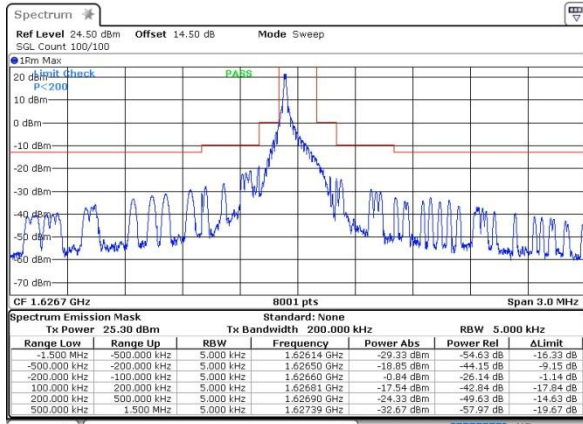




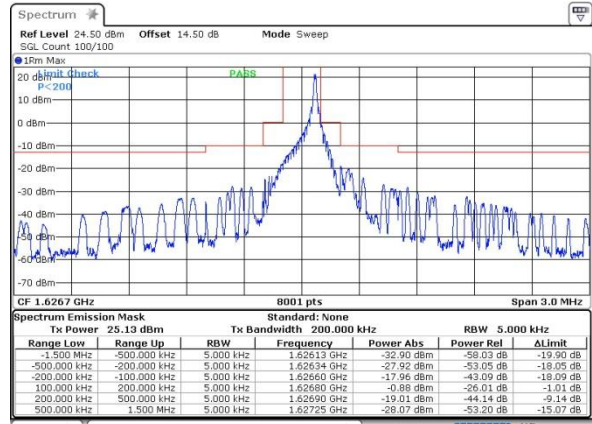
Band 255 SCS 15kHz

Lowest Channel / 1SC1 / BPSK



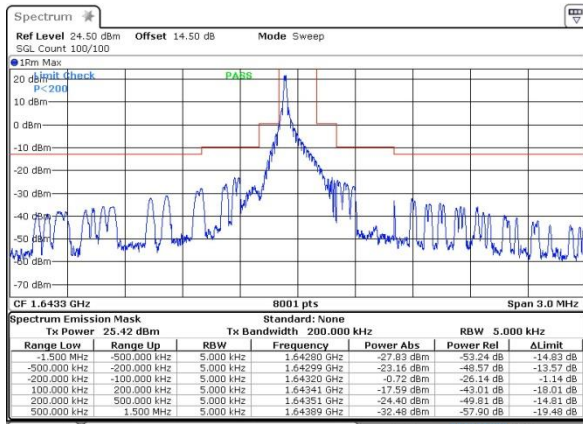
Date: 11.FEB.2023 12:44:33

Lowest Channel / 1SC10 / BPSK



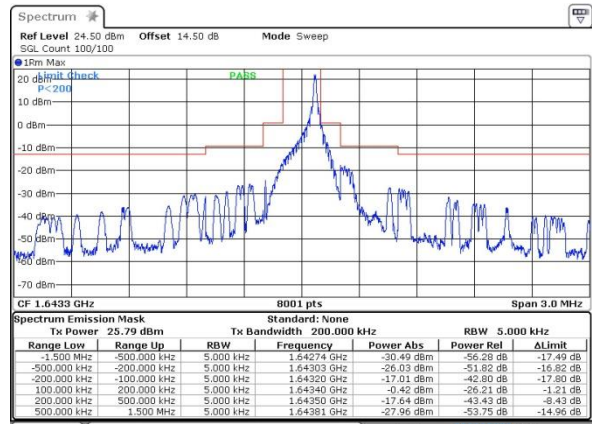
Date: 12.FEB.2023 17:12:23

Middle Channel / 1SC1 / BPSK



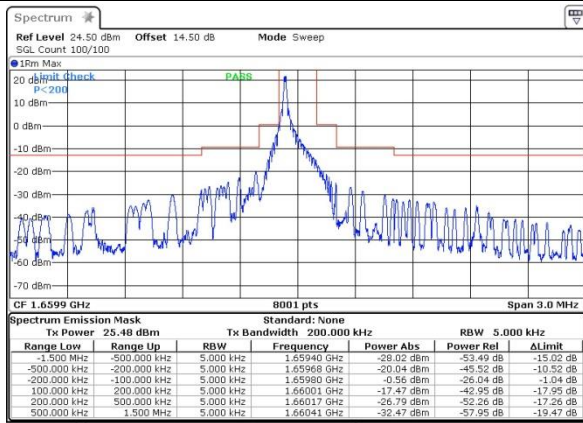
Date: 11.FEB.2023 13:06:04

Middle Channel / 1SC10 / BPSK



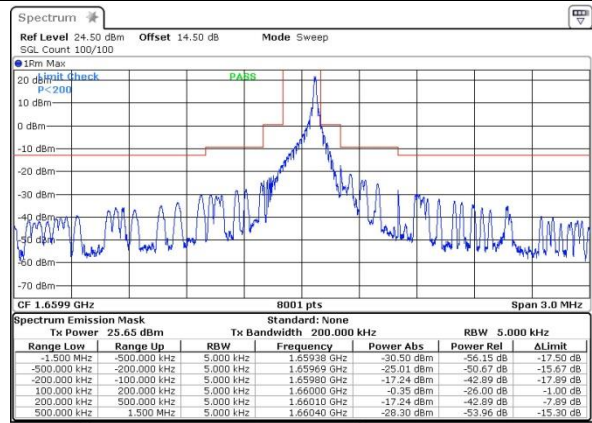
Date: 11.FEB.2023 13:53:45

Highest Channel / 1SC1 / BPSK



Date: 11.FEB.2023 14:16:05

Highest Channel / 1SC10 / BPSK

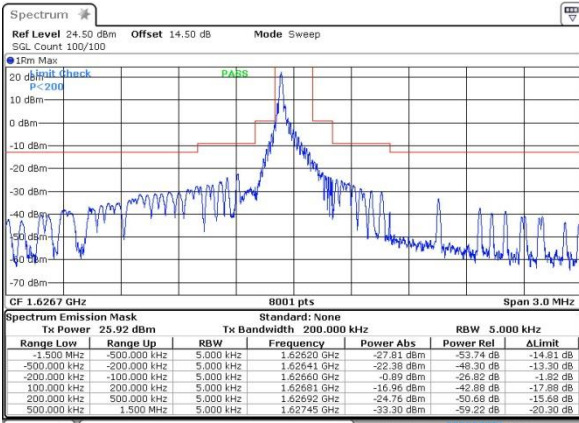


Date: 11.FEB.2023 14:02:55



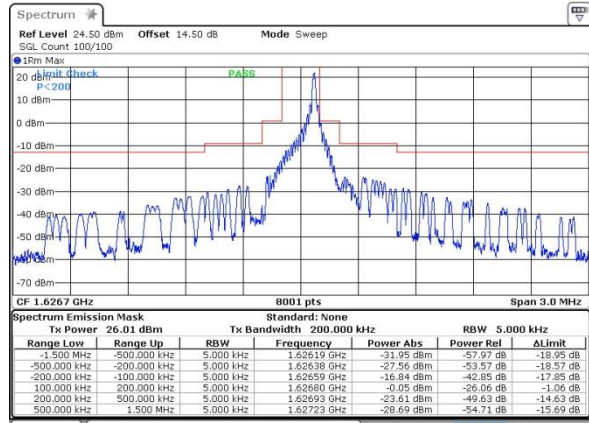
Band 255 SCS 15kHz

Lowest Channel / 1SC1 / QPSK



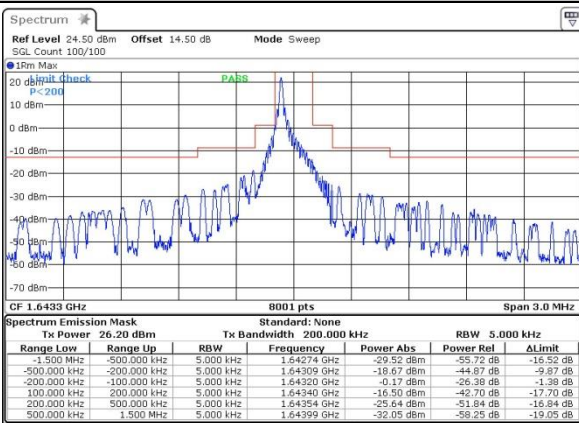
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Lowest Channel / 1SC10 / QPSK



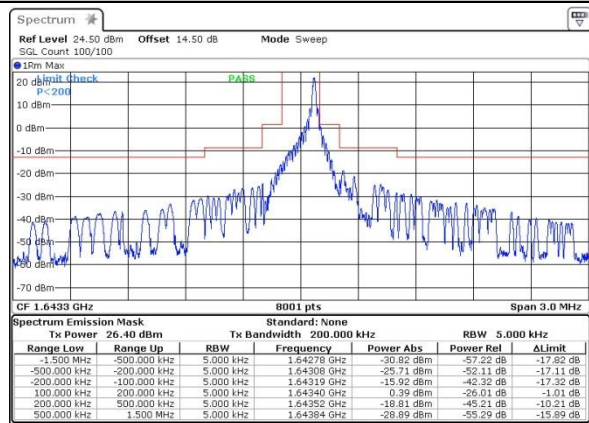
Date: 12.FEB.2023 17:14:10

Middle Channel / 1SC1 / QPSK



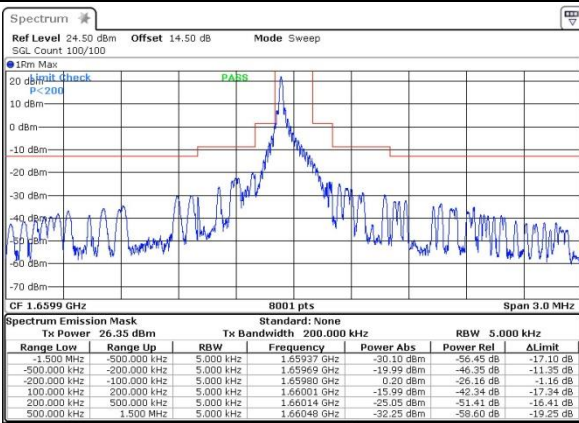
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Middle Channel / 1SC10 / QPSK



