

## Appendix G. Supplemental Antenna Tuner Tests Results

**General Note:**

1. This device implements antenna tuning techniques in the several frequency band and list as below. SAR test proposal was measured according to the normally required SAR configurations with the tuner active and worst tune state (auto tune) was used for SAR testing and this design will provide the highest power at different user scenarios and would not influence to the antenna characteristics other than impedance matching.
2. The following test procedure was followed to demonstrate that the SAR results in this report represent the appropriate SAR test conditions. For bands with dynamic tuning implemented, SAR will be measured according to the required FCC SAR test procedures with the dynamic tuner active to allow the device to automatically tune to the antenna state for the respective RF exposure test configurations. Additional single point SAR time-sweep measurements will be evaluated for other tuner states to determine that the other tuner configurations would result in equivalent or lower SAR values.
3. The number of supported tune codes is different for each frequency band as shown in the following table.
4. Dynamic antenna tuning mechanism is available at Ant.0 for its < 3GHz LTE and NR band, details are illustrated in the operational description, all supported tuning states for each band are tested and it's verified that auto-tune state results in the highest SAR configuration.
5. The tuner state was established remotely through Wi-Fi so that the device is not moved for the entire series of single point SAR for the tuner states in each combination (band, mode, exposure conditions).
6. The auto-tune state determined by the device during normal SAR measurement has been verified immediately before and after each SAR measurement by reading the auto-tune state and confirm that they are the same and also listed alongside the reported SAR results in following table to facilitate comparing these with the single point SAR to be measured for the other tuner states.

| Antenna    | Band           | Number of tune states |
|------------|----------------|-----------------------|
| Ant 0 (LB) | LTE Band 12/17 | 12                    |
|            | LTE Band 13    | 4                     |
|            | LTE Band 14    | 3                     |
|            | LTE Band 5/26  | 9                     |
|            | LTE Band 71    | 9                     |
|            | FR1 n12        | 12                    |
|            | FR1 n14        | 3                     |
|            | FR1 n5/n26     | 9                     |
|            | FR1 n71        | 9                     |



&lt;Supplemental SAR result for Ant 0&gt;

&lt;Close Mode&gt;

