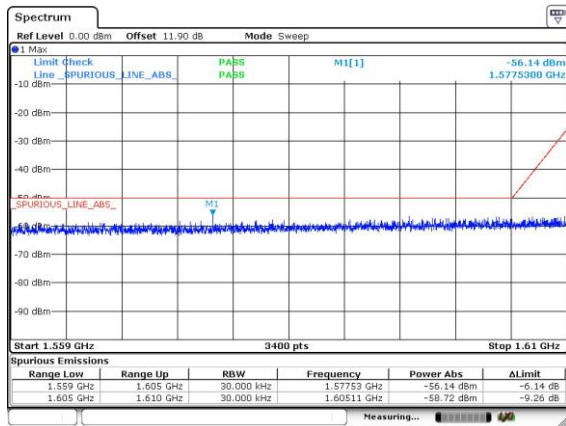
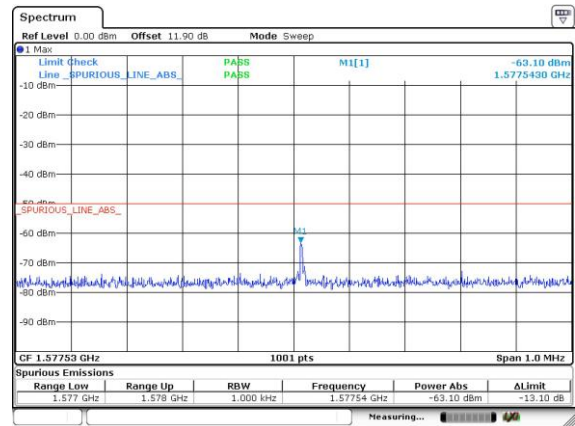




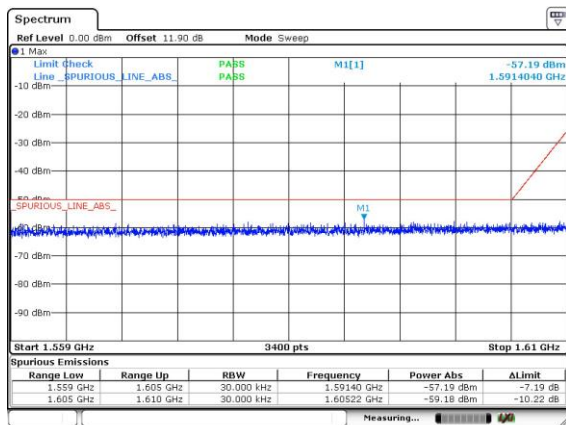
Lowest Channel / 1SC0 Discrete



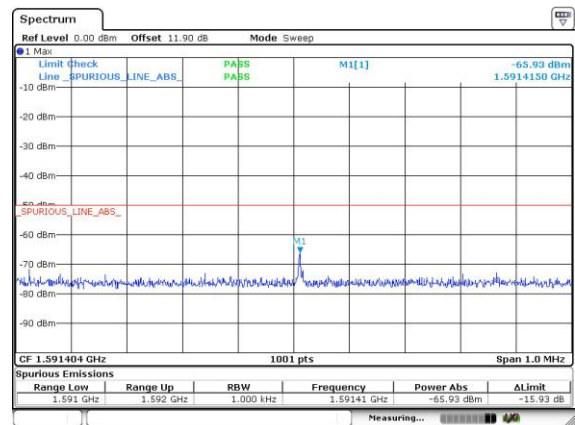
Lowest Channel / 1SC0 Discrete - Zoom in Verify



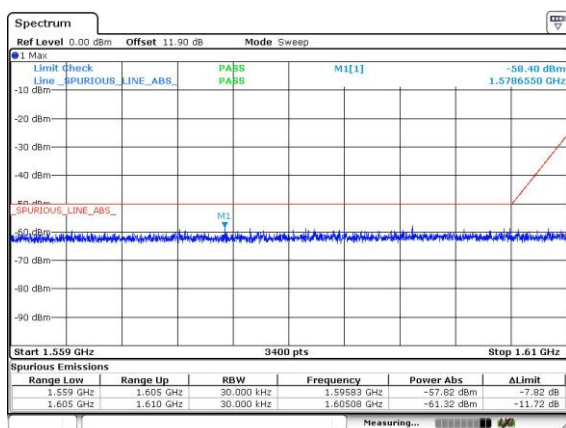
Middle Channel / 1SC0 Discrete



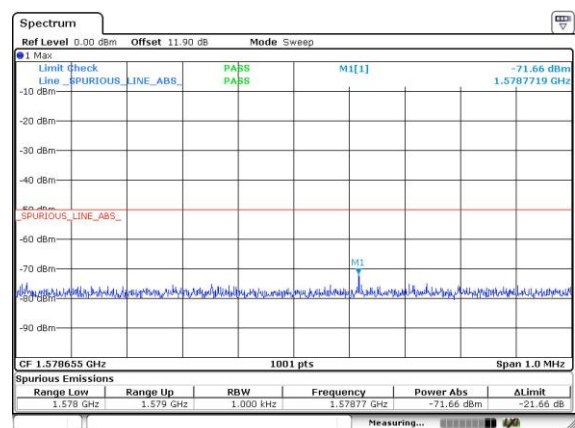
Middle Channel / 1SC0 Discrete - Zoom in Verify



Highest Channel / 1SC0 Discrete

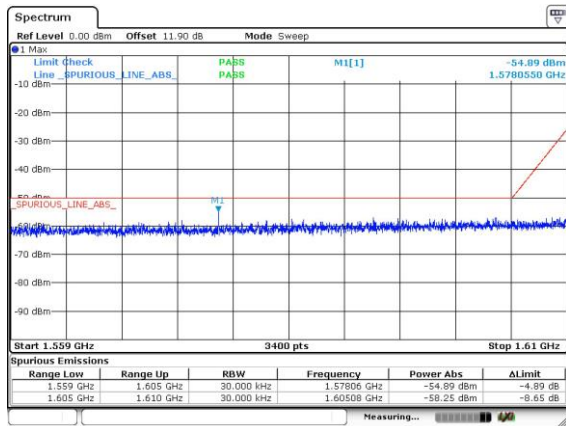


Highest Channel / 1SC0 Discrete - Zoom in Verify



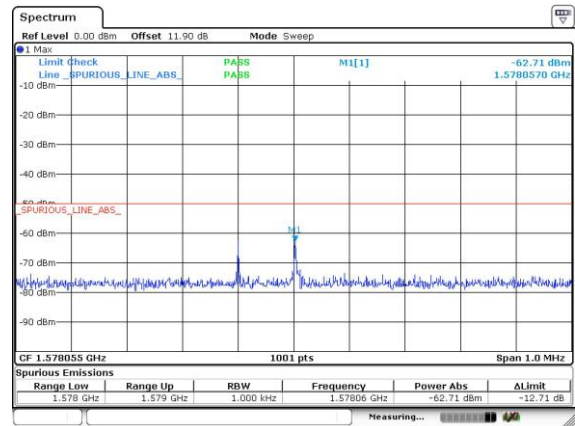


Lowest Channel / 1SC47 Discrete



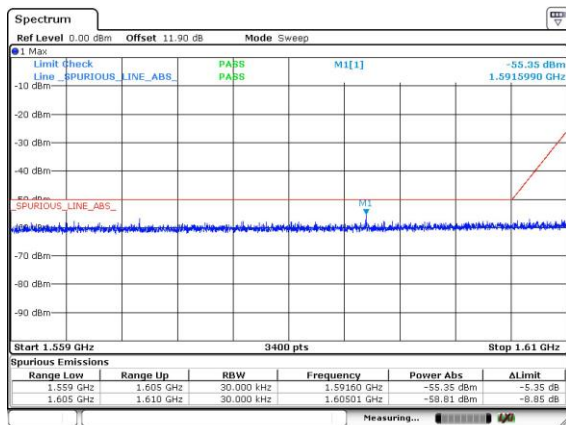
Date: 31.DEC.2024 15:51:08

Lowest Channel / 1SC47 Discrete - Zoom in Verify



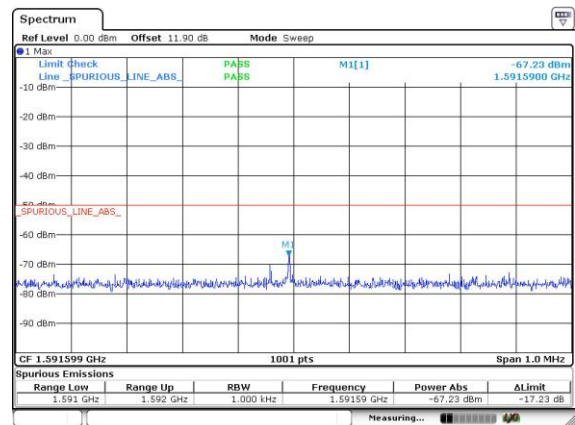
Date: 31.DEC.2024 15:51:58

Middle Channel / 1SC47 Discrete



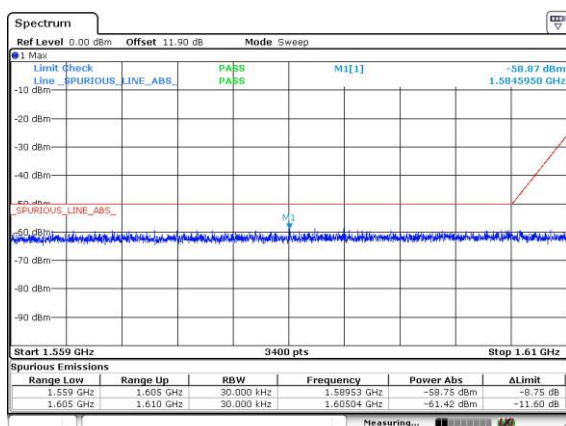
Date: 26.DEC.2024 16:29:31

Middle Channel / 1SC47 Discrete - Zoom in Verify



Date: 26.DEC.2024 16:30:38

Highest Channel / 1SC47 Discrete



Date: 30.DEC.2024 19:17:21

Highest Channel / 1SC47 Discrete - Zoom in Verify



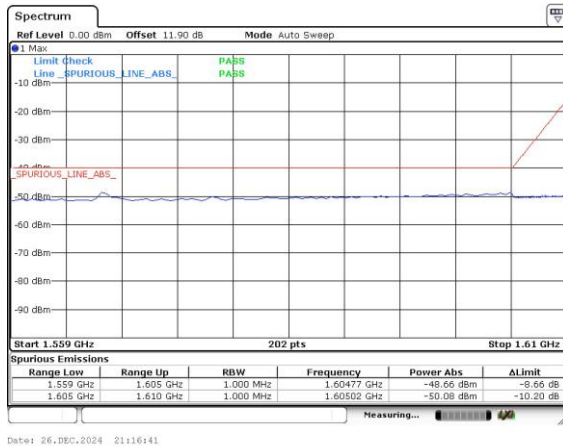


Band 255 SCS 15kHz

BPSK

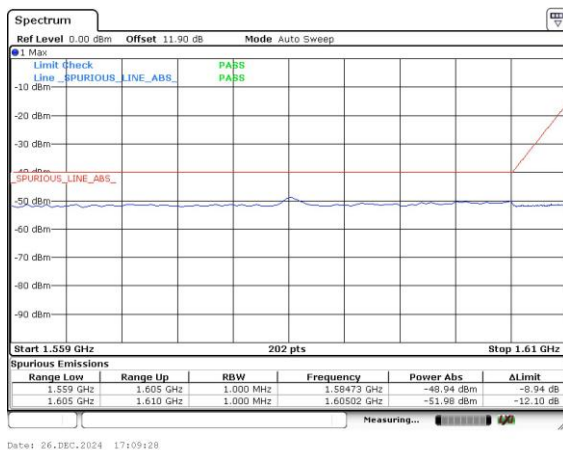
Lowest Channel / 1SC0 Broadband

Lowest Channel / 1SC0 Broadband - Zoom in Verify



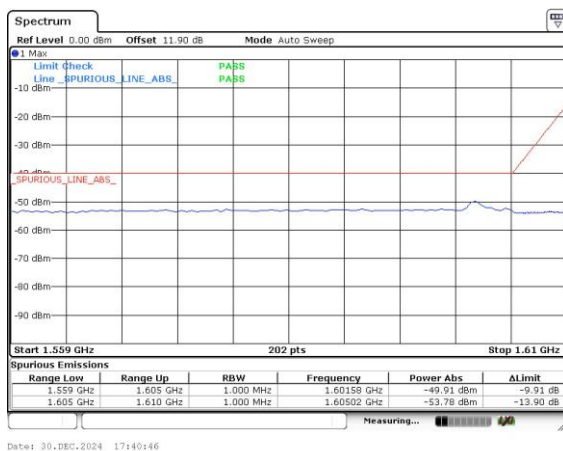
Middle Channel / 1SC0 Broadband

Middle Channel / 1SC0 Broadband - Zoom in Verify



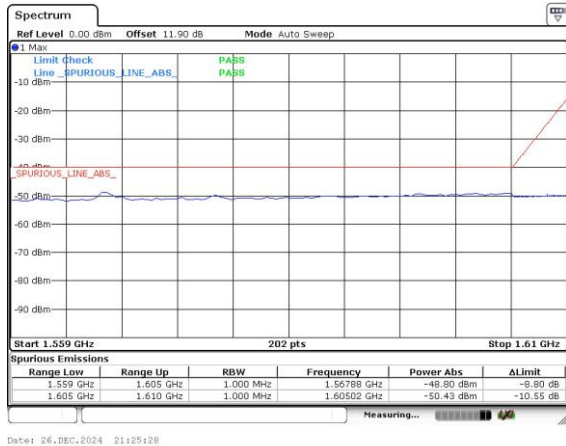
Highest Channel / 1SC0 Broadband

Highest Channel / 1SC0 Broadband - Zoom in Verify



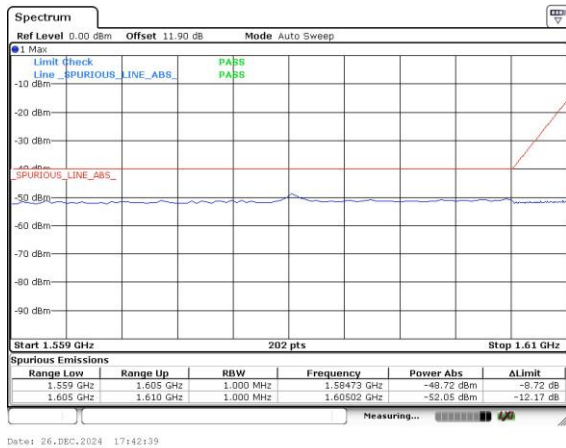


Lowest Channel / 1SC11 Broadband



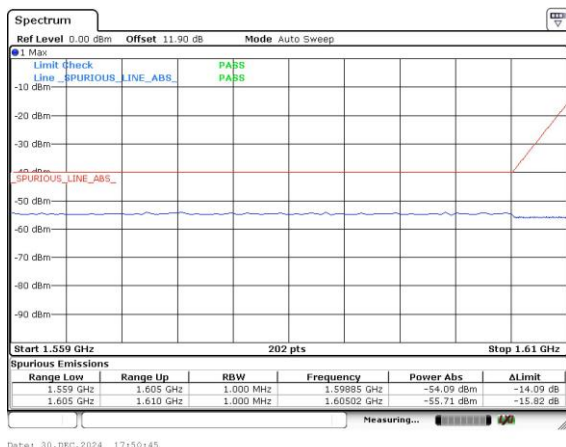
Lowest Channel / 1SC11 Broadband -Verify