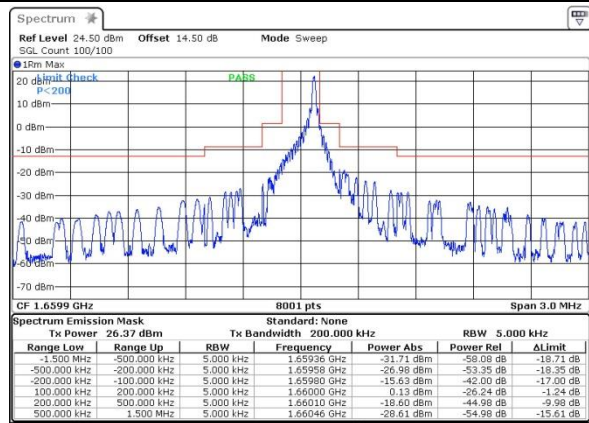
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Highest Channel / 1SC1 / QPSK



Date: 11.FEB.2023 14:13:16

Highest Channel / 1SC10 / QPSK

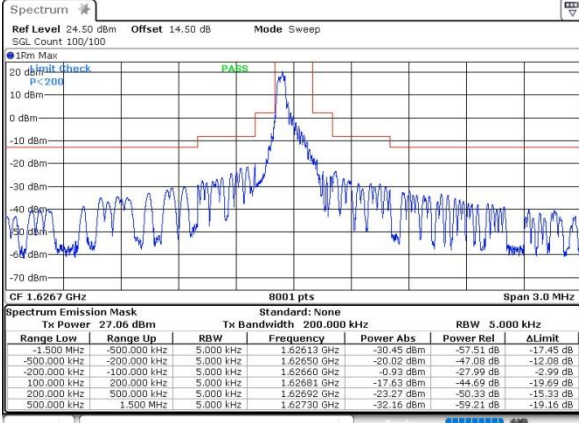


Date: 11.FEB.2023 13:58:36



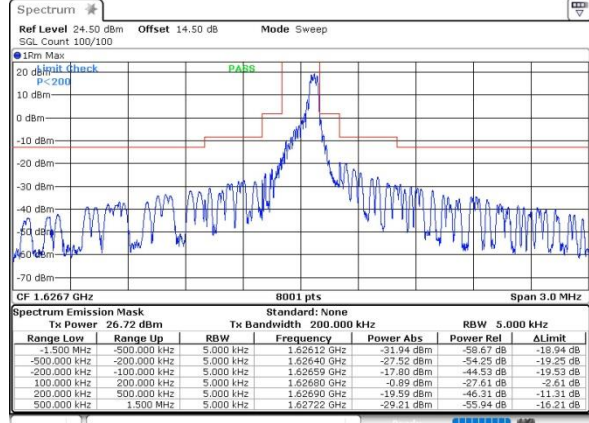
Band 255 SCS 15kHz

Lowest Channel / 3SC0 / QPSK



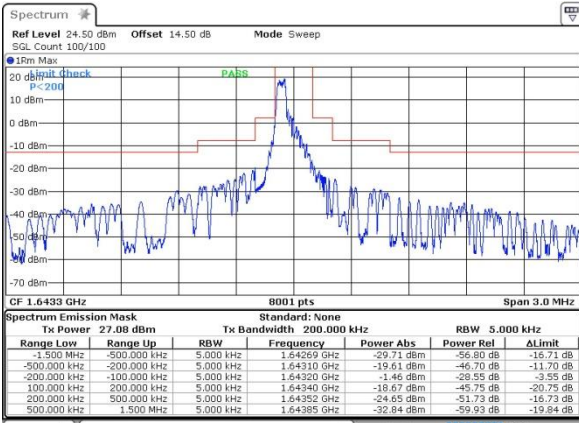
Date: 11.FEB.2023 12:49:44

Lowest Channel / 3SC9 / QPSK



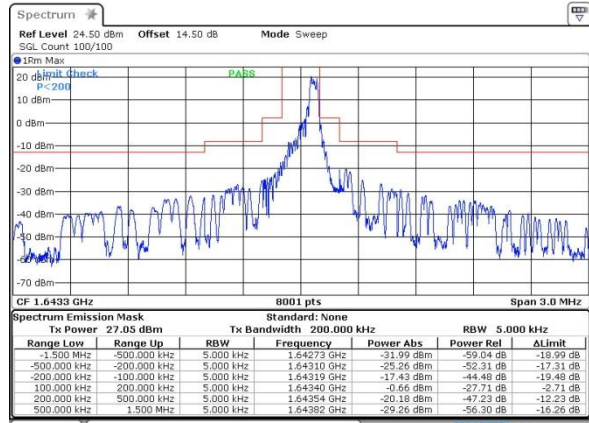
Date: 11.FEB.2023 12:55:11

Middle Channel / 3SC0 / QPSK



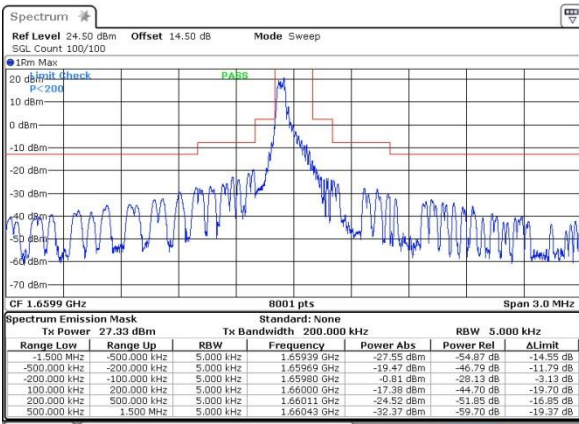
Date: 11.FEB.2023 13:08:51

Middle Channel / 3SC9 / QPSK



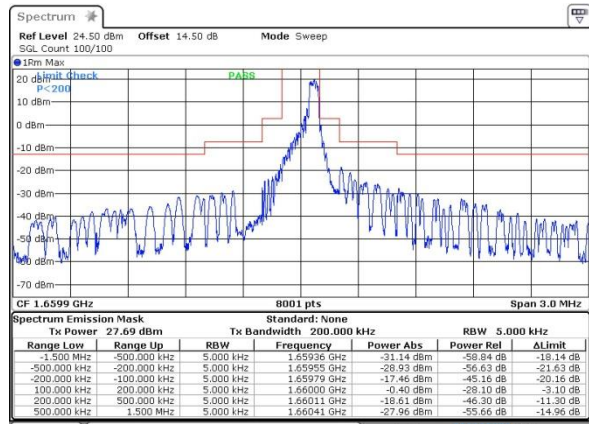
Date: 11.FEB.2023 13:13:51

Highest Channel / 3SC0 / QPSK



Date: 11.FEB.2023 14:08:46

Highest Channel / 3SC9 / QPSK



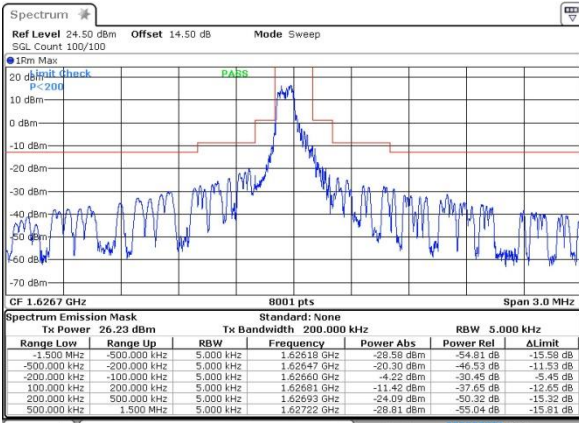
Date: 11.FEB.2023 14:04:30





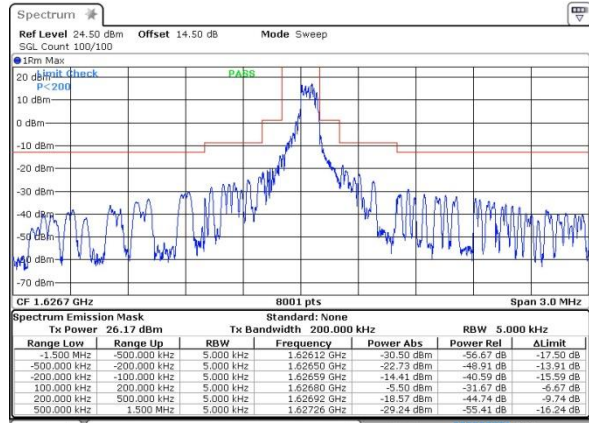
Band 255 SCS 15kHz

Lowest Channel / 6SC0 / QPSK



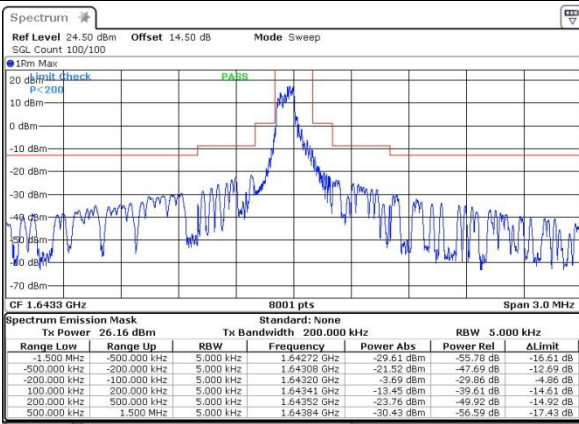
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Lowest Channel / 6SC6 / QPSK