| Head<br>(Ant0) | RF exposure position |              |         |       |             |                  |                              |                              |                          |                                 |                                | Average Value of Time Sweep<br>Single Point SAR (W/kg) |       |       |       |       |       |       |       |       |       |       |       |                                                |
|----------------|----------------------|--------------|---------|-------|-------------|------------------|------------------------------|------------------------------|--------------------------|---------------------------------|--------------------------------|--------------------------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------------------------------------------------|
|                | Band                 | Mode         | Channel |       | Setting     | Test<br>Position | Measured<br>1g SAR<br>(W/kg) | Reported<br>1g SAR<br>(W/kg) | Default-Tuner<br>(State) | Before<br>Auto-Tuner<br>(State) | After<br>Auto-Tuner<br>(State) |                                                        |       |       |       |       |       |       |       |       |       |       |       | Auto-Tuner<br>Single<br>Point<br>SAR<br>(W/kg) |
|                | LTE Band 12          | 10M_QPSK_1_0 | Middle  | 23095 | 247         | Right Cheek      | 0.199                        | 0.287                        | 5                        | 5                               | 5                              | 0.247                                                  | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     | 10    | 11    | 12                                             |
|                |                      |              |         |       |             |                  |                              |                              |                          |                                 |                                |                                                        | 0.188 | 0.179 | 0.155 | 0.001 | 0.227 | 0.125 | 0.146 | 0.001 | 0.201 | 0.132 | 0.134 | 0.001                                          |
|                | LTE Band 13          | 10M_QPSK_1_0 | Middle  | 23230 | 247         | Right Cheek      | 0.230                        | 0.325                        | 1                        | 1                               | 1                              | 0.248                                                  | 1     | 2     | 3     | 4     |       |       |       |       |       |       |       |                                                |
|                |                      |              |         |       |             |                  |                              |                              |                          |                                 |                                |                                                        | 0.251 | 0.164 | 0.231 | 0.048 |       |       |       |       |       |       |       |                                                |
|                | LTE Band 14          | 10M_QPSK_1_0 | Middle  | 23330 | 247         | Right Cheek      | 0.221                        | 0.303                        | 1                        | 1                               | 1                              | 0.288                                                  | 1     | 2     | 3     |       |       |       |       |       |       |       |       |                                                |
|                |                      |              |         |       |             |                  |                              |                              |                          |                                 |                                |                                                        | 0.268 | 0.253 | 0.246 |       |       |       |       |       |       |       |       |                                                |
|                | LTE Band 26          | 15M_QPSK_1_0 | Middle  | 26865 | 247         | Right Cheek      | 0.211                        | 0.285                        | 5                        | 5                               | 5                              | 0.285                                                  | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     |       |       |                                                |
|                |                      |              |         |       |             |                  |                              |                              |                          |                                 |                                |                                                        | 0.243 | 0.182 | 0.059 | 0.183 | 0.265 | 0.084 | 0.199 | 0.179 | 0.106 |       |       |                                                |
