

| Band/<br>Frequency (MHz) | Side  | Required<br>Test Channel                                     | Bandwidth | Modulation | RB<br>Allocation | RB<br>Offset | Tested/<br>Reduced   |                      |  |  |  |  |
|--------------------------|-------|--------------------------------------------------------------|-----------|------------|------------------|--------------|----------------------|----------------------|--|--|--|--|
| Band 4<br>1710-1755 MHz  | Right | 18700                                                        | 20 MHz    | QPSK       | 50               | 25           | Reduced <sup>7</sup> |                      |  |  |  |  |
|                          |       | 18900                                                        |           |            |                  |              | Tested               |                      |  |  |  |  |
|                          |       | 19100                                                        |           |            |                  |              | Reduced <sup>7</sup> |                      |  |  |  |  |
|                          |       | 18700                                                        |           |            | 100              | 0            | Reduced <sup>1</sup> |                      |  |  |  |  |
|                          |       | 18900                                                        |           |            |                  |              | Reduced <sup>1</sup> |                      |  |  |  |  |
|                          |       | 19100                                                        |           |            |                  |              | Reduced <sup>1</sup> |                      |  |  |  |  |
|                          |       | 18700                                                        |           |            | 1                | 49           | Reduced <sup>7</sup> |                      |  |  |  |  |
|                          |       | 18900                                                        |           |            |                  |              | Tested               |                      |  |  |  |  |
|                          |       | 19100                                                        |           |            |                  |              | Reduced <sup>7</sup> |                      |  |  |  |  |
|                          |       | 18700                                                        |           |            |                  | 99           | Reduced <sup>2</sup> |                      |  |  |  |  |
|                          |       | 18900                                                        |           |            |                  |              | Reduced <sup>2</sup> |                      |  |  |  |  |
|                          |       | 19100                                                        |           |            |                  |              | Reduced <sup>2</sup> |                      |  |  |  |  |
|                          |       | 18700                                                        |           | 16QAM      | 50               | 25           | Reduced <sup>3</sup> |                      |  |  |  |  |
|                          |       | 18900                                                        |           |            |                  |              | Reduced <sup>3</sup> |                      |  |  |  |  |
|                          |       | 19100                                                        |           |            |                  |              | Reduced <sup>3</sup> |                      |  |  |  |  |
|                          |       | 18700                                                        |           |            | 100              | 0            | Reduced <sup>1</sup> |                      |  |  |  |  |
|                          |       | 18900                                                        |           |            |                  |              | Reduced <sup>1</sup> |                      |  |  |  |  |
|                          |       | 19100                                                        |           |            |                  |              | Reduced <sup>1</sup> |                      |  |  |  |  |
|                          |       | 18700                                                        |           |            | 1                | 49           | Reduced <sup>4</sup> |                      |  |  |  |  |
|                          |       | 18900                                                        |           |            |                  |              | Reduced <sup>4</sup> |                      |  |  |  |  |
|                          |       | 19100                                                        |           |            |                  |              | Reduced <sup>4</sup> |                      |  |  |  |  |
|                          |       | 18700                                                        |           |            |                  | 99           | Reduced <sup>4</sup> |                      |  |  |  |  |
|                          |       | 18900                                                        |           |            |                  |              | Reduced <sup>4</sup> |                      |  |  |  |  |
|                          |       | 19100                                                        |           |            |                  |              | Reduced <sup>4</sup> |                      |  |  |  |  |
|                          |       | All lower bandwidths (15 MHz, 10 MHz, 5 MHz, 3 MHz, 1.4 MHz) |           |            |                  |              |                      | Reduced <sup>5</sup> |  |  |  |  |
|                          |       | All remaining sides                                          |           |            |                  |              |                      | Reduced <sup>6</sup> |  |  |  |  |

Reduced<sup>1</sup> – If the SAR value in the 50% RB testing is less than 1.45 W/kg, the 100% RB testing is reduced per KDB941225 D05 3) A) I) page 4.

Reduced<sup>2</sup> - If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 3) B) I) page 4.

Reduced<sup>3</sup> - If the SAR value in the 50% RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 4) A) I) page 4.

Reduced<sup>4</sup>- If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 4) B) I) page 5.

Reduced<sup>5</sup>- If the conducted power is within  $\pm 0.5$  dB, all testing where the SAR value is less than 1.45 W/kg is reduced per KDB941225 D05 5) B) I) page 5.

Reduced<sup>6</sup> – When the antenna is more than 25 mm from a side, the test can be reduced per KDB447498 D01 v06 section 4.3.1 1) page 11. See below for calculations.

Reduced<sup>7</sup>- If the SAR value measured on the middle channel is less than 0.8 W/kg and the conducted power is within  $\pm 0.5$  dB, the remaining channels are reduced per KDB941225 D05 page 4 footnote 2.

Closest Distance to Left: 212.0 mm

Closest Distance to Bottom: 201 mm

Both sides are greater than 20 cm. Therefore, both are excluded from SAR testing.

| Band/<br>Frequency (MHz) | Side                                                         | Required<br>Test Channel                                     | Bandwidth            | Modulation           | RB<br>Allocation     | RB<br>Offset         | Tested/<br>Reduced   |                      |
|--------------------------|--------------------------------------------------------------|--------------------------------------------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| Band 66<br>1710-1780 MHz | Back                                                         | 132072                                                       | 20 MHz               | QPSK                 | 50                   | 25                   | Reduced <sup>7</sup> |                      |
|                          |                                                              | 132322                                                       |                      |                      |                      |                      | Tested               |                      |
|                          |                                                              | 132572                                                       |                      |                      |                      |                      | 100                  | 0                    |
|                          |                                                              | 132072                                                       |                      |                      | Reduced <sup>1</sup> |                      |                      |                      |
|                          |                                                              | 132322                                                       |                      |                      | Reduced <sup>1</sup> |                      |                      |                      |
|                          |                                                              | 132572                                                       |                      |                      | Reduced <sup>1</sup> |                      |                      |                      |
|                          |                                                              | 132072                                                       |                      |                      | Reduced <sup>7</sup> |                      |                      |                      |
|                          |                                                              | 132322                                                       |                      |                      | Tested               |                      |                      |                      |
|                          |                                                              | 132572                                                       |                      |                      | 1                    | 49                   | Reduced <sup>7</sup> |                      |
|                          |                                                              | 132072                                                       |                      |                      |                      |                      | Reduced <sup>2</sup> |                      |
|                          |                                                              | 132322                                                       |                      |                      |                      |                      | Reduced <sup>2</sup> |                      |
|                          |                                                              | 132572                                                       |                      |                      | 99                   | 99                   | Reduced <sup>2</sup> |                      |
|                          |                                                              | 132072                                                       |                      |                      |                      |                      | Reduced <sup>2</sup> |                      |
|                          |                                                              | 132322                                                       |                      |                      |                      |                      | Reduced <sup>3</sup> |                      |
|                          |                                                              | 132572                                                       |                      |                      | 50                   | 25                   | Reduced <sup>3</sup> |                      |
|                          |                                                              | 132072                                                       |                      | Reduced <sup>3</sup> |                      |                      |                      |                      |
|                          |                                                              | 132322                                                       |                      | Reduced <sup>1</sup> |                      |                      |                      |                      |
|                          |                                                              | 132572                                                       |                      | 100                  | 0                    | Reduced <sup>1</sup> |                      |                      |
|                          |                                                              | 132072                                                       |                      |                      |                      | Reduced <sup>1</sup> |                      |                      |
|                          |                                                              | 132322                                                       |                      |                      |                      | Reduced <sup>4</sup> |                      |                      |
|                          |                                                              | 132572                                                       |                      | 1                    | 49                   | Reduced <sup>4</sup> |                      |                      |
|                          |                                                              | 132072                                                       |                      |                      |                      | Reduced <sup>4</sup> |                      |                      |
|                          |                                                              | 132322                                                       |                      |                      |                      | Reduced <sup>4</sup> |                      |                      |
|                          |                                                              | 132572                                                       |                      |                      | 99                   | Reduced <sup>4</sup> |                      |                      |
|                          |                                                              | 132072                                                       |                      |                      |                      | Reduced <sup>4</sup> |                      |                      |
|                          | 132322                                                       | Reduced <sup>4</sup>                                         |                      |                      |                      |                      |                      |                      |
|                          | 132572                                                       | All lower bandwidths (15 MHz, 10 MHz, 5 MHz, 3 MHz, 1.4 MHz) |                      |                      |                      |                      |                      | Reduced <sup>5</sup> |
|                          | Top                                                          | 20 MHz                                                       | QPSK                 | 50                   | 25                   | Reduced <sup>7</sup> |                      |                      |
|                          |                                                              |                                                              |                      |                      |                      | 132322               | Tested               |                      |
|                          |                                                              |                                                              |                      |                      |                      | 132572               | 100                  | 0                    |
|                          |                                                              |                                                              |                      | 132072               | Reduced <sup>1</sup> |                      |                      |                      |
|                          |                                                              |                                                              |                      | 132322               | Reduced <sup>1</sup> |                      |                      |                      |
|                          |                                                              |                                                              |                      | 132572               | Reduced <sup>1</sup> |                      |                      |                      |
|                          |                                                              |                                                              |                      | 132072               | Reduced <sup>7</sup> |                      |                      |                      |
|                          |                                                              |                                                              |                      | 132322               | Tested               |                      |                      |                      |
|                          |                                                              |                                                              |                      | 132572               | 1                    | 0                    | Reduced <sup>7</sup> |                      |
|                          |                                                              |                                                              |                      | 132072               |                      |                      | Reduced <sup>2</sup> |                      |
|                          |                                                              |                                                              |                      | 132322               |                      |                      | Reduced <sup>2</sup> |                      |
|                          |                                                              |                                                              |                      | 132572               | 99                   | 99                   | Reduced <sup>2</sup> |                      |
|                          |                                                              |                                                              |                      | 132072               |                      |                      | Reduced <sup>3</sup> |                      |
|                          |                                                              |                                                              |                      | 132322               |                      |                      | Reduced <sup>3</sup> |                      |
|                          |                                                              |                                                              |                      | 132572               | 50                   | 25                   | Reduced <sup>3</sup> |                      |
|                          |                                                              |                                                              | 132072               | Reduced <sup>3</sup> |                      |                      |                      |                      |
|                          |                                                              |                                                              | 132322               | Reduced <sup>1</sup> |                      |                      |                      |                      |
|                          |                                                              |                                                              | 132572               | 100                  | 0                    | Reduced <sup>1</sup> |                      |                      |
|                          |                                                              |                                                              | 132072               |                      |                      | Reduced <sup>1</sup> |                      |                      |
|                          |                                                              |                                                              | 132322               |                      |                      | Reduced <sup>4</sup> |                      |                      |
|                          |                                                              |                                                              | 132572               | 1                    | 0                    | Reduced <sup>4</sup> |                      |                      |
|                          |                                                              |                                                              | 132072               |                      |                      | Reduced <sup>4</sup> |                      |                      |
|                          |                                                              |                                                              | 132322               |                      |                      | Reduced <sup>4</sup> |                      |                      |
|                          |                                                              |                                                              | 132572               |                      | 99                   | Reduced <sup>4</sup> |                      |                      |
| 132072                   |                                                              |                                                              | Reduced <sup>4</sup> |                      |                      |                      |                      |                      |
| 132322                   |                                                              |                                                              | Reduced <sup>4</sup> |                      |                      |                      |                      |                      |
| 132572                   | All lower bandwidths (15 MHz, 10 MHz, 5 MHz, 3 MHz, 1.4 MHz) |                                                              |                      |                      |                      |                      | Reduced <sup>5</sup> |                      |
| All remaining sides      |                                                              |                                                              |                      |                      |                      |                      | Reduced <sup>6</sup> |                      |

Reduced<sup>1</sup> - If the SAR value in the 50% RB testing is less than 1.45 W/kg, the 100% RB testing is reduced per KDB941225 D05 3) A) I) page 4.

Reduced<sup>2</sup> - If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 3) B) I) page 4.

Reduced<sup>3</sup> - If the SAR value in the 50% RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 4) A) I) page 4.

Reduced<sup>4</sup> - If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 4) B) I) page 5.

Reduced<sup>5</sup> - If the conducted power is within  $\pm 0.5$  dB, all testing where the SAR value is less than 1.45 W/kg is reduced per KDB941225 D05 5) B) I) page 5.

Reduced<sup>6</sup> - When the antenna is more than 25 mm from a side, the test can be reduced per KDB447498 D01 v06 section 4.3.1 1) page 11. See below for calculations.

Reduced<sup>7</sup> - If the SAR value measured on the middle channel is less than 0.8 W/kg and the conducted power is within  $\pm 0.5$  dB, the remaining channels are reduced per KDB941225 D05 page 4 footnote 2.

Closest Distance to Left: 212.0 mm

Closest Distance to Bottom: 201 mm

Both sides are greater than 20 cm. Therefore, both are excluded from SAR testing.

| Band/<br>Frequency (MHz)                                     | Side                 | Required<br>Test Channel | Bandwidth | Modulation | RB<br>Allocation | RB<br>Offset | Tested/<br>Reduced   |
|--------------------------------------------------------------|----------------------|--------------------------|-----------|------------|------------------|--------------|----------------------|
| Band 66<br>1710-1780 MHz                                     | Right                | 132072                   | 20 MHz    | QPSK       | 50               | 25           | Reduced <sup>7</sup> |
|                                                              |                      | 132322                   |           |            |                  |              | Tested               |
|                                                              |                      | 132572                   |           |            |                  |              | Reduced <sup>7</sup> |
|                                                              |                      | 132072                   |           |            | 100              | 0            | Reduced <sup>1</sup> |
|                                                              |                      | 132322                   |           |            |                  |              | Reduced <sup>1</sup> |
|                                                              |                      | 132572                   |           |            |                  |              | Reduced <sup>1</sup> |
|                                                              |                      | 132072                   |           |            | 1                | 49           | Reduced <sup>7</sup> |
|                                                              |                      | 132322                   |           |            |                  |              | Tested               |
|                                                              |                      | 132572                   |           |            |                  |              | Reduced <sup>7</sup> |
|                                                              |                      | 132072                   |           |            |                  | 99           | Reduced <sup>2</sup> |
|                                                              |                      | 132322                   |           |            |                  |              | Reduced <sup>2</sup> |
|                                                              |                      | 132572                   |           |            |                  |              | Reduced <sup>2</sup> |
|                                                              |                      | 132072                   |           | 16QAM      | 50               | 25           | Reduced <sup>3</sup> |
|                                                              |                      | 132322                   |           |            |                  |              | Reduced <sup>3</sup> |
|                                                              |                      | 132572                   |           |            |                  |              | Reduced <sup>3</sup> |
|                                                              |                      | 132072                   |           |            | 100              | 0            | Reduced <sup>1</sup> |
|                                                              |                      | 132322                   |           |            |                  |              | Reduced <sup>1</sup> |
|                                                              |                      | 132572                   |           |            |                  |              | Reduced <sup>1</sup> |
|                                                              |                      | 132072                   |           |            | 1                | 49           | Reduced <sup>4</sup> |
|                                                              |                      | 132322                   |           |            |                  |              | Reduced <sup>4</sup> |
|                                                              |                      | 132572                   |           |            |                  |              | Reduced <sup>4</sup> |
|                                                              |                      | 132072                   |           |            |                  | 99           | Reduced <sup>4</sup> |
|                                                              |                      | 132322                   |           |            |                  |              | Reduced <sup>4</sup> |
|                                                              |                      | 132572                   |           |            |                  |              | Reduced <sup>4</sup> |
|                                                              |                      | 132072                   |           |            |                  |              | Reduced <sup>4</sup> |
|                                                              |                      | 132322                   |           |            |                  |              | Reduced <sup>4</sup> |
| 132572                                                       | Reduced <sup>4</sup> |                          |           |            |                  |              |                      |
| All lower bandwidths (15 MHz, 10 MHz, 5 MHz, 3 MHz, 1.4 MHz) |                      |                          |           |            |                  |              | Reduced <sup>5</sup> |
| All remaining sides                                          |                      |                          |           |            |                  |              | Reduced <sup>6</sup> |

Reduced<sup>1</sup> – If the SAR value in the 50% RB testing is less than 1.45 W/kg, the 100% RB testing is reduced per KDB941225 D05 3) A) I) page 4.

Reduced<sup>2</sup> - If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 3) B) I) page 4.

Reduced<sup>3</sup> - If the SAR value in the 50% RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 4) A) I) page 4.

Reduced<sup>4</sup>- If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 4) B) I) page 5.

Reduced<sup>5</sup>- If the conducted power is within  $\pm 0.5$  dB, all testing where the SAR value is less than 1.45 W/kg is reduced per KDB941225 D05 5) B) I) page 5.

Reduced<sup>6</sup> – When the antenna is more than 25 mm from a side, the test can be reduced per KDB447498 D01 v06 section 4.3.1 1) page 11. See below for calculations.

Reduced<sup>7</sup>- If the SAR value measured on the middle channel is less than 0.8 W/kg and the conducted power is within  $\pm 0.5$  dB, the remaining channels are reduced per KDB941225 D05 page 4 footnote 2.

Closest Distance to Left: 212.0 mm

Closest Distance to Bottom: 201 mm

Both sides are greater than 20 cm. Therefore, both are excluded from SAR testing.

| Band/<br>Frequency (MHz)     | Side                         | Required<br>Test Channel | Bandwidth | Modulation | RB<br>Allocation | RB<br>Offset         | Tested/<br>Reduced   |
|------------------------------|------------------------------|--------------------------|-----------|------------|------------------|----------------------|----------------------|
| Band 26<br>814-849 MHz       | Back                         | 26740                    | 15 MHz    | QPSK       | 25               | 12                   | Reduced <sup>7</sup> |
|                              |                              | 26865                    |           |            |                  |                      | Tested               |
|                              |                              | 26990                    |           |            |                  |                      | Reduced <sup>7</sup> |
|                              |                              | 26740                    |           |            | 50               | 0                    | Reduced <sup>1</sup> |
|                              |                              | 26865                    |           |            |                  |                      | Reduced <sup>1</sup> |
|                              |                              | 26990                    |           |            |                  |                      | Reduced <sup>1</sup> |
|                              |                              | 26740                    |           |            | 1                | 0                    | Reduced <sup>7</sup> |
|                              |                              | 26865                    |           |            |                  |                      | Tested               |
|                              |                              | 26990                    |           |            |                  |                      | Reduced <sup>7</sup> |
|                              |                              | 26740                    |           |            |                  | 24                   | Reduced <sup>2</sup> |
|                              |                              | 26865                    |           |            |                  |                      | Reduced <sup>2</sup> |
|                              |                              | 26990                    |           |            |                  |                      | Reduced <sup>2</sup> |
|                              |                              | 26740                    |           | 16QAM      | 25               | 12                   | Reduced <sup>3</sup> |
|                              |                              | 26865                    |           |            |                  |                      | Reduced <sup>3</sup> |
|                              |                              | 26990                    |           |            |                  |                      | Reduced <sup>3</sup> |
|                              |                              | 26740                    |           |            | 50               | 0                    | Reduced <sup>1</sup> |
|                              |                              | 26865                    |           |            |                  |                      | Reduced <sup>1</sup> |
|                              |                              | 26990                    |           |            |                  |                      | Reduced <sup>1</sup> |
|                              |                              | 26740                    |           |            | 1                | 0                    | Reduced <sup>4</sup> |
|                              |                              | 26865                    |           |            |                  |                      | Reduced <sup>4</sup> |
|                              |                              | 26990                    |           |            |                  |                      | Reduced <sup>4</sup> |
|                              |                              | 26740                    |           |            |                  | 24                   | Reduced <sup>4</sup> |
|                              |                              | 26865                    |           |            |                  |                      | Reduced <sup>4</sup> |
|                              |                              | 26990                    |           |            |                  |                      | Reduced <sup>4</sup> |
|                              |                              | 26990                    |           |            |                  |                      | Reduced <sup>4</sup> |
|                              | All lower bandwidths (5 MHz) |                          |           |            |                  |                      | Reduced <sup>5</sup> |
|                              | Top                          | 26740                    | 15 MHz    | QPSK       | 25               | 12                   | Reduced <sup>7</sup> |
|                              |                              | 26865                    |           |            |                  |                      | Tested               |
|                              |                              | 26990                    |           |            |                  |                      | Reduced <sup>7</sup> |
|                              |                              | 26740                    |           |            | 50               | 0                    | Reduced <sup>1</sup> |
|                              |                              | 26865                    |           |            |                  |                      | Reduced <sup>1</sup> |
|                              |                              | 26990                    |           |            |                  |                      | Reduced <sup>1</sup> |
|                              |                              | 26740                    |           |            | 1                | 0                    | Reduced <sup>7</sup> |
|                              |                              | 26865                    |           |            |                  |                      | Tested               |
|                              |                              | 26990                    |           |            |                  |                      | Reduced <sup>7</sup> |
|                              |                              | 26740                    |           |            |                  | 24                   | Reduced <sup>2</sup> |
|                              |                              | 26865                    |           |            |                  |                      | Reduced <sup>2</sup> |
|                              |                              | 26990                    |           |            |                  |                      | Reduced <sup>2</sup> |
|                              |                              | 26740                    |           | 16QAM      | 25               | 12                   | Reduced <sup>3</sup> |
|                              |                              | 26865                    |           |            |                  |                      | Reduced <sup>3</sup> |
|                              |                              | 26990                    |           |            |                  |                      | Reduced <sup>3</sup> |
|                              |                              | 26740                    |           |            | 50               | 0                    | Reduced <sup>1</sup> |
|                              |                              | 26865                    |           |            |                  |                      | Reduced <sup>1</sup> |
|                              |                              | 26990                    |           |            |                  |                      | Reduced <sup>1</sup> |
|                              |                              | 26740                    |           |            | 1                | 0                    | Reduced <sup>4</sup> |
|                              |                              | 26865                    |           |            |                  |                      | Reduced <sup>4</sup> |
|                              |                              | 26990                    |           |            |                  |                      | Reduced <sup>4</sup> |
|                              |                              | 26740                    |           |            |                  | 24                   | Reduced <sup>4</sup> |
|                              |                              | 26865                    |           |            |                  |                      | Reduced <sup>4</sup> |
|                              |                              | 26990                    |           |            |                  |                      | Reduced <sup>4</sup> |
|                              |                              | 26990                    |           |            |                  |                      | Reduced <sup>4</sup> |
| All lower bandwidths (5 MHz) |                              |                          |           |            |                  | Reduced <sup>5</sup> |                      |
| All remaining sides          |                              |                          |           |            |                  | Reduced <sup>7</sup> |                      |

Reduced<sup>1</sup> – If the SAR value in the 50% RB testing is less than 1.45 W/kg, the 100% RB testing is reduced per KDB941225 D05 3) A) I) page 4.

Reduced<sup>2</sup> - If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 3) B) I) page 4.

Reduced<sup>3</sup> - If the SAR value in the 50% RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 4) A) I) page 4.

Reduced<sup>4</sup>- If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 4) B) I) page 5.

Reduced<sup>5</sup>- If the conducted power is within  $\pm 0.5$  dB, all testing where the SAR value is less than 1.45 W/kg is reduced per KDB941225 D05 5) B) I) page 5.

Reduced<sup>6</sup>- If the SAR value measured on the middle channel is less than 0.8 W/kg and the conducted power is within  $\pm 0.5$  dB, the remaining channels are reduced per KDB941225 D05 page 4 footnote 2.

Reduced<sup>7</sup> – When the antenna is more than 25 mm from a side, the test can be reduced per KDB447498 D01 v06 section 4.3.1 1) page 11. See below for calculations.

Closest Distance to Left: 212.0 mm

Closest Distance to Bottom: 201 mm

Both sides are greater than 20 cm. Therefore, both are excluded from SAR testing.

| Band/<br>Frequency (MHz)     | Side                 | Required<br>Test Channel | Bandwidth | Modulation | RB<br>Allocation | RB<br>Offset | Tested/<br>Reduced   |
|------------------------------|----------------------|--------------------------|-----------|------------|------------------|--------------|----------------------|
| Band 26<br>814-849 MHz       | Right                | 26740                    | 15 MHz    | QPSK       | 25               | 12           | Reduced <sup>7</sup> |
|                              |                      | 26865                    |           |            |                  |              | Tested               |
|                              |                      | 26990                    |           |            |                  |              | Reduced <sup>7</sup> |
|                              |                      | 26740                    |           |            | 50               | 0            | Reduced <sup>1</sup> |
|                              |                      | 26865                    |           |            |                  |              | Reduced <sup>1</sup> |
|                              |                      | 26990                    |           |            |                  |              | Reduced <sup>1</sup> |
|                              |                      | 26740                    |           |            | 1                | 0            | Reduced <sup>7</sup> |
|                              |                      | 26865                    |           |            |                  |              | Tested               |
|                              |                      | 26990                    |           |            |                  |              | Reduced <sup>7</sup> |
|                              |                      | 26740                    |           |            |                  | 24           | Reduced <sup>2</sup> |
|                              |                      | 26865                    |           |            |                  |              | Reduced <sup>2</sup> |
|                              |                      | 26990                    |           |            |                  |              | Reduced <sup>2</sup> |
|                              |                      | 26740                    |           | 16QAM      | 25               | 12           | Reduced <sup>3</sup> |
|                              |                      | 26865                    |           |            |                  |              | Reduced <sup>3</sup> |
|                              |                      | 26990                    |           |            |                  |              | Reduced <sup>3</sup> |
|                              |                      | 26740                    |           |            | 50               | 0            | Reduced <sup>1</sup> |
|                              |                      | 26865                    |           |            |                  |              | Reduced <sup>1</sup> |
|                              |                      | 26990                    |           |            |                  |              | Reduced <sup>1</sup> |
|                              |                      | 26740                    |           |            | 1                | 0            | Reduced <sup>4</sup> |
|                              |                      | 26865                    |           |            |                  |              | Reduced <sup>4</sup> |
|                              |                      | 26990                    |           |            |                  |              | Reduced <sup>4</sup> |
|                              |                      | 26740                    |           |            |                  | 24           | Reduced <sup>4</sup> |
|                              |                      | 26865                    |           |            |                  |              | Reduced <sup>4</sup> |
|                              |                      | 26990                    |           |            |                  |              | Reduced <sup>4</sup> |
|                              |                      | 26740                    |           |            |                  |              | Reduced <sup>4</sup> |
|                              |                      | 26865                    |           |            |                  |              | Reduced <sup>4</sup> |
| 26990                        | Reduced <sup>4</sup> |                          |           |            |                  |              |                      |
| All lower bandwidths (5 MHz) |                      |                          |           |            |                  |              | Reduced <sup>5</sup> |
| All remaining sides          |                      |                          |           |            |                  |              | Reduced <sup>7</sup> |

Reduced<sup>1</sup> – If the SAR value in the 50% RB testing is less than 1.45 W/kg, the 100% RB testing is reduced per KDB941225 D05 3) A) I) page 4.

Reduced<sup>2</sup> - If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 3) B) I) page 4.

Reduced<sup>3</sup> - If the SAR value in the 50% RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 4) A) I) page 4.

Reduced<sup>4</sup>- If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 4) B) I) page 5.

Reduced<sup>5</sup>- If the conducted power is within  $\pm 0.5$  dB, all testing where the SAR value is less than 1.45 W/kg is reduced per KDB941225 D05 5) B) I) page 5.

