

## Appendix A: Test Data for WCDMA Band 2

**Product Name: TD0301 LTE Wi-Fi Hotspot**

**Test Model: TD0301**

## A1. Effective (Isotropic) Radiated Power Output Data

### A1.1 Test Result

| Test Band: 2 |              |                       |       |       |              |       |           |       |       |             |         |
|--------------|--------------|-----------------------|-------|-------|--------------|-------|-----------|-------|-------|-------------|---------|
| Test Mode    |              | Conducted Power (dBm) |       |       | Antenna gain |       | EIRP(dBm) |       |       | Limit (dBm) | Verdict |
|              |              | LCH                   | MCH   | HCH   | (dBd)        | (dBi) | LCH       | MCH   | HCH   |             |         |
| HSUPA        | Subtest 1    | 19.51                 | 18.84 | 19.47 | /            | 1.00  | 20.51     | 19.84 | 20.47 | 33.01       | PASS    |
|              | Subtest 2    | 19.39                 | 18.83 | 19.27 | /            | 1.00  | 20.39     | 19.83 | 20.27 | 33.01       | PASS    |
|              | Subtest 3    | 19.16                 | 19.16 | 19.75 | /            | 1.00  | 20.16     | 20.16 | 20.75 | 33.01       | PASS    |
|              | Subtest 4    | 19.45                 | 19.35 | 19.23 | /            | 1.00  | 20.45     | 20.35 | 20.23 | 33.01       | PASS    |
|              | Subtest 5    | 19.45                 | 19.35 | 19.18 | /            | 1.00  | 20.45     | 20.35 | 20.18 | 33.01       | PASS    |
| HSDPA        | Subtest 1    | 18.56                 | 19.07 | 17.37 | /            | 1.00  | 19.56     | 20.07 | 18.37 | 33.01       | PASS    |
|              | Subtest 2    | 19.55                 | 19.64 | 18.96 | /            | 1.00  | 20.55     | 20.64 | 19.96 | 33.01       | PASS    |
|              | Subtest 3    | 19.33                 | 18.95 | 19.28 | /            | 1.00  | 20.33     | 19.95 | 20.28 | 33.01       | PASS    |
|              | Subtest 4    | 18.87                 | 19.25 | 19.24 | /            | 1.00  | 19.87     | 20.25 | 20.24 | 33.01       | PASS    |
| RMC          | 12.2kbps RMC | 21.57                 | 22.85 | 23.40 | /            | 1.00  | 22.57     | 23.85 | 24.40 | 33.01       | PASS    |

Note:

1) dBd = dBi - 2.15

2) EIRP = Conducted output power + Antenna gain (dBi)

## A2. Frequency stability

### A2.1 Test Result

| Test Band: 2 (Frequency Error VS. Voltage) |            |            |                  |         |         |                       |         |         |             |         |
|--------------------------------------------|------------|------------|------------------|---------|---------|-----------------------|---------|---------|-------------|---------|
| Test Mode                                  | Test Temp. | Test Volt. | Freq. Error (Hz) |         |         | Freq. vs. rated (ppm) |         |         | Limit (ppm) | Verdict |
|                                            |            |            | LCH              | MCH     | HCH     | LCH                   | MCH     | HCH     |             |         |
| HSUPA                                      | NT         | LV         | 8.6117           | -0.5651 | -8.5187 | 0.0046                | -0.0003 | -0.0045 | 2.50        | PASS    |
|                                            |            | NV         | 8.8048           | -0.3362 | -7.6461 | 0.0048                | -0.0002 | -0.0040 | 2.50        | PASS    |
|                                            |            | HV         | 9.9063           | -1.2302 | -7.6318 | 0.0053                | -0.0007 | -0.0040 | 2.50        | PASS    |
| HSDPA                                      | NT         | LV         | 9.1767           | -0.7582 | -8.2111 | 0.0050                | -0.0004 | -0.0043 | 2.50        | PASS    |
|                                            |            | NV         | 8.8477           | -0.4578 | -8.3113 | 0.0048                | -0.0002 | -0.0044 | 2.50        | PASS    |
|                                            |            | HV         | 9.6560           | 0.7868  | -8.5044 | 0.0052                | 0.0004  | -0.0045 | 2.50        | PASS    |
| RMC                                        | NT         | LV         | 6.6662           | -1.2660 | -9.9278 | 0.0036                | -0.0007 | -0.0052 | 2.50        | PASS    |
|                                            |            | NV         | 7.0095           | -1.3590 | -9.9206 | 0.0038                | -0.0007 | -0.0052 | 2.50        | PASS    |
|                                            |            | HV         | 6.5947           | -0.8082 | -9.5272 | 0.0036                | -0.0004 | -0.0050 | 2.50        | PASS    |

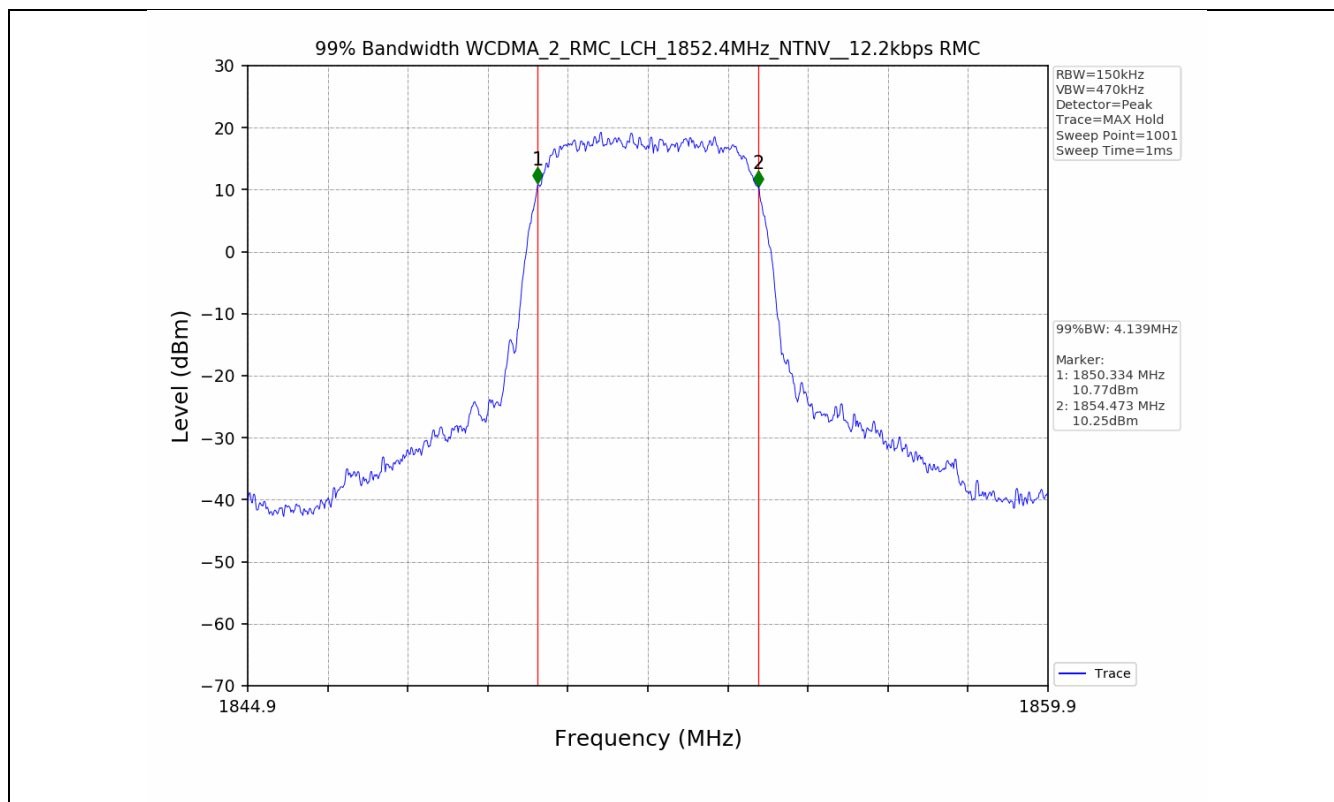
| Test Band: 2 (Frequency Error VS. Temperature) |            |            |                  |         |          |                       |         |         |             |         |
|------------------------------------------------|------------|------------|------------------|---------|----------|-----------------------|---------|---------|-------------|---------|
| Test Mode                                      | Test Volt. | Test Temp. | Freq. Error (Hz) |         |          | Freq. vs. rated (ppm) |         |         | Limit (ppm) | Verdict |
|                                                |            |            | LCH              | MCH     | HCH      | LCH                   | MCH     | HCH     |             |         |
| HSUPA                                          | NV         | -30.00     | 9.5201           | -0.1144 | -8.1038  | 0.0051                | -0.0001 | -0.0042 | 2.50        | PASS    |
|                                                |            | -20.00     | 9.7489           | -0.6294 | -8.5402  | 0.0053                | -0.0003 | -0.0045 | 2.50        | PASS    |
|                                                |            | -10.00     | 9.1052           | -0.4792 | -7.5531  | 0.0049                | -0.0003 | -0.0040 | 2.50        | PASS    |
|                                                |            | 0.00       | 9.7060           | -0.1287 | -7.3886  | 0.0052                | -0.0001 | -0.0039 | 2.50        | PASS    |
|                                                |            | 10.00      | 8.4829           | -0.6151 | -7.6818  | 0.0046                | -0.0003 | -0.0040 | 2.50        | PASS    |
|                                                |            | 20.00      | 9.8062           | -0.6008 | -8.4615  | 0.0053                | -0.0003 | -0.0044 | 2.50        | PASS    |
|                                                |            | 30.00      | 8.9979           | 0.1073  | -7.8106  | 0.0049                | 0.0001  | -0.0041 | 2.50        | PASS    |
|                                                |            | 40.00      | 8.8978           | -1.4305 | -8.2326  | 0.0048                | -0.0008 | -0.0043 | 2.50        | PASS    |
|                                                |            | 50.00      | 8.6832           | -0.3362 | -8.3113  | 0.0047                | -0.0002 | -0.0044 | 2.50        | PASS    |
| HSDPA                                          | NV         | -30.00     | 9.2769           | -0.3433 | -7.1383  | 0.0050                | -0.0002 | -0.0037 | 2.50        | PASS    |
|                                                |            | -20.00     | 10.0923          | 0.0501  | -7.8106  | 0.0054                | 0.0000  | -0.0041 | 2.50        | PASS    |
|                                                |            | -10.00     | 8.6331           | -0.3362 | -6.8736  | 0.0047                | -0.0002 | -0.0036 | 2.50        | PASS    |
|                                                |            | 0.00       | 9.3698           | -0.0858 | -7.8607  | 0.0051                | 0.0000  | -0.0041 | 2.50        | PASS    |
|                                                |            | 10.00      | 9.5630           | -0.5436 | -7.3385  | 0.0052                | -0.0003 | -0.0038 | 2.50        | PASS    |
|                                                |            | 20.00      | 9.5487           | -0.7010 | -7.1740  | 0.0052                | -0.0004 | -0.0038 | 2.50        | PASS    |
|                                                |            | 30.00      | 9.6846           | -0.5364 | -7.7891  | 0.0052                | -0.0003 | -0.0041 | 2.50        | PASS    |
|                                                |            | 40.00      | 9.5558           | -0.7868 | -8.4829  | 0.0052                | -0.0004 | -0.0044 | 2.50        | PASS    |
|                                                |            | 50.00      | 9.6488           | -1.1802 | -7.3886  | 0.0052                | -0.0006 | -0.0039 | 2.50        | PASS    |
| RMC                                            | NV         | -30.00     | 6.8951           | -1.4663 | -9.6202  | 0.0037                | -0.0008 | -0.0050 | 2.50        | PASS    |
|                                                |            | -20.00     | 6.6733           | -1.4591 | -10.1852 | 0.0036                | -0.0008 | -0.0053 | 2.50        | PASS    |
|                                                |            | -10.00     | 6.5875           | -1.3232 | -9.9349  | 0.0036                | -0.0007 | -0.0052 | 2.50        | PASS    |
|                                                |            | 0.00       | 6.1297           | -1.2374 | -10.4427 | 0.0033                | -0.0007 | -0.0055 | 2.50        | PASS    |
|                                                |            | 10.00      | 6.2156           | -1.2016 | -9.9278  | 0.0034                | -0.0006 | -0.0052 | 2.50        | PASS    |
|                                                |            | 20.00      | 6.3443           | -1.3304 | -10.6144 | 0.0034                | -0.0007 | -0.0056 | 2.50        | PASS    |
|                                                |            | 30.00      | 6.7449           | -1.8311 | -10.3068 | 0.0036                | -0.0010 | -0.0054 | 2.50        | PASS    |
|                                                |            | 40.00      | 6.9165           | -1.8597 | -10.1996 | 0.0037                | -0.0010 | -0.0053 | 2.50        | PASS    |
|                                                |            | 50.00      | 6.3300           | -2.4033 | -9.7060  | 0.0034                | -0.0013 | -0.0051 | 2.50        | PASS    |

