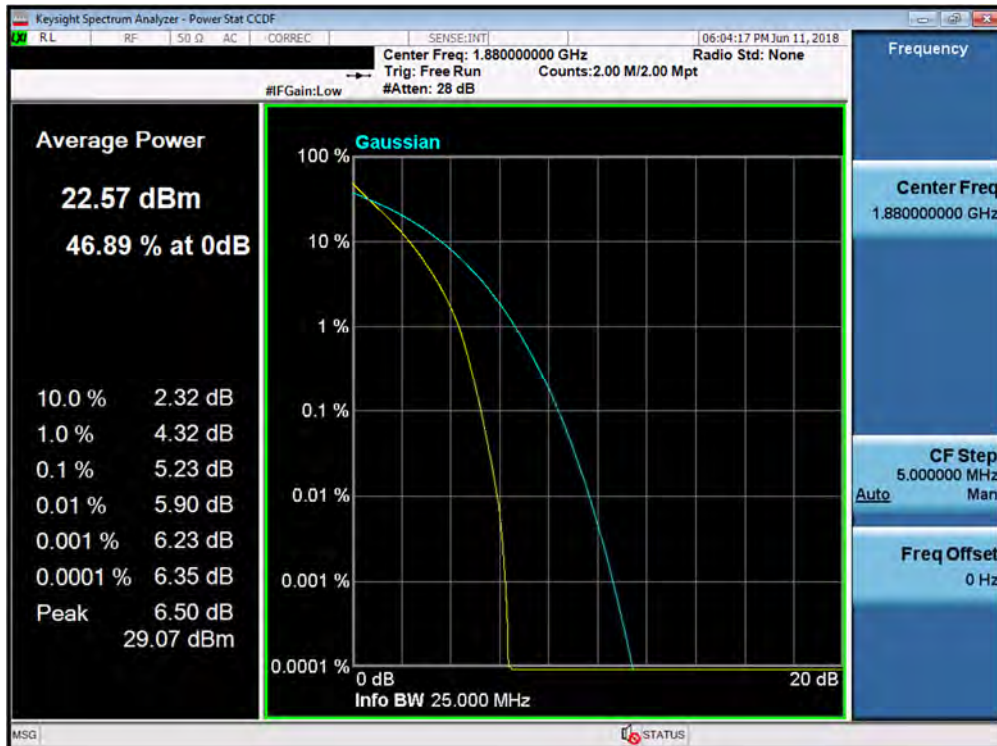
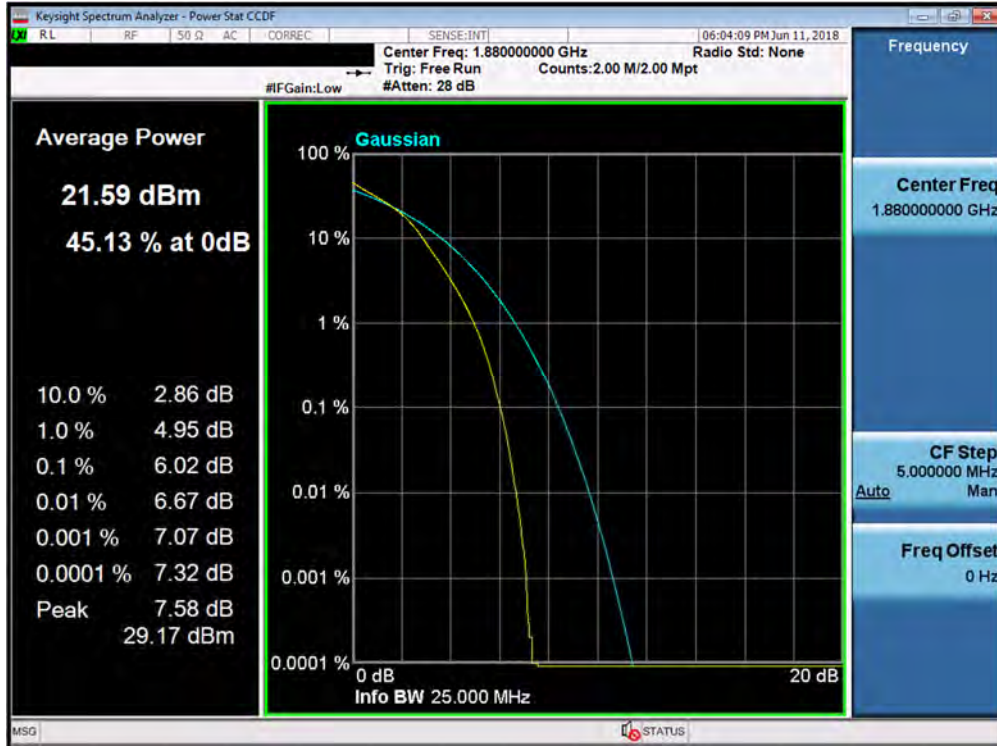


Plot 7-282. PAR Plot (Band 2 - 15.0MHz 64-QAM - Full RB Configuration)

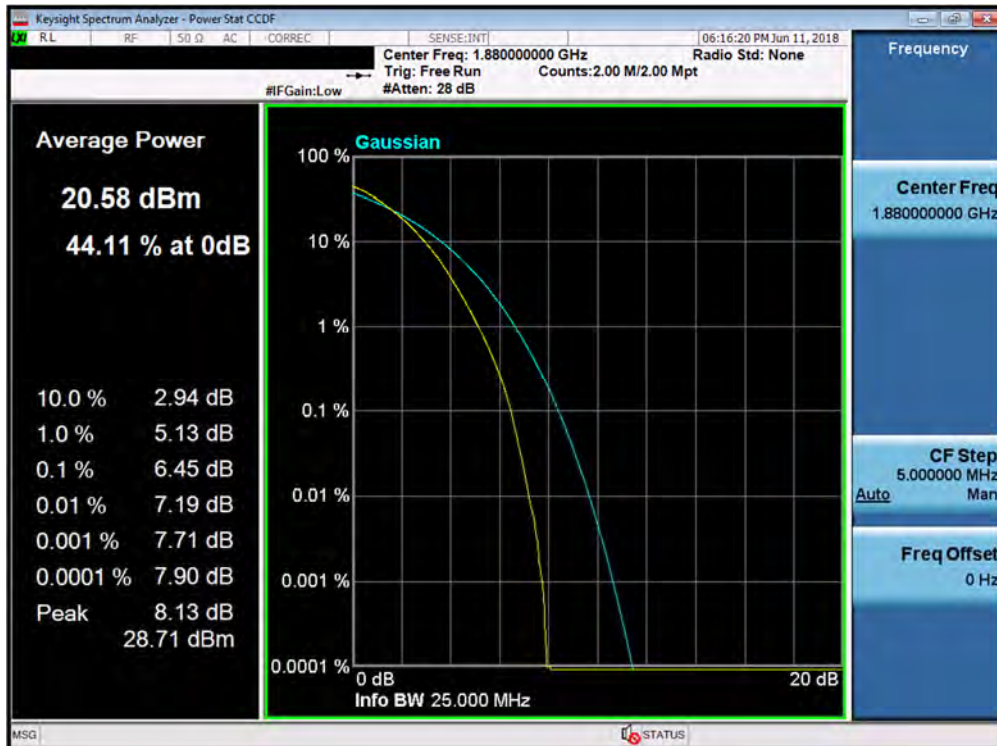


Plot 7-283. PAR Plot (Band 2 - 20.0MHz QPSK - Full RB Configuration)

FCC ID: A3LSMT837P	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	<b>SAMSUNG</b>	Approved by: Quality Manager
Test Report S/N: 1M1806060119-03.A3L	Test Dates: 6/6 - 6/27/2018	EUT Type: Portable Tablet		Page 164 of 221



Plot 7-284. PAR Plot (Band 2 - 20.0MHz 16-QAM - Full RB Configuration)



Plot 7-285. PAR Plot (Band 2 - 20.0MHz 64-QAM - Full RB Configuration)

FCC ID: A3LSMT837P	<b>PCTEST</b> ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)	<b>SAMSUNG</b>	Approved by: Quality Manager
Test Report S/N: 1M1806060119-03.A3L	Test Dates: 6/6 - 6/27/2018	EUT Type: Portable Tablet		Page 165 of 221

## 7.6 Additional Maximum Power Reduction (A-MPR) §2.1046

### Test Overview

A-MPR is implemented in this device when operating at Power Class 2 in LTE Band 41 per the A-MPR specification in 3GPP TS 36.101. The conducted powers are shown herein to cover the different A-MPR levels specified in the standard. Measurement equipment was set up with triggering/gating on the spectrum analyzer such that powers were measured only during the on-time of the signal.

### Test Procedure Used

KDB 971168 D01 v03r01 – Section 5.2.2

### Test Settings

1. Span = 2 x OBW to 3 x OBW
2. RBW = 1% to 5% of the OBW
3. Number of measurement points in sweep  $\geq 2 \times \text{span} / \text{RBW}$
4. Sweep = auto-couple (less than transmission burst duration)
5. Detector = RMS (power)
6. Trigger was set to enable power measurements only on full power bursts
7. Trace was allowed to stabilize
8. Spectrum analyzer's "Channel Power" function was used to compute the power by integrating the spectrum across the OBW of the signal

### Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.



Figure 7-5. Test Instrument & Measurement Setup

### Test Notes

None.

FCC ID: A3LSMT837P	 <b>MEASUREMENT REPORT (CERTIFICATION)</b>			<b>Approved by:</b> Quality Manager
<b>Test Report S/N:</b> 1M1806060119-03.A3L	<b>Test Dates:</b> 6/6 - 6/27/2018	<b>EUT Type:</b> Portable Tablet	Page 166 of 221	

Test Case	NS	MCC	MNC	Channel BW [MHz]	Channel Number	Channel Frequency [MHz]	Modulation	RB Size	RB Offset	MPR [dB]	A-MPR [dB]	Measured Power [dBm]	Lowest Typical Power [dBm]	Delta [dB]						
1	01	312	530	5	39675	2498.5	QPSK	1	0	0	≤ 3	24.06	24.0	0.06						
							16-QAM			≤ 1		23.09	23.0	0.09						
							64-QAM			≤ 2		22.05	22.0	0.05						
2				5	39675	2498.5	16-QAM	2498.5	1	9	0	0	0	27.94	27.0	0.94				
												16-QAM		≤ 1	26.95	26.0	0.95			
												64-QAM		≤ 2	25.92	25.0	0.92			
3				10	39700	2501	QPSK	2501	1	0	0	0	≤ 5	21.81	21.0	0.81				
												16-QAM		≤ 1	20.76	20.0	0.76			
												64-QAM		≤ 2	22.72	22.0	0.72			
4				10	39700	2501	QPSK	2501	20	0	0	0	≤ 2	25.22	24.0	1.22				
												16-QAM		≤ 1	24.11	23.0	1.11			
												64-QAM		≤ 2	23.02	22.0	1.02			
5				10	39700	2501	QPSK	2501	50	0	0	0	≤ 3	24.12	23.0	1.12				
												16-QAM		≤ 1	23.98	22.0	1.98			
												64-QAM		≤ 2	22.88	21.0	1.88			
6				10	39700	2501	QPSK	2501	25	20	0	0	≤ 1	26.12	25.0	1.12				
												16-QAM		≤ 1	24.99	24.0	0.99			
												64-QAM		≤ 2	23.87	23.0	0.87			
7				10	39700	2501	QPSK	2501	1	36	0	0	0	28.07	27.0	1.07				
												16-QAM		≤ 1	26.89	26.0	0.89			
												64-QAM		≤ 2	25.85	25.0	0.85			
8				15	39725	2503.5	QPSK	2503.5	1	0	0	0	≤ 5	22.90	22.0	0.90				
												16-QAM		≤ 1	21.94	21.0	0.94			
												64-QAM		≤ 2	20.84	20.0	0.84			
9				01	312	530	15	39725	2503.5	QPSK	20	0	0	≤ 2	25.21	24.0	1.21			
															16-QAM	≤ 1	24.15	23.0	1.15	
															64-QAM	≤ 2	23.16	22.0	1.16	
10							15	39725	2503.5	QPSK	2503.5	75	0	0	0	≤ 4	23.21	22.0	1.21	
															16-QAM		≤ 1	22.29	21.0	1.29
															64-QAM		≤ 2	21.02	20.0	1.02
11	15	39725	2503.5				QPSK	2503.5	50	15	0	0	≤ 3	24.23	23.0	1.23				
												16-QAM		≤ 1	23.02	22.0	1.02			
												64-QAM		≤ 2	21.97	21.0	0.97			
12	15	39725	2503.5				QPSK	2503.5	1	60	0	0	0	27.92	27.0	0.92				
												16-QAM		≤ 1	26.88	26.0	0.88			
												64-QAM		≤ 2	25.72	25.0	0.72			
13	20	39750	2506				QPSK	2506	1	0	0	0	≤ 5	23.25	22.0	1.25				
												16-QAM		≤ 1	22.25	21.0	1.25			
												64-QAM		≤ 2	21.14	20.0	1.14			
14	20	39750	2506				QPSK	2506	20	0	0	0	≤ 2	25.30	24.0	1.30				
												16-QAM		≤ 1	24.22	23.0	1.22			
												64-QAM		≤ 2	23.21	22.0	1.21			
15	20	39750	2506				QPSK	2506	100	0	0	0	≤ 4	23.25	22.0	1.25				
												16-QAM		≤ 1	22.29	21.0	1.29			
												64-QAM		≤ 2	21.14	20.0	1.14			
16	20	39750	2506				QPSK	2506	75	24	0	0	≤ 3	24.23	23.0	1.23				
												16-QAM		≤ 1	23.05	22.0	1.05			
												64-QAM		≤ 2	21.96	21.0	0.96			
17	20	39750	2506				QPSK	2506	1	77	0	0	0	28.10	27.0	1.10				
												16-QAM		≤ 1	26.98	26.0	0.98			
												64-QAM		≤ 2	25.99	25.0	0.99			
18	01	311	490				5	39675	2498.5	QPSK	1	0	0	≤ 3	24.05	24.0	0.05			
													16-QAM		≤ 1	23.02	23.0	0.02		
													64-QAM		≤ 2	22.11	22.0	0.11		
19	01	001	01	5	39675	2498.5	QPSK	1	0	0	0	27.03	27.0	0.03						
										16-QAM		≤ 1	26.14	26.0	0.14					
										64-QAM		≤ 2	25.16	25.0	0.16					

**Table 7-3. A-MPR Conducted Power Measurements**

FCC ID: A3LSMT837P		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M180600119-03.A3L	Test Dates: 6/6 - 6/27/2018	EUT Type: Portable Tablet		Page 167 of 221

## 7.7 Uplink Carrier Aggregation

### §27.53(m)

#### Test Overview

The EUT is set up to transmit two contiguous LTE channels. The power level of both carriers and the various conducted spurious and harmonic frequencies is measured by means of a calibrated spectrum analyzer. The spectrum is scanned from the lowest frequency generated in the equipment up to a frequency including its 10<sup>th</sup> harmonic. All out of band emissions are measured with a spectrum analyzer connected to the antenna terminal of the EUT while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.

***For Band 38/41, the minimum permissible attenuation level of any spurious emission is  $55 + \log_{10}(P_{(Watts)})$ .***

#### Test Procedure Used

KDB 971168 D01 v03r01 – Section 6.0

#### Test Settings

1. Start frequency was set to 30MHz and stop frequency was set to at least 10 \* the fundamental frequency (separated into at least two plots per channel)
2. Detector = RMS
3. Trace mode = trace average for continuous emissions, max hold for pulse emissions
4. Sweep time = auto couple
5. The trace was allowed to stabilize
6. Please see test notes below for RBW and VBW settings

#### Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.



**Figure 7-6. Test Instrument & Measurement Setup**

FCC ID: A3LSMT837P		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1806060119-03.A3L	Test Dates: 6/6 - 6/27/2018	EUT Type: Portable Tablet		Page 168 of 221

### Test Notes

1. Uplink carrier aggregation is only supported in this EUT while operating in Power Class 3.
2. Conducted power and spurious emissions measurements were evaluated for the two contiguous channels using various combinations of RB size, RB offset, modulation, and channel bandwidth. Channel bandwidth data is shown in the tables below based only on the channel bandwidths that were supported in this device. The worst case (highest) powers were found while operating with QPSK modulation, as shown in Table 7-503 and 7-504 below, with both carriers set to transmit using 1RB.
3. Compliance with the applicable limits is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater for frequencies less than 1 GHz and 1 MHz or greater for frequencies greater than 1 GHz. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

Power State	PCC							SCC							Power
	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	SCC Band	SCC Bandwidth [MHz]	SCC (UL) Channel	SCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	ULCA Tx.Power (dBm)
Max	LTE B41	10	39700	2501	QPSK	1	49	LTE B41	20	39844	2515.4	QPSK	1	0	20.33
Max	LTE B41	10	40620	2593	QPSK	1	49	LTE B41	20	40764	2607.4	QPSK	1	0	21.86
Max	LTE B41	20	41396	2670.6	QPSK	1	99	LTE B41	10	41540	2685	QPSK	1	0	21.68
Max	LTE B41	15	39725	2503.5	QPSK	1	74	LTE B41	15	39875	2518.5	QPSK	1	0	20.56
Max	LTE B41	15	39725	2503.5	QPSK	1	74	LTE B41	20	39896	2520.6	QPSK	1	0	21.35
Max	LTE B41	15	40620	2593	QPSK	1	74	LTE B41	15	40770	2608	QPSK	1	0	22.43
Max	LTE B41	15	40620	2593	QPSK	1	74	LTE B41	20	40791	2610.1	QPSK	1	0	21.64
Max	LTE B41	15	41365	2667.5	QPSK	1	74	LTE B41	15	41515	2682.5	QPSK	1	0	22.88
Max	LTE B41	20	41344	2665.4	QPSK	1	99	LTE B41	15	41515	2682.5	QPSK	1	0	22.44
Max	LTE B41	20	39750	2506	QPSK	1	99	LTE B41	10	39894	2520.4	QPSK	1	0	22.53
Max	LTE B41	20	39750	2506	QPSK	1	99	LTE B41	15	39921	2523.1	QPSK	1	0	22.95
Max	LTE B41	20	39750	2506	QPSK	1	99	LTE B41	20	39948	2525.8	QPSK	1	0	22.20
Max	LTE B41	20	40620	2593	QPSK	1	99	LTE B41	10	40764	2607.4	QPSK	1	0	22.45
Max	LTE B41	20	40620	2593	QPSK	1	99	LTE B41	15	40791	2610.1	QPSK	1	0	22.91
Max	LTE B41	20	40620	2593	QPSK	1	99	LTE B41	20	40818	2612.8	QPSK	1	0	22.57
Max	LTE B41	10	41346	2665.6	QPSK	1	49	LTE B41	20	41490	2680	QPSK	1	0	22.16
Max	LTE B41	15	41319	2662.9	QPSK	1	74	LTE B41	20	41490	2680	QPSK	1	0	22.86
Max	LTE B41	20	41292	2660.2	QPSK	1	99	LTE B41	20	41490	2680	QPSK	1	0	22.98

**Table 7-4. Conducted Powers (B41 – PCC: RB Size 1 Offset Max SCC: RB Size 1 Offset 0)**

FCC ID: A3LSMT837P			MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1806060119-03.A3L	Test Dates: 6/6 - 6/27/2018	EUT Type: Portable Tablet		Page 169 of 221	