Reduced<sup>6</sup>- If the SAR value measured on the middle channel is less than 0.8 W/kg and the conducted power is within  $\pm 0.5$  dB, the remaining channels are reduced per KDB941225 D05 page 4 footnote 2.

Reduced<sup>7</sup> – When the antenna is more than 25 mm from a side, the test can be reduced per KDB447498 D01 v06 section 4.3.1 1) page 11. See below for calculations.

Closest Distance to Left: 212.0 mm

Closest Distance to Bottom: 201 mm

Both sides are greater than 20 cm. Therefore, both are excluded from SAR testing.

| Band/<br>Frequency (MHz) | Side                         | Required<br>Test Channel | Bandwidth | Modulation | RB<br>Allocation | RB<br>Offset | Tested/<br>Reduced   |                      |
|--------------------------|------------------------------|--------------------------|-----------|------------|------------------|--------------|----------------------|----------------------|
| Band 5<br>824-849 MHz    | Back                         | 20450                    | 10 MHz    | QPSK       | 25               | 12           | Reduced <sup>7</sup> |                      |
|                          |                              | 20525                    |           |            |                  |              | Tested               |                      |
|                          |                              | 20600                    |           |            |                  |              | Reduced <sup>7</sup> |                      |
|                          |                              | 20450                    |           |            | 50               | 0            | Reduced <sup>1</sup> |                      |
|                          |                              | 20525                    |           |            |                  |              | Reduced <sup>1</sup> |                      |
|                          |                              | 20600                    |           |            |                  |              | Reduced <sup>1</sup> |                      |
|                          |                              | 20450                    |           |            | 1                | 0            | Reduced <sup>7</sup> |                      |
|                          |                              | 20525                    |           |            |                  |              | Tested               |                      |
|                          |                              | 20600                    |           |            |                  |              | Reduced <sup>7</sup> |                      |
|                          |                              | 20450                    |           |            |                  | 24           | Reduced <sup>2</sup> |                      |
|                          |                              | 20525                    |           |            |                  |              | Reduced <sup>2</sup> |                      |
|                          |                              | 20600                    |           |            |                  |              | Reduced <sup>2</sup> |                      |
|                          |                              | 20450                    |           | 16QAM      | 25               | 12           | Reduced <sup>3</sup> |                      |
|                          |                              | 20525                    |           |            |                  |              | Reduced <sup>3</sup> |                      |
|                          |                              | 20600                    |           |            |                  |              | Reduced <sup>3</sup> |                      |
|                          |                              | 20450                    |           |            | 50               | 0            | Reduced <sup>1</sup> |                      |
|                          |                              | 20525                    |           |            |                  |              | Reduced <sup>1</sup> |                      |
|                          |                              | 20600                    |           |            |                  |              | Reduced <sup>1</sup> |                      |
|                          |                              | 20450                    |           |            | 1                | 0            | Reduced <sup>4</sup> |                      |
|                          |                              | 20525                    |           |            |                  |              | Reduced <sup>4</sup> |                      |
|                          |                              | 20600                    |           |            |                  |              | Reduced <sup>4</sup> |                      |
|                          |                              | 20450                    |           |            |                  | 24           | Reduced <sup>4</sup> |                      |
|                          |                              | 20525                    |           |            |                  |              | Reduced <sup>4</sup> |                      |
|                          |                              | 20600                    |           |            |                  |              | Reduced <sup>4</sup> |                      |
|                          | All lower bandwidths (5 MHz) |                          |           |            |                  |              |                      | Reduced <sup>5</sup> |
|                          | Top                          | 20450                    | 10 MHz    | QPSK       | 25               | 12           | Reduced <sup>7</sup> |                      |
|                          |                              | 20525                    |           |            |                  |              | Tested               |                      |
|                          |                              | 20600                    |           |            |                  |              | Reduced <sup>7</sup> |                      |
|                          |                              | 20450                    |           |            | 50               | 0            | Reduced <sup>1</sup> |                      |
|                          |                              | 20525                    |           |            |                  |              | Reduced <sup>1</sup> |                      |
|                          |                              | 20600                    |           |            |                  |              | Reduced <sup>1</sup> |                      |
|                          |                              | 20450                    |           |            | 1                | 0            | Reduced <sup>7</sup> |                      |
|                          |                              | 20525                    |           |            |                  |              | Tested               |                      |
|                          |                              | 20600                    |           |            |                  |              | Reduced <sup>7</sup> |                      |
|                          |                              | 20450                    |           |            |                  | 24           | Reduced <sup>2</sup> |                      |
|                          |                              | 20525                    |           |            |                  |              | Reduced <sup>2</sup> |                      |
|                          |                              | 20600                    |           |            |                  |              | Reduced <sup>2</sup> |                      |
|                          |                              | 20450                    |           | 16QAM      | 25               | 12           | Reduced <sup>3</sup> |                      |
|                          |                              | 20525                    |           |            |                  |              | Reduced <sup>3</sup> |                      |
|                          |                              | 20600                    |           |            |                  |              | Reduced <sup>3</sup> |                      |
|                          |                              | 20450                    |           |            | 50               | 0            | Reduced <sup>1</sup> |                      |
|                          |                              | 20525                    |           |            |                  |              | Reduced <sup>1</sup> |                      |
|                          |                              | 20600                    |           |            |                  |              | Reduced <sup>1</sup> |                      |
|                          |                              | 20450                    |           |            | 1                | 0            | Reduced <sup>4</sup> |                      |
|                          |                              | 20525                    |           |            |                  |              | Reduced <sup>4</sup> |                      |
|                          |                              | 20600                    |           |            |                  |              | Reduced <sup>4</sup> |                      |
|                          |                              | 20450                    |           |            |                  | 24           | Reduced <sup>4</sup> |                      |
|                          |                              | 20525                    |           |            |                  |              | Reduced <sup>4</sup> |                      |
|                          |                              | 20600                    |           |            |                  |              | Reduced <sup>4</sup> |                      |
|                          | All lower bandwidths (5 MHz) |                          |           |            |                  |              |                      | Reduced <sup>5</sup> |
|                          | All remaining sides          |                          |           |            |                  |              |                      | Reduced <sup>7</sup> |

Reduced<sup>1</sup> – If the SAR value in the 50% RB testing is less than 1.45 W/kg, the 100% RB testing is reduced per KDB941225 D05 3) A) I) page 4.

Reduced<sup>2</sup> - If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 3) B) I) page 4.

Reduced<sup>3</sup> - If the SAR value in the 50% RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 4) A) I) page 4.

Reduced<sup>4</sup>- If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 4) B) I) page 5.

Reduced<sup>5</sup>- If the conducted power is within  $\pm 0.5$  dB, all testing where the SAR value is less than 1.45 W/kg is reduced per KDB941225 D05 5) B) I) page 5.

Reduced<sup>6</sup>- If the SAR value measured on the middle channel is less than 0.8 W/kg and the conducted power is within  $\pm 0.5$  dB, the remaining channels are reduced per KDB941225 D05 page 4 footnote 2.

Reduced<sup>7</sup> – When the antenna is more than 25 mm from a side, the test can be reduced per KDB447498 D01 v06 section 4.3.1 1) page 11. See below for calculations.

Closest Distance to Left: 212.0 mm

Closest Distance to Bottom: 201 mm

Both sides are greater than 20 cm. Therefore, both are excluded from SAR testing.

| Band/<br>Frequency (MHz) | Side  | Required<br>Test Channel     | Bandwidth | Modulation | RB<br>Allocation | RB<br>Offset | Tested/<br>Reduced   |  |  |  |  |
|--------------------------|-------|------------------------------|-----------|------------|------------------|--------------|----------------------|--|--|--|--|
| Band 5<br>824-849 MHz    | Right | 20450                        | 15 MHz    | QPSK       | 25               | 12           | Reduced <sup>7</sup> |  |  |  |  |
|                          |       | 20525                        |           |            |                  |              | Tested               |  |  |  |  |
|                          |       | 20600                        |           |            |                  |              | Reduced <sup>7</sup> |  |  |  |  |
|                          |       | 20450                        |           |            | 50               | 0            | Reduced <sup>1</sup> |  |  |  |  |
|                          |       | 20525                        |           |            |                  |              | Reduced <sup>1</sup> |  |  |  |  |
|                          |       | 20600                        |           |            |                  |              | Reduced <sup>1</sup> |  |  |  |  |
|                          |       | 20450                        |           |            | 1                | 0            | Reduced <sup>7</sup> |  |  |  |  |
|                          |       | 20525                        |           |            |                  |              | Tested               |  |  |  |  |
|                          |       | 20600                        |           |            |                  |              | Reduced <sup>7</sup> |  |  |  |  |
|                          |       | 20450                        |           |            |                  | 24           | Reduced <sup>2</sup> |  |  |  |  |
|                          |       | 20525                        |           |            |                  |              | Reduced <sup>2</sup> |  |  |  |  |
|                          |       | 20600                        |           |            |                  |              | Reduced <sup>2</sup> |  |  |  |  |
|                          |       | 20450                        |           | 16QAM      | 25               | 12           | Reduced <sup>3</sup> |  |  |  |  |
|                          |       | 20525                        |           |            |                  |              | Reduced <sup>3</sup> |  |  |  |  |
|                          |       | 20600                        |           |            |                  |              | Reduced <sup>3</sup> |  |  |  |  |
|                          |       | 20450                        |           |            | 50               | 0            | Reduced <sup>1</sup> |  |  |  |  |
|                          |       | 20525                        |           |            |                  |              | Reduced <sup>1</sup> |  |  |  |  |
|                          |       | 20600                        |           |            |                  |              | Reduced <sup>1</sup> |  |  |  |  |
|                          |       | 20450                        |           |            | 1                | 0            | Reduced <sup>4</sup> |  |  |  |  |
|                          |       | 20525                        |           |            |                  |              | Reduced <sup>4</sup> |  |  |  |  |
|                          |       | 20600                        |           |            |                  |              | Reduced <sup>4</sup> |  |  |  |  |
|                          |       | 20450                        |           |            |                  | 24           | Reduced <sup>4</sup> |  |  |  |  |
|                          |       | 20525                        |           |            |                  |              | Reduced <sup>4</sup> |  |  |  |  |
|                          |       | 20600                        |           |            |                  |              | Reduced <sup>4</sup> |  |  |  |  |
|                          |       | All lower bandwidths (5 MHz) |           |            |                  |              | Reduced <sup>5</sup> |  |  |  |  |
|                          |       | All remaining sides          |           |            |                  |              | Reduced <sup>7</sup> |  |  |  |  |

Reduced<sup>1</sup> – If the SAR value in the 50% RB testing is less than 1.45 W/kg, the 100% RB testing is reduced per KDB941225 D05 3) A) I) page 4.

Reduced<sup>2</sup> - If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 3) B) I) page 4.

Reduced<sup>3</sup> - If the SAR value in the 50% RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 4) A) I) page 4.

Reduced<sup>4</sup>- If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 4) B) I) page 5.

Reduced<sup>5</sup>- If the conducted power is within  $\pm 0.5$  dB, all testing where the SAR value is less than 1.45 W/kg is reduced per KDB941225 D05 5) B) I) page 5.

Reduced<sup>6</sup>- If the SAR value measured on the middle channel is less than 0.8 W/kg and the conducted power is within  $\pm 0.5$  dB, the remaining channels are reduced per KDB941225 D05 page 4 footnote 2.

Reduced<sup>7</sup> – When the antenna is more than 25 mm from a side, the test can be reduced per KDB447498 D01 v06 section 4.3.1 1) page 11. See below for calculations.

Closest Distance to Left: 212.0 mm

Closest Distance to Bottom: 201 mm

Both sides are greater than 20 cm. Therefore, both are excluded from SAR testing.

| Band/<br>Frequency (MHz) | Side                | Required<br>Test Channel     | Bandwidth | Modulation | RB<br>Allocation | RB<br>Offset         | Tested/<br>Reduced   |
|--------------------------|---------------------|------------------------------|-----------|------------|------------------|----------------------|----------------------|
| Band 13<br>777-787 MHz   | Back                | 23095                        | 10 MHz    | QPSK       | 25               | 12                   | Tested               |
|                          |                     | 23095                        |           |            | 50               | 0                    | Reduced <sup>1</sup> |
|                          |                     | 23095                        |           |            | 1                | 0                    | Tested               |
|                          |                     | 23095                        |           | 16QAM      |                  | 24                   | Reduced <sup>2</sup> |
|                          |                     | 23095                        |           |            | 25               | 12                   | Reduced <sup>3</sup> |
|                          |                     | 23095                        |           |            | 50               | 0                    | Reduced <sup>1</sup> |
|                          |                     | 23095                        |           |            | 1                | 0                    | Reduced <sup>4</sup> |
|                          |                     | 23095                        |           |            | 24               | Reduced <sup>4</sup> |                      |
|                          |                     | All lower bandwidths (5 MHz) |           |            |                  |                      |                      |
|                          | Top                 | 23095                        | 10 MHz    | QPSK       | 25               | 12                   | Tested               |
|                          |                     | 23095                        |           |            | 50               | 0                    | Reduced <sup>1</sup> |
|                          |                     | 23095                        |           |            | 1                | 0                    | Tested               |
|                          |                     | 23095                        |           | 16QAM      |                  | 24                   | Reduced <sup>2</sup> |
|                          |                     | 23095                        |           |            | 25               | 12                   | Reduced <sup>3</sup> |
|                          |                     | 23095                        |           |            | 50               | 0                    | Reduced <sup>1</sup> |
|                          |                     | 23095                        |           |            | 1                | 0                    | Reduced <sup>4</sup> |
|                          |                     | 23095                        |           |            | 24               | Reduced <sup>4</sup> |                      |
|                          |                     | All lower bandwidths (5 MHz) |           |            |                  |                      |                      |
|                          | Right               | 23095                        | 10 MHz    | QPSK       | 25               | 12                   | Tested               |
|                          |                     | 23095                        |           |            | 50               | 0                    | Tested               |
|                          |                     | 23095                        |           |            | 1                | 0                    | Tested               |
|                          |                     | 23095                        |           | 16QAM      |                  | 24                   | Reduced <sup>2</sup> |
|                          |                     | 23095                        |           |            | 25               | 12                   | Reduced <sup>3</sup> |
|                          |                     | 23095                        |           |            | 50               | 0                    | Reduced <sup>1</sup> |
|                          |                     | 23095                        |           |            | 1                | 0                    | Reduced <sup>4</sup> |
|                          |                     | 23095                        |           |            | 24               | Reduced <sup>4</sup> |                      |
|                          |                     | All lower bandwidths (5 MHz) |           |            |                  |                      |                      |
|                          | All remaining sides |                              |           |            |                  |                      | Reduced <sup>7</sup> |

Reduced<sup>1</sup> – If the SAR value in the 50% RB testing is less than 1.45 W/kg, the 100% RB testing is reduced per KDB941225 D05 3)

A) I) page 4.

Reduced<sup>2</sup> - If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 3)

B) I) page 4.

Reduced<sup>3</sup> - If the SAR value in the 50% RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05

4) A) I) page 4.

Reduced<sup>4</sup>- If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 4)

B) I) page 5.

Reduced<sup>5</sup>- If the conducted power is within  $\pm 0.5$  dB, all testing where the SAR value is less than 1.45 W/kg is reduced per KDB941225 D05 5) B) I) page 5.

Reduced<sup>6</sup>- If the SAR value measured on the middle channel is less than 0.8 W/kg and the conducted power is within  $\pm 0.5$  dB, the remaining channels are reduced per KDB941225 D05 page 4 footnote 2.

Reduced<sup>7</sup> – When the antenna is more than 25 mm from a side, the test can be reduced per KDB447498 D01 v06 section 4.3.1 1) page 11. See below for calculations.

Closest Distance to Left: 212.0 mm

Closest Distance to Bottom: 201 mm

Both sides are greater than 20 cm. Therefore, both are excluded from SAR testing.

| Band/<br>Frequency (MHz) | Side                         | Required<br>Test Channel | Bandwidth | Modulation | RB<br>Allocation | RB<br>Offset | Tested/<br>Reduced   |                      |
|--------------------------|------------------------------|--------------------------|-----------|------------|------------------|--------------|----------------------|----------------------|
| Band 12<br>699-716 MHz   | Back                         | 23060                    | 10 MHz    | QPSK       | 25               | 12           | Reduced <sup>6</sup> |                      |
|                          |                              | 23095                    |           |            |                  |              | Tested               |                      |
|                          |                              | 23129                    |           |            |                  |              | Reduced <sup>6</sup> |                      |
|                          |                              | 23060                    |           |            | 50               | 0            | Reduced <sup>1</sup> |                      |
|                          |                              | 23095                    |           |            |                  |              | Reduced <sup>1</sup> |                      |
|                          |                              | 23129                    |           |            |                  |              | Reduced <sup>1</sup> |                      |
|                          |                              | 23060                    |           |            | 1                | 12           | Tested               |                      |
|                          |                              | 23095                    |           |            |                  |              | Tested               |                      |
|                          |                              | 23129                    |           |            |                  |              | Tested               |                      |
|                          |                              | 23060                    |           |            |                  | 24           | Reduced <sup>1</sup> |                      |
|                          |                              | 23095                    |           |            |                  |              | Reduced <sup>2</sup> |                      |
|                          |                              | 23129                    |           |            |                  |              | Reduced <sup>2</sup> |                      |
|                          |                              | 23060                    |           | 16QAM      | 25               | 12           | Reduced <sup>3</sup> |                      |
|                          |                              | 23095                    |           |            |                  |              | Reduced <sup>3</sup> |                      |
|                          |                              | 23129                    |           |            |                  |              | Reduced <sup>3</sup> |                      |
|                          |                              | 23060                    |           |            | 50               | 0            | Reduced <sup>1</sup> |                      |
|                          |                              | 23095                    |           |            |                  |              | Reduced <sup>1</sup> |                      |
|                          |                              | 23129                    |           |            |                  |              | Reduced <sup>1</sup> |                      |
|                          |                              | 23060                    |           |            | 1                | 0            | Reduced <sup>4</sup> |                      |
|                          |                              | 23095                    |           |            |                  |              | Reduced <sup>4</sup> |                      |
|                          |                              | 23129                    |           |            |                  |              | Reduced <sup>4</sup> |                      |
|                          |                              | 23060                    |           |            |                  | 24           | Reduced <sup>4</sup> |                      |
|                          |                              | 23095                    |           |            |                  |              | Reduced <sup>4</sup> |                      |
|                          |                              | 23129                    |           |            |                  |              | Reduced <sup>4</sup> |                      |
|                          | All lower bandwidths (5 MHz) |                          |           |            |                  |              |                      | Reduced <sup>5</sup> |
|                          | Top                          | 23060                    | 10 MHz    | QPSK       | 25               | 12           | Tested               |                      |
|                          |                              | 23095                    |           |            |                  |              | Tested               |                      |
|                          |                              | 23129                    |           |            |                  |              | Tested               |                      |
|                          |                              | 23060                    |           |            | 50               | 0            | Reduced <sup>1</sup> |                      |
|                          |                              | 23095                    |           |            |                  |              | Tested               |                      |
|                          |                              | 23129                    |           |            |                  |              | Reduced <sup>1</sup> |                      |
|                          |                              | 23060                    |           |            | 1                | 24           | Tested               |                      |
|                          |                              | 23095                    |           |            |                  |              | Tested               |                      |
|                          |                              | 23129                    |           |            |                  |              | Tested               |                      |
|                          |                              | 23060                    |           |            |                  | 49           | Reduced <sup>1</sup> |                      |
|                          |                              | 23095                    |           |            |                  |              | Reduced <sup>2</sup> |                      |
|                          |                              | 23129                    |           |            |                  |              | Reduced <sup>2</sup> |                      |
|                          |                              | 23060                    |           | 16QAM      | 25               | 12           | Reduced <sup>3</sup> |                      |
|                          |                              | 23095                    |           |            |                  |              | Reduced <sup>3</sup> |                      |
|                          |                              | 23129                    |           |            |                  |              | Reduced <sup>3</sup> |                      |
|                          |                              | 23060                    |           |            | 50               | 0            | Reduced <sup>1</sup> |                      |
|                          |                              | 23095                    |           |            |                  |              | Reduced <sup>1</sup> |                      |
|                          |                              | 23129                    |           |            |                  |              | Reduced <sup>1</sup> |                      |
|                          |                              | 23060                    |           |            | 1                | 0            | Reduced <sup>4</sup> |                      |
|                          |                              | 23095                    |           |            |                  |              | Reduced <sup>4</sup> |                      |
|                          |                              | 23129                    |           |            |                  |              | Reduced <sup>4</sup> |                      |
|                          |                              | 23060                    |           |            |                  | 24           | Reduced <sup>4</sup> |                      |
|                          |                              | 23095                    |           |            |                  |              | Reduced <sup>4</sup> |                      |
|                          |                              | 23129                    |           |            |                  |              | Reduced <sup>4</sup> |                      |
|                          | All lower bandwidths (5 MHz) |                          |           |            |                  |              |                      | Reduced <sup>5</sup> |
|                          | All remaining sides          |                          |           |            |                  |              |                      | Reduced <sup>7</sup> |

Reduced<sup>1</sup> – If the SAR value in the 50% RB testing is less than 1.45 W/kg, the 100% RB testing is reduced per KDB941225 D05 3) A) I) page 4.  
Reduced<sup>2</sup> - If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 3) B) I) page 4.  
Reduced<sup>3</sup> - If the SAR value in the 50% RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 4) A) I) page 4.  
Reduced<sup>4</sup>- If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 4) B) I) page 5.  
Reduced<sup>5</sup>- If the conducted power is within ±0.5 dB, all testing where the SAR value is less than 1.45 W/kg is reduced per KDB941225 D05 5) B) I) page 5.  
Reduced<sup>6</sup>- If the SAR value measured on the middle channel is less than 0.8 W/kg and the conducted power is within ±0.5 dB, the remaining channels are reduced per KDB941225 D05 page 4 footnote 2.  
Reduced<sup>7</sup> – When the antenna is more than 25 mm from a side, the test can be reduced per KDB447498 D01 v06 section 4.3.1 1) page 11. See below for calculations.

Closest Distance to Left: 212.0 mm  
Closest Distance to Bottom: 201 mm

Both sides are greater than 20 cm. Therefore, both are excluded from SAR testing.

| Band/<br>Frequency (MHz) | Side                | Required<br>Test Channel     | Bandwidth | Modulation | RB<br>Allocation | RB<br>Offset | Tested/<br>Reduced   |  |  |
|--------------------------|---------------------|------------------------------|-----------|------------|------------------|--------------|----------------------|--|--|
| Band 12<br>699-716 MHz   | Right               | 23060                        | 10 MHz    | QPSK       | 25               | 12           | Tested               |  |  |
|                          |                     | 23095                        |           |            |                  |              | Tested               |  |  |
|                          |                     | 23129                        |           |            |                  |              | Tested               |  |  |
|                          |                     | 23060                        |           |            | 50               | 0            | Reduced <sup>1</sup> |  |  |
|                          |                     | 23095                        |           |            |                  |              | Reduced <sup>1</sup> |  |  |
|                          |                     | 23129                        |           |            |                  |              | Reduced <sup>1</sup> |  |  |
|                          |                     | 23060                        |           |            | 1                | 12           | Tested               |  |  |
|                          |                     | 23095                        |           |            |                  |              | Tested               |  |  |
|                          |                     | 23129                        |           |            |                  |              | Tested               |  |  |
|                          |                     | 23060                        |           |            |                  | 24           | Reduced <sup>1</sup> |  |  |
|                          |                     | 23095                        |           |            |                  |              | Reduced <sup>2</sup> |  |  |
|                          |                     | 23129                        |           |            |                  |              | Reduced <sup>2</sup> |  |  |
|                          |                     | 23060                        |           | 16QAM      | 25               | 12           | Reduced <sup>3</sup> |  |  |
|                          |                     | 23095                        |           |            |                  |              | Reduced <sup>3</sup> |  |  |
|                          |                     | 23129                        |           |            |                  |              | Reduced <sup>3</sup> |  |  |
|                          |                     | 23060                        |           |            | 50               | 0            | Reduced <sup>1</sup> |  |  |
|                          |                     | 23095                        |           |            |                  |              | Reduced <sup>1</sup> |  |  |
|                          |                     | 23129                        |           |            |                  |              | Reduced <sup>1</sup> |  |  |
|                          |                     | 23060                        |           |            | 1                | 0            | Reduced <sup>4</sup> |  |  |
|                          |                     | 23095                        |           |            |                  |              | Reduced <sup>4</sup> |  |  |
|                          |                     | 23129                        |           |            |                  |              | Reduced <sup>4</sup> |  |  |
|                          |                     | 23060                        |           |            |                  | 24           | Reduced <sup>4</sup> |  |  |
|                          |                     | 23095                        |           |            |                  |              | Reduced <sup>4</sup> |  |  |
|                          |                     | 23129                        |           |            |                  |              | Reduced <sup>4</sup> |  |  |
|                          |                     | All lower bandwidths (5 MHz) |           |            |                  |              | Reduced <sup>5</sup> |  |  |
|                          | All remaining sides |                              |           |            |                  |              | Reduced <sup>7</sup> |  |  |

Reduced<sup>1</sup> – If the SAR value in the 50% RB testing is less than 1.45 W/kg, the 100% RB testing is reduced per KDB941225 D05 3) A) I) page 4.

Reduced<sup>2</sup> - If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 3) B) I) page 4.

Reduced<sup>3</sup> - If the SAR value in the 50% RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 4) A) I) page 4.

Reduced<sup>4</sup>- If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 4) B) I) page 5.

Reduced<sup>5</sup>- If the conducted power is within  $\pm 0.5$  dB, all testing where the SAR value is less than 1.45 W/kg is reduced per KDB941225 D05 5) B) I) page 5.

Reduced<sup>6</sup>- If the SAR value measured on the middle channel is less than 0.8 W/kg and the conducted power is within  $\pm 0.5$  dB, the remaining channels are reduced per KDB941225 D05 page 4 footnote 2.

Reduced<sup>7</sup> – When the antenna is more than 25 mm from a side, the test can be reduced per KDB447498 D01 v06 section 4.3.1 1) page 11. See below for calculations.