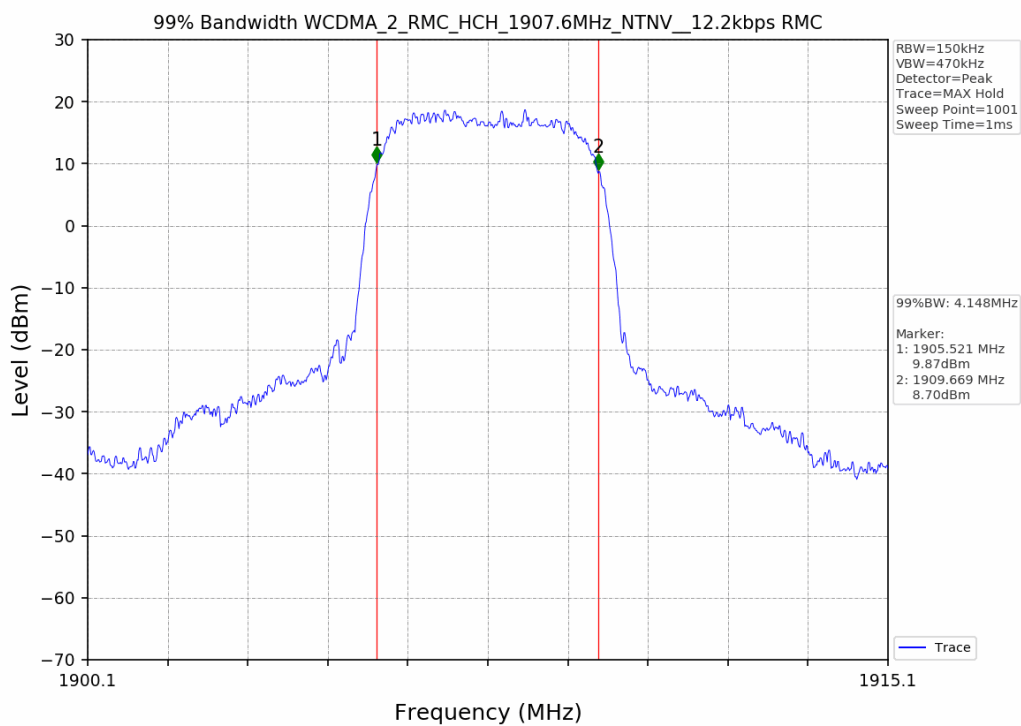
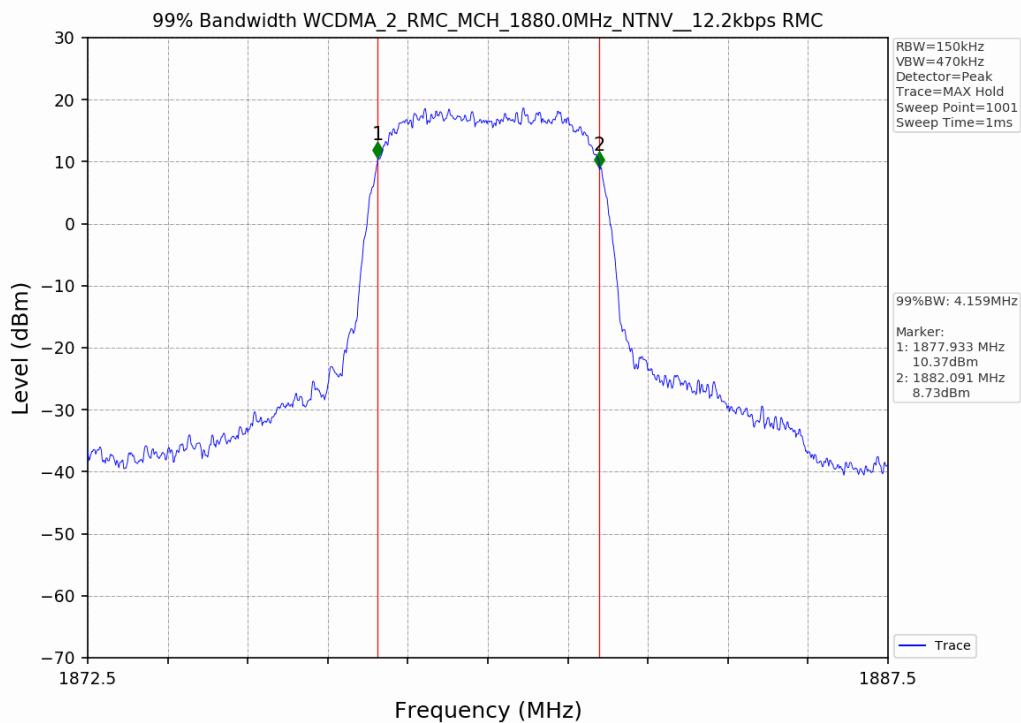
## A3. 99% & 26dB Bandwidth