| LTE Band 71    | 20M_QPSK_1_0         | Middle       | 133297  | 247   | Right Cheek | 0.203            | 0.290                        | 4                            | 4                        | 4                               | 0.231                          | 1                                                      | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     |       |       |       |                                                |
|                |                      |              |         |       |             |                  |                              |                              |                          |                                 |                                | 0.210                                                  | 0.153 | 0.001 | 0.223 | 0.168 | 0.001 | 0.197 | 0.169 | 0.001 |       |       |       |                                                |
| FR1 n12        | 15M_BPSK_1_1         | Middle       | 141500  | 247   | Right Cheek | 0.180            | 0.252                        | 5                            | 5                        | 5                               | 0.235                          | 1                                                      | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     | 10    | 11    | 12    |                                                |
|                |                      |              |         |       |             |                  |                              |                              |                          |                                 |                                | 0.183                                                  | 0.161 | 0.140 | 0.001 | 0.210 | 0.112 | 0.139 | 0.001 | 0.195 | 0.113 | 0.141 | 0.047 |                                                |
| FR1 n14        | 10M_BPSK_1_1         | Middle       | 158600  | 247   | Right Cheek | 0.200            | 0.277                        | 1                            | 1                        | 1                               | 0.274                          | 1                                                      | 2     | 3     |       |       |       |       |       |       |       |       |       |                                                |
|                |                      |              |         |       |             |                  |                              |                              |                          |                                 |                                | 0.252                                                  | 0.237 | 0.242 |       |       |       |       |       |       |       |       |       |                                                |
| FR1 n26        | 20M_BPSK_1_1         | Middle       | 166300  | 247   | Right Cheek | 0.199            | 0.267                        | 5                            | 5                        | 5                               | 0.252                          | 1                                                      | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     |       |       |       |                                                |
|                |                      |              |         |       |             |                  |                              |                              |                          |                                 |                                | 0.229                                                  | 0.174 | 0.061 | 0.165 | 0.233 | 0.088 | 0.198 | 0.172 | 0.100 |       |       |       |                                                |
| FR1 n71        | 20M_BPSK_1_1         | Middle       | 136100  | 247   | Right Cheek | 0.158            | 0.227                        | 4                            | 4                        | 4                               | 0.199                          | 1                                                      | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     |       |       |       |                                                |
|                |                      |              |         |       |             |                  |                              |                              |                          |                                 |                                | 0.138                                                  | 0.108 | 0.001 | 0.189 | 0.117 | 0.001 | 0.144 | 0.107 | 0.001 |       |       |       |                                                |

