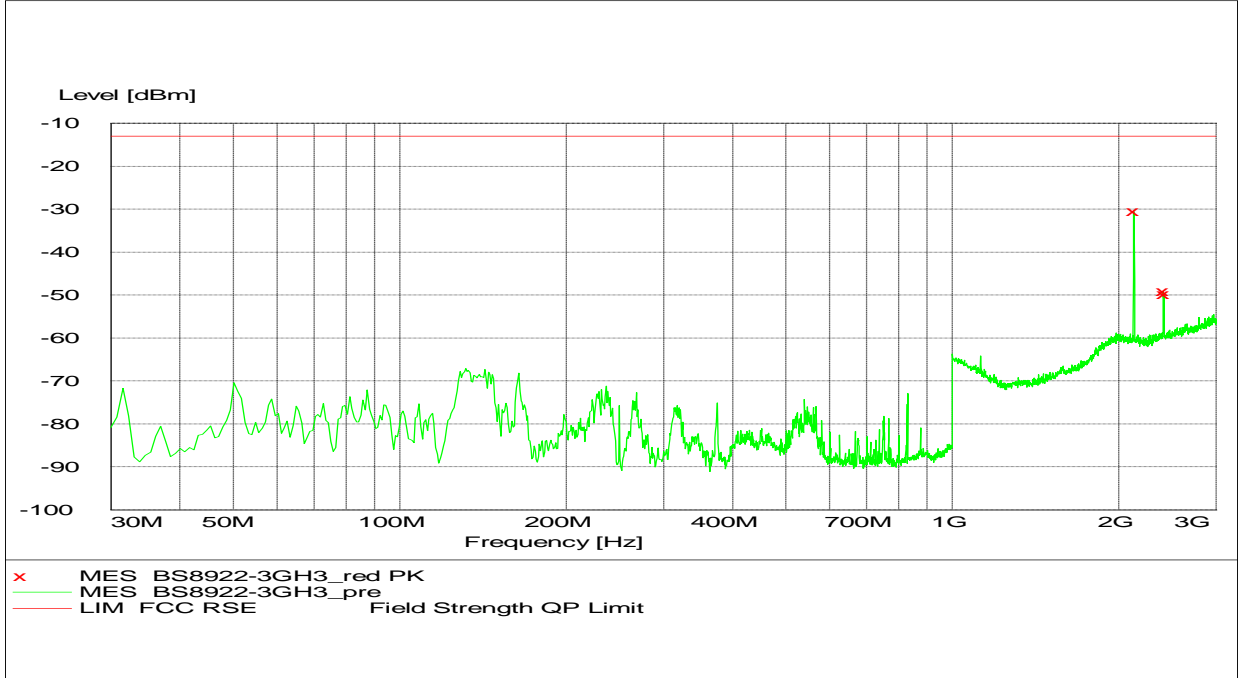
3.4.5.Test Result: Pass

3.4.6.Test Mode: Transmitting LTE

### 3.4.7. Test Data

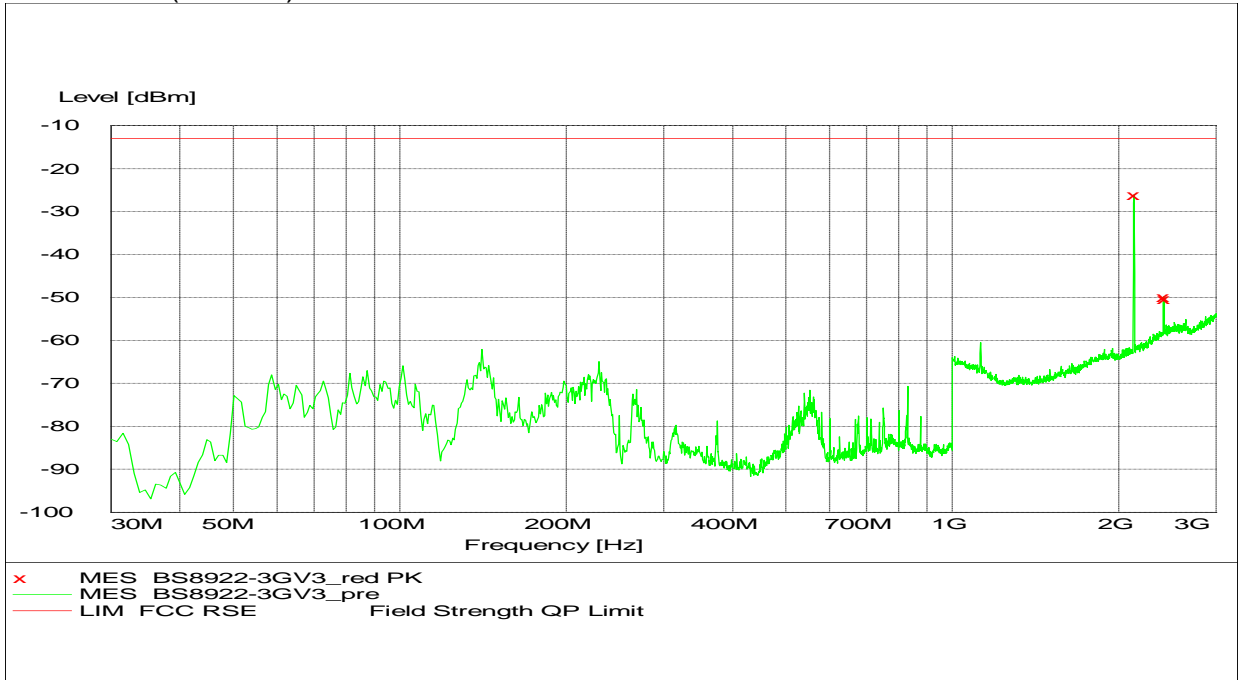
Input voltage: AC: 220V

30M-3GHz (Horizontal)



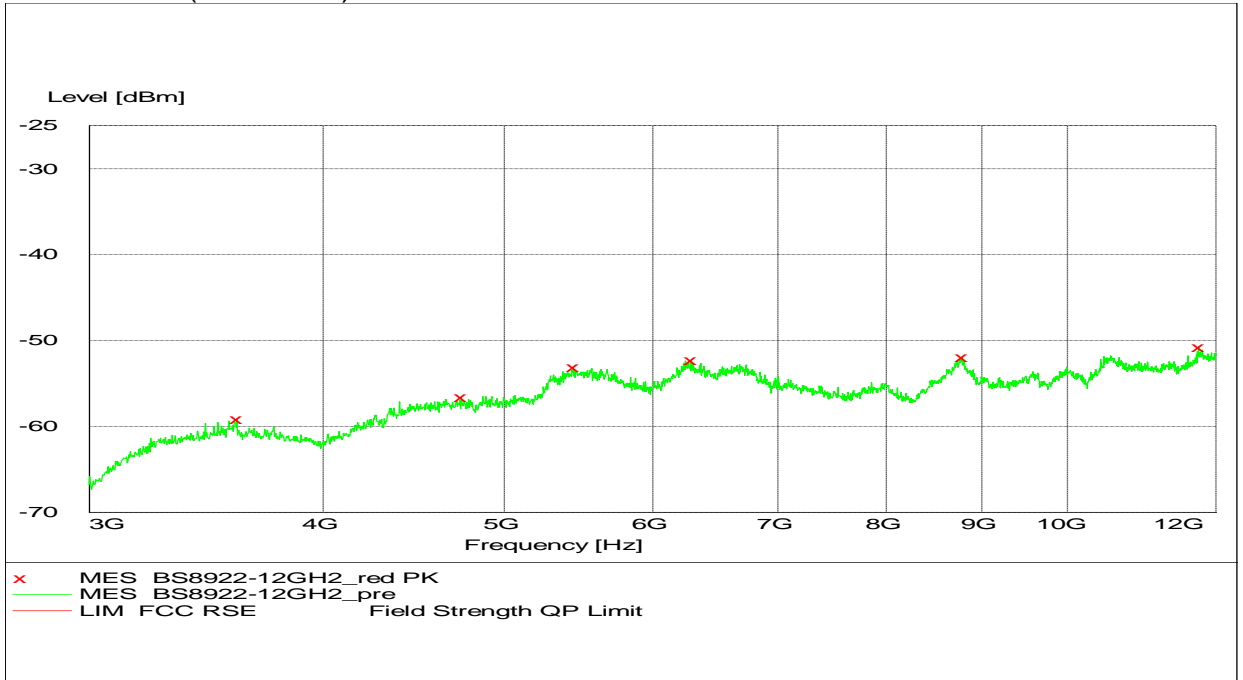
Frequency	Level	Azimuth	Height	Polarization	Transd	Limit	Margin
MHz	dBm	deg	cm		dB	dBm	dB
2128.000000	-30.44	132.50	200.0	HOR	-104.0	-13	17.4
2406.400000	-49.17	80.60	100.0	HOR	-102.5	-13	36.2
2414.400000	-49.72	80.60	100.0	HOR	-102.6	-13	36.7

### 30M-3GHz (Vertical)



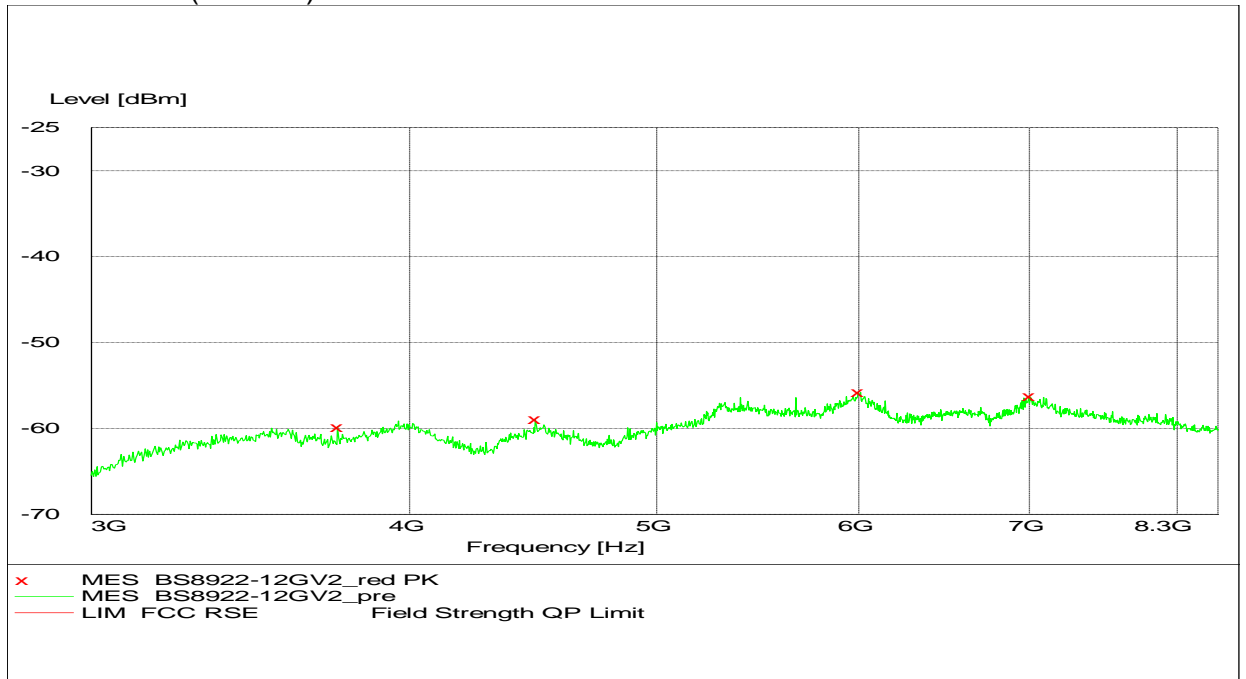
Frequency	Level	Azimuth	Height	Polarization	Transd	Limit	Margin
MHz	dBm	deg	cm		dB	dBm	dB
2129.600000	-26.05	332.00	100.0	VER	-105.6	-13	13.1
2409.600000	-49.86	199.40	200.0	VER	-101.2	-13	36.9
2419.200000	-50.33	169.00	100.0	VER	101.3	-13	37.3

### 3-12.75GHz (Horizontal)



Frequency	Level	Azimuth	Height	Polarization	Transd	Limit	Margin
MHz	dBm	deg	cm		dB	dBm	dB
3598.400000	-59.17	284.00	100.0	HOR	-89.3	-13	46.2
4740.800000	-56.60	105.30	200.0	HOR	-84.7	-13	43.6
5441.600000	-53.08	194.10	100.0	HOR	-80.1	-13	40.1
6292.800000	-52.29	341.30	100.0	HOR	-77.3	-13	39.3
8780.200000	-51.89	334.50	100.0	HOR	-72.8	-13	38.9
11747.200000	-50.74	34.90	100.0	HOR	-72.8	-13	37.7

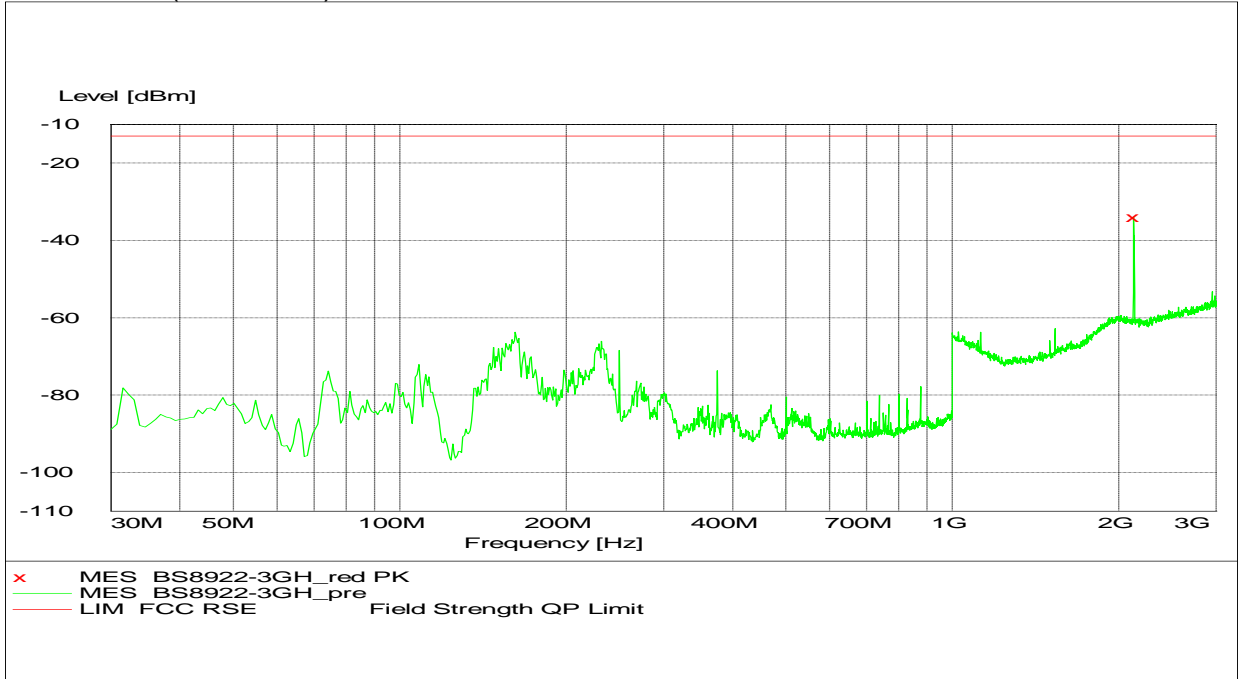
### 3-12.75GHz (Vertical)



Frequency	Level	Azimuth	Height	Polarization	Transd	Limit	Margin
MHz	dBm	deg	cm		dB	dBm	dB
3748.800000	-59.83	342.20	100.0	VER	-89.3	-13	46.8
4481.600000	-58.98	51.60	100.0	VER	-87.7	-13	46.0
5998.400000	-55.81	184.30	200.0	VER	-81.4	-13	42.8
7000.000000	-56.24	66.30	200.0	VER	-79.8	-13	43.2
9580.600000	-55.74	86.80	100.0	VER	-78.0	-13	42.7
10569.600000	-54.25	307.60	100.0	VER	-75.9	-13	41.3

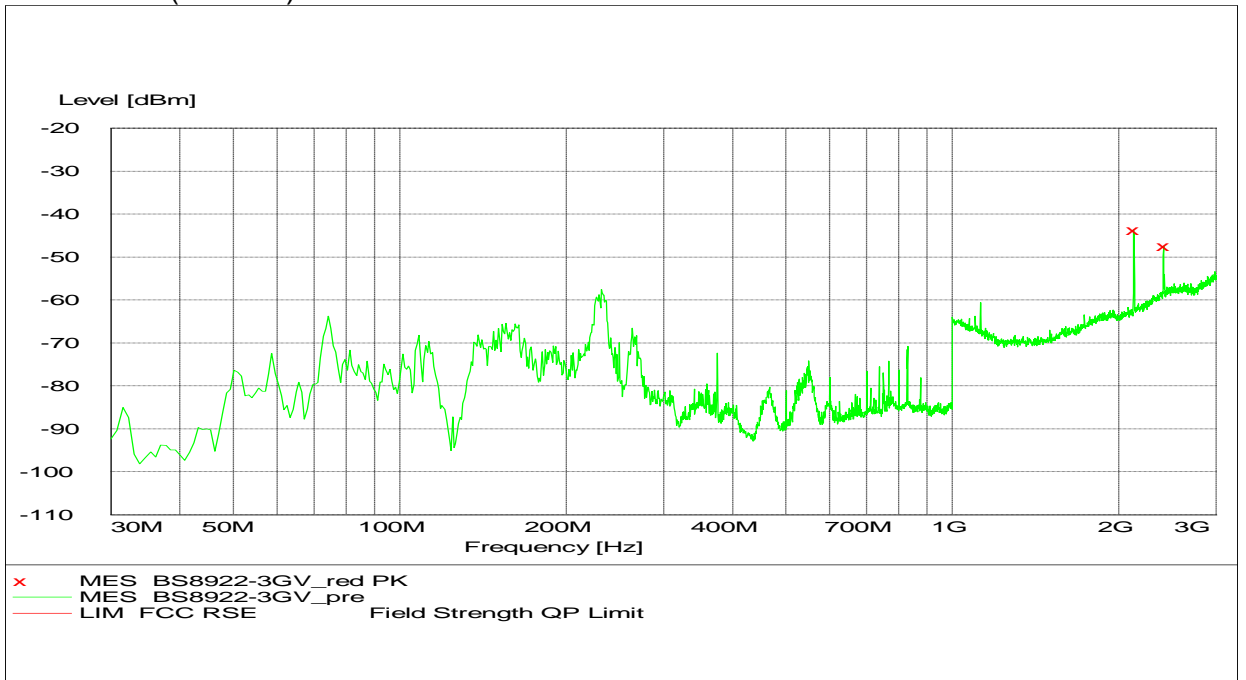
Input voltage :DC: -48 V

### 30M-3GHz (Horizontal)



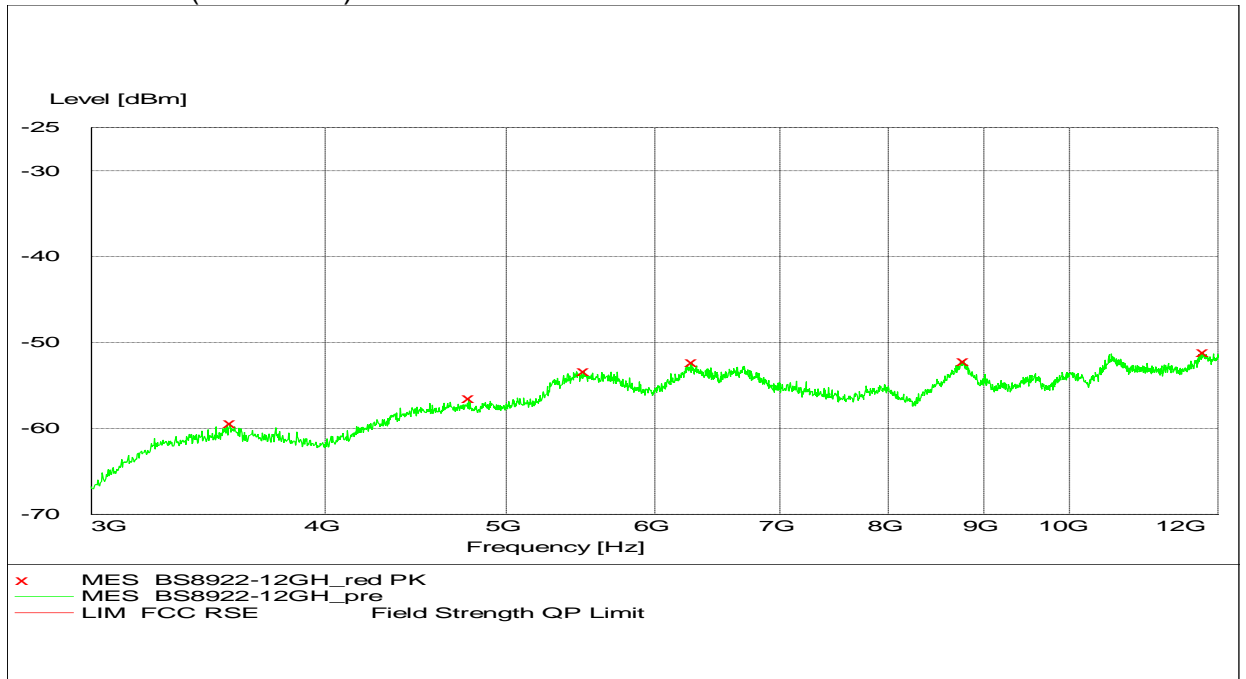
Frequency	Level	Azimuth	Height	Polarization	Transd	Limit	Margin
MHz	dBm	deg	cm		dB	dBm	dB
2128.000000	-33.98	322.60	100.0	HOR	-104.0	-13	21.0

### 30M-3GHz (Vertical)



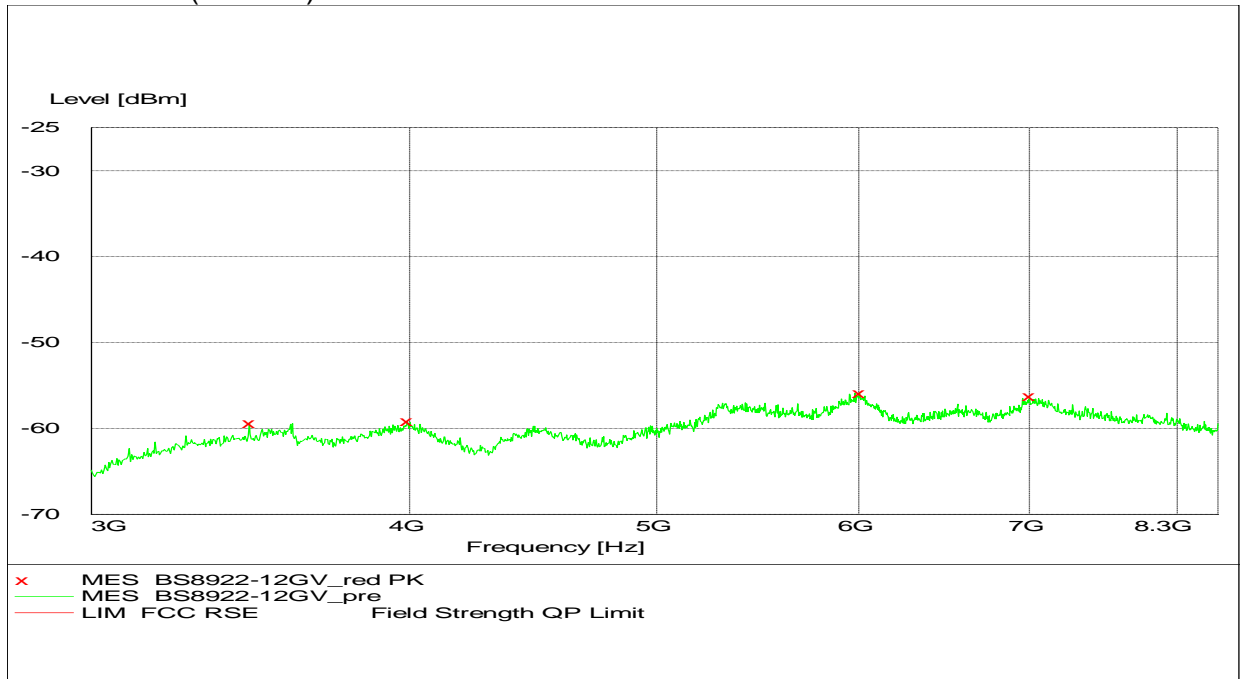
Frequency	Level	Azimuth	Height	Polarization	Transd	Limit	Margin
MHz	dBm	deg	cm		dB	dBm	dB
2128.000000	-43.67	1.30	200.0	VER	-105.6	-13	30.7
2411.200000	-47.45	273.30	100.0	VER	-101.2	-13	34.4

### 3-12.75GHz (Horizontal)



Frequency	Level	Azimuth	Height	Polarization	Transd	Limit	Margin
MHz	dBm	deg	cm		dB	dBm	dB
3560.000000	-59.45	122.30	200.0	HOR	-89.4	-13	46.4
4772.800000	-56.55	231.40	100.0	HOR	-84.5	-13	43.6
5502.400000	-53.33	178.20	200.0	HOR	-79.4	-13	40.3
6280.000000	-52.36	338.30	200.0	HOR	-77.2	-13	39.4
8775.600000	-52.12	254.50	200.0	HOR	-72.7	-13	39.1
11779.400000	-51.19	254.50	200.0	HOR	-72.7	-13	38.2

### 3-12.75GHz (Vertical)



Frequency	Level	Azimuth	Height	Polarization	Transd	Limit	Margin
MHz	dBm	deg	cm		dB	dBm	dB
3460.800000	-59.35	270.40	100.0	VER	-89.7	-13	46.4
3992.000000	-59.21	0.10	100.0	VER	-87.3	-13	46.2
6004.800000	-55.87	70.10	100.0	VER	-81.4	-13	42.9
7000.000000	-56.33	105.30	100.0	VER	-79.8	-13	43.3
9543.800000	-55.94	7.50	100.0	VER	-77.7	-13	42.9
11291.800000	-53.75	177.10	200.0	VER	-76.2	-13	40.8



### 3.5. Spurious Emissions At Antenna Terminals

#### 3.5.1. Applicable Standard: FCC§2.1051, §27.53

The spectrum was to be investigated to the tenth harmonics of the highest fundamental frequency as specified.

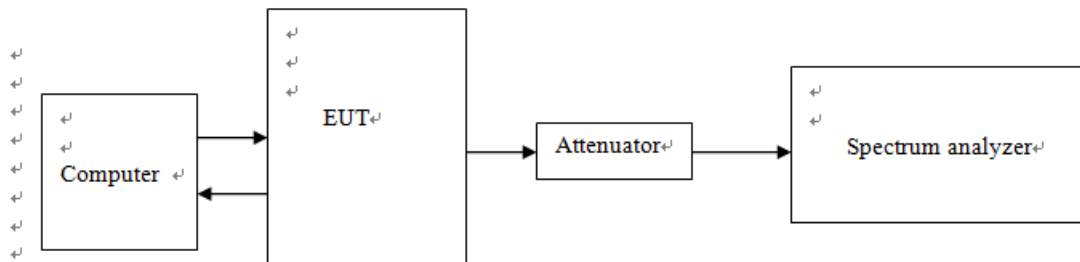
#### 3.5.2. Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Signal & Spectrum Analyzer	FSW26	SB12724/01	2017.6.19	2018.6.18
DTS	DTS 40dB Attenuator	DTS100-40-3-1	09112005	2017.03.15	2018.03.15

**\*statement of traceability:** SMQ attests that all calibration has been performed per the A2LA requirements, traceable to NIM.

#### 3.5.3. Test Procedure

EUT Setup:



REMARKS: Attenuator loss (dB)=40dB, Cable Loss (dB)=1.5dB.

The RF output of the transceiver was connected to a spectrum analyzer through appropriate attenuation. 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. Sufficient scans were taken to show any out of band emissions up to 10th harmonic.

#### 3.5.4. Environmental Conditions

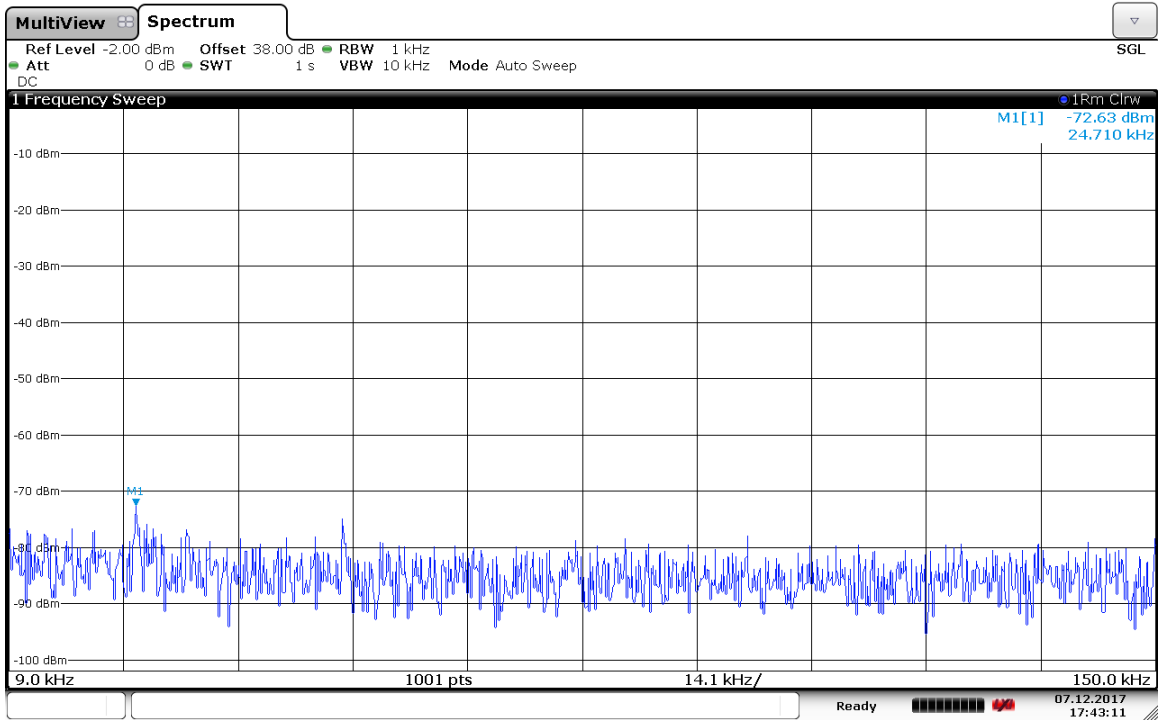
Temperature:	20 °C
Relative Humidity:	53 %
ATM Pressure:	1009 mbar

