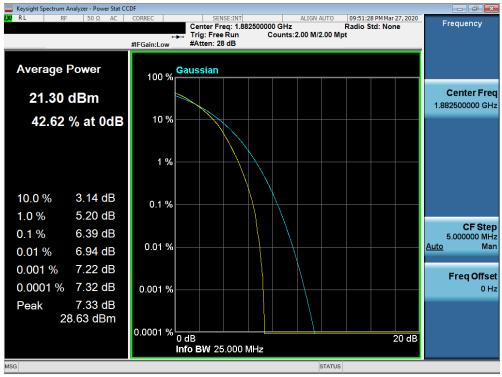


Plot 7-579. PAR Plot (Band 25/2 - 20.0MHz 16-QAM - Full RB Configuration)

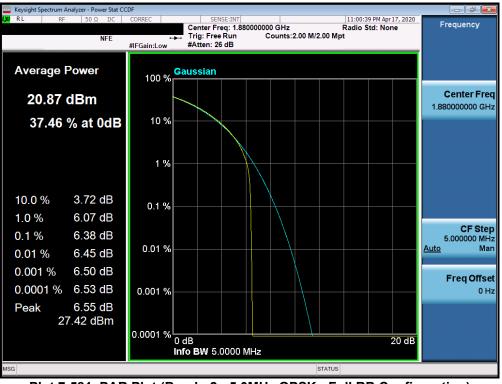


Plot 7-580. PAR Plot (Band 25/2 - 20.0MHz 64-QAM - Full RB Configuration)

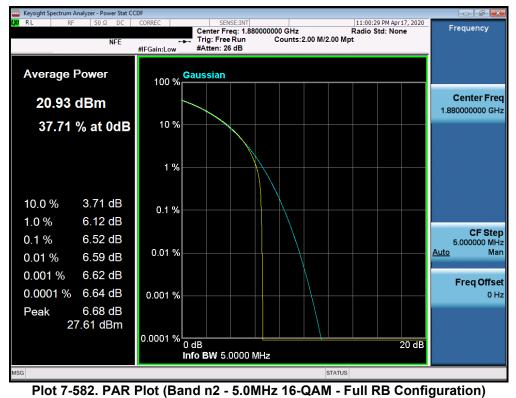
| FCC ID: A3LSMA716U | PCTEST Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
|---------------------|---|---------------------------------------|---------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | | Dega 220 of 420 |
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NR Band n2



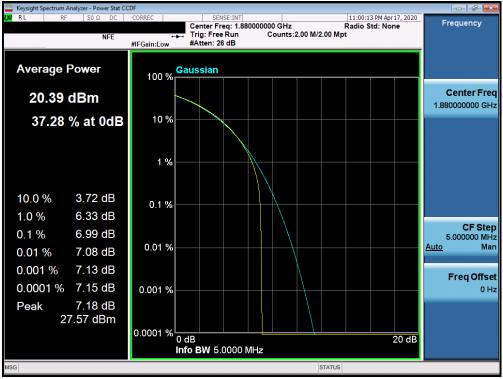




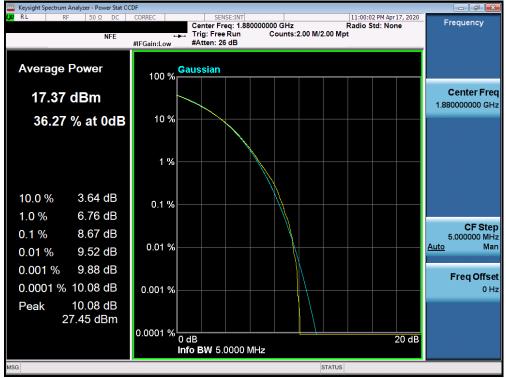
| FCC ID: A3LSMA716U | Proud to be part of element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
|---------------------|-----------------------------|---------------------------------------|---------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | | Daga 221 of 420 |
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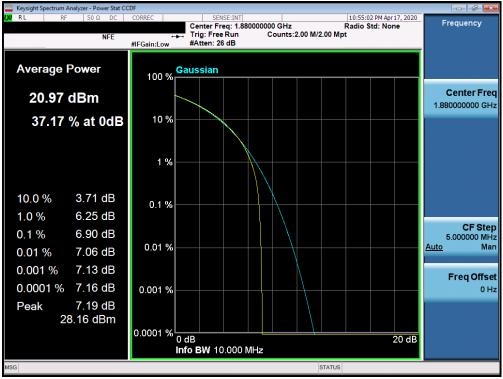




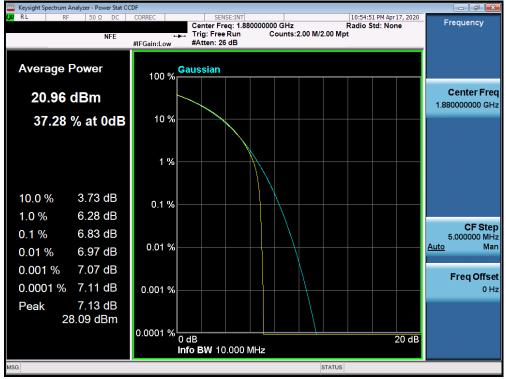
Plot 7-584. PAR Plot (Band n2 - 5.0MHz 256-QAM - Full RB Configuration)

| FCC ID: A3LSMA716U | PCTEST Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
|---------------------|---|---------------------------------------|---------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | | Dage 222 of 420 |
| 1M2003200047-11.A3L | 3/23 - 5/7/2020 | Portable Handset | | Page 322 of 420 |
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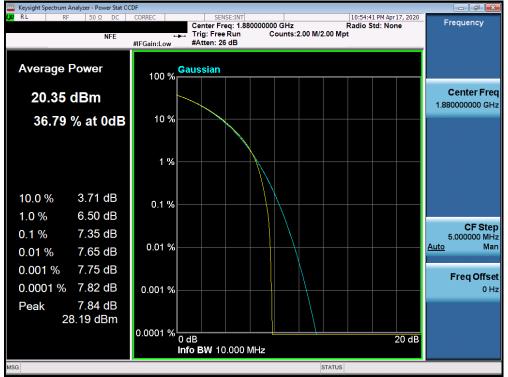
Plot 7-585. PAR Plot (Band n2 - 10.0MHz QPSK - Full RB Configuration)



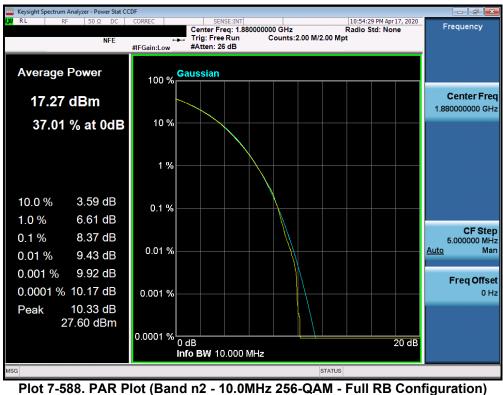
Plot 7-586. PAR Plot (Band n2 - 10.0MHz 16-QAM - Full RB Configuration)

| FCC ID: A3LSMA716U | PCTEST Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
|---------------------|---|---------------------------------------|---------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | | Daga 222 of 420 |
| 1M2003200047-11.A3L | 3/23 - 5/7/2020 | Portable Handset | | Page 323 of 420 |
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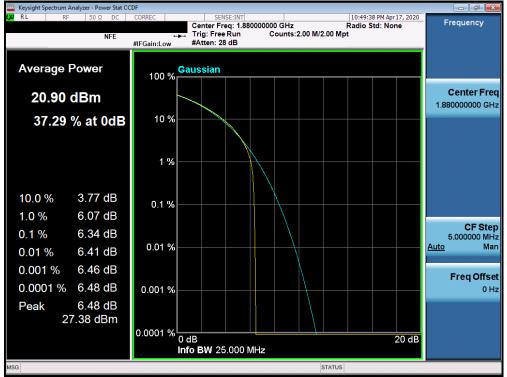




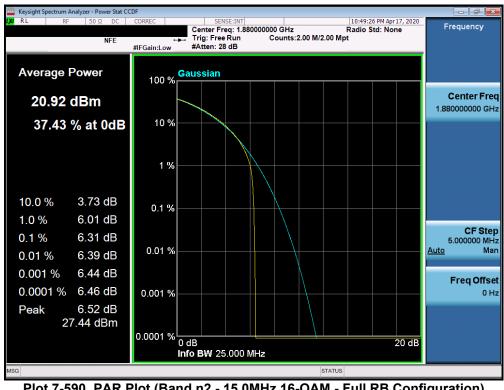


| FCC ID: A3LSMA716U | PCTEST Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | Approved by: Quality Manager |
|---------------------|---|---------------------------------------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | Baga 224 of 420 |
| 1M2003200047-11.A3L | 3/23 - 5/7/2020 | Portable Handset | Page 324 of 420 |
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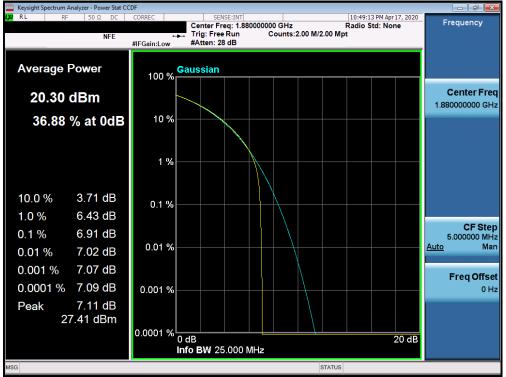




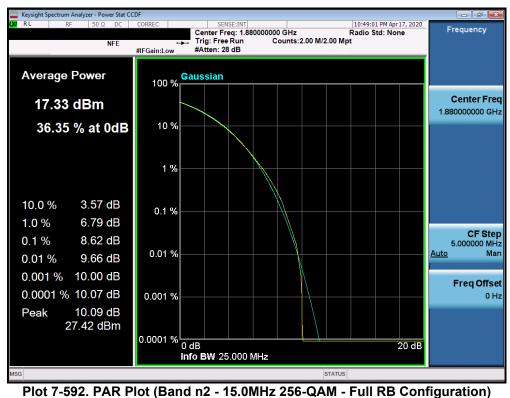
Plot 7-590. PAR Plot (Band n2 - 15.0MHz 16-QAM - Full RB Configuration)

| FCC ID: A3LSMA716U | Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | Approved by: Quality Manager |
|---------------------|-------------------------------|---------------------------------------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | Page 325 of 420 |
| 1M2003200047-11.A3L | 3/23 - 5/7/2020 | Portable Handset | Page 325 01 420 |
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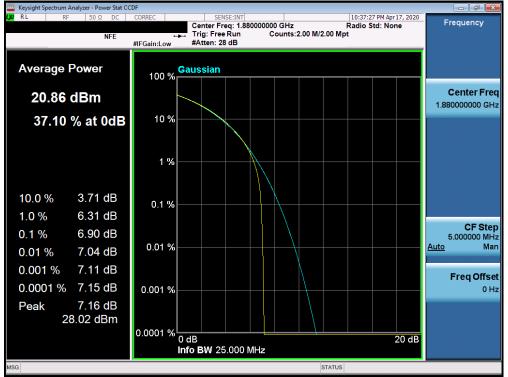






| FCC ID: A3LSMA716U | Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
|---------------------|-------------------------------|---------------------------------------|---------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | | Dage 206 of 400 |
| 1M2003200047-11.A3L | 3/23 - 5/7/2020 | Portable Handset | | Page 326 of 420 |
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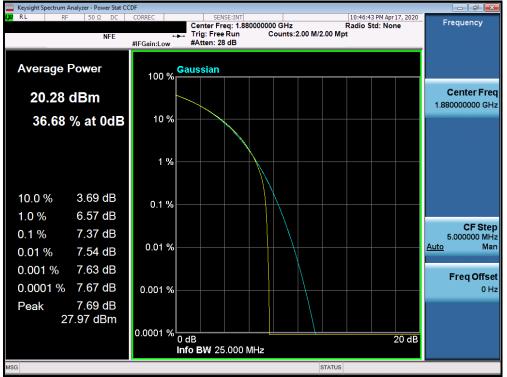




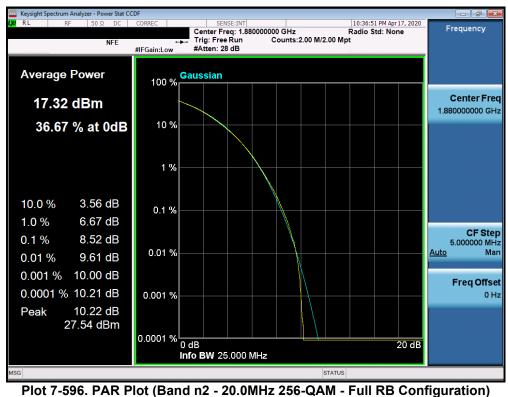


PCTEST Approved by: MEASUREMENT REPORT (cer FCC ID: A3LSMA716U SAMSUNG (CERTIFICATION) Quality Manager Test Report S/N: Test Dates: EUT Type: Page 327 of 420 1M2003200047-11.A3L 3/23 - 5/7/2020 Portable Handset © 2020 PCTEST V 9.0 02/01/2019





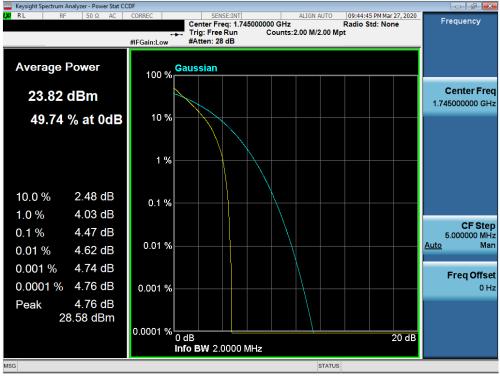




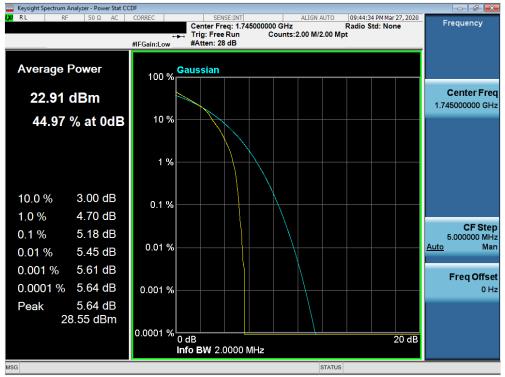
| FCC ID: A3LSMA716U | Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
|---------------------|-------------------------------|---------------------------------------|---------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | | Dega 200 of 400 |
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Band 66/4



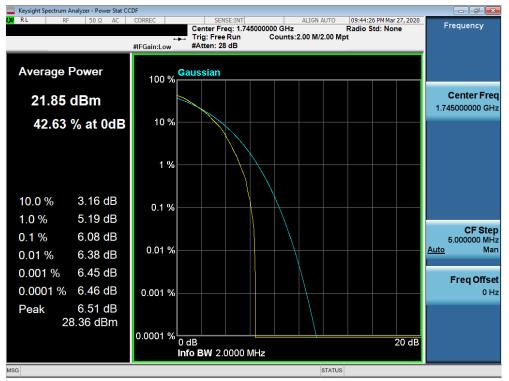
Plot 7-597. PAR Plot (Band 66/4 - 1.4MHz QPSK - Full RB Configuration)



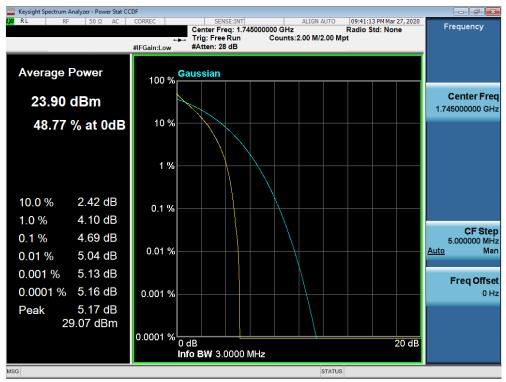
Plot 7-598. PAR Plot (Band 66/4 - 1.4MHz 16-QAM - Full RB Configuration)

| FCC ID: A3LSMA716U | PCTEST Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
|---------------------|---|---------------------------------------|---------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | | Daga 220 of 420 |
| 1M2003200047-11.A3L | 3/23 - 5/7/2020 | Portable Handset | | Page 329 of 420 |
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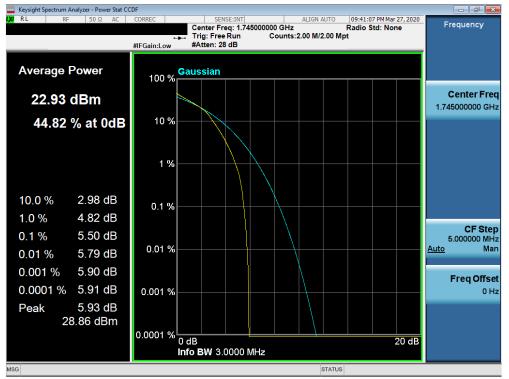
Plot 7-599. PAR Plot (Band 66/4 - 1.4MHz 64-QAM - Full RB Configuration)



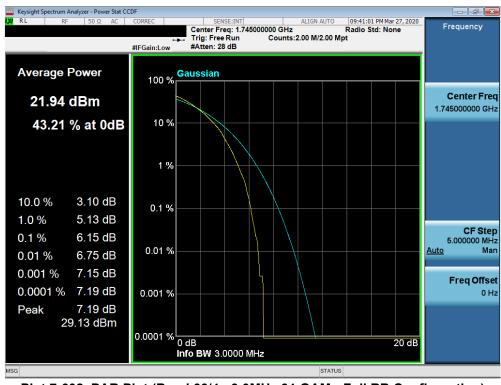
Plot 7-600. PAR Plot (Band 66/4 - 3.0MHz QPSK - Full RB Configuration)

| FCC ID: A3LSMA716U | PCTEST Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
|---------------------|---|---------------------------------------|---------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | | Daga 220 of 420 |
| 1M2003200047-11.A3L | 3/23 - 5/7/2020 | Portable Handset | | Page 330 of 420 |
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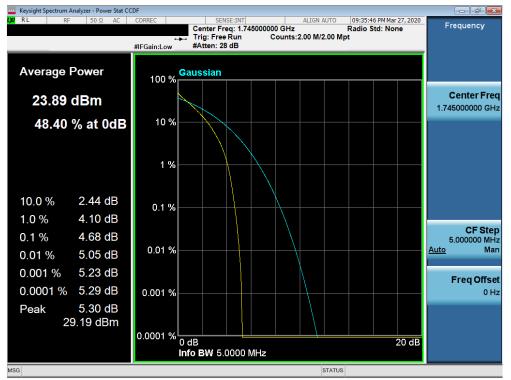




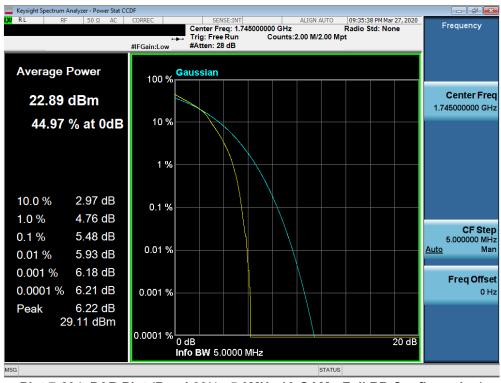
Plot 7-602. PAR Plot (Band 66/4 - 3.0MHz 64-QAM - Full RB Configuration)

| FCC ID: A3LSMA716U | PCTEST Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SUNG | Approved by: Quality Manager |
|---------------------|---|---------------------------------------|------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | | Dogo 221 of 420 |
| 1M2003200047-11.A3L | 3/23 - 5/7/2020 | Portable Handset | | Page 331 of 420 |
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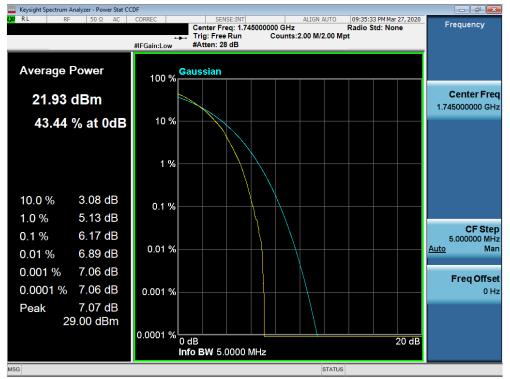




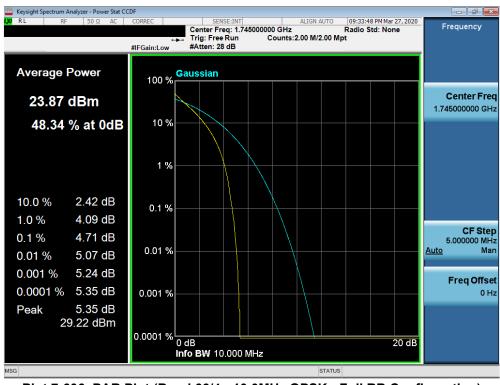
Plot 7-604. PAR Plot (Band 66/4 - 5.0MHz 16-QAM - Full RB Configuration)

| FCC ID: A3LSMA716U | PCTEST Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SUNG | Approved by: Quality Manager |
|---------------------|---|---------------------------------------|------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | | Dogo 222 of 420 |
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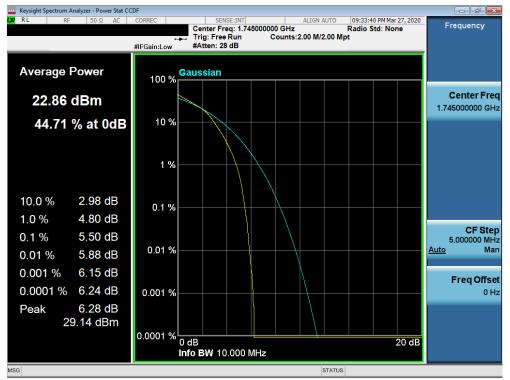




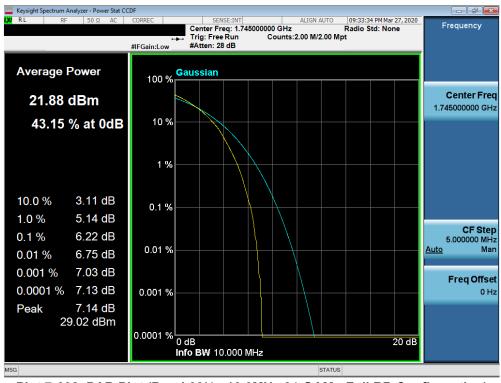
Plot 7-606. PAR Plot (Band 66/4 - 10.0MHz QPSK - Full RB Configuration)

| FCC ID: A3LSMA716U | PCTEST Prood to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
|---------------------|---|---------------------------------------|---------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | | Dogo 222 of 420 |
| 1M2003200047-11.A3L | 3/23 - 5/7/2020 | Portable Handset | | Page 333 of 420 |
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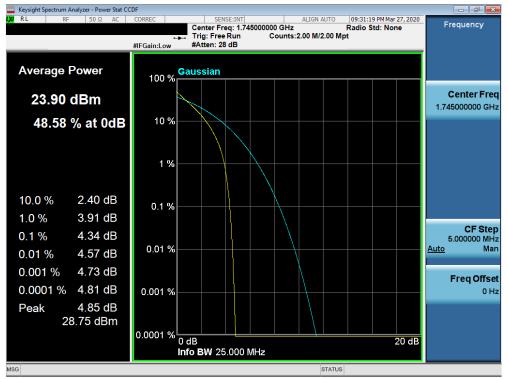


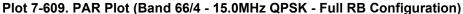


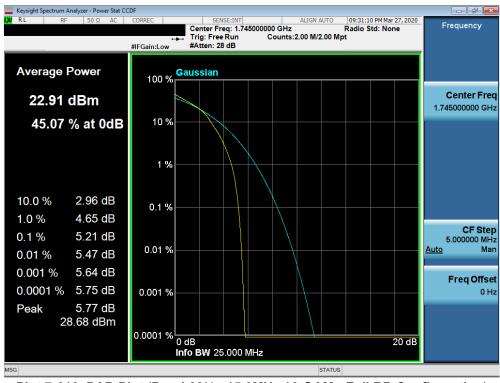
Plot 7-608. PAR Plot (Band 66/4 - 10.0MHz 64-QAM - Full RB Configuration)

| FCC ID: A3LSMA716U | PCTEST Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
|---------------------|---|---------------------------------------|---------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | | Dogo 224 of 420 |
| 1M2003200047-11.A3L | 3/23 - 5/7/2020 | Portable Handset | | Page 334 of 420 |
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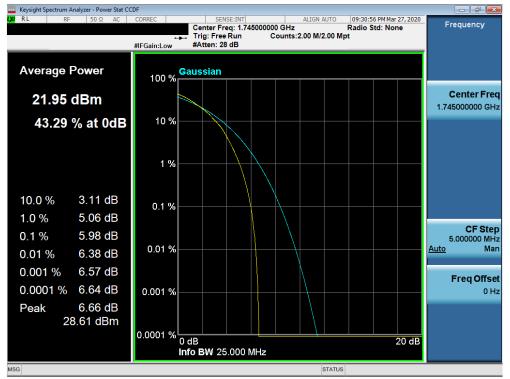




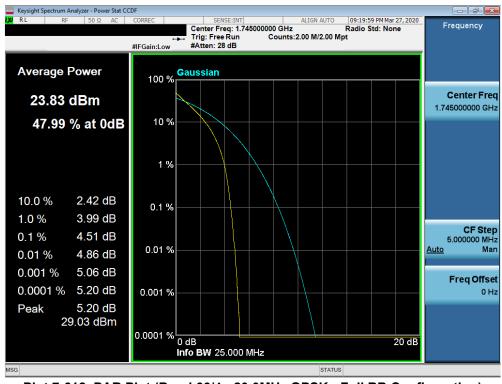
Plot 7-610. PAR Plot (Band 66/4 - 15.0MHz 16-QAM - Full RB Configuration)

| FCC ID: A3LSMA716U | PCTEST Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
|---------------------|---|---------------------------------------|---------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | | Dage 225 of 420 |
| 1M2003200047-11.A3L | 3/23 - 5/7/2020 | Portable Handset | | Page 335 of 420 |
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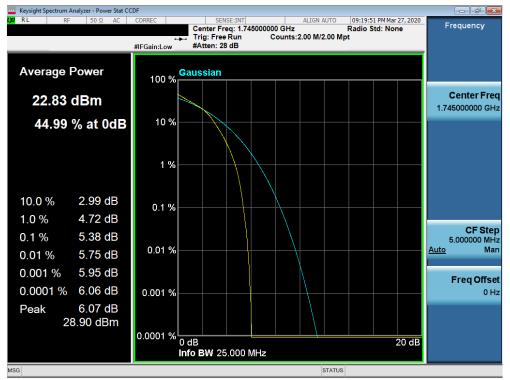




