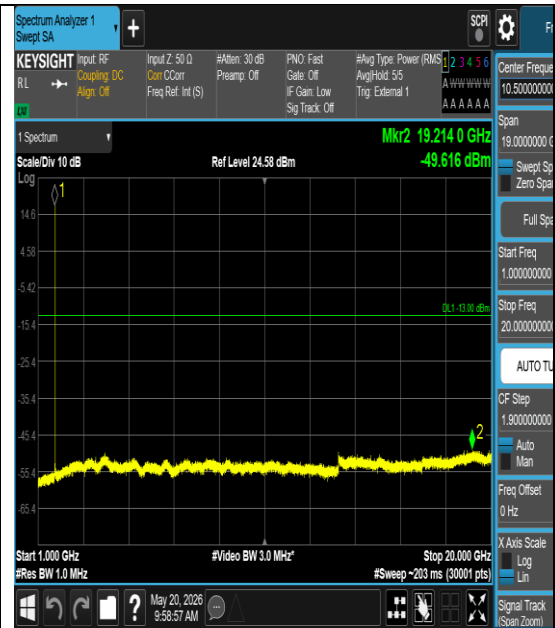
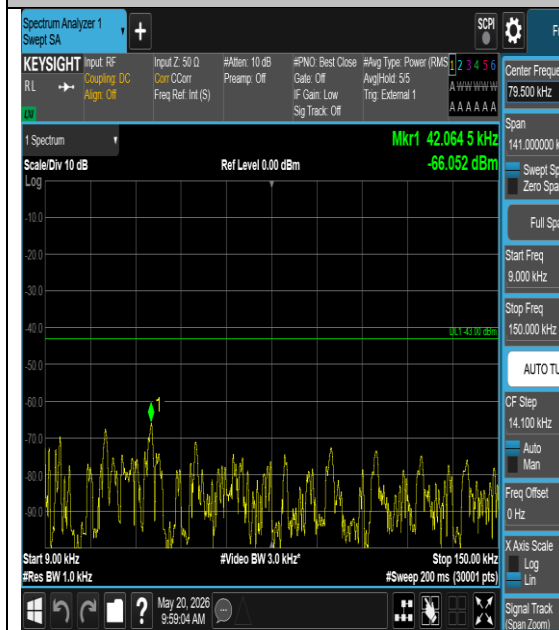




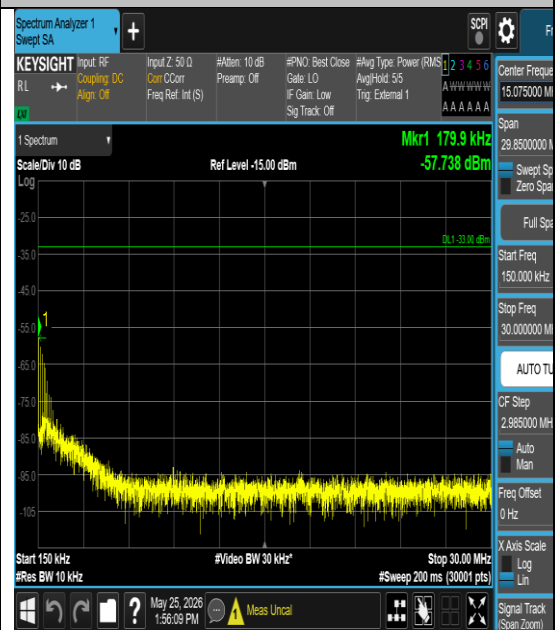
Band4-0.18-BPSK-19952-1@0-15kHz-30-1000-PASS