Power State	PCC							SCC							Power
	PCC Band	PCC Bandwidth [MHz]	PCC (UL) Channel	PCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	SCC Band	SCC Bandwidth [MHz]	SCC (UL) Channel	SCC (UL) Frequency [MHz]	Modulation	PCC UL# RB	PCC UL RB Offset	ULCA Tx.Power (dBm)
Max	LTE B41	20	39750	2506	QPSK	1	0	LTE B41	20	39948	2525.8	QPSK	1	0	16.58
Max	LTE B41	20	39750	2506	QPSK	1	99	LTE B41	20	39948	2525.8	QPSK	1	99	16.16
Max	LTE B41	20	39750	2506	QPSK	1	0	LTE B41	20	39948	2525.8	QPSK	1	99	12.54
Max	LTE B41	20	39750	2506	QPSK	1	50	LTE B41	20	39948	2525.8	QPSK	1	50	16.41
Max	LTE B41	20	39750	2506	QPSK	1	99	LTE B41	20	39948	2525.8	QPSK	1	0	20.64
Max	LTE B41	20	39750	2506	QPSK	100	0	LTE B41	20	39948	2525.8	QPSK	100	0	18.43
Max	LTE B41	20	39750	2506	16-QAM	100	0	LTE B41	20	39948	2525.8	16-QAM	100	0	17.47
Max	LTE B41	20	39750	2506	64-QAM	100	0	LTE B41	20	39948	2525.8	64-QAM	100	0	16.55

Table 7-5. Conducted Powers (B41 with Various Combinations for 20MHz Channel Bandwidth)

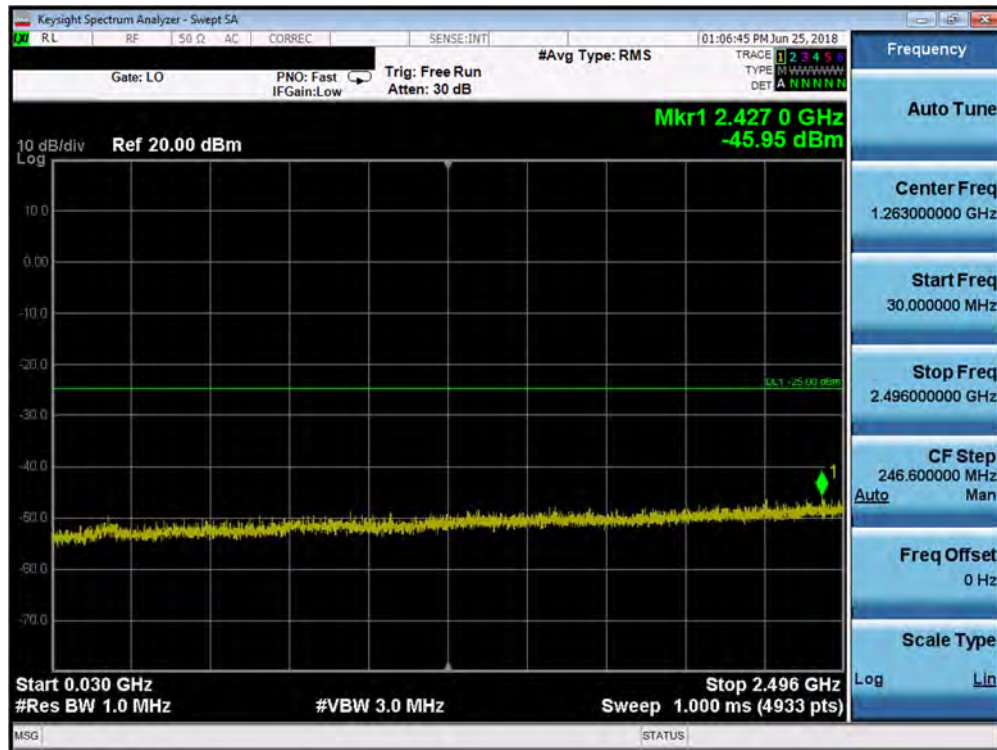


Table 7-286. Conducted Spurious Plot (Band 41 – 20.0MHz QPSK – PCC 1/99 SCC 1/0 – Mid Channel)

FCC ID: A3LSMT837P		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1806060119-03.A3L	Test Dates: 6/6 - 6/27/2018	EUT Type: Portable Tablet		Page 170 of 221

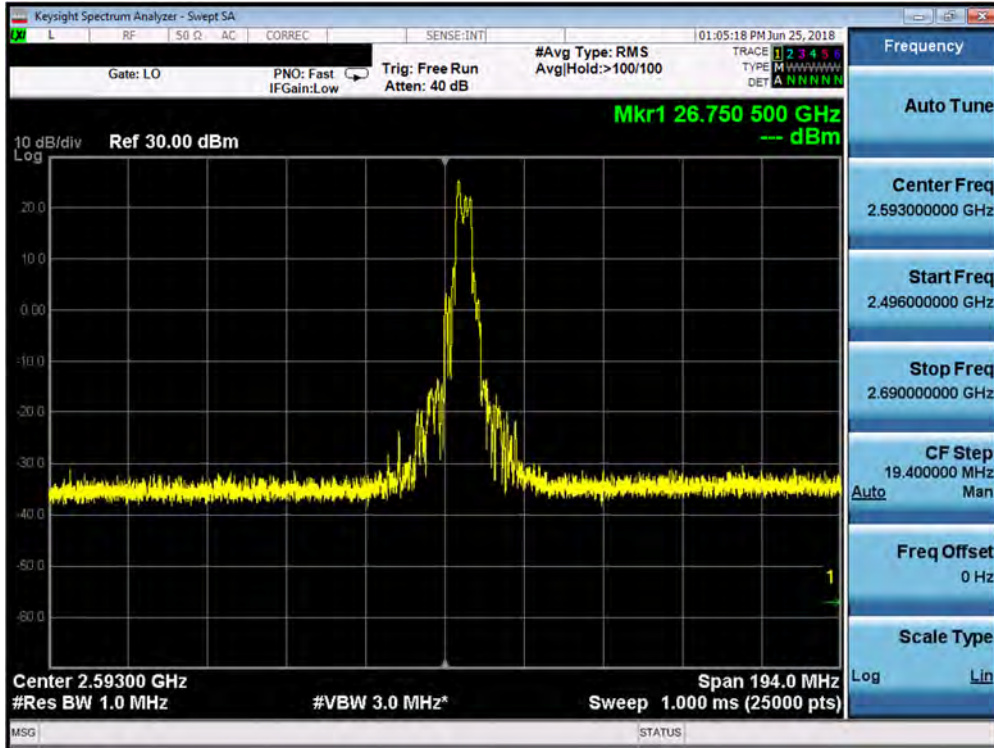


Table 7-287. Conducted Spurious Plot (Band 41 – 20.0MHz QPSK – PCC 1/99 SCC 1/0 – Mid Channel)

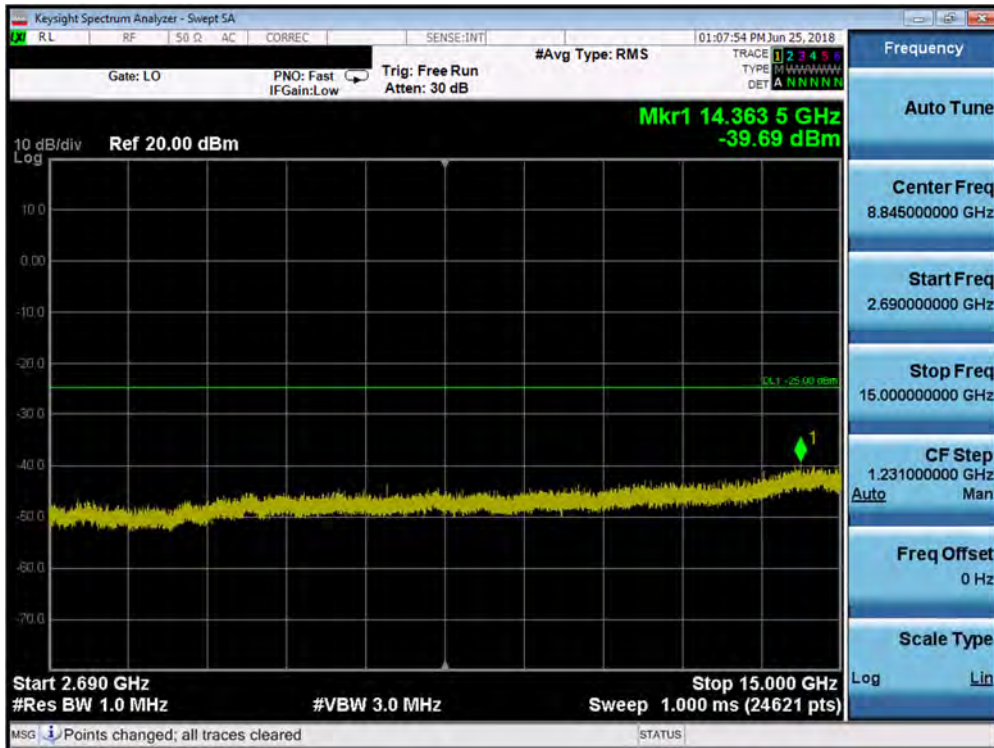


Table 7-288. Conducted Spurious Plot (Band 41 – 20.0MHz QPSK – PCC 1/99 SCC 1/0 – Mid Channel)

FCC ID: A3LSMT837P		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1806060119-03.A3L	Test Dates: 6/6 - 6/27/2018	EUT Type: Portable Tablet		Page 171 of 221



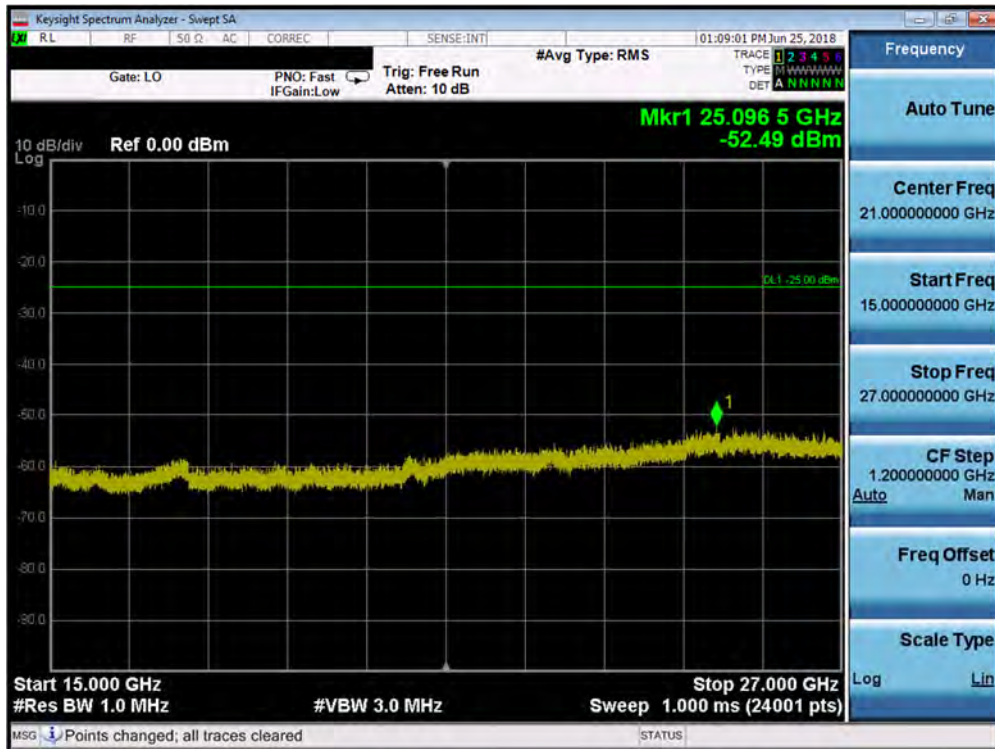


Table 7-289. Conducted Spurious Plot (Band 41 – 20.0MHz QPSK – PCC 1/99 SCC 1/0 – Mid Channel)

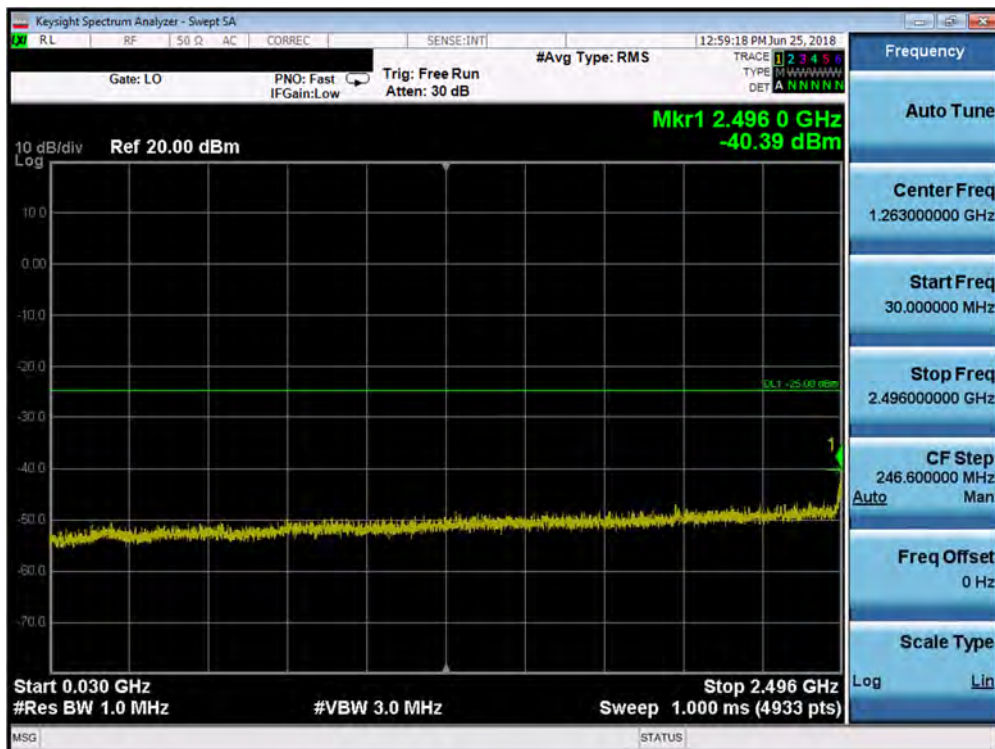


Table 7-290. Conducted Spurious Plot (Band 41 – 20.0MHz QPSK – PCC 100/0 SCC 100/0 – Mid Channel)

FCC ID: A3LSMT837P		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1806060119-03.A3L	Test Dates: 6/6 - 6/27/2018	EUT Type: Portable Tablet		Page 172 of 221

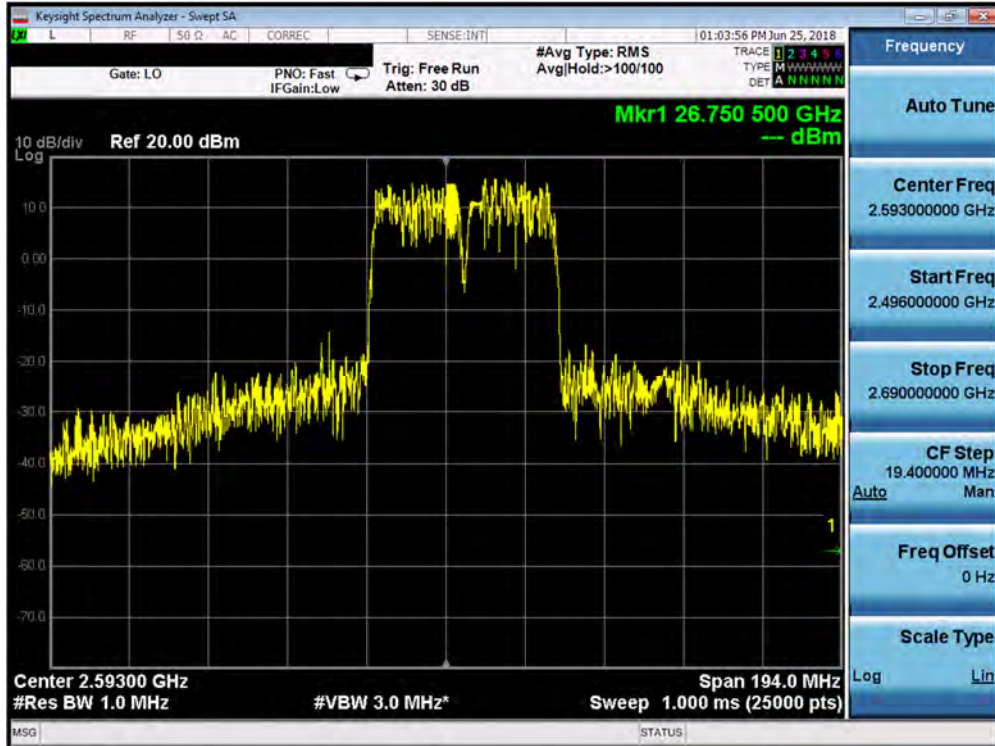


Table 7-291. Conducted Spurious Plot (Band 41 – 20.0MHz QPSK – PCC 100/0 SCC 100/0 – Mid Channel)

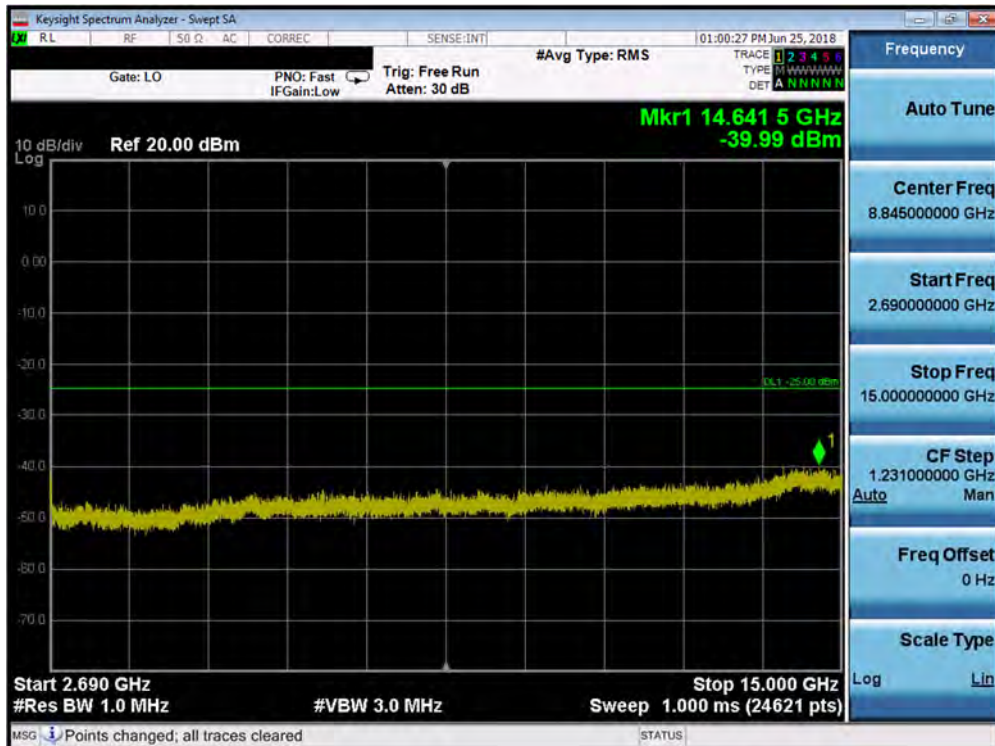


Table 7-292. Conducted Spurious Plot (Band 41 – 20.0MHz QPSK – PCC 100/0 SCC 100/0 – Mid Channel)

FCC ID: A3LSMT837P		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1806060119-03.A3L	Test Dates: 6/6 - 6/27/2018	EUT Type: Portable Tablet		Page 173 of 221

