

|                  |             |
|------------------|-------------|
| Bandwidth (MHz): | 100         |
| Frequency (MHz): | 2546.01     |
| RB / Offset:     | 1 / 136     |
| Mode:            | Stand Alone |

| 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] |
|-----------------|-----------------|---------------------|----------------------------|----------------------|-------------|-------------------------|------------------------------------|-------------|-------------|
| 5092.02         | V               | 114                 | 321                        | -75.36               | 3.29        | 34.93                   | -60.32                             | -25.00      | -35.32      |
| 7638.03         | V               | 110                 | 325                        | -75.31               | 9.13        | 40.82                   | -54.44                             | -25.00      | -29.44      |
| 10184.04        | V               | 114                 | 228                        | -73.19               | 11.61       | 45.42                   | -49.84                             | -25.00      | -24.84      |
| 12730.05        | V               | 112                 | 3                          | -76.42               | 13.49       | 44.07                   | -51.19                             | -25.00      | -26.19      |
| 15276.06        | V               | 114                 | 51                         | -77.95               | 14.34       | 43.39                   | -51.86                             | -25.00      | -26.86      |
| 17822.07        | V               | -                   | -                          | -78.34               | 18.27       | 46.93                   | -48.33                             | -25.00      | -23.33      |
| 20368.08        | V               | -                   | -                          | -57.20               | 3.31        | 53.11                   | -51.69                             | -25.00      | -26.69      |
| 22914.09        | V               | -                   | -                          | -57.68               | 4.11        | 53.43                   | -51.37                             | -25.00      | -26.37      |

Table 7-110. Radiated Spurious Data (NR Band n41 – Low Channel – Ant4 – Switching)

|                  |             |
|------------------|-------------|
| Bandwidth (MHz): | 100         |
| Frequency (MHz): | 2592.99     |
| RB / Offset:     | 1 / 136     |
| Mode:            | Stand Alone |

| 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] |
|-----------------|-----------------|---------------------|----------------------------|----------------------|-------------|-------------------------|------------------------------------|-------------|-------------|
| 5185.98         | V               | 109                 | 312                        | -74.61               | 3.49        | 35.88                   | -59.37                             | -25.00      | -34.37      |
| 7778.97         | V               | 116                 | 324                        | -73.72               | 8.22        | 41.50                   | -53.76                             | -25.00      | -28.76      |
| 10371.96        | V               | 110                 | 320                        | -73.82               | 11.63       | 44.81                   | -50.45                             | -25.00      | -25.45      |
| 12964.95        | V               | 111                 | 60                         | -76.38               | 14.13       | 44.75                   | -50.51                             | -25.00      | -25.51      |
| 15557.94        | V               | -                   | -                          | -77.97               | 13.98       | 43.01                   | -52.25                             | -25.00      | -27.25      |
| 18150.93        | V               | -                   | -                          | -56.61               | 1.51        | 51.89                   | -52.91                             | -25.00      | -27.91      |
| 20743.92        | V               | -                   | -                          | -57.92               | 3.53        | 52.61                   | -52.19                             | -25.00      | -27.19      |
| 23336.91        | V               | -                   | -                          | -57.22               | 4.00        | 53.78                   | -51.02                             | -25.00      | -26.02      |

Table 7-111. Radiated Spurious Data (NR Band n41 – Mid Channel – Ant4 – Switching)

|                  |             |
|------------------|-------------|
| Bandwidth (MHz): | 100         |
| Frequency (MHz): | 2640.00     |
| RB / Offset:     | 1 / 136     |
| Mode:            | Stand Alone |