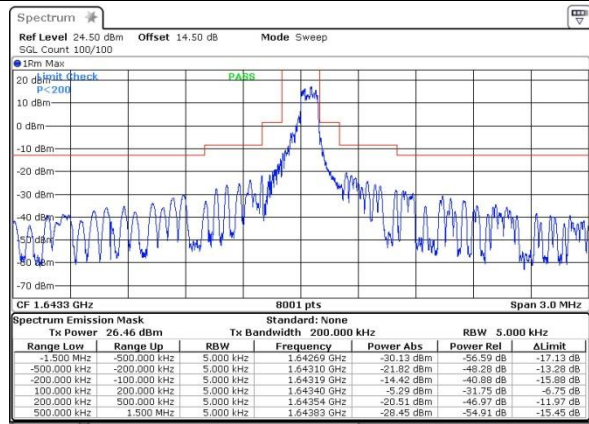
Date: 11.FEB.2023 12:53:50

Middle Channel / 6SC0 / QPSK



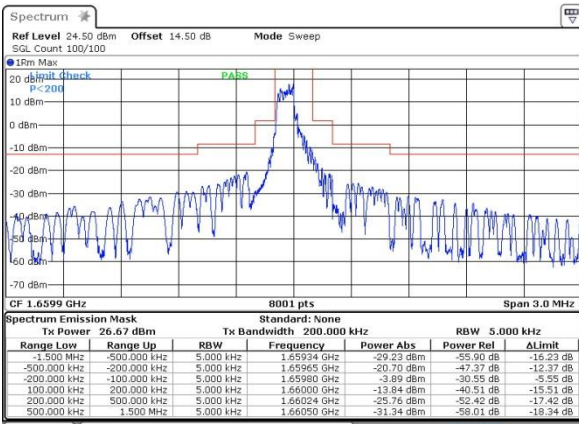
Date: 11.FEB.2023 13:10:53

Middle Channel / 6SC6 / QPSK



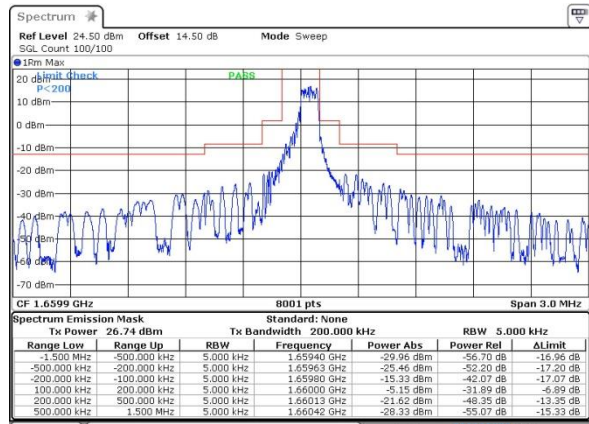
Date: 11.FEB.2023 13:12:49

Highest Channel / 6SC0 / QPSK



Date: 11.FEB.2023 14:07:35

Highest Channel / 6SC6 / QPSK



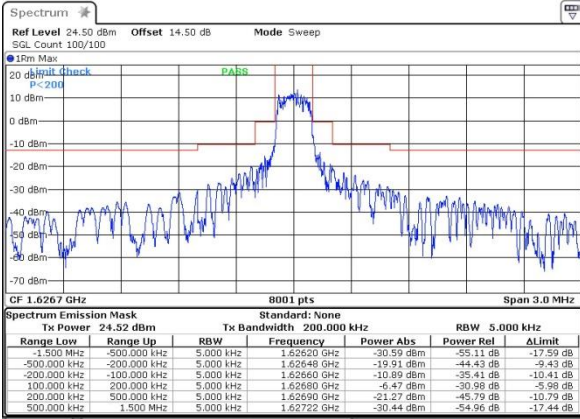
Date: 11.FEB.2023 14:05:36



Band 255 SCS 15kHz

Lowest Channel / 12SC0 / QPSK

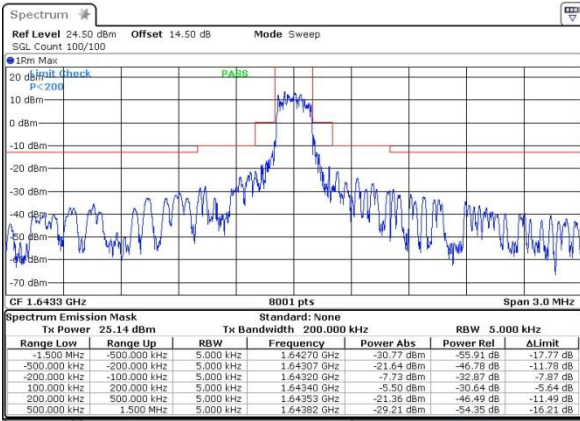
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Middle Channel / 12SC0 / QPSK

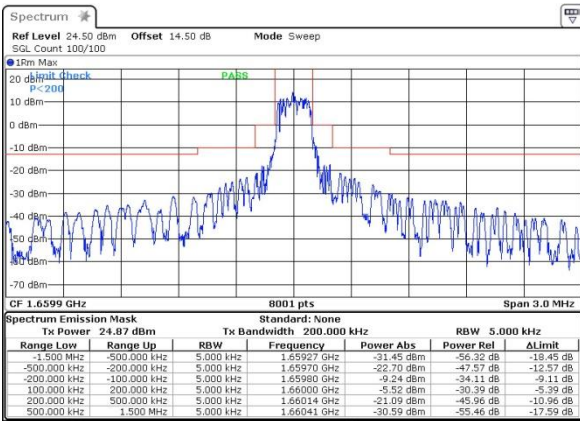
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Date: 11.FEB.2023 13:11:33

Highest Channel / 12SC0 / QPSK

N/A



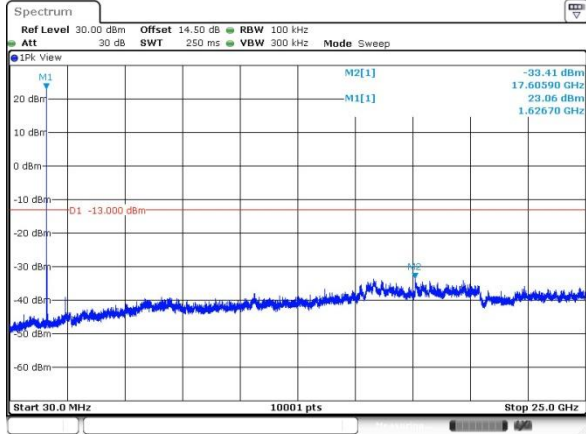
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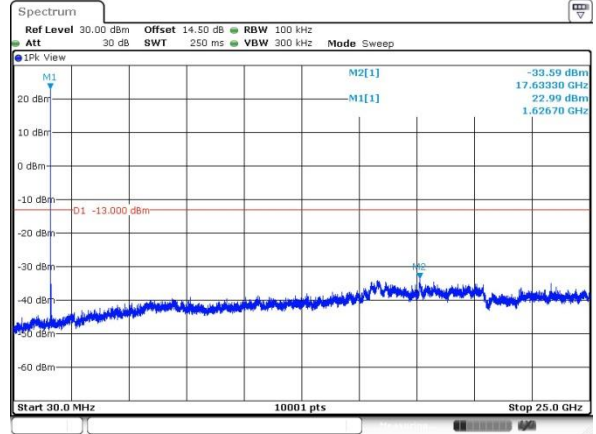
# Conducted Spurious Emission