Closest Distance to Left: 212.0 mm

Closest Distance to Bottom: 201 mm

Both sides are greater than 20 cm. Therefore, both are excluded from SAR testing.

| Band/<br>Frequency (MHz) | Side                         | Required<br>Test Channel | Bandwidth | Modulation | RB<br>Allocation | RB<br>Offset | Tested/<br>Reduced   |                      |
|--------------------------|------------------------------|--------------------------|-----------|------------|------------------|--------------|----------------------|----------------------|
| Band 17<br>704-716 MHz   | Back                         | 23780                    | 10 MHz    | QPSK       | 25               | 12           | Reduced <sup>6</sup> |                      |
|                          |                              | 23790                    |           |            |                  |              | Tested               |                      |
|                          |                              | 23800                    |           |            |                  |              | Reduced <sup>6</sup> |                      |
|                          |                              | 23780                    |           |            | 50               | 0            | Reduced <sup>1</sup> |                      |
|                          |                              | 23790                    |           |            |                  |              | Reduced <sup>1</sup> |                      |
|                          |                              | 23800                    |           |            |                  |              | Reduced <sup>1</sup> |                      |
|                          |                              | 23780                    |           |            | 1                | 12           | Tested               |                      |
|                          |                              | 23790                    |           |            |                  |              | Tested               |                      |
|                          |                              | 23800                    |           |            |                  |              | Tested               |                      |
|                          |                              | 23780                    |           |            |                  | 24           | Reduced <sup>1</sup> |                      |
|                          |                              | 23790                    |           |            |                  |              | Reduced <sup>2</sup> |                      |
|                          |                              | 23800                    |           |            |                  |              | Reduced <sup>2</sup> |                      |
|                          |                              | 23780                    |           | 16QAM      | 25               | 12           | Reduced <sup>3</sup> |                      |
|                          |                              | 23790                    |           |            |                  |              | Reduced <sup>3</sup> |                      |
|                          |                              | 23800                    |           |            |                  |              | Reduced <sup>3</sup> |                      |
|                          |                              | 23780                    |           |            | 50               | 0            | Reduced <sup>1</sup> |                      |
|                          |                              | 23790                    |           |            |                  |              | Reduced <sup>1</sup> |                      |
|                          |                              | 23800                    |           |            |                  |              | Reduced <sup>1</sup> |                      |
|                          |                              | 23780                    |           |            | 1                | 0            | Reduced <sup>4</sup> |                      |
|                          |                              | 23790                    |           |            |                  |              | Reduced <sup>4</sup> |                      |
|                          |                              | 23800                    |           |            |                  |              | Reduced <sup>4</sup> |                      |
|                          |                              | 23780                    |           |            |                  | 24           | Reduced <sup>4</sup> |                      |
|                          |                              | 23790                    |           |            |                  |              | Reduced <sup>4</sup> |                      |
|                          |                              | 23800                    |           |            |                  |              | Reduced <sup>4</sup> |                      |
|                          | All lower bandwidths (5 MHz) |                          |           |            |                  |              |                      | Reduced <sup>5</sup> |
|                          | Top                          | 23780                    | 10 MHz    | QPSK       | 25               | 12           | Tested               |                      |
|                          |                              | 23790                    |           |            |                  |              | Tested               |                      |
|                          |                              | 23800                    |           |            |                  |              | Tested               |                      |
|                          |                              | 23780                    |           |            | 50               | 0            | Reduced <sup>1</sup> |                      |
|                          |                              | 23790                    |           |            |                  |              | Tested               |                      |
|                          |                              | 23800                    |           |            |                  |              | Reduced <sup>1</sup> |                      |
|                          |                              | 23780                    |           |            | 1                | 24           | Tested               |                      |
|                          |                              | 23790                    |           |            |                  |              | Tested               |                      |
|                          |                              | 23800                    |           |            |                  |              | Tested               |                      |
|                          |                              | 23780                    |           |            |                  | 49           | Reduced <sup>1</sup> |                      |
|                          |                              | 23790                    |           |            |                  |              | Reduced <sup>2</sup> |                      |
|                          |                              | 23800                    |           |            |                  |              | Reduced <sup>2</sup> |                      |
|                          |                              | 23780                    |           | 16QAM      | 25               | 12           | Reduced <sup>3</sup> |                      |
|                          |                              | 23790                    |           |            |                  |              | Reduced <sup>3</sup> |                      |
|                          |                              | 23800                    |           |            |                  |              | Reduced <sup>3</sup> |                      |
|                          |                              | 23780                    |           |            | 50               | 0            | Reduced <sup>1</sup> |                      |
|                          |                              | 23790                    |           |            |                  |              | Reduced <sup>1</sup> |                      |
|                          |                              | 23800                    |           |            |                  |              | Reduced <sup>1</sup> |                      |
|                          |                              | 23780                    |           |            | 1                | 0            | Reduced <sup>4</sup> |                      |
|                          |                              | 23790                    |           |            |                  |              | Reduced <sup>4</sup> |                      |
|                          |                              | 23800                    |           |            |                  |              | Reduced <sup>4</sup> |                      |
|                          |                              | 23780                    |           |            |                  | 24           | Reduced <sup>4</sup> |                      |
|                          |                              | 23790                    |           |            |                  |              | Reduced <sup>4</sup> |                      |
|                          |                              | 23800                    |           |            |                  |              | Reduced <sup>4</sup> |                      |
|                          | All lower bandwidths (5 MHz) |                          |           |            |                  |              |                      | Reduced <sup>5</sup> |
|                          | All remaining sides          |                          |           |            |                  |              |                      | Reduced <sup>7</sup> |

Reduced<sup>1</sup> – If the SAR value in the 50% RB testing is less than 1.45 W/kg, the 100% RB testing is reduced per KDB941225 D05 3) A) I) page 4.

Reduced<sup>2</sup> - If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 3) B) I) page 4.

Reduced<sup>3</sup> - If the SAR value in the 50% RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 4) A) I) page 4.

Reduced<sup>4</sup>- If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 4) B) I) page 5.

Reduced<sup>5</sup>- If the conducted power is within  $\pm 0.5$  dB, all testing where the SAR value is less than 1.45 W/kg is reduced per KDB941225 D05 5) B) I) page 5.

Reduced<sup>6</sup>- If the SAR value measured on the middle channel is less than 0.8 W/kg and the conducted power is within  $\pm 0.5$  dB, the remaining channels are reduced per KDB941225 D05 page 4 footnote 2.

Reduced<sup>7</sup> – When the antenna is more than 25 mm from a side, the test can be reduced per KDB447498 D01 v06 section 4.3.1 1) page 11. See below for calculations.

Closest Distance to Left: 212.0 mm

Closest Distance to Bottom: 201 mm

Both sides are greater than 20 cm. Therefore, both are excluded from SAR testing.

| Band/<br>Frequency (MHz) | Side  | Required<br>Test Channel     | Bandwidth | Modulation | RB<br>Allocation | RB<br>Offset | Tested/<br>Reduced   |  |  |  |  |
|--------------------------|-------|------------------------------|-----------|------------|------------------|--------------|----------------------|--|--|--|--|
| Band 17<br>704-716 MHz   | Right | 23780                        | 10 MHz    | QPSK       | 25               | 12           | Tested               |  |  |  |  |
|                          |       | 23790                        |           |            |                  |              | Tested               |  |  |  |  |
|                          |       | 23800                        |           |            |                  |              | Tested               |  |  |  |  |
|                          |       | 23780                        |           |            | 50               | 0            | Reduced <sup>1</sup> |  |  |  |  |
|                          |       | 23790                        |           |            |                  |              | Reduced <sup>1</sup> |  |  |  |  |
|                          |       | 23800                        |           |            |                  |              | Reduced <sup>1</sup> |  |  |  |  |
|                          |       | 23780                        |           |            | 1                | 12           | Tested               |  |  |  |  |
|                          |       | 23790                        |           |            |                  |              | Tested               |  |  |  |  |
|                          |       | 23800                        |           |            |                  |              | Tested               |  |  |  |  |
|                          |       | 23780                        |           |            |                  | 24           | Reduced <sup>1</sup> |  |  |  |  |
|                          |       | 23790                        |           |            |                  |              | Reduced <sup>2</sup> |  |  |  |  |
|                          |       | 23800                        |           |            |                  |              | Reduced <sup>2</sup> |  |  |  |  |
|                          |       | 23780                        |           | 16QAM      | 25               | 12           | Reduced <sup>3</sup> |  |  |  |  |
|                          |       | 23790                        |           |            |                  |              | Reduced <sup>3</sup> |  |  |  |  |
|                          |       | 23800                        |           |            |                  |              | Reduced <sup>3</sup> |  |  |  |  |
|                          |       | 23780                        |           |            | 50               | 0            | Reduced <sup>1</sup> |  |  |  |  |
|                          |       | 23790                        |           |            |                  |              | Reduced <sup>1</sup> |  |  |  |  |
|                          |       | 23800                        |           |            |                  |              | Reduced <sup>1</sup> |  |  |  |  |
|                          |       | 23780                        |           |            | 1                | 0            | Reduced <sup>4</sup> |  |  |  |  |
|                          |       | 23790                        |           |            |                  |              | Reduced <sup>4</sup> |  |  |  |  |
|                          |       | 23800                        |           |            |                  |              | Reduced <sup>4</sup> |  |  |  |  |
|                          |       | 23780                        |           |            |                  | 24           | Reduced <sup>4</sup> |  |  |  |  |
|                          |       | 23790                        |           |            |                  |              | Reduced <sup>4</sup> |  |  |  |  |
|                          |       | 23800                        |           |            |                  |              | Reduced <sup>4</sup> |  |  |  |  |
|                          |       | All lower bandwidths (5 MHz) |           |            |                  |              | Reduced <sup>5</sup> |  |  |  |  |
|                          |       | All remaining sides          |           |            |                  |              | Reduced <sup>7</sup> |  |  |  |  |

Reduced<sup>1</sup> – If the SAR value in the 50% RB testing is less than 1.45 W/kg, the 100% RB testing is reduced per KDB941225 D05 3) A) I) page 4.

Reduced<sup>2</sup> - If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 3) B) I) page 4.

Reduced<sup>3</sup> - If the SAR value in the 50% RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 4) A) I) page 4.

Reduced<sup>4</sup>- If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 4) B) I) page 5.

Reduced<sup>5</sup>- If the conducted power is within  $\pm 0.5$  dB, all testing where the SAR value is less than 1.45 W/kg is reduced per KDB941225 D05 5) B) I) page 5.

Reduced<sup>6</sup>- If the SAR value measured on the middle channel is less than 0.8 W/kg and the conducted power is within  $\pm 0.5$  dB, the remaining channels are reduced per KDB941225 D05 page 4 footnote 2.

Reduced<sup>7</sup> – When the antenna is more than 25 mm from a side, the test can be reduced per KDB447498 D01 v06 section 4.3.1 1) page 11. See below for calculations.

Closest Distance to Left: 212.0 mm

Closest Distance to Bottom: 201 mm

Both sides are greater than 20 cm. Therefore, both are excluded from SAR testing.

| Band/<br>Frequency (MHz) | Side                         | Required<br>Test Channel | Bandwidth | Modulation | RB<br>Allocation | RB<br>Offset | Tested/<br>Reduced   |
|--------------------------|------------------------------|--------------------------|-----------|------------|------------------|--------------|----------------------|
| Band 30<br>2305-2315 MHz | Back                         | 27710                    | 10 MHz    | QPSK       | 25               | 12           | Tested               |
|                          |                              | 27710                    |           |            | 50               | 0            | Reduced <sup>1</sup> |
|                          |                              | 27710                    |           |            | 1                | 0            | Tested               |
|                          |                              | 27710                    |           |            |                  | 24           | Reduced <sup>2</sup> |
|                          |                              | 27710                    |           | 16QAM      | 25               | 12           | Reduced <sup>3</sup> |
|                          |                              | 27710                    |           |            | 50               | 0            | Reduced <sup>1</sup> |
|                          |                              | 27710                    |           |            | 1                | 0            | Reduced <sup>4</sup> |
|                          |                              | 27710                    |           |            |                  | 24           | Reduced <sup>4</sup> |
|                          | All lower bandwidths (5 MHz) |                          |           |            |                  |              | Reduced <sup>5</sup> |
|                          | Top                          | 27710                    | 10 MHz    | QPSK       | 25               | 12           | Tested               |
|                          |                              | 27710                    |           |            | 50               | 0            | Tested               |
|                          |                              | 27710                    |           |            | 1                | 0            | Tested               |
|                          |                              | 27710                    |           |            |                  | 24           | Reduced <sup>2</sup> |
|                          |                              | 27710                    |           | 16QAM      | 25               | 12           | Reduced <sup>3</sup> |
|                          |                              | 27710                    |           |            | 50               | 0            | Reduced <sup>1</sup> |
|                          |                              | 27710                    |           |            | 1                | 0            | Reduced <sup>4</sup> |
|                          |                              | 27710                    |           |            |                  | 24           | Reduced <sup>4</sup> |
|                          | All lower bandwidths (5 MHz) |                          |           |            |                  |              |                      |
|                          | Right                        | 27710                    | 10 MHz    | QPSK       | 25               | 12           | Tested               |
|                          |                              | 27710                    |           |            | 50               | 0            | Reduced <sup>1</sup> |
|                          |                              | 27710                    |           |            | 1                | 0            | Tested               |
|                          |                              | 27710                    |           |            |                  | 24           | Reduced <sup>2</sup> |
|                          |                              | 27710                    |           | 16QAM      | 25               | 12           | Reduced <sup>3</sup> |
|                          |                              | 27710                    |           |            | 50               | 0            | Reduced <sup>1</sup> |
|                          |                              | 27710                    |           |            | 1                | 0            | Reduced <sup>4</sup> |
|                          |                              | 27710                    |           |            |                  | 24           | Reduced <sup>4</sup> |
|                          | All lower bandwidths (5 MHz) |                          |           |            |                  |              | Reduced <sup>5</sup> |
|                          | All remaining sides          |                          |           |            |                  |              | Reduced <sup>7</sup> |

Reduced<sup>1</sup> – If the SAR value in the 50% RB testing is less than 1.45 W/kg, the 100% RB testing is reduced per KDB941225 D05 3)

A) I) page 4.

Reduced<sup>2</sup> - If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 3)

B) I) page 4.

Reduced<sup>3</sup> - If the SAR value in the 50% RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05

4) A) I) page 4.

Reduced<sup>4</sup>- If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 4)

B) I) page 5.

Reduced<sup>5</sup>- If the conducted power is within  $\pm 0.5$  dB, all testing where the SAR value is less than 1.45 W/kg is reduced per KDB941225 D05 5) B) I) page 5.

Reduced<sup>6</sup>- If the SAR value measured on the middle channel is less than 0.8 W/kg and the conducted power is within  $\pm 0.5$  dB, the remaining channels are reduced per KDB941225 D05 page 4 footnote 2.

Reduced<sup>7</sup> – When the antenna is more than 25 mm from a side, the test can be reduced per KDB447498 D01 v06 section 4.3.1 1) page 11. See below for calculations.

Closest Distance to Left: 212.0 mm

Closest Distance to Bottom: 201 mm

Both sides are greater than 20 cm. Therefore, both are excluded from SAR testing.

| Band/<br>Frequency (MHz) | Side                                                         | Required<br>Test Channel                                     | Bandwidth | Modulation           | RB<br>Allocation | RB<br>Offset | Tested/<br>Reduced   |                      |                      |
|--------------------------|--------------------------------------------------------------|--------------------------------------------------------------|-----------|----------------------|------------------|--------------|----------------------|----------------------|----------------------|
| Band 7<br>2500-2570 MHz  | Back                                                         | 20850                                                        | 20 MHz    | QPSK                 | 50               | 0            | Reduced <sup>7</sup> |                      |                      |
|                          |                                                              | 21100                                                        |           |                      |                  |              | Tested               |                      |                      |
|                          |                                                              | 21350                                                        |           |                      |                  |              | Reduced <sup>7</sup> |                      |                      |
|                          |                                                              | 20850                                                        |           |                      |                  |              | Reduced <sup>1</sup> |                      |                      |
|                          |                                                              | 21100                                                        |           |                      | 100              | 0            | Reduced <sup>1</sup> |                      |                      |
|                          |                                                              | 21350                                                        |           |                      |                  |              | Reduced <sup>1</sup> |                      |                      |
|                          |                                                              | 20850                                                        |           |                      |                  |              | Reduced <sup>7</sup> |                      |                      |
|                          |                                                              | 21100                                                        |           |                      |                  |              | Tested               |                      |                      |
|                          |                                                              | 21350                                                        |           |                      | 1                | 49           | Reduced <sup>7</sup> |                      |                      |
|                          |                                                              | 20850                                                        |           |                      |                  |              | Reduced <sup>2</sup> |                      |                      |
|                          |                                                              | 21100                                                        |           |                      |                  | 99           | Reduced <sup>2</sup> |                      |                      |
|                          |                                                              | 21350                                                        |           |                      |                  |              | Reduced <sup>2</sup> |                      |                      |
|                          |                                                              | 20850                                                        |           | 16QAM                | 50               | 25           | Reduced <sup>3</sup> |                      |                      |
|                          |                                                              | 21100                                                        |           |                      |                  |              | Reduced <sup>3</sup> |                      |                      |
|                          |                                                              | 21350                                                        |           |                      | 100              | 0            | Reduced <sup>3</sup> |                      |                      |
|                          |                                                              | 20850                                                        |           |                      |                  |              | Reduced <sup>1</sup> |                      |                      |
|                          |                                                              | 21100                                                        |           |                      | 1                | 49           | Reduced <sup>1</sup> |                      |                      |
|                          |                                                              | 21350                                                        |           |                      |                  |              | Reduced <sup>1</sup> |                      |                      |
|                          |                                                              | 20850                                                        |           |                      |                  | 99           | Reduced <sup>4</sup> |                      |                      |
|                          |                                                              | 21100                                                        |           |                      |                  |              | Reduced <sup>4</sup> |                      |                      |
|                          |                                                              | 21350                                                        |           |                      |                  |              | Reduced <sup>4</sup> |                      |                      |
|                          |                                                              | 20850                                                        |           |                      |                  |              | Reduced <sup>4</sup> |                      |                      |
|                          |                                                              | 21100                                                        |           |                      |                  |              | Reduced <sup>4</sup> |                      |                      |
|                          |                                                              | 21350                                                        |           | Reduced <sup>4</sup> |                  |              |                      |                      |                      |
|                          | All lower bandwidths (15 MHz, 10 MHz, 5 MHz, 3 MHz, 1.4 MHz) |                                                              |           |                      |                  |              |                      | Reduced <sup>5</sup> |                      |
|                          | Top                                                          | 20850                                                        | 20 MHz    | QPSK                 | 50               | 25           | Tested               |                      |                      |
|                          |                                                              | 21100                                                        |           |                      |                  |              | Tested               |                      |                      |
|                          |                                                              | 21350                                                        |           |                      |                  |              | Tested               |                      |                      |
|                          |                                                              | 20850                                                        |           |                      |                  |              | Reduced <sup>1</sup> |                      |                      |
|                          |                                                              | 21100                                                        |           |                      | 100              | 0            | Tested               |                      |                      |
|                          |                                                              | 21350                                                        |           |                      |                  |              | Reduced <sup>1</sup> |                      |                      |
|                          |                                                              | 20850                                                        |           |                      |                  |              | Tested               |                      |                      |
|                          |                                                              | 21100                                                        |           |                      |                  |              | Tested               |                      |                      |
|                          |                                                              | 21350                                                        |           |                      | 1                | 49           | Tested               |                      |                      |
|                          |                                                              | 20850                                                        |           |                      |                  |              | Tested               |                      |                      |
|                          |                                                              | 21100                                                        |           |                      |                  | 99           | Reduced <sup>2</sup> |                      |                      |
|                          |                                                              | 21350                                                        |           |                      |                  |              | Reduced <sup>2</sup> |                      |                      |
|                          |                                                              | 20850                                                        |           | 16QAM                | 50               | 25           | Reduced <sup>2</sup> |                      |                      |
|                          |                                                              | 21100                                                        |           |                      |                  |              | Reduced <sup>3</sup> |                      |                      |
|                          |                                                              | 21350                                                        |           |                      | 100              | 0            | Reduced <sup>3</sup> |                      |                      |
|                          |                                                              | 20850                                                        |           |                      |                  |              | Reduced <sup>1</sup> |                      |                      |
|                          |                                                              | 21100                                                        |           |                      | 1                | 49           | Reduced <sup>1</sup> |                      |                      |
|                          |                                                              | 21350                                                        |           |                      |                  |              | Reduced <sup>1</sup> |                      |                      |
|                          |                                                              | 20850                                                        |           |                      |                  | 99           | Reduced <sup>4</sup> |                      |                      |
|                          |                                                              | 21100                                                        |           |                      |                  |              | Reduced <sup>4</sup> |                      |                      |
|                          |                                                              | 21350                                                        |           |                      |                  |              | Reduced <sup>4</sup> |                      |                      |
|                          |                                                              | 20850                                                        |           |                      |                  |              | Reduced <sup>4</sup> |                      |                      |
|                          |                                                              | 21100                                                        |           |                      |                  |              | Reduced <sup>4</sup> |                      |                      |
|                          |                                                              | 21350                                                        |           | Reduced <sup>4</sup> |                  |              |                      |                      |                      |
|                          |                                                              | All lower bandwidths (15 MHz, 10 MHz, 5 MHz, 3 MHz, 1.4 MHz) |           |                      |                  |              |                      |                      | Reduced <sup>5</sup> |
| All remaining sides      |                                                              |                                                              |           |                      |                  |              | Reduced <sup>6</sup> |                      |                      |

Reduced<sup>1</sup> – If the SAR value in the 50% RB testing is less than 1.45 W/kg, the 100% RB testing is reduced per KDB941225 D05 3) A) I) page 4.

Reduced<sup>2</sup> - If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 3) B) I) page 4.

Reduced<sup>3</sup> - If the SAR value in the 50% RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 4) A) I) page 4.

Reduced<sup>4</sup> - If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 4) B) I) page 5.

Reduced<sup>5</sup> - If the conducted power is within  $\pm 0.5$  dB, all testing where the SAR value is less than 1.45 W/kg is reduced per KDB941225 D05 5) B) I) page 5.

Reduced<sup>6</sup> – When the antenna is more than 25 mm from a side, the test can be reduced per KDB447498 D01 v06 section 4.3.1 1) page 11. See below for calculations.

Reduced<sup>7</sup> – If the SAR value measured on the middle channel is less than 0.8 W/kg and the conducted power is within  $\pm 0.5$  dB, the remaining channels are reduced per KDB941225 D05 page 4 footnote 2.

Closest Distance to Left: 212.0 mm

Closest Distance to Bottom: 201 mm

Both sides are greater than 20 cm. Therefore, both are excluded from SAR testing.

| Band/<br>Frequency (MHz) | Side  | Required<br>Test Channel                                     | Bandwidth | Modulation | RB<br>Allocation | RB<br>Offset | Tested/<br>Reduced   |  |                      |  |  |  |  |
|--------------------------|-------|--------------------------------------------------------------|-----------|------------|------------------|--------------|----------------------|--|----------------------|--|--|--|--|
| Band 7<br>2500-2570 MHz  | Right | 20850                                                        | 20 MHz    | QPSK       | 50               | 0            | Reduced <sup>7</sup> |  |                      |  |  |  |  |
|                          |       | 21100                                                        |           |            |                  |              | Tested               |  |                      |  |  |  |  |
|                          |       | 21350                                                        |           |            |                  |              | Reduced <sup>7</sup> |  |                      |  |  |  |  |
|                          |       | 20850                                                        |           |            | 100              | 0            | Reduced <sup>1</sup> |  |                      |  |  |  |  |
|                          |       | 21100                                                        |           |            |                  |              | Reduced <sup>1</sup> |  |                      |  |  |  |  |
|                          |       | 21350                                                        |           |            |                  |              | Reduced <sup>1</sup> |  |                      |  |  |  |  |
|                          |       | 20850                                                        |           |            | 1                | 49           | Reduced <sup>7</sup> |  |                      |  |  |  |  |
|                          |       | 21100                                                        |           |            |                  |              | Tested               |  |                      |  |  |  |  |
|                          |       | 21350                                                        |           |            |                  |              | Reduced <sup>7</sup> |  |                      |  |  |  |  |
|                          |       | 20850                                                        |           |            |                  | 99           | Reduced <sup>2</sup> |  |                      |  |  |  |  |
|                          |       | 21100                                                        |           |            |                  |              | Reduced <sup>2</sup> |  |                      |  |  |  |  |
|                          |       | 21350                                                        |           |            |                  |              | Reduced <sup>2</sup> |  |                      |  |  |  |  |
|                          |       | 20850                                                        |           | 16QAM      | 50               | 25           | Reduced <sup>3</sup> |  |                      |  |  |  |  |
|                          |       | 21100                                                        |           |            |                  |              | Reduced <sup>3</sup> |  |                      |  |  |  |  |
|                          |       | 21350                                                        |           |            |                  |              | Reduced <sup>3</sup> |  |                      |  |  |  |  |
|                          |       | 20850                                                        |           |            | 100              | 0            | Reduced <sup>1</sup> |  |                      |  |  |  |  |
|                          |       | 21100                                                        |           |            |                  |              | Reduced <sup>1</sup> |  |                      |  |  |  |  |
|                          |       | 21350                                                        |           |            |                  |              | Reduced <sup>1</sup> |  |                      |  |  |  |  |
|                          |       | 20850                                                        |           |            | 1                | 49           | Reduced <sup>4</sup> |  |                      |  |  |  |  |
|                          |       | 21100                                                        |           |            |                  |              | Reduced <sup>4</sup> |  |                      |  |  |  |  |
|                          |       | 21350                                                        |           |            |                  |              | Reduced <sup>4</sup> |  |                      |  |  |  |  |
|                          |       | 20850                                                        |           |            |                  | 99           | Reduced <sup>4</sup> |  |                      |  |  |  |  |
|                          |       | 21100                                                        |           |            |                  |              | Reduced <sup>4</sup> |  |                      |  |  |  |  |
|                          |       | 21350                                                        |           |            |                  |              | Reduced <sup>4</sup> |  |                      |  |  |  |  |
|                          |       | All lower bandwidths (15 MHz, 10 MHz, 5 MHz, 3 MHz, 1.4 MHz) |           |            |                  |              |                      |  | Reduced <sup>5</sup> |  |  |  |  |
|                          |       | All remaining sides                                          |           |            |                  |              |                      |  | Reduced <sup>6</sup> |  |  |  |  |

Reduced<sup>1</sup> – If the SAR value in the 50% RB testing is less than 1.45 W/kg, the 100% RB testing is reduced per KDB941225 D05 3) A) I) page 4.

Reduced<sup>2</sup> - If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 3) B) I) page 4.

Reduced<sup>3</sup> - If the SAR value in the 50% RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 4) A) I) page 4.

Reduced<sup>4</sup> - If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 4) B) I) page 5.

Reduced<sup>5</sup> - If the conducted power is within  $\pm 0.5$  dB, all testing where the SAR value is less than 1.45 W/kg is reduced per KDB941225 D05 5) B) I) page 5.

Reduced<sup>6</sup> – When the antenna is more than 25 mm from a side, the test can be reduced per KDB447498 D01 v06 section 4.3.1 1) page 11. See below for calculations.

Reduced<sup>7</sup> – If the SAR value measured on the middle channel is less than 0.8 W/kg and the conducted power is within  $\pm 0.5$  dB, the remaining channels are reduced per KDB941225 D05 page 4 footnote 2.

