



Report No.: TCT180723E040 RL RF S0 ହ 🔥 DC Center Freq 79.500 kHz Avg Type: RMS Avg|Hold: 9/100 Auto Tun Ref Offset 7 dB Ref 7.00 dBm Center Fred 79.500 kHz Start Free Stop Fre Freq Offse Start 9.00 kHz #Res BW 1.0 kHz #VBW 3.0 kHz* enter Freq 15.075000 MHz Avg Type: RMS Avg|Hold: 8/100 Frequency 0: Fast --- Trig: Free Run Ref Offset 7 dB Ref 7.00 dBm Aglient Spectrum Annual Science Action Report Specific Action Report Avg Type: RMS Avg|Hold: 6/100 Ref Offset 7 dB Ref 30.00 dBm Center Fred 13.015000000 GH Stop Free

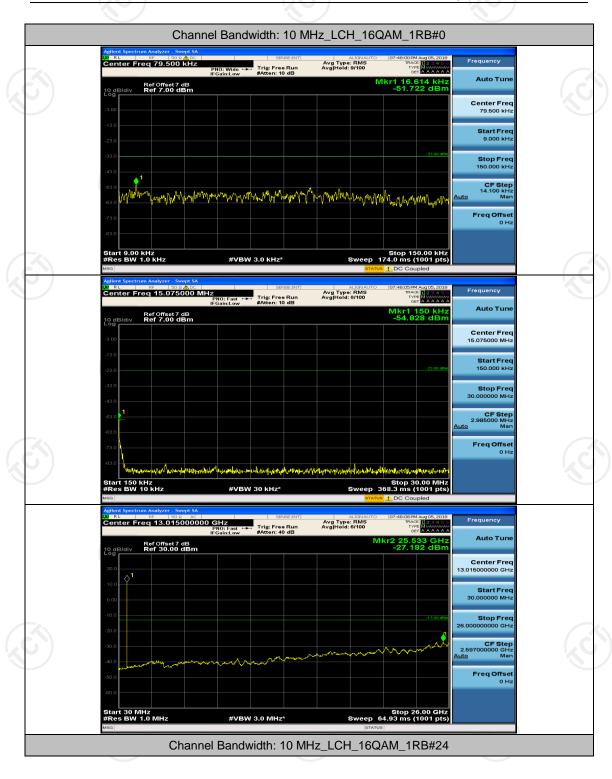
Channel Bandwidth: 10 MHz_HCH_QPSK_1RB#49



Report No.: TCT180723E040 RL RF SOΩ A DC Center Freq 79.500 kHz Avg Type: RMS Avg|Hold: 9/100 Ref Offset 7 dB Ref 7.00 dBm Center Fred 79.500 kHz Start Free Stop Fre Freq Offset Start 9.00 kHz #Res BW 1.0 kHz Stop 150.00 kHz Sweep 174.0 ms (1001 pts #VBW 3.0 kHz* enter Freq 15.075000 MHz Avg Type: RMS Avg|Hold: 8/100 Frequency 0: Fast --- Trig: Free Run Ref Offset 7 dB Ref 7.00 dBm Start Fre 150.000 kH Avg Type: RMS Avg|Hold: 6/100 r2 25.013 GH: -27.049 dBn Ref Offset 7 dB Ref 30.00 dBm Center Fred 13.015000000 GH Stop Free

Stop 26.00 GHz Sweep 64.93 ms (1001 pts)