| 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] |
|-----------------|-----------------|---------------------|----------------------------|----------------------|-------------|-------------------------|------------------------------------|-------------|-------------|
| 5280.00         | V               | 113                 | 313                        | -73.81               | 3.34        | 36.53                   | -58.73                             | -25.00      | -33.73      |
| 7920.00         | V               | 109                 | 322                        | -74.59               | 9.19        | 41.60                   | -53.66                             | -25.00      | -28.66      |
| 10560.00        | V               | 110                 | 224                        | -75.96               | 12.23       | 43.27                   | -51.99                             | -25.00      | -26.99      |
| 13200.00        | V               | 115                 | 40                         | -76.83               | 14.71       | 44.88                   | -50.37                             | -25.00      | -25.37      |
| 15840.00        | V               | -                   | -                          | -78.56               | 14.94       | 43.38                   | -51.88                             | -25.00      | -26.88      |
| 18480.00        | V               | -                   | -                          | -57.00               | 1.82        | 51.82                   | -52.98                             | -25.00      | -27.98      |
| 21120.00        | V               | -                   | -                          | -57.79               | 3.83        | 53.05                   | -51.75                             | -25.00      | -26.75      |

Table 7-112. Radiated Spurious Data (NR Band n41 – High Channel – Ant4 – Switching)

|                                         |                                |                               |                                   |
|-----------------------------------------|--------------------------------|-------------------------------|-----------------------------------|
| FCC ID: A3LSMS928U                      | PART 27 MEASUREMENT REPORT     |                               | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2308210092-05.A3L | Test Dates:<br>9/6 – 11/7/2023 | EUT Type:<br>Portable Handset | Page 274 of 283                   |



|                  |             |
|------------------|-------------|
| Bandwidth (MHz): | 100         |
| Frequency (MHz): | 2640.00     |
| RB / Offset:     | 1 / 136     |
| Mode:            | Stand Alone |

| Frequency [MHz] | Ant. Pol.<br>[H/V] | Antenna<br>Height [cm] | Turntable<br>Azimuth<br>[degree] | Analyzer<br>Level<br>[dBm] | AFCL<br>[dB/m] | Field<br>Strength<br>[dBμV/m] | ERP Spurious<br>Emission Level<br>[dBm] | Limit<br>[dBm] | Margin<br>[dB] |
|-----------------|--------------------|------------------------|----------------------------------|----------------------------|----------------|-------------------------------|-----------------------------------------|----------------|----------------|
| 834.00          | V                  | -                      | -                                | -95.89                     | 30.67          | 41.78                         | -55.62                                  | -25.00         | -30.62         |

Table 7-113. Radiated Spurious Data (NR Band n41 – High Channel – Ant4 – Switching)

|                                         |                                |                               |                                   |
|-----------------------------------------|--------------------------------|-------------------------------|-----------------------------------|
| FCC ID: A3LSMS928U                      | PART 27 MEASUREMENT REPORT     |                               | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2308210092-05.A3L | Test Dates:<br>9/6 – 11/7/2023 | EUT Type:<br>Portable Handset | Page 275 of 283                   |

## 7.8 Frequency Stability / Temperature Variation

### Test Overview and Limit

Frequency stability testing is performed in accordance with the guidelines of ANSI C63.26-2015. The frequency stability of the transmitter is measured by:

- a.) **Temperature:** The temperature is varied from -30°C to +50°C in 10°C increments using an environmental chamber.
- b.) **Primary Supply Voltage:** The primary supply voltage is varied from 85% to 115% of the nominal value for non hand-carried battery and AC powered equipment. For hand-carried, battery-powered equipment, primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacturer.

***For Part 27, the frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.***

### Test Procedure Used

ANSI C63.26-2015 – Section 5.6

### Test Settings

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

### Test Setup

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

### Test Notes

None

|                                         |                                |                               |                                   |
|-----------------------------------------|--------------------------------|-------------------------------|-----------------------------------|
| FCC ID: A3LSMS928U                      | PART 27 MEASUREMENT REPORT     |                               | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2308210092-05.A3L | Test Dates:<br>9/6 – 11/7/2023 | EUT Type:<br>Portable Handset | Page 276 of 283                   |