Closest Distance to Left: 212.0 mm

Closest Distance to Bottom: 201 mm

Both sides are greater than 20 cm. Therefore, both are excluded from SAR testing.

| Band/<br>Frequency (MHz) | Side | Required<br>Test Channel                                     | Bandwidth | Modulation | RB<br>Allocation | RB<br>Offset | Tested/<br>Reduced   |                      |  |  |  |  |
|--------------------------|------|--------------------------------------------------------------|-----------|------------|------------------|--------------|----------------------|----------------------|--|--|--|--|
| Band 41<br>2496-2690 MHz | Back | 39750                                                        | 20 MHz    | QPSK       | 50               | 0            | Reduced <sup>7</sup> |                      |  |  |  |  |
|                          |      | 40135                                                        |           |            |                  |              | Reduced <sup>7</sup> |                      |  |  |  |  |
|                          |      | 40620                                                        |           |            |                  |              | Tested               |                      |  |  |  |  |
|                          |      | 41105                                                        |           |            |                  |              | Reduced <sup>7</sup> |                      |  |  |  |  |
|                          |      | 41490                                                        |           |            |                  |              | Reduced <sup>7</sup> |                      |  |  |  |  |
|                          |      | 39750                                                        |           |            | 100              | 0            | Reduced <sup>1</sup> |                      |  |  |  |  |
|                          |      | 40135                                                        |           |            |                  |              | Reduced <sup>1</sup> |                      |  |  |  |  |
|                          |      | 40620                                                        |           |            |                  |              | Reduced <sup>1</sup> |                      |  |  |  |  |
|                          |      | 41105                                                        |           |            |                  |              | Reduced <sup>1</sup> |                      |  |  |  |  |
|                          |      | 41490                                                        |           |            |                  |              | Reduced <sup>1</sup> |                      |  |  |  |  |
|                          |      | 39750                                                        |           |            | 1                | 49           | Reduced <sup>7</sup> |                      |  |  |  |  |
|                          |      | 40135                                                        |           |            |                  |              | Reduced <sup>7</sup> |                      |  |  |  |  |
|                          |      | 40620                                                        |           |            |                  |              | Tested               |                      |  |  |  |  |
|                          |      | 41105                                                        |           |            |                  |              | Reduced <sup>7</sup> |                      |  |  |  |  |
|                          |      | 41490                                                        |           |            |                  |              | Reduced <sup>7</sup> |                      |  |  |  |  |
|                          |      | 39750                                                        |           |            |                  | 99           | Reduced <sup>2</sup> |                      |  |  |  |  |
|                          |      | 40135                                                        |           |            |                  |              | Reduced <sup>2</sup> |                      |  |  |  |  |
|                          |      | 40620                                                        |           |            |                  |              | Reduced <sup>2</sup> |                      |  |  |  |  |
|                          |      | 41105                                                        |           |            |                  |              | Reduced <sup>2</sup> |                      |  |  |  |  |
|                          |      | 41490                                                        |           |            |                  |              | Reduced <sup>2</sup> |                      |  |  |  |  |
|                          |      | 39750                                                        |           | 16QAM      | 50               | 25           | Reduced <sup>3</sup> |                      |  |  |  |  |
|                          |      | 40135                                                        |           |            |                  |              | Reduced <sup>3</sup> |                      |  |  |  |  |
|                          |      | 40620                                                        |           |            |                  |              | Reduced <sup>3</sup> |                      |  |  |  |  |
|                          |      | 41105                                                        |           |            |                  |              | Reduced <sup>3</sup> |                      |  |  |  |  |
|                          |      | 41490                                                        |           |            |                  |              | Reduced <sup>3</sup> |                      |  |  |  |  |
|                          |      | 39750                                                        |           |            | 100              | 0            | Reduced <sup>1</sup> |                      |  |  |  |  |
|                          |      | 40135                                                        |           |            |                  |              | Reduced <sup>1</sup> |                      |  |  |  |  |
|                          |      | 40620                                                        |           |            |                  |              | Reduced <sup>1</sup> |                      |  |  |  |  |
|                          |      | 41105                                                        |           |            |                  |              | Reduced <sup>1</sup> |                      |  |  |  |  |
|                          |      | 41490                                                        |           |            |                  |              | Reduced <sup>1</sup> |                      |  |  |  |  |
|                          |      | 39750                                                        |           |            | 1                | 49           | Reduced <sup>4</sup> |                      |  |  |  |  |
|                          |      | 40135                                                        |           |            |                  |              | Reduced <sup>4</sup> |                      |  |  |  |  |
|                          |      | 40620                                                        |           |            |                  |              | Reduced <sup>4</sup> |                      |  |  |  |  |
|                          |      | 41105                                                        |           |            |                  |              | Reduced <sup>4</sup> |                      |  |  |  |  |
|                          |      | 41490                                                        |           |            |                  |              | Reduced <sup>4</sup> |                      |  |  |  |  |
|                          |      | 39750                                                        |           |            |                  | 99           | Reduced <sup>4</sup> |                      |  |  |  |  |
|                          |      | 40135                                                        |           |            |                  |              | Reduced <sup>4</sup> |                      |  |  |  |  |
|                          |      | 40620                                                        |           |            |                  |              | Reduced <sup>4</sup> |                      |  |  |  |  |
|                          |      | 41105                                                        |           |            |                  |              | Reduced <sup>4</sup> |                      |  |  |  |  |
|                          |      | 41490                                                        |           |            |                  |              | Reduced <sup>4</sup> |                      |  |  |  |  |
|                          |      | All lower bandwidths (15 MHz, 10 MHz, 5 MHz, 3 MHz, 1.4 MHz) |           |            |                  |              |                      | Reduced <sup>5</sup> |  |  |  |  |
|                          |      | All remaining sides                                          |           |            |                  |              |                      | Reduced <sup>6</sup> |  |  |  |  |

Reduced<sup>1</sup> – If the SAR value in the 50% RB testing is less than 1.45 W/kg, the 100% RB testing is reduced per KDB941225 D05 3) A) I) page 4.

Reduced<sup>2</sup> – If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 3) B) I) page 4.

Reduced<sup>3</sup> – If the SAR value in the 50% RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 4) A) I) page 4.

Reduced<sup>4</sup> – If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 4) B) I) page 5.

Reduced<sup>5</sup> – If the conducted power is within  $\pm 0.5$  dB, all testing where the SAR value is less than 1.45 W/kg is reduced per KDB941225 D05 5) B) I) page 5.

Reduced<sup>6</sup> – When the antenna is more than 25 mm from a side, the test can be reduced per KDB447498 D01 v06 section 4.3.1 1) page 11. See below for calculations.

Reduced<sup>7</sup> – If the SAR value measured on the middle channel is less than 0.8 W/kg and the conducted power is within  $\pm 0.5$  dB, the remaining channels are reduced per KDB941225 D05 page 4 footnote 2.

Closest Distance to Left: 212.0 mm

Closest Distance to Bottom: 201 mm

Both sides are greater than 20 cm. Therefore, both are excluded from SAR testing.

| Band/<br>Frequency (MHz) | Side | Required<br>Test Channel                                     | Bandwidth | Modulation | RB<br>Allocation | RB<br>Offset | Tested/<br>Reduced   |                      |  |  |  |  |
|--------------------------|------|--------------------------------------------------------------|-----------|------------|------------------|--------------|----------------------|----------------------|--|--|--|--|
| Band 41<br>2496-2690 MHz | Top  | 39750                                                        | 20 MHz    | QPSK       | 50               | 0            | Reduced <sup>7</sup> |                      |  |  |  |  |
|                          |      | 40135                                                        |           |            |                  |              | Reduced <sup>7</sup> |                      |  |  |  |  |
|                          |      | 40620                                                        |           |            |                  |              | Tested               |                      |  |  |  |  |
|                          |      | 41105                                                        |           |            |                  |              | Reduced <sup>7</sup> |                      |  |  |  |  |
|                          |      | 41490                                                        |           |            |                  |              | Reduced <sup>7</sup> |                      |  |  |  |  |
|                          |      | 39750                                                        |           |            | 100              | 0            | Reduced <sup>1</sup> |                      |  |  |  |  |
|                          |      | 40135                                                        |           |            |                  |              | Reduced <sup>1</sup> |                      |  |  |  |  |
|                          |      | 40620                                                        |           |            |                  |              | Reduced <sup>1</sup> |                      |  |  |  |  |
|                          |      | 41105                                                        |           |            |                  |              | Reduced <sup>1</sup> |                      |  |  |  |  |
|                          |      | 41490                                                        |           |            |                  |              | Reduced <sup>1</sup> |                      |  |  |  |  |
|                          |      | 39750                                                        |           |            | 1                | 49           | Reduced <sup>7</sup> |                      |  |  |  |  |
|                          |      | 40135                                                        |           |            |                  |              | Reduced <sup>7</sup> |                      |  |  |  |  |
|                          |      | 40620                                                        |           |            |                  |              | Tested               |                      |  |  |  |  |
|                          |      | 41105                                                        |           |            |                  |              | Reduced <sup>7</sup> |                      |  |  |  |  |
|                          |      | 41490                                                        |           |            |                  |              | Reduced <sup>7</sup> |                      |  |  |  |  |
|                          |      | 39750                                                        |           |            |                  | 99           | Reduced <sup>2</sup> |                      |  |  |  |  |
|                          |      | 40135                                                        |           |            |                  |              | Reduced <sup>2</sup> |                      |  |  |  |  |
|                          |      | 40620                                                        |           |            |                  |              | Reduced <sup>2</sup> |                      |  |  |  |  |
|                          |      | 41105                                                        |           |            |                  |              | Reduced <sup>2</sup> |                      |  |  |  |  |
|                          |      | 41490                                                        |           |            |                  |              | Reduced <sup>2</sup> |                      |  |  |  |  |
|                          |      | 39750                                                        |           | 16QAM      | 50               | 25           | Reduced <sup>3</sup> |                      |  |  |  |  |
|                          |      | 40135                                                        |           |            |                  |              | Reduced <sup>3</sup> |                      |  |  |  |  |
|                          |      | 40620                                                        |           |            |                  |              | Reduced <sup>3</sup> |                      |  |  |  |  |
|                          |      | 41105                                                        |           |            |                  |              | Reduced <sup>3</sup> |                      |  |  |  |  |
|                          |      | 41490                                                        |           |            |                  |              | Reduced <sup>3</sup> |                      |  |  |  |  |
|                          |      | 39750                                                        |           |            | 100              | 0            | Reduced <sup>1</sup> |                      |  |  |  |  |
|                          |      | 40135                                                        |           |            |                  |              | Reduced <sup>1</sup> |                      |  |  |  |  |
|                          |      | 40620                                                        |           |            |                  |              | Reduced <sup>1</sup> |                      |  |  |  |  |
|                          |      | 41105                                                        |           |            |                  |              | Reduced <sup>1</sup> |                      |  |  |  |  |
|                          |      | 41490                                                        |           |            |                  |              | Reduced <sup>1</sup> |                      |  |  |  |  |
|                          |      | 39750                                                        |           |            | 1                | 49           | Reduced <sup>4</sup> |                      |  |  |  |  |
|                          |      | 40135                                                        |           |            |                  |              | Reduced <sup>4</sup> |                      |  |  |  |  |
|                          |      | 40620                                                        |           |            |                  |              | Reduced <sup>4</sup> |                      |  |  |  |  |
|                          |      | 41105                                                        |           |            |                  |              | Reduced <sup>4</sup> |                      |  |  |  |  |
|                          |      | 41490                                                        |           |            |                  |              | Reduced <sup>4</sup> |                      |  |  |  |  |
|                          |      | 39750                                                        |           |            |                  | 99           | Reduced <sup>4</sup> |                      |  |  |  |  |
|                          |      | 40135                                                        |           |            |                  |              | Reduced <sup>4</sup> |                      |  |  |  |  |
|                          |      | 40620                                                        |           |            |                  |              | Reduced <sup>4</sup> |                      |  |  |  |  |
|                          |      | 41105                                                        |           |            |                  |              | Reduced <sup>4</sup> |                      |  |  |  |  |
|                          |      | 41490                                                        |           |            |                  |              | Reduced <sup>4</sup> |                      |  |  |  |  |
|                          |      | All lower bandwidths (15 MHz, 10 MHz, 5 MHz, 3 MHz, 1.4 MHz) |           |            |                  |              |                      | Reduced <sup>5</sup> |  |  |  |  |
|                          |      | All remaining sides                                          |           |            |                  |              |                      | Reduced <sup>6</sup> |  |  |  |  |

Reduced<sup>1</sup> – If the SAR value in the 50% RB testing is less than 1.45 W/kg, the 100% RB testing is reduced per KDB941225 D05 3) A) I) page 4.

Reduced<sup>2</sup> - If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 3) B) I) page 4.

Reduced<sup>3</sup> - If the SAR value in the 50% RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 4) A) I) page 4.

Reduced<sup>4</sup>- If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 4) B) I) page 5.

Reduced<sup>5</sup>- If the conducted power is within  $\pm 0.5$  dB, all testing where the SAR value is less than 1.45 W/kg is reduced per KDB941225 D05 5) B) I) page 5.

Reduced<sup>6</sup> – When the antenna is more than 25 mm from a side, the test can be reduced per KDB447498 D01 v06 section 4.3.1 1) page 11. See below for calculations.

Reduced<sup>7</sup> – If the SAR value measured on the middle channel is less than 0.8 W/kg and the conducted power is within  $\pm 0.5$  dB, the remaining channels are reduced per KDB941225 D05 page 4 footnote 2.

Closest Distance to Left: 212.0 mm

Closest Distance to Bottom: 201 mm

Both sides are greater than 20 cm. Therefore, both are excluded from SAR testing.

| Band/<br>Frequency (MHz) | Side  | Required<br>Test Channel                                     | Bandwidth | Modulation | RB<br>Allocation | RB<br>Offset | Tested/<br>Reduced   |                      |  |  |  |  |
|--------------------------|-------|--------------------------------------------------------------|-----------|------------|------------------|--------------|----------------------|----------------------|--|--|--|--|
| Band 41<br>2496-2690 MHz | Right | 39750                                                        | 20 MHz    | QPSK       | 50               | 0            | Reduced <sup>7</sup> |                      |  |  |  |  |
|                          |       | 40135                                                        |           |            |                  |              | Reduced <sup>7</sup> |                      |  |  |  |  |
|                          |       | 40620                                                        |           |            |                  |              | Tested               |                      |  |  |  |  |
|                          |       | 41105                                                        |           |            |                  |              | Reduced <sup>7</sup> |                      |  |  |  |  |
|                          |       | 41490                                                        |           |            |                  |              | Reduced <sup>7</sup> |                      |  |  |  |  |
|                          |       | 39750                                                        |           |            |                  |              | Reduced <sup>1</sup> |                      |  |  |  |  |
|                          |       | 40135                                                        |           |            | 100              | 0            | Reduced <sup>1</sup> |                      |  |  |  |  |
|                          |       | 40620                                                        |           |            |                  |              | Reduced <sup>1</sup> |                      |  |  |  |  |
|                          |       | 41105                                                        |           |            |                  |              | Reduced <sup>1</sup> |                      |  |  |  |  |
|                          |       | 41490                                                        |           |            |                  |              | Reduced <sup>1</sup> |                      |  |  |  |  |
|                          |       | 39750                                                        |           |            |                  |              | Reduced <sup>7</sup> |                      |  |  |  |  |
|                          |       | 40135                                                        |           |            | 1                | 49           | Reduced <sup>7</sup> |                      |  |  |  |  |
|                          |       | 40620                                                        |           |            |                  |              | Tested               |                      |  |  |  |  |
|                          |       | 41105                                                        |           |            |                  |              | Reduced <sup>7</sup> |                      |  |  |  |  |
|                          |       | 41490                                                        |           |            |                  |              | Reduced <sup>7</sup> |                      |  |  |  |  |
|                          |       | 39750                                                        |           |            |                  | 99           | Reduced <sup>2</sup> |                      |  |  |  |  |
|                          |       | 40135                                                        |           |            |                  |              | Reduced <sup>2</sup> |                      |  |  |  |  |
|                          |       | 40620                                                        |           |            |                  |              | Reduced <sup>2</sup> |                      |  |  |  |  |
|                          |       | 41105                                                        |           |            |                  |              | Reduced <sup>2</sup> |                      |  |  |  |  |
|                          |       | 41490                                                        |           |            |                  |              | Reduced <sup>2</sup> |                      |  |  |  |  |
|                          |       | 39750                                                        |           | 16QAM      | 50               | 25           | Reduced <sup>3</sup> |                      |  |  |  |  |
|                          |       | 40135                                                        |           |            |                  |              | Reduced <sup>3</sup> |                      |  |  |  |  |
|                          |       | 40620                                                        |           |            |                  |              | Reduced <sup>3</sup> |                      |  |  |  |  |
|                          |       | 41105                                                        |           |            |                  |              | Reduced <sup>3</sup> |                      |  |  |  |  |
|                          |       | 41490                                                        |           |            | 100              | 0            | Reduced <sup>3</sup> |                      |  |  |  |  |
|                          |       | 39750                                                        |           |            |                  |              | Reduced <sup>1</sup> |                      |  |  |  |  |
|                          |       | 40135                                                        |           |            |                  |              | Reduced <sup>1</sup> |                      |  |  |  |  |
|                          |       | 40620                                                        |           |            |                  |              | Reduced <sup>1</sup> |                      |  |  |  |  |
|                          |       | 41105                                                        |           |            | 1                | 49           | Reduced <sup>1</sup> |                      |  |  |  |  |
|                          |       | 41490                                                        |           |            |                  |              | Reduced <sup>1</sup> |                      |  |  |  |  |
|                          |       | 39750                                                        |           |            |                  |              | Reduced <sup>4</sup> |                      |  |  |  |  |
|                          |       | 40135                                                        |           |            |                  |              | Reduced <sup>4</sup> |                      |  |  |  |  |
|                          |       | 40620                                                        |           |            |                  | 99           | Reduced <sup>4</sup> |                      |  |  |  |  |
|                          |       | 41105                                                        |           |            |                  |              | Reduced <sup>4</sup> |                      |  |  |  |  |
|                          |       | 41490                                                        |           |            |                  |              | Reduced <sup>4</sup> |                      |  |  |  |  |
|                          |       | 39750                                                        |           |            |                  |              | Reduced <sup>4</sup> |                      |  |  |  |  |
|                          |       | 40135                                                        |           |            |                  |              | Reduced <sup>4</sup> |                      |  |  |  |  |
|                          |       | 40620                                                        |           |            |                  |              | Reduced <sup>4</sup> |                      |  |  |  |  |
|                          |       | 41105                                                        |           |            |                  |              | Reduced <sup>4</sup> |                      |  |  |  |  |
|                          |       | 41490                                                        |           |            |                  |              | Reduced <sup>4</sup> |                      |  |  |  |  |
|                          |       | All lower bandwidths (15 MHz, 10 MHz, 5 MHz, 3 MHz, 1.4 MHz) |           |            |                  |              |                      | Reduced <sup>5</sup> |  |  |  |  |
|                          |       | All remaining sides                                          |           |            |                  |              |                      | Reduced <sup>6</sup> |  |  |  |  |

Reduced<sup>1</sup> – If the SAR value in the 50% RB testing is less than 1.45 W/kg, the 100% RB testing is reduced per KDB941225 D05 3) A) I) page 4.

Reduced<sup>2</sup> - If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 3) B) I) page 4.

Reduced<sup>3</sup> - If the SAR value in the 50% RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 4) A) I) page 4.

Reduced<sup>4</sup>- If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 4) B) I) page 5.

Reduced<sup>5</sup>- If the conducted power is within  $\pm 0.5$  dB, all testing where the SAR value is less than 1.45 W/kg is reduced per KDB941225 D05 5) B) I) page 5.

Reduced<sup>6</sup> – When the antenna is more than 25 mm from a side, the test can be reduced per KDB447498 D01 v06 section 4.3.1 1) page 11. See below for calculations.

Reduced<sup>7</sup> – If the SAR value measured on the middle channel is less than 0.8 W/kg and the conducted power is within  $\pm 0.5$  dB, the remaining channels are reduced per KDB941225 D05 page 4 footnote 2.

Closest Distance to Left: 212.0 mm

Closest Distance to Bottom: 201 mm

Both sides are greater than 20 cm. Therefore, both are excluded from SAR testing.

| Band/<br>Frequency (MHz)                                     | Side                                                         | Required<br>Test Channel | Bandwidth | Modulation | RB<br>Allocation | RB<br>Offset | Tested/<br>Reduced   |                      |
|--------------------------------------------------------------|--------------------------------------------------------------|--------------------------|-----------|------------|------------------|--------------|----------------------|----------------------|
| Band 38<br>2570-2620 MHz                                     | Back                                                         | 37850                    | 20 MHz    | QPSK       | 50               | 0            | Reduced <sup>7</sup> |                      |
|                                                              |                                                              | 38000                    |           |            |                  |              | Tested               |                      |
|                                                              |                                                              | 38150                    |           |            |                  |              | Reduced <sup>7</sup> |                      |
|                                                              |                                                              | 37850                    |           |            | 100              | 0            | Reduced <sup>1</sup> |                      |
|                                                              |                                                              | 38000                    |           |            |                  |              | Reduced <sup>1</sup> |                      |
|                                                              |                                                              | 38150                    |           |            |                  |              | Reduced <sup>1</sup> |                      |
|                                                              |                                                              | 37850                    |           |            | 1                | 49           | Reduced <sup>7</sup> |                      |
|                                                              |                                                              | 38000                    |           |            |                  |              | Tested               |                      |
|                                                              |                                                              | 38150                    |           |            |                  |              | Reduced <sup>7</sup> |                      |
|                                                              |                                                              | 37850                    |           |            |                  | 99           | Reduced <sup>2</sup> |                      |
|                                                              |                                                              | 38000                    |           |            |                  |              | Reduced <sup>2</sup> |                      |
|                                                              |                                                              | 38150                    |           |            |                  |              | Reduced <sup>2</sup> |                      |
|                                                              |                                                              | 37850                    |           | 16QAM      | 50               | 25           | Reduced <sup>3</sup> |                      |
|                                                              |                                                              | 38000                    |           |            |                  |              | Reduced <sup>3</sup> |                      |
|                                                              |                                                              | 38150                    |           |            |                  |              | Reduced <sup>3</sup> |                      |
|                                                              |                                                              | 37850                    |           |            | 100              | 0            | Reduced <sup>1</sup> |                      |
|                                                              |                                                              | 38000                    |           |            |                  |              | Reduced <sup>1</sup> |                      |
|                                                              |                                                              | 38150                    |           |            |                  |              | Reduced <sup>1</sup> |                      |
|                                                              |                                                              | 37850                    |           |            | 1                | 49           | Reduced <sup>4</sup> |                      |
|                                                              |                                                              | 38000                    |           |            |                  |              | Reduced <sup>4</sup> |                      |
|                                                              |                                                              | 38150                    |           |            |                  |              | Reduced <sup>4</sup> |                      |
|                                                              |                                                              | 37850                    |           |            |                  | 99           | Reduced <sup>4</sup> |                      |
|                                                              |                                                              | 38000                    |           |            |                  |              | Reduced <sup>4</sup> |                      |
|                                                              |                                                              | 38150                    |           |            |                  |              | Reduced <sup>4</sup> |                      |
|                                                              |                                                              | 38150                    |           |            |                  |              | Reduced <sup>4</sup> |                      |
|                                                              | All lower bandwidths (15 MHz, 10 MHz, 5 MHz, 3 MHz, 1.4 MHz) |                          |           |            |                  |              |                      | Reduced <sup>5</sup> |
|                                                              | Top                                                          | 37850                    | 20 MHz    | QPSK       | 50               | 0            | Reduced <sup>7</sup> |                      |
|                                                              |                                                              | 38000                    |           |            |                  |              | Tested               |                      |
|                                                              |                                                              | 38150                    |           |            |                  |              | Reduced <sup>7</sup> |                      |
|                                                              |                                                              | 37850                    |           |            | 100              | 0            | Reduced <sup>1</sup> |                      |
|                                                              |                                                              | 38000                    |           |            |                  |              | Reduced <sup>1</sup> |                      |
|                                                              |                                                              | 38150                    |           |            |                  |              | Reduced <sup>1</sup> |                      |
|                                                              |                                                              | 37850                    |           |            | 1                | 49           | Reduced <sup>7</sup> |                      |
|                                                              |                                                              | 38000                    |           |            |                  |              | Tested               |                      |
|                                                              |                                                              | 38150                    |           |            |                  |              | Reduced <sup>7</sup> |                      |
|                                                              |                                                              | 37850                    |           |            |                  | 99           | Reduced <sup>2</sup> |                      |
|                                                              |                                                              | 38000                    |           |            |                  |              | Reduced <sup>2</sup> |                      |
|                                                              |                                                              | 38150                    |           |            |                  |              | Reduced <sup>2</sup> |                      |
|                                                              |                                                              | 37850                    |           | 16QAM      | 50               | 25           | Reduced <sup>3</sup> |                      |
|                                                              |                                                              | 38000                    |           |            |                  |              | Reduced <sup>3</sup> |                      |
|                                                              |                                                              | 38150                    |           |            |                  |              | Reduced <sup>3</sup> |                      |
|                                                              |                                                              | 37850                    |           |            | 100              | 0            | Reduced <sup>1</sup> |                      |
|                                                              |                                                              | 38000                    |           |            |                  |              | Reduced <sup>1</sup> |                      |
|                                                              |                                                              | 38150                    |           |            |                  |              | Reduced <sup>1</sup> |                      |
|                                                              |                                                              | 37850                    |           |            | 1                | 49           | Reduced <sup>4</sup> |                      |
|                                                              |                                                              | 38000                    |           |            |                  |              | Reduced <sup>4</sup> |                      |
|                                                              |                                                              | 38150                    |           |            |                  |              | Reduced <sup>4</sup> |                      |
|                                                              |                                                              | 37850                    |           |            |                  | 99           | Reduced <sup>4</sup> |                      |
|                                                              |                                                              | 38000                    |           |            |                  |              | Reduced <sup>4</sup> |                      |
|                                                              |                                                              | 38150                    |           |            |                  |              | Reduced <sup>4</sup> |                      |
|                                                              |                                                              | 38000                    |           |            |                  |              | Reduced <sup>4</sup> |                      |
| 38150                                                        |                                                              | Reduced <sup>4</sup>     |           |            |                  |              |                      |                      |
| All lower bandwidths (15 MHz, 10 MHz, 5 MHz, 3 MHz, 1.4 MHz) |                                                              |                          |           |            |                  |              | Reduced <sup>5</sup> |                      |
| All remaining sides                                          |                                                              |                          |           |            |                  |              | Reduced <sup>6</sup> |                      |

Reduced<sup>1</sup> – If the SAR value in the 50% RB testing is less than 1.45 W/kg, the 100% RB testing is reduced per KDB941225 D05 3) A) I) page 4.

Reduced<sup>2</sup> – If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 3) B) I) page 4.

Reduced<sup>3</sup> – If the SAR value in the 50% RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 4) A) I) page 4.

Reduced<sup>4</sup> – If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 4) B) I) page 5.

Reduced<sup>5</sup> – If the conducted power is within  $\pm 0.5$  dB, all testing where the SAR value is less than 1.45 W/kg is reduced per KDB941225 D05 5) B) I) page 5.

Reduced<sup>6</sup> – When the antenna is more than 25 mm from a side, the test can be reduced per KDB447498 D01 v06 section 4.3.1 1) page 11. See below for calculations.

Reduced<sup>7</sup> – If the SAR value measured on the middle channel is less than 0.8 W/kg and the conducted power is within  $\pm 0.5$  dB, the remaining channels are reduced per KDB941225 D05 page 4 footnote 2.