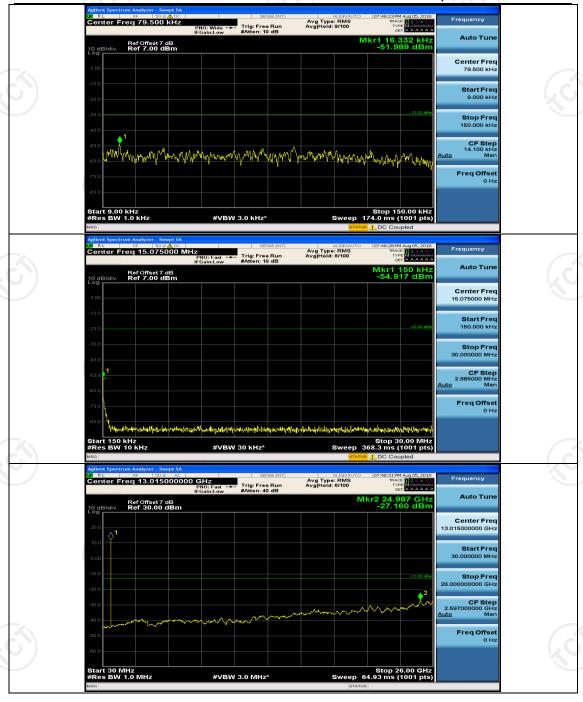




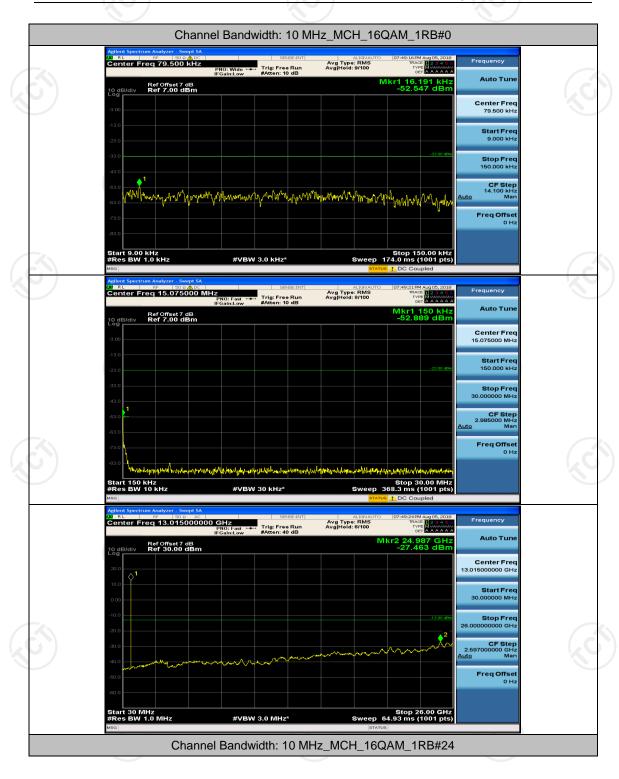
Report No.: TCT180723E040 RL RF S0 ହ 🔥 DC Center Freq 79.500 kHz Avg Type: RMS Avg|Hold: 9/100 Auto Tun Ref Offset 7 dB Ref 7.00 dBm Center Fred 79.500 kHz Start Free Stop Fre Freq Offse Start 9.00 kHz #Res BW 1.0 kHz Stop 150.00 kHz Sweep 174.0 ms (1001 pts #VBW 3.0 kHz* enter Freq 15.075000 MHz Avg Type: RMS Avg|Hold: 8/100 Frequency 0: Fast --- Trig: Free Run Ref Offset 7 dB Ref 7.00 dBm Start Fre 150.000 kH Aglient Spectrum Annual Science Action Report Specific Action Report Avg Type: RMS Avg|Hold: 6/100 Ref Offset 7 dB Ref 30.00 dBm Center Fred 13.015000000 GH Stop Free

Channel Bandwidth: 10 MHz_LCH_16QAM_1RB#49









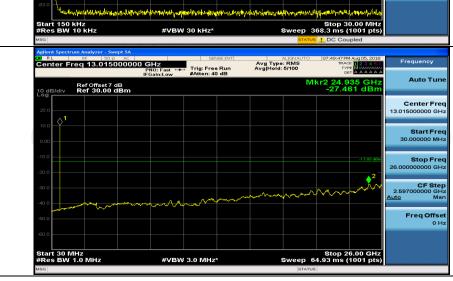


Report No.: TCT180723E040 RL RF S0 ହ 🔥 DC Center Freq 79.500 kHz Avg Type: RMS Avg|Hold: 9/100 Auto Tun Ref Offset 7 dB Ref 7.00 dBm Center Fred 79.500 kHz Start Free Stop Fre Freq Offse Start 9.00 kHz #Res BW 1.0 kHz #VBW 3.0 kHz* enter Freq 15.075000 MHz Avg Type: RMS Avg|Hold: 8/100 Frequency 0: Fast --- Trig: Free Run Ref Offset 7 dB Ref 7.00 dBm Start Fre 150.000 kH Aglient Spectrum Annual Science Action Report Specific Action Report Avg Type: RMS Avg|Hold: 6/100 Ref Offset 7 dB Ref 30.00 dBm Center Fred 13.015000000 GH Stop Free