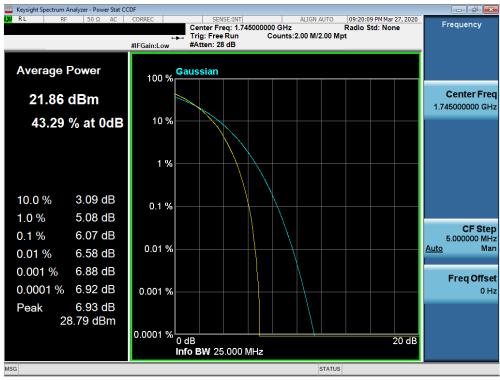
Plot 7-612. PAR Plot (Band 66/4 - 20.0MHz QPSK - Full RB Configuration)

| FCC ID: A3LSMA716U | PCTEST Prood to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
|---------------------|---|---------------------------------------|---------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | | Dage 226 of 420 |
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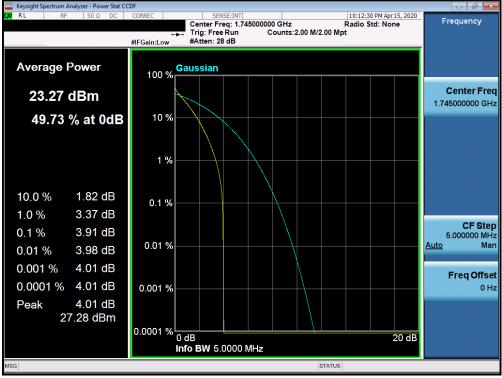


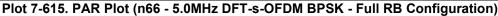
Plot 7-614. PAR Plot (Band 66/4 - 20.0MHz 64-QAM - Full RB Configuration)

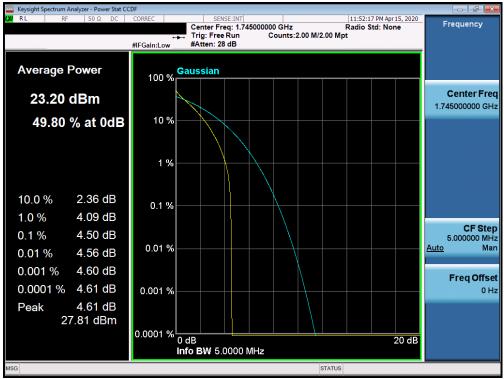
| FCC ID: A3LSMA716U | PCTEST Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
|---------------------|---|---------------------------------------|---------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | | Dega 227 of 420 |
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NR Band n66



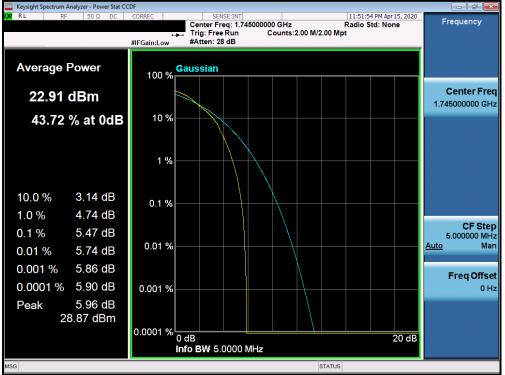




Plot 7-616. PAR Plot (n66 - 5.0MHz CP-OFDM-QPSK - Full RB Configuration)

| FCC ID: A3LSMA716U | PCTEST Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
|---------------------|---|---------------------------------------|---------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | | Daga 229 of 420 |
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EUT Type:

Portable Handset

MEASUREMENT REPORT

(CERTIFICATION)

PCTEST

(c)

Test Dates:

3/23 - 5/7/2020

FCC ID: A3LSMA716U

1M2003200047-11.A3L

Test Report S/N:

Plot 7-617. PAR Plot (n66 - 5.0MHz CP-OFDM-16-QAM - Full RB Configuration)

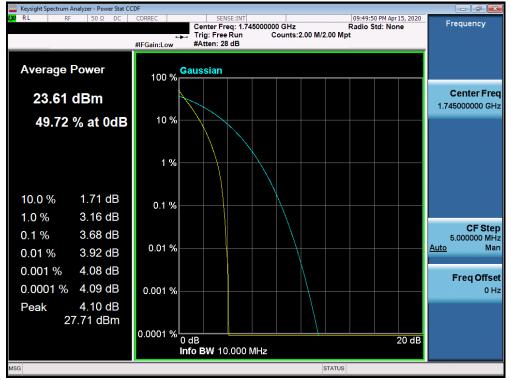
Page 339 of 420 V 9.0 02/01/2019 including photocopying and

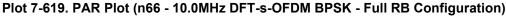
Approved by:

Quality Manager

SAMSUNG



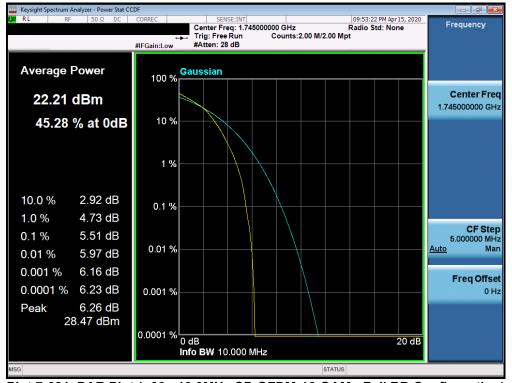




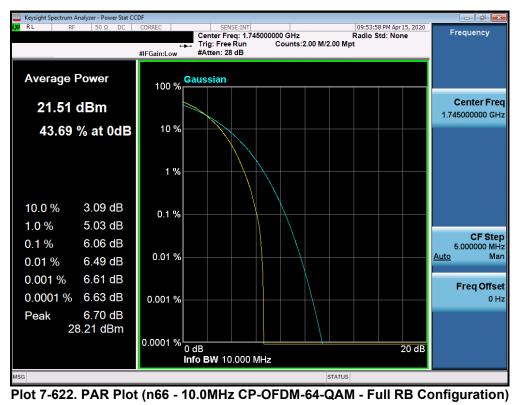


| FCC ID: A3LSMA716U | Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SUNG | Approved by: Quality Manager |
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| Test Report S/N: | Test Dates: | EUT Type: | | Demo 240 of 420 |
| 1M2003200047-11.A3L | 3/23 - 5/7/2020 | Portable Handset | | Page 340 of 420 |
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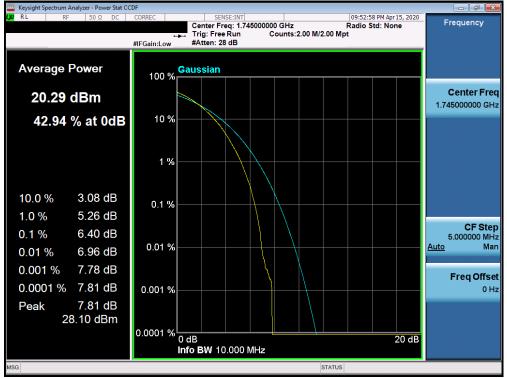


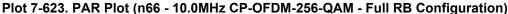


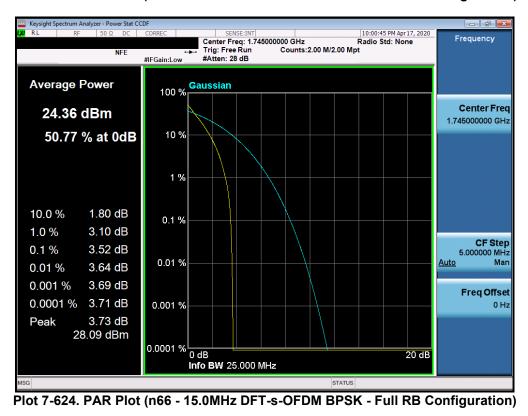


| FCC ID: A3LSMA716U | Proud to be part of element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
|---------------------|-----------------------------|---------------------------------------|---------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | | Dama 241 of 420 |
| 1M2003200047-11.A3L | 3/23 - 5/7/2020 | Portable Handset | | Page 341 of 420 |
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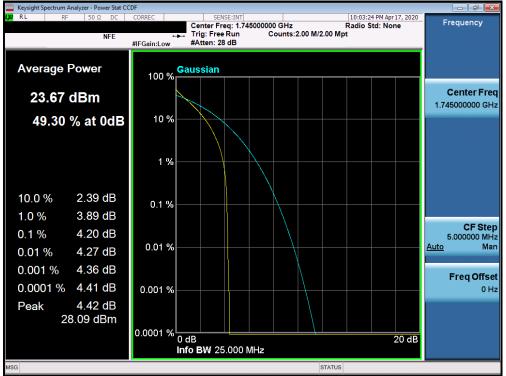




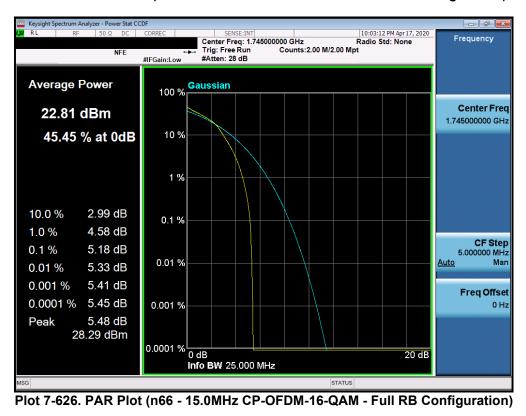


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| 1N | /2003200047-11.A3L | 3/23 - 5/7/2020 | Portable Handset | Page 342 01 420 |
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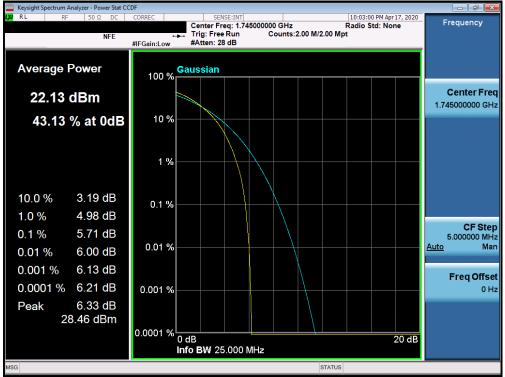




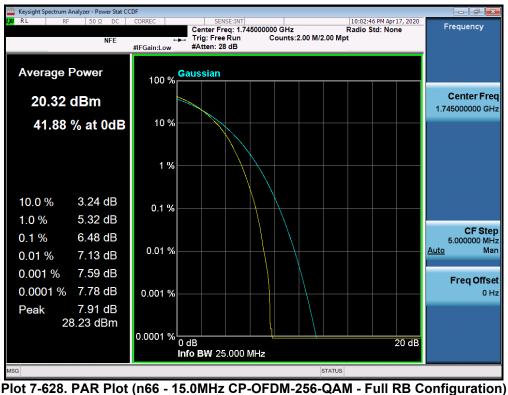


| FCC ID: A3LSMA716U | Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | Approved by: Quality Manager |
|---------------------|-------------------------------|---------------------------------------|---------------------------------|
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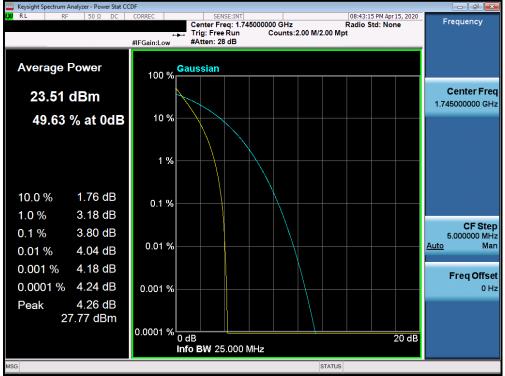




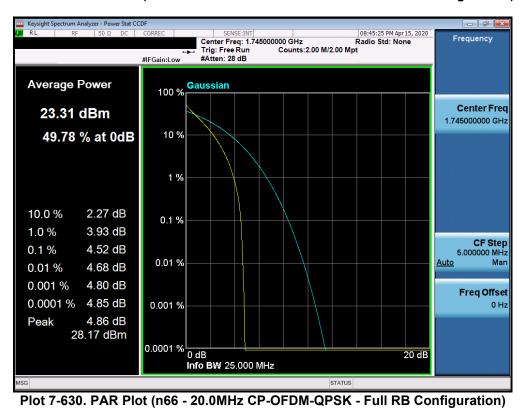


| FCC ID: A3LSMA716U | Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | Approved by: Quality Manager |
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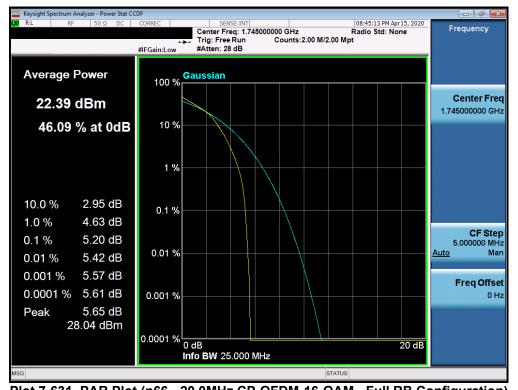




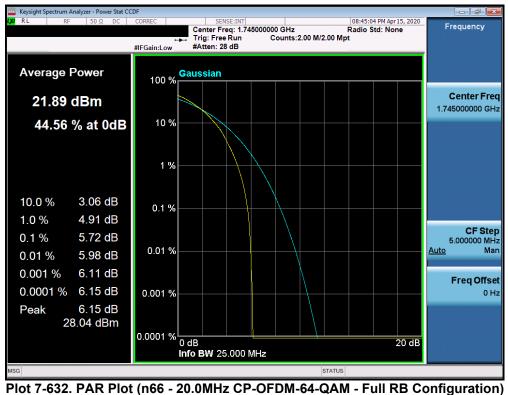


PCTEST Approved by: MEASUREMENT REPORT (c) FCC ID: A3LSMA716U SAMSUNG (CERTIFICATION) Quality Manager EUT Type: Test Report S/N: Test Dates: Page 345 of 420 1M2003200047-11.A3L 3/23 - 5/7/2020 Portable Handset © 2020 PCTEST V 9.0 02/01/2019



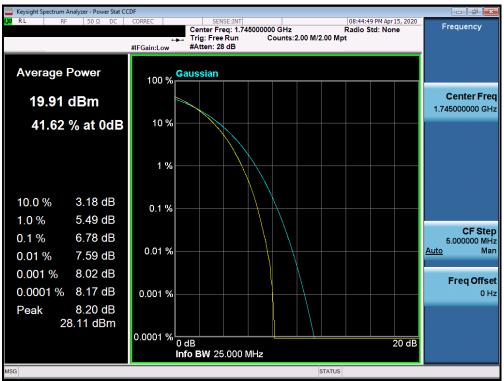






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Plot 7-633. PAR Plot (n66 - 20.0MHz CP-OFDM-256-QAM - Full RB Configuration)

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7.6 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 tuned 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

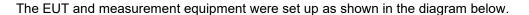
Test Settings

- 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 > 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

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Test Setup



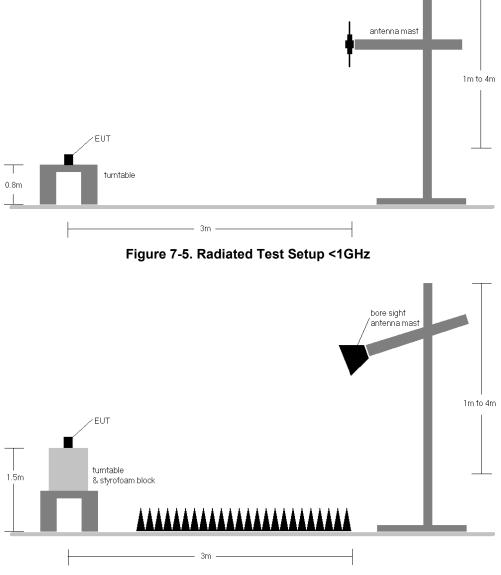


Figure 7-6. Radiated Test Setup >1GHz

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] |
|--------------------|-------------------------------|--------|-----------------------|---------------------------|----------------------------------|-------------------|------------------------------|-----------------------|--------------|----------------|-----------------------|----------------|
| 665.50 | 5 | QPSK | V | 171 | 241 | 1 / 24 | 17.61 | 3.79 | 19.25 | 0.084 | 34.77 | -15.52 |
| 680.50 | 5 | QPSK | V | 186 | 344 | 1 / 12 | 17.96 | 4.24 | 20.05 | 0.101 | 34.77 | -14.73 |
| 695.50 | 5 | QPSK | V | 186 | 241 | 1 / 0 | 18.07 | 4.58 | 20.50 | 0.112 | 34.77 | -14.28 |
| 695.50 | 5 | 16-QAM | V | 186 | 241 | 1 / 0 | 17.23 | 4.58 | 19.66 | 0.092 | 34.77 | -15.12 |
| 695.50 | 5 | 64-QAM | V | 186 | 241 | 1 / 0 | 15.14 | 4.58 | 17.57 | 0.057 | 34.77 | -17.21 |
| 668.00 | 10 | QPSK | V | 170 | 245 | 1 / 49 | 17.54 | 3.82 | 19.21 | 0.083 | 34.77 | -15.56 |
| 680.50 | 10 | QPSK | V | 185 | 340 | 1 / 25 | 18.17 | 4.24 | 20.26 | 0.106 | 34.77 | -14.52 |
| 693.00 | 10 | QPSK | V | 183 | 237 | 1 / 0 | 17.89 | 4.44 | 20.18 | 0.104 | 34.77 | -14.59 |
| 680.50 | 10 | 16-QAM | V | 185 | 340 | 1 / 25 | 17.73 | 4.24 | 19.82 | 0.096 | 34.77 | -14.96 |
| 680.50 | 10 | 64-QAM | V | 185 | 340 | 1 / 25 | 16.28 | 4.24 | 18.37 | 0.069 | 34.77 | -16.41 |
| 670.50 | 15 | QPSK | V | 168 | 242 | 1 / 74 | 17.79 | 3.96 | 19.60 | 0.091 | 34.77 | -15.17 |
| 680.50 | 15 | QPSK | V | 182 | 238 | 1 / 36 | 17.98 | 4.24 | 20.07 | 0.102 | 34.77 | -14.71 |
| 690.50 | 15 | QPSK | V | 180 | 242 | 1 / 0 | 17.81 | 4.41 | 20.07 | 0.102 | 34.77 | -14.70 |
| 690.50 | 15 | 16-QAM | V | 180 | 242 | 1 / 0 | 17.24 | 4.41 | 19.50 | 0.089 | 34.77 | -15.27 |
| 690.50 | 15 | 64-QAM | V | 180 | 242 | 1 / 0 | 15.47 | 4.41 | 17.73 | 0.059 | 34.77 | -17.04 |
| 673.00 | 20 | QPSK | V | 171 | 240 | 1 / 99 | 17.69 | 4.09 | 19.63 | 0.092 | 34.77 | -15.14 |
| 680.50 | 20 | QPSK | V | 186 | 235 | 1 / 50 | 17.88 | 4.24 | 19.97 | 0.099 | 34.77 | -14.81 |
| 688.00 | 20 | QPSK | V | 182 | 245 | 1 / 0 | 17.71 | 4.48 | 20.04 | 0.101 | 34.77 | -14.73 |
| 688.00 | 20 | 16-QAM | V | 182 | 245 | 1/0 | 16.89 | 4.48 | 19.22 | 0.084 | 34.77 | -15.55 |
| 688.00 | 20 | 64-QAM | V | 182 | 245 | 1/0 | 15.47 | 4.48 | 17.80 | 0.060 | 34.77 | -16.97 |
| 695.50 | 5 | QPSK | Н | 122 | 275 | 1 / 99 | 15.08 | 3.19 | 16.12 | 0.041 | 34.77 | -18.65 |

Table 7-3. ERP Data (Band 71)

| FCC ID: A3LSMA716U | PCTEST Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | 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] |
|-----------------|-------------------------------|---------|-----------------|------------------------|----------------------------------|-------------------|------------------------------|-----------------------|--------------|----------------|-----------------------|----------------|
| 665.50 | 5 | QPSK | V | 181 | 307 | 1 / 23 | 15.20 | 3.79 | 16.84 | 0.048 | 34.77 | -17.93 |
| 680.50 | 5 | QPSK | V | 198 | 294 | 1 / 23 | 15.10 | 4.24 | 17.19 | 0.052 | 34.77 | -17.59 |
| 695.50 | 5 | QPSK | V | 194 | 301 | 1 / 13 | 14.78 | 4.58 | 17.21 | 0.053 | 34.77 | -17.57 |
| 695.50 | 5 | 16-QAM | V | 194 | 301 | 1 / 13 | 13.19 | 4.58 | 15.62 | 0.036 | 34.77 | -19.16 |
| 695.50 | 5 | 64-QAM | V | 194 | 301 | 1 / 13 | 12.53 | 4.58 | 14.96 | 0.031 | 34.77 | -19.82 |
| 695.50 | 5 | 256-QAM | V | 194 | 301 | 1 / 13 | 10.27 | 4.58 | 12.70 | 0.019 | 34.77 | -22.08 |
| 695.50 | 5 | BPSK | V | 194 | 301 | 1 / 13 | 14.63 | 4.58 | 17.06 | 0.051 | 34.77 | -17.72 |
| 668.00 | 10 | QPSK | V | 174 | 305 | 1 / 50 | 15.25 | 3.82 | 16.93 | 0.049 | 34.77 | -17.85 |
| 680.50 | 10 | QPSK | V | 195 | 291 | 1 / 50 | 15.00 | 4.24 | 17.09 | 0.051 | 34.77 | -17.69 |
| 693.00 | 10 | QPSK | V | 192 | 306 | 1 / 26 | 14.75 | 4.44 | 17.04 | 0.051 | 34.77 | -17.73 |
| 693.00 | 10 | 16-QAM | V | 192 | 306 | 1 / 26 | 13.33 | 4.44 | 15.62 | 0.037 | 34.77 | -19.15 |
| 693.00 | 10 | 64-QAM | V | 192 | 306 | 1 / 26 | 12.71 | 4.44 | 15.00 | 0.032 | 34.77 | -19.77 |
| 693.00 | 10 | 256-QAM | V | 192 | 306 | 1 / 26 | 10.74 | 4.44 | 13.03 | 0.020 | 34.77 | -21.74 |
| 693.00 | 10 | BPSK | V | 192 | 306 | 1 / 26 | 14.79 | 4.44 | 17.08 | 0.051 | 34.77 | -17.69 |
| 670.50 | 15 | QPSK | V | 180 | 302 | 1 / 77 | 16.17 | 3.96 | 17.98 | 0.063 | 34.77 | -16.79 |
| 680.50 | 15 | QPSK | V | 191 | 294 | 1 / 77 | 14.92 | 4.24 | 17.01 | 0.050 | 34.77 | -17.77 |
| 690.50 | 15 | QPSK | V | 189 | 301 | 1 / 40 | 15.22 | 4.41 | 17.48 | 0.056 | 34.77 | -17.29 |
| 670.50 | 15 | 16-QAM | V | 180 | 302 | 1 / 77 | 14.47 | 3.96 | 16.28 | 0.042 | 34.77 | -18.49 |
| 670.50 | 15 | 64-QAM | V | 180 | 302 | 1 / 77 | 12.79 | 3.96 | 14.60 | 0.029 | 34.77 | -20.17 |
| 670.50 | 15 | 256-QAM | V | 180 | 302 | 1 / 77 | 11.69 | 3.96 | 13.50 | 0.022 | 34.77 | -21.27 |
| 670.50 | 15 | BPSK | V | 180 | 302 | 1 / 77 | 15.98 | 3.96 | 17.79 | 0.060 | 34.77 | -16.98 |
| 673.00 | 20 | QPSK | V | 182 | 301 | 1 / 104 | 16.01 | 4.09 | 17.95 | 0.062 | 34.77 | -16.82 |
| 680.50 | 20 | QPSK | V | 196 | 291 | 1 / 104 | 14.76 | 4.24 | 16.85 | 0.048 | 34.77 | -17.93 |
| 688.00 | 20 | QPSK | V | 185 | 306 | 1 / 53 | 15.06 | 4.48 | 17.39 | 0.055 | 34.77 | -17.38 |
| 673.00 | 20 | 16-QAM | V | 182 | 301 | 1 / 104 | 14.85 | 4.09 | 16.79 | 0.048 | 34.77 | -17.98 |
| 673.00 | 20 | 64-QAM | V | 182 | 301 | 1 / 104 | 12.79 | 4.09 | 14.73 | 0.030 | 34.77 | -20.04 |
| 673.00 | 20 | 256-QAM | V | 182 | 301 | 1 / 104 | 11.69 | 4.09 | 13.63 | 0.023 | 34.77 | -21.14 |
| 673.00 | 20 | BPSK | V | 182 | 301 | 1 / 104 | 15.78 | 4.09 | 17.72 | 0.059 | 34.77 | -17.05 |
| 670.50 | 15 | QPSK | Н | 139 | 276 | 1/1 | 14.79 | 3.09 | 15.73 | 0.037 | 34.77 | -19.04 |
| 670.50 | 15 (CP-OFDM) | QPSK | V | 188 | 286 | 1 / 53 | 14.87 | 4.00 | 16.72 | 0.047 | 34.77 | -18.05 |