Closest Distance to Left: 212.0 mm

Closest Distance to Bottom: 201 mm

Both sides are greater than 20 cm. Therefore, both are excluded from SAR testing.

| Band/<br>Frequency (MHz) | Side  | Required<br>Test Channel                                     | Bandwidth | Modulation | RB<br>Allocation | RB<br>Offset | Tested/<br>Reduced   |  |  |  |  |
|--------------------------|-------|--------------------------------------------------------------|-----------|------------|------------------|--------------|----------------------|--|--|--|--|
| Band 38<br>2570-2620 MHz | Right | 37850                                                        | 20 MHz    | QPSK       | 50               | 0            | Reduced <sup>7</sup> |  |  |  |  |
|                          |       | 38000                                                        |           |            |                  |              | Tested               |  |  |  |  |
|                          |       | 38150                                                        |           |            |                  |              | Reduced <sup>7</sup> |  |  |  |  |
|                          |       | 37850                                                        |           |            | 100              | 0            | Reduced <sup>1</sup> |  |  |  |  |
|                          |       | 38000                                                        |           |            |                  |              | Reduced <sup>1</sup> |  |  |  |  |
|                          |       | 38150                                                        |           |            |                  |              | Reduced <sup>1</sup> |  |  |  |  |
|                          |       | 37850                                                        |           |            | 1                | 49           | Reduced <sup>7</sup> |  |  |  |  |
|                          |       | 38000                                                        |           |            |                  |              | Tested               |  |  |  |  |
|                          |       | 38150                                                        |           |            |                  |              | Reduced <sup>7</sup> |  |  |  |  |
|                          |       | 37850                                                        |           |            |                  | 99           | Reduced <sup>2</sup> |  |  |  |  |
|                          |       | 38000                                                        |           |            |                  |              | Reduced <sup>2</sup> |  |  |  |  |
|                          |       | 38150                                                        |           |            |                  |              | Reduced <sup>2</sup> |  |  |  |  |
|                          |       | 37850                                                        |           | 16QAM      | 50               | 25           | Reduced <sup>3</sup> |  |  |  |  |
|                          |       | 38000                                                        |           |            |                  |              | Reduced <sup>3</sup> |  |  |  |  |
|                          |       | 38150                                                        |           |            |                  |              | Reduced <sup>3</sup> |  |  |  |  |
|                          |       | 37850                                                        |           |            | 100              | 0            | Reduced <sup>1</sup> |  |  |  |  |
|                          |       | 38000                                                        |           |            |                  |              | Reduced <sup>1</sup> |  |  |  |  |
|                          |       | 38150                                                        |           |            |                  |              | Reduced <sup>1</sup> |  |  |  |  |
|                          |       | 37850                                                        |           |            | 1                | 49           | Reduced <sup>4</sup> |  |  |  |  |
|                          |       | 38000                                                        |           |            |                  |              | Reduced <sup>4</sup> |  |  |  |  |
|                          |       | 38150                                                        |           |            |                  |              | Reduced <sup>4</sup> |  |  |  |  |
|                          |       | 37850                                                        |           |            |                  | 99           | Reduced <sup>4</sup> |  |  |  |  |
|                          |       | 38000                                                        |           |            |                  |              | Reduced <sup>4</sup> |  |  |  |  |
|                          |       | 38150                                                        |           |            |                  |              | Reduced <sup>4</sup> |  |  |  |  |
|                          |       | All lower bandwidths (15 MHz, 10 MHz, 5 MHz, 3 MHz, 1.4 MHz) |           |            |                  |              | Reduced <sup>5</sup> |  |  |  |  |
|                          |       | All remaining sides                                          |           |            |                  |              | Reduced <sup>6</sup> |  |  |  |  |

Reduced<sup>1</sup> – If the SAR value in the 50% RB testing is less than 1.45 W/kg, the 100% RB testing is reduced per KDB941225 D05 3) A) I) page 4.

Reduced<sup>2</sup> - If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 3) B) I) page 4.

Reduced<sup>3</sup> - If the SAR value in the 50% RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 4) A) I) page 4.

Reduced<sup>4</sup>- If the SAR value in the 1 RB testing is less than 1.45 W/kg, the remaining channels are reduced per KDB941225 D05 4) B) I) page 5.

Reduced<sup>5</sup>- If the conducted power is within  $\pm 0.5$  dB, all testing where the SAR value is less than 1.45 W/kg is reduced per KDB941225 D05 5) B) I) page 5.

Reduced<sup>6</sup> – When the antenna is more than 25 mm from a side, the test can be reduced per KDB447498 D01 v06 section 4.3.1 1) page 11. See below for calculations.

Reduced<sup>7</sup> – If the SAR value measured on the middle channel is less than 0.8 W/kg and the conducted power is within  $\pm 0.5$  dB, the remaining channels are reduced per KDB941225 D05 page 4 footnote 2.

Closest Distance to Left: 212.0 mm

Closest Distance to Bottom: 201 mm

Both sides are greater than 20 cm. Therefore, both are excluded from SAR testing.

## SAR Data Summary – 750 MHz Body – LTE Band 12

### MEASUREMENT RESULTS

| Gap     | Plot  | Position                | Frequency |       | BW/<br>Modulation | RB<br>Size | RB<br>Offset | MPR<br>Target | End<br>Power<br>(dBm) | Measured<br>SAR (W/kg) | Reported<br>SAR (W/kg) |
|---------|-------|-------------------------|-----------|-------|-------------------|------------|--------------|---------------|-----------------------|------------------------|------------------------|
|         |       |                         | MHz       | Ch.   |                   |            |              |               |                       |                        |                        |
| 0<br>mm | ----- | Back                    | 704.0     | 23060 | 10 MHz/QPSK       | 1          | 0            | 0             | 22.0                  | 0.924                  | 1.04                   |
|         | ----- |                         | 707.5     | 23095 | 10 MHz/QPSK       | 1          | 0            | 0             | 22.0                  | 0.849                  | 0.95                   |
|         | ----- |                         | 711.0     | 23129 | 10 MHz/QPSK       | 1          | 0            | 0             | 21.9                  | 0.939                  | 1.08                   |
|         | ----- |                         | 707.5     | 23095 | 10 MHz/QPSK       | 25         | 12           | 1             | 21.9                  | 0.437                  | 0.50                   |
|         | ----- | Top                     | 704.0     | 23060 | 10 MHz/QPSK       | 1          | 0            | 0             | 22.0                  | 1.06                   | 1.19                   |
|         | ----- |                         | 707.5     | 23095 | 10 MHz/QPSK       | 1          | 0            | 0             | 22.0                  | 1.08                   | 1.21                   |
|         | 1     |                         | 711.0     | 23129 | 10 MHz/QPSK       | 1          | 0            | 0             | 21.9                  | 1.10                   | 1.26                   |
|         | ----- |                         | 704.0     | 23060 | 10 MHz/QPSK       | 25         | 12           | 1             | 22.0                  | 0.891                  | 1.00                   |
|         | ----- |                         | 707.5     | 23095 | 10 MHz/QPSK       | 25         | 12           | 1             | 21.9                  | 0.900                  | 1.03                   |
|         | ----- |                         | 711.0     | 23129 | 10 MHz/QPSK       | 25         | 12           | 1             | 22.0                  | 0.977                  | 1.10                   |
|         | ----- |                         | 711.0     | 23129 | 10 MHz/QPSK       | 50         | 0            | 1             | 21.8                  | 0.746                  | 0.88                   |
|         | ----- | Right                   | 704.0     | 23060 | 10 MHz/QPSK       | 1          | 0            | 0             | 22.0                  | 1.06                   | 1.19                   |
|         | ----- |                         | 707.5     | 23095 | 10 MHz/QPSK       | 1          | 0            | 0             | 22.0                  | 1.05                   | 1.18                   |
|         | ----- |                         | 711.0     | 23129 | 10 MHz/QPSK       | 1          | 0            | 0             | 21.9                  | 1.07                   | 1.23                   |
|         | ----- |                         | 704.0     | 23060 | 10 MHz/QPSK       | 25         | 0            | 1             | 22.0                  | 0.972                  | 1.09                   |
|         | ----- |                         | 707.5     | 23095 | 10 MHz/QPSK       | 25         | 0            | 1             | 21.9                  | 0.985                  | 1.13                   |
|         | ----- |                         | 711.0     | 23129 | 10 MHz/QPSK       | 25         | 0            | 1             | 22.0                  | 0.991                  | 1.11                   |
|         | ----- | Back w/Brown Case       | 711.0     | 23129 | 10 MHz/QPSK       | 1          | 0            | 0             | 21.9                  | 0.220                  | 0.25                   |
|         | ----- | Back w/Gray Case        | 711.0     | 23129 | 10 MHz/QPSK       | 1          | 0            | 0             | 21.9                  | 0.392                  | 0.45                   |
|         | ----- | Back w/Gray Case Laptop | 711.0     | 23129 | 10 MHz/QPSK       | 1          | 0            | 0             | 24.0                  | 0.0132                 | 0.01                   |
|         | ----- | Repeat                  | 707.5     | 23095 | 10 MHz/QPSK       | 1          | 0            | 0             | 21.9                  | 1.08                   | 1.24                   |

**Body**  
**1.6 W/kg (mW/g)**  
 averaged over 1 gram

- SAR Measurement  
 Phantom Configuration ☐ Left Head  
 SAR Configuration ☐ Head
- Test Signal Call Mode ☐ Test Code
- Test Configuration ☐ With Belt Clip
- Tissue Depth is at least 15.0 cm

- ☒ Eli4 ☐ Right Head  
☒ Body  
☒ Base Station Simulator  
☐ Without Belt Clip ☒ N/A



Jay M. Moulton  
 Vice President

## SAR Data Summary – 750 MHz Body – LTE Band 13

### MEASUREMENT RESULTS

| Gap     | Plot  | Position                   | Frequency |       | BW/<br>Modulation | RB<br>Size | RB<br>Offset | MPR<br>Target | End<br>Power<br>(dBm) | Measured<br>SAR (W/kg) | Reported<br>SAR (W/kg) |
|---------|-------|----------------------------|-----------|-------|-------------------|------------|--------------|---------------|-----------------------|------------------------|------------------------|
|         |       |                            | MHz       | Ch.   |                   |            |              |               |                       |                        |                        |
| 0<br>mm | ----- | Back                       | 782.0     | 23230 | 10 MHz/QPSK       | 1          | 0            | 0             | 22.48                 | 0.579                  | 0.65                   |
|         | ----- |                            | 782.0     | 23230 | 10 MHz/QPSK       | 25         | 12           | 1             | 22.51                 | 0.471                  | 0.53                   |
|         | ----- | Top                        | 782.0     | 23230 | 10 MHz/QPSK       | 1          | 0            | 0             | 22.48                 | 0.858                  | 0.97                   |
|         | ----- |                            | 782.0     | 23230 | 10 MHz/QPSK       | 25         | 12           | 1             | 22.51                 | 0.701                  | 0.79                   |
|         | 2     | Right                      | 782.0     | 23230 | 10 MHz/QPSK       | 1          | 0            | 0             | 22.48                 | 1.13                   | 1.27                   |
|         | ----- |                            | 782.0     | 23230 | 10 MHz/QPSK       | 25         | 0            | 1             | 22.51                 | 0.933                  | 1.04                   |
|         | ----- |                            | 782.0     | 23230 | 10 MHz/QPSK       | 50         | 0            | 1             | 22.26                 | 0.841                  | 1.00                   |
|         | ----- | Back w/Brown<br>Case       | 782.0     | 23230 | 10 MHz/QPSK       | 1          | 0            | 0             | 22.48                 | 0.140                  | 0.16                   |
|         | ----- | Back w/Gray<br>Case        | 782.0     | 23230 | 10 MHz/QPSK       | 1          | 0            | 0             | 22.48                 | 0.282                  | 0.32                   |
|         | ----- | Back w/Gray<br>Case Laptop | 782.0     | 23230 | 10 MHz/QPSK       | 1          | 0            | 0             | 23.48                 | 0.0732                 | 0.08                   |
|         | ----- | Repeat                     | 782.0     | 23230 | 10 MHz/QPSK       | 1          | 0            | 0             | 22.48                 | 1.11                   | 1.25                   |

**Body**  
**1.6 W/kg (mW/g)**  
 averaged over 1 gram

- SAR Measurement  
 Phantom Configuration ☐ Left Head  
 SAR Configuration ☐ Head
- Test Signal Call Mode ☐ Test Code
- Test Configuration ☐ With Belt Clip
- Tissue Depth is at least 15.0 cm

- ☒ Eli4 ☐ Right Head  
☒ Body  
☒ Base Station Simulator  
☐ Without Belt Clip ☒ N/A



Jay M. Moulton  
 Vice President

# SAR Data Summary – 835 MHz Body - WCDMA

## MEASUREMENT RESULTS

| Gap  | Plot | Frequency |      | Modulation | Position                | End Power | RMC       | Test Set Up | Measured SAR (W/kg) | Reported SAR (W/kg) |
|------|------|-----------|------|------------|-------------------------|-----------|-----------|-------------|---------------------|---------------------|
|      |      | MHz       | Ch.  |            |                         | (dBm)     |           |             |                     |                     |
| 0 mm | ---- | 836.6     | 4183 | WCDMA      | Back                    | 21.42     | 12.2 kbps | Test Loop 1 | 0.305               | 0.35                |
|      | ---- | 826.4     | 4132 | WCDMA      | Top                     | 21.25     | 12.2 kbps | Test Loop 1 | 0.742               | 0.88                |
|      | 3    | 836.6     | 4183 | WCDMA      |                         | 21.42     | 12.2 kbps | Test Loop 1 | 0.893               | 1.02                |
|      | ---- | 846.6     | 4233 | WCDMA      |                         | 21.39     | 12.2 kbps | Test Loop 1 | 0.813               | 0.94                |
|      | ---- | 836.6     | 4183 | WCDMA      | Right                   | 21.42     | 12.2 kbps | Test Loop 1 | 0.464               | 0.53                |
|      | ---- | 836.6     | 4183 | WCDMA      | Back w/Brown Case       | 21.42     | 12.2 kbps | Test Loop 1 | 0.274               | 0.31                |
|      | ---- | 836.6     | 4183 | WCDMA      | Back w/Gray Case        | 21.42     | 12.2 kbps | Test Loop 1 | 0.361               | 0.41                |
|      | ---- | 836.6     | 4183 | WCDMA      | Back w/Gray Case Laptop | 24.42     | 12.2 kbps | Test Loop 1 | 0.0102              | 0.01                |
|      | ---- | 836.6     | 4183 | WCDMA      | Repeat                  | 21.42     | 12.2 kbps | Test Loop 1 | 0.871               | 1.00                |

**Body**  
**1.6 W/kg (mW/g)**  
averaged over 1 gram

- SAR Measurement  
Phantom Configuration ☐ Left Head ☒ Eli4 ☐ Right Head  
SAR Configuration ☐ Head ☒ Body
- Test Signal Call Mode ☐ Test Code ☒ Base Station Simulator
- Test Configuration ☐ With Belt Clip ☐ Without Belt Clip ☒ N/A
- Tissue Depth is at least 15.0 cm



Jay M. Moulton  
Vice President

## SAR Data Summary – 835 MHz Body – LTE Bands 5 & 26

| MEASUREMENT RESULTS |       |                            |           |       |                   |                                                 |              |               |           |                           |                           |
|---------------------|-------|----------------------------|-----------|-------|-------------------|-------------------------------------------------|--------------|---------------|-----------|---------------------------|---------------------------|
| Gap                 | Plot  | Position                   | Frequency |       | BW/<br>Modulation | RB<br>Size                                      | RB<br>Offset | MPR<br>Target | End Power | Measured<br>SAR<br>(W/kg) | Reported<br>SAR<br>(W/kg) |
|                     |       |                            | MHz       | Ch.   |                   |                                                 |              |               | (dBm)     |                           |                           |
| 0<br>mm             | ----- | Back                       | 836.5     | 20525 | 10 MHz/QPSK       | 1                                               | 0            | 0             | 24.0      | 0.421                     | 0.42                      |
|                     | ----- |                            | 836.5     | 20525 | 10 MHz/QPSK       | 25                                              | 0            | 1             | 22.9      | 0.375                     | 0.38                      |
|                     | ----- | Top                        | 836.5     | 20525 | 10 MHz/QPSK       | 1                                               | 0            | 0             | 24.0      | 0.315                     | 0.32                      |
|                     | ----- |                            | 836.5     | 20525 | 10 MHz/QPSK       | 25                                              | 0            | 1             | 22.9      | 0.301                     | 0.31                      |
|                     | ----- | Right                      | 836.5     | 20525 | 10 MHz/QPSK       | 1                                               | 0            | 0             | 24.0      | 0.542                     | 0.54                      |
|                     | ----- |                            | 836.5     | 20525 | 10 MHz/QPSK       | 25                                              | 0            | 1             | 22.9      | 0.498                     | 0.51                      |
|                     | ----- | Back w/Brown<br>Case       | 836.5     | 20525 | 10 MHz/QPSK       | 1                                               | 0            | 0             | 24.0      | 0.226                     | 0.23                      |
|                     | ----- | Back w/Gray<br>Case        | 836.5     | 20525 | 10 MHz/QPSK       | 1                                               | 0            | 0             | 24.0      | 0.217                     | 0.22                      |
|                     | ----- | Back w/Gray<br>Case Laptop | 836.5     | 20525 | 10 MHz/QPSK       | 1                                               | 0            | 0             | 24.0      | 0.0097                    | 0.01                      |
|                     | ----- | Back                       | 831.5     | 26865 | 10 MHz/QPSK       | 1                                               | 0            | 0             | 23.0      | 0.532                     | 0.53                      |
|                     | ----- |                            | 831.5     | 26865 | 10 MHz/QPSK       | 25                                              | 0            | 1             | 22.2      | 0.430                     | 0.52                      |
|                     | ----- | Top                        | 831.5     | 26865 | 10 MHz/QPSK       | 1                                               | 0            | 0             | 23.0      | 0.542                     | 0.54                      |
|                     | ----- |                            | 831.5     | 26865 | 10 MHz/QPSK       | 25                                              | 0            | 1             | 22.2      | 0.461                     | 0.55                      |
|                     | 4     | Right                      | 831.5     | 26865 | 10 MHz/QPSK       | 1                                               | 0            | 0             | 23.0      | 0.616                     | 0.62                      |
|                     | ----- |                            | 831.5     | 26865 | 10 MHz/QPSK       | 25                                              | 0            | 1             | 22.2      | 0.505                     | 0.61                      |
|                     | ----- | Back w/Brown<br>Case       | 831.5     | 26865 | 10 MHz/QPSK       | 1                                               | 0            | 0             | 23.0      | 0.327                     | 0.33                      |
|                     | ----- | Back w/Gray<br>Case        | 831.5     | 26865 | 10 MHz/QPSK       | 1                                               | 0            | 0             | 23.0      | 0.287                     | 0.29                      |
|                     | ----- | Back w/Gray<br>Case Laptop | 831.5     | 26865 | 10 MHz/QPSK       | 1                                               | 0            | 0             | 24.0      | 0.0106                    | 0.01                      |
|                     |       |                            |           |       |                   | Body<br>1.6 W/kg (mW/g)<br>averaged over 1 gram |              |               |           |                           |                           |

- SAR Measurement  
Phantom Configuration ☐ Left Head ☐ Head  
SAR Configuration ☐ Test Code
- Test Signal Call Mode ☐ With Belt Clip
- Test Configuration ☐ With Belt Clip
- Tissue Depth is at least 15.0 cm

- ☒ Eli4 ☐ Right Head  
☒ Body  
☒ Base Station Simulator  
☐ Without Belt Clip ☒ N/A



Jay M. Moulton  
Vice President

## SAR Data Summary – 1750 MHz Body - WCDMA

### MEASUREMENT RESULTS

| Gap                                                                                                    | Plot | Frequency |      | Rev Level/<br>Modulation | Position                   | End<br>Power | RMC       | Test Set Up | Measured<br>SAR<br>(W/kg) | Reported<br>SAR<br>(W/kg) |
|--------------------------------------------------------------------------------------------------------|------|-----------|------|--------------------------|----------------------------|--------------|-----------|-------------|---------------------------|---------------------------|
|                                                                                                        |      | MHz       | Ch.  |                          |                            | (dBm)        |           |             |                           |                           |
| 0<br>mm                                                                                                | ---- | 1732.6    | 1413 | WCDMA                    | Back                       | 12.89        | 12.2 kbps | Test Loop 1 | 0.595                     | 0.77                      |
|                                                                                                        | ---- | 1712.4    | 1312 | WCDMA                    | Top                        | 12.78        | 12.2 kbps | Test Loop 1 | 0.872                     | 1.16                      |
|                                                                                                        | 5    | 1732.6    | 1413 | WCDMA                    |                            | 12.89        | 12.2 kbps | Test Loop 1 | 0.945                     | 1.22                      |
|                                                                                                        | ---- | 1752.6    | 1513 | WCDMA                    |                            | 12.82        | 12.2 kbps | Test Loop 1 | 0.921                     | 1.21                      |
|                                                                                                        | ---- | 1712.4    | 1312 | WCDMA                    | Right                      | 12.89        | 12.2 kbps | Test Loop 1 | 0.742                     | 0.96                      |
|                                                                                                        | ---- | 1732.6    | 1413 | WCDMA                    | Back w/Brown<br>Case       | 12.89        | 12.2 kbps | Test Loop 1 | 0.543                     | 0.70                      |
|                                                                                                        | ---- | 1732.6    | 1413 | WCDMA                    | Back w/Gray<br>Case        | 12.89        | 12.2 kbps | Test Loop 1 | 0.401                     | 0.52                      |
|                                                                                                        | ---- | 1732.6    | 1413 | WCDMA                    | Back w/Gray<br>Case Laptop | 23.72        | 12.2 kbps | Test Loop 1 | 0.0987                    | 0.12                      |
|                                                                                                        | ---- | 1732.6    | 1413 | WCDMA                    | Repeat                     | 12.89        | 12.2 kbps | Test Loop 1 | 0.922                     | 1.19                      |
| <p align="center"><b>Body</b><br/> <b>1.6 W/kg (mW/g)</b><br/> <small>averaged over 1 gram</small></p> |      |           |      |                          |                            |              |           |             |                           |                           |

- SAR Measurement  
Phantom Configuration ☐ Left Head ☒ Eli4 ☐ Right Head  
SAR Configuration ☐ Head ☒ Body
- Test Signal Call Mode ☐ Test Code ☒ Base Station Simulator
- Test Configuration ☐ With Belt Clip ☐ Without Belt Clip ☒ N/A
- Tissue Depth is at least 15.0 cm



Jay M. Moulton  
Vice President

## SAR Data Summary – 1750 MHz Body – LTE Band 4 & 66

### MEASUREMENT RESULTS

| Gap     | Plot  | Position                | Frequency |        | BW/<br>Modulation | RB<br>Size | RB<br>Offset | MPR<br>Target | End<br>Power<br>(dBm) | Measured<br>SAR (W/kg) | Reported SAR<br>(W/kg) |
|---------|-------|-------------------------|-----------|--------|-------------------|------------|--------------|---------------|-----------------------|------------------------|------------------------|
|         |       |                         | MHz       | Ch.    |                   |            |              |               |                       |                        |                        |
| 0<br>mm | ----- | Back                    | 1732.5    | 20175  | 20 MHz/QPSK       | 1          | 0            | 0             | 18.0                  | 0.547                  | 0.55                   |
|         | ----- |                         | 1732.5    | 20175  | 20 MHz/QPSK       | 50         | 0            | 1             | 17.1                  | 0.423                  | 0.52                   |
|         | 6     | Top                     | 1732.5    | 20175  | 20 MHz/QPSK       | 1          | 0            | 0             | 18.0                  | 0.783                  | 0.78                   |
|         | ----- |                         | 1732.5    | 20175  | 20 MHz/QPSK       | 50         | 0            | 1             | 17.1                  | 0.627                  | 0.77                   |
|         | ----- | Right                   | 1732.5    | 20175  | 20 MHz/QPSK       | 1          | 0            | 0             | 18.0                  | 0.629                  | 0.63                   |
|         | ----- |                         | 1732.5    | 20175  | 20 MHz/QPSK       | 50         | 0            | 1             | 17.1                  | 0.564                  | 0.69                   |
|         | ----- | Back w/Brown Case       | 1732.5    | 20175  | 20 MHz/QPSK       | 1          | 0            | 0             | 18.0                  | 0.345                  | 0.35                   |
|         | ----- | Back w/Gray Case        | 1732.5    | 20175  | 20 MHz/QPSK       | 1          | 0            | 0             | 18.0                  | 0.282                  | 0.28                   |
|         | ----- | Back w/Gray Case Laptop | 1732.5    | 20175  | 20 MHz/QPSK       | 1          | 0            | 0             | 24.0                  | 0.0196                 | 0.02                   |
|         | ----- | Back                    | 1745.0    | 132322 | 20 MHz/QPSK       | 1          | 0            | 0             | 15.1                  | 0.328                  | 0.36                   |
|         | ----- |                         | 1745.0    | 132322 | 20 MHz/QPSK       | 50         | 0            | 1             | 14.1                  | 0.221                  | 0.31                   |
|         | ----- | Top                     | 1745.0    | 132322 | 20 MHz/QPSK       | 1          | 0            | 0             | 15.1                  | 0.516                  | 0.57                   |
|         | ----- |                         | 1745.0    | 132322 | 20 MHz/QPSK       | 50         | 0            | 1             | 14.1                  | 0.439                  | 0.61                   |
|         | ----- | Right                   | 1745.0    | 132322 | 20 MHz/QPSK       | 1          | 0            | 0             | 15.1                  | 0.411                  | 0.45                   |
|         | ----- |                         | 1745.0    | 132322 | 20 MHz/QPSK       | 50         | 0            | 1             | 14.1                  | 0.354                  | 0.49                   |
|         | ----- | Back w/Brown Case       | 1745.0    | 132322 | 20 MHz/QPSK       | 1          | 0            | 0             | 15.1                  | 0.159                  | 0.17                   |
|         | ----- | Back w/Gray Case        | 1745.0    | 132322 | 20 MHz/QPSK       | 1          | 0            | 0             | 15.1                  | 0.0571                 | 0.06                   |
|         | ----- | Back w/Gray Case Laptop | 1745.0    | 132322 | 20 MHz/QPSK       | 1          | 0            | 0             | 24                    | 0.0085                 | 0.01                   |

**Body**  
**1.6 W/kg (mW/g)**  
 averaged over 1 gram

- SAR Measurement  
 Phantom Configuration ☐ Left Head  
 SAR Configuration ☐ Head
- Test Signal Call Mode ☐ Test Code
- Test Configuration ☐ With Belt Clip
- Tissue Depth is at least 15.0 cm

- ☒ Eli4 ☐ Right Head  
☒ Body  
☒ Base Station Simulator  
☐ Without Belt Clip ☒ N/A