Channel Bandwidth: 10 MHz_MCH_16QAM_1RB#49

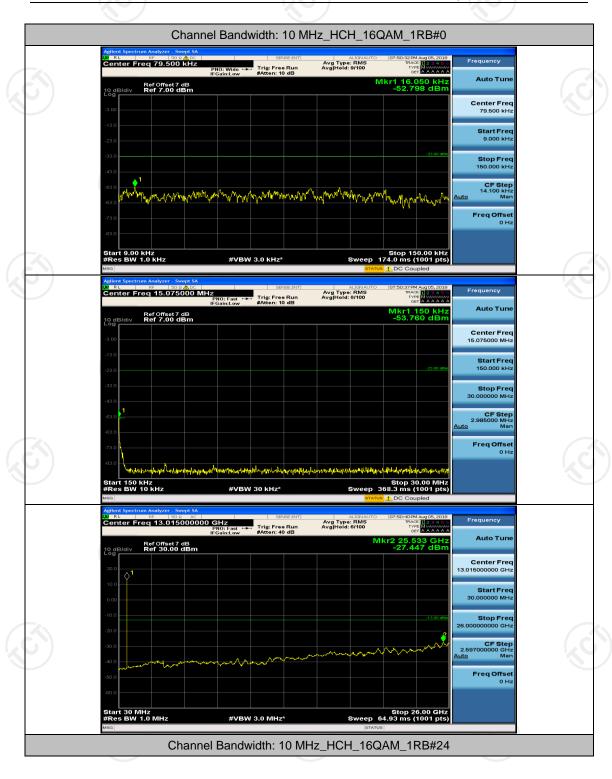


Report No.: TCT180723E040 RL RF SOΩ A DC Center Freq 79.500 kHz Avg Type: RMS Avg|Hold: 9/100 Ref Offset 7 dB Ref 7.00 dBm Center Fred 79.500 kHz Start Free Stop Fre Freq Offse Start 9.00 kHz #Res BW 1.0 kHz #VBW 3.0 kHz* RL RF SO Ω ALDC enter Freq 15.075000 MHz Avg Type: RMS Avg|Hold: 8/100 Frequency 0: Fast --- Trig: Free Run Ref Offset 7 dB Ref 7.00 dBm Start Fre 150.000 kH