Middle Channel / 1SC11 Broadband



Middle Channel / 1SC11 Broadband -Verify

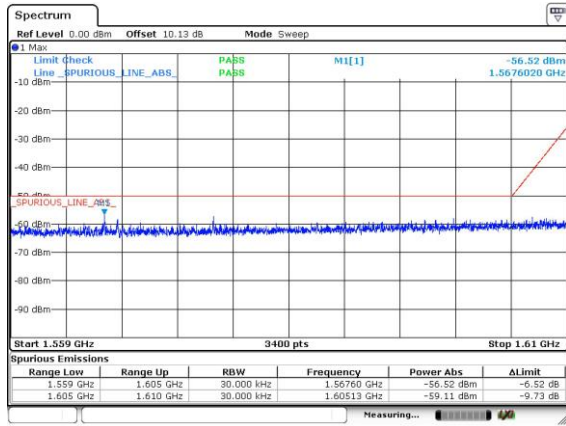
Highest Channel / 1SC11 Broadband



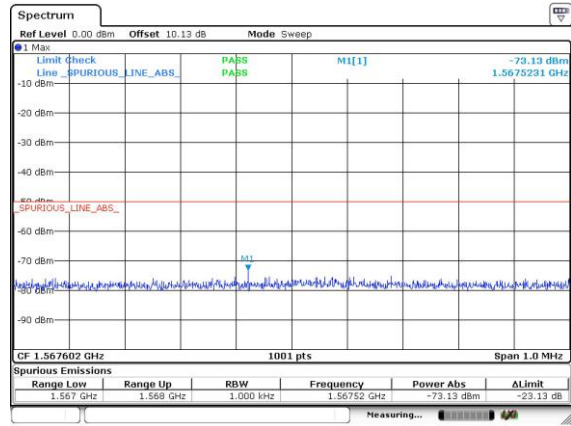
Highest Channel / 1SC11 Broadband -Verify



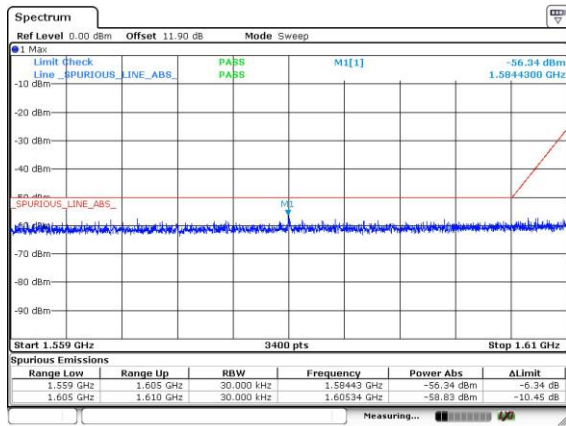
Lowest Channel / 1SC0 Discrete



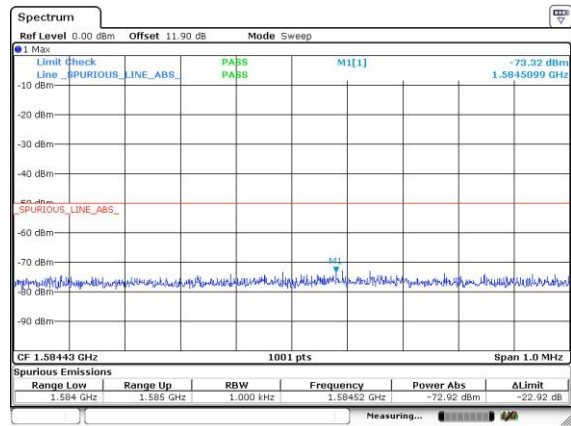
Lowest Channel / 1SC0 Discrete - Zoom in Verify



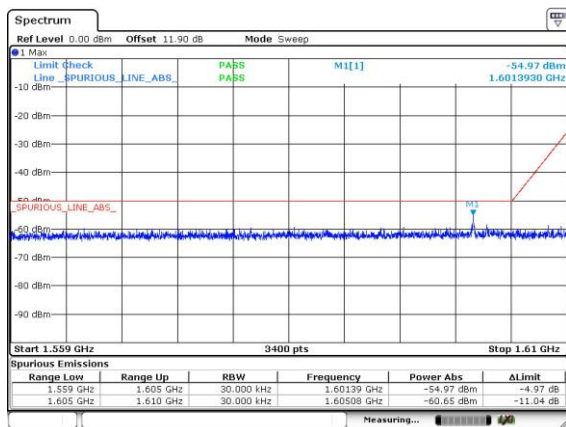
Middle Channel / 1SC0 Discrete



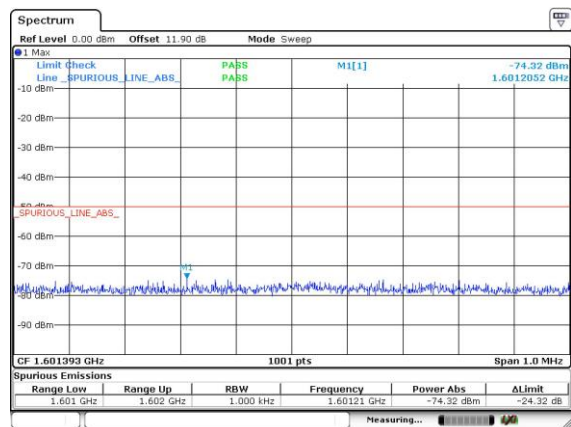
Middle Channel / 1SC0 Discrete - Zoom in Verify



Highest Channel / 1SC0 Discrete

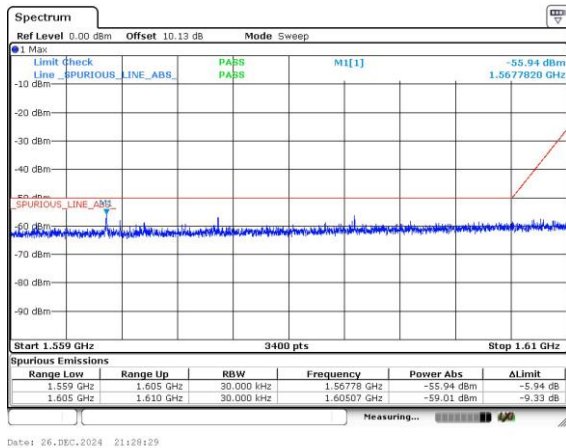


Highest Channel / 1SC0 Discrete - Zoom in Verify

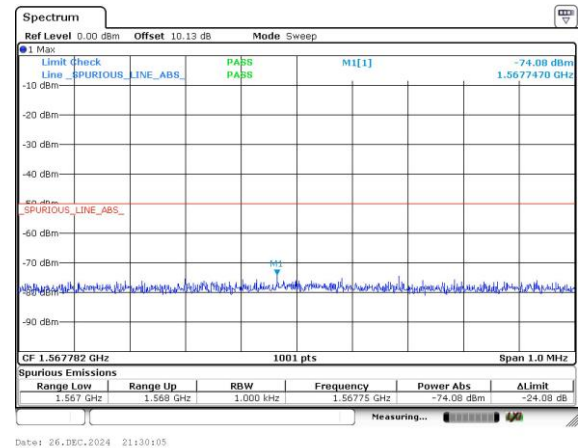




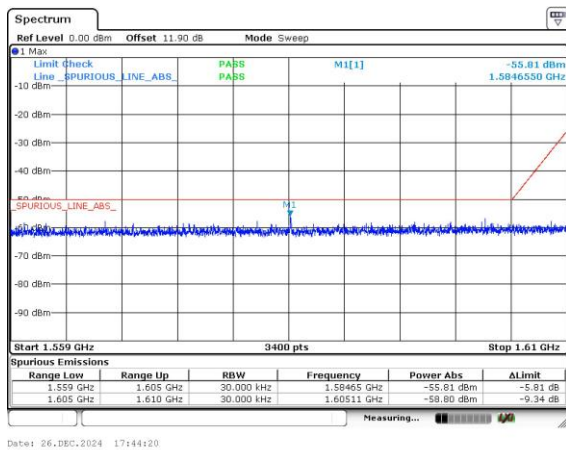
Lowest Channel / 1SC11 Discrete



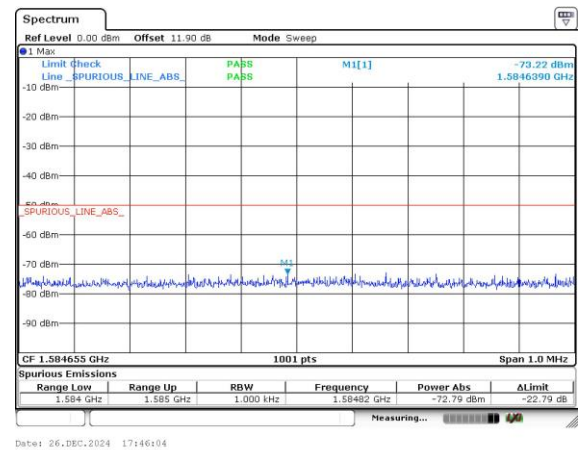
Lowest Channel / 1SC11 Discrete - Zoom in Verify



