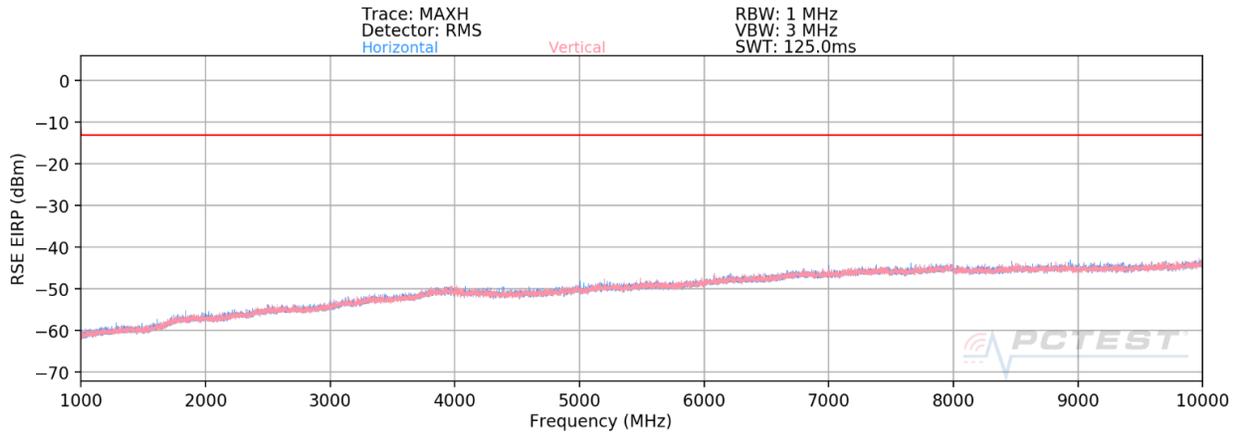
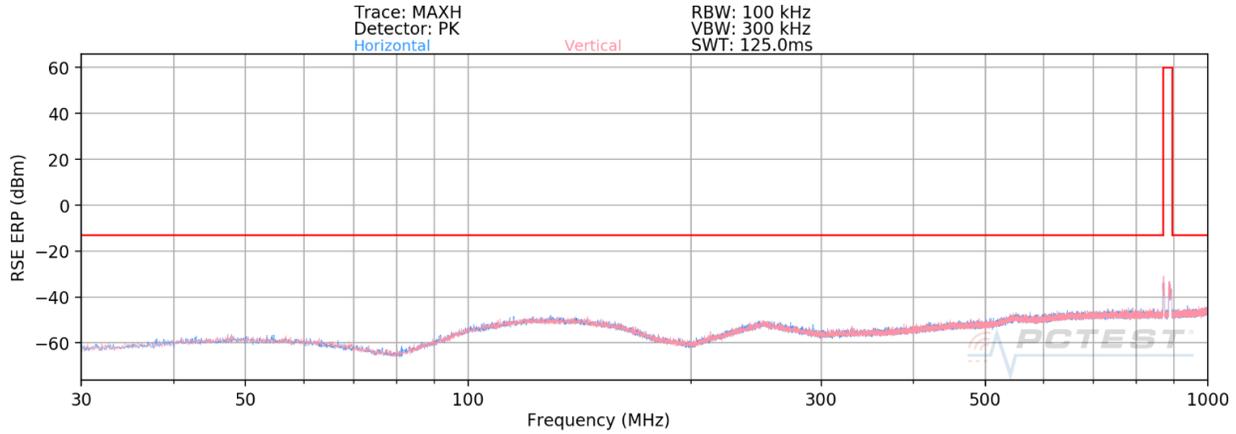