| LTE Band 30      |             |                           |                |                 |               |
|------------------|-------------|---------------------------|----------------|-----------------|---------------|
|                  |             | Operating Frequency (Hz): |                | 2,310,000,000   |               |
|                  |             | Ref. Voltage (VDC):       |                | 4.27            |               |
| Voltage (%)      | Power (VDC) | Temp (°C)                 | Frequency (Hz) | Freq. Dev. (Hz) | Deviation (%) |
| 100 %            | 4.27        | - 30                      | 2,310,103,198  | -311            | -0.0000135    |
|                  |             | - 20                      | 2,310,106,157  | 2,648           | 0.0001146     |
|                  |             | - 10                      | 2,310,103,543  | 34              | 0.0000015     |
|                  |             | 0                         | 2,310,107,371  | 3,862           | 0.0001672     |
|                  |             | + 10                      | 2,310,105,064  | 1,555           | 0.0000673     |
|                  |             | + 20 (Ref)                | 2,310,103,509  | 0               | 0.0000000     |
|                  |             | + 30                      | 2,310,105,346  | 1,837           | 0.0000795     |
|                  |             | + 40                      | 2,310,103,042  | -467            | -0.0000202    |
|                  |             | + 50                      | 2,310,104,827  | 1,318           | 0.0000571     |
| Battery Endpoint | 3.68        | + 20                      | 2,310,104,487  | 978             | 0.0000423     |

Table 7-9. LTE Band 30 Frequency Stability Data

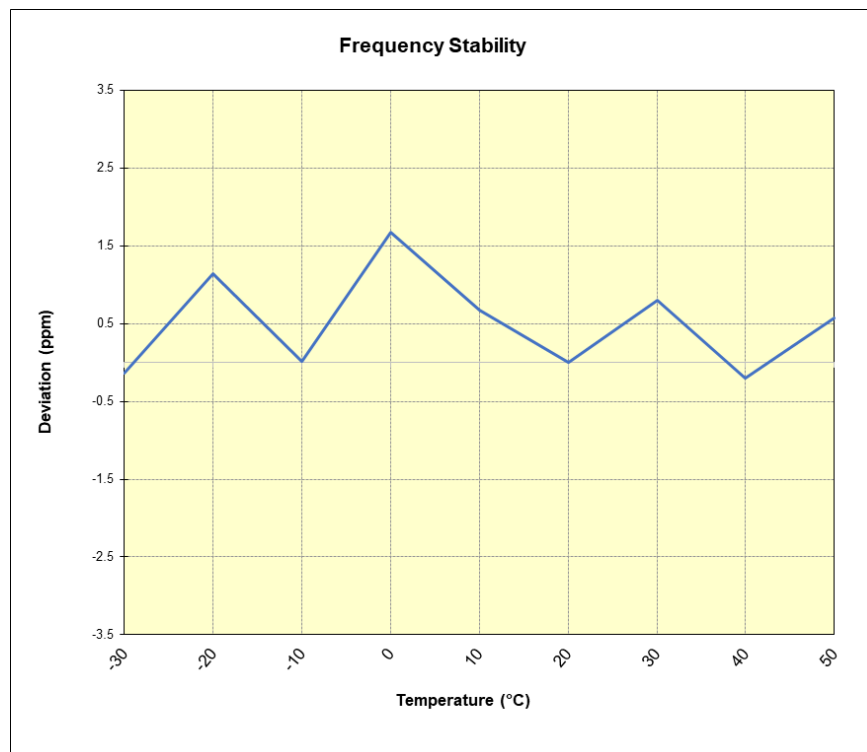


Table 7-9. LTE Band 30 Frequency Stability Chart

|                                         |                                |                               |                                   |
|-----------------------------------------|--------------------------------|-------------------------------|-----------------------------------|
| FCC ID: A3LSMS928U                      | PART 27 MEASUREMENT REPORT     |                               | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2308210092-05.A3L | Test Dates:<br>9/6 – 11/7/2023 | EUT Type:<br>Portable Handset | Page 277 of 283                   |