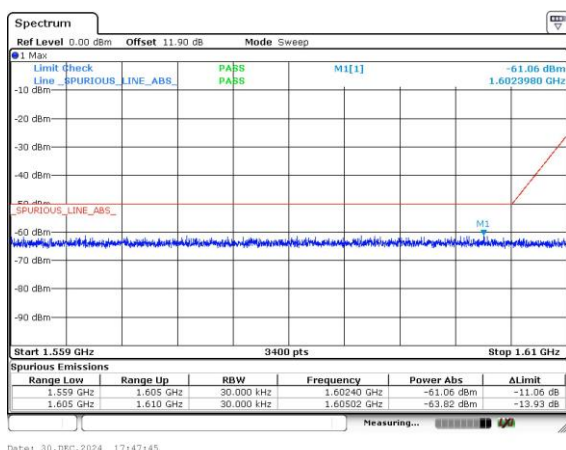
Middle Channel / 1SC11 Discrete



Middle Channel / 1SC11 Discrete - Zoom in Verify



Highest Channel / 1SC11 Discrete



Highest Channel / 1SC11 Discrete - Zoom in Verify



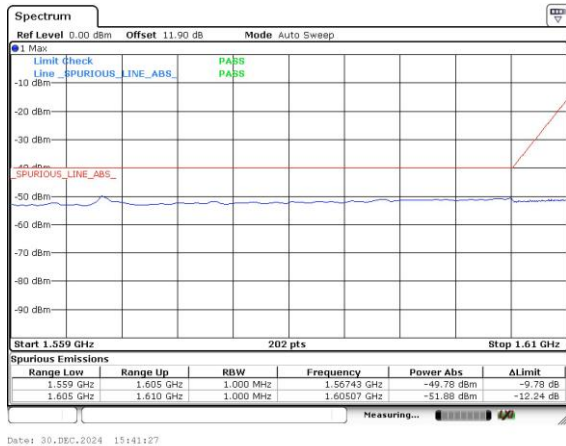


Band 255 SCS 15kHz

QPSK

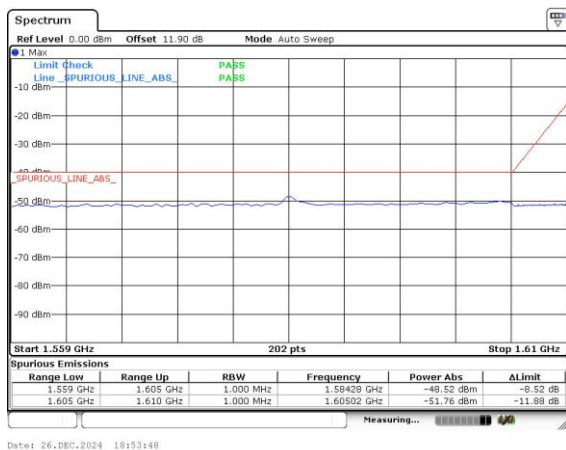
Lowest Channel / 1SC0 Broadband

Lowest Channel / 1SC0 Broadband - Zoom in Verify



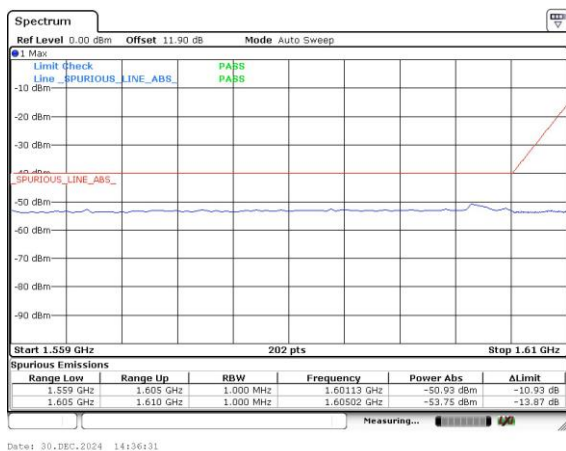
Middle Channel / 1SC0 Broadband

Middle Channel / 1SC0 Broadband - Zoom in Verify



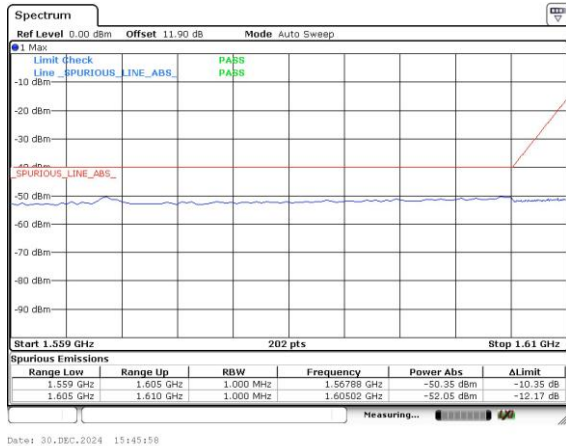
Highest Channel / 1SC0 Broadband

Highest Channel / 1SC0 Broadband - Zoom in Verify



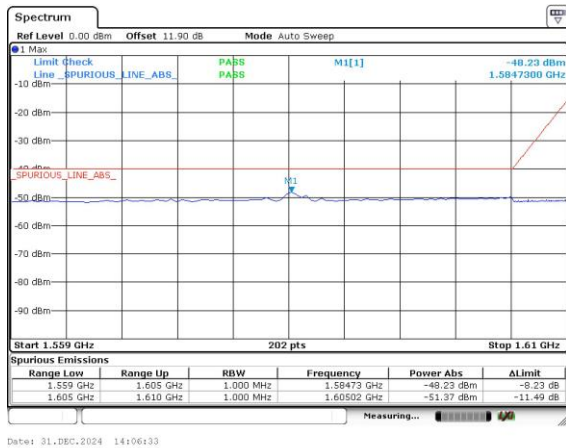


Lowest Channel / 1SC11 Broadband

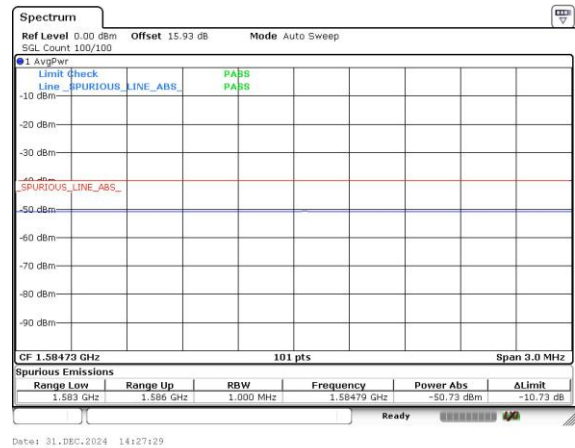


Lowest Channel / 1SC11 Broadband - Zoom in Verify

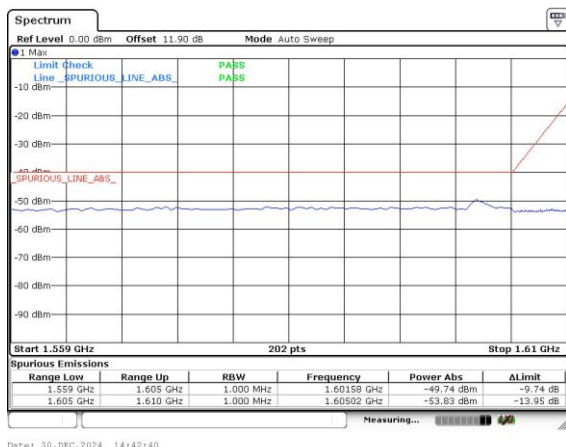
Middle Channel / 1SC11 Broadband



Middle Channel / 1SC11 Broadband - Zoom in Verify



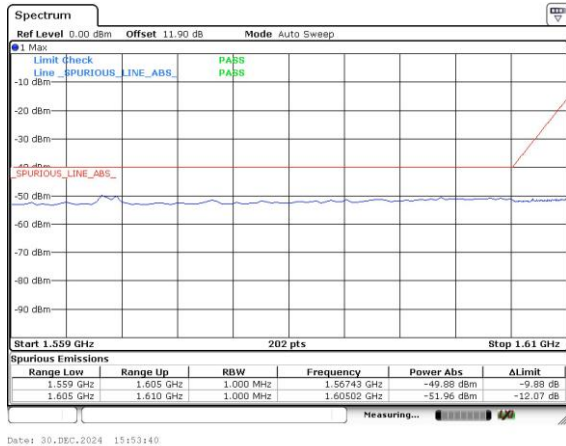
Highest Channel / 1SC11 Broadband



Highest Channel / 1SC11 Broadband - Zoom in Verify

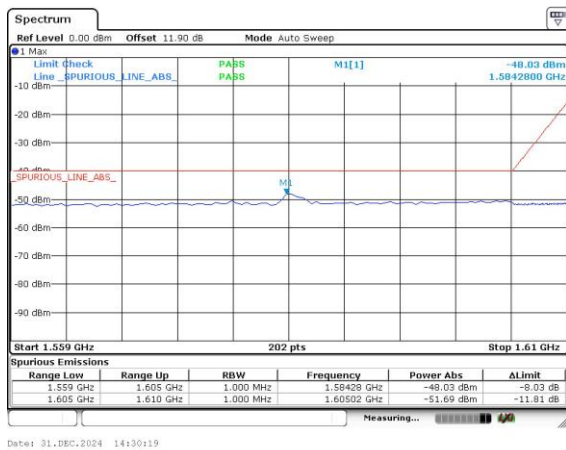


Lowest Channel / 3SC0 Broadband

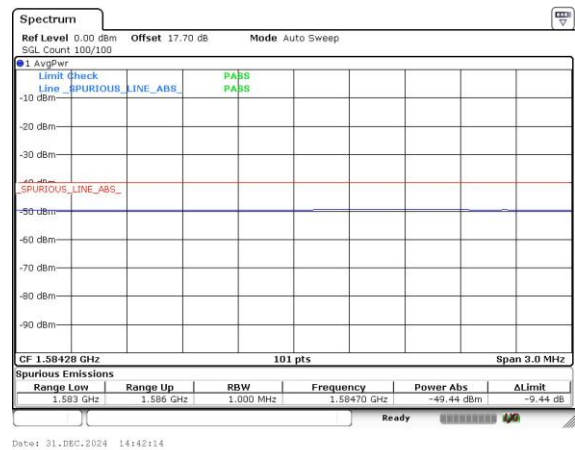


Lowest Channel / 3SC0 Broadband - Zoom in Verify

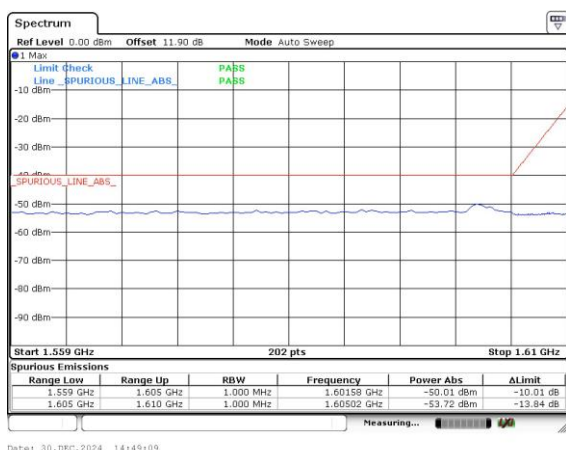
Middle Channel / 3SC0 Broadband



Middle Channel / 3SC0 Broadband - Zoom in Verify



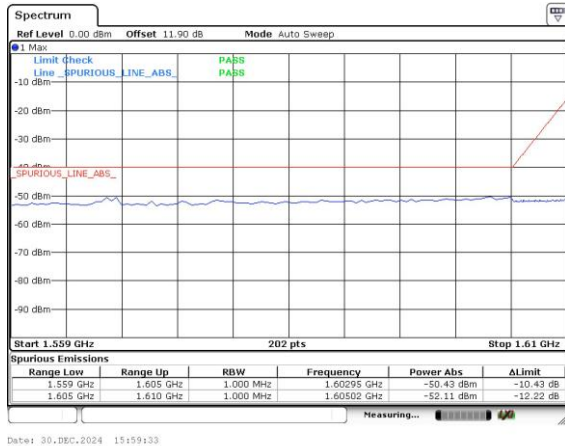
Highest Channel / 3SC0 Broadband



Highest Channel / 3SC0 Broadband - Zoom in Verify

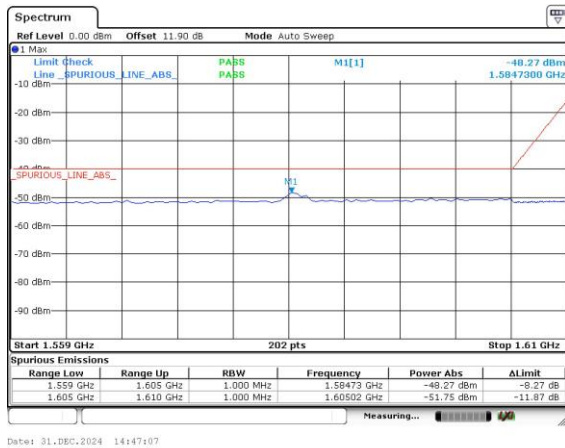


Lowest Channel / 3SC9 Broadband

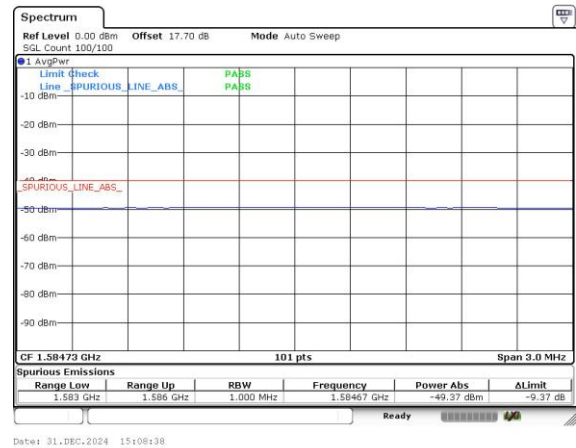


Lowest Channel / 3SC9 Broadband - Zoom in Verify

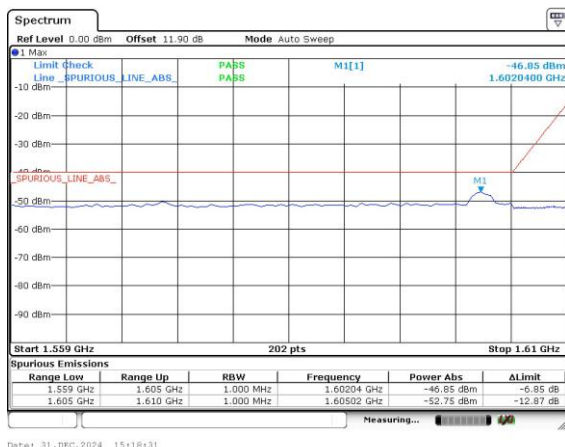
Middle Channel / 3SC9 Broadband



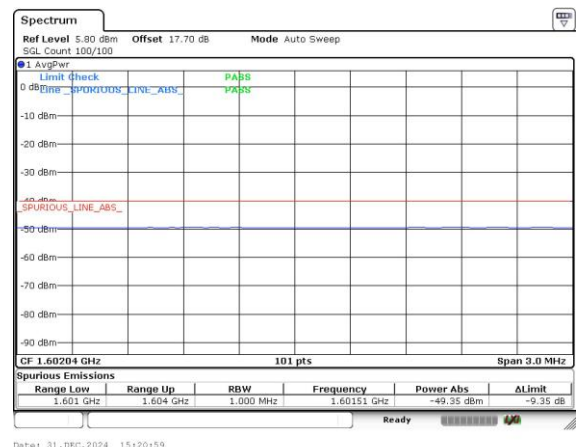
Middle Channel / 3SC9 Broadband - Zoom in Verify



Highest Channel / 3SC9 Broadband

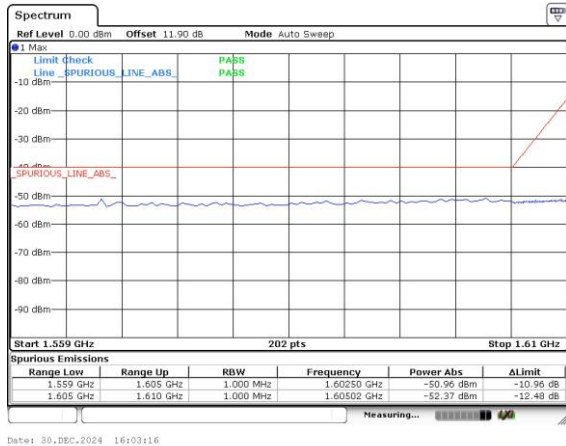


Highest Channel / 3SC9 Broadband - Zoom in Verify



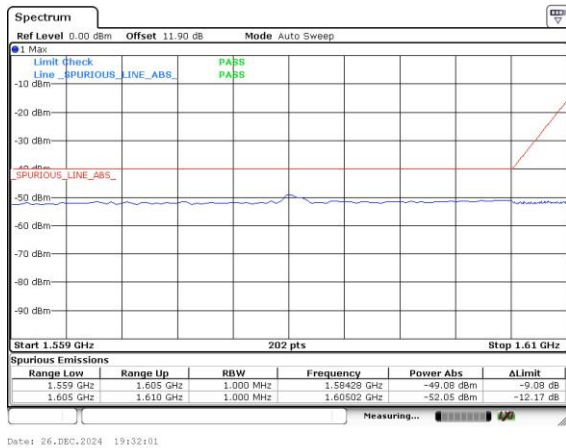


Lowest Channel / 6SC0 Broadband



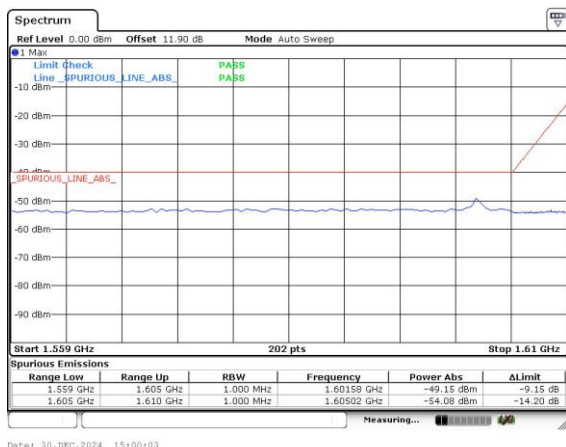
Lowest Channel / 6SC0 Broadband - Zoom in Verify

Middle Channel / 6SC0 Broadband



Middle Channel / 6SC0 Broadband - Zoom in Verify

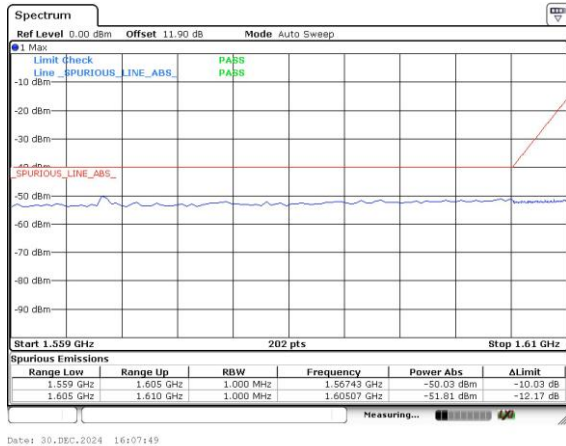
Highest Channel / 6SC0 Broadband



Highest Channel / 6SC0 Broadband - Zoom in Verify

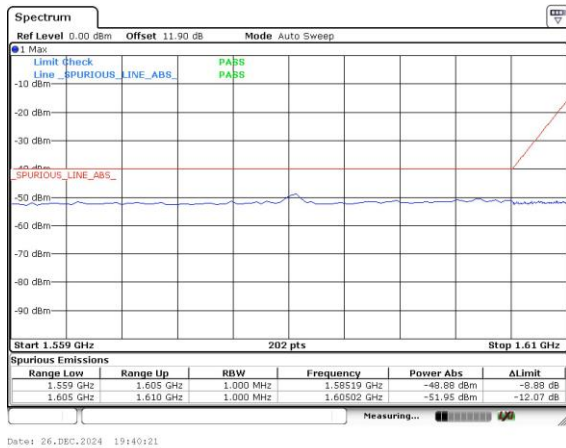


Lowest Channel / 6SC6 Broadband



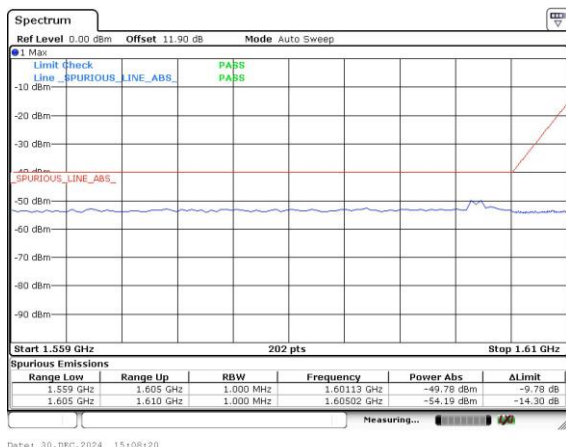
Lowest Channel / 6SC6 Broadband - Zoom in Verify