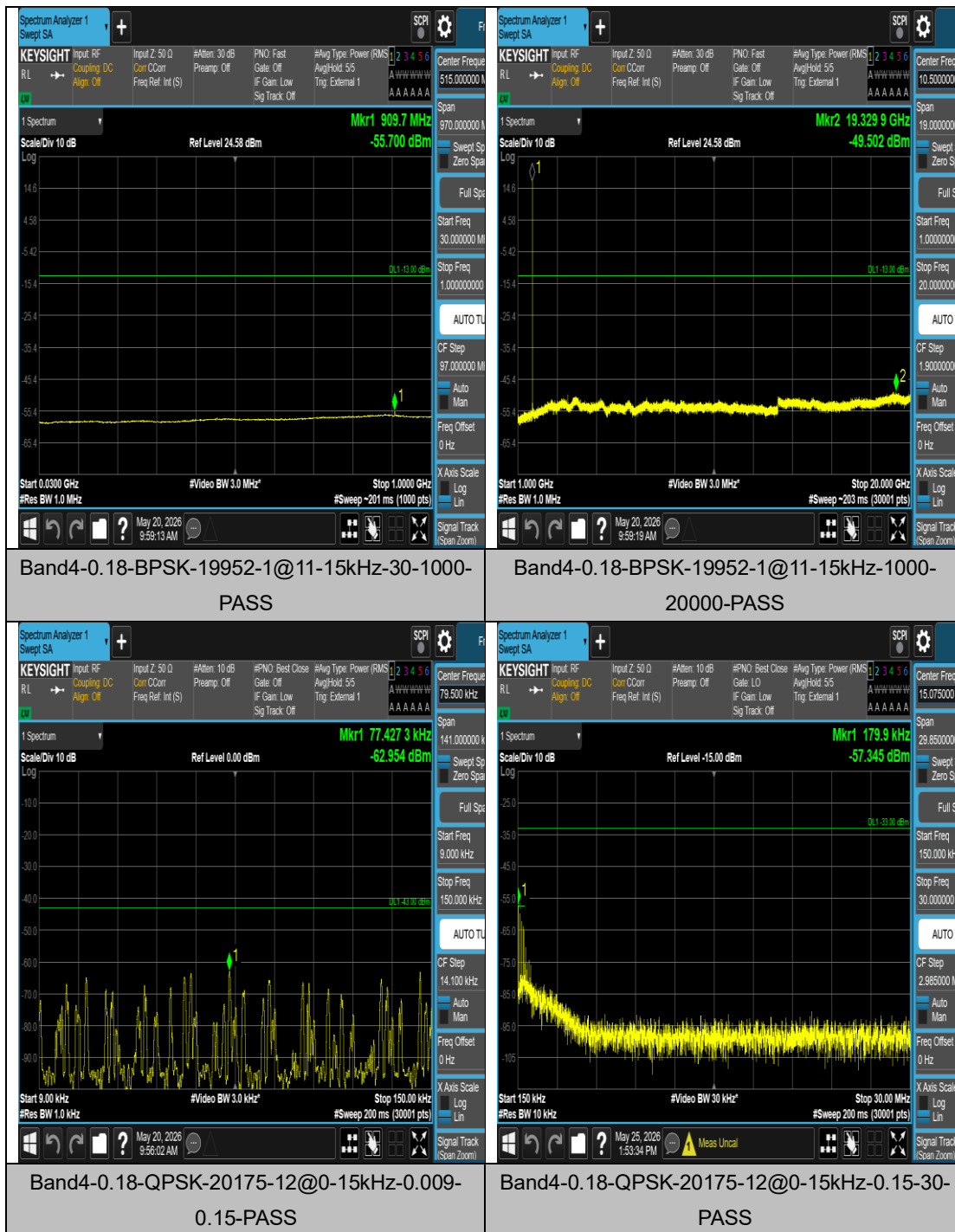
Band4-0.18-BPSK-19952-1@0-15kHz-1000-20000-PASS