Table 7-4. ERP Data (n71)

| FCC ID: A3LSMA716U | Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | 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] | EIRP [dBm] | EIRP [Watts] | EIRP Limit [dBm] | Margin [dB] |
|--------------------|-------------------------------|--------|-----------------------|---------------------------|----------------------------------|-------------------|------------------------------|-----------------------|--------------|----------------|-----------------------|----------------|---------------|-----------------|------------------------|----------------|
| 699.70 | 1.4 | QPSK | V | 190 | 301 | 1/0 | 17.70 | 4.56 | 20.11 | 0.103 | 34.77 | -14.66 | 22.26 | 0.168 | 36.99 | -14.73 |
| 707.50 | 1.4 | QPSK | v | 178 | 306 | 1/0 | 17.00 | 4.62 | 19.47 | 0.089 | 34.77 | -15.30 | 21.62 | 0.145 | 36.99 | -15.37 |
| 715.30 | 1.4 | QPSK | V | 181 | 309 | 1 / 0 | 15.85 | 4.72 | 18.42 | 0.069 | 34.77 | -16.35 | 20.57 | 0.114 | 36.99 | -16.42 |
| 699.70 | 1.4 | 16-QAM | V | 190 | 301 | 1 / 0 | 17.31 | 4.56 | 19.72 | 0.094 | 34.77 | -15.05 | 21.87 | 0.154 | 36.99 | -15.12 |
| 699.70 | 1.4 | 64-QAM | V | 190 | 301 | 1 / 0 | 15.60 | 4.56 | 18.01 | 0.063 | 34.77 | -16.76 | 20.16 | 0.104 | 36.99 | -16.83 |
| 700.50 | 3 | QPSK | v | 188 | 298 | 1 / 0 | 17.67 | 4.59 | 20.11 | 0.103 | 34.77 | -14.66 | 22.26 | 0.168 | 36.99 | -14.73 |
| 707.50 | 3 | QPSK | V | 181 | 305 | 1 / 0 | 17.04 | 4.62 | 19.51 | 0.089 | 34.77 | -15.26 | 21.66 | 0.147 | 36.99 | -15.33 |
| 714.50 | 3 | QPSK | v | 179 | 308 | 1 / 0 | 15.78 | 4.71 | 18.34 | 0.068 | 34.77 | -16.43 | 20.49 | 0.112 | 36.99 | -16.50 |
| 700.50 | 3 | 16-QAM | V | 188 | 298 | 1 / 0 | 17.05 | 4.59 | 19.49 | 0.089 | 34.77 | -15.28 | 21.64 | 0.146 | 36.99 | -15.35 |
| 700.50 | 3 | 64-QAM | v | 188 | 298 | 1 / 0 | 16.11 | 4.59 | 18.55 | 0.072 | 34.77 | -16.22 | 20.70 | 0.117 | 36.99 | -16.29 |
| 701.50 | 5 | QPSK | v | 191 | 295 | 1 / 0 | 17.78 | 4.60 | 20.23 | 0.105 | 34.77 | -14.54 | 22.38 | 0.173 | 36.99 | -14.61 |
| 707.50 | 5 | QPSK | v | 176 | 307 | 1 / 0 | 17.05 | 4.62 | 19.52 | 0.090 | 34.77 | -15.25 | 21.67 | 0.147 | 36.99 | -15.32 |
| 713.50 | 5 | QPSK | v | 176 | 310 | 1 / 0 | 15.65 | 4.70 | 18.20 | 0.066 | 34.77 | -16.57 | 20.35 | 0.108 | 36.99 | -16.64 |
| 701.50 | 5 | 16-QAM | V | 191 | 295 | 1 / 0 | 17.01 | 4.60 | 19.46 | 0.088 | 34.77 | -15.31 | 21.61 | 0.145 | 36.99 | -15.38 |
| 701.50 | 5 | 64-QAM | V | 191 | 295 | 1 / 0 | 15.98 | 4.60 | 18.43 | 0.070 | 34.77 | -16.34 | 20.58 | 0.114 | 36.99 | -16.41 |
| 704.00 | 10 | QPSK | V | 179 | 300 | 1 / 0 | 18.36 | 4.58 | 20.79 | 0.120 | 34.77 | -13.98 | 22.94 | 0.197 | 36.99 | -14.05 |
| 707.50 | 10 | QPSK | V | 177 | 293 | 1 / 0 | 17.85 | 4.62 | 20.32 | 0.108 | 34.77 | -14.45 | 22.47 | 0.177 | 36.99 | -14.52 |
| 711.00 | 10 | QPSK | V | 194 | 299 | 1 / 0 | 16.93 | 4.67 | 19.45 | 0.088 | 34.77 | -15.32 | 21.60 | 0.144 | 36.99 | -15.39 |
| 704.00 | 10 | 16-QAM | V | 179 | 300 | 1 / 0 | 17.57 | 4.58 | 20.00 | 0.100 | 34.77 | -14.77 | 22.15 | 0.164 | 36.99 | -14.84 |
| 704.00 | 10 | 64-QAM | V | 179 | 300 | 1 / 0 | 16.41 | 4.58 | 18.84 | 0.077 | 34.77 | -15.93 | 20.99 | 0.126 | 36.99 | -16.00 |
| 704.00 | 10 | QPSK | н | 122 | 288 | 1 / 49 | 16.45 | 3.58 | 17.88 | 0.061 | 34.77 | -16.89 | 20.03 | 0.101 | 36.99 | -16.96 |

Table 7-5. 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] | EIRP [dBm] | EIRP [Watts] | EIRP Limit [dBm] | Margin [dB] |
|--------------------|-------------------------------|--------|-----------------------|---------------------------|----------------------------------|-------------------|------------------------------|-----------------------|--------------|----------------|-----------------------|----------------|---------------|-----------------|------------------------|----------------|
| 779.50 | 5 | QPSK | н | 230 | 283 | 1 / 0 | 15.65 | 5.82 | 19.32 | 0.085 | 34.77 | -15.46 | 21.47 | 0.140 | 36.99 | -15.52 |
| 782.00 | 5 | QPSK | н | 243 | 285 | 1/0 | 15.41 | 5.89 | 19.15 | 0.082 | 34.77 | -15.62 | 21.30 | 0.135 | 36.99 | -15.69 |
| 784.50 | 5 | QPSK | н | 239 | 276 | 1/0 | 15.29 | 5.92 | 19.06 | 0.081 | 34.77 | -15.71 | 21.21 | 0.132 | 36.99 | -15.78 |
| 779.50 | 5 | 16-QAM | н | 230 | 283 | 1/0 | 14.79 | 5.82 | 18.46 | 0.070 | 34.77 | -16.32 | 20.61 | 0.115 | 36.99 | -16.38 |
| 779.50 | 5 | 64-QAM | н | 230 | 283 | 1/0 | 13.63 | 5.82 | 17.30 | 0.054 | 34.77 | -17.48 | 19.45 | 0.088 | 36.99 | -17.54 |
| 782.00 | 10 | QPSK | н | 235 | 271 | 1/0 | 15.71 | 5.89 | 19.45 | 0.088 | 34.77 | -15.32 | 21.60 | 0.145 | 36.99 | -15.39 |
| 782.00 | 10 | 16-QAM | н | 235 | 271 | 1/0 | 14.88 | 5.89 | 18.62 | 0.073 | 34.77 | -16.15 | 20.77 | 0.119 | 36.99 | -16.22 |
| 782.00 | 10 | 64-QAM | н | 235 | 271 | 1/0 | 13.88 | 5.89 | 17.62 | 0.058 | 34.77 | -17.15 | 19.77 | 0.095 | 36.99 | -17.22 |
| 782.00 | 10 | QPSK | V | 148 | 298 | 1 / 49 | 14.75 | 5.89 | 18.49 | 0.071 | 34.77 | -16.28 | 20.64 | 0.116 | 36.99 | -16.35 |

Table 7-6. ERP Data (Band 13)

| FCC ID: A3LSMA716U | PCTEST Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | 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] | EIRP [dBm] | EIRP [Watts] | EIRP Limit [dBm] | Margin [dB] |
|--------------------|-------------------------------|--------|-----------------------|---------------------------|----------------------------------|-------------------|------------------------------|-----------------------|--------------|----------------|-----------------------|----------------|---------------|-----------------|------------------------|----------------|
| 824.70 | 1.4 | QPSK | V | 141 | 243 | 1/0 | 14.15 | 6.36 | 18.36 | 0.068 | 38.45 | -20.10 | 20.51 | 0.112 | 40.61 | -20.10 |
| 836.50 | 1.4 | QPSK | V | 133 | 241 | 1/0 | 13.47 | 6.38 | 17.70 | 0.059 | 38.45 | -20.75 | 19.85 | 0.097 | 40.61 | -20.76 |
| 848.30 | 1.4 | QPSK | V | 131 | 237 | 1/5 | 13.18 | 6.50 | 17.53 | 0.057 | 38.45 | -20.92 | 19.68 | 0.093 | 40.61 | -20.93 |
| 824.70 | 1.4 | 16-QAM | ۷ | 141 | 243 | 1/0 | 12.91 | 6.36 | 17.12 | 0.051 | 38.45 | -21.34 | 19.27 | 0.084 | 40.61 | -21.34 |
| 824.70 | 1.4 | 64-QAM | V | 141 | 243 | 1/0 | 12.17 | 6.36 | 16.38 | 0.043 | 38.45 | -22.08 | 18.53 | 0.071 | 40.61 | -22.08 |
| 825.50 | 3 | QPSK | V | 139 | 241 | 1/0 | 13.90 | 6.36 | 18.11 | 0.065 | 38.45 | -20.34 | 20.26 | 0.106 | 40.61 | -20.34 |
| 836.50 | 3 | QPSK | V | 131 | 246 | 1/0 | 13.42 | 6.38 | 17.65 | 0.058 | 38.45 | -20.80 | 19.80 | 0.095 | 40.61 | -20.81 |
| 847.50 | 3 | QPSK | V | 134 | 239 | 1 / 14 | 13.07 | 6.49 | 17.41 | 0.055 | 38.45 | -21.04 | 19.56 | 0.090 | 40.61 | -21.04 |
| 825.50 | 3 | 16-QAM | V | 139 | 241 | 1/0 | 13.49 | 6.36 | 17.70 | 0.059 | 38.45 | -20.75 | 19.85 | 0.097 | 40.61 | -20.75 |
| 825.50 | 3 | 64-QAM | V | 139 | 241 | 1/0 | 11.82 | 6.36 | 16.03 | 0.040 | 38.45 | -22.42 | 18.18 | 0.066 | 40.61 | -22.42 |
| 826.50 | 5 | QPSK | V | 137 | 246 | 1/0 | 13.98 | 6.37 | 18.20 | 0.066 | 38.45 | -20.25 | 20.35 | 0.108 | 40.61 | -20.25 |
| 836.50 | 5 | QPSK | V | 132 | 241 | 1/0 | 13.27 | 6.38 | 17.50 | 0.056 | 38.45 | -20.95 | 19.65 | 0.092 | 40.61 | -20.96 |
| 846.50 | 5 | QPSK | V | 130 | 237 | 1 / 24 | 13.15 | 6.48 | 17.48 | 0.056 | 38.45 | -20.97 | 19.63 | 0.092 | 40.61 | -20.98 |
| 826.50 | 5 | 16-QAM | V | 137 | 246 | 1/0 | 13.56 | 6.37 | 17.78 | 0.060 | 38.45 | -20.67 | 19.93 | 0.098 | 40.61 | -20.67 |
| 826.50 | 5 | 64-QAM | V | 137 | 246 | 1/0 | 12.08 | 6.37 | 16.30 | 0.043 | 38.45 | -22.15 | 18.45 | 0.070 | 40.61 | -22.15 |
| 829.00 | 10 | QPSK | V | 134 | 241 | 1/0 | 14.19 | 6.40 | 18.44 | 0.070 | 38.45 | -20.01 | 20.59 | 0.115 | 40.61 | -20.02 |
| 836.50 | 10 | QPSK | V | 138 | 246 | 1/0 | 13.32 | 6.38 | 17.55 | 0.057 | 38.45 | -20.90 | 19.70 | 0.093 | 40.61 | -20.91 |
| 844.00 | 10 | QPSK | V | 133 | 240 | 1 / 49 | 13.10 | 6.46 | 17.41 | 0.055 | 38.45 | -21.04 | 19.56 | 0.090 | 40.61 | -21.05 |
| 829.00 | 10 | 16-QAM | V | 134 | 241 | 1/0 | 13.29 | 6.40 | 17.54 | 0.057 | 38.45 | -20.91 | 19.69 | 0.093 | 40.61 | -20.92 |
| 829.00 | 10 | 64-QAM | V | 134 | 241 | 1/0 | 12.39 | 6.40 | 16.64 | 0.046 | 38.45 | -21.81 | 18.79 | 0.076 | 40.61 | -21.82 |
| 829.00 | 10 | QPSK | Н | 203 | 280 | 1 / 37 | 12.42 | 6.73 | 17.00 | 0.050 | 38.45 | -21.45 | 19.15 | 0.082 | 40.61 | -21.46 |

Table 7-7. 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] | EIRP [dBm] | EIRP [Watts] | EIRP Limit [dBm] | Margin [dB] |
|--------------------|-------------------------------|--------|-----------------------|---------------------------|----------------------------------|-------------------|------------------------------|-----------------------|--------------|----------------|-----------------------|----------------|---------------|-----------------|------------------------|----------------|
| 831.50 | 15 | QPSK | V | 137 | 245 | 1 / 0 | 14.23 | 6.43 | 18.51 | 0.071 | 38.45 | -19.94 | 20.66 | 0.116 | 40.61 | -19.95 |
| 836.50 | 15 | QPSK | V | 139 | 233 | 1 / 0 | 13.13 | 6.38 | 17.36 | 0.054 | 38.45 | -21.09 | 19.51 | 0.089 | 40.61 | -21.10 |
| 841.50 | 15 | QPSK | V | 145 | 232 | 1 / 74 | 13.01 | 6.43 | 17.29 | 0.054 | 38.45 | -21.16 | 19.44 | 0.088 | 40.61 | -21.17 |
| 831.50 | 15 | 16-QAM | V | 137 | 245 | 1 / 0 | 13.49 | 6.43 | 17.77 | 0.060 | 38.45 | -20.68 | 19.92 | 0.098 | 40.61 | -20.69 |
| 831.50 | 15 | 64-QAM | V | 137 | 245 | 1 / 0 | 12.19 | 6.43 | 16.47 | 0.044 | 38.45 | -21.98 | 18.62 | 0.073 | 40.61 | -21.99 |

Table 7-8. ERP Data (Band 26)

| FCC ID: A3LSMA716U | Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
|---------------------|-------------------------------|---------------------------------------|---------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | | Daga 252 of 420 |
| 1M2003200047-11.A3L | 3/23 - 5/7/2020 | Portable Handset | | Page 353 of 420 |
| © 2020 PCTEST | | | | V 9.0 02/01/2019 |



| 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] | EIRP [dBm] | EIRP [Watts] | EIRP Limit [dBm] | Margin [dB] |
|-----------------|-------------------------------|---------|-----------------|------------------------|----------------------------------|-------------------|------------------------------|-----------------------|--------------|----------------|-----------------------|----------------|---------------|-----------------|------------------------|----------------|
| 826.50 | 5 | QPSK | v | 151 | 250 | 1 / 23 | 10.29 | 6.37 | 14.51 | 0.028 | 38.45 | -23.94 | 16.66 | 0.046 | 40.61 | -23.95 |
| 836.50 | 5 | QPSK | v | 147 | 242 | 1 / 23 | 10.23 | 6.38 | 14.46 | 0.028 | 38.45 | -23.99 | 16.61 | 0.046 | 40.61 | -24.00 |
| 846.50 | 5 | QPSK | v | 132 | 239 | 1 / 23 | 10.31 | 6.48 | 14.65 | 0.029 | 38.45 | -23.81 | 16.80 | 0.048 | 40.61 | -23.81 |
| 848.30 | 5 | 16-QAM | v | 132 | 239 | 1 / 23 | 9.30 | 6.50 | 13.65 | 0.023 | 38.45 | -24.80 | 15.80 | 0.038 | 40.61 | -24.80 |
| 848.30 | 5 | 64-QAM | v | 132 | 239 | 1 / 23 | 6.37 | 6.50 | 10.72 | 0.012 | 38.45 | -27.73 | 12.87 | 0.019 | 40.61 | -27.74 |
| 848.30 | 5 | 256-QAM | V | 132 | 239 | 1 / 23 | 4.09 | 6.50 | 8.44 | 0.007 | 38.45 | -30.01 | 10.59 | 0.011 | 40.61 | -30.02 |
| 848.30 | 5 | BPSK | V | 132 | 239 | 1 / 23 | 9.74 | 6.50 | 14.09 | 0.026 | 38.45 | -24.36 | 16.24 | 0.042 | 40.61 | -24.36 |
| 829.00 | 10 | QPSK | v | 146 | 253 | 1 / 50 | 10.55 | 6.40 | 14.80 | 0.030 | 38.45 | -23.65 | 16.95 | 0.050 | 40.61 | -23.66 |
| 836.50 | 10 | QPSK | v | 143 | 247 | 1 / 50 | 10.31 | 6.38 | 14.54 | 0.028 | 38.45 | -23.91 | 16.69 | 0.047 | 40.61 | -23.92 |
| 844.00 | 10 | QPSK | v | 137 | 234 | 1 / 50 | 9.02 | 6.46 | 13.33 | 0.022 | 38.45 | -25.12 | 15.48 | 0.035 | 40.61 | -25.13 |
| 825.50 | 10 | 16-QAM | v | 146 | 253 | 1 / 50 | 9.40 | 6.36 | 13.61 | 0.023 | 38.45 | -24.84 | 15.76 | 0.038 | 40.61 | -24.84 |
| 825.50 | 10 | 64-QAM | V | 146 | 253 | 1 / 50 | 7.79 | 6.36 | 12.00 | 0.016 | 38.45 | -26.45 | 14.15 | 0.026 | 40.61 | -26.45 |
| 825.50 | 10 | 256-QAM | v | 146 | 253 | 1 / 50 | 5.70 | 6.36 | 9.91 | 0.010 | 38.45 | -28.54 | 12.06 | 0.016 | 40.61 | -28.54 |
| 825.50 | 10 | BPSK | V | 146 | 253 | 1 / 50 | 9.96 | 6.36 | 14.17 | 0.026 | 38.45 | -24.28 | 16.32 | 0.043 | 40.61 | -24.28 |
| 831.50 | 15 | QPSK | v | 144 | 251 | 1 / 77 | 10.52 | 6.43 | 14.80 | 0.030 | 38.45 | -23.65 | 16.95 | 0.050 | 40.61 | -23.66 |
| 836.50 | 15 | QPSK | v | 141 | 250 | 1 / 77 | 10.28 | 6.38 | 14.51 | 0.028 | 38.45 | -23.94 | 16.66 | 0.046 | 40.61 | -23.95 |
| 841.50 | 15 | QPSK | v | 134 | 241 | 1 / 77 | 8.99 | 6.43 | 13.27 | 0.021 | 38.45 | -25.18 | 15.42 | 0.035 | 40.61 | -25.19 |
| 831.50 | 15 | 16-QAM | v | 144 | 251 | 1 / 77 | 9.42 | 6.43 | 13.70 | 0.023 | 38.45 | -24.75 | 15.85 | 0.038 | 40.61 | -24.76 |
| 831.50 | 15 | 64-QAM | V | 144 | 251 | 1 / 77 | 7.79 | 6.43 | 12.07 | 0.016 | 38.45 | -26.38 | 14.22 | 0.026 | 40.61 | -26.39 |
| 831.50 | 15 | 256-QAM | v | 144 | 251 | 1 / 77 | 5.70 | 6.43 | 9.98 | 0.010 | 38.45 | -28.47 | 12.13 | 0.016 | 40.61 | -28.48 |
| 831.50 | 15 | BPSK | V | 144 | 251 | 1 / 77 | 9.95 | 6.43 | 14.23 | 0.026 | 38.45 | -24.22 | 16.38 | 0.043 | 40.61 | -24.23 |
| 834.00 | 20 | QPSK | v | 146 | 249 | 1 / 104 | 10.15 | 6.35 | 14.35 | 0.027 | 38.45 | -24.10 | 16.50 | 0.045 | 40.61 | -24.10 |
| 836.50 | 20 | QPSK | v | 143 | 253 | 1 / 104 | 9.91 | 6.38 | 14.14 | 0.026 | 38.45 | -24.31 | 16.29 | 0.043 | 40.61 | -24.32 |
| 839.00 | 20 | QPSK | v | 138 | 246 | 1 / 104 | 8.62 | 6.40 | 12.87 | 0.019 | 38.45 | -25.58 | 15.02 | 0.032 | 40.61 | -25.58 |
| 834.00 | 20 | 16-QAM | v | 146 | 249 | 1 / 104 | 9.22 | 6.35 | 13.42 | 0.022 | 38.45 | -25.03 | 15.57 | 0.036 | 40.61 | -25.03 |
| 834.00 | 20 | 64-QAM | v | 146 | 249 | 1 / 104 | 8.29 | 6.35 | 12.49 | 0.018 | 38.45 | -25.96 | 14.64 | 0.029 | 40.61 | -25.96 |
| 834.00 | 20 | 256-QAM | v | 146 | 249 | 1 / 104 | 6.20 | 6.35 | 10.40 | 0.011 | 38.45 | -28.05 | 12.55 | 0.018 | 40.61 | -28.05 |
| 834.00 | 20 | BPSK | v | 146 | 249 | 1 / 104 | 10.00 | 6.35 | 14.20 | 0.026 | 38.45 | -24.25 | 16.35 | 0.043 | 40.61 | -24.25 |
| 829.00 | 10 | QPSK | н | 219 | 309 | 1 / 104 | 6.64 | 6.75 | 11.24 | 0.013 | 38.45 | -27.21 | 13.39 | 0.022 | 40.61 | -27.22 |
| 829.00 | 10 (CP-OFDM) | QPSK | v | 147 | 261 | 1 / 53 | 7.85 | 6.35 | 12.05 | 0.016 | 38.45 | -26.40 | 14.20 | 0.026 | 40.61 | -26.40 |

Table 7-9. ERP Data (n5)

| FCC ID: A3LSMA716U | Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | AMSUNG | Approved by: Quality Manager | |
|---------------------|-------------------------------|---------------------------------------|--------|---------------------------------|--|
| Test Report S/N: | Test Dates: | EUT Type: | | Dega 254 of 420 | |
| 1M2003200047-11.A3L | 3/23 - 5/7/2020 | Portable Handset | | Page 354 of 420 | |
| © 2020 PCTEST | | | | V 9.0 02/01/2019 | |



| 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 | V | 118 | 204 | 1 / 5 | 12.88 | 9.38 | 22.26 | 0.168 | 30.00 | -7.74 |
| 1745.00 | 1.4 | QPSK | V | 101 | 201 | 1 / 2 | 14.13 | 9.14 | 23.27 | 0.212 | 30.00 | -6.73 |
| 1779.30 | 1.4 | QPSK | V | 127 | 218 | 1 / 2 | 12.39 | 9.20 | 21.59 | 0.144 | 30.00 | -8.41 |
| 1745.00 | 1.4 | 16-QAM | V | 101 | 201 | 1 / 2 | 13.48 | 9.14 | 22.62 | 0.183 | 30.00 | -7.38 |
| 1745.00 | 1.4 | 64-QAM | V | 101 | 201 | 1 / 2 | 12.18 | 9.14 | 21.32 | 0.135 | 30.00 | -8.68 |
| 1711.50 | 3 | QPSK | V | 125 | 202 | 1 / 14 | 12.75 | 9.37 | 22.12 | 0.163 | 30.00 | -7.88 |
| 1745.00 | 3 | QPSK | V | 104 | 207 | 1 / 7 | 14.12 | 9.14 | 23.26 | 0.212 | 30.00 | -6.74 |
| 1778.50 | 3 | QPSK | V | 130 | 221 | 1 / 7 | 12.27 | 9.20 | 21.47 | 0.140 | 30.00 | -8.53 |
| 1745.00 | 3 | 16-QAM | V | 104 | 207 | 1 / 7 | 13.71 | 9.14 | 22.85 | 0.193 | 30.00 | -7.15 |
| 1745.00 | 3 | 64-QAM | V | 104 | 207 | 1 / 7 | 12.14 | 9.14 | 21.28 | 0.134 | 30.00 | -8.72 |
| 1712.50 | 5 | QPSK | V | 122 | 208 | 1 / 24 | 12.59 | 9.37 | 21.96 | 0.157 | 30.00 | -8.04 |
| 1745.00 | 5 | QPSK | V | 101 | 210 | 1 / 12 | 14.19 | 9.14 | 23.33 | 0.215 | 30.00 | -6.67 |
| 1777.50 | 5 | QPSK | V | 127 | 224 | 1 / 12 | 12.36 | 9.19 | 21.55 | 0.143 | 30.00 | -8.45 |
| 1745.00 | 5 | 16-QAM | V | 101 | 210 | 1 / 12 | 13.26 | 9.14 | 22.40 | 0.174 | 30.00 | -7.60 |
| 1745.00 | 5 | 64-QAM | V | 101 | 210 | 1 / 12 | 12.81 | 9.14 | 21.95 | 0.157 | 30.00 | -8.05 |
| 1715.00 | 10 | QPSK | V | 120 | 211 | 1 / 49 | 12.42 | 9.35 | 21.77 | 0.150 | 30.00 | -8.23 |
| 1745.00 | 10 | QPSK | V | 105 | 213 | 1 / 25 | 14.12 | 9.14 | 23.26 | 0.212 | 30.00 | -6.74 |
| 1775.00 | 10 | QPSK | V | 125 | 220 | 1 / 25 | 12.44 | 9.18 | 21.62 | 0.145 | 30.00 | -8.38 |
| 1745.00 | 10 | 16-QAM | V | 105 | 213 | 1 / 25 | 13.52 | 9.14 | 22.66 | 0.184 | 30.00 | -7.34 |
| 1745.00 | 10 | 64-QAM | V | 105 | 213 | 1 / 25 | 12.31 | 9.14 | 21.45 | 0.140 | 30.00 | -8.55 |
| 1717.50 | 15 | QPSK | V | 118 | 214 | 1 / 74 | 12.67 | 9.33 | 22.00 | 0.158 | 30.00 | -8.00 |
| 1745.00 | 15 | QPSK | V | 103 | 211 | 1 / 36 | 14.34 | 9.14 | 23.48 | 0.223 | 30.00 | -6.52 |
| 1772.50 | 15 | QPSK | V | 120 | 218 | 1 / 36 | 12.49 | 9.18 | 21.67 | 0.147 | 30.00 | -8.33 |
| 1745.00 | 15 | 16-QAM | V | 103 | 211 | 1 / 36 | 13.33 | 9.14 | 22.47 | 0.177 | 30.00 | -7.53 |
| 1745.00 | 15 | 64-QAM | V | 103 | 211 | 1 / 36 | 12.74 | 9.14 | 21.88 | 0.154 | 30.00 | -8.12 |
| 1720.00 | 20 | QPSK | V | 115 | 211 | 1 / 99 | 12.83 | 9.31 | 22.14 | 0.164 | 30.00 | -7.86 |
| 1745.00 | 20 | QPSK | V | 100 | 209 | 1 / 50 | 14.33 | 9.14 | 23.47 | 0.222 | 30.00 | -6.53 |
| 1770.00 | 20 | QPSK | V | 119 | 215 | 1 / 50 | 12.28 | 9.17 | 21.45 | 0.140 | 30.00 | -8.55 |
| 1745.00 | 20 | 16-QAM | V | 100 | 209 | 1 / 50 | 13.68 | 9.14 | 22.82 | 0.191 | 30.00 | -7.18 |
| 1745.00 | 20 | 64-QAM | V | 100 | 209 | 1 / 50 | 12.56 | 9.14 | 21.70 | 0.148 | 30.00 | -8.30 |
| 1745.00 | 15 | QPSK | Н | 128 | 190 | 1 / 36 | 13.63 | 9.26 | 22.89 | 0.195 | 30.00 | -7.11 |