## Band 255 SCS 3.75kHz

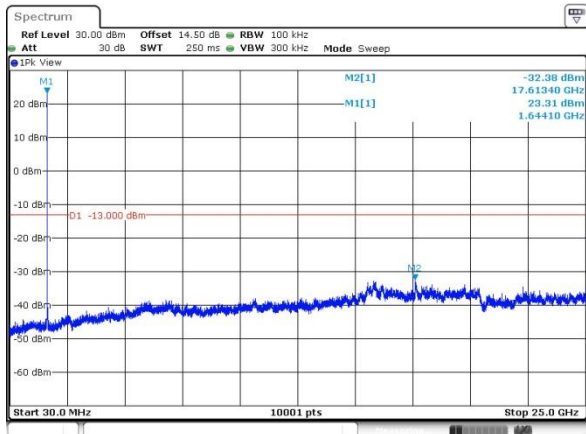
### Lowest Channel / 1SC1 / BPSK



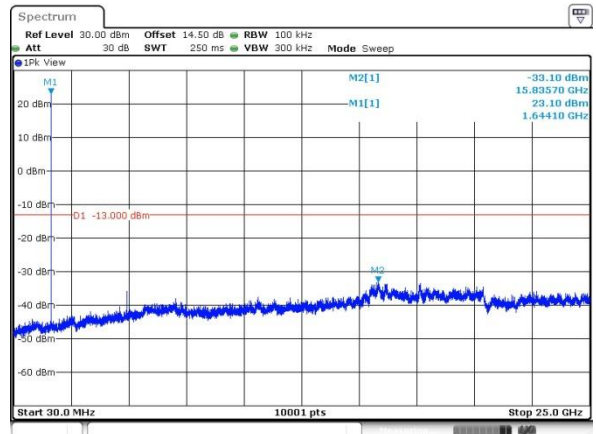
### Lowest Channel / 1SC1 / QPSK



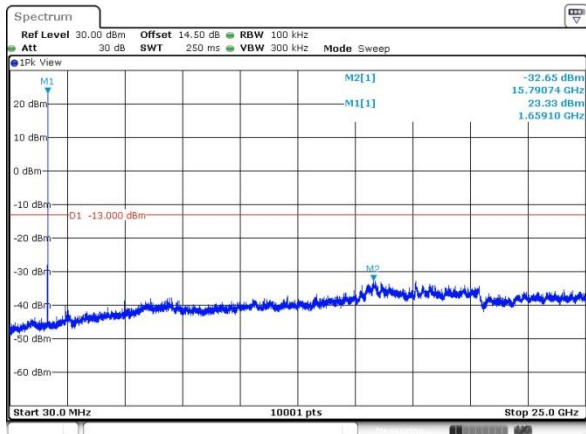
### Middle Channel / 1SC1 / BPSK



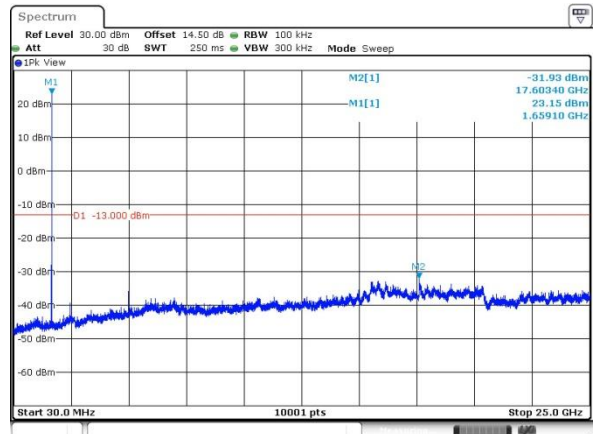
### Middle Channel / 1SC1 / QPSK



### Highest Channel / 1SC1 / BPSK



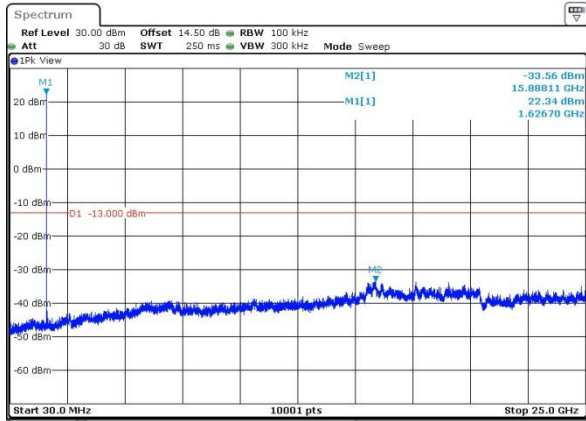
### Highest Channel / 1SC1 / QPSK





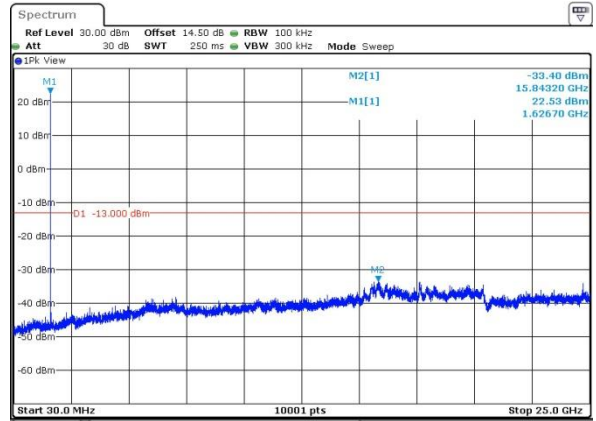
Band 255 SCS 15kHz

Lowest Channel / 1SC1 / BPSK



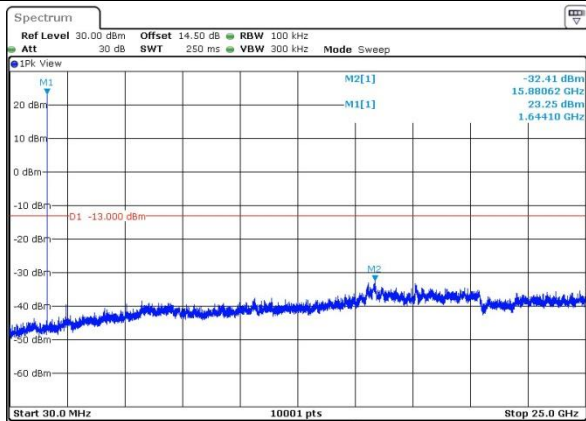
Date: 10.FEB.2023 15:13:07

Lowest Channel / 1SC1 / QPSK



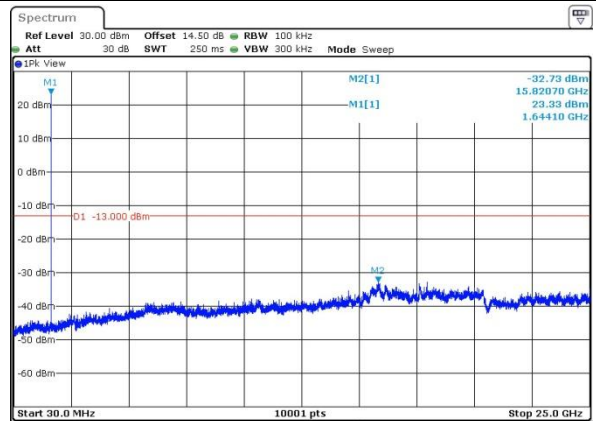
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Middle Channel / 1SC1 / BPSK