| Body<br>(Ant0) | RF exposure position |              |         |       |         |                  |                              |                              |                          |                                 |                                | Average Value of Time Sweep<br>Single Point SAR (W/kg) |       |       |       |       |       |       |       |       |       |       |       |                                                |
|----------------|----------------------|--------------|---------|-------|---------|------------------|------------------------------|------------------------------|--------------------------|---------------------------------|--------------------------------|--------------------------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------------------------------------------------|
|                | Band                 | Mode         | Channel |       | Setting | Test<br>Position | Measured<br>1g SAR<br>(W/kg) | Reported<br>1g SAR<br>(W/kg) | Default-Tuner<br>(State) | Before<br>Auto-Tuner<br>(State) | After<br>Auto-Tuner<br>(State) |                                                        |       |       |       |       |       |       |       |       |       |       |       | Auto-Tuner<br>Single<br>Point<br>SAR<br>(W/kg) |
|                | LTE Band 12          | 10M_QPSK_1_0 | Middle  | 23095 | 247     | Back             | 0.202                        | 0.291                        | 5                        | 3                               | 3                              | 0.384                                                  | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     | 10    | 11    | 12                                             |
|                |                      |              |         |       |         |                  |                              |                              |                          |                                 |                                |                                                        | 0.241 | 0.218 | 0.361 | 0.272 | 0.224 | 0.143 | 0.342 | 0.261 | 0.232 | 0.144 | 0.345 | 0.265                                          |
|                | LTE Band 13          | 10M_QPSK_1_0 | Middle  | 23230 | 247     | Back             | 0.292                        | 0.412                        | 1                        | 1                               | 1                              | 0.375                                                  | 1     | 2     | 3     | 4     |       |       |       |       |       |       |       |                                                |
|                |                      |              |         |       |         |                  |                              |                              |                          |                                 |                                |                                                        | 0.354 | 0.347 | 0.324 | 0.305 |       |       |       |       |       |       |       |                                                |
|                | LTE Band 14          | 10M_QPSK_1_0 | Middle  | 23330 | 247     | Back             | 0.328                        | 0.450                        | 1                        | 1                               | 1                              | 0.428                                                  | 1     | 2     | 3     |       |       |       |       |       |       |       |       |                                                |
|                |                      |              |         |       |         |                  |                              |                              |                          |                                 |                                |                                                        | 0.408 | 0.374 | 0.380 |       |       |       |       |       |       |       |       |                                                |
|                | LTE Band 26          | 15M_QPSK_1_0 | Middle  | 26865 | 247     | Back             | 0.329                        | 0.445                        | 5                        | 5                               | 5                              | 0.394                                                  | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     |       |       |                                                |
|                |                      |              |         |       |         |                  |                              |                              |                          |                                 |                                |                                                        | 0.378 | 0.313 | 0.222 | 0.297 | 0.385 | 0.222 | 0.375 | 0.306 | 0.243 |       |       |                                                |
| LTE Band 71    | 20M_QPSK_1_0         | Middle       | 133297  | 247   | Back    | 0.260            | 0.372                        | 4                            | 4                        | 4                               | 0.375                          | 1                                                      | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     |       |       |       |                                                |
|                |                      |              |         |       |         |                  |                              |                              |                          |                                 |                                | 0.352                                                  | 0.267 | 0.228 | 0.356 | 0.267 | 0.230 | 0.344 | 0.271 | 0.222 |       |       |       |                                                |
| FR1 n12        | 15M_BPSK_1_1         | Middle       | 141500  | 247   | Front   | 0.224            | 0.314                        | 5                            | 5                        | 5                               | 0.385                          | 1                                                      | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     | 10    | 11    | 12    |                                                |
|                |                      |              |         |       |         |                  |                              |                              |                          |                                 |                                | 0.355                                                  | 0.285 | 0.250 | 0.110 | 0.379 | 0.189 | 0.248 | 0.087 | 0.359 | 0.226 | 0.248 | 0.092 |                                                |
| FR1 n14        | 10M_BPSK_1_1         | Middle       | 158600  | 247   | Back    | 0.326            | 0.451                        | 1                            | 1                        | 1                               | 0.482                          | 1                                                      | 2     | 3     |       |       |       |       |       |       |       |       |       |                                                |
|                |                      |              |         |       |         |                  |                              |                              |                          |                                 |                                | 0.444                                                  | 0.393 | 0.415 |       |       |       |       |       |       |       |       |       |                                                |
| FR1 n26        | 20M_BPSK_1_1         | Middle       | 166300  | 247   | Back    | 0.326            | 0.437                        | 5                            | 5                        | 5                               | 0.412                          | 1                                                      | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     |       |       |       |                                                |
|                |                      |              |         |       |         |                  |                              |                              |                          |                                 |                                | 0.383                                                  | 0.325 | 0.241 | 0.322 | 0.398 | 0.245 | 0.391 | 0.331 | 0.264 |       |       |       |                                                |
| FR1 n71        | 20M_BPSK_1_1         | Middle       | 136100  | 247   | Back    | 0.273            | 0.393                        | 4                            | 4                        | 4                               | 0.385                          | 1                                                      | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     |       |       |       |                                                |
|                |                      |              |         |       |         |                  |                              |                              |                          |                                 |                                | 0.357                                                  | 0.269 | 0.219 | 0.361 | 0.262 | 0.232 | 0.354 | 0.259 | 0.214 |       |       |       |                                                |