Table 7-10. EIRP Data (Band 66/4)

| FCC ID: A3LSMA716U | PCTEST Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager | |
|---------------------|---|---------------------------------------|---------|---------------------------------|--|
| Test Report S/N: | Test Dates: | EUT Type: | | Daga 255 of 420 | |
| 1M2003200047-11.A3L | 3/23 - 5/7/2020 | Portable Handset | | Page 355 of 420 | |
| @ 2020 DOTEST | | | | 1/00000000000 | |



| 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] |
|-----------------|-------------------------------|---------|-----------------|------------------------|----------------------------------|-------------------|------------------------------|-----------------------|---------------|-----------------|------------------------|----------------|
| 1712.50 | 5 | QPSK | V | 127 | 319 | 1 / 13 | 10.50 | 9.37 | 19.87 | 0.097 | 30.00 | -10.13 |
| 1745.00 | 5 | QPSK | V | 122 | 329 | 1/1 | 10.92 | 9.14 | 20.06 | 0.101 | 30.00 | -9.94 |
| 1777.50 | 5 | QPSK | V | 131 | 324 | 1/1 | 12.75 | 9.19 | 21.94 | 0.156 | 30.00 | -8.06 |
| 1777.50 | 5 | 16-QAM | V | 131 | 324 | 1/1 | 11.71 | 9.19 | 20.90 | 0.123 | 30.00 | -9.10 |
| 1777.50 | 5 | 64-QAM | V | 131 | 324 | 1/1 | 10.29 | 9.19 | 19.48 | 0.089 | 30.00 | -10.52 |
| 1777.50 | 5 | 256-QAM | V | 131 | 324 | 1/1 | 8.12 | 9.19 | 17.31 | 0.054 | 30.00 | -12.69 |
| 1777.50 | 5 | BPSK | V | 131 | 324 | 1/1 | 12.39 | 9.19 | 21.58 | 0.144 | 30.00 | -8.42 |
| 1715.00 | 10 | QPSK | V | 131 | 321 | 1 / 26 | 10.80 | 9.35 | 20.15 | 0.103 | 30.00 | -9.85 |
| 1745.00 | 10 | QPSK | V | 118 | 332 | 1/1 | 11.11 | 9.14 | 20.25 | 0.106 | 30.00 | -9.75 |
| 1775.00 | 10 | QPSK | V | 135 | 322 | 1/1 | 13.17 | 9.18 | 22.35 | 0.172 | 30.00 | -7.65 |
| 1775.00 | 10 | 16-QAM | V | 135 | 322 | 1/1 | 11.66 | 9.18 | 20.84 | 0.121 | 30.00 | -9.16 |
| 1775.00 | 10 | 64-QAM | V | 135 | 322 | 1/1 | 10.24 | 9.18 | 19.42 | 0.088 | 30.00 | -10.58 |
| 1775.00 | 10 | 256-QAM | V | 135 | 322 | 1/1 | 8.07 | 9.18 | 17.25 | 0.053 | 30.00 | -12.75 |
| 1775.00 | 10 | BPSK | V | 135 | 322 | 1/1 | 12.47 | 9.18 | 21.65 | 0.146 | 30.00 | -8.35 |
| 1717.50 | 15 | QPSK | V | 128 | 324 | 1 / 40 | 10.38 | 9.33 | 19.71 | 0.094 | 30.00 | -10.29 |
| 1745.00 | 15 | QPSK | V | 115 | 335 | 1/1 | 11.03 | 9.14 | 20.17 | 0.104 | 30.00 | -9.83 |
| 1772.50 | 15 | QPSK | V | 132 | 327 | 1/1 | 12.83 | 9.18 | 22.01 | 0.159 | 30.00 | -7.99 |
| 1772.50 | 15 | 16-QAM | V | 132 | 327 | 1/1 | 11.82 | 9.18 | 21.00 | 0.126 | 30.00 | -9.00 |
| 1772.50 | 15 | 64-QAM | V | 132 | 327 | 1/1 | 10.40 | 9.18 | 19.58 | 0.091 | 30.00 | -10.42 |
| 1772.50 | 15 | 256-QAM | V | 132 | 327 | 1/1 | 8.23 | 9.18 | 17.41 | 0.055 | 30.00 | -12.59 |
| 1772.50 | 15 | BPSK | V | 132 | 327 | 1/1 | 12.48 | 9.18 | 21.66 | 0.146 | 30.00 | -8.34 |
| 1720.00 | 20 | QPSK | V | 124 | 328 | 1 / 53 | 10.65 | 9.31 | 19.96 | 0.099 | 30.00 | -10.04 |
| 1745.00 | 20 | QPSK | V | 109 | 339 | 1 / 53 | 11.13 | 9.14 | 20.27 | 0.106 | 30.00 | -9.73 |
| 1770.00 | 20 | QPSK | V | 135 | 330 | 1 / 53 | 12.52 | 9.17 | 21.69 | 0.148 | 30.00 | -8.31 |
| 1770.00 | 20 | 16-QAM | V | 135 | 330 | 1 / 53 | 11.42 | 9.17 | 20.59 | 0.115 | 30.00 | -9.41 |
| 1770.00 | 20 | 64-QAM | V | 135 | 330 | 1 / 53 | 10.00 | 9.17 | 19.17 | 0.083 | 30.00 | -10.83 |
| 1770.00 | 20 | 256-QAM | V | 135 | 330 | 1 / 53 | 7.83 | 9.17 | 17.00 | 0.050 | 30.00 | -13.00 |
| 1770.00 | 20 | BPSK | V | 135 | 330 | 1 / 53 | 12.42 | 9.17 | 21.59 | 0.144 | 30.00 | -8.41 |
| 1775.00 | 10 | QPSK | н | 136 | 6 | 1 / 53 | 11.83 | 9.27 | 21.10 | 0.129 | 30.00 | -8.90 |
| 1775.00 | 10 (CP-OFDM) | QPSK | V | 100 | 347 | 1 / 53 | 10.14 | 9.17 | 19.31 | 0.085 | 30.00 | -10.69 |

Table 7-11. EIRP Data (n66)

| FCC ID: A3LSMA716U | Proud to be part of element | MEASUREMENT REPORT (CERTIFICATION) | MSUNG | Approved by: Quality Manager |
|---------------------|-----------------------------|---------------------------------------|-------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | | Dogo 256 of 420 |
| 1M2003200047-11.A3L | 3/23 - 5/7/2020 | Portable Handset | | Page 356 of 420 |
| © 2020 PCTEST | • | | | V 9.0 02/01/2019 |



| 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 | н | 161 | 9 | 1 / 5 | 13.77 | 9.51 | 23.28 | 0.213 | 33.01 | -9.73 |
| 1882.50 | 1.4 | QPSK | н | 164 | 7 | 1 / 0 | 13.30 | 9.96 | 23.26 | 0.212 | 33.01 | -9.75 |
| 1914.30 | 1.4 | QPSK | Н | 148 | 12 | 1 / 0 | 12.72 | 10.32 | 23.04 | 0.201 | 33.01 | -9.97 |
| 1850.70 | 1.4 | 16-QAM | Н | 161 | 9 | 1 / 5 | 12.54 | 9.51 | 22.05 | 0.160 | 33.01 | -10.96 |
| 1850.70 | 1.4 | 64-QAM | Н | 161 | 9 | 1 / 5 | 11.90 | 9.51 | 21.41 | 0.138 | 33.01 | -11.60 |
| 1851.50 | 3 | QPSK | Н | 157 | 11 | 1 / 14 | 11.90 | 9.52 | 21.42 | 0.139 | 33.01 | -11.59 |
| 1882.50 | 3 | QPSK | Н | 163 | 13 | 1 / 0 | 13.37 | 9.96 | 23.33 | 0.215 | 33.01 | -9.68 |
| 1913.50 | 3 | QPSK | Н | 151 | 7 | 1 / 0 | 12.77 | 10.31 | 23.08 | 0.203 | 33.01 | -9.93 |
| 1882.50 | 3 | 16-QAM | Н | 163 | 13 | 1 / 0 | 12.47 | 9.96 | 22.43 | 0.175 | 33.01 | -10.58 |
| 1882.50 | 3 | 64-QAM | Н | 163 | 13 | 1 / 0 | 11.72 | 9.96 | 21.68 | 0.147 | 33.01 | -11.33 |
| 1852.50 | 5 | QPSK | Н | 161 | 13 | 1 / 24 | 13.92 | 9.54 | 23.46 | 0.222 | 33.01 | -9.55 |
| 1882.50 | 5 | QPSK | Н | 162 | 11 | 1 / 0 | 13.36 | 9.96 | 23.32 | 0.215 | 33.01 | -9.69 |
| 1912.50 | 5 | QPSK | Н | 154 | 9 | 1 / 0 | 12.78 | 10.30 | 23.08 | 0.203 | 33.01 | -9.93 |
| 1852.50 | 5 | 16-QAM | Н | 161 | 13 | 1 / 24 | 13.28 | 9.54 | 22.82 | 0.191 | 33.01 | -10.19 |
| 1852.50 | 5 | 64-QAM | Н | 161 | 13 | 1 / 24 | 12.04 | 9.54 | 21.58 | 0.144 | 33.01 | -11.43 |
| 1855.00 | 10 | QPSK | Н | 157 | 11 | 1 / 49 | 13.72 | 9.57 | 23.29 | 0.213 | 33.01 | -9.72 |
| 1882.50 | 10 | QPSK | Н | 160 | 7 | 1 / 0 | 13.41 | 9.96 | 23.37 | 0.217 | 33.01 | -9.64 |
| 1910.00 | 10 | QPSK | Н | 152 | 13 | 1 / 0 | 12.74 | 10.28 | 23.02 | 0.201 | 33.01 | -9.99 |
| 1882.50 | 10 | 16-QAM | Н | 160 | 7 | 1 / 0 | 12.55 | 9.96 | 22.51 | 0.178 | 33.01 | -10.50 |
| 1882.50 | 10 | 64-QAM | Н | 160 | 7 | 1 / 0 | 11.62 | 9.96 | 21.58 | 0.144 | 33.01 | -11.43 |
| 1857.50 | 15 | QPSK | н | 160 | 9 | 1 / 74 | 13.73 | 9.61 | 23.34 | 0.216 | 33.01 | -9.67 |
| 1882.50 | 15 | QPSK | н | 157 | 6 | 1 / 0 | 13.39 | 9.96 | 23.35 | 0.216 | 33.01 | -9.66 |
| 1907.50 | 15 | QPSK | н | 149 | 13 | 1 / 0 | 12.84 | 10.26 | 23.10 | 0.204 | 33.01 | -9.91 |
| 1882.50 | 15 | 16-QAM | Н | 157 | 6 | 1 / 0 | 12.33 | 9.96 | 22.29 | 0.169 | 33.01 | -10.72 |
| 1882.50 | 15 | 64-QAM | Н | 157 | 6 | 1 / 0 | 11.68 | 9.96 | 21.64 | 0.146 | 33.01 | -11.37 |
| 1860.00 | 20 | QPSK | н | 158 | 10 | 1 / 99 | 13.90 | 9.64 | 23.54 | 0.226 | 33.01 | -9.47 |
| 1882.50 | 20 | QPSK | Н | 160 | 4 | 1 / 0 | 13.71 | 9.96 | 23.67 | 0.233 | 33.01 | -9.34 |
| 1905.00 | 20 | QPSK | Н | 145 | 11 | 1 / 0 | 13.12 | 10.24 | 23.36 | 0.217 | 33.01 | -9.65 |
| 1882.50 | 20 | 16-QAM | Н | 160 | 4 | 1 / 0 | 12.95 | 9.96 | 22.91 | 0.195 | 33.01 | -10.10 |
| 1882.50 | 20 | 64-QAM | Н | 160 | 4 | 1 / 0 | 11.88 | 9.96 | 21.84 | 0.153 | 33.01 | -11.17 |
| 1882.50 | 20 | QPSK | V | 185 | 322 | 1 / 0 | 11.86 | 10.15 | 22.01 | 0.159 | 33.01 | -11.00 |

Table 7-12. EIRP Data (Band 25/2)

| FCC ID: A3LSMA716U | Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
|---------------------|-------------------------------|---------------------------------------|---------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | | Dego 257 of 420 |
| 1M2003200047-11.A3L | 3/23 - 5/7/2020 | Portable Handset | | Page 357 of 420 |
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 assembly of contents thereof, please contact INFO@PCTEST.COM.



| 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] |
|-----------------|-------------------------------|---------|-----------------|------------------------|----------------------------------|-------------------|------------------------------|-----------------------|---------------|-----------------|------------------------|----------------|
| 1852.50 | 5 | QPSK | V | 150 | 326 | 1/0 | 14.28 | 9.92 | 24.20 | 0.263 | 33.01 | -8.81 |
| 1880.00 | 5 | QPSK | V | 134 | 334 | 1/0 | 13.55 | 10.13 | 23.68 | 0.234 | 33.01 | -9.33 |
| 1907.50 | 5 | QPSK | V | 155 | 333 | 1 / 13 | 12.50 | 10.33 | 22.83 | 0.192 | 33.01 | -10.18 |
| 1852.50 | 5 | 16-QAM | V | 150 | 326 | 1/0 | 13.33 | 9.92 | 23.25 | 0.211 | 33.01 | -9.76 |
| 1852.50 | 5 | 64-QAM | V | 150 | 326 | 1/0 | 12.56 | 9.92 | 22.48 | 0.177 | 33.01 | -10.53 |
| 1852.50 | 5 | 256-QAM | V | 150 | 326 | 1/0 | 10.15 | 9.92 | 20.07 | 0.102 | 33.01 | -12.94 |
| 1852.50 | 5 | BPSK | V | 150 | 326 | 1/0 | 13.86 | 9.92 | 23.78 | 0.239 | 33.01 | -9.23 |
| 1855.00 | 10 | QPSK | V | 152 | 321 | 1/0 | 14.35 | 9.94 | 24.29 | 0.269 | 33.01 | -8.72 |
| 1880.00 | 10 | QPSK | V | 131 | 338 | 1/0 | 13.79 | 10.13 | 23.92 | 0.247 | 33.01 | -9.09 |
| 1905.00 | 10 | QPSK | V | 152 | 331 | 1 / 26 | 12.46 | 10.31 | 22.77 | 0.189 | 33.01 | -10.24 |
| 1855.00 | 10 | 16-QAM | V | 152 | 321 | 1/0 | 13.02 | 9.94 | 22.96 | 0.198 | 33.01 | -10.05 |
| 1855.00 | 10 | 64-QAM | V | 152 | 321 | 1/0 | 12.25 | 9.94 | 22.19 | 0.166 | 33.01 | -10.82 |
| 1855.00 | 10 | 256-QAM | V | 152 | 321 | 1/0 | 9.84 | 9.94 | 19.78 | 0.095 | 33.01 | -13.23 |
| 1855.00 | 10 | BPSK | V | 152 | 321 | 1/0 | 14.08 | 9.94 | 24.02 | 0.252 | 33.01 | -8.99 |
| 1857.50 | 15 | QPSK | V | 151 | 328 | 1/0 | 13.95 | 9.96 | 23.91 | 0.246 | 33.01 | -9.10 |
| 1880.00 | 15 | QPSK | V | 136 | 341 | 1/0 | 13.57 | 10.13 | 23.70 | 0.235 | 33.01 | -9.31 |
| 1902.50 | 15 | QPSK | V | 157 | 335 | 1 / 40 | 12.08 | 10.30 | 22.38 | 0.173 | 33.01 | -10.63 |
| 1857.50 | 15 | 16-QAM | V | 151 | 328 | 1/0 | 13.05 | 9.96 | 23.01 | 0.200 | 33.01 | -10.00 |
| 1857.50 | 15 | 64-QAM | V | 151 | 328 | 1/0 | 11.93 | 9.96 | 21.89 | 0.154 | 33.01 | -11.12 |
| 1857.50 | 15 | 256-QAM | V | 151 | 328 | 1/0 | 10.54 | 9.96 | 20.50 | 0.112 | 33.01 | -12.51 |
| 1857.50 | 15 | BPSK | V | 151 | 328 | 1/0 | 13.92 | 9.96 | 23.88 | 0.244 | 33.01 | -9.13 |
| 1860.00 | 20 | QPSK | V | 145 | 331 | 1 / 1 | 14.22 | 9.98 | 24.20 | 0.263 | 33.01 | -8.81 |
| 1880.00 | 20 | QPSK | V | 133 | 345 | 1/1 | 13.84 | 10.13 | 23.97 | 0.250 | 33.01 | -9.04 |
| 1900.00 | 20 | QPSK | V | 153 | 338 | 1 / 53 | 13.36 | 10.29 | 23.65 | 0.232 | 33.01 | -9.36 |
| 1860.00 | 20 | 16-QAM | V | 145 | 331 | 1/1 | 13.33 | 9.98 | 23.31 | 0.214 | 33.01 | -9.70 |
| 1860.00 | 20 | 64-QAM | V | 145 | 331 | 1/1 | 12.56 | 9.98 | 22.54 | 0.179 | 33.01 | -10.47 |
| 1860.00 | 20 | 256-QAM | V | 145 | 331 | 1/1 | 10.15 | 9.98 | 20.13 | 0.103 | 33.01 | -12.88 |
| 1860.00 | 20 | BPSK | V | 145 | 331 | 1/1 | 14.16 | 9.98 | 24.14 | 0.259 | 33.01 | -8.87 |
| 1855.00 | 10 | QPSK | н | 115 | 358 | 1 / 104 | 13.69 | 9.64 | 23.33 | 0.215 | 33.01 | -9.68 |
| 1855.00 | 10 (CP-OFDM) | QPSK | V | 146 | 331 | 1/1 | 12.71 | 9.98 | 22.69 | 0.186 | 33.01 | -10.32 |

Table 7-13. EIRP Data (n2)

| FCC ID: A3LSMA716U | PCTEST Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
|---------------------|---|---------------------------------------|---------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | | Daga 359 of 400 |
| 1M2003200047-11.A3L | 3/23 - 5/7/2020 | Portable Handset | | Page 358 of 420 |
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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] |
|--------------------|-------------------------------|--------|-----------------------|---------------------------|----------------------------------|-------------------|------------------------------|-----------------------|---------------|-----------------|------------------------|----------------|
| 2307.50 | 5 | QPSK | Н | 145 | 235 | 1 / 24 | 12.40 | 10.33 | 22.73 | 0.188 | 23.98 | -1.24 |
| 2312.50 | 5 | QPSK | н | 147 | 242 | 1 / 12 | 12.38 | 10.34 | 22.72 | 0.187 | 23.98 | -1.26 |
| 2307.50 | 5 | 16-QAM | н | 145 | 235 | 1 / 24 | 11.64 | 10.33 | 21.97 | 0.158 | 23.98 | -2.00 |
| 2307.50 | 5 | 64-QAM | Н | 145 | 235 | 1 / 24 | 10.56 | 10.33 | 20.89 | 0.123 | 23.98 | -3.08 |
| 2310.00 | 10 | QPSK | Н | 147 | 236 | 1 / 25 | 12.52 | 10.34 | 22.86 | 0.193 | 23.98 | -1.12 |
| 2310.00 | 10 | 16-QAM | Н | 147 | 236 | 1 / 25 | 11.61 | 10.34 | 21.95 | 0.157 | 23.98 | -2.03 |
| 2310.00 | 10 | 64-QAM | Н | 147 | 236 | 1 / 25 | 10.85 | 10.34 | 21.19 | 0.131 | 23.98 | -2.79 |
| 2310.00 | 10 | QPSK | V | 103 | 268 | 1 / 25 | 11.55 | 10.25 | 21.80 | 0.151 | 23.98 | -2.18 |

Table 7-14. EIRP Data (Band 30)

| FCC ID: A3LSMA716U | PCTEST Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
|---------------------|---|---------------------------------------|---------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | | Daga 250 of 420 |
| 1M2003200047-11.A3L | 3/23 - 5/7/2020 | Portable Handset | | Page 359 of 420 |
| © 2020 PCTEST | <u>.</u> | • | | V 9.0 02/01/2019 |



| 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 | Н | 124 | 51 | 1 / 24 | 9.80 | 9.46 | 19.26 | 0.084 | 33.01 | -13.75 |
| 2535.00 | 5 | QPSK | Н | 106 | 53 | 1 / 24 | 10.70 | 9.42 | 20.12 | 0.103 | 33.01 | -12.89 |
| 2567.50 | 5 | QPSK | н | 104 | 46 | 1 / 0 | 10.53 | 9.48 | 20.01 | 0.100 | 33.01 | -13.00 |
| 2535.00 | 5 | 16-QAM | Н | 106 | 53 | 1 / 24 | 10.00 | 9.42 | 19.42 | 0.088 | 33.01 | -13.59 |
| 2535.00 | 5 | 64-QAM | Н | 106 | 53 | 1 / 24 | 9.00 | 9.42 | 18.42 | 0.070 | 33.01 | -14.59 |
| 2505.00 | 10 | QPSK | Н | 122 | 55 | 1 / 49 | 9.68 | 9.45 | 19.13 | 0.082 | 33.01 | -13.88 |
| 2535.00 | 10 | QPSK | Н | 104 | 51 | 1 / 49 | 10.66 | 9.42 | 20.08 | 0.102 | 33.01 | -12.93 |
| 2565.00 | 10 | QPSK | н | 101 | 48 | 1 / 0 | 10.45 | 9.47 | 19.92 | 0.098 | 33.01 | -13.09 |
| 2535.00 | 10 | 16-QAM | н | 104 | 51 | 1 / 49 | 10.10 | 9.42 | 19.52 | 0.090 | 33.01 | -13.49 |
| 2535.00 | 10 | 64-QAM | н | 104 | 51 | 1 / 49 | 9.13 | 9.42 | 18.55 | 0.072 | 33.01 | -14.46 |
| 2507.50 | 15 | QPSK | н | 120 | 52 | 1 / 74 | 9.75 | 9.45 | 19.20 | 0.083 | 33.01 | -13.81 |
| 2535.00 | 15 | QPSK | н | 106 | 53 | 1 / 74 | 10.69 | 9.42 | 20.11 | 0.103 | 33.01 | -12.90 |
| 2562.50 | 15 | QPSK | н | 103 | 51 | 1 / 0 | 10.56 | 9.46 | 20.02 | 0.100 | 33.01 | -12.99 |
| 2535.00 | 15 | 16-QAM | Н | 106 | 53 | 1 / 74 | 10.21 | 9.42 | 19.63 | 0.092 | 33.01 | -13.38 |
| 2535.00 | 15 | 64-QAM | Н | 106 | 53 | 1 / 74 | 9.21 | 9.42 | 18.63 | 0.073 | 33.01 | -14.38 |
| 2510.00 | 20 | QPSK | Н | 118 | 51 | 1 / 99 | 9.47 | 9.45 | 18.92 | 0.078 | 33.01 | -14.09 |
| 2535.00 | 20 | QPSK | Н | 104 | 51 | 1 / 99 | 10.51 | 9.42 | 19.93 | 0.099 | 33.01 | -13.08 |
| 2560.00 | 20 | QPSK | Н | 104 | 50 | 1 / 0 | 10.27 | 9.45 | 19.72 | 0.094 | 33.01 | -13.29 |
| 2535.00 | 20 | 16-QAM | Н | 104 | 51 | 1 / 99 | 9.75 | 9.42 | 19.17 | 0.083 | 33.01 | -13.84 |
| 2535.00 | 20 | 64-QAM | Н | 104 | 51 | 1 / 99 | 8.75 | 9.42 | 18.17 | 0.066 | 33.01 | -14.84 |
| 2535.00 | 5 | QPSK | V | 115 | 89 | 1 / 24 | 9.28 | 9.42 | 18.70 | 0.074 | 33.01 | -14.31 |