**Plot 7-913. Radiated spurious emission_30 MHz to 1000 MHz
(DSS_B5_10M+10M_2C_Mid Channel)**

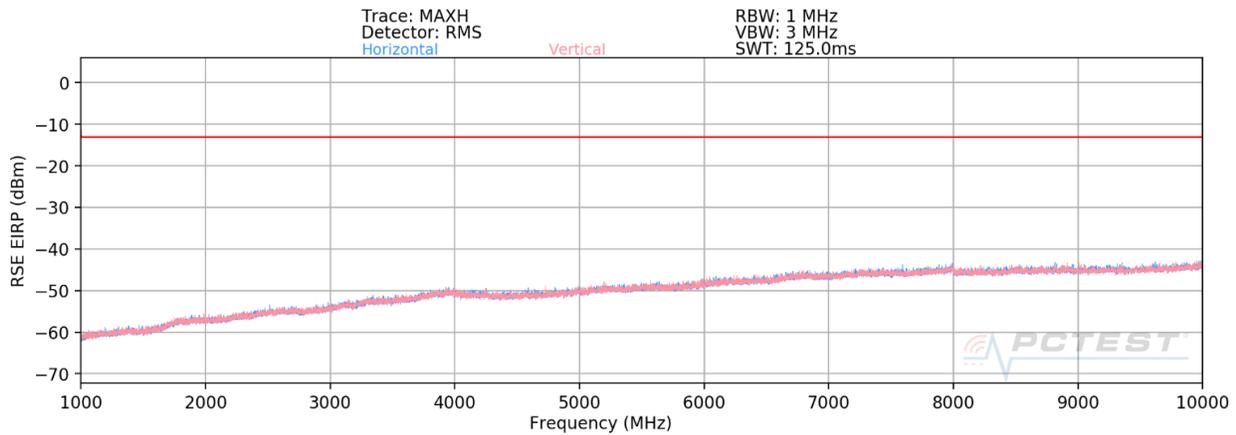


**Plot 7-914. Radiated spurious emission_1 GHz to 10 GHz
(DSS_B5_10M+10M_2C)_Mid Channel)**

FCC ID: A3LRF4440D-13A		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 8K21070501R2-R1	Test Dates: 07/09/2021 - 08/25/2021	EUT Type: RRU (RF4440d)		Page 360 of 367