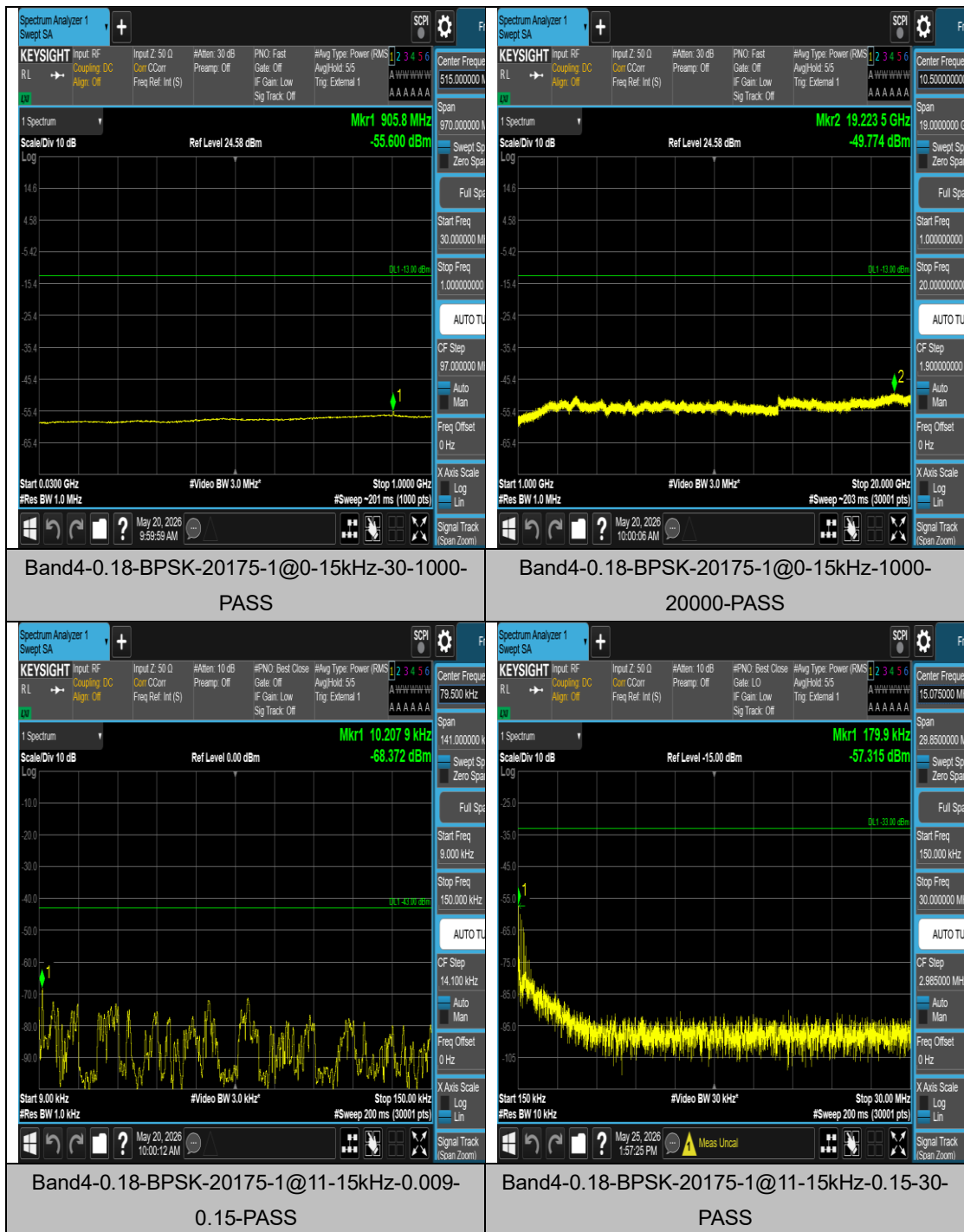


Band4-0.18-BPSK-19952-1@11-15kHz-0.009-0.15-PASS



Band4-0.18-BPSK-19952-1@11-15kHz-0.15-30-PASS

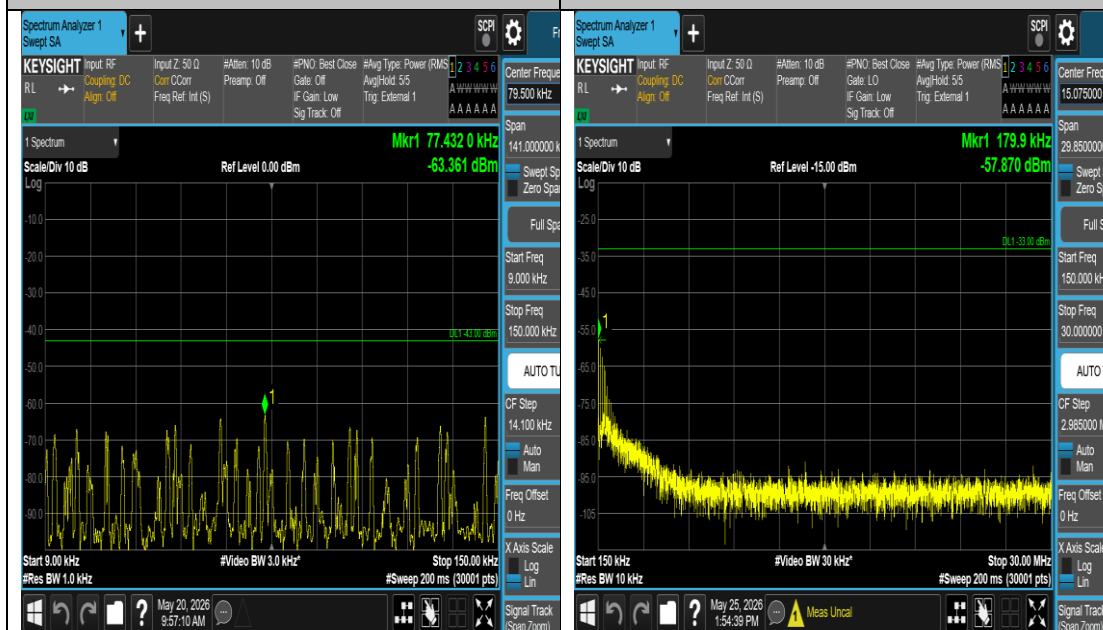