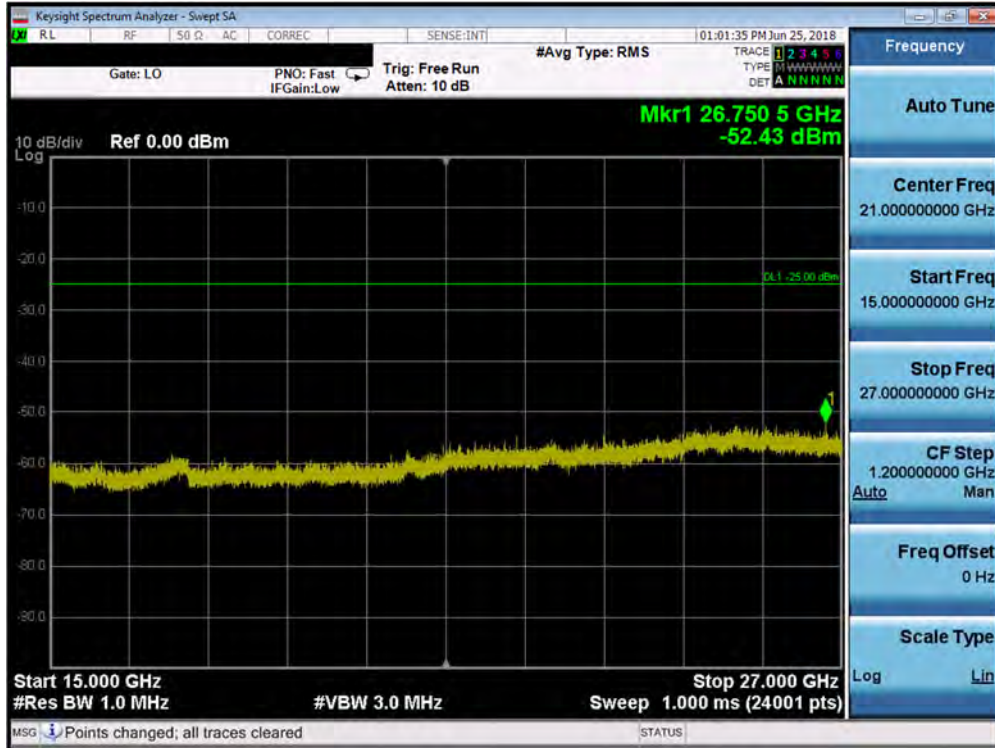


Table 7-293. Conducted Spurious Plot (Band 41 – 20.0MHz QPSK – PCC 100/0 SCC 100/0 – Mid Channel)

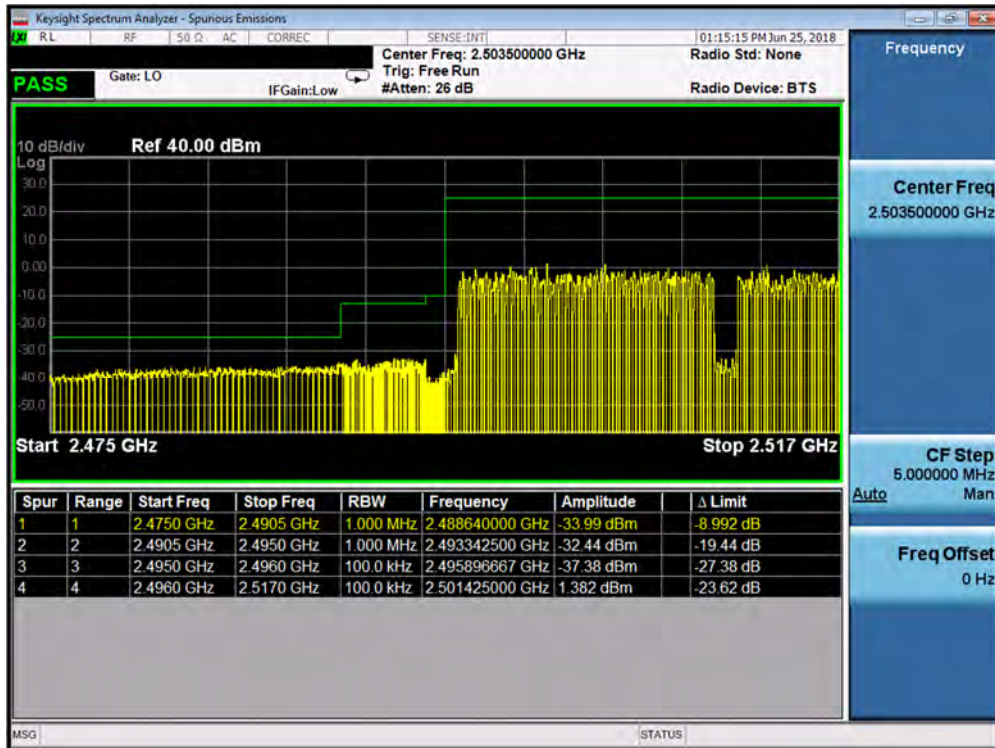


Table 7-294. Lower ACP Plot (Band 41 QPSK – PCC:15 MHz SCC:20 MHz – Full RB)

FCC ID: A3LSMT837P		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1806060119-03.A3L	Test Dates: 6/6 - 6/27/2018	EUT Type: Portable Tablet		Page 174 of 221

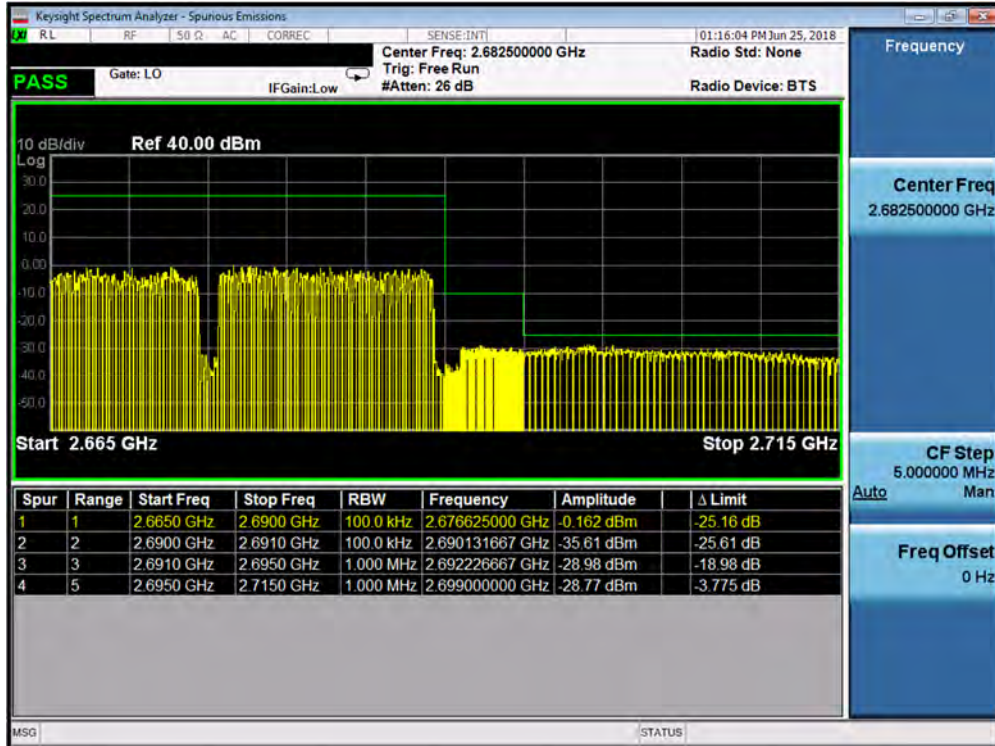


Table 7-295. Upper ACP Plot (Band 41 QPSK – PCC:15 MHz SCC:20 MHz – Full RB)

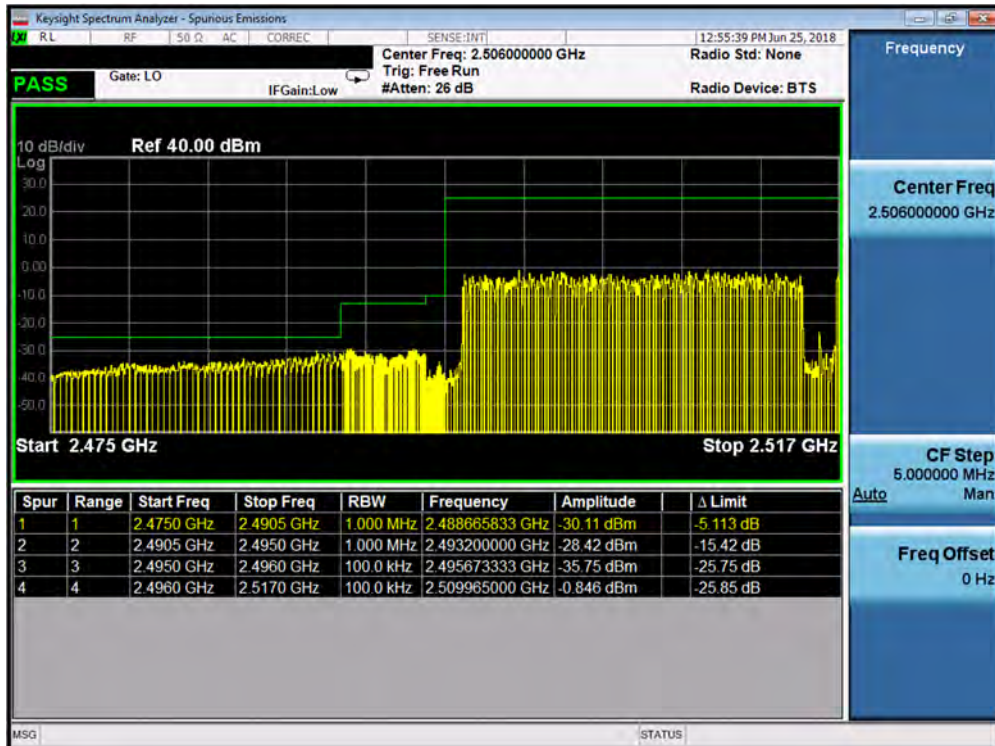


Table 7-296. Lower ACP Plot (Band 41 QPSK – PCC:20 MHz SCC:20 MHz – Full RB)

FCC ID: A3LSMT837P		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1806060119-03.A3L	Test Dates: 6/6 - 6/27/2018	EUT Type: Portable Tablet		Page 175 of 221

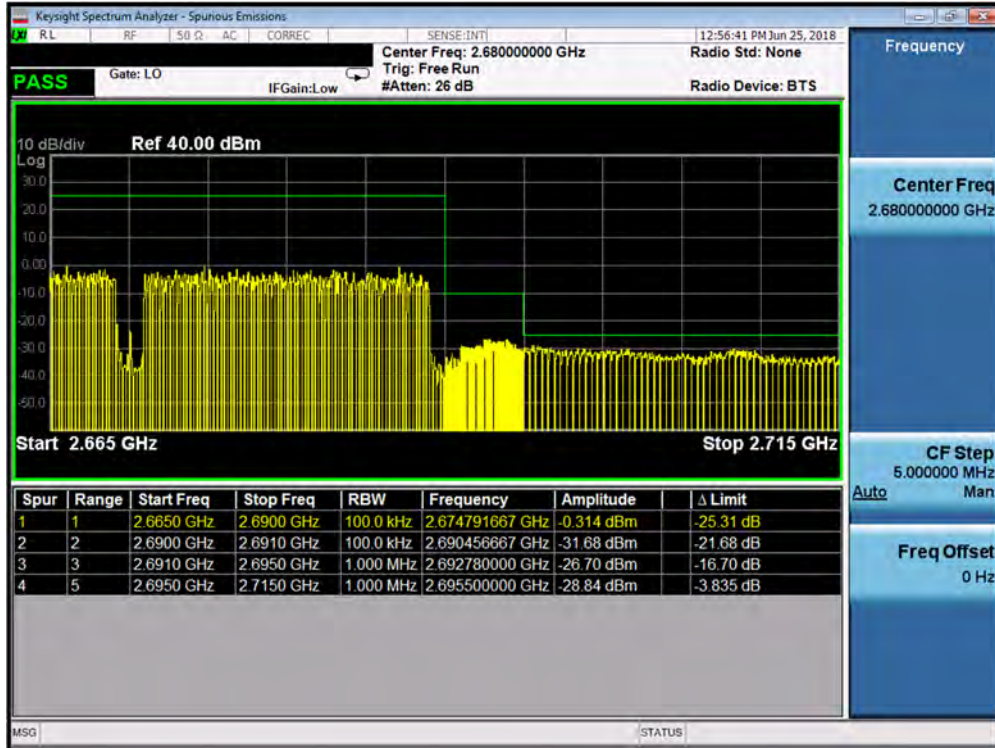


Table 7-297. Upper ACP Plot (Band 41 QPSK – PCC:20 MHz SCC:20 MHz – Full RB)

FCC ID: A3LSMT837P	 <b>MEASUREMENT REPORT (CERTIFICATION)</b>			Approved by: Quality Manager
Test Report S/N: 1M1806060119-03.A3L	Test Dates: 6/6 - 6/27/2018	EUT Type: Portable Tablet	Page 176 of 221	

## 7.8 Radiated Power (ERP/EIRP)

### Test Overview

Effective Radiated Power (ERP) and Equivalent Isotropic Radiated Power (EIRP) measurements are performed using the substitution method described in ANSI/TIA-603-E-2016 with the EUT transmitting into an integral antenna. Measurements on signals operating below 1GHz are performed using vertically and horizontally polarized tuned dipole antennas. Measurements on signals operating above 1GHz are performed using vertically and horizontally polarized broadband horn antennas. All measurements are performed as RMS average measurements while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies.

### Test Procedures Used

KDB 971168 D01 v03r01 – Section 5.2.1

ANSI/TIA-603-E-2016 – Section 2.2.17

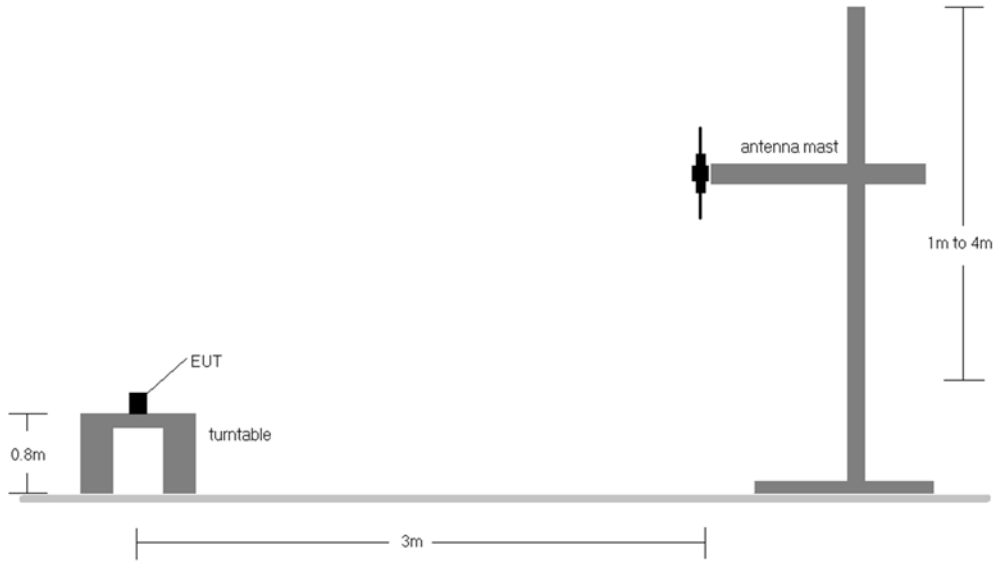
### Test Settings

1. Radiated power measurements are performed using the signal analyzer’s “channel power” measurement capability for signals with continuous operation. For signals with burst transmission, the signal analyzer’s “time domain power” measurement capability is used
2. RBW = 1 – 5% of the expected OBW, not to exceed 1MHz
3. VBW  $\geq$  3 x RBW
4. Span = 1.5 times the OBW
5. No. of sweep points  $\geq$  2 x span / RBW
6. Detector = RMS
7. Trigger is set to “free run” for signals with continuous operation with the sweep times set to “auto”. Trigger is set to enable triggering only on full power bursts with the sweep time set less than or equal to the transmission burst duration
8. The integration bandwidth was roughly set equal to the measured OBW of the signal for signals with continuous operation. For signals with burst transmission, the “gating” function was enabled to ensure that measurements are performed during times in which the transmitter is operating at its maximum power
9. Trace mode = trace averaging (RMS) over 100 sweeps
10. The trace was allowed to stabilize

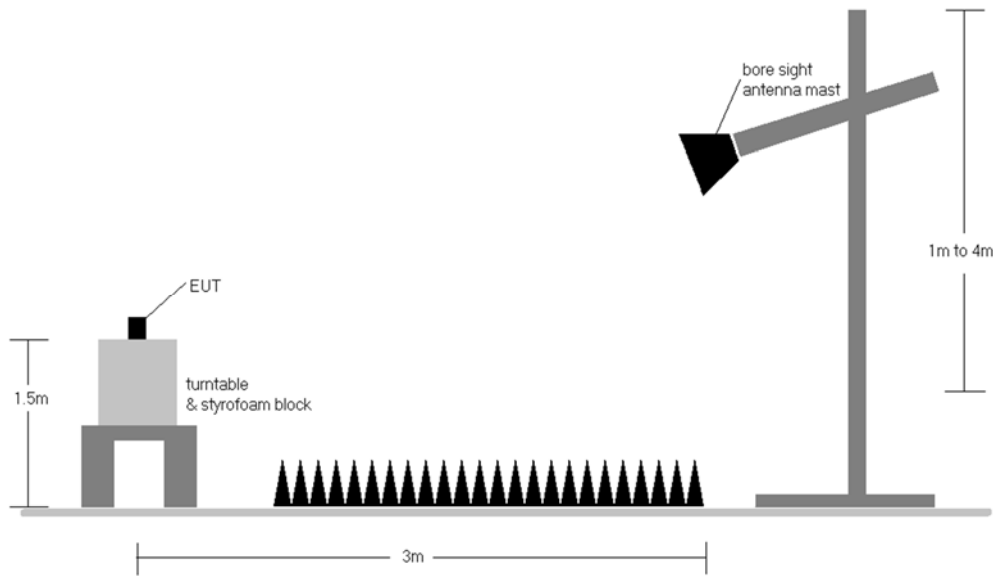
FCC ID: A3LSMT837P	 <b>MEASUREMENT REPORT (CERTIFICATION)</b> 		Approved by: Quality Manager
Test Report S/N: 1M1806060119-03.A3L	Test Dates: 6/6 - 6/27/2018	EUT Type: Portable Tablet	Page 177 of 221

**Test Setup**

The EUT and measurement equipment were set up as shown in the diagram below.



**Figure 7-7. Radiated Test Setup <1GHz**



**Figure 7-8. Radiated Test Setup >1GHz**

**Test Notes**

- 1) The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case emissions are reported with the EUT positioning, modulations, RB sizes and offsets, and channel bandwidth configurations shown in the tables below.
- 2) This unit was tested with its standard battery.