&lt;Open Mode&gt;

| Head<br>(Ant0) | RF exposure position |              |         |        |            |                  |                              |                              |                          |                                 |                                | Average Value of Time Sweep<br>Single Point SAR (W/kg) |       |       |       |       |       |       |       |       |       |       |       |       |
|----------------|----------------------|--------------|---------|--------|------------|------------------|------------------------------|------------------------------|--------------------------|---------------------------------|--------------------------------|--------------------------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|                | Band                 | Mode         | Channel |        | Setting    | Test<br>Position | Measured<br>1g SAR<br>(W/kg) | Reported<br>1g SAR<br>(W/kg) | Default-Tuner<br>(State) | Before<br>Auto-Tuner<br>(State) | After<br>Auto-Tuner<br>(State) | Auto-Tuner<br>Single<br>Point<br>SAR<br>(W/kg)         | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     | 10    | 11    | 12    |
|                | LTE Band 12          | 10M_QPSK_1_0 | Middle  | 23095  | 247        | Left Cheek       | 0.150                        | 0.216                        | 5                        | 6                               | 6                              | 0.172                                                  | 0.115 | 0.171 | 0.152 | 0.108 | 0.158 | 0.186 | 0.127 | 0.101 | 0.132 | 0.167 | 0.138 | 0.106 |
|                | LTE Band 13          | 10M_QPSK_1_0 | Middle  | 23230  | 247        | Left Cheek       | 0.165                        | 0.233                        | 3                        | 3                               | 3                              | 0.192                                                  | 0.139 | 0.167 | 0.181 | 0.158 |       |       |       |       |       |       |       |       |
|                | LTE Band 14          | 10M_QPSK_1_0 | Middle  | 23330  | 247        | Left Cheek       | 0.172                        | 0.236                        | 2                        | 2                               | 2                              | 0.201                                                  | 0.188 | 0.196 | 0.125 |       |       |       |       |       |       |       |       |       |
|                | LTE Band 26          | 15M_QPSK_1_0 | Middle  | 26865  | 247        | Left Cheek       | 0.188                        | 0.254                        | 5                        | 5                               | 5                              | 0.266                                                  | 0.260 | 0.179 | 0.086 | 0.151 | 0.277 | 0.074 | 0.209 | 0.166 | 0.092 |       |       |       |
|                | LTE Band 71          | 20M_QPSK_1_0 | Middle  | 133297 | 247        | Left Cheek       | 0.128                        | 0.183                        | 4                        | 4                               | 4                              | 0.142                                                  | 0.133 | 0.088 | 0.064 | 0.135 | 0.090 | 0.064 | 0.131 | 0.094 | 0.069 |       |       |       |
|                | FR1 n12              | 15M_BPSK_1_1 | Middle  | 141500 | 247        | Left Cheek       | 0.143                        | 0.200                        | 5                        | 6                               | 6                              | 0.176                                                  | 0.099 | 0.157 | 0.123 | 0.089 | 0.145 | 0.167 | 0.151 | 0.108 | 0.150 | 0.150 | 0.140 | 0.097 |
|                | FR1 n14              | 10M_BPSK_1_1 | Middle  | 158600 | 247        | Left Cheek       | 0.164                        | 0.227                        | 2                        | 2                               | 2                              | 0.225                                                  | 0.201 | 0.216 | 0.142 |       |       |       |       |       |       |       |       |       |
|                | FR1 n26              | 20M_BPSK_1_1 | Middle  | 166300 | 247        | Left Cheek       | 0.129                        | 0.173                        | 5                        | 5                               | 5                              | 0.312                                                  | 0.260 | 0.171 | 0.097 | 0.182 | 0.291 | 0.090 | 0.264 | 0.177 | 0.108 |       |       |       |
| FR1 n71        | 20M_BPSK_1_1         | Middle       | 136100  | 247    | Left Cheek | 0.138            | 0.199                        | 4                            | 4                        | 4                               | 0.143                          | 0.152                                                  | 0.114 | 0.071 | 0.154 | 0.104 | 0.074 | 0.135 | 0.098 | 0.076 |       |       |       |       |