| LTE Band 7                |             |            |                |                 |               |
|---------------------------|-------------|------------|----------------|-----------------|---------------|
| Operating Frequency (Hz): |             |            | 2,535,000,000  |                 |               |
| Ref. Voltage (VDC):       |             |            | 4.27           |                 |               |
| Voltage (%)               | Power (VDC) | Temp (°C)  | Frequency (Hz) | Freq. Dev. (Hz) | Deviation (%) |
| 100 %                     | 4.27        | - 30       | 2,535,105,034  | 4,039           | 0.0001593     |
|                           |             | - 20       | 2,535,105,490  | 4,495           | 0.0001773     |
|                           |             | - 10       | 2,535,104,034  | 3,039           | 0.0001199     |
|                           |             | 0          | 2,535,100,254  | -741            | -0.0000292    |
|                           |             | + 10       | 2,535,104,367  | 3,372           | 0.0001330     |
|                           |             | + 20 (Ref) | 2,535,100,995  | 0               | 0.0000000     |
|                           |             | + 30       | 2,535,102,432  | 1,437           | 0.0000567     |
|                           |             | + 40       | 2,535,101,144  | 149             | 0.0000059     |
| Battery Endpoint          | 3.68        | + 50       | 2,535,103,186  | 2,191           | 0.0000864     |
|                           |             | + 20       | 2,535,101,288  | 293             | 0.0000116     |

Table 7-9. LTE Band 7 Frequency Stability Data

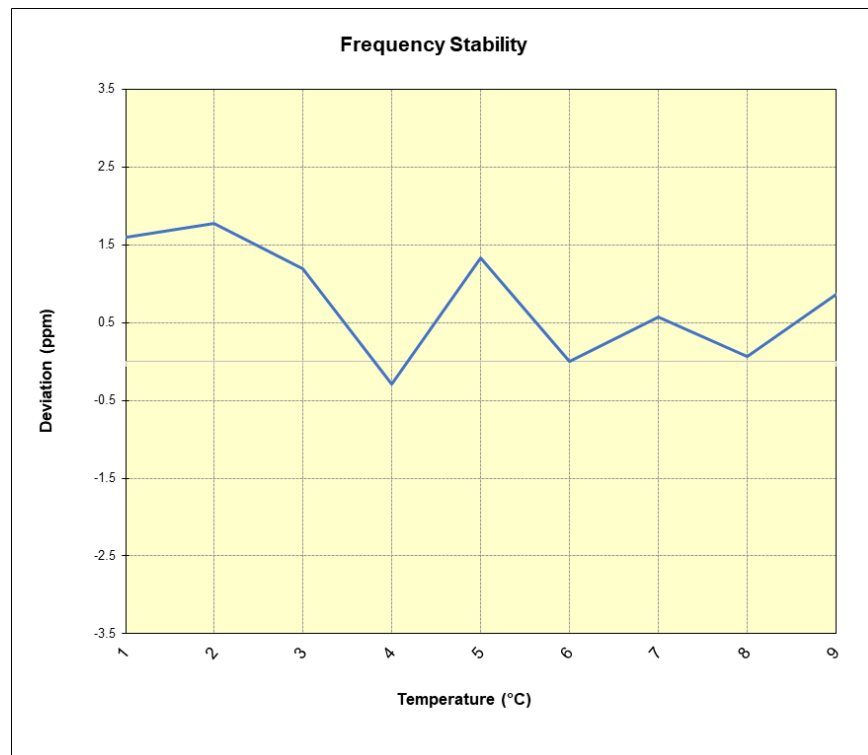
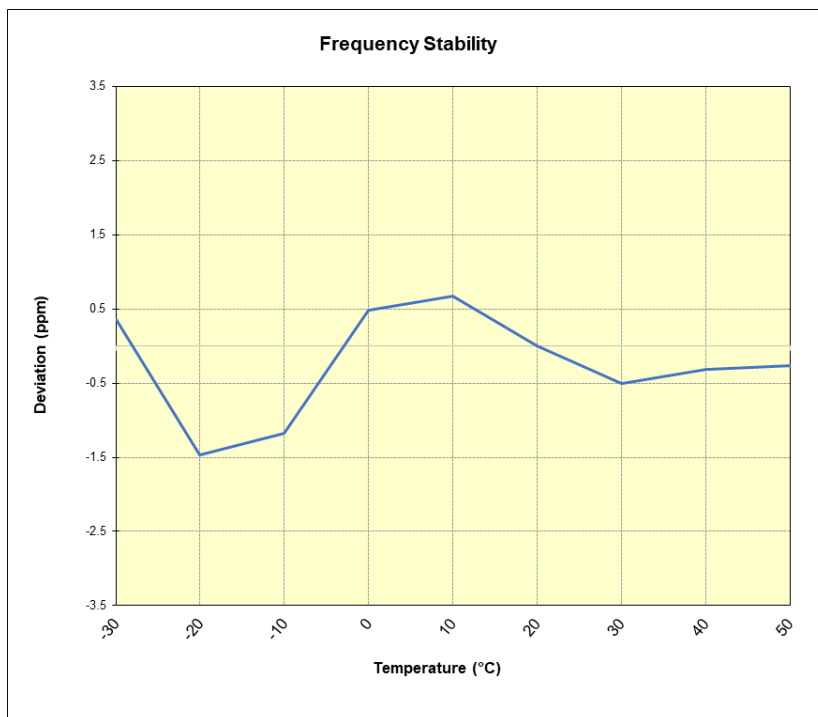