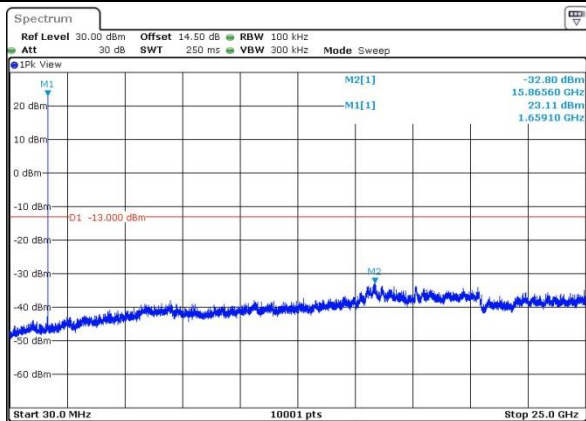
Date: 12.FEB.2023 11:02:04

Middle Channel / 1SC1 / QPSK



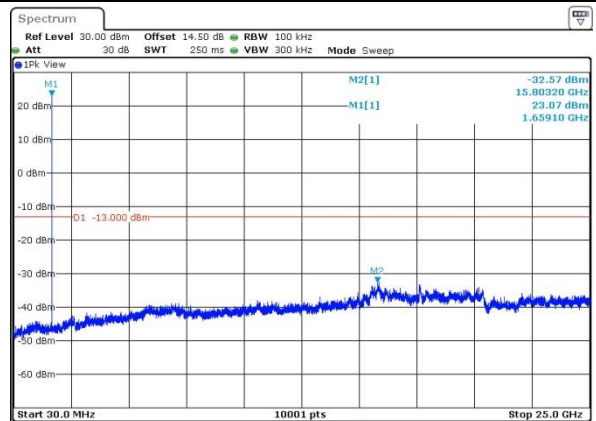
Date: 12.FEB.2023 11:00:46

Highest Channel / 1SC1 / BPSK



Date: 12.FEB.2023 11:13:23

Highest Channel / 1SC1 / QPSK



Date: 12.FEB.2023 11:12:03

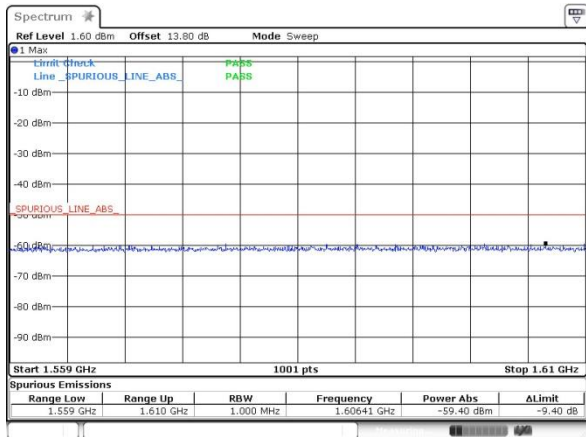


Emission limits for protection of aeronautical service

Band 255 SCS 3.75kHz

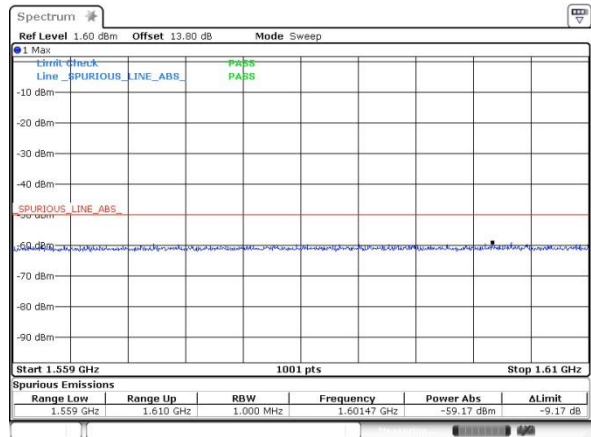
BPSK

Lowest Channel / 1SC1 Carrier off



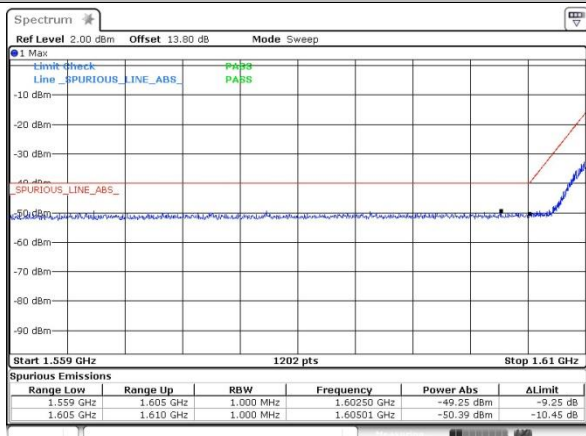
Date: 11.FEB.2023 16:43:33

Middle Channel / 1SC1 Carrier off



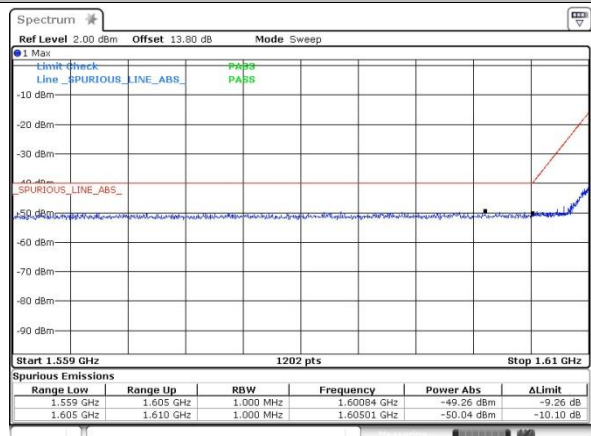
Date: 11.FEB.2023 16:53:52

Lowest Channel / 1SC1 Carrier on



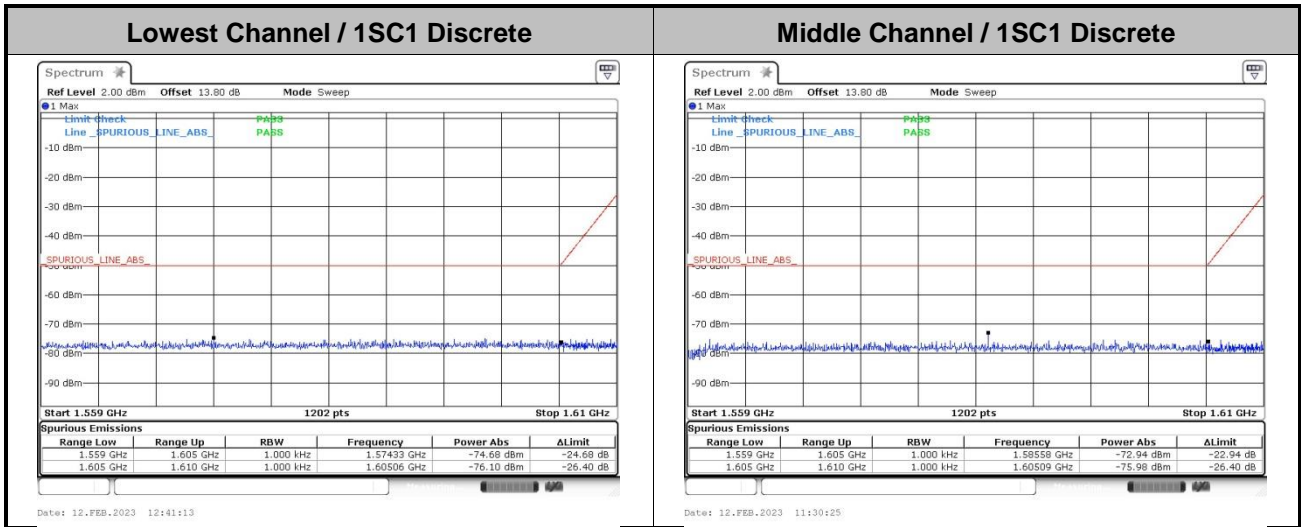
Date: 11.FEB.2023 17:27:53

Middle Channel / 1SC1 Carrier on



Date: 11.FEB.2023 17:33:56







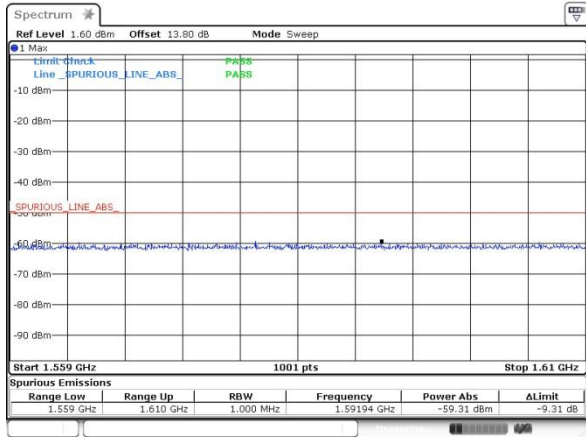
Band 255 SCS 3.75kHz																			
BPSK																			
Highest Channel / 1SC1 Carrier off	N/A																		
<p><b>Spurious Emissions</b></p> <table border="1"> <thead> <tr> <th>Range Low</th> <th>Range Up</th> <th>RBW</th> <th>Frequency</th> <th>Power Abs</th> <th>ΔLimit</th> </tr> </thead> <tbody> <tr> <td>1.559 GHz</td> <td>1.610 GHz</td> <td>1.000 MHz</td> <td>1.60029 GHz</td> <td>-58.97 dBm</td> <td>-8.97 dB</td> </tr> </tbody> </table> <p>Date: 11.FEB.2023 16:56:29</p>	Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit	1.559 GHz	1.610 GHz	1.000 MHz	1.60029 GHz	-58.97 dBm	-8.97 dB							
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit														
1.559 GHz	1.610 GHz	1.000 MHz	1.60029 GHz	-58.97 dBm	-8.97 dB														
Highest Channel / 1SC1 Carrier on	N/A																		
<p><b>Spurious Emissions</b></p> <table border="1"> <thead> <tr> <th>Range Low</th> <th>Range Up</th> <th>RBW</th> <th>Frequency</th> <th>Power Abs</th> <th>ΔLimit</th> </tr> </thead> <tbody> <tr> <td>1.559 GHz</td> <td>1.605 GHz</td> <td>1.000 MHz</td> <td>1.60397 GHz</td> <td>-49.31 dBm</td> <td>-9.31 dB</td> </tr> <tr> <td>1.605 GHz</td> <td>1.610 GHz</td> <td>1.000 MHz</td> <td>1.60506 GHz</td> <td>-50.12 dBm</td> <td>-10.41 dB</td> </tr> </tbody> </table> <p>Date: 11.FEB.2023 17:46:09</p>	Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit	1.559 GHz	1.605 GHz	1.000 MHz	1.60397 GHz	-49.31 dBm	-9.31 dB	1.605 GHz	1.610 GHz	1.000 MHz	1.60506 GHz	-50.12 dBm	-10.41 dB	
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit														
1.559 GHz	1.605 GHz	1.000 MHz	1.60397 GHz	-49.31 dBm	-9.31 dB														
1.605 GHz	1.610 GHz	1.000 MHz	1.60506 GHz	-50.12 dBm	-10.41 dB														
Highest Channel / 1SC1 Discrete	N/A																		
<p><b>Spurious Emissions</b></p> <table border="1"> <thead> <tr> <th>Range Low</th> <th>Range Up</th> <th>RBW</th> <th>Frequency</th> <th>Power Abs</th> <th>ΔLimit</th> </tr> </thead> <tbody> <tr> <td>1.559 GHz</td> <td>1.605 GHz</td> <td>1.000 MHz</td> <td>1.60130 GHz</td> <td>-70.12 dBm</td> <td>-20.12 dB</td> </tr> <tr> <td>1.605 GHz</td> <td>1.610 GHz</td> <td>1.000 MHz</td> <td>1.60501 GHz</td> <td>-76.81 dBm</td> <td>-26.87 dB</td> </tr> </tbody> </table> <p>Date: 12.FEB.2023 12:50:19</p>	Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit	1.559 GHz	1.605 GHz	1.000 MHz	1.60130 GHz	-70.12 dBm	-20.12 dB	1.605 GHz	1.610 GHz	1.000 MHz	1.60501 GHz	-76.81 dBm	-26.87 dB	
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit														
1.559 GHz	1.605 GHz	1.000 MHz	1.60130 GHz	-70.12 dBm	-20.12 dB														
1.605 GHz	1.610 GHz	1.000 MHz	1.60501 GHz	-76.81 dBm	-26.87 dB														