Table 7-15. EIRP Data (Band 7)

| FCC ID: A3LSMA716U | Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
|---------------------|-------------------------------|---------------------------------------|---------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | | Dega 260 of 420 |
| 1M2003200047-11.A3L | 3/23 - 5/7/2020 | Portable Handset | | Page 360 of 420 |
| © 2020 PCTEST | | | | V 9.0 02/01/2019 |



| 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 | Н | 113 | 210 | 1 / 12 | 15.47 | 9.46 | 24.93 | 0.311 | 33.01 | -8.08 |
| 2593.00 | 5 | QPSK | Н | 161 | 44 | 1 / 12 | 13.96 | 9.58 | 23.54 | 0.226 | 33.01 | -9.47 |
| 2687.50 | 5 | QPSK | Н | 104 | 49 | 1 / 12 | 14.26 | 9.85 | 24.11 | 0.257 | 33.01 | -8.90 |
| 2498.50 | 5 | 16-QAM | Н | 113 | 210 | 1 / 12 | 14.34 | 9.46 | 23.80 | 0.240 | 33.01 | -9.21 |
| 2498.50 | 5 | 64-QAM | Н | 113 | 210 | 1 / 12 | 14.02 | 9.46 | 23.48 | 0.223 | 33.01 | -9.53 |
| 2501.00 | 10 | QPSK | Н | 111 | 216 | 1 / 25 | 15.46 | 9.46 | 24.92 | 0.310 | 33.01 | -8.09 |
| 2593.00 | 10 | QPSK | Н | 165 | 40 | 1 / 25 | 14.01 | 9.58 | 23.59 | 0.229 | 33.01 | -9.42 |
| 2685.00 | 10 | QPSK | Н | 101 | 46 | 1 / 25 | 14.35 | 9.85 | 24.20 | 0.263 | 33.01 | -8.81 |
| 2501.00 | 10 | 16-QAM | Н | 111 | 216 | 1 / 25 | 14.26 | 9.46 | 23.72 | 0.235 | 33.01 | -9.29 |
| 2501.00 | 10 | 64-QAM | Н | 111 | 216 | 1 / 25 | 14.00 | 9.46 | 23.46 | 0.222 | 33.01 | -9.55 |
| 2503.50 | 15 | QPSK | Н | 113 | 211 | 1 / 36 | 15.56 | 9.45 | 25.01 | 0.317 | 33.01 | -8.00 |
| 2593.00 | 15 | QPSK | Н | 168 | 44 | 1 / 36 | 14.03 | 9.58 | 23.61 | 0.230 | 33.01 | -9.40 |
| 2682.50 | 15 | QPSK | Н | 105 | 41 | 1 / 36 | 14.41 | 9.86 | 24.27 | 0.267 | 33.01 | -8.74 |
| 2503.50 | 15 | 16-QAM | н | 113 | 211 | 1 / 36 | 14.10 | 9.45 | 23.55 | 0.227 | 33.01 | -9.46 |
| 2503.50 | 15 | 64-QAM | Н | 113 | 211 | 1 / 36 | 13.88 | 9.45 | 23.33 | 0.216 | 33.01 | -9.68 |
| 2506.00 | 20 | QPSK | Н | 110 | 215 | 1 / 50 | 15.28 | 9.45 | 24.73 | 0.297 | 33.01 | -8.28 |
| 2593.00 | 20 | QPSK | Н | 171 | 42 | 1 / 50 | 13.89 | 9.58 | 23.47 | 0.222 | 33.01 | -9.54 |
| 2680.00 | 20 | QPSK | Н | 102 | 47 | 1 / 50 | 13.95 | 9.86 | 23.81 | 0.241 | 33.01 | -9.20 |
| 2506.00 | 20 | 16-QAM | Н | 110 | 215 | 1 / 50 | 14.02 | 9.45 | 23.47 | 0.222 | 33.01 | -9.54 |
| 2506.00 | 20 | 64-QAM | Н | 110 | 215 | 1 / 50 | 13.53 | 9.45 | 22.98 | 0.199 | 33.01 | -10.03 |

Table 7-16. EIRP Data (Band 41 – PC2)

| FCC ID: A3LSMA716U | Proud to be part of element | MEASUREMENT REPORT (CERTIFICATION) | AMSUNG | Approved by: Quality Manager |
|---------------------|-----------------------------|---------------------------------------|--------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | | Dogo 261 of 420 |
| 1M2003200047-11.A3L | 3/23 - 5/7/2020 | Portable Handset | | Page 361 of 420 |
| © 2020 PCTEST | | | | V 9.0 02/01/2019 |



| 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 | Н | 125 | 71 | 1 / 12 | 9.24 | 9.46 | 18.70 | 0.074 | 33.01 | -14.31 |
| 2593.00 | 5 | QPSK | Н | 104 | 45 | 1 / 12 | 10.64 | 9.58 | 20.22 | 0.105 | 33.01 | -12.79 |
| 2687.50 | 5 | QPSK | н | 109 | 49 | 1 / 12 | 9.05 | 9.85 | 18.90 | 0.078 | 33.01 | -14.11 |
| 2593.00 | 5 | 16-QAM | Н | 104 | 45 | 1 / 12 | 9.61 | 9.58 | 19.19 | 0.083 | 33.01 | -13.82 |
| 2593.00 | 5 | 64-QAM | Н | 104 | 45 | 1 / 12 | 9.52 | 9.58 | 19.10 | 0.081 | 33.01 | -13.91 |
| 2501.00 | 10 | QPSK | Н | 123 | 74 | 1 / 25 | 9.25 | 9.46 | 18.71 | 0.074 | 33.01 | -14.30 |
| 2593.00 | 10 | QPSK | н | 107 | 48 | 1 / 25 | 10.67 | 9.58 | 20.25 | 0.106 | 33.01 | -12.76 |
| 2685.00 | 10 | QPSK | н | 113 | 49 | 1 / 25 | 8.96 | 9.85 | 18.81 | 0.076 | 33.01 | -14.20 |
| 2593.00 | 10 | 16-QAM | н | 107 | 48 | 1 / 25 | 10.05 | 9.58 | 19.63 | 0.092 | 33.01 | -13.38 |
| 2593.00 | 10 | 64-QAM | н | 107 | 48 | 1 / 25 | 9.28 | 9.58 | 18.86 | 0.077 | 33.01 | -14.15 |
| 2503.50 | 15 | QPSK | н | 121 | 72 | 1 / 36 | 9.18 | 9.45 | 18.63 | 0.073 | 33.01 | -14.38 |
| 2593.00 | 15 | QPSK | н | 105 | 51 | 1 / 36 | 10.58 | 9.58 | 20.16 | 0.104 | 33.01 | -12.85 |
| 2682.50 | 15 | QPSK | н | 116 | 52 | 1 / 36 | 9.00 | 9.86 | 18.86 | 0.077 | 33.01 | -14.15 |
| 2593.00 | 15 | 16-QAM | н | 105 | 51 | 1 / 36 | 10.00 | 9.58 | 19.58 | 0.091 | 33.01 | -13.43 |
| 2593.00 | 15 | 64-QAM | Н | 105 | 51 | 1 / 36 | 9.45 | 9.58 | 19.03 | 0.080 | 33.01 | -13.98 |
| 2506.00 | 20 | QPSK | Н | 118 | 70 | 1 / 50 | 8.94 | 9.45 | 18.39 | 0.069 | 33.01 | -14.62 |
| 2593.00 | 20 | QPSK | Н | 103 | 55 | 1 / 50 | 10.56 | 9.58 | 20.14 | 0.103 | 33.01 | -12.87 |
| 2680.00 | 20 | QPSK | Н | 118 | 56 | 1 / 50 | 8.90 | 9.86 | 18.76 | 0.075 | 33.01 | -14.25 |
| 2593.00 | 20 | 16-QAM | Н | 103 | 55 | 1 / 50 | 9.95 | 9.58 | 19.53 | 0.090 | 33.01 | -13.48 |
| 2593.00 | 20 | 64-QAM | Н | 103 | 55 | 1 / 50 | 9.45 | 9.58 | 19.03 | 0.080 | 33.01 | -13.98 |
| 2593.00 | 10 | QPSK | V | 148 | 7 | 1 / 25 | 8.04 | 9.58 | 17.62 | 0.058 | 33.01 | -15.39 |

Table 7-17. EIRP Data (Band 41 – PC3)

| FCC ID: A3LSMA716U | PCTEST Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager | |
|---------------------|---|---------------------------------------|---------|---------------------------------|--|
| Test Report S/N: | Test Dates: | EUT Type: | | Daga 262 of 420 | |
| 1M2003200047-11.A3L | 3/23 - 5/7/2020 | Portable Handset | | Page 362 of 420 | |
| © 2020 PCTEST | | • | | V 9.0 02/01/2019 | |



| 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] |
|-----------------|-------------------------------|---------|-----------------|------------------------|----------------------------------|-------------------|------------------------------|-----------------------|---------------|-----------------|------------------------|----------------|
| 2506.02 | 20 | QPSK | н | 113 | 320 | 1 / 26 | 12.87 | 9.42 | 22.30 | 0.170 | 33.01 | -10.71 |
| 2592.99 | 20 | QPSK | н | 109 | 315 | 1 / 26 | 12.81 | 9.55 | 22.36 | 0.172 | 33.01 | -10.65 |
| 2679.99 | 20 | QPSK | н | 106 | 323 | 1 / 26 | 12.88 | 9.83 | 22.72 | 0.187 | 33.01 | -10.29 |
| 2679.99 | 20 | 16-QAM | н | 106 | 323 | 1 / 26 | 11.67 | 9.83 | 21.51 | 0.141 | 33.01 | -11.50 |
| 2679.99 | 20 | 64-QAM | н | 106 | 323 | 1 / 26 | 10.56 | 9.83 | 20.40 | 0.110 | 33.01 | -12.61 |
| 2679.99 | 20 | 256-QAM | н | 106 | 323 | 1 / 26 | 8.95 | 9.83 | 18.79 | 0.076 | 33.01 | -14.22 |
| 2679.99 | 20 | BPSK | н | 106 | 323 | 1 / 26 | 12.46 | 9.83 | 22.30 | 0.170 | 33.01 | -10.71 |
| 2516.02 | 40 | QPSK | н | 110 | 317 | 1 / 53 | 12.83 | 9.41 | 22.25 | 0.168 | 33.01 | -10.76 |
| 2592.99 | 40 | QPSK | н | 107 | 309 | 1 / 53 | 12.73 | 9.55 | 22.28 | 0.169 | 33.01 | -10.73 |
| 2670.00 | 40 | QPSK | н | 103 | 318 | 1 / 53 | 12.78 | 9.86 | 22.64 | 0.184 | 33.01 | -10.37 |
| 2670.00 | 40 | 16-QAM | н | 103 | 318 | 1 / 53 | 11.82 | 9.86 | 21.68 | 0.147 | 33.01 | -11.33 |
| 2670.00 | 40 | 64-QAM | н | 103 | 318 | 1 / 53 | 10.71 | 9.86 | 20.57 | 0.114 | 33.01 | -12.44 |
| 2670.00 | 40 | 256-QAM | н | 103 | 318 | 1 / 53 | 9.10 | 9.86 | 18.96 | 0.079 | 33.01 | -14.05 |
| 2670.00 | 40 | BPSK | н | 103 | 318 | 1 / 53 | 12.52 | 9.86 | 22.38 | 0.173 | 33.01 | -10.63 |
| 2521.01 | 50 | QPSK | н | 108 | 320 | 1 / 67 | 12.85 | 9.41 | 22.26 | 0.168 | 33.01 | -10.75 |
| 2592.99 | 50 | QPSK | н | 111 | 312 | 1 / 67 | 13.02 | 9.55 | 22.57 | 0.181 | 33.01 | -10.44 |
| 2664.99 | 50 | QPSK | н | 105 | 322 | 1 / 67 | 12.84 | 9.87 | 22.71 | 0.187 | 33.01 | -10.30 |
| 2664.99 | 50 | 16-QAM | н | 105 | 322 | 1 / 67 | 11.73 | 9.87 | 21.60 | 0.145 | 33.01 | -11.41 |
| 2664.99 | 50 | 64-QAM | н | 105 | 322 | 1 / 67 | 9.46 | 9.87 | 19.33 | 0.086 | 33.01 | -13.68 |
| 2664.99 | 50 | 256-QAM | н | 105 | 322 | 1 / 67 | 7.85 | 9.87 | 17.72 | 0.059 | 33.01 | -15.29 |
| 2664.99 | 50 | BPSK | н | 105 | 322 | 1 / 67 | 12.41 | 9.87 | 22.28 | 0.169 | 33.01 | -10.73 |

Table 7-18. EIRP Data (n41)

| FCC ID: A3LSMA716U | Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | Approved by: Quality Manager | - |
|---------------------|-------------------------------|---------------------------------------|---------------------------------|-----------|
| Test Report S/N: | Test Dates: | EUT Type: | Daga 262 of 420 | |
| 1M2003200047-11.A3L | 3/23 - 5/7/2020 | Portable Handset | Page 363 of 420 | 1 |
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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] |
|-----------------|-------------------------------|---------|-----------------|------------------------|----------------------------------|-------------------|------------------------------|-----------------------|---------------|-----------------|------------------------|----------------|
| 2526.00 | 60 | QPSK | н | 115 | 322 | 1 / 81 | 13.44 | 9.43 | 22.87 | 0.194 | 33.01 | -10.14 |
| 2592.99 | 60 | QPSK | н | 106 | 318 | 1 / 81 | 13.17 | 9.58 | 22.75 | 0.188 | 33.01 | -10.26 |
| 2659.98 | 60 | QPSK | н | 103 | 321 | 1 / 81 | 13.01 | 9.91 | 22.92 | 0.196 | 33.01 | -10.09 |
| 2659.98 | 60 | 16-QAM | н | 103 | 321 | 1 / 81 | 12.02 | 9.91 | 21.93 | 0.156 | 33.01 | -11.08 |
| 2659.98 | 60 | 64-QAM | Н | 103 | 321 | 1 / 81 | 10.91 | 9.91 | 20.82 | 0.121 | 33.01 | -12.19 |
| 2659.98 | 60 | 256-QAM | н | 103 | 321 | 1 / 81 | 9.30 | 9.91 | 19.21 | 0.083 | 33.01 | -13.80 |
| 2659.98 | 60 | BPSK | н | 103 | 321 | 1 / 81 | 12.59 | 9.91 | 22.50 | 0.178 | 33.01 | -10.51 |
| 2536.02 | 80 | QPSK | Н | 112 | 319 | 1 / 109 | 13.15 | 9.42 | 22.57 | 0.181 | 33.01 | -10.44 |
| 2592.99 | 80 | QPSK | н | 104 | 322 | 1 / 109 | 14.29 | 9.58 | 23.87 | 0.244 | 33.01 | -9.14 |
| 2649.99 | 80 | QPSK | н | 101 | 326 | 1 / 109 | 12.98 | 9.93 | 22.92 | 0.196 | 33.01 | -10.09 |
| 2592.99 | 80 | 16-QAM | н | 104 | 322 | 1 / 109 | 13.29 | 9.58 | 22.87 | 0.194 | 33.01 | -10.14 |
| 2592.99 | 80 | 64-QAM | н | 104 | 322 | 1 / 109 | 12.18 | 9.58 | 21.76 | 0.150 | 33.01 | -11.25 |
| 2592.99 | 80 | 256-QAM | н | 104 | 322 | 1 / 109 | 10.24 | 9.58 | 19.82 | 0.096 | 33.01 | -13.19 |
| 2592.99 | 80 | BPSK | н | 104 | 322 | 1 / 109 | 14.40 | 9.58 | 23.98 | 0.250 | 33.01 | -9.03 |
| 2541.00 | 90 | QPSK | н | 114 | 321 | 1 / 123 | 13.44 | 9.42 | 22.86 | 0.193 | 33.01 | -10.15 |
| 2592.99 | 90 | QPSK | н | 103 | 326 | 1 / 123 | 14.16 | 9.58 | 23.74 | 0.237 | 33.01 | -9.27 |
| 2644.98 | 90 | QPSK | н | 102 | 320 | 1 / 123 | 12.88 | 9.90 | 22.78 | 0.190 | 33.01 | -10.23 |
| 2592.99 | 90 | 16-QAM | н | 103 | 326 | 1 / 123 | 13.14 | 9.58 | 22.72 | 0.187 | 33.01 | -10.29 |
| 2592.99 | 90 | 64-QAM | н | 103 | 326 | 1 / 123 | 11.87 | 9.58 | 21.45 | 0.140 | 33.01 | -11.56 |
| 2592.99 | 90 | 256-QAM | н | 103 | 326 | 1 / 123 | 10.04 | 9.58 | 19.62 | 0.092 | 33.01 | -13.39 |
| 2592.99 | 90 | BPSK | н | 103 | 326 | 1 / 123 | 14.06 | 9.58 | 23.64 | 0.231 | 33.01 | -9.37 |
| 2546.01 | 100 | QPSK | н | 116 | 324 | 1 / 137 | 14.04 | 9.41 | 23.45 | 0.222 | 33.01 | -9.56 |
| 2592.99 | 100 | QPSK | н | 106 | 319 | 1 / 137 | 13.20 | 9.58 | 22.78 | 0.190 | 33.01 | -10.23 |
| 2640.00 | 100 | QPSK | н | 105 | 315 | 1 / 137 | 13.12 | 9.87 | 22.99 | 0.199 | 33.01 | -10.02 |
| 2546.01 | 100 | 16-QAM | н | 116 | 324 | 1 / 137 | 13.67 | 9.41 | 23.08 | 0.203 | 33.01 | -9.93 |
| 2546.01 | 100 | 64-QAM | н | 116 | 324 | 1 / 137 | 12.83 | 9.41 | 22.24 | 0.168 | 33.01 | -10.77 |
| 2546.01 | 100 | 256-QAM | н | 116 | 324 | 1 / 137 | 10.81 | 9.41 | 20.22 | 0.105 | 33.01 | -12.79 |
| 2546.01 | 100 | BPSK | н | 116 | 324 | 1 / 137 | 13.98 | 9.41 | 23.39 | 0.218 | 33.01 | -9.62 |
| 2592.99 | 80 | BPSK | V | 102 | 144 | 1 / 109 | 14.53 | 9.41 | 23.94 | 0.248 | 33.01 | -9.07 |
| 2592.99 | 80 (CP-OFDM) | BPSK | н | 116 | 317 | 1 / 109 | 13.64 | 9.41 | 23.05 | 0.202 | 33.01 | -9.96 |

Table 7-19. EIRP Data (n41 – Continued)

| FCC ID: A3LSMA716U | Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager | |
|---------------------|-------------------------------|---------------------------------------|---------|---------------------------------|--|
| Test Report S/N: | Test Dates: | EUT Type: | | Dega 264 of 420 | |
| 1M2003200047-11.A3L | 3/23 - 5/7/2020 | Portable Handset | | Page 364 of 420 | |
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7.7 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

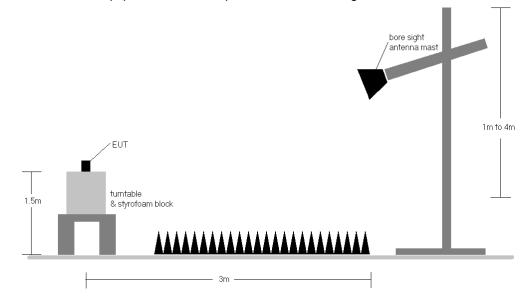
Test Settings

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

| FCC ID: A3LSMA716U | PCTEST Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
|---------------------|---|---------------------------------------|---------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | | Dogo 265 of 420 |
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| © 2020 PCTEST | | | | V 9.0 02/01/2019 |



Test Setup



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

Figure 7-7. Test Instrument & Measurement Setup

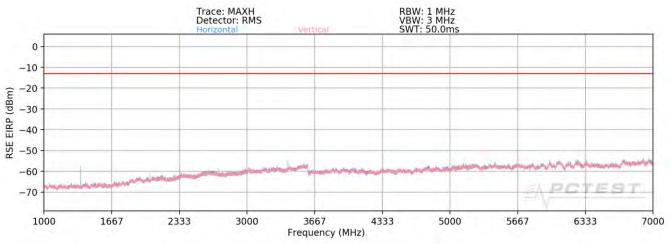
Test Notes

- 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.

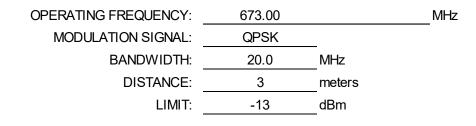
| FCC ID: A3LSMA716U | Provid to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
|---------------------|--------------------------------|---------------------------------------|-----------------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | | Dega 266 of 420 |
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Band 71



Plot 7-634. Radiated Spurious Plot above 1GHz (Band 71)



| 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] |
|--------------------|-----------------------|---------------------------|----------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|----------------|
| 1346.00 | Н | 204 | 328 | -56.73 | 2.91 | -53.82 | -40.8 |
| 2019.00 | Н | 205 | 316 | -62.76 | 2.82 | -59.94 | -46.9 |
| 2692.00 | Н | 208 | 320 | -60.45 | 4.53 | -55.92 | -42.9 |
| 3365.00 | Н | 208 | 106 | -61.54 | 6.10 | -55.44 | -42.4 |
| 4038.00 | Н | - | - | -67.12 | 7.45 | -59.66 | -46.7 |
| 4711.00 | Н | - | - | -68.50 | 8.47 | -60.03 | -47.0 |

Table 7-20. Radiated Spurious Data (Band 71 – Low Channel)

| FCC ID: A3LSMA716U | PCTEST Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
|---------------------|---|---------------------------------------|-----------------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | | Dage 267 of 420 |
| 1M2003200047-11.A3L | 3/23 - 5/7/2020 | Portable Handset | Page 367 of 420 | |
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| OPERATING FREQUENCY: | 68 | 0.50 | MHz |
|----------------------|------|--------|-----|
| MODULATION SIGNAL: | QPSK | _ | |
| BANDWIDTH: | 20.0 | MHz | |
| DISTANCE: | 3 | meters | |
| LIMIT: | -13 | dBm | |

| Frequency [MHz] | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Level at Antenna Terminals [dBm] | Substitute Antenna Gain [dBi] | Spurious Emission Level [dBm] | Margin [dB] |
|--------------------|-----------------------|---------------------------|----------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|----------------|
| 1361.00 | Н | 236 | 316 | -56.93 | 2.88 | -54.05 | -41.1 |
| 2041.50 | Н | 241 | 321 | -63.34 | 2.73 | -60.61 | -47.6 |
| 2722.00 | Н | 224 | 319 | -59.74 | 4.63 | -55.11 | -42.1 |
| 3402.50 | Н | 218 | 316 | -58.16 | 6.26 | -51.90 | -38.9 |
| 4083.00 | Н | - | - | -68.21 | 7.55 | -60.66 | -47.7 |
| 4763.50 | Н | - | - | -67.90 | 8.46 | -59.44 | -46.4 |

Table 7-21. Radiated Spurious Data (Band 71 – Mid Channel)

QPSK

688.00

MHz

OPERATING FREQUENCY:

MODULATION SIGNAL:

BANDWIDTH:

20.0 MHz DISTANCE: 3 meters

> LIMIT: -13 dBm

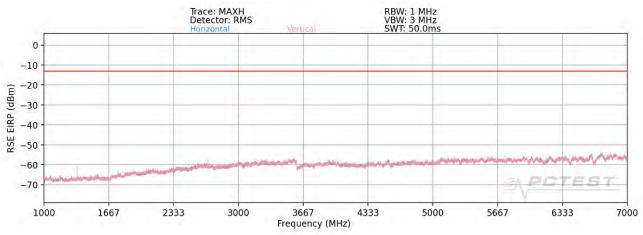
| Frequency [MHz] | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Level at Antenna Terminals [dBm] | Substitute Antenna Gain [dBi] | Spurious Emission Level [dBm] | Margin [dB] |
|--------------------|-----------------------|---------------------------|----------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|----------------|
| 1376.00 | Н | 219 | 321 | -58.54 | 2.64 | -55.90 | -42.9 |
| 2064.00 | H | 219 | 308 | -61.01 | 2.82 | -58.18 | -45.2 |
| 2752.00 | H | 232 | 320 | -60.66 | 4.60 | -56.06 | -43.1 |
| 3440.00 | H | 234 | 313 | -57.29 | 6.28 | -51.01 | -38.0 |
| 4128.00 | Н | - | - | -67.90 | 7.70 | -60.20 | -47.2 |
| 4816.00 | Н | - | - | -67.40 | 8.52 | -58.88 | -45.9 |

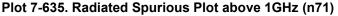
Table 7-22. Radiated Spurious Data (Band 71 – High Channel)

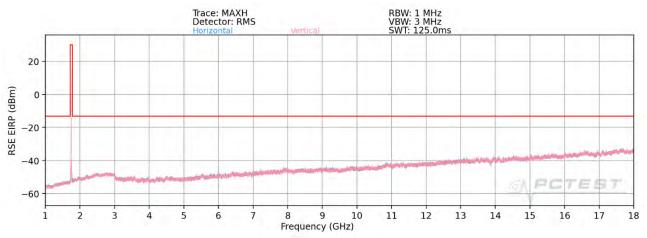
| FCC ID: A3LSMA716U | PCTEST Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
|---------------------|---|---------------------------------------|---------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | | Dega 269 of 420 |
| 1M2003200047-11.A3L | 3/23 - 5/7/2020 | Portable Handset | | Page 368 of 420 |
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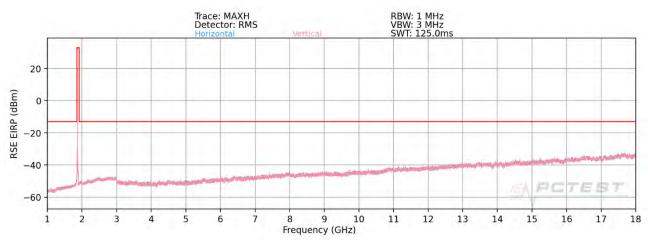
n71











Plot 7-637. Radiated Spurious Plot above 1GHz (n71 + Anchor B2 EN-DC)

| FCC ID: A3LSMA716U | Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager | |
|-------------------------------------|-------------------------------|---------------------------------------|---------|---------------------------------|--|
| Test Report S/N: Test Dates: | | EUT Type: | | Daga 260 of 420 | |
| 1M2003200047-11.A3L 3/23 - 5/7/2020 | | Portable Handset | | Page 369 of 420 | |
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| OPERATING FREQUENCY: | 670.50 | | |
|----------------------|-------------------|--------|--|
| MODULATION SIGNAL: | QPSK (DFT-s-OFDM) | _ | |
| BANDWIDTH: | 20.0 | 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] |
|--------------------|-----------------------|---------------------------|----------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|----------------|
| 1341.00 | V | 124 | 54 | -71.39 | 7.47 | -63.92 | -50.9 |
| 2011.50 | V | 141 | 348 | -76.44 | 8.69 | -67.75 | -54.7 |
| 2682.00 | V | 114 | 353 | -70.50 | 9.99 | -60.51 | -47.5 |
| 3352.50 | V | 111 | 352 | -72.37 | 9.65 | -62.73 | -49.7 |
| 4023.00 | V | 367 | 63 | -72.98 | 9.79 | -63.19 | -50.2 |
| 4693.50 | V | - | - | -75.78 | 10.96 | -64.82 | -51.8 |
| 5364.00 | V | - | - | -73.99 | 10.72 | -63.26 | -50.3 |

