

<b>Bandwidth (MHz):</b>	20
<b>Frequency (MHz):</b>	836.5
<b>RB / Offset:</b>	1 / 50
<b>Mode:</b>	EN-DC
<b>Anchor Band:</b>	2310

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
1673.0	V	-	-	-75.93	-6.55	24.52	-70.74	-13.00	-57.74
4620.0	V	-	-	-77.61	2.62	32.01	-63.25	-13.00	-50.25

**Table 7-58. Radiated Spurious Data (Sub6 n5 + LTE Band 30 – Mid Channel)**

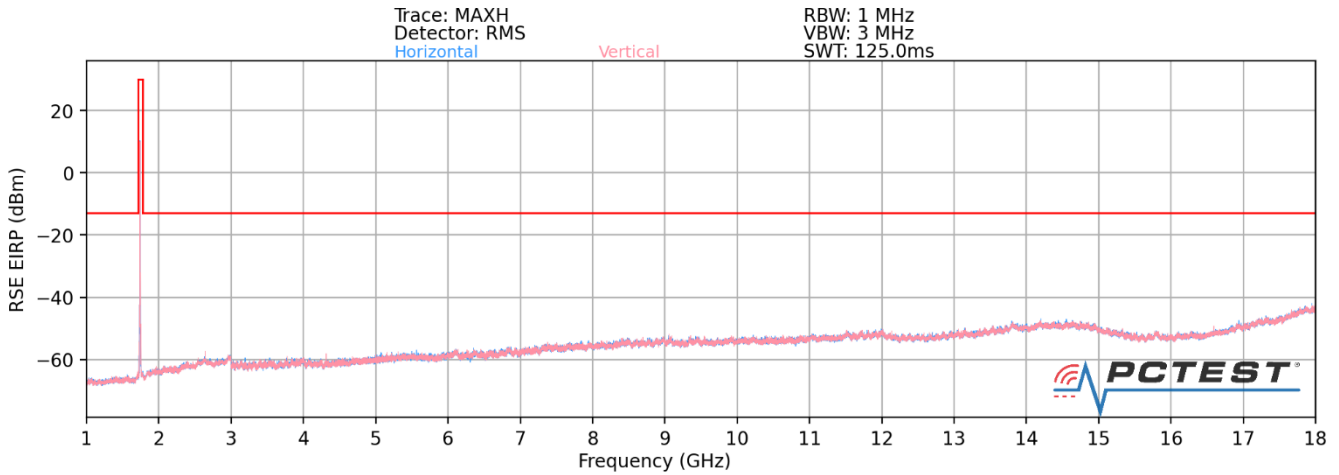
<b>Bandwidth (MHz):</b>	20
<b>Frequency (MHz):</b>	839.0
<b>RB / Offset:</b>	1 / 50
<b>Mode:</b>	EN-DC
<b>Anchor Band:</b>	2311.5

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
1678.0	V	-	-	-76.38	-6.44	24.18	-71.08	-13.00	-58.08
4623.0	V	-	-	-76.18	2.62	33.44	-61.82	-13.00	-48.82

**Table 7-59. Radiated Spurious Data (Sub6 n5 + LTE Band 30 – High Channel)**

<b>FCC ID:</b> ZNFK920AM	 <b>PCTEST</b> Proud to be part of 	<b>MEASUREMENT REPORT (CERTIFICATION)</b>		<b>Approved by:</b> Quality Manager
<b>Test Report S/N:</b> 1M2007130107-03.ZNF	<b>Test Dates:</b> 07/30/2020 - 09/03/2020	<b>EUT Type:</b> Portable Handset		Page 349 of 389

## EN-DC Sub6 n5 + LTE Band 66



Plot 7-572. Radiated Spurious Plot 1GHz - 18GHz (Sub6 n5 + LTE Band 66)

<b>Bandwidth (MHz):</b>	20
<b>Frequency (MHz):</b>	834.0
<b>RB / Offset:</b>	1 / 50
<b>Mode:</b>	EN-DC
<b>Anchor Band:</b>	1720

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
1668.0	V	115	201	-73.18	-6.66	27.16	-68.10	-13.00	-55.10
2502.0	V	120	336	-70.29	-3.38	33.33	-61.92	-13.00	-48.92
3336.0	V	-	-	-74.19	-0.13	32.68	-62.57	-13.00	-49.57
4170.0	V	118	20	-75.08	1.56	33.48	-61.78	-13.00	-48.78
5004.0	V	-	-	-76.18	3.48	34.30	-60.96	-13.00	-47.96

Table 7-60. Radiated Spurious Data (Sub6 n5 + LTE Band 66– Low Channel)

FCC ID: ZNFK920AM	 PCTEST <sup>®</sup> Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	 LG	Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 350 of 389

<b>Bandwidth (MHz):</b>	20
<b>Frequency (MHz):</b>	836.5
<b>RB / Offset:</b>	1 / 50
<b>Mode:</b>	EN-DC
<b>Anchor Band:</b>	1745

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
1673.0	V	111	189	-74.12	-6.55	26.33	-68.93	-13.00	-55.93
2509.5	V	111	321	-71.75	-3.26	31.99	-63.27	-13.00	-50.27
3490.0	V	-	-	-73.98	0.16	33.18	-62.08	-13.00	-49.08
4182.5	V	112	16	-76.85	1.78	31.93	-63.33	-13.00	-50.33
5019.0	V	-	-	-77.50	3.75	33.25	-62.00	-13.00	-49.00

**Table 7-61. Radiated Spurious Data (Sub6 n5 + LTE Band 66 – Mid Channel)**

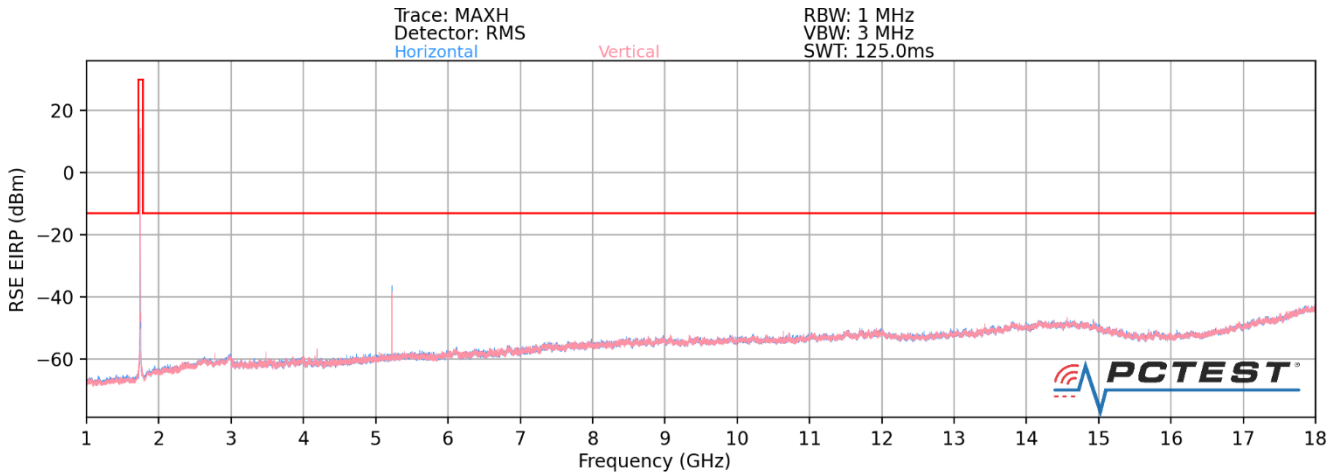
<b>Bandwidth (MHz):</b>	20
<b>Frequency (MHz):</b>	839.0
<b>RB / Offset:</b>	1 / 50
<b>Mode:</b>	EN-DC
<b>Anchor Band:</b>	1770

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
1678.0	V	115	180	-73.18	-6.44	27.38	-67.88	-13.00	-54.88
2517.0	V	108	308	-72.08	-3.03	31.89	-63.37	-13.00	-50.37
3356.0	V	-	-	-74.31	-0.20	32.49	-62.77	-13.00	-49.77
4195.0	V	120	15	-75.09	1.69	33.60	-61.66	-13.00	-48.66
5034.0	V	-	-	-76.61	3.89	34.28	-60.97	-13.00	-47.97

**Table 7-62. Radiated Spurious Data (Sub6 n5 + LTE Band 66 – High Channel)**

<b>FCC ID:</b> ZNFK920AM	 <b>PCTEST</b> Proud to be part of 	<b>MEASUREMENT REPORT (CERTIFICATION)</b>		<b>Approved by:</b> Quality Manager
<b>Test Report S/N:</b> 1M2007130107-03.ZNF	<b>Test Dates:</b> 07/30/2020 - 09/03/2020	<b>EUT Type:</b> Portable Handset	Page 351 of 389	

## EN-DC Sub6 n66 + LTE Band 12



Plot 7-573. Radiated Spurious Plot 1GHz - 18GHz (Sub6 n66 + LTE Band 12)

Bandwidth (MHz):	20
Frequency (MHz):	1720.0
RB / Offset:	1 / 50
Mode:	EN-DC
Anchor Band:	704

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
1408.0	V	-	-	-77.08	1.11	31.03	-64.23	-13.00	-51.23
2112.0	V	-	-	-77.13	4.24	34.11	-61.14	-13.00	-48.14
3440.0	V	233	315	-73.39	7.66	41.27	-53.99	-13.00	-40.99
5160.0	V	316	153	-58.34	10.66	59.32	-35.94	-13.00	-22.94
6880.0	V	241	357	-77.80	11.09	40.29	-54.97	-13.00	-41.97
8600.0	V	-	-	-76.28	14.12	44.84	-50.42	-13.00	-37.42

Table 7-63. Radiated Spurious Data (Sub6 n66 + LTE Band 12- Low Channel)

FCC ID: ZNFK920AM	 PCTEST® Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 352 of 389

<b>Bandwidth (MHz):</b>	20
<b>Frequency (MHz):</b>	1745.0
<b>RB / Offset:</b>	1 / 50
<b>Mode:</b>	EN-DC
<b>Anchor Band:</b>	707.5

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
1415.0	V	-	-	-78.28	1.01	29.73	-65.53	-13.00	-52.53
2122.5	V	-	-	-77.39	4.42	34.03	-61.23	-13.00	-48.23
3490.0	V	254	320	-72.61	6.53	40.92	-54.34	-13.00	-41.34
5235.0	V	320	155	-57.31	10.53	60.22	-35.04	-13.00	-22.04
6980.0	V	249	3	-75.18	11.88	43.70	-51.56	-13.00	-38.56
8725.0	V	-	-	-76.33	13.23	43.90	-51.36	-13.00	-38.36