Table 7-9. LTE Band 7 Frequency Stability Chart

|                                         |                                |                               |                                   |
|-----------------------------------------|--------------------------------|-------------------------------|-----------------------------------|
| FCC ID: A3LSMS928U                      | PART 27 MEASUREMENT REPORT     |                               | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2308210092-05.A3L | Test Dates:<br>9/6 – 11/7/2023 | EUT Type:<br>Portable Handset | Page 278 of 283                   |

| LTE Band 41/38            |             |            |                |                 |               |
|---------------------------|-------------|------------|----------------|-----------------|---------------|
| Operating Frequency (Hz): |             |            | 2,593,000,000  |                 |               |
| Ref. Voltage (VDC):       |             |            | 4.27           |                 |               |
| Voltage (%)               | Power (VDC) | Temp (°C)  | Frequency (Hz) | Freq. Dev. (Hz) | Deviation (%) |
| 100 %                     | 4.27        | - 30       | 2,593,106,370  | 912             | 0.0000352     |
|                           |             | - 20       | 2,593,101,646  | -3,812          | -0.0001470    |
|                           |             | - 10       | 2,593,102,395  | -3,063          | -0.0001181    |
|                           |             | 0          | 2,593,106,712  | 1,254           | 0.0000484     |
|                           |             | + 10       | 2,593,107,200  | 1,742           | 0.0000672     |
|                           |             | + 20 (Ref) | 2,593,105,458  | 0               | 0.0000000     |
|                           |             | + 30       | 2,593,104,162  | -1,296          | -0.0000500    |
|                           |             | + 40       | 2,593,104,639  | -819            | -0.0000316    |
|                           |             | + 50       | 2,593,104,776  | -682            | -0.0000263    |
| Battery Endpoint          | 3.68        | + 20       | 2,593,107,211  | 1,753           | 0.0000676     |

**Table 7-9. LTE Band 41(PC2) Frequency Stability Data**



**Table 7-9. LTE Band 41(PC2) Frequency Stability Chart**

|                                         |                                |                               |                                   |
|-----------------------------------------|--------------------------------|-------------------------------|-----------------------------------|
| FCC ID: A3LSMS928U                      | PART 27 MEASUREMENT REPORT     |                               | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2308210092-05.A3L | Test Dates:<br>9/6 – 11/7/2023 | EUT Type:<br>Portable Handset | Page 279 of 283                   |