Middle Channel / 6SC6 Broadband



Middle Channel / 6SC6 Broadband - Zoom in Verify

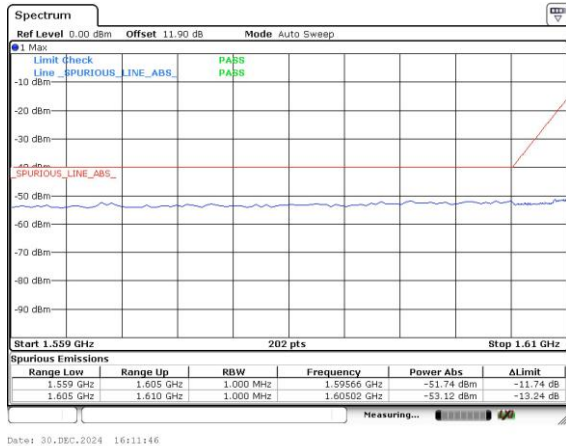
Highest Channel / 6SC6 Broadband



Highest Channel / 6SC6 Broadband - Zoom in Verify

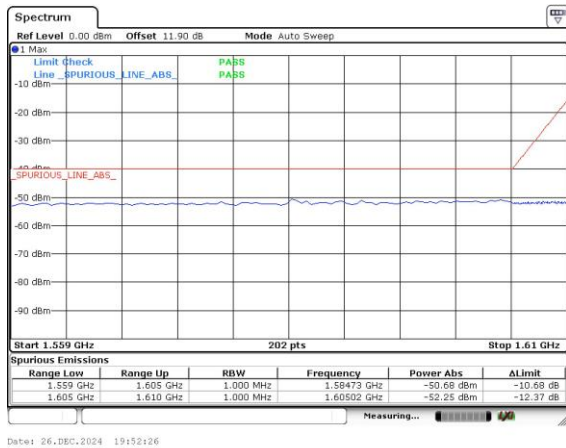


Lowest Channel / 12SC0 Broadband



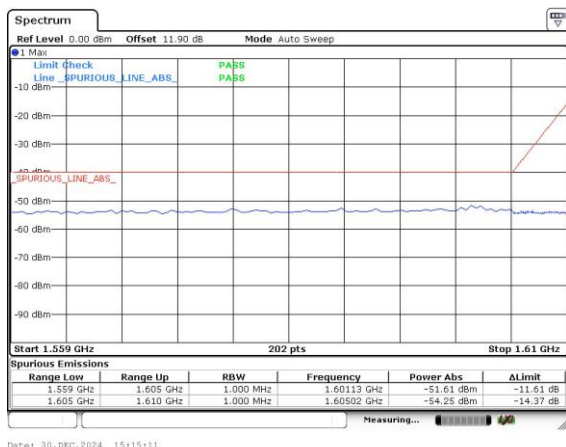
Lowest Channel / 12SC0 Broadband - Zoom in Verify

Middle Channel / 12SC0 Broadband



Middle Channel / 12SC0 Broadband - Zoom in Verify

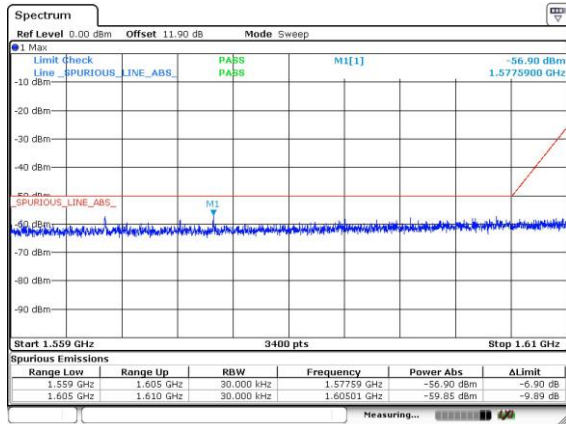
Highest Channel / 12SC0 Broadband



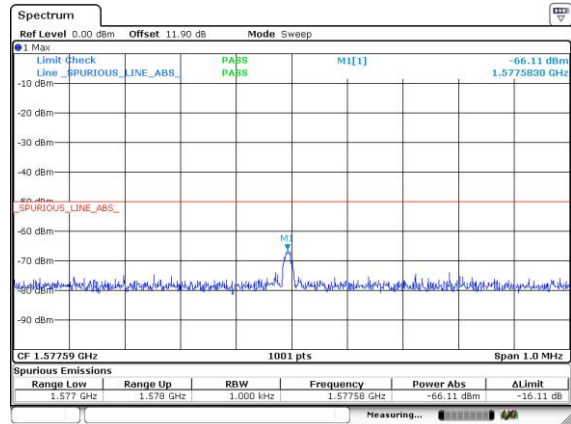
Highest Channel / 12SC0 Broadband - Zoom in Verify



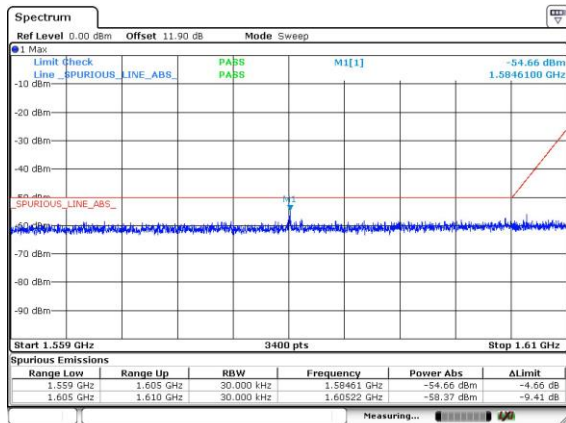
Lowest Channel / 1SC0 Discrete



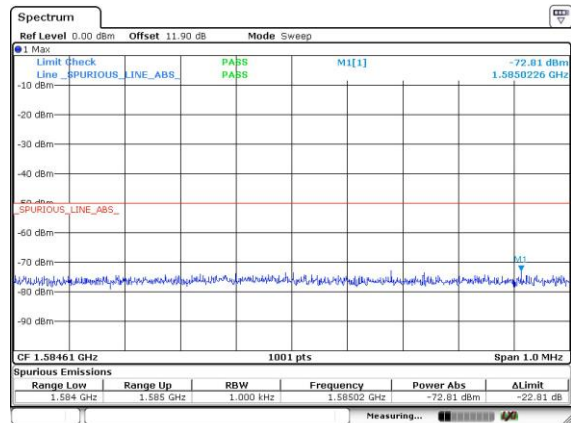
Lowest Channel / 1SC0 Discrete - Zoom in Verify



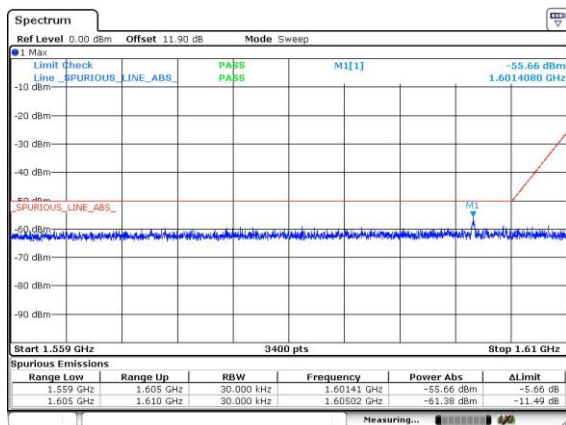
Middle Channel / 1SC0 Discrete



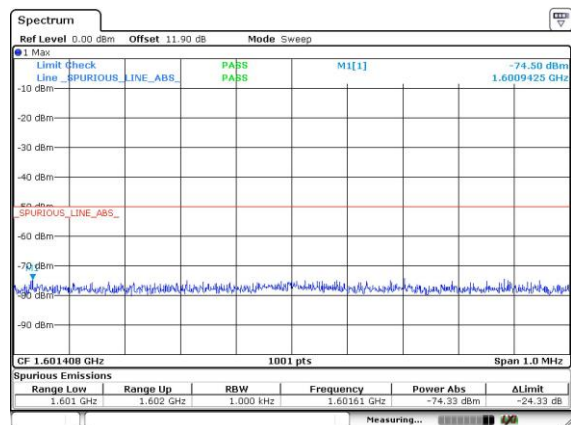
Middle Channel / 1SC0 Discrete - Zoom in Verify



Highest Channel / 1SC0 Discrete

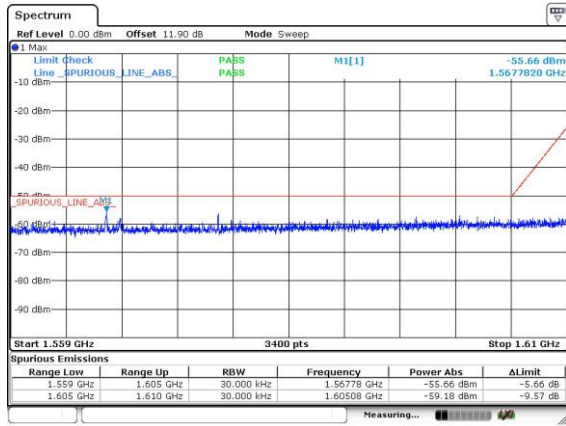


Highest Channel / 1SC0 Discrete - Zoom in Verify

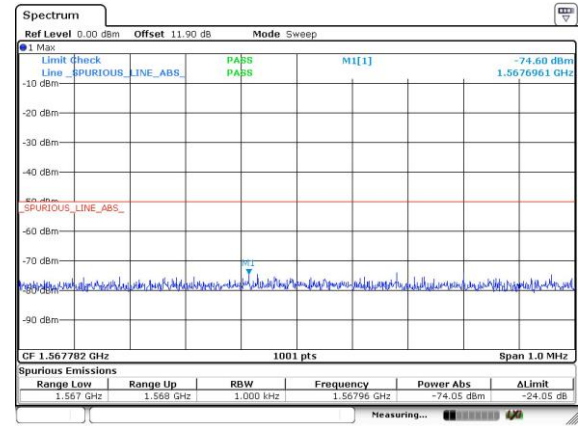




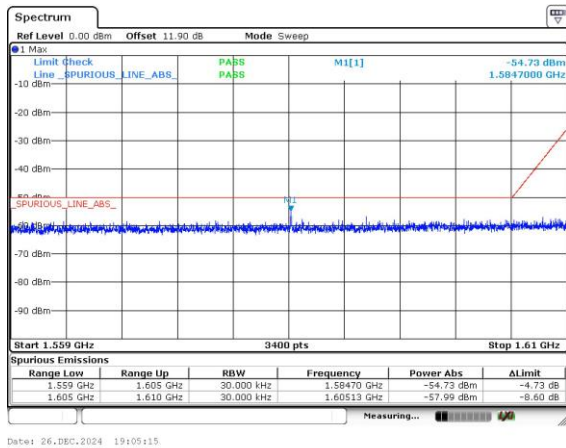
Lowest Channel / 1SC11 Discrete



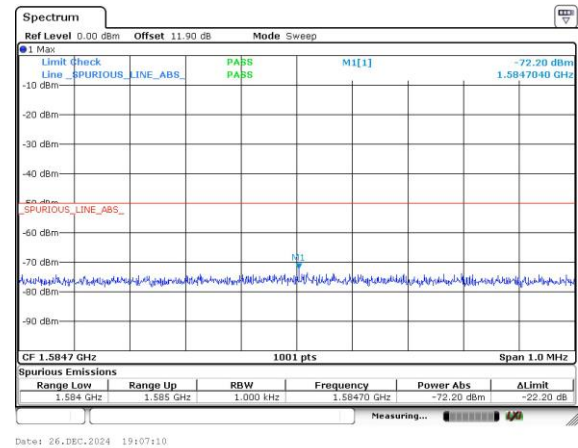
Lowest Channel / 1SC11 Discrete - Zoom in Verify



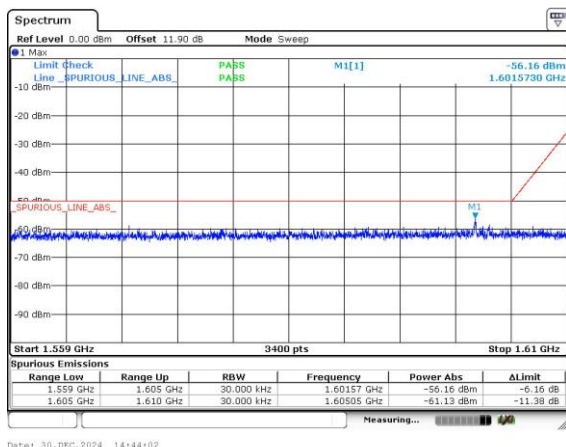
Middle Channel / 1SC11 Discrete



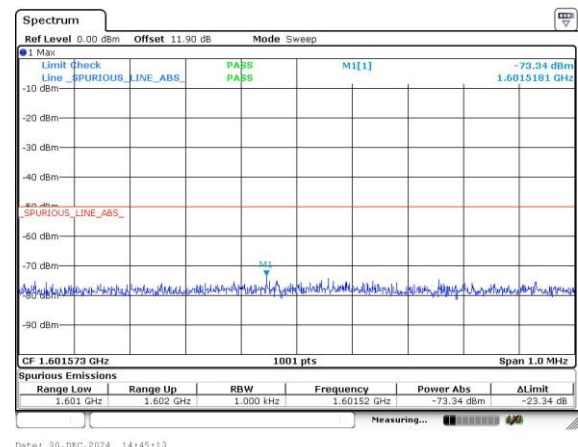
Middle Channel / 1SC11 Discrete - Zoom in Verify