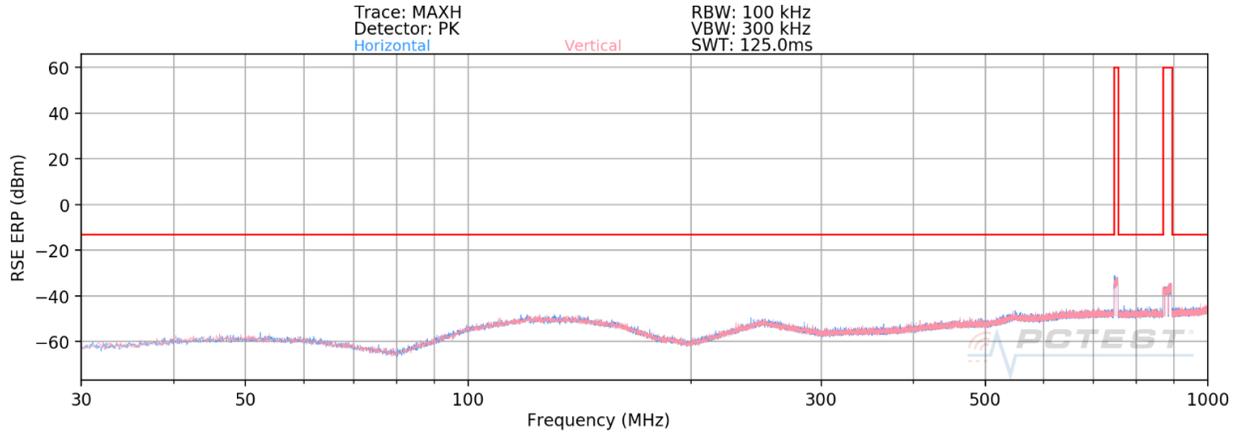


**Plot 7-915. Radiated spurious emission_30 MHz to 1000 MHz
(DSS_B5_10M+10M+5M_3C_Mid Channel)**

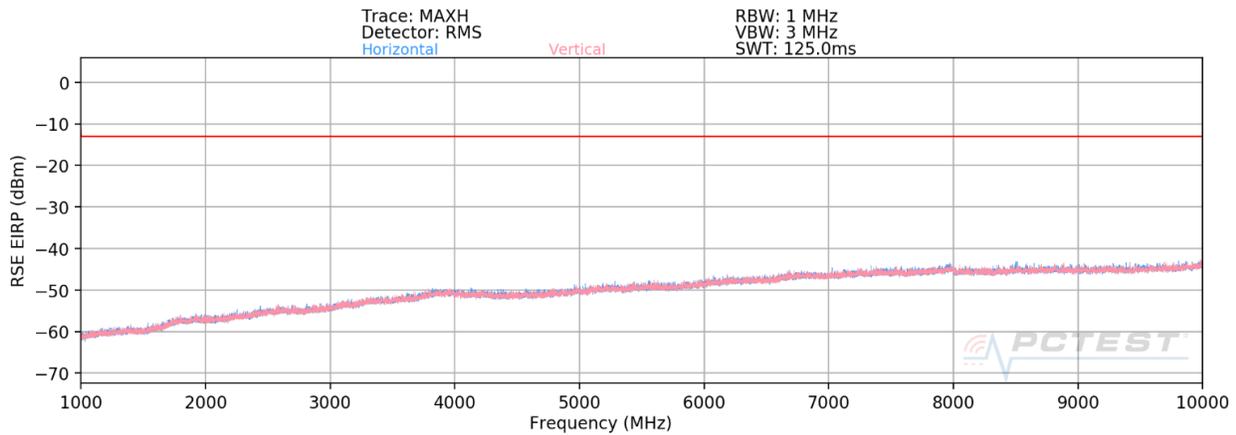


**Plot 7-916. Radiated spurious emission_1 GHz to 10 GHz
(DSS_B5_10M+10M+5M_3C_Mid Channel)**

FCC ID: A3LRF4440D-13A		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 8K21070501R2-R1	Test Dates: 07/09/2021 - 08/25/2021	EUT Type: RRU (RF4440d)		Page 361 of 367



**Plot 7-917. Radiated spurious emission_30 MHz to 1000 MHz
(Multi Band_DSS_B5_5M+10M+10M_3C + B13_5M+5M_2C_Low Channel)**



**Plot 7-918. Radiated spurious emission_1 GHz to 10 GHz
(Multi Band_DSS_B5_5M+10M+10M_3C + B13_5M+5M_2C_Low Channel)**

FCC ID: A3LRF4440D-13A		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 8K21070501R2-R1	Test Dates: 07/09/2021 - 08/25/2021	EUT Type: RRU (RF4440d)	Page 362 of 367	

Bandwidth (MHz):	B5_5MHz + B13_5MHz
Frequency (MHz):	1 st Carrier : B5_891.5 2 st Carrier : B13_748.5
Modulation Signal:	QPSK

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Heigh [cm]	Turntable azimuth [degree]	Analyzer Level [dBm]	AFCL [dBm]	Field Stength [dB μ V/m]	RSE EIRP [dBm]	Limit [dBm]	Margin [dB]
975.16	H	155	10	-82.04	25.89	50.85	-44.41	-13.00	-31.41
976.85	V	250	355	-82.06	25.90	50.84	-44.42	-13.00	-31.42
9516.74	H	150	5	-81.04	21.08	47.03	-48.22	-13.00	-35.22
9508.45	V	180	45	-81.06	20.95	46.90	-48.36	-13.00	-35.36

**Table 7-247. Radiated transmitter Emission Table
(Multi Band_B5_5M_1C_Low + B13_5M_1C_High)**

FCC ID: A3LRF4440D-13A		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 8K21070501R2-R1	Test Dates: 07/09/2021 - 08/25/2021	EUT Type: RRU (RF4440d)		Page 363 of 367

7.8 Frequency Stability / Temperature Variation §2.1055

Test Overview and Limit

Frequency stability testing is performed in accordance with the guidelines of ANSI C63.26-2015. 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.

Test Procedure Used

ANSI C63.26-2015 – Section 5.6

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.

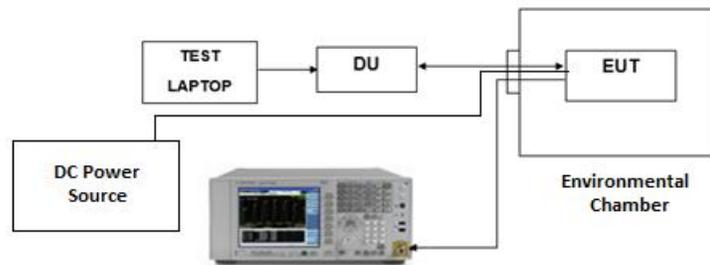


Figure 7-9. Test Instrument & Measurement Setup

Test Notes

None

FCC ID: A3LRF4440D-13A		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 8K21070501R2-R1	Test Dates: 07/09/2021 - 08/25/2021	EUT Type: RRU (RF4440d)		Page 364 of 367