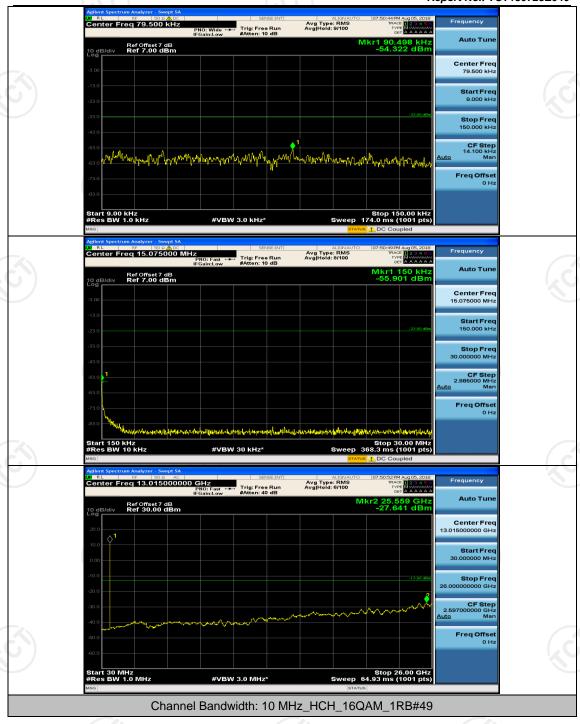


Page 121 of 128

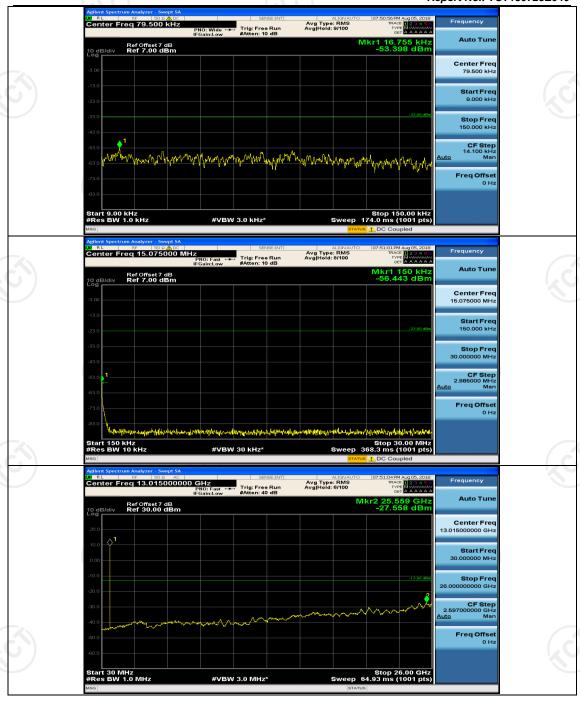
















Appendix F: Frequency Stability

Test Result

Channel Bandwidth: 5 MHz

| | | | Channel B | andwidth: 5 I | MHz | | |
|------------|-------------|------------------|---------------------|---------------|--------------------|----------------|---------|
| | (C) | | () | Voltage | | (2G) | |
| Modulation | Channel | Voltage [Vdc] | Temperature (°C) | | Deviation (ppm) | Limit (ppm) | Verdict |
| | | 3.5 | 25 | | -0.000585 | ± 2.5 | PASS |
| | LCH | 3.7 | 25 | | -0.001701 | ± 2.5 | PASS |
| | | 4.2 | 25 | | -0.000710 | ± 2.5 | PASS |
| | | 3.5 | 25 | | 0.001128 | ± 2.5 | PASS |
| QPSK | MCH | 3.7 | 25 | | 0.000665 | ± 2.5 | PASS |
| | | 4.2 | 25 | | 0.000773 | ± 2.5 | PASS |
| | | 3.5 | 25 | | -0.001791 | ± 2.5 | PASS |
| | HCH | 3.7 | 25 | 2(C) | 0.000541 | ± 2.5 | PASS |
| | | 4.2 | 25 | | 0.000259 | ± 2.5 | PASS |
| | | 3.5 | 25 | | 0.000464 | ± 2.5 | PASS |
| | LCH | 3.7 | 25 | | -0.001357 | ± 2.5 | PASS |
| | | 4.2 | 25 | | -0.001183 | ± 2.5 | PASS |
| | | 3.5 | 25 | | 0.002519 | ± 2.5 | PASS |
| 16QAM | MCH | 3.7 | 25 | | 0.000826 | ± 2.5 | PASS |
| | | 4.2 | 25 | | 0.001433 | ± 2.5 | PASS |
| | | 3.5 | 25 | | 0.000181 | ± 2.5 | PASS |
| | HCH | 3.7 | 25 | | -0.000321 | ± 2.5 | PASS |
| | | 4.2 | 25 | | -0.000267 | ± 2.5 | PASS |
| | | • | Ter | nperature | | | |
| Modulation | Channe I | Voltage [Vdc] | Temperature (°C) |) | Deviation (ppm) | Limit (ppm) | Verdict |
| X | | 3.7 | -30 | | 0.000121 | ± 2.5 | PASS |
| | | 3.7 | -20 | | -0.000484 | ± 2.5 | PASS |
| | | 3.7 | -10 | | -0.000161 | ± 2.5 | PASS |
| | | 3.7 | 0 | | -0.000202 | ± 2.5 | PASS |
| | LCH | 3.7 | 10 | | -0.000295 | ± 2.5 | PASS |
| | | 3.7 | 20 | | -0.001721 | ± 2.5 | PASS |
| | (.c) | 3.7 | 30 | | -0.001559 | ± 2.5 | PASS |
| 0.0014 | | 3.7 | 40 | | -0.001154 | ± 2.5 | PASS |
| QPSK | | 3.7 | 50 | | -0.000668 | ± 2.5 | PASS |
| | | 3.7 | -30 | | 0.001330 | ± 2.5 | PASS |
| | | 3.7 | -20 | | 0.002458 | ± 2.5 | PASS |
| | | 3.7 | -10 | | 0.000322 | ± 2.5 | PASS |
| | MCH | 3.7 | 0 | | 0.000020 | ± 2.5 | PASS |
| | | 3.7 | 10 | | 0.000059 | ± 2.5 | PASS |
| | | 3.7 | 20 | | 0.000826 | ± 2.5 | PASS |
| | 1 | | | | | | |