Band4-0.18-BPSK-20175-1@11-15kHz-30-1000-PASS

Band4-0.18-BPSK-20175-1@11-15kHz-1000-20000-PASS

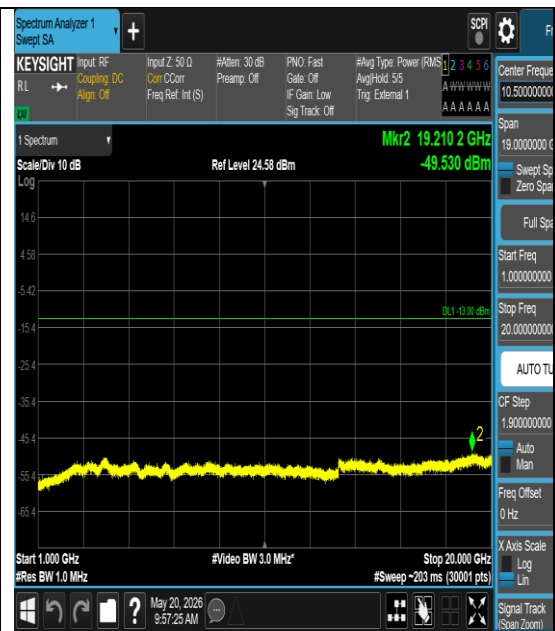


Band4-0.18-QPSK-20398-12@0-15kHz-0.009-0.15-PASS