Band 5 Frequency Stability Measurements

OPERATING FREQUENCY: 881,500,000 Hz
 REFERENCE VOLTAGE: -48.00 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	-48	+ 20 (Ref)	881,500,017.001	0.00	0.0000000
100 %		- 30	881,500,011.384	-5.62	-0.0000006
100 %		- 20	881,500,013.728	-3.27	-0.0000004
100 %		- 10	881,500,017.711	0.71	0.0000001
100 %		0	881,500,010.893	-6.11	-0.0000007
100 %		+ 10	881,500,014.474	-2.53	-0.0000003
100 %		+ 20	881,500,017.001	0.00	0.0000000
100 %		+ 30	881,500,007.788	-9.21	-0.0000010
100 %		+ 40	881,500,014.113	-2.89	-0.0000003
100 %		+ 50	881,500,011.237	-5.76	-0.0000007
85 %		-40.80	+ 20	881,500,007.952	-9.05
115 %	-55.20	+ 20	881,500,016.687	-0.31	0.0000000

Table 7-248. Frequency Stability Data

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.

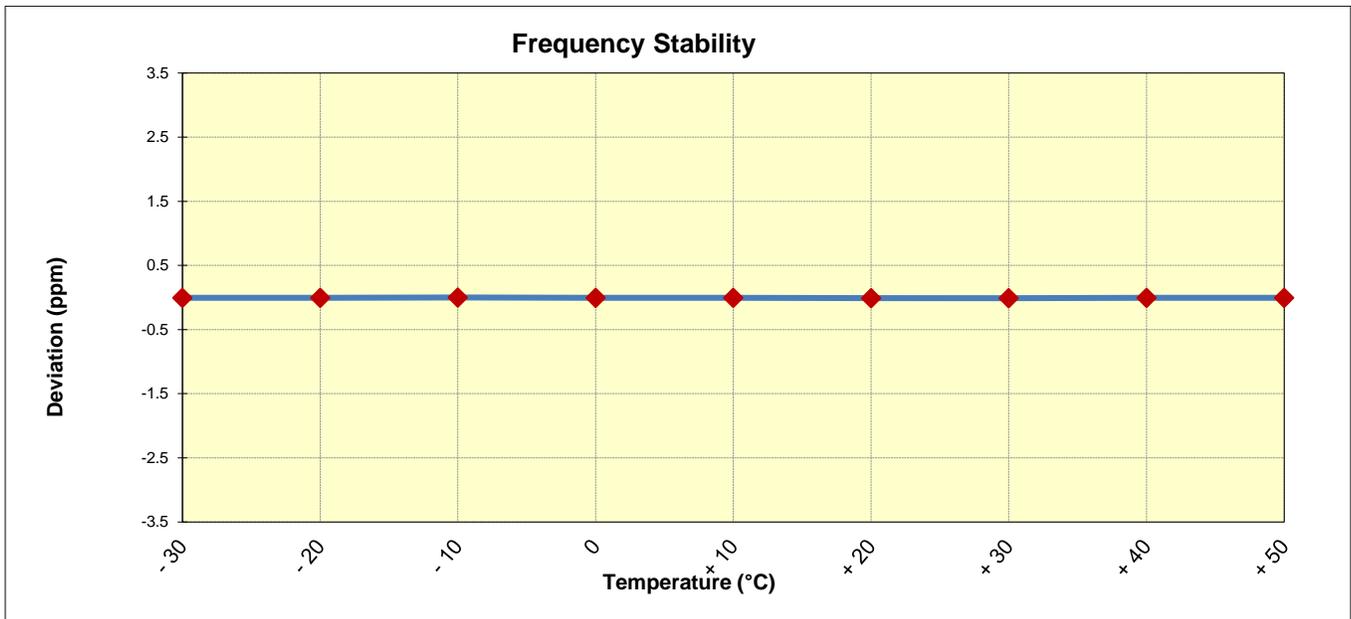


Figure 7-10. Frequency Stability Graph – Band 5_5 MHz 1C Mid Channel

FCC ID: A3LRF4440D-13A		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 8K21070501R2-R1	Test Dates: 07/09/2021 - 08/25/2021	EUT Type: RRU (RF4440d)	Page 365 of 367	