Jay M. Moulton  
 Vice President

## SAR Data Summary – 1900 MHz Body - WCDMA

### MEASUREMENT RESULTS

| Gap     | Plot | Frequency |      | Rev Level/<br>Modulation | Position                   | End<br>Power | RMC       | Test Set Up | Measured<br>SAR<br>(W/kg) | Reported<br>SAR<br>(W/kg) |
|---------|------|-----------|------|--------------------------|----------------------------|--------------|-----------|-------------|---------------------------|---------------------------|
|         |      | MHz       | Ch.  |                          |                            | (dBm)        |           |             |                           |                           |
| 0<br>mm | ---- | 1880.0    | 9400 | WCDMA                    | Back                       | 14.97        | 12.2 kbps | Test Loop 1 | 0.671                     | 0.68                      |
|         | ---- | 1852.4    | 9262 | WCDMA                    | Top                        | 14.92        | 12.2 kbps | Test Loop 1 | 0.899                     | 0.92                      |
|         | 7    | 1880.0    | 9400 | WCDMA                    |                            | 14.97        | 12.2 kbps | Test Loop 1 | 0.964                     | 0.97                      |
|         | ---- | 1907.6    | 9538 | WCDMA                    |                            | 14.95        | 12.2 kbps | Test Loop 1 | 0.918                     | 0.93                      |
|         | ---- | 1880.0    | 9400 | WCDMA                    | Right                      | 14.97        | 12.2 kbps | Test Loop 1 | 0.716                     | 0.72                      |
|         | ---- | 1880.0    | 9400 | WCDMA                    | Back w/Brown<br>Case       | 14.97        | 12.2 kbps | Test Loop 1 | 0.509                     | 0.51                      |
|         | ---- | 1880.0    | 9400 | WCDMA                    | Back w/Gray<br>Case        | 14.97        | 12.2 kbps | Test Loop 1 | 0.461                     | 0.46                      |
|         | ---- | 1880.0    | 9400 | WCDMA                    | Back w/Gray<br>Case Laptop | 23.61        | 12.2 kbps | Test Loop 1 | 0.0422                    | 0.05                      |
|         | ---- | 1880.0    | 9400 | WCDMA                    | Repeat                     | 14.97        | 12.2 kbps | Test Loop 1 | 0.939                     | 0.95                      |

**Body**  
**1.6 W/kg (mW/g)**  
averaged over 1 gram

- SAR Measurement  
Phantom Configuration ☐ Left Head ☒ Eli4 ☐ Right Head  
SAR Configuration ☐ Head ☒ Body
- Test Signal Call Mode ☐ Test Code ☒ Base Station Simulator
- Test Configuration ☐ With Belt Clip ☐ Without Belt Clip ☒ N/A
- Tissue Depth is at least 15.0 cm



Jay M. Moulton  
Vice President

## SAR Data Summary – 1900 MHz Body – LTE Band 2

| MEASUREMENT RESULTS |                                                               |                         |           |       |                   |            |              |               |                    |                           |                           |
|---------------------|---------------------------------------------------------------|-------------------------|-----------|-------|-------------------|------------|--------------|---------------|--------------------|---------------------------|---------------------------|
| Gap                 | Plot                                                          | Position                | Frequency |       | BW/<br>Modulation | RB<br>Size | RB<br>Offset | MPR<br>Target | End Power<br>(dBm) | Measured<br>SAR<br>(W/kg) | Reported<br>SAR<br>(W/kg) |
|                     |                                                               |                         | MHz       | Ch.   |                   |            |              |               |                    |                           |                           |
| 0<br>mm             | -----                                                         | Back                    | 1880.0    | 18900 | 20 MHz/QPSK       | 1          | 0            | 0             | 17.0               | 0.543                     | 0.54                      |
|                     | -----                                                         |                         | 1880.0    | 18900 | 20 MHz/QPSK       | 50         | 0            | 0             | 16.1               | 0.444                     | 0.55                      |
|                     | 8                                                             | Top                     | 1880.0    | 18900 | 20 MHz/QPSK       | 1          | 0            | 0             | 17.0               | 0.746                     | 0.75                      |
|                     | -----                                                         |                         | 1880.0    | 18900 | 20 MHz/QPSK       | 50         | 0            | 0             | 16.1               | 0.593                     | 0.73                      |
|                     | -----                                                         | Right                   | 1880.0    | 18900 | 20 MHz/QPSK       | 1          | 0            | 0             | 17.0               | 0.511                     | 0.51                      |
|                     | -----                                                         |                         | 1880.0    | 18900 | 20 MHz/QPSK       | 50         | 0            | 0             | 16.1               | 0.407                     | 0.50                      |
|                     | -----                                                         | Back w/Brown Case       | 1880.0    | 18900 | 20 MHz/QPSK       | 1          | 0            | 0             | 17.0               | 0.314                     | 0.31                      |
|                     | -----                                                         | Back w/Gray Case        | 1880.0    | 18900 | 20 MHz/QPSK       | 1          | 0            | 0             | 17.0               | 0.215                     | 0.22                      |
|                     | -----                                                         | Back w/Gray Case Laptop | 1880.0    | 18900 | 20 MHz/QPSK       | 1          | 0            | 0             | 24.0               | 0.0207                    | 0.02                      |
|                     | <b>Body</b><br><b>1.6 W/kg (mW/g)</b><br>averaged over 1 gram |                         |           |       |                   |            |              |               |                    |                           |                           |

- SAR Measurement  
Phantom Configuration ☐ Left Head  
SAR Configuration ☐ Head
- Test Signal Call Mode ☐ Test Code
- Test Configuration ☐ With Belt Clip
- Tissue Depth is at least 15.0 cm

- ☒ Eli4 ☐ Right Head  
☒ Body  
☒ Base Station Simulator  
☐ Without Belt Clip ☒ N/A



Jay M. Moulton  
Vice President

## SAR Data Summary – 2300 MHz Body – LTE Band 30

### MEASUREMENT RESULTS

| Gap     | Plot  | Position                   | Frequency |       | BW/<br>Modulation | RB<br>Size | RB<br>Offset | MPR<br>Target | End<br>Power<br>(dBm) | Measured<br>SAR (W/kg) | Reported<br>SAR (W/kg) |
|---------|-------|----------------------------|-----------|-------|-------------------|------------|--------------|---------------|-----------------------|------------------------|------------------------|
|         |       |                            | MHz       | Ch.   |                   |            |              |               |                       |                        |                        |
| 0<br>mm | ----- | Back                       | 2310      | 27710 | 10 MHz/QPSK       | 1          | 0            | 0             | 14.4                  | 0.639                  | 0.65                   |
|         | ----- |                            | 2310      | 27710 | 10 MHz/QPSK       | 25         | 12           | 1             | 14.2                  | 0.522                  | 0.56                   |
|         | 9     | Top                        | 2310      | 27710 | 10 MHz/QPSK       | 1          | 0            | 0             | 14.4                  | 1.02                   | 1.04                   |
|         | ----- |                            | 2310      | 27710 | 10 MHz/QPSK       | 25         | 12           | 1             | 14.2                  | 0.948                  | 1.02                   |
|         | ----- |                            | 2310      | 27710 | 10 MHz/QPSK       | 50         | 0            | 1             | 14.0                  | 0.811                  | 0.91                   |
|         | ----- | Right                      | 2310      | 27710 | 10 MHz/QPSK       | 1          | 0            | 0             | 14.4                  | 0.435                  | 0.45                   |
|         | ----- |                            | 2310      | 27710 | 10 MHz/QPSK       | 25         | 12           | 1             | 14.2                  | 0.386                  | 0.41                   |
|         | ----- | Back w/Brown<br>Case       | 2310      | 27710 | 10 MHz/QPSK       | 1          | 0            | 0             | 14.4                  | 0.145                  | 0.15                   |
|         | ----- | Back w/Gray<br>Case        | 2310      | 27710 | 10 MHz/QPSK       | 1          | 0            | 0             | 14.4                  | 0.122                  | 0.12                   |
|         | ----- | Back w/Gray<br>Case Laptop | 2310      | 27710 | 10 MHz/QPSK       | 1          | 0            | 0             | 23.0                  | 0.0106                 | 0.01                   |
|         | ----- | Repeat                     | 2310      | 27710 | 10 MHz/QPSK       | 1          | 0            | 0             | 14.4                  | 0.997                  | 1.02                   |

**Body**  
**1.6 W/kg (mW/g)**  
 averaged over 1 gram

- SAR Measurement  
 Phantom Configuration ☐ Left Head ☒ Eli4 ☐ Right Head  
 SAR Configuration ☐ Head ☒ Body  
 Test Signal Call Mode ☐ Test Code ☒ Base Station Simulator  
 Test Configuration ☐ With Belt Clip ☐ Without Belt Clip ☒ N/A
- Tissue Depth is at least 15.0 cm



Jay M. Moulton  
 Vice President

## SAR Data Summary – 2500 MHz Body – LTE Band 7

| MEASUREMENT RESULTS                                                        |       |                         |           |       |                   |            |              |               |                    |                           |                           |
|----------------------------------------------------------------------------|-------|-------------------------|-----------|-------|-------------------|------------|--------------|---------------|--------------------|---------------------------|---------------------------|
| Gap                                                                        | Plot  | Position                | Frequency |       | BW/<br>Modulation | RB<br>Size | RB<br>Offset | MPR<br>Target | End Power<br>(dBm) | Measured<br>SAR<br>(W/kg) | Reported<br>SAR<br>(W/kg) |
|                                                                            |       |                         | MHz       | Ch.   |                   |            |              |               |                    |                           |                           |
| 0<br>mm                                                                    | ----- | Back                    | 2535.0    | 21100 | 20 MHz/QPSK       | 1          | 0            | 0             | 15.0               | 0.760                     | 0.76                      |
|                                                                            | ----- |                         | 2535.0    | 21100 | 20 MHz/QPSK       | 50         | 0            | 0             | 14.1               | 0.644                     | 0.79                      |
|                                                                            | ----- | Top                     | 2507.5    | 20850 | 20 MHz/QPSK       | 1          | 0            | 0             | 15.0               | 0.856                     | 0.86                      |
|                                                                            | 10    |                         | 2535.0    | 21100 | 20 MHz/QPSK       | 1          | 0            | 0             | 15.0               | 0.920                     | 0.92                      |
|                                                                            | ----- |                         | 2562.5    | 21350 | 20 MHz/QPSK       | 1          | 0            | 0             | 15.0               | 0.894                     | 0.89                      |
|                                                                            | ----- |                         | 2507.5    | 20850 | 20 MHz/QPSK       | 50         | 0            | 0             | 14.1               | 0.702                     | 0.86                      |
|                                                                            | ----- |                         | 2535.0    | 21100 | 20 MHz/QPSK       | 50         | 0            | 0             | 14.1               | 0.739                     | 0.91                      |
|                                                                            | ----- |                         | 2562.5    | 21350 | 20 MHz/QPSK       | 50         | 0            | 0             | 14.3               | 0.713                     | 0.84                      |
|                                                                            | ----- |                         | 2535.0    | 21100 | 20 MHz/QPSK       | 100        | 0            | 0             | 14.2               | 0.626                     | 0.75                      |
|                                                                            | ----- | Right                   | 2535.0    | 21100 | 20 MHz/QPSK       | 1          | 0            | 0             | 15.0               | 0.596                     | 0.60                      |
|                                                                            | ----- |                         | 2535.0    | 21100 | 20 MHz/QPSK       | 50         | 0            | 0             | 14.1               | 0.436                     | 0.54                      |
|                                                                            | ----- | Back w/Brown Case       | 2535.0    | 21100 | 20 MHz/QPSK       | 1          | 0            | 0             | 15.0               | 0.273                     | 0.27                      |
|                                                                            | ----- | Back w/Gray Case        | 2535.0    | 21100 | 20 MHz/QPSK       | 1          | 0            | 0             | 15.0               | 0.252                     | 0.25                      |
|                                                                            | ----- | Back w/Gray Case Laptop | 2535.0    | 21100 | 20 MHz/QPSK       | 1          | 0            | 0             | 23.0               | 0.0189                    | 0.02                      |
|                                                                            | ----- | Repeat                  | 2535.0    | 21100 | 20 MHz/QPSK       | 1          | 0            | 0             | 15.0               | 0.896                     | 0.90                      |
| <div>Body</div> <div>1.6 W/kg (mW/g)</div> <div>averaged over 1 gram</div> |       |                         |           |       |                   |            |              |               |                    |                           |                           |

- SAR Measurement
 

Phantom Configuration ☐ Left Head ☒ Eli4 ☐ Right Head  
 SAR Configuration ☐ Head ☒ Body  
 Test Signal Call Mode ☐ Test Code ☒ Base Station Simulator  
 Test Configuration ☐ With Belt Clip ☐ Without Belt Clip ☒ N/A
- Tissue Depth is at least 15.0 cm



Jay M. Moulton  
Vice President

# SAR Data Summary –LTE Bands 38 & 41

## MEASUREMENT RESULTS

| Gap     | Plot  | Position                | Frequency |       | BW/<br>Modulation | RB<br>Size | RB<br>Offset | MPR<br>Target | End<br>Power<br>(dBm) | Measured<br>SAR<br>(W/kg) | Reported<br>SAR<br>(W/kg) |
|---------|-------|-------------------------|-----------|-------|-------------------|------------|--------------|---------------|-----------------------|---------------------------|---------------------------|
|         |       |                         | MHz       | Ch.   |                   |            |              |               |                       |                           |                           |
| 0<br>mm | ----- | Back                    | 2595      | 38000 | 20 MHz/QPSK       | 1          | 0            | 0             | 16.3                  | 0.234                     | 0.31                      |
|         | ----- |                         | 2595      | 38000 | 20 MHz/QPSK       | 50         | 24           | 1             | 16.1                  | 0.198                     | 0.27                      |
|         | ----- | Top                     | 2595      | 38000 | 20 MHz/QPSK       | 1          | 0            | 0             | 16.3                  | 0.411                     | 0.54                      |
|         | ----- |                         | 2595      | 38000 | 20 MHz/QPSK       | 50         | 24           | 1             | 16.1                  | 0.395                     | 0.55                      |
|         | ----- | Right                   | 2595      | 38000 | 20 MHz/QPSK       | 1          | 0            | 0             | 16.3                  | 0.268                     | 0.35                      |
|         | ----- |                         | 2595      | 38000 | 20 MHz/QPSK       | 50         | 24           | 1             | 16.1                  | 0.204                     | 0.28                      |
|         | ----- | Back w/Brown Case       | 2595      | 38000 | 20 MHz/QPSK       | 1          | 0            | 0             | 16.3                  | 0.0965                    | 0.13                      |
|         | ----- | Back w/Gray Case        | 2595      | 38000 | 20 MHz/QPSK       | 1          | 0            | 0             | 16.3                  | 0.103                     | 0.14                      |
|         | ----- | Back w/Gray Case Laptop | 2595      | 38000 | 20 MHz/QPSK       | 1          | 0            | 0             | 23.0                  | 0.0067                    | 0.01                      |
|         | ----- | Back                    | 2593      | 40620 | 20 MHz/QPSK       | 1          | 0            | 0             | 15.2                  | 0.501                     | 0.54                      |
|         | ----- |                         | 2593      | 40620 | 20 MHz/QPSK       | 50         | 24           | 1             | 15.1                  | 0.453                     | 0.50                      |
|         | 11    | Top                     | 2593      | 40620 | 20 MHz/QPSK       | 1          | 0            | 0             | 15.2                  | 0.742                     | 0.80                      |
|         | ----- |                         | 2593      | 40620 | 20 MHz/QPSK       | 50         | 24           | 1             | 15.1                  | 0.656                     | 0.72                      |
|         | ----- | Right                   | 2593      | 40620 | 20 MHz/QPSK       | 1          | 0            | 0             | 15.2                  | 0.691                     | 0.74                      |
|         | ----- |                         | 2593      | 40620 | 20 MHz/QPSK       | 50         | 24           | 1             | 15.1                  | 0.632                     | 0.69                      |
|         | ----- | Back w/Brown Case       | 2593      | 40620 | 20 MHz/QPSK       | 1          | 0            | 0             | 15.2                  | 0.190                     | 0.20                      |
|         | ----- | Back w/Gray Case        | 2593      | 40620 | 20 MHz/QPSK       | 1          | 0            | 0             | 15.2                  | 0.245                     | 0.26                      |
|         | ----- | Back w/Gray Case Laptop | 2593      | 40620 | 20 MHz/QPSK       | 1          | 0            | 0             | 23.0                  | 0.0162                    | 0.02                      |

**Body**  
**1.6 W/kg (mW/g)**  
averaged over 1 gram

- SAR Measurement  
Phantom Configuration ☐ Left Head ☒ Eli4 ☐ Right Head  
SAR Configuration ☐ Head ☒ Body  
2. Test Signal Call Mode ☐ Test Code ☒ Base Station Simulator  
3. Test Configuration ☐ With Belt Clip ☐ Without Belt Clip ☒ N/A  
4. Tissue Depth is at least 15.0 cm



Jay M. Moulton  
Vice President

LTE TDD testing is performed using the SAR test guidance provided in FCC KDB 941225 D05 v02r05 clause 5.4. TDD is tested at the highest duty factor using UL-DL configuration 0 with special subframe configuration 6 and applying the FDD LTE procedures in KDB 941225 D05 v02r05. SAR testing is performed using the extended cyclic prefix listed in 3GPP TS 36.211 Section 4. A duty cycle of 1:1.58 is the highest duty cycle achievable which was used for testing Band 41.

# SAR Data Summary – 2450 MHz Body 802.11b & BT

## MEASUREMENT RESULTS

| Plot  | Gap  | Antenna | Position        | Frequency |     | Modulation | Antenna | End Power | Measured SAR (W/kg) | Reported SAR (W/kg) |
|-------|------|---------|-----------------|-----------|-----|------------|---------|-----------|---------------------|---------------------|
|       |      |         |                 | MHz       | Ch. |            |         | (dBm)     |                     |                     |
| ----- | 0 mm | Inpaq   | Back            | 2437      | 6   | DSSS       | Main    | 17.00     | 0.567               | 0.57                |
| ----- |      |         |                 | 2462      | 11  | DSSS       |         | 17.00     | 0.522               | 0.52                |
| 12    |      |         |                 | 2437      | 6   | DSSS       | Aux     | 17.00     | 0.923               | 0.92                |
| ----- |      |         |                 | 2462      | 11  | DSSS       |         | 17.00     | 0.839               | 0.84                |
| ----- |      |         | Top             | 2437      | 6   | DSSS       | Main    | 17.00     | 0.163               | 0.16                |
| ----- |      |         |                 | 2437      | 6   | DSSS       | Aux     | 17.00     | 0.354               | 0.35                |
| ----- |      |         | Back            | 2440      | 39  | GFSK       | Aux     | 11.47     | 0.109               | 0.11                |
| ----- |      |         | Top             | 2440      | 39  | GFSK       |         | 11.47     | 0.0587              | 0.06                |
| ----- |      |         | Back w/Brn Case | 2437      | 6   | DSSS       | Main    | 17.00     | 0.175               | 0.18                |
| ----- |      |         |                 | 2437      | 6   | DSSS       | Aux     | 17.00     | 0.210               | 0.21                |
| ----- |      |         | Back w/Gry Case | 2437      | 6   | DSSS       | Main    | 17.00     | 0.236               | 0.24                |
| ----- |      |         |                 | 2437      | 6   | DSSS       | Aux     | 17.00     | 0.357               | 0.36                |
| ----- |      |         | Repeated        | 2437      | 6   | DSSS       | Aux     | 17.00     | 0.904               | 0.90                |

**Body**  
**1.6 W/kg (mW/g)**  
averaged over 1 gram

- Battery is fully charged for all tests.  
Power Measured ☒ Conducted ☐ ERP ☐ EIRP
- SAR Measurement  
Phantom Configuration ☐ Left Head ☒ Eli4 ☐ Right Head  
SAR Configuration ☐ Head ☒ Body
- Test Signal Call Mode ☒ Test Code ☐ Base Station Simulator
- Test Configuration ☐ With Belt Clip ☐ Without Belt Clip ☒ N/A
- Tissue Depth is at least 15.0 cm



Jay M. Moulton  
Vice President

## SAR Data Summary – 5250 MHz Body 802.11a

| MEASUREMENT RESULTS |      |         |                 |           |     |            |         |           |                     |                     |
|---------------------|------|---------|-----------------|-----------|-----|------------|---------|-----------|---------------------|---------------------|
| Plot                | Gap  | Antenna | Position        | Frequency |     | Modulation | Antenna | End Power | Measured SAR (W/kg) | Reported SAR (W/kg) |
|                     |      |         |                 | MHz       | Ch. |            |         | (dBm)     |                     |                     |
| -----               | 0 mm | Inpaq   | Back            | 5300      | 60  | OFDM       | Main    | 17.00     | 0.346               | 0.35                |
| 13                  |      |         |                 | 5280      | 56  | OFDM       | Aux     | 17.00     | 0.951               | 0.95                |
| -----               |      |         |                 | 5300      | 60  | OFDM       |         | 17.00     | 0.914               | 0.91                |
| -----               |      |         | Top             | 5300      | 60  | OFDM       | Main    | 17.00     | 0.372               | 0.37                |
| -----               |      |         |                 | 5280      | 56  | OFDM       | Aux     | 17.00     | 0.443               | 0.44                |
| -----               |      |         |                 | 5300      | 60  | OFDM       |         | 17.00     | 0.457               | 0.46                |
| -----               |      |         | Back w/Brn Case | 5300      | 60  | OFDM       | Main    | 17.00     | 0.133               | 0.13                |
| -----               |      |         |                 | 5300      | 60  | OFDM       | Aux     | 17.00     | 0.201               | 0.20                |
| -----               |      |         | Back w/Gry Case | 5300      | 60  | OFDM       | Main    | 17.00     | 0.124               | 0.12                |
| -----               |      |         |                 | 5300      | 60  | OFDM       | Aux     | 17.00     | 0.298               | 0.30                |
| -----               |      |         | Repeated        | 5280      | 56  | OFDM       | Aux     | 17.00     | 0.934               | 0.93                |

**Body**  
**1.6 W/kg (mW/g)**  
averaged over 1 gram

- Battery is fully charged for all tests.  
Power Measured ☒ Conducted ☐ ERP ☐ EIRP
- SAR Measurement  
Phantom Configuration ☐ Left Head ☒ Eli4 ☐ Right Head  
SAR Configuration ☐ Head ☒ Body
- Test Signal Call Mode ☒ Test Code ☐ Base Station Simulator
- Test Configuration ☐ With Belt Clip ☐ Without Belt Clip ☒ N/A
- Tissue Depth is at least 15.0 cm



Jay M. Moulton  
Vice President

## SAR Data Summary – 5600 MHz Body 802.11a

### MEASUREMENT RESULTS

| Plot  | Gap  | Antenna | Position        | Frequency |     | Modulation | Antenna | End Power | Measured SAR (W/kg) | Reported SAR (W/kg) |
|-------|------|---------|-----------------|-----------|-----|------------|---------|-----------|---------------------|---------------------|
|       |      |         |                 | MHz       | Ch. |            |         | (dBm)     |                     |                     |
| ----- | 0 mm | Inpaq   | Back            | 5620      | 124 | OFDM       | Main    | 17.00     | 0.331               | 0.33                |
| ----- |      |         |                 | 5580      | 116 | OFDM       | Aux     | 17.00     | 0.478               | 0.48                |
| ----- |      |         |                 | 5620      | 124 | OFDM       |         | 17.00     | 0.502               | 0.50                |
| ----- |      |         | Top             | 5580      | 116 | OFDM       | Main    | 17.00     | 0.471               | 0.47                |
| ----- |      |         |                 | 5620      | 124 | OFDM       |         | 17.00     | 0.531               | 0.53                |
| ----- |      |         |                 | 5580      | 116 | OFDM       | Aux     | 17.00     | 0.575               | 0.58                |
| ----- |      |         |                 | 5620      | 124 | OFDM       |         | 17.00     | 0.579               | 0.58                |
| 14    |      |         | Back w/Brn Case | 5620      | 124 | OFDM       | Main    | 17.00     | 0.0879              | 0.09                |
| ----- |      |         |                 | 5620      | 124 | OFDM       | Aux     | 17.00     | 0.102               | 0.10                |
| ----- |      |         | Back w/Gry Case | 5620      | 124 | OFDM       | Main    | 17.00     | 0.0726              | 0.07                |
| ----- |      |         |                 | 5620      | 124 | OFDM       | Aux     | 17.00     | 0.105               | 0.11                |

**Body**  
**1.6 W/kg (mW/g)**  
 averaged over 1 gram

- Battery is fully charged for all tests.  
 Power Measured ☒ Conducted ☐ ERP ☐ EIRP
- SAR Measurement  
 Phantom Configuration ☐ Left Head ☒ Eli4 ☐ Right Head  
 SAR Configuration ☐ Head ☒ Body
- Test Signal Call Mode ☒ Test Code ☐ Base Station Simulator
- Test Configuration ☐ With Belt Clip ☐ Without Belt Clip ☒ N/A
- Tissue Depth is at least 15.0 cm



Jay M. Moulton  
 Vice President

## SAR Data Summary – 5800 MHz Body 802.11a

### MEASUREMENT RESULTS

| Plot  | Gap  | Antenna | Position        | Frequency |     | Modulation | Antenna | End Power | Measured SAR (W/kg) | Reported SAR (W/kg) |
|-------|------|---------|-----------------|-----------|-----|------------|---------|-----------|---------------------|---------------------|
|       |      |         |                 | MHz       | Ch. |            |         | (dBm)     |                     |                     |
| ----- | 0 mm | Inpaq   | Back            | 5785      | 157 | OFDM       | Main    | 17.00     | 0.464               | 0.46                |
| ----- |      |         |                 | 5825      | 165 | OFDM       | Main    | 17.00     | 0.488               | 0.49                |
| ----- |      |         |                 | 5785      | 157 | OFDM       | Aux     | 17.00     | 0.464               | 0.46                |
| 15    |      |         |                 | 5825      | 165 | OFDM       | Aux     | 17.00     | 0.510               | 0.51                |
| ----- |      |         |                 | 5785      | 157 | OFDM       | Main    | 17.00     | 0.498               | 0.50                |
| ----- |      |         | Top             | 5825      | 165 | OFDM       | Main    | 17.00     | 0.489               | 0.49                |
| ----- |      |         |                 | 5785      | 157 | OFDM       | Aux     | 17.00     | 0.491               | 0.49                |
| ----- |      |         |                 | 5825      | 165 | OFDM       | Aux     | 17.00     | 0.480               | 0.48                |
| ----- |      |         |                 | 5785      | 157 | OFDM       | Main    | 17.00     | 0.133               | 0.13                |
| ----- |      |         |                 | 5785      | 157 | OFDM       | Aux     | 17.00     | 0.0503              | 0.05                |
| ----- |      |         | Back w/Brn Case | 5785      | 157 | OFDM       | Main    | 17.00     | 0.123               | 0.12                |
| ----- |      |         | Back w/Gry Case | 5785      | 157 | OFDM       | Aux     | 17.00     | 0.0920              | 0.09                |

**Body**  
**1.6 W/kg (mW/g)**  
averaged over 1 gram

- Battery is fully charged for all tests.  
Power Measured ☒ Conducted ☐ ERP ☐ EIRP
- SAR Measurement  
Phantom Configuration ☐ Left Head ☒ Eli4 ☐ Right Head  
SAR Configuration ☐ Head ☒ Body
- Test Signal Call Mode ☒ Test Code ☐ Base Station Simulator
- Test Configuration ☐ With Belt Clip ☐ Without Belt Clip ☒ N/A
- Tissue Depth is at least 15.0 cm



Jay M. Moulton  
Vice President

## SAR Data Summary – Simultaneous Evaluation

### MEASUREMENT RESULTS – WWAN-WiFi (Main)

| Position | Frequency |     | Maxima |       |      | Frequency |       | Maxima |        |       | SAR <sub>1</sub> | SAR <sub>2</sub> | SAR Total |
|----------|-----------|-----|--------|-------|------|-----------|-------|--------|--------|-------|------------------|------------------|-----------|
|          | MHz       | Ch. | X      | Y     | Z    | MHz       | Ch.   | X      | Y      | Z     |                  |                  |           |
| Back     | 2437      | 6   | 111.0  | 68.40 | 2.06 | 711.0     | 23129 | 102.79 | 116.11 | -1.50 | 0.57             | 1.08             | 1.65      |
| Top      | 5620      | 124 | 1.60   | 47.40 | 0.66 | 711.0     | 23129 | -4.58  | 105.51 | -2.50 | 0.53             | 1.26             | 1.79      |

**Body**  
**1.6 W/kg (mW/g)**  
 averaged over 1 gram

Back – 48.5 mm      SPLSR=0.04      See Plot 1 Below  
 Top – 58.5 mm      SPLSR=0.04      See Plot 2 Below

Simultaneous Separation Ratio Calculation

$$(SAR_1 + SAR_2)^{1.5}/R_i \leq 0.04 \text{ rounded to two digits}$$

### MEASUREMENT RESULTS – WWAN-WiFi (Main)

| Position | Frequency |     | Maxima |        |      | Frequency |       | Maxima |        |       | SAR <sub>1</sub> | SAR <sub>2</sub> | SAR Total |
|----------|-----------|-----|--------|--------|------|-----------|-------|--------|--------|-------|------------------|------------------|-----------|
|          | MHz       | Ch. | X      | Y      | Z    | MHz       | Ch.   | X      | Y      | Z     |                  |                  |           |
| Back     | 5280      | 56  | 112.2  | -41.00 | 2.04 | 711.0     | 23129 | 102.79 | 116.11 | -1.50 | 0.95             | 1.08             | 2.03      |
| Top      | 5620      | 124 | -0.40  | -49.40 | 0.88 | 711.0     | 23129 | -4.58  | 105.51 | -2.50 | 0.58             | 1.26             | 1.84      |

**Body**  
**1.6 W/kg (mW/g)**  
 averaged over 1 gram

Back – 157.4 mm      SPLSR=0.02      See Plot 3 Below  
 Top – 155.0 mm      SPLSR=0.02      See Plot 4 Below

Simultaneous Separation Ratio Calculation

$$(SAR_1 + SAR_2)^{1.5}/R_i \leq 0.04 \text{ rounded to two digits}$$

$$(0.95 + 1.27)^{1.5}/116 = 0.03$$

### MEASUREMENT RESULTS – BT

| Frequency |     | Modulation | Frequency |     | Modulation | SAR <sub>1</sub> | SAR <sub>2</sub> | SAR Total |
|-----------|-----|------------|-----------|-----|------------|------------------|------------------|-----------|
| MHz       | Ch. |            | MHz       | Ch. |            |                  |                  |           |
| 2437      | 6   | DSSS       | 2440      | 39  | GFSK       | 0.57             | 0.11             | 0.68      |
| 5300      | 60  | OFDM       | 2440      | 39  | GFSK       | 0.37             | 0.11             | 0.48      |
| 5620      | 124 | OFDM       | 2440      | 39  | GFSK       | 0.53             | 0.11             | 0.64      |
| 5785      | 157 | OFDM       | 2440      | 39  | GFSK       | 0.50             | 0.11             | 0.61      |

**Body**  
**1.6 W/kg (mW/g)**  
 averaged over 1 gram

The sum of the two transmitters is less than the limit; therefore, the simultaneous transmission meets the requirements of KDB447498 D01 v06 section 4.3.2 page 11.