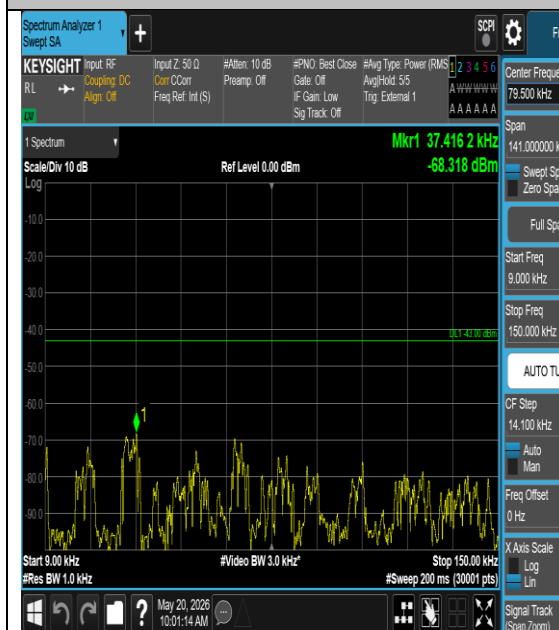
Band4-0.18-QPSK-20398-12@0-15kHz-0.15-30-PASS



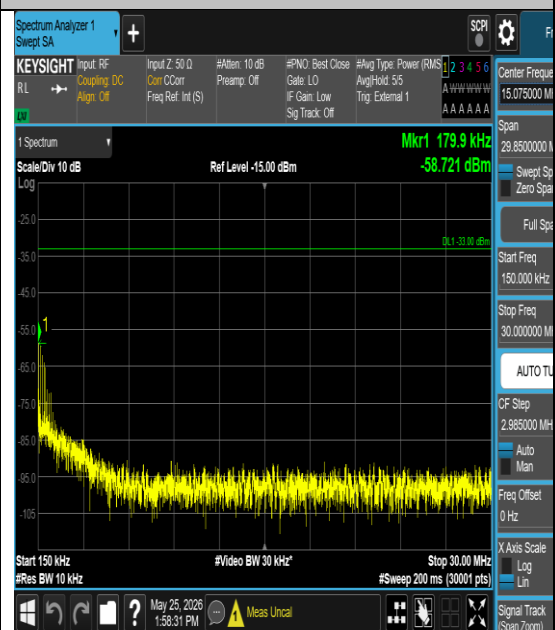
Band4-0.18-QPSK-20398-12@0-15kHz-30-1000-PASS