Band 13 Frequency Stability Measurements

OPERATING FREQUENCY: 751,000,000 Hz
 REFERENCE VOLTAGE: -48.00 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	-48	+ 20 (Ref)	751,000,014.128	0.00	0.0000000
100 %		- 30	751,000,012.965	-1.16	-0.0000002
100 %		- 20	751,000,007.919	-6.21	-0.0000008
100 %		- 10	751,000,010.742	-3.39	-0.0000005
100 %		0	751,000,013.582	-0.55	-0.0000001
100 %		+ 10	751,000,014.606	0.48	0.0000001
100 %		+ 20	751,000,014.128	0.00	0.0000000
100 %		+ 30	751,000,015.007	0.88	0.0000001
100 %		+ 40	751,000,009.695	-4.43	-0.0000006
100 %		+ 50	751,000,012.405	-1.72	-0.0000002
85 %	-40.80	+ 20	751,000,014.335	0.21	0.0000000
115 %	-55.20	+ 20	751,000,007.105	-7.02	-0.0000009

Table 7-249. Frequency Stability Data

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.

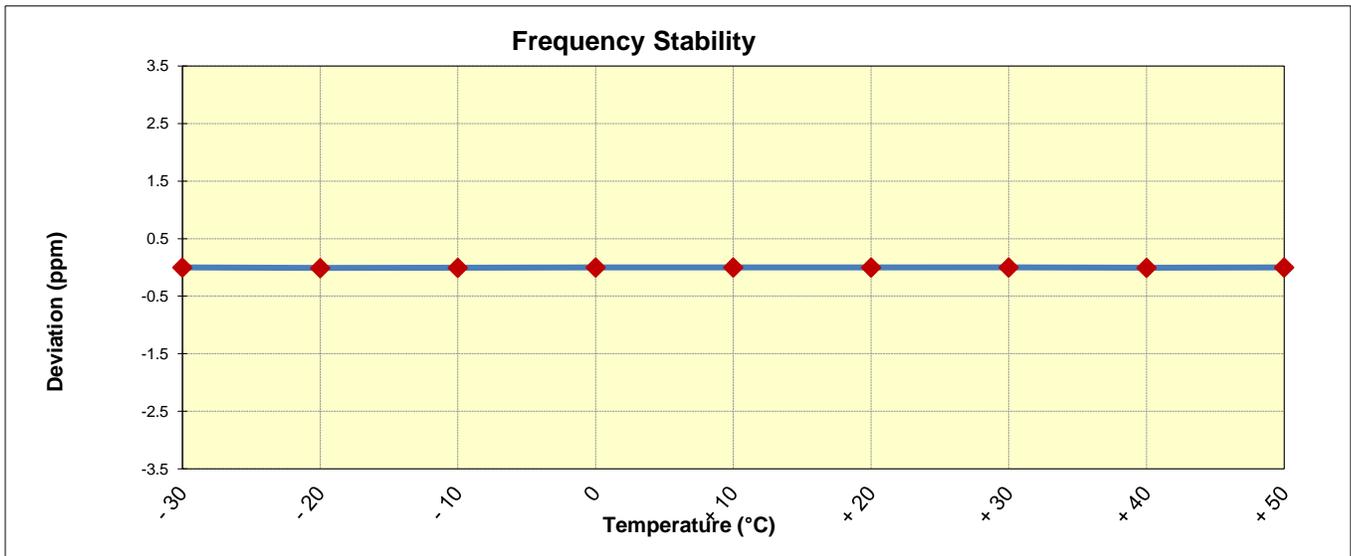


Figure 7-11. Frequency Stability Graph – Band 13_5 MHz 1C Mid Channel

FCC ID: A3LRF4440D-13A		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 8K21070501R2-R1	Test Dates: 07/09/2021 - 08/25/2021	EUT Type: RRU (RF4440d)		Page 366 of 367

8.0 CONCLUSION

The data collected relate only to the item(s) tested and show that the **Samsung RRU (RF4440d)** **FCC: A3LRF4440D-13A** complies with all of the requirements of Part22 and 27 of the FCC Rules.

FCC ID: A3LRF4440D-13A		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Technical Manager
Test Report S/N: 8K21070501R2-R1	Test Dates: 07/09/2021 - 08/25/2021	EUT Type: RRU (RF4440d)	Page 367 of 367	