#### 3.5.5. Test Result: Pass

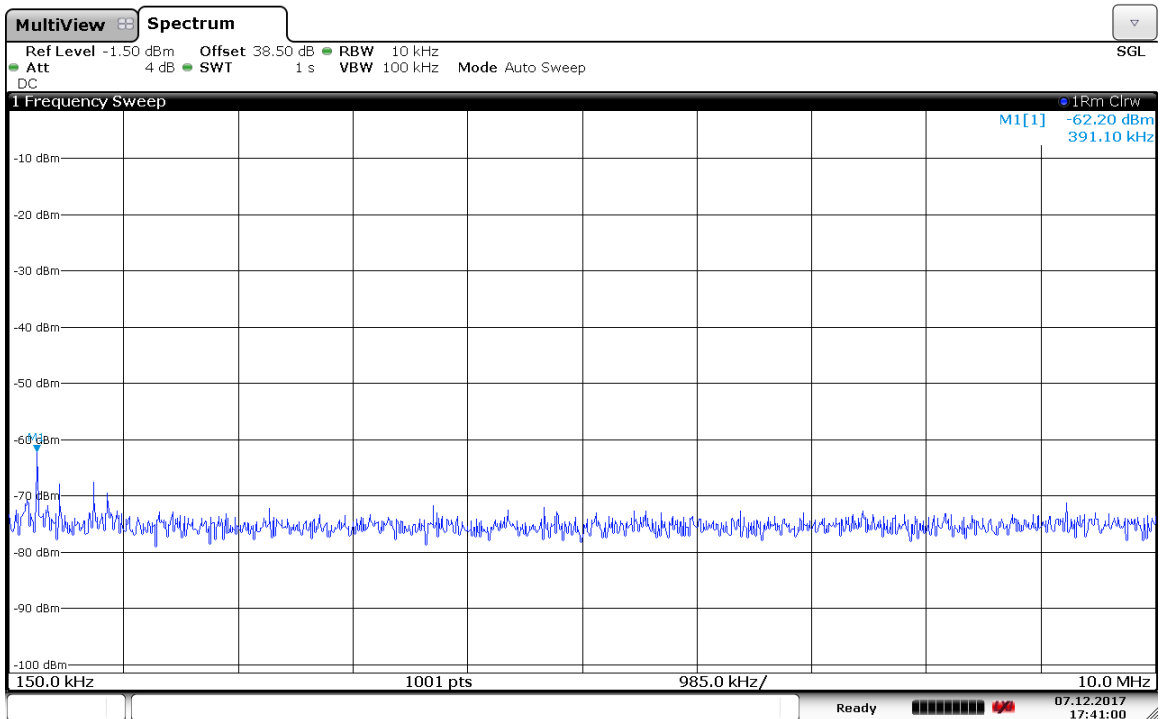
#### 3.5.6. Test Mode: Transmitting LTE

#### 3.5.7. Test Data:

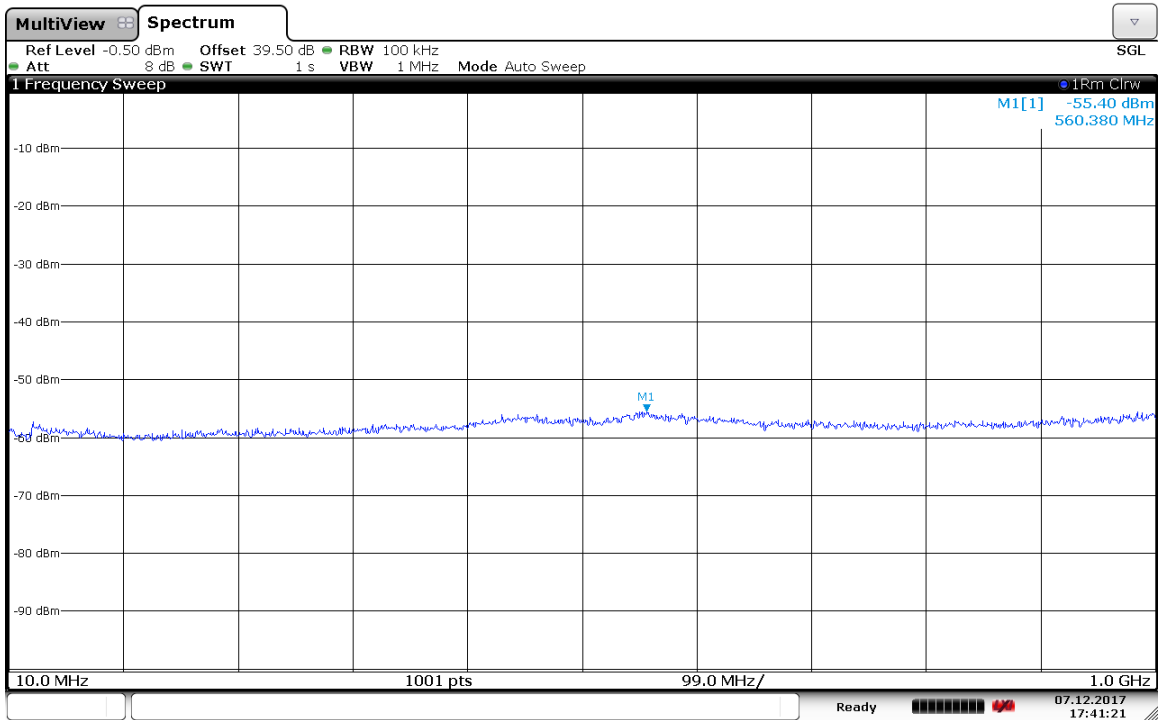
LTE 5MHz:  
 LTE 5M-Port 1 -2122.5MHz



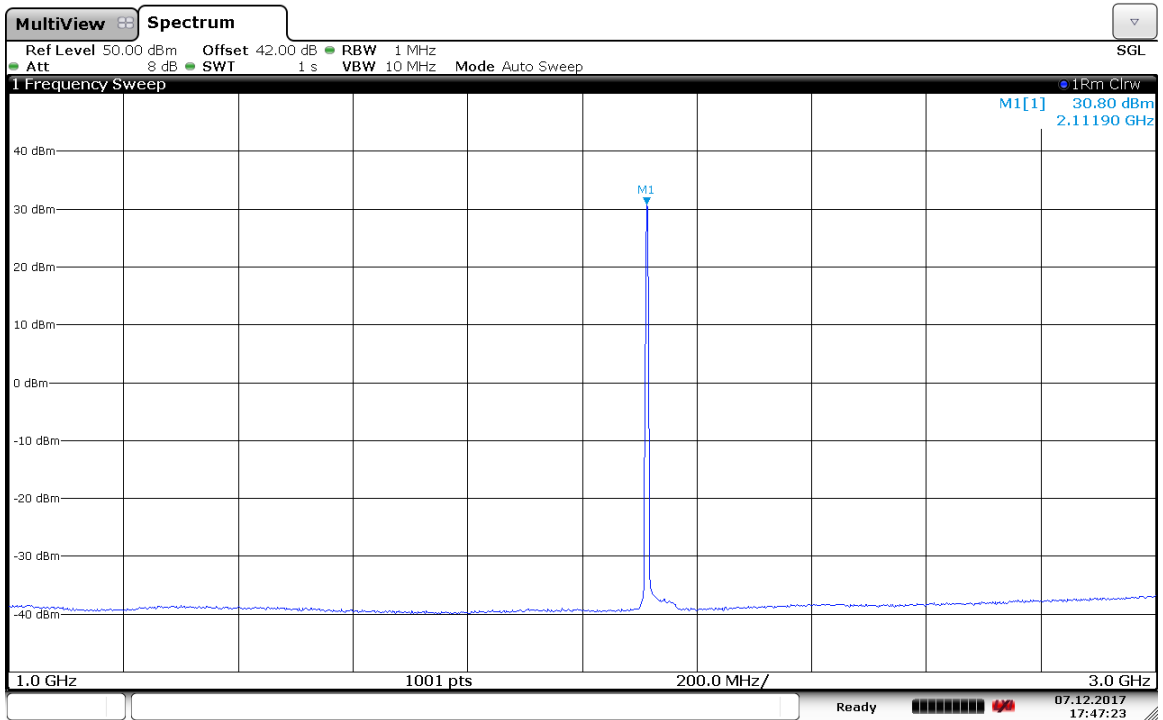
Date: 7 DEC 2017 17:43:12



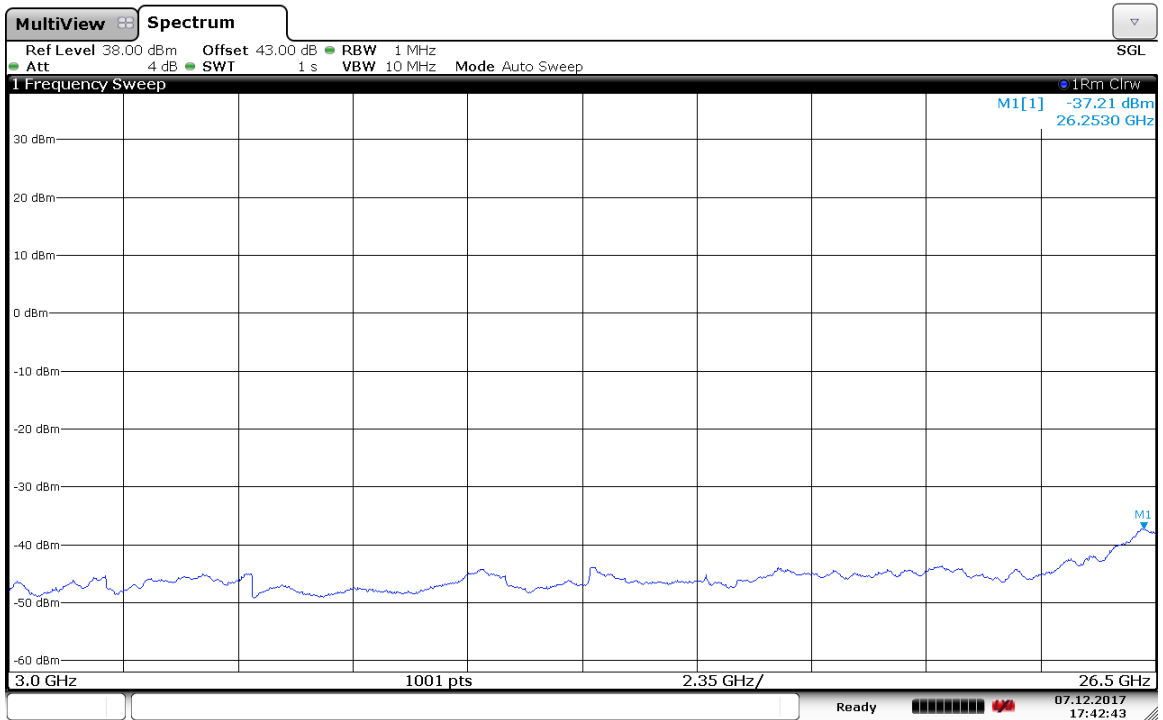
Date: 7 DEC 2017 17:41:00



Date: 7 DEC 2017 17:41:21

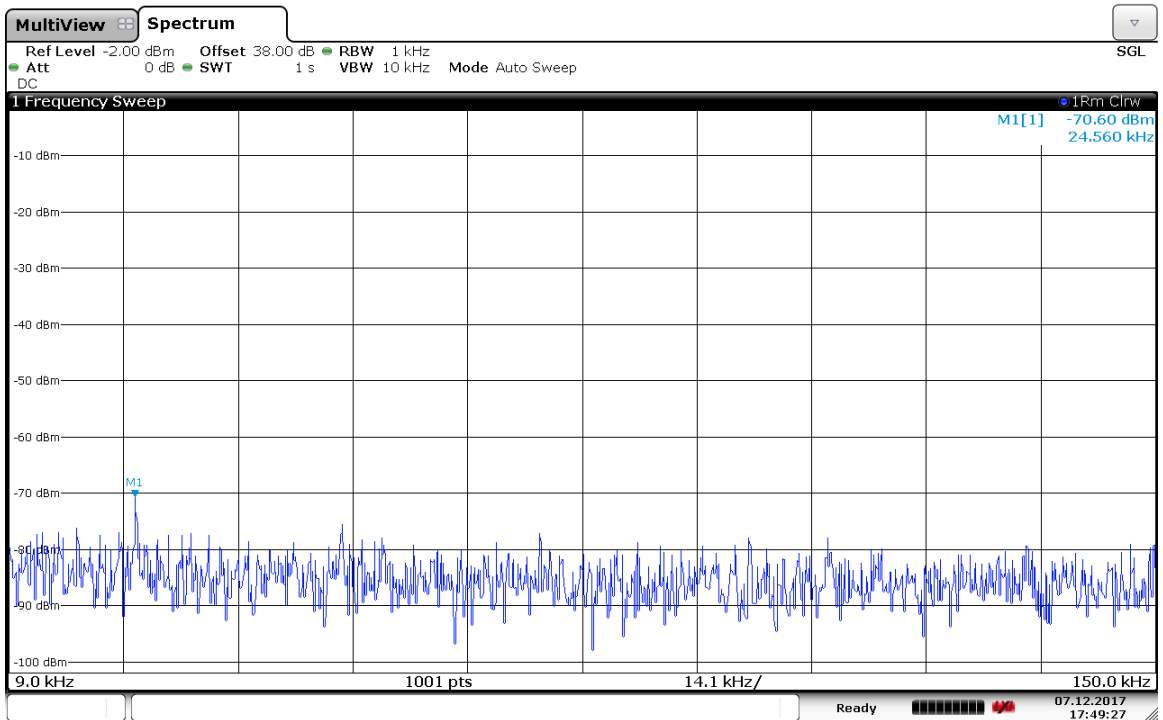


Date: 7 DEC 2017 17:47:23

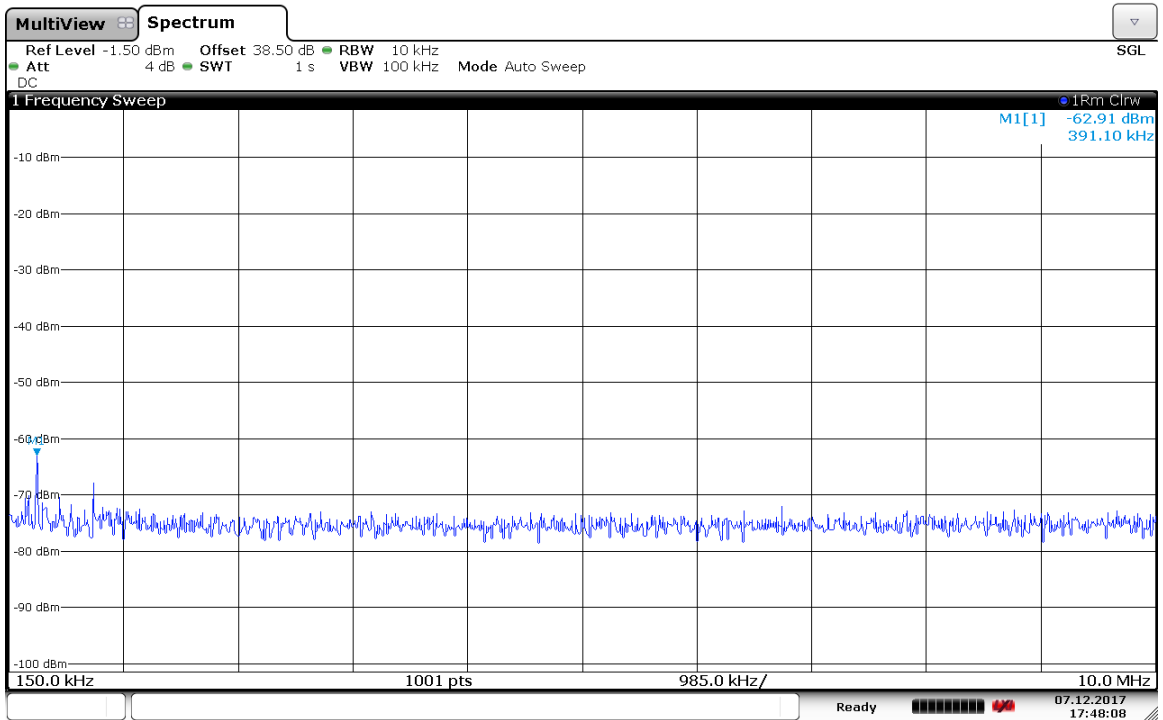


Date: 7 DEC 2017 17:42:43

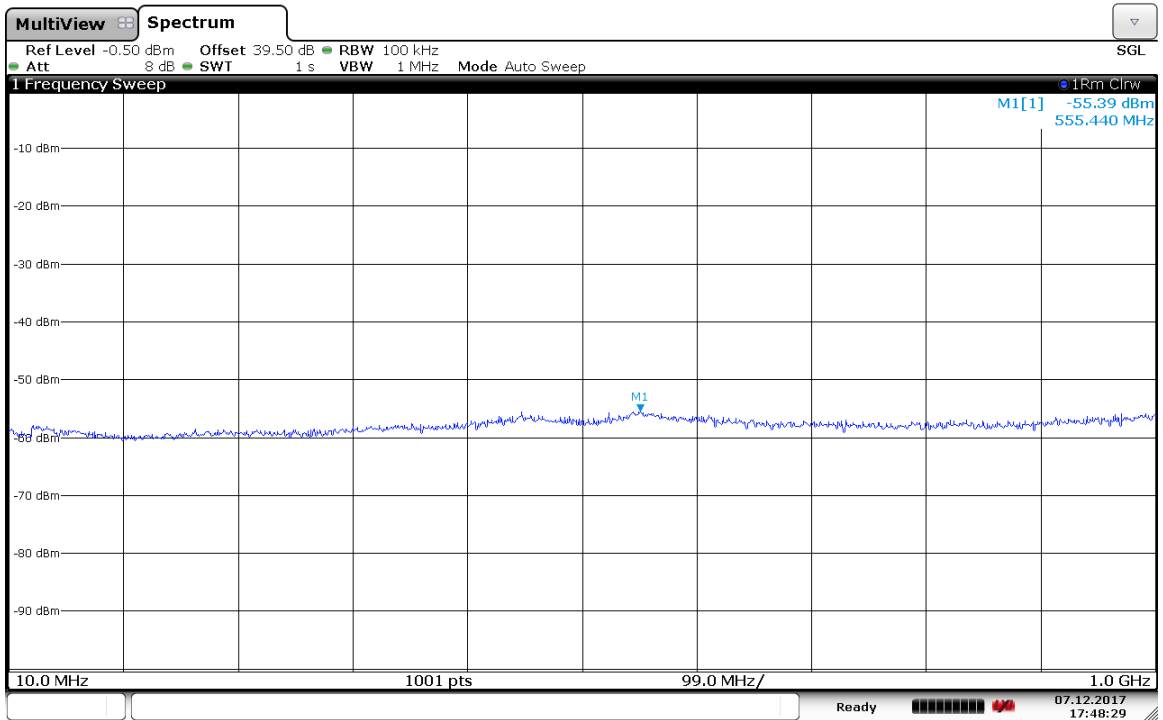
### LTE 5M-Port 1 -2132.5MHz



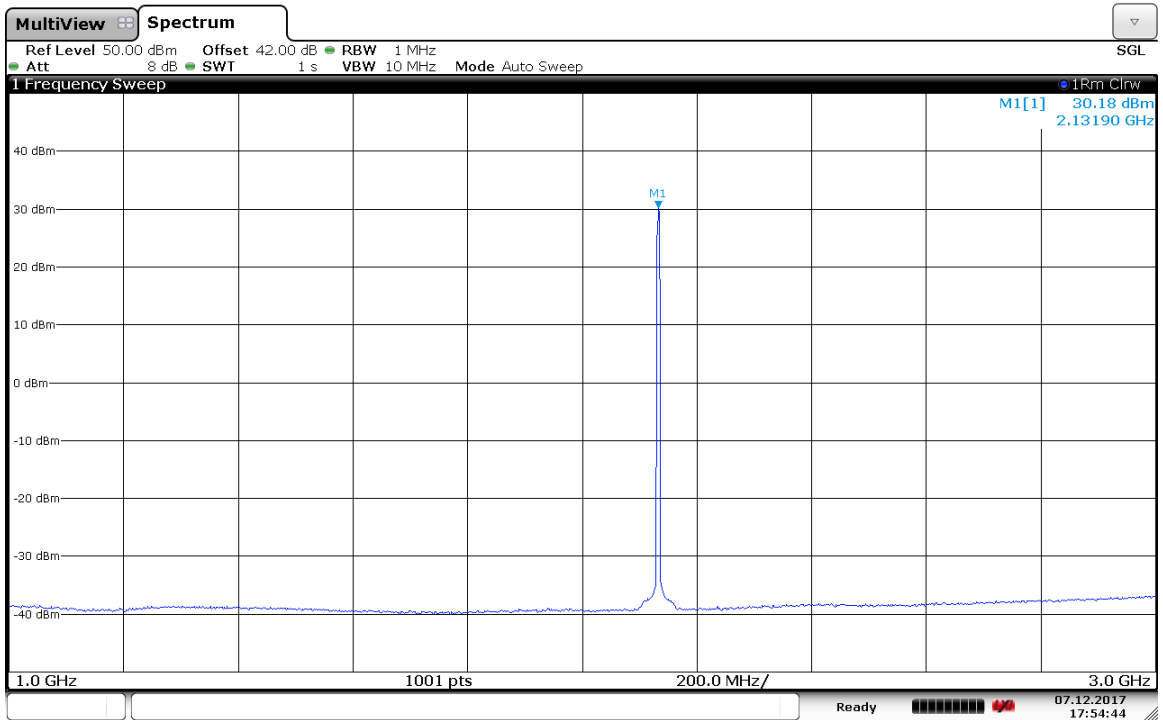
Date: 7 DEC 2017 17:49:27



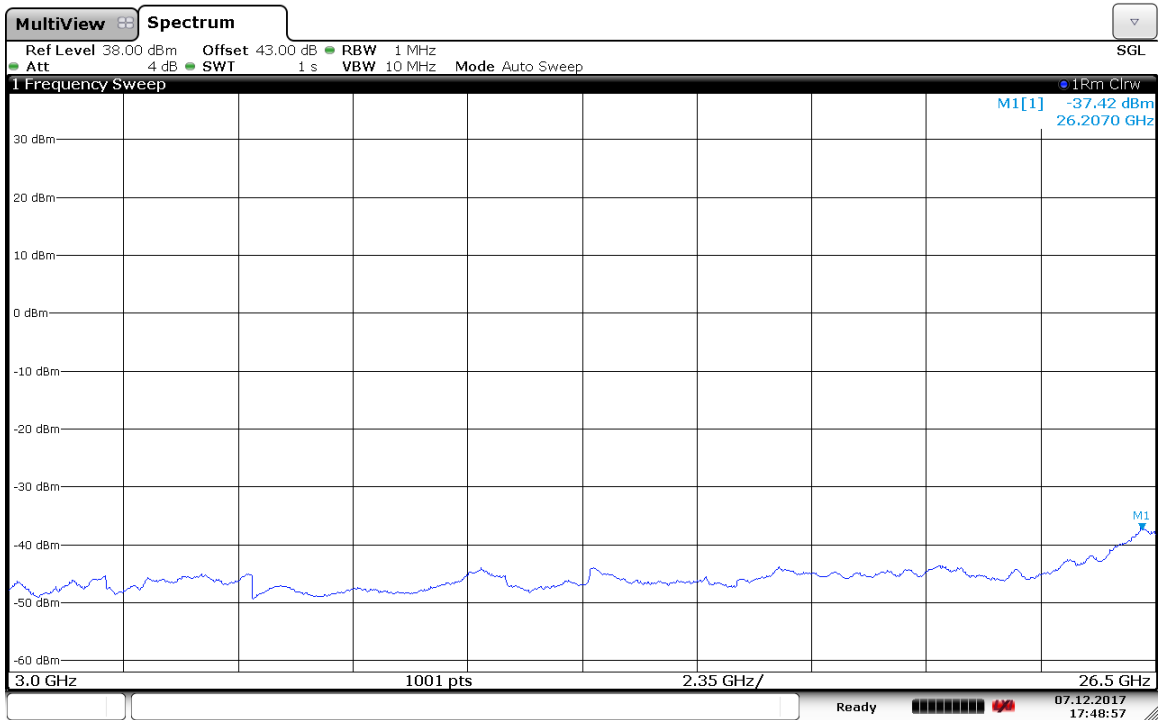
Date: 7 DEC 2017 17:48:08



Date: 7 DEC 2017 17:48:29

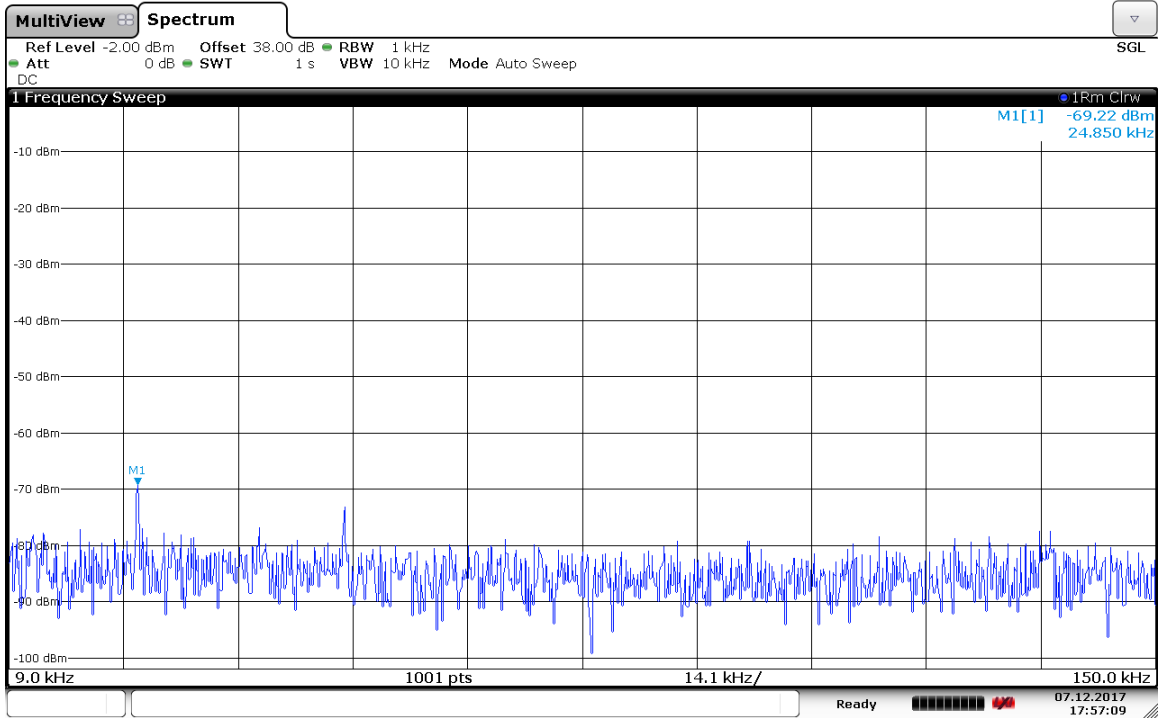


Date: 7 DEC 2017 17:54:44

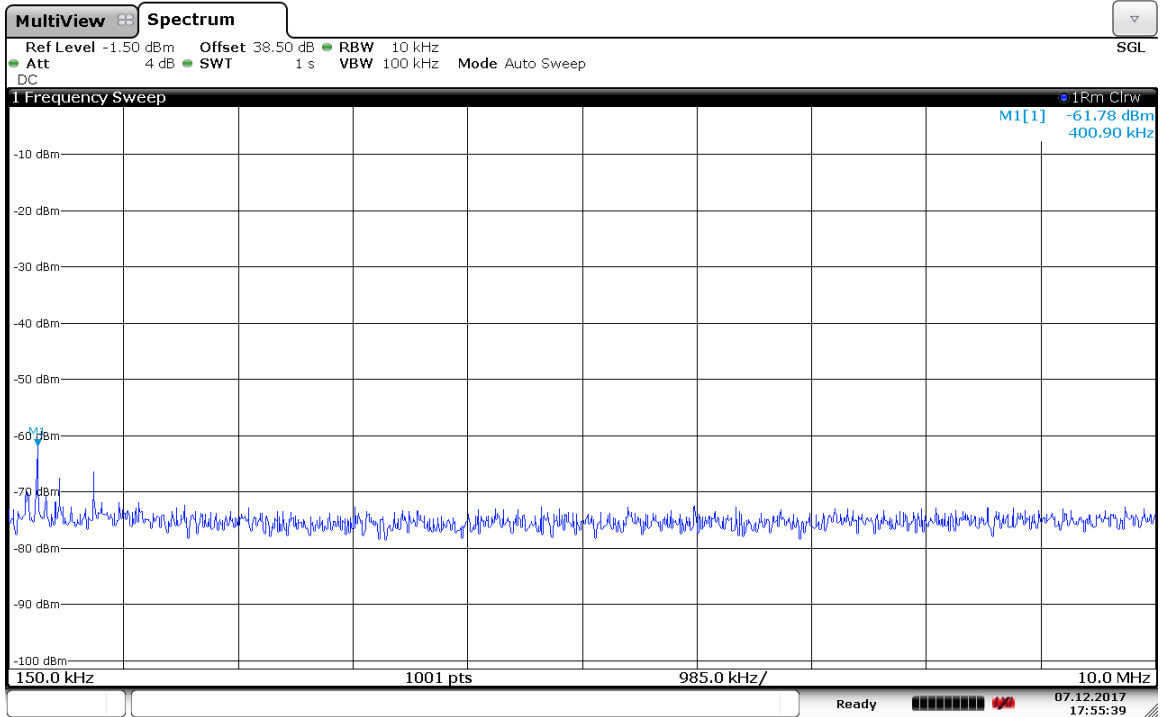


Date: 7 DEC 2017 17:48:57

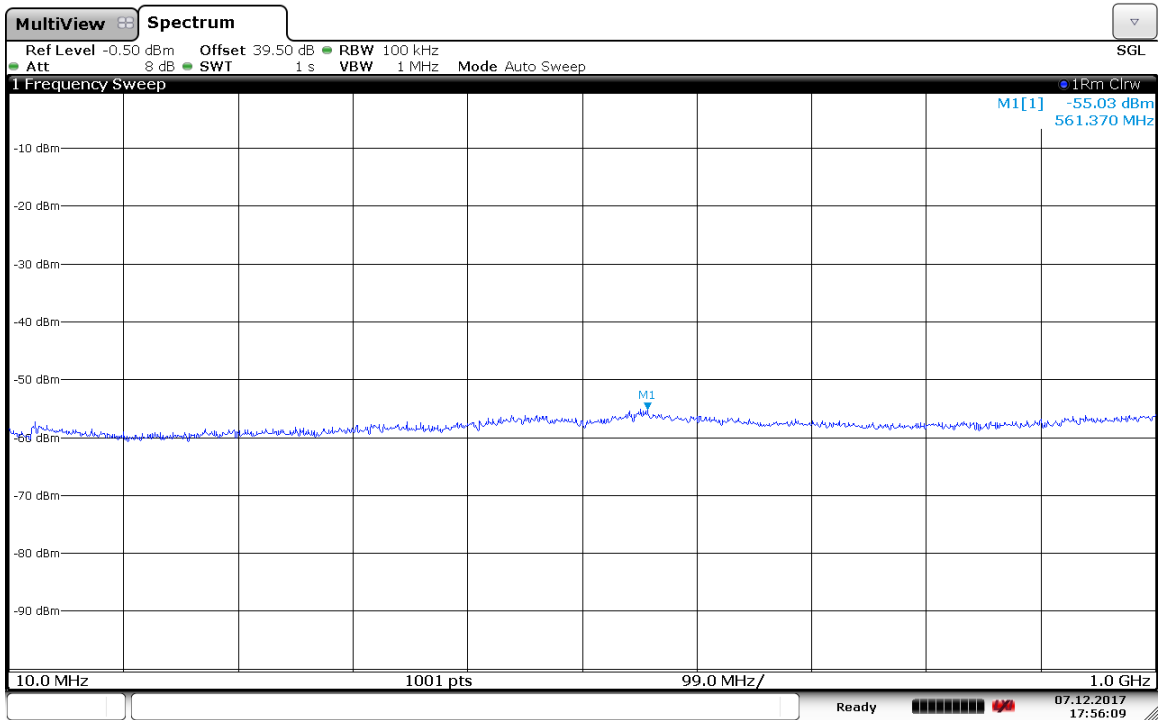
LTE 5M-Port 1 -2152.5MHz



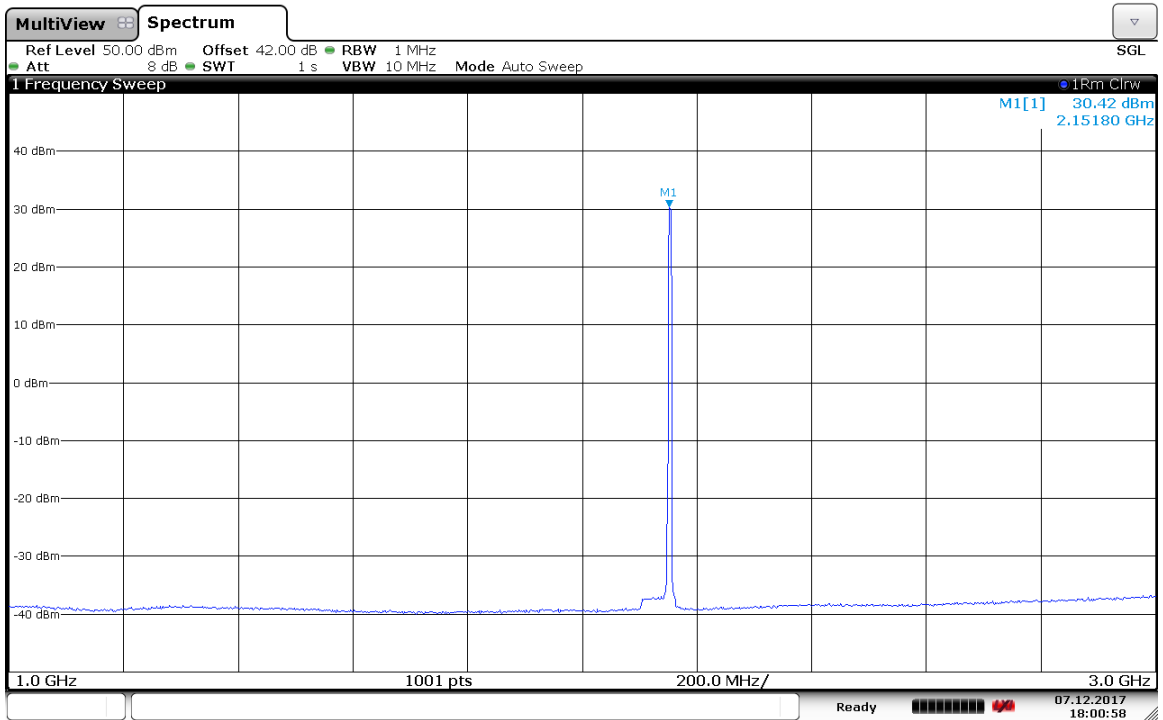
Date: 7 DEC 2017 17:57:09



Date: 7 DEC 2017 17:55:38

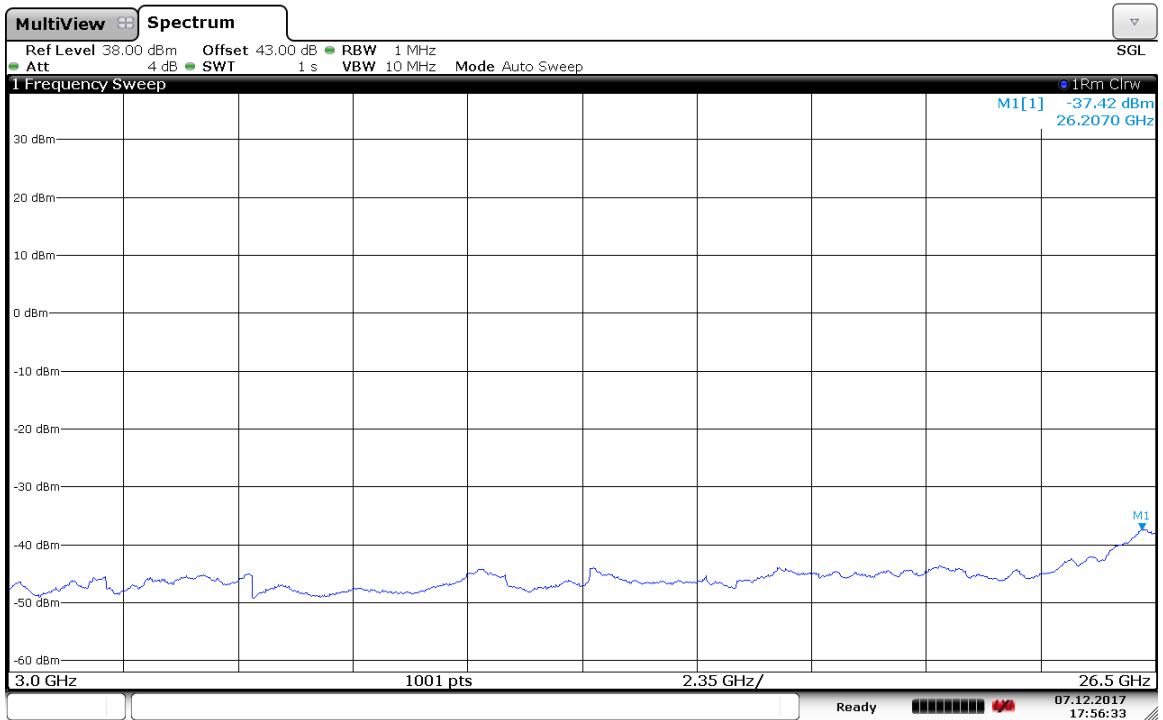


Date: 7 DEC 2017 17:56:09



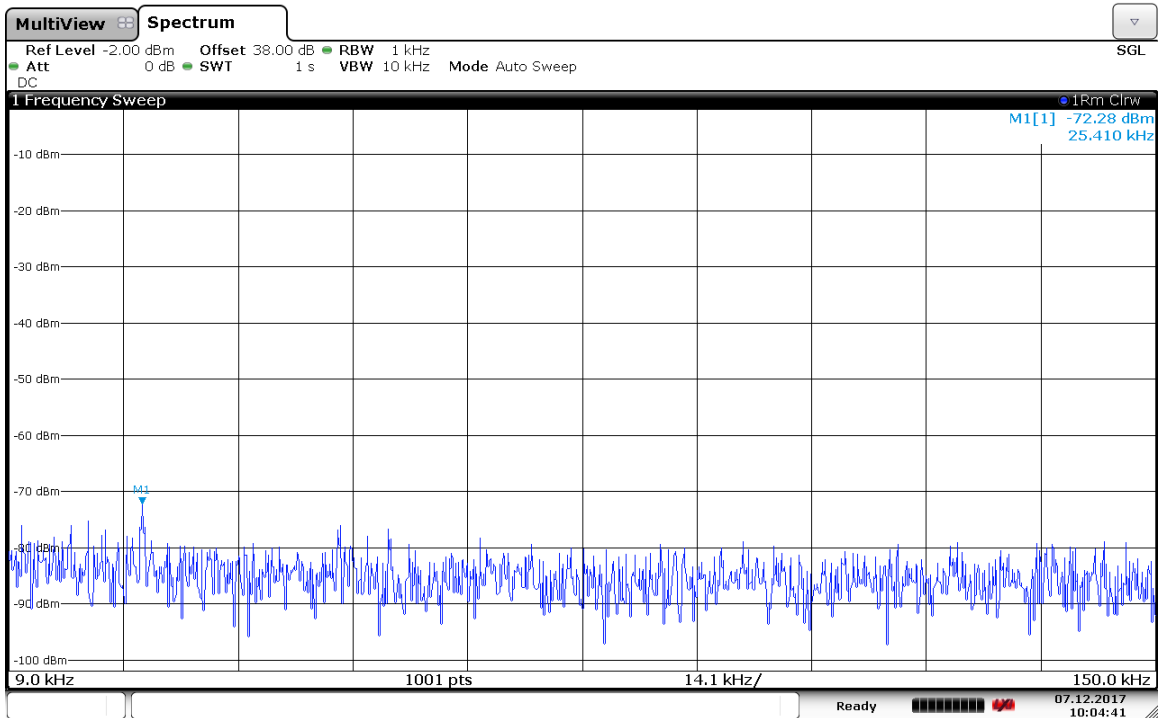
Date: 7 DEC 2017 18:00:58



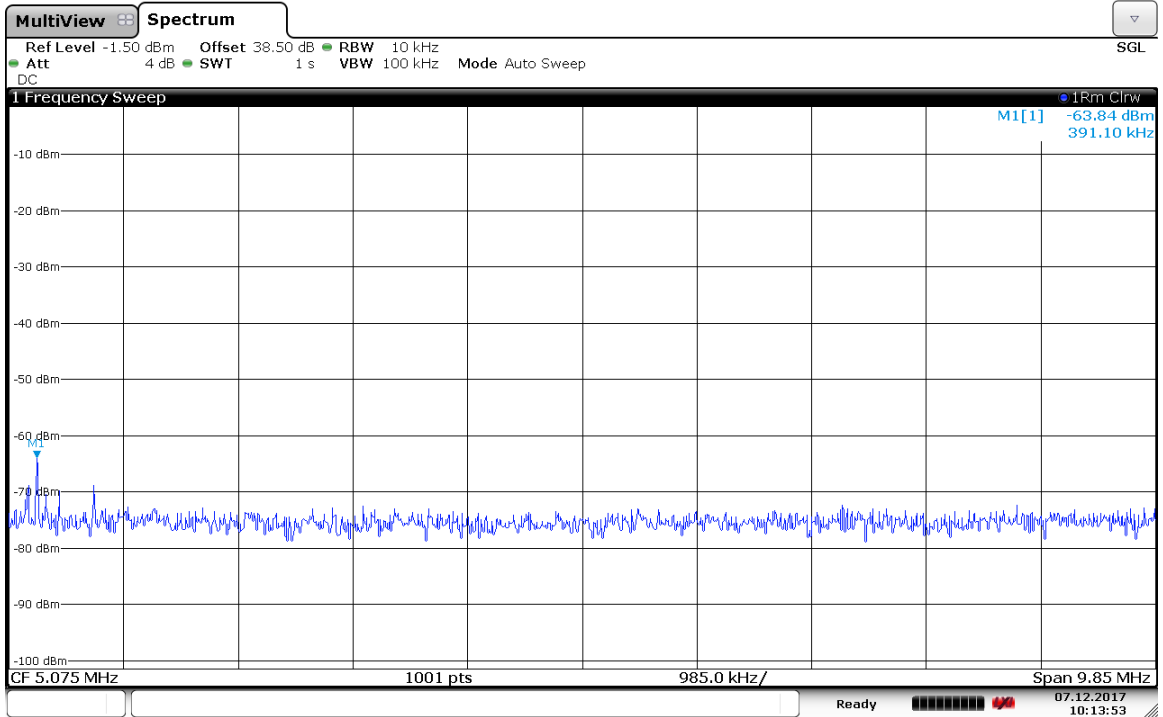


Date: 7 DEC 2017 17:56:33

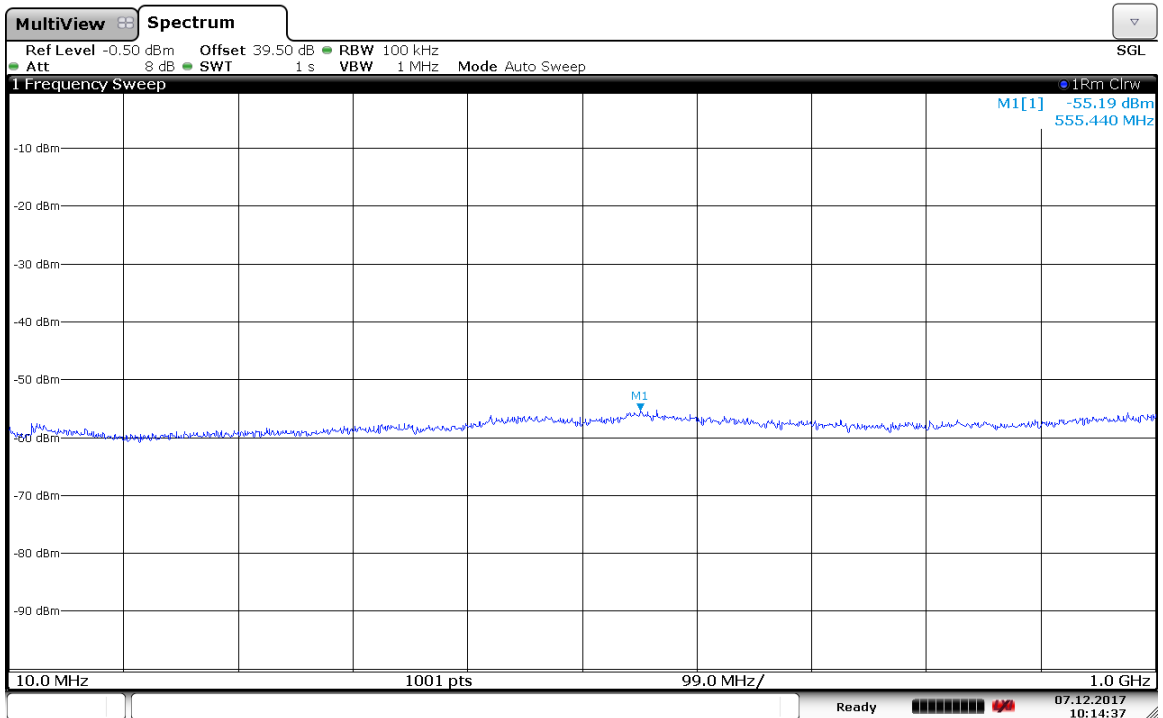
### LTE 5M-Port 2 -2122.5MHz



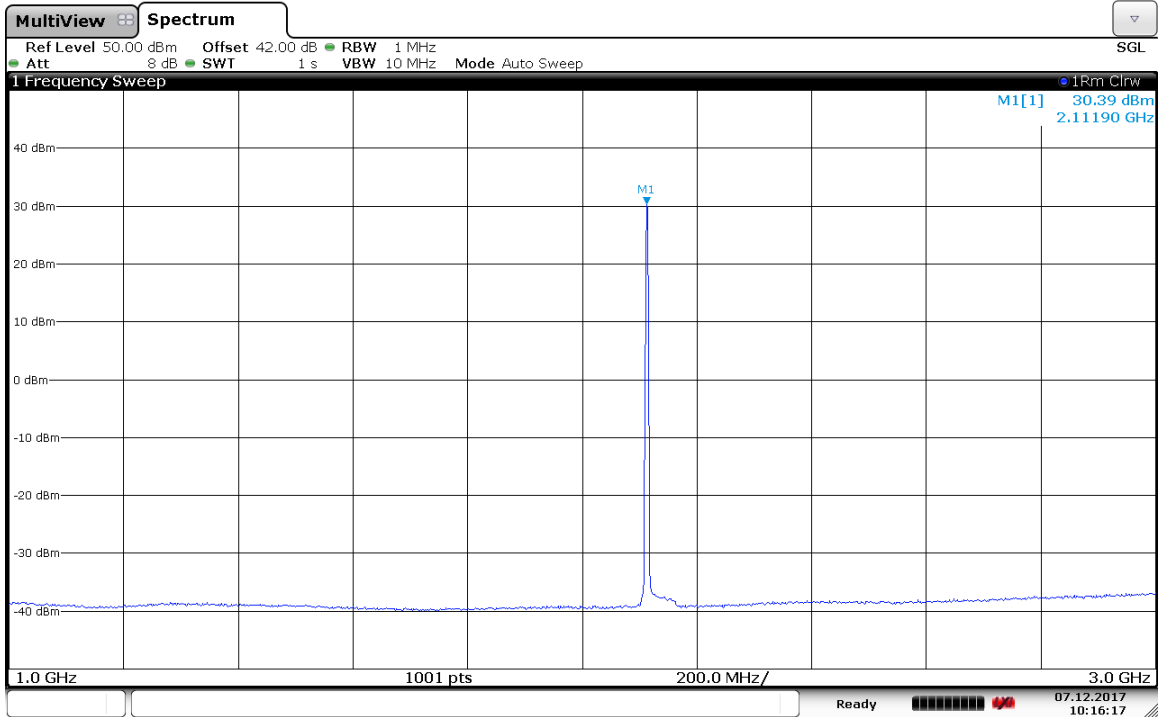
Date: 7 DEC 2017 10:04:40



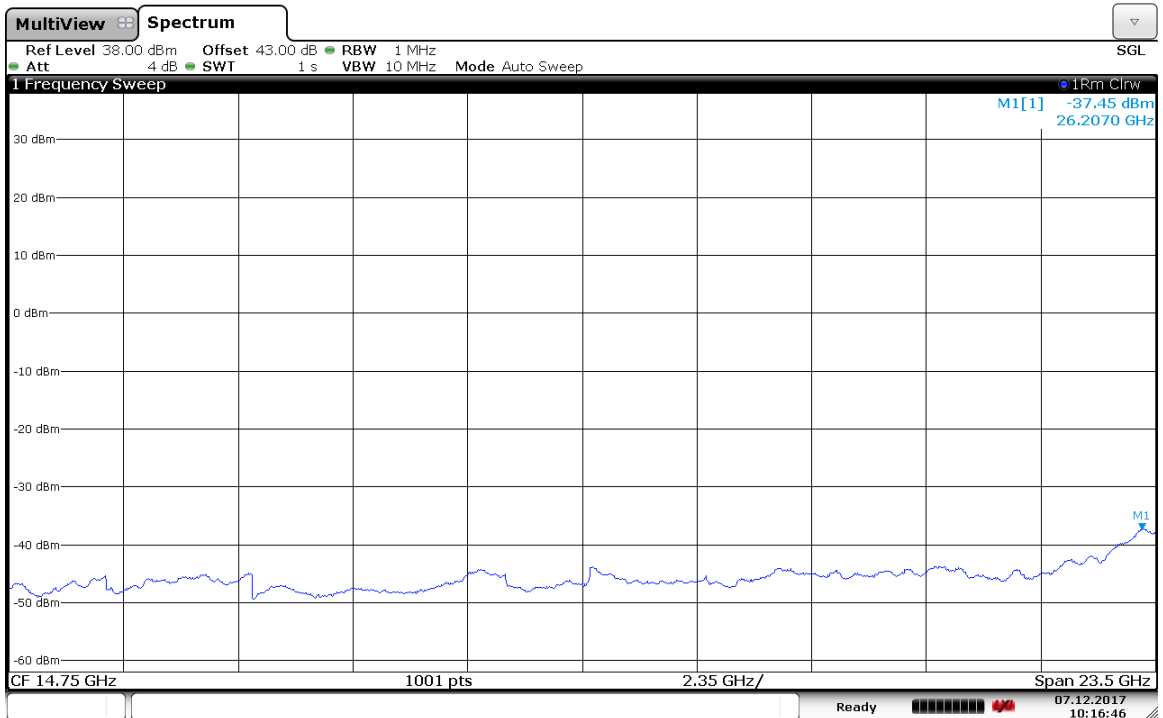
Date: 7 DEC 2017 10:13:52



Date: 7 DEC 2017 10:14:36

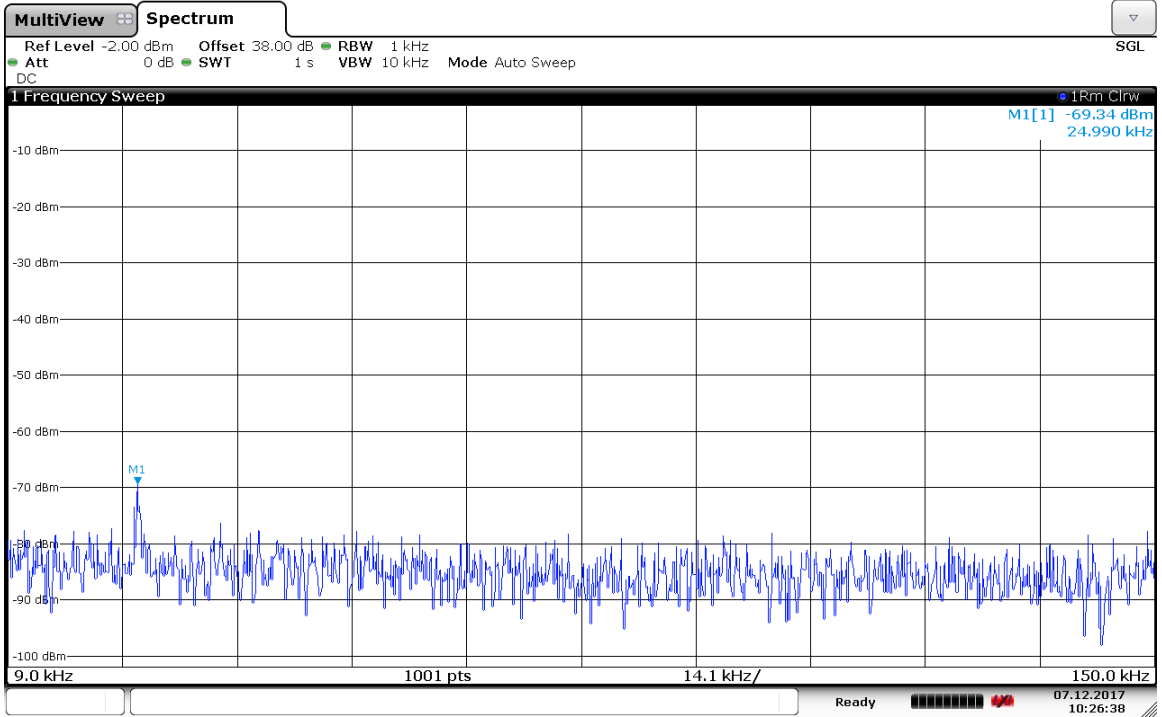