**MEASUREMENT RESULTS – MIMO (No BT)**

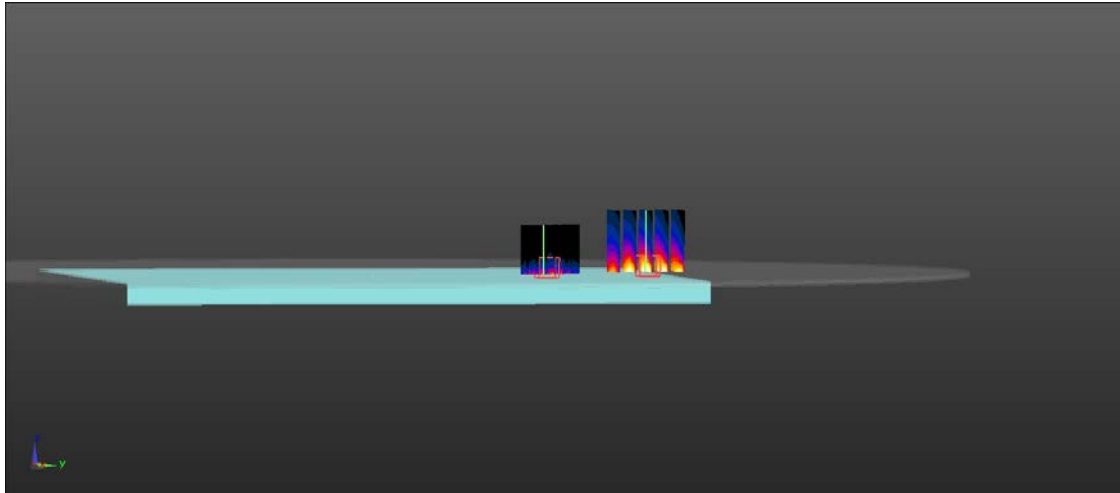
| Frequency |     | Modulation | Frequency |     | Modulation | SAR <sub>1</sub>                                              | SAR <sub>2</sub> | SAR Total |
|-----------|-----|------------|-----------|-----|------------|---------------------------------------------------------------|------------------|-----------|
| MHz       | Ch. |            | MHz       | Ch. |            |                                                               |                  |           |
| 2437      | 6   | DSSS       | 2437      | 6   | DSSS       | 0.57                                                          | 0.92             | 1.49      |
| 5300      | 60  | OFDM       | 5280      | 56  | OFDM       | 0.37                                                          | 0.95             | 1.32      |
| 5620      | 124 | OFDM       | 5620      | 124 | OFDM       | 0.53                                                          | 0.58             | 1.11      |
| 5785      | 157 | OFDM       | 5825      | 165 | OFDM       | 0.50                                                          | 0.51             | 1.01      |
|           |     |            |           |     |            | <b>Body</b><br><b>1.6 W/kg (mW/g)</b><br>averaged over 1 gram |                  |           |

The sum of the two transmitters is less than the limit; therefore, the simultaneous transmission meets the requirements of KDB447498 D01 v06 section 4.3.2 page 11.

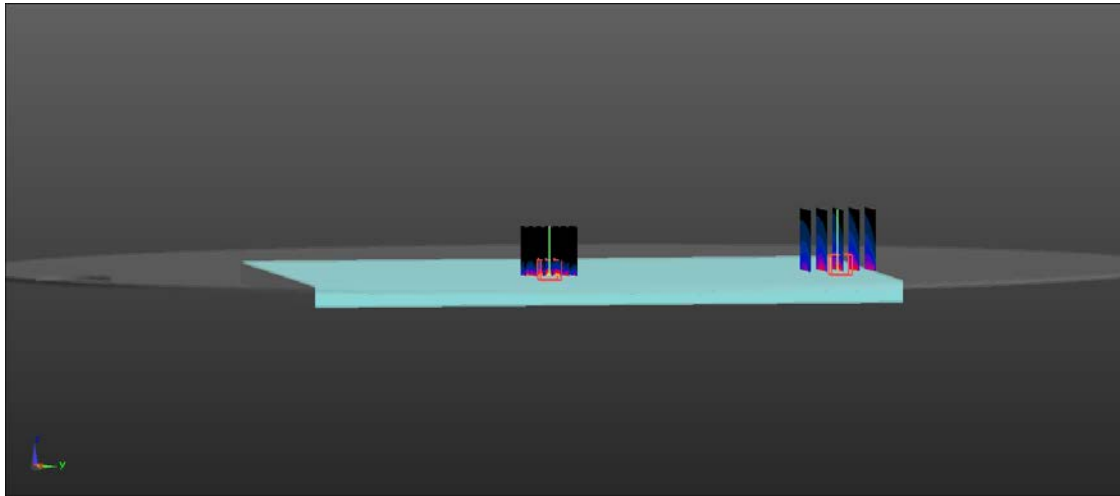
**MEASUREMENT RESULTS – MIMO (With BT)**

| Frequency |     | Modulation | Frequency |     | Modulation | SAR <sub>1</sub>                                              | SAR <sub>2</sub> + BT | SAR Total |
|-----------|-----|------------|-----------|-----|------------|---------------------------------------------------------------|-----------------------|-----------|
| MHz       | Ch. |            | MHz       | Ch. |            |                                                               |                       |           |
| 5300      | 60  | OFDM       | 5280      | 56  | OFDM       | 0.37                                                          | 1.06                  | 1.43      |
| 5620      | 124 | OFDM       | 5620      | 124 | OFDM       | 0.53                                                          | 0.69                  | 1.22      |
| 5785      | 157 | OFDM       | 5825      | 165 | OFDM       | 0.50                                                          | 0.62                  | 1.12      |
|           |     |            |           |     |            | <b>Body</b><br><b>1.6 W/kg (mW/g)</b><br>averaged over 1 gram |                       |           |

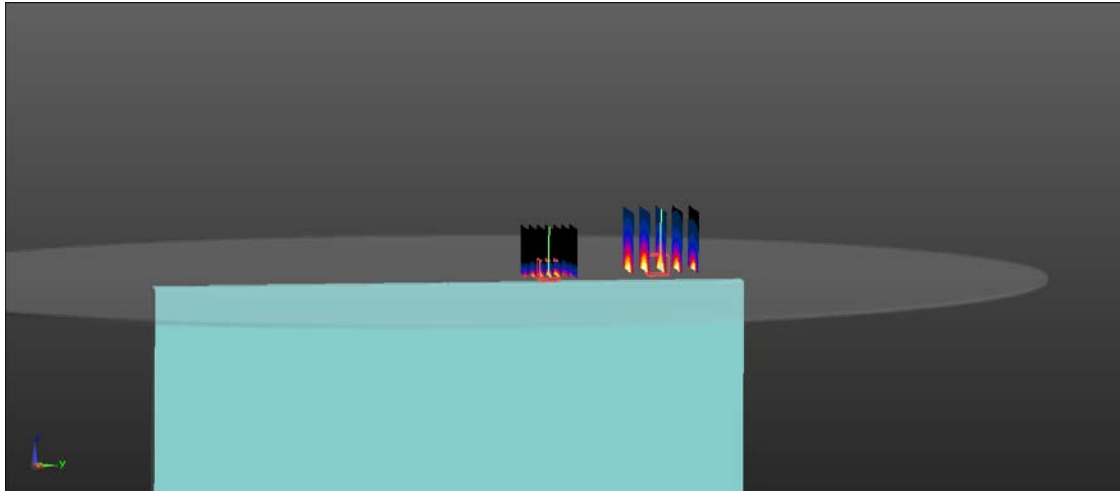
The sum of the two transmitters is less than the limit; therefore, the simultaneous transmission meets the requirements of KDB447498 D01 v06 section 4.3.2 page 11.

**Plot 1**


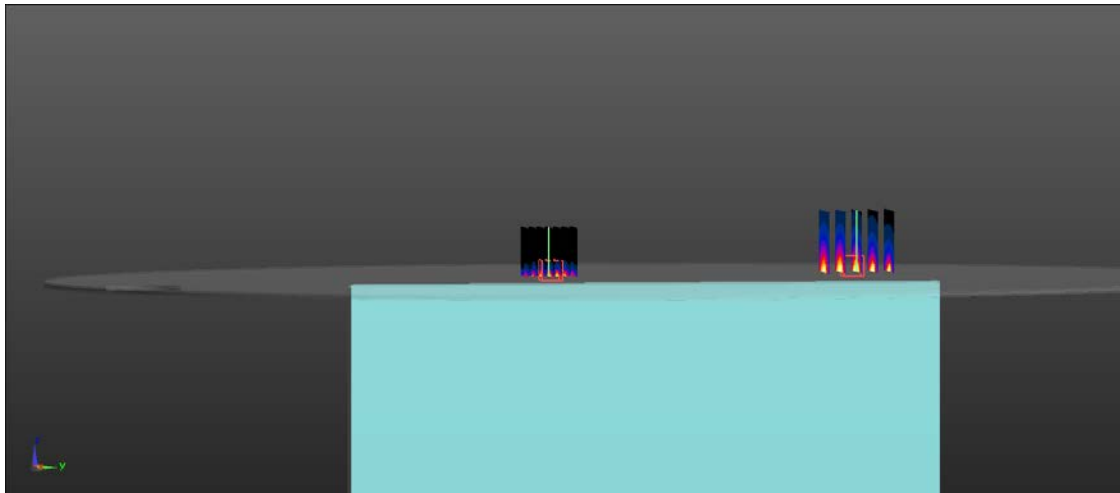
**Plot 2**



**Plot 3**



**Plot 4**



## 11. Test Equipment List

**Table 11.1 Equipment Specifications**

| Type                                       | Calibration Due Date | Calibration Done Date | Serial Number   |
|--------------------------------------------|----------------------|-----------------------|-----------------|
| Staubli Robot TX60L                        | N/A                  | N/A                   | F07/55M6A1/A/01 |
| Measurement Controller CS8c                | N/A                  | N/A                   | 1012            |
| ELI4 Flat Phantom                          | N/A                  | N/A                   | 1065            |
| Device Holder                              | N/A                  | N/A                   | N/A             |
| Data Acquisition Electronics 4             | 08/10/2019           | 08/10/2018            | 759             |
| Data Acquisition Electronics 4             | 04/16/2020           | 04/16/2019            | 1416            |
| SPEAG E-Field Probe EX3DV4                 | 04/24/2020           | 04/24/2019            | 3662            |
| SPEAG E-Field Probe EX3DV4                 | 08/27/2019           | 08/27/2018            | 3693            |
| Speag Validation Dipole D750V2             | 07/13/2019           | 07/13/2018            | 1016            |
| Speag Validation Dipole D835V2             | 07/13/2019           | 07/13/2018            | 4d089           |
| Speag Validation Dipole D1750V2            | 07/20/2019           | 07/20/2018            | 1018            |
| Speag Validation Dipole D1900V2            | 07/13/2019           | 07/13/2018            | 5d116           |
| Speag Validation Dipole D2300V2            | 08/20/2019           | 08/20/2018            | 1060            |
| Speag Validation Dipole D2550V2            | 07/12/2019           | 07/12/2018            | 1003            |
| Speag Validation Dipole D2450V2            | 07/12/2019           | 07/12/2018            | 829             |
| Speag Validation Dipole D5GHzV2            | 07/19/2019           | 07/19/2018            | 1085            |
| Agilent N1911A Power Meter                 | 04/27/2020           | 04/27/2019            | GB45100254      |
| Agilent N1922A Power Sensor                | 04/27/2020           | 04/27/2019            | MY45240464      |
| Advantest R3261A Spectrum Analyzer         | 03/25/2020           | 03/25/2019            | 31720068        |
| Agilent (HP) 8350B Signal Generator        | 03/20/2020           | 03/20/2019            | 2749A10226      |
| Agilent (HP) 83525A RF Plug-In             | 03/20/2020           | 03/20/2019            | 2647A01172      |
| Agilent (HP) 8753C Vector Network Analyzer | 03/20/2020           | 03/20/2019            | 3135A01724      |
| Agilent (HP) 85047A S-Parameter Test Set   | 03/20/2020           | 03/20/2019            | 2904A00595      |
| Agilent (HP) 8960 Base Station Sim.        | 03/19/2020           | 03/19/2019            | MY48360364      |
| Anritsu MT8820C                            | 01/26/2020           | 01/26/2019            | 6201176199      |
| Apriel Dielectric Probe Assembly           | N/A                  | N/A                   | 0011            |
| Body Equivalent Matter (750 MHz)           | N/A                  | N/A                   | N/A             |
| Body Equivalent Matter (835 MHz)           | N/A                  | N/A                   | N/A             |
| Body Equivalent Matter (1750 MHz)          | N/A                  | N/A                   | N/A             |
| Body Equivalent Matter (1900 MHz)          | N/A                  | N/A                   | N/A             |
| Body Equivalent Matter (2300 MHz)          | N/A                  | N/A                   | N/A             |
| Body Equivalent Matter (2550 MHz)          | N/A                  | N/A                   | N/A             |
| Body Equivalent Matter (2450 MHz)          | N/A                  | N/A                   | N/A             |
| Body Equivalent Matter (5 GHz)             | N/A                  | N/A                   | N/A             |

## 12. Conclusion

The SAR measurement indicates that the EUT complies with the RF radiation exposure limits of the FCC/IC. These measurements are taken to simulate the RF effects exposure under worst-case conditions. Precise laboratory measures were taken to assure repeatability of the tests. The tested device complies with the requirements in respect to all parameters subject to the test. The test results and statements relate only to the item(s) tested.

Please note that the absorption and distribution of electromagnetic energy in the body is a very complex phenomena that depends on the mass, shape, and size of the body; the orientation of the body with respect to the field vectors; and, the electrical properties of both the body and the environment. Other variables that may play a substantial role in possible biological effects are those that characterize the environment (e.g. ambient temperature, air velocity, relative humidity, and body insulation) and those that characterize the individual (e.g. age, gender, activity level, debilitation, or disease). Because innumerable factors may interact to determine the specific biological outcome of an exposure to electromagnetic fields, any protection guide shall consider maximal amplification of biological effects as a result of field-body interactions, environmental conditions, and physiological variables.

## 13. References

- [1] Federal Communications Commission, ET Docket 93-62, Guidelines for Evaluating the Environmental Effects of Radio Frequency Radiation, August 1996
- [2] ANSI/IEEE C95.1 – 1992, American National Standard Safety Levels with respect to Human Exposure to Radio Frequency Electromagnetic Fields, 300kHz to 100GHz, New York: IEEE, 1992.
- [3] ANSI/IEEE C95.3 – 1992, IEEE Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields – RF and Microwave, New York: IEEE, 1992.
- [4] International Electrotechnical Commission, IEC 62209-2 (Edition 1.0), Human Exposure to radio frequency fields from hand-held and body mounted wireless communication devices – Human models, instrumentation, and procedures – Part 2: Procedure to determine the specific absorption rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz), March 2010.
- [5] IEEE Standard 1528 – 2013, IEEE Recommended Practice for Determining the Peak-Spatial Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communication Devices: Measurement Techniques, June 2013.
- [6] Industry Canada, RSS – 102 Issue 5, Radio Frequency Exposure Compliance of Radiocommunication Apparatus (All Frequency Bands), March 2015.
- [7] Health Canada, Safety Code 6, Limits of Human Exposure to Radiofrequency Electromagnetic Fields in the Frequency Range from 3kHz to 300 GHz, 2009.

## Appendix A – System Validation Plots and Data

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Test Result for UIM Dielectric Parameter

Mon 06/May/2019

Freq Frequency(GHz)

FCC\_eB Limits for Body Epsilon

FCC\_sB Limits for Body Sigma

Test\_e Epsilon of UIM

Test\_s Sigma of UIM

\*\*\*\*\*

| Freq   | FCC_eB | FCC_sB | Test_e | Test_s |
|--------|--------|--------|--------|--------|
| 0.7000 | 55.73  | 0.96   | 55.72  | 0.97   |
| 0.7040 | 55.714 | 0.96   | 55.708 | 0.974* |
| 0.7075 | 55.70  | 0.96   | 55.698 | 0.978* |
| 0.7100 | 55.69  | 0.96   | 55.69  | 0.98   |
| 0.7110 | 55.686 | 0.96   | 55.687 | 0.98*  |
| 0.7200 | 55.65  | 0.96   | 55.66  | 0.98   |
| 0.7300 | 55.61  | 0.96   | 55.63  | 0.98   |
| 0.7400 | 55.57  | 0.96   | 55.60  | 0.99   |
| 0.7500 | 55.53  | 0.96   | 55.57  | 0.99   |
| 0.7600 | 55.49  | 0.96   | 55.54  | 0.99   |
| 0.7700 | 55.45  | 0.96   | 55.50  | 1.00   |
| 0.7800 | 55.41  | 0.97   | 55.46  | 1.00   |
| 0.7820 | 55.404 | 0.97   | 55.452 | 1.00*  |
| 0.7900 | 55.38  | 0.97   | 55.42  | 1.00   |
| 0.8000 | 55.34  | 0.97   | 55.38  | 1.01   |

\* value interpolated

\*\*\*\*\*

Test Result for UIM Dielectric Parameter

Fri 10/May/2019

Freq Frequency(GHz)

FCC\_eB Limits for Body Epsilon

FCC\_sB Limits for Body Sigma

Test\_e Epsilon of UIM

Test\_s Sigma of UIM

\*\*\*\*\*

| Freq   | FCC_eB | FCC_sB | Test_e | Test_s |
|--------|--------|--------|--------|--------|
| 0.8050 | 55.32  | 0.97   | 56.05  | 0.96   |
| 0.8150 | 55.28  | 0.97   | 56.00  | 0.98   |
| 0.8190 | 55.264 | 0.97   | 55.98  | 0.98*  |
| 0.8250 | 55.24  | 0.97   | 55.95  | 0.98   |
| 0.8264 | 55.234 | 0.97   | 55.944 | 0.981* |
| 0.8290 | 55.224 | 0.97   | 55.934 | 0.984* |
| 0.8315 | 55.214 | 0.97   | 55.924 | 0.987* |
| 0.8350 | 55.20  | 0.97   | 55.91  | 0.99   |
| 0.8365 | 55.196 | 0.972  | 55.903 | 0.99*  |
| 0.8366 | 55.195 | 0.972  | 55.902 | 0.99*  |
| 0.8440 | 55.173 | 0.979  | 55.865 | 0.99*  |
| 0.8450 | 55.17  | 0.98   | 55.86  | 0.99   |
| 0.8466 | 55.165 | 0.982  | 55.857 | 0.992* |
| 0.8550 | 55.14  | 0.99   | 55.84  | 1.00   |
| 0.8650 | 55.11  | 1.01   | 55.80  | 1.01   |
| 0.8750 | 55.08  | 1.02   | 55.78  | 1.03   |
| 0.8850 | 55.05  | 1.03   | 55.73  | 1.03   |
| 0.8950 | 55.02  | 1.04   | 55.70  | 1.04   |

\* value interpolated

\*\*\*\*\*

# Test Result for UIM Dielectric Parameter

Mon 13/May/2019

Freq Frequency(GHz)

FCC\_eB Limits for Body Epsilon

FCC\_sB Limits for Body Sigma

Test\_e Epsilon of UIM

Test\_s Sigma of UIM

\*\*\*\*\*

| Freq   | FCC_eB | FCC_sB | Test_e | Test_s |
|--------|--------|--------|--------|--------|
| 1.7100 | 53.53  | 1.47   | 53.55  | 1.48   |
| 1.7124 | 53.525 | 1.47   | 53.543 | 1.482* |
| 1.7200 | 53.51  | 1.47   | 53.52  | 1.49   |
| 1.7300 | 53.48  | 1.48   | 53.38  | 1.50   |
| 1.7325 | 53.475 | 1.48   | 53.375 | 1.503* |
| 1.7326 | 53.475 | 1.48   | 53.375 | 1.503* |
| 1.7400 | 53.46  | 1.48   | 53.36  | 1.51   |
| 1.7450 | 53.445 | 1.485  | 53.34  | 1.515* |
| 1.7500 | 53.43  | 1.49   | 53.32  | 1.52   |
| 1.7526 | 53.425 | 1.49   | 53.315 | 1.523* |
| 1.7600 | 53.41  | 1.49   | 53.30  | 1.53   |
| 1.7700 | 53.38  | 1.50   | 53.27  | 1.55   |
| 1.7800 | 53.35  | 1.51   | 53.23  | 1.55   |

\* value interpolated

\*\*\*\*\*

# Test Result for UIM Dielectric Parameter

Tue 14/May/2019

Freq Frequency(GHz)

FCC\_eB Limits for Body Epsilon

FCC\_sB Limits for Body Sigma

Test\_e Epsilon of UIM

Test\_s Sigma of UIM

\*\*\*\*\*

| Freq   | FCC_eB | FCC_sB | Test_e | Test_s |
|--------|--------|--------|--------|--------|
| 1.8400 | 53.30  | 1.52   | 52.04  | 1.43   |
| 1.8500 | 53.30  | 1.52   | 52.03  | 1.44   |
| 1.8524 | 53.30  | 1.52   | 52.03  | 1.44*  |
| 1.8600 | 53.30  | 1.52   | 52.03  | 1.44   |
| 1.8700 | 53.30  | 1.52   | 52.14  | 1.45   |
| 1.8800 | 53.30  | 1.52   | 52.10  | 1.45   |
| 1.8900 | 53.30  | 1.52   | 52.17  | 1.46   |
| 1.9000 | 53.30  | 1.52   | 52.07  | 1.47   |
| 1.9076 | 53.30  | 1.52   | 52.108 | 1.493* |
| 1.9100 | 53.30  | 1.52   | 52.12  | 1.50   |
| 1.9200 | 53.30  | 1.52   | 52.00  | 1.50   |

\* value interpolated

\*\*\*\*\*

# Test Result for UIM Dielectric Parameter

Thu 09/May/2019

Freq Frequency(GHz)

FCC\_eB Limits for Body Epsilon

FCC\_sB Limits for Body Sigma

Test\_e Epsilon of UIM

Test\_s Sigma of UIM

\*\*\*\*\*

| Freq   | FCC_eB | FCC_sB | Test_e | Test_s |
|--------|--------|--------|--------|--------|
| 2.2900 | 52.91  | 1.80   | 52.65  | 1.83   |
| 2.3000 | 52.90  | 1.81   | 52.63  | 1.84   |
| 2.3100 | 52.89  | 1.82   | 52.61  | 1.85   |
| 2.3200 | 52.87  | 1.83   | 52.59  | 1.86   |
| 2.3300 | 52.86  | 1.84   | 52.58  | 1.87   |
| 2.3400 | 52.85  | 1.84   | 52.56  | 1.88   |
| 2.3500 | 52.83  | 1.85   | 52.54  | 1.89   |

\*\*\*\*\*

# Test Result for UIM Dielectric Parameter

Thu 09/May/2019

Freq Frequency(GHz)