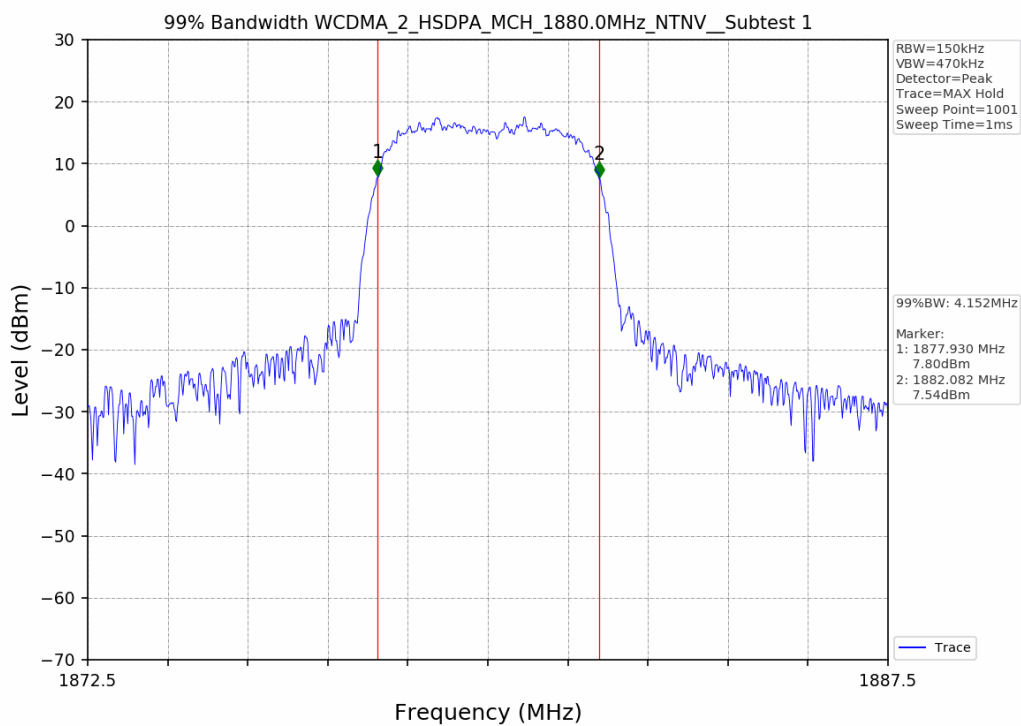
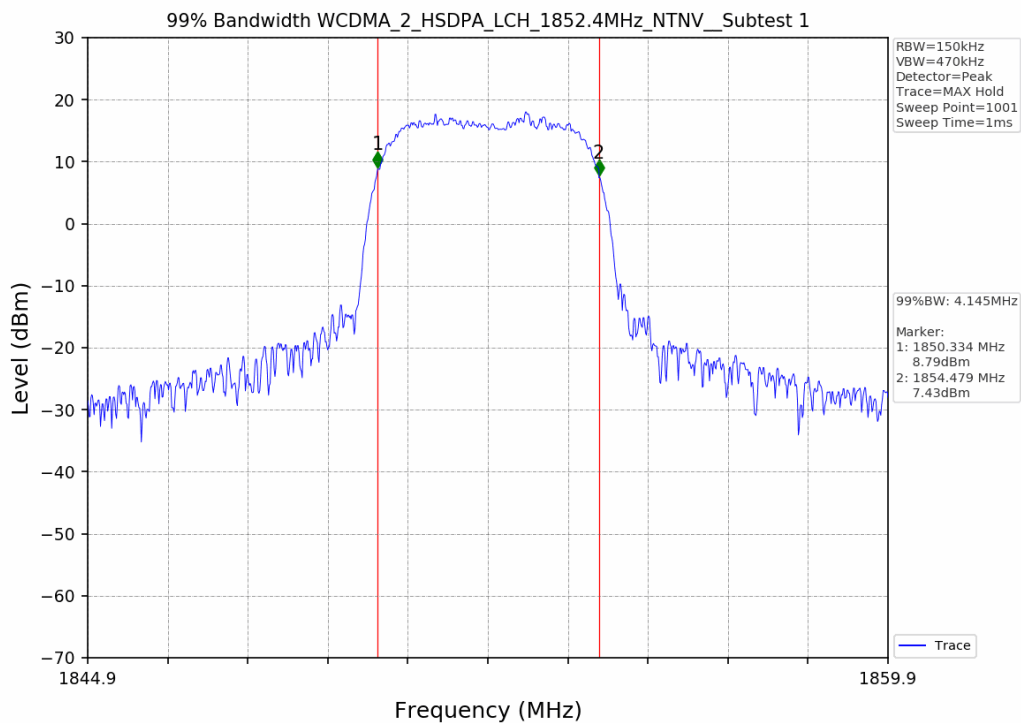
### A3.1 Test Result

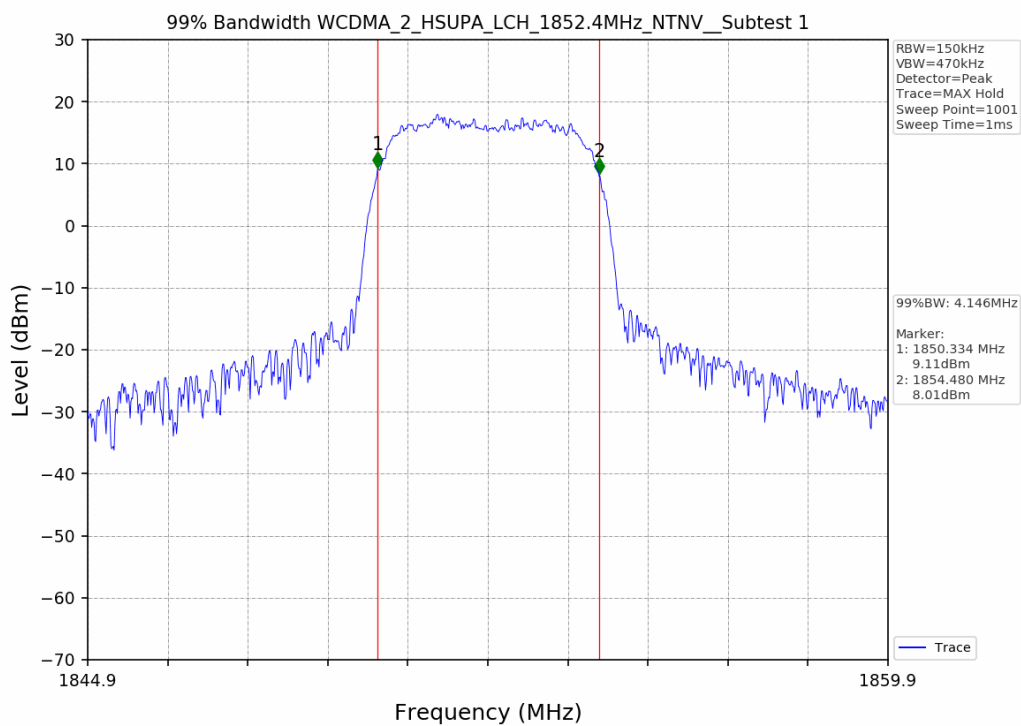
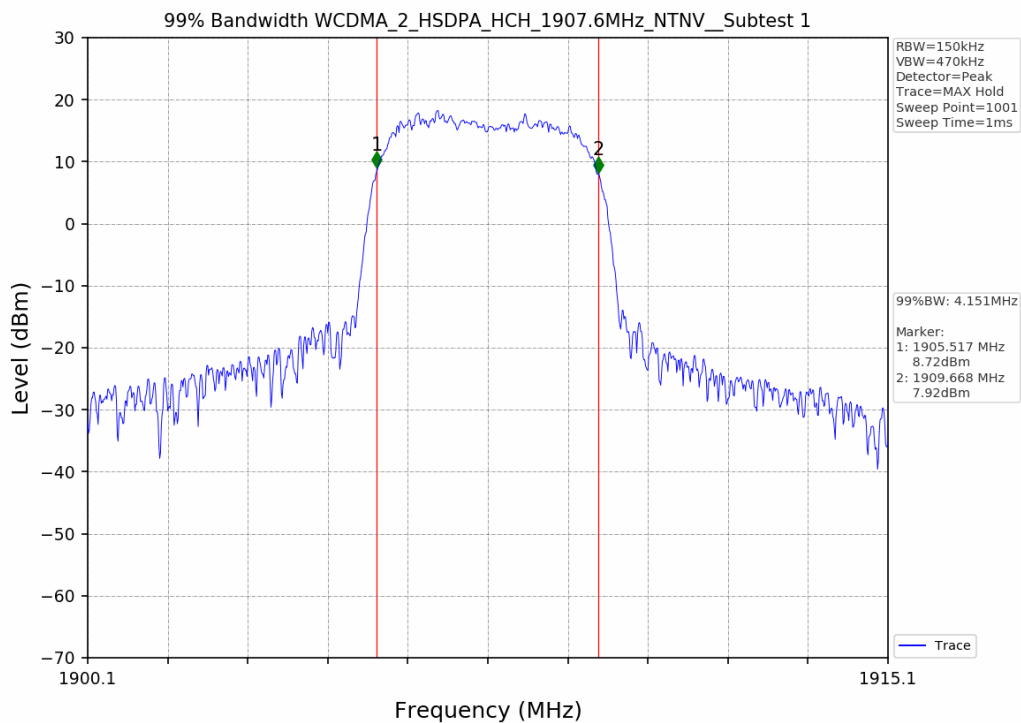
| Test Band: 2 |                              |       |       |       |         |
|--------------|------------------------------|-------|-------|-------|---------|
| Test Mode    | 99% Occupied Bandwidth (MHz) |       |       | Limit | Verdict |
|              | LCH                          | MCH   | HCH   |       |         |
| HSUPA        | 4.146                        | 4.147 | 4.140 | N/A   | PASS    |
| HSDPA        | 4.145                        | 4.152 | 4.151 | N/A   | PASS    |
| RMC          | 4.139                        | 4.159 | 4.148 | N/A   | PASS    |