| Body<br>(Ant0) | RF exposure position |              |         |       |         |                  |                              |                              |                          |                                 |                                | Average Value of Time Sweep<br>Single Point SAR (W/kg) |       |       |       |       |       |       |       |       |       |       |       |                                                |
|----------------|----------------------|--------------|---------|-------|---------|------------------|------------------------------|------------------------------|--------------------------|---------------------------------|--------------------------------|--------------------------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------------------------------------------------|
|                | Band                 | Mode         | Channel |       | Setting | Test<br>Position | Measured<br>1g SAR<br>(W/kg) | Reported<br>1g SAR<br>(W/kg) | Default-Tuner<br>(State) | Before<br>Auto-Tuner<br>(State) | After<br>Auto-Tuner<br>(State) |                                                        |       |       |       |       |       |       |       |       |       |       |       | Auto-Tuner<br>Single<br>Point<br>SAR<br>(W/kg) |
|                | LTE Band 12          | 10M_QPSK_1_0 | Middle  | 23095 | 247     | Front            | 0.365                        | 0.526                        | 5                        | 6                               | 6                              | 0.485                                                  | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     | 10    | 11    | 12                                             |
|                |                      |              |         |       |         |                  |                              |                              |                          |                                 |                                |                                                        | 0.317 | 0.419 | 0.447 | 0.349 | 0.400 | 0.479 | 0.453 | 0.335 | 0.388 | 0.470 | 0.449 | 0.352                                          |
|                | LTE Band 13          | 10M_QPSK_1_0 | Middle  | 23230 | 247     | Front            | 0.454                        | 0.641                        | 3                        | 1                               | 1                              | 0.712                                                  | 1     | 2     | 3     | 4     |       |       |       |       |       |       |       |                                                |
|                |                      |              |         |       |         |                  |                              |                              |                          |                                 |                                |                                                        | 0.689 | 0.393 | 0.647 | 0.340 |       |       |       |       |       |       |       |                                                |
|                | LTE Band 14          | 10M_QPSK_1_0 | Middle  | 23330 | 247     | Front            | 0.458                        | 0.628                        | 2                        | 1                               | 1                              | 0.588                                                  | 1     | 2     | 3     |       |       |       |       |       |       |       |       |                                                |
|                |                      |              |         |       |         |                  |                              |                              |                          |                                 |                                |                                                        | 0.592 | 0.559 | 0.410 |       |       |       |       |       |       |       |       |                                                |
|                | LTE Band 26          | 15M_QPSK_1_0 | Middle  | 26865 | 247     | Front            | 0.384                        | 0.519                        | 5                        | 7                               | 7                              | 0.598                                                  | 1     | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     |       |       |                                                |
|                |                      |              |         |       |         |                  |                              |                              |                          |                                 |                                |                                                        | 0.482 | 0.399 | 0.284 | 0.376 | 0.483 | 0.278 | 0.585 | 0.384 | 0.298 |       |       |                                                |
| LTE Band 71    | 20M_QPSK_1_0         | Middle       | 133297  | 247   | Front   | 0.354            | 0.506                        | 4                            | 7                        | 7                               | 0.501                          | 1                                                      | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     |       |       |       |                                                |
|                |                      |              |         |       |         |                  |                              |                              |                          |                                 |                                | 0.486                                                  | 0.364 | 0.235 | 0.190 | 0.361 | 0.258 | 0.488 | 0.354 | 0.253 |       |       |       |                                                |
| FR1 n12        | 15M_BPSK_1_1         | Middle       | 141500  | 247   | Front   | 0.373            | 0.522                        | 5                            | 6                        | 6                               | 0.520                          | 1                                                      | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     | 10    | 11    | 12    |                                                |
|                |                      |              |         |       |         |                  |                              |                              |                          |                                 |                                | 0.356                                                  | 0.443 | 0.472 | 0.354 | 0.435 | 0.508 | 0.467 | 0.342 | 0.435 | 0.502 | 0.488 | 0.349 |                                                |
| FR1 n14        | 10M_BPSK_1_1         | Middle       | 158600  | 247   | Front   | 0.487            | 0.674                        | 2                            | 1                        | 1                               | 0.642                          | 1                                                      | 2     | 3     |       |       |       |       |       |       |       |       |       |                                                |
|                |                      |              |         |       |         |                  |                              |                              |                          |                                 |                                | 0.656                                                  | 0.591 | 0.463 |       |       |       |       |       |       |       |       |       |                                                |
| FR1 n26        | 20M_BPSK_1_1         | Middle       | 166300  | 247   | Front   | 0.251            | 0.336                        | 5                            | 7                        | 7                               | 0.655                          | 1                                                      | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     |       |       |       |                                                |
|                |                      |              |         |       |         |                  |                              |                              |                          |                                 |                                | 0.502                                                  | 0.417 | 0.313 | 0.414 | 0.496 | 0.304 | 0.621 | 0.415 | 0.330 |       |       |       |                                                |
| FR1 n71        | 20M_BPSK_1_1         | Middle       | 136100  | 247   | Front   | 0.361            | 0.519                        | 4                            | 7                        | 7                               | 0.582                          | 1                                                      | 2     | 3     | 4     | 5     | 6     | 7     | 8     | 9     |       |       |       |                                                |
|                |                      |              |         |       |         |                  |                              |                              |                          |                                 |                                | 0.509                                                  | 0.375 | 0.253 | 0.534 | 0.388 | 0.283 | 0.537 | 0.393 | 0.277 |       |       |       |                                                |