Highest Channel / 1SC11 Discrete

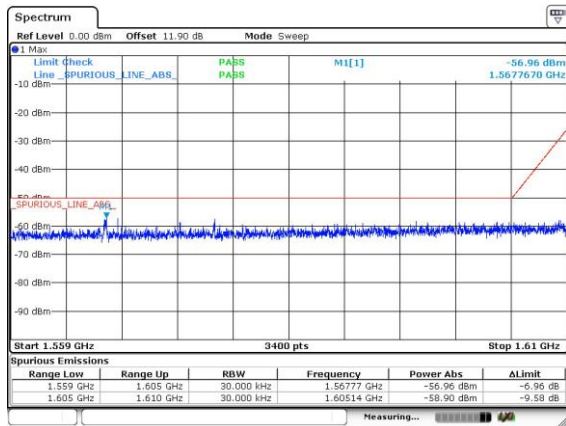


Highest Channel / 1SC11 Discrete - Zoom in Verify



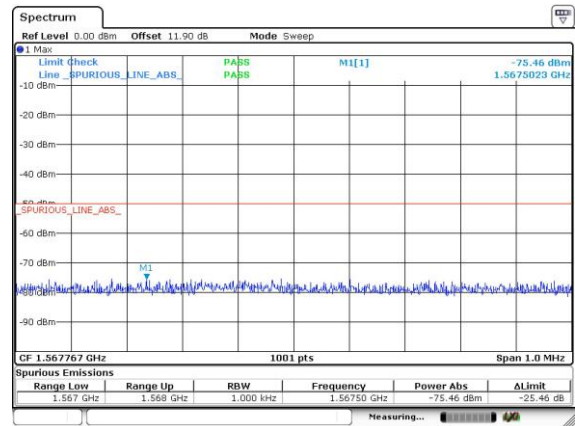


Lowest Channel / 3SC0 Discrete



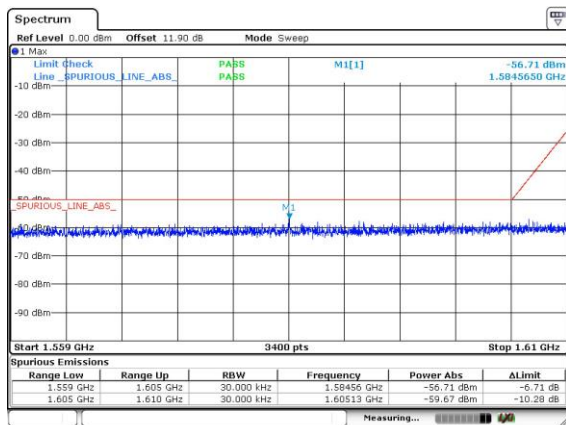
Date: 30.DEC.2024 15:56:11

Lowest Channel / 3SC0 Discrete - Zoom in Verify



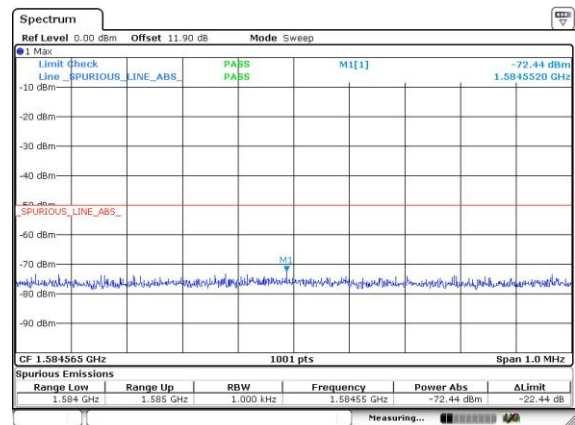
Date: 30.DEC.2024 15:57:36

Middle Channel / 3SC0 Discrete



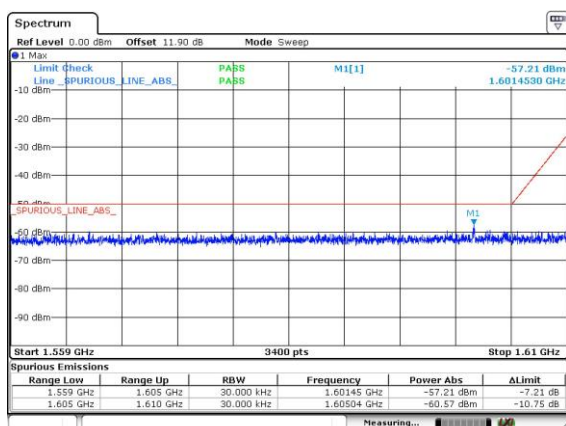
Date: 26.DEC.2024 19:11:13

Middle Channel / 3SC0 Discrete - Zoom in Verify



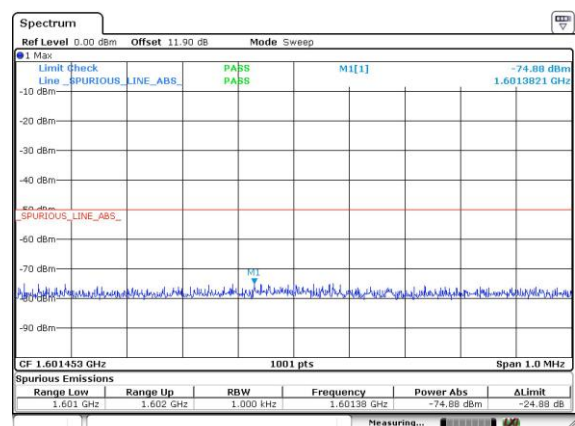
Date: 26.DEC.2024 19:13:26

Highest Channel / 3SC0 Discrete



Date: 30.DEC.2024 14:50:30

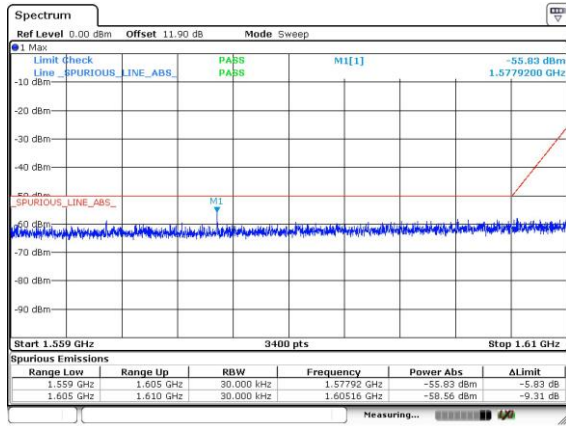
Highest Channel / 3SC0 Discrete - Zoom in Verify



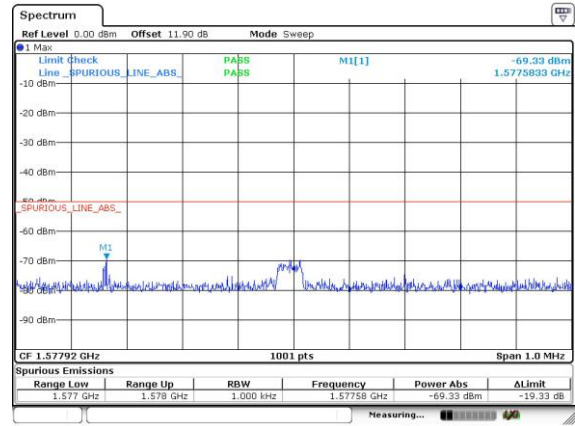
Date: 30.DEC.2024 14:51:51



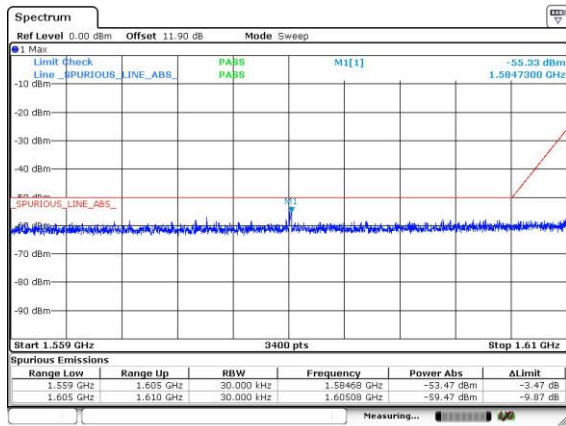
Lowest Channel / 3SC9 Discrete



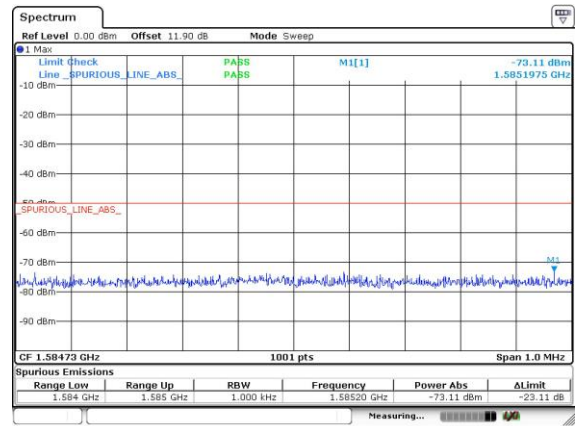
Lowest Channel / 3SC9 Discrete - Zoom in Verify



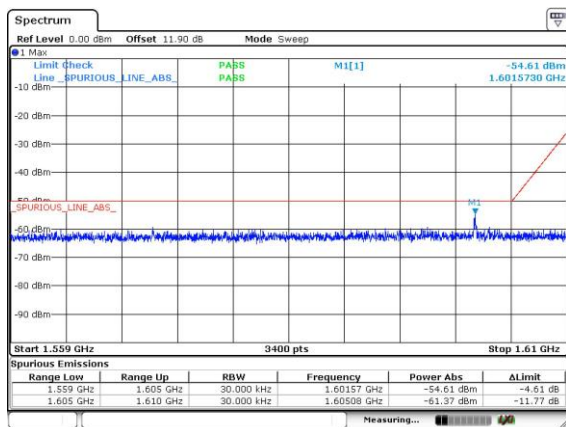
Middle Channel / 3SC9 Discrete



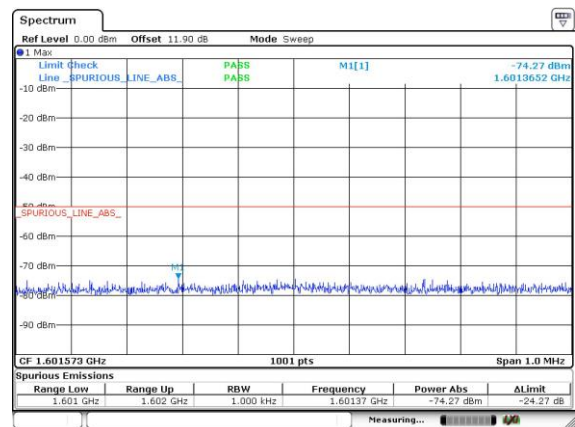
Middle Channel / 3SC9 Discrete - Zoom in Verify



Highest Channel / 3SC9 Discrete

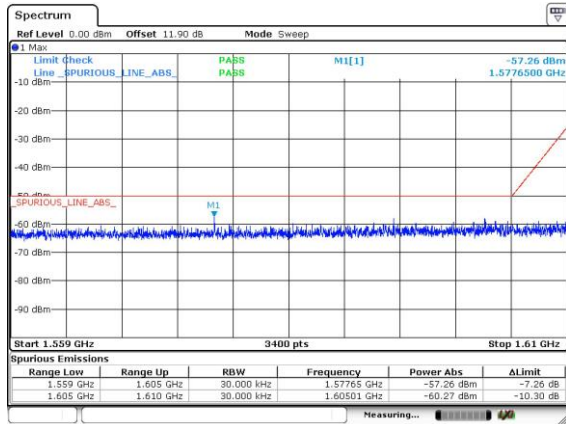


Highest Channel / 3SC9 Discrete - Zoom in Verify



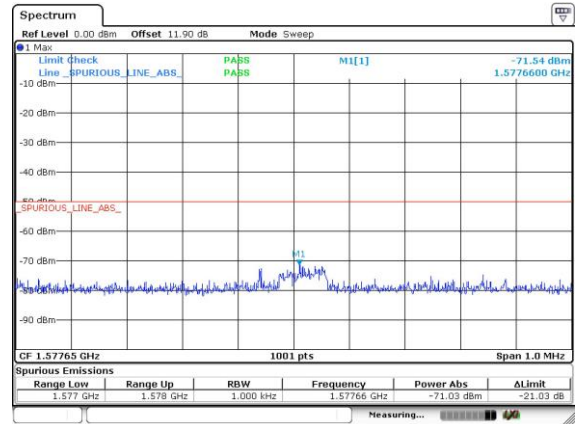


Lowest Channel / 6SC0 Discrete



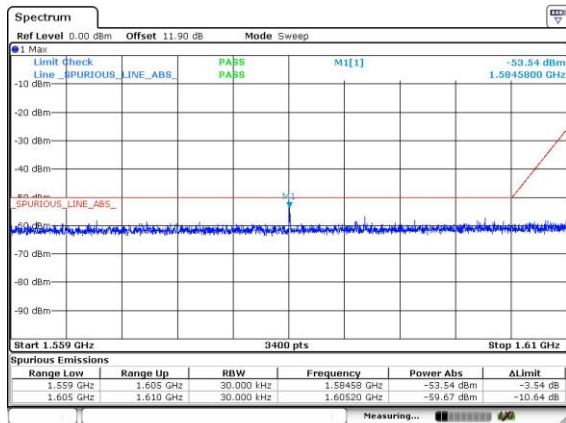
Date: 30.DEC.2024 16:04:28

Lowest Channel / 6SC0 Discrete - Zoom in Verify



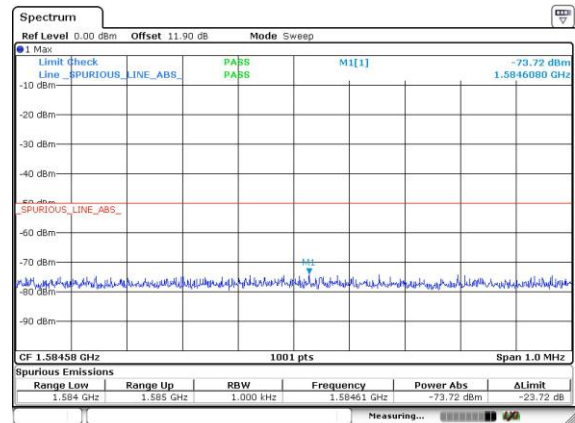
Date: 30.DEC.2024 16:05:36

Middle Channel / 6SC0 Discrete



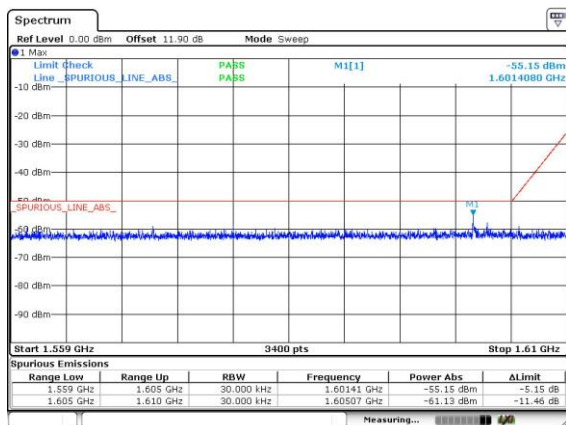
Date: 26.DEC.2024 19:34:25

Middle Channel / 6SC0 Discrete - Zoom in Verify



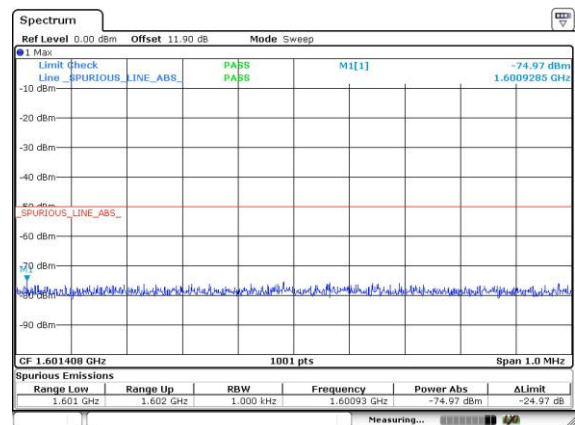
Date: 26.DEC.2024 19:36:28

Highest Channel / 6SC0 Discrete



Date: 30.DEC.2024 15:02:50

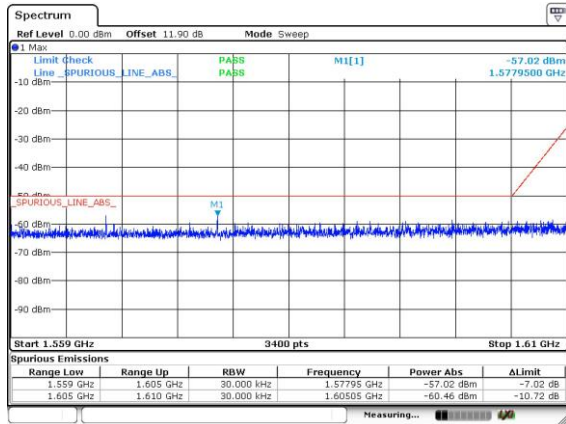
Highest Channel / 6SC0 Discrete - Zoom in Verify