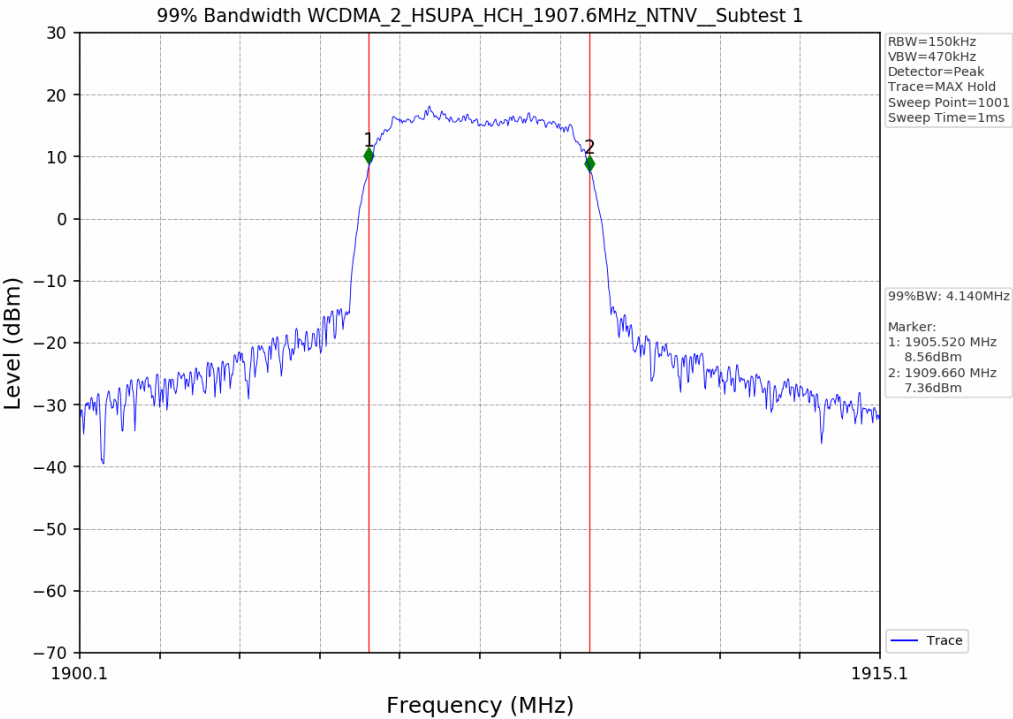
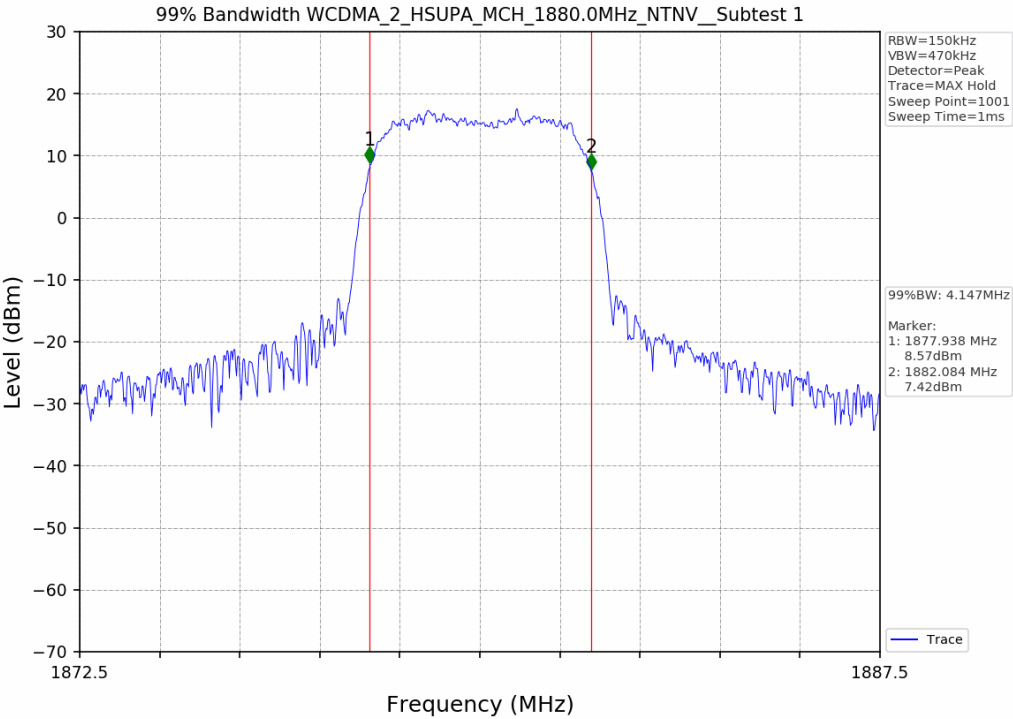
### A3.2 Test Graph





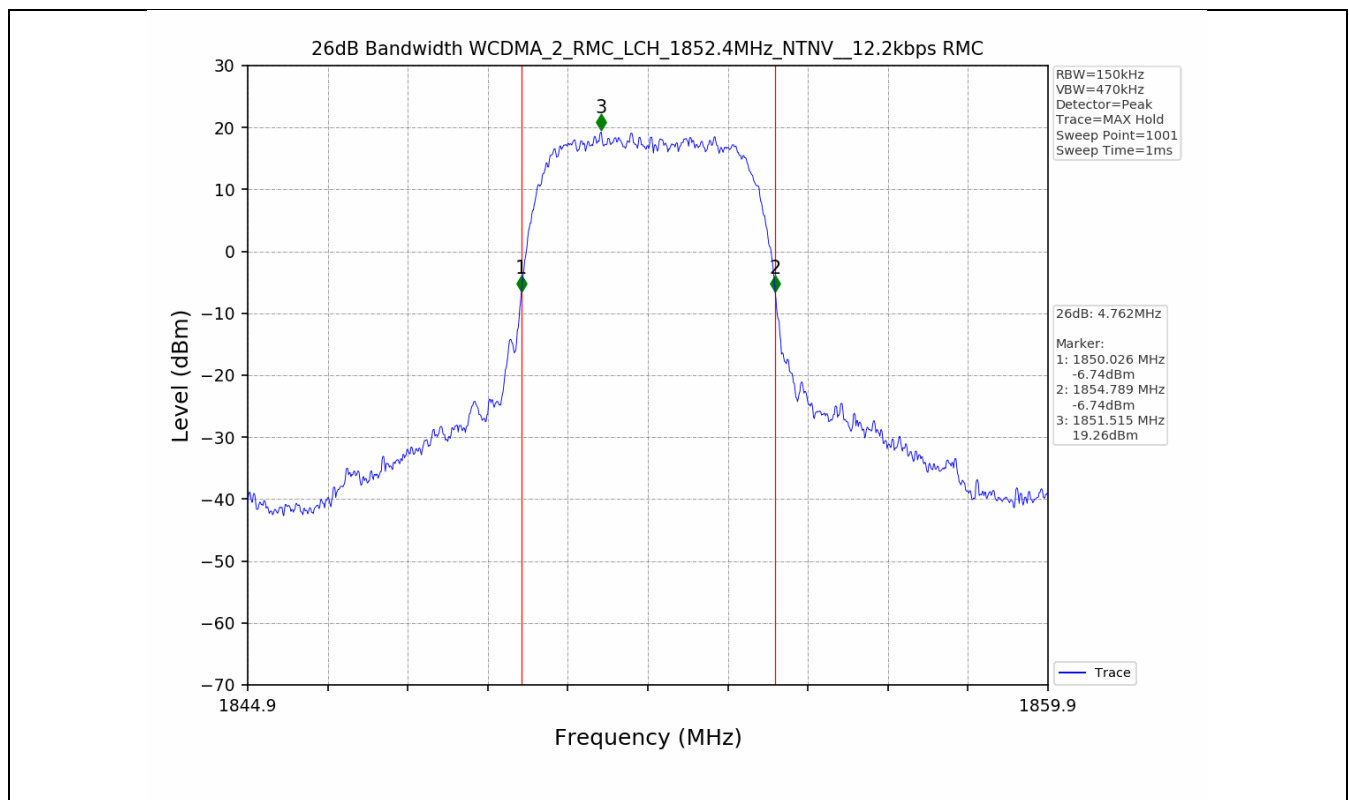


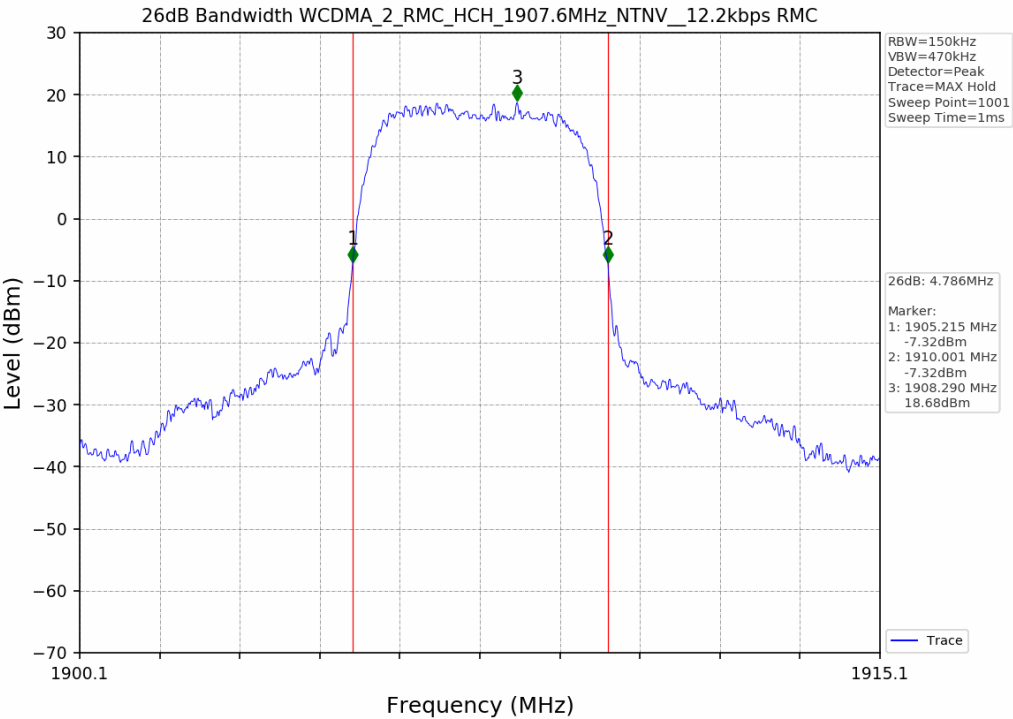
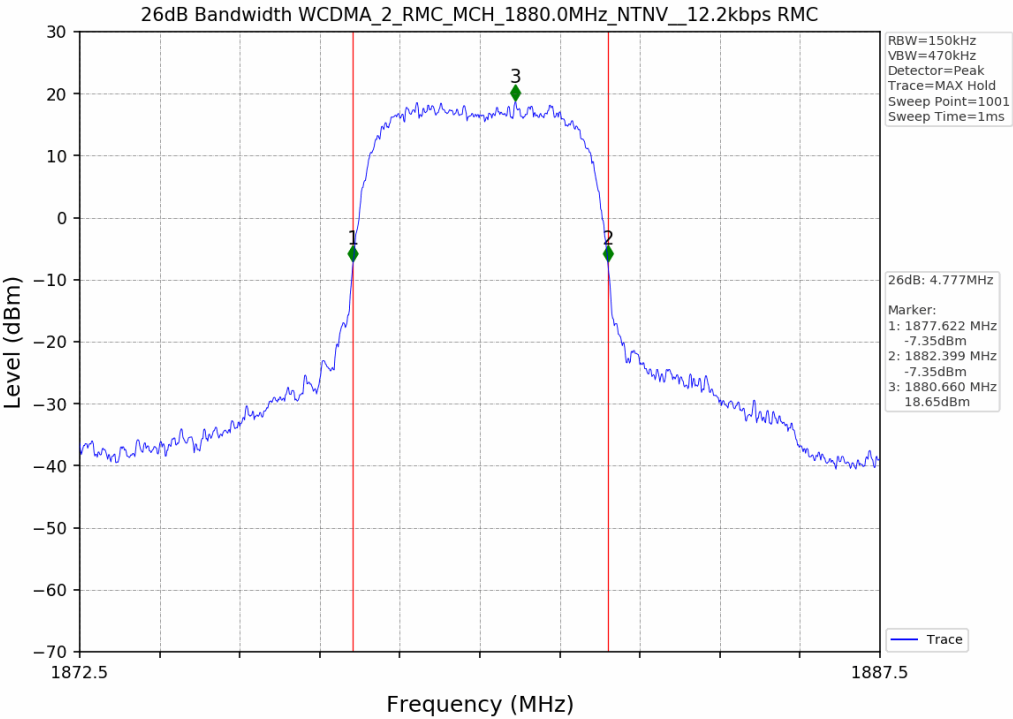