Band4-0.18-QPSK-20398-12@0-15kHz-1000-20000-PASS



Band4-0.18-BPSK-20398-1@0-15kHz-0.009-0.15-PASS

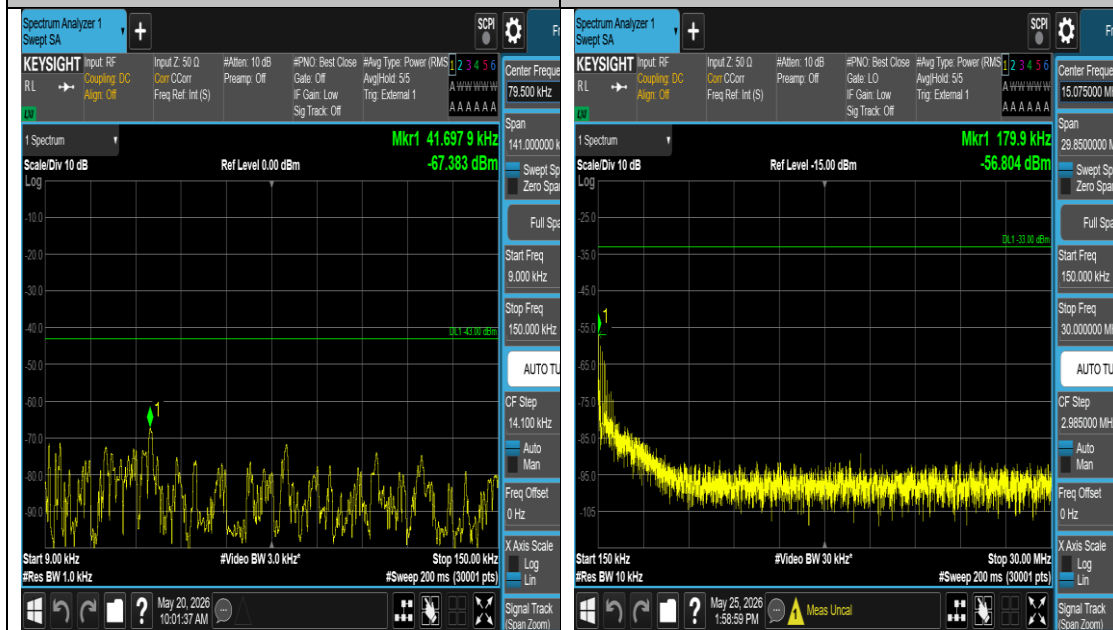


Band4-0.18-BPSK-20398-1@0-15kHz-0.15-30-PASS



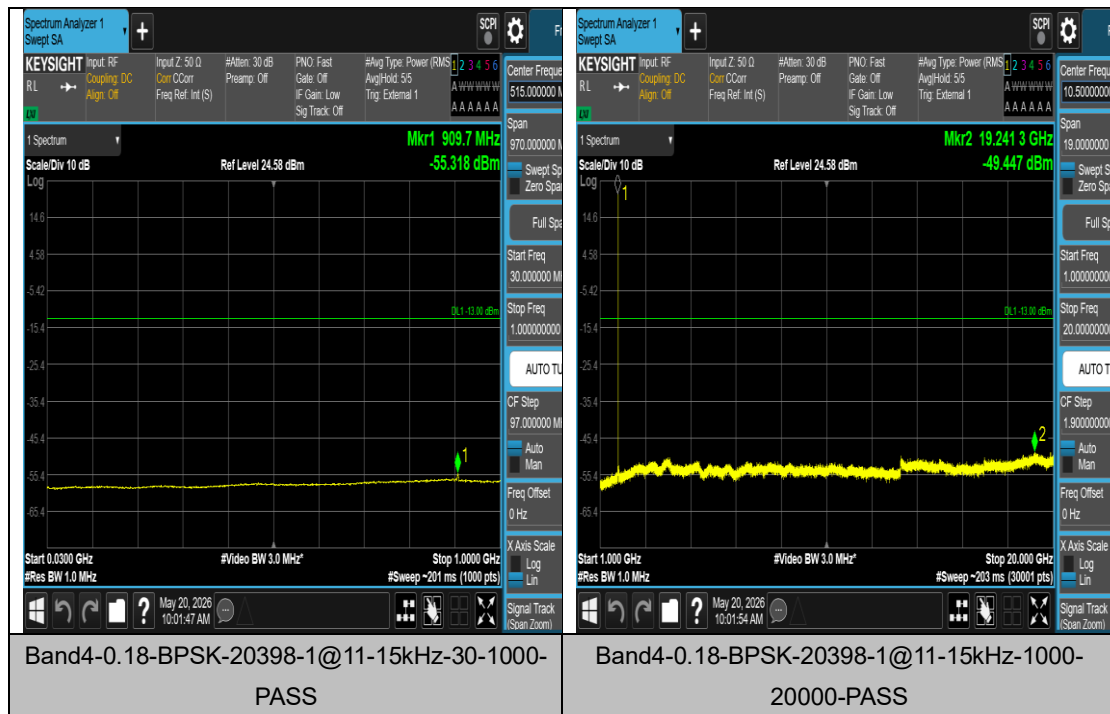
Band4-0.18-BPSK-20398-1@0-15kHz-30-1000-
PASS