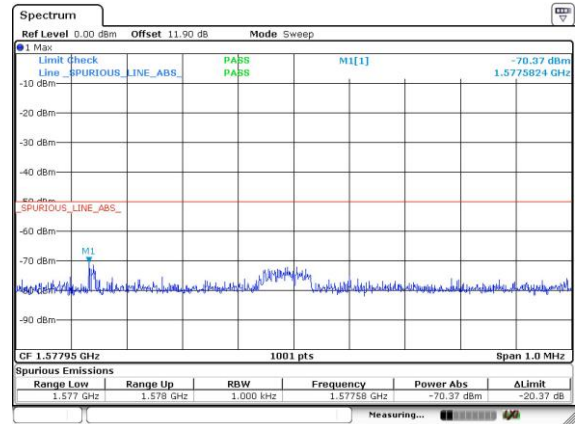
Date: 30.DEC.2024 15:04:29



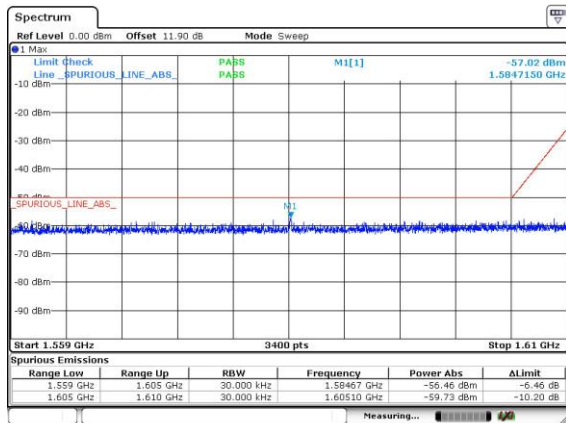
Lowest Channel / 6SC6 Discrete



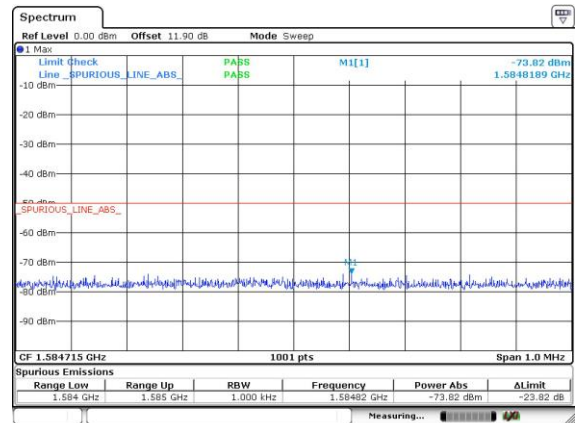
Lowest Channel / 6SC6 Discrete - Zoom in Verify



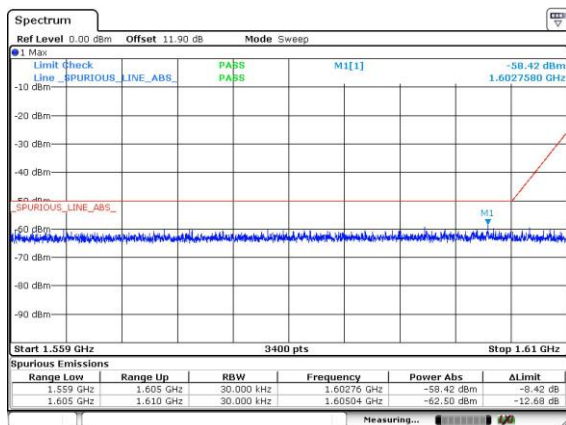
Middle Channel / 6SC6 Discrete



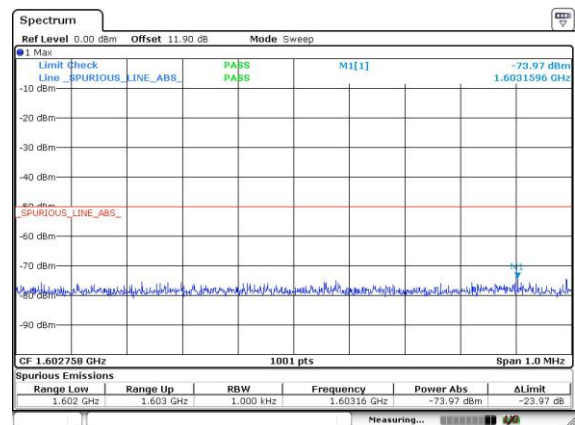
Middle Channel / 6SC6 Discrete - Zoom in Verify



Highest Channel / 6SC6 Discrete

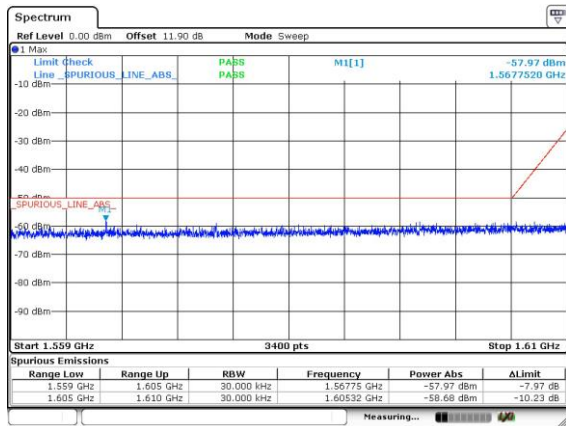


Highest Channel / 6SC6 Discrete - Zoom in Verify



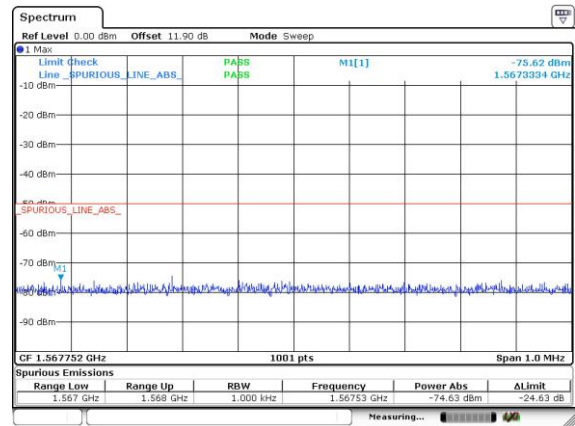


Lowest Channel / 12SC0 Discrete



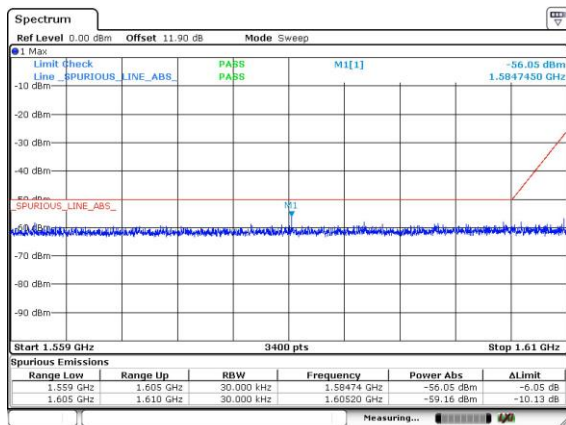
Date: 30.DEC.2024 17:29:21

Lowest Channel / 12SC0 Discrete - Zoom in Verify



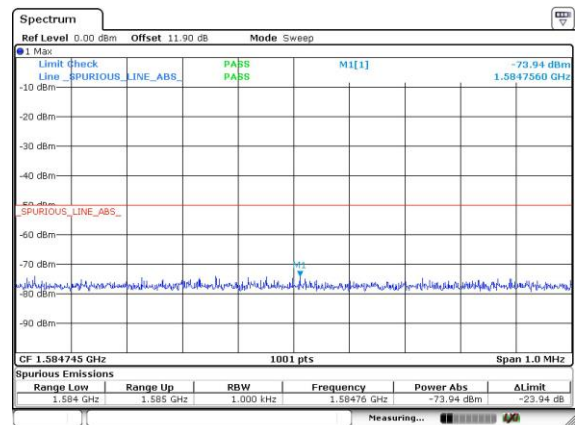
Date: 30.DEC.2024 17:31:47

Middle Channel / 12SC0 Discrete



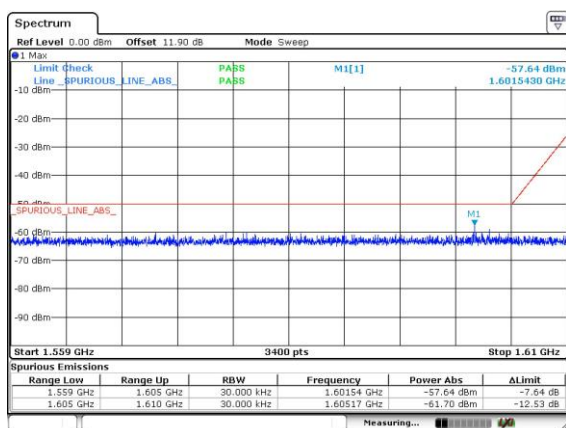
Date: 26.DEC.2024 19:55:59

Middle Channel / 12SC0 Discrete - Zoom in Verify



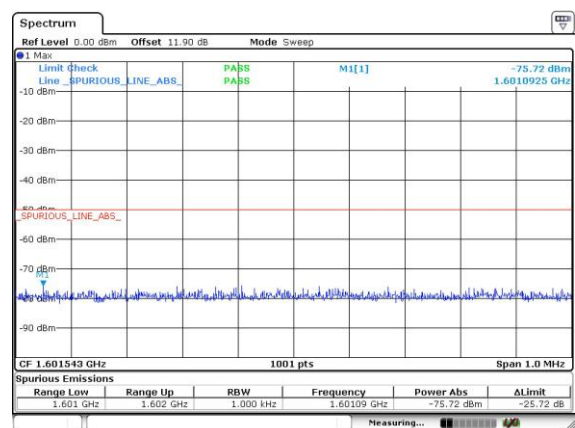
Date: 26.DEC.2024 20:00:56

Highest Channel / 12SC0 Discrete



Date: 30.DEC.2024 15:16:46

Highest Channel / 12SC0 Discrete - Zoom in Verify



Date: 30.DEC.2024 15:18:34

Frequency Stability

Test Conditions		Band 255(QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	SCS 15kHz	10ppm
		Deviation (ppm)	Result
50	Normal Voltage	0.0103	PASS
40	Normal Voltage	0.0002	
30	Normal Voltage	0.0058	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0103	
0	Normal Voltage	0.0011	
-10	Normal Voltage	0.0067	
-20	Normal Voltage	0.0083	
-30	Normal Voltage	0.0004	
20	Maximum Voltage	0.0007	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0021	

Note: Normal Voltage = 3.70V. ; Battery End Point (BEP) = 2.80V. ; Maximum Voltage = 4.35V.



Appendix B. Test Results of Radiated Test

B1. Summary of each worse mode

Mode	Part	Band	Ch	Freq (MHz)	Level (dBm)	Det	Ant Factor (dB)	Amp\Cbl (dB)	Filter (dB)	EIRPCF (dB)	Reading (dBuV)	Limit (dBm)	Margin (dB)	Pol	Ant
1	Part 25	NTN B23	L	8000	-45.18	RMS	37.19	-53.53	0.42	-95.23	65.97	-13.00	-32.18	V	1
2	Part 25	NTN B255	M	3287	-45.57	RMS	29.80	-58.14	1.20	-95.23	76.80	-13.00	-32.57	V	1

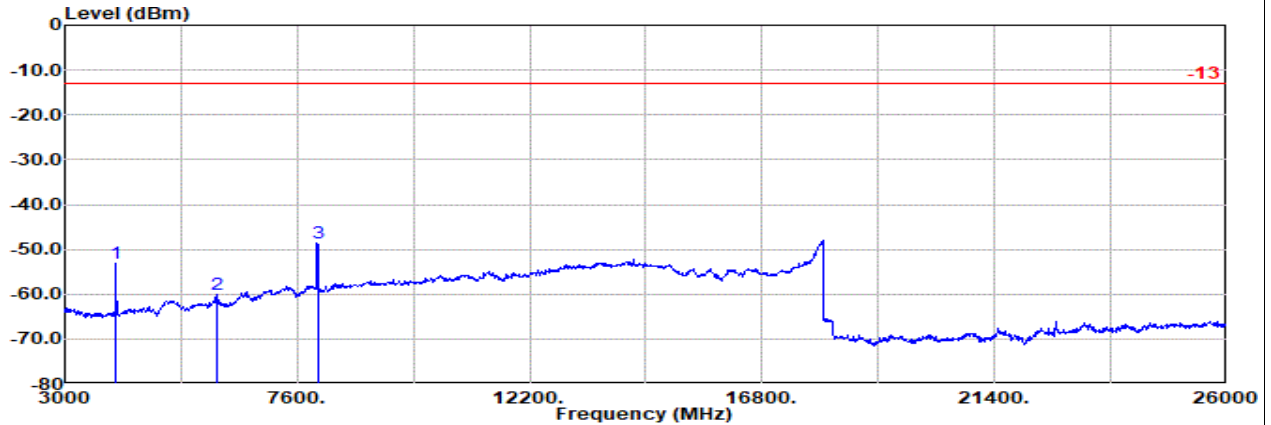


Ant. 1

Part 25 Mode 1

NTN B23 Ch25501

L

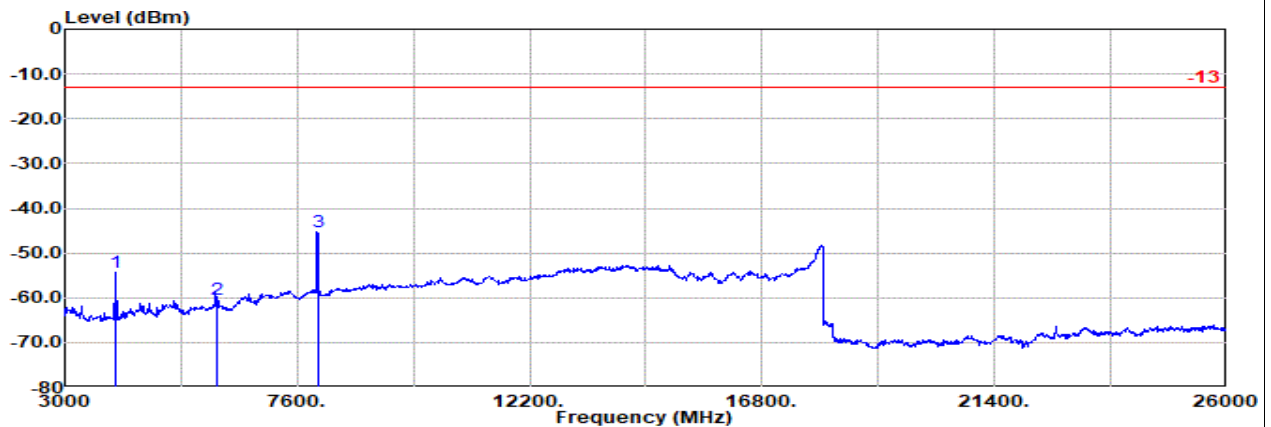


Site : 03CH12-HY

Condition: -13 1m BBHA9170_1223_240624 Horizontal

: NTN Band 23 SCS 3.75 kHz Ch25501 1SC0 QPSK

	Freq	Level	Detector	Ant Factor	Amp\Cb	Filter	EIRPCF	Readin	Limit	Margin	Pol
	MHz	dBm			dB	dB	dB	dBuV	dBm	dB	
1	4000.00	-53.21	RMS	30.91	-57.61	0.60	-95.23	68.12	-13.00	-40.21	Horizontal
2	6000.00	-60.03	RMS	34.20	-54.12	0.37	-95.23	54.75	-13.00	-47.03	Horizontal
3	8000.00	-48.67	RMS	37.19	-53.53	0.42	-95.23	62.48	-13.00	-35.67	Horizontal



Site : 03CH12-HY

Condition: -13 1m BBHA9170_1223_240624 Vertical

: NTN Band 23 SCS 3.75 kHz Ch25501 1SC0 QPSK

	Freq	Level	Detector	Ant Factor	Amp\Cb	Filter	EIRPCF	Readin	Limit	Margin	Pol
	MHz	dBm			dB	dB	dB	dBuV	dBm	dB	
1	4000.00	-54.42	RMS	30.91	-57.61	0.60	-95.23	66.91	-13.00	-41.42	Vertical
2	6000.00	-60.51	RMS	34.20	-54.12	0.37	-95.23	54.27	-13.00	-47.51	Vertical
3	8000.00	-45.18	RMS	37.19	-53.53	0.42	-95.23	65.97	-13.00	-32.18	Vertical