Page 125 of 128

Hotline: 400-6611-140 Tel: 86-755-27673339 Fax: 86-755-27673332 http://www.tct-lab.com



| | | | | 710 | JUIL NO TOT 18 | 0.2020.0 |
|-------|-----|-----|-----|-----------|----------------|----------|
| | | 3.7 | 40 | -0.000363 | ± 2.5 | PASS |
| | | 3.7 | 50 | 0.001431 | ± 2.5 | PASS |
| | | 3.7 | -30 | -0.000825 | ± 2.5 | PASS |
| | | 3.7 | -20 | -0.000463 | ± 2.5 | PASS |
| | | 3.7 | -10 | -0.001006 | ± 2.5 | PASS |
| | | 3.7 | 0 | -0.000805 | ± 2.5 | PASS |
| | HCH | 3.7 | 10 | -0.000114 | ± 2.5 | PASS |
| | | 3.7 | 20 | -0.000662 | ± 2.5 | PASS |
| | | 3.7 | 30 | -0.001123 | ± 2.5 | PASS |
| | | 3.7 | 40 | -0.000441 | ± 2.5 | PASS |
| | | 3.7 | 50 | 0.000080 | ± 2.5 | PASS |
| | | 3.7 | -30 | 0.000767 | ± 2.5 | PASS |
| | | 3.7 | -20 | 0.001009 | ± 2.5 | PASS |
| | | 3.7 | -10 | -0.000161 | ± 2.5 | PASS |
| | | 3.7 | 0 | -0.000726 | ± 2.5 | PASS |
| | LCH | 3.7 | 10 | -0.000879 | ± 2.5 | PASS |
| | | 3.7 | 20 | -0.000992 | ± 2.5 | PASS |
| | | 3.7 | 30 | -0.001397 | ± 2.5 | PASS |
| | | 3.7 | 40 | -0.001053 | ± 2.5 | PASS |
| | | 3.7 | 50 | -0.000486 | ± 2.5 | PASS |
| | | 3.7 | -30 | 0.000927 | ± 2.5 | PASS |
| | | 3.7 | -20 | 0.001350 | ± 2.5 | PASS |
| | | 3.7 | -10 | 0.000705 | ± 2.5 | PASS |
| | | 3.7 | 0 | 0.001209 | ± 2.5 | PASS |
| 16QAM | MCH | 3.7 | 10 | 0.000377 | ± 2.5 | PASS |
| | | 3.7 | 20 | 0.000423 | ± 2.5 | PASS |
| | | 3.7 | 30 | 0.000242 | ± 2.5 | PASS |
| | | 3.7 | 40 | -0.000322 | ± 2.5 | PASS |
| | | 3.7 | 50 | 0.002015 | ± 2.5 | PASS |
| | | 3.7 | -30 | 0.000121 | ± 2.5 | PASS |
| | | 3.7 | -20 | 0.000523 | ± 2.5 | PASS |
| | | 3.7 | -10 | -0.000905 | ± 2.5 | PASS |
| | | 3.7 | 0 | -0.000060 | ± 2.5 | PASS |
| | HCH | 3.7 | 10 | -0.000947 | ± 2.5 | PASS |
| | | 3.7 | 20 | 0.001223 | ± 2.5 | PASS |
| | | 3.7 | 30 | -0.000140 | ± 2.5 | PASS |
| | | 3.7 | 40 | 0.000180 | ± 2.5 | PASS |
| | | 3.7 | 50 | 0.000040 | ± 2.5 | PASS |

Note: All bandwidth and modulation are tested, only the worst result is reported.

