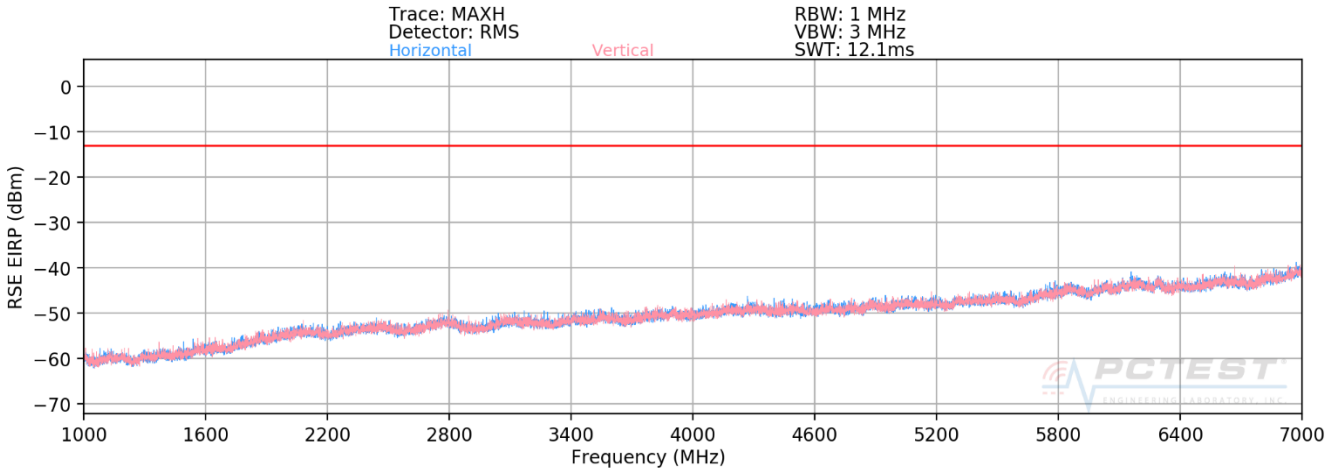
Band 71



Plot 7-366. Radiated Spurious Plot above 1GHz (Band 71)

OPERATING FREQUENCY:	668.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	10.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1336.00	H	100	205	-68.70	3.81	-64.89	-51.9
2004.00	H	100	178	-60.86	3.03	-57.83	-44.8
2672.00	H	100	166	-65.65	4.74	-60.91	-47.9
3340.00	H	-	-	-69.91	6.42	-63.49	-50.5
4008.00	H	-	-	-70.81	7.59	-63.22	-50.2
4676.00	H	-	-	-69.68	8.36	-61.32	-48.3

Table 7-14. Radiated Spurious Data (Band 71 – Low Channel)

OPERATING FREQUENCY:	680.50	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	10.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1361.00	H	100	332	-69.92	3.62	-66.31	-53.3
2041.50	H	100	174	-58.52	2.97	-55.54	-42.5
2722.00	H	100	165	-65.23	4.80	-60.43	-47.4
3402.50	H	-	-	-69.20	6.55	-62.65	-49.6
4083.00	H	-	-	-70.32	7.69	-62.63	-49.6
4763.50	H	100	350	-68.61	8.40	-60.21	-47.2
5444.00	H	-	-	-68.55	9.07	-59.48	-46.5
6124.50	H	-	-	-67.30	9.58	-57.72	-44.7
6805.00	H	-	-	-68.44	9.44	-59.00	-46.0

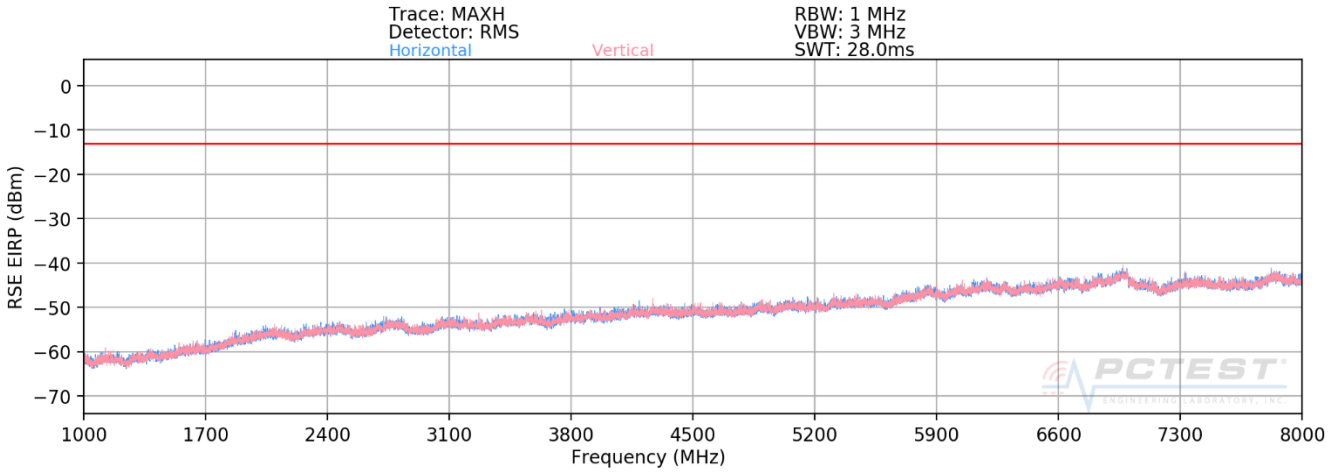
Table 7-15. Radiated Spurious Data (Band 71 – Mid Channel)

OPERATING FREQUENCY:	693.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	10.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1386.00	H	100	141	-65.42	3.26	-62.16	-49.2
2079.00	H	100	178	-62.47	3.02	-59.44	-46.4
2772.00	H	100	163	-64.72	5.11	-59.61	-46.6
3465.00	H	-	-	-69.55	6.72	-62.83	-49.8
4158.00	H	-	-	-69.37	7.81	-61.56	-48.6
4851.00	H	-	-	-69.81	8.47	-61.33	-48.3

Table 7-16. Radiated Spurious Data (Band 71 – High Channel)

Band 12/17



Plot 7-367. Radiated Spurious Plot above 1GHz (Band 12/17)

OPERATING FREQUENCY:	704.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	10.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1408.00	H	-	-	-71.98	3.56	-68.42	-55.4
2112.00	H	-	-	-67.72	3.13	-64.59	-51.6
2816.00	H	-	-	-68.56	5.22	-63.34	-50.3

Table 7-17. Radiated Spurious Data (Band 12/17 – Low Channel)

OPERATING FREQUENCY:	707.50	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	10.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1415.00	H	59	1	-71.87	3.65	-68.22	-55.2
2122.50	H	7	132	-65.30	3.22	-62.08	-49.1
2830.00	H	15	150	-66.49	5.27	-61.22	-48.2
3537.50	H	-	-	-69.94	6.73	-63.21	-50.2
4245.00	H	-	-	-70.44	7.94	-62.51	-49.5
4952.50	H	-	-	-70.50	8.67	-61.82	-48.8

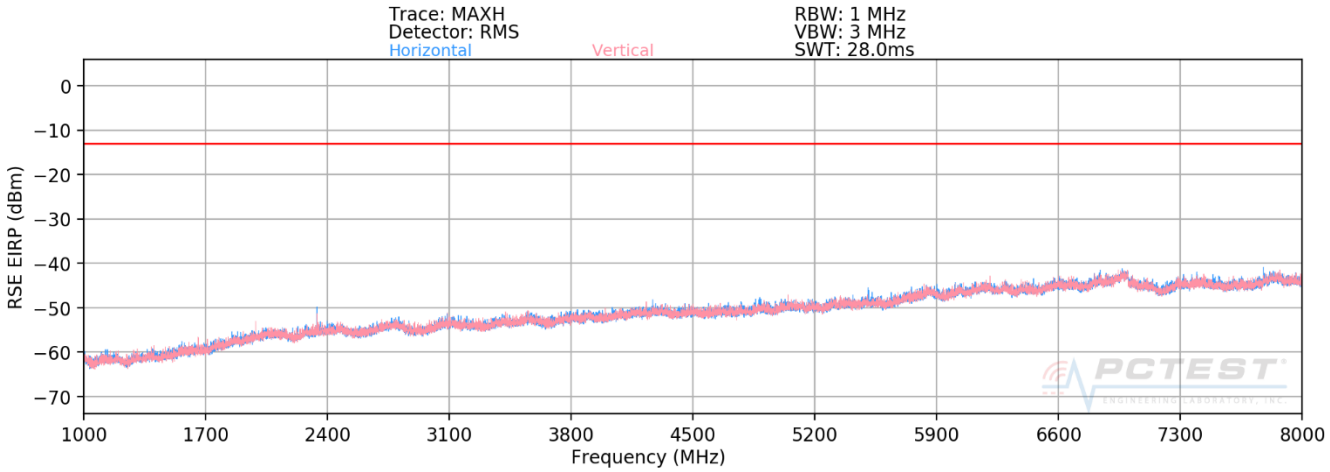
Table 7-18. Radiated Spurious Data (Band 12/17 – Mid Channel)