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Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]
699.70	1.4	QPSK	H	166	357	1 / 0	18.90	1.10	17.85	0.061	34.77	-16.92
707.50	1.4	QPSK	H	175	7	1 / 5	19.14	1.13	18.12	0.065	34.77	-16.65
715.30	1.4	QPSK	H	143	2	1 / 5	19.91	1.16	<b>18.92</b>	0.078	34.77	-15.85
715.30	1.4	16-QAM	H	143	2	1 / 5	19.11	1.16	<b>18.12</b>	0.065	34.77	-16.65
715.30	1.4	64-QAM	H	143	2	1 / 5	18.52	1.16	<b>17.53</b>	0.057	34.77	-17.24
700.50	3	QPSK	H	3	126	8 / 4	18.81	1.10	17.76	0.060	34.77	-17.01
707.50	3	QPSK	H	167	356	1 / 14	19.20	1.13	18.18	0.066	34.77	-16.59
714.50	3	QPSK	H	155	9	1 / 14	19.99	1.16	<b>19.00</b>	0.079	34.77	-15.77
714.50	3	16-QAM	H	155	9	1 / 14	19.36	1.16	<b>18.37</b>	0.069	34.77	-16.40
714.50	3	64-QAM	H	155	9	1 / 14	18.67	1.16	<b>17.68</b>	0.059	34.77	-17.09
701.50	5	QPSK	H	5	87	12 / 6	18.87	1.11	17.83	0.061	34.77	-16.95
707.50	5	QPSK	H	180	2	1 / 24	19.53	1.13	18.51	0.071	34.77	-16.26
713.50	5	QPSK	H	167	355	1 / 24	20.08	1.15	<b>19.08</b>	0.081	34.77	-15.69
713.50	5	16-QAM	H	167	355	1 / 24	19.41	1.15	<b>18.41</b>	0.069	34.77	-16.36
713.50	5	64-QAM	H	167	355	1 / 24	18.76	1.15	<b>17.76</b>	0.060	34.77	-17.01
704.00	10	QPSK	H	167	6	1 / 49	19.51	1.12	18.48	0.070	34.77	-16.29
707.50	10	QPSK	H	4	81	1 / 0	18.62	1.13	17.60	0.058	34.77	-17.17
711.00	10	QPSK	H	167	2	1 / 49	20.30	1.14	<b>19.29</b>	<b>0.085</b>	34.77	-15.48
711.00	10	16-QAM	H	167	2	1 / 49	19.21	1.14	<b>18.20</b>	0.066	34.77	-16.57
711.00	10	64-QAM	H	167	2	1 / 49	18.25	1.14	<b>17.24</b>	0.053	34.77	-17.53
711.00	10	QPSK	V	287	159	1 / 49	19.37	1.13	18.35	0.068	34.77	-16.42

**Table 7-6. ERP Data (Band 12)**

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]
779.50	5	QPSK	H	150	355	1 / 0	22.35	1.32	<b>21.52</b>	<b>0.142</b>	34.77	-13.25
782.00	5	QPSK	H	150	359	1 / 0	20.65	1.33	19.83	0.096	34.77	-14.94
784.50	5	QPSK	H	105	358	1 / 24	21.14	1.34	20.33	0.108	34.77	-14.44
779.50	5	16-QAM	H	150	355	1 / 0	21.63	1.32	<b>20.80</b>	0.120	34.77	-13.97
779.50	5	64-QAM	H	150	355	1 / 0	20.72	1.32	<b>19.89</b>	0.097	34.77	-14.88
782.00	10	QPSK	H	150	355	1 / 0	21.86	1.33	<b>21.04</b>	0.127	34.77	-13.73
782.00	10	16-QAM	H	150	355	1 / 0	20.71	1.33	<b>19.89</b>	0.097	34.77	-14.88
782.00	10	64-QAM	H	150	355	1 / 0	19.71	1.33	<b>18.89</b>	0.077	34.77	-15.88
779.50	5	QPSK	V	150	270	1 / 0	21.32	1.32	20.49	0.112	34.77	-14.28

**Table 7-7. ERP Data (Band 13)**

FCC ID: A3LSMT837P		<b>MEASUREMENT REPORT (CERTIFICATION)</b>			Approved by: Quality Manager
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Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]
824.70	1.4	QPSK	H	150	351	1 / 5	22.59	1.50	<b>21.94</b>	0.156	38.45	-16.51
836.50	1.4	QPSK	H	150	355	1 / 0	21.10	1.50	20.45	0.111	38.45	-18.00
848.30	1.4	QPSK	H	150	351	1 / 0	20.55	1.50	19.90	0.098	38.45	-18.55
824.70	1.4	16-QAM	H	150	351	1 / 5	21.78	1.50	<b>21.13</b>	0.130	38.45	-17.32
824.70	1.4	64-QAM	H	150	351	1 / 0	20.59	1.50	<b>19.94</b>	0.099	38.45	-18.51
825.50	3	QPSK	H	150	358	1 / 14	22.76	1.50	<b>22.11</b>	0.163	38.45	-16.34
836.50	3	QPSK	H	150	348	1 / 14	20.63	1.50	19.98	0.100	38.45	-18.47
847.50	3	QPSK	H	150	349	1 / 0	21.55	1.50	20.90	0.123	38.45	-17.55
825.50	3	16-QAM	H	150	358	1 / 14	21.77	1.50	<b>21.12</b>	0.129	38.45	-17.33
825.50	3	64-QAM	H	150	358	1 / 14	21.15	1.50	<b>20.50</b>	0.112	38.45	-17.95
826.50	5	QPSK	H	150	359	1 / 24	23.02	1.50	<b>22.37</b>	<b>0.173</b>	38.45	-16.08
836.50	5	QPSK	H	150	3	1 / 24	21.32	1.50	20.67	0.117	38.45	-17.78
846.50	5	QPSK	H	150	355	1 / 0	22.24	1.50	21.59	0.144	38.45	-16.86
826.50	5	16-QAM	H	150	359	1 / 24	22.18	1.50	<b>21.53</b>	0.142	38.45	-16.92
826.50	5	64-QAM	H	150	359	1 / 24	21.39	1.50	<b>20.74</b>	0.119	38.45	-17.71
829.00	10	QPSK	H	150	351	1 / 0	22.44	1.50	<b>21.79</b>	0.151	38.45	-16.66
836.50	10	QPSK	H	150	1	1 / 0	21.96	1.50	21.31	0.135	38.45	-17.14
844.00	10	QPSK	H	150	1	1 / 0	21.31	1.50	20.66	0.116	38.45	-17.79
829.00	10	16-QAM	H	150	351	1 / 0	21.57	1.50	<b>20.92</b>	0.124	38.45	-17.53
829.00	10	64-QAM	H	150	351	1 / 0	20.70	1.50	<b>20.05</b>	0.101	38.45	-18.40
826.50	5	QPSK	V	150	17	1 / 24	21.73	1.50	21.08	0.128	38.45	-17.37

**Table 7-8. ERP Data (Band 26/5)**

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]
831.50	15	QPSK	H	150	355	1 / 0	21.85	1.50	<b>21.20</b>	0.132	38.45	-17.25
836.50	15	QPSK	H	150	352	1 / 0	21.53	1.50	20.88	0.122	38.45	-17.57
841.50	15	QPSK	H	150	358	1 / 0	21.09	1.50	20.44	0.111	38.45	-18.01
831.50	15	16-QAM	H	150	355	1 / 0	21.08	1.50	<b>20.43</b>	0.110	38.45	-18.02
831.50	15	64-QAM	H	150	355	1 / 0	20.05	1.50	<b>19.40</b>	0.087	38.45	-19.05

**Table 7-9. ERP Data (Band 26)**

FCC ID: A3LSMT837P			<b>MEASUREMENT REPORT (CERTIFICATION)</b>			<b>Approved by:</b> Quality Manager
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Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
1710.70	1.4	QPSK	H	111	25	1 / 0	15.16	8.16	<b>23.32</b>	0.215	30.00	-6.68
1732.50	1.4	QPSK	H	111	25	1 / 5	13.41	8.18	21.59	0.144	30.00	-8.41
1754.30	1.4	QPSK	H	111	25	1 / 0	14.00	8.21	22.21	0.166	30.00	-7.79
1710.70	1.4	16-QAM	H	111	25	1 / 0	14.23	8.16	<b>22.39</b>	0.173	30.00	-7.61
1710.70	1.4	64-QAM	H	111	25	1 / 0	13.14	8.16	<b>21.30</b>	0.135	30.00	-8.70
1711.50	3	QPSK	H	140	215	1 / 0	15.19	8.16	23.35	0.216	30.00	-6.65
1732.50	3	QPSK	H	140	215	1 / 14	15.46	8.18	<b>23.64</b>	0.231	30.00	-6.36
1753.50	3	QPSK	H	140	215	1 / 0	15.18	8.21	23.39	0.218	30.00	-6.61
1732.50	3	16-QAM	H	140	215	1 / 14	14.77	8.18	<b>22.95</b>	0.197	30.00	-7.05
1732.50	3	64-QAM	H	140	215	1 / 14	13.61	8.18	<b>21.79</b>	0.151	30.00	-8.21
1712.50	5	QPSK	H	316	208	1 / 0	15.62	8.16	23.78	0.239	30.00	-6.22
1732.50	5	QPSK	H	316	208	1 / 0	16.06	8.18	<b>24.24</b>	<b>0.265</b>	30.00	-5.76
1752.50	5	QPSK	H	316	208	1 / 0	14.76	8.20	22.96	0.198	30.00	-7.04
1732.50	5	16-QAM	H	316	208	1 / 0	15.24	8.18	<b>23.42</b>	0.220	30.00	-6.58
1732.50	5	64-QAM	H	316	208	1 / 0	14.11	8.18	<b>22.29</b>	0.169	30.00	-7.71
1715.00	10	QPSK	H	316	220	1 / 0	14.78	8.16	22.94	0.197	30.00	-7.06
1732.50	10	QPSK	H	316	220	1 / 49	15.53	8.18	<b>23.71</b>	0.235	30.00	-6.29
1750.00	10	QPSK	H	316	220	1 / 49	14.80	8.20	23.00	0.200	30.00	-7.00
1732.50	10	16-QAM	H	316	220	1 / 0	15.59	8.18	<b>23.77</b>	0.238	30.00	-6.23
1732.50	10	64-QAM	H	316	220	1 / 0	14.62	8.18	<b>22.80</b>	0.191	30.00	-7.20
1717.50	15	QPSK	H	144	219	1 / 0	14.64	8.16	22.80	0.191	30.00	-7.20
1732.50	15	QPSK	H	144	219	1 / 74	14.51	8.18	22.69	0.186	30.00	-7.31
1747.50	15	QPSK	H	144	219	1 / 0	15.76	8.20	<b>23.96</b>	0.249	30.00	-6.04
1747.50	15	16-QAM	H	144	219	1 / 0	14.75	8.20	<b>22.95</b>	0.197	30.00	-7.05
1747.50	15	64-QAM	H	144	219	1 / 0	13.64	8.20	<b>21.84</b>	0.153	30.00	-8.16
1720.00	20	QPSK	H	316	222	1 / 0	14.41	8.17	22.58	0.181	30.00	-7.42
1732.50	20	QPSK	H	316	222	1 / 0	15.22	8.18	23.40	0.219	30.00	-6.60
1745.00	20	QPSK	H	316	222	1 / 99	15.72	8.19	<b>23.91</b>	0.246	30.00	-6.09
1745.00	20	16-QAM	H	316	222	1 / 99	14.62	8.19	<b>22.81</b>	0.191	30.00	-7.19
1745.00	20	64-QAM	H	316	222	1 / 99	13.55	8.19	<b>21.74</b>	0.149	30.00	-8.26
1732.50	5	QPSK	V	306	247	1 / 0	12.27	8.18	20.45	0.111	30.00	-9.55

**Table 7-10. EIRP Data (Band 4)**

FCC ID: A3LSMT837P		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
1850.70	1.4	QPSK	H	355	23	1 / 3	17.43	4.82	22.25	0.168	33.01	-10.76
1882.50	1.4	QPSK	H	5	18	1 / 3	17.73	4.74	22.47	0.177	33.01	-10.54
1914.30	1.4	QPSK	H	358	19	1 / 3	19.26	4.68	<b>23.94</b>	0.248	33.01	-9.07
1914.30	1.4	16-QAM	H	358	19	1 / 3	18.44	4.68	<b>23.12</b>	0.205	33.01	-9.89
1914.30	1.4	64-QAM	H	358	19	1 / 3	17.32	4.68	<b>22.00</b>	0.159	33.01	-11.01
1851.50	3	QPSK	H	356	22	1 / 7	17.49	4.82	22.31	0.170	33.01	-10.70
1882.50	3	QPSK	H	357	15	1 / 14	17.86	4.74	22.60	0.182	33.01	-10.41
1913.50	3	QPSK	H	356	22	1 / 7	19.34	4.68	<b>24.02</b>	<b>0.252</b>	33.01	-8.99
1913.50	3	16-QAM	H	356	22	1 / 7	18.68	4.68	<b>23.36</b>	0.217	33.01	-9.65
1913.50	3	64-QAM	H	356	22	1 / 7	17.72	4.68	<b>22.40</b>	0.174	33.01	-10.61
1852.50	5	QPSK	H	359	20	1 / 24	17.70	4.81	22.51	0.178	33.01	-10.50
1882.50	5	QPSK	H	355	21	1 / 24	18.38	4.74	23.12	0.205	33.01	-9.89
1912.50	5	QPSK	H	6	15	1 / 0	18.83	4.68	<b>23.51</b>	0.225	33.01	-9.50
1912.50	5	16-QAM	H	6	15	1 / 0	18.10	4.68	<b>22.78</b>	0.190	33.01	-10.23
1912.50	5	64-QAM	H	6	15	1 / 0	17.00	4.68	<b>21.68</b>	0.147	33.01	-11.33
1855.00	10	QPSK	H	355	23	1 / 49	17.75	4.81	22.56	0.180	33.01	-10.45
1882.50	10	QPSK	H	8	20	1 / 49	18.43	4.74	23.17	0.208	33.01	-9.84
1910.00	10	QPSK	H	10	19	1 / 0	18.97	4.68	<b>23.65</b>	0.232	33.01	-9.36
1910.00	10	16-QAM	H	10	19	1 / 0	18.09	4.68	<b>22.77</b>	0.189	33.01	-10.24
1910.00	10	64-QAM	H	10	19	1 / 0	16.99	4.68	<b>21.67</b>	0.147	33.01	-11.34
1857.50	15	QPSK	H	12	20	1 / 74	17.45	4.80	22.25	0.168	33.01	-10.76
1882.50	15	QPSK	H	4	19	1 / 74	18.40	4.74	23.14	0.206	33.01	-9.87
1907.50	15	QPSK	H	356	20	1 / 74	18.95	4.69	<b>23.64</b>	0.231	33.01	-9.37
1907.50	15	16-QAM	H	356	20	1 / 74	18.18	4.69	<b>22.87</b>	0.193	33.01	-10.14
1907.50	15	64-QAM	H	356	20	1 / 74	17.09	4.69	<b>21.78</b>	0.151	33.01	-11.23
1860.00	20	QPSK	H	350	16	1 / 99	17.49	4.79	22.28	0.169	33.01	-10.73
1882.50	20	QPSK	H	350	20	1 / 99	18.37	4.74	23.11	0.205	33.01	-9.90
1905.00	20	QPSK	H	9	20	1 / 99	19.03	4.69	<b>23.72</b>	0.235	33.01	-9.29
1905.00	20	16-QAM	H	9	20	1 / 99	18.17	4.69	<b>22.86</b>	0.193	33.01	-10.15
1905.00	20	64-QAM	H	9	20	1 / 99	17.09	4.69	<b>21.78</b>	0.151	33.01	-11.23
1913.50	3	QPSK	V	240	89	1 / 7	13.60	4.68	18.28	0.067	33.01	-14.73

Table 7-11. EIRP Data (Band 25/2)

FCC ID: A3LSMT837P		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
2502.50	5	QPSK	V	279	73	1 / 24	10.19	7.69	17.88	0.061	33.01	-15.13
2535.00	5	QPSK	V	279	73	1 / 24	11.17	7.69	18.86	0.077	33.01	-14.15
2567.50	5	QPSK	V	279	73	1 / 0	11.96	7.69	<b>19.65</b>	0.092	33.01	-13.36
2567.50	5	16-QAM	V	279	73	1 / 0	11.18	7.69	<b>18.87</b>	0.077	33.01	-14.14
2567.50	5	64-QAM	V	279	73	1 / 0	10.14	7.69	<b>17.83</b>	0.061	33.01	-15.18
2505.00	10	QPSK	V	102	113	1 / 0	11.64	7.69	19.33	0.086	33.01	-13.68
2535.00	10	QPSK	V	102	113	1 / 49	11.07	7.69	18.76	0.075	33.01	-14.25
2565.00	10	QPSK	V	102	113	1 / 49	12.52	7.69	<b>20.21</b>	0.105	33.01	-12.80
2565.00	10	16-QAM	V	102	113	1 / 49	11.57	7.69	<b>19.26</b>	0.084	33.01	-13.75
2565.00	10	64-QAM	V	102	113	1 / 49	10.49	7.69	<b>18.18</b>	0.066	33.01	-14.83
2507.50	15	QPSK	V	214	97	1 / 0	11.35	7.69	19.04	0.080	33.01	-13.97
2535.00	15	QPSK	V	214	97	1 / 0	11.46	7.69	19.15	0.082	33.01	-13.86
2562.50	15	QPSK	V	214	97	1 / 0	14.83	7.69	<b>22.52</b>	<b>0.179</b>	33.01	-10.49
2562.50	15	16-QAM	V	214	97	1 / 0	14.01	7.69	<b>21.70</b>	0.148	33.01	-11.31
2562.50	15	64-QAM	V	214	97	1 / 0	12.86	7.69	<b>20.55</b>	0.114	33.01	-12.46
2510.00	20	QPSK	V	111	100	1 / 0	11.80	7.69	19.49	0.089	33.01	-13.52
2535.00	20	QPSK	V	111	100	1 / 99	12.79	7.69	<b>20.48</b>	0.112	33.01	-12.53
2560.00	20	QPSK	V	111	100	1 / 0	11.18	7.69	18.87	0.077	33.01	-14.14
2535.00	20	16-QAM	V	111	100	1 / 99	12.06	7.69	<b>19.75</b>	0.094	33.01	-13.26
2535.00	20	64-QAM	V	111	100	1 / 99	11.16	7.69	18.85	0.077	33.01	-14.16
2562.50	15	QPSK	H	149	141	1 / 0	13.35	7.69	21.04	0.127	33.01	-11.97

**Table 7-12. EIRP Data (Band 7)**

FCC ID: A3LSMT837P	 <b>MEASUREMENT REPORT (CERTIFICATION)</b> 		Approved by: Quality Manager
Test Report S/N: 1M1806060119-03.A3L	Test Dates: 6/6 - 6/27/2018	EUT Type: Portable Tablet	Page 183 of 221

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
2498.50	5	QPSK	H	33	141	1 / 24	21.43	5.73	27.16	0.520	33.01	-5.85
2593.00	5	QPSK	H	37	139	1 / 24	21.15	6.07	<b>27.22</b>	0.528	33.01	-5.79
2687.50	5	QPSK	H	33	49	1 / 0	17.31	6.48	23.79	0.239	33.01	-9.22
2498.50	5	16-QAM	H	33	141	1 / 24	20.44	5.73	<b>26.17</b>	0.414	33.01	-6.84
2498.50	5	64-QAM	H	33	141	1 / 24	19.66	5.73	<b>25.39</b>	0.346	33.01	-7.62
2501.00	10	QPSK	H	32	138	1 / 49	22.07	5.73	<b>27.80</b>	<b>0.603</b>	33.01	-5.21
2593.00	10	QPSK	H	33	140	25 / 12	20.09	6.07	26.16	0.413	33.01	-6.85
2685.00	10	QPSK	H	36	136	1 / 0	17.42	6.47	23.89	0.245	33.01	-9.12
2501.00	10	16-QAM	H	32	138	1 / 49	21.23	5.73	<b>26.96</b>	0.497	33.01	-6.05
2501.00	10	64-QAM	H	32	138	1 / 49	20.43	5.73	<b>26.16</b>	0.413	33.01	-6.85
2503.50	15	QPSK	H	38	137	1 / 74	21.73	5.74	<b>27.47</b>	0.559	33.01	-5.54
2593.00	15	QPSK	H	31	139	1 / 74	19.89	6.07	25.96	0.395	33.01	-7.05
2682.50	15	QPSK	H	32	142	1 / 0	17.34	6.46	23.80	0.240	33.01	-9.21
2503.50	15	16-QAM	H	38	137	1 / 74	20.48	5.74	<b>26.22</b>	0.419	33.01	-6.79
2503.50	15	64-QAM	H	38	137	1 / 74	19.77	5.74	<b>25.51</b>	0.356	33.01	-7.50
2506.00	20	QPSK	H	33	144	1 / 99	21.45	5.75	<b>27.20</b>	0.525	33.01	-5.81
2593.00	20	QPSK	H	35	136	1 / 99	19.70	6.07	25.77	0.378	33.01	-7.24
2680.00	20	QPSK	H	35	137	1 / 0	17.75	6.45	24.20	0.263	33.01	-8.81
2506.00	20	16-QAM	H	33	144	1 / 99	20.50	5.75	<b>26.25</b>	0.422	33.01	-6.76
2506.00	20	64-QAM	H	33	144	1 / 99	19.40	5.75	<b>25.15</b>	0.328	33.01	-7.86
2501.00	10	QPSK	V	169	324	1 / 49	21.01	5.73	26.74	0.472	33.01	-6.27