Date: 7 DEC 2017 10:16:17

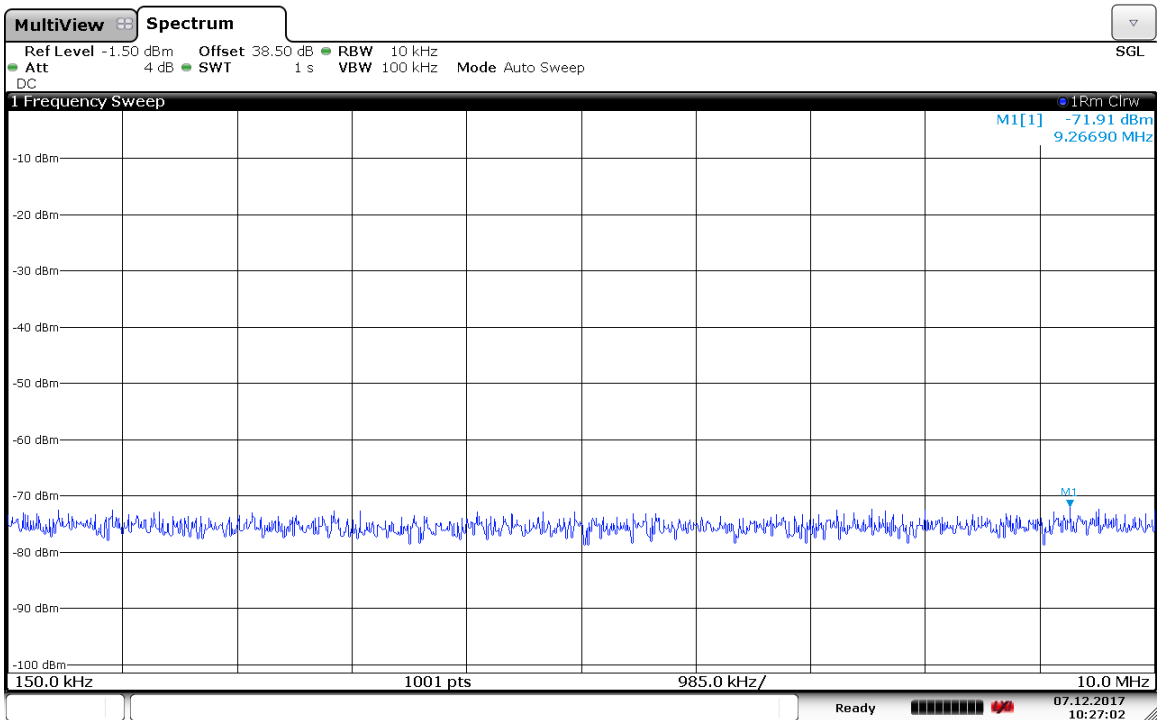


Date: 7 DEC 2017 10:16:46

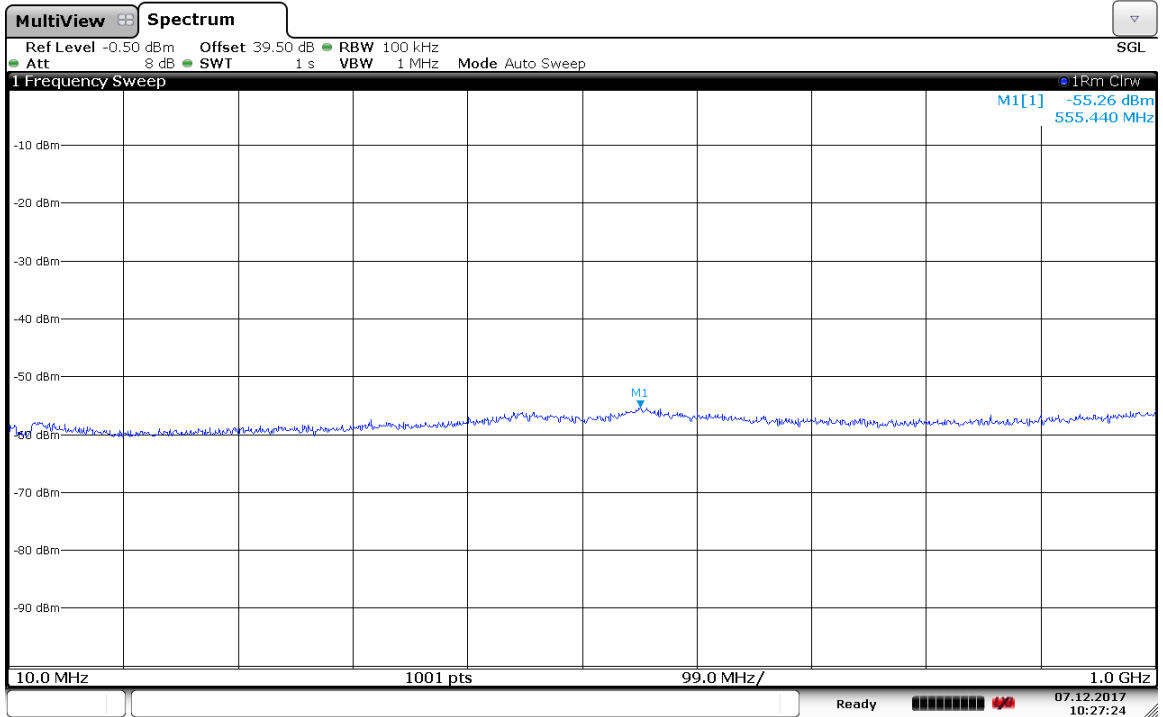
# LTE 5M-Port 2 -2132.5MHz



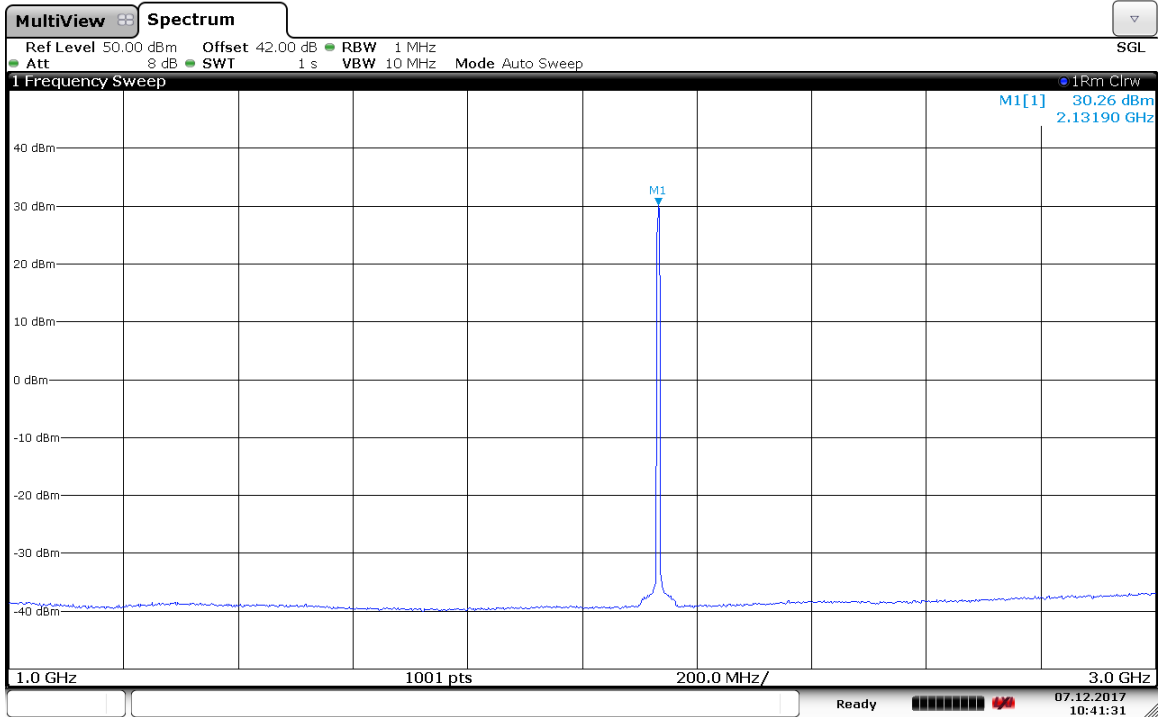
Date: 7 DEC 2017 10:26:38



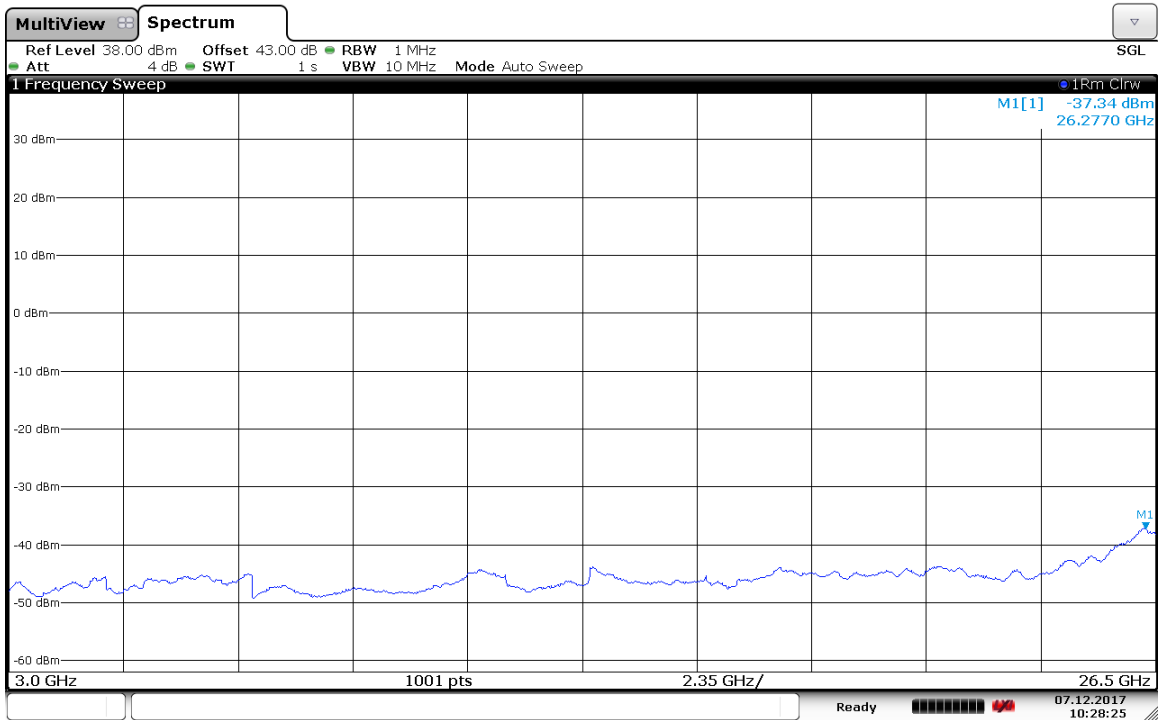
Date: 7 DEC 2017 10:27:02



Date: 7 DEC 2017 10:27:24

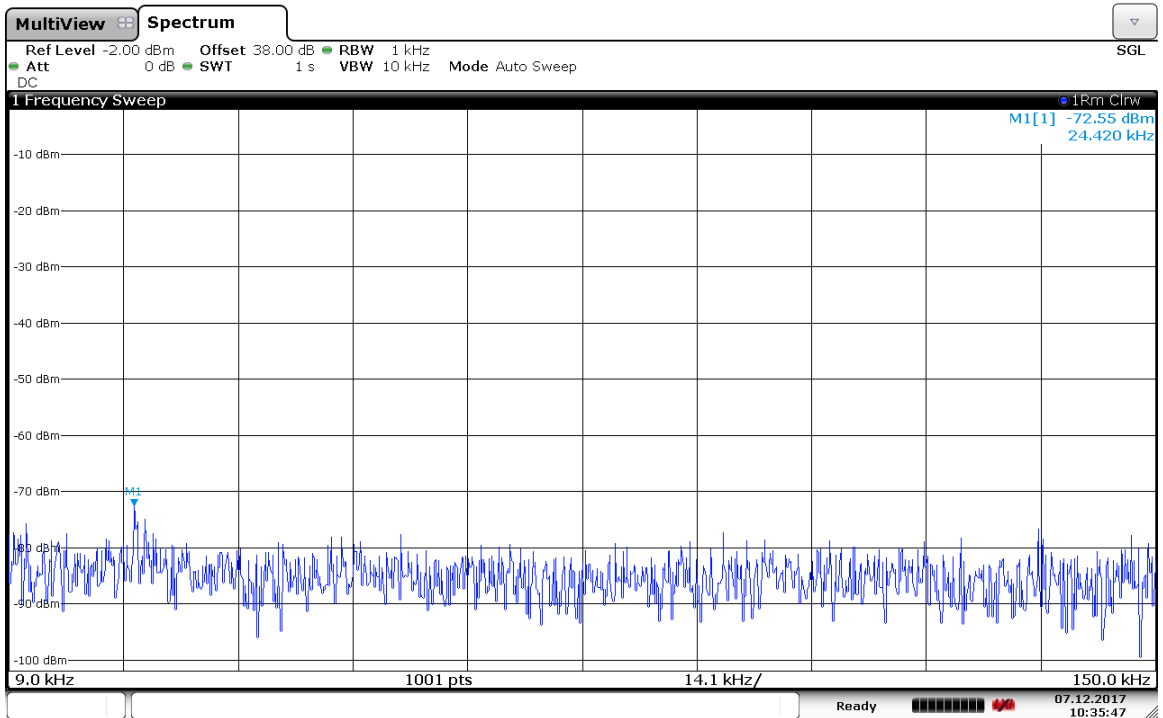


Date: 7 DEC 2017 10:41:31

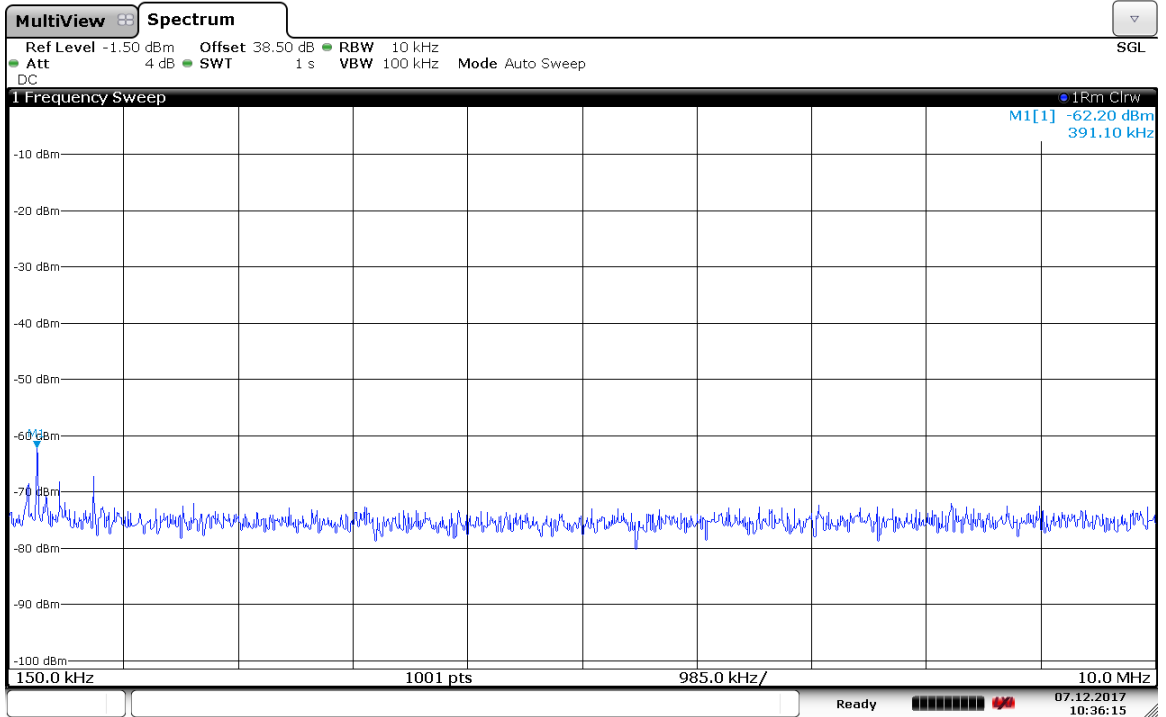


Date: 7 DEC 2017 10:28:25

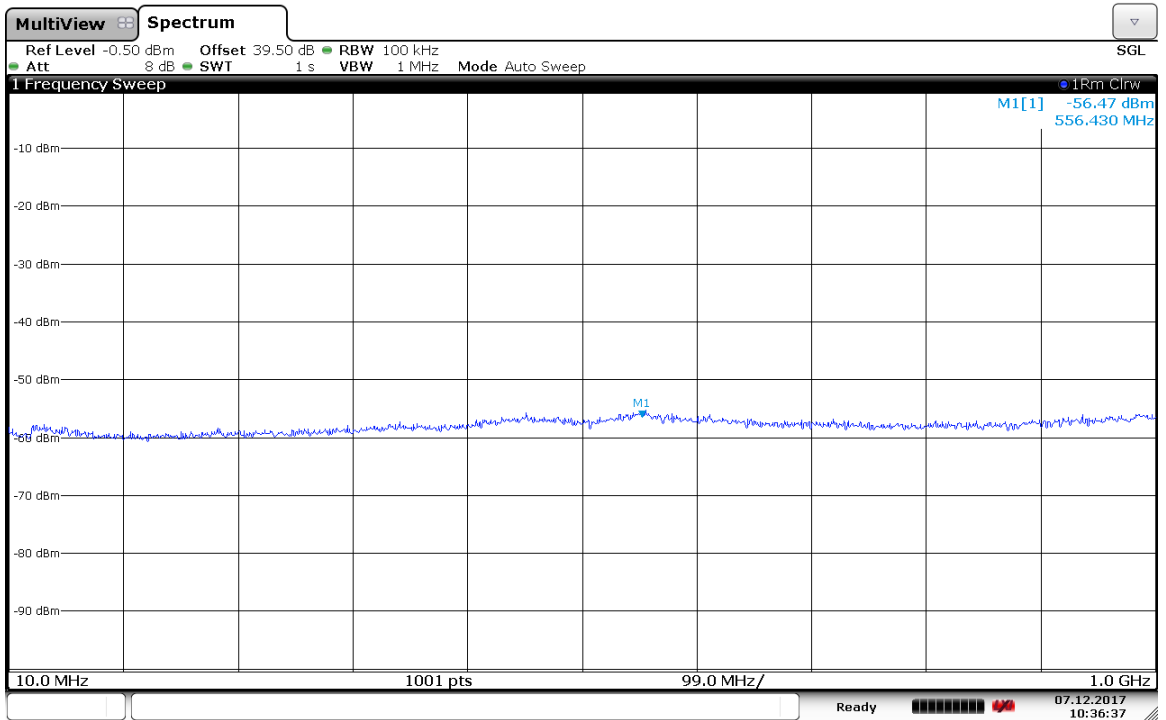
### LTE 5M-Port 2 -2152.5MHz



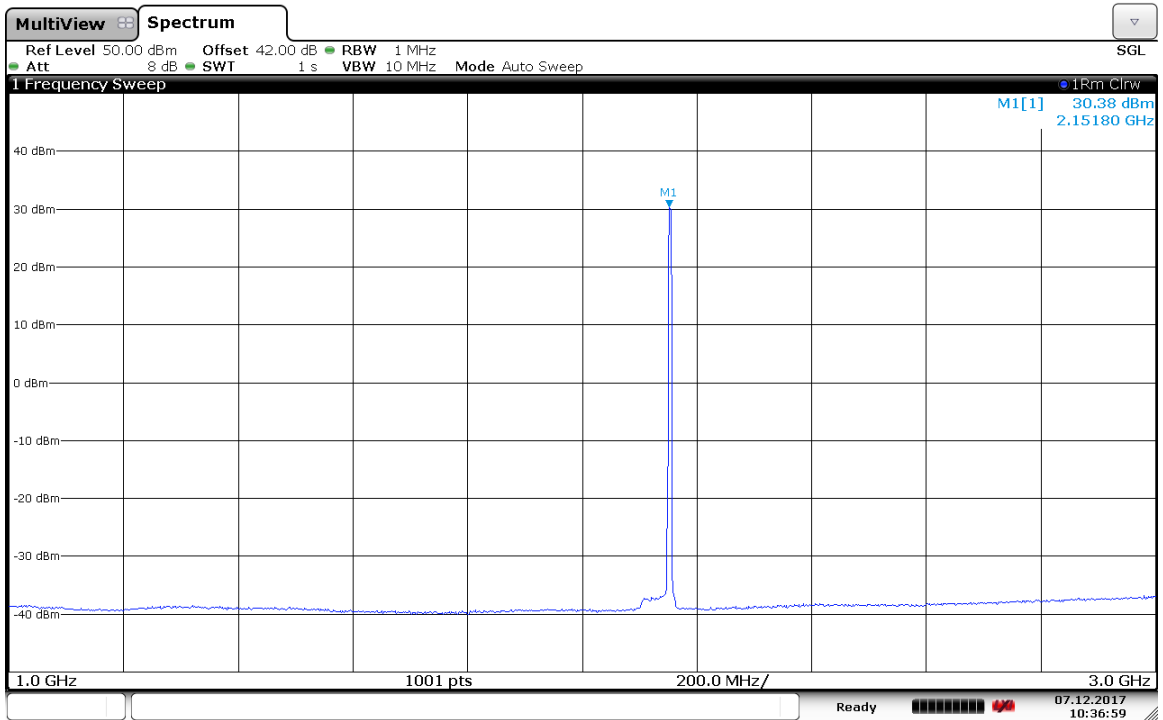
Date: 7 DEC 2017 10:35:47



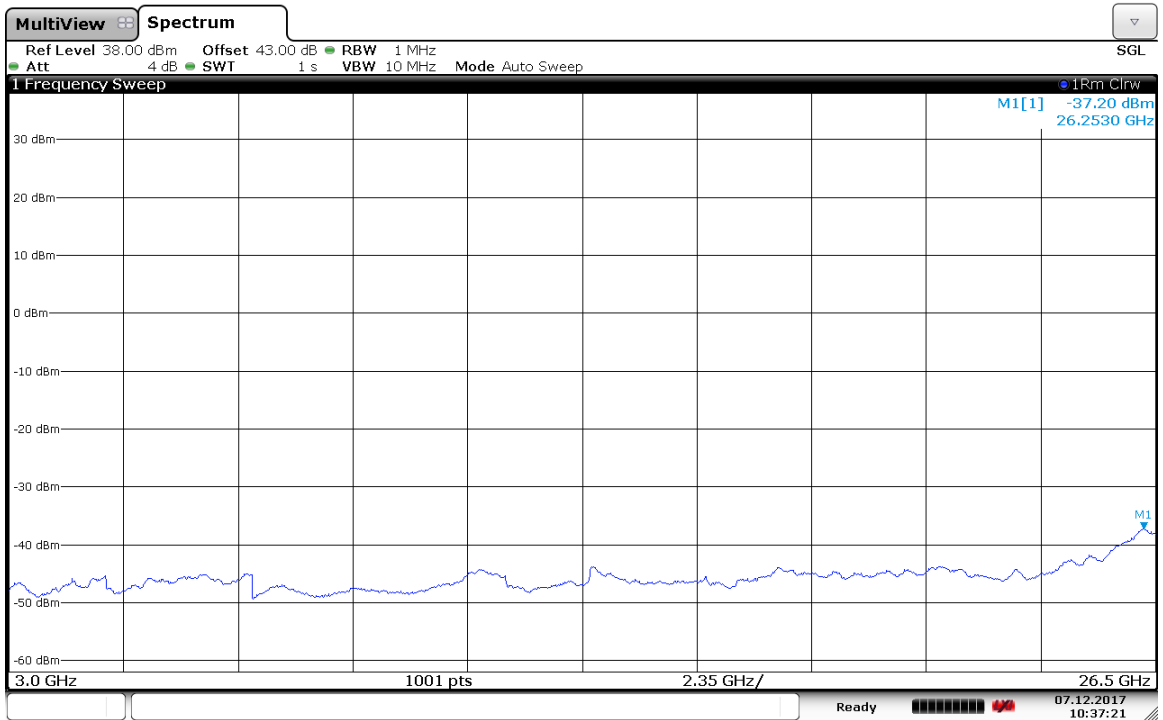
Date: 7 DEC 2017 10:36:15



Date: 7 DEC 2017 10:36:37



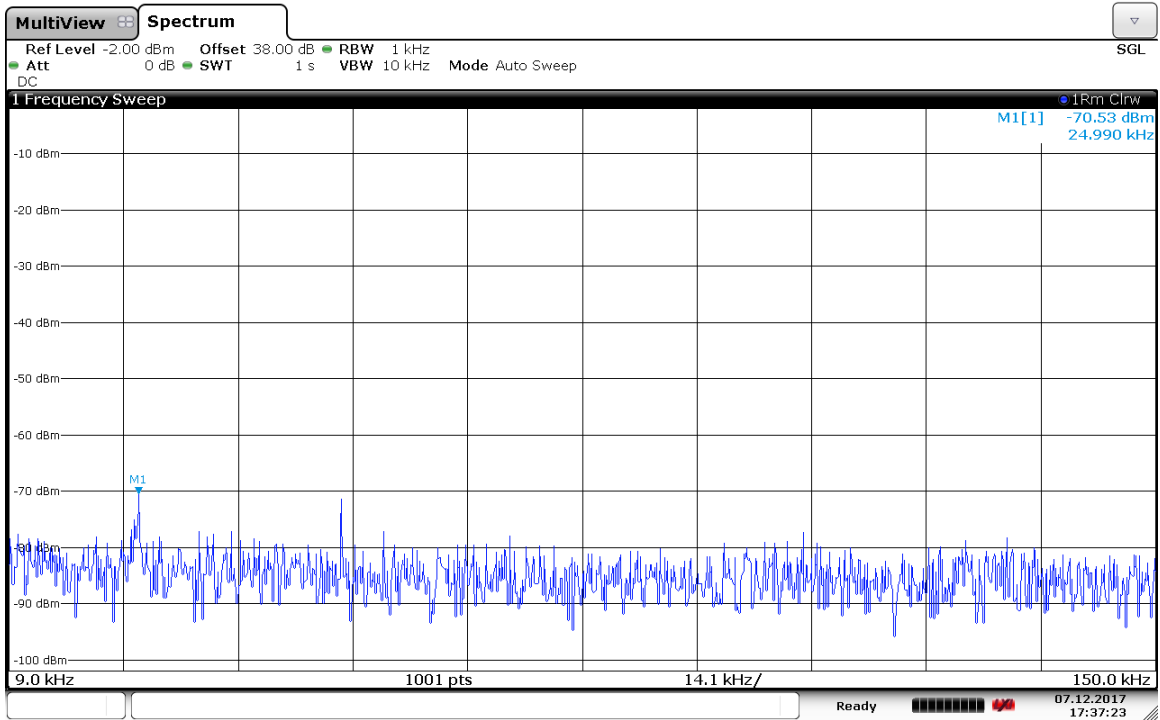
Date: 7 DEC 2017 10:37:00



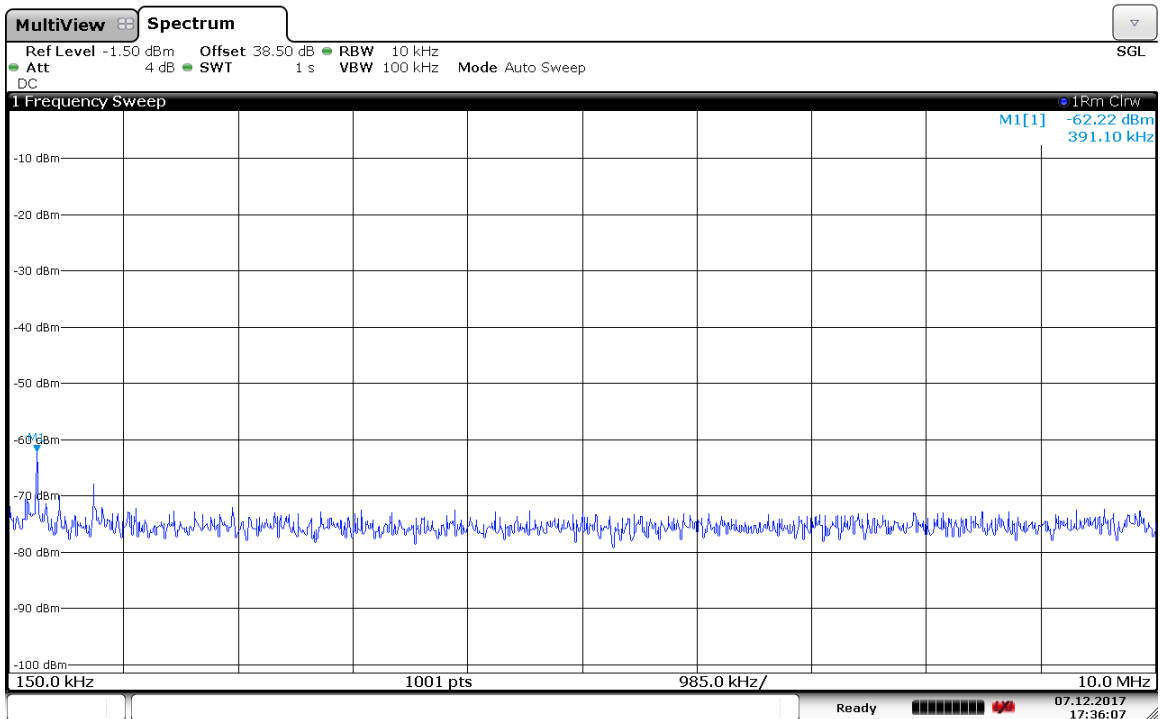
Date: 7 DEC 2017 10:37:20



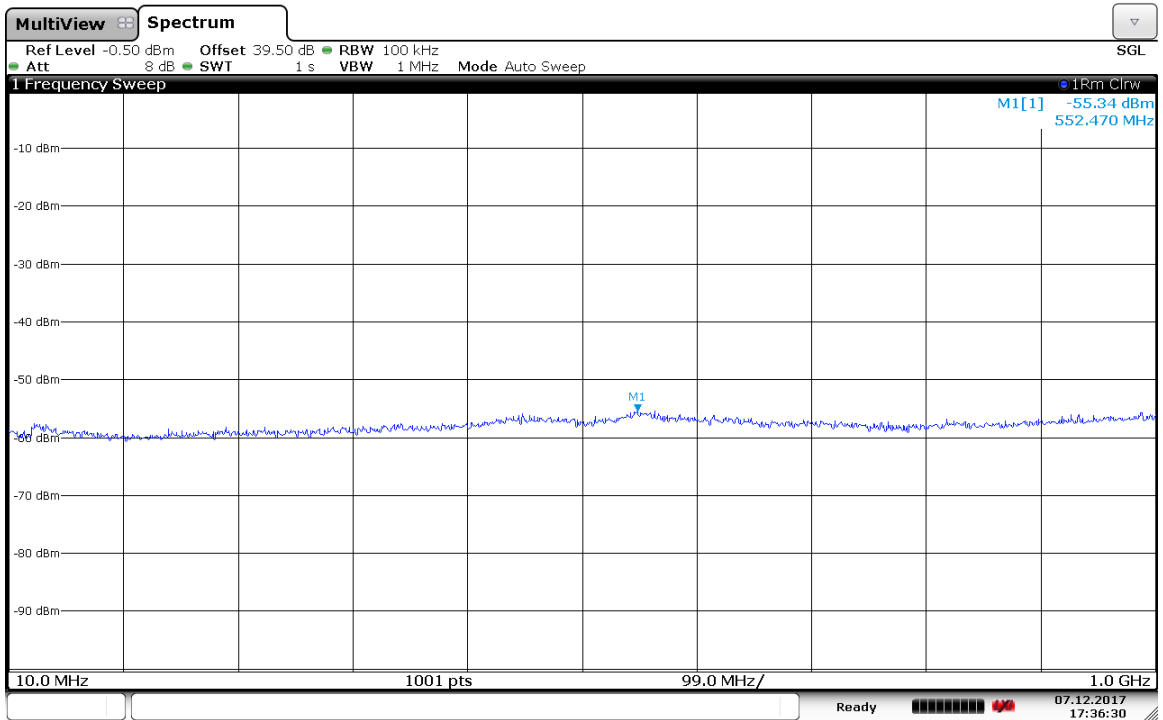
LTE 10MHz:  
 LTE 10M-Port 1 -2115MHz



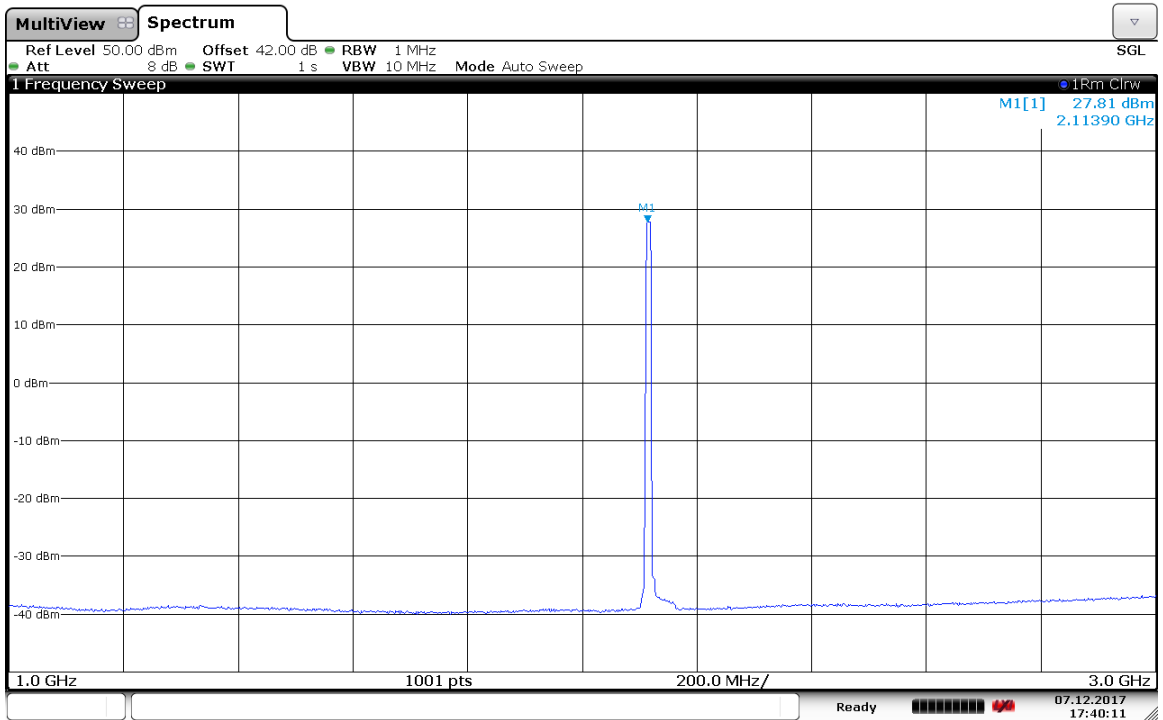
Date: 7 DEC 2017 17:37:22



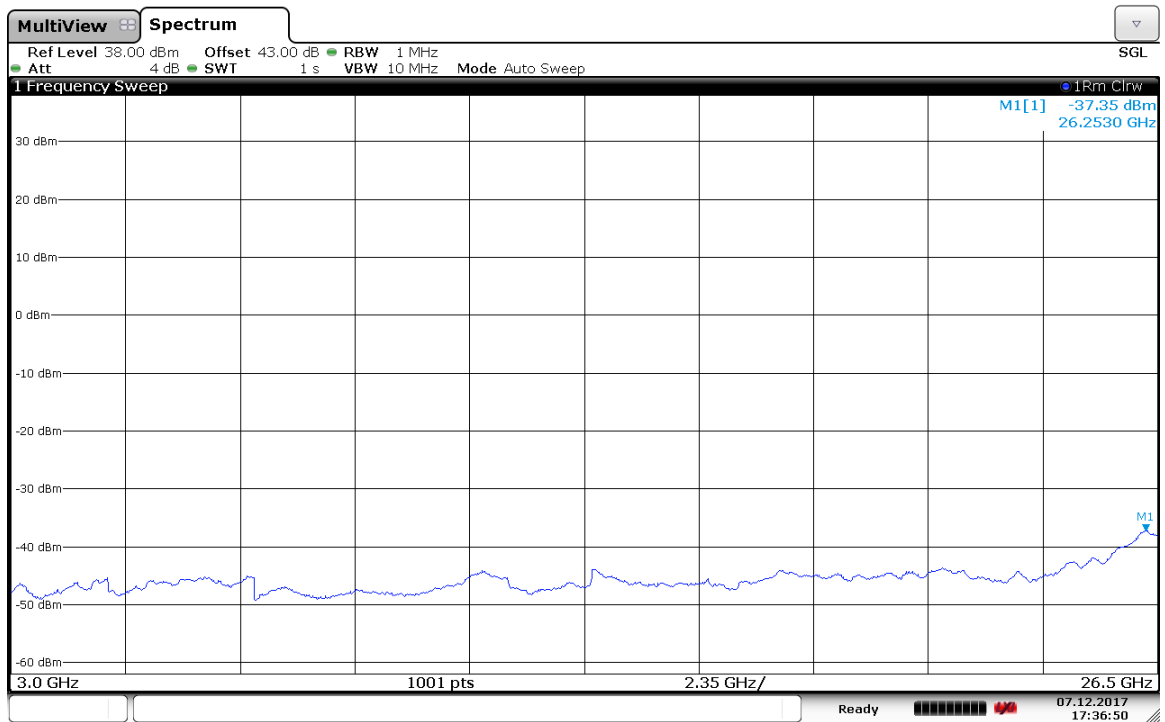
Date: 7 DEC 2017 17:36:07



Date: 7 DEC 2017 17:36:30

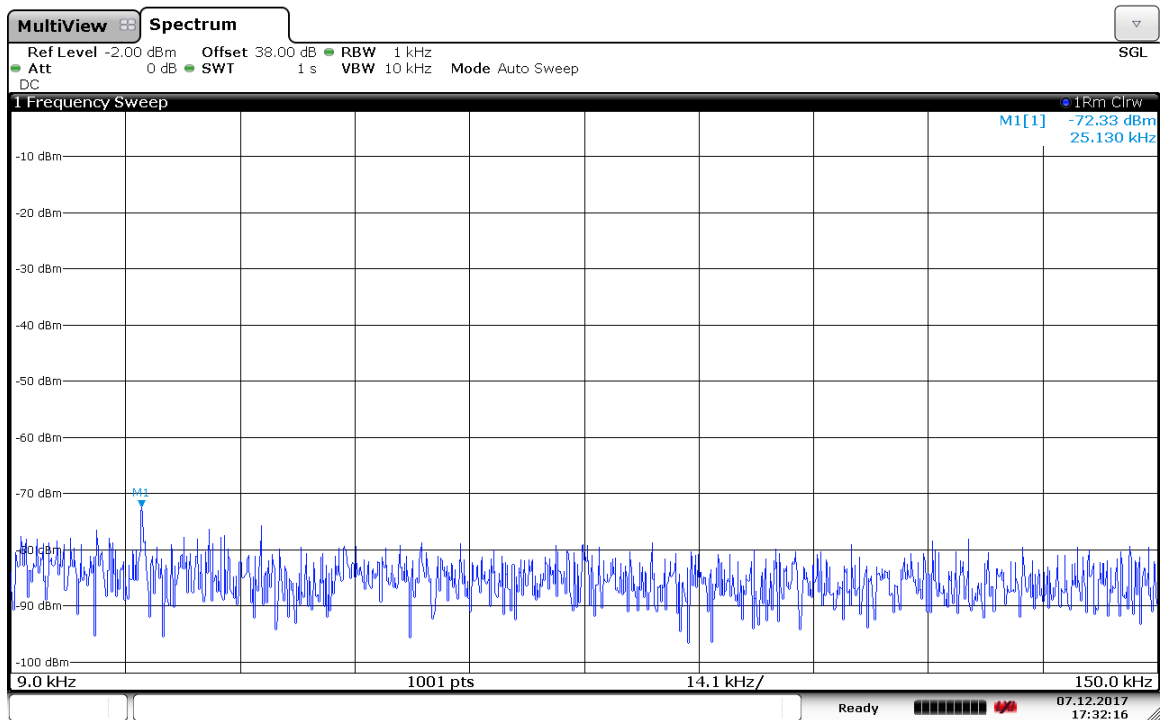


Date: 7 DEC 2017 17:40:11

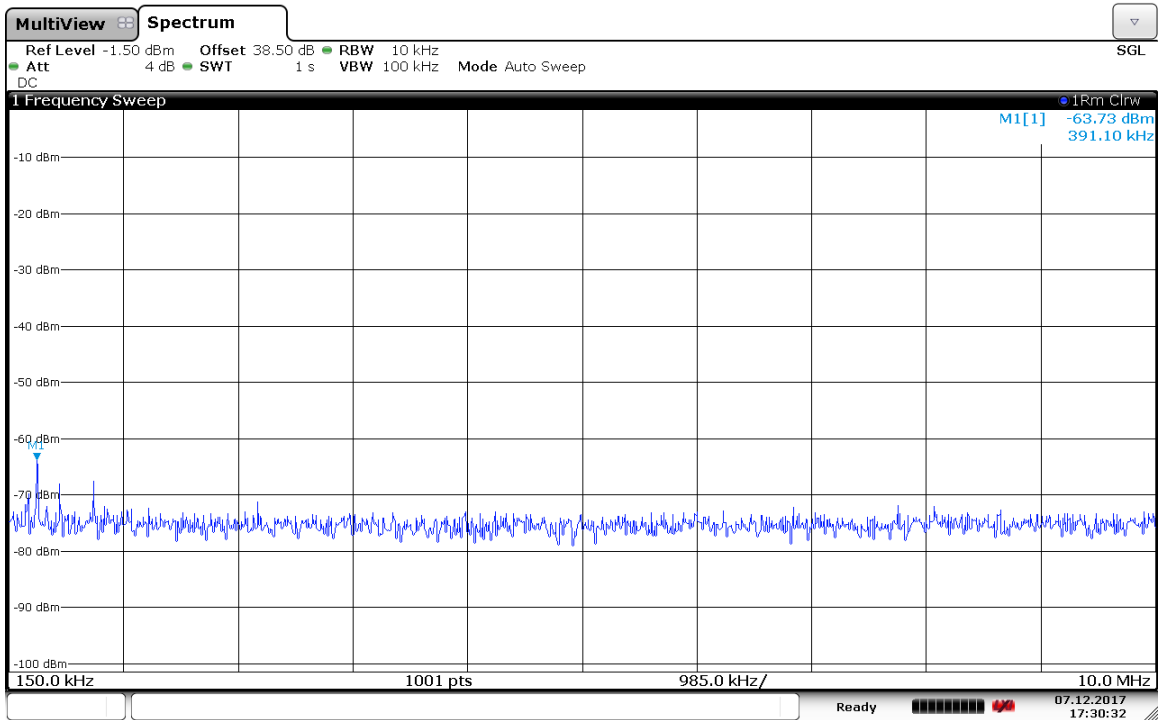


Date: 7 DEC 2017 17:36:50

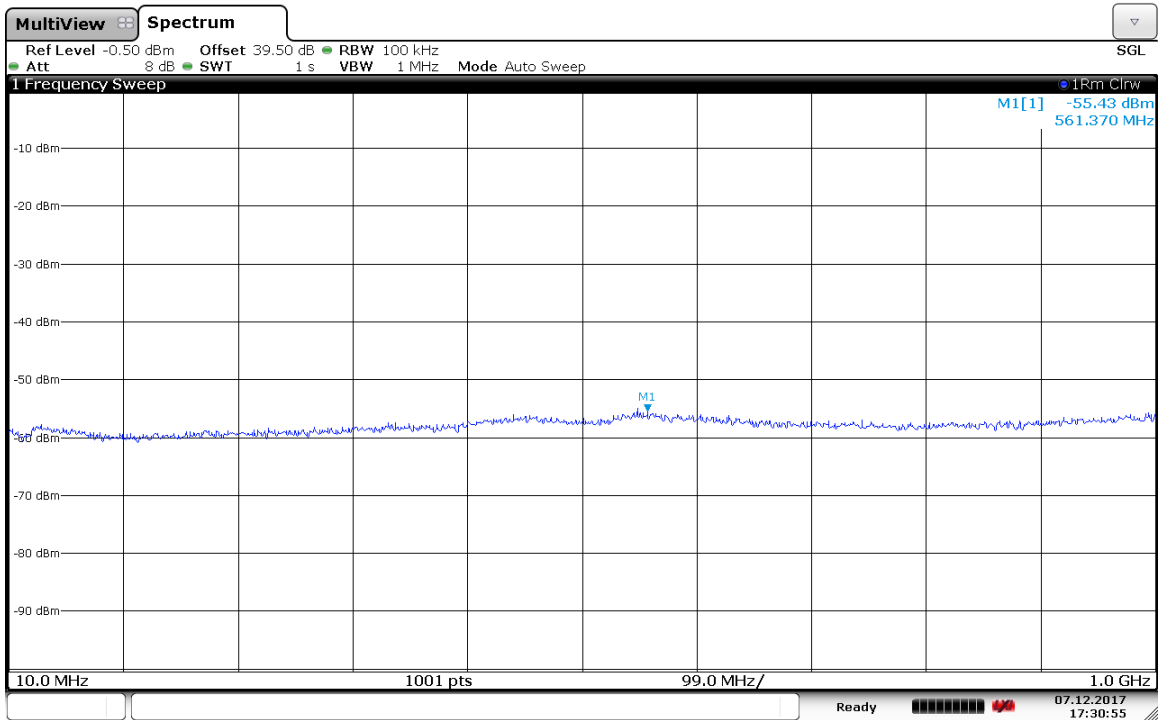
### LTE 10M-Port 1 -2132.5MHz



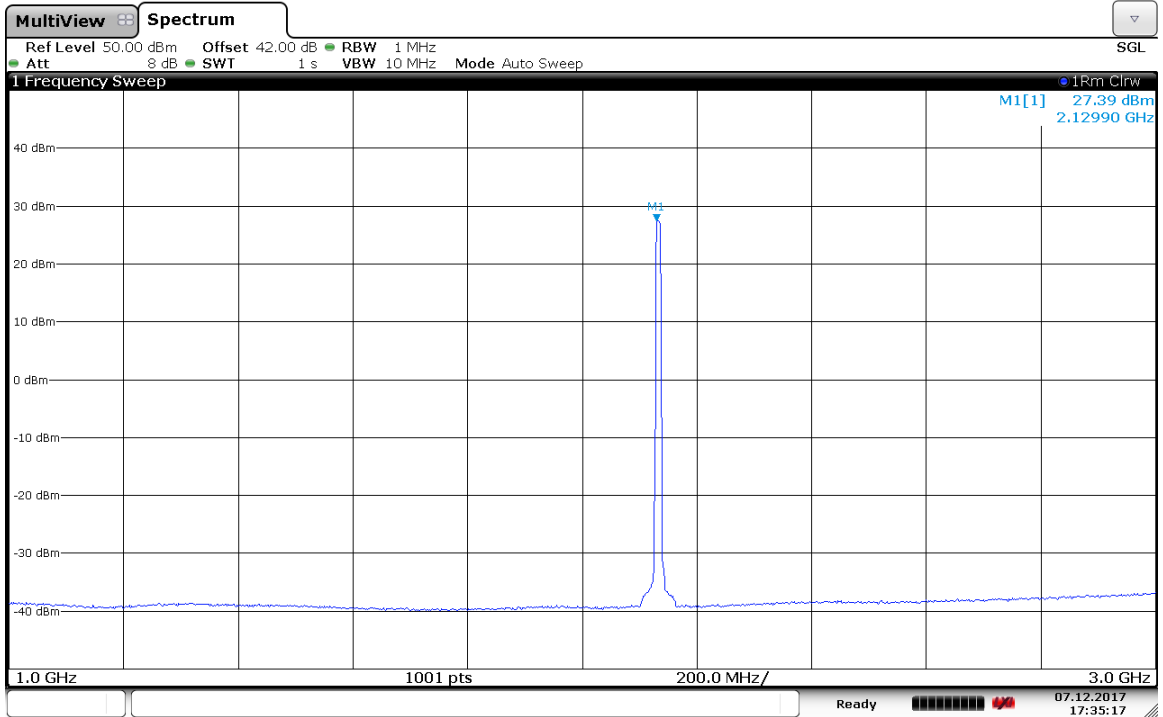
Date: 7 DEC 2017 17:32:17



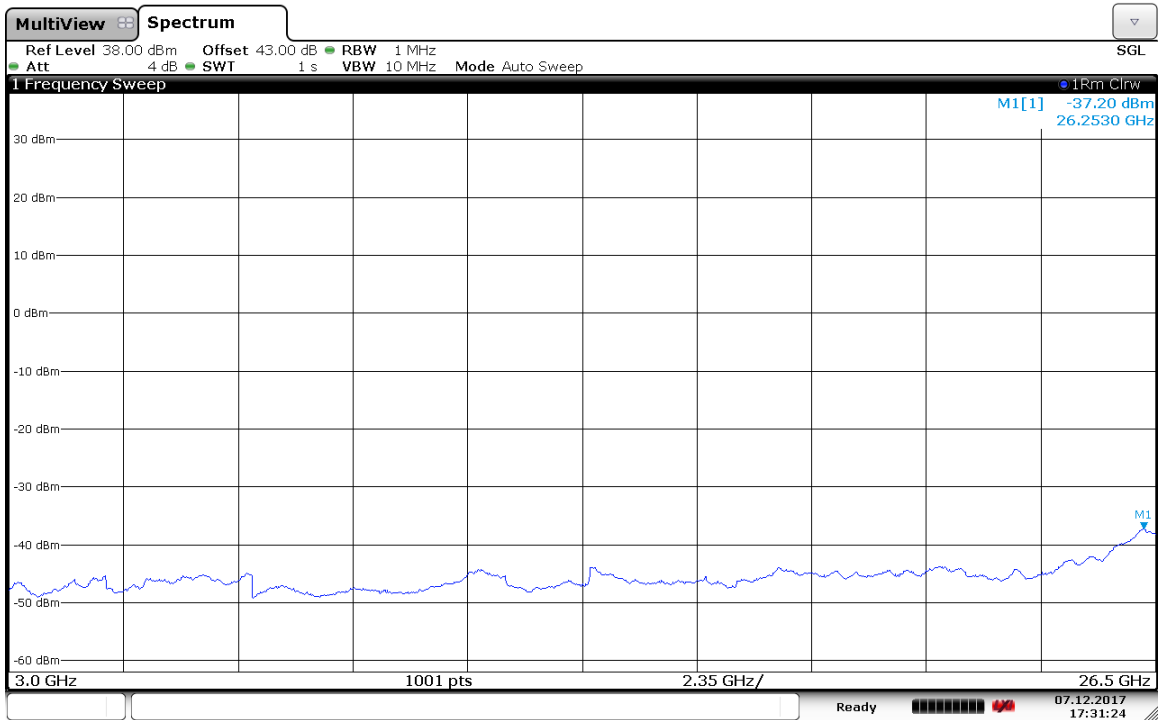
Date: 7 DEC 2017 17:30:32



Date: 7 DEC 2017 17:30:55

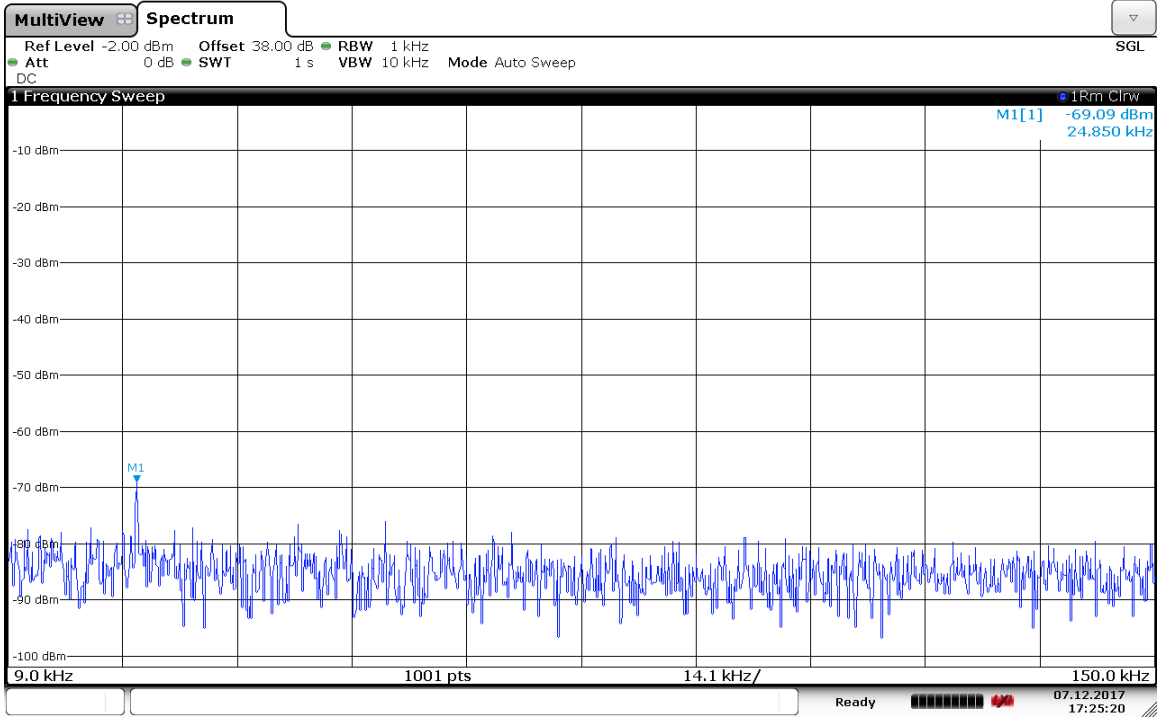


Date: 7 DEC 2017 17:35:16

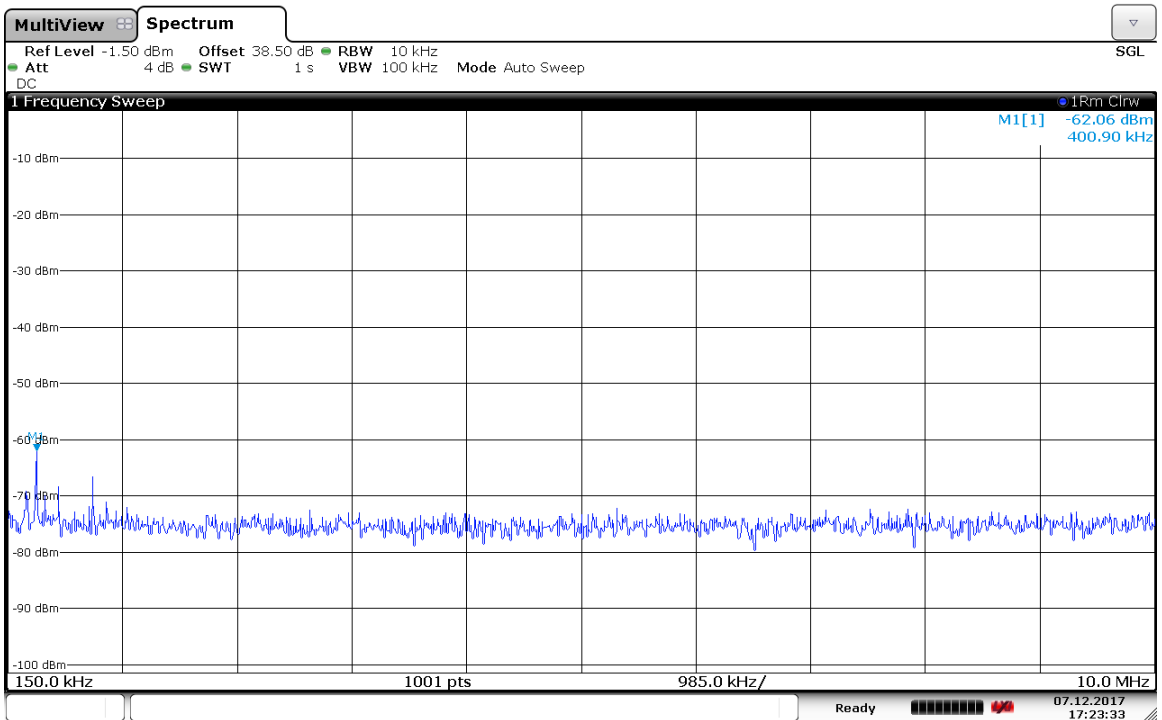