Band 255 SCS 15kHz

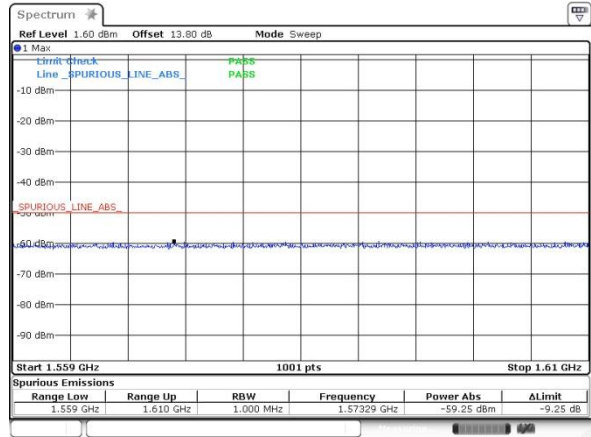
BPSK

Lowest Channel / 1SC1 Carrier off



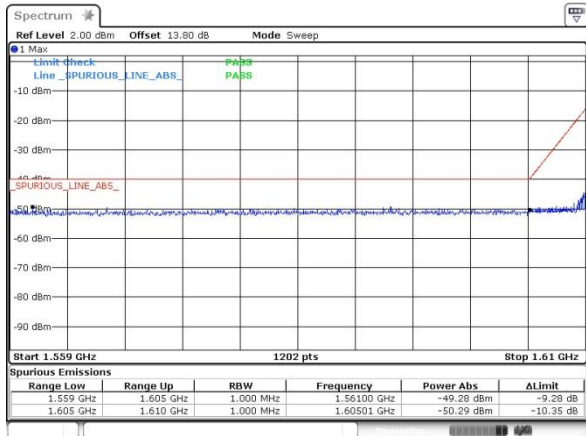
Date: 11.FEB.2023 16:42:52

Middle Channel / 1SC1 Carrier off



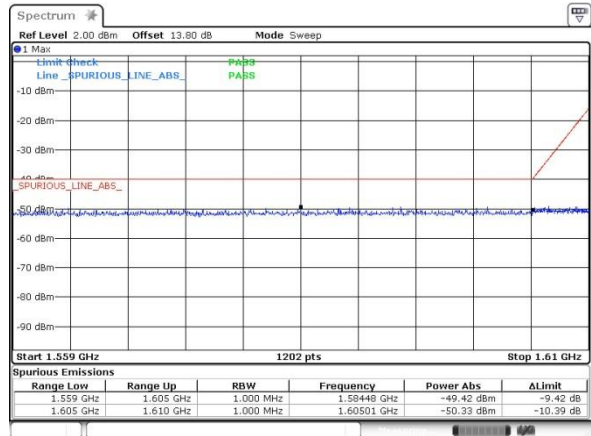
Date: 11.FEB.2023 16:49:29

Lowest Channel / 1SC1 Carrier on



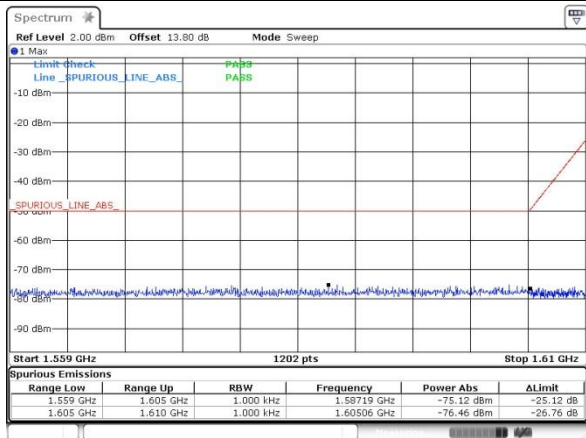
Date: 11.FEB.2023 17:17:05

Middle Channel / 1SC1 Carrier on



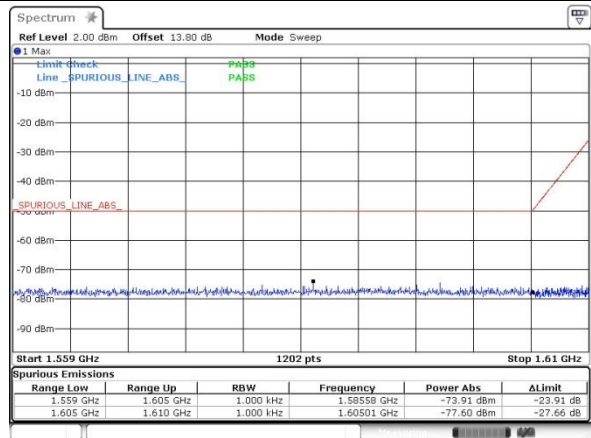
Date: 11.FEB.2023 17:16:14

Lowest Channel / 1SC1 Discrete



Date: 12.FEB.2023 12:28:20

Middle Channel / 1SC1 Discrete



Date: 12.FEB.2023 11:42:42



Band 255 SCS 15kHz																			
BPSK																			
Highest Channel / 1SC1 Carrier off	N/A																		
<p>Spectrum <span style="float:right">1001 pts</span></p> <p>Ref Level 1.60 dBm Offset 13.80 dB Mode Sweep</p> <p>1 Max</p> <p>Line_SPURIOUS_LINE_ABS. PASS</p> <p>Start 1.559 GHz Stop 1.61 GHz</p> <table border="1"> <thead> <tr> <th>Range Low</th> <th>Range Up</th> <th>RBW</th> <th>Frequency</th> <th>Power Abs</th> <th>ΔLimit</th> </tr> </thead> <tbody> <tr> <td>1.559 GHz</td> <td>1.610 GHz</td> <td>1.000 MHz</td> <td>1.5910 GHz</td> <td>-59.49 dBm</td> <td>-9.49 dB</td> </tr> </tbody> </table> <p>Date: 11.FEB.2023 17:00:20</p>	Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit	1.559 GHz	1.610 GHz	1.000 MHz	1.5910 GHz	-59.49 dBm	-9.49 dB	N/A						
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit														
1.559 GHz	1.610 GHz	1.000 MHz	1.5910 GHz	-59.49 dBm	-9.49 dB														
Highest Channel / 1SC1 Carrier on	N/A																		
<p>Spectrum <span style="float:right">1202 pts</span></p> <p>Ref Level 2.00 dBm Offset 13.80 dB Mode Sweep</p> <p>1 Max</p> <p>Line_SPURIOUS_LINE_ABS. PASS</p> <p>Start 1.559 GHz Stop 1.61 GHz</p> <table border="1"> <thead> <tr> <th>Range Low</th> <th>Range Up</th> <th>RBW</th> <th>Frequency</th> <th>Power Abs</th> <th>ΔLimit</th> </tr> </thead> <tbody> <tr> <td>1.559 GHz</td> <td>1.605 GHz</td> <td>1.000 MHz</td> <td>1.58986 GHz</td> <td>-49.37 dBm</td> <td>-9.37 dB</td> </tr> <tr> <td>1.605 GHz</td> <td>1.610 GHz</td> <td>1.000 MHz</td> <td>1.60514 GHz</td> <td>-50.78 dBm</td> <td>-11.43 dB</td> </tr> </tbody> </table> <p>Date: 11.FEB.2023 17:44:07</p>	Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit	1.559 GHz	1.605 GHz	1.000 MHz	1.58986 GHz	-49.37 dBm	-9.37 dB	1.605 GHz	1.610 GHz	1.000 MHz	1.60514 GHz	-50.78 dBm	-11.43 dB	N/A
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit														
1.559 GHz	1.605 GHz	1.000 MHz	1.58986 GHz	-49.37 dBm	-9.37 dB														
1.605 GHz	1.610 GHz	1.000 MHz	1.60514 GHz	-50.78 dBm	-11.43 dB														
Highest Channel / 1SC1 Discrete	N/A																		
<p>Spectrum <span style="float:right">1202 pts</span></p> <p>Ref Level 2.00 dBm Offset 13.80 dB Mode Sweep</p> <p>1 Max</p> <p>Line_SPURIOUS_LINE_ABS. PASS</p> <p>Start 1.559 GHz Stop 1.61 GHz</p> <table border="1"> <thead> <tr> <th>Range Low</th> <th>Range Up</th> <th>RBW</th> <th>Frequency</th> <th>Power Abs</th> <th>ΔLimit</th> </tr> </thead> <tbody> <tr> <td>1.559 GHz</td> <td>1.605 GHz</td> <td>1.000 MHz</td> <td>1.60125 GHz</td> <td>-74.20 dBm</td> <td>-24.20 dB</td> </tr> <tr> <td>1.605 GHz</td> <td>1.610 GHz</td> <td>1.000 MHz</td> <td>1.60521 GHz</td> <td>-75.75 dBm</td> <td>-26.77 dB</td> </tr> </tbody> </table> <p>Date: 12.FEB.2023 13:01:44</p>	Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit	1.559 GHz	1.605 GHz	1.000 MHz	1.60125 GHz	-74.20 dBm	-24.20 dB	1.605 GHz	1.610 GHz	1.000 MHz	1.60521 GHz	-75.75 dBm	-26.77 dB	N/A
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit														
1.559 GHz	1.605 GHz	1.000 MHz	1.60125 GHz	-74.20 dBm	-24.20 dB														
1.605 GHz	1.610 GHz	1.000 MHz	1.60521 GHz	-75.75 dBm	-26.77 dB														