**Table 7-13. EIRP Data (Band 41 PC2)**

FCC ID: A3LSMT837P	 <b>MEASUREMENT REPORT (CERTIFICATION)</b> 		Approved by: Quality Manager
Test Report S/N: 1M1806060119-03.A3L	Test Dates: 6/6 - 6/27/2018	EUT Type: Portable Tablet	Page 184 of 221

Frequency [MHz]	Channel Bandwidth [MHz]	Mod.	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	RB Size/Offset	Substitute Level [dBm]	Ant. Gain [dBi]	EIRP [dBm]	EIRP [Watts]	EIRP Limit [dBm]	Margin [dB]
2498.50	5	QPSK	H	33	141	1 / 24	18.62	5.73	<b>24.35</b>	0.272	33.01	-8.66
2593.00	5	QPSK	H	37	139	1 / 24	17.51	6.07	23.58	0.228	33.01	-9.43
2687.50	5	QPSK	H	33	49	1 / 0	16.63	6.48	23.11	0.205	33.01	-9.90
2498.50	5	16-QAM	H	33	141	1 / 24	17.50	5.73	<b>23.23</b>	0.210	33.01	-9.78
2498.50	5	64-QAM	H	33	141	1 / 24	16.49	5.73	<b>22.22</b>	0.167	33.01	-10.79
2501.00	10	QPSK	H	32	138	1 / 49	18.75	5.73	<b>24.48</b>	<b>0.281</b>	33.01	-8.53
2593.00	10	QPSK	H	33	140	25 / 12	17.45	6.07	23.52	0.225	33.01	-9.49
2685.00	10	QPSK	H	36	136	1 / 0	16.73	6.47	23.20	0.209	33.01	-9.81
2501.00	10	16-QAM	H	32	138	1 / 49	17.89	5.73	<b>23.62</b>	0.230	33.01	-9.39
2501.00	10	64-QAM	H	32	138	1 / 49	17.13	5.73	<b>22.86</b>	0.193	33.01	-10.15
2503.50	15	QPSK	H	38	137	1 / 74	18.52	5.74	<b>24.26</b>	0.267	33.01	-8.75
2593.00	15	QPSK	H	31	139	1 / 74	17.66	6.07	23.73	0.236	33.01	-9.28
2682.50	15	QPSK	H	32	142	1 / 0	16.82	6.46	23.28	0.213	33.01	-9.73
2503.50	15	16-QAM	H	38	137	1 / 74	17.48	5.74	<b>23.22</b>	0.210	33.01	-9.79
2503.50	15	64-QAM	H	38	137	1 / 74	16.63	5.74	<b>22.37</b>	0.173	33.01	-10.64
2506.00	20	QPSK	H	33	144	1 / 99	18.47	5.75	<b>24.22</b>	0.264	33.01	-8.79
2593.00	20	QPSK	H	35	136	1 / 99	17.74	6.07	23.81	0.241	33.01	-9.20
2680.00	20	QPSK	H	35	137	1 / 0	16.75	6.45	23.20	0.209	33.01	-9.81
2506.00	20	16-QAM	H	33	144	1 / 99	17.73	5.75	<b>23.48</b>	0.223	33.01	-9.53
2506.00	20	64-QAM	H	33	144	1 / 99	16.82	5.75	<b>22.57</b>	0.181	33.01	-10.44
2501.00	10	QPSK	V	169	324	1 / 49	17.52	5.73	23.25	0.212	33.01	-9.76

**Table 7-14. EIRP Data (Band 41 PC3)**

FCC ID: A3LSMT837P	 <b>MEASUREMENT REPORT (CERTIFICATION)</b> 		Approved by: Quality Manager
Test Report S/N: 1M1806060119-03.A3L	Test Dates: 6/6 - 6/27/2018	EUT Type: Portable Tablet	Page 185 of 221

## 7.9 Radiated Spurious Emissions Measurements

### Test Overview

Radiated spurious emissions measurements are performed using the substitution method described in ANSI/TIA-603-E-2016 with the EUT transmitting into an integral antenna. Measurements on signals operating below 1GHz are performed using vertically and horizontally polarized tuned dipole antennas. Measurements on signals operating above 1GHz are performed using vertically and horizontally polarized broadband horn antennas.

### Test Procedures Used

KDB 971168 D01 v03r01 – Section 5.8

ANSI/TIA-603-E-2016 – Section 2.2.12

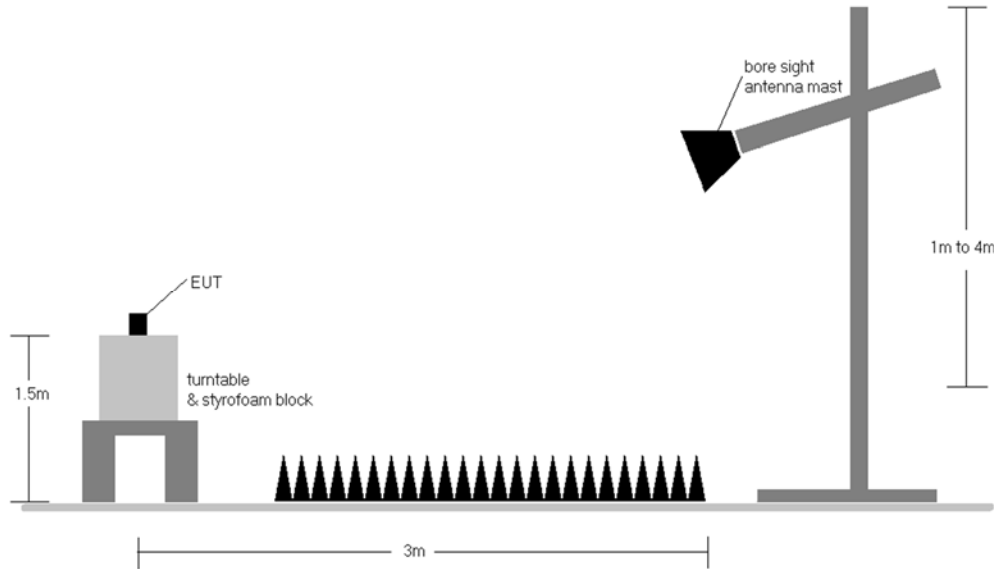
### Test Settings

1. RBW = 100kHz for emissions below 1GHz and 1MHz for emissions above 1GHz
2. VBW  $\geq 3 \times$  RBW
3. Span = 1.5 times the OBW
4. No. of sweep points  $\geq 2 \times$  span / RBW
5. Detector = RMS
6. Trace mode = Average (Max Hold for pulsed emissions)
7. The trace was allowed to stabilize

FCC ID: A3LSMT837P	 <b>MEASUREMENT REPORT (CERTIFICATION)</b> 		<b>Approved by:</b> Quality Manager
<b>Test Report S/N:</b> 1M1806060119-03.A3L	<b>Test Dates:</b> 6/6 - 6/27/2018	<b>EUT Type:</b> Portable Tablet	Page 186 of 221

**Test Setup**

The EUT and measurement equipment were set up as shown in the diagram below.



**Figure 7-9. Test Instrument & Measurement Setup**

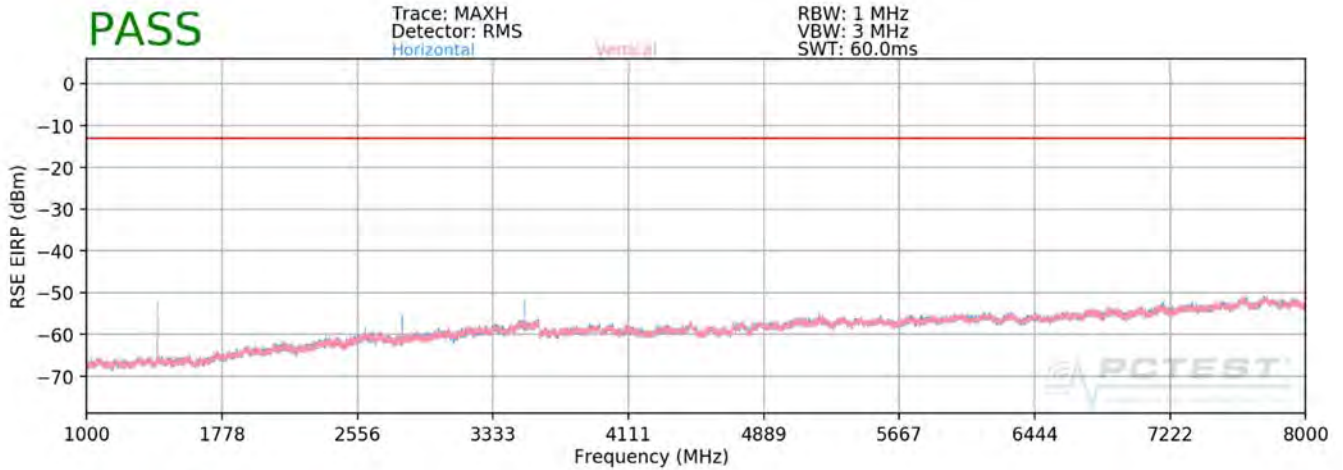
**Test Notes**

- 1) The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case emissions are reported with the EUT positioning, modulations, RB sizes and offsets, and channel bandwidth configurations shown in the tables below.
- 2) This unit was tested with its standard battery.
- 3) The spectrum is measured from 9kHz to the 10th harmonic of the fundamental frequency of the transmitter. The worst-case emissions are reported.
- 4) Emissions below 18GHz were measured at a 3 meter test distance while emissions above 18GHz were measured at a 1 meter test distance with the application of a distance correction factor.
- 5) The "-" shown in the following RSE tables are used to denote a noise floor measurement.

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**Band 12**



**Plot 7-298. Radiated Spurious Plot above 1GHz (Band 12)**

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	124	10	-59.87	7.54	-52.33	-39.3
2112.00	H	202	320	-64.04	8.85	-55.20	-42.2
2816.00	H	119	52	-68.30	10.12	-58.18	-45.2
3520.00	H	129	307	-64.93	9.91	-55.02	-42.0
4224.00	H	-	-	-69.03	10.50	-58.53	-45.5

**Table 7-15. Radiated Spurious Data (Band 12 – Low Channel)**

FCC ID: A3LSMT837P	PCTEST ENGINEERING LABORATORY, INC.	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1806060119-03.A3L	Test Dates: 6/6 - 6/27/2018	EUT Type: Portable Tablet		Page 188 of 221

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	174	32	-60.48	7.63	-52.85	-39.9
2122.50	H	188	325	-73.11	8.86	-64.25	-51.3
2830.00	H	121	43	-65.79	10.10	-55.70	-42.7
3537.50	H	153	308	-65.40	9.90	-55.50	-42.5
4245.00	H	-	-	-70.18	10.58	-59.60	-46.6
4952.50	H	-	-	-68.28	10.92	-57.36	-44.4
5660.00	H	138	4	-68.82	11.22	-57.60	-44.6

**Table 7-16. Radiated Spurious Data (Band 12 – Mid Channel)**

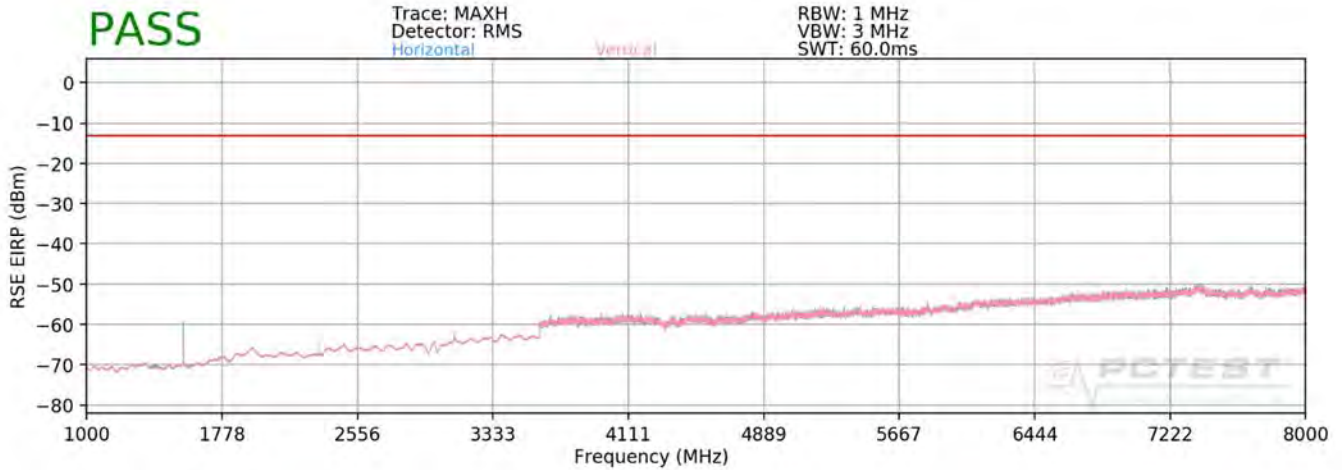
OPERATING FREQUENCY: 711.00 MHz  
 MODULATION SIGNAL: QPSK  
 BANDWIDTH: 10.0 MHz  
 DISTANCE: 3 meters  
 LIMIT: -13 dBm

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	187	17	-57.18	7.72	-49.45	-36.5
2133.00	H	192	329	-64.99	8.87	-56.12	-43.1
2844.00	H	131	52	-68.44	10.07	-58.37	-45.4
3555.00	H	178	314	-68.08	9.89	-58.19	-45.2
4266.00	H	-	-	-69.21	10.65	-58.56	-45.6

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

FCC ID: A3LSMT837P			MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1806060119-03.A3L	Test Dates: 6/6 - 6/27/2018	EUT Type: Portable Tablet		Page 189 of 221	

### Band 13



**Plot 7-299. Radiated Spurious Plot above 1GHz (Band 13)**

OPERATING FREQUENCY: 779.50 MHz  
 CHANNEL: 23205  
 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	150	334	-67.29	4.86	-62.43	-49.4
3118.00	H	150	136	-56.08	5.99	-50.10	-37.1
3897.50	H	150	318	-56.64	7.26	-49.37	-36.4
4677.00	H	-	-	-67.14	8.17	-58.97	-46.0
5456.50	H	150	205	-62.25	8.43	-53.82	-40.8

**Table 7-18. Radiated Spurious Data (Band 13 – Low Channel)**

FCC ID: A3LSMT837P		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1806060119-03.A3L	Test Dates: 6/6 - 6/27/2018	EUT Type: Portable Tablet		Page 190 of 221

OPERATING FREQUENCY: 782.00 MHz  
 CHANNEL: 23230  
 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]
2346.00	H	150	316	-62.87	4.88	-57.99	-45.0
3128.00	H	150	136	-55.79	6.02	-49.77	-36.8
3910.00	H	150	141	-53.23	7.25	-45.98	-33.0
4692.00	H	-	-	-67.43	8.20	-59.23	-46.2
5474.00	H	150	276	-59.78	8.43	-51.36	-38.4

**Table 7-19. Radiated Spurious Data (Band 13 – Mid Channel)**

OPERATING FREQUENCY: 784.50 MHz  
 CHANNEL: 23255  
 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	150	317	-63.97	4.90	-59.08	-46.1
3138.00	H	150	305	-63.80	6.05	-57.76	-44.8
3922.50	H	150	319	-59.84	7.22	-52.62	-39.6
4707.00	H	-	-	-67.42	8.22	-59.20	-46.2
5491.50	H	150	41	-63.61	8.42	-55.18	-42.2

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

FCC ID: A3LSMT837P			MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1806060119-03.A3L	Test Dates: 6/6 - 6/27/2018	EUT Type: Portable Tablet		Page 191 of 221	

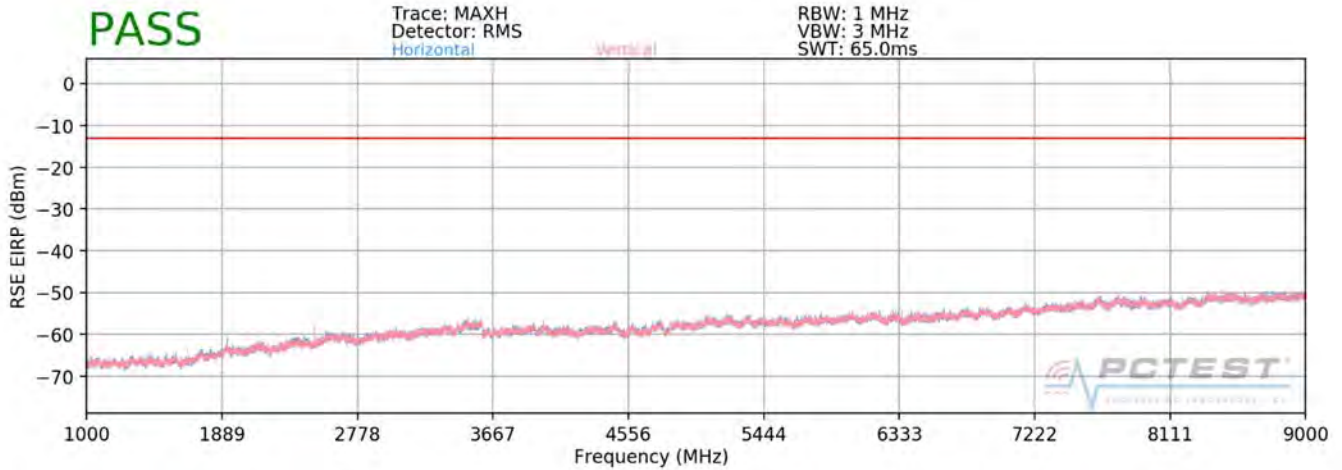
MODULATION SIGNAL:	QPSK	
BANDWIDTH:	5.00	MHz
DISTANCE:	3	meters
NARROWBAND EMISSION LIMIT:	-50	dBm
WIDEBAND EMISSION LIMIT:	-40	dBm/MHz

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	150	110	-57.33	4.47	-52.86	-12.9
1564.00	H	150	331	-61.02	4.50	-56.53	-16.5
1569.00	H	150	87	-60.40	4.53	-55.87	-15.9

**Table 7-21. Radiated Spurious Data (Band 13 – 1559-1610MHz Band)**

FCC ID: A3LSMT837P			MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1806060119-03.A3L	Test Dates: 6/6 - 6/27/2018	EUT Type: Portable Tablet		Page 192 of 221	

**Band 26/5**



**Plot 7-300. 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	106	56	-62.89	8.99	-53.90	-40.9
2479.50	H	224	11	-69.73	9.12	-60.60	-47.6
3306.00	H	135	56	-69.98	9.37	-60.62	-47.6
4132.50	H	1116	321	-70.05	9.89	-60.16	-47.2
4959.00	H	102	276	-73.97	11.24	-62.73	-49.7
5785.50	H	117	45	-73.50	11.36	-62.13	-49.1
6612.00	H	-	-	-71.37	11.21	-60.15	-47.2
7438.50	H	-	-	-70.28	10.86	-59.42	-46.4
8265.00	H	102	225	-60.30	11.75	-48.55	-35.6

**Table 7-22. Radiated Spurious Data (Band 26/5 – Low Channel)**

FCC ID: A3LSMT837P			MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1806060119-03.A3L	Test Dates: 6/6 - 6/27/2018	EUT Type: Portable Tablet		Page 193 of 221	