| NR Band n30               |             |               |                |                 |               |
|---------------------------|-------------|---------------|----------------|-----------------|---------------|
| Operating Frequency (Hz): |             | 2,310,000,000 |                |                 |               |
| Ref. Voltage (VDC):       |             | 4.27          |                |                 |               |
| Voltage (%)               | Power (VDC) | Temp (°C)     | Frequency (Hz) | Freq. Dev. (Hz) | Deviation (%) |
| 100 %                     | 4.27        | - 30          | 2,310,013,478  | 1,023           | 0.0000443     |
|                           |             | - 20          | 2,310,013,417  | 962             | 0.0000416     |
|                           |             | - 10          | 2,310,012,987  | 532             | 0.0000230     |
|                           |             | 0             | 2,310,011,874  | -581            | -0.0000252    |
|                           |             | + 10          | 2,310,011,879  | -576            | -0.0000249    |
|                           |             | + 20 (Ref)    | 2,310,012,455  | 0               | 0.0000000     |
|                           |             | + 30          | 2,310,013,427  | 972             | 0.0000421     |
|                           |             | + 40          | 2,310,014,257  | 1,802           | 0.0000780     |
|                           |             | + 50          | 2,310,014,478  | 2,023           | 0.0000876     |
| attery Endpoi             | 3.68        | + 20          | 2,310,013,489  | 1,034           | 0.0000448     |

Table 7-9. NR Band n30 Frequency Stability Data

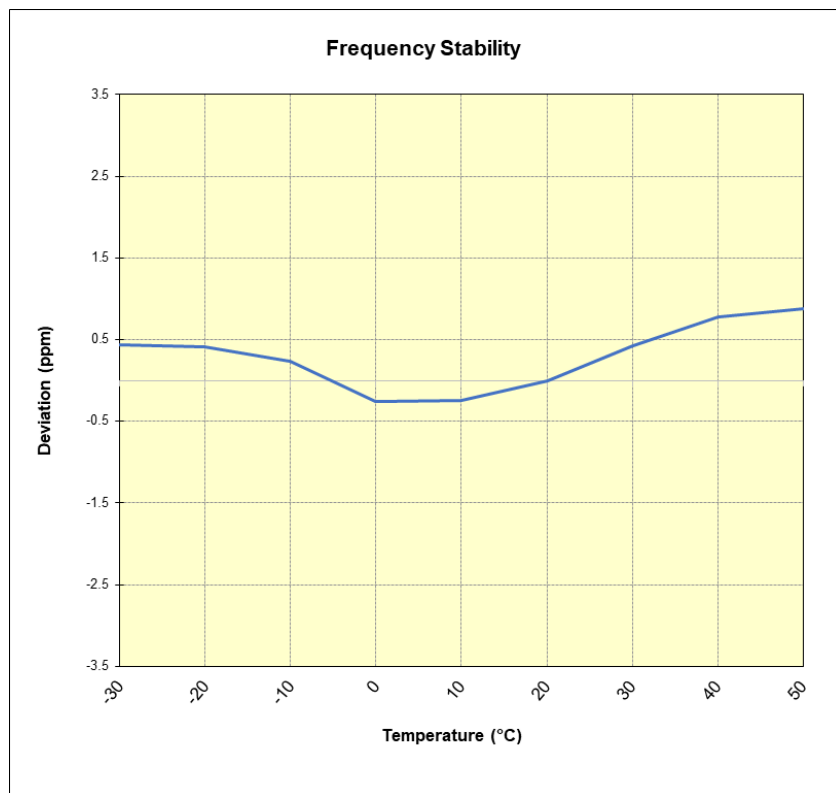


Table 7-9. NR Band n30 Frequency Stability Chart

|                                         |                                |                               |                                   |
|-----------------------------------------|--------------------------------|-------------------------------|-----------------------------------|
| FCC ID: A3LSMS928U                      | PART 27 MEASUREMENT REPORT     |                               | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2308210092-05.A3L | Test Dates:<br>9/6 – 11/7/2023 | EUT Type:<br>Portable Handset | Page 280 of 283                   |