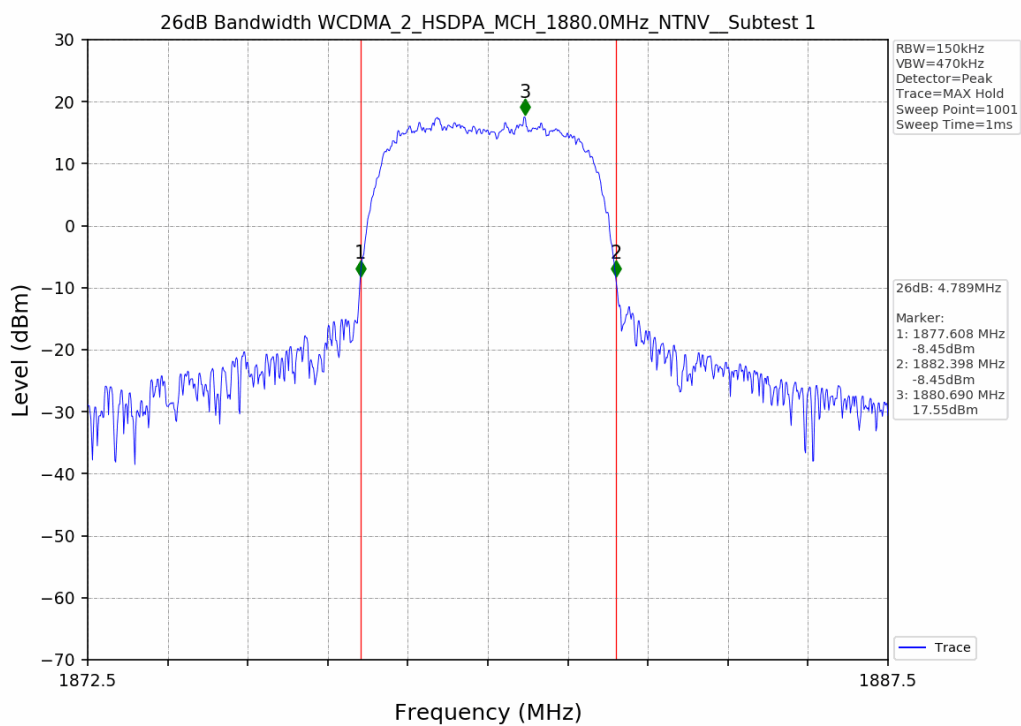
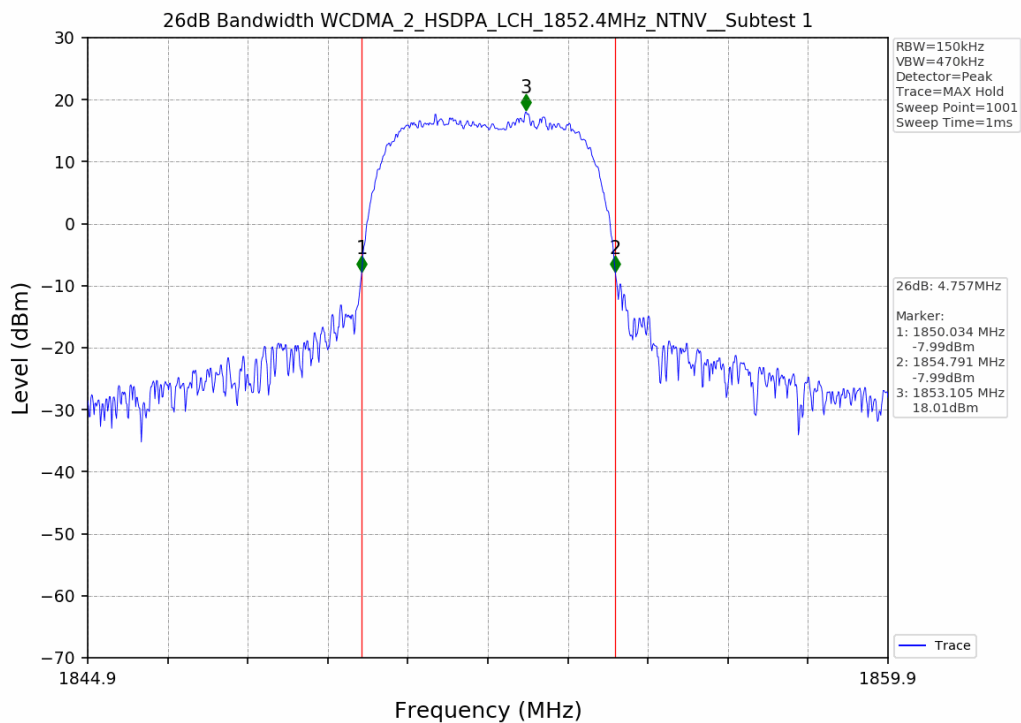


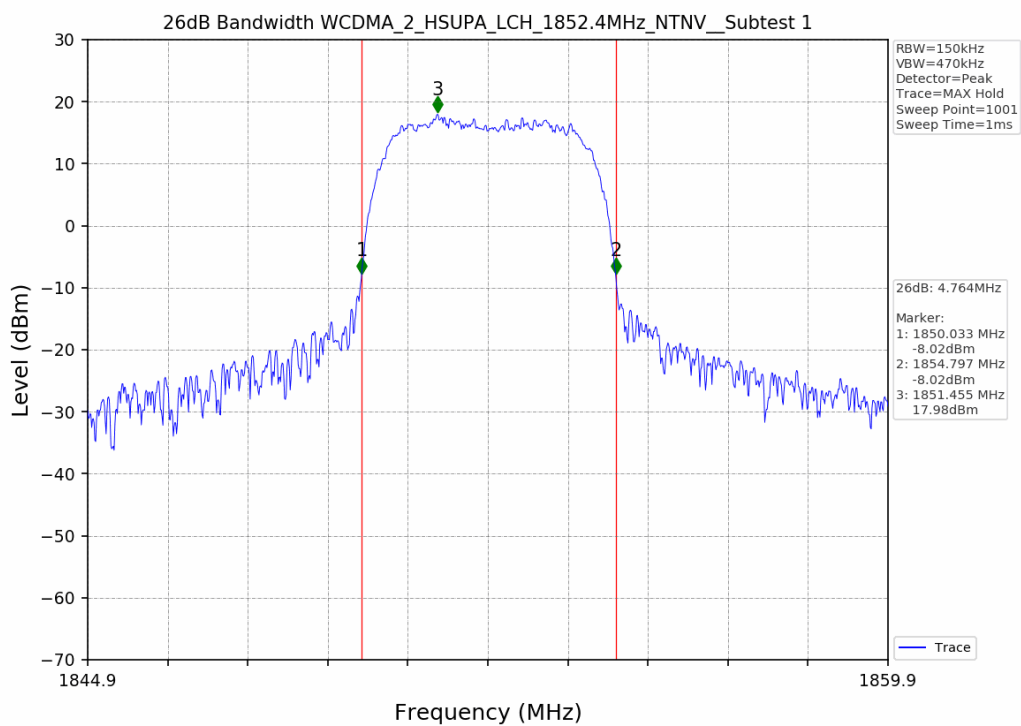
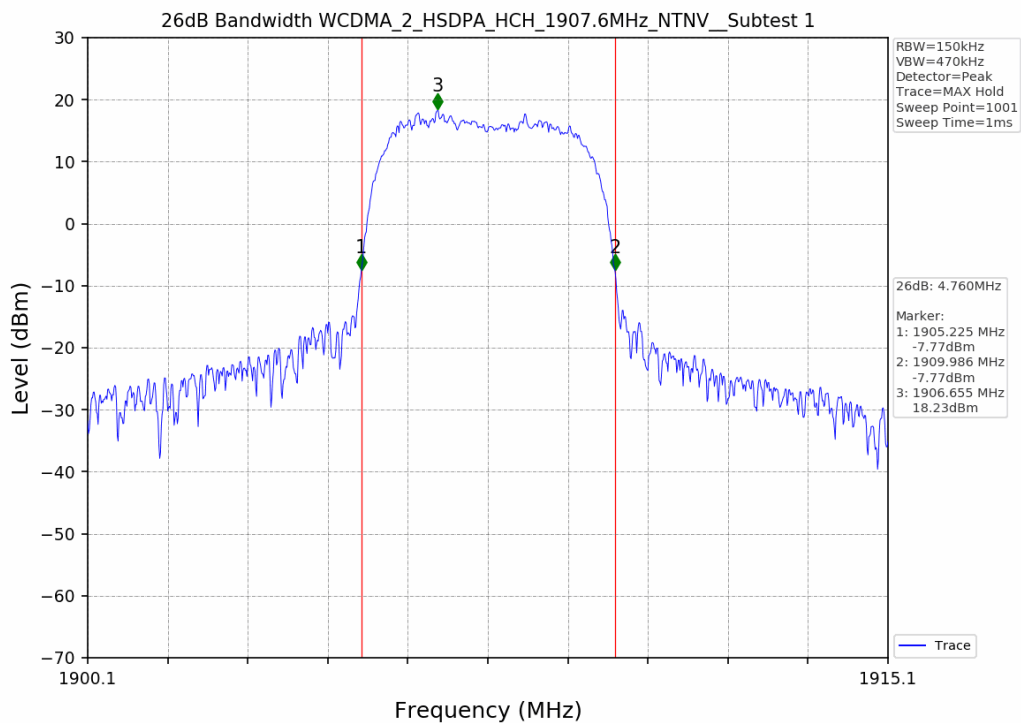
| Test Band: 2 |                      |       |       |       |         |
|--------------|----------------------|-------|-------|-------|---------|
| Test Mode    | 26dB Bandwidth (MHz) |       |       | Limit | Verdict |
|              | LCH                  | MCH   | HCH   |       |         |
| HSUPA        | 4.764                | 4.771 | 4.777 | N/A   | PASS    |
| HSDPA        | 4.757                | 4.789 | 4.760 | N/A   | PASS    |
| RMC          | 4.762                | 4.777 | 4.786 | N/A   | PASS    |