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	102	45	-59.43	8.85	-50.58	-37.6
2509.50	H	149	44	-78.00	9.17	-68.83	-55.8
3346.00	H	102	56	-76.46	9.36	-67.10	-54.1
4182.50	H	111	49	-74.20	10.19	-64.01	-51.0
5019.00	H	-	-	-75.76	11.10	-64.66	-51.7
5855.50	H	-	-	-74.99	11.32	-63.66	-50.7
6692.00	H	-	-	-69.84	10.94	-58.91	-45.9
7528.50	H	-	-	-70.56	11.05	-59.51	-46.5
8365.00	H	117	240	-67.39	11.76	-55.63	-42.6

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

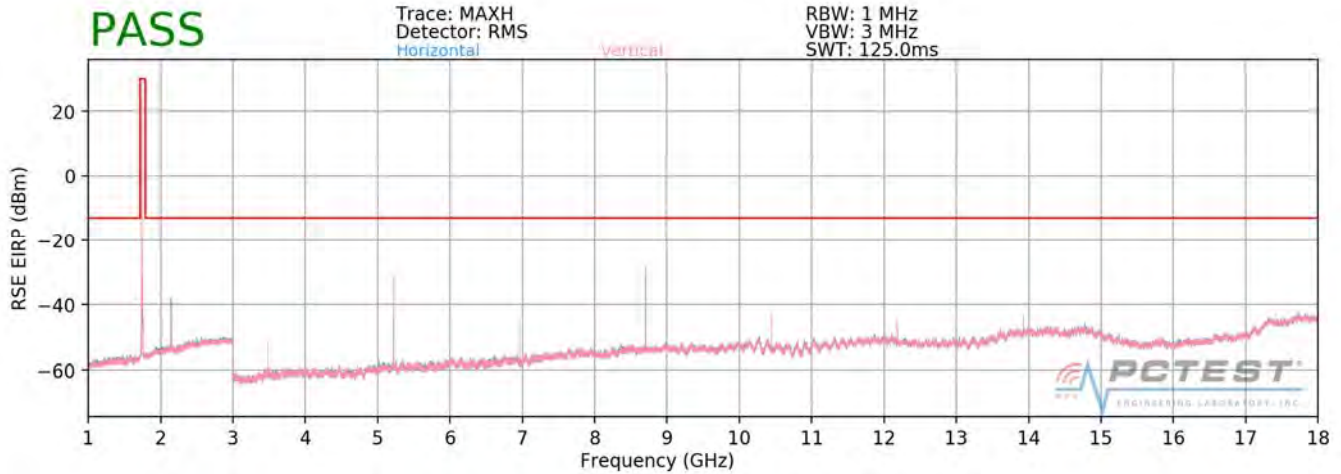
OPERATING FREQUENCY: 846.50 MHz  
 MODULATION SIGNAL: QPSK  
 BANDWIDTH: 5.0 MHz  
 DISTANCE: 3 meters  
 LIMIT: -13 dBm

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	140	48	-61.81	8.70	-53.10	-40.1
2539.50	H	111	55	-71.08	9.26	-61.82	-48.8
3386.00	H	394	316	-74.21	9.44	-64.77	-51.8
4232.50	H	241	117	-74.79	10.43	-64.36	-51.4
5079.00	H	-	-	-75.02	10.90	-64.12	-51.1
5925.50	H	111	0	-72.89	11.24	-61.65	-48.7
6772.00	H	-	-	-70.78	10.82	-59.96	-47.0
7618.50	H	-	-	-70.24	11.24	-59.00	-46.0
8465.00	H	106	46	-63.59	11.70	-51.89	-38.9

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

FCC ID: A3LSMT837P		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1806060119-03.A3L	Test Dates: 6/6 - 6/27/2018	EUT Type: Portable Tablet		Page 194 of 221

### Band 4



**Plot 7-301. Radiated Spurious Plot above 1GHz (Band 4)**

OPERATING FREQUENCY: 1712.50 MHz  
 CHANNEL: 19975  
 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]
3425.00	H	144	312	-56.35	9.83	-46.52	-33.5
5137.50	H	120	6	-43.72	10.69	-33.03	-20.0
6850.00	H	115	287	-51.07	11.64	-39.43	-26.4
8562.50	H	136	327	-36.70	11.14	-25.56	-12.6
10275.00	H	196	70	-53.55	12.21	-41.33	-28.3
11987.50	H	249	358	-54.78	12.55	-42.24	-29.2
13700.00	H	186	322	-50.64	12.04	-38.61	-25.6
15412.50	H	127	53	-63.65	15.74	-47.91	-34.9
17125.00	H	128	32	-54.94	13.45	-41.49	-28.5

**Table 7-25. Radiated Spurious Data (Band 4 – Low Channel)**

FCC ID: A3LSMT837P			MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1806060119-03.A3L	Test Dates: 6/6 - 6/27/2018	EUT Type: Portable Tablet		Page 195 of 221	



OPERATING FREQUENCY: 1732.50 MHz  
 CHANNEL: 20175  
 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]
3465.00	H	153	311	-55.18	9.91	-45.27	-32.3
5197.50	H	130	63	-42.01	10.73	-31.28	-18.3
6930.00	H	117	302	-53.38	11.82	-41.56	-28.6
8662.50	H	130	330	-37.11	11.00	-26.11	-13.1
10395.00	H	172	11	-53.42	12.58	-40.84	-27.8
12127.50	H	161	306	-57.42	13.11	-44.31	-31.3
13860.00	H	138	319	-50.87	11.85	-39.02	-26.0
15592.50	H	135	54	-63.70	16.63	-47.08	-34.1
17325.00	H	164	54	-50.20	12.24	-37.96	-25.0

Table 7-26. Radiated Spurious Data (Band 4 – Mid Channel)

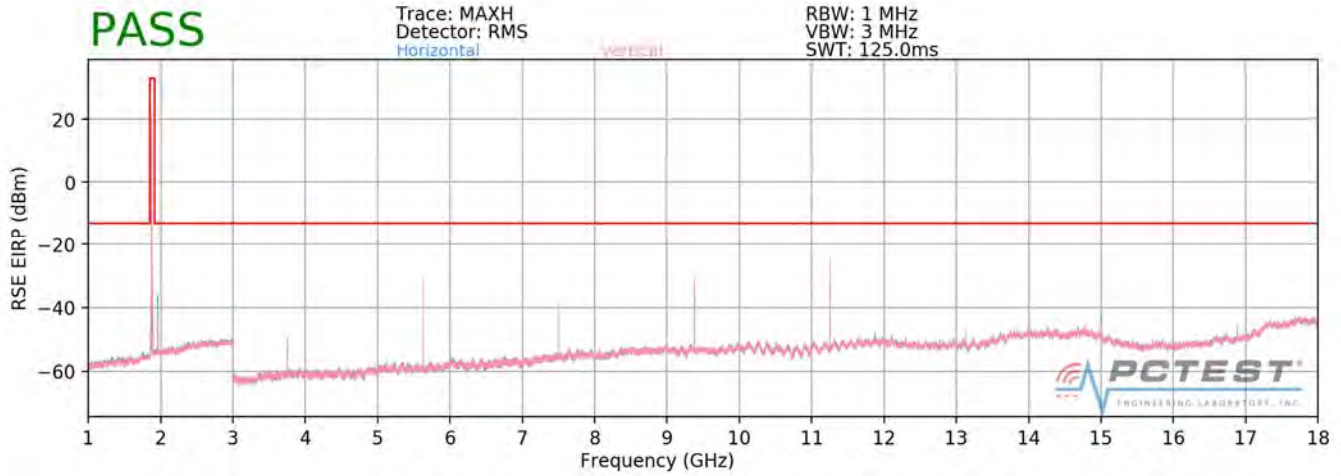
OPERATING FREQUENCY: 1752.50 MHz  
 CHANNEL: 20375  
 MODULATION SIGNAL: QPSK  
 BANDWIDTH: 5.0 MHz  
 DISTANCE: 3 meters  
 LIMIT: -13 dBm

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]
3505.00	H	115	314	-53.21	9.89	-43.32	-30.3
5257.50	H	113	65	-40.74	10.70	-30.05	-17.0
7010.00	H	115	302	-55.05	11.73	-43.32	-30.3
8762.50	H	131	331	-39.94	11.03	-28.91	-15.9
10515.00	H	128	9	-52.38	12.56	-39.83	-26.8
12267.50	H	289	309	-57.46	13.47	-43.99	-31.0
14020.00	H	125	21	-50.29	11.37	-38.91	-25.9
15772.50	H	135	10	-65.23	16.72	-48.51	-35.5
17525.00	H	154	67	-47.33	10.28	-37.05	-24.1

Table 7-27. Radiated Spurious Data (Band 4 – High Channel)

FCC ID: A3LSMT837P		MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
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**Band 25/2**



**Plot 7-302. Radiated Spurious Plot above 1GHz (Band 25/2)**

OPERATING FREQUENCY: 1851.50 MHz  
 MODULATION SIGNAL: QPSK  
 BANDWIDTH: 3.0 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]
3703.00	H	124	58	-57.26	9.57	-47.69	-34.7
5554.50	H	112	57	-48.54	10.95	-37.59	-24.6
7406.00	H	114	225	-63.27	10.96	-52.31	-39.3
9257.50	H	112	255	-48.04	11.63	-36.42	-23.4
11109.00	H	113	58	-50.50	12.74	-37.76	-24.8
12960.50	H	113	29	-64.02	13.29	-50.73	-37.7
14812.00	H	112	104	-57.85	12.47	-45.38	-32.4
16663.50	H	-	-	-65.79	15.43	-50.36	-37.4

**Table 7-28. Radiated Spurious Data (Band 25/2 – Low Channel)**

FCC ID: A3LSMT837P		MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1806060119-03.A3L	Test Dates: 6/6 - 6/27/2018	EUT Type: Portable Tablet			Page 197 of 221

OPERATING FREQUENCY: 1880.00 MHz  
 MODULATION SIGNAL: QPSK  
 BANDWIDTH: 3.0 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]
3760.00	H	115	59	-57.09	9.37	-47.73	-34.7
5640.00	H	121	57	-49.21	11.17	-38.04	-25.0
7520.00	H	114	48	-58.91	11.11	-47.80	-34.8
9400.00	H	118	248	-48.17	11.57	-36.60	-23.6
11280.00	H	114	57	-44.80	12.72	-32.09	-19.1
13160.00	H	117	32	-65.33	13.15	-52.18	-39.2
15040.00	H	114	100	-61.27	13.52	-47.76	-34.8
16920.00	H	117	360	-64.09	14.36	-49.72	-36.7

**Table 7-29. Radiated Spurious Data (Band 25/2 – Mid Channel)**

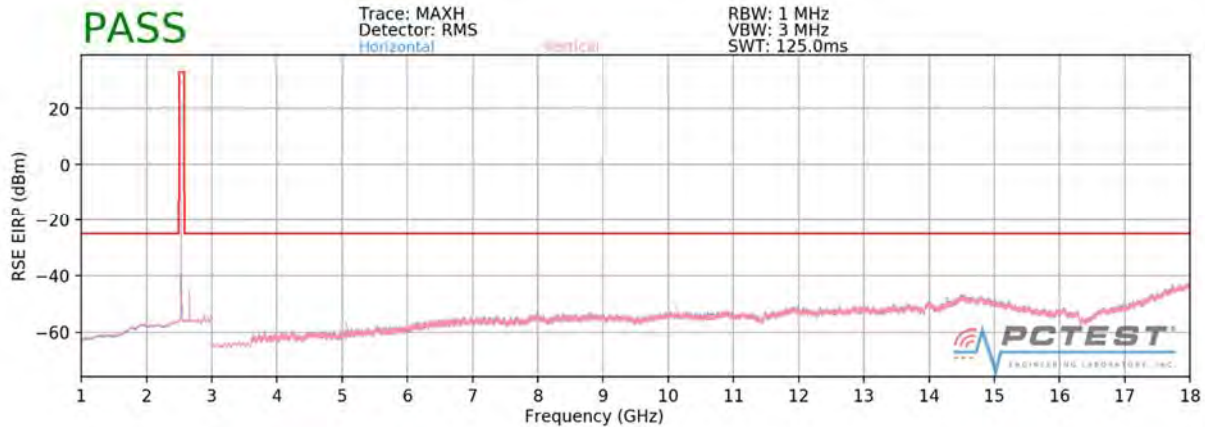
OPERATING FREQUENCY: 1913.50 MHz  
 MODULATION SIGNAL: QPSK  
 BANDWIDTH: 3.0 MHz  
 DISTANCE: 3 meters  
 LIMIT: -13 dBm

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]
3827.00	H	116	41	-55.82	9.30	-46.52	-33.5
5740.50	H	119	47	-48.93	11.38	-37.56	-24.6
7654.00	H	112	51	-55.28	11.32	-43.96	-31.0
9567.50	H	118	298	-43.87	11.77	-32.10	-19.1
11481.00	H	112	296	-41.59	12.82	-28.76	-15.8
13394.50	H	134	342	-61.01	12.79	-48.23	-35.2
15308.00	H	122	34	-62.54	14.87	-47.68	-34.7
17221.50	H	-	-	-62.15	13.34	-48.80	-35.8

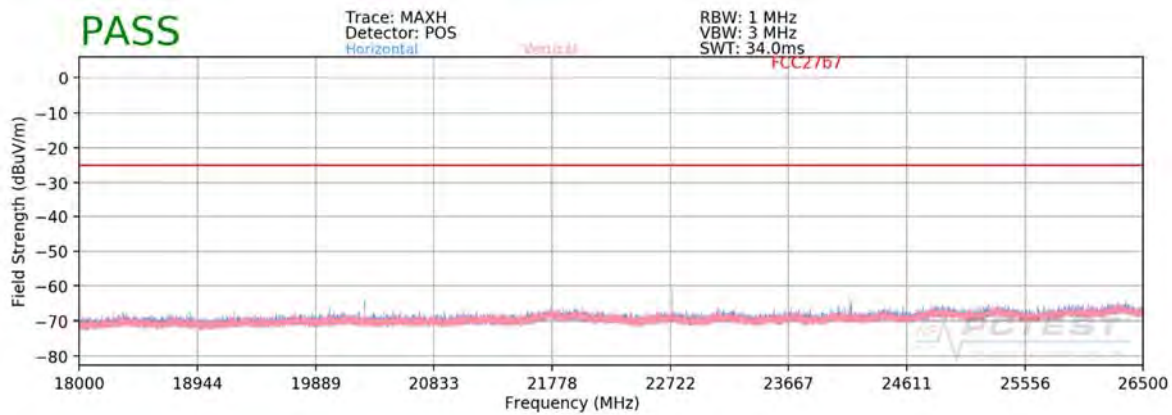
**Table 7-30. Radiated Spurious Data (Band 25/2 – High Channel)**

FCC ID: A3LSMT837P			MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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### Band 7



**Plot 7-303. Radiated Spurious Plot 1GHz - 18GHz (Band 7)**



**Plot 7-304. Radiated Spurious Plot 18GHz - 26.5GHz (Band 7)**

OPERATING FREQUENCY: 2507.50 MHz  
 CHANNEL: 20825  
 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	H	150	20	-60.81	8.35	-52.47	-27.5
7522.50	H	-	-	-62.46	8.45	-54.01	-29.0
10030.00	H	150	335	-60.55	9.84	-50.71	-25.7
12537.50	H	-	-	-59.69	9.29	-50.40	-25.4

**Table 7-31. Radiated Spurious Data (Band 7 - Low Channel)**

FCC ID: A3LSMT837P			MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1806060119-03.A3L	Test Dates: 6/6 - 6/27/2018	EUT Type: Portable Tablet		Page 199 of 221	

OPERATING FREQUENCY: 2535.00 MHz  
 CHANNEL: 21100  
 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	H	150	10	-59.87	8.39	-51.48	-26.5
7605.00	H	150	249	-62.58	8.51	-54.07	-29.1
10140.00	H	150	263	-55.71	9.70	-46.01	-21.0
12675.00	H	-	-	-59.08	9.24	-49.84	-24.8

**Table 7-32. Radiated Spurious Data (Band 7 – Mid Channel)**

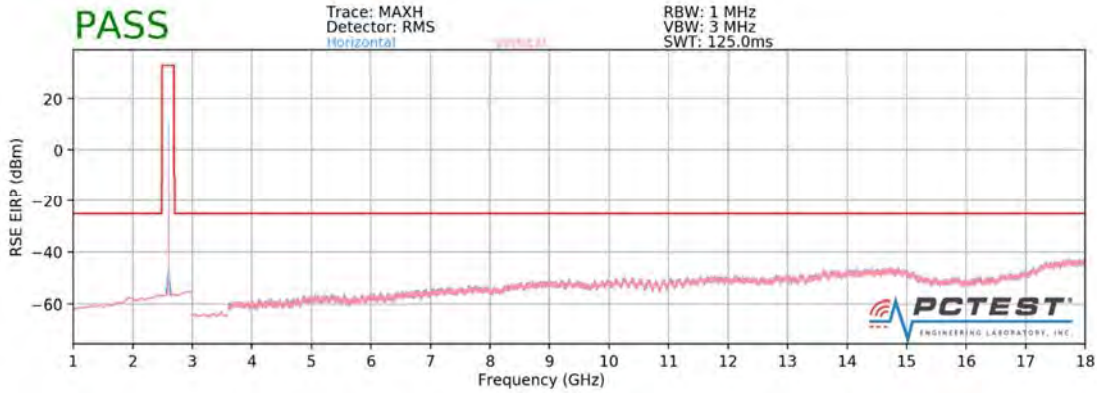
OPERATING FREQUENCY: 2562.50 MHz  
 CHANNEL: 21375  
 MODULATION SIGNAL: QPSK  
 BANDWIDTH: 15.0 MHz  
 DISTANCE: 3 meters  
 LIMIT: -25 dBm

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	H	150	20	-63.10	8.42	-54.67	-29.7
7687.50	H	-	-	-62.86	8.63	-54.23	-29.2
10250.00	H	-	-	-62.21	9.71	-52.50	-27.5

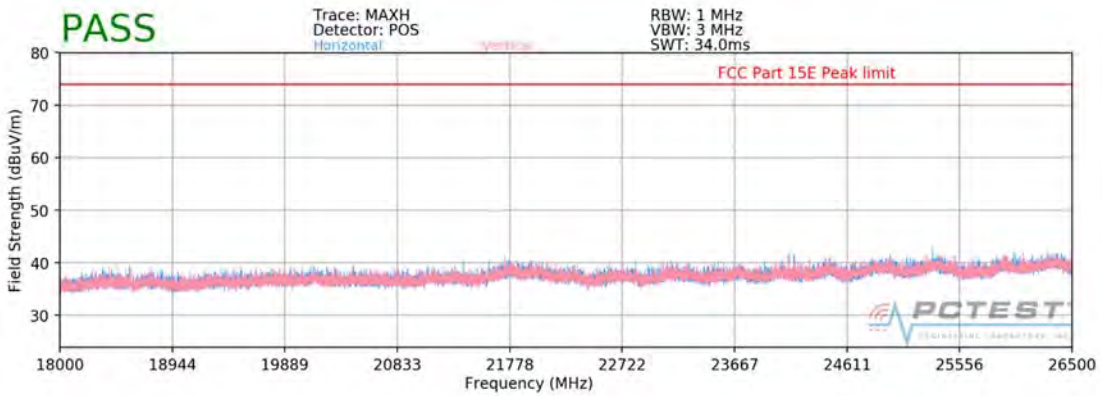
**Table 7-33. Radiated Spurious Data (Band 7 – High Channel)**

FCC ID: A3LSMT837P		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M1806060119-03.A3L	Test Dates: 6/6 - 6/27/2018	EUT Type: Portable Tablet		Page 200 of 221

### Band 41 (PC2)



**Plot 7-305. Radiated Spurious Plot 1GHz - 18GHz (Band 41 PC2)**



**Plot 7-306. Radiated Spurious Plot 18GHz - 26.5GHz (Band 41 PC2)**

OPERATING FREQUENCY: 2505.00 MHz  
 MODULATION SIGNAL: QPSK  
 BANDWIDTH: 10.0 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]
5010.00	H	246	292	-57.16	11.14	-46.02	-21.0
7515.00	H	154	51	-47.79	11.02	-36.78	-11.8
10020.00	H	144	36	-49.22	12.15	-37.06	-12.1
12525.00	H	168	22	-58.01	12.78	-45.23	-20.2
15030.00	H	117	39	-55.35	11.69	-43.66	-18.7

**Table 7-34. Radiated Spurious Data (Band 41 PC2 - Low Channel)**

FCC ID: A3LSMT837P		MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
Test Report S/N: 1M1806060119-03.A3L	Test Dates: 6/6 - 6/27/2018	EUT Type: Portable Tablet		Page 201 of 221	

OPERATING FREQUENCY: 2593.00 MHz  
 MODULATION SIGNAL: QPSK  
 BANDWIDTH: 10.0 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	348	313	-60.33	10.82	-49.51	-24.5
7779.00	H	120	62	-52.36	11.45	-40.90	-15.9
10372.00	H	140	16	-47.73	12.53	-35.19	-10.2
12965.00	H	149	56	-56.41	12.70	-43.71	-18.7
15558.00	H	158	31	-52.85	15.04	-37.81	-12.8

**Table 7-35. Radiated Spurious Data (Band 41 – Mid Channel)**

OPERATING FREQUENCY: 2685.00 MHz  
 MODULATION SIGNAL: QPSK  
 BANDWIDTH: 10.0 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]
5370.00	H	237	80	-59.89	11.04	-48.85	-23.8
8055.00	H	113	37	-54.58	11.40	-43.18	-18.2
10740.00	H	260	22	-54.74	12.85	-41.88	-16.9
13425.00	H	180	22	-58.46	12.75	-45.71	-20.7
16110.00	H	116	33	-55.34	16.29	-39.05	-14.1

**Table 7-36. Radiated Spurious Data (Band 41 – High Channel)**

FCC ID: A3LSMT837P		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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## 7.10 Uplink Carrier Aggregation Radiated Measurements

\$2.1053, \$27.53(m)

### Test Overview

Radiated spurious emissions measurements are performed using the substitution method described in ANSI/TIA-603-D-2010 with the EUT transmitting into an integral antenna. Measurements on signals operating below 1GHz are performed using vertically and horizontally polarized tuned dipole antennas. Measurements on signals operating above 1GHz are performed using vertically and horizontally polarized broadband horn antennas. All measurements are performed as peak measurements while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies.