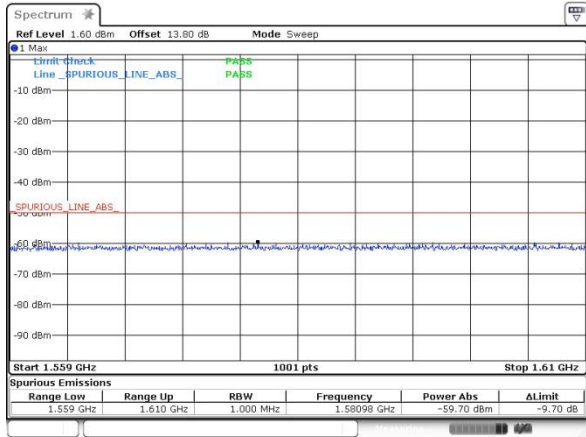




Band 255 SCS 3.75kHz

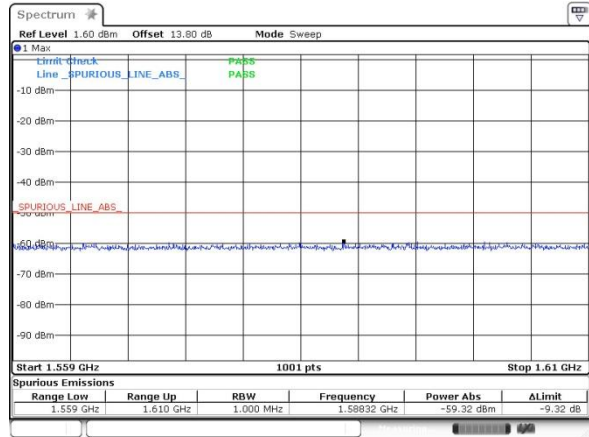
QPSK

Lowest Channel / 1SC1 Carrier off



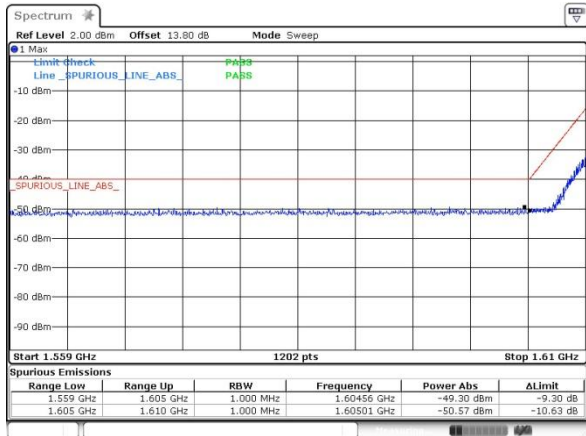
Date: 11.FEB.2023 16:43:56

Middle Channel / 1SC1 Carrier off



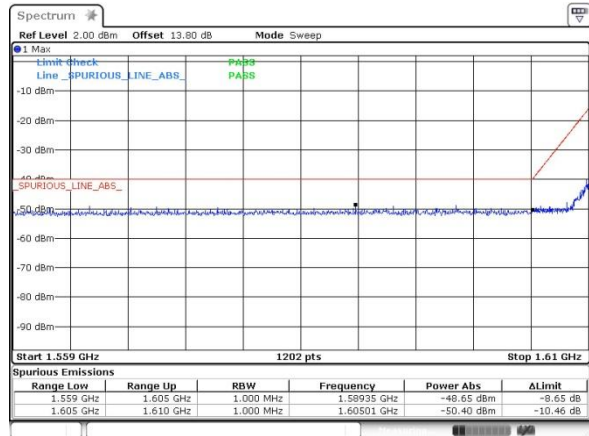
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Lowest Channel / 1SC1 Carrier on



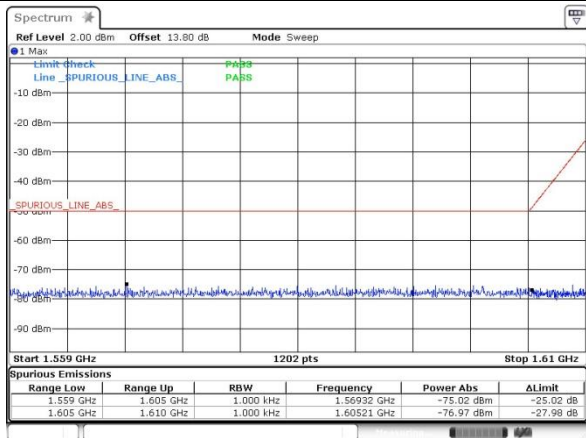
Date: 11.FEB.2023 17:28:28

Middle Channel / 1SC1 Carrier on



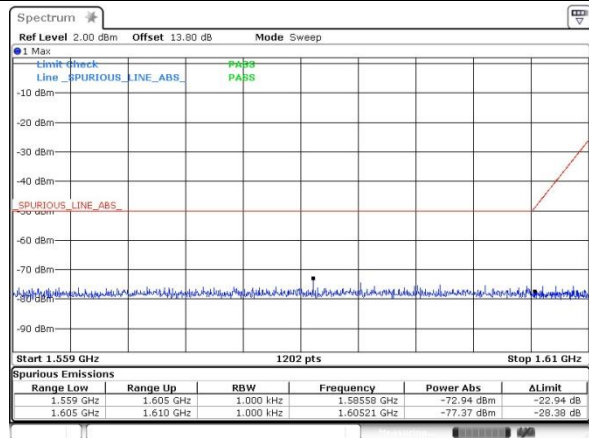
Date: 11.FEB.2023 17:33:12

Lowest Channel / 1SC1 Discrete



Date: 12.FEB.2023 12:34:23

Middle Channel / 1SC1 Discrete



Date: 12.FEB.2023 11:22:19

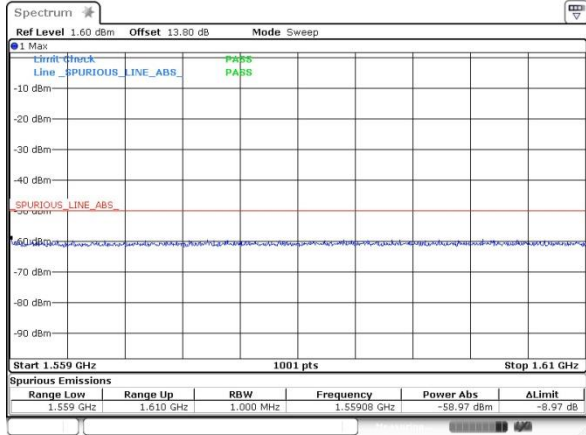


Band 255 SCS 3.75kHz

QPSK

Highest Channel / 1SC1 Carrier off

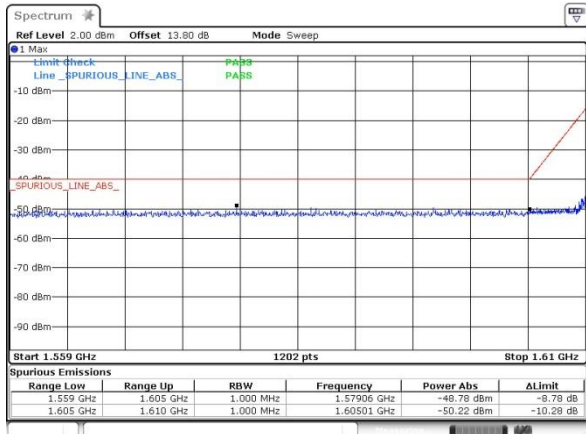
N/A



Date: 11.FEB.2023 16:57:41

Highest Channel / 1SC1 Carrier on

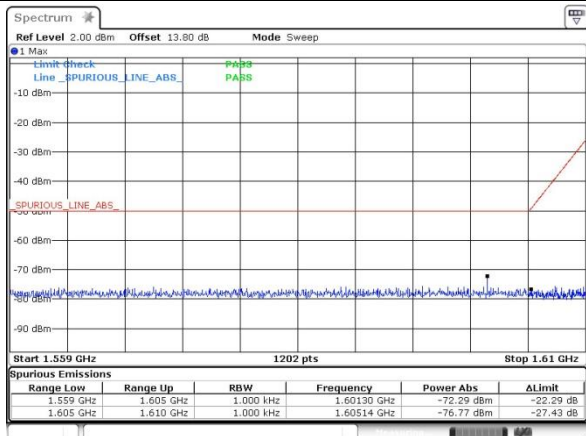
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Date: 11.FEB.2023 17:46:29