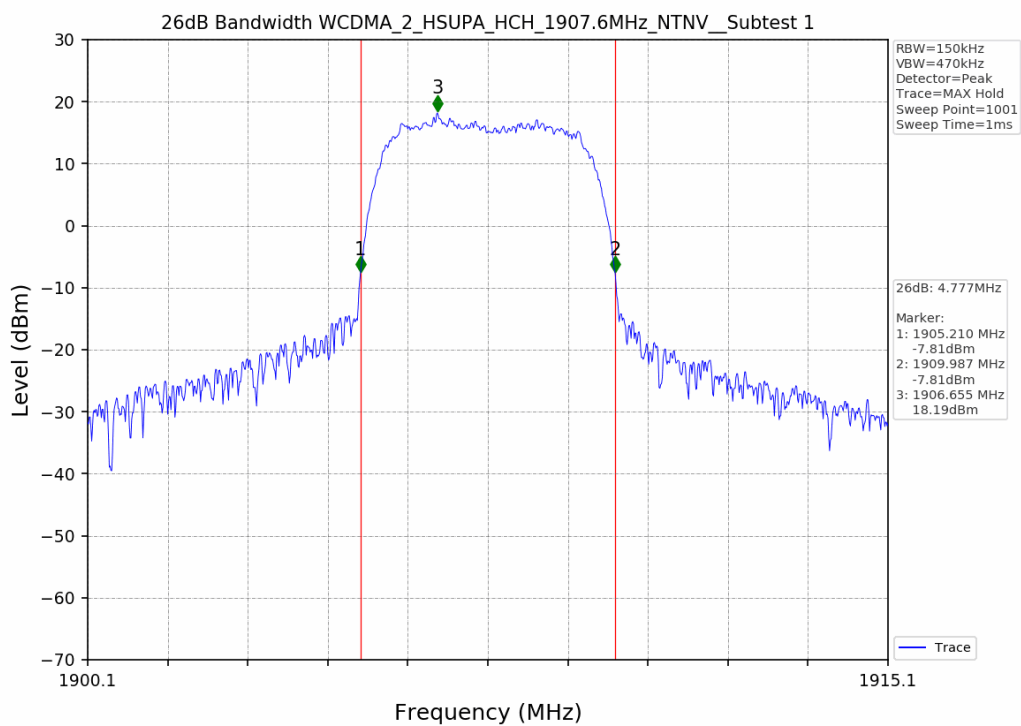
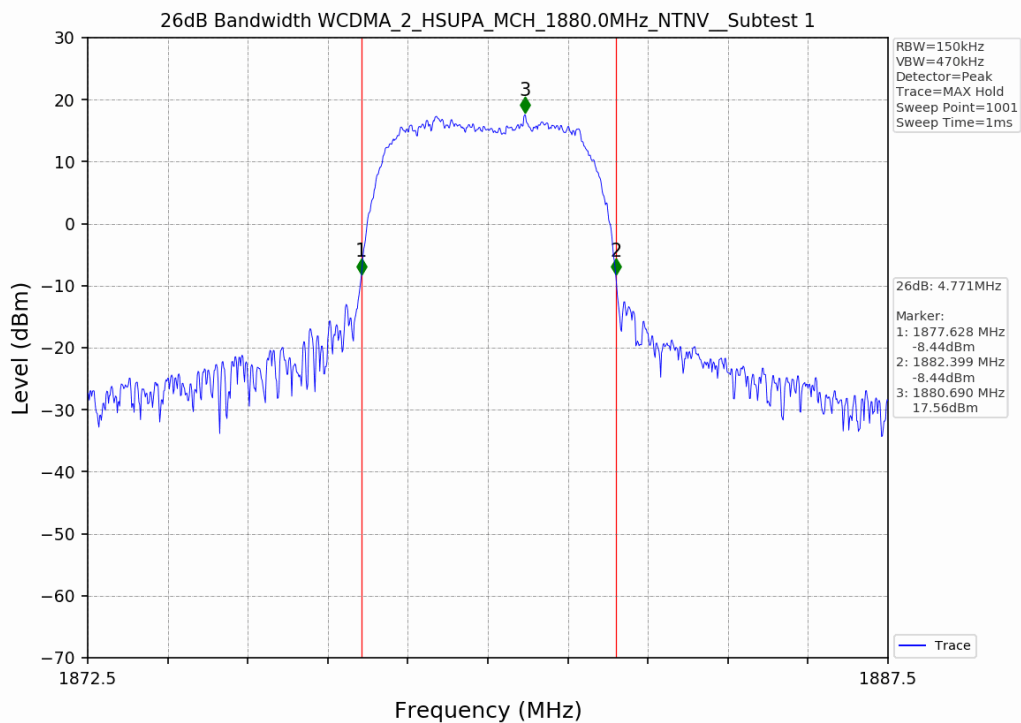
### A3.2 Test Graph