Date: 7 DEC 2017 17:31:24

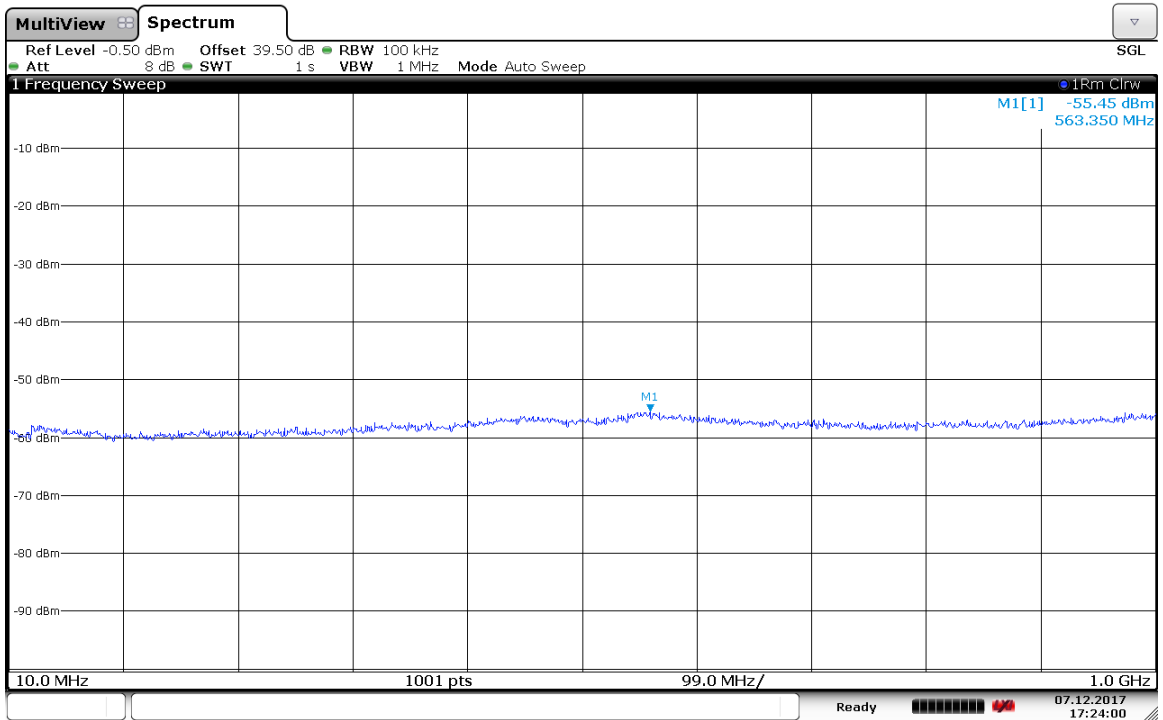
# LTE 10M-Port 1 -2150MHz



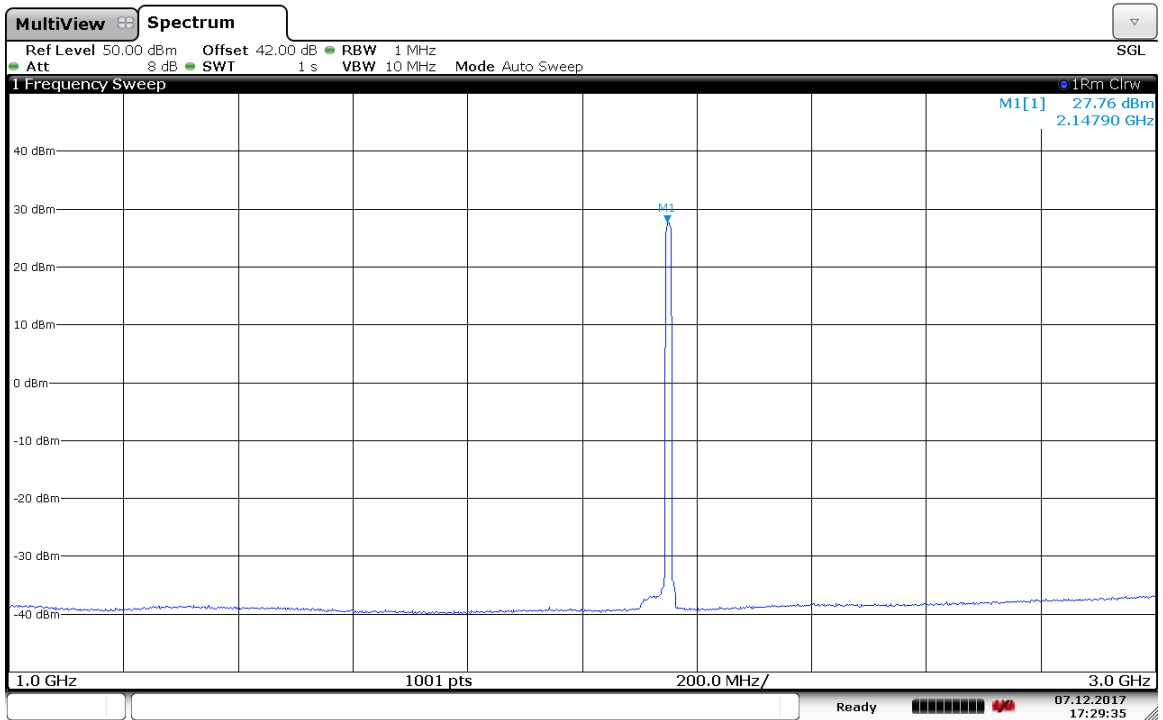
Date: 7.DEC.2017 17:25:20



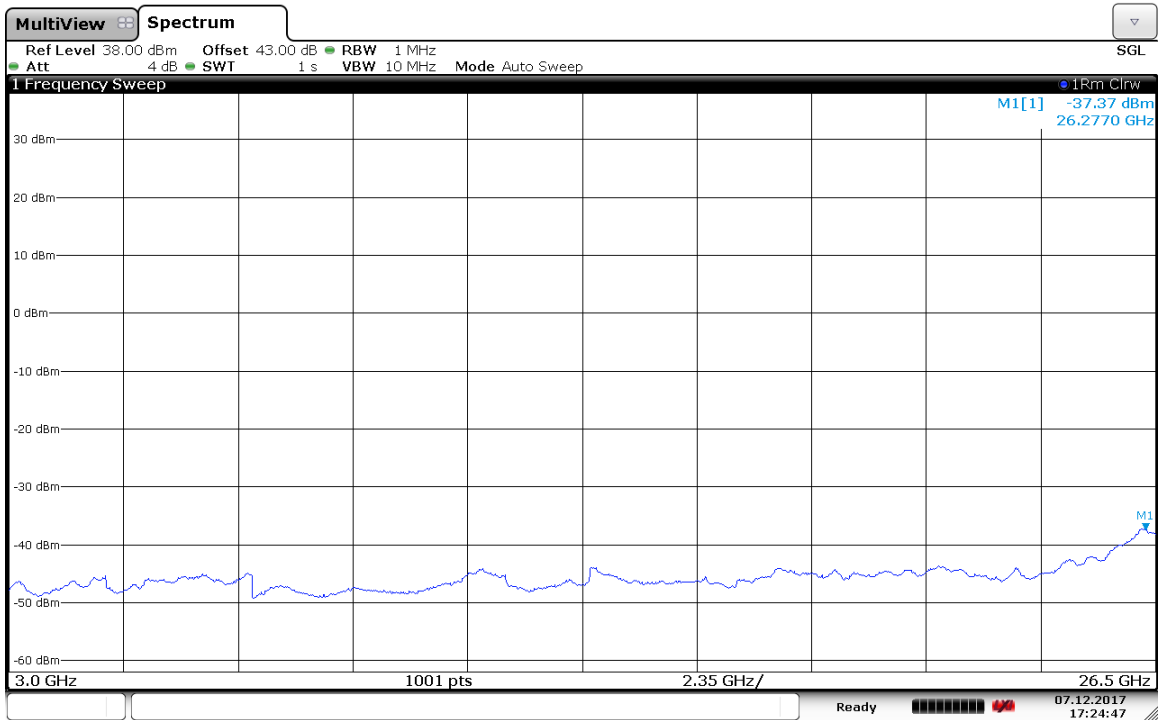
Date: 7.DEC.2017 17:23:33



Date: 7 DEC 2017 17:24:00

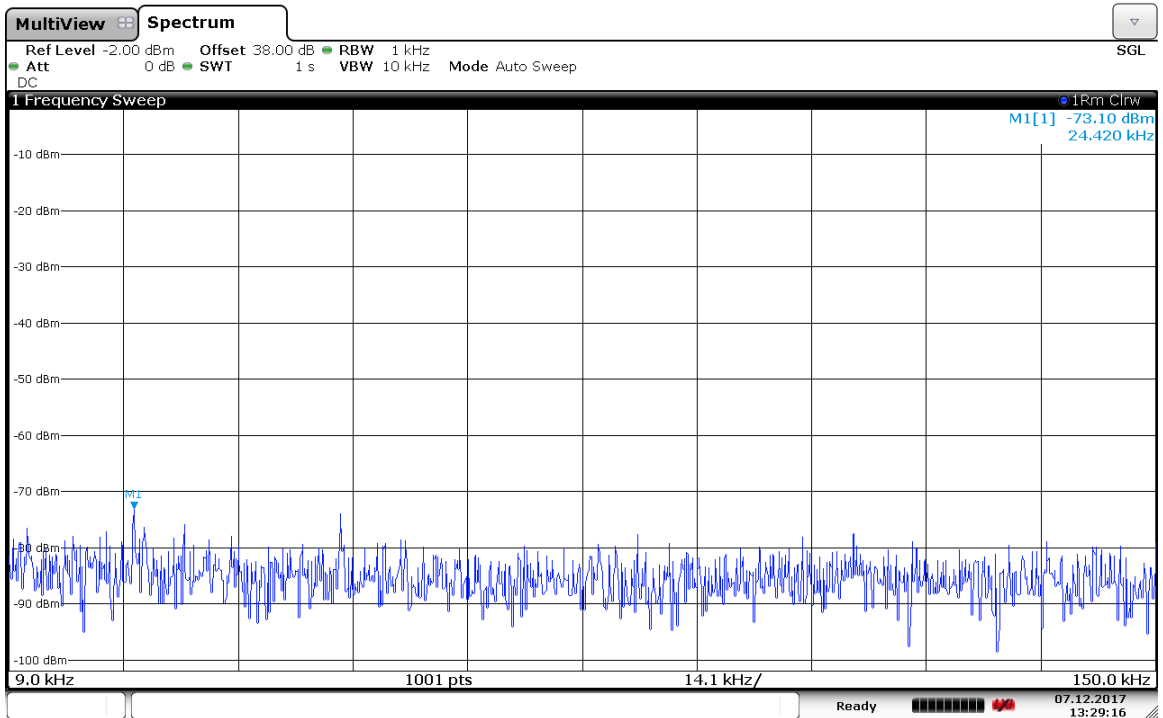


Date: 7 DEC 2017 17:29:35



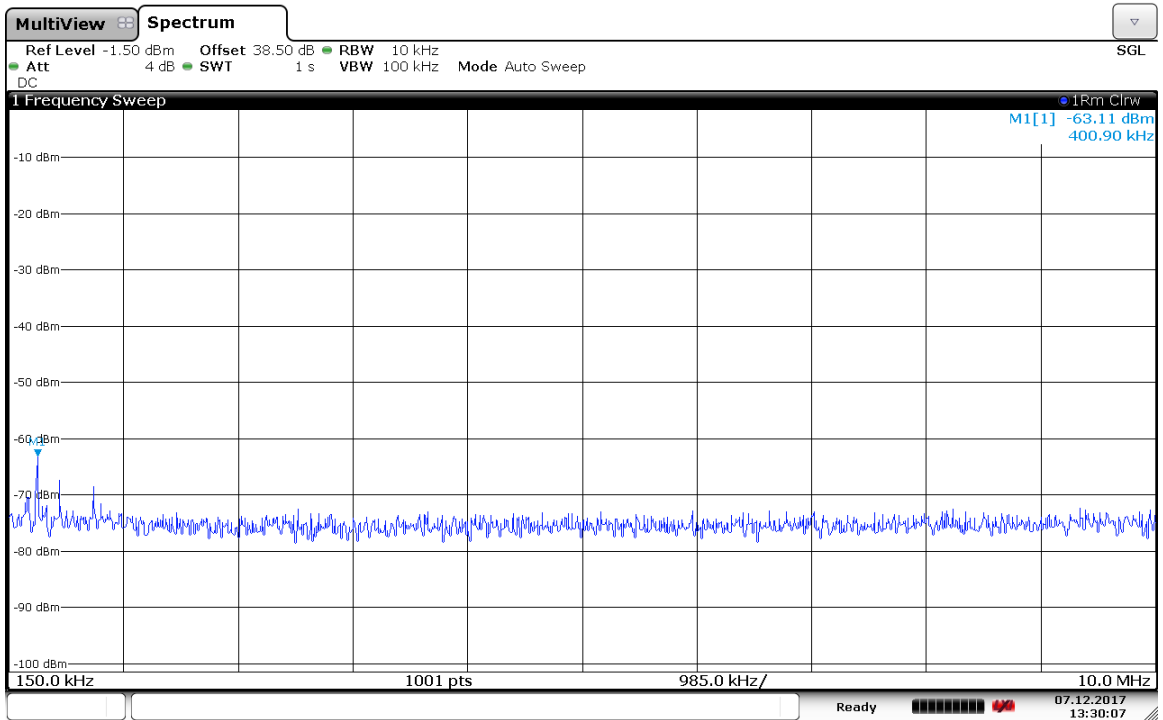
Date: 7 DEC 2017 17:24:47

### LTE10M-Port 2 -2115MHz

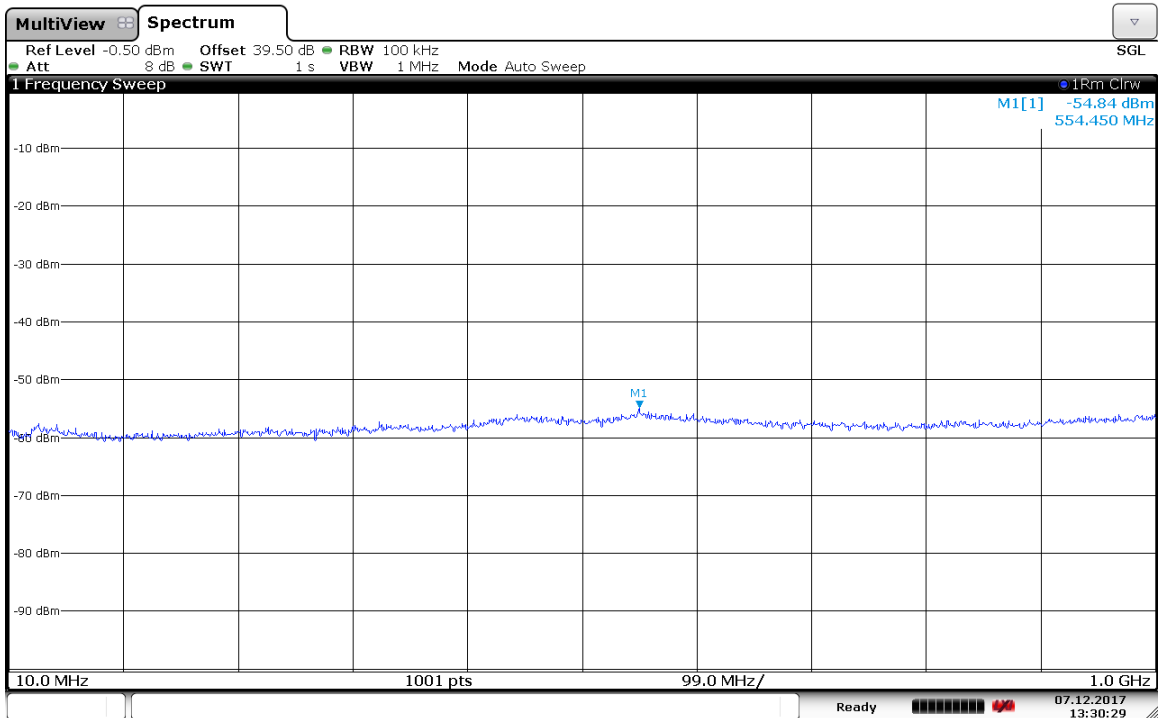


Date: 7 DEC 2017 13:29:16

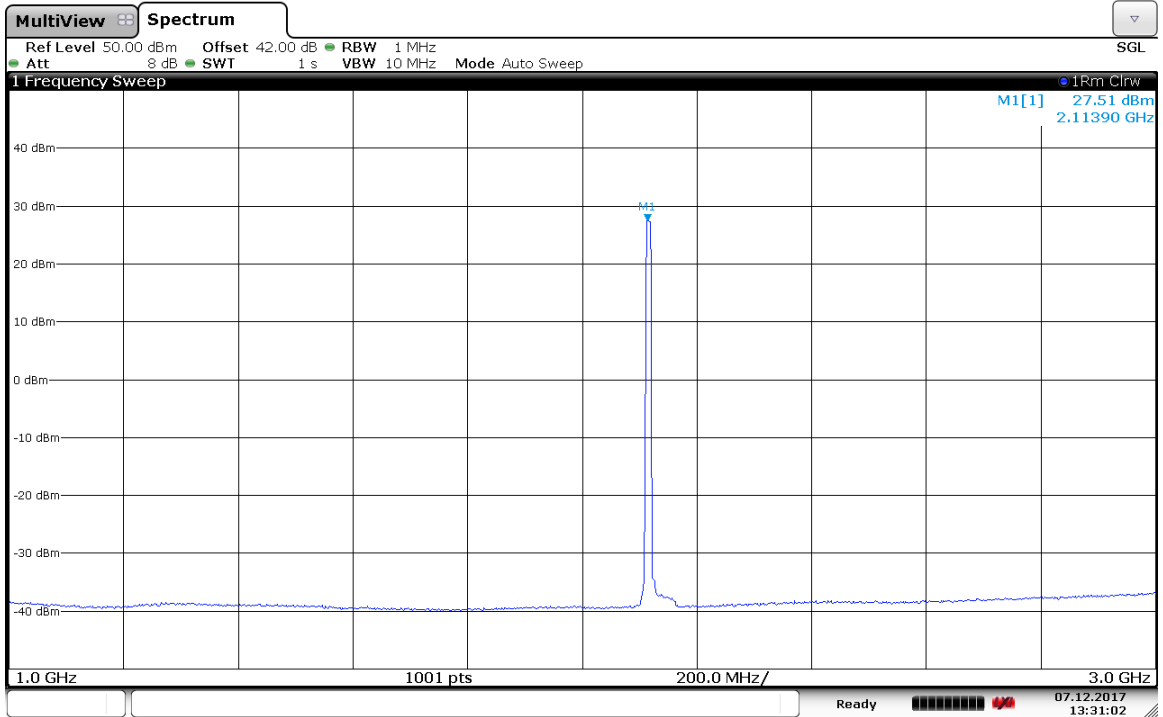




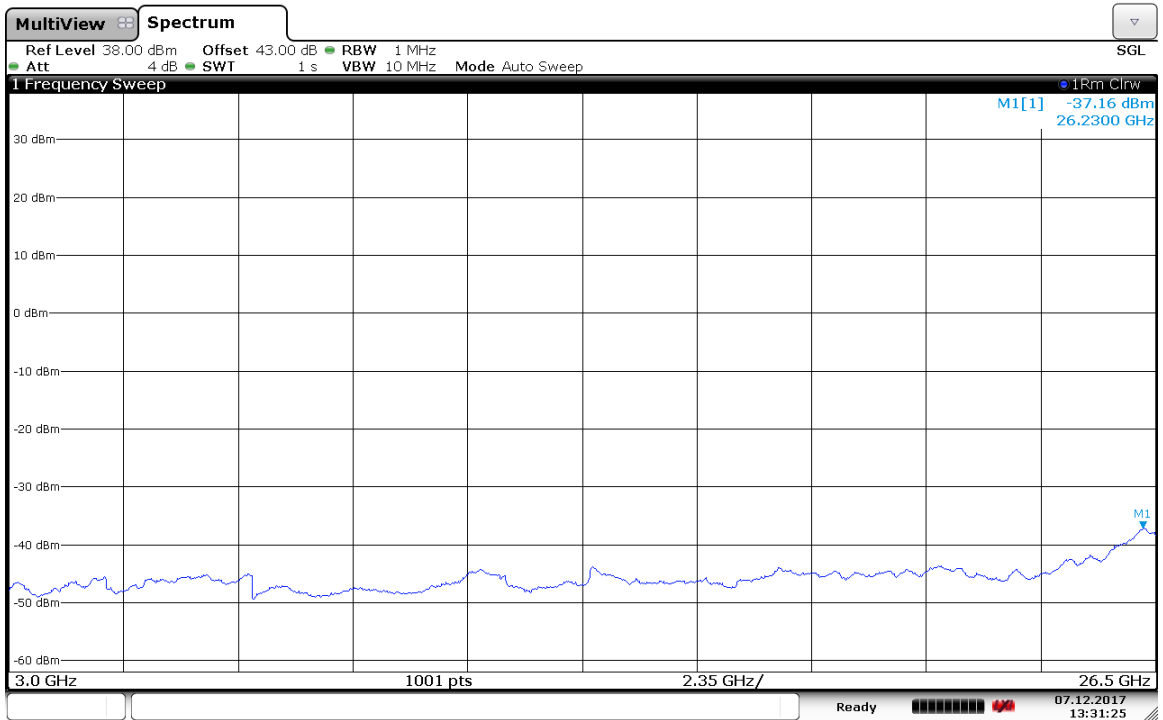
Date: 7 DEC 2017 13:30:06



Date: 7 DEC 2017 13:30:29

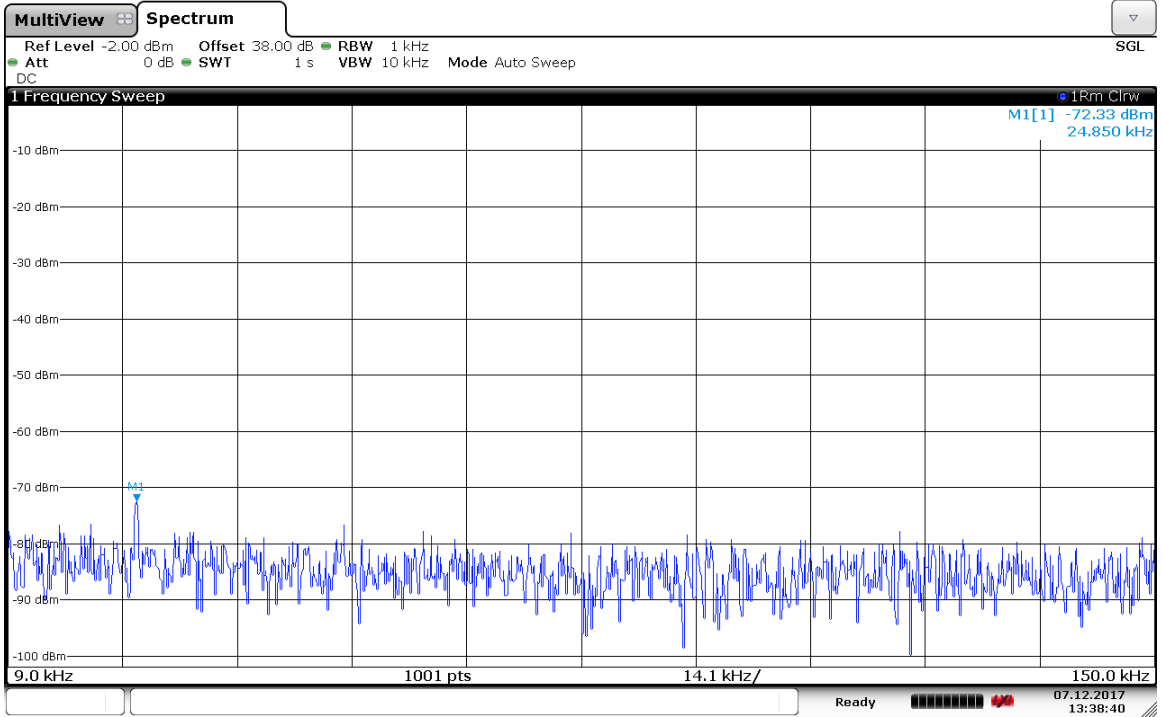


Date: 7 DEC 2017 13:31:01

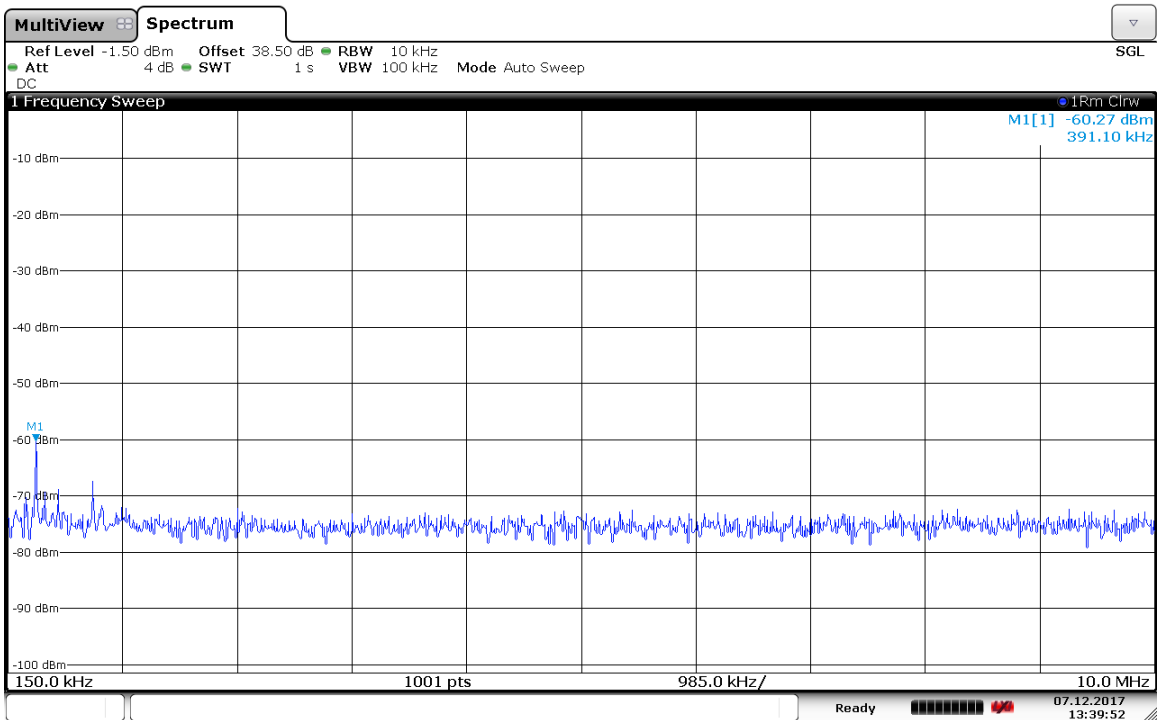


Date: 7 DEC 2017 13:31:25

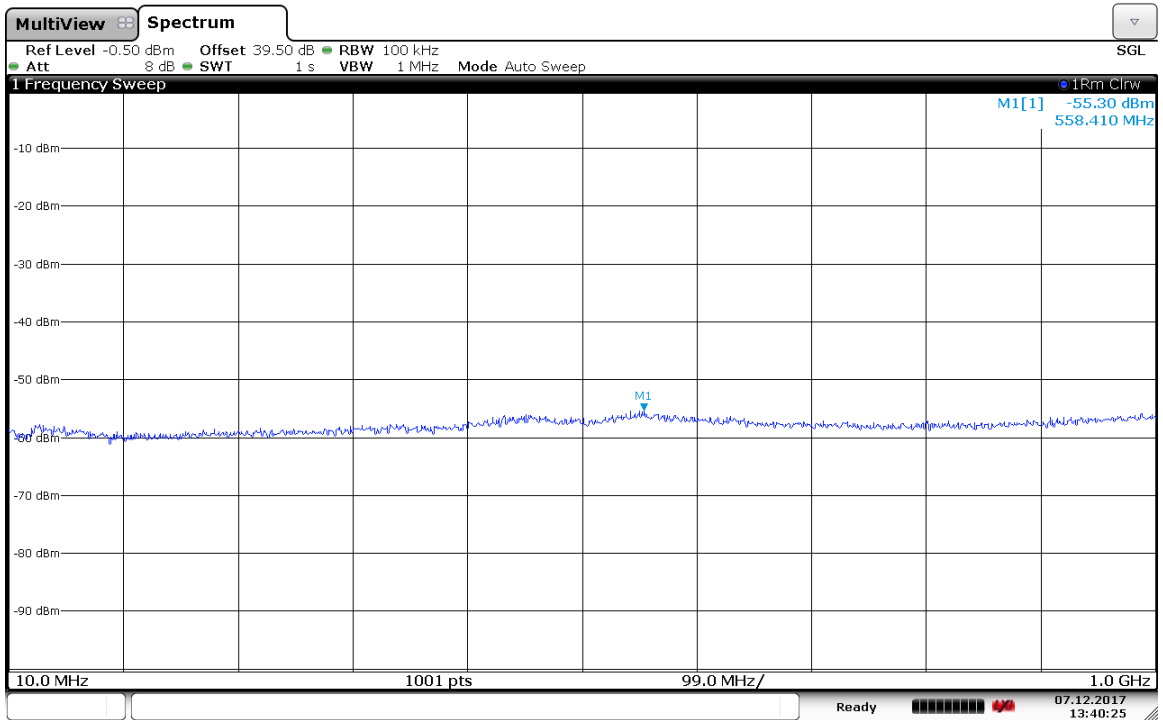
# LTE 10M-Port 2 -2132.5MHz



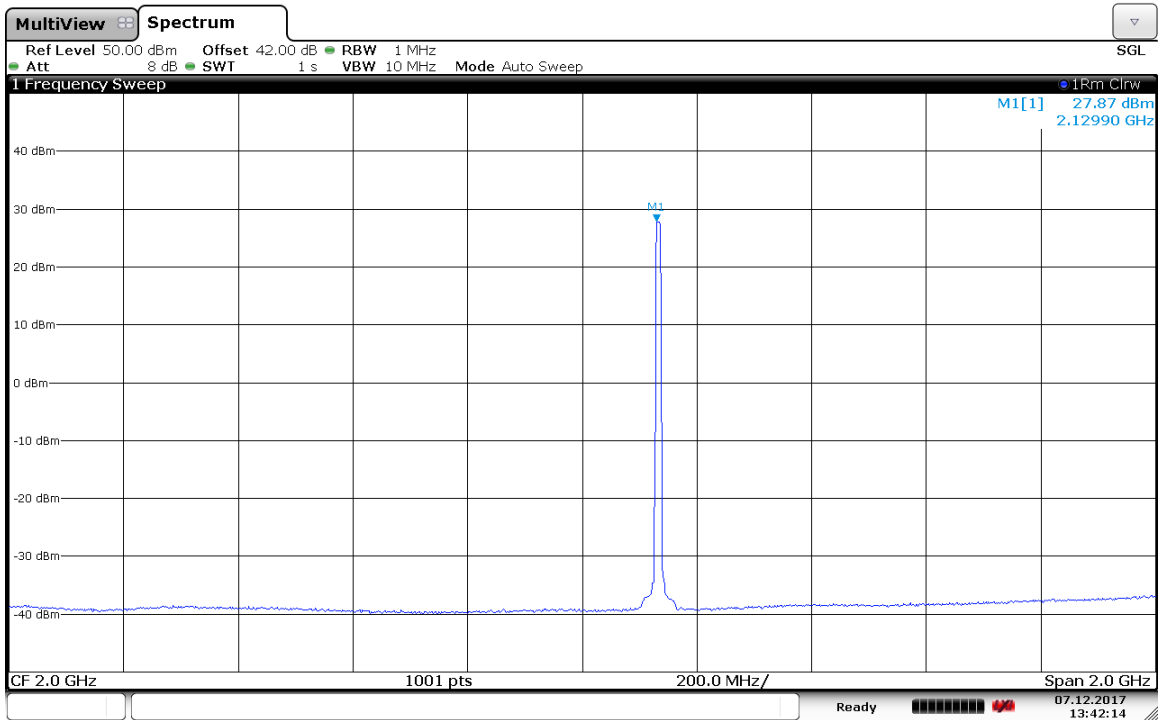
Date: 7 DEC 2017 13:38:40



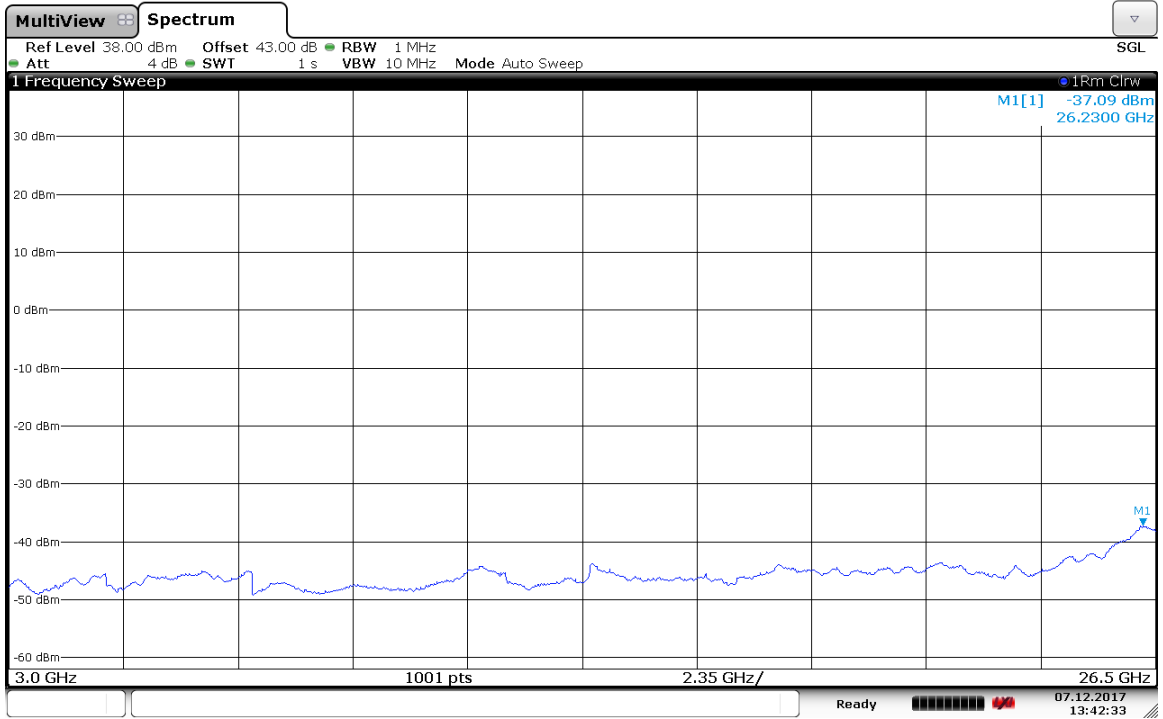
Date: 7 DEC 2017 13:39:52



Date: 7 DEC 2017 13:40:26

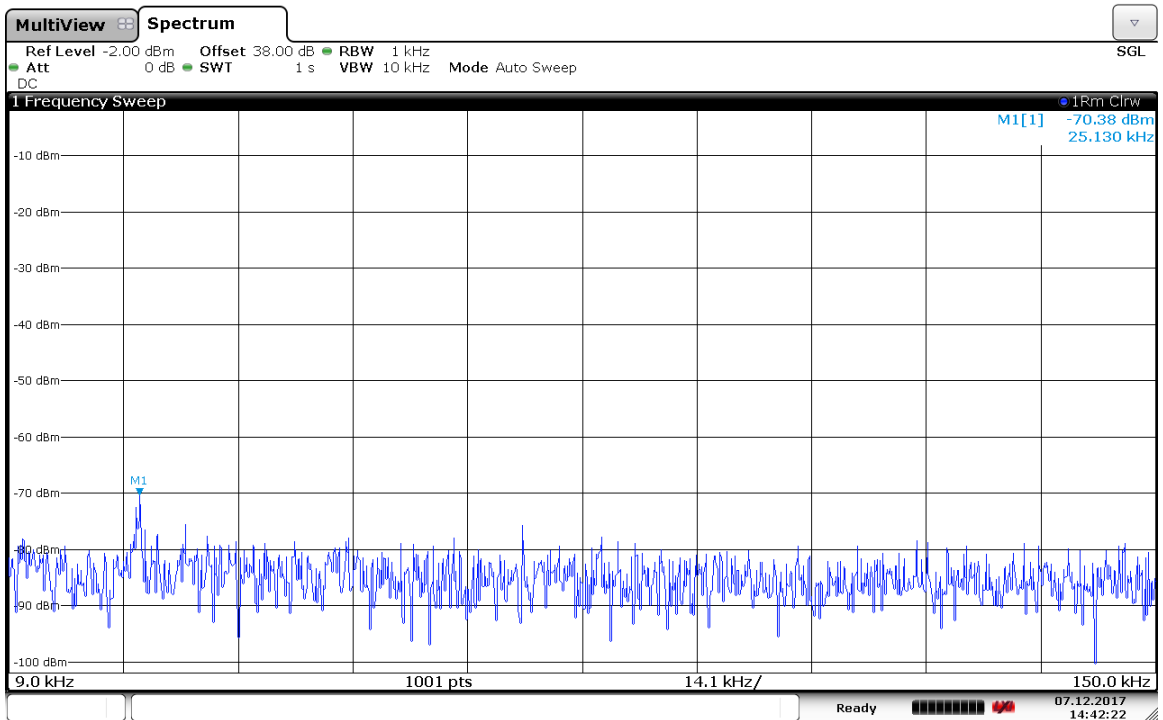


Date: 7 DEC 2017 13:42:14

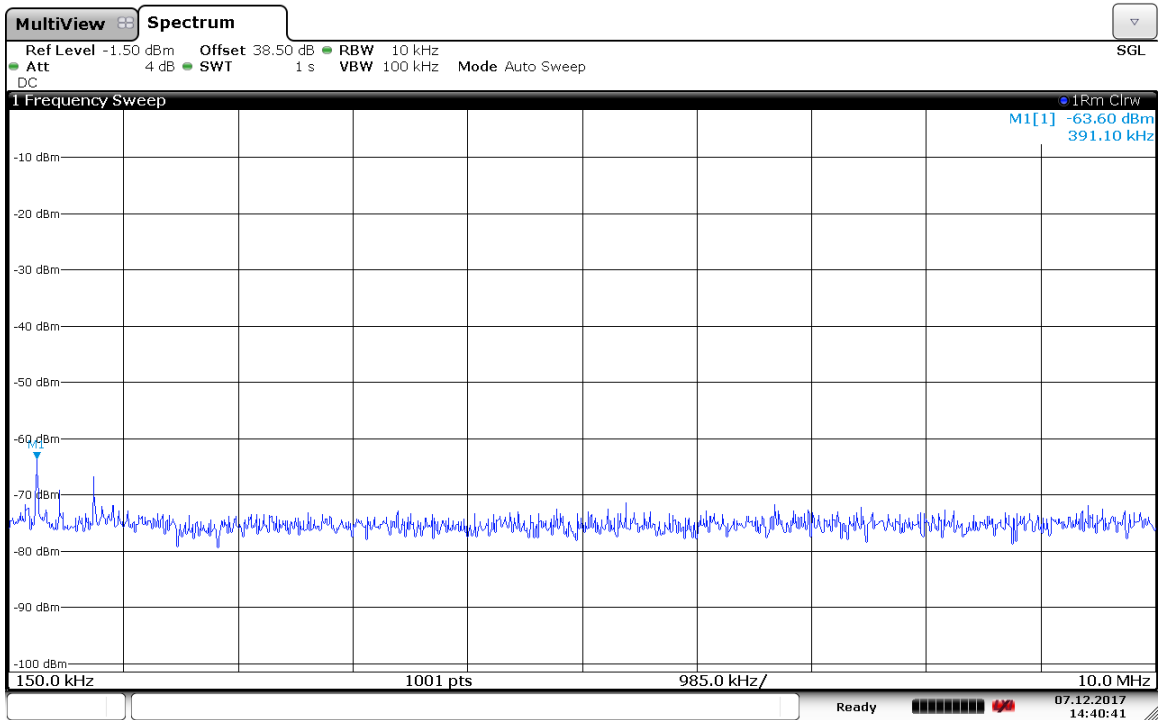


Date: 7.DEC.2017 13:42:33

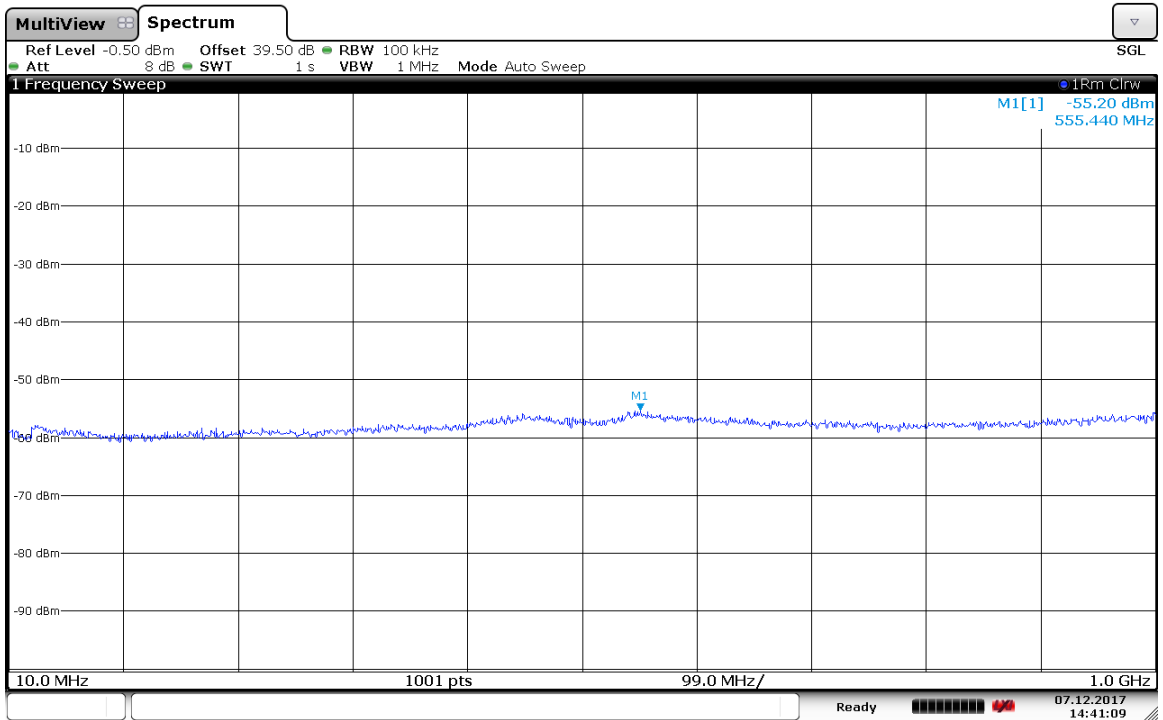
### LTE 10M-Port 2 -2150MHz



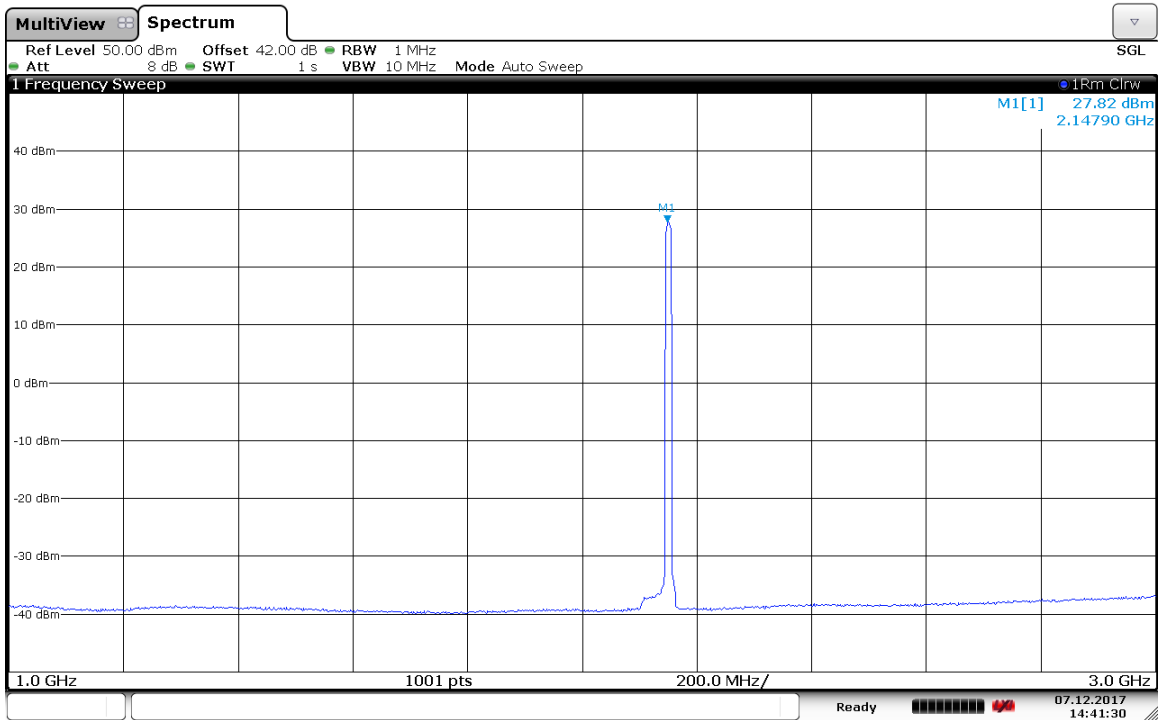
Date: 7.DEC.2017 14:42:21



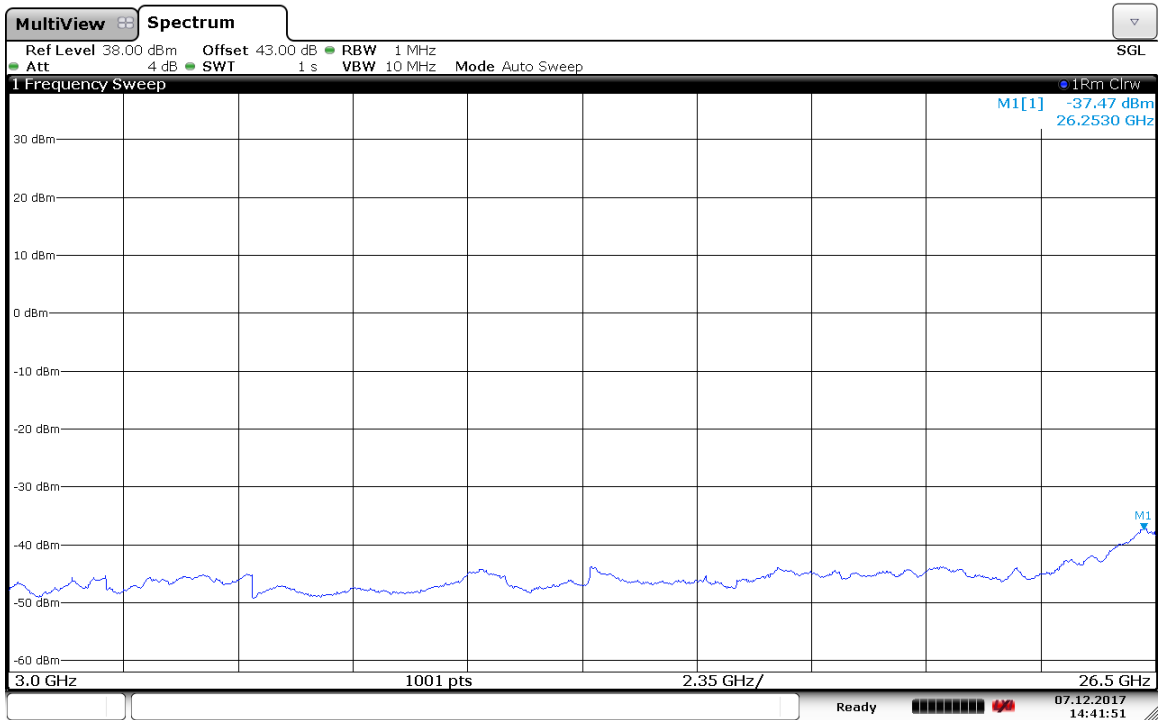
Date: 7 DEC 2017 14:40:41



Date: 7 DEC 2017 14:41:08

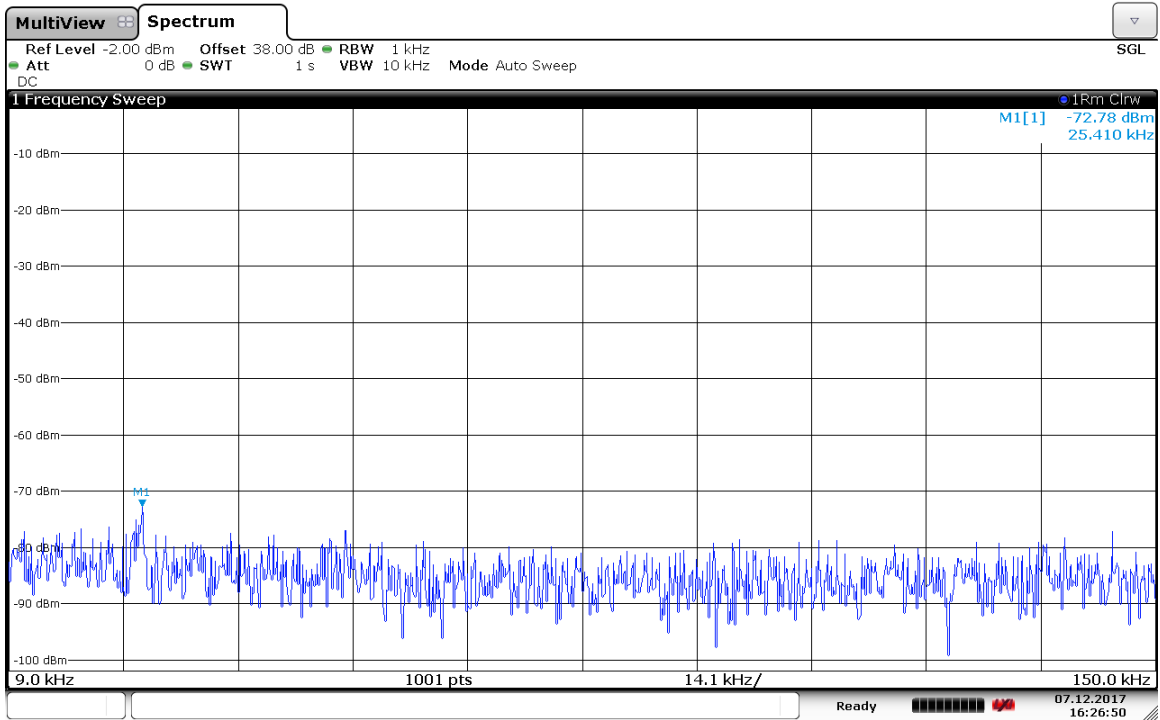


Date: 7 DEC 2017 14:41:30

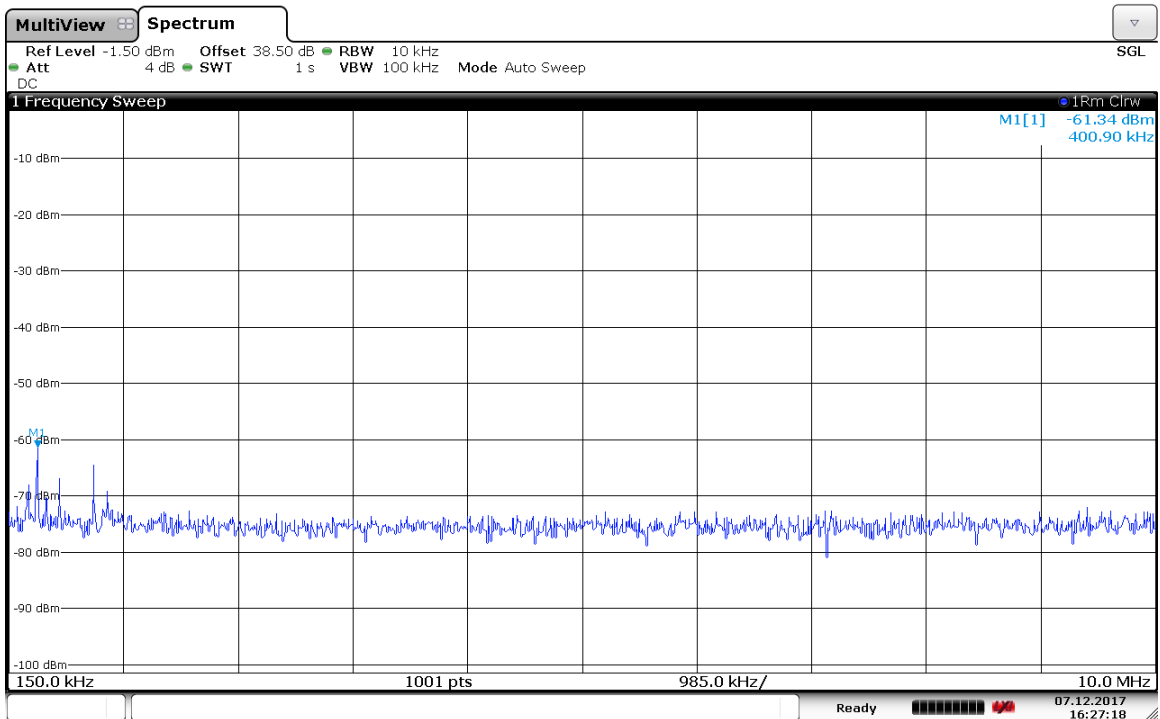


Date: 7 DEC 2017 14:41:51

LTE 15MHz:  