OPERATING FREQUENCY:	711.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	10.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1422.00	H	334	344	-69.16	3.73	-65.43	-52.4
2133.00	H	362	134	-65.42	3.29	-62.12	-49.1
2844.00	H	22	175	-64.67	5.40	-59.28	-46.3
3555.00	H	-	-	-69.69	6.72	-62.97	-50.0
4266.00	H	-	-	-69.68	7.93	-61.75	-48.8
4977.00	H	-	-	-70.35	8.64	-61.71	-48.7

Table 7-19. Radiated Spurious Data (Band 12/17 – High Channel)

Band 13



Plot 7-368. Radiated Spurious Plot above 1GHz (Band 13)

OPERATING FREQUENCY:	779.50	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	5.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
2338.50	H	100	10	-64.80	3.78	-61.01	-48.0
3118.00	H	100	175	-58.82	6.02	-52.80	-39.8
3897.50	H	100	180	-65.01	7.56	-57.45	-44.4
4677.00	H	-	-	-68.70	8.36	-60.33	-47.3
5456.50	H	100	205	-64.24	9.09	-55.16	-42.2
6236.00	H	-	-	-68.12	9.56	-58.55	-45.6
7015.50	H	100	135	-63.54	9.39	-54.16	-41.2
7795.00	H	-	-	-64.44	9.25	-55.19	-42.2
8574.50	H	-	-	-65.56	9.57	-55.99	-43.0

Table 7-20. Radiated Spurious Data (Band 13 – Low Channel)

OPERATING FREQUENCY:	784.50	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	5.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
2353.50	H	100	166	-63.18	3.88	-59.30	-46.3
3138.00	H	100	171	-58.99	6.07	-52.92	-39.9
3922.50	H	100	177	-67.09	7.58	-59.51	-46.5
4707.00	H	-	-	-69.06	8.43	-60.63	-47.6
5491.50	H	100	205	-65.00	9.17	-55.83	-42.8
6276.00	H	-	-	-67.46	9.53	-57.93	-44.9
7060.50	H	100	132	-63.64	9.36	-54.29	-41.3
7845.00	H	-	-	-64.58	9.23	-55.35	-42.3
8629.50	H	-	-	-64.87	9.53	-55.33	-42.3

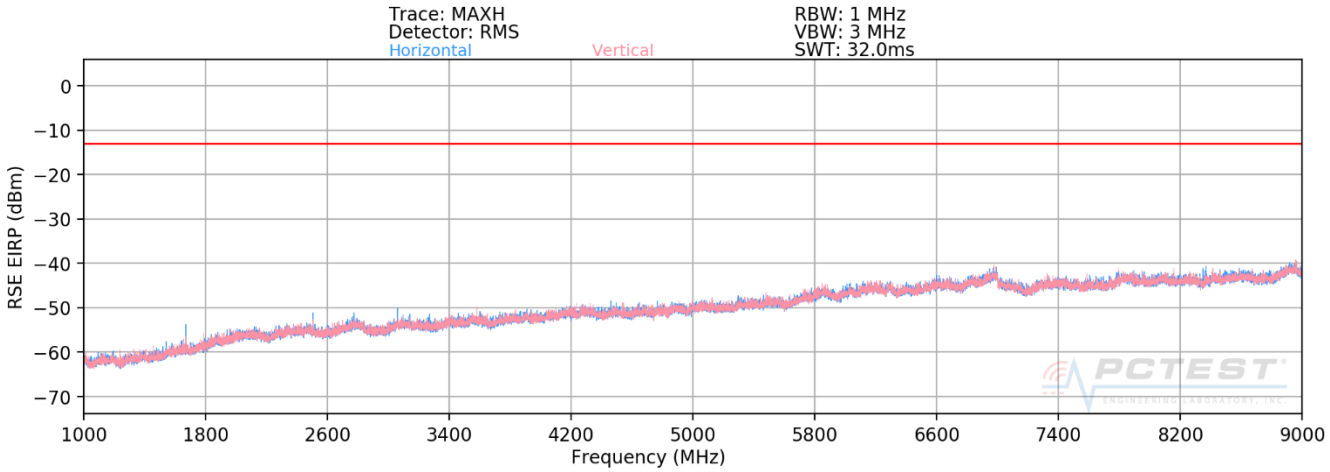
Table 7-21. Radiated Spurious Data (Band 13 – High Channel)

MODULATION SIGNAL:	QPSK	
BANDWIDTH:	5.00	MHz
DISTANCE:	3	meters
NARROWBAND EMISSION LIMIT:	-50	dBm
WIDEBAND EMISSION LIMIT:	-40	dBm/MHz

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1559.00	H	175	1	-67.48	3.00	-64.48	-24.5
1564.00	H	163	265	-66.62	2.93	-63.69	-23.7
1569.00	H	181	351	-67.49	2.86	-64.63	-24.6

Table 7-22. Radiated Spurious Data (Band 13 – 1559-1610MHz Band)

Band 26/5



Plot 7-369. Radiated Spurious Plot above 1GHz (Band 26/5)

OPERATING FREQUENCY:	826.50	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	5.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1653.00	H	100	169	-67.63	4.22	-63.41	-50.4
2479.50	H	100	174	-58.58	4.06	-54.52	-41.5
3306.00	H	-	-	-69.29	6.43	-62.86	-49.9
4132.50	H	-	-	-69.60	7.76	-61.84	-48.8
4959.00	H	-	-	-69.28	8.66	-60.61	-47.6

Table 7-23. Radiated Spurious Data (Band 26/5 – Low Channel)

OPERATING FREQUENCY:	836.50	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	5.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1673.00	H	100	178	-63.97	4.17	-59.80	-46.8
2509.50	H	100	174	-58.27	4.09	-54.18	-41.2
3346.00	H	-	-	-69.18	6.42	-62.76	-49.8
4182.50	H	-	-	-69.15	7.84	-61.31	-48.3
5019.00	H	-	-	-69.11	8.66	-60.45	-47.4
5855.50	H	-	-	-67.93	9.42	-58.51	-45.5

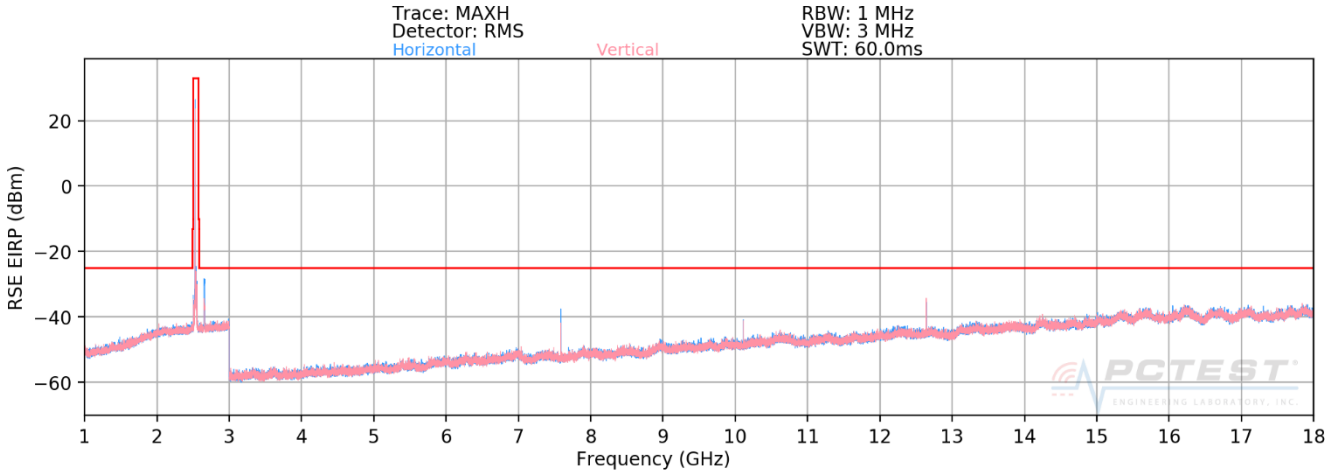
Table 7-24. Radiated Spurious Data (Band 26/5 – Mid Channel)