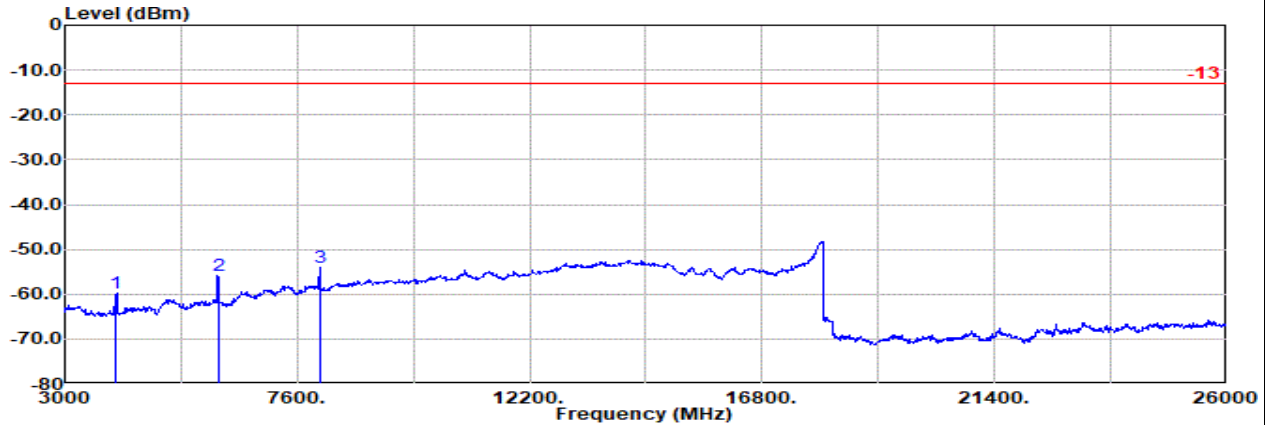


Ant. 1

Part 25 Mode 1

NTN B23 Ch25600

M

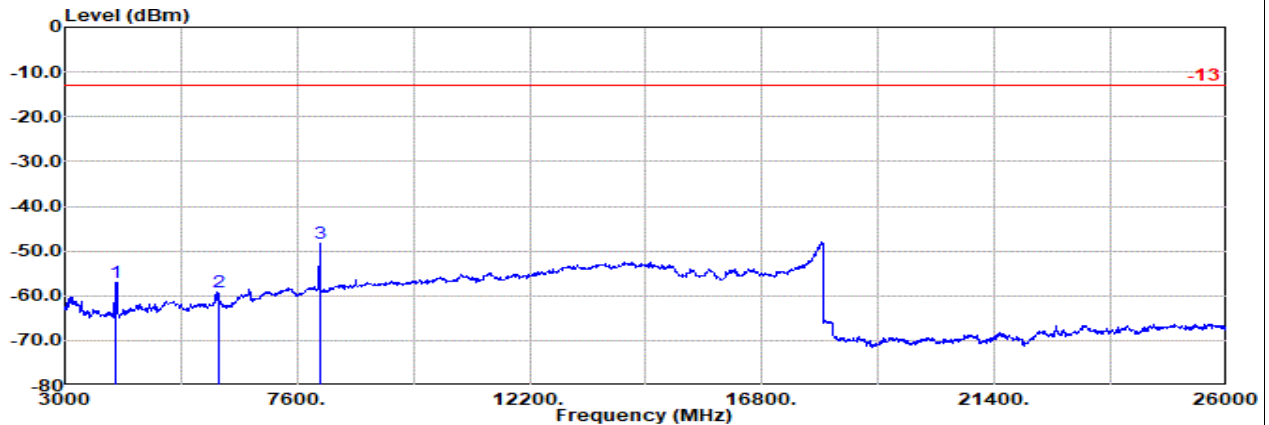


Site : 03CH12-HY

Condition: -13 1m BBHA9170_1223_240624 Horizontal

: NTN Band 23 SCS 3.75 kHz Ch25600 1SC0 QPSK

	Freq	Level	Detector	Ant Amp\Cb		Filter	EIRPCF		Readin	Limit	Margin	Pol
				Factor	1							
	MHz	dBm		dB/m	dB	dB	dB	dB	dBuV	dBm	dB	
1	4020.00	-59.86	RMS	30.94	-57.61	0.59	-95.23	61.45	-13.00	-46.86	Horizontal	
2	6030.00	-55.96	RMS	34.26	-54.11	0.36	-95.23	58.76	-13.00	-42.96	Horizontal	
3	8040.00	-53.91	RMS	37.20	-53.52	0.41	-95.23	57.23	-13.00	-40.91	Horizontal	



Site : 03CH12-HY

Condition: -13 1m BBHA9170_1223_240624 Vertical

: NTN Band 23 SCS 3.75 kHz Ch25600 1SC0 QPSK

	Freq	Level	Detector	Ant Amp\Cb		Filter	EIRPCF		Readin	Limit	Margin	Pol
				Factor	1							
	MHz	dBm		dB/m	dB	dB	dB	dB	dBuV	dBm	dB	
1	4020.00	-57.08	RMS	30.94	-57.61	0.59	-95.23	64.23	-13.00	-44.08	Vertical	
2	6030.00	-59.09	RMS	34.26	-54.11	0.36	-95.23	55.63	-13.00	-46.09	Vertical	
3	8040.00	-48.33	RMS	37.20	-53.52	0.41	-95.23	62.81	-13.00	-35.33	Vertical	

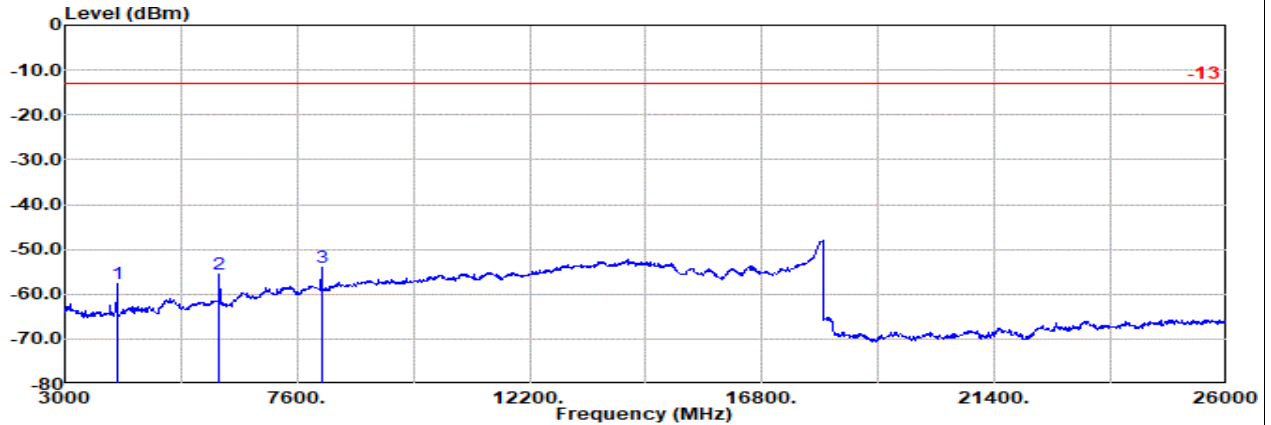


Ant. 1

Part 25 Mode 1

NTN B23 Ch25699

H

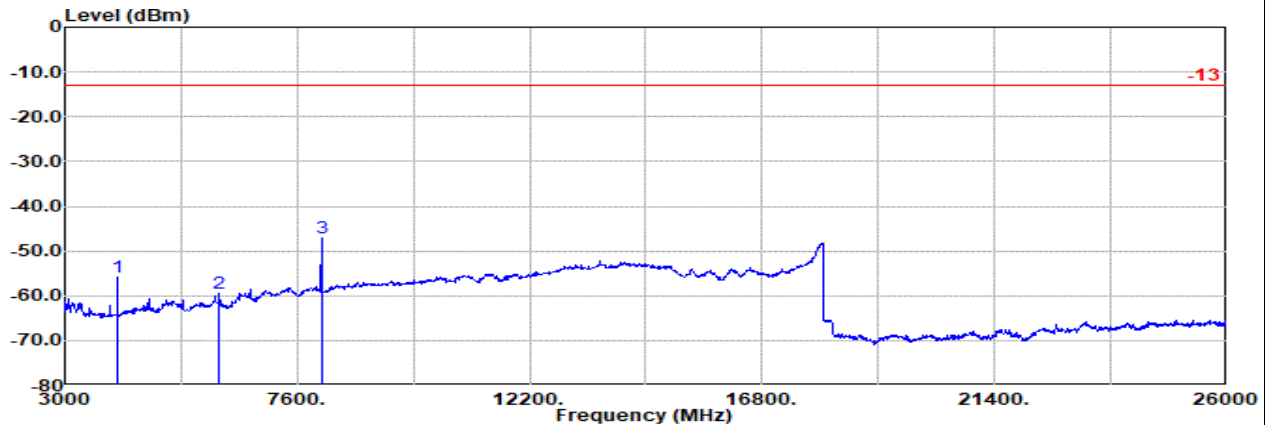


Site : 03CH12-HY

Condition: -13 1m BBHA9170_1223_240624 Horizontal

: NTN Band 23 SCS 3.75 kHz Ch25699 1SC0 QPSK

	Freq	Level	Detector	Ant Amp\Cb		Filter	EIRPCF	Readin	Limit	Margin	Pol
				Factor	1						
	MHz	dBm		dB/m	dB	dB	dB	dBuV	dBm	dB	
1	4040.00	-57.67	RMS	30.98	-57.60	0.58	-95.23	63.60	-13.00	-44.67	Horizontal
2	6060.00	-55.50	RMS	34.28	-54.10	0.35	-95.23	59.19	-13.00	-42.50	Horizontal
3	8080.00	-54.08	RMS	37.20	-53.50	0.40	-95.23	57.05	-13.00	-41.08	Horizontal



Site : 03CH12-HY

Condition: -13 1m BBHA9170_1223_240624 Vertical

: NTN Band 23 SCS 3.75 kHz Ch25699 1SC0 QPSK

	Freq	Level	Detector	Ant Amp\Cb		Filter	EIRPCF	Readin	Limit	Margin	Pol
				Factor	1						
	MHz	dBm		dB/m	dB	dB	dB	dBuV	dBm	dB	
1	4040.00	-55.80	RMS	30.98	-57.60	0.58	-95.23	65.47	-13.00	-42.80	Vertical
2	6060.00	-59.50	RMS	34.28	-54.10	0.35	-95.23	55.19	-13.00	-46.50	Vertical
3	8080.00	-47.06	RMS	37.20	-53.50	0.40	-95.23	64.07	-13.00	-34.06	Vertical

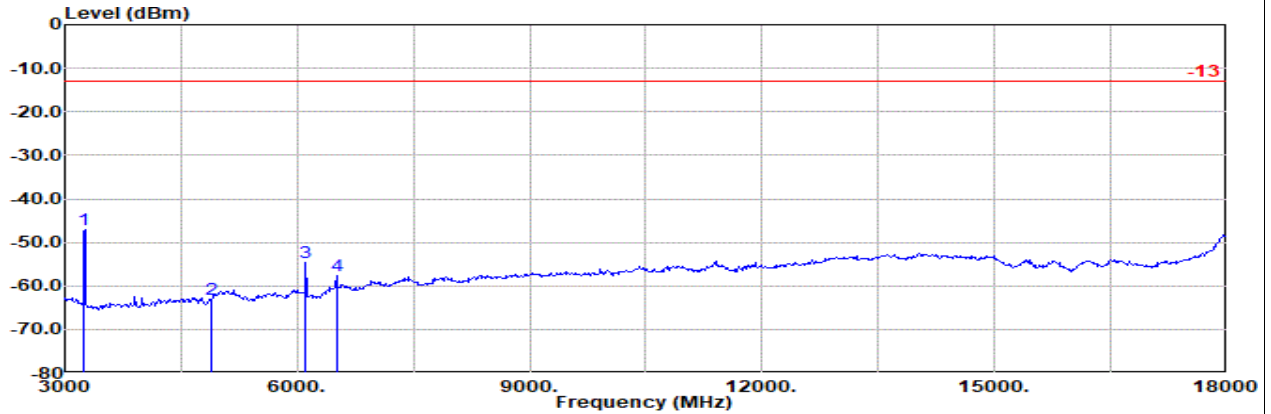


Ant. 1

Part 25 Mode 2

NTN B255 Ch261505

L

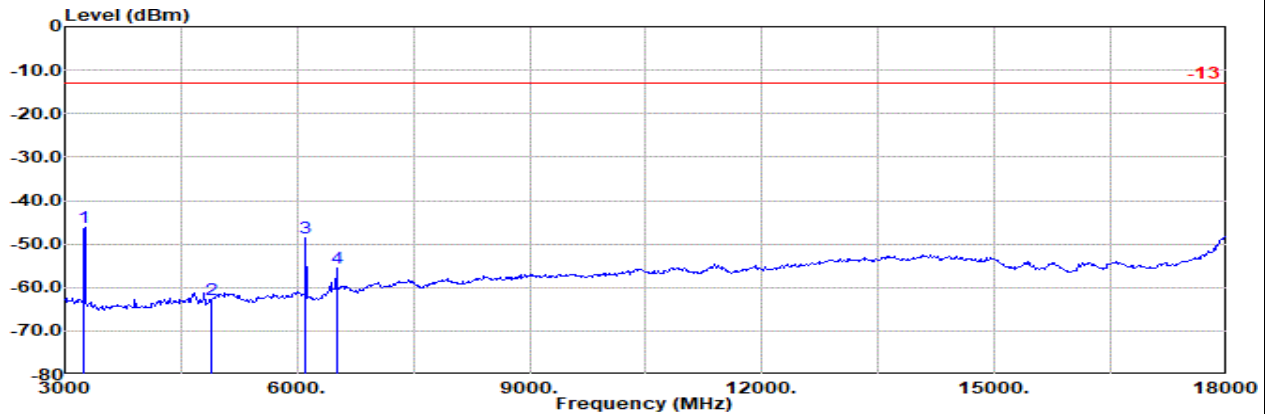


Site : 03CH12-HY

Condition: -13 3m 9120D-02114-240711 Horizontal

: NTN Band 255 SCS 3.75 kHz Ch261505 1SC0 QPSK

	Freq	Level	Detector	Ant Factor	Amp\Cb	Filter	EIRPCF	Readin	Limit	Margin	Pol
	MHz	dBm			dB	dB	dB	dBuV	dBm	dB	
1	3253.00	-47.13	RMS	29.80	-58.19	1.24	-95.23	75.25	-13.00	-34.13	Horizontal
2	4880.00	-63.21	RMS	32.86	-56.96	0.44	-95.23	55.68	-13.00	-50.21	Horizontal
3	6105.00	-54.53	RMS	34.21	-54.08	0.34	-95.23	60.23	-13.00	-41.53	Horizontal
4	6506.00	-57.76	RMS	35.34	-53.83	0.36	-95.23	55.60	-13.00	-44.76	Horizontal



Site : 03CH12-HY

Condition: -13 3m 9120D-02114-240711 Vertical

: NTN Band 255 SCS 3.75 kHz Ch261505 1SC0 QPSK

	Freq	Level	Detector	Ant Factor	Amp\Cb	Filter	EIRPCF	Readin	Limit	Margin	Pol
	MHz	dBm			dB	dB	dB	dBuV	dBm	dB	
1	3253.00	-46.21	RMS	29.80	-58.19	1.24	-95.23	76.17	-13.00	-33.21	Vertical
2	4880.00	-62.91	RMS	32.86	-56.96	0.44	-95.23	55.98	-13.00	-49.91	Vertical
3	6105.00	-48.47	RMS	34.21	-54.08	0.34	-95.23	66.29	-13.00	-35.47	Vertical
4	6506.00	-55.53	RMS	35.34	-53.83	0.36	-95.23	57.83	-13.00	-42.53	Vertical