**Table 7-64. Radiated Spurious Data (Sub6 n66 + LTE Band 12 – Mid Channel)**

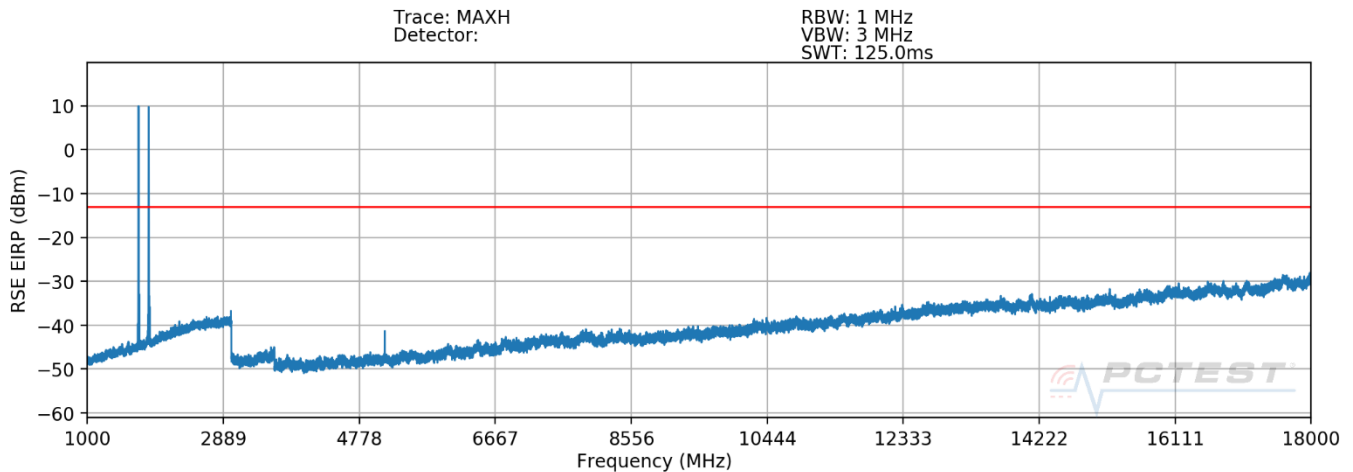
<b>Bandwidth (MHz):</b>	20
<b>Frequency (MHz):</b>	1900.0
<b>RB / Offset:</b>	1 / 50
<b>Mode:</b>	EN-DC
<b>Anchor Band:</b>	711

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
1422.0	V	-	-	-77.18	1.87	31.69	-63.56	-13.00	-50.56
2133.0	V	-	-	-78.61	4.51	32.90	-62.36	-13.00	-49.36
3800.0	V	225	318	-74.31	8.28	40.97	-54.29	-13.00	-41.29
5700.0	V	325	140	-59.19	11.09	58.90	-36.36	-13.00	-23.36
7600.0	V	218	322	-78.08	13.04	41.96	-53.30	-13.00	-40.30
9500.0	V	-	-	-76.49	14.30	44.81	-50.45	-13.00	-37.45

**Table 7-65. Radiated Spurious Data (Sub6 n66 + LTE Band 12 – High Channel)**

<b>FCC ID:</b> ZNFK920AM	 <b>PCTEST</b> Proud to be part of  element	<b>MEASUREMENT REPORT (CERTIFICATION)</b>		<b>Approved by:</b> Quality Manager
<b>Test Report S/N:</b> 1M2007130107-03.ZNF	<b>Test Dates:</b> 07/30/2020 - 09/03/2020	<b>EUT Type:</b> Portable Handset	Page 353 of 389	

## EN-DC Sub6 n66 + LTE B2



Plot 7-574. Radiated Spurious Plot 1GHz - 18GHz (Sub6 n66 + LTE Band 2)

<b>Bandwidth (MHz):</b>	20
<b>Frequency (MHz):</b>	1720.0
<b>RB / Offset:</b>	1 / 50
<b>Mode:</b>	EN-DC
<b>Anchor Band:</b>	LTE Band 2

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
3440.0	H	-	-	-55.11	5.20	57.09	-38.17	-13.00	-25.17
5160.0	H	-	-	-55.74	7.89	59.15	-36.11	-13.00	-23.11
6880.0	H	-	-	-55.33	10.68	62.35	-32.91	-13.00	-19.91

Table 7-66. Radiated Spurious Data (Sub6 n66 + LTE Band 2– Low Channel)

<b>Bandwidth (MHz):</b>	20
<b>Frequency (MHz):</b>	1745.0
<b>RB / Offset:</b>	1 / 50
<b>Mode:</b>	EN-DC
<b>Anchor Band:</b>	LTE Band 2

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
3490.0	H	-	-	-55.00	5.35	57.35	-37.91	-13.00	-24.91
5235.0	H	-	-	-55.65	7.37	58.72	-36.53	-13.00	-23.53
6980.0	H	-	-	-55.17	10.84	62.67	-32.59	-13.00	-19.59

Table 7-67. Radiated Spurious Data (Sub6 n66 + LTE Band 2 – Mid Channel)

FCC ID: ZNFK920AM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset	Page 354 of 389	

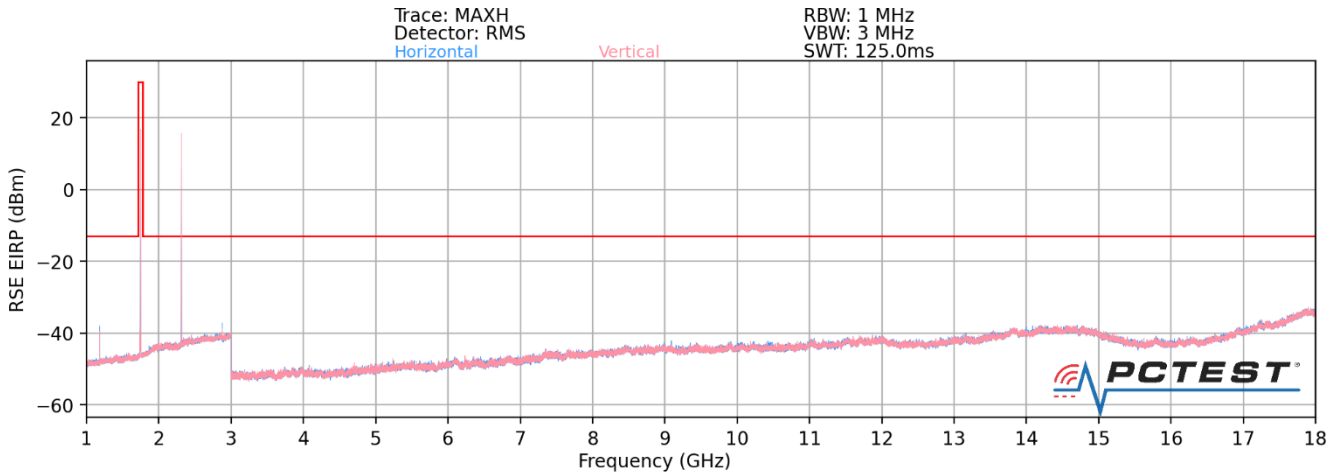
<b>Bandwidth (MHz):</b>	20
<b>Frequency (MHz):</b>	1900.0
<b>RB / Offset:</b>	1 / 50
<b>Mode:</b>	EN-DC
<b>Anchor Band:</b>	LTE Band 2

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
3800.0	H	-	-	-55.04	6.49	58.45	-36.81	-13.00	-23.81
5700.0	H	-	-	-55.70	8.26	59.56	-35.70	-13.00	-22.70
7600.0	H	-	-	-55.37	12.80	64.43	-30.82	-13.00	-17.82

**Table 7-68. Radiated Spurious Data (Sub6 n66 + LTE Band 2 – High Channel)**

<b>FCC ID:</b> ZNFK920AM	 <b>PCTEST</b> Proud to be part of 	<b>MEASUREMENT REPORT (CERTIFICATION)</b>		<b>Approved by:</b> Quality Manager
<b>Test Report S/N:</b> 1M2007130107-03.ZNF	<b>Test Dates:</b> 07/30/2020 - 09/03/2020	<b>EUT Type:</b> Portable Handset		Page 355 of 389

## EN-DC Sub6 n66 + LTE Band 30



Plot 7-575. Radiated Spurious Plot 1GHz - 18GHz (Sub6 n66 + LTE Band 30)

Bandwidth (MHz):	20
Frequency (MHz):	1720.0
RB / Offset:	1 / 50
Mode:	EN-DC
Anchor Band:	2307.5

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
1132.5	H	157	118	-63.82	11.49	54.67	-40.59	-13.00	-27.59
2895.0	H	117	127	-68.14	17.65	56.51	-38.75	-13.00	-25.75
3440.0	H	-	-	-77.72	17.66	46.94	-48.32	-13.00	-35.32

Table 7-69. Radiated Spurious Data (Sub6 n66 + LTE Band 30– Low Channel)

Bandwidth (MHz):	20
Frequency (MHz):	1745.0
RB / Offset:	1 / 50
Mode:	EN-DC
Anchor Band:	2310

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
1180.0	H	168	108	-64.19	11.75	54.56	-40.69	-13.00	-27.69
2875.0	H	125	139	-66.17	17.67	58.50	-36.76	-13.00	-23.76
3490.0	H	-	-	-78.04	16.53	45.49	-49.77	-13.00	-36.77

Table 7-70. Radiated Spurious Data (Sub6 n66 + LTE Band 30 – Mid Channel)

FCC ID: ZNFK920AM	 PCTEST Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 356 of 389



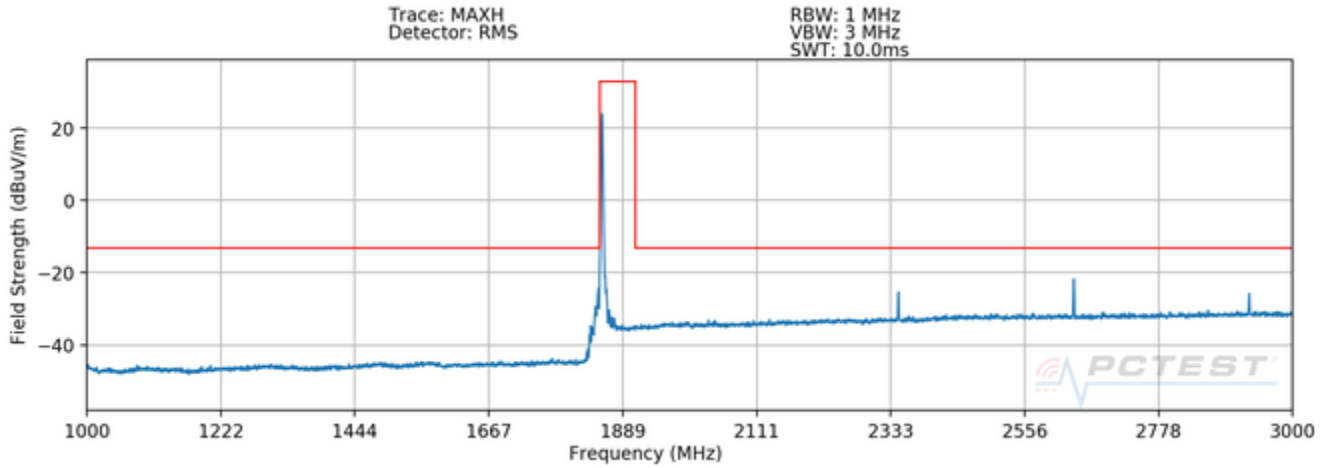
<b>Bandwidth (MHz):</b>	20
<b>Frequency (MHz):</b>	1770.0
<b>RB / Offset:</b>	1 / 50
<b>Mode:</b>	EN-DC
<b>Anchor Band:</b>	2312.5