OPERATING FREQUENCY:	846.50	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	5.0	MHz
DISTANCE:	3	meters
LIMIT:	-13	dBm

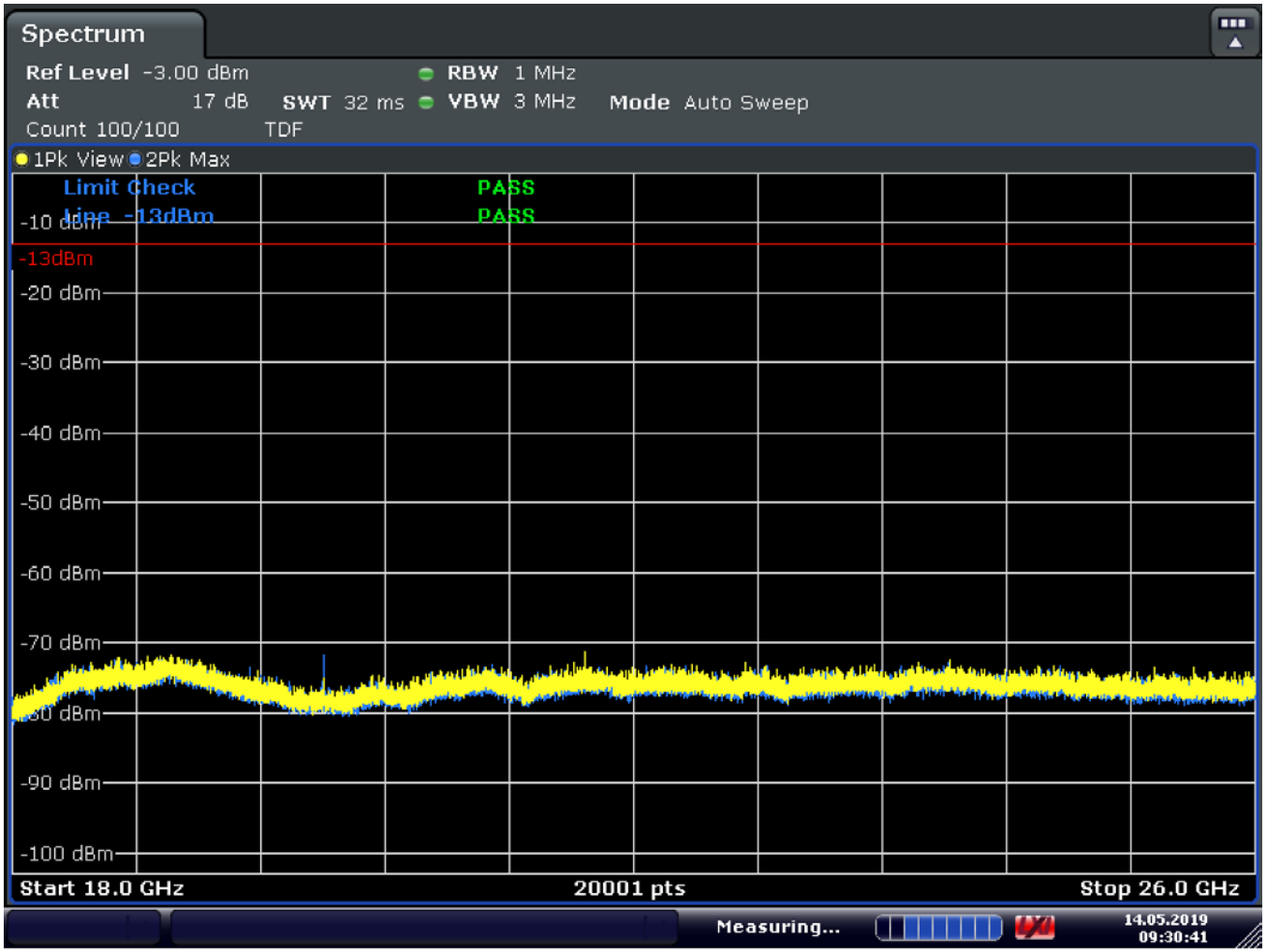
Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
1693.00	H	100	169	-54.43	4.18	-50.25	-37.3
2539.50	H	100	169	-58.59	4.27	-54.32	-41.3
3386.00	H	-	-	-69.07	6.51	-62.56	-49.6
4232.50	H	-	-	-69.36	7.92	-61.44	-48.4
5079.00	H	-	-	-69.43	8.79	-60.64	-47.6
5925.50	H	-	-	-68.08	9.47	-58.61	-45.6

Table 7-25. Radiated Spurious Data (Band 26/5 – High Channel)

Band 7



Plot 7-370. Radiated Spurious Plot 1GHz - 18GHz (Band 7)



Plot 7-371. Radiated Spurious Plot 18GHz – 26.5GHz (Band 7)

OPERATING FREQUENCY:	2507.50	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	15.0	MHz
DISTANCE:	3	meters
LIMIT:	-25	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5015.00	V	100	172	-64.62	8.65	-55.97	-31.0
7522.50	V	100	242	-55.09	9.26	-45.83	-20.8
10030.00	V	100	332	-45.87	9.42	-36.45	-11.5
12537.50	V	100	244	-40.28	9.19	-31.09	-6.1
15045.00	V	-	-	-55.81	8.62	-47.19	-22.2
17552.50	V	-	-	-52.12	8.19	-43.93	-18.9

Table 7-26. Radiated Spurious Data (Band 7 – Low Channel)

OPERATING FREQUENCY:	2535.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	15.0	MHz
DISTANCE:	3	meters
LIMIT:	-25	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5070.00	V	100	172	-65.69	8.78	-56.91	-31.9
7605.00	V	100	5	-56.98	9.23	-47.75	-22.7
10140.00	V	100	306	-51.81	9.44	-42.37	-17.4
12675.00	V	100	244	-45.88	9.18	-36.70	-11.7
15210.00	V	-	-	-55.04	8.48	-46.56	-21.6
17745.00	V	-	-	-52.17	8.14	-44.02	-19.0

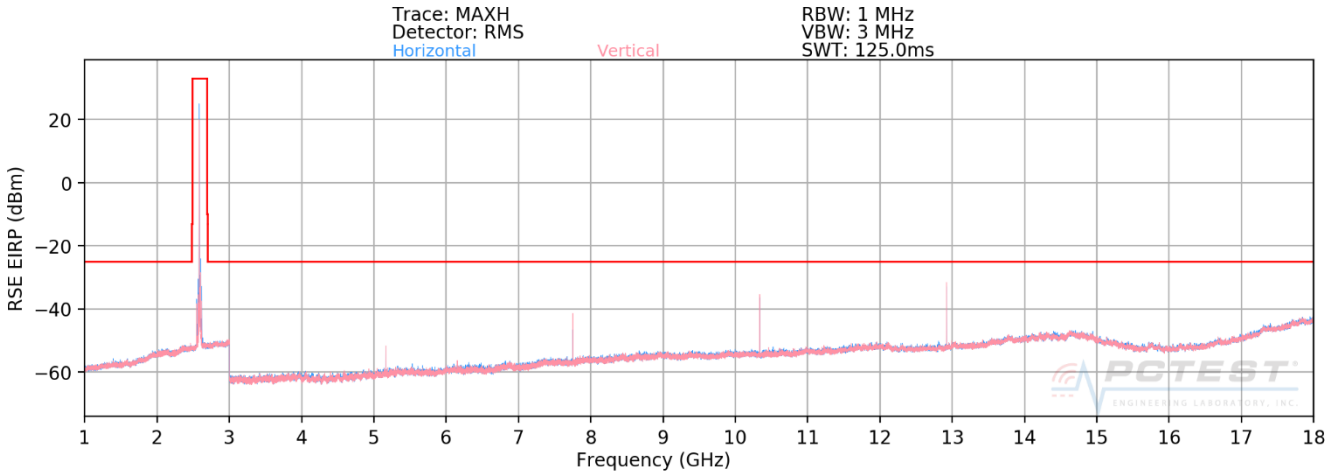
Table 7-27. Radiated Spurious Data (Band 7 – Mid Channel)