Table 7-23. Radiated Spurious Data (n71 – Low Channel)

| OPERATING FREQUENCY: | 680.50 | MHz |
|----------------------|-------------------|--------|
| MODULATION SIGNAL: | QPSK (DFT-s-OFDM) | _ |
| BANDWIDTH: | 20.0 | MHz |
| DISTANCE: | 3 | meters |
| LIMIT: | -13 | _dBm |

| Frequency [MHz] | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Level at Antenna Terminals [dBm] | Substitute Antenna Gain [dBi] | Spurious Emission Level [dBm] | Margin [dB] |
|--------------------|-----------------------|---------------------------|----------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|----------------|
| 1361.00 | V | 119 | 71 | -69.31 | 7.51 | -61.79 | -48.8 |
| 2041.50 | V | 112 | 332 | -74.31 | 8.79 | -65.52 | -52.5 |
| 2722.00 | V | 157 | 357 | -69.65 | 10.11 | -59.54 | -46.5 |
| 3402.50 | V | 112 | 356 | -70.48 | 9.83 | -60.65 | -47.6 |
| 4083.00 | V | 397 | 76 | -73.10 | 10.08 | -63.01 | -50.0 |
| 4763.50 | V | - | - | -74.84 | 11.01 | -63.82 | -50.8 |
| 5444.00 | V | - | - | -73.39 | 10.78 | -62.61 | -49.6 |

Table 7-24. Radiated Spurious Data (n71 – Mid Channel)

| FCC ID: A3LSMA716U | Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
|---------------------|-------------------------------|---------------------------------------|---------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | | Daga 270 of 420 |
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| OPERATING FREQUENCY: | 690.50 | MHz | |
|----------------------|-------------------|--------|--|
| MODULATION SIGNAL: | QPSK (DFT-s-OFDM) | | |
| BANDWIDTH: | 20.0 | MHz | |
| DISTANCE: | 3 | meters | |
| LIMIT: | -13 | _dBm | |
| | | | |

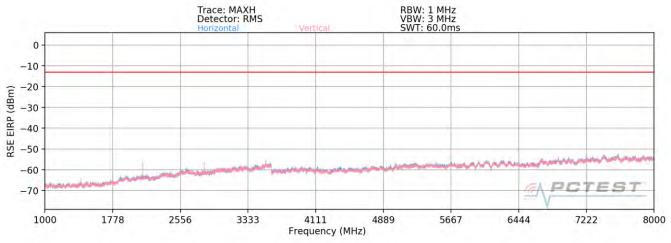
| Frequency [MHz] | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Level at Antenna Terminals [dBm] | Substitute Antenna Gain [dBi] | Spurious Emission Level [dBm] | Margin [dB] |
|--------------------|-----------------------|---------------------------|----------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|----------------|
| 1381.00 | V | 136 | 326 | -73.26 | 7.49 | -65.77 | -52.8 |
| 2071.50 | V | 116 | 357 | -76.11 | 8.84 | -67.27 | -54.3 |
| 2762.00 | V | 112 | 354 | -74.82 | 10.19 | -64.63 | -51.6 |
| 3452.50 | V | 112 | 359 | -72.09 | 9.89 | -62.20 | -49.2 |
| 4143.00 | V | 382 | 77 | -74.86 | 10.24 | -64.62 | -51.6 |
| 4833.50 | V | - | - | -75.46 | 10.88 | -64.58 | -51.6 |
| 5524.00 | V | - | - | -74.66 | 10.92 | -63.74 | -50.7 |

Table 7-25. Radiated Spurious Data (n71 – High Channel)

| FCC ID: A3LSMA716U | Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | Approved by: Quality Manager |
|-------------------------------------|-------------------------------|---------------------------------------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | Dage 271 of 420 |
| 1M2003200047-11.A3L 3/23 - 5/7/2020 | | Portable Handset | Page 371 of 420 |
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Band 12



Plot 7-638. Radiated Spurious Plot above 1GHz (Band 12)

| OPERATING FREQUENCY: | 704 | 4.00 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 | 371 | 226 | -64.49 | 2.30 | -62.19 | -49.2 |
| 2112.00 | H | 366 | 214 | -56.34 | 3.12 | -53.22 | -40.2 |
| 2816.00 | H | 354 | 222 | -58.52 | 4.82 | -53.69 | -40.7 |
| 3520.00 | Н | - | - | -68.02 | 6.48 | -61.54 | -48.5 |
| 4224.00 | Н | - | - | -68.31 | 7.89 | -60.42 | -47.4 |

Table 7-26. Radiated Spurious Data (Band 12 – Low Channel)

| FCC ID: A3LSMA716U | PCTEST Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager | |
|---------------------|---|---------------------------------------|---------|---------------------------------|--|
| Test Report S/N: | Test Dates: | EUT Type: | | Daga 272 of 420 | |
| 1M2003200047-11.A3L | 3/23 - 5/7/2020 | rtable Handset | | Page 372 of 420 | |
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| OPERATING FREQUENCY: | 707 | 7.50 | 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 | Н | 364 | 214 | -62.92 | 2.39 | -60.52 | -47.5 |
| 2122.50 | H | 370 | 203 | -53.76 | 3.14 | -50.61 | -37.6 |
| 2830.00 | H | 356 | 106 | -57.19 | 4.87 | -52.32 | -39.3 |
| 3537.50 | H | - | - | -62.03 | 6.45 | -55.57 | -42.6 |
| 4245.00 | Н | - | - | -68.42 | 7.98 | -60.45 | -47.4 |

Table 7-27. Radiated Spurious Data (Band 12 – Mid Channel)

OPERATING FREQUENCY:711.00MHzMODULATION SIGNAL:QPSKBANDWIDTH:10.0MHzDISTANCE:3metersLIMIT:-13dBm

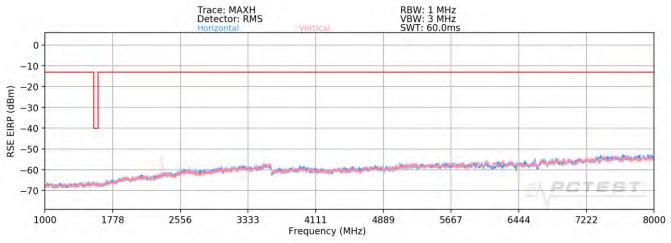
| Frequency [MHz] | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Level at Antenna Terminals [dBm] | Substitute Antenna Gain [dBi] | Spurious Emission Level [dBm] | Margin [dB] |
|--------------------|-----------------------|---------------------------|----------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|----------------|
| 1422.00 | Н | 373 | 213 | -63.77 | 2.53 | -61.24 | -48.2 |
| 2133.00 | Н | 368 | 211 | -55.67 | 3.11 | -52.56 | -39.6 |
| 2844.00 | Н | 369 | 223 | -57.13 | 4.91 | -52.22 | -39.2 |
| 3555.00 | Н | 373 | 213 | -58.66 | 6.46 | -52.20 | -39.2 |
| 4266.00 | Н | - | - | -68.75 | 8.00 | -60.75 | -47.7 |
| 4977.00 | Н | - | - | -67.32 | 8.71 | -58.61 | -45.6 |

Table 7-28. Radiated Spurious Data (Band 12 – High Channel)

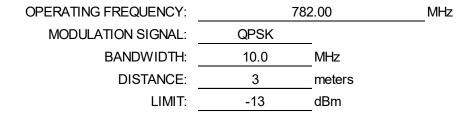
| FCC ID: A3LSMA716U | PCTEST Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
|---------------------|---|---------------------------------------|---------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | | Daga 272 of 420 |
| 1M2003200047-11.A3L | 3/23 - 5/7/2020 | Portable Handset | | Page 373 of 420 |
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Band 13



Plot 7-639. Radiated Spurious Plot above 1GHz (Band 13)



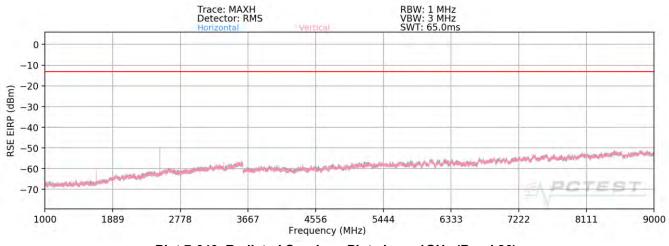
| Frequency [MHz] | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Level at Antenna Terminals [dBm] | Substitute Antenna Gain [dBi] | Spurious Emission Level [dBm] | Margin [dB] |
|--------------------|-----------------------|---------------------------|----------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|----------------|
| 2346.00 | Н | 136 | 71 | -54.74 | 3.64 | -51.11 | -38.1 |
| 3128.00 | Н | - | - | -64.05 | 5.73 | -58.32 | -45.3 |
| 3910.00 | Н | - | - | -69.39 | 7.25 | -62.14 | -49.1 |

Table 7-29. Radiated Spurious Data (Band 13 – Mid Channel)

| FCC ID: A3LSMA716U | PCTEST Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
|---------------------|---|---------------------------------------|---------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | | Page 374 of 420 |
| 1M2003200047-11.A3L | 3/23 - 5/7/2020 | Portable Handset | | |
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Plot 7-640. Radiated Spurious Plot above 1GHz (Band 26)

| OPERATING FREQUENCY: | 83 | 1.50 | MHz |
|----------------------|------|--------|-----|
| MODULATION SIGNAL: | QPSK | _ | |
| BANDWIDTH: | 15.0 | 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] | | |
|--------------------|---|---------------------------|----------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|----------------|--|--|
| 1663.00 | V | 161 | 253 | -60.28 | 3.12 | -57.16 | -44.2 | | |
| 2494.50 | V | 172 | 252 | -61.14 | 3.87 | -57.27 | -44.3 | | |
| 3326.00 | V | - | - | -68.95 | 6.02 | -62.93 | -49.9 | | |
| 4157.50 | V | 398 | 41 | -67.63 | 7.79 | -59.84 | -46.8 | | |
| 4989.00 | V | - | - | -68.81 | 8.71 | -60.10 | -47.1 | | |
| | Table 7.20. Redicted Spurious Date (Rand 26. Low Channel) | | | | | | | | |

Table 7-30. Radiated Spurious Data (Band 26 – Low Channel)

| FCC ID: A3LSMA716U | Proved to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | Approved by: Quality Manager |
|---------------------|--|---------------------------------------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | Page 375 of 420 |
| 1M2003200047-11.A3L | 1.A3L 3/23 - 5/7/2020 Portable Handset | | Fage 375 01 420 |
| © 2020 PCTEST | | | V 9.0 02/01/2019 |



| OPERATING FREQUENCY: | 83 | 6.50 | MHz |
|----------------------|------|--------|-----|
| MODULATION SIGNAL: | QPSK | _ | |
| BANDWIDTH: | 15.0 | 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 | V | 147 | 252 | -59.84 | 3.10 | -56.74 | -43.7 |
| 2509.50 | V | 157 | 239 | -60.39 | 4.02 | -56.38 | -43.4 |
| 3346.00 | V | 160 | 248 | -58.93 | 6.03 | -52.91 | -39.9 |
| 4182.50 | V | - | - | -69.38 | 7.79 | -61.59 | -48.6 |
| 5019.00 | V | - | - | -68.75 | 8.78 | -59.97 | -47.0 |

Table 7-31. Radiated Spurious Data (Band 26 – Mid Channel)

OPERATING FREQUENCY:841.50MHzMODULATION SIGNAL:QPSKBANDWIDTH:15.0MHzDISTANCE:3metersLIMIT:-13dBm

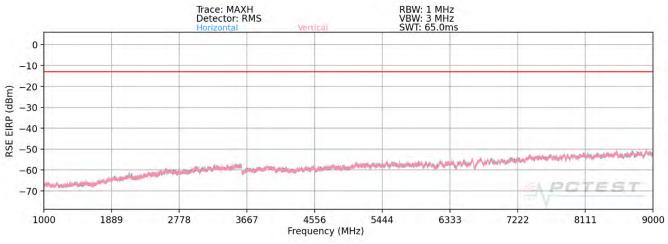
| Frequency [MHz] | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Level at Antenna Terminals [dBm] | Substitute Antenna Gain [dBi] | Spurious Emission Level [dBm] | Margin [dB] |
|--------------------|-----------------------|---------------------------|----------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|----------------|
| 1683.00 | V | 114 | 254 | -61.34 | 3.15 | -58.19 | -45.2 |
| 2524.50 | V | 129 | 243 | -57.16 | 4.07 | -53.08 | -40.1 |
| 3366.00 | V | 118 | 241 | -59.72 | 6.10 | -53.62 | -40.6 |
| 4207.50 | V | - | - | -69.12 | 7.82 | -61.30 | -48.3 |
| 5049.00 | V | - | - | -69.39 | 8.89 | -60.50 | -47.5 |

Table 7-32. Radiated Spurious Data (Band 26 – High Channel)

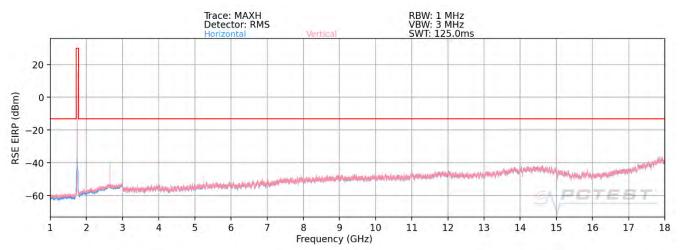
| FCC ID: A3LSMA716U | Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
|---------------------|-------------------------------|---------------------------------------|---------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | | Dage 276 of 420 |
| 1M2003200047-11.A3L | 3/23 - 5/7/2020 | Portable Handset | | Page 376 of 420 |
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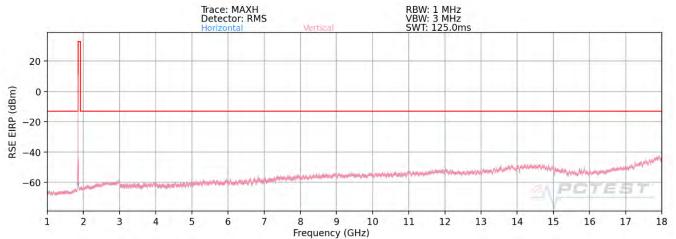








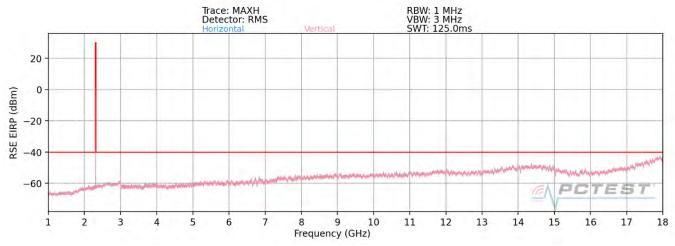




Plot 7-643. Radiated Spurious Plot above 1GHz (n5 + Anchor B2 EN-DC)

| FCC ID: A3LSMA716U | Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
|---------------------|-------------------------------|---------------------------------------|---------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | | Page 377 of 420 |
| 1M2003200047-11.A3L | 3/23 - 5/7/2020 | Portable Handset | | Page 3/7 01 420 |
| © 2020 PCTEST | | | | V 9.0 02/01/2019 |





Plot 7-644. Radiated Spurious Plot above 1GHz (n5 + Anchor B30 EN-DC)

| OPERATING FREQUENCY: | 829.0 | 0 | MHz |
|----------------------|-------------------|--------|-----|
| MODULATION SIGNAL: | QPSK (DFT-s-OFDM) | _ | |
| 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] |
|--------------------|-----------------------|---------------------------|----------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|----------------|
| 1658.00 | Н | 111 | 323 | -76.43 | 8.98 | -67.45 | -54.4 |
| 2487.00 | Н | 166 | 137 | -70.49 | 9.78 | -60.71 | -47.7 |
| 3316.00 | Н | - | - | -77.63 | 9.63 | -68.01 | -55.0 |
| 4145.00 | Н | - | - | -76.97 | 10.33 | -66.64 | -53.6 |

Table 7-33. Radiated Spurious Data (n5 – Low Channel)

| FCC ID: A3LSMA716U | PCTEST Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager | |
|---------------------|---|---------------------------------------|---------|---------------------------------|--|
| Test Report S/N: | Test Dates: | EUT Type: | | Dega 279 of 420 | |
| 1M2003200047-11.A3L | 3/23 - 5/7/2020 | Portable Handset | | Page 378 of 420 | |
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| OPERATING FREQUENCY: | 836.5 | 0 | MHz |
|----------------------|-------------------|--------|-----|
| MODULATION SIGNAL: | QPSK (DFT-s-OFDM) | _ | |
| 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] |
|--------------------|-----------------------|---------------------------|----------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|----------------|
| 1673.00 | Н | 143 | 250 | -78.37 | 8.98 | -69.39 | -56.4 |
| 2509.50 | Н | 135 | 136 | -73.83 | 9.78 | -64.04 | -51.0 |
| 3346.00 | Н | - | - | -77.15 | 9.63 | -67.52 | -54.5 |
| 4182.50 | Н | - | - | -76.99 | 10.37 | -66.61 | -53.6 |

Table 7-34. Radiated Spurious Data (n5 – Mid Channel)

OPERATING FREQUENCY:

844.00

MHz

| MODULATION SIGNAL: | QPSK (DFT-s-OFDM) | _ |
|--------------------|-------------------|--------|
| BANDWIDTH: | 10.0 | MHz |
| DISTANCE: | 3 | meters |
| LIMIT: | -13 | dBm |

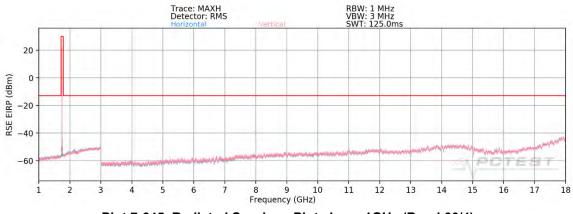
| Frequency [MHz] | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Level at Antenna Terminals [dBm] | Substitute Antenna Gain [dBi] | Spurious Emission Level [dBm] | Margin [dB] |
|--------------------|-----------------------|---------------------------|----------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|----------------|
| 1688.00 | Н | 150 | 240 | -75.30 | 8.98 | -66.32 | -53.3 |
| 2532.00 | Н | 142 | 139 | -68.45 | 9.78 | -58.67 | -45.7 |
| 3376.00 | Н | - | - | -76.88 | 9.66 | -67.22 | -54.2 |
| 4220.00 | Н | - | - | -77.09 | 10.42 | -66.67 | -53.7 |

Table 7-35. Radiated Spurious Data (n5 – High Channel)

| FCC ID: A3LSMA716U | Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | Approved by: Quality Manager |
|---------------------|-------------------------------|---------------------------------------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | Page 379 of 420 |
| 1M2003200047-11.A3L | 3/23 - 5/7/2020 | Portable Handset | Fage 379 01 420 |
| © 2020 PCTEST | | | V 9.0 02/01/2019 |



Band 66/4



Plot 7-645. Radiated Spurious Plot above 1GHz (Band 66/4)

| OPERATING FREQUENCY: | 1720.00 | | MHz |
|----------------------|---------|--------|-----|
| MODULATION SIGNAL: | QPSK | _ | |
| BANDWIDTH: | 20.0 | 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] |
|--------------------|-----------------------|---------------------------|----------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|----------------|
| 3440.00 | Н | 395 | 19 | -73.25 | 9.87 | -63.38 | -50.4 |
| 5160.00 | Н | 400 | 74 | -53.02 | 10.74 | -42.28 | -29.3 |
| 6880.00 | Н | - | - | -70.80 | 11.71 | -59.09 | -46.1 |
| 8600.00 | Н | - | - | -67.91 | 11.11 | -56.80 | -43.8 |

 Table 7-36. Radiated Spurious Data (Band 66/4 – Low Channel)

| FCC ID: A3LSMA716U | Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | AMSUNG | Approved by: Quality Manager |
|---------------------|-------------------------------|---------------------------------------|--------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | | Page 380 of 420 |
| 1M2003200047-11.A3L | 3/23 - 5/7/2020 | Portable Handset | | Fage 300 01 420 |
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| OPERATING FREQUENCY: | 1745.00 | | MHz |
|----------------------|---------|--------|-----|
| MODULATION SIGNAL: | QPSK | _ | |
| BANDWIDTH: | 20.0 | 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] |
|--------------------|-----------------------|---------------------------|----------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|----------------|
| 3490.00 | Н | - | - | -73.49 | 9.94 | -63.55 | -50.6 |
| 5235.00 | Н | 400 | 75 | -65.08 | 10.76 | -54.32 | -41.3 |
| 6980.00 | Н | - | - | -72.01 | 11.85 | -60.15 | -47.2 |
| 8725.00 | Н | - | - | -67.32 | 11.03 | -56.29 | -43.3 |

Table 7-37. Radiated Spurious Data (Band 66/4 – Mid Channel)

| OPERATING FREQUENCY: | 1770.00 | |
|----------------------|---------|--------|
| MODULATION SIGNAL: | QPSK | _ |
| BANDWIDTH: | 20.0 | MHz |
| DISTANCE: | 3 | meters |
| LIMIT: | -13 | dBm |

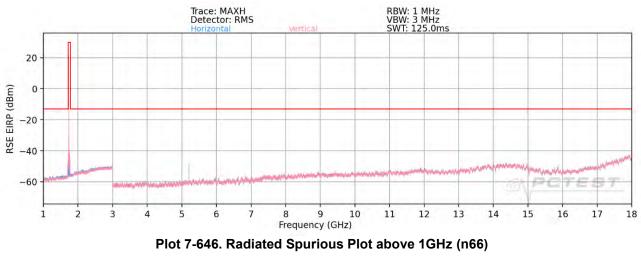
| Frequency [MHz] | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Level at Antenna Terminals [dBm] | Substitute Antenna Gain [dBi] | Spurious Emission Level [dBm] | Margin [dB] |
|--------------------|-----------------------|---------------------------|----------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|----------------|
| 3540.00 | Н | - | - | -73.00 | 9.92 | -63.07 | -50.1 |
| 5310.00 | Н | 400 | 68 | -69.50 | 10.72 | -58.79 | -45.8 |
| 7080.00 | Н | - | - | -72.16 | 11.82 | -60.34 | -47.3 |
| 8850.00 | Н | - | - | -67.67 | 11.02 | -56.64 | -43.6 |

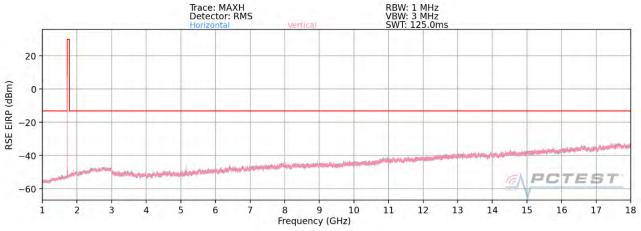
Table 7-38. Radiated Spurious Data (Band 66/4 – High Channel)

| FCC ID: A3LSMA716U | PCTEST Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
|---------------------|---|---------------------------------------|---------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | | Daga 281 of 120 |
| 1M2003200047-11.A3L | 3/23 - 5/7/2020 | Portable Handset | | Page 381 of 420 |
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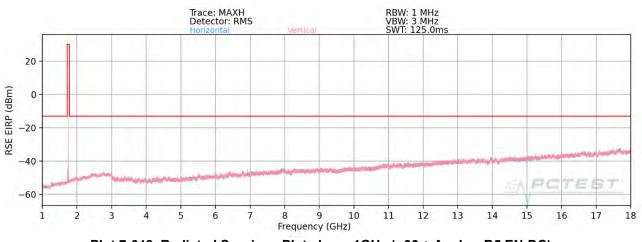


n66









Plot 7-648. Radiated Spurious Plot above 1GHz (n66 + Anchor B5 EN-DC)

| FCC ID: A3LSMA716U | PCTEST Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
|---------------------|---|---------------------------------------|---------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | | Daga 282 of 420 |
| 1M2003200047-11.A3L | 3/23 - 5/7/2020 | Portable Handset | | Page 382 of 420 |
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| OPERATING FREQUENCY: | 1715.00 | | MHz |
|----------------------|-------------------|--------|-----|
| MODULATION SIGNAL: | QPSK (DFT-s-OFDM) | _ | |
| 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] |
|--------------------|-----------------------|---------------------------|----------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|----------------|
| 3430.00 | Н | 238 | 62 | -67.65 | 6.28 | -61.37 | -48.4 |
| 5145.00 | Н | 252 | 68 | -49.32 | 8.98 | -40.34 | -27.3 |
| 6860.00 | Н | - | - | -70.41 | 9.42 | -60.99 | -48.0 |
| 8575.00 | Н | - | - | -68.74 | 9.62 | -59.12 | -46.1 |

Table 7-39. Radiated Spurious Data (n66 – Low Channel)

3

1745.00

MHz

meters

MHz

| OPERATING FREQUENCY: |
|----------------------|
|----------------------|

MODULATION SIGNAL: QPSK (DFT-s-OFDM) 10.0

BANDWIDTH:

DISTANCE:

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] |
|--------------------|-----------------------|---------------------------|----------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|----------------|
| 3490.00 | Н | - | - | -68.42 | 6.47 | -61.95 | -49.0 |
| 5235.00 | Н | 269 | 63 | -59.06 | 8.97 | -50.09 | -37.1 |
| 6980.00 | Н | - | - | -69.35 | 9.23 | -60.13 | -47.1 |
| 8725.00 | Н | - | - | -67.47 | 9.59 | -57.88 | -44.9 |

Table 7-40. Radiated Spurious Data (n66 – Mid Channel)

| FCC ID: A3LSMA716U | PCTEST Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
|---------------------|---|---------------------------------------|---------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | | Dogo 282 of 420 |
| 1M2003200047-11.A3L | 00047-11.A3L 3/23 - 5/7/2020 Portable Handset | | | Page 383 of 420 |
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| OPERATING FREQUENCY: | 1775. | 00 | MHz |
|----------------------|-------------------|--------|-----|
| MODULATION SIGNAL: | QPSK (DFT-s-OFDM) | _ | |
| BANDWIDTH: | 10.0 | MHz | |
| DISTANCE: | 3 | meters | |
| LIMIT: | -13 | dBm | |