 LTE 15M-Port 1 -2117.5MHz

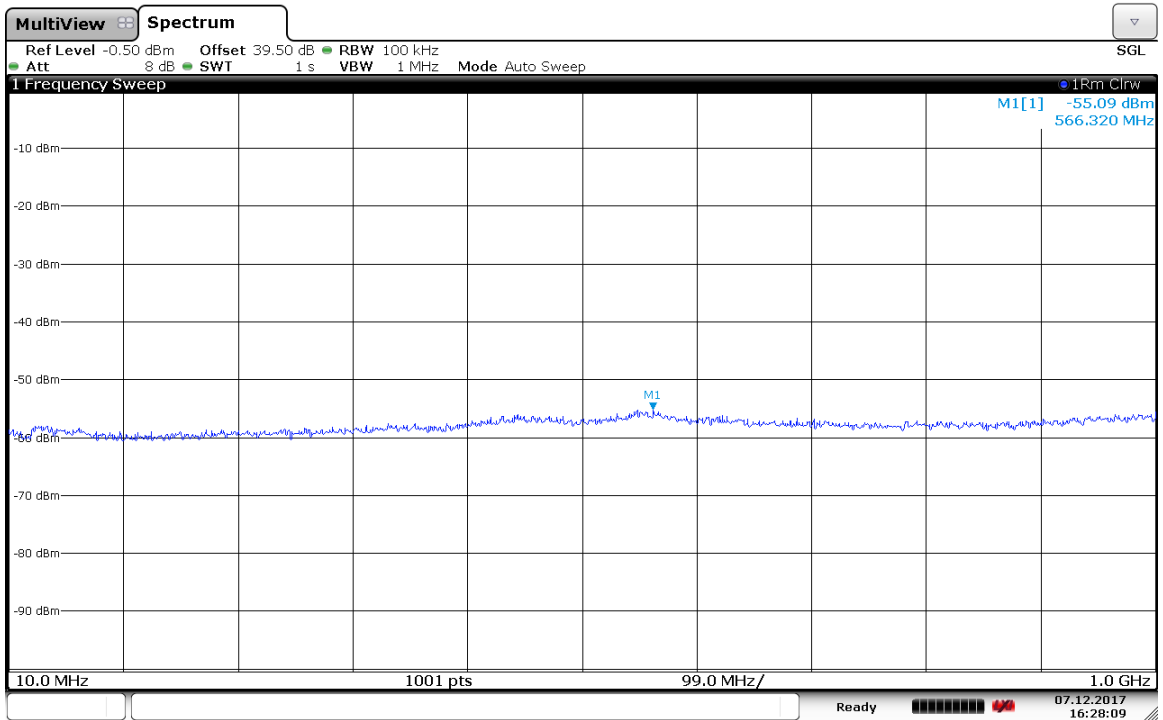


Date: 7 DEC 2017 16:26:50

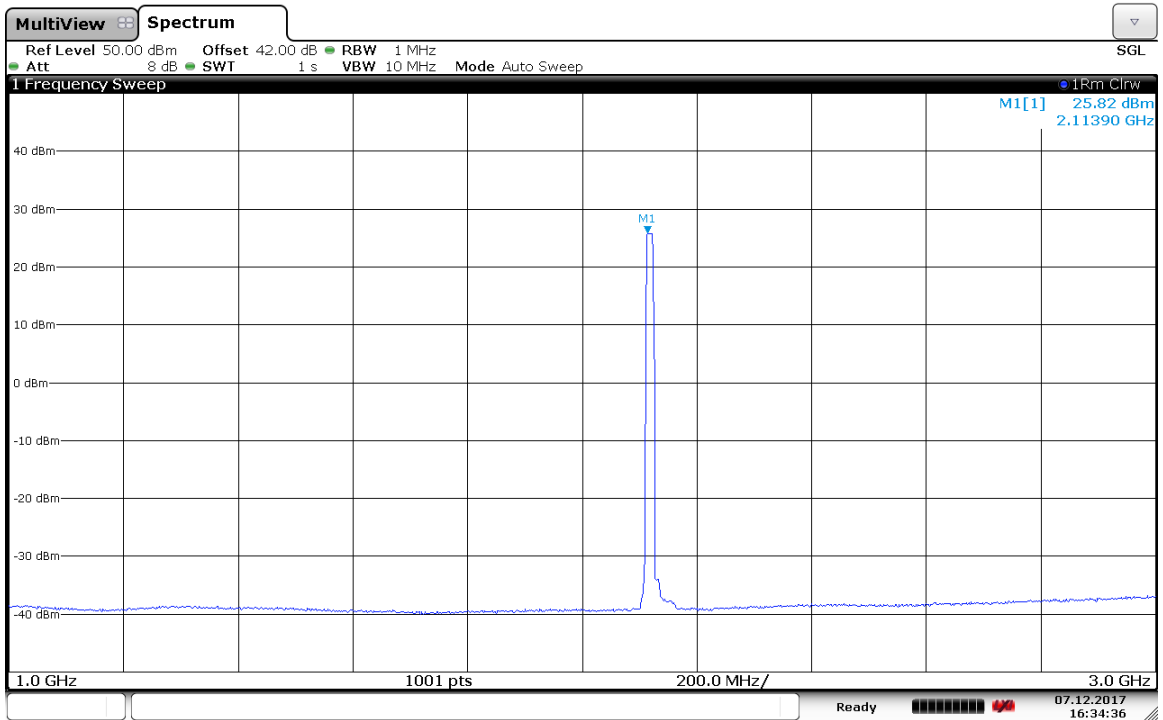


Date: 7 DEC 2017 16:27:18

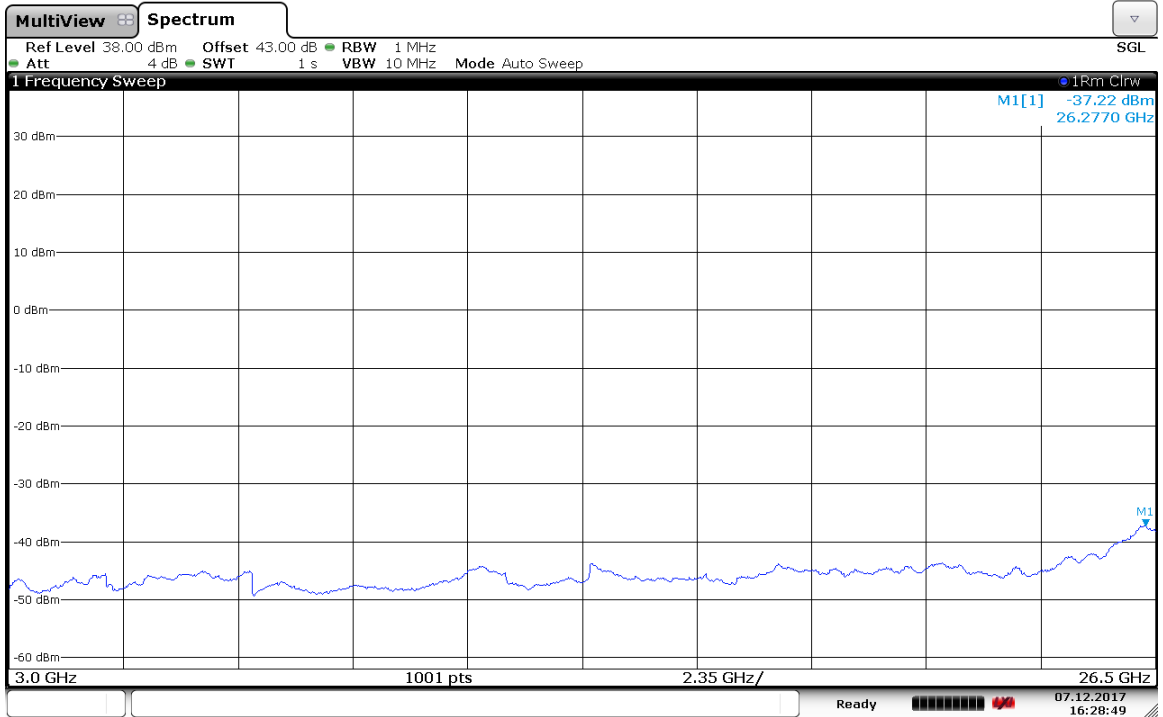




Date: 7 DEC 2017 16:28:10

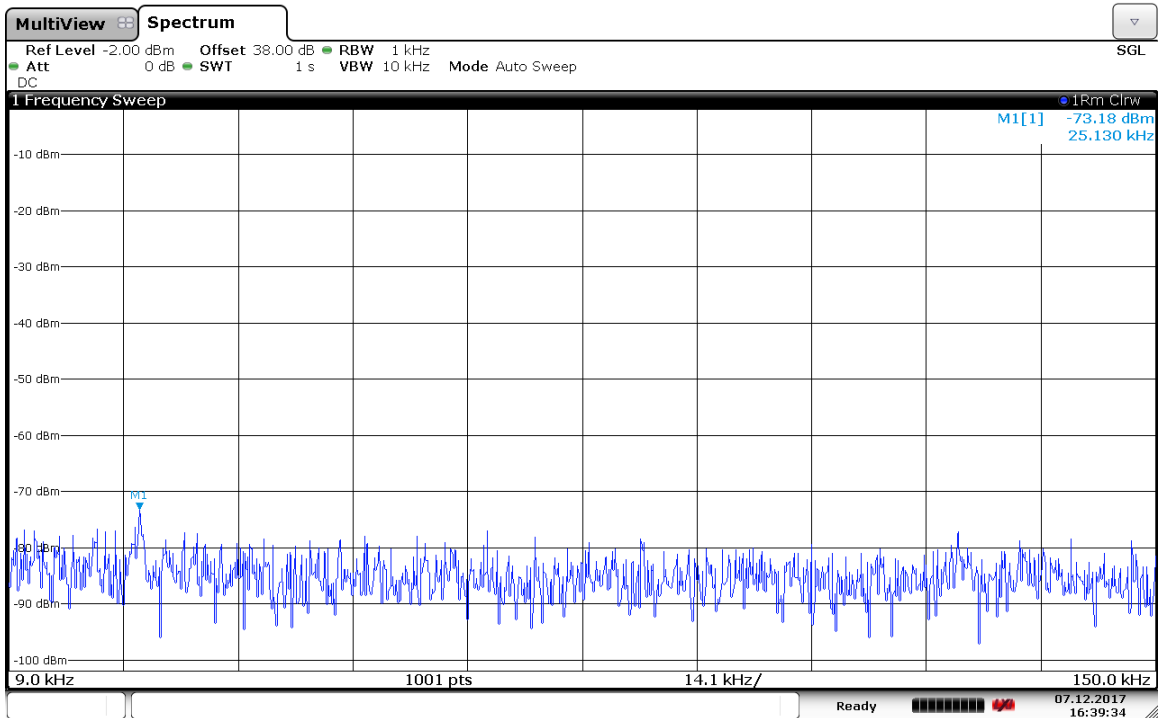


Date: 7 DEC 2017 16:34:36

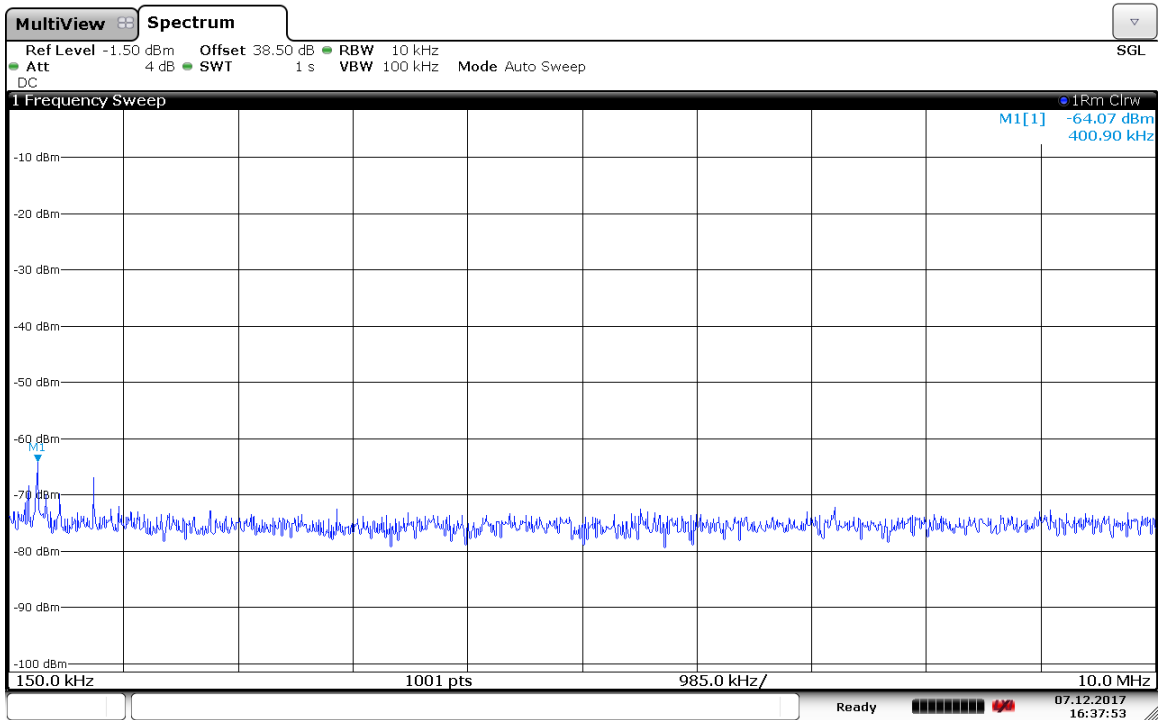


Date: 7 DEC 2017 16:28:49

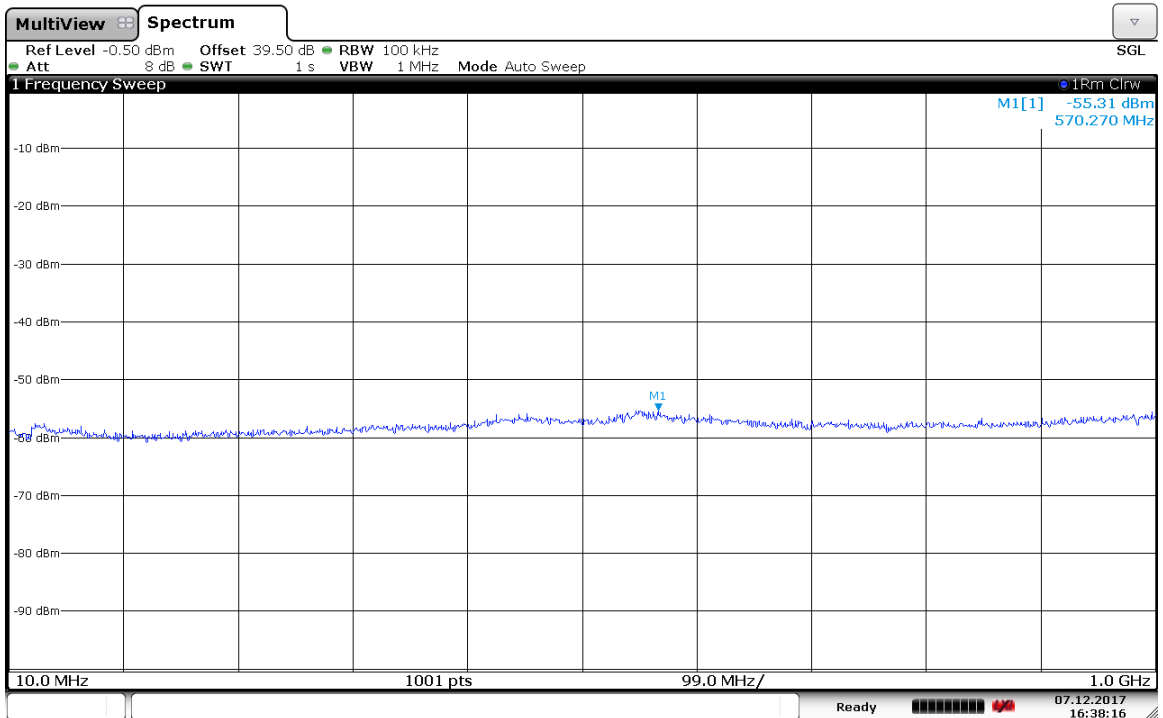
### LTE 15M-Port 1 -2132.5MHz



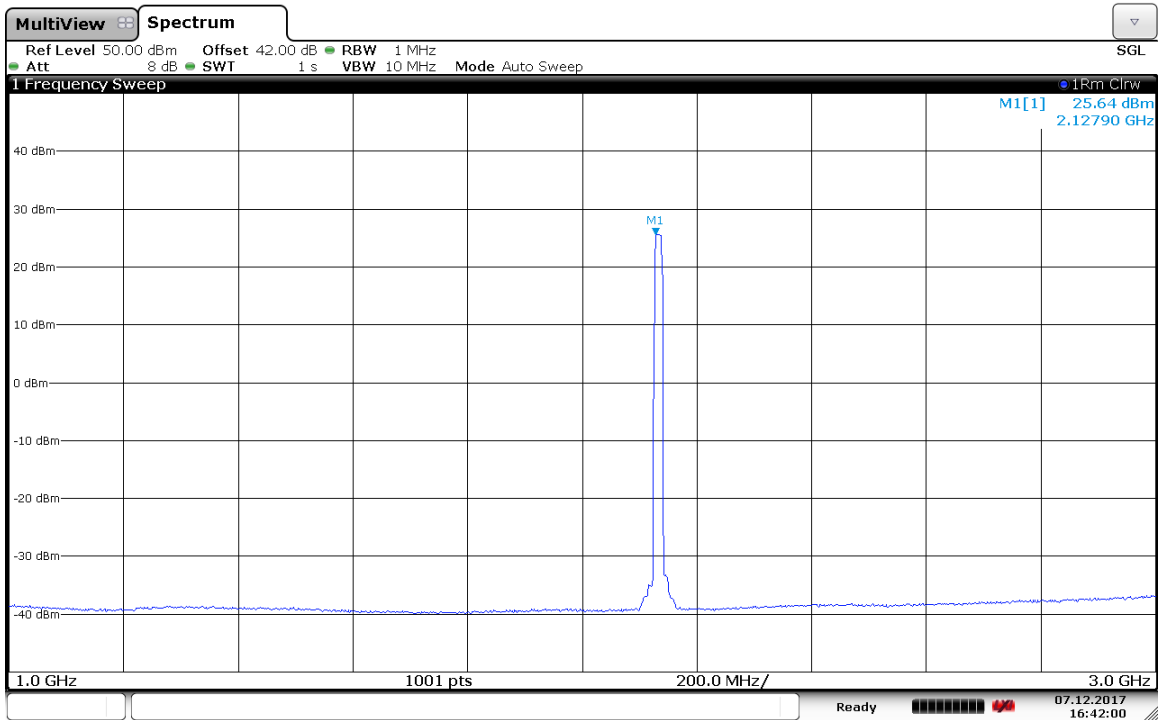
Date: 7 DEC 2017 16:39:33



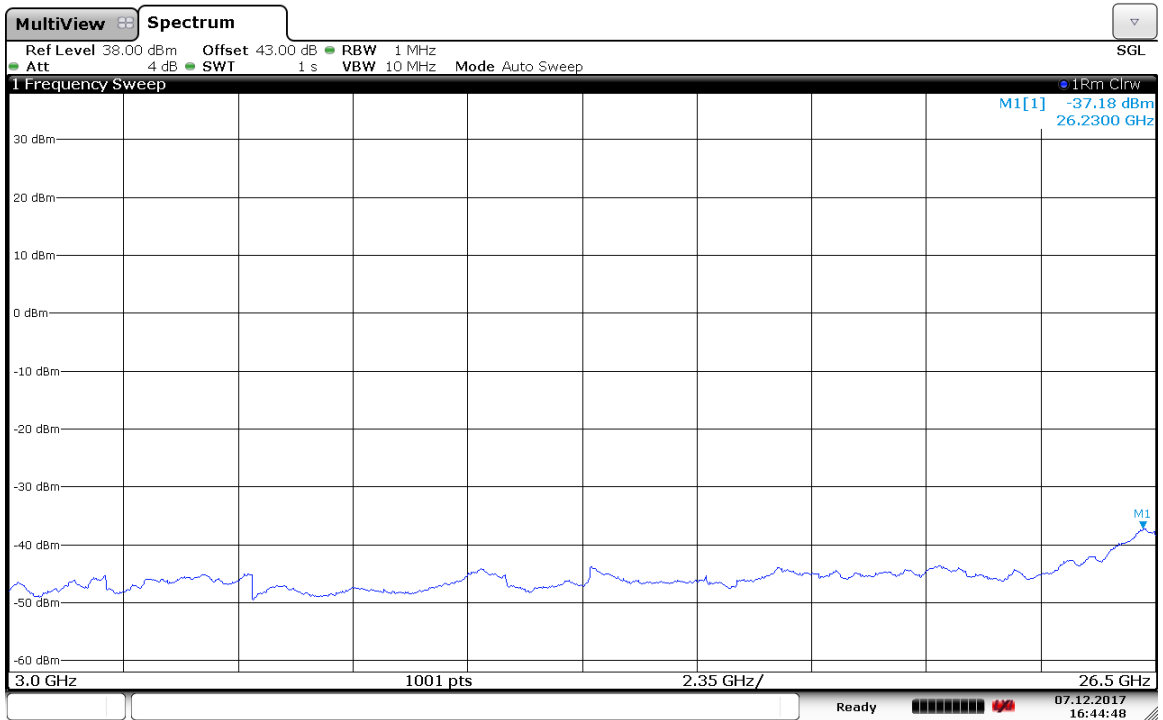
Date: 7 DEC 2017 16:37:53



Date: 7 DEC 2017 16:38:15

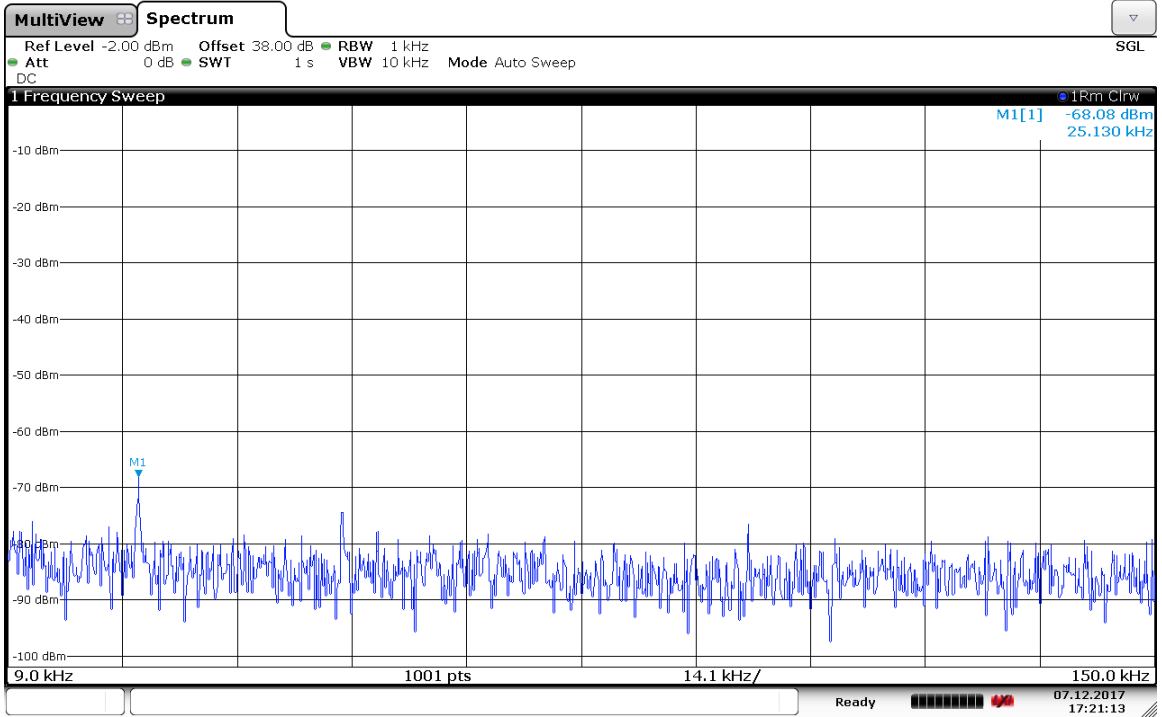


Date: 7 DEC 2017 16:42:00

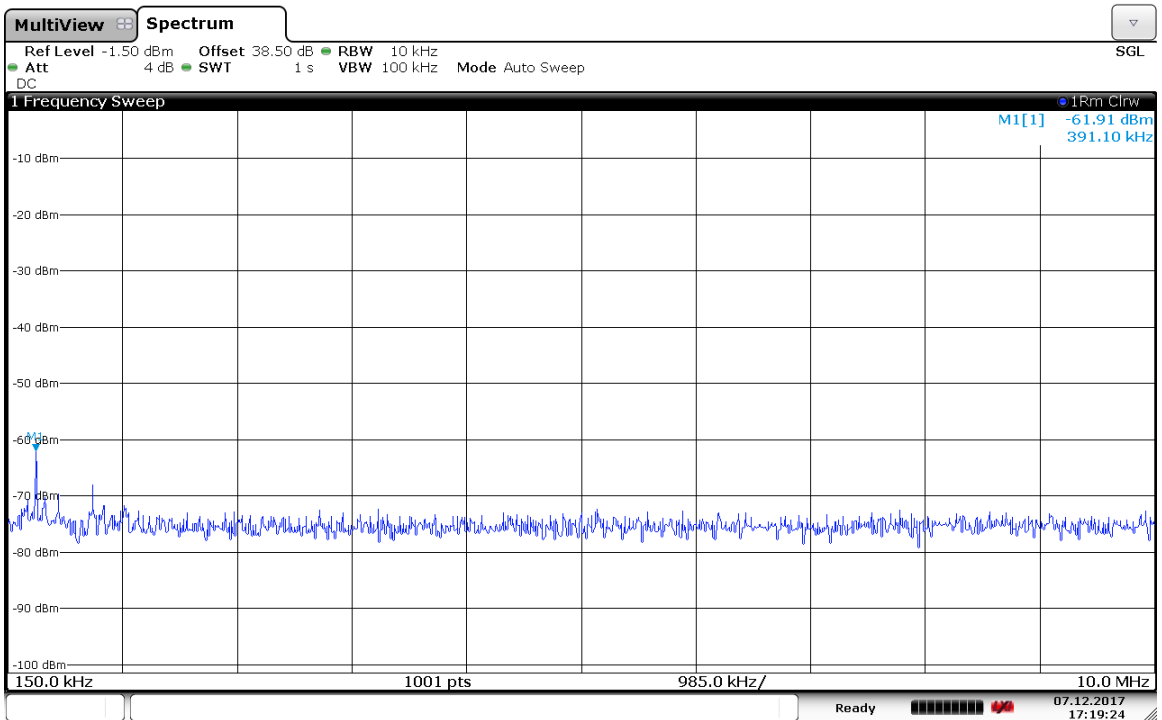


Date: 7 DEC 2017 16:44:48

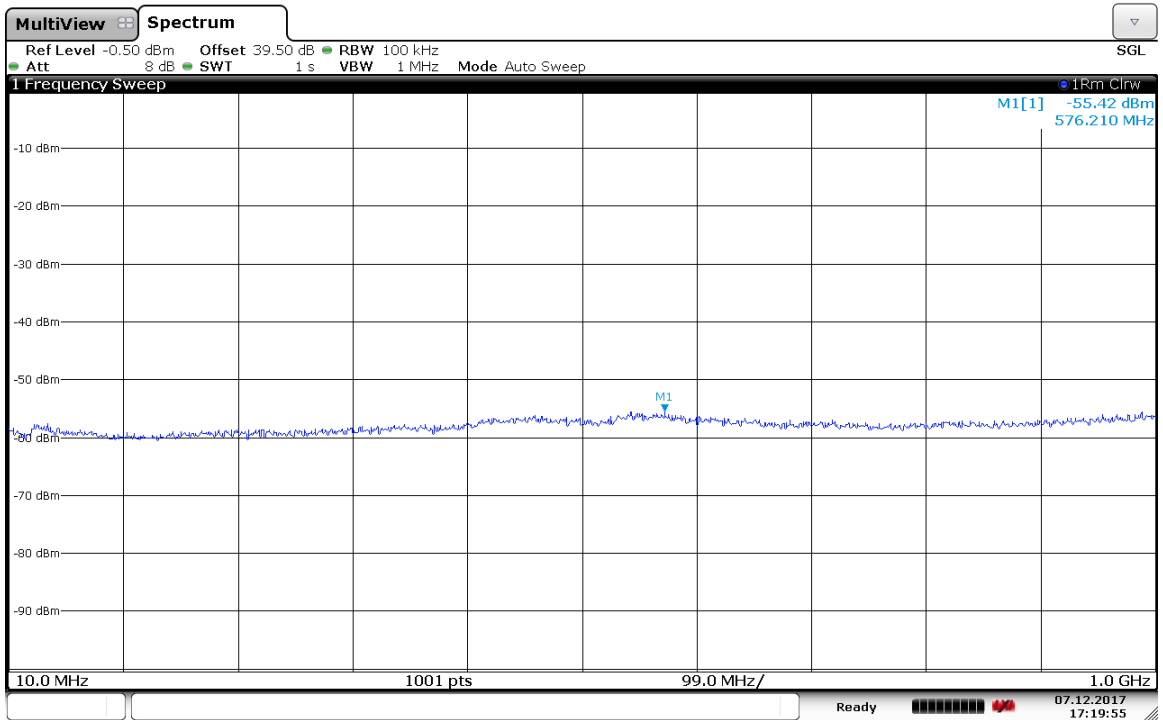
# LTE 15M-Port 1 -2147.5MHz



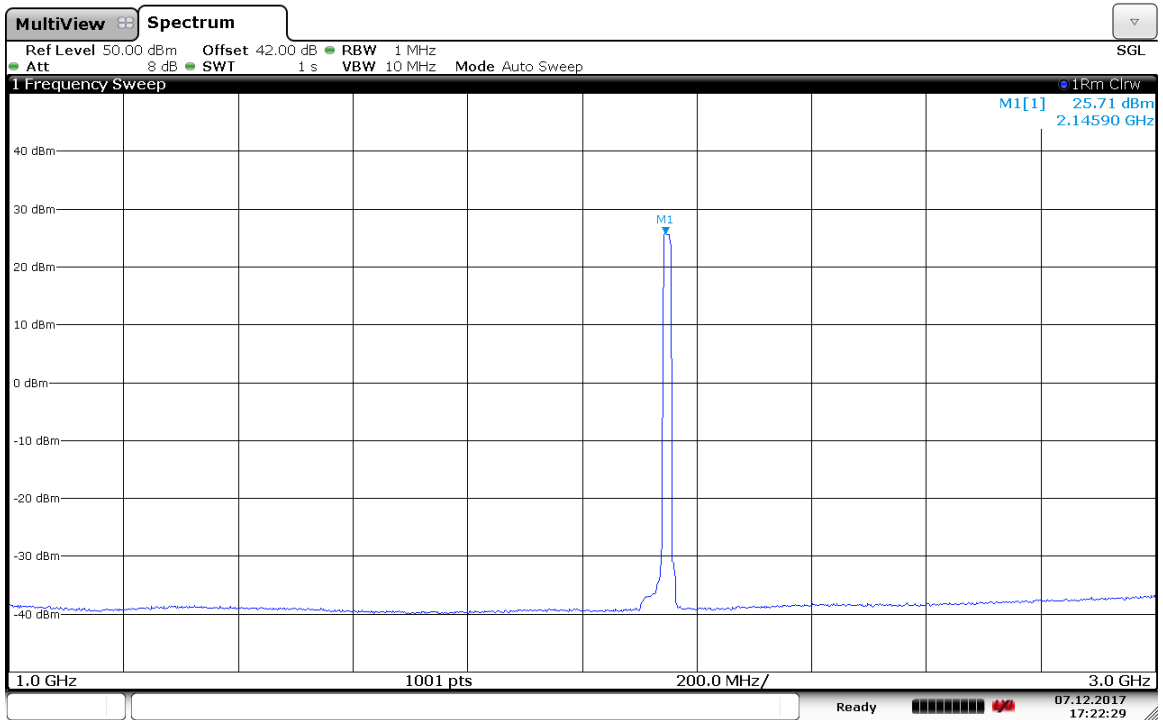
Date: 7.DEC.2017 17:21:13



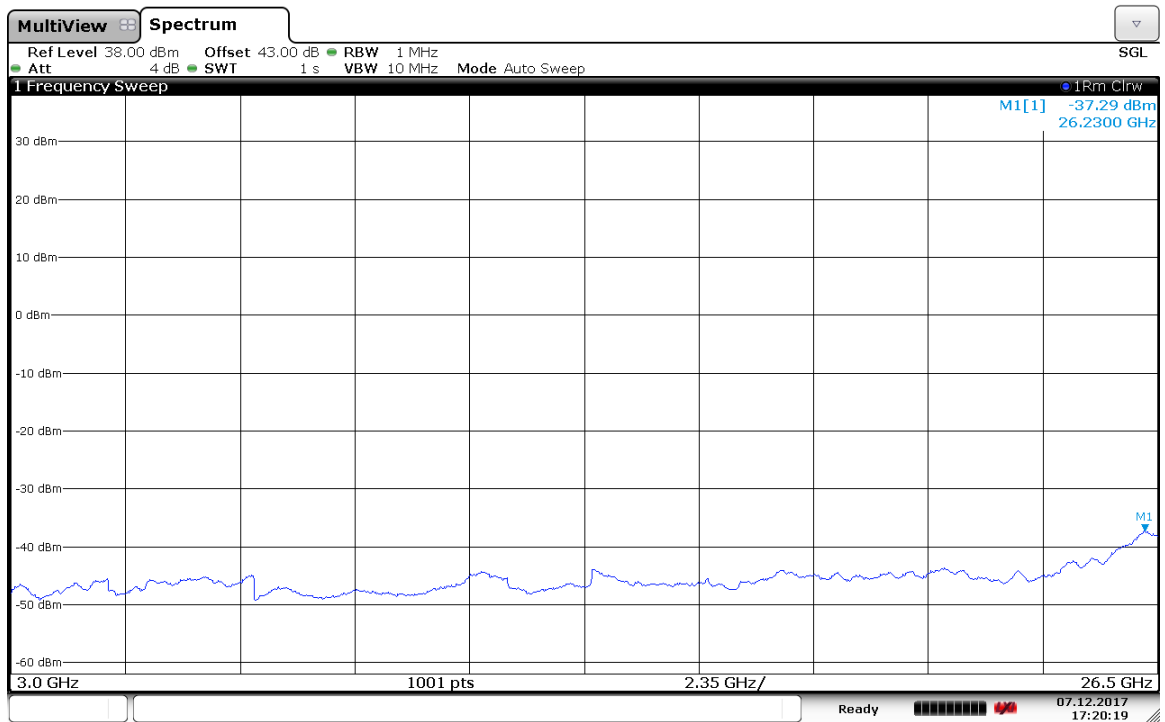
Date: 7.DEC.2017 17:19:24



Date: 7 DEC 2017 17:19:55

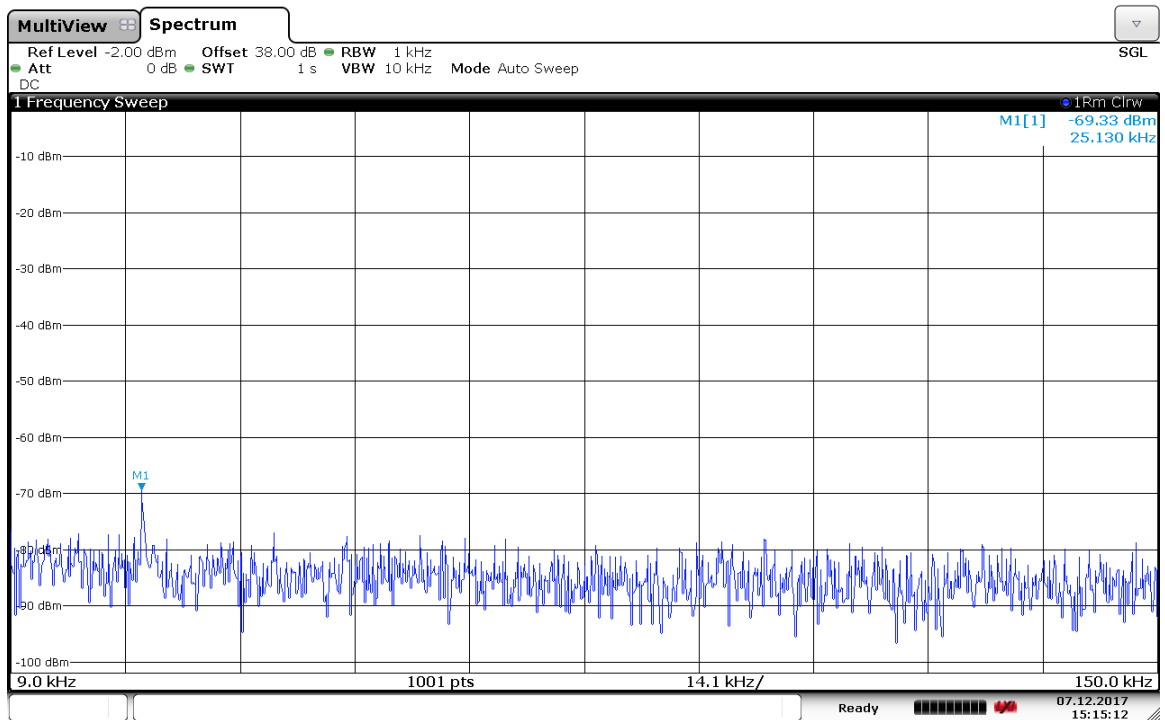


Date: 7 DEC 2017 17:22:30

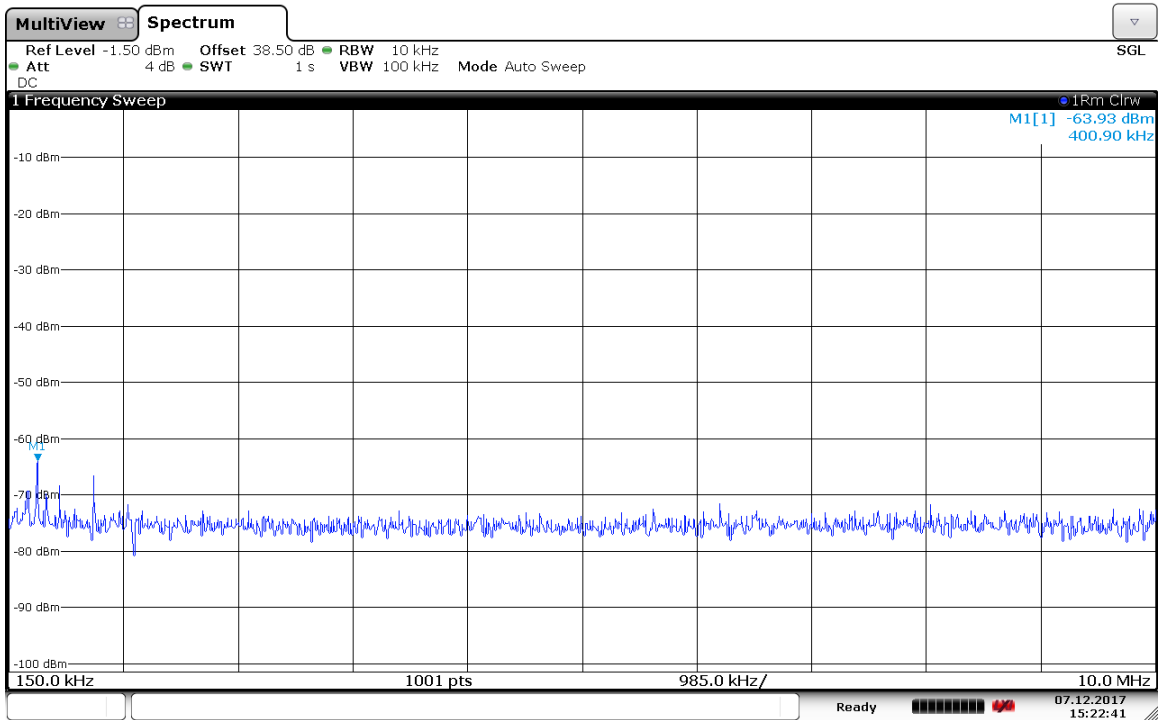


Date: 7 DEC 2017 17:20:18

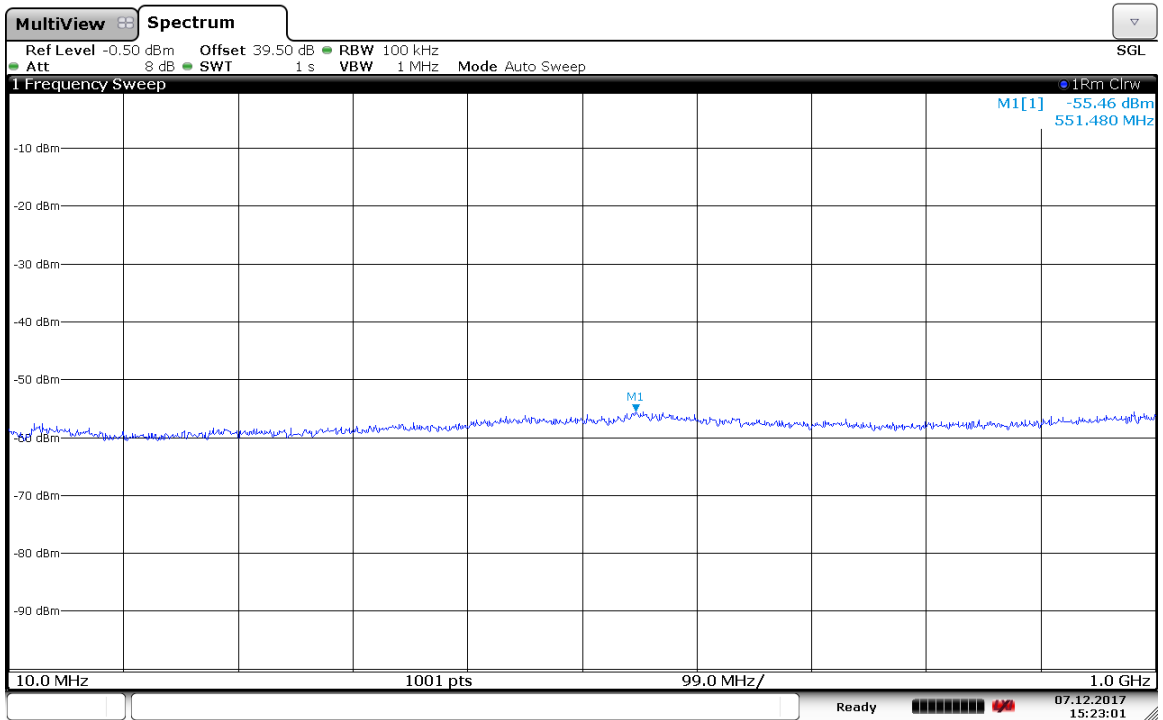
### LTE15M-Port 2 -2117.5MHz



Date: 7 DEC 2017 15:15:12

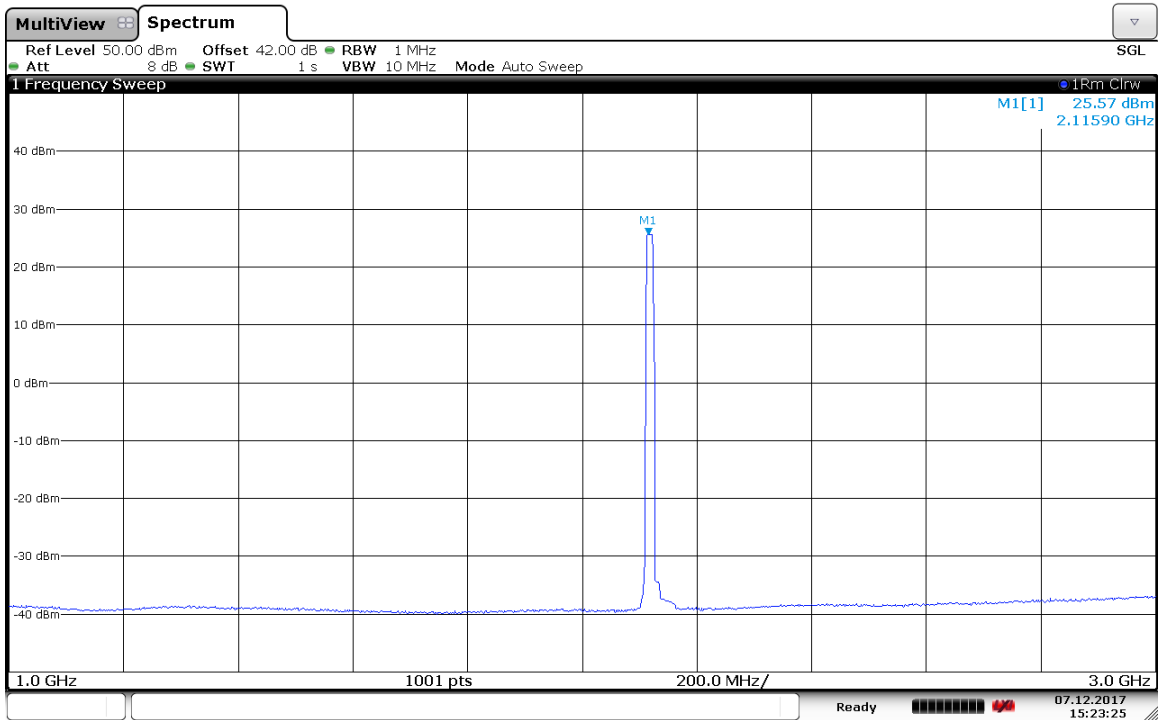


Date: 7 DEC 2017 15:22:41

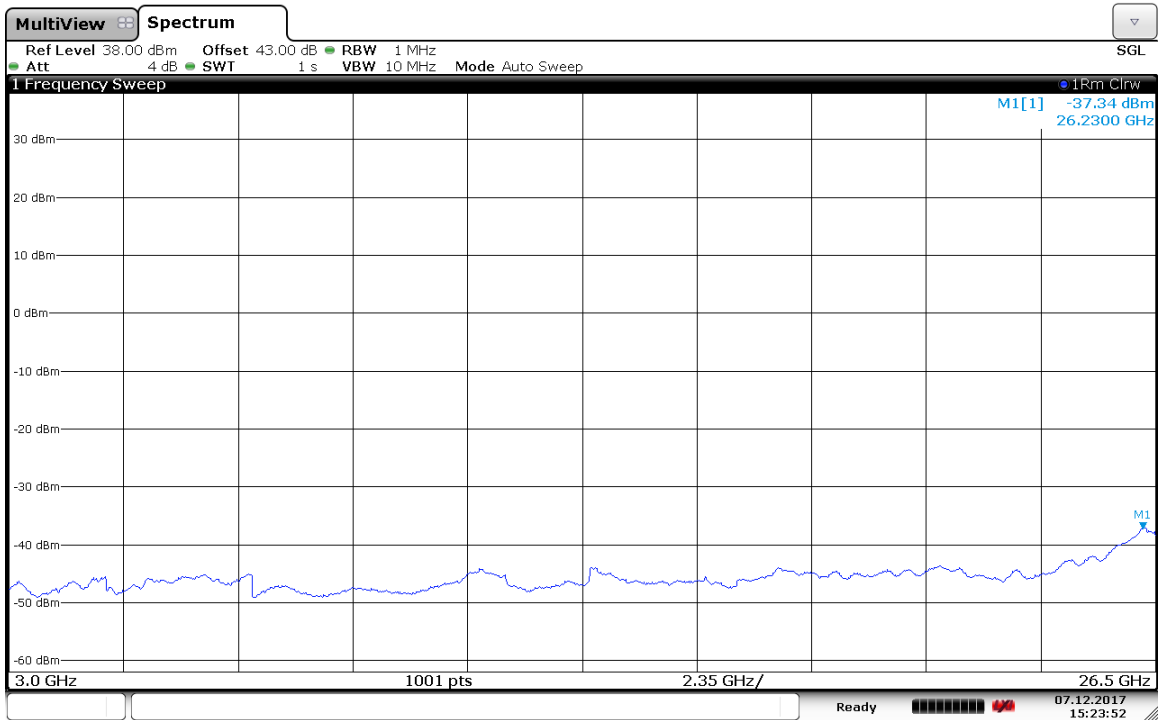


Date: 7 DEC 2017 15:23:01



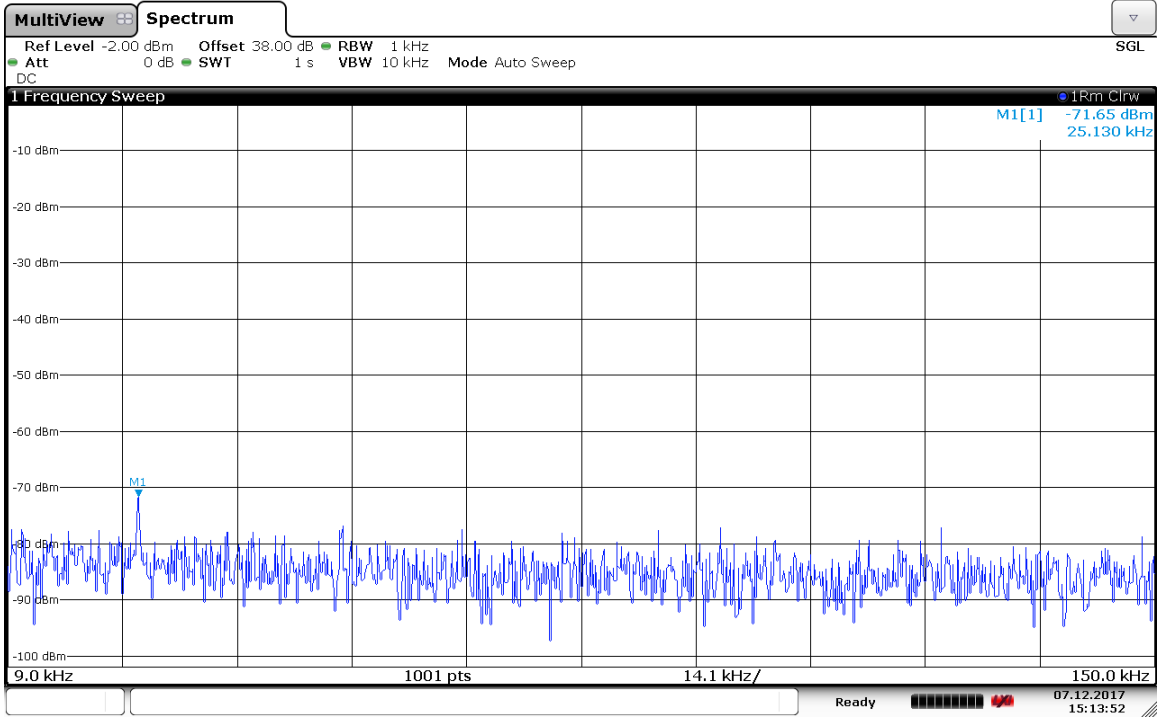


Date: 7 DEC 2017 15:23:25

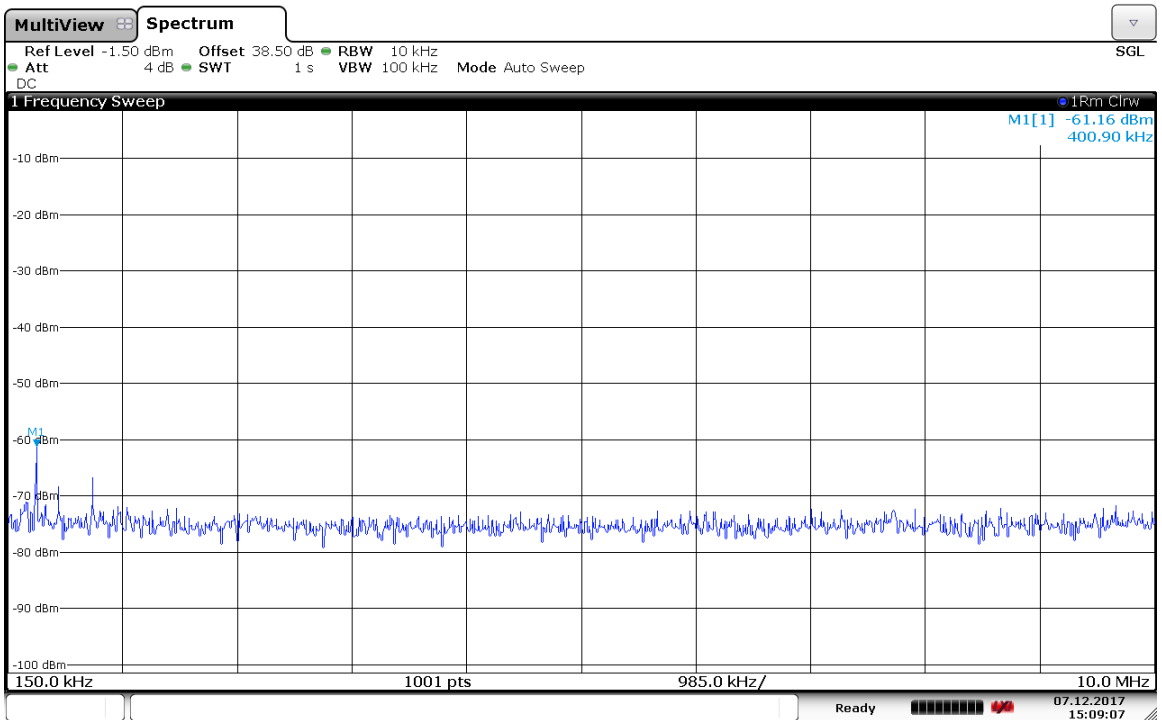


Date: 7 DEC 2017 15:23:52

# LTE 15M-Port 2 -2132.5MHz

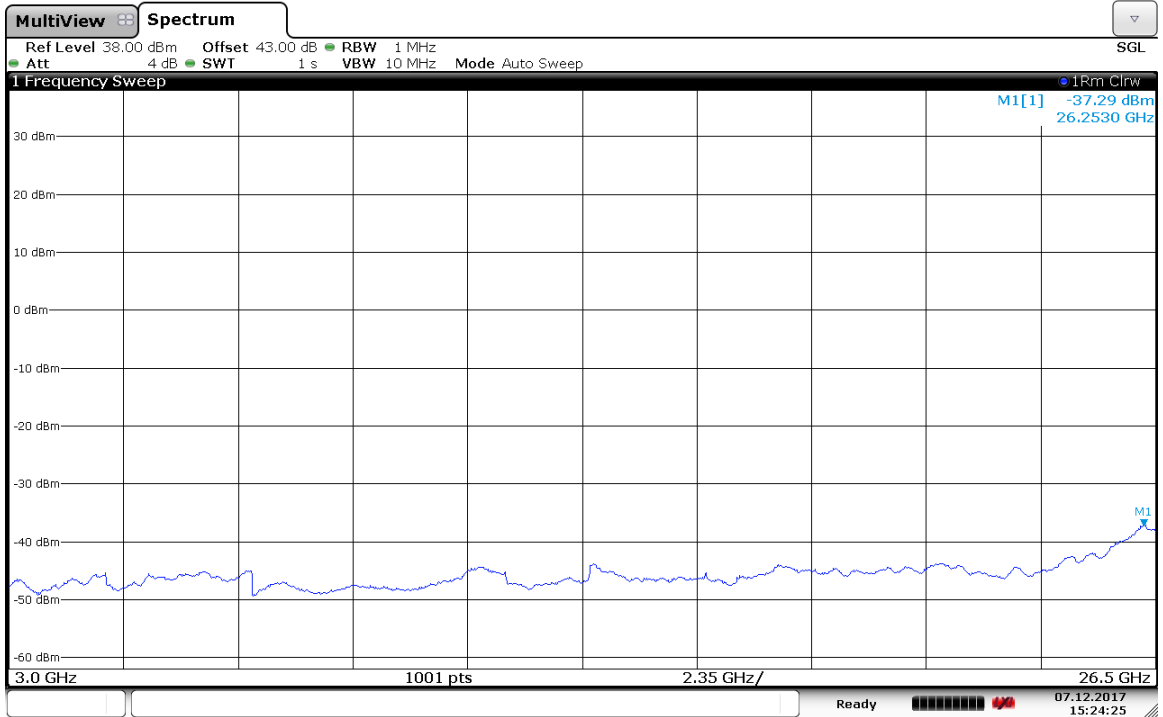