OPERATING FREQUENCY:	2562.50	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	15.0	MHz
DISTANCE:	3	meters
LIMIT:	-25	dBm

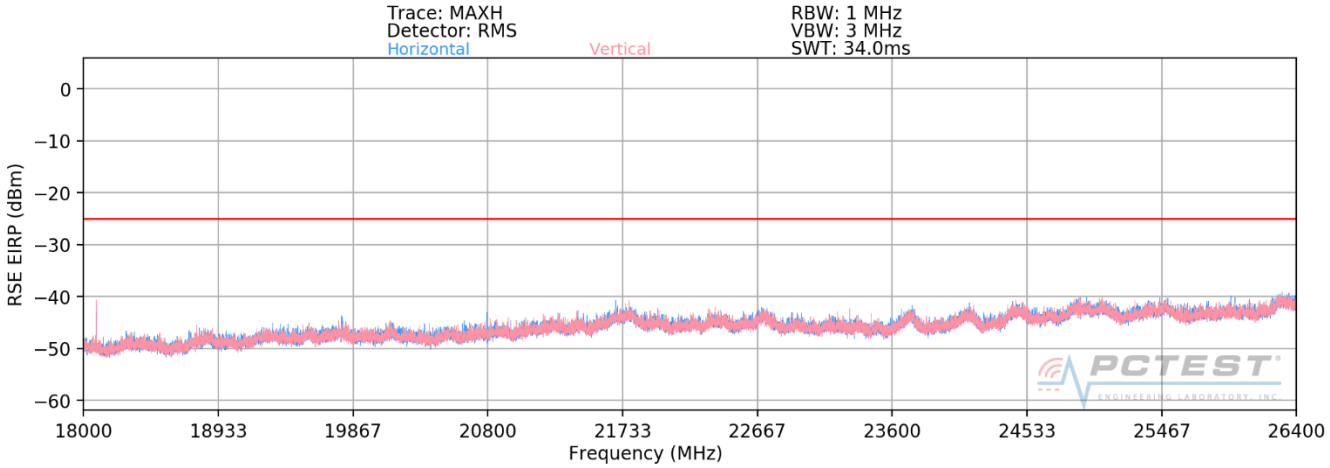
Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5125.00	V	100	175	-63.65	8.87	-54.78	-29.8
7687.50	V	100	297	-55.17	9.24	-45.93	-20.9
10250.00	V	100	312	-49.98	9.39	-40.59	-15.6
12812.50	V	100	135	-49.18	9.14	-40.04	-15.0
15375.00	V	-	-	-53.83	8.39	-45.44	-20.4
17937.50	V	-	-	-51.57	8.14	-43.43	-18.4

Table 7-28. Radiated Spurious Data (Band 7 – High Channel)

Band 41 PC2



Plot 7-372. Radiated Spurious Plot 1GHz - 18GHz (Band 41 PC2)



Plot 7-373. Radiated Spurious Plot 18GHz – 26.5GHz (Band 41 PC2)

OPERATING FREQUENCY:	2510.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-25	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5020.00	H	391	343	-64.37	8.78	-55.59	-30.6
7530.00	H	122	35	-54.05	9.31	-44.74	-19.7
10040.00	H	225	50	-45.63	9.78	-35.85	-10.8
12550.00	H	138	72	-39.89	8.80	-31.08	-6.1
15060.00	H	198	20	-54.68	8.89	-45.80	-20.8
17570.00	H	120	81	-53.39	7.78	-45.60	-20.6
20080.00	H	150	69	-50.52	11.97	-38.54	-13.5
22590.00	H	-	-	-50.19	11.51	-38.68	-13.7
25100.00	H	-	-	-48.61	12.09	-36.52	-11.5

Table 7-29. Radiated Spurious Data (Band 41 PC2 – Low Channel)

OPERATING FREQUENCY:	2593.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-25	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5186.00	H	165	315	-60.42	9.01	-51.41	-26.4
7779.00	H	118	60	-46.76	9.24	-37.52	-12.5
10372.00	H	206	349	-41.41	9.37	-32.04	-7.0
12965.00	H	216	67	-37.13	9.06	-28.07	-3.1
15558.00	H	129	15	-40.66	8.42	-32.24	-7.2
18151.00	H	236	4	-62.81	11.46	-51.35	-26.3
20744.00	H	150	22	-51.89	11.94	-39.95	-15.0
23337.00	H	-	-	-50.81	11.99	-38.82	-13.8
25930.00	H	-	-	-48.48	12.03	-36.45	-11.4

Table 7-30. Radiated Spurious Data (Band 41 PC2 – Mid Channel)

OPERATING FREQUENCY:	2680.00	MHz
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	20.0	MHz
DISTANCE:	3	meters
LIMIT:	-25	dBm

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Level at Antenna Terminals [dBm]	Substitute Antenna Gain [dBi]	Spurious Emission Level [dBm]	Margin [dB]
5360.00	H	325	46	-64.49	9.03	-55.46	-30.5
8040.00	H	165	62	-41.41	9.33	-32.08	-7.1
10720.00	H	337	343	-46.18	9.33	-36.85	-11.8
13400.00	H	139	10	-48.82	8.83	-39.99	-15.0
16080.00	H	147	337	-61.38	8.69	-52.69	-27.7
18760.00	H	-	-	-63.48	11.76	-51.71	-26.7
21440.00	H	150	117	-48.95	11.81	-37.14	-12.1
24120.00	H	-	-	-49.05	12.27	-36.78	-11.8
26800.00	H	-	-	-51.18	11.96	-39.22	-14.2

Table 7-31. Radiated Spurious Data (Band 41 PC2 – High Channel)

7.8 Frequency Stability / Temperature Variation

Test Overview and Limit

Frequency stability testing is performed in accordance with the guidelines of ANSI/TIA-603-E-2016. The frequency stability of the transmitter is measured by:

a.) **Temperature:** The temperature is varied from -30°C to +50°C in 10°C increments using an environmental chamber.

b.) **Primary Supply Voltage:** The primary supply voltage is varied from 85% to 115% of the nominal value for non hand-carried battery and AC powered equipment. For hand-carried, battery-powered equipment, primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacturer.

For Part 22, the frequency stability of the transmitter shall be maintained within ±0.00025% (±2.5 ppm) of the center frequency. For Part 24, Part 27, the frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

Test Procedure Used

ANSI/TIA-603-E-2016

Test Settings

1. The carrier frequency of the transmitter is measured at room temperature (20°C to provide a reference).
2. The equipment is turned on in a "standby" condition for fifteen minutes before applying power to the transmitter. Measurement of the carrier frequency of the transmitter is made within one minute after applying power to the transmitter.
3. Frequency measurements are made at 10°C intervals ranging from -30°C to +50°C. A period of at least one half-hour is provided to allow stabilization of the equipment at each temperature level.

Test Setup

The EUT was connected via an RF cable to a spectrum analyzer with the EUT placed inside an environmental chamber.