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
1227.5	H	175	122	-65.18	11.85	53.67	-41.59	-13.00	-28.59
2855.0	H	126	136	-67.09	17.74	57.65	-37.61	-13.00	-24.61
3540.0	H	-	-	-78.31	18.28	46.97	-48.29	-13.00	-35.29

**Table 7-71. Radiated Spurious Data (Sub6 n66 + LTE Band 30 – High Channel)**

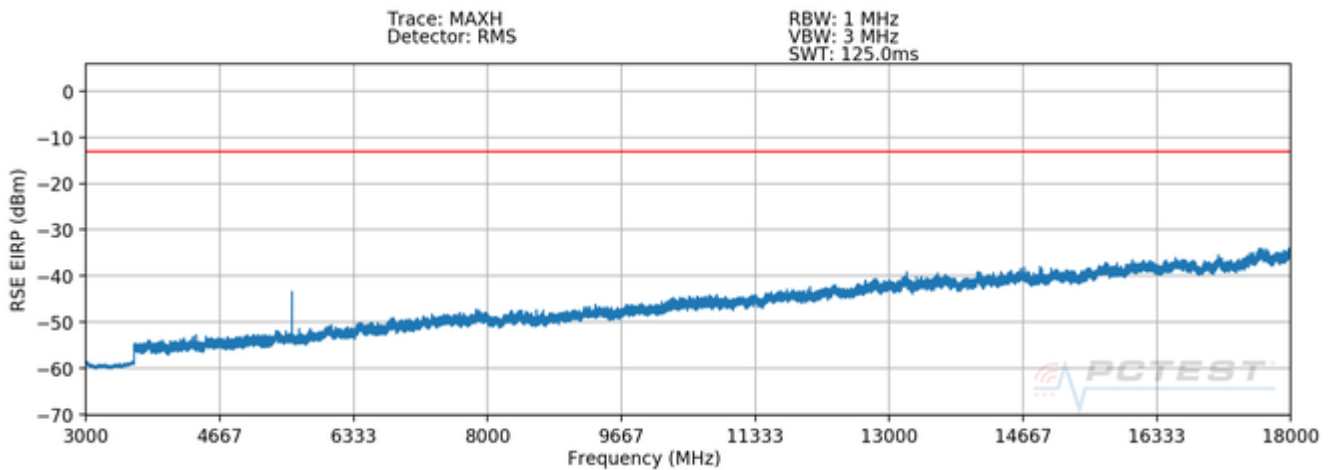
<b>FCC ID:</b> ZNFK920AM	 <b>PCTEST</b> Proud to be part of  element	<b>MEASUREMENT REPORT (CERTIFICATION)</b>		<b>Approved by:</b> Quality Manager
<b>Test Report S/N:</b> 1M2007130107-03.ZNF	<b>Test Dates:</b> 07/30/2020 - 09/03/2020	<b>EUT Type:</b> Portable Handset		Page 357 of 389

## EN-DC Sub6 n2 + LTE Band 13



**Plot 7-576. Radiated Spurious Plot 1GHz - 3GHz (Sub6 n2 + LTE Band 13)**

**Note:** the spurious emissions found in the plot above were investigated and found to be in compliance. See following tables for data.



**Plot 7-577. Radiated Spurious Plot 3GHz - 18GHz (Sub6 n2 + LTE Band 13)**

FCC ID: ZNFK920AM	 <b>PCTEST</b> Proud to be part of 	<b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 358 of 389

<b>Bandwidth (MHz):</b>	20
<b>Frequency (MHz):</b>	1820.0
<b>RB / Offset:</b>	1 / 25
<b>Mode:</b>	EN-DC
<b>Anchor Band:</b>	LTE B13

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBuV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
3640.0	H	145	45	-73.52	8.48	41.96	-53.30	-13.00	-40.30
5460.0	H	310	215	-51.35	2.22	57.87	-37.39	-13.00	-24.39
7280.0	H	165	10	-75.10	3.06	34.96	-60.30	-13.00	-47.30
9100.0	H	-	-	-77.02	1.27	31.25	-64.01	-13.00	-51.01

**Table 7-72. Radiated Spurious Data (Sub6 n2 + LTE Band 13– Low Channel)**

<b>Bandwidth (MHz):</b>	20
<b>Frequency (MHz):</b>	1880.0
<b>RB / Offset:</b>	1 / 25
<b>Mode:</b>	EN-DC
<b>Anchor Band:</b>	LTE B13

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBuV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
5565.1	H	100	239	-58.53	8.48	56.95	-38.31	-13.00	-25.31
2637.2	H	100	117	-61.57	2.22	47.65	-47.61	-13.00	-34.61
2928.0	H	116	130	-65.04	3.06	45.02	-50.24	-13.00	-37.24
2341.3	H	130	116	-70.60	1.27	37.67	-57.59	-13.00	-44.59

**Table 7-73. Radiated Spurious Data (Sub6 n2 + LTE Band 13 – Mid Channel)**

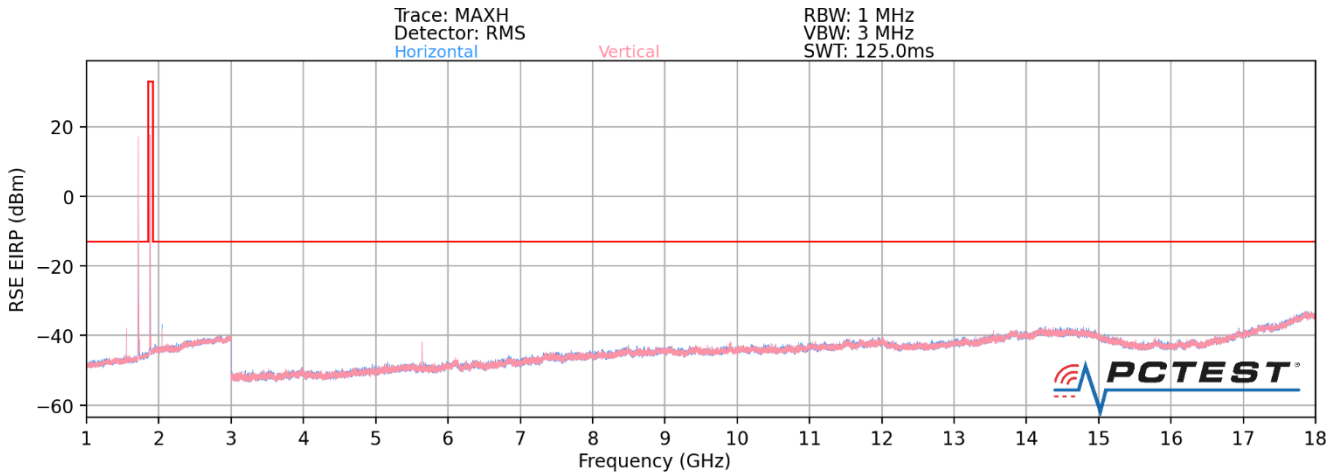
<b>Bandwidth (MHz):</b>	20
<b>Frequency (MHz):</b>	1900.0
<b>RB / Offset:</b>	1 / 25
<b>Mode:</b>	EN-DC
<b>Anchor Band:</b>	LTE B13

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBuV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
3800.0	H	140	40	-73.81	1.87	35.06	-60.19	-13.00	-47.19
5700.0	H	162	355	-51.56	4.51	59.95	-35.31	-13.00	-22.31
7600.0	H	258	340	-75.62	8.28	39.66	-55.60	-13.00	-42.60
9500.0	H	-	-	-76.99	11.09	41.10	-54.16	-13.00	-41.16

**Table 7-74. Radiated Spurious Data (Sub6 n2 + LTE Band 13 – High Channel)**

<b>FCC ID:</b> ZNFK920AM	 <b>PCTEST</b> Proud to be part of 	<b>MEASUREMENT REPORT (CERTIFICATION)</b>		<b>Approved by:</b> Quality Manager
<b>Test Report S/N:</b> 1M2007130107-03.ZNF	<b>Test Dates:</b> 07/30/2020 - 09/03/2020	<b>EUT Type:</b> Portable Handset	Page 359 of 389	

## EN-DC Sub6 n2 + LTE Band 66



Plot 7-578. Radiated Spurious Plot 1GHz - 18GHz (Sub6 n2 + LTE Band 66)

<b>Bandwidth (MHz):</b>	20
<b>Frequency (MHz):</b>	1860.0
<b>RB / Offset:</b>	1 / 50
<b>Mode:</b>	EN-DC
<b>Anchor Band:</b>	1720

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
3720.0	H	-	-	-77.81	12.30	41.49	-53.77	-13.00	-40.77
5580.0	H	276	108	-68.23	14.82	53.59	-41.67	-13.00	-28.67
7440.0	H	-	-	-79.31	18.52	46.21	-49.05	-13.00	-36.05
9300.0	H	-	-	-80.17	20.65	47.48	-47.78	-13.00	-34.78

Table 7-75. Radiated Spurious Data (Sub6 n2 + LTE Band 66– Low Channel)

FCC ID: ZNFK920AM	 PCTEST <sup>®</sup> Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 360 of 389

<b>Bandwidth (MHz):</b>	20
<b>Frequency (MHz):</b>	1880.0
<b>RB / Offset:</b>	1 / 50
<b>Mode:</b>	EN-DC
<b>Anchor Band:</b>	1745

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dB $\mu$ V/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
3760.0	H	-	-	-78.31	2.36	31.05	-64.20	-13.00	-51.20
5640.0	H	253	128	-69.76	4.76	42.00	-53.26	-13.00	-40.26
7520.0	H	-	-	-80.13	8.41	35.28	-59.97	-13.00	-46.97
9400.0	H	-	-	-79.33	11.65	39.32	-55.94	-13.00	-42.94

**Table 7-76. Radiated Spurious Data (Sub6 n2 + LTE Band 66 – Mid Channel)**

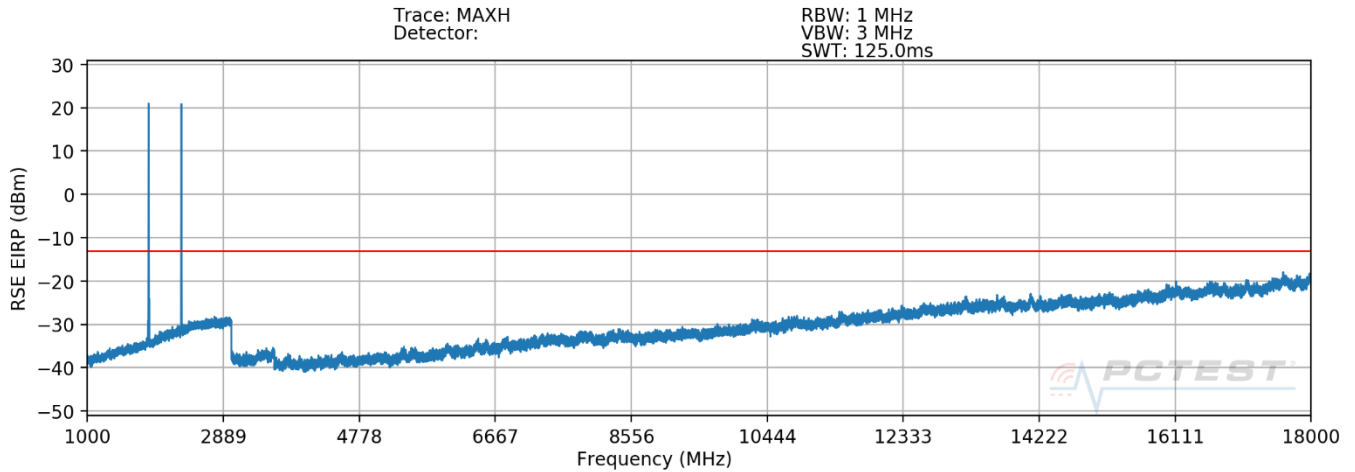
<b>Bandwidth (MHz):</b>	20
<b>Frequency (MHz):</b>	1900.0
<b>RB / Offset:</b>	1 / 50
<b>Mode:</b>	EN-DC
<b>Anchor Band:</b>	1770