Date: 7.DEC.2017 15:13:52



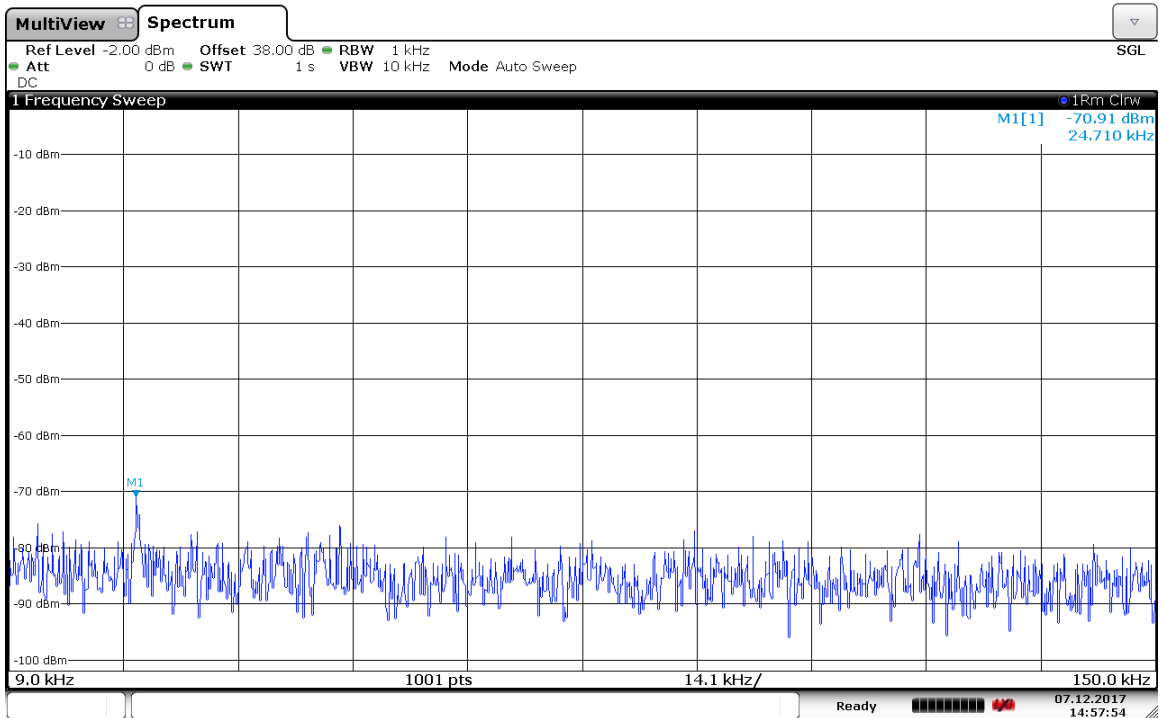
Date: 7.DEC.2017 15:09:06



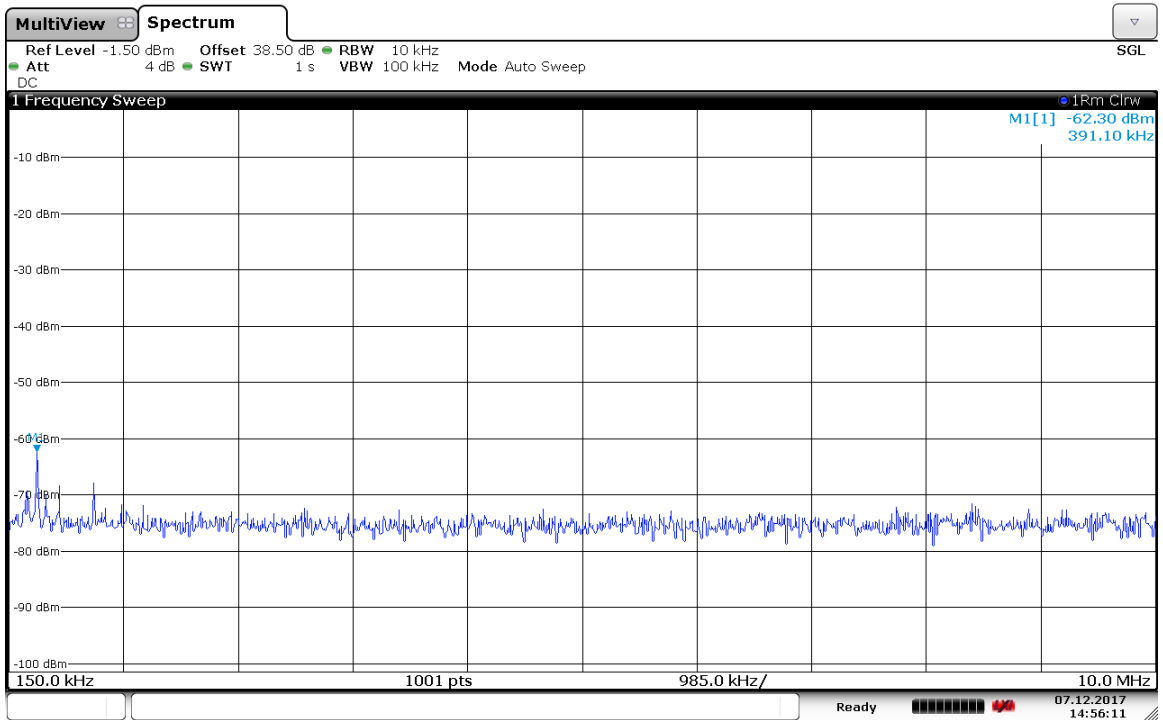


Date: 7 DEC 2017 15:24:24

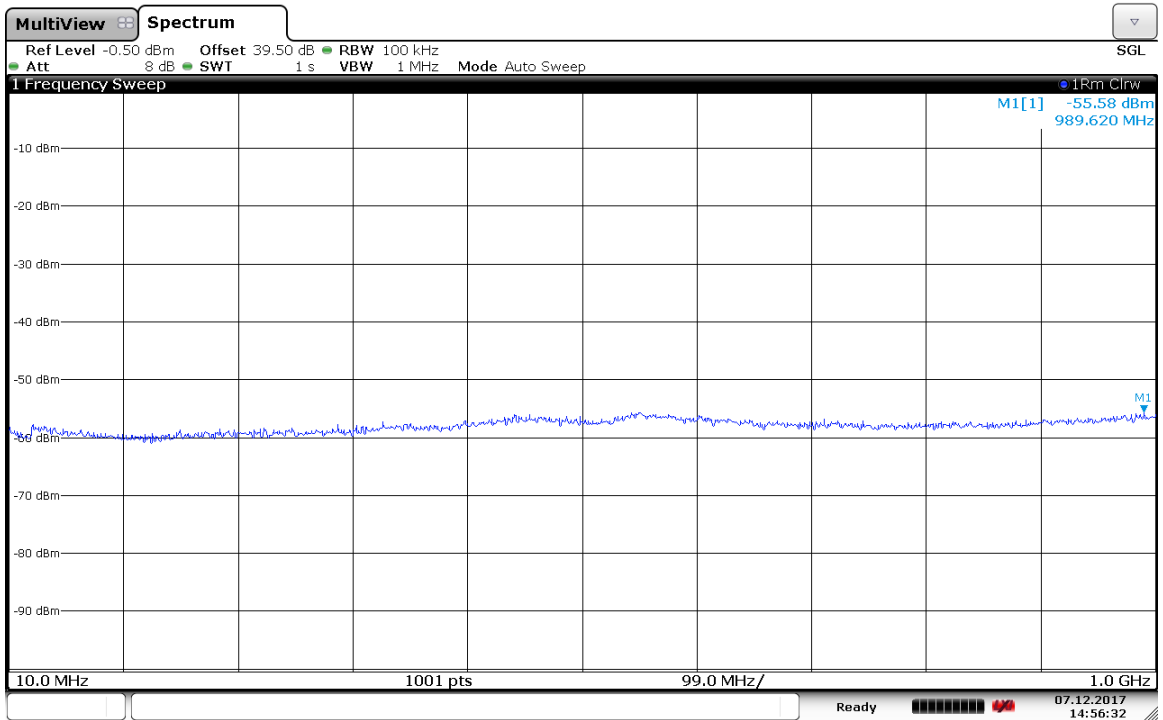
### LTE 15M-Port 2 -2147.5MHz



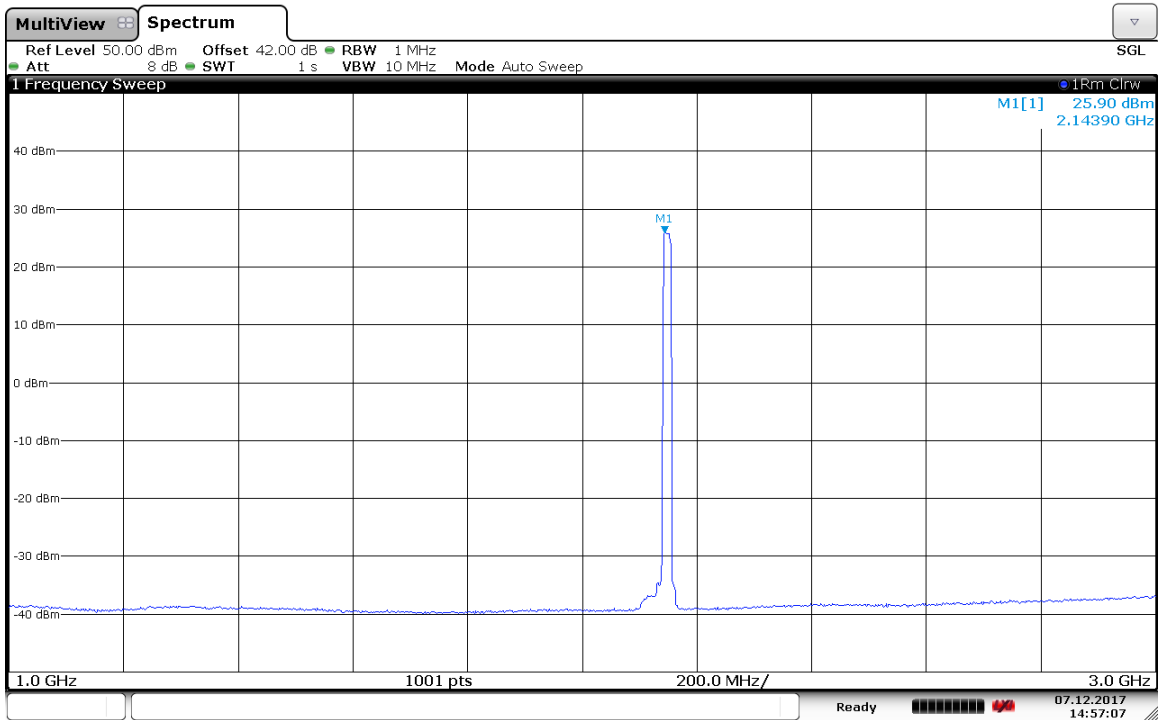
Date: 7 DEC 2017 14:57:54



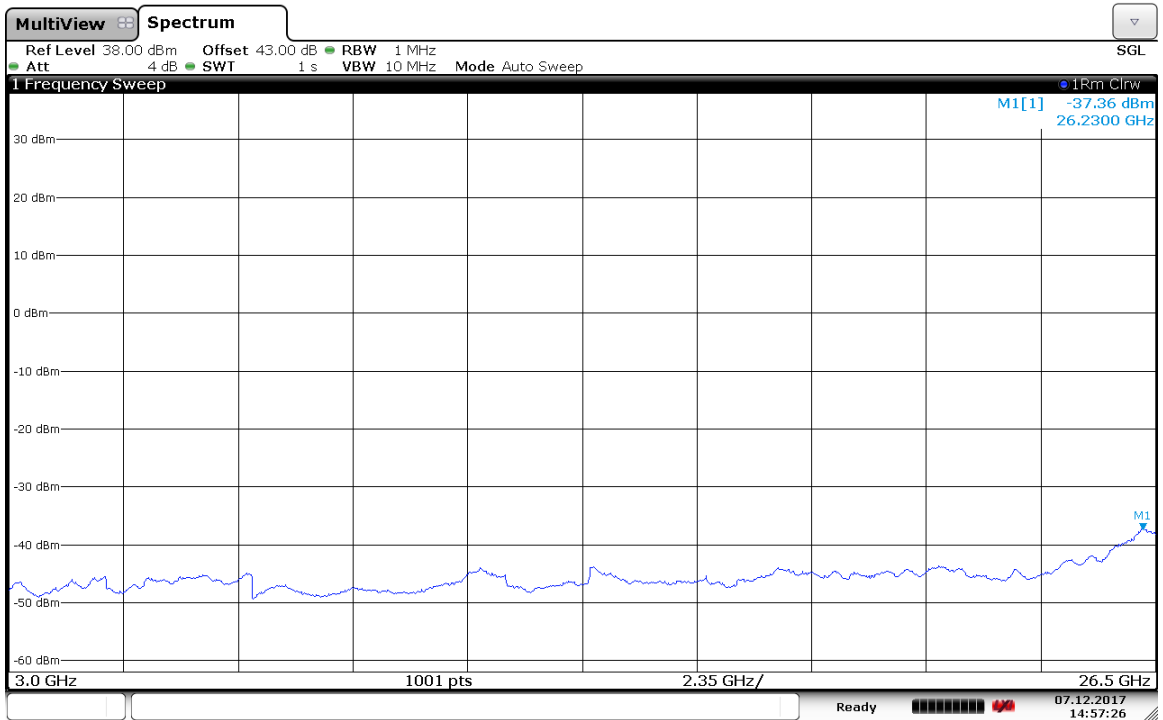
Date: 7 DEC 2017 14:56:11



Date: 7 DEC 2017 14:56:32

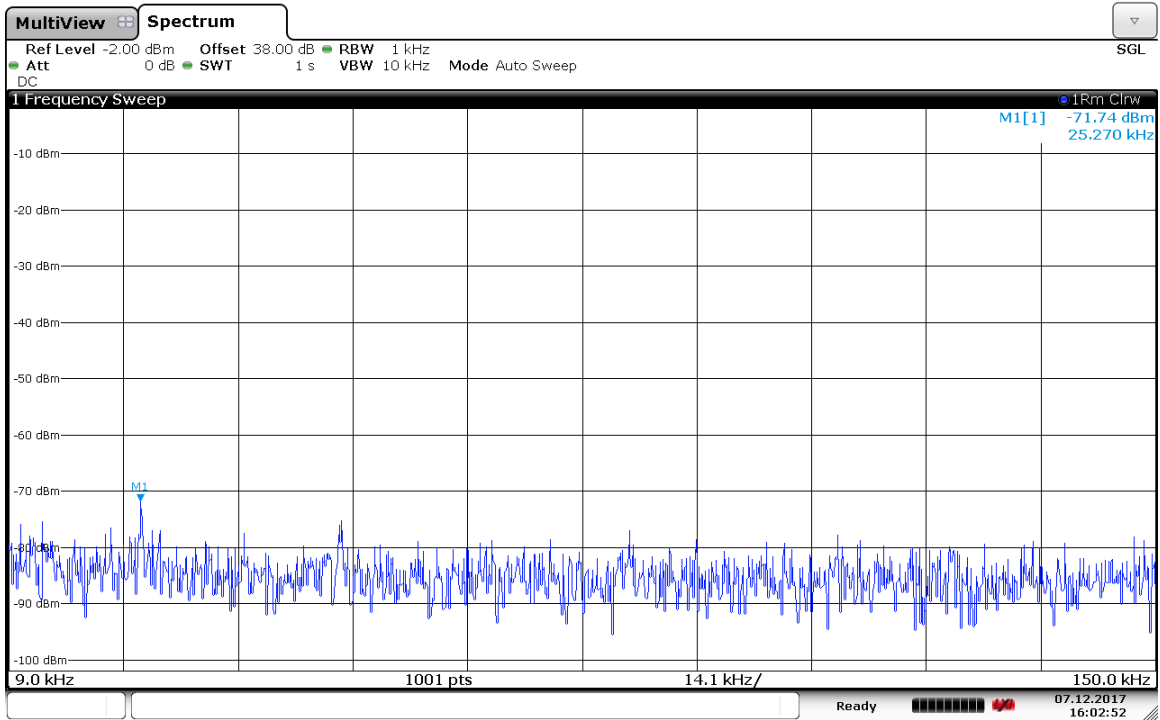


Date: 7 DEC 2017 14:57:07

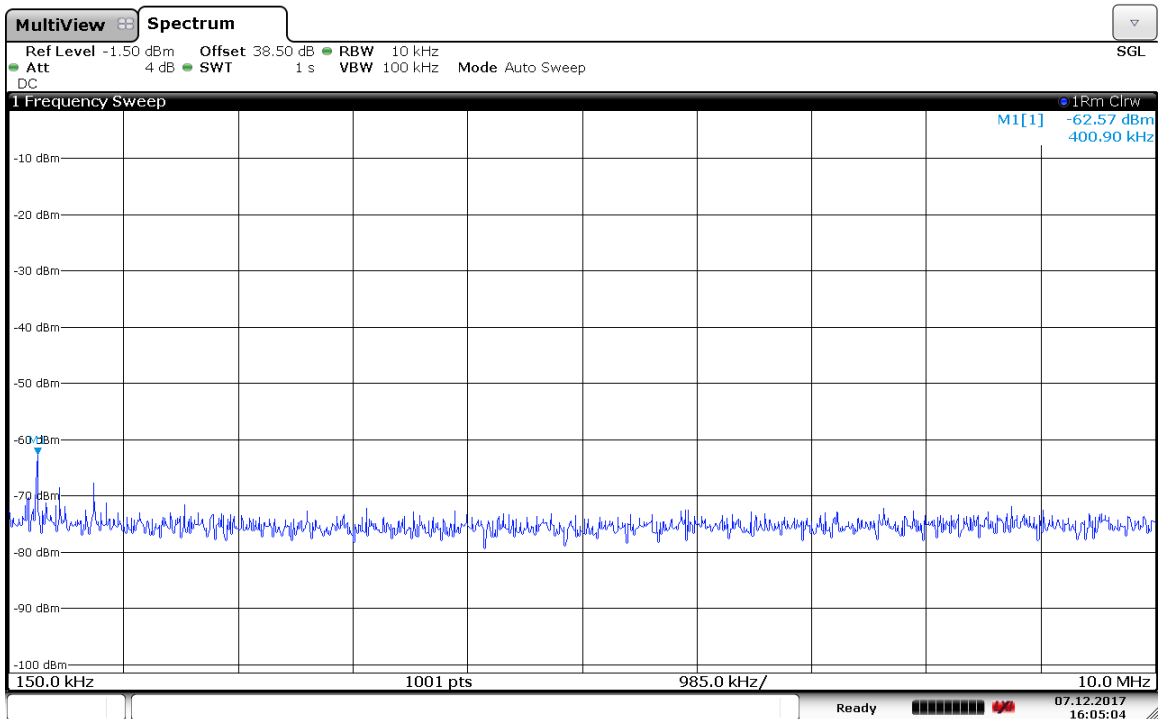


Date: 7 DEC 2017 14:57:26

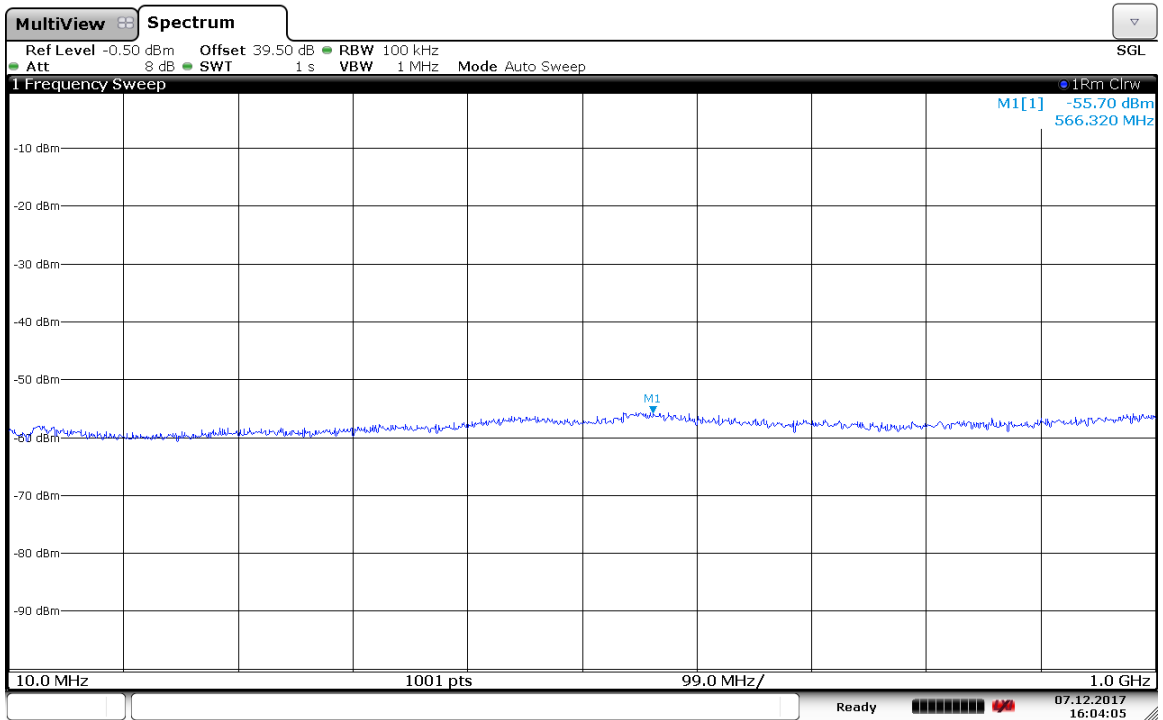
LTE 20MHz:  
 LTE 20M-Port 1 -2120MHz



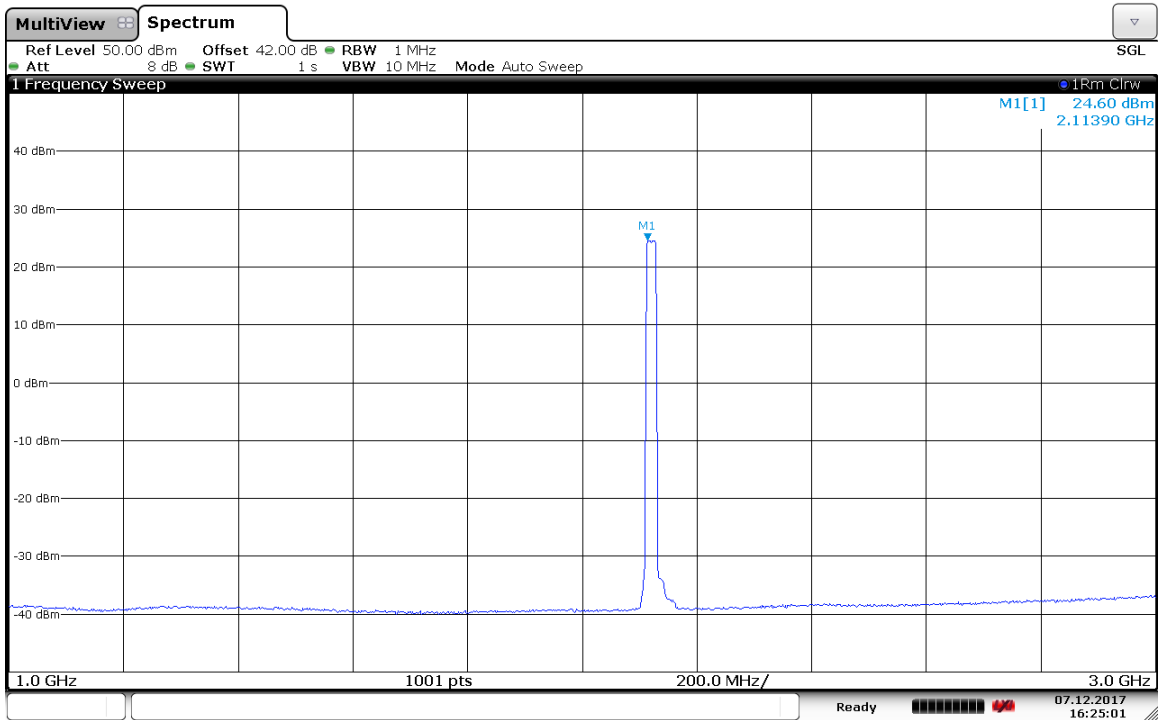
Date: 7 DEC 2017 16:02:52



Date: 7 DEC 2017 16:05:04

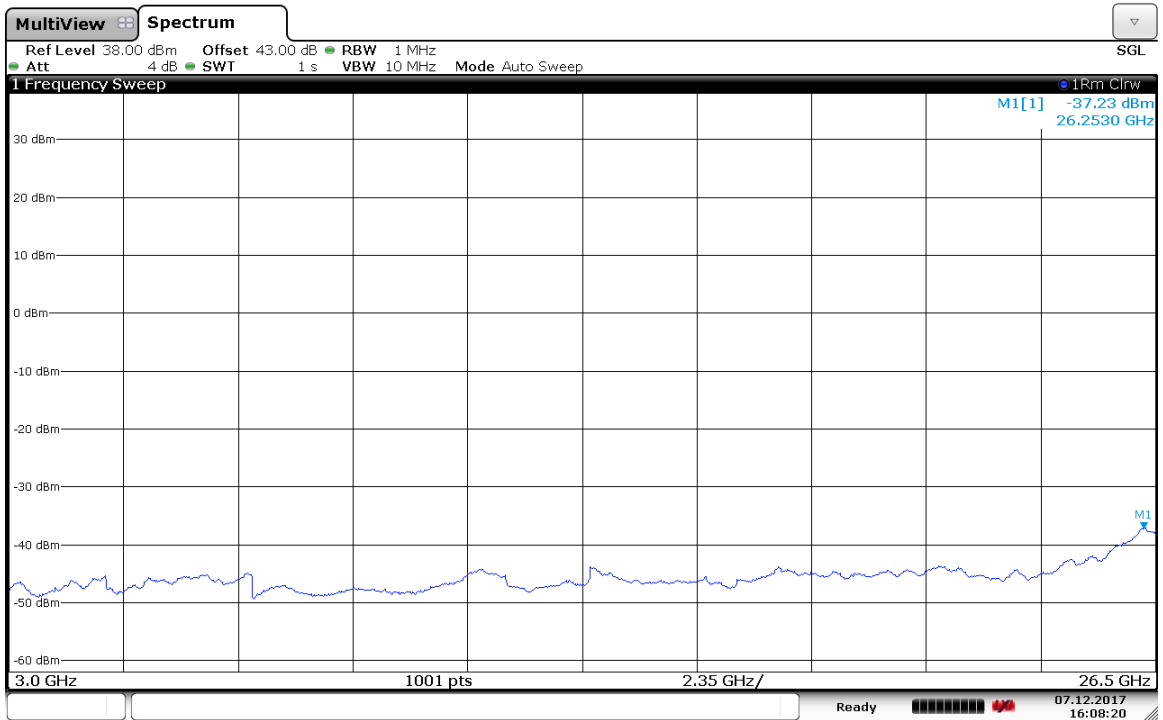


Date: 7 DEC 2017 16:04:05



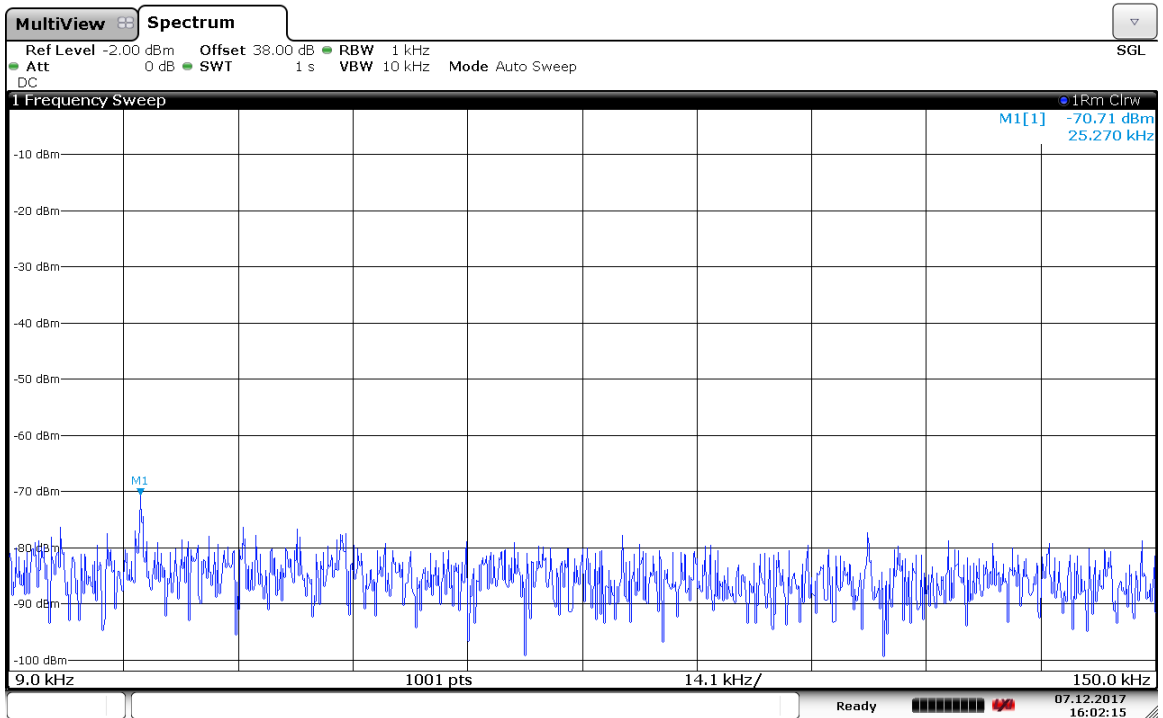
Date: 7 DEC 2017 16:25:00



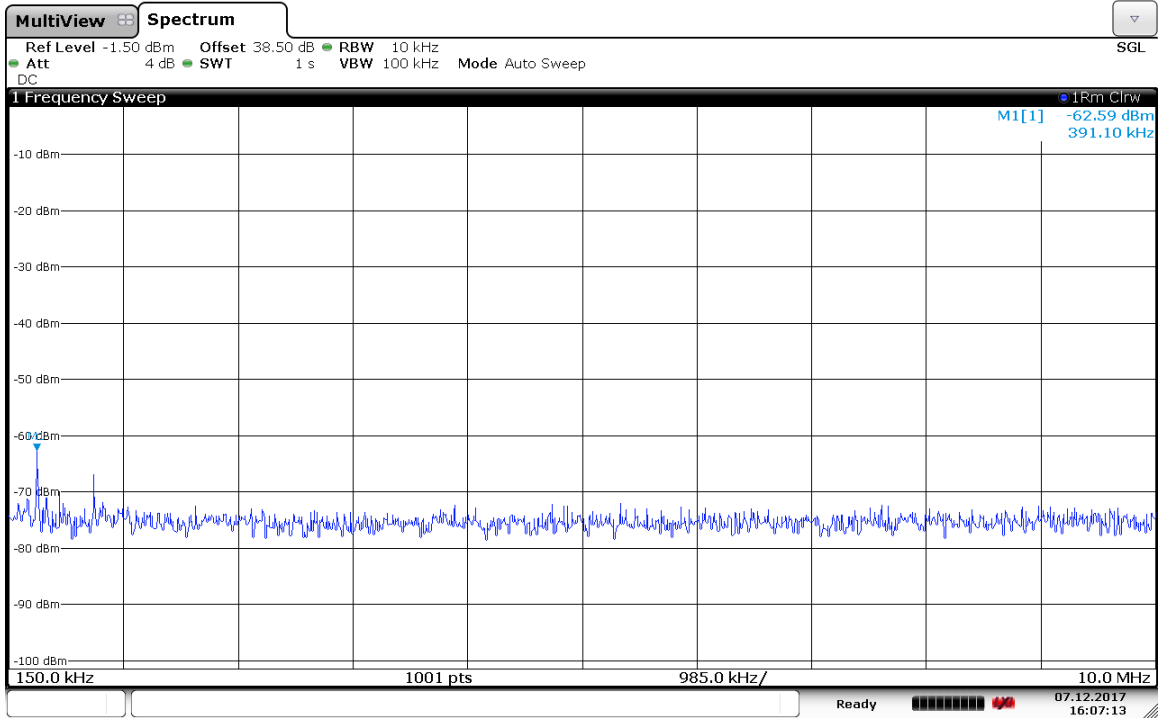


Date: 7 DEC 2017 16:08:20

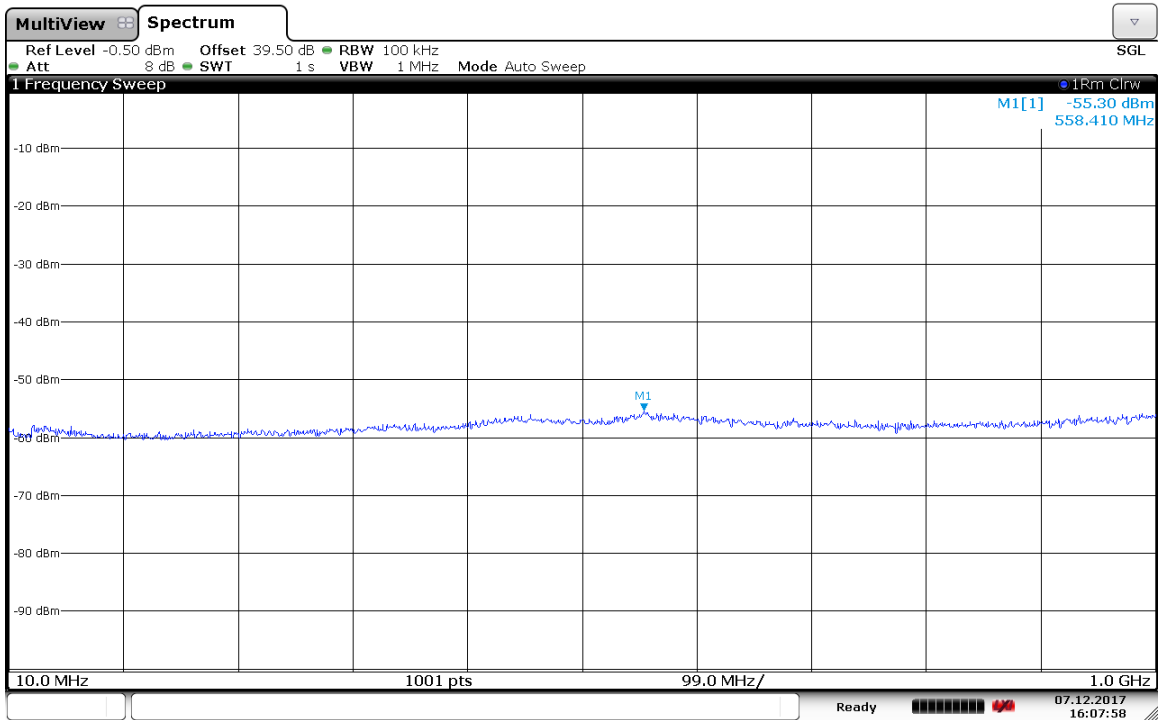
### LTE 20M-Port 1 -2132.5MHz



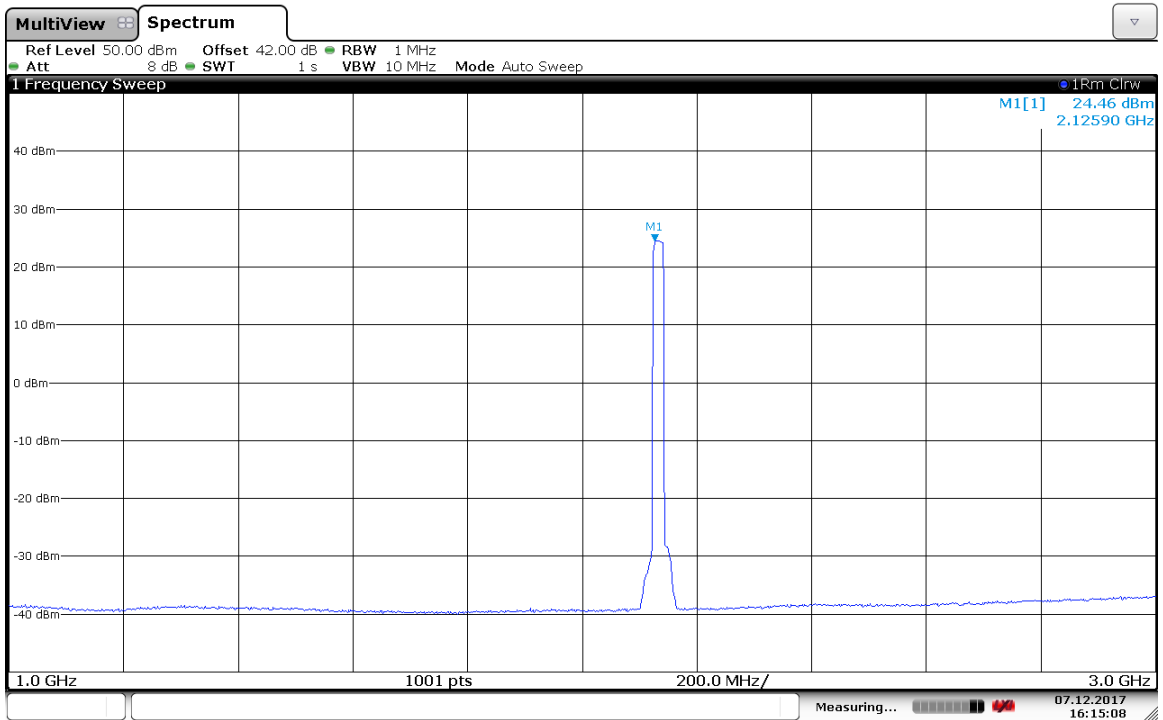
Date: 7 DEC 2017 16:02:15



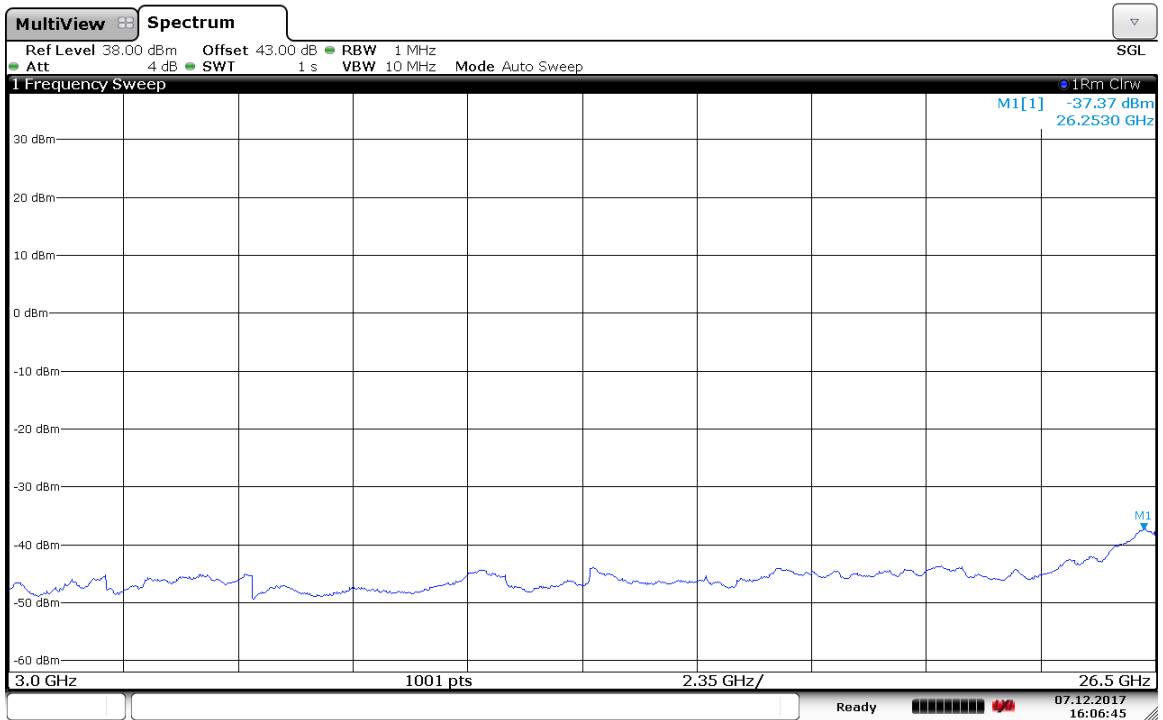
Date: 7 DEC 2017 16:07:13



Date: 7 DEC 2017 16:07:57

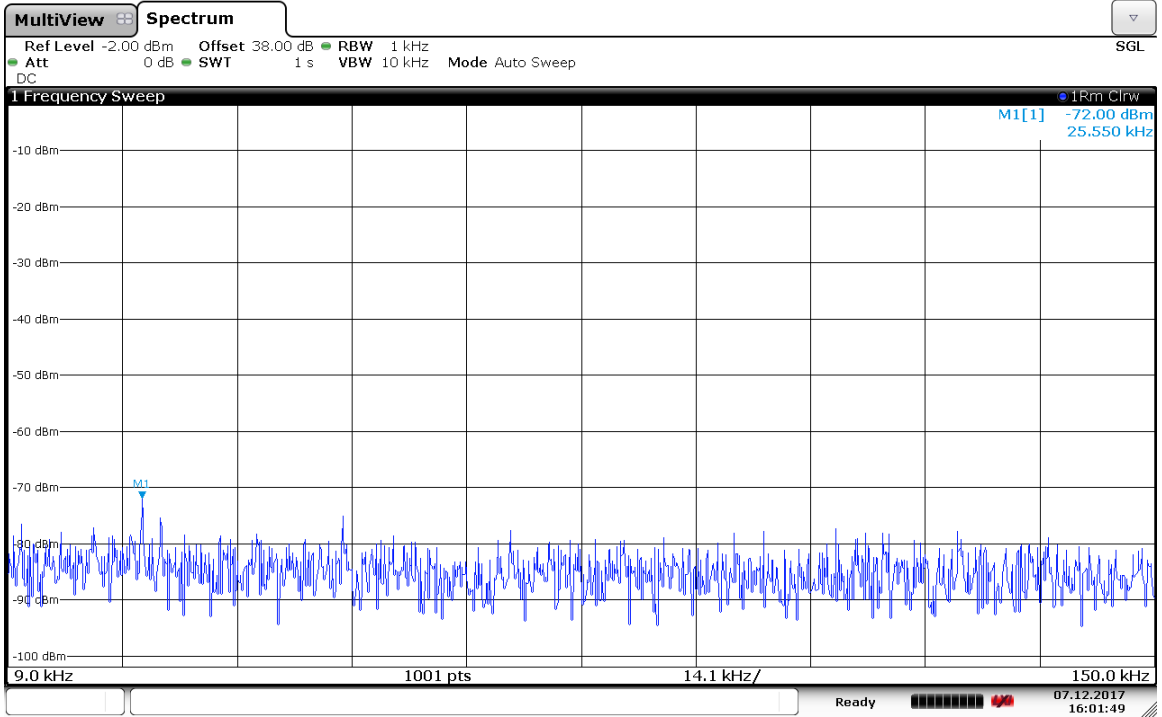


Date: 7 DEC 2017 16:15:08

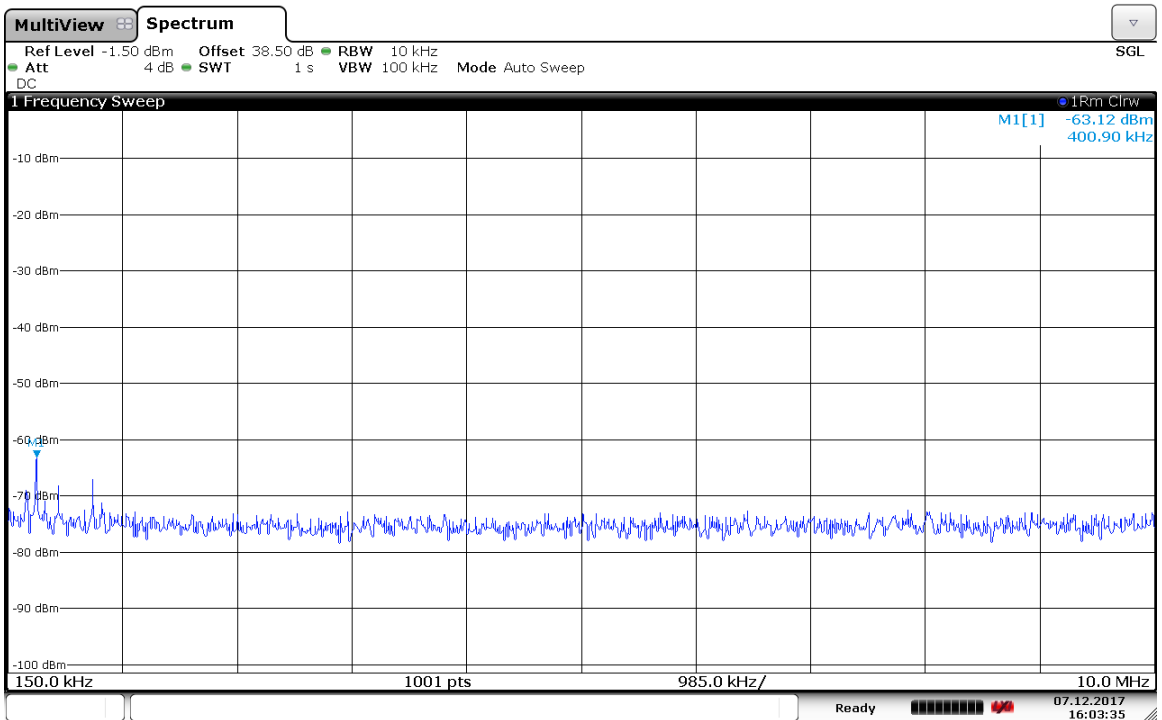


Date: 7 DEC 2017 16:06:44

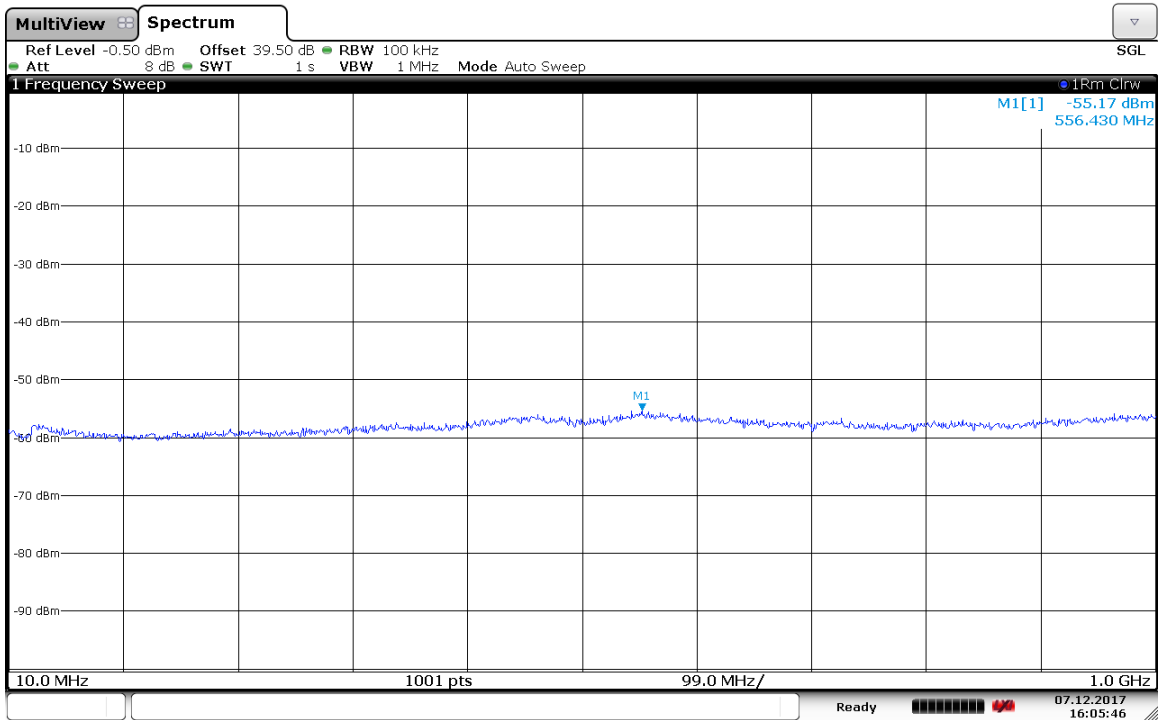
# LTE 20M-Port 1 -2145MHz



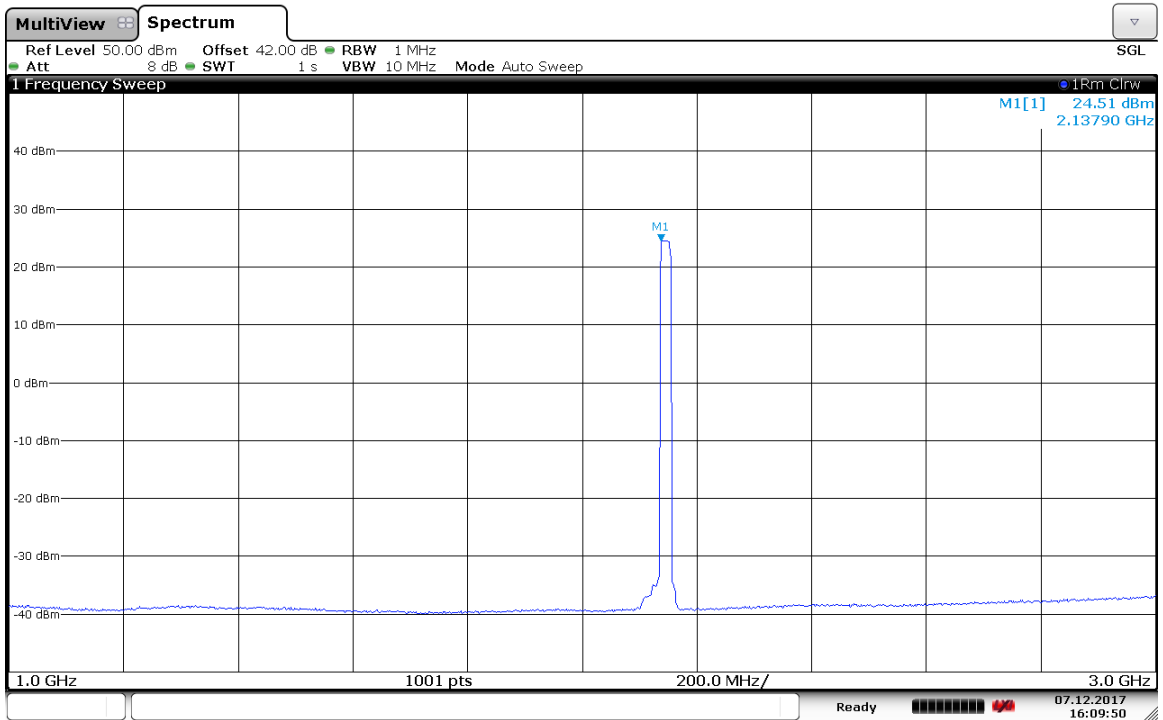
Date: 7.DEC.2017 16:01:49



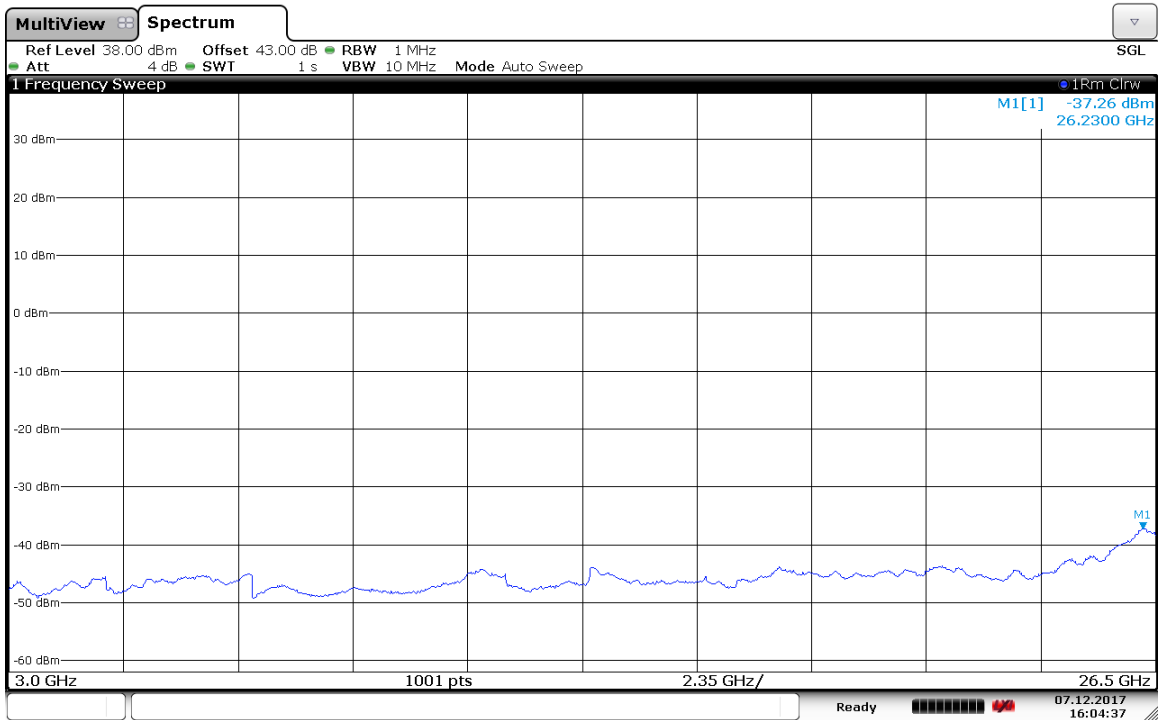
Date: 7.DEC.2017 16:03:35



Date: 7 DEC 2017 16:05:46