Test Notes

None

Band 71 Frequency Stability Measurements

OPERATING FREQUENCY:	680,500,000	Hz
CHANNEL:	133297	
REFERENCE VOLTAGE:	4.34	VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.34	- 30	680,499,906	-94	-0.0000138
100 %		- 20	680,500,123	123	0.0000181
100 %		- 10	680,499,949	-51	-0.0000075
100 %		0	680,500,222	222	0.0000326
100 %		+ 10	680,499,856	-144	-0.0000212
100 %		+ 20	680,499,750	-250	-0.0000367
100 %		+ 30	680,500,290	290	0.0000426
100 %		+ 40	680,499,924	-76	-0.0000112
100 %		+ 50	680,499,940	-60	-0.0000088
BATT. ENDPOINT	3.71	+ 20	680,500,069	69	0.0000101

Table 7-32. Frequency Stability Data (Band 71)

Note:

Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

Band 71 Frequency Stability Measurements

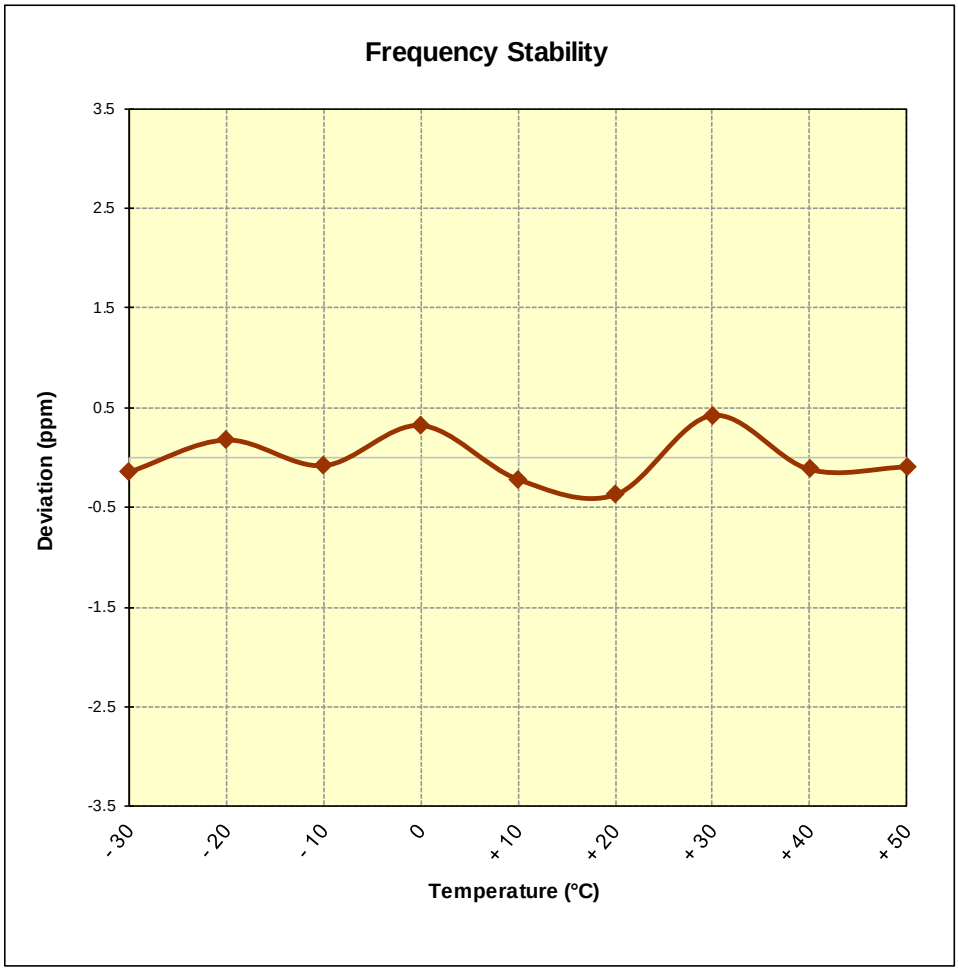


Figure 7-8. Frequency Stability Graph (Band 71)

Band 12/17 Frequency Stability Measurements

OPERATING FREQUENCY:	707,500,000	Hz
CHANNEL:	23790	
REFERENCE VOLTAGE:	4.34	VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.34	- 30	707,499,977	-23	-0.0000033
100 %		- 20	707,500,141	141	0.0000199
100 %		- 10	707,499,949	-51	-0.0000072
100 %		0	707,499,952	-48	-0.0000068
100 %		+ 10	707,499,907	-93	-0.0000131
100 %		+ 20	707,499,782	-218	-0.0000308
100 %		+ 30	707,499,669	-331	-0.0000468
100 %		+ 40	707,500,014	14	0.0000020
100 %		+ 50	707,499,979	-21	-0.0000030
BATT. ENDPOINT	3.71	+ 20	707,500,152	152	0.0000215

Table 7-33. Frequency Stability Data (Band 12/17)

Note:

Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

Band 12/17 Frequency Stability Measurements

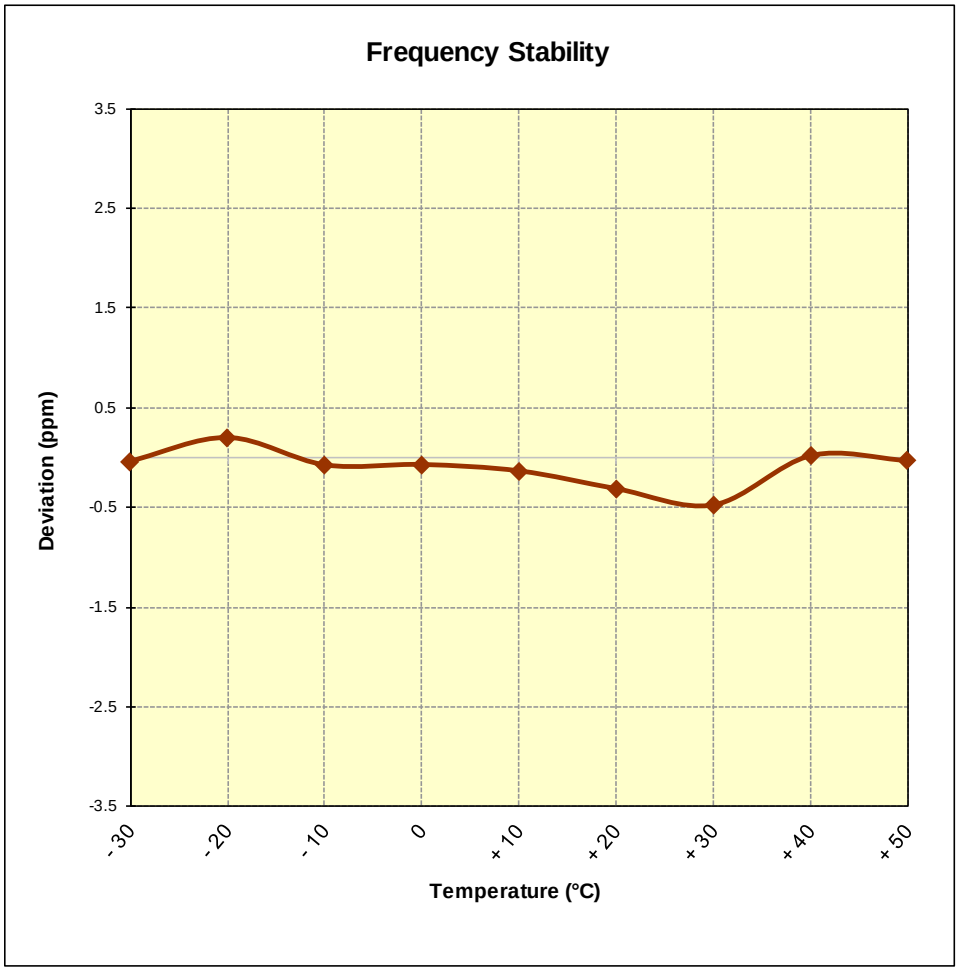


Figure 7-9. Frequency Stability Graph (Band 12/17)

Band 13 Frequency Stability Measurements

OPERATING FREQUENCY:	782,000,000	Hz
CHANNEL:	23230	
REFERENCE VOLTAGE:	4.34	VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.34	- 30	782,000,002	2	0.0000003
100 %		- 20	782,000,196	196	0.0000251
100 %		- 10	782,000,136	136	0.0000174
100 %		0	782,000,222	222	0.0000284
100 %		+ 10	782,000,030	30	0.0000038
100 %		+ 20	782,000,156	156	0.0000199
100 %		+ 30	782,000,192	192	0.0000246
100 %		+ 40	781,999,868	-132	-0.0000169
100 %		+ 50	781,999,775	-225	-0.0000288
BATT. ENDPOINT	3.71	+ 20	781,999,923	-77	-0.0000098

Table 7-34. Frequency Stability Data (Band 13)

Note:

Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

Band 13 Frequency Stability Measurements

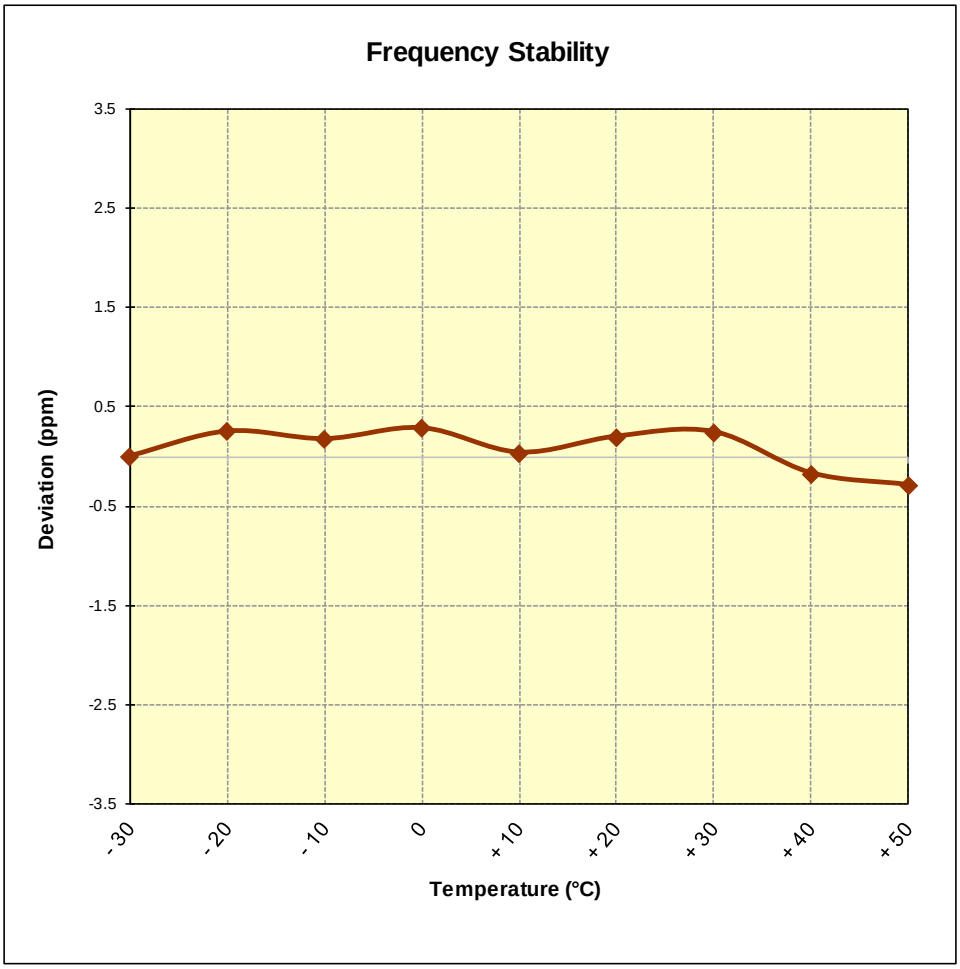


Figure 7-10. Frequency Stability Graph (Band 13)

Band 26/5 Frequency Stability Measurements

OPERATING FREQUENCY:	831,500,000	Hz
CHANNEL:	26865	
REFERENCE VOLTAGE:	4.34	VDC
DEVIATION LIMIT:	± 0.00025 % or 2.5 ppm	

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.34	- 30	831,500,001	1	0.0000001
100 %		- 20	831,499,876	-124	-0.0000149
100 %		- 10	831,500,382	382	0.0000459
100 %		0	831,500,102	102	0.0000123
100 %		+ 10	831,499,880	-120	-0.0000144
100 %		+ 20	831,500,241	241	0.0000290
100 %		+ 30	831,500,098	98	0.0000118
100 %		+ 40	831,500,258	258	0.0000310
100 %		+ 50	831,500,031	31	0.0000037
BATT. ENDPOINT	3.71	+ 20	831,500,225	225	0.0000271

Table 7-35. Frequency Stability Data (Band 26/5)

Band 26/5 Frequency Stability Measurements

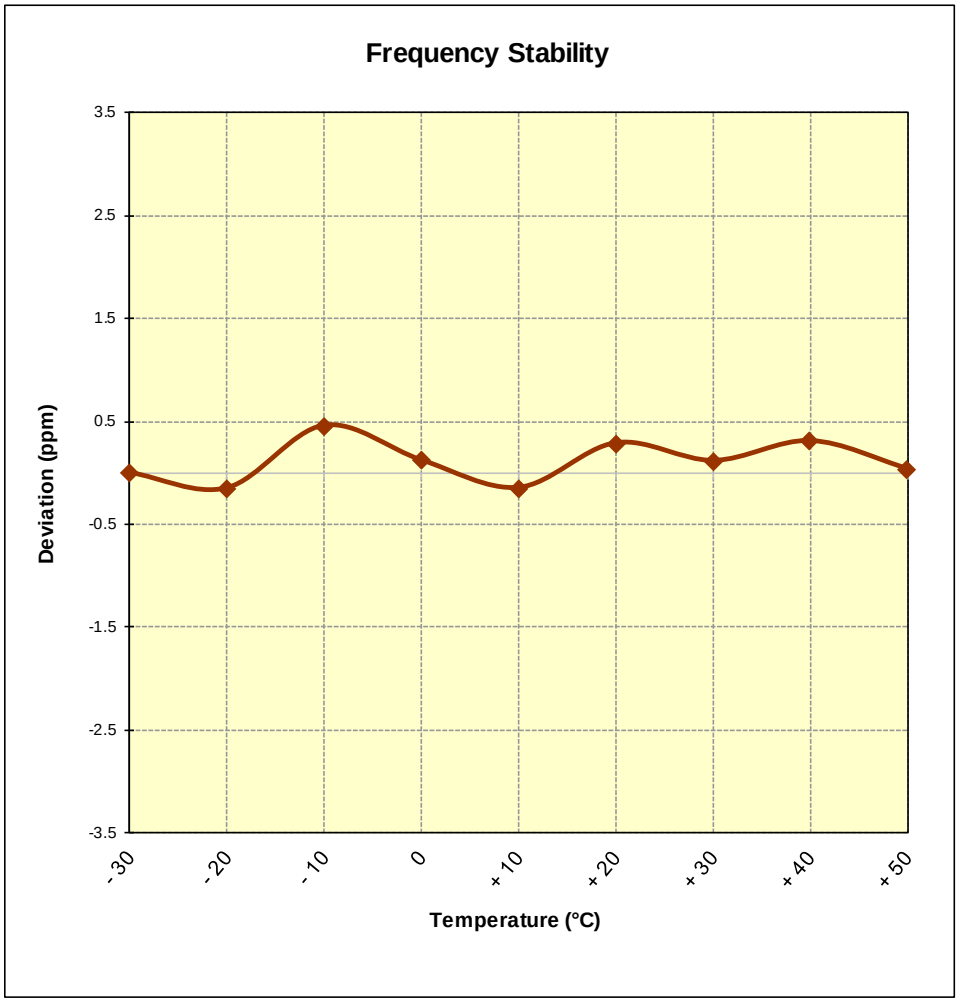


Figure 7-11. Frequency Stability Graph (Band 26/5)

Band 66/4 Frequency Stability Measurements

OPERATING FREQUENCY:	1,745,000,000	Hz
CHANNEL:	132322	
REFERENCE VOLTAGE:	4.34	VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.34	- 30	1,745,000,030	30	0.0000017
100 %		- 20	1,745,000,186	186	0.0000107
100 %		- 10	1,744,999,997	-3	-0.0000002
100 %		0	1,744,999,852	-148	-0.0000085
100 %		+ 10	1,744,999,824	-176	-0.0000101
100 %		+ 20	1,745,000,283	283	0.0000162
100 %		+ 30	1,744,999,886	-114	-0.0000065
100 %		+ 40	1,745,000,448	448	0.0000257
100 %		+ 50	1,744,999,822	-178	-0.0000102
BATT. ENDPOINT	3.71	+ 20	1,745,000,342	342	0.0000196

Table 7-36. Frequency Stability Data (Band 66/4)