Band4-0.18-BPSK-20398-1@0-15kHz-1000-
20000-PASS



Band4-0.18-BPSK-20398-1@11-15kHz-0.009-
0.15-PASS

Band4-0.18-BPSK-20398-1@11-15kHz-0.15-30-
PASS



Appendix F: Frequency Stability for NB1

Test Result

Voltage												
Band	OpMode	SCS	Bandwidth	Modulation	Channel	Tones	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band 4	Stand-Alone	3.75 kHz	0.18	QPSK	20175	1@0	VL	NT	-2.10	-0.001212	±2.5	PASS
Band 4	Stand-Alone	3.75 kHz	0.18	QPSK	20175	1@0	VN	NT	1.20	0.000693	±2.5	PASS
Band 4	Stand-Alone	3.75 kHz	0.18	QPSK	20175	1@0	VH	NT	-2.60	-0.001501	±2.5	PASS
Band 4	Stand-Alone	3.75 kHz	0.18	QPSK	20175	1@47	VL	NT	-2.30	-0.001328	±2.5	PASS
Band 4	Stand-Alone	3.75 kHz	0.18	QPSK	20175	1@47	VN	NT	-1.50	-0.000866	±2.5	PASS
Band 4	Stand-Alone	3.75 kHz	0.18	QPSK	20175	1@47	VH	NT	-3.40	-0.001962	±2.5	PASS
Band 4	Stand-Alone	15k Hz	0.18	QPSK	20175	1@0	VL	NT	2.50	0.001443	±2.5	PASS
Band 4	Stand-Alone	15k Hz	0.18	QPSK	20175	1@0	VN	NT	0.20	0.000115	±2.5	PASS
Band 4	Stand-Alone	15k Hz	0.18	QPSK	20175	1@0	VH	NT	1.10	0.000635	±2.5	PASS

Band 4	Stand-Alone	15k Hz	0.18	QPSK	20175	1@11	VL	NT	2.80	0.001616	±2.5	PASS
Band 4	Stand-Alone	15k Hz	0.18	QPSK	20175	1@11	VN	NT	2.40	0.001385	±2.5	PASS
Band 4	Stand-Alone	15k Hz	0.18	QPSK	20175	1@11	VH	NT	1.20	0.000693	±2.5	PASS

Temperature												
Band	OpMode	Bandwidth	Modulation	Channel	Tones	SCS	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band 4	Stand-Alone	3.75k Hz	0.18	QPSK	20175	1@0	NV	-30	-3.20	-0.001847	±2.5	PASS
Band 4	Stand-Alone	3.75k Hz	0.18	QPSK	20175	1@0	NV	-20	-3.60	-0.002078	±2.5	PASS
Band 4	Stand-Alone	3.75k Hz	0.18	QPSK	20175	1@0	NV	-10	-5.70	-0.003290	±2.5	PASS
Band 4	Stand-Alone	3.75k Hz	0.18	QPSK	20175	1@0	NV	0	-2.50	-0.001443	±2.5	PASS
Band 4	Stand-Alone	3.75k Hz	0.18	QPSK	20175	1@0	NV	10	-2.50	-0.001443	±2.5	PASS
Band 4	Stand-Alone	3.75k Hz	0.18	QPSK	20175	1@0	NV	20	-3.50	-0.002020	±2.5	PASS
Band 4	Stand-Alone	3.75k Hz	0.18	QPSK	20175	1@0	NV	30	-3.50	-0.002	±2.5	PASS