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dB $\mu$ V/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
3800.0	H	-	-	-78.18	1.87	30.69	-64.56	-13.00	-51.56
5700.0	H	286	91	-67.08	4.51	44.43	-50.83	-13.00	-37.83
7600.0	H	-	-	-80.21	8.28	35.07	-60.19	-13.00	-47.19
9500.0	H	-	-	-79.31	11.09	38.78	-56.48	-13.00	-43.48

**Table 7-77. Radiated Spurious Data (Sub6 n2 + LTE Band 66 – High Channel)**

FCC ID: ZNFK920AM	 <b>PCTEST</b> Proud to be part of 	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 361 of 389

## EN-DC Sub6 n2 + LTE Band 30



Plot 7-579. Radiated Spurious Plot 1GHz - 18GHz (Sub6 n2 + LTE Band 30)

Bandwidth (MHz):	20
Frequency (MHz):	1860.0
RB / Offset:	1 / 50
Mode:	EN-DC
Anchor Band:	LTE Band 30

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dB $\mu$ V/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
3720.0	H	150	40	-73.64	2.30	35.66	-59.60	-13.00	-46.60
5580.0	H	305	219	-51.95	4.82	59.87	-35.39	-13.00	-22.39
7440.0	H	170	6	-75.99	8.52	39.53	-55.73	-13.00	-42.73
9300.0	H	-	-	-77.25	10.65	40.40	-54.86	-13.00	-41.86

Table 7-78. Radiated Spurious Data (Sub6 n2 + LTE Band 30– Low Channel)

FCC ID: ZNFK920AM	 PCTEST <sup>®</sup> Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 362 of 389

<b>Bandwidth (MHz):</b>	20
<b>Frequency (MHz):</b>	1880.0
<b>RB / Offset:</b>	1 / 50
<b>Mode:</b>	EN-DC
<b>Anchor Band:</b>	LTE Band 30

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dB $\mu$ V/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
3760.0	H	165	168	-73.65	2.36	35.71	-59.54	-13.00	-46.54
5640.0	H	160	200	-55.10	4.76	56.66	-38.60	-13.00	-25.60
7520.0	H	155	9	-74.96	8.41	40.45	-54.80	-13.00	-41.80
9400.0	H	-	-	-77.58	11.65	41.07	-54.19	-13.00	-41.19

**Table 7-79. Radiated Spurious Data (Sub6 n2 + LTE Band 30 – Mid Channel)**

<b>Bandwidth (MHz):</b>	20
<b>Frequency (MHz):</b>	1900.0
<b>RB / Offset:</b>	1 / 50
<b>Mode:</b>	EN-DC
<b>Anchor Band:</b>	LTE Band 30

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dB $\mu$ V/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
3800.0	H	135	45	-73.96	1.87	34.91	-60.34	-13.00	-47.34
5700.0	H	159	358	-56.21	4.51	55.30	-39.96	-13.00	-26.96
7600.0	H	285	320	-74.95	8.28	40.33	-54.93	-13.00	-41.93
9500.0	H	-	-	-78.26	11.09	39.83	-55.43	-13.00	-42.43

**Table 7-80. Radiated Spurious Data (Sub6 n2 + LTE Band 30 – High Channel)**

<b>FCC ID:</b> ZNFK920AM	 <b>PCTEST</b> Proud to be part of 	<b>MEASUREMENT REPORT (CERTIFICATION)</b>		<b>Approved by:</b> Quality Manager
<b>Test Report S/N:</b> 1M2007130107-03.ZNF	<b>Test Dates:</b> 07/30/2020 - 09/03/2020	<b>EUT Type:</b> Portable Handset	Page 363 of 389	

## 7.9 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

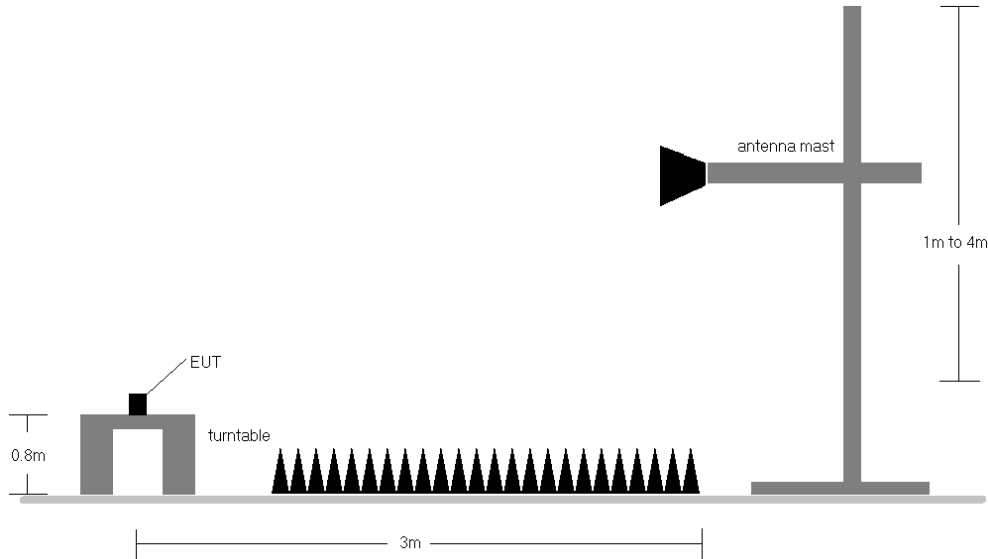
1. RBW = 100kHz for emissions below 1GHz and 1MHz for emissions above 1GHz
2. VBW  $\geq 3 \times$  RBW
3. No. of sweep points  $\geq 2 \times$  span / RBW
4. Detector = RMS
5. Trace mode = trace average for continuous emissions, max hold for pulse emissions
6. The trace was allowed to stabilize

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**Test Setup**

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



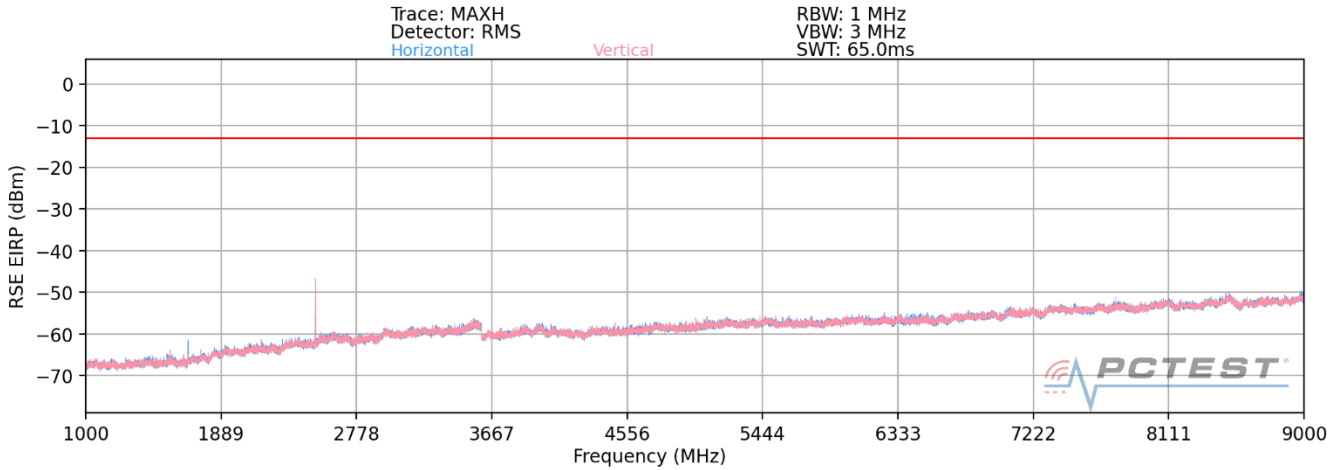
**Figure 7-9. Test Instrument & Measurement Setup**

**Test Notes**

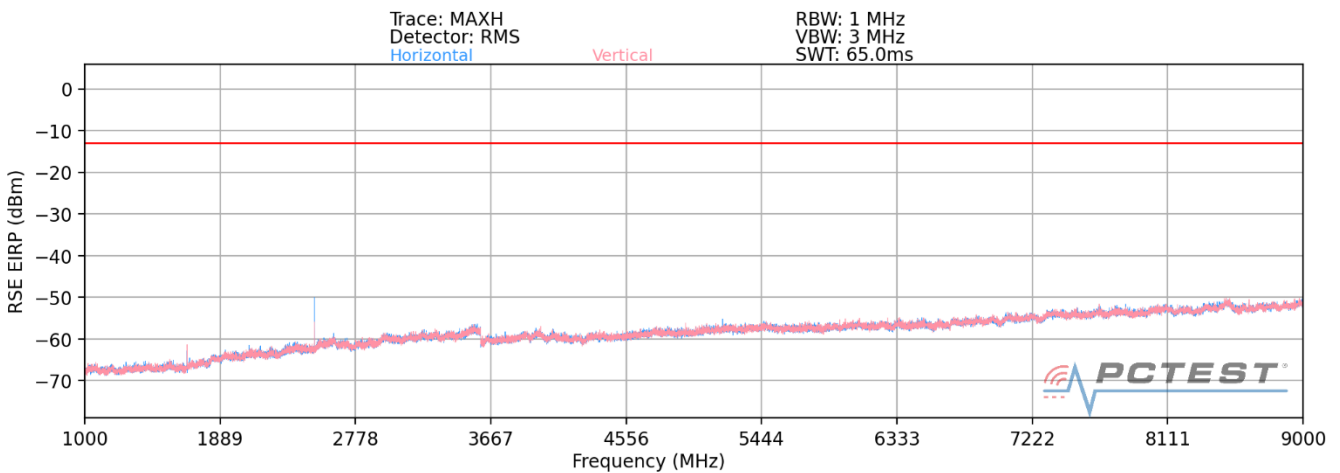
- 1) The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case emissions are reported with the EUT positioning, modulations, RB sizes and offsets, and channel bandwidth configurations shown in the tables below.
- 2) This unit was tested with its standard battery.
- 3) 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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## ULCA Band 5



**Plot 7-81. Radiated Spurious Plot (ULCA B5 Left Carrier: RB 1 Offset 49, Right Carrier: RB 1 Offset 0)**



**Plot 7-82. Radiated Spurious Plot (ULCA B5 Left Carrier: RB 50 Offset 0, Right Carrier: RB 50 Offset 0)**

FCC ID: ZNFK920AM	 <b>PCTEST</b> Proud to be part of 	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 366 of 389

<b>PCC Bandwidth (MHz):</b>	10
<b>PCC Frequency (MHz):</b>	829.0
<b>PCC RB / Offset:</b>	1 / 49
<b>SCC Bandwidth (MHz):</b>	10
<b>SCC Frequency (MHz):</b>	838.9
<b>SCC RB / Offset:</b>	1 / 0
<b>Detector / Trace Mode:</b>	RMS / Average
<b>RBW / VBW:</b>	1MHz / 3MHz

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
1668.0	V	235	64	-69.82	-6.66	30.52	-64.74	-13.00	-51.74
2502.0	V	113	241	-62.32	-3.38	41.30	-53.95	-13.00	-40.95
3336.0	V	-	-	-76.64	-0.13	30.23	-65.02	-13.00	-52.02

**Table 7-83. Radiated Spurious Data (ULCA B5 Left Carrier: RB 1 Offset 49, Right Carrier: RB 1 Offset 0– Low Channel)**

<b>PCC Bandwidth (MHz):</b>	10
<b>PCC Frequency (MHz):</b>	831.5
<b>PCC RB / Offset:</b>	1 / 49
<b>SCC Bandwidth (MHz):</b>	10
<b>SCC Frequency (MHz):</b>	841.4
<b>SCC RB / Offset:</b>	1 / 0
<b>Detector / Trace Mode:</b>	RMS / Average
<b>RBW / VBW:</b>	1MHz / 3MHz

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
1673.0	V	367	63	-70.08	-6.55	30.37	-64.89	-13.00	-51.89
2509.5	V	125	239	-63.30	-3.26	40.44	-54.82	-13.00	-41.82
3346.0	V	-	-	-76.30	-0.17	30.53	-64.72	-13.00	-51.72

**Table 7-84. Radiated Spurious Data (ULCA B5 Left Carrier: RB 1 Offset 49, Right Carrier: RB 1 Offset 0– Mid Channel)**

<b>FCC ID:</b> ZNFK920AM	 <b>PCTEST</b> Proud to be part of 	<b>MEASUREMENT REPORT (CERTIFICATION)</b>		<b>Approved by:</b> Quality Manager
<b>Test Report S/N:</b> 1M2007130107-03.ZNF	<b>Test Dates:</b> 07/30/2020 - 09/03/2020	<b>EUT Type:</b> Portable Handset		Page 367 of 389

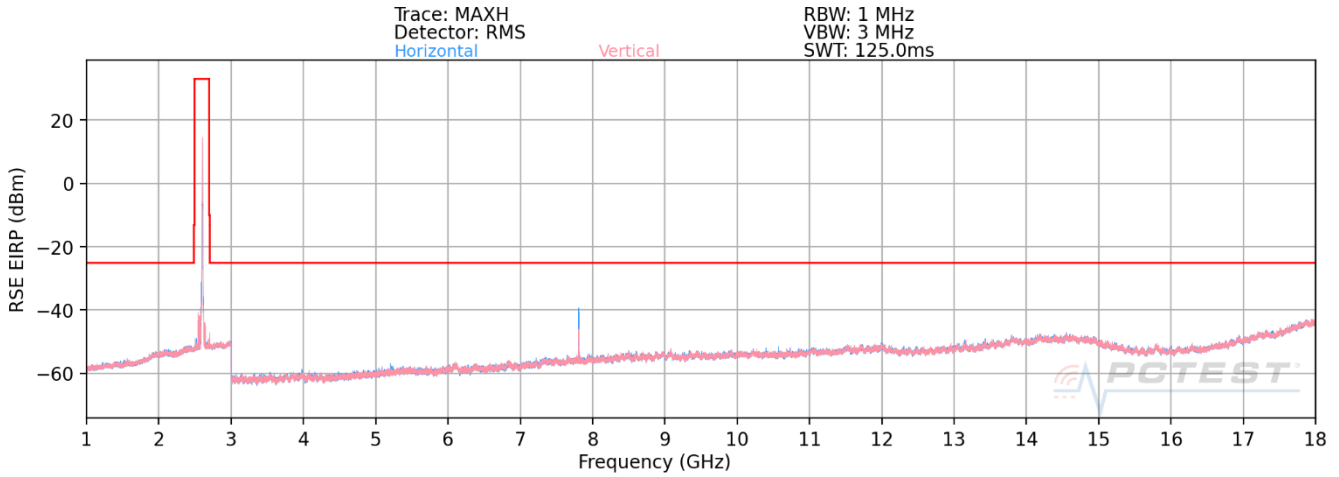
<b>PCC Bandwidth (MHz):</b>	10
<b>PCC Frequency (MHz):</b>	844.0
<b>PCC RB / Offset:</b>	1 / 0
<b>SCC Bandwidth (MHz):</b>	10
<b>SCC Frequency (MHz):</b>	834.1
<b>SCC RB / Offset:</b>	1 / 49
<b>Detector / Trace Mode:</b>	RMS / Average
<b>RBW / VBW:</b>	1MHz / 3MHz

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
1678.0	V	367	63	-68.46	-6.44	32.10	-63.16	-13.00	-50.16
2517.0	V	207	241	-62.27	-3.03	41.70	-53.56	-13.00	-40.56
3356.0	V	-	-	-76.08	-0.20	30.72	-64.54	-13.00	-51.54

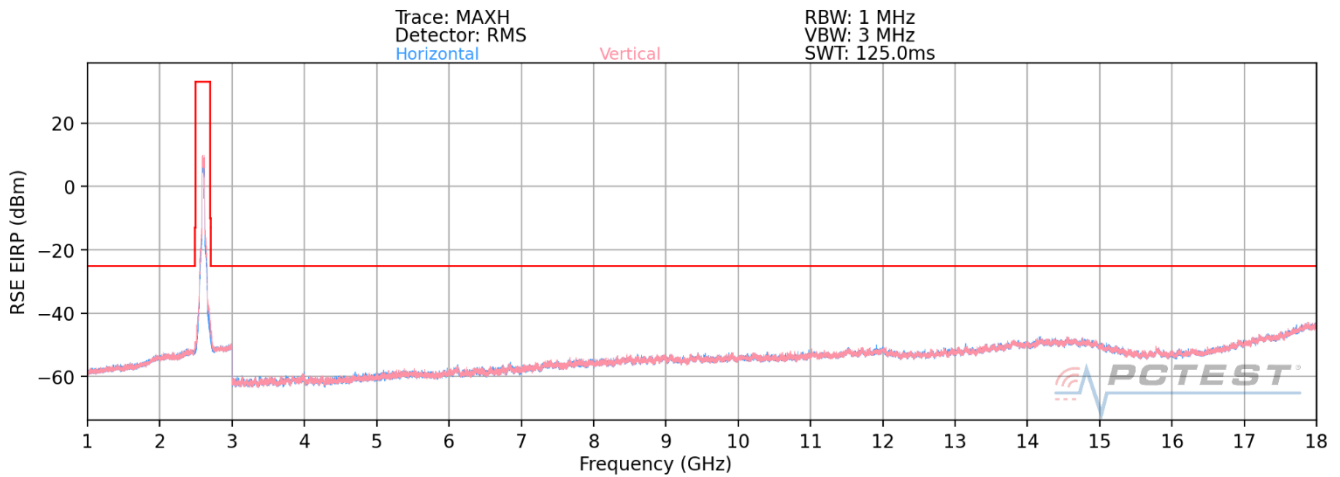
**Table 7-85. Radiated Spurious Data (ULCA B5 Left Carrier: RB 1 Offset 49, Right Carrier: RB 1 Offset 0– High Channel)**

<b>FCC ID:</b> ZNFK920AM	 <b>PCTEST</b> Proud to be part of  element	<b>MEASUREMENT REPORT (CERTIFICATION)</b>		<b>Approved by:</b> Quality Manager
<b>Test Report S/N:</b> 1M2007130107-03.ZNF	<b>Test Dates:</b> 07/30/2020 - 09/03/2020	<b>EUT Type:</b> Portable Handset		Page 368 of 389

## ULCA Band 41



**Plot 7-86. Radiated Spurious Plot (ULCA B41 Left Carrier: RB 1 Offset 99, Right Carrier: RB 1 Offset 0)**



**Plot 7-87. Radiated Spurious Plot (ULCA B41 Left Carrier: RB 100 Offset 0, Right Carrier: RB 100 Offset 0)**

FCC ID: ZNFK920AM	<b>PCTEST</b> Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 369 of 389

PCC Bandwidth (MHz):	20
PCC Frequency (MHz):	2506.0
PCC RB / Offset:	1 / 99
SCC Bandwidth (MHz):	20
SCC Frequency (MHz):	2525.8
SCC RB / Offset:	1 / 0
Detector / Trace Mode:	RMS / Average
RBW / VBW:	1MHz / 3MHz

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
5032.0	H	283	302	-68.33	13.26	51.93	-52.87	-25.00	-27.87
7548.0	H	281	345	-71.61	17.85	53.24	-51.56	-25.00	-26.56
10064.0	H	-	-	-77.16	21.41	51.25	-53.55	-25.00	-28.55

**Table 7-88. Radiated Spurious Data (ULCA B41 Left Carrier: RB 1 Offset 99, Right Carrier: RB 1 Offset 0– Low Channel)**

PCC Bandwidth (MHz):	20
PCC Frequency (MHz):	2593.0
PCC RB / Offset:	1 / 99
SCC Bandwidth (MHz):	20
SCC Frequency (MHz):	2612.8
SCC RB / Offset:	1 / 0
Detector / Trace Mode:	RMS / Average
RBW / VBW:	1MHz / 3MHz

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
5206.0	H	283	165	-68.68	13.48	51.80	-53.00	-25.00	-28.00
7809.0	H	225	126	-61.32	18.15	63.83	-40.97	-25.00	-15.97
10412.0	H	-	-	-77.47	20.97	50.50	-54.30	-25.00	-29.30

**Table 7-89. Radiated Spurious Data (ULCA B41 Left Carrier: RB 1 Offset 99, Right Carrier: RB 1 Offset 0– Mid Channel)**

FCC ID: ZNFK920AM	 <b>PCTEST</b> Proud to be part of 	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
Test Report S/N: 1M2007130107-03.ZNF	Test Dates: 07/30/2020 - 09/03/2020	EUT Type: Portable Handset		Page 370 of 389

PCC Bandwidth (MHz):	20
PCC Frequency (MHz):	2680.0
PCC RB / Offset:	1 / 0
SCC Bandwidth (MHz):	20
SCC Frequency (MHz):	2660.2
SCC RB / Offset:	1 / 99
Detector / Trace Mode:	RMS / Average
RBW / VBW:	1MHz / 3MHz

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
5380.0	H	255	138	-70.18	14.09	50.91	-53.89	-25.00	-28.89
8070.0	H	200	345	-58.18	19.09	67.91	-36.89	-25.00	-11.89
10760.0	H	-	-	-77.98	21.53	50.55	-54.25	-25.00	-29.25

**Table 7-90. Radiated Spurious Data (ULCA B41 Left Carrier: RB 1 Offset 99, Right Carrier: RB 1 Offset 0– High Channel)**

FCC ID: ZNFK920AM	 PCTEST <sup>®</sup> Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	 LG	Approved by: Quality Manager
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## 7.10 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

FCC ID: ZNFK920AM	 PCTEST® Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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## Band 71 Frequency Stability Measurements

OPERATING FREQUENCY: 680,500,000 Hz  
 CHANNEL: 133297  
 REFERENCE VOLTAGE: 4.38 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.38	- 30	680,500,225	225	0.0000331
100 %		- 20	680,499,905	-95	-0.0000140
100 %		- 10	680,499,994	-6	-0.0000009
100 %		0	680,499,994	-6	-0.0000009
100 %		+ 10	680,499,869	-131	-0.0000193
100 %		+ 20	680,500,183	183	0.0000269
100 %		+ 30	680,499,934	-66	-0.0000097
100 %		+ 40	680,500,377	377	0.0000554
100 %		+ 50	680,499,639	-361	-0.0000530
BATT. ENDPOINT		3.63	+ 20	680,500,155	155

**Table 7-91. 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.

FCC ID: ZNFK920AM	 <b>PCTEST</b> Proud to be part of 	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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## Band 71 Frequency Stability Measurements

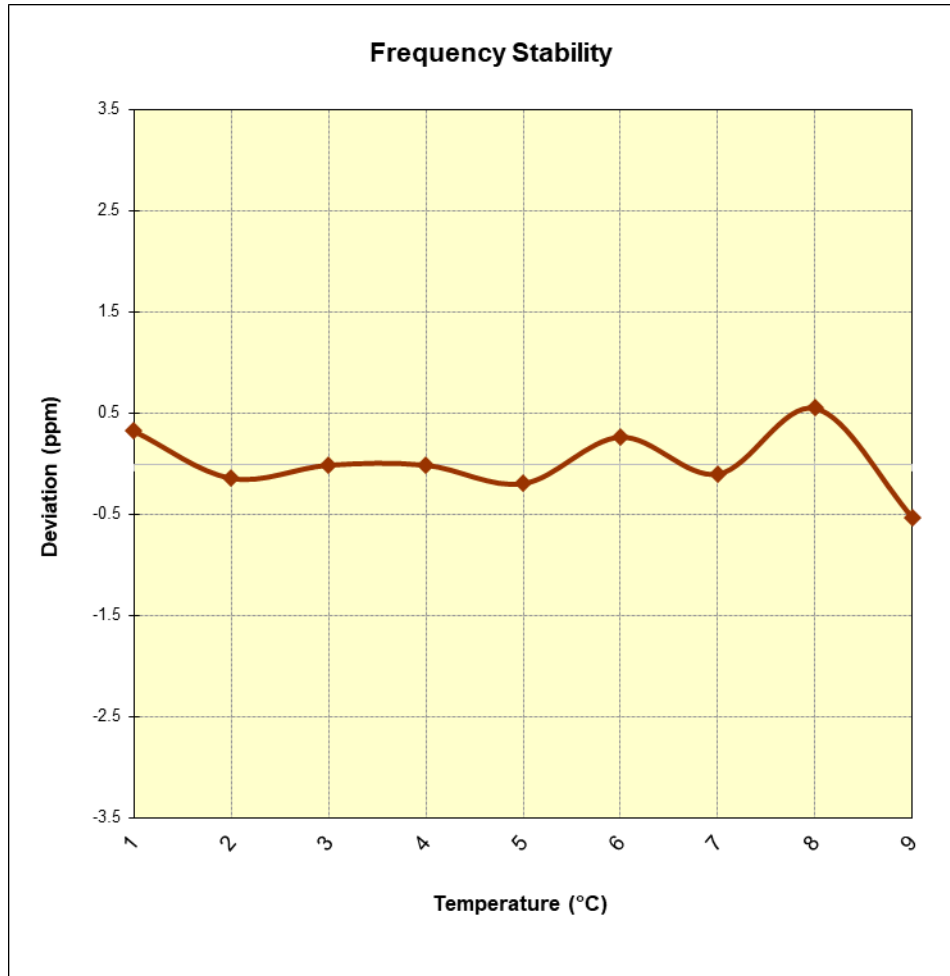


Figure 7-10. Frequency Stability Graph (Band 71)

FCC ID: ZNFK920AM	<b>PCTEST</b> Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
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## Band 12/17 Frequency Stability Measurements

OPERATING FREQUENCY: 707,500,000 Hz  
 CHANNEL: 23790  
 REFERENCE VOLTAGE: 4.38 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.38	- 30	707,500,070	70	0.0000099
100 %		- 20	707,499,901	-99	-0.0000140
100 %		- 10	707,500,047	47	0.0000066
100 %		0	707,499,696	-304	-0.0000430
100 %		+ 10	707,500,025	25	0.0000035
100 %		+ 20	707,500,006	6	0.0000008
100 %		+ 30	707,500,225	225	0.0000318
100 %		+ 40	707,499,883	-117	-0.0000165
100 %		+ 50	707,500,108	108	0.0000153
BATT. ENDPOINT		3.63	+ 20	707,499,934	-66

Table 7-92. 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.

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### Band 12/17 Frequency Stability Measurements

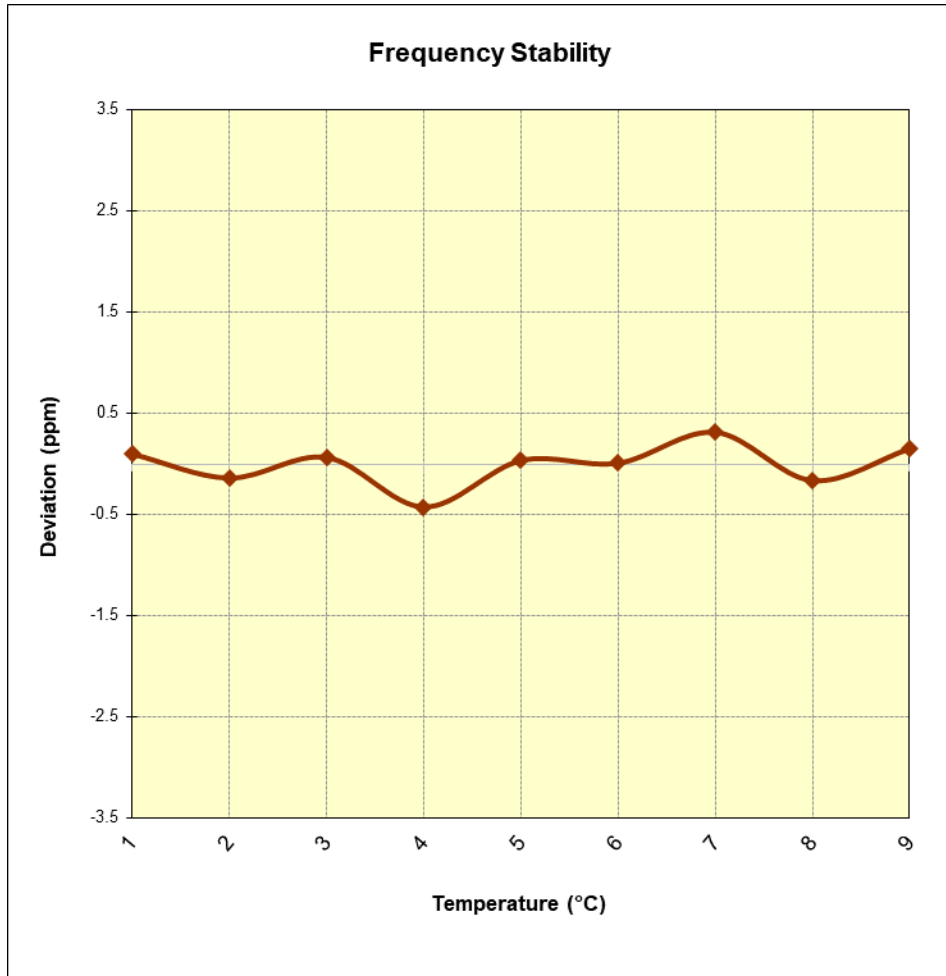


Figure 7-11. Frequency Stability Graph (Band 12/17)

FCC ID: ZNFK920AM	<b>PCTEST</b> Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
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## Band 13 Frequency Stability Measurements

OPERATING FREQUENCY: 782,000,000 Hz  
 CHANNEL: 23230  
 REFERENCE VOLTAGE: 4.38 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.38	- 30	781,999,746	-254	-0.0000325
100 %		- 20	782,000,044	44	0.0000056
100 %		- 10	782,000,020	20	0.0000026
100 %		0	781,999,953	-47	-0.0000060
100 %		+ 10	781,999,700	-300	-0.0000384
100 %		+ 20	781,999,833	-167	-0.0000214
100 %		+ 30	782,000,003	3	0.0000004
100 %		+ 40	782,000,187	187	0.0000239
100 %		+ 50	782,000,306	306	0.0000391
BATT. ENDPOINT		3.63	+ 20	781,999,753	-247

**Table 7-93. 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: ZNFK920AM	 <b>PCTEST</b> Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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## Band 13 Frequency Stability Measurements

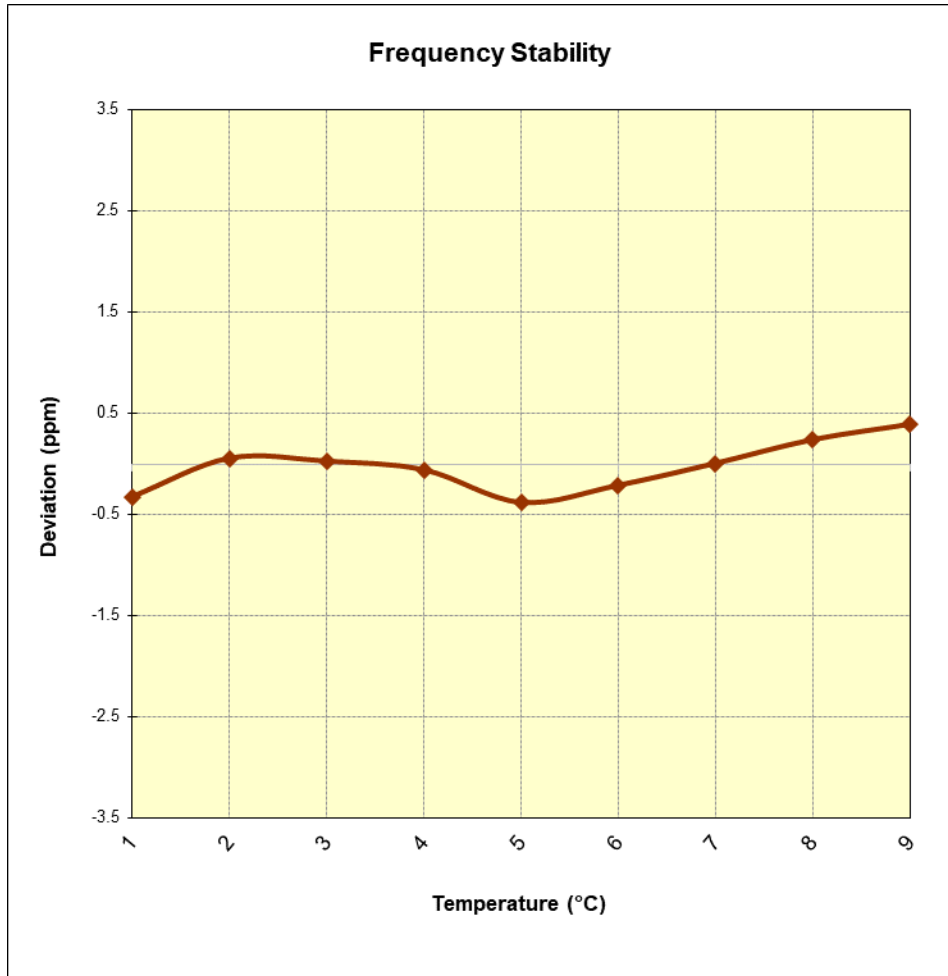


Figure 7-12. Frequency Stability Graph (Band 13)

FCC ID: ZNFK920AM	<b>PCTEST</b> Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
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## Band 5/26 Frequency Stability Measurements

OPERATING FREQUENCY: 836,500,000 Hz  
 CHANNEL: 20525  
 REFERENCE VOLTAGE: 4.38 VDC  
 DEVIATION LIMIT: ± 0.00025 % or 2.5 ppm

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.38	- 30	836,500,056	56	0.0000067
100 %		- 20	836,500,116	116	0.0000139
100 %		- 10	836,500,020	20	0.0000024
100 %		0	836,499,950	-50	-0.0000060
100 %		+ 10	836,499,795	-205	-0.0000245
100 %		+ 20	836,499,783	-217	-0.0000259
100 %		+ 30	836,499,960	-40	-0.0000048
100 %		+ 40	836,500,160	160	0.0000191
100 %		+ 50	836,500,050	50	0.0000060
BATT. ENDPOINT		3.63	+ 20	836,499,830	-170

**Table 7-94. Frequency Stability Data (Band 5/26)**

FCC ID: ZNFK920AM	 <b>PCTEST</b> Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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### Band 5/26 Frequency Stability Measurements

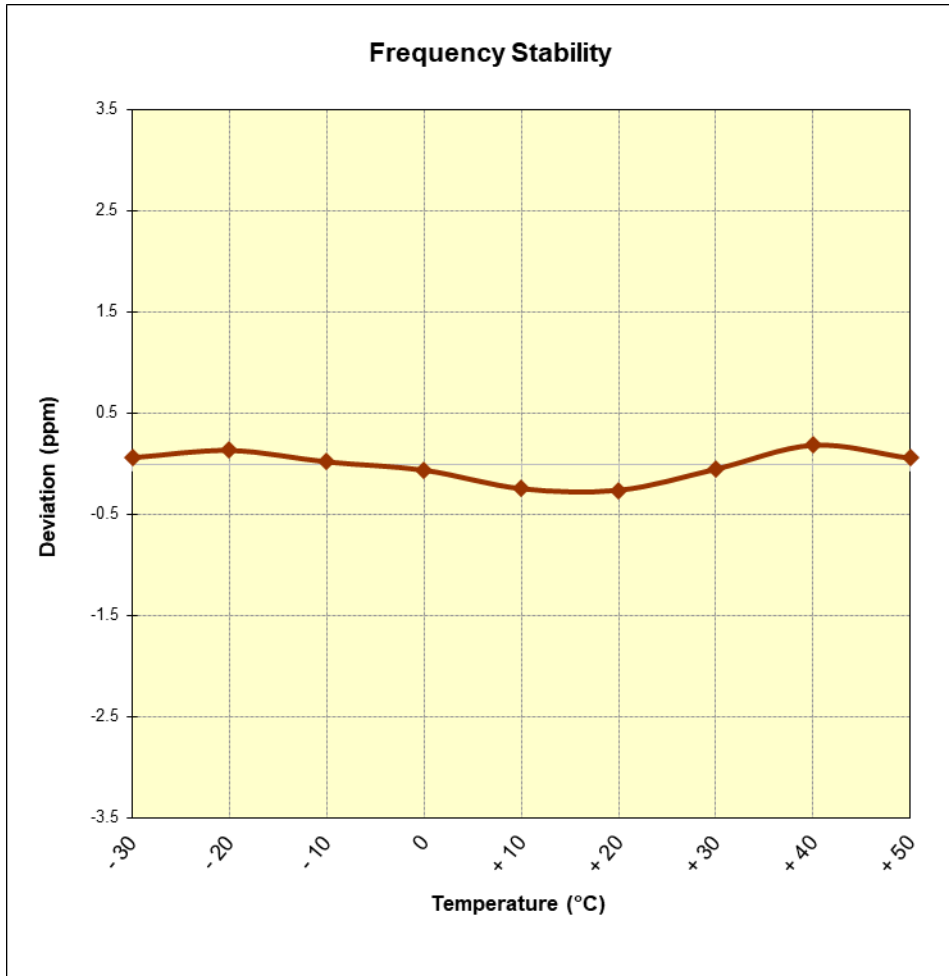


Figure 7-13. Frequency Stability Graph (Band 5/26)

FCC ID: ZNFK920AM	<b>PCTEST</b> Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
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## Band 66/4 Frequency Stability Measurements

OPERATING FREQUENCY: 1,745,000,000 Hz  
 CHANNEL: 132322  
 REFERENCE VOLTAGE: 4.38 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.38	- 30	1,745,000,248	248	0.0000142
100 %		- 20	1,744,999,721	-279	-0.0000160
100 %		- 10	1,744,999,819	-181	-0.0000104
100 %		0	1,745,000,094	94	0.0000054
100 %		+ 10	1,744,999,733	-267	-0.0000153
100 %		+ 20	1,745,000,054	54	0.0000031
100 %		+ 30	1,745,000,069	69	0.0000040
100 %		+ 40	1,745,000,149	149	0.0000085
100 %		+ 50	1,745,000,193	193	0.0000111
BATT. ENDPOINT		3.63	+ 20	1,745,000,287	287

Table 7-95. Frequency Stability Data (Band 66/4)

**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.

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## Band 66/4 Frequency Stability Measurements

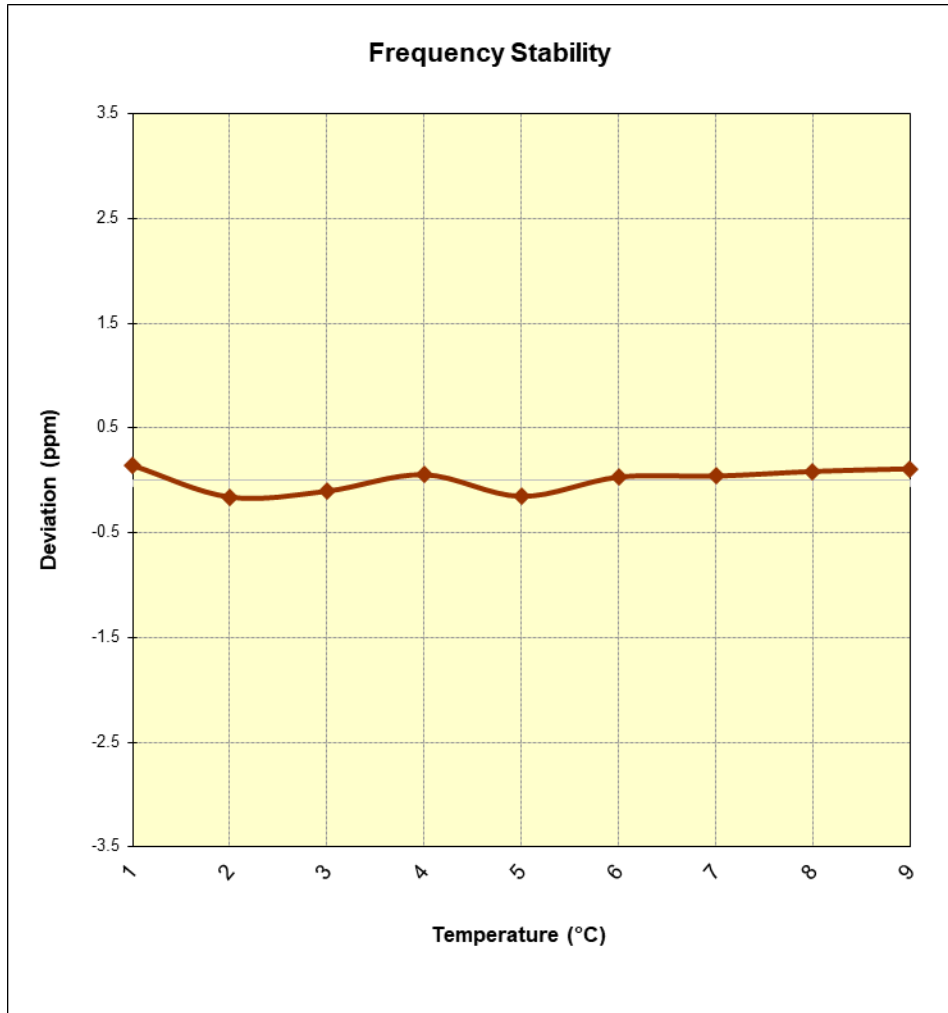


Figure 7-14. Frequency Stability Graph (Band 66/4)

FCC ID: ZNFK920AM	<b>PCTEST</b> Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
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## Band 25 Frequency Stability Measurements

OPERATING FREQUENCY: 1,882,500,000 Hz  
 CHANNEL: 26365  
 REFERENCE VOLTAGE: 4.38 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.38	- 30	1,882,499,712	-288	-0.0000153
100 %		- 20	1,882,499,969	-31	-0.0000016
100 %		- 10	1,882,500,318	318	0.0000169
100 %		0	1,882,499,696	-304	-0.0000161
100 %		+ 10	1,882,500,048	48	0.0000025
100 %		+ 20	1,882,500,099	99	0.0000053
100 %		+ 30	1,882,500,105	105	0.0000056
100 %		+ 40	1,882,500,236	236	0.0000125
100 %		+ 50	1,882,500,236	236	0.0000125
BATT. ENDPOINT		3.63	+ 20	1,882,499,956	-44

**Table 7-96. Frequency Stability Data (Band 25)**

FCC ID: ZNFK920AM	 <b>PCTEST</b> Proud to be part of element	<b>MEASUREMENT REPORT (CERTIFICATION)</b>		Approved by: Quality Manager
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## Band 25 Frequency Stability Measurements

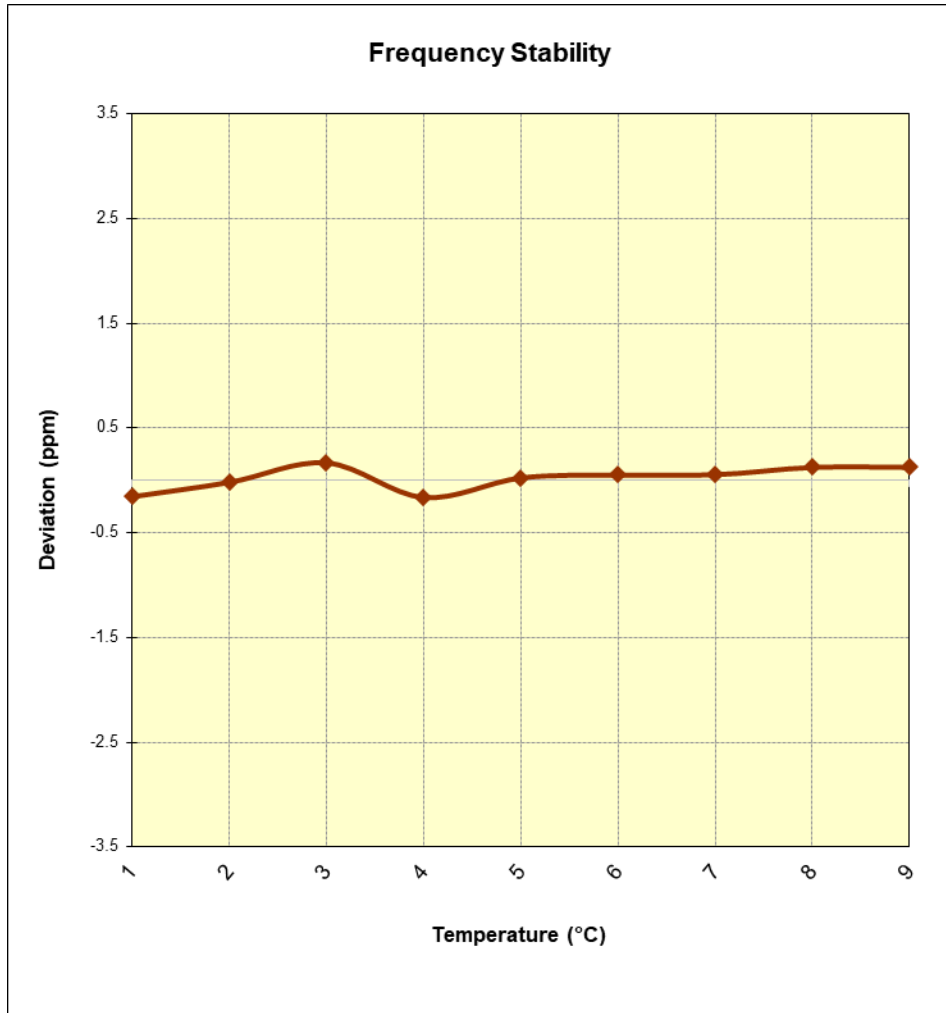


Figure 7-15. Frequency Stability Graph (Band 25)

FCC ID: ZNFK920AM	<b>PCTEST</b> Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
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## Band 30 Frequency Stability Measurements

OPERATING FREQUENCY: 2,310,000,000 Hz  
 CHANNEL: 27710  
 REFERENCE VOLTAGE: 4.38 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.38	- 30	2,309,999,874	-126	-0.0000055
100 %		- 20	2,309,999,652	-348	-0.0000151
100 %		- 10	2,309,999,974	-26	-0.0000011
100 %		0	2,309,999,791	-209	-0.0000090
100 %		+ 10	2,310,000,017	17	0.0000007
100 %		+ 20	2,310,000,041	41	0.0000018
100 %		+ 30	2,310,000,018	18	0.0000008
100 %		+ 40	2,309,999,574	-426	-0.0000184
100 %		+ 50	2,309,999,925	-75	-0.0000032
BATT. ENDPOINT		3.63	+ 20	2,309,999,971	-29

**Table 7-97. Frequency Stability Data (Band 30)**

**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: ZNFK920AM		MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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### Band 30 Frequency Stability Measurements

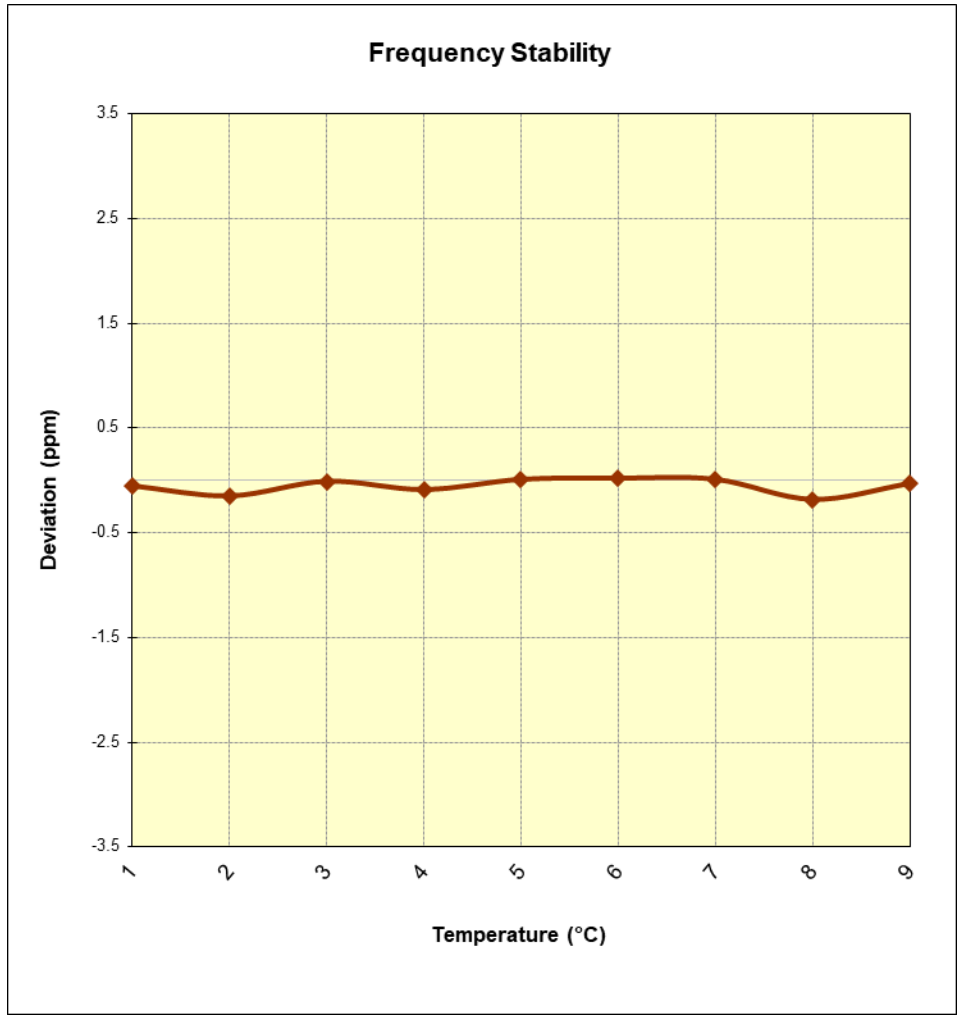


Figure 7-16. Frequency Stability Graph (Band 30)

FCC ID: ZNFK920AM	<b>PCTEST</b> Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	LG	Approved by: Quality Manager
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## Band 41 Frequency Stability Measurements

OPERATING FREQUENCY: 2,593,000,000 Hz  
 CHANNEL: 40620  
 REFERENCE VOLTAGE: 4.38 VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	4.38	- 30	2,593,000,071	71	0.0000027
100 %		- 20	2,592,999,794	-206	-0.0000079
100 %		- 10	2,592,999,571	-429	-0.0000165
100 %		0	2,592,999,981	-19	-0.0000007
100 %		+ 10	2,593,000,076	76	0.0000029
100 %		+ 20	2,592,999,736	-264	-0.0000102
100 %		+ 30	2,592,999,703	-297	-0.0000115
100 %		+ 40	2,593,000,291	291	0.0000112
100 %		+ 50	2,593,000,191	191	0.0000074
BATT. ENDPOINT		3.63	+ 20	2,593,000,193	193

**Table 7-98. 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: ZNFK920AM	 PCTEST® Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	 LG	Approved by: Quality Manager
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## Band 41 Frequency Stability Measurements

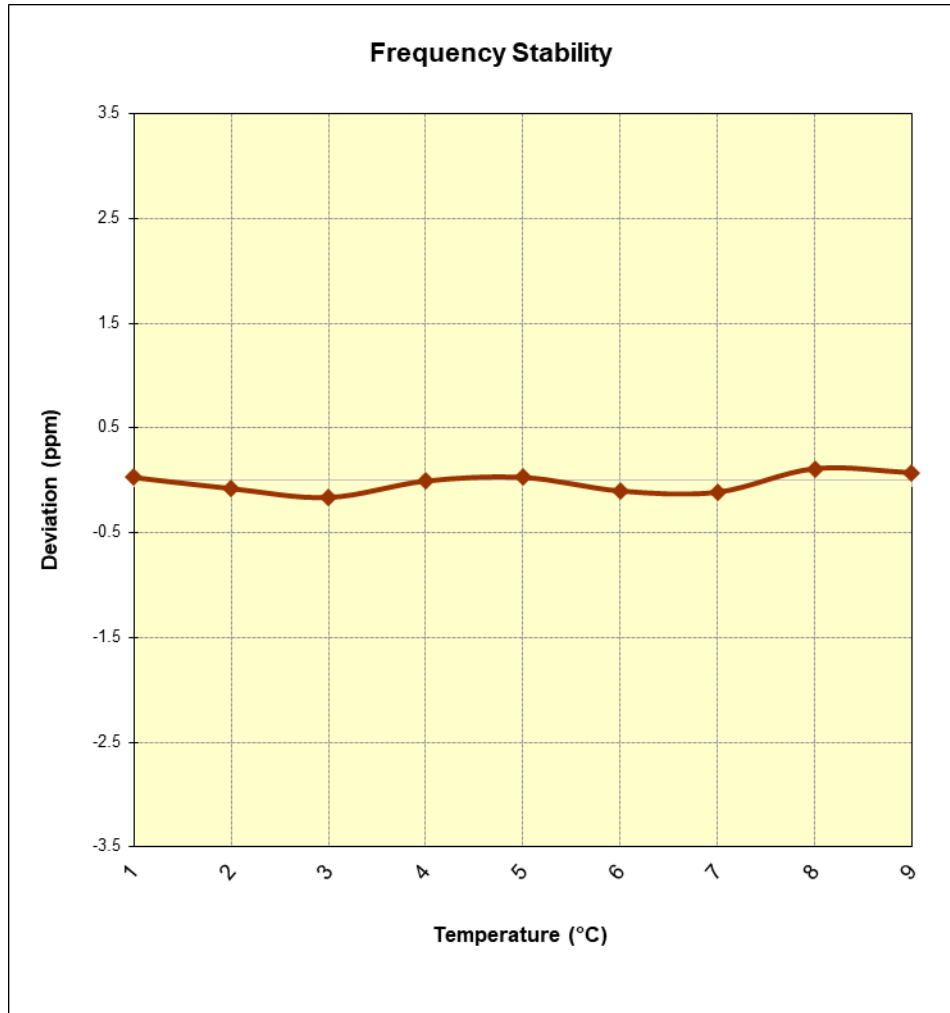


Figure 7-17. Frequency Stability Graph (Band 41)

FCC ID: ZNFK920AM	<b>PCTEST</b> Proud to be part of element	MEASUREMENT REPORT (CERTIFICATION)	LG	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 **LG Portable Handset FCC ID: ZNFK920AM** complies with all the requirements of for LTE and 5G NR Sub6 operations only.

FCC ID: ZNFK920AM	 <small>Proud to be part of  element</small>	MEASUREMENT REPORT (CERTIFICATION)		Approved by: Quality Manager
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