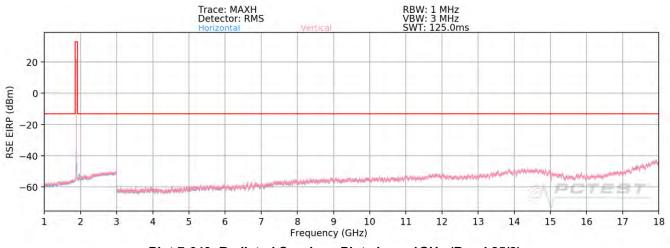
| Frequency [MHz] | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Level at Antenna Terminals [dBm] | Substitute Antenna Gain [dBi] | Spurious Emission Level [dBm] | Margin [dB] |
|--------------------|-----------------------|---------------------------|----------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|----------------|
| 3550.00 | Н | - | - | -68.51 | 6.45 | -62.06 | -49.1 |
| 5325.00 | Н | 268 | 72 | -70.21 | 9.09 | -61.12 | -48.1 |
| 7100.00 | Н | - | - | -69.44 | 9.17 | -60.27 | -47.3 |
| 8875.00 | Н | - | - | -67.48 | 9.57 | -57.91 | -44.9 |

Table 7-41. Radiated Spurious Data (n66 – High Channel)

| FCC ID: A3LSMA716U | Proved to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager | |
|------------------------------|--------------------------------|---------------------------------------|---------|---------------------------------|--|
| Test Report S/N: Test Dates: | | EUT Type: | | Dage 294 of 420 | |
| 1M2003200047-11.A3L | 3/23 - 5/7/2020 | Portable Handset | | Page 384 of 420 | |
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Plot 7-649. Radiated Spurious Plot above 1GHz (Band 25/2)

| 186 | 60.00 I | MHz |
|------|-------------------|--|
| QPSK | _ | |
| 20.0 | MHz | |
| 3 | meters | |
| -13 | _dBm | |
| | QPSK 20.0 3 | QPSK 20.0 MHz 3 meters |

| 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] |
|--------------------|-----------------------|---------------------------|----------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|----------------|
| 3720.00 | H | 400 | 153 | -71.83 | 9.54 | -62.29 | -49.3 |
| 5580.00 | H | 177 | 5 | -71.69 | 11.02 | -60.68 | -47.7 |
| 7440.00 | Н | - | - | -69.33 | 11.01 | -58.31 | -45.3 |
| 9300.00 | Н | - | - | -68.27 | 11.64 | -56.63 | -43.6 |

Table 7-42. Radiated Spurious Data (Band 25/2 – Low Channel)

| FCC ID: A3LSMA716U | Provid to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager | |
|---------------------|----------------------------------|---------------------------------------|-----------------|---------------------------------|--|
| Test Report S/N: | Test Dates: | EUT Type: | | Dage 295 of 420 | |
| 1M2003200047-11.A3L | 3/23 - 5/7/2020 Portable Handset | | Page 385 of 420 | | |
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| OPERATING FREQUENCY: | 188 | 32.50 | MHz |
|----------------------|------|--------|-----|
| MODULATION SIGNAL: | QPSK | _ | |
| BANDWIDTH: | 20.0 | 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] |
|--------------------|-----------------------|---------------------------|----------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|----------------|
| 3765.00 | Н | 400 | 144 | -72.68 | 9.39 | -63.30 | -50.3 |
| 5647.50 | Н | - | - | -72.70 | 11.22 | -61.47 | -48.5 |
| 7530.00 | Н | - | - | -69.17 | 11.16 | -58.00 | -45.0 |

Table 7-43. Radiated Spurious Data (Band 25/2 – Mid Channel)

1905.00

OPERATING FREQUENCY:

MODULATION SIGNAL: QPSK BANDWIDTH: 20.0

MHz

MHz DISTANCE: 3 meters

LIMIT: -13 dBm

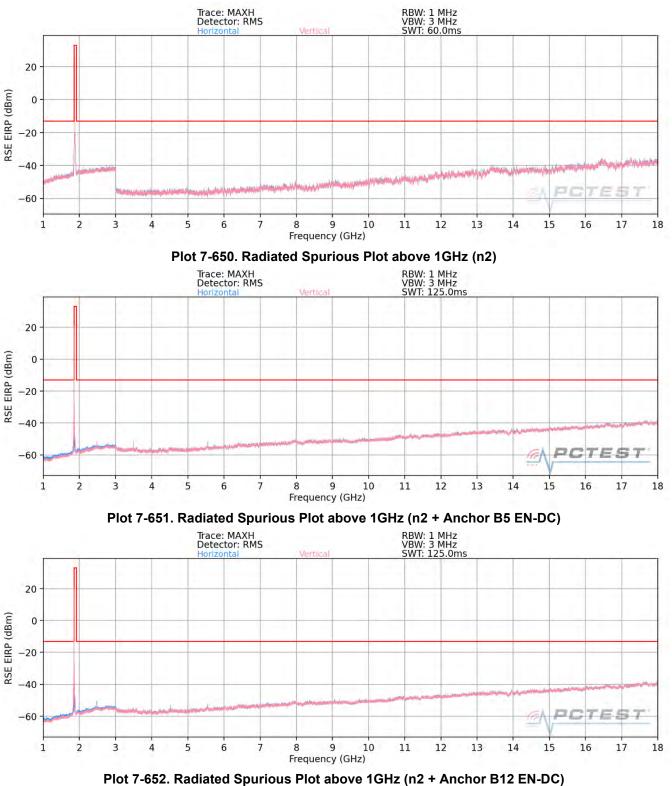
| Frequency [MHz] | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Level at Antenna Terminals [dBm] | Substitute Antenna Gain [dBi] | Spurious Emission Level [dBm] | Margin [dB] |
|--------------------|-----------------------|---------------------------|----------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|----------------|
| 3810.00 | Н | 380 | 140 | -70.52 | 9.32 | -61.19 | -48.2 |
| 5715.00 | Н | - | - | -72.57 | 11.38 | -61.19 | -48.2 |
| 7620.00 | Н | - | - | -69.95 | 11.32 | -58.64 | -45.6 |

Table 7-44. Radiated Spurious Data (Band 25/2 – High Channel)

| FCC ID: A3LSMA716U | Proud to be part of element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager | |
|---------------------|-----------------------------|---------------------------------------|---------|---------------------------------|--|
| Test Report S/N: | Test Dates: | EUT Type: | | Dage 296 of 420 | |
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n2



| FCC ID: A3LSMA716U | PCTEST Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
|---------------------|---|---------------------------------------|---------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | | Dega 297 of 420 |
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| OPERATING FREQUENCY: | 1855.00 | | |
|----------------------|-------------------|--------|--|
| MODULATION SIGNAL: | QPSK (DFT-s-OFDM) | _ | |
| 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] |
|--------------------|-----------------------|---------------------------|----------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|----------------|
| 3710.00 | V | - | - | -68.77 | 6.90 | -61.87 | -48.9 |
| 5565.00 | V | 101 | 317 | -67.73 | 9.06 | -58.66 | -45.7 |
| 7420.00 | V | - | - | -68.61 | 9.26 | -59.34 | -46.3 |
| 9275.00 | V | - | - | -66.60 | 9.40 | -57.20 | -44.2 |

Table 7-45. Radiated Spurious Data (n2 – Low Channel)

OPERATING FREQUENCY:

1880.00

MHz

| MODULATION SIGNAL: | QPSK (DFT-s-OFDM) | _ |
|--------------------|-------------------|--------|
| 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] |
|--------------------|-----------------------|---------------------------|----------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|----------------|
| 3760.00 | V | - | - | -69.02 | 6.93 | -62.09 | -49.1 |
| 5640.00 | V | 102 | 296 | -68.93 | 9.15 | -59.78 | -46.8 |
| 7520.00 | V | - | - | -69.06 | 9.31 | -59.75 | -46.7 |
| 9400.00 | V | - | - | -66.83 | 9.49 | -57.34 | -44.3 |

Table 7-46. Radiated Spurious Data (n2 – Mid Channel)

| FCC ID: A3LSMA716U | Proud to be part of element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
|---------------------|-----------------------------|---------------------------------------|---------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | | Dega 200 of 420 |
| 1M2003200047-11.A3L | 3/23 - 5/7/2020 | Portable Handset | | Page 388 of 420 |
| © 2020 PCTEST | | | | V 9.0 02/01/2019 |



| 1Hz |
|-----|
| |
| |
| |
| |
| |

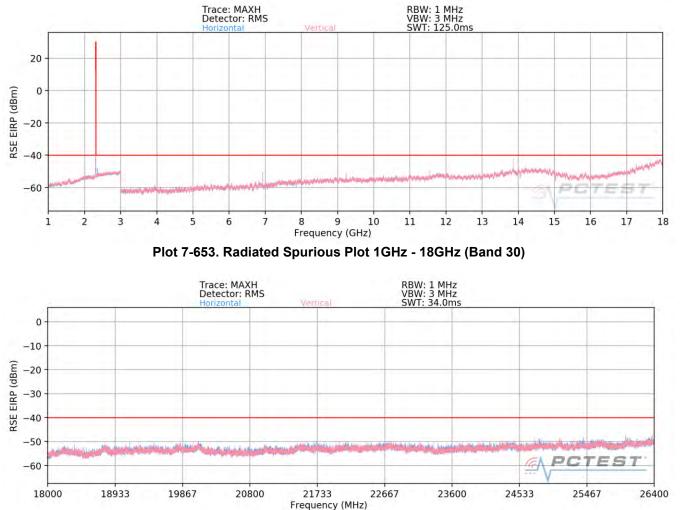
| Frequency [MHz] | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Level at Antenna Terminals [dBm] | Substitute Antenna Gain [dBi] | Spurious Emission Level [dBm] | Margin [dB] |
|--------------------|-----------------------|---------------------------|----------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|----------------|
| 3810.00 | V | 114 | 309 | -68.42 | 7.02 | -61.40 | -48.4 |
| 5715.00 | V | 101 | 310 | -70.01 | 9.05 | -60.96 | -48.0 |
| 7620.00 | V | - | - | -68.14 | 9.25 | -58.89 | -45.9 |
| 9525.00 | V | - | - | -66.26 | 9.48 | -56.78 | -43.8 |

Table 7-47. Radiated Spurious Data (n2 – High Channel)

| FCC ID: A3LSMA716U | Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | NG | Approved by: Quality Manager |
|---------------------|-------------------------------|---------------------------------------|----|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | | Dage 280 of 420 |
| 1M2003200047-11.A3L | 3/23 - 5/7/2020 | Portable Handset | | Page 389 of 420 |
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| FCC ID: A3LSMA716U | Provid to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | Approved by: Quality Manager |
|---------------------|--------------------------------|---------------------------------------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | Dere 200 of 420 |
| 1M2003200047-11.A3L | 3/23 - 5/7/2020 | Portable Handset | Page 390 of 420 |
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| OPERATING FREQUENCY: | 231 | 0.00 | MHz |
|----------------------|------|--------|-----|
| MODULATION SIGNAL: | QPSK | _ | |
| BANDWIDTH: | 10.0 | MHz | |
| DISTANCE: | 3 | meters | |
| LIMIT: | -40 | 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] |
|--------------------|-----------------------|---------------------------|----------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|----------------|
| 4620.00 | V | 109 | 109 | -67.49 | 8.26 | -59.23 | -19.2 |
| 6930.00 | V | 100 | 341 | -55.23 | 8.72 | -46.51 | -6.5 |
| 9240.00 | V | 101 | 308 | -61.24 | 9.49 | -51.75 | -11.7 |
| 11550.00 | V | 275 | 206 | -54.61 | 9.19 | -45.42 | -5.4 |
| 13860.00 | V | 101 | 117 | -55.18 | 9.00 | -46.18 | -6.2 |
| 16170.00 | V | - | - | -55.74 | 7.99 | -47.75 | -7.7 |

Table 7-48. Radiated Spurious Data (Band 30 – Mid Channel)

| FCC ID: A3LSMA716U | Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | G | Approved by: Quality Manager | |
|-------------------------------------|-------------------------------|---------------------------------------|---|---------------------------------|--|
| Test Report S/N: | Test Dates: | EUT Type: | | Page 391 of 420 | |
| 1M2003200047-11.A3L 3/23 - 5/7/2020 | | Portable Handset | | Page 391 01 420 | |
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Plot 7-656. Radiated Spurious Plot 18GHz - 26.5GHz (Band 7)

| FCC ID: A3LSMA716U | PCTEST Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
|---------------------|---|---------------------------------------|---------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | | Dega 202 of 420 |
| 1M2003200047-11.A3L | 3/23 - 5/7/2020 | Portable Handset | | Page 392 of 420 |
| © 2020 PCTEST | | | | V 9.0 02/01/2019 |



| OPERATING FREQUENCY: | 251 | MHz | |
|----------------------|------|--------|--|
| MODULATION SIGNAL: | QPSK | _ | |
| BANDWIDTH: | 20.0 | MHz | |
| DISTANCE: | 3 | meters | |
| LIMIT: | -25 | dBm | |

| Frequency [MHz] | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Level at Antenna Terminals [dBm] | Substitute Antenna Gain [dBi] | Spurious Emission Level [dBm] | Margin [dB] |
|--------------------|-----------------------|---------------------------|----------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|----------------|
| 5020.00 | V | 400 | 350 | -63.99 | 8.56 | -55.43 | -30.4 |
| 7530.00 | V | 101 | 306 | -52.39 | 8.46 | -43.93 | -18.9 |
| 10040.00 | V | 101 | 170 | -46.74 | 9.85 | -36.89 | -11.9 |
| 12550.00 | V | 101 | 2 | -50.00 | 9.06 | -40.94 | -15.9 |
| 15060.00 | V | 100 | 352 | -54.69 | 8.74 | -45.95 | -20.9 |
| 17570.00 | V | - | - | -53.74 | 7.63 | -46.11 | -21.1 |

Table 7-49. Radiated Spurious Data (Band 7 – Low Channel)

QPSK

20.0

2535.00

MHz

meters

MHz

OPERATING FREQUENCY:

MODULATION SIGNAL:

BANDWIDTH:

_.___

DISTANCE: 3

LIMIT: _____dBm

| Frequency [MHz] | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Level at Antenna Terminals [dBm] | Substitute Antenna Gain [dBi] | Spurious Emission Level [dBm] | Margin [dB] |
|--------------------|-----------------------|---------------------------|----------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|----------------|
| 5070.00 | V | 388 | 352 | -67.97 | 8.60 | -59.37 | -34.4 |
| 7605.00 | V | 107 | 305 | -51.28 | 8.48 | -42.80 | -17.8 |
| 10140.00 | V | 101 | 174 | -43.51 | 9.78 | -33.73 | -8.7 |
| 12675.00 | V | 100 | 1 | -47.55 | 9.08 | -38.48 | -13.5 |
| 15210.00 | V | 100 | 354 | -53.87 | 8.47 | -45.40 | -20.4 |
| 17745.00 | V | - | - | -54.63 | 7.68 | -46.95 | -22.0 |

Table 7-50. Radiated Spurious Data (Band 7 – Mid Channel)

| FCC ID: A3LSMA716U | PCTEST Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
|---------------------|---|---------------------------------------|---------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | | Dage 202 of 420 |
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| © 2020 PCTEST | | | | V 9.0 02/01/2019 |



| OPERATING FREQUENCY: | 256 | MHz | |
|----------------------|------|--------|--|
| MODULATION SIGNAL: | QPSK | _ | |
| BANDWIDTH: | 20.0 | MHz | |
| DISTANCE: | 3 | meters | |
| LIMIT: | -25 | dBm | |

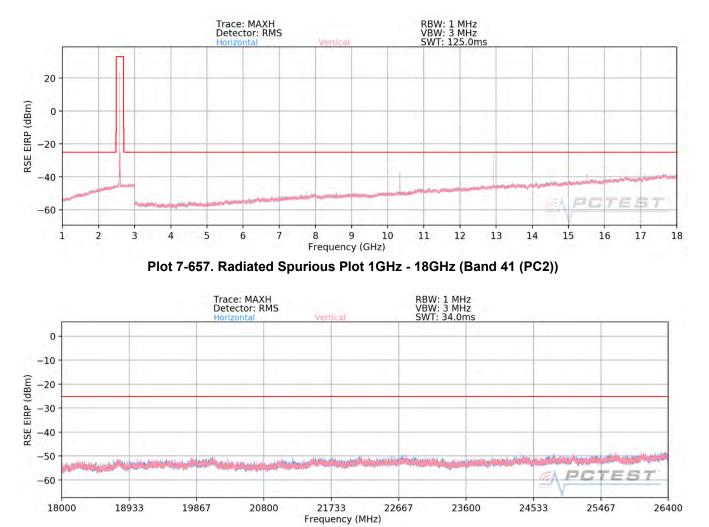
| Frequency [MHz] | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Level at Antenna Terminals [dBm] | Substitute Antenna Gain [dBi] | Spurious Emission Level [dBm] | Margin [dB] |
|--------------------|-----------------------|---------------------------|----------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|----------------|
| 5120.00 | V | 397 | 347 | -69.21 | 8.66 | -60.55 | -35.6 |
| 7680.00 | V | 107 | 308 | -50.35 | 8.58 | -41.77 | -16.8 |
| 10240.00 | V | 104 | 174 | -41.87 | 9.65 | -32.21 | -7.2 |
| 12800.00 | V | 101 | 357 | -48.42 | 9.07 | -39.35 | -14.3 |
| 15360.00 | V | 101 | 352 | -49.71 | 8.46 | -41.25 | -16.3 |
| 17920.00 | V | - | - | -53.91 | 7.46 | -46.45 | -21.4 |

Table 7-51. Radiated Spurious Data (Band 7 – High Channel)

| FCC ID: A3LSMA716U | Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | ING | Approved by: Quality Manager |
|---------------------|-------------------------------|---------------------------------------|-----|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | | Page 394 of 420 |
| 1M2003200047-11.A3L | 3/23 - 5/7/2020 | Portable Handset | | Page 394 01 420 |
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Band 41 (PC2)



Plot 7-658. Radiated Spurious Plot 18GHz - 26.5GHz (Band 41 (PC2))

| FCC ID: A3LSMA716U | Proud to be part of element | MEASUREMENT REPORT (CERTIFICATION) | Approved by: Quality Manager |
|---------------------|-----------------------------|---------------------------------------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | Page 395 of 420 |
| 1M2003200047-11.A3L | 3/23 - 5/7/2020 | Portable Handset | Page 395 01 420 |
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| OPERATING FREQUENCY: | 250 | MHz | |
|----------------------|------|--------|--|
| MODULATION SIGNAL: | QPSK | _ | |
| BANDWIDTH: | 20.0 | MHz | |
| DISTANCE: | 3 | meters | |
| LIMIT: | -25 | dBm | |

| Frequency [MHz] | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Level at Antenna Terminals [dBm] | Substitute Antenna Gain [dBi] | Spurious Emission Level [dBm] | Margin [dB] |
|--------------------|-----------------------|---------------------------|----------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|----------------|
| 5012.00 | V | 100 | 64 | -61.16 | 8.56 | -52.59 | -27.6 |
| 7518.00 | V | 102 | 49 | -50.88 | 8.49 | -42.39 | -17.4 |
| 10024.00 | V | 276 | 324 | -44.99 | 9.85 | -35.14 | -10.1 |
| 12530.00 | V | 107 | 48 | -38.88 | 9.07 | -29.82 | -4.8 |
| 15036.00 | V | 275 | 74 | -45.73 | 8.77 | -36.96 | -12.0 |
| 17542.00 | V | - | - | -51.62 | 7.64 | -43.98 | -19.0 |

Table 7-52. Radiated Spurious Data (Band 41 (PC2) – Low Channel)

QPSK

20.0

2593.00

MHz

meters

MHz

OPERATING FREQUENCY:

MODULATION SIGNAL:

BANDWIDTH:

DISTANCE: 3

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 | V | 101 | 351 | -61.87 | 8.70 | -53.17 | -28.2 |
| 7779.00 | V | 118 | 13 | -55.09 | 8.69 | -46.40 | -21.4 |
| 10372.00 | V | 102 | 261 | -45.71 | 9.62 | -36.09 | -11.1 |
| 12965.00 | V | 102 | 63 | -37.60 | 8.99 | -28.61 | -3.6 |
| 15558.00 | V | 169 | 360 | -49.22 | 8.32 | -40.90 | -15.9 |

Table 7-53. Radiated Spurious Data (Band 41(PC2) – Mid Channel)

| FCC ID: A3LSMA716U | PCTEST Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager | |
|---------------------|---|---------------------------------------|---------|---------------------------------|--|
| Test Report S/N: | Test Dates: | EUT Type: | | Daga 206 of 120 | |
| 1M2003200047-11.A3L | 3/23 - 5/7/2020 | Portable Handset | | Page 396 of 420 | |
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| OPERATING FREQUENCY: | 268 | 30.00 | MHz |
|----------------------|------|--------|-----|
| MODULATION SIGNAL: | QPSK | _ | |
| BANDWIDTH: | 20.0 | MHz | |
| DISTANCE: | 3 | meters | |
| LIMIT: | -25 | dBm | |

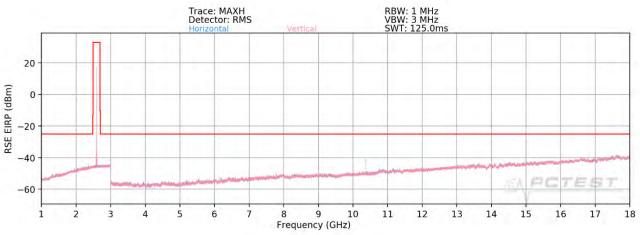
| Frequency [MHz] | Ant. Pol. [H/V] | Antenna Height [cm] | Turntable Azimuth [degree] | Level at Antenna Terminals [dBm] | Substitute Antenna Gain [dBi] | Spurious Emission Level [dBm] | Margin [dB] |
|--------------------|-----------------------|---------------------------|----------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|----------------|
| 5360.00 | V | 153 | 281 | -62.77 | 8.70 | -54.07 | -29.1 |
| 8040.00 | V | 104 | 84 | -49.29 | 8.95 | -40.34 | -15.3 |
| 10720.00 | V | 102 | 258 | -44.19 | 9.32 | -34.86 | -9.9 |
| 13400.00 | V | 101 | 61 | -39.12 | 8.77 | -30.35 | -5.4 |
| 16080.00 | V | 344 | 359 | -54.17 | 8.01 | -46.16 | -21.2 |

Table 7-54. Radiated Spurious Data (Band 41 (PC2) – High Channel)

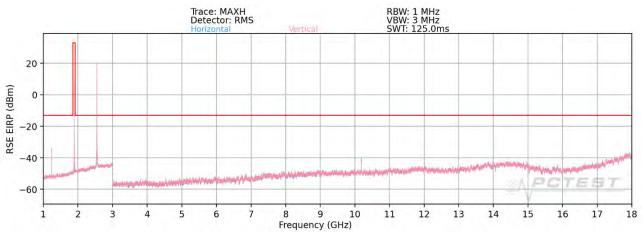
| FCC ID: A3LSMA716U | Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
|---------------------|-------------------------------|---------------------------------------|---------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | | Dege 207 of 400 |
| 1M2003200047-11.A3L | 3/23 - 5/7/2020 | Portable Handset | | Page 397 of 420 |
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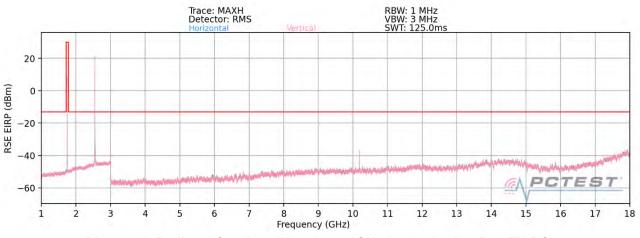








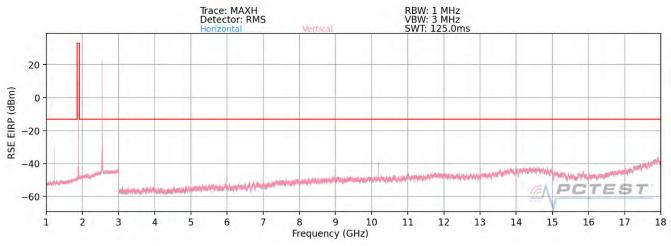




Plot 7-661. Radiated Spurious Plot above 1GHz (n41 + Anchor B66 EN-DC)

| FCC ID: A3LSMA716U | PCTEST Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager | |
|---------------------|---|---------------------------------------|---------|---------------------------------|--|
| Test Report S/N: | Test Dates: | EUT Type: | | Daga 200 of 420 | |
| 1M2003200047-11.A3L | 3/23 - 5/7/2020 | Portable Handset | | Page 398 of 420 | |
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Plot 7-662. Radiated Spurious Plot above 1GHz (n41 + Anchor B2 EN-DC)

| OPERATING FREQUENCY: | 254 | 46.01 | MHz |
|----------------------|------|--------|-----|
| MODULATION SIGNAL: | BPSK | _ | |
| BANDWIDTH: | 80.0 | 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] |
|--------------------|-----------------------|---------------------------|----------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|----------------|
| 5092.02 | V | 101 | 197 | -66.88 | 8.64 | -58.24 | -33.2 |
| 7638.03 | V | 107 | 69 | -60.49 | 8.54 | -51.95 | -26.9 |
| 10184.04 | V | 109 | 182 | -51.22 | 9.75 | -41.47 | -16.5 |
| 12730.05 | V | - | - | -62.26 | 9.12 | -53.14 | -28.1 |
| 15276.06 | V | - | - | -58.95 | 8.38 | -50.56 | -25.6 |