Band 66/4 Frequency Stability Measurements

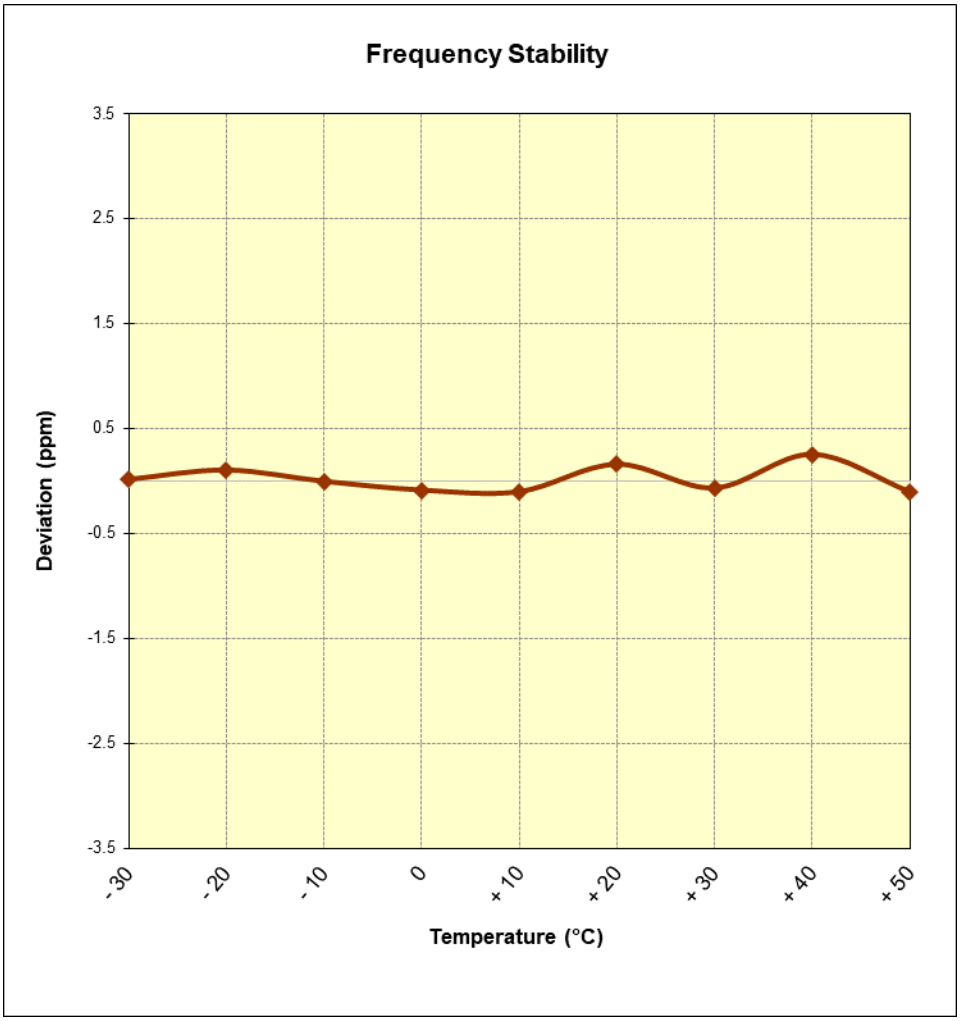


Figure 7-12. Frequency Stability Graph (Band 66/4)

Band 25/2 Frequency Stability Measurements

OPERATING FREQUENCY:	1,882,500,000	Hz
CHANNEL:	26365	
REFERENCE VOLTAGE:	4.34	VDC

VOLTAGE (%)	POWER (VDC)	TEMP (^{0}C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.34	- 30	1,882,499,891	-109	-0.0000058
100 %		- 20	1,882,499,866	-134	-0.0000071
100 %		- 10	1,882,499,794	-206	-0.0000109
100 %		0	1,882,500,071	71	0.0000038
100 %		+ 10	1,882,500,074	74	0.0000039
100 %		+ 20	1,882,500,103	103	0.0000055
100 %		+ 30	1,882,500,143	143	0.0000076
100 %		+ 40	1,882,499,865	-135	-0.0000072
100 %		+ 50	1,882,500,313	313	0.0000166
BATT. ENDPOINT	3.71	+ 20	1,882,500,334	334	0.0000177

Table 7-37. Frequency Stability Data (Band 25/2)

Band 25/2 Frequency Stability Measurements

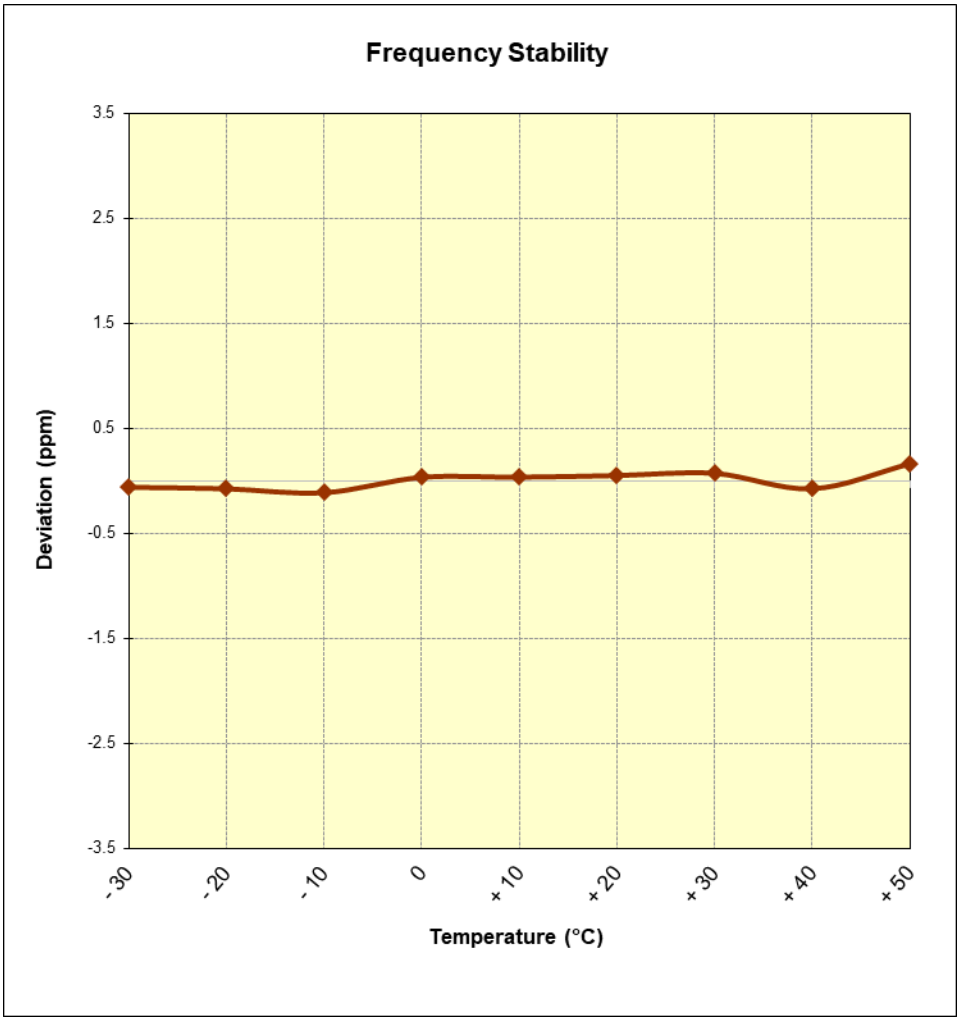


Figure 7-13. Frequency Stability Graph (Band 25/2)

Band 7 Frequency Stability Measurements

OPERATING FREQUENCY:	2,535,000,000	Hz
CHANNEL:	21100	
REFERENCE VOLTAGE:	4.34	VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.34	- 30	2,534,999,954	-46	-0.0000018
100 %		- 20	2,534,999,986	-14	-0.0000006
100 %		- 10	2,534,999,774	-226	-0.0000089
100 %		0	2,535,000,082	82	0.0000032
100 %		+ 10	2,535,000,033	33	0.0000013
100 %		+ 20	2,534,999,975	-25	-0.0000010
100 %		+ 30	2,535,000,062	62	0.0000024
100 %		+ 40	2,534,999,999	-1	0.0000000
100 %		+ 50	2,534,999,873	-127	-0.0000050
BATT. ENDPOINT	3.71	+ 20	2,535,000,123	123	0.0000049

Table 7-38. Frequency Stability Data (Band 7)

Note:

Based on the results of the frequency stability test at the center channel the frequency deviation results measured are very small. As such it is determined that the channels at the band edge would remain in-band when the maximum measured frequency deviation noted during the frequency stability tests is applied. Therefore the device is determined to remain operating in band over the temperature and voltage range as tested.