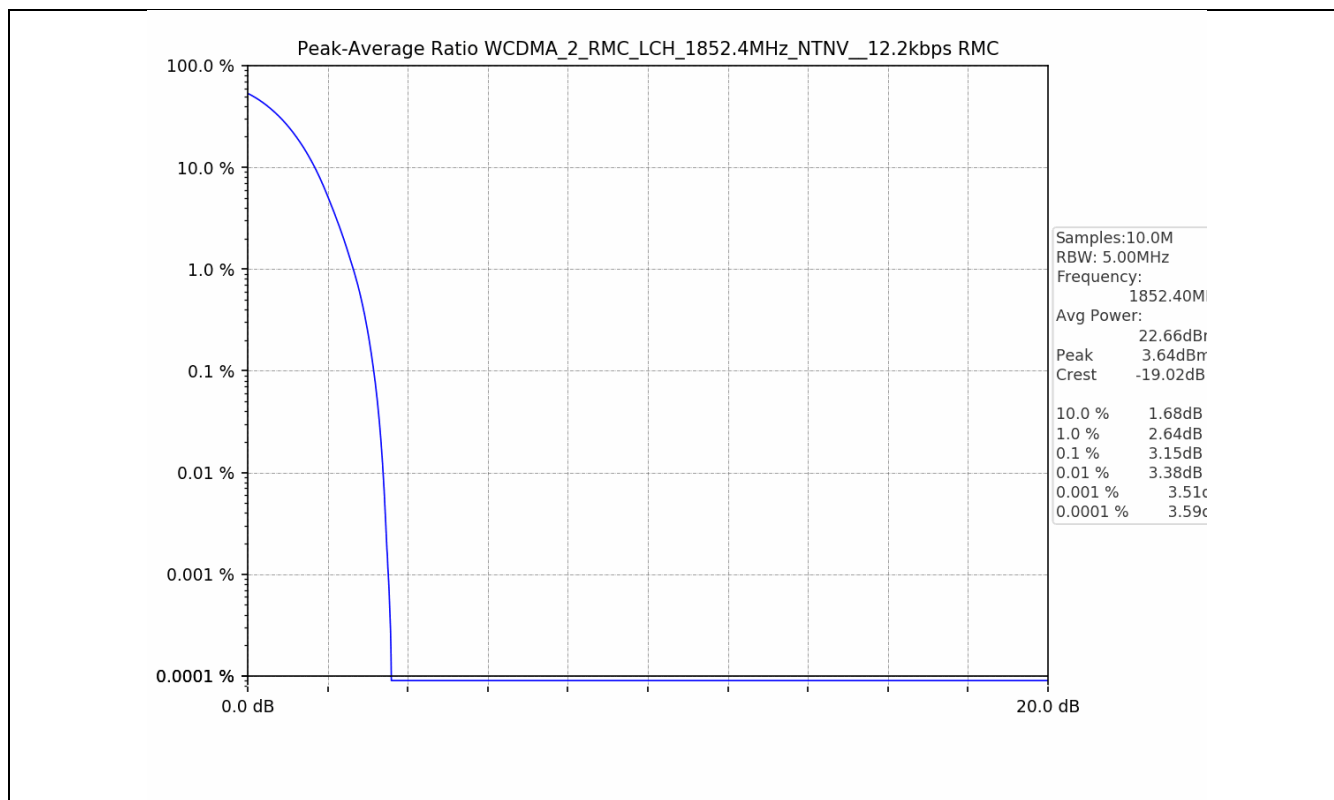


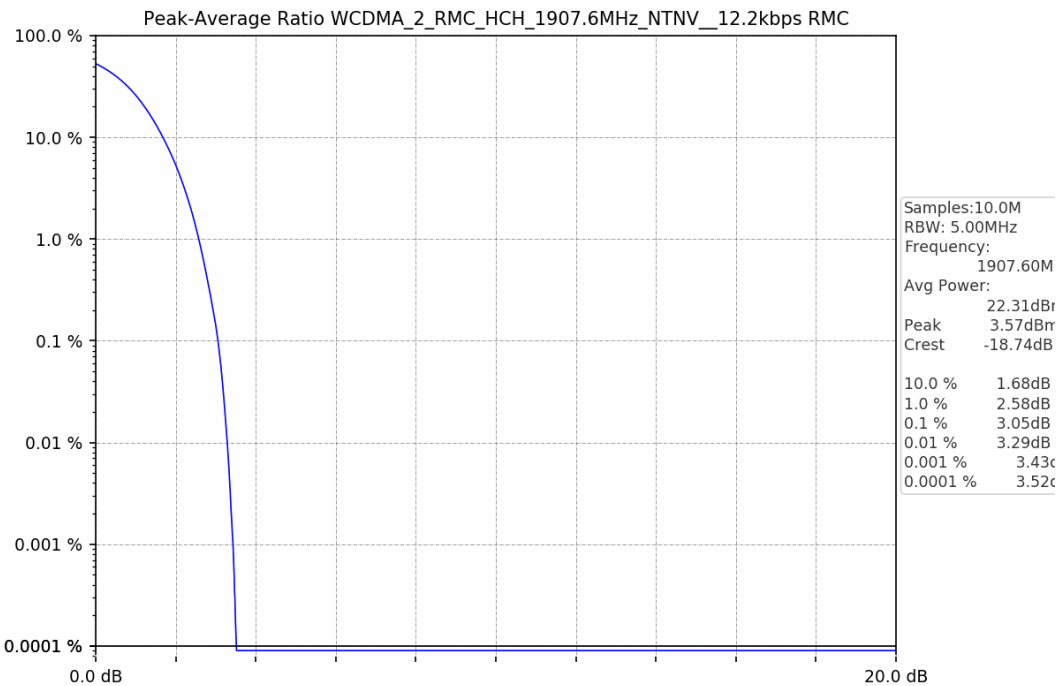
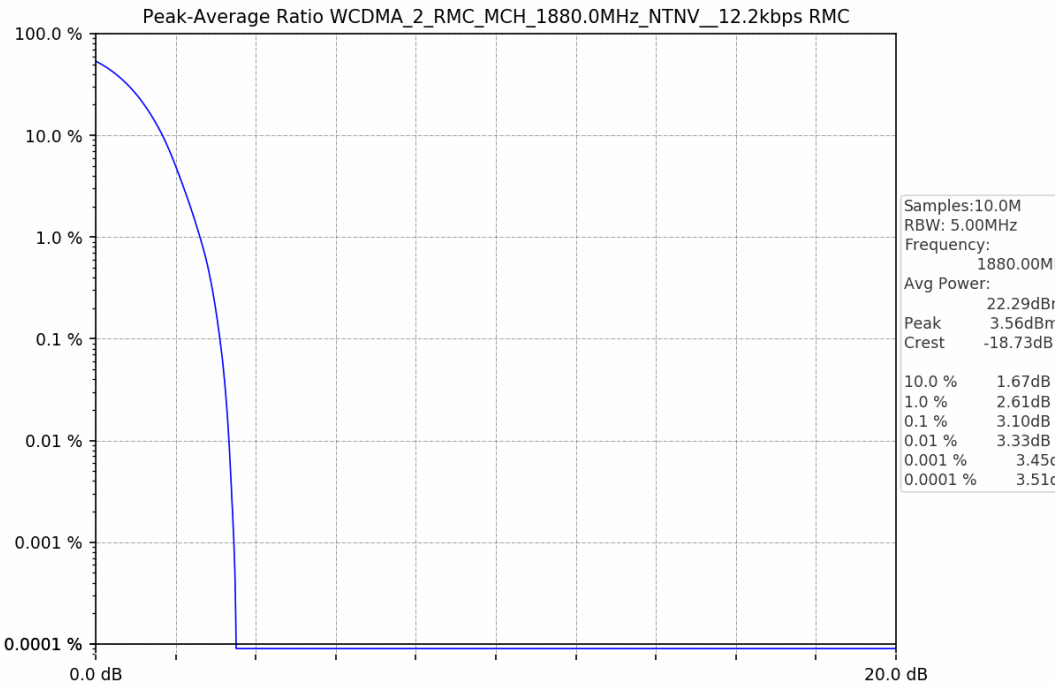
## A4. Peak-Average Ratio

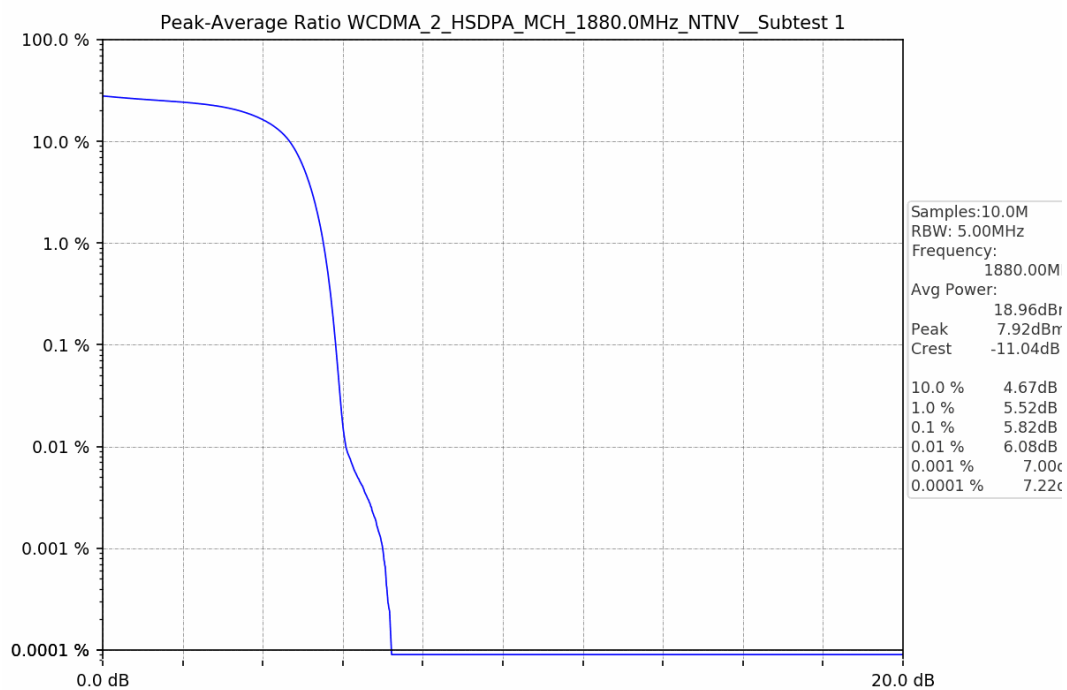
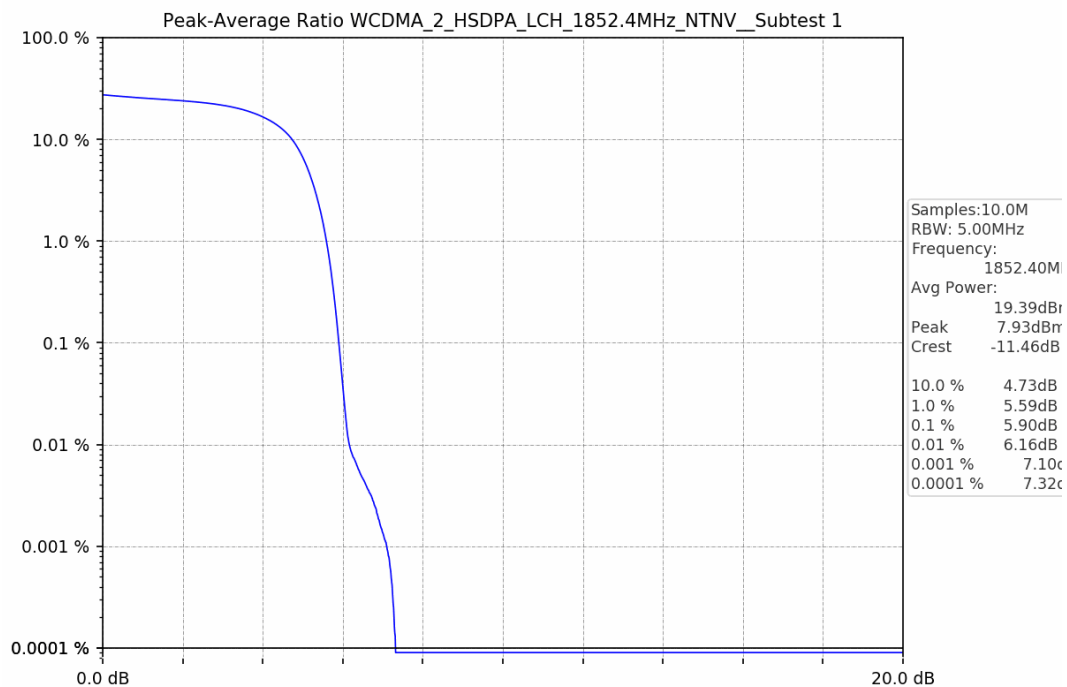
### A4.1 Test Result