## Appendix G. Supplemental SAR Tests Results

### SAR test result

1. The test data is selected according to the worst case SAR configuration per cellular technology.
2. The test data is to demonstrate the device is in compliance with FCC requirements at 25mm when all power reduction mechanisms are OFF. The worst case body SAR at 10mm was used for simultaneous transmission SAR analysis since they are more conservative than the 25mm SAR.

### <Close Mode>

| Band              | Mode              | Test Position | Gap (mm) | Antenna    | Ch.    | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Duty Cycle % | Duty Cycle Scaling Factor | Power Drift (dB) | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) |
|-------------------|-------------------|---------------|----------|------------|--------|-------------|---------------------|---------------------|------------------------|--------------|---------------------------|------------------|------------------------|------------------------|
| GSM1900_Ant 2     | GPRS (4 Tx slots) | Bottom Side   | 25mm     | -          | 810    | 1909.8      | 25.94               | 27.50               | 1.432                  |              |                           | 0.08             | 0.383                  | 0.549                  |
| WCDMA II_Ant 2    | RMC 12.2Kbps      | Bottom Side   | 25mm     | -          | 9262   | 1852.4      | 24.25               | 25.60               | 1.365                  |              |                           | 0.01             | 0.711                  | 0.970                  |
| LTE Band 66_Ant 2 | 20M_QPSK_1_0      | Bottom Side   | 25mm     | -          | 132572 | 1770        | 24.71               | 25.60               | 1.227                  |              |                           | 0.03             | 0.651                  | 0.799                  |
| FR1 n25_Ant 2     | 40M_BPSK_1_1      | Bottom Side   | 25mm     | -          | 376500 | 1882.5      | 24.20               | 25.30               | 1.288                  |              |                           | -0.08            | 0.592                  | 0.763                  |
| WLAN2.4GHz        | 802.11b 1Mbps     | Top Side      | 25mm     | Ant 4      | 6      | 2437        | 23.95               | 24.00               | 1.012                  | 100          | 1.000                     | -0.08            | 0.227                  | 0.230                  |
| WLAN5GHz          | 802.11a 6Mbps     | Top Side      | 25mm     | Ant 3+4(4) | 149    | 5745        | 20.67               | 21.00               | 1.079                  | 100          | 1.000                     | 0.1              | 0.259                  | 0.279                  |
| Bluetooth         | 1Mbps             | Top Side      | 25mm     | Ant 4      | 39     | 2441        | 19.46               | 19.50               | 1.010                  | 77.10        | 1.080                     | -0.18            | 0.097                  | 0.106                  |

### <Open Mode>

| Band              | Mode              | Test Position | Gap (mm) | Antenna    | Ch.    | Freq. (MHz) | Average Power (dBm) | Tune-Up Limit (dBm) | Tune-up Scaling Factor | Duty Cycle % | Duty Cycle Scaling Factor | Power Drift (dB) | Measured 1g SAR (W/kg) | Reported 1g SAR (W/kg) |
|-------------------|-------------------|---------------|----------|------------|--------|-------------|---------------------|---------------------|------------------------|--------------|---------------------------|------------------|------------------------|------------------------|
| GSM1900_Ant 2     | GPRS (4 Tx slots) | Front         | 25mm     | -          | 810    | 1909.8      | 25.94               | 27.50               | 1.432                  |              |                           | 0.15             | 0.092                  | 0.132                  |
| WCDMA II_Ant 2    | RMC 12.2Kbps      | Bottom Side   | 25mm     | -          | 9262   | 1852.4      | 24.25               | 25.60               | 1.365                  |              |                           | -0.12            | 0.709                  | 0.967                  |
| LTE Band 25_Ant 2 | 20M_QPSK_1_0      | Bottom Side   | 25mm     | -          | 26140  | 1860        | 24.43               | 25.30               | 1.222                  |              |                           | 0.01             | 0.616                  | 0.753                  |
| FR1 n25_Ant 2     | 40M_BPSK_1_1      | Bottom Side   | 25mm     | -          | 376500 | 1882.5      | 24.20               | 25.30               | 1.288                  |              |                           | -0.06            | 0.603                  | 0.777                  |
| WLAN2.4GHz        | 802.11b 1Mbps     | Front         | 25mm     | Ant 4      | 11     | 2462        | 23.95               | 24.00               | 1.012                  | 100          | 1.000                     | -0.11            | 0.084                  | 0.085                  |
| WLAN5GHz          | 802.11a 6Mbps     | Top Side      | 25mm     | Ant 3+4(4) | 149    | 5745        | 20.67               | 21.00               | 1.079                  | 100          | 1.000                     | 0.09             | 0.146                  | 0.158                  |
| Bluetooth         | 1Mbps             | Front         | 25mm     | Ant 3+4(4) | 39     | 2441        | 19.46               | 19.50               | 1.010                  | 76.86        | 1.301                     | -0.07            | 0.065                  | 0.085                  |