Band 7 Frequency Stability Measurements

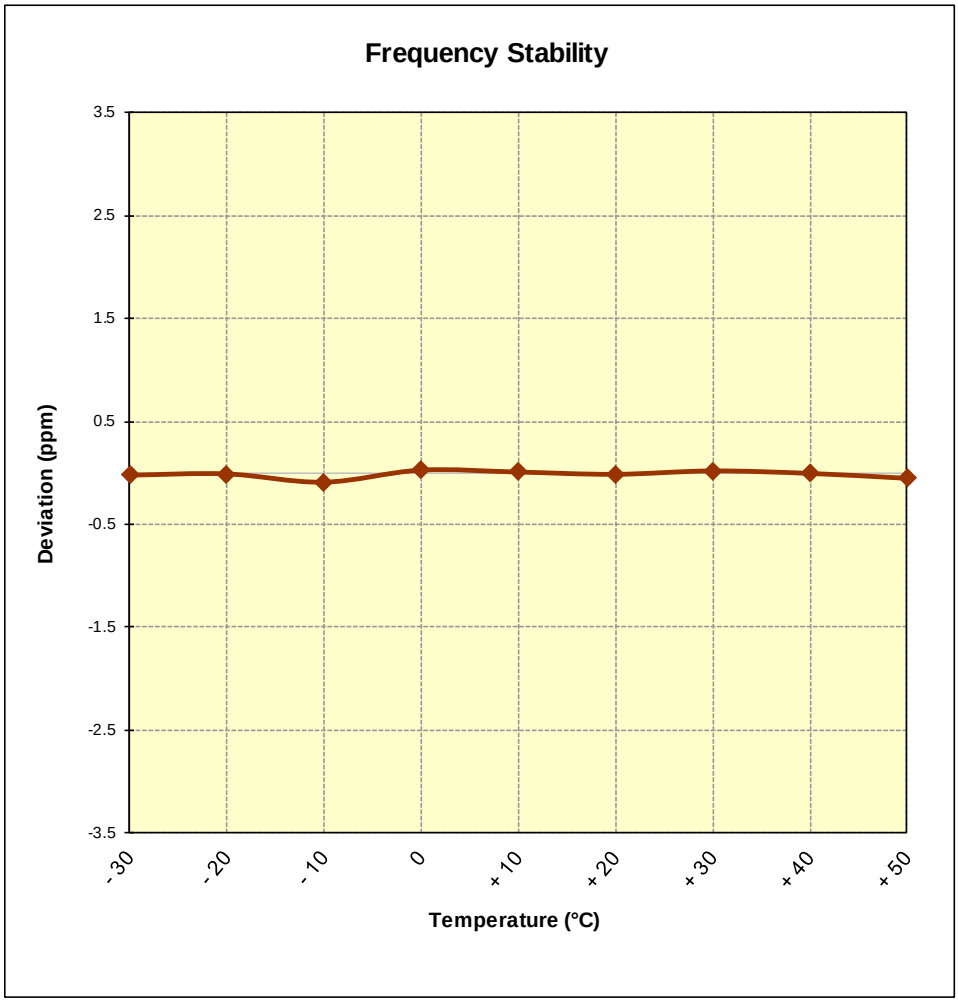


Figure 7-14. Frequency Stability Graph (Band 7)

Band 41 Frequency Stability Measurements

OPERATING FREQUENCY:	2,593,000,000	Hz
CHANNEL:	40620	
REFERENCE VOLTAGE:	4.34	VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.34	- 30	2,593,000,125	125	0.0000048
100 %		- 20	2,593,000,006	6	0.0000002
100 %		- 10	2,592,999,890	-110	-0.0000042
100 %		0	2,593,000,068	68	0.0000026
100 %		+ 10	2,593,000,053	53	0.0000020
100 %		+ 20	2,592,999,910	-90	-0.0000035
100 %		+ 30	2,593,000,152	152	0.0000059
100 %		+ 40	2,592,999,818	-182	-0.0000070
100 %		+ 50	2,593,000,275	275	0.0000106
BATT. ENDPOINT	3.71	+ 20	2,593,000,336	336	0.0000130

Table 7-39. Frequency Stability Data (Band 41)

Band 41 Frequency Stability Measurements

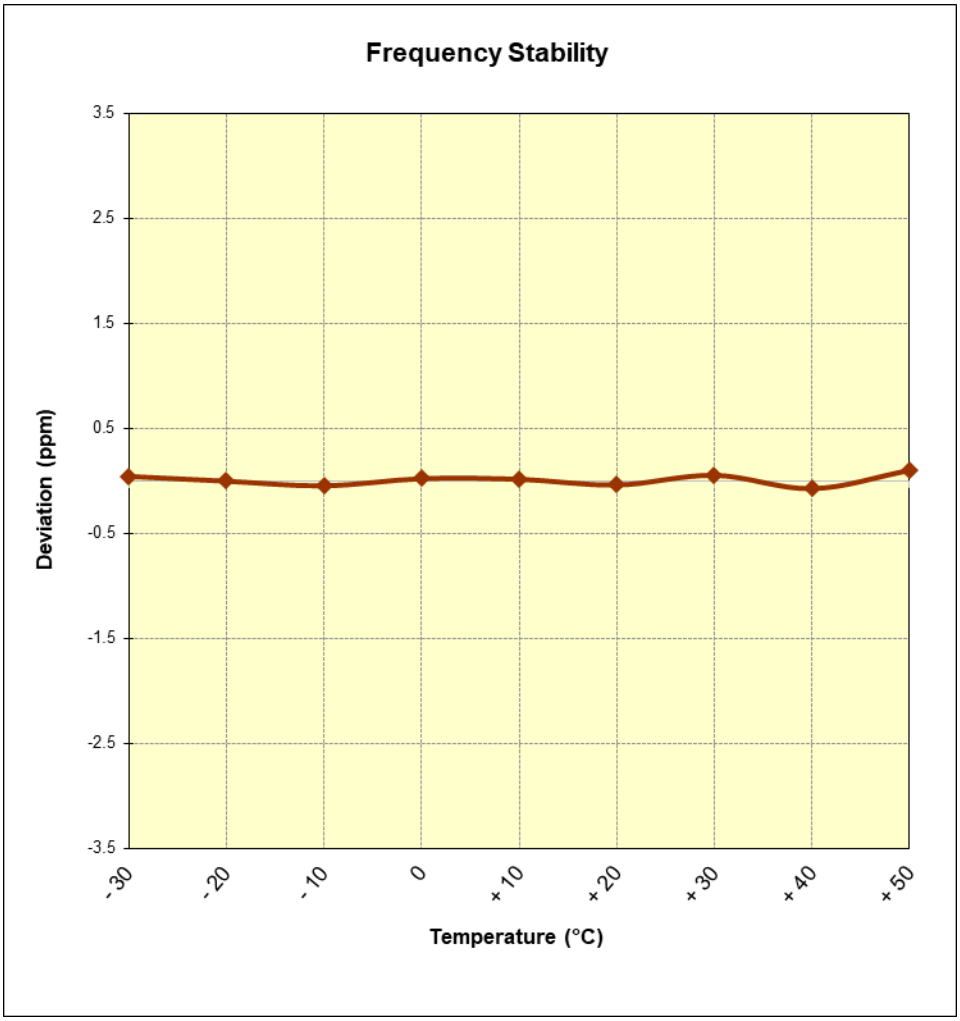


Figure 7-15. Frequency Stability Graph (Band 41)

8.0 CONCLUSION

The data collected relate only to the item(s) tested and show that the **Samsung Portable Handset** **FCC ID: A3LSMA205U** complies with all the requirements of Part 22, 24, & 27 of the FCC Rules for LTE operation only.