Page 126 of 128

Hotline: 400-6611-140 Tel: 86-755-27673339 Fax: 86-755-27673332 http://www.tct-lab.com



Appendix G :Field Strength of Spurious Radiation Measurement Test Result

| Bandwidth: | 5M | | Test channel: | Lowest | |
|-------------------|----------------------------|------------------|------------------------|------------------|--|
| Modulation: | QPSI | | Temperature : | 23~24°C | |
| RB #: | 1RB #0 | | Relative Humidity: | 46~48% | |
| Note: | | | z were found more than | | |
| Frequency (MHz) | Spurious Er | nission | Limit (dBm) | Result | |
| Trequency (WIT12) | Polarization | Level (dBm) | Lillilt (dbill) | | |
| 1413.0 | Vertical | -35.65 | | | |
| 2119.5 | V | -45.71 | | | |
| (,C))- | v(, G) | - | 12.00 | DACE (C) | |
| 1413.0 | Horizontal | -34.43 | -13.00 | PASS | |
| 2119.5 | Н | -46.83 | | | |
| - | Н | - | | | |
| Bandwidth: | 5M | | Test channel: | Middle | |
| Modulation: | QPSI | (| Temperature : | 23~24°C | |
| RB #: | 1RB # | 10 | Relative Humidity: | 46~48% | |
| Note: | Spurious emissions w line. | ithin 30-1000MH: | z were found more than | 20dB below limit | |
| Frequency (MHz) | Spurious Er | mission | Limit (dBm) | Result | |
| Trequency (Wiriz) | Polarization | Level (dBm) | Lillit (dbill) | | |
| 1420.0 | Vertical | -35.57 | | | |
| 2130.0 | V | -43.26 | | | |
| - (20 | V | (ZE)) | -13.00 | PASS | |
| 1420.0 | Horizontal | -34.52 | -13.00 | PASS | |
| 2130.0 | Н | -45.04 | | | |
| | Н | - | | | |
| Bandwidth: | 5M | | Test channel: | Highest | |
| Modulation: | QPSI | (| Temperature : | 23~24°C | |
| RB #: | 1RB # | 10 | Relative Humidity: | 46~48% | |
| Note: | Spurious emissions w | ithin 30-1000MH | z were found more than | 20dB below limit | |
| _ | Spurious Er | mission | | | |
| Frequency (MHz) | Polarization | Level (dBm) | Limit (dBm) | Result | |
| 1427.0 | Vertical | -33.17 | | | |
| 2140.5 | V | -45.92 | | | |
| (¿Ġ`)- | V C | - | | (C) | |
| 1427.0 | Horizontal | -32.53 | -13.00 | PASS | |
| 2140.5 | Н | -45.28 | | | |
| - | - Н | <u>-</u> | | | |
| | | | | Page 127 of 128 | |

Page 127 of 128

Hotline: 400-6611-140 Tel: 86-755-27673339 Fax: 86-755-27673332 http://www.tct-lab.com