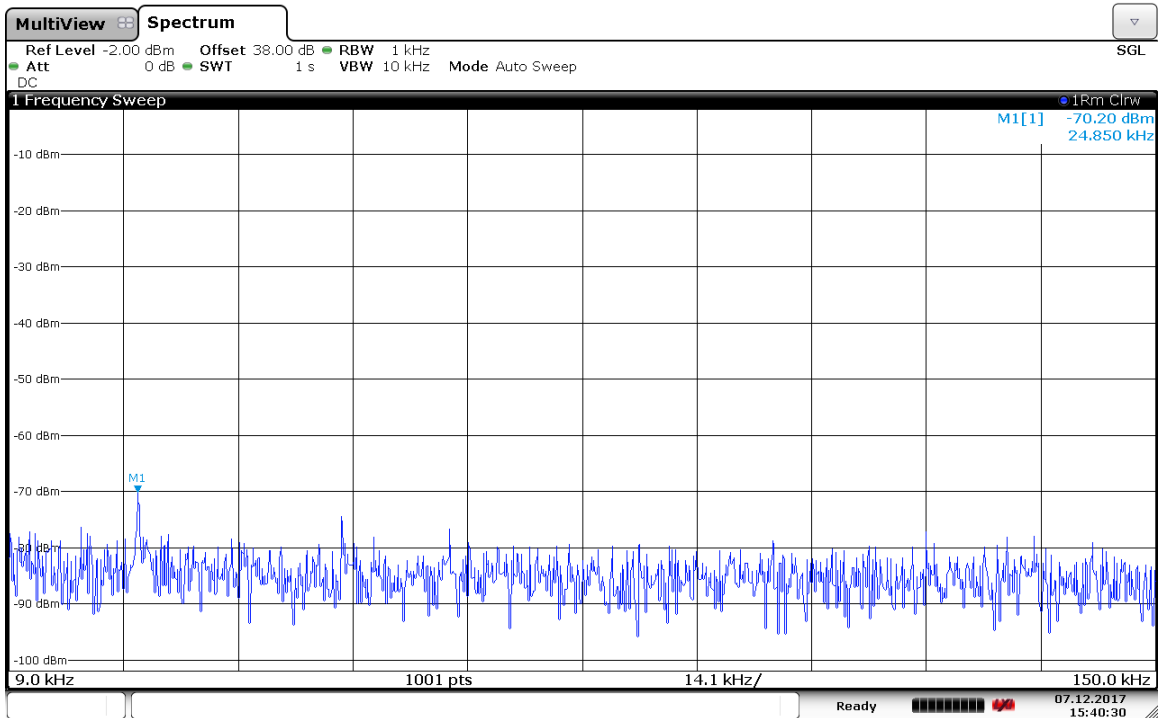


Date: 7 DEC 2017 16:09:50

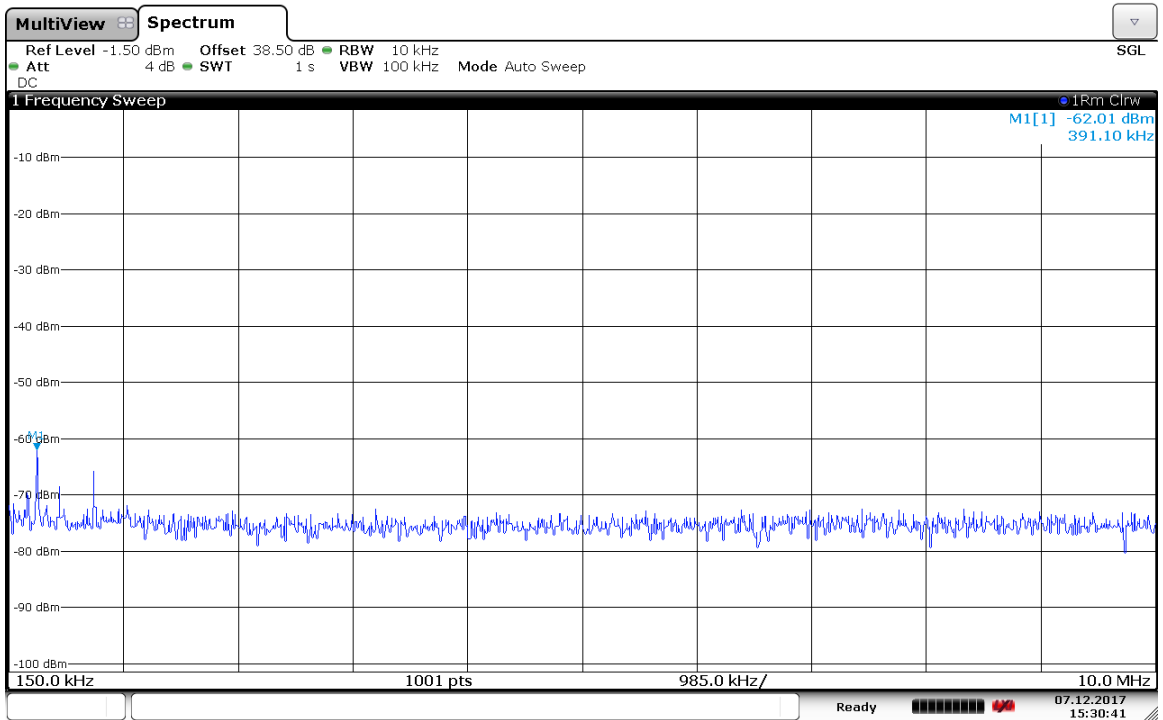


Date: 7 DEC 2017 16:04:37

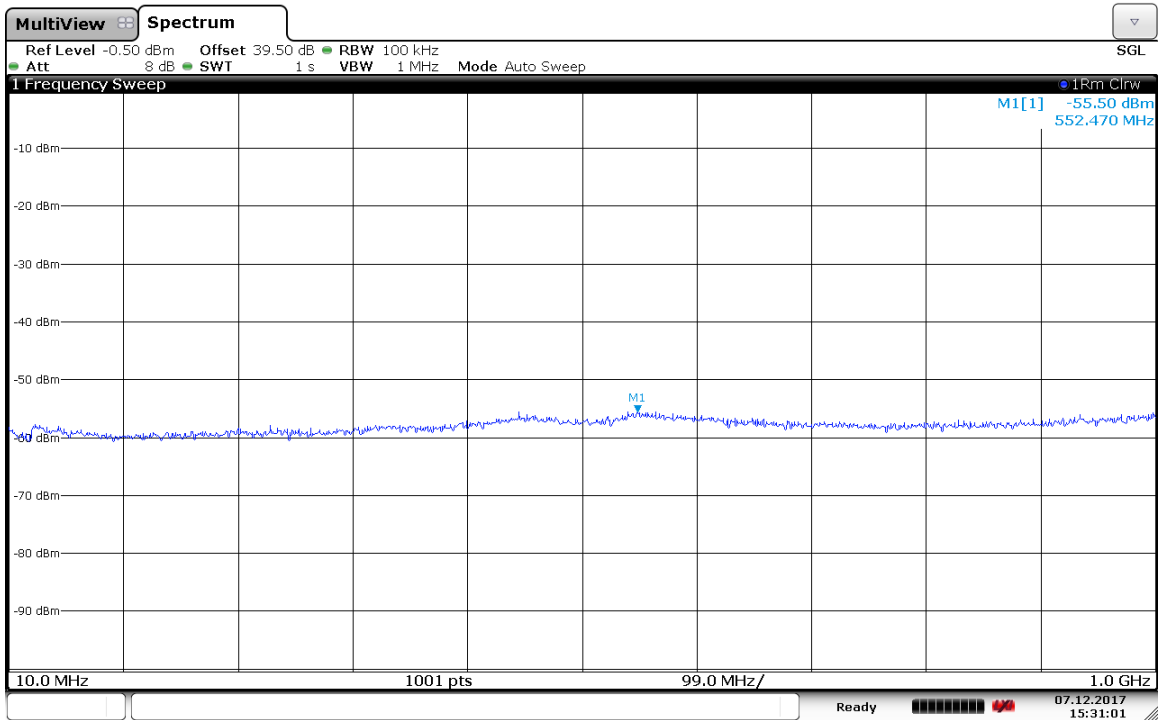
### LTE20M-Port 2 -2120MHz



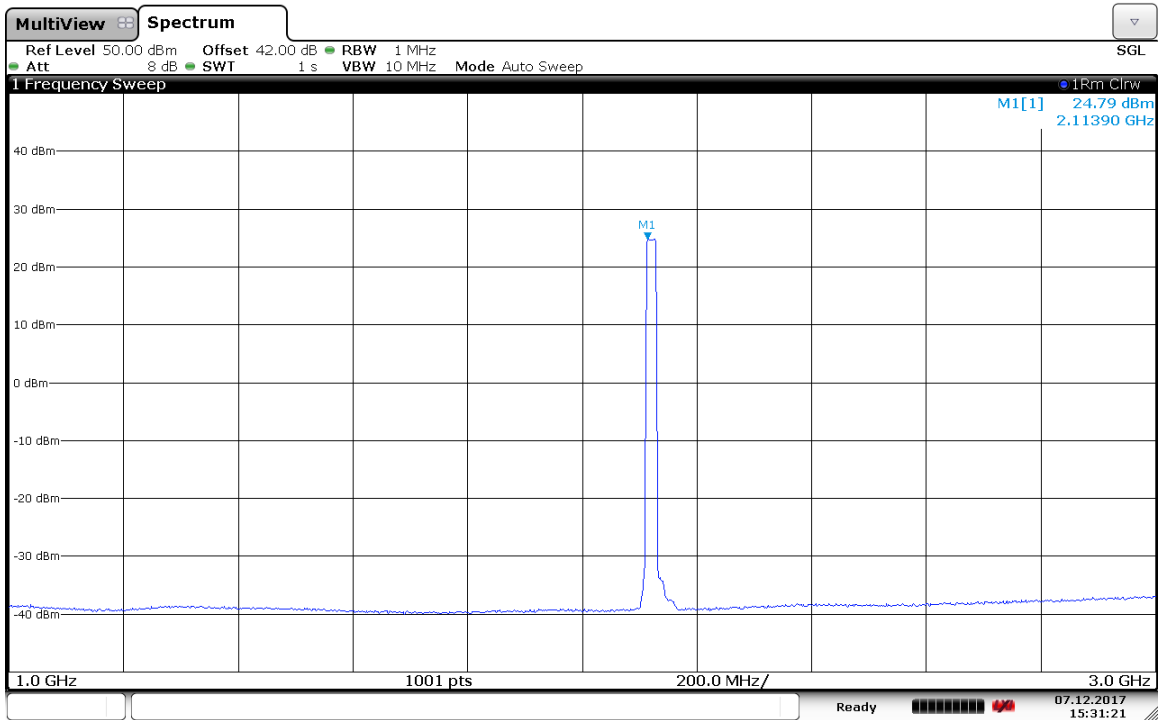
Date: 7 DEC 2017 15:40:30



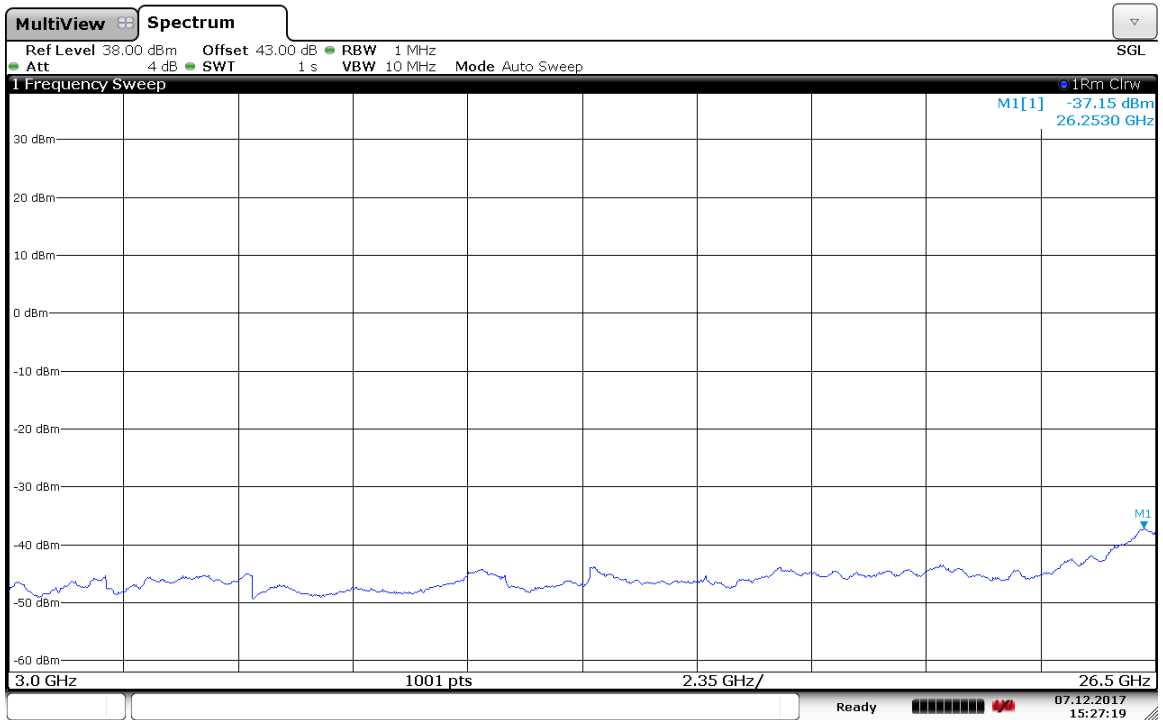
Date: 7 DEC 2017 15:30:40



Date: 7 DEC 2017 15:31:01



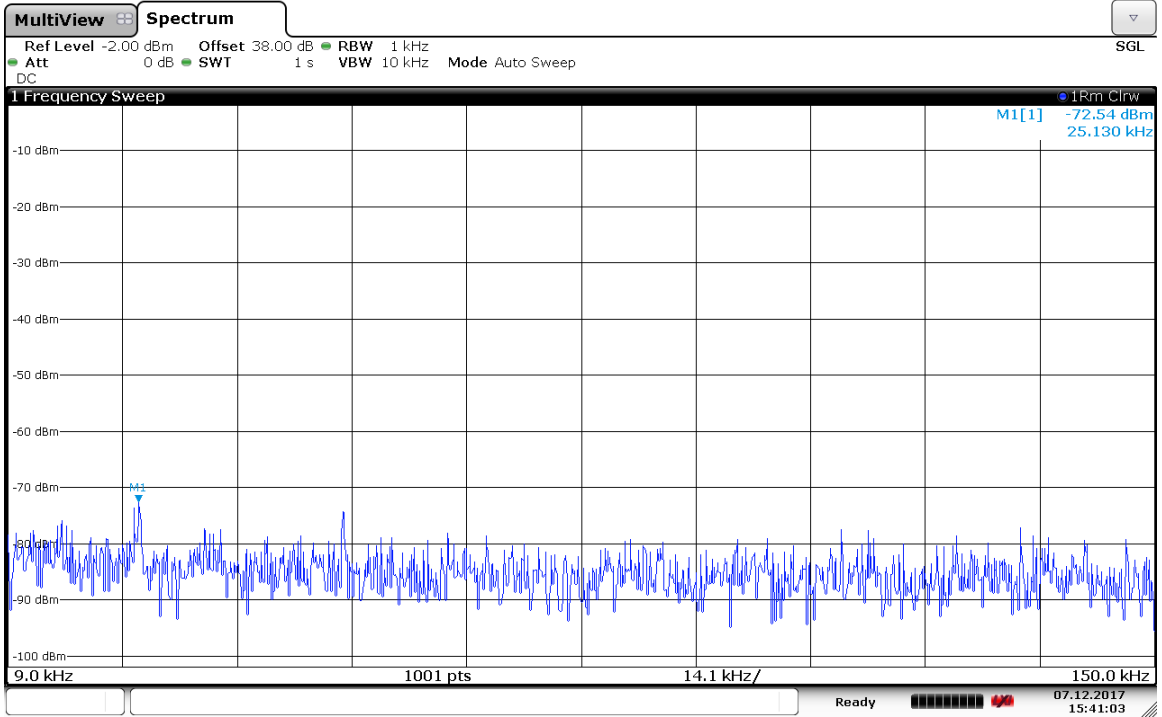
Date: 7 DEC 2017 15:31:22



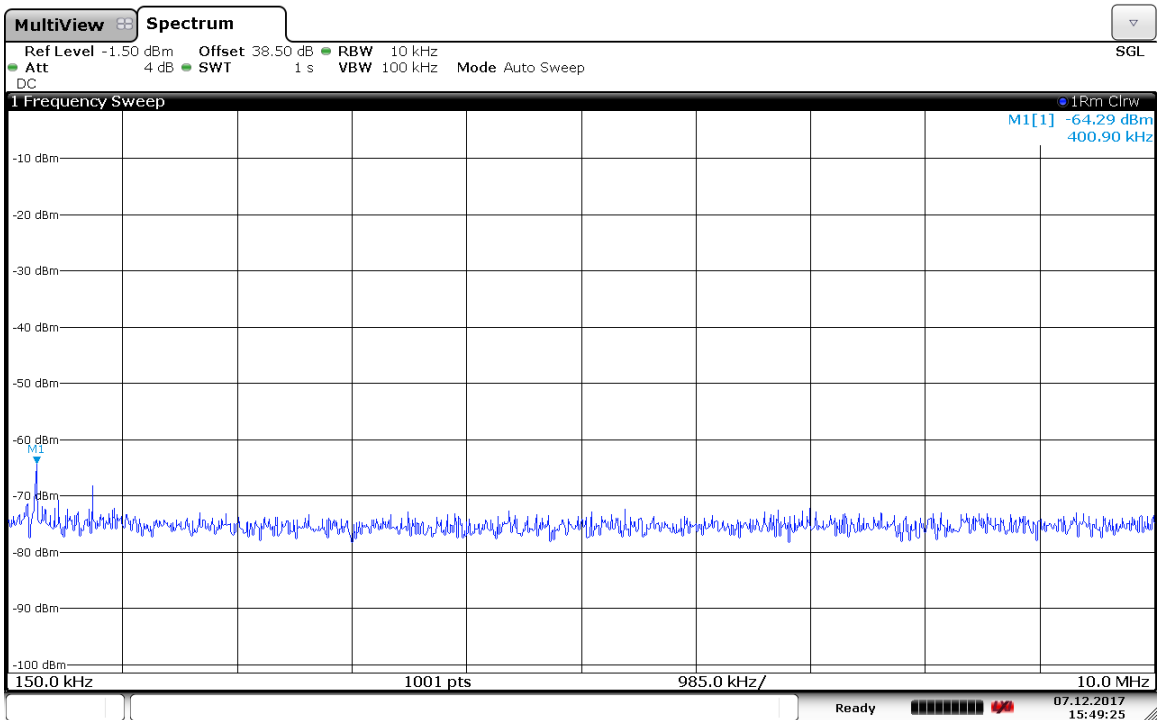
Date: 7 DEC 2017 15:27:19



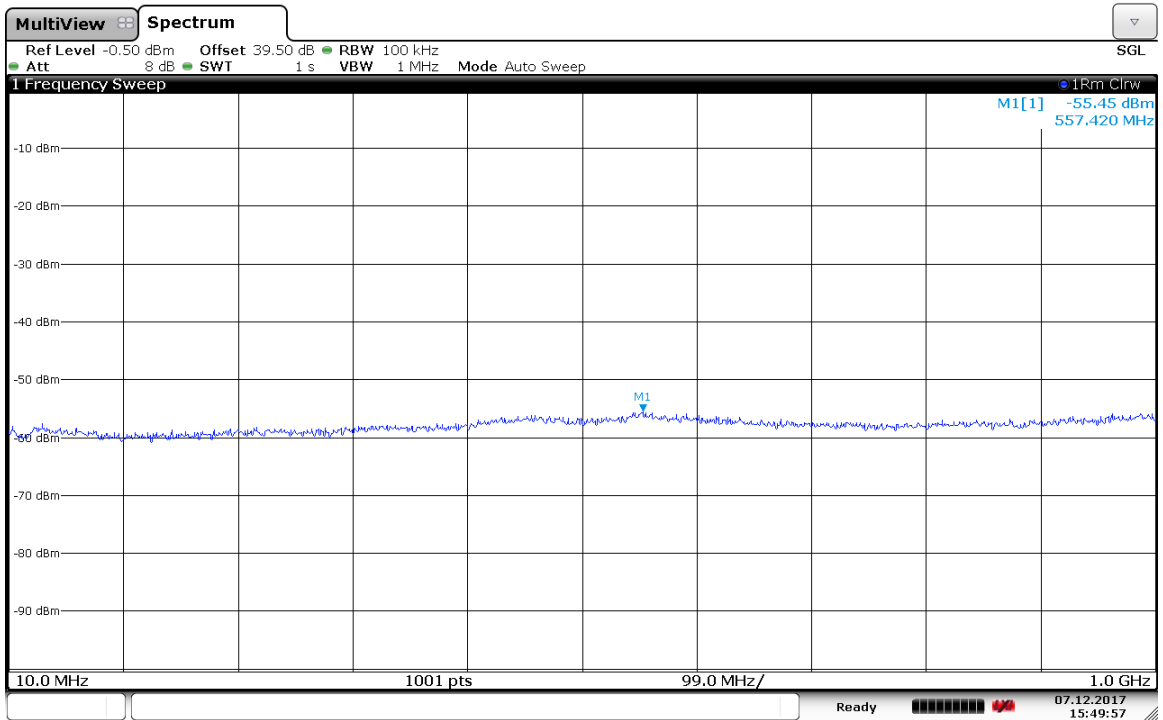
# LTE 20M-Port 2 -2132.5MHz



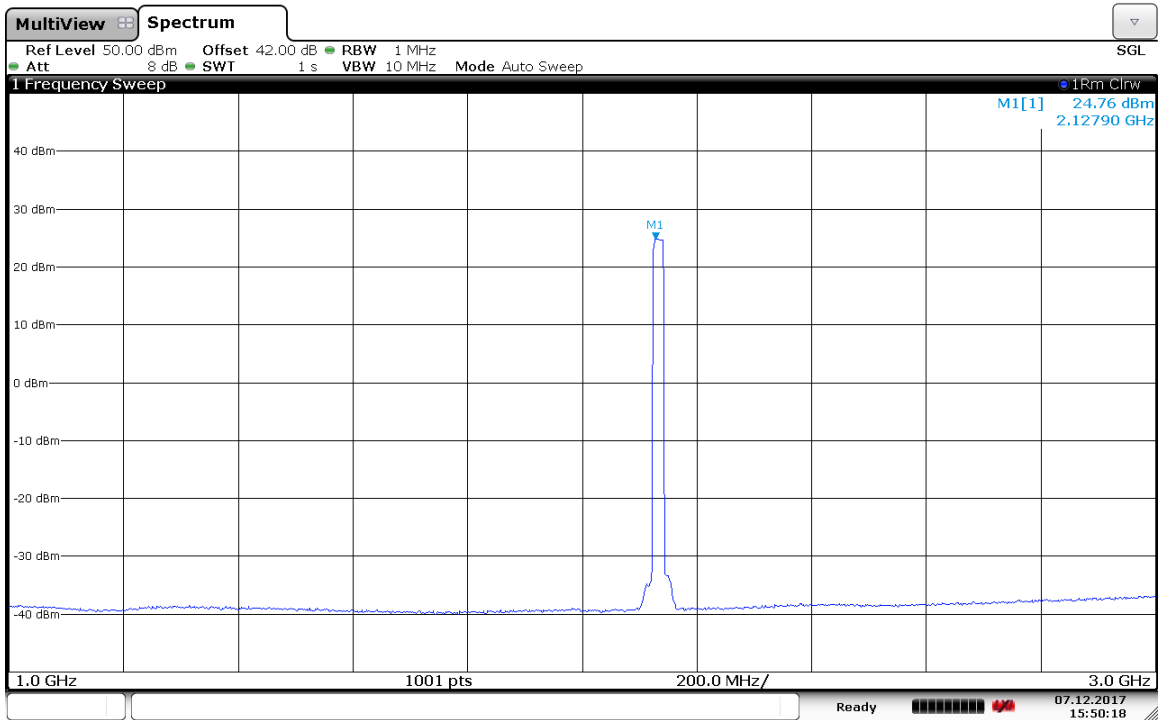
Date: 7.DEC.2017 15:41:04



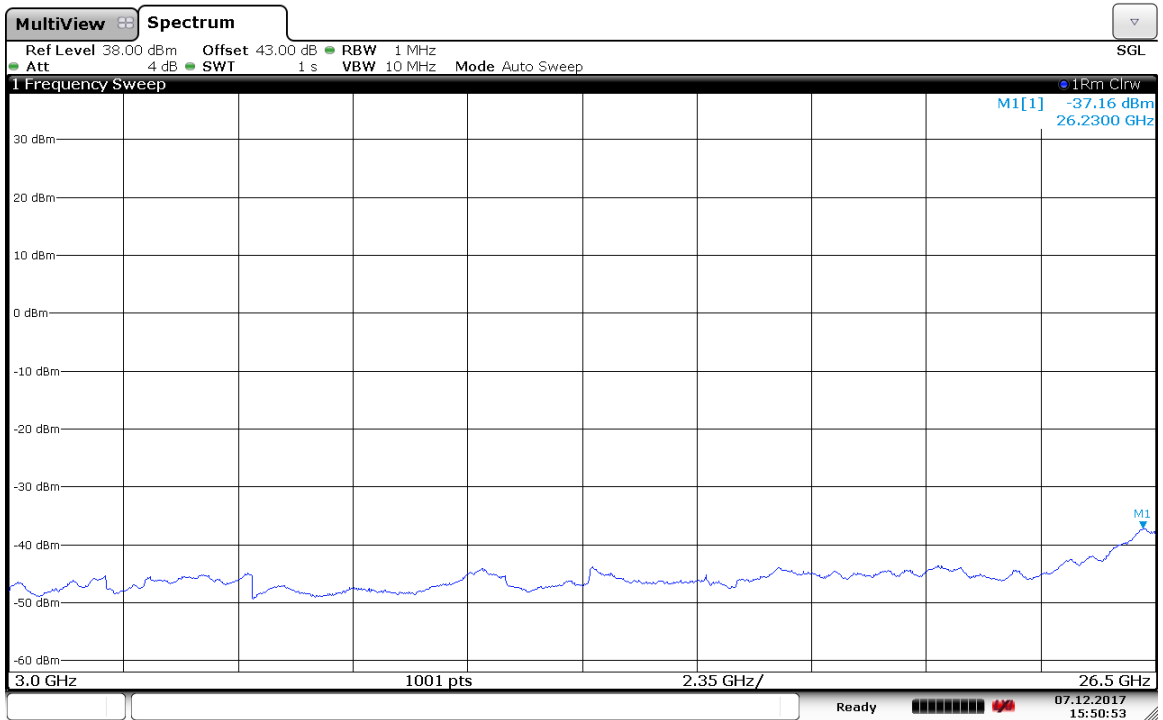
Date: 7.DEC.2017 15:49:25



Date: 7 DEC 2017 15:49:56

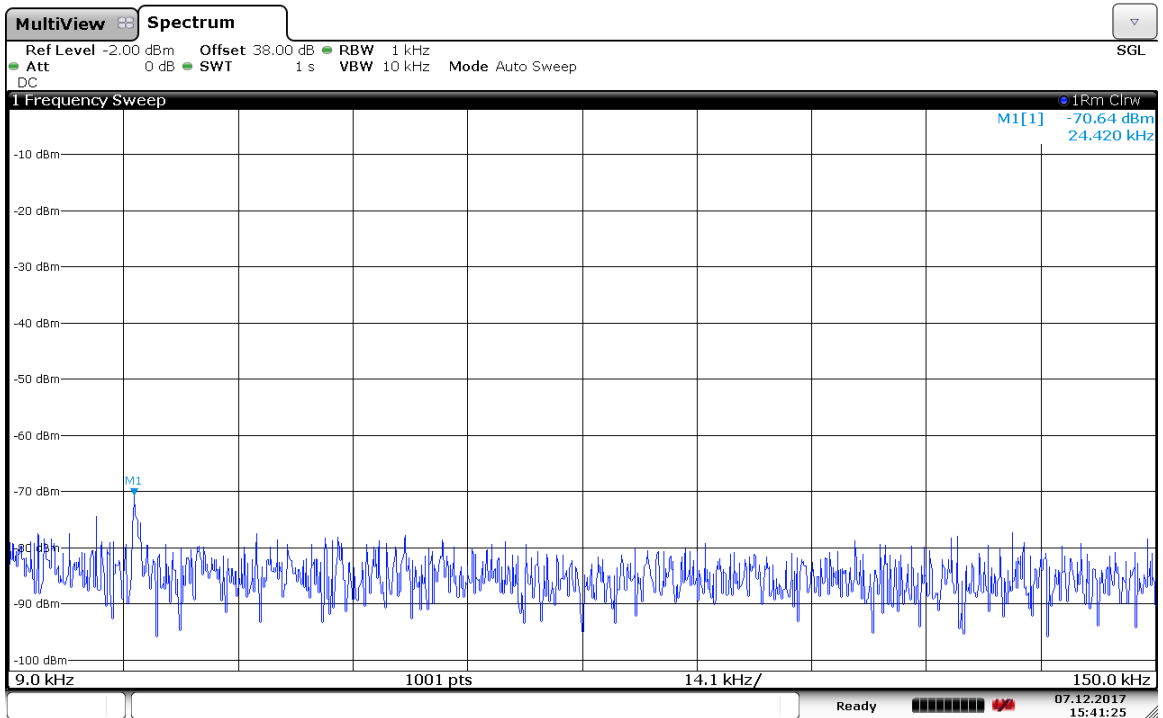


Date: 7 DEC 2017 15:50:18

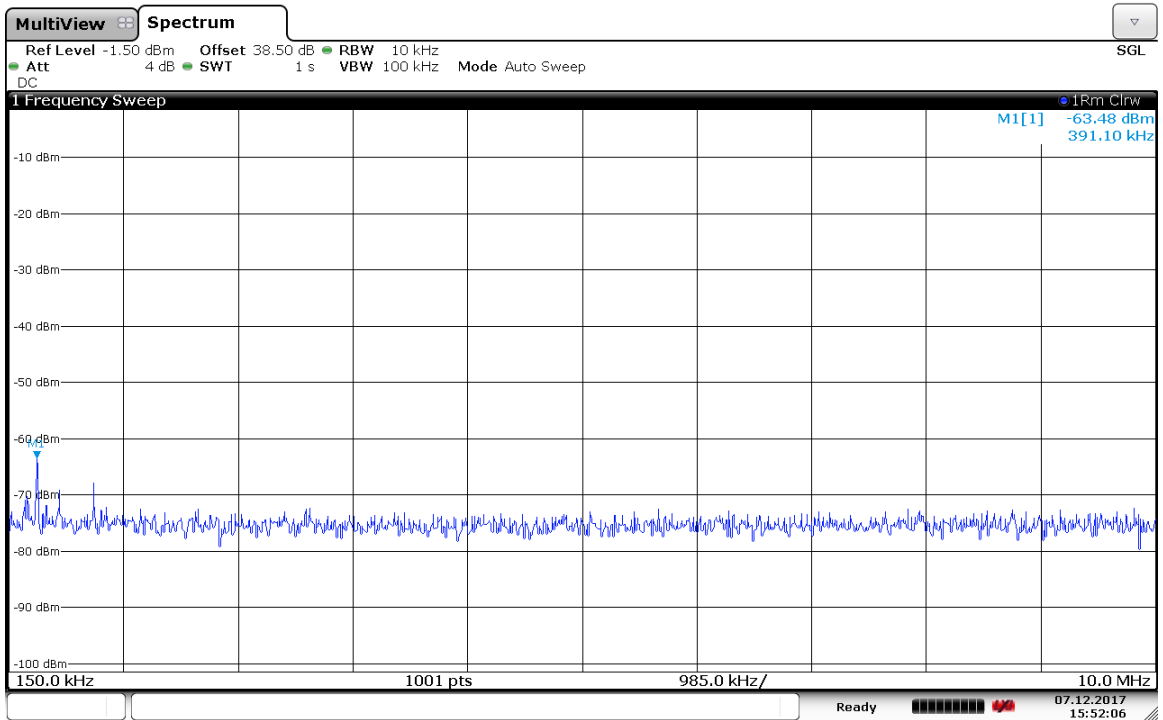


Date: 7 DEC 2017 15:50:53

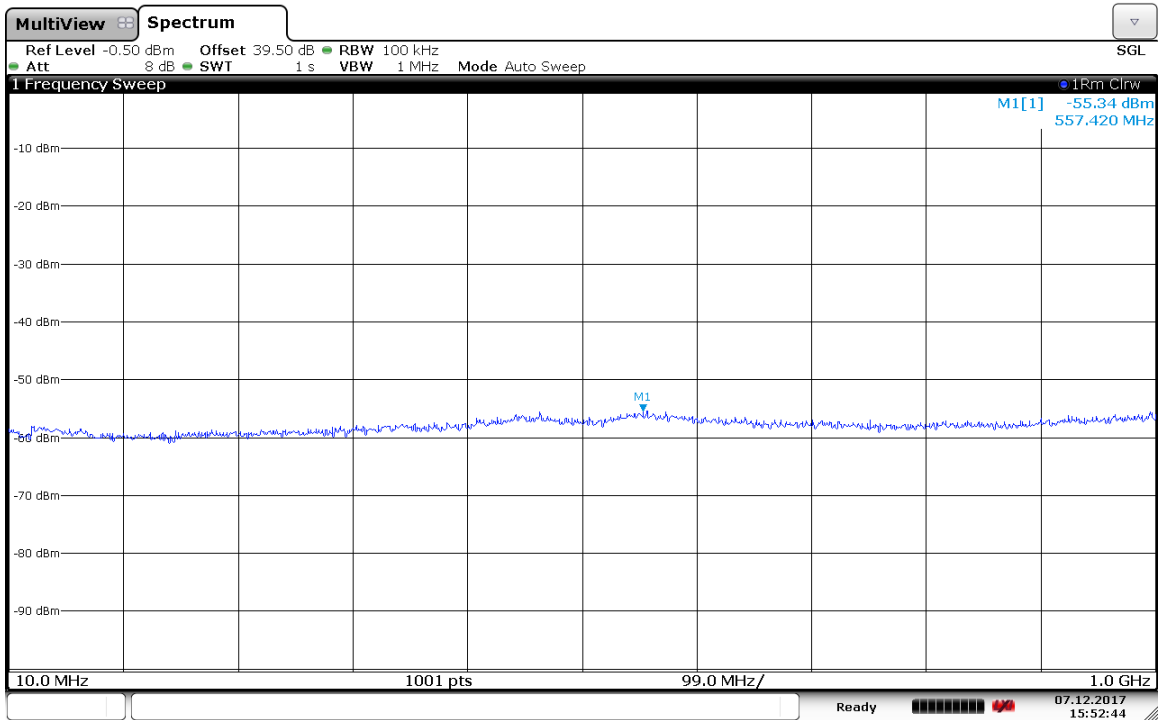
### LTE 20M-Port 2 -2145MHz



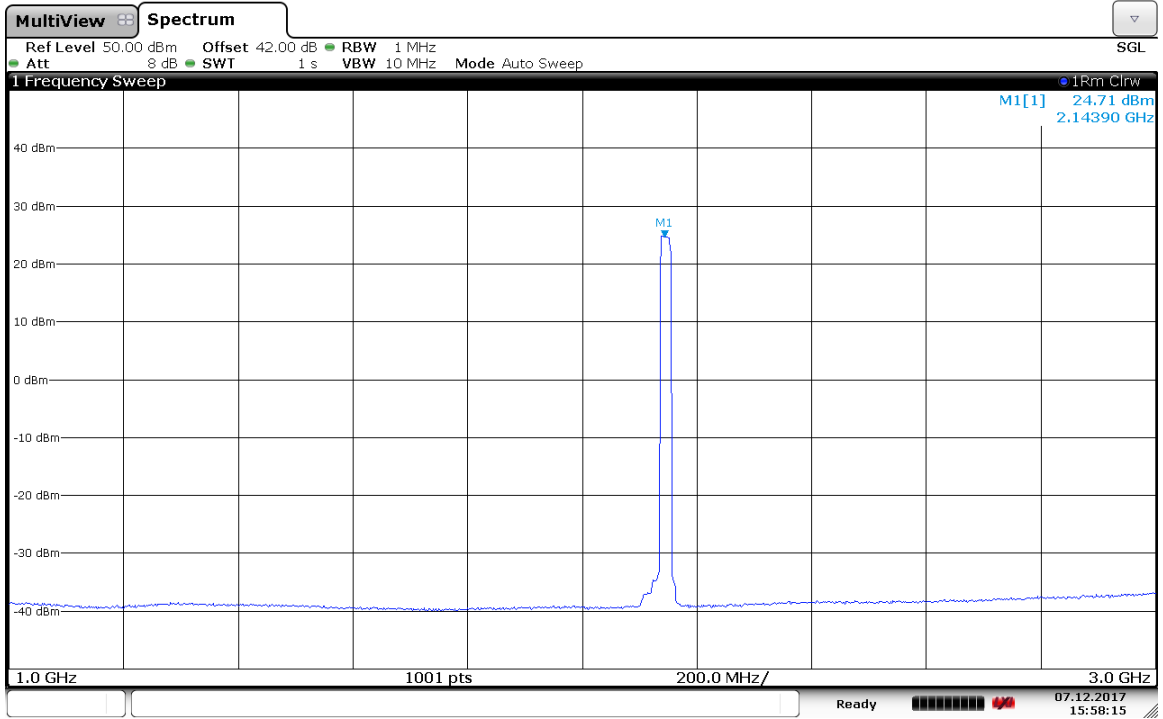
Date: 7 DEC 2017 15:41:24



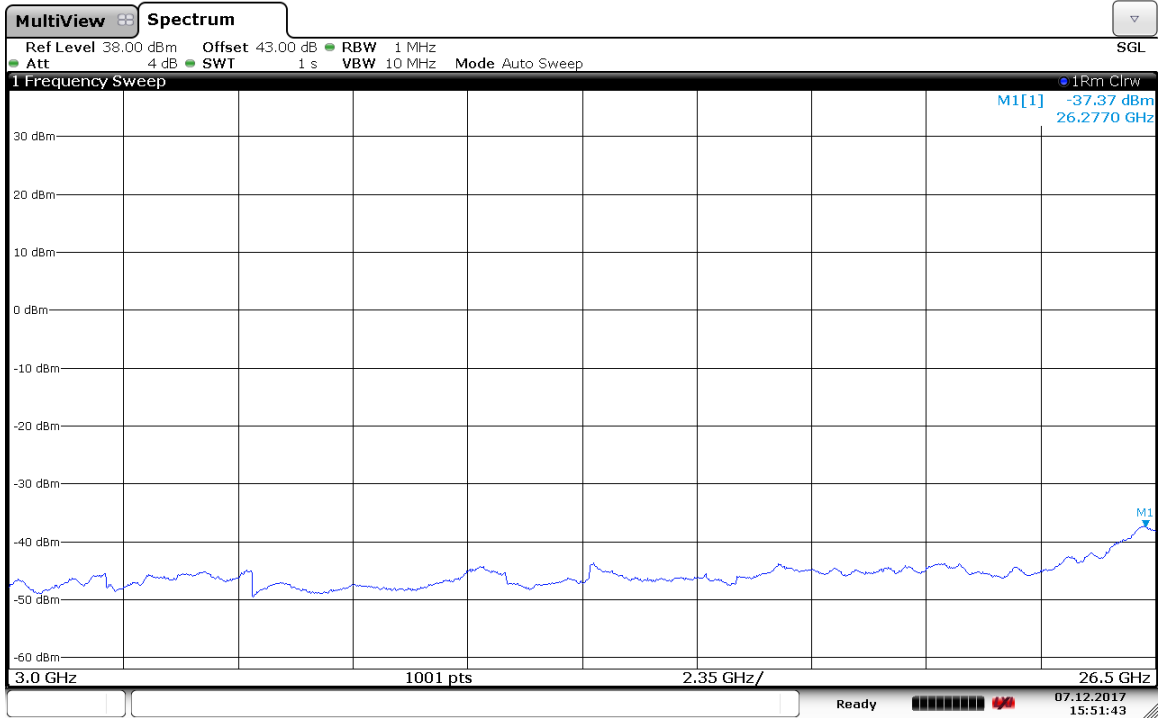
Date: 7 DEC 2017 15:52:07



Date: 7 DEC 2017 15:52:44



Date: 7 DEC 2017 15:58:15



Date: 7 DEC 2017 15:51:43

### 3.6. Occupied Bandwidth

3.6.1. Applicable Standard: FCC §2.1049

3.6.2. Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Signal & Spectrum Analyzer	FSW26	SB12724/01	2017.6.19	2018.6.18
DTS	DTS 40dB Attenuator	DTS100-40-3-1	09112005	2017.03.15	2018.03.15

**\*statement of traceability:** SMQ attests that all calibration has been performed per the A2LA requirements, traceable to NIM.