| NR Band n7                |             |            |                |                 |               |
|---------------------------|-------------|------------|----------------|-----------------|---------------|
| Operating Frequency (Hz): |             |            | 2,535,000,000  |                 |               |
| Ref. Voltage (VDC):       |             |            | 4.27           |                 |               |
| Voltage (%)               | Power (VDC) | Temp (°C)  | Frequency (Hz) | Freq. Dev. (Hz) | Deviation (%) |
| 100 %                     | 4.27        | - 30       | 2,535,012,147  | 907             | 0.0000358     |
|                           |             | - 20       | 2,535,012,257  | 1,017           | 0.0000401     |
|                           |             | - 10       | 2,535,011,987  | 747             | 0.0000295     |
|                           |             | 0          | 2,535,010,898  | -342            | -0.0000135    |
|                           |             | + 10       | 2,535,009,477  | -1,763          | -0.0000695    |
|                           |             | + 20 (Ref) | 2,535,011,240  | 0               | 0.0000000     |
|                           |             | + 30       | 2,535,013,478  | 2,238           | 0.0000883     |
|                           |             | + 40       | 2,535,014,222  | 2,982           | 0.0001176     |
|                           |             | + 50       | 2,535,014,411  | 3,171           | 0.0001251     |
| Battery Endpoint          | 3.68        | + 20       | 2,535,014,111  | 2,871           | 0.0001133     |

Table 7-9. NR Band n7 Frequency Stability Data

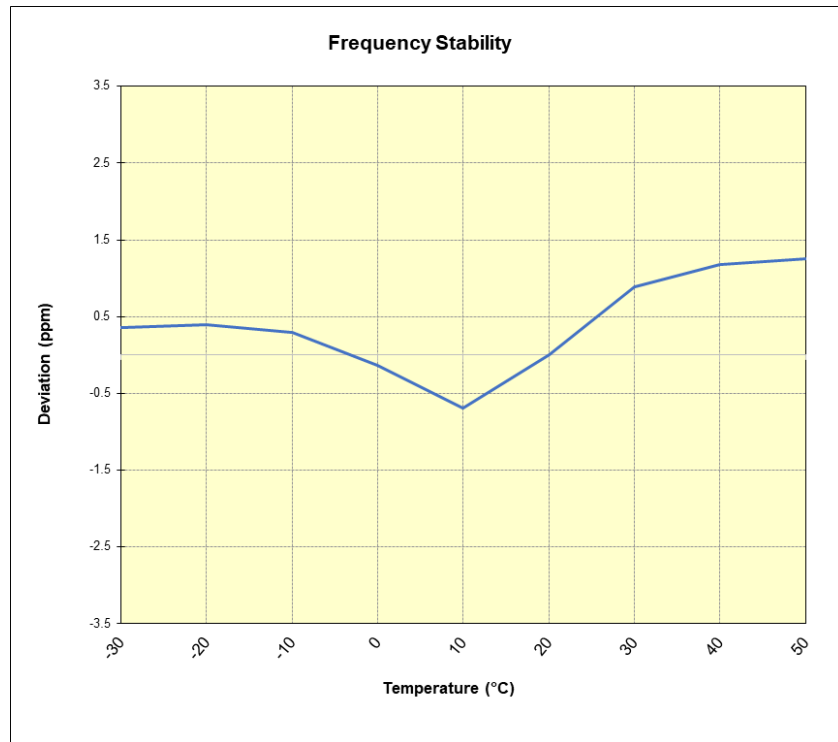


Table 7-9. NR Band n7 Frequency Stability Chart

|                                         |                                |                               |                                   |
|-----------------------------------------|--------------------------------|-------------------------------|-----------------------------------|
| FCC ID: A3LSMS928U                      | PART 27 MEASUREMENT REPORT     |                               | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2308210092-05.A3L | Test Dates:<br>9/6 – 11/7/2023 | EUT Type:<br>Portable Handset | Page 281 of 283                   |