FCC\_eB Limits for Body Epsilon

FCC\_sB Limits for Body Sigma

Test\_e Epsilon of UIM

Test\_s Sigma of UIM

\*\*\*\*\*

| Freq   | FCC_eB | FCC_sB | Test_e | Test_s |
|--------|--------|--------|--------|--------|
| 2.4900 | 52.65  | 2.01   | 52.60  | 2.02   |
| 2.5000 | 52.64  | 2.02   | 52.58  | 2.03   |
| 2.5060 | 52.628 | 2.032  | 52.562 | 2.042* |
| 2.5100 | 52.62  | 2.04   | 52.55  | 2.05   |
| 2.5200 | 52.61  | 2.05   | 52.52  | 2.07   |
| 2.5300 | 52.60  | 2.06   | 52.50  | 2.09   |
| 2.5350 | 52.595 | 2.07   | 52.495 | 2.10*  |
| 2.5400 | 52.59  | 2.08   | 52.49  | 2.11   |
| 2.5495 | 52.571 | 2.09   | 52.471 | 2.12*  |
| 2.5500 | 52.57  | 2.09   | 52.47  | 2.12   |
| 2.5600 | 52.56  | 2.11   | 52.45  | 2.14   |
| 2.5700 | 52.55  | 2.12   | 52.43  | 2.16   |
| 2.5800 | 52.53  | 2.13   | 52.42  | 2.17   |
| 2.5900 | 52.52  | 2.15   | 52.39  | 2.19   |
| 2.5930 | 52.517 | 2.153  | 52.387 | 2.196* |
| 2.5950 | 52.515 | 2.155  | 52.385 | 2.20*  |
| 2.6000 | 52.51  | 2.16   | 52.38  | 2.21   |
| 2.6100 | 52.50  | 2.18   | 52.35  | 2.22   |
| 2.6200 | 52.48  | 2.19   | 52.33  | 2.25   |
| 2.6300 | 52.47  | 2.21   | 52.32  | 2.27   |
| 2.6365 | 52.464 | 2.217  | 52.307 | 2.283* |
| 2.6400 | 52.46  | 2.22   | 52.30  | 2.29   |
| 2.6500 | 52.45  | 2.23   | 52.29  | 2.30   |
| 2.6600 | 52.43  | 2.25   | 52.27  | 2.32   |
| 2.6700 | 52.42  | 2.26   | 52.25  | 2.34   |
| 2.6800 | 52.41  | 2.28   | 52.23  | 2.35   |
| 2.6900 | 52.39  | 2.29   | 52.20  | 2.37   |
| 2.7000 | 52.38  | 2.30   | 52.19  | 2.38   |
| 2.8000 | 52.37  | 2.31   | 52.17  | 2.39   |

\* value interpolated

\*\*\*\*\*

Test Result for UIM Dielectric Parameter

Wed 08/May/2019

Freq Frequency(GHz)

FCC\_eB Limits for Body Epsilon

FCC\_sB Limits for Body Sigma

Test\_e Epsilon of UIM

Test\_s Sigma of UIM

\*\*\*\*\*

| Freq   | FCC_eB | FCC_sB | Test_e | Test_s |
|--------|--------|--------|--------|--------|
| 2.4100 | 52.75  | 1.91   | 52.71  | 1.92   |
| 2.4120 | 52.742 | 1.918  | 52.706 | 1.922* |
| 2.4200 | 52.74  | 1.92   | 52.69  | 1.93   |
| 2.4300 | 52.73  | 1.93   | 52.68  | 1.94   |
| 2.4370 | 52.716 | 1.937  | 52.666 | 1.947* |
| 2.4400 | 52.71  | 1.94   | 52.66  | 1.95   |
| 2.4500 | 52.70  | 1.95   | 52.64  | 1.96   |
| 2.4600 | 52.69  | 1.96   | 52.63  | 1.98   |
| 2.4620 | 52.687 | 1.963  | 52.626 | 1.982* |
| 2.4700 | 52.67  | 1.98   | 52.61  | 1.99   |
| 2.4800 | 52.66  | 1.99   | 52.60  | 2.00   |

\* value interpolated

\*\*\*\*\*

Test Result for UIM Dielectric Parameter

Fri 08/May/2019

Freq Frequency(GHz)

FCC\_eB Limits for Body Epsilon

FCC\_sB Limits for Body Sigma

Test\_e Epsilon of UIM

Test\_s Sigma of UIM

\*\*\*\*\*

| Freq   | FCC_eB | FCC_sB | Test_e | Test_s |
|--------|--------|--------|--------|--------|
| 5.1000 | 49.15  | 5.18   | 49.22  | 5.10   |
| 5.1200 | 49.12  | 5.21   | 49.19  | 5.12   |
| 5.1400 | 49.10  | 5.23   | 49.16  | 5.14   |
| 5.1600 | 49.07  | 5.25   | 49.13  | 5.16   |
| 5.1800 | 49.04  | 5.28   | 49.10  | 5.19   |
| 5.2000 | 49.01  | 5.30   | 49.07  | 5.21   |
| 5.2100 | 49.00  | 5.31   | 49.055 | 5.22*  |
| 5.2200 | 48.99  | 5.32   | 49.04  | 5.23   |
| 5.2400 | 48.96  | 5.35   | 49.01  | 5.25   |
| 5.2500 | 48.945 | 5.36   | 48.995 | 5.265* |
| 5.2600 | 48.93  | 5.37   | 48.98  | 5.28   |
| 5.2800 | 48.91  | 5.39   | 48.95  | 5.31   |
| 5.2900 | 48.895 | 5.405  | 48.935 | 5.32*  |
| 5.3000 | 48.88  | 5.42   | 48.92  | 5.33   |
| 5.3200 | 48.85  | 5.44   | 48.89  | 5.36   |
| 5.3400 | 48.82  | 5.46   | 48.86  | 5.38   |
| 5.3600 | 48.80  | 5.49   | 48.83  | 5.40   |
| 5.3800 | 48.77  | 5.51   | 48.80  | 5.43   |
| 5.4000 | 48.74  | 5.53   | 48.77  | 5.46   |
| 5.4200 | 48.72  | 5.56   | 48.74  | 5.49   |
| 5.4400 | 48.69  | 5.58   | 48.71  | 5.51   |
| 5.4600 | 48.66  | 5.60   | 48.68  | 5.53   |
| 5.4800 | 48.63  | 5.63   | 48.65  | 5.55   |
| 5.5000 | 48.61  | 5.65   | 48.62  | 5.58   |
| 5.5200 | 48.58  | 5.67   | 48.59  | 5.61   |
| 5.5400 | 48.55  | 5.70   | 48.56  | 5.64   |
| 5.5600 | 48.53  | 5.72   | 48.53  | 5.67   |
| 5.5800 | 48.50  | 5.74   | 48.50  | 5.70   |
| 5.6000 | 48.47  | 5.77   | 48.47  | 5.73   |
| 5.6100 | 48.455 | 5.78   | 48.455 | 5.74*  |
| 5.6200 | 48.44  | 5.79   | 48.44  | 5.75   |
| 5.6400 | 48.42  | 5.81   | 48.41  | 5.78   |
| 5.6600 | 48.39  | 5.84   | 48.38  | 5.81   |
| 5.6800 | 48.36  | 5.86   | 48.35  | 5.84   |
| 5.7000 | 48.34  | 5.88   | 48.32  | 5.86   |
| 5.7200 | 48.31  | 5.91   | 48.29  | 5.89   |
| 5.7400 | 48.28  | 5.93   | 48.26  | 5.91   |
| 5.7450 | 48.273 | 5.935  | 48.253 | 5.918* |
| 5.7500 | 48.265 | 5.94   | 48.245 | 5.925* |
| 5.7600 | 48.25  | 5.95   | 48.23  | 5.94   |
| 5.7750 | 48.235 | 5.973  | 48.208 | 5.963* |
| 5.7800 | 48.23  | 5.98   | 48.20  | 5.97   |
| 5.7850 | 48.223 | 5.985  | 48.193 | 5.975* |
| 5.8000 | 48.20  | 6.00   | 48.17  | 5.99   |
| 5.8200 | 48.17  | 6.02   | 48.14  | 6.02   |
| 5.8250 | 48.165 | 6.028  | 48.133 | 6.025* |
| 5.8400 | 48.15  | 6.05   | 48.11  | 6.04   |

\* value interpolated

# RF Exposure Lab

## Plot 1

**DUT: Dipole 750 MHz D750V3; Type: D750V3; Serial: D750V3 - SN:1016**

Communication System: CW; Frequency: 750 MHz; Duty Cycle: 1:1

Medium: MSL750; Medium parameters used:  $f = 750 \text{ MHz}$ ;  $\sigma = 0.99 \text{ S/m}$ ;  $\epsilon_r = 55.57$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Test Date: Date: 5/6/2019; Ambient Temp: 23 °C; Tissue Temp: 21 °C

Probe: EX3DV4 - SN3662; ConvF(9.55, 9.55, 9.55); Calibrated: 4/24/2019;

Sensor-Surface: 2mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1416; Calibrated: 4/16/2019

Phantom: ELI v5.0; Type: QDOVA002AA; Serial: 2037

Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

### Procedure Notes:

**750 MHz/Verification/Area Scan (5x11x1):** Measurement grid:  $dx=15\text{mm}$ ,  $dy=15\text{mm}$

Maximum value of SAR (measured) = 1.08 W/kg

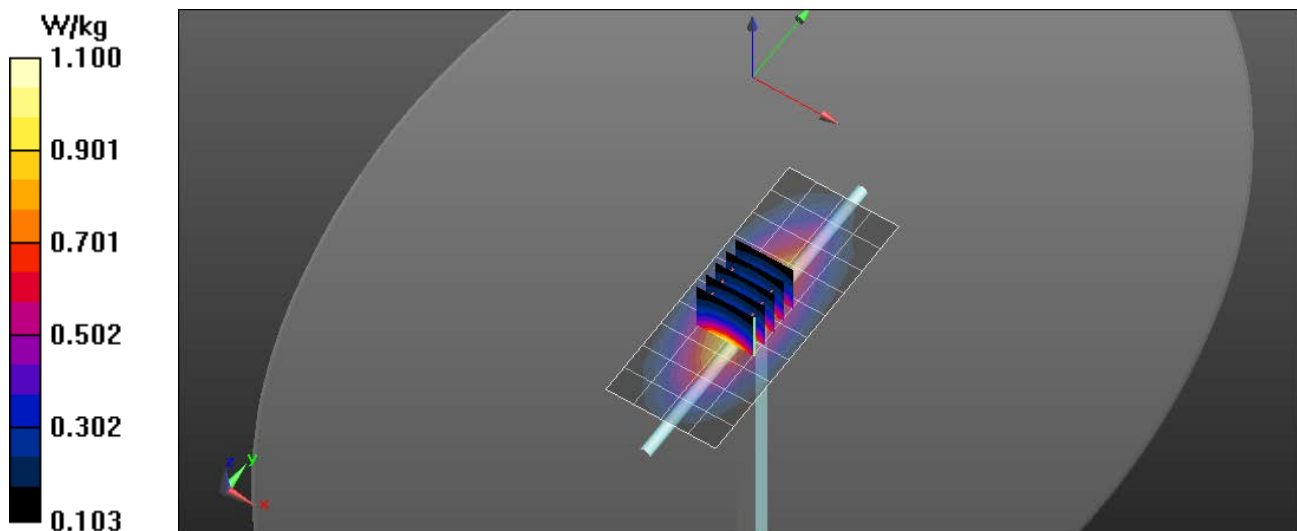
**750 MHz/Verification/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

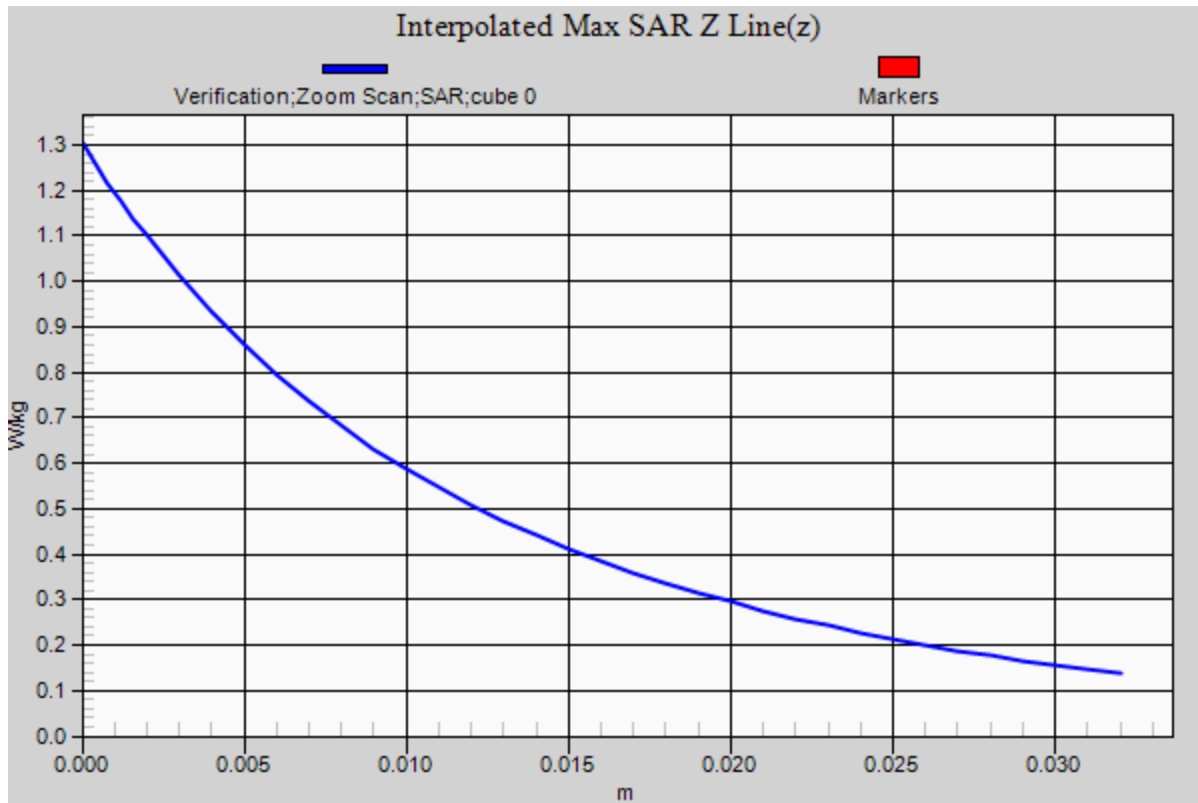
Reference Value = 31.227 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 1.30 W/kg

**SAR(1 g) = 0.865 W/kg; SAR(10 g) = 0.569 W/kg**

Maximum value of SAR (measured) = 1.10 W/kg





# RF Exposure Lab

## Plot 2

**DUT: Dipole 835 MHz D835V2; Type: D835V2; Serial: D835V2 - SN:4d089**

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium: MSL835; Medium parameters used:  $f = 835 \text{ MHz}$ ;  $\sigma = 0.99 \text{ S/m}$ ;  $\epsilon_r = 55.91$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Test Date: Date: 5/10/2019; Ambient Temp: 23 °C; Tissue Temp: 21 °C

Probe: EX3DV4 - SN3662; ConvF(9.34, 9.34, 9.34); Calibrated: 4/24/2019;

Sensor-Surface: 2mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1416; Calibrated: 4/16/2019

Phantom: ELI v5.0; Type: QDOVA002AA; Serial: 2037

Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

### Procedure Notes:

**835 MHz Body/Verification/Area Scan (81x161x1):** Interpolated grid:  $dx=1.000 \text{ mm}$ ,  $dy=1.000 \text{ mm}$

Maximum value of SAR (interpolated) = 1.29 W/kg

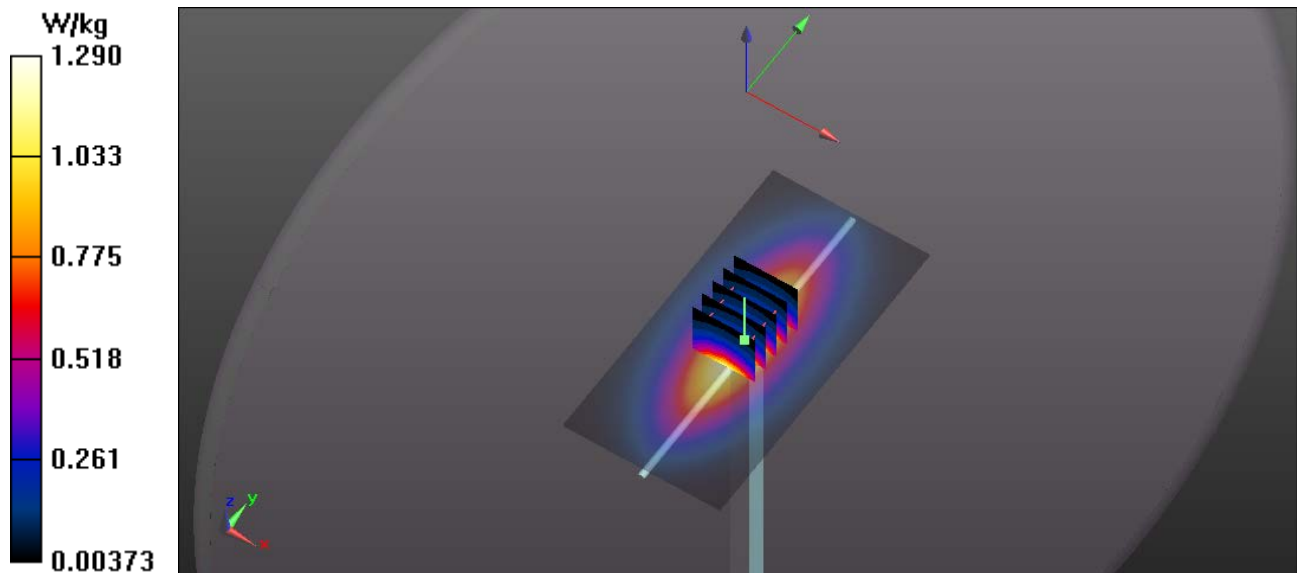
**835 MHz Body/Verification/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

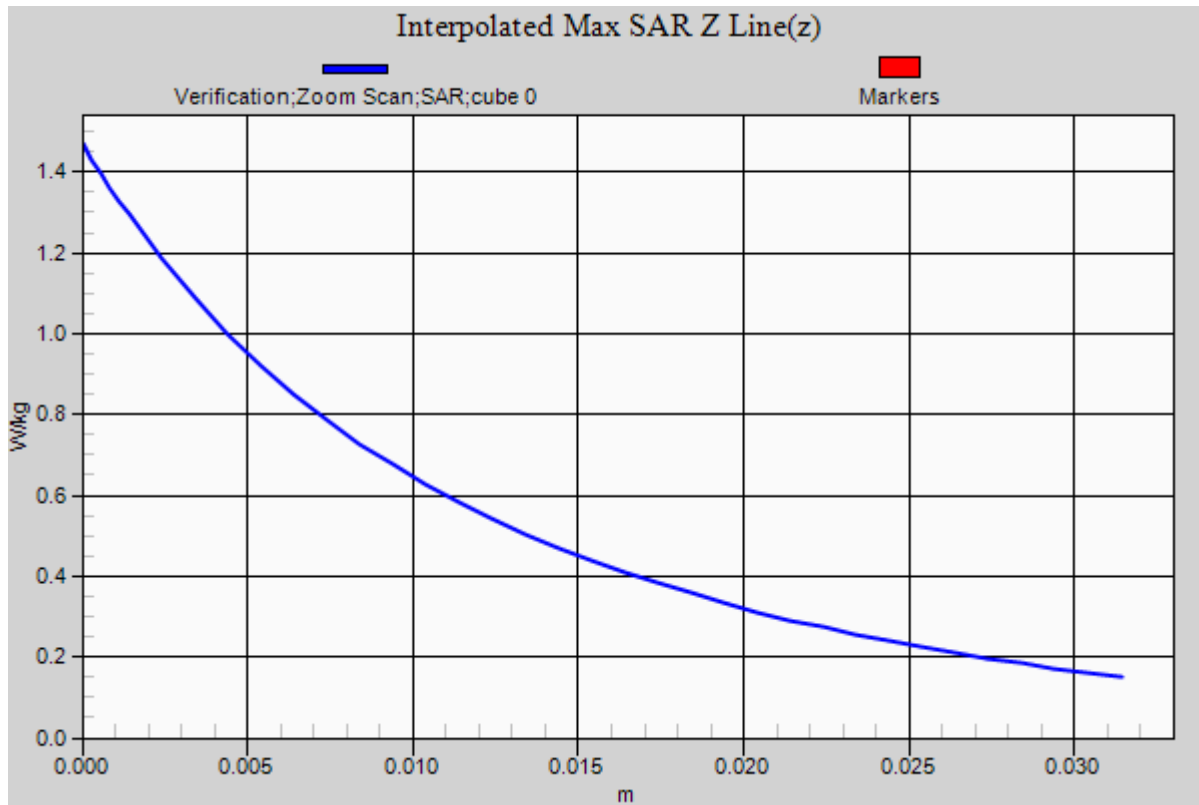
Reference Value = 52.612 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 1.47 W/kg

**SAR(1 g) = 0.953 W/kg; SAR(10 g) = 0.632 W/kg**

Maximum value of SAR (measured) = 1.29 W/kg





# RF Exposure Lab

## Plot 3

**DUT: Dipole 1750 MHz D1750V2; Type: D1750V2; Serial: D1750V2 - SN:1018**

Communication System: CW; Frequency: 1750 MHz; Duty Cycle: 1:1

Medium: MSL1750; Medium parameters used:  $f = 1750$  MHz;  $\sigma = 1.52$  S/m;  $\epsilon_r = 53.32$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Test Date: Date: 5/13/2019; Ambient Temp: 23 °C; Tissue Temp: 21 °C

Probe: EX3DV4 - SN3662; ConvF(7.95, 7.95, 7.95); Calibrated: 4/24/2019;

Sensor-Surface: 2mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1416; Calibrated: 4/16/2019

Phantom: ELI v5.0; Type: QDOVA002AA; Serial: 2037

Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

### Procedure Notes:

**1750 MHz/Verification/Area Scan (5x7x1):** Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (measured) = 5.33 W/kg

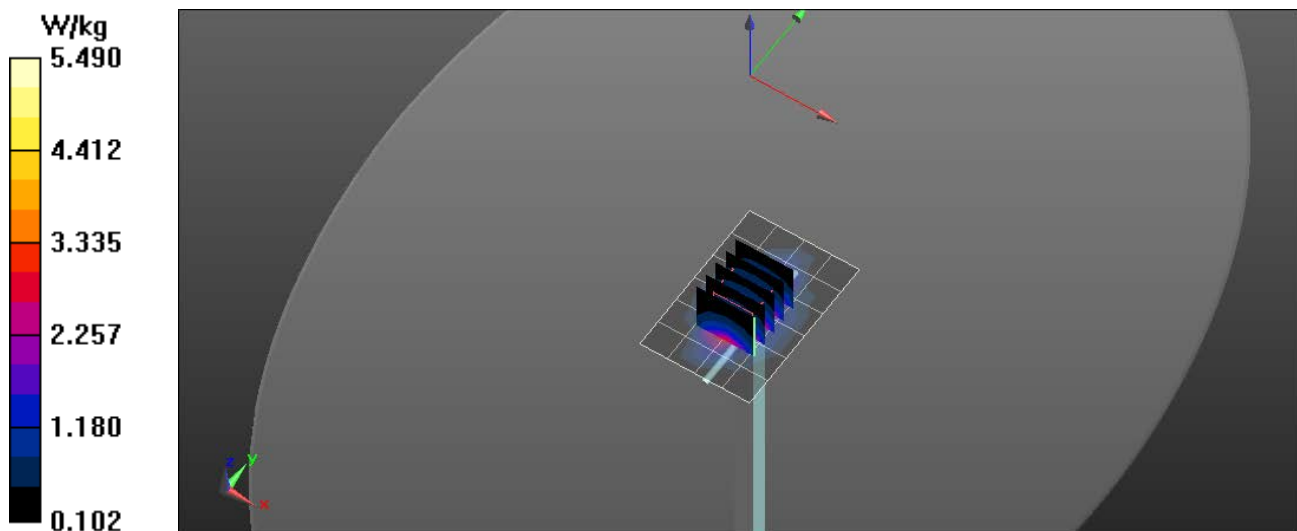
**1750 MHz/Verification/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

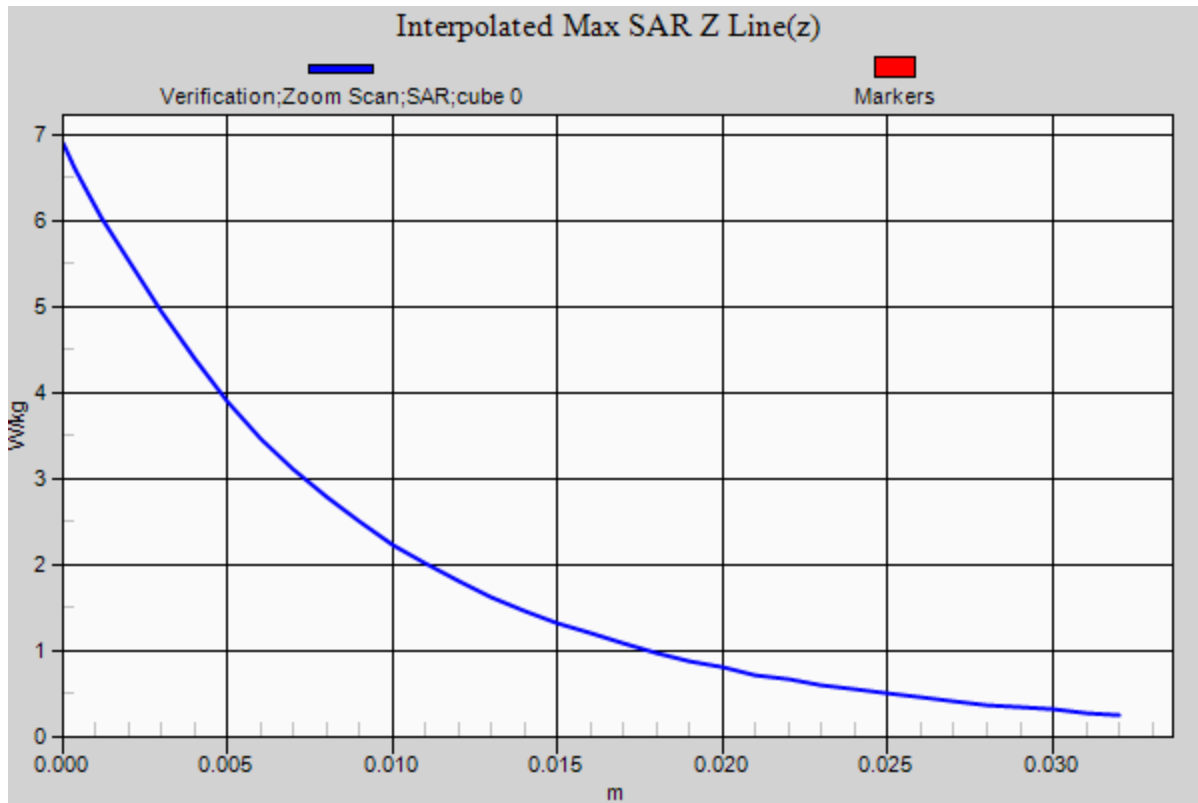
Reference Value = 31.227 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 6.89 W/kg

**SAR(1 g) = 3.75 W/kg; SAR(10 g) = 2.03 W/kg**

Maximum value of SAR (measured) = 5.49 W/kg





# RF Exposure Lab

## Plot 4

**DUT: Dipole 1900 MHz D1900V2; Type: D1900V2; Serial: D1900V2 - SN:5d116**

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium: MSL1900; Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.47$  S/m;  $\epsilon_r = 52.07$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