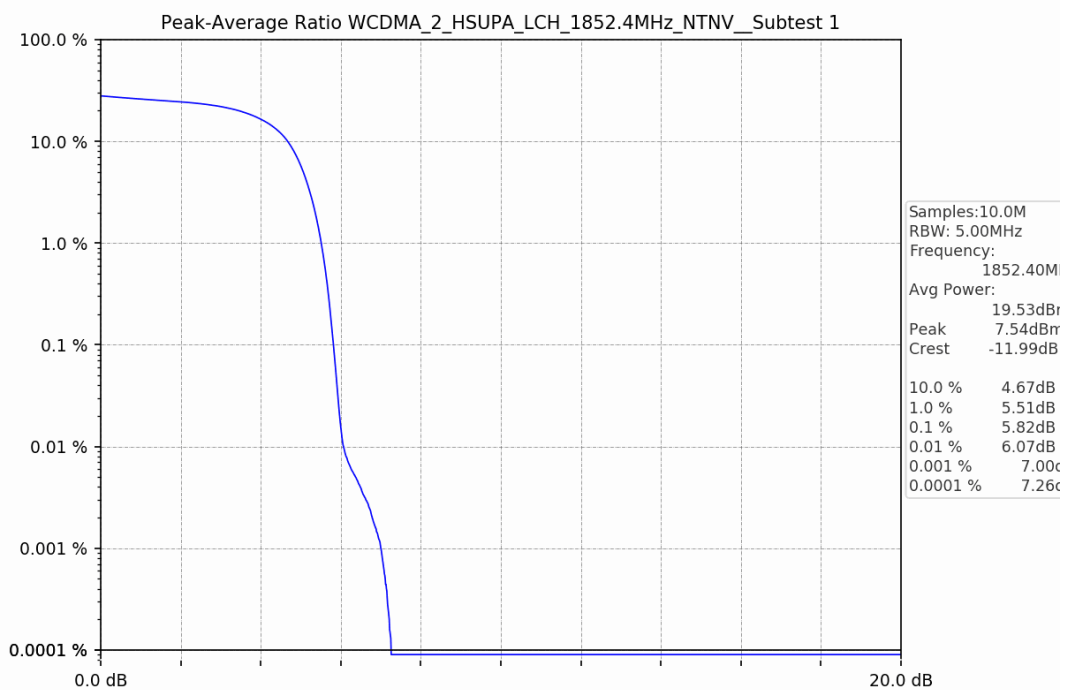
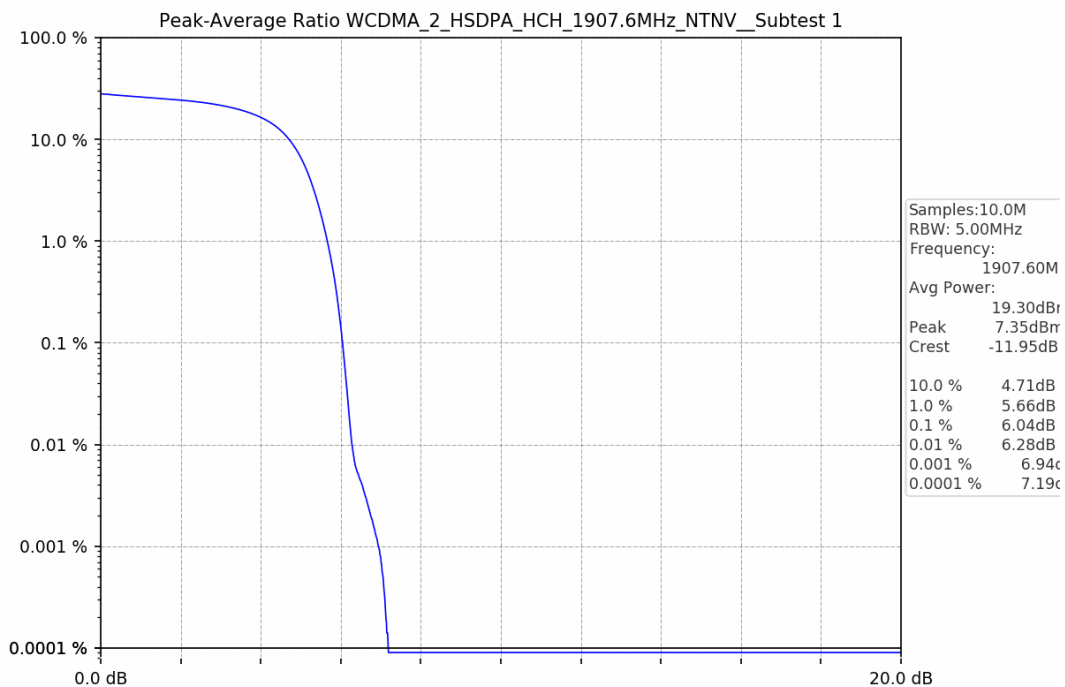
| Test Band: 2 |                  |      |      |            |         |
|--------------|------------------|------|------|------------|---------|
| Test Mode    | Test result (dB) |      |      | Limit (dB) | Verdict |
|              | LCH              | MCH  | HCH  |            |         |
| HSUPA        | 5.82             | 5.80 | 6.00 | 13         | PASS    |
| HSDPA        | 5.90             | 5.82 | 6.04 | 13         | PASS    |
| RMC          | 3.15             | 3.10 | 3.05 | 13         | PASS    |

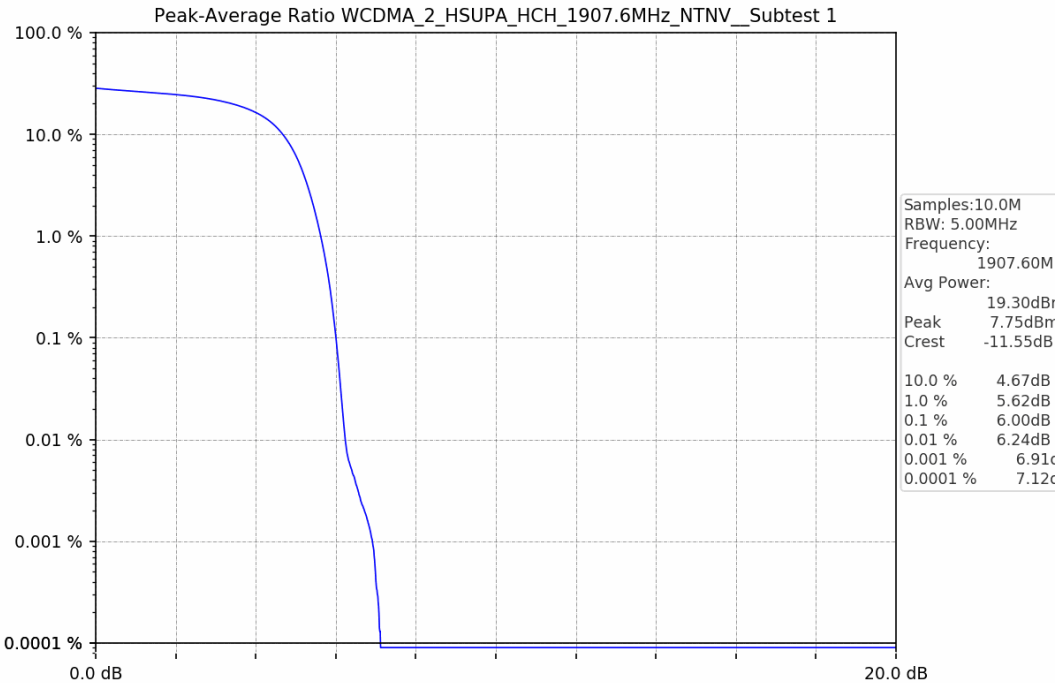
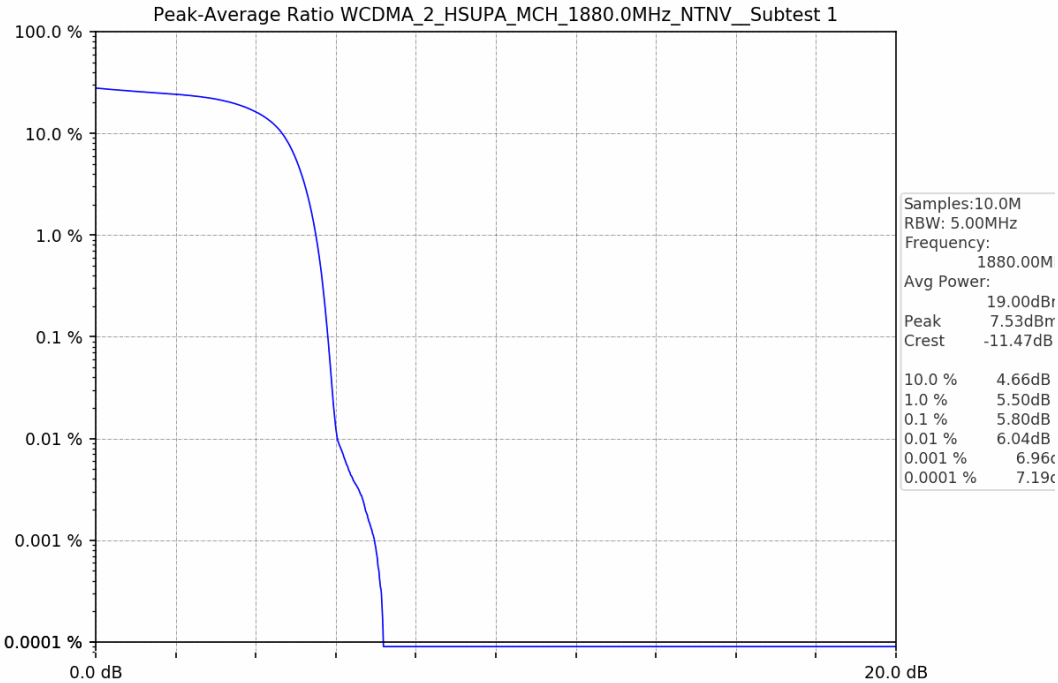
### A4.2 Test Graph











## A5. Spurious Emission

### A5.1 Test Graph