### Test Procedures Used

KDB 971168 D01 v02r02 – Section 5.8

ANSI/TIA-603-D-2010 – Section 2.2.12

### Test Settings

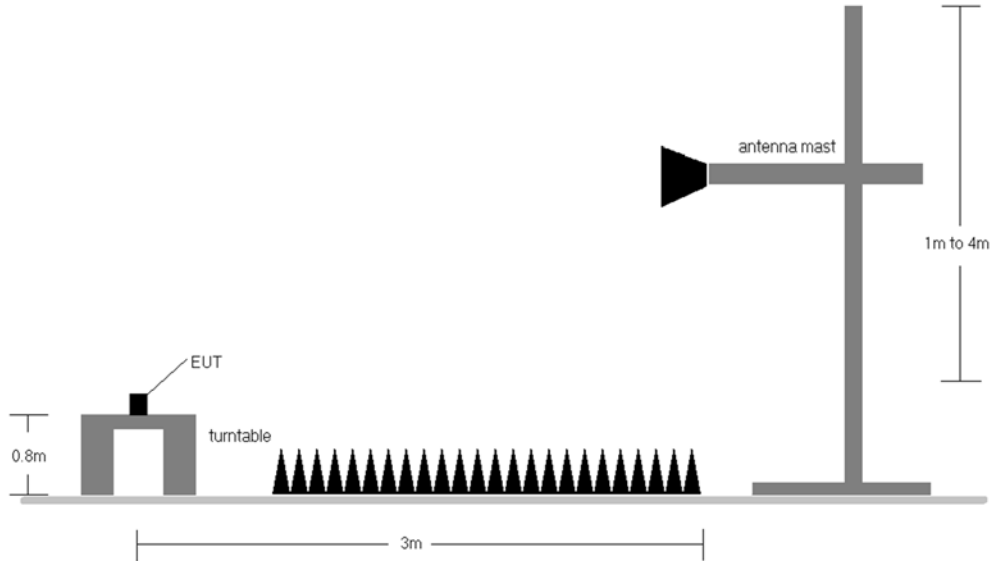
1. RBW = 100kHz for emissions below 1GHz and 1MHz for emissions above 1GHz
2. VBW  $\geq$  3 x RBW
3. No. of sweep points  $\geq$  2 x span / RBW
4. Detector = RMS
5. Trace mode = Max Hold
6. The trace was allowed to stabilize

FCC ID: A3LSMT837P	 <b>MEASUREMENT REPORT (CERTIFICATION)</b> 		<b>Approved by:</b> Quality Manager
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**Test Setup**

The EUT and measurement equipment were set up as shown in the diagram below.

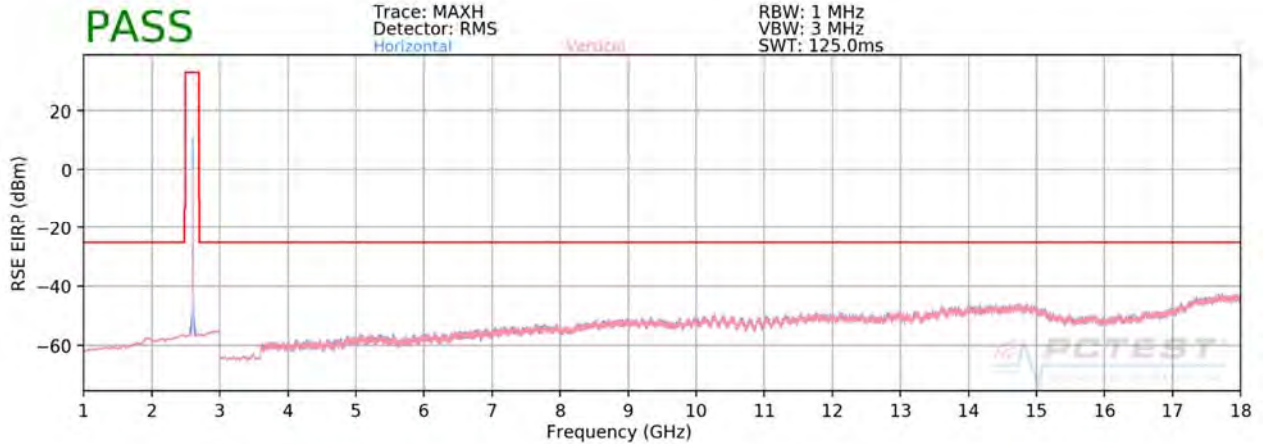


**Figure 7-10. Test Instrument & Measurement Setup**

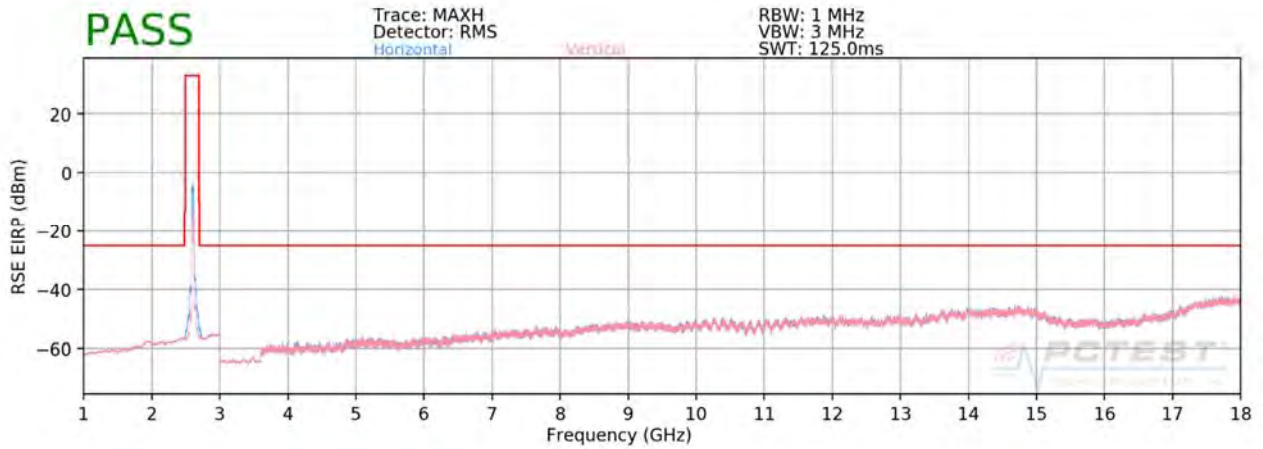
**Test Notes**

- 1) The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case emissions are reported with the EUT positioning, modulations, RB sizes and offsets, and channel bandwidth configurations shown in the tables below.
- 2) This unit was tested with its standard battery.
- 3) Radiated spurious emissions measurements were evaluated for the two contiguous channels using various combinations of RB size, RB offset, modulation, and channel bandwidth. The worst case (highest) emissions were found while operating with QPSK modulation with both carriers set to transmit using 1RB.
- 4) The spectrum is measured from 9kHz to the 10th harmonic of the fundamental frequency of the transmitter. The worst-case emissions are reported.
- 5) Emissions below 18GHz were measured at a 3 meter test distance while emissions above 18GHz were measured at a 1 meter test distance with the application of a distance correction factor.
- 6) No significant emissions were found as a result of two uplink carriers operating contiguously.

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Plot 7-37. Radiated Spurious Plot (ULCA B41 PCC: RB 1 Offset 99, SCC: RB 1 Offset 0)



Plot 7-38. Radiated Spurious Plot (ULCA B41 PCC: RB 100 Offset 0, SCC: RB 100 Offset 0)

OPERATING FREQUENCY: 2593.00 MHz  
 MODULATION SIGNAL: QPSK  
 BANDWIDTH: 10.0 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	117	217	-65.13	11.79	-53.34	-28.3
7779.00	H	205	280	-60.30	10.95	-49.36	-24.4
10372.00	H	-	-	-60.98	11.98	-49.00	-24.0

Plot 7-39. Radiated Spurious Data (ULCA B41 PCC: RB 1 Offset 0, SCC: RB 1 Offset 99)

FCC ID: A3LSMT837P		MEASUREMENT REPORT (CERTIFICATION)			Approved by: Quality Manager
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## 7.11 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

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## Band 12 Frequency Stability Measurements

OPERATING FREQUENCY: 707,500,000 Hz  
 CHANNEL: 23790  
 REFERENCE VOLTAGE: 3.85 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.85	+ 20 (Ref)	707,500,258	258	0.0000365
100 %		- 30	707,499,891	-109	-0.0000154
100 %		- 20	707,499,984	-16	-0.0000023
100 %		- 10	707,499,997	-3	-0.0000004
100 %		0	707,500,100	100	0.0000141
100 %		+ 10	707,499,852	-148	-0.0000209
100 %		+ 20	707,499,886	-114	-0.0000161
100 %		+ 30	707,500,083	83	0.0000117
100 %		+ 40	707,500,308	308	0.0000435
100 %		+ 50	707,499,769	-231	-0.0000327
BATT. ENDPOINT	3.20	+ 20	707,500,084	84	0.0000119

**Table 7-40. Frequency Stability Data (Band 12)**

**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.

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## Band 12 Frequency Stability Measurements

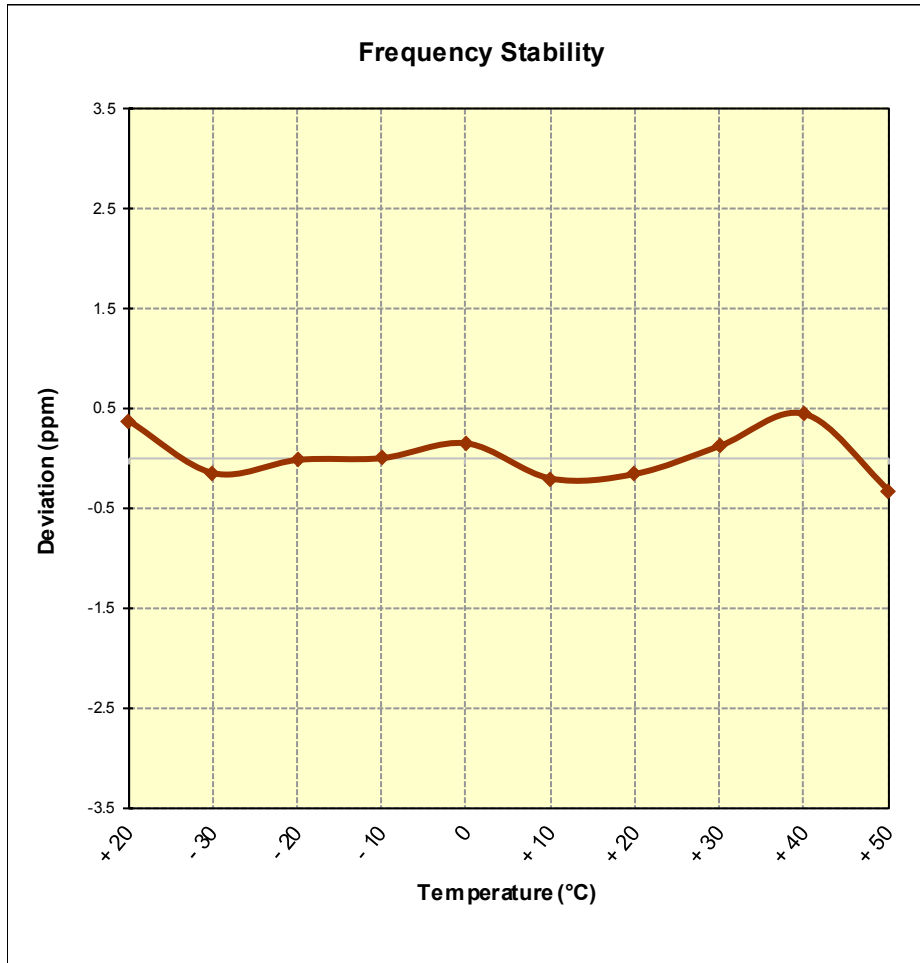


Figure 7-11. Frequency Stability Graph (Band 12)

FCC ID: A3LSMT837P		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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## Band 13 Frequency Stability Measurements

OPERATING FREQUENCY: 782,000,000 Hz  
 CHANNEL: 23230  
 REFERENCE VOLTAGE: 3.85 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.85	+ 20 (Ref)	782,000,089	89	0.0000114
100 %		- 30	781,999,777	-223	-0.0000285
100 %		- 20	782,000,079	79	0.0000101
100 %		- 10	781,999,946	-54	-0.0000069
100 %		0	781,999,933	-67	-0.0000086
100 %		+ 10	782,000,293	293	0.0000375
100 %		+ 20	781,999,842	-158	-0.0000202
100 %		+ 30	781,999,837	-163	-0.0000208
100 %		+ 40	782,000,287	287	0.0000367
100 %		+ 50	781,999,597	-403	-0.0000515
BATT. ENDPOINT	3.20	+ 20	782,000,078	78	0.0000100

**Table 7-41. 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.

FCC ID: A3LSMT837P	 <b>MEASUREMENT REPORT (CERTIFICATION)</b> 		Approved by: Quality Manager
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## Band 13 Frequency Stability Measurements

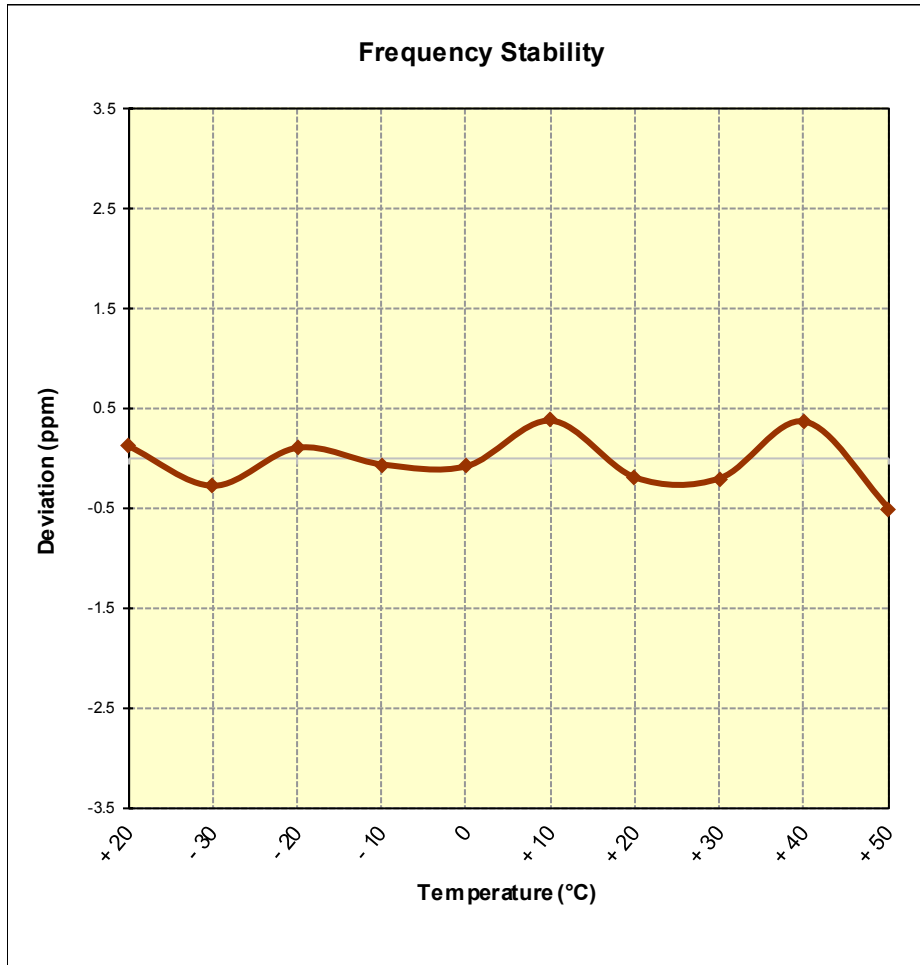


Figure 7-12. Frequency Stability Graph (Band 13)

FCC ID: A3LSMT837P		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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## Band 26/5 Frequency Stability Measurements

OPERATING FREQUENCY: 831,500,000 Hz  
 CHANNEL: 26865  
 REFERENCE VOLTAGE: 3.85 VDC  
 DEVIATION LIMIT: ± 0.00025 % or 2.5 ppm

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.85	+ 20 (Ref)	831,499,875	-125	-0.0000150
100 %		- 30	831,499,649	-351	-0.0000422
100 %		- 20	831,499,943	-57	-0.0000069
100 %		- 10	831,500,097	97	0.0000117
100 %		0	831,500,363	363	0.0000437
100 %		+ 10	831,500,273	273	0.0000328
100 %		+ 20	831,500,101	101	0.0000121
100 %		+ 30	831,500,069	69	0.0000083
100 %		+ 40	831,499,656	-344	-0.0000414
100 %		+ 50	831,500,104	104	0.0000125
BATT. ENDPOINT	3.20	+ 20	831,500,029	29	0.0000035

**Table 7-42. Frequency Stability Data (Band 26/5)**

FCC ID: A3LSMT837P			MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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### Band 26/5 Frequency Stability Measurements