	Alone									020		
Band4	Standard-Alone	3.75k Hz	0.18	QPSK	20175	1@0	NV	40	-3.50	-0.002020	±2.5	PASS
Band4	Standard-Alone	3.75k Hz	0.18	QPSK	20175	1@0	NV	50	-3.50	-0.002020	±2.5	PASS
Band4	Standard-Alone	3.75k Hz	0.18	QPSK	20175	1@47	NV	-30	-2.80	-0.001616	±2.5	PASS
Band4	Standard-Alone	3.75k Hz	0.18	QPSK	20175	1@47	NV	-20	-3.60	-0.002078	±2.5	PASS
Band4	Standard-Alone	3.75k Hz	0.18	QPSK	20175	1@47	NV	-10	-4.20	-0.002424	±2.5	PASS
Band4	Standard-Alone	3.75k Hz	0.18	QPSK	20175	1@47	NV	0	-4.00	-0.002309	±2.5	PASS
Band4	Standard-Alone	3.75k Hz	0.18	QPSK	20175	1@47	NV	10	-3.90	-0.002251	±2.5	PASS
Band4	Standard-Alone	3.75k Hz	0.18	QPSK	20175	1@47	NV	20	-0.30	-0.000173	±2.5	PASS
Band4	Standard-Alone	3.75k Hz	0.18	QPSK	20175	1@47	NV	30	-0.50	-0.000289	±2.5	PASS
Band4	Standard-Alone	3.75k Hz	0.18	QPSK	20175	1@47	NV	40	-0.20	-0.000115	±2.5	PASS
Band	Standard-Alone	3.75k Hz	0.18	QPSK	20175	1@47	NV	50	-0.20	-	±2.5	PASS

d4	d- Alone	Hz		K	75	47				0.000 115	5	S
Band4	Standard- Alone	15kHz	0.18	QPS K	201 75	1@ 0	NV	-30	1.70	0.000 981	±2. 5	PAS S
Band4	Standard- Alone	15kHz	0.18	QPS K	201 75	1@ 0	NV	-20	0.70	0.000 404	±2. 5	PAS S
Band4	Standard- Alone	15kHz	0.18	QPS K	201 75	1@ 0	NV	-10	2.60	0.001 501	±2. 5	PAS S
Band4	Standard- Alone	15kHz	0.18	QPS K	201 75	1@ 0	NV	0	0.80	0.000 462	±2. 5	PAS S
Band4	Standard- Alone	15kHz	0.18	QPS K	201 75	1@ 0	NV	10	1.20	0.000 693	±2. 5	PAS S
Band4	Standard- Alone	15kHz	0.18	QPS K	201 75	1@ 0	NV	20	-0.40	- 0.000 231	±2. 5	PAS S
Band4	Standard- Alone	15kHz	0.18	QPS K	201 75	1@ 0	NV	30	-0.10	- 0.000 058	±2. 5	PAS S
Band4	Standard- Alone	15kHz	0.18	QPS K	201 75	1@ 0	NV	40	-0.80	- 0.000 462	±2. 5	PAS S
Band4	Standard- Alone	15kHz	0.18	QPS K	201 75	1@ 0	NV	50	0.50	0.000 289	±2. 5	PAS S
Band4	Standard- Alone	15kHz	0.18	QPS K	201 75	1@ 11	NV	-30	3.00	0.001 732	±2. 5	PAS S

Band 4	Standard Alone	15kHz	0.18	QPSK	20175	1@11	NV	-20	0.90	0.000519	±2.5	PASS
Band 4	Standard Alone	15kHz	0.18	QPSK	20175	1@11	NV	-10	-0.70	-0.000404	±2.5	PASS
Band 4	Standard Alone	15kHz	0.18	QPSK	20175	1@11	NV	0	2.00	0.001154	±2.5	PASS
Band 4	Standard Alone	15kHz	0.18	QPSK	20175	1@11	NV	10	0.30	0.000173	±2.5	PASS
Band 4	Standard Alone	15kHz	0.18	QPSK	20175	1@11	NV	20	3.20	0.001847	±2.5	PASS
Band 4	Standard Alone	15kHz	0.18	QPSK	20175	1@11	NV	30	-0.40	-0.000231	±2.5	PASS
Band 4	Standard Alone	15kHz	0.18	QPSK	20175	1@11	NV	40	5.80	0.003348	±2.5	PASS
Band 4	Standard Alone	15kHz	0.18	QPSK	20175	1@11	NV	50	2.00	0.001154	±2.5	PASS