Highest Channel / 1SC1 Discrete

N/A



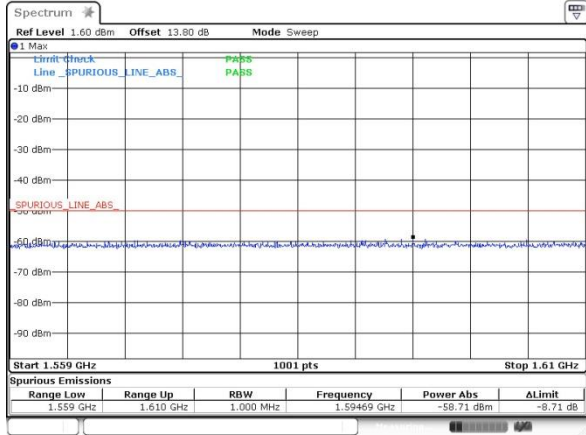
Date: 12.FEB.2023 12:55:45



Band 255 SCS 15kHz

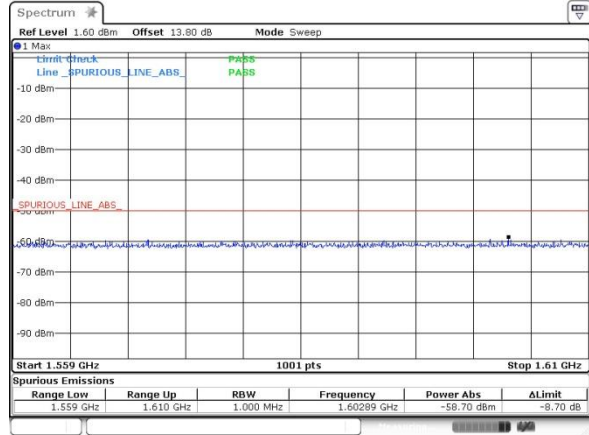
QPSK

Lowest Channel / 1SC1 Carrier off



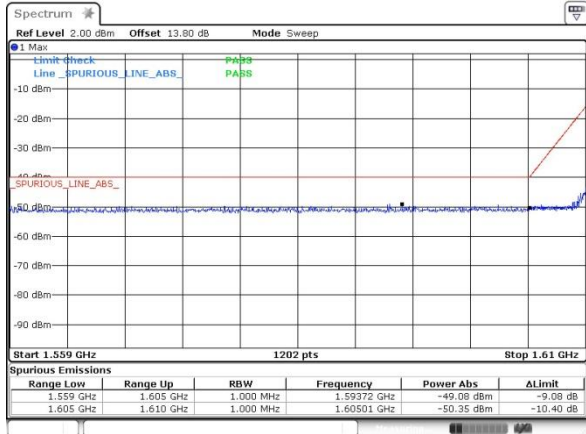
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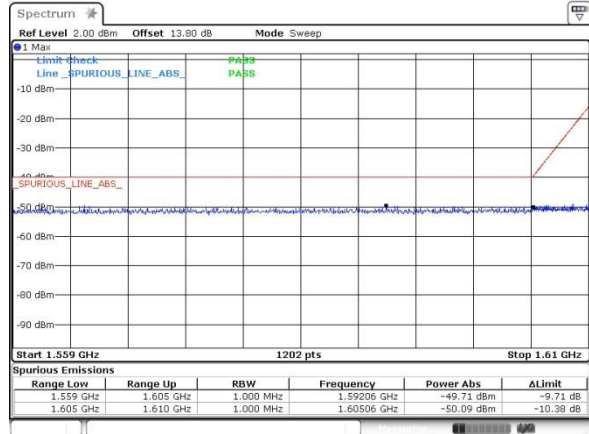
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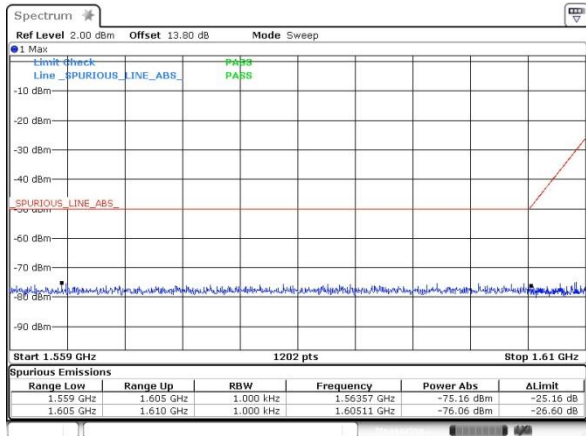
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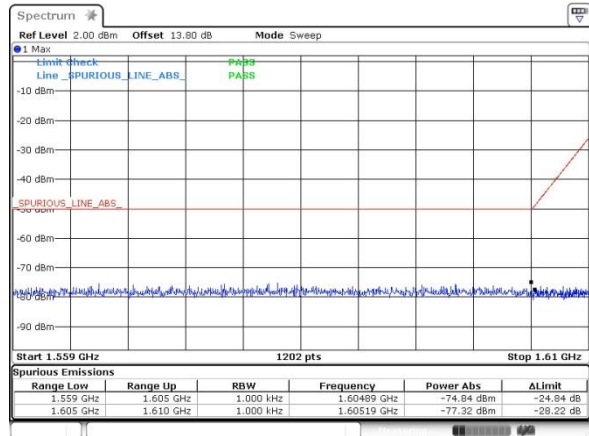
Date: 11.FEB.2023 17:36:54

Lowest Channel / 1SC1 Discrete



Date: 12.FEB.2023 12:32:32

Middle Channel / 1SC1 Discrete



Date: 12.FEB.2023 11:40:39

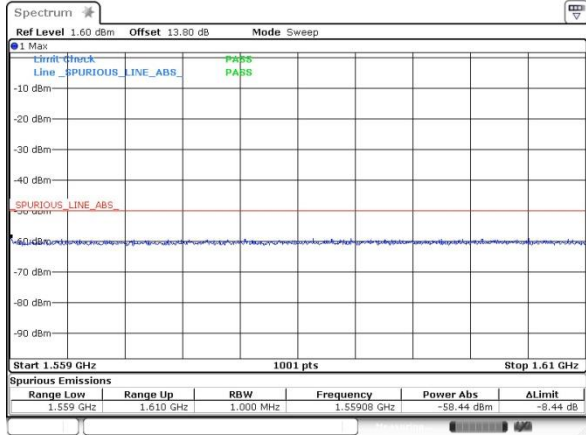


Band 255 SCS 15kHz

QPSK

Highest Channel / 1SC1 Carrier off

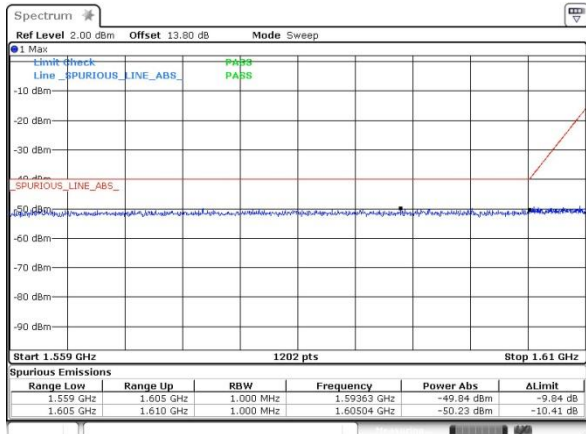
N/A



Date: 11.FEB.2023 16:59:59

Highest Channel / 1SC1 Carrier on

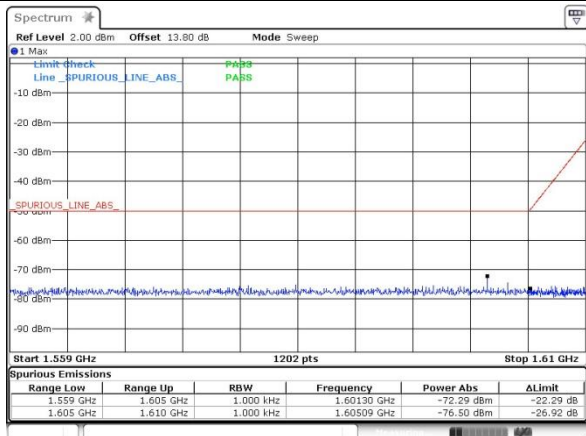
N/A



Date: 11.FEB.2023 17:43:47

Highest Channel / 1SC1 Discrete

N/A



Date: 12.FEB.2023 12:57:07





Frequency Stability

Test Conditions		Band 255(QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	SCS 15kHz	10ppm
		Deviation (ppm)	Result
50	Normal Voltage	0.0010	PASS
40	Normal Voltage	0.0007	
30	Normal Voltage	0.0228	
20(Ref.)	Normal Voltage	0.0015	
10	Normal Voltage	0.0000	
0	Normal Voltage	0.0004	
-10	Normal Voltage	0.0005	
-20	Normal Voltage	0.0234	
-30	Normal Voltage	0.0247	
20	Maximum Voltage	0.0004	
20	Normal Voltage	0.0005	
20	Battery End Point	0.0000	

Note: Normal Voltage =3.8 V. ; Battery End Point (BEP) =3.5 V. ; Maximum Voltage =4.35 V.



### Appendix C. Test Results of Radiated Test

#### Radiated Spurious Emission

Test Engineer :	HuaCong Liang	Temperature :	22~25°C
		Relative Humidity :	48~52%

Pre-scanned harmonic for SCS3.75kHz and SCS15kHz testing, we choose the worst mode to test.

Band 23 / SCS 3.75kHz / QPSK									
Channel	Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss ( dB )	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	4000.07	-49.63	-13	-36.63	-64.79	-56.38	5.85	12.60	H
	6000.10	-55.02	-13	-42.02	-73.61	-60.82	7.30	13.10	H
	8000.13	-55.62	-13	-42.62	-79.35	-58.77	8.35	11.50	H
	4000.07	-50.16	-13	-37.16	-65.22	-56.91	5.85	12.60	V
	6000.10	-58.85	-13	-45.85	-77.54	-64.65	7.30	13.10	V
	8000.13	-55.07	-13	-42.07	-78.86	-58.22	8.35	11.50	V
Middle	4019.87	-49.60	-13	-36.60	-64.79	-56.35	5.85	12.60	H
	6029.80	-52.84	-13	-39.84	-71.52	-58.64	7.30	13.10	H
	8039.73	-55.15	-13	-42.15	-78.63	-58.30	8.35	11.50	H
	4019.87	-48.50	-13	-35.50	-63.62	-55.25	5.85	12.60	V
	6029.80	-56.14	-13	-43.14	-74.87	-61.94	7.30	13.10	V
	8039.73	-54.42	-13	-41.42	-77.96	-57.57	8.35	11.50	V
Highest	4039.67	-52.34	-13	-39.34	-67.57	-59.09	5.85	12.60	H
	6059.50	-53.65	-13	-40.65	-72.42	-59.45	7.30	13.10	H
	8079.33	-55.88	-13	-42.88	-79.12	-59.03	8.35	11.50	H
	4039.67	-51.14	-13	-38.14	-66.34	-57.89	5.85	12.60	V
	6059.50	-55.95	-13	-42.95	-74.72	-61.75	7.30	13.10	V
	8079.33	-55.26	-13	-42.26	-78.56	-58.41	8.35	11.50	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



Band 255 / SCS 3.75kHz / QPSK									
Channel	Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading (dBm)	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	3253.27	-55.54	-13	-42.54	-68.11	-62.30	5.82	12.58	H
	4879.90	-59.72	-13	-46.72	-77.38	-65.44	7.28	13.00	H
	6506.53	-60.22	-13	-47.22	-79.39	-63.38	8.32	11.48	H
	3253.27	-50.76	-13	-37.76	-63.86	-57.52	5.82	12.58	V
	4879.90	-60.08	-13	-47.08	-77.76	-65.80	7.28	13.00	V
	6506.53	-60.47	-13	-47.47	-79.48	-63.63	8.32	11.48	V
Middle	3286.47	-51.02	-13	-38.02	-63.33	-57.77	5.85	12.60	H
	4929.70	-61.42	-13	-48.42	-79.00	-67.22	7.30	13.10	H
	6572.93	-60.31	-13	-47.31	-79.50	-63.46	8.35	11.50	H
	3286.47	-46.79	-13	-33.79	-59.57	-53.54	5.85	12.60	V
	4929.70	-62.35	-13	-49.35	-79.91	-68.15	7.30	13.10	V
	6572.93	-60.29	-13	-47.29	-79.29	-63.44	8.35	11.50	V
Highest	3319.67	-46.37	-13	-33.37	-58.41	-53.11	5.88	12.62	H
	4979.50	-60.99	-13	-47.99	-78.49	-66.80	7.32	13.13	H
	6639.33	-59.31	-13	-46.31	-78.64	-62.47	8.38	11.54	H
	3319.67	-44.43	-13	-31.43	-56.89	-51.17	5.88	12.62	V
	4979.50	-61.47	-13	-48.47	-78.91	-67.28	7.32	13.13	V
	6639.33	-60.26	-13	-47.26	-79.36	-63.42	8.38	11.54	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.