| Bandwidth: | 5M | | Test channel: | Lowest | |
|---|--|---|---|--|--|
| Modulation: | 16QA | M | Temperature : | 23~24°C | |
| RB #: | 1RB # | 10 | Relative Humidity: | 46~48% | |
| Note: | Spurious emissions w line. | ithin 30-1000MH | z were found more than | 20dB below limit | |
| Frequency (MHz) | Spurious Er | mission | Limit (dDm) | Dogult | |
| | Polarization | Level (dBm) | Limit (dBm) | Result | |
| 1413.0 | Vertical | -35.80 | (20 | *) | |
| 2119.5 | V | -45.34 | | | |
| - | V | - | 12.00 | DACC | |
| 1413.0 | Horizontal | -34.38 | -13.00 | PASS | |
| 2119.5 | H | -46.14 | | | |
| <u> </u> | Н | - | | | |
| Bandwidth: | 5M | | Test channel: | Middle | |
| Modulation: | 16QA | 16QAM | | 23~24°C | |
| RB #: | 1RB # | 10 | Relative Humidity: | 46~48% | |
| Note: | line. | | z were found more than | | |
| Frequency (MHz) | Spurious Emission Polarization Level (dBm) | | Limit (dBm) | Result | |
| 1420.0 | | Level (dRm) | ` ′ ′ | | |
| 1420.0 | / / / | Level (dBm) | (.0) | (,C)*) | |
| 1420.0 2130.0 | Vertical | -33.50 | | (0) | |
| 1420.0 2130.0 | Vertical V | | | (0) | |
| 2130.0 | Vertical V V | -33.50 -42.02 - | -13.00 | PASS | |
| 2130.0 - 1420.0 | Vertical V V Horizontal | -33.50 -42.02 - -35.48 | | PASS | |
| 2130.0 | Vertical V V Horizontal | -33.50 -42.02 - | | PASS | |
| 2130.0 - 1420.0 2130.0 | Vertical V V Horizontal H H | -33.50 -42.02 - -35.48 -46.59 | -13.00 | | |
| 2130.0 - 1420.0 2130.0 - Bandwidth: | Vertical V V Horizontal H H | -33.50 -42.02 - -35.48 -46.59 | -13.00 Test channel: | Highest | |
| 2130.0 - 1420.0 2130.0 - Bandwidth: Modulation: | Vertical V V Horizontal H H H 16QA | -33.50 -42.02 - -35.48 -46.59 | -13.00 Test channel: Temperature: | Highest 23~24°C | |
| 2130.0 - 1420.0 2130.0 - Bandwidth: | Vertical V V Horizontal H H SM 16QA | -33.50 -42.02 - -35.48 -46.59 | -13.00 Test channel: | Highest 23~24°C 46~48% | |
| 2130.0 - 1420.0 2130.0 - Bandwidth: Modulation: RB #: | Vertical V V Horizontal H H SM 16QA 1RB # Spurious emissions w line. | -33.50 -42.02 - -35.48 -46.59 - M | -13.00 Test channel: Temperature: Relative Humidity: z were found more than | Highest 23~24°C 46~48% 20dB below limit | |
| 2130.0 - 1420.0 2130.0 - Bandwidth: Modulation: RB #: | Vertical V V Horizontal H H SM 16QA 1RB# Spurious emissions w | -33.50 -42.02 - -35.48 -46.59 - M eo ithin 30-1000MH | Test channel: Temperature: Relative Humidity: | Highest 23~24°C 46~48% | |
| 2130.0 - 1420.0 2130.0 - Bandwidth: Modulation: RB #: | Vertical V V Horizontal H H SM 16QA 1RB# Spurious emissions w line. Spurious Er | -33.50 -42.02 - -35.48 -46.59 - M | -13.00 Test channel: Temperature: Relative Humidity: z were found more than | Highest 23~24°C 46~48% 20dB below limit | |
| 2130.0 1420.0 2130.0 Bandwidth: Modulation: RB #: Note: Frequency (MHz) | Vertical V V Horizontal H H S5M 16QA 1RB # Spurious emissions w line. Spurious Er Polarization | -33.50 -42.02 - -35.48 -46.59 - M 80 within 30-1000MH mission Level (dBm) | -13.00 Test channel: Temperature: Relative Humidity: z were found more than | Highest 23~24°C 46~48% 20dB below limit | |
| 2130.0 - 1420.0 2130.0 - Bandwidth: Modulation: RB #: Note: Frequency (MHz) 1427.0 | Vertical V V Horizontal H H SM 16QA 1RB # Spurious emissions w line. Spurious Er Polarization Vertical | -33.50 -42.02 - -35.48 -46.59 - M e0 ithin 30-1000MH mission Level (dBm) -34.29 | -13.00 Test channel: Temperature: Relative Humidity: z were found more than Limit (dBm) | Highest 23~24°C 46~48% 20dB below limit Result | |
| 2130.0 - 1420.0 2130.0 - Bandwidth: Modulation: RB #: Note: Frequency (MHz) 1427.0 2140.5 - | Vertical V V Horizontal H H SM 16QA 1RB # Spurious emissions w line. Spurious Er Polarization Vertical V V | -33.50 -42.02 - -35.48 -46.59 - M 60 within 30-1000MH mission Level (dBm) -34.29 -46.68 | -13.00 Test channel: Temperature: Relative Humidity: z were found more than | Highest 23~24°C 46~48% 20dB below limit | |
| 2130.0 - 1420.0 2130.0 Bandwidth: Modulation: RB #: Note: Frequency (MHz) 1427.0 2140.5 | Vertical V V Horizontal H H S5M 16QA 1RB # Spurious emissions w line. Spurious Er Polarization Vertical V | -33.50 -42.02 - -35.48 -46.59 - M e0 within 30-1000MH mission Level (dBm) -34.29 -46.68 | -13.00 Test channel: Temperature: Relative Humidity: z were found more than Limit (dBm) | Highest 23~24°C 46~48% 20dB below limit Result | |

Note: All bandwidth and modulation are tested, only the worst result is reported.