Table 7-55. Radiated Spurious Data (n41– Low Channel)

| FCC ID: A3LSMA716U | Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | Approved by: Quality Manager |
|---------------------|-------------------------------|---------------------------------------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | Page 399 of 420 |
| 1M2003200047-11.A3L | 3/23 - 5/7/2020 | Portable Handset | Fage 399 01 420 |
| © 2020 PCTEST | | | V 9.0 02/01/2019 |



| OPERATING FREQUENCY: | 259 | 92.99 | MHz |
|----------------------|------|--------|-----|
| MODULATION SIGNAL: | BPSK | _ | |
| BANDWIDTH: | 80.0 | 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] |
|--------------------|-----------------------|---------------------------|----------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|----------------|
| 5185.98 | V | 322 | 223 | -67.53 | 8.70 | -58.83 | -33.8 |
| 7778.97 | V | 102 | 59 | -60.02 | 8.69 | -51.34 | -26.3 |
| 10371.96 | V | 100 | 182 | -50.91 | 9.62 | -41.29 | -16.3 |
| 12964.95 | V | - | - | -61.59 | 8.99 | -52.60 | -27.6 |
| 15557.94 | V | - | - | -58.46 | 8.32 | -50.14 | -25.1 |

Table 7-56. Radiated Spurious Data (n41 – Mid Channel)

OPERATING FREQUENCY:2649.99MHzMODULATION SIGNAL:BPSKBANDWIDTH:80.0MHzDISTANCE:3metersLIMIT:-25dBm

| 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] |
|--------------------|-----------------------|---------------------------|----------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|----------------|
| 5299.98 | V | 115 | 223 | -67.29 | 8.73 | -58.56 | -33.6 |
| 7949.97 | V | 106 | 58 | -56.58 | 8.77 | -47.81 | -22.8 |
| 10599.96 | V | 100 | 184 | -53.30 | 9.50 | -43.81 | -18.8 |
| 13249.95 | V | - | - | -61.18 | 9.10 | -52.08 | -27.1 |
| 15899.94 | V | - | - | -58.26 | 8.19 | -50.06 | -25.1 |

Table 7-57. Radiated Spurious Data (n41 – High Channel)

| FCC ID: A3LSMA716U | PCTEST Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager | |
|---------------------|---|---------------------------------------|---------|---------------------------------|--|
| Test Report S/N: | Test Dates: | EUT Type: | | Degra 400 of 420 | |
| 1M2003200047-11.A3L | 3/23 - 5/7/2020 | Portable Handset | | Page 400 of 420 | |
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7.8 Frequency Stability / Temperature Variation

Test Overview and Limit

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

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

For Part 22, the frequency stability of the transmitter shall be maintained within $\pm 0.00025\%$ (± 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: A3LSMA716U | Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | Approved by: Quality Manager |
|---------------------|-------------------------------|---------------------------------------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | Dago 401 of 420 |
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Band 71 Frequency Stability Measurements

| OPERATING FREQUENCY: | 707,500,000 | Hz |
|----------------------|-------------|-----|
| CHANNEL: | 23790 | _ |
| REFERENCE VOLTAGE: | 4.26 | VDC |

| VOLTAGE (%) | POWER (VDC) | TEMP (°C) | FREQUENCY (Hz) | Freq. Dev. (Hz) | Deviation (%) |
|----------------|----------------|--------------|-------------------|--------------------|------------------|
| 100 % | 4.26 | - 30 | 707,499,823 | -177 | -0.0000250 |
| 100 % | | - 20 | 707,500,094 | 94 | 0.0000133 |
| 100 % | | - 10 | 707,500,022 | 22 | 0.0000031 |
| 100 % | | 0 | 707,499,907 | -93 | -0.0000131 |
| 100 % | | + 10 | 707,500,044 | 44 | 0.0000062 |
| 100 % | | + 20 | 707,499,687 | -313 | -0.0000442 |
| 100 % | | + 30 | 707,500,010 | 10 | 0.0000014 |
| 100 % | | + 40 | 707,500,064 | 64 | 0.0000090 |
| 100 % | | + 50 | 707,500,224 | 224 | 0.0000317 |
| BATT. ENDPOINT | 3.63 | + 20 | 707,500,149 | 149 | 0.0000211 |

Table 7-58. 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: A3LSMA716U | Provid to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
|---------------------|--------------------------------|---------------------------------------|---------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | | Daga 402 of 420 |
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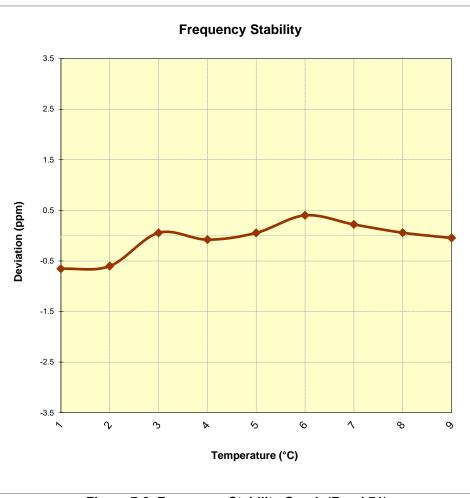


Figure 7-8. Frequency Stability Graph (Band 71)

| FCC ID: A3LSMA716U | Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | Approved by: Quality Manager |
|---------------------|-------------------------------|---------------------------------------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | Dage 402 of 420 |
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Band 12 Frequency Stability Measurements

| OPERATING FREQUENCY: | 707,500,000 | Hz |
|----------------------|-------------|-----|
| CHANNEL: | 23790 | _ |
| REFERENCE VOLTAGE: | 4.26 | VDC |

| VOLTAGE (%) | POWER (VDC) | TEMP (°C) | FREQUENCY (Hz) | Freq. Dev. (Hz) | Deviation (%) |
|----------------|----------------|--------------|-------------------|--------------------|------------------|
| 100 % | 4.26 | - 30 | 707,499,823 | -177 | -0.0000250 |
| 100 % | | - 20 | 707,500,094 | 94 | 0.0000133 |
| 100 % | | - 10 | 707,500,022 | 22 | 0.0000031 |
| 100 % | | 0 | 707,499,907 | -93 | -0.0000131 |
| 100 % | | + 10 | 707,500,044 | 44 | 0.0000062 |
| 100 % | | + 20 | 707,499,687 | -313 | -0.0000442 |
| 100 % | | + 30 | 707,500,010 | 10 | 0.0000014 |
| 100 % | | + 40 | 707,500,064 | 64 | 0.0000090 |
| 100 % | | + 50 | 707,500,224 | 224 | 0.0000317 |
| BATT. ENDPOINT | 3.63 | + 20 | 707,500,149 | 149 | 0.0000211 |

Table 7-59. 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.

| FCC ID: A3LSMA716U | PCTEST Prood to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
|---------------------|---|---------------------------------------|---------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | | Dega 404 of 400 |
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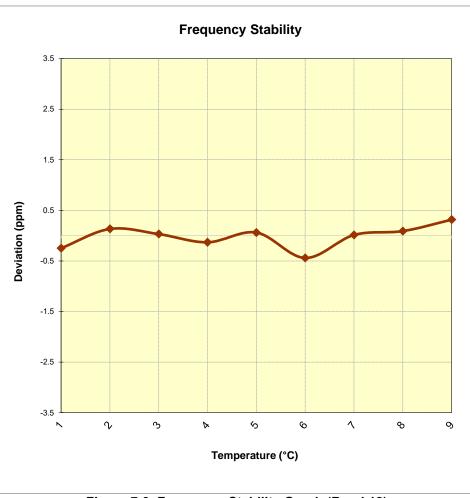


Figure 7-9. Frequency Stability Graph (Band 12)

| FCC ID: A3LSMA716U | Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | Approved by: Quality Manager | |
|--------------------------------|-------------------------------|---------------------------------------|---------------------------------|--|
| Test Report S/N: | Test Dates: | EUT Type: | Daga 405 of 400 | |
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Band 13 Frequency Stability Measurements

| OPERATING FREQUENCY: | 782,000,000 | Hz |
|----------------------|-------------|-----|
| CHANNEL: | 23230 | - |
| REFERENCE VOLTAGE: | 4.26 | VDC |

| VOLTAGE (%) | POWER (VDC) | TEMP (°C) | FREQUENCY (Hz) | Freq. Dev. (Hz) | Deviation (%) |
|----------------|----------------|--------------|-------------------|--------------------|------------------|
| 100 % | 4.26 | - 30 | 781,999,813 | -187 | -0.0000239 |
| 100 % | | - 20 | 782,000,166 | 166 | 0.0000212 |
| 100 % | | - 10 | 782,000,000 | 0 | 0.0000000 |
| 100 % | | 0 | 782,000,151 | 151 | 0.0000193 |
| 100 % | | + 10 | 782,000,183 | 183 | 0.0000234 |
| 100 % | | + 20 | 782,000,199 | 199 | 0.0000254 |
| 100 % | | + 30 | 781,999,997 | -3 | -0.0000004 |
| 100 % | | + 40 | 781,999,732 | -268 | -0.0000343 |
| 100 % | | + 50 | 782,000,252 | 252 | 0.0000322 |
| BATT. ENDPOINT | 3.63 | + 20 | 781,999,923 | -77 | -0.000098 |

Table 7-60. 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: A3LSMA716U | Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
|---------------------|-------------------------------|---------------------------------------|---------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | | Dega 406 of 400 |
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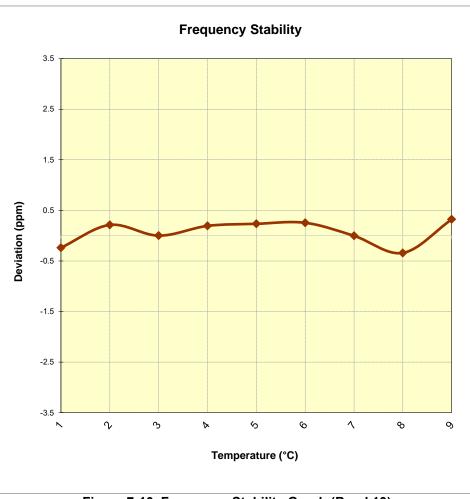


Figure 7-10. Frequency Stability Graph (Band 13)

| FCC ID: A3LSMA716U | Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | Approved by: Quality Manager |
|---------------------|-------------------------------|---------------------------------------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | Dago 107 of 120 |
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Band 26 Frequency Stability Measurements

| OPERATING FREQUENCY: | 831,500,000 | Hz |
|----------------------|------------------------|-----|
| CHANNEL: | 26865 | |
| REFERENCE VOLTAGE: | 4.26 | VDC |
| DEVIATION LIMIT: | ± 0.00025 % or 2.5 ppm | _ |

| VOLTAGE (%) | POWER (VDC) | ТЕМР (°С) | FREQUENCY (Hz) | Freq. Dev. (Hz) | Deviation (%) |
|----------------|----------------|---------------------|-------------------|--------------------|------------------|
| 100 % | 4.26 | - 30 | 831,499,855 | -145 | -0.0000174 |
| 100 % | | - 20 | 831,499,992 | -8 | -0.0000010 |
| 100 % | | - 10 | 831,500,144 | 144 | 0.0000173 |
| 100 % | | 0 | 831,500,377 | 377 | 0.0000453 |
| 100 % | | + 10 | 831,499,945 | -55 | -0.0000066 |
| 100 % | | + 20 | 831,499,983 | -17 | -0.0000020 |
| 100 % | | + 30 | 831,500,213 | 213 | 0.0000256 |
| 100 % | | + 40 | 831,499,589 | -411 | -0.0000494 |
| 100 % | | + 50 | 831,499,933 | -67 | -0.0000081 |
| BATT. ENDPOINT | 3.63 | + 20 | 831,499,851 | -149 | -0.0000179 |

Table 7-61. Frequency Stability Data (Band 26)

| FCC ID: A3LSMA716U | Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | Approved by: Quality Manager |
|---------------------|-------------------------------|---------------------------------------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | Dogo 408 of 420 |
| 1M2003200047-11.A3L | 3/23 - 5/7/2020 | Portable Handset | Page 408 of 420 |
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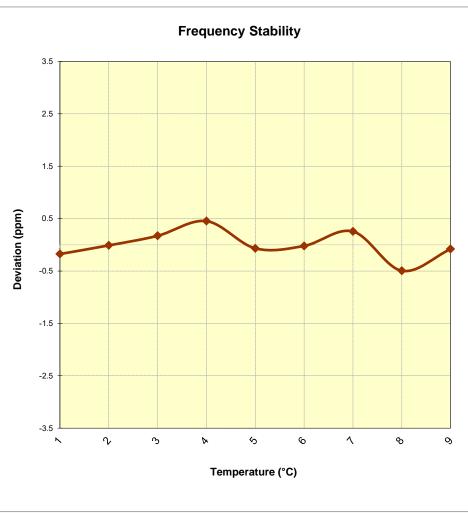


Figure 7-11. Frequency Stability Graph (Band 26)

| FCC ID: A3LSMA716U | Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
|---------------------|-------------------------------|---------------------------------------|---------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | | Dega 400 of 400 |
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Band 66 Frequency Stability Measurements

| OPERATING FREQUENCY: | 1,745,000,000 | Hz |
|----------------------|---------------|-----|
| CHANNEL: | 132322 | _ |
| REFERENCE VOLTAGE: | 4.26 | VDC |

| VOLTAGE (%) | POWER (VDC) | TEMP (°C) | FREQUENCY (Hz) | Freq. Dev. (Hz) | Deviation (%) |
|----------------|----------------|--------------|-------------------|--------------------|------------------|
| 100 % | 4.26 | - 30 | 1,744,999,939 | -61 | -0.0000035 |
| 100 % | | - 20 | 1,744,999,749 | -251 | -0.0000144 |
| 100 % | | - 10 | 1,745,000,119 | 119 | 0.000068 |
| 100 % | | 0 | 1,745,000,093 | 93 | 0.0000053 |
| 100 % | | + 10 | 1,744,999,987 | -13 | -0.0000007 |
| 100 % | | + 20 | 1,745,000,137 | 137 | 0.0000079 |
| 100 % | | + 30 | 1,745,000,042 | 42 | 0.0000024 |
| 100 % | | + 40 | 1,744,999,820 | -180 | -0.0000103 |
| 100 % | | + 50 | 1,744,999,868 | -132 | -0.0000076 |
| BATT. ENDPOINT | 3.63 | + 20 | 1,745,000,136 | 136 | 0.000078 |

Table 7-62. Frequency Stability Data (Band 66)

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: A3LSMA716U | Provid to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
|---------------------|--------------------------------|---------------------------------------|---------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | | Daga 410 of 420 |
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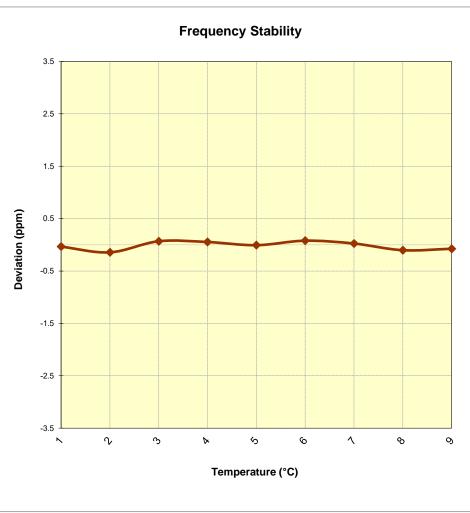


Figure 7-12. Frequency Stability Graph (Band 66)

| FCC ID: A3LSMA716U | PCTEST Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
|---------------------|---|---------------------------------------|---------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | | Page 411 of 420 |
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Band 25 Frequency Stability Measurements

| OPERATING FREQUENCY: | 1,882,500,000 | Hz |
|----------------------|------------------------|-----|
| CHANNEL: | 26365 | |
| REFERENCE VOLTAGE: | 4.26 | VDC |
| DEVIATION LIMIT: | ± 0.00025 % or 2.5 ppm | |

| VOLTAGE (%) | POWER (VDC) | ТЕМР (°С) | FREQUENCY (Hz) | Freq. Dev. (Hz) | Deviation (%) |
|----------------|----------------|---------------------|-------------------|--------------------|------------------|
| 100 % | 4.26 | - 30 | 1,882,499,843 | -157 | -0.000083 |
| 100 % | | - 20 | 1,882,499,902 | -98 | -0.0000052 |
| 100 % | | - 10 | 1,882,499,987 | -13 | -0.0000007 |
| 100 % | | 0 | 1,882,500,184 | 184 | 0.000098 |
| 100 % | | + 10 | 1,882,500,035 | 35 | 0.0000019 |
| 100 % | | + 20 | 1,882,500,003 | 3 | 0.0000002 |
| 100 % | | + 30 | 1,882,500,295 | 295 | 0.0000157 |
| 100 % | | + 40 | 1,882,500,126 | 126 | 0.0000067 |
| 100 % | | + 50 | 1,882,499,900 | -100 | -0.0000053 |
| BATT. ENDPOINT | 3.63 | + 20 | 1,882,500,057 | 57 | 0.0000030 |

Table 7-63. Frequency Stability Data (Band 25)

| FCC ID: A3LSMA716U | Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | Approved by: Quality Manager |
|---------------------|-------------------------------|---------------------------------------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | Dage 412 of 420 |
| 1M2003200047-11.A3L | 3/23 - 5/7/2020 | Portable Handset | Page 412 of 420 |
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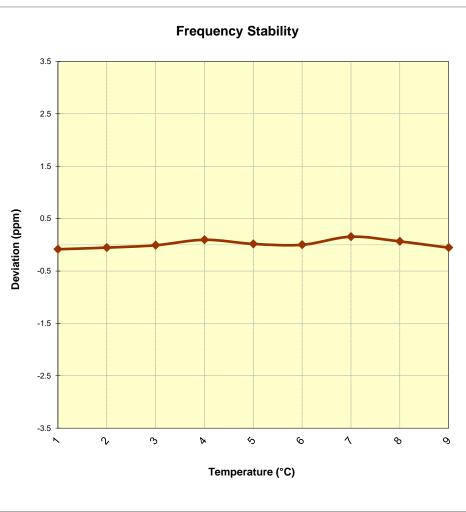


Figure 7-13. Frequency Stability Graph (Band 25)

| FCC ID: A3LSMA716U | Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
|---------------------|-------------------------------|---------------------------------------|---------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | | Dega 112 of 120 |
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Band 30 Frequency Stability Measurements

| OPERATING FREQUENCY: | 2,310,000,000 | Hz |
|----------------------|---------------|-----|
| CHANNEL: | 27710 | _ |
| REFERENCE VOLTAGE: | 4.26 | VDC |

| VOLTAGE (%) | POWER (VDC) | TEMP (°C) | FREQUENCY (Hz) | Freq. Dev. (Hz) | Deviation (%) |
|----------------|----------------|--------------|-------------------|--------------------|------------------|
| 100 % | 4.26 | - 30 | 2,310,000,015 | 15 | 0.0000006 |
| 100 % | | - 20 | 2,310,000,142 | 142 | 0.0000061 |
| 100 % | | - 10 | 2,309,999,848 | -152 | -0.0000066 |
| 100 % | | 0 | 2,309,999,790 | -210 | -0.0000091 |
| 100 % | | + 10 | 2,309,999,968 | -32 | -0.0000014 |
| 100 % | | + 20 | 2,309,999,876 | -124 | -0.0000054 |
| 100 % | | + 30 | 2,309,999,985 | -15 | -0.000006 |
| 100 % | | + 40 | 2,309,999,961 | -39 | -0.0000017 |
| 100 % | | + 50 | 2,310,000,341 | 341 | 0.0000148 |
| BATT. ENDPOINT | 3.63 | + 20 | 2,310,000,018 | 18 | 0.000008 |

Table 7-64. 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: A3LSMA716U | Provid to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
|---------------------|--------------------------------|---------------------------------------|---------|---------------------------------|
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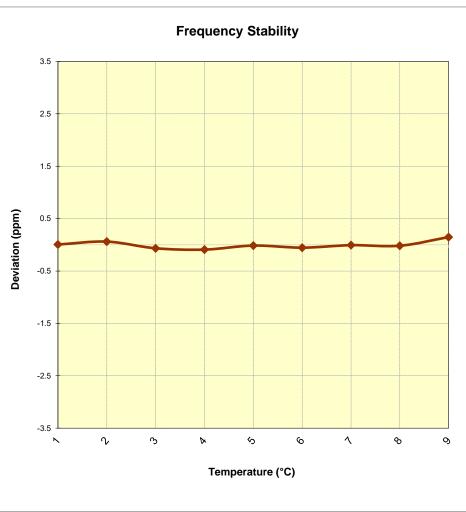


Figure 7-14. Frequency Stability Graph (Band 30)

| FCC ID: A3LSMA716U | PCTEST Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
|---------------------|---|---------------------------------------|---------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | | Dage 115 of 120 |
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Band 7 Frequency Stability Measurements

| OPERATING FREQUENCY: | 2,535,000,000 | Hz |
|----------------------|---------------|-----|
| CHANNEL: | 21100 | _ |
| REFERENCE VOLTAGE: | 4.26 | VDC |

| VOLTAGE (%) | POWER (VDC) | ТЕМР (°С) | FREQUENCY (Hz) | Freq. Dev. (Hz) | Deviation (%) |
|----------------|----------------|---------------------|-------------------|--------------------|------------------|
| 100 % | 4.26 | - 30 | 2,535,000,067 | 67 | 0.0000026 |
| 100 % | | - 20 | 2,535,000,221 | 221 | 0.0000087 |
| 100 % | | - 10 | 2,535,000,003 | 3 | 0.0000001 |
| 100 % | | 0 | 2,534,999,999 | -1 | 0.0000000 |
| 100 % | | + 10 | 2,534,999,864 | -136 | -0.0000054 |
| 100 % | | + 20 | 2,535,000,001 | 1 | 0.0000000 |
| 100 % | | + 30 | 2,534,999,775 | -225 | -0.0000089 |
| 100 % | | + 40 | 2,535,000,170 | 170 | 0.0000067 |
| 100 % | | + 50 | 2,535,000,198 | 198 | 0.0000078 |
| BATT. ENDPOINT | 3.63 | + 20 | 2,534,999,872 | -128 | -0.0000050 |

Table 7-65. 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: A3LSMA716U | Provid to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
|---------------------|--------------------------------|---------------------------------------|---------|---------------------------------|
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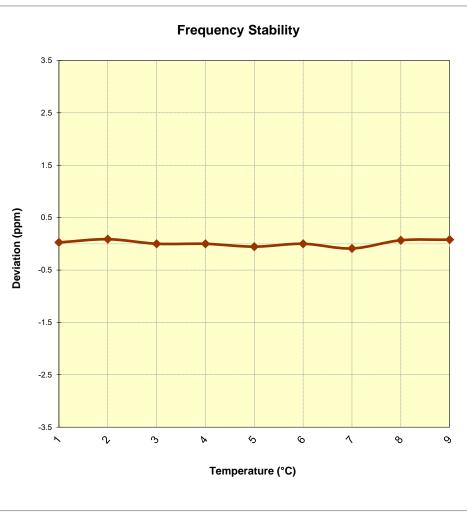


Figure 7-15. Frequency Stability Graph (Band 7)

| FCC ID: A3LSMA716U | Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
|---------------------|-------------------------------|---------------------------------------|---------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | | Dage 417 of 420 |
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Band 41 Frequency Stability Measurements

| OPERATING FREQUENCY: | 2,593,000,000 | Hz |
|----------------------|---------------|-----|
| CHANNEL: | 40620 | - |
| REFERENCE VOLTAGE: | 4.26 | VDC |

| VOLTAGE (%) | POWER (VDC) | TEMP (°C) | FREQUENCY (Hz) | Freq. Dev. (Hz) | Deviation (%) |
|----------------|----------------|--------------|-------------------|--------------------|------------------|
| 100 % | 4.26 | - 30 | 2,593,000,003 | 3 | 0.0000001 |
| 100 % | | - 20 | 2,593,000,337 | 337 | 0.0000130 |
| 100 % | | - 10 | 2,592,999,693 | -307 | -0.0000118 |
| 100 % | | 0 | 2,592,999,732 | -268 | -0.0000103 |
| 100 % | | + 10 | 2,592,999,946 | -54 | -0.0000021 |
| 100 % | | + 20 | 2,592,999,953 | -47 | -0.0000018 |
| 100 % | | + 30 | 2,592,999,622 | -378 | -0.0000146 |
| 100 % | | + 40 | 2,592,999,870 | -130 | -0.0000050 |
| 100 % | | + 50 | 2,593,000,326 | 326 | 0.0000126 |
| BATT. ENDPOINT | 3.63 | + 20 | 2,592,999,876 | -124 | -0.0000048 |

Table 7-66. 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: A3LSMA716U | PCTEST Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
|---------------------|---|---------------------------------------|---------|---------------------------------|
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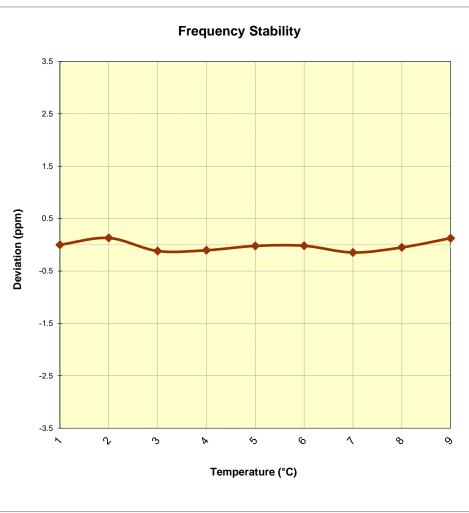


Figure 7-16. Frequency Stability Graph (Band 41)

| FCC ID: A3LSMA716U | PCTEST Proud to be part of @ element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager |
|---------------------|---|---------------------------------------|---------|---------------------------------|
| Test Report S/N: | Test Dates: | EUT Type: | | Page 419 of 420 |
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8.0 CONCLUSION

The data collected relate only to the item(s) tested and show that the **Samsung Portable Handset FCC ID: A3LSMA716U** complies with all the requirements of Part 22, 24, & 27 of the FCC Rules for LTE and Sub 6GHz NR operation only.

| FCC ID: A3LSMA716U | Proud to be part of element | MEASUREMENT REPORT (CERTIFICATION) | SAMSUNG | Approved by: Quality Manager | | |
|--------------------------------|-----------------------------|---------------------------------------|---------|---------------------------------|--|--|
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