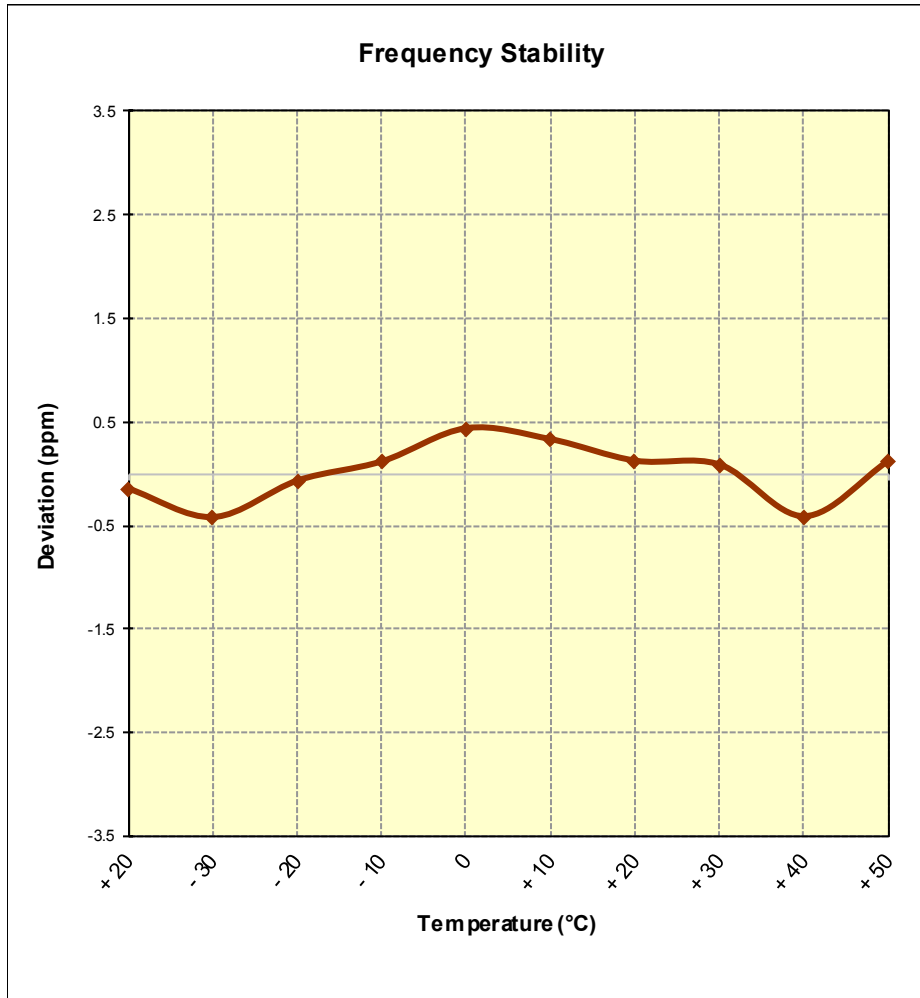


Figure 7-13. Frequency Stability Graph (Band 26/5)

FCC ID: A3LSMT837P		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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## Band 4 Frequency Stability Measurements

OPERATING FREQUENCY: 1,732,500,000 Hz  
 CHANNEL: 20175  
 REFERENCE VOLTAGE: 3.85 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.85	+ 20 (Ref)	1,732,500,074	74	0.0000043
100 %		- 30	1,732,499,947	-53	-0.0000031
100 %		- 20	1,732,500,143	143	0.0000083
100 %		- 10	1,732,500,135	135	0.0000078
100 %		0	1,732,500,232	232	0.0000134
100 %		+ 10	1,732,499,980	-20	-0.0000012
100 %		+ 20	1,732,499,922	-78	-0.0000045
100 %		+ 30	1,732,500,033	33	0.0000019
100 %		+ 40	1,732,500,251	251	0.0000145
100 %		+ 50	1,732,499,676	-324	-0.0000187
BATT. ENDPOINT	3.20	+ 20	1,732,499,925	-75	-0.0000043

**Table 7-43. Frequency Stability Data (Band 4)**

**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.

FCC ID: A3LSMT837P	 <b>MEASUREMENT REPORT (CERTIFICATION)</b> 		Approved by: Quality Manager
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## Band 4 Frequency Stability Measurements

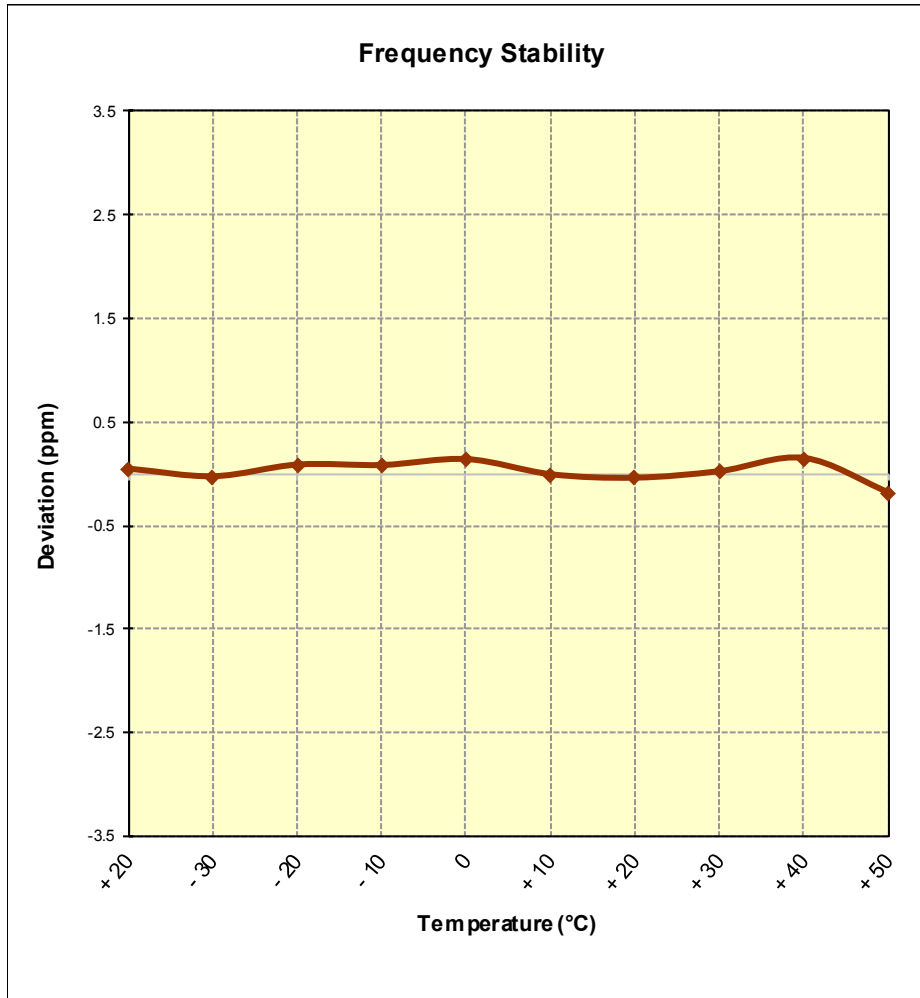


Figure 7-14. Frequency Stability Graph (Band 4)

FCC ID: A3LSMT837P		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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## Band 25/2 Frequency Stability Measurements

OPERATING FREQUENCY: 1,882,500,000 Hz  
 CHANNEL: 26365  
 REFERENCE VOLTAGE: 3.85 VDC  
 DEVIATION LIMIT: ± 0.00025 % or 2.5 ppm

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.85	+ 20 (Ref)	1,882,500,282	282	0.0000150
100 %		- 30	1,882,500,020	20	0.0000011
100 %		- 20	1,882,500,209	209	0.0000111
100 %		- 10	1,882,499,982	-18	-0.0000010
100 %		0	1,882,500,012	12	0.0000006
100 %		+ 10	1,882,499,866	-134	-0.0000071
100 %		+ 20	1,882,499,900	-100	-0.0000053
100 %		+ 30	1,882,499,682	-318	-0.0000169
100 %		+ 40	1,882,500,070	70	0.0000037
100 %		+ 50	1,882,500,024	24	0.0000013
BATT. ENDPOINT	3.20	+ 20	1,882,499,955	-45	-0.0000024

**Table 7-44. Frequency Stability Data (Band 25/2)**

FCC ID: A3LSMT837P	 <b>MEASUREMENT REPORT (CERTIFICATION)</b> 		Approved by: Quality Manager
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### Band 25/2 Frequency Stability Measurements

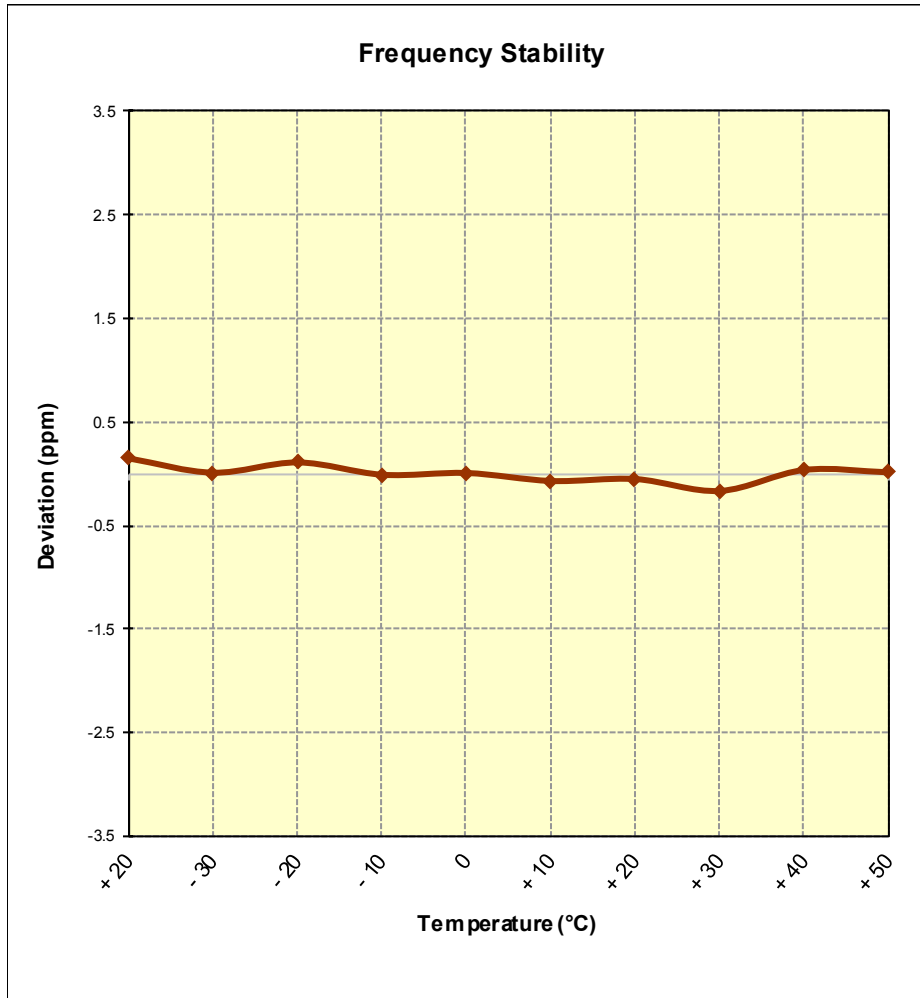


Figure 7-15. Frequency Stability Graph (Band 25/2)

FCC ID: A3LSMT837P		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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## Band 7 Frequency Stability Measurements

OPERATING FREQUENCY: 2,535,000,000 Hz  
 CHANNEL: 21100  
 REFERENCE VOLTAGE: 3.85 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.85	+ 20 (Ref)	2,534,999,945	-55	-0.0000022
100 %		- 30	2,535,000,169	169	0.0000067
100 %		- 20	2,535,000,032	32	0.0000013
100 %		- 10	2,534,999,572	-428	-0.0000169
100 %		0	2,534,999,864	-136	-0.0000054
100 %		+ 10	2,534,999,762	-238	-0.0000094
100 %		+ 20	2,534,999,865	-135	-0.0000053
100 %		+ 30	2,535,000,067	67	0.0000026
100 %		+ 40	2,534,999,926	-74	-0.0000029
100 %		+ 50	2,534,999,807	-193	-0.0000076
BATT. ENDPOINT	3.20	+ 20	2,535,000,034	34	0.0000013

**Table 7-45. 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.

FCC ID: A3LSMT837P		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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## Band 7 Frequency Stability Measurements

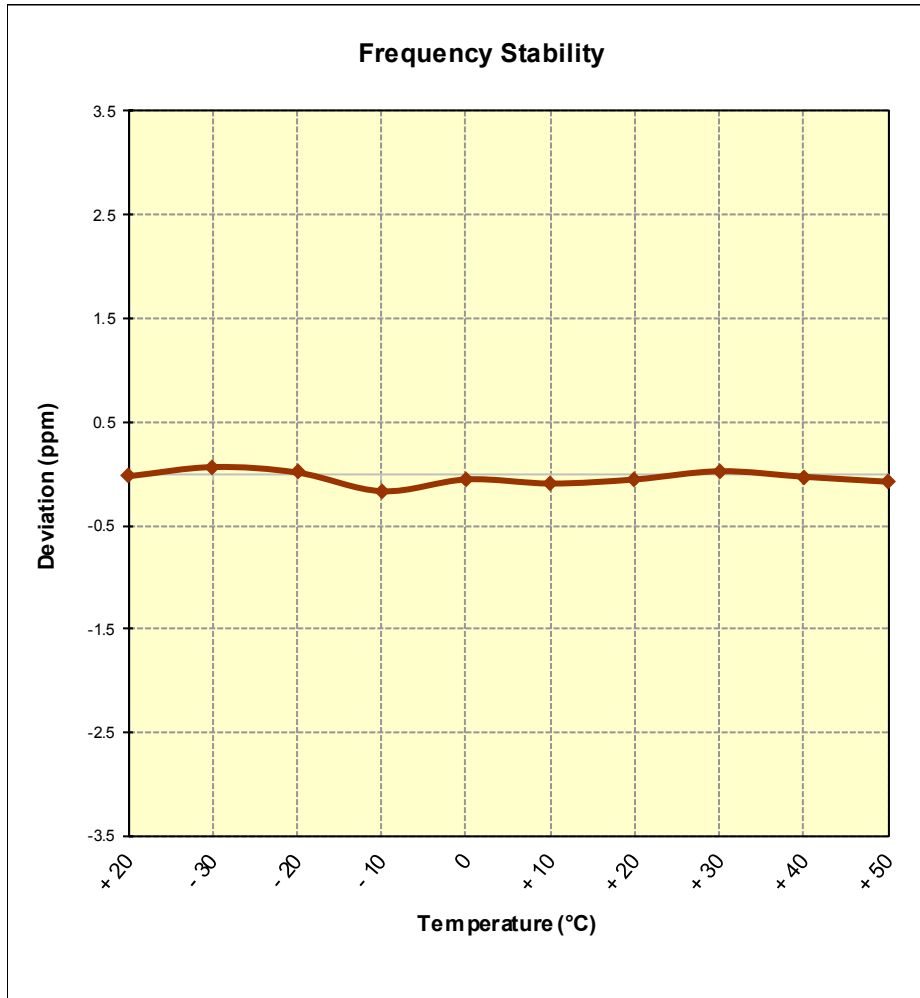


Figure 7-16. Frequency Stability Graph (Band 7)

FCC ID: A3LSMT837P		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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## Band 41 Frequency Stability Measurements

OPERATING FREQUENCY: 2,593,000,000 Hz  
 CHANNEL: 40620  
 REFERENCE VOLTAGE: 3.85 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	3.85	+ 20 (Ref)	2,592,999,979	-21	-0.0000008
100 %		- 30	2,593,000,168	168	0.0000065
100 %		- 20	2,593,000,081	81	0.0000031
100 %		- 10	2,592,999,870	-130	-0.0000050
100 %		0	2,593,000,484	484	0.0000187
100 %		+ 10	2,592,999,871	-129	-0.0000050
100 %		+ 20	2,592,999,812	-188	-0.0000073
100 %		+ 30	2,593,000,182	182	0.0000070
100 %		+ 40	2,593,000,070	70	0.0000027
100 %		+ 50	2,592,999,722	-278	-0.0000107
BATT. ENDPOINT	3.20	+ 20	2,592,999,760	-240	-0.0000093

**Table 7-46. Frequency Stability Data (Band 41)**

**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.

FCC ID: A3LSMT837P			<b>MEASUREMENT REPORT (CERTIFICATION)</b>		<b>Approved by:</b> Quality Manager
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## Band 41 Frequency Stability Measurements

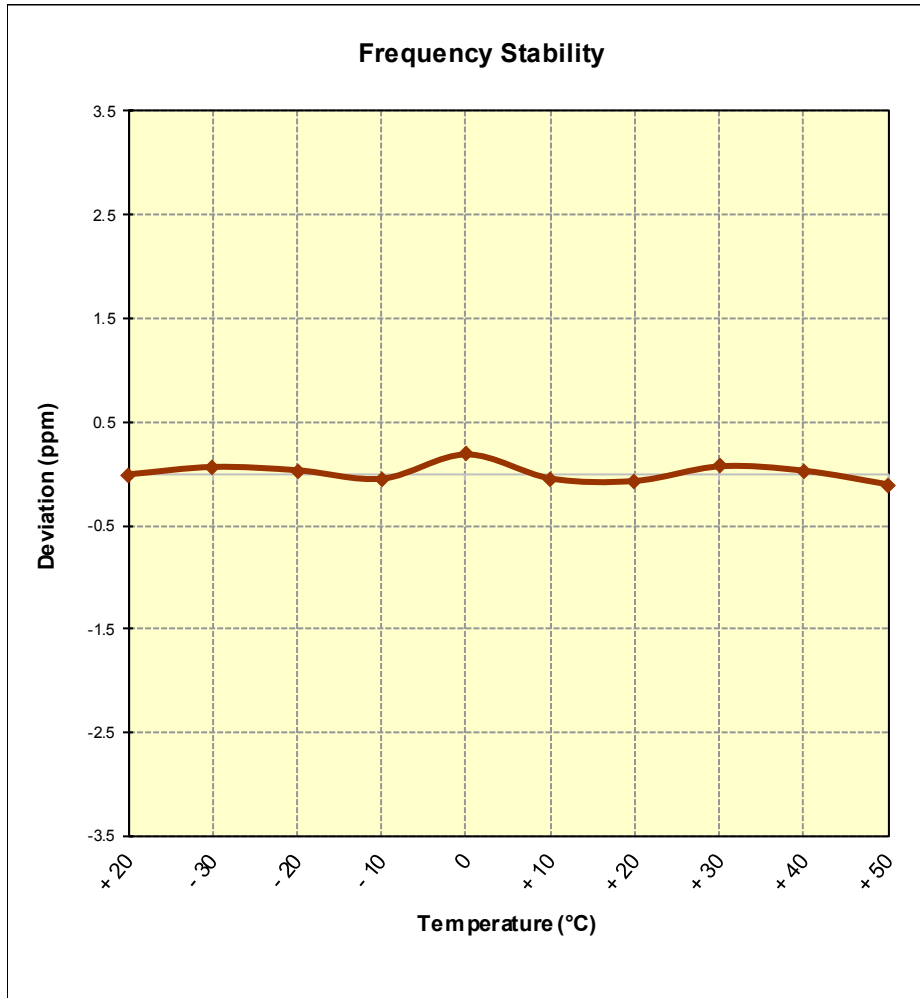


Figure 7-17. Frequency Stability Graph (Band 41)

FCC ID: A3LSMT837P		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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## 8.0 CONCLUSION

The data collected relate only to the item(s) tested and show that the **Samsung Portable Tablet FCC ID: A3LSMT837P** complies with all the requirements of Part 22, 24, & 27 of the FCC Rules for LTE operation only.

<b>FCC ID:</b> A3LSMT837P		<b>MEASUREMENT REPORT (CERTIFICATION)</b>		<b>Approved by:</b> Quality Manager
<b>Test Report S/N:</b> 1M1806060119-03.A3L	<b>Test Dates:</b> 6/6 - 6/27/2018	<b>EUT Type:</b> Portable Tablet	Page 221 of 221	