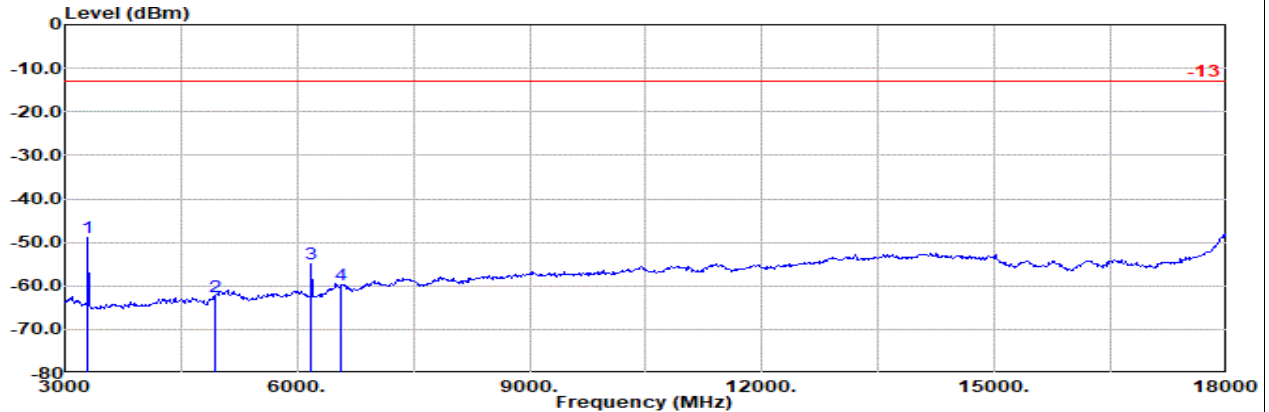


Ant. 1

Part 25 Mode 2

NTN B255 Ch261674

M

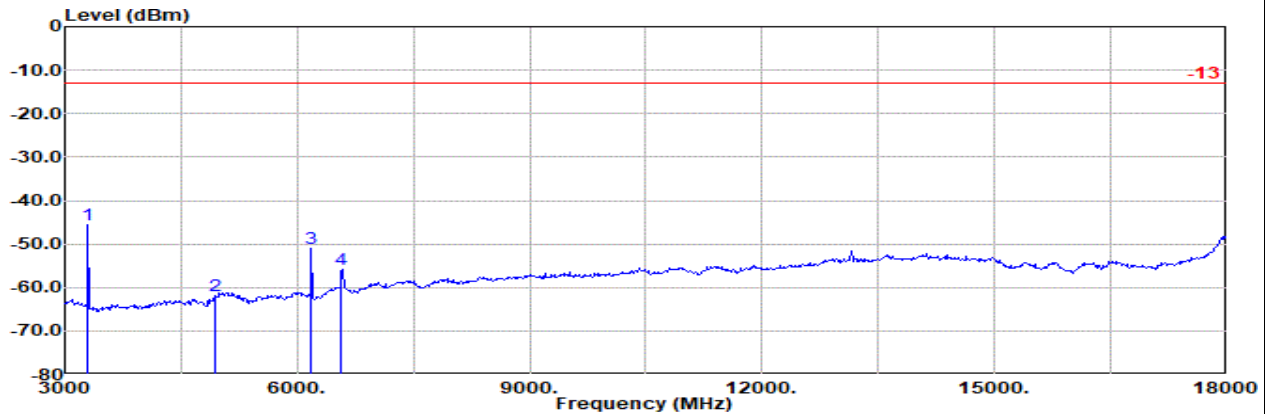


Site : 03CH12-HY

Condition: -13 3m 9120D-02114-240711 Horizontal

: NTN Band 255 SCS 3.75 kHz Ch261674 1SC0 QPSK

	Freq	Level	Detector	Ant Factor	Amp\Cb	Filter	EIRPCF	Readin	Limit	Margin	Pol
	MHz	dBm			dB	dB	dB	dBuV	dBm	dB	
1	3287.00	-49.01	RMS	29.80	-58.14	1.20	-95.23	73.36	-13.00	-36.01	Horizontal
2	4931.00	-62.45	RMS	33.15	-56.83	0.45	-95.23	56.01	-13.00	-49.45	Horizontal
3	6180.00	-55.03	RMS	34.36	-54.06	0.32	-95.23	59.58	-13.00	-42.03	Horizontal
4	6574.00	-59.64	RMS	35.79	-53.82	0.36	-95.23	53.26	-13.00	-46.64	Horizontal



Site : 03CH12-HY

Condition: -13 3m 9120D-02114-240711 Vertical

: NTN Band 255 SCS 3.75 kHz Ch261674 1SC0 QPSK

	Freq	Level	Detector	Ant Factor	Amp\Cb	Filter	EIRPCF	Readin	Limit	Margin	Pol
	MHz	dBm			dB	dB	dB	dBuV	dBm	dB	
1	3287.00	-45.57	RMS	29.80	-58.14	1.20	-95.23	76.80	-13.00	-32.57	Vertical
2	4931.00	-61.89	RMS	33.15	-56.83	0.45	-95.23	56.57	-13.00	-48.89	Vertical
3	6180.00	-51.09	RMS	34.36	-54.06	0.32	-95.23	63.52	-13.00	-38.09	Vertical
4	6574.00	-55.80	RMS	35.79	-53.82	0.36	-95.23	57.10	-13.00	-42.80	Vertical

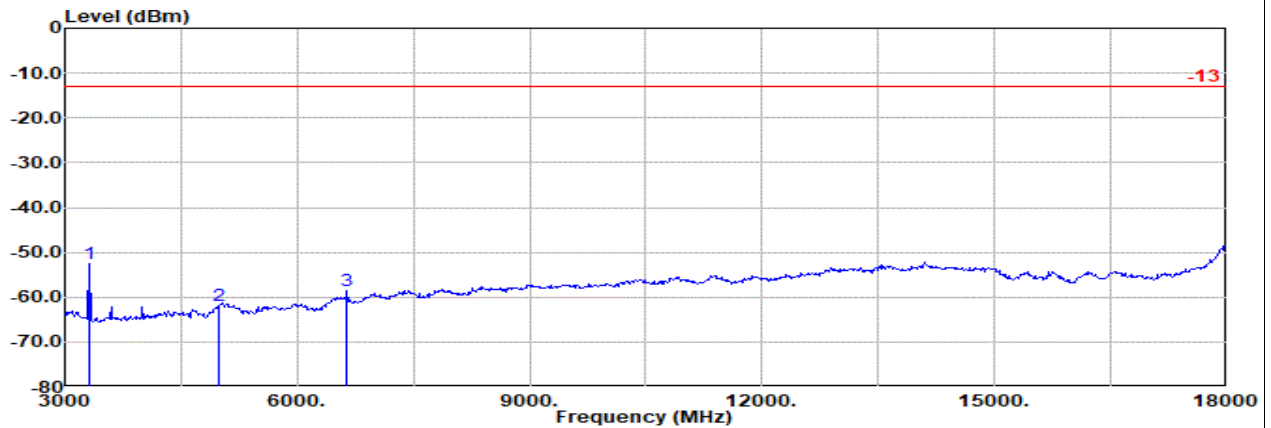


Ant. 1

Part 25 Mode 2

NTN B255 Ch261843

H

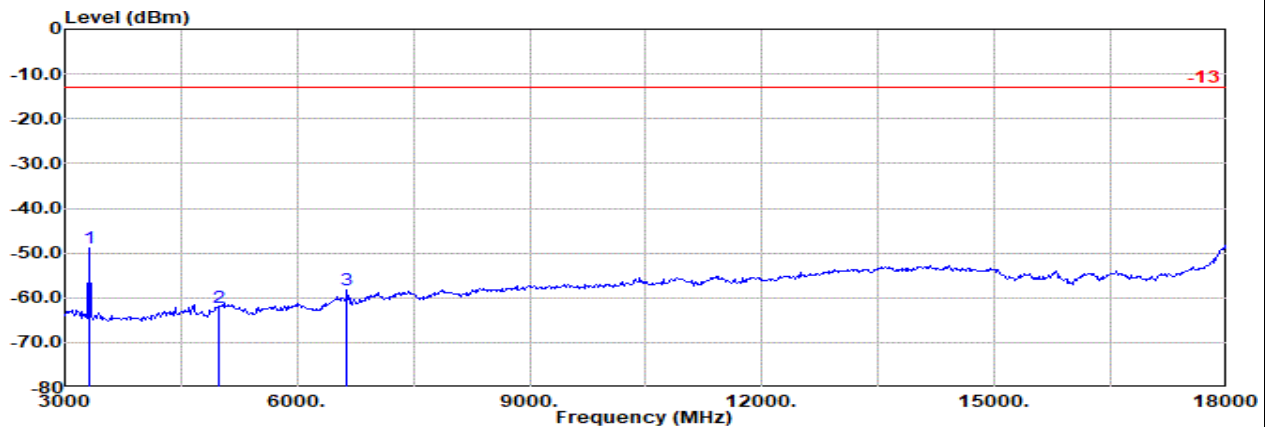


Site : 03CH12-HY

Condition: -13 3m 9120D-02114-240711 Horizontal

: NTN Band 255 SCS 3.75 kHz Ch261843 1SC0 QPSK

	Freq	Level	Detector	Ant Factor	Amp\Cb	Filter	EIRPCF	Readin	Limit	Margin	Pol
	MHz	dBm		dB/m	dB	dB	dB	dBuV	dBm	dB	
1	3321.00	-52.66	RMS	29.80	-58.10	1.16	-95.23	69.71	-13.00	-39.66	Horizontal
2	4982.00	-61.84	RMS	33.36	-56.69	0.47	-95.23	56.25	-13.00	-48.84	Horizontal
3	6642.00	-58.64	RMS	36.08	-53.81	0.36	-95.23	53.96	-13.00	-45.64	Horizontal



Site : 03CH12-HY

Condition: -13 3m 9120D-02114-240711 Vertical

: NTN Band 255 SCS 3.75 kHz Ch261843 1SC0 QPSK

	Freq	Level	Detector	Ant Factor	Amp\Cb	Filter	EIRPCF	Readin	Limit	Margin	Pol
	MHz	dBm		dB/m	dB	dB	dB	dBuV	dBm	dB	
1	3321.00	-48.83	RMS	29.80	-58.10	1.16	-95.23	73.54	-13.00	-35.83	Vertical
2	4982.00	-62.33	RMS	33.36	-56.69	0.47	-95.23	55.76	-13.00	-49.33	Vertical
3	6642.00	-58.41	RMS	36.08	-53.81	0.36	-95.23	54.19	-13.00	-45.41	Vertical

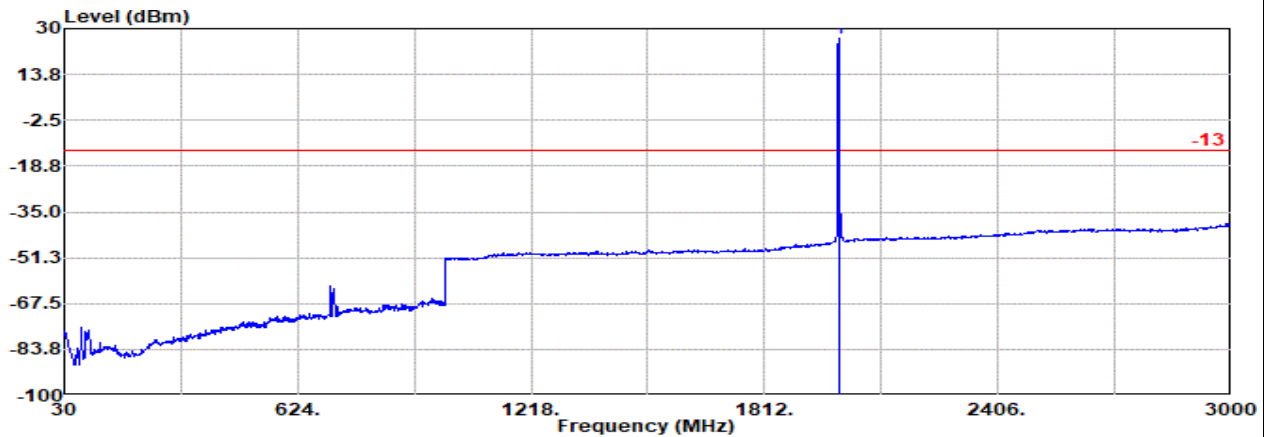


Ant. 1

Part 25 Mode 1

NTN B23 Ch25501

L



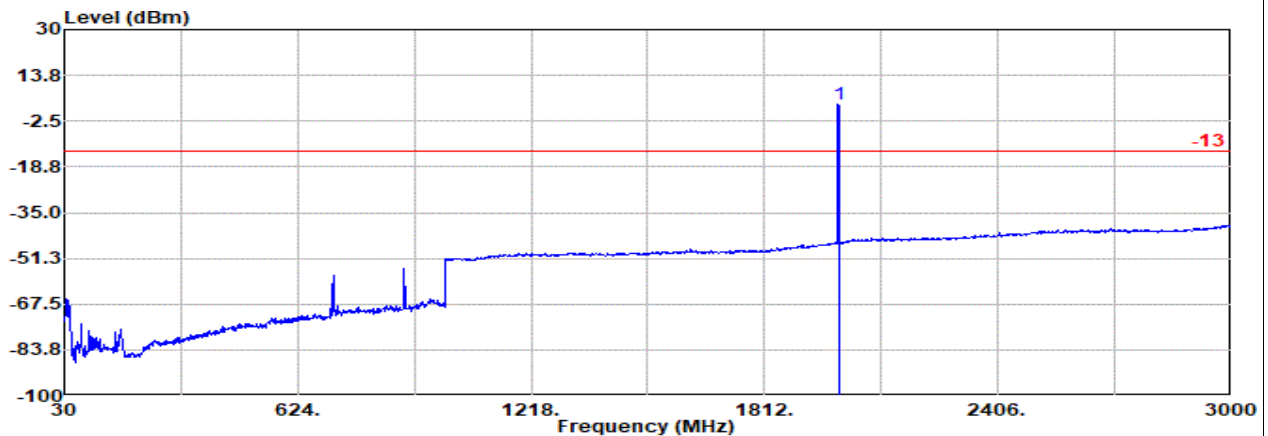
Site : 03CH12-HY

Condition: -13 3m 9120D-02114-240711 Horizontal

: NTN Band 23 SCS 3.75 kHz Ch25501 1SC0 QPSK

: #1 is fundamental signal which can be ignored.

	Freq	Level	Detector	Ant Factor	Amp\Cb 1	Filter	EIRPCF	Readin g	Limit	Margin	Pol
1	2000.10	26.58	RMS	26.80	6.31	0.00	-95.23	88.70	-13.00	39.58	Horizontal



Site : 03CH12-HY

Condition: -13 3m 9120D-02114-240711 Vertical

: NTN Band 23 SCS 3.75 kHz Ch25501 1SC0 QPSK

: #1 is fundamental signal which can be ignored.

	Freq	Level	Detector	Ant Factor	Amp\Cb 1	Filter	EIRPCF	Readin g	Limit	Margin	Pol
1	2000.10	3.35	RMS	26.80	6.31	0.00	-95.23	65.47	-13.00	16.35	Vertical

Remark: #1 is fundamental signal which can be ignored.