3.6.3. Test Procedure

The RF out of the transmitter was connected to the input of the spectrum analyzer through sufficient attenuation. 99% Power bandwidth was recorded.

3.6.4. Environmental Conditions

Temperature:	20 °C
Relative Humidity:	53 %
ATM Pressure:	1009 mbar

3.6.5. Test Result: Pass

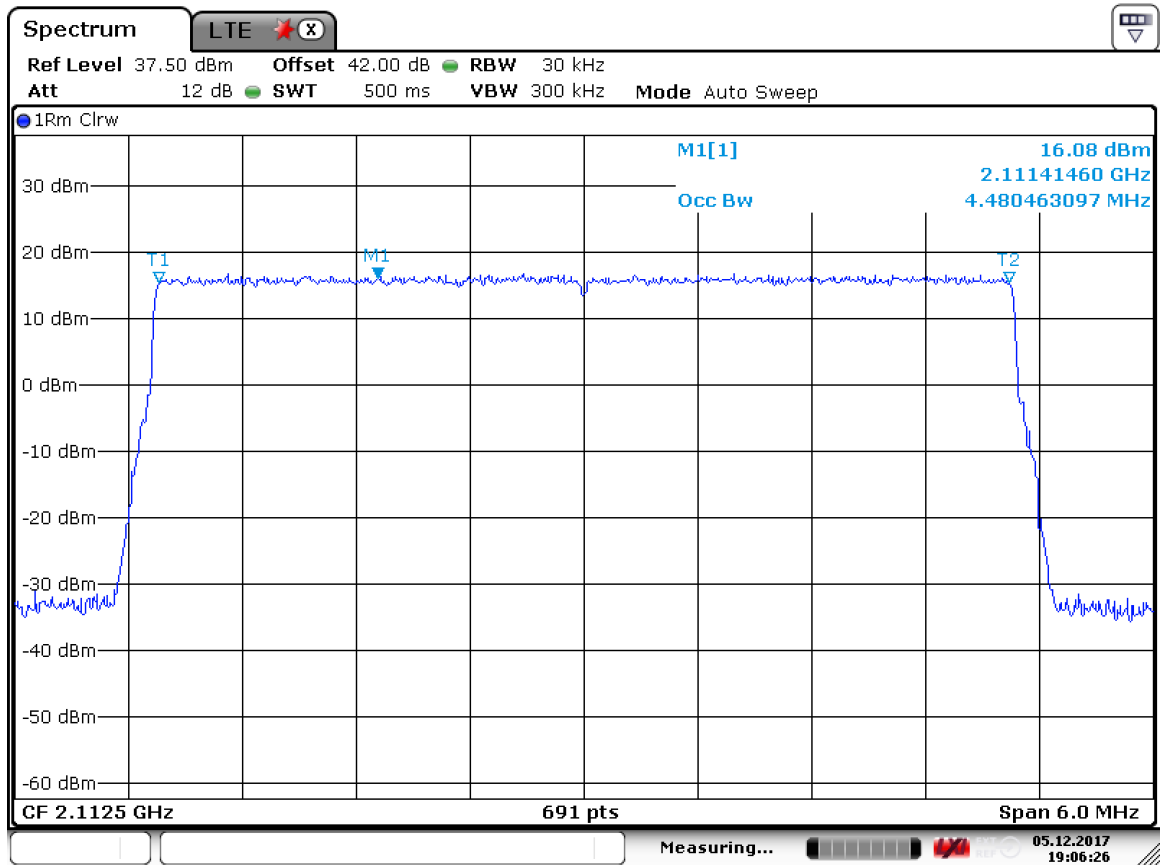
3.6.6. Test Mode: Transmitting LTE

3.6.7. Test Data:

LTE 5MHz

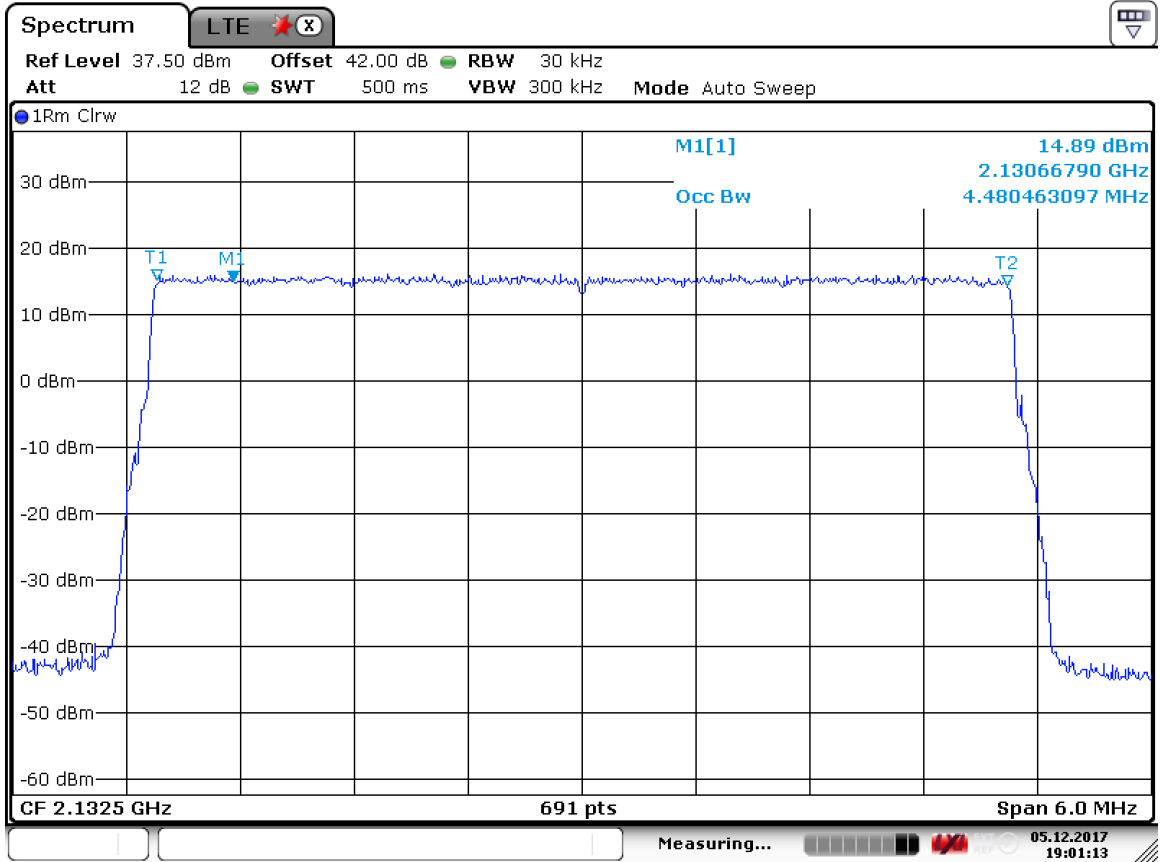
Port	LTE Center Freq. (MHz)	99% Power Bandwidth (MHz)	Limit (MHz)
1	2112.5	4.48	5M
	2132.5	4.48	5M
	2152.5	4.48	5M
2	2112.5	4.48	5M
	2132.5	4.48	5M
	2152.5	4.47	5M

Port 1 -2122.5MHz



Date: 5.DEC.2017 19:06:26

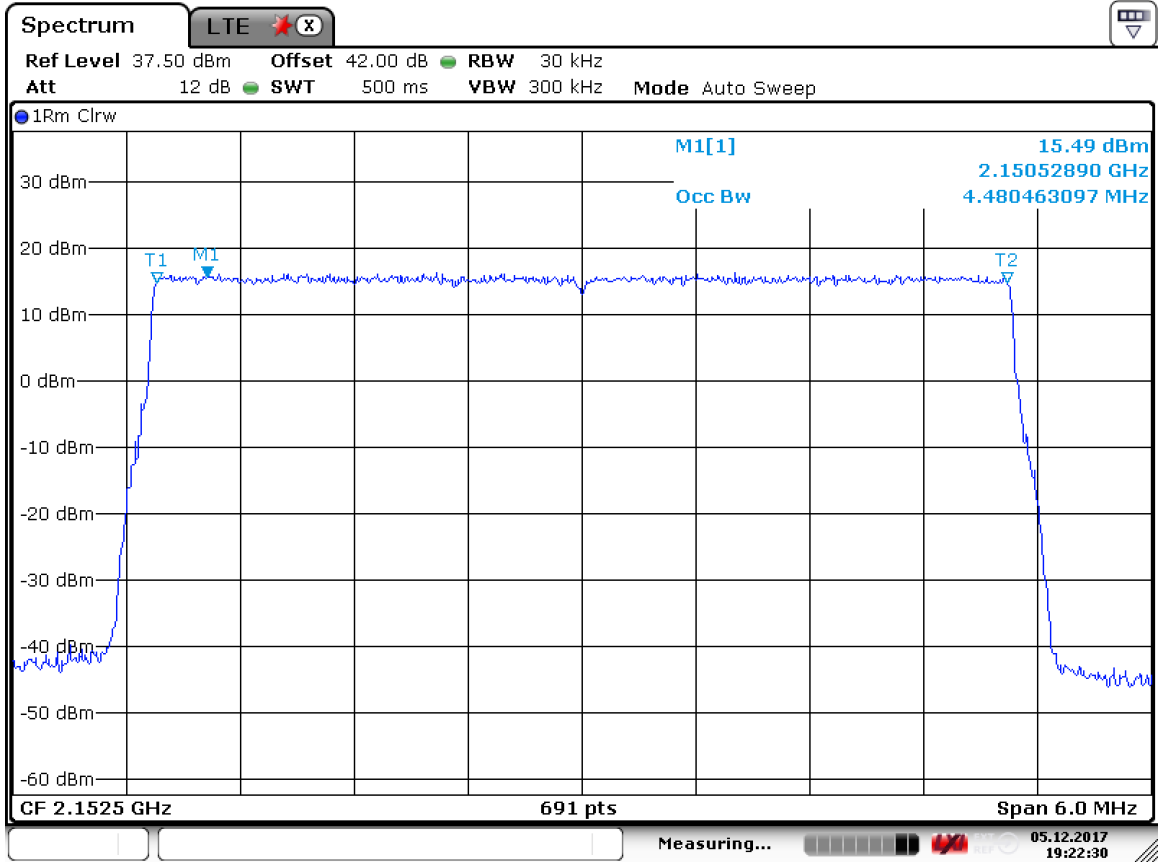
# Port 1 -2132.5MHz



Date: 5.DEC.2017 19:01:13

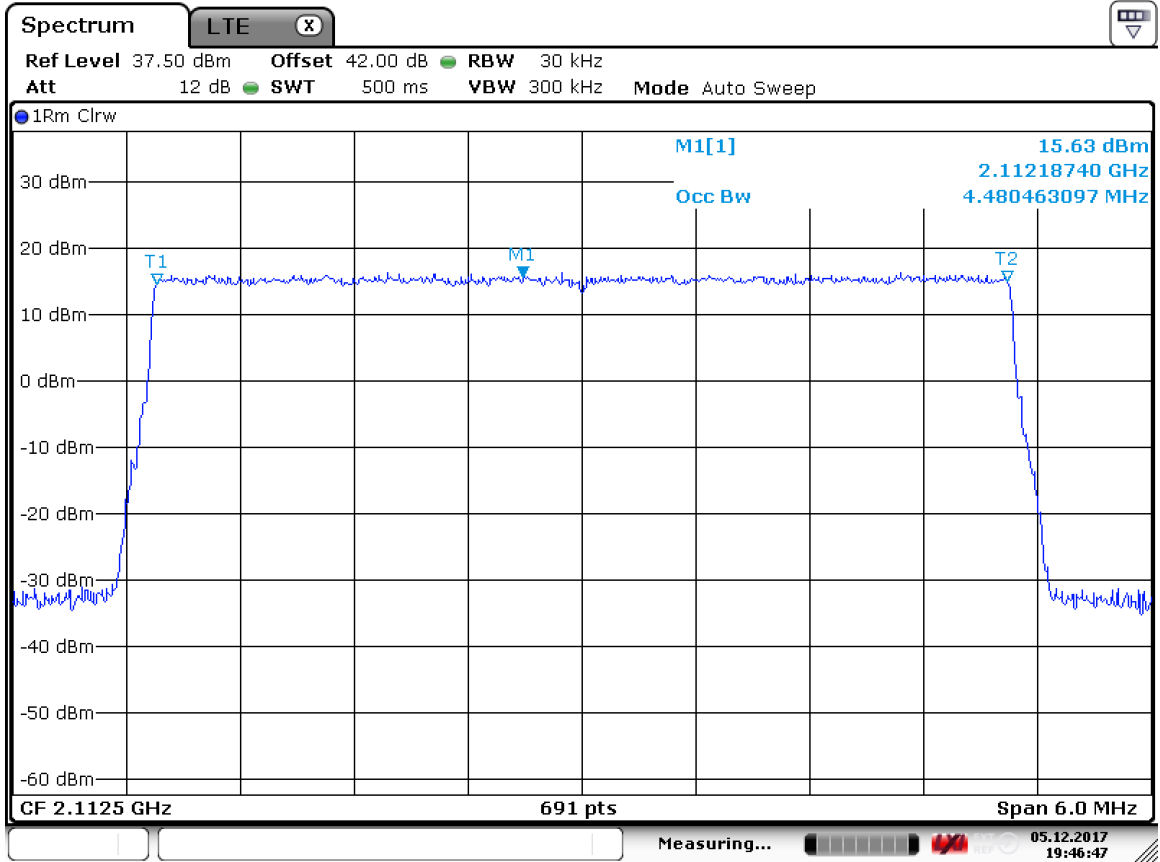


# Port 1 -2152.5MHz



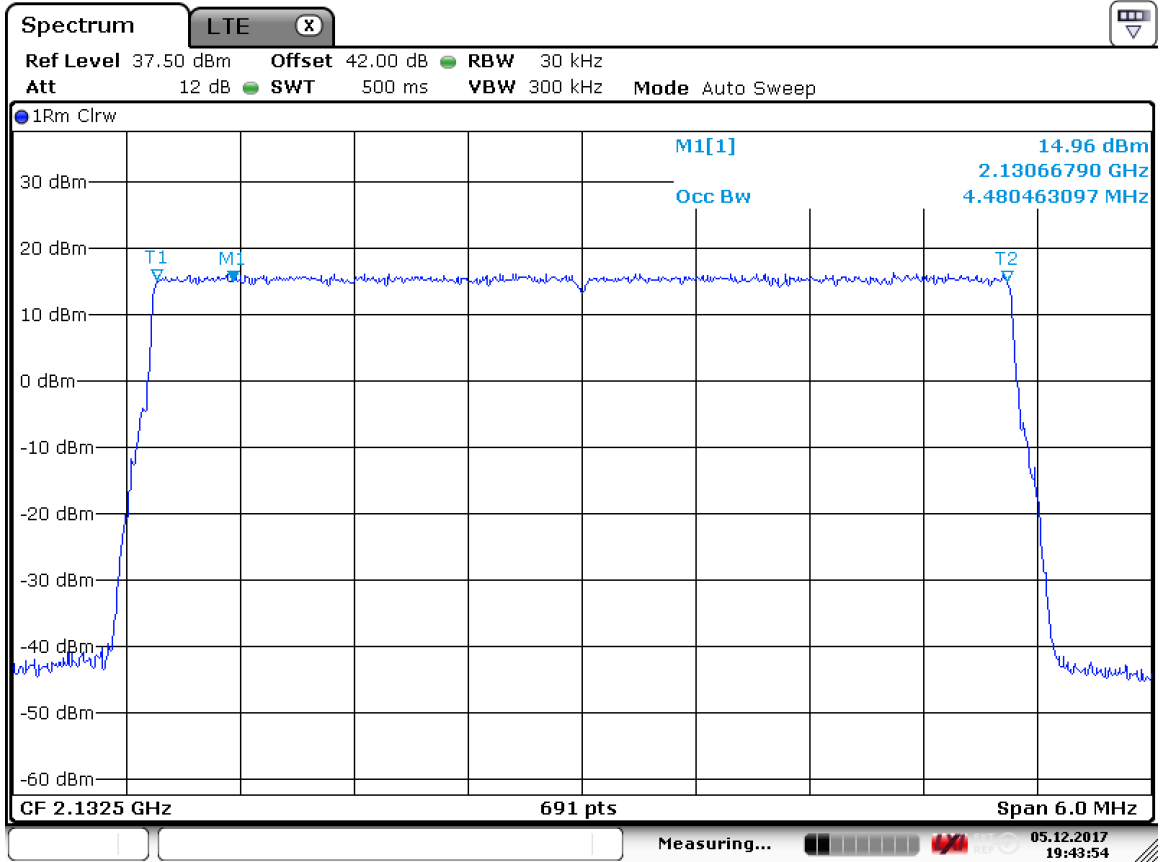
Date: 5.DEC.2017 19:22:31

# Port 2 -2122.5MHz



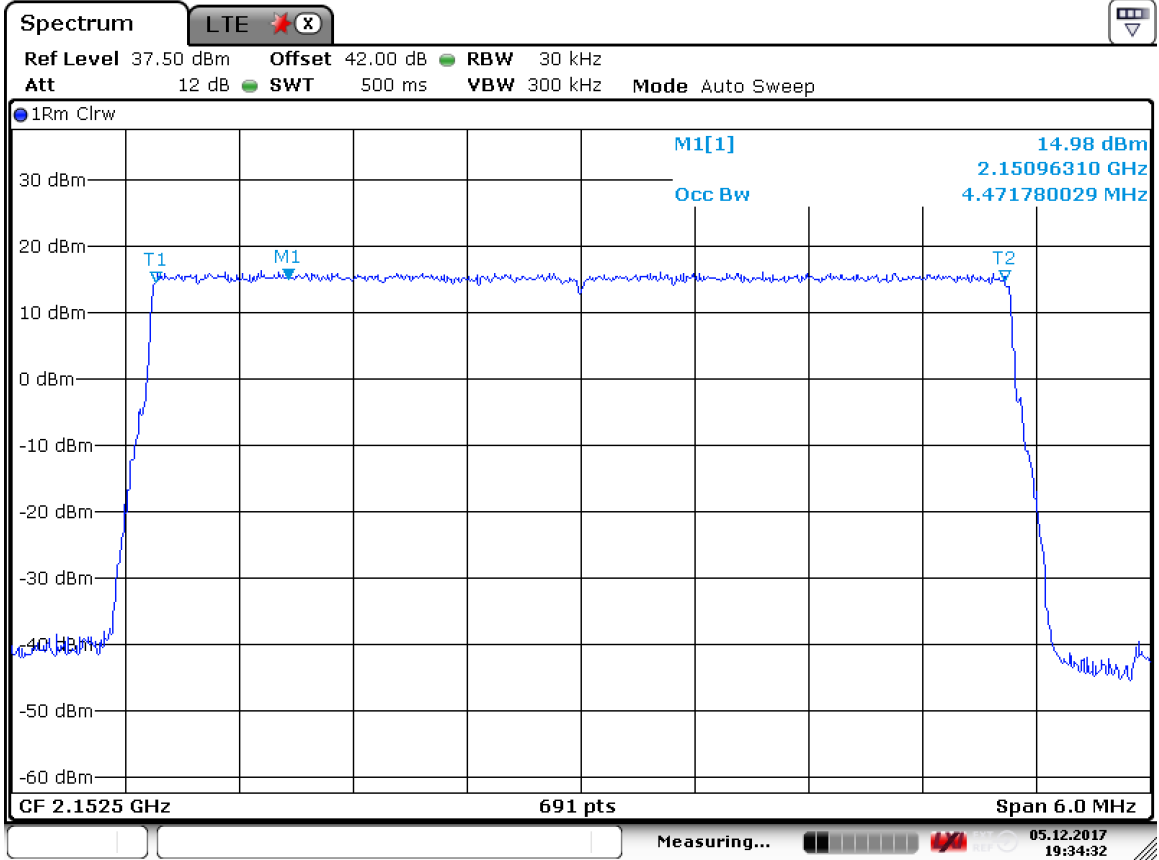
Date: 5.DEC.2017 19:46:48

# Port 2 -2132.5MHz



Date: 5.DEC.2017 19:43:55

Port 2 -2152.5MHz

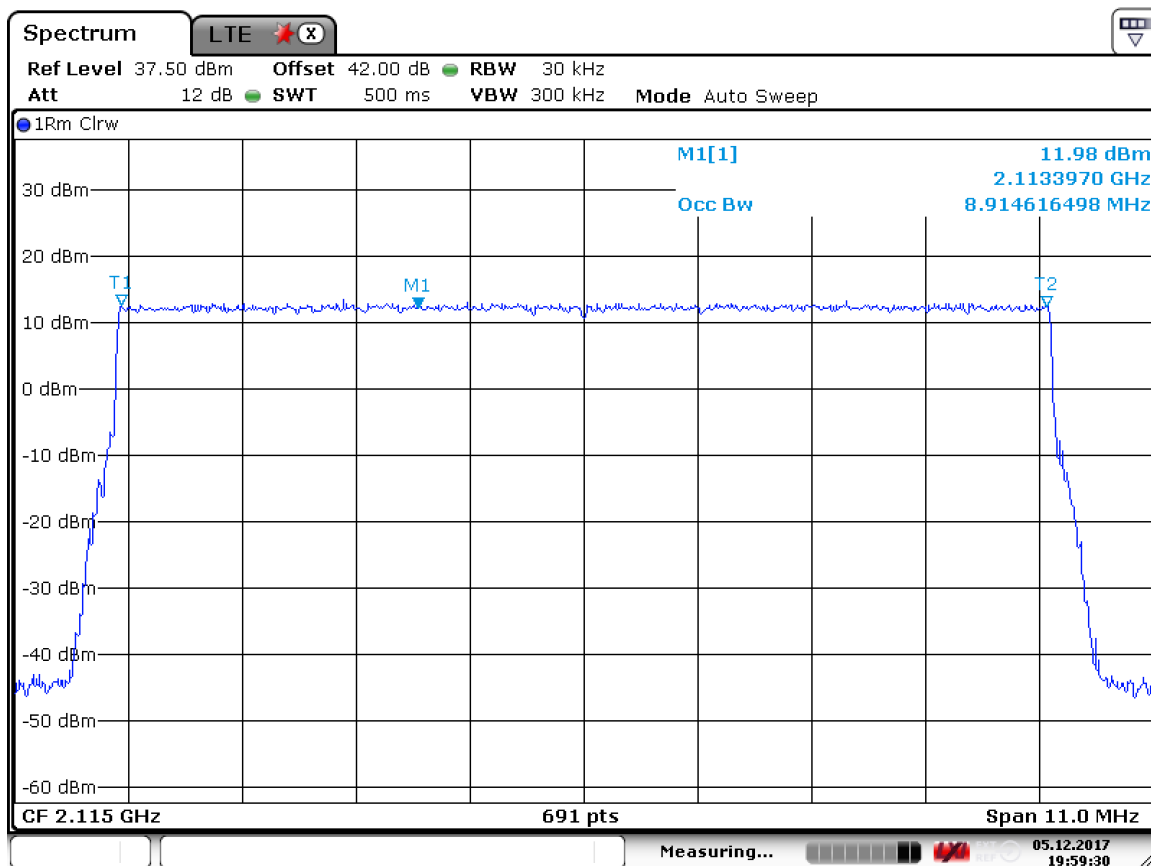


Date: 5.DEC.2017 19:34:32

LTE 10MHz

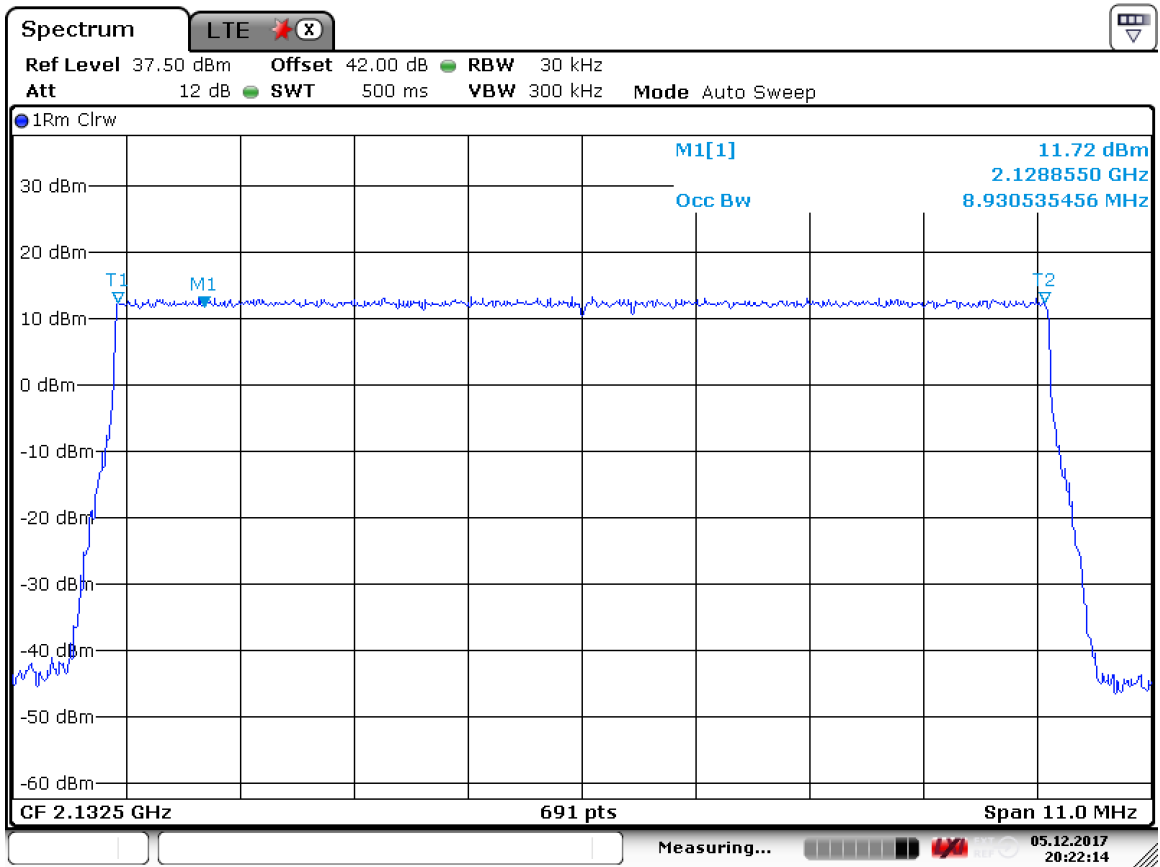
Port	LTE Center Freq. (MHz)	99% Power Bandwidth (MHz)	Limit (MHz)
1	2115	8.91	10M
	2132.5	8.93	10M
	2150	8.93	10M
2	2115	8.93	10M
	2132.5	8.91	10M
	2150	8.91	10M

Port 1 -2115MHz



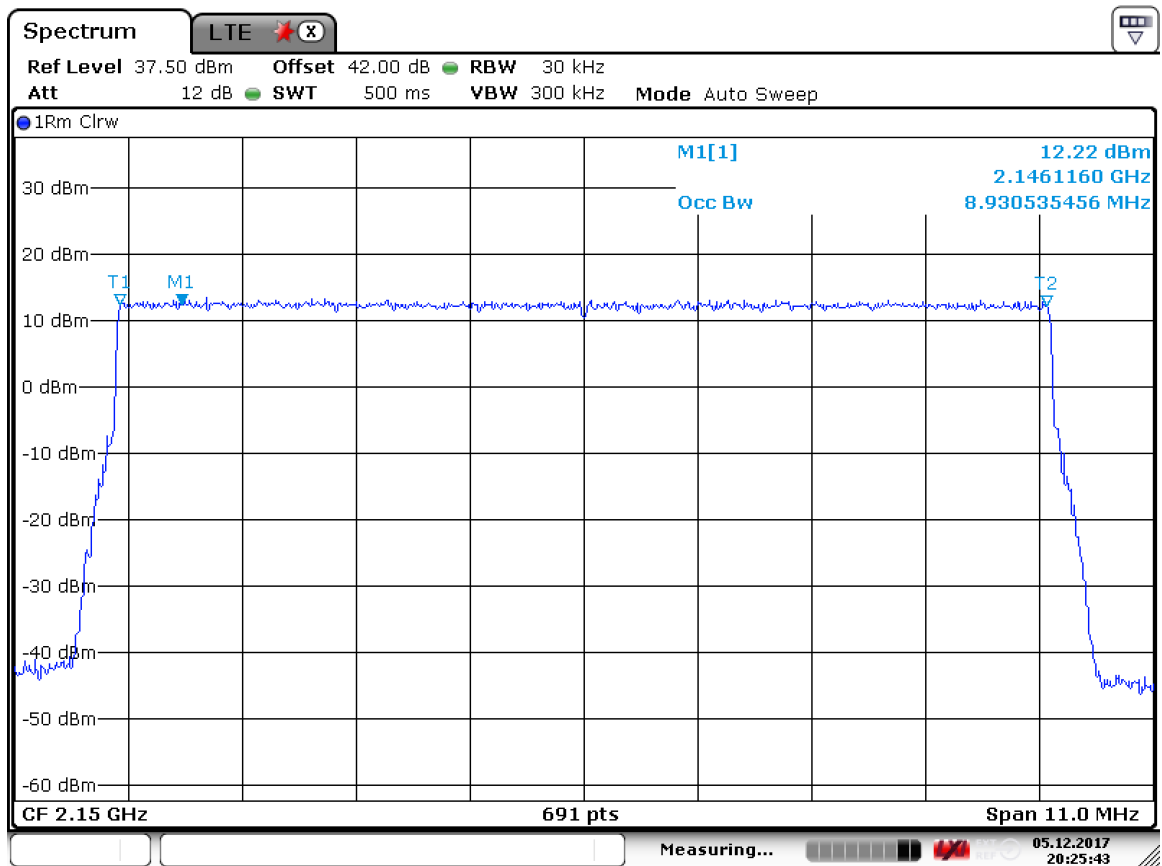
Date: 5.DEC.2017 19:59:30

Port 1 -2132.5MHz



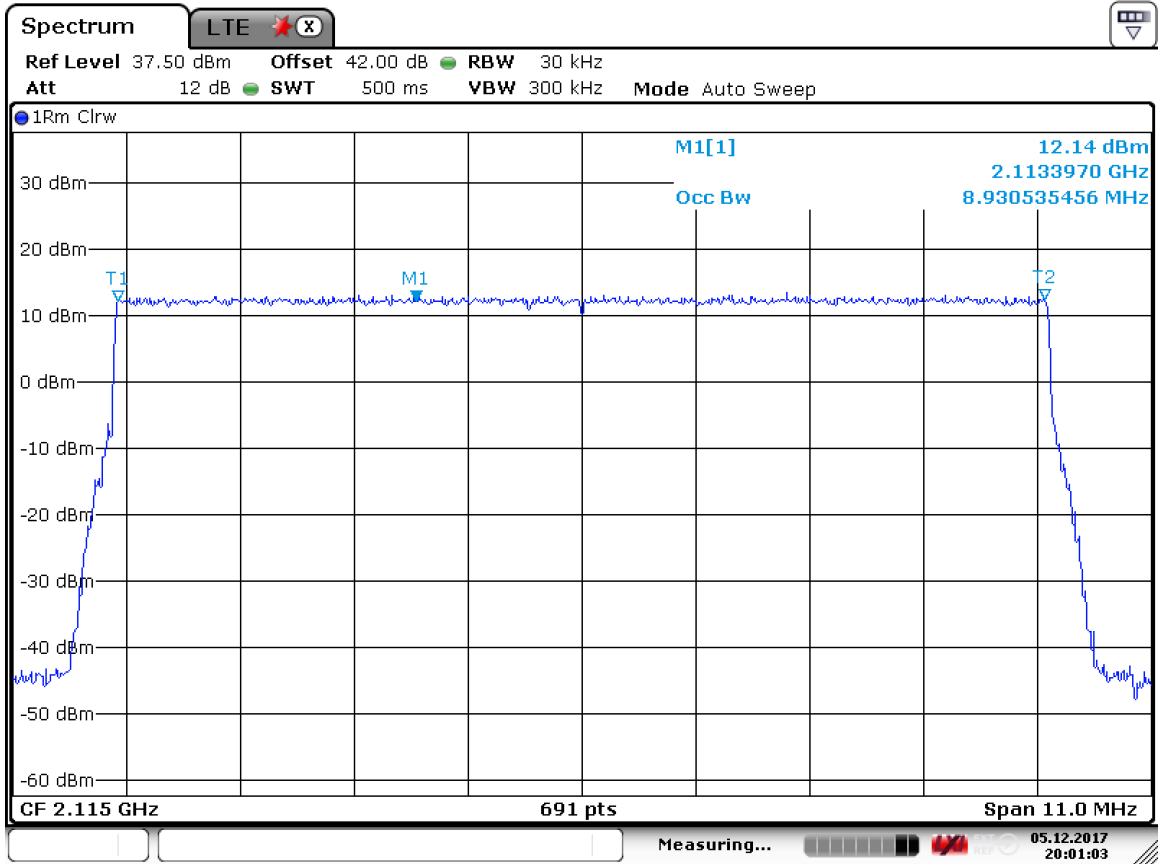
Date: 5.DEC.2017 20:22:14

Port 1 -2150MHz



Date: 5.DEC.2017 20:25:43

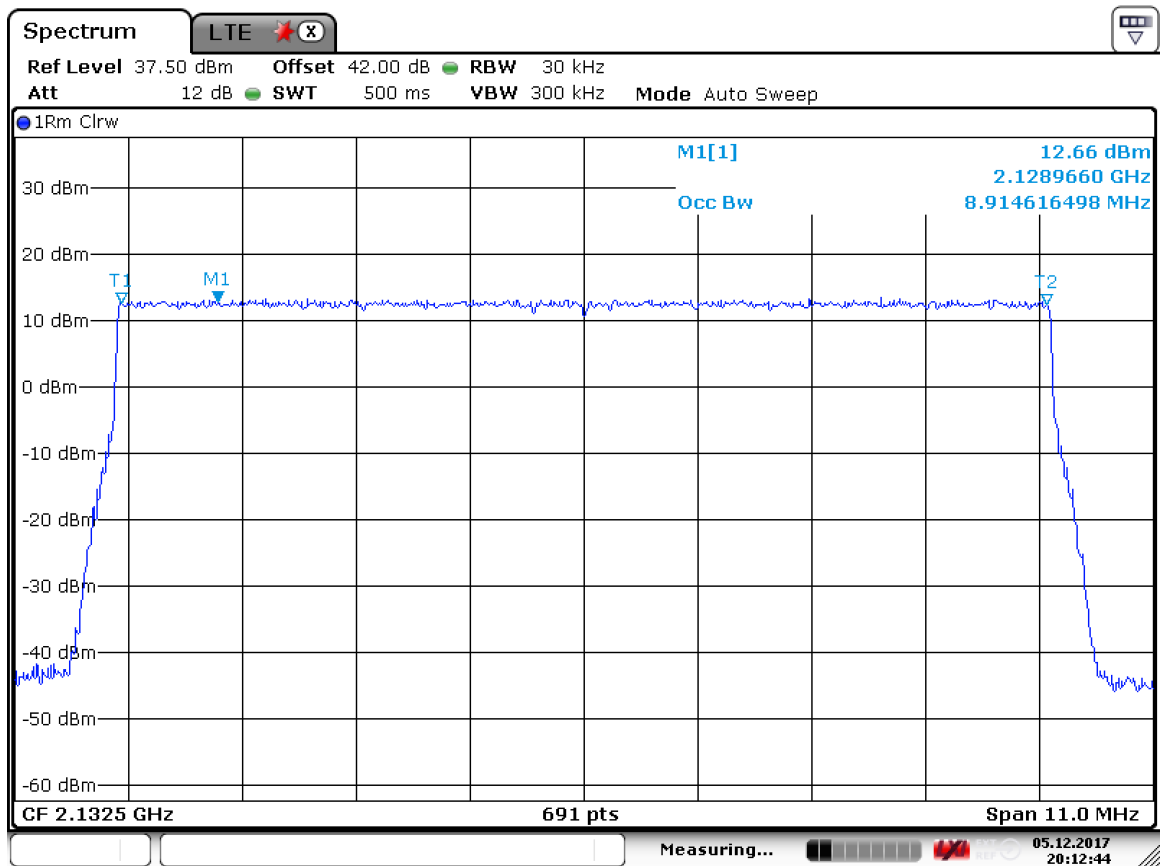
Port 2 -2115MHz



Date: 5.DEC.2017 20:01:03

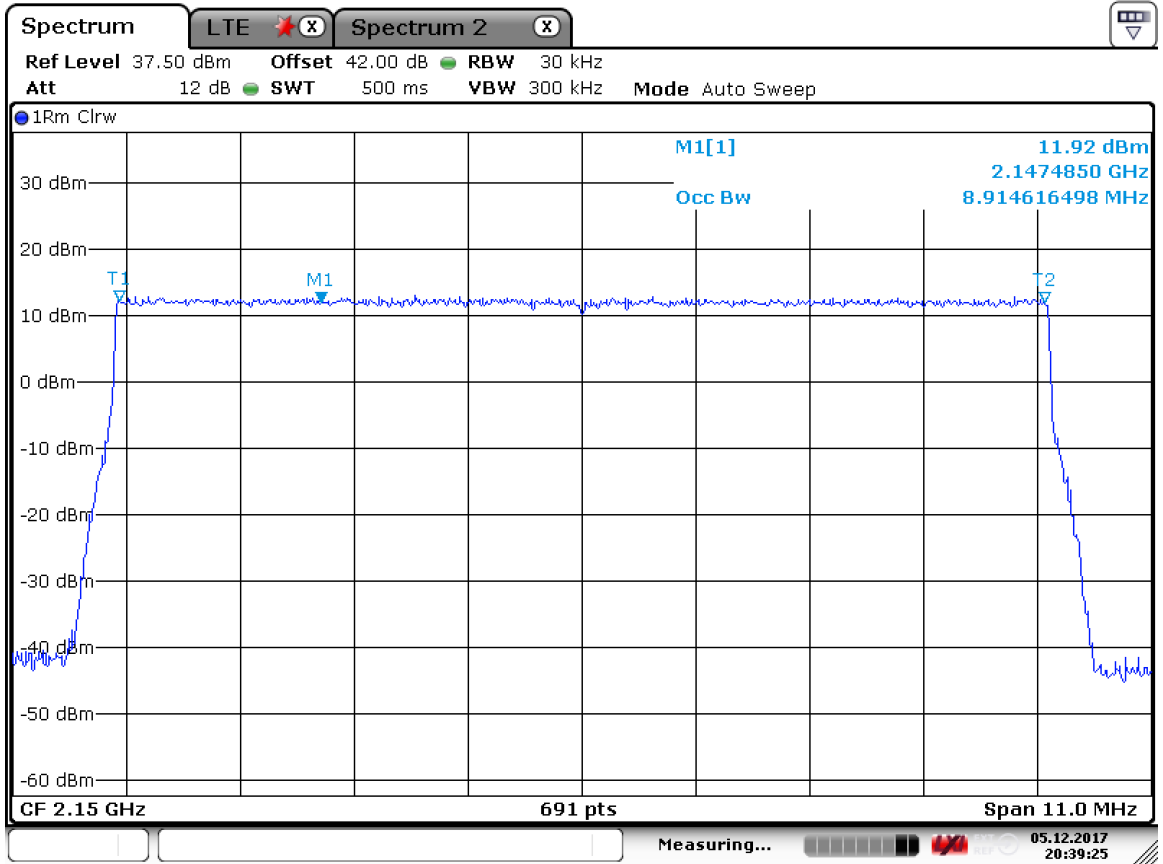
Port 2 -2132.5MHz





Date: 5.DEC.2017 20:12:44

Port 2 -2150MHz

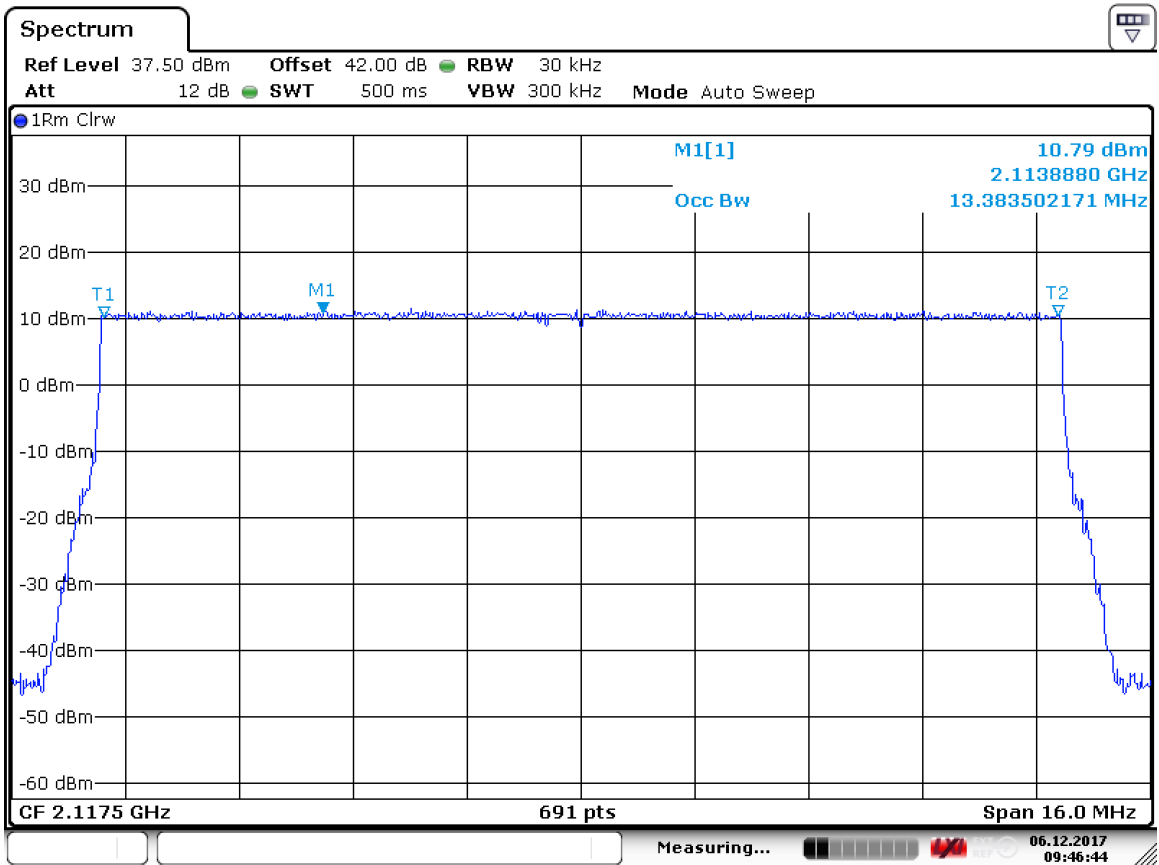


Date: 5.DEC.2017 20:39:25

LTE 15MHz

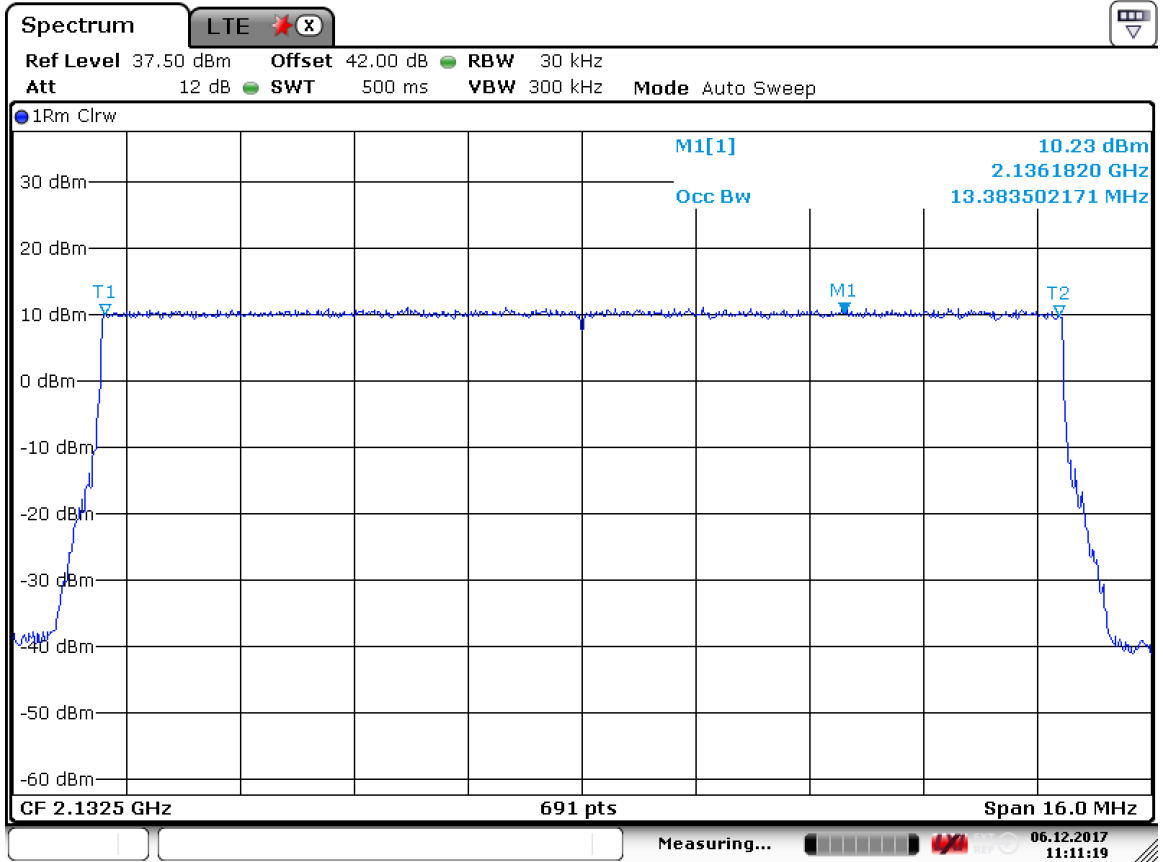
Port	LTE Center Freq. (MHz)	99% Power Bandwidth (MHz)	Limit (MHz)
1	2117.5	13.38	15M
	2132.5	13.38	15M
	2147.5	13.38	15M
2	2117.5	13.38	15M
	2132.5	13.38	15M
	2147.5	13.38	15M

Port 1 -2117.5MHz



Date: 6.DEC.2017 09:46:44

# Port 1 -2132.5MHz



Date: 6.DEC.2017 11:11:19