### NR Band n41

| Operating Frequency (Hz): |             | 2,593,000,000 |                |                 |               |
|---------------------------|-------------|---------------|----------------|-----------------|---------------|
| Ref. Voltage (VDC):       |             | 4.27          |                |                 |               |
| Voltage (%)               | Power (VDC) | Temp (°C)     | Frequency (Hz) | Freq. Dev. (Hz) | Deviation (%) |
| 100 %                     | 4.27        | - 30          | 2,593,121,045  | 716             | 0.0000276     |
|                           |             | - 20          | 2,593,121,747  | 1,418           | 0.0000547     |
|                           |             | - 10          | 2,593,121,147  | 818             | 0.0000315     |
|                           |             | 0             | 2,593,120,147  | -182            | -0.0000070    |
|                           |             | + 10          | 2,593,120,547  | 218             | 0.0000084     |
|                           |             | + 20 (Ref)    | 2,593,120,329  | 0               | 0.0000000     |
|                           |             | + 30          | 2,593,121,444  | 1,115           | 0.0000430     |
|                           |             | + 40          | 2,593,122,147  | 1,818           | 0.0000701     |
|                           |             | + 50          | 2,593,121,587  | 1,258           | 0.0000485     |
| Battery Endpoint          | 3.68        | + 20          | 2,593,122,011  | 1,682           | 0.0000649     |

Table 7-9. NR Band n41 Frequency Stability Data

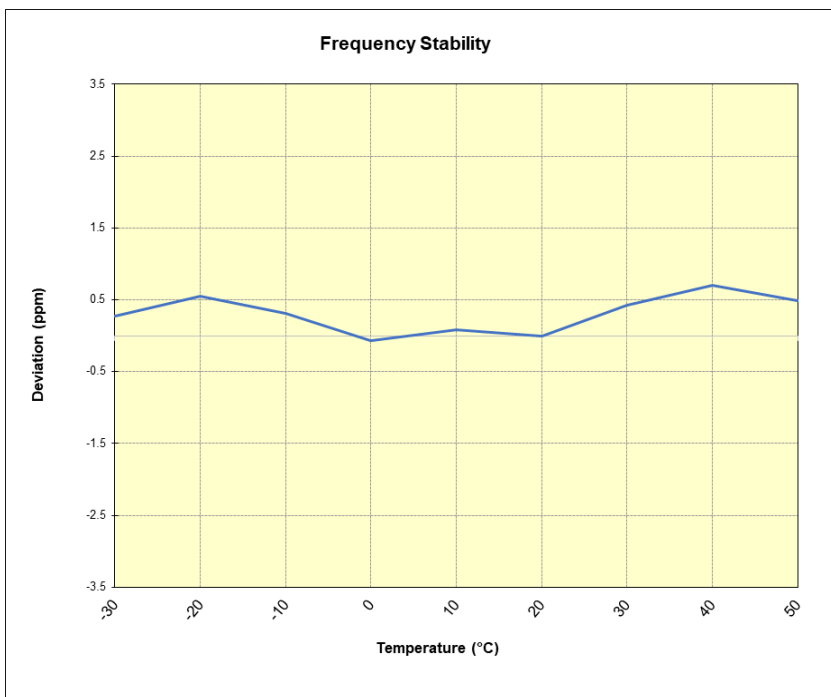


Table 7-9. NR Band n41 Frequency Stability Chart

|                                         |                                |                               |                                   |
|-----------------------------------------|--------------------------------|-------------------------------|-----------------------------------|
| FCC ID: A3LSMS928U                      | PART 27 MEASUREMENT REPORT     |                               | Approved by:<br>Technical Manager |
| Test Report S/N:<br>1M2308210092-05.A3L | Test Dates:<br>9/6 – 11/7/2023 | EUT Type:<br>Portable Handset | Page 282 of 283                   |

## 8.0 CONCLUSION

The data collected relate only to the item(s) tested and show that the **Samsung Portable Handset** **FCC ID: A3LSMS928U** complies with all the requirements of Part 27 of the FCC rules.

|                                                |                                       |                                      |                                          |
|------------------------------------------------|---------------------------------------|--------------------------------------|------------------------------------------|
| <b>FCC ID:</b> A3LSMS928U                      | <b>PART 27 MEASUREMENT REPORT</b>     |                                      | <b>Approved by:</b><br>Technical Manager |
| <b>Test Report S/N:</b><br>1M2308210092-05.A3L | <b>Test Dates:</b><br>9/6 – 11/7/2023 | <b>EUT Type:</b><br>Portable Handset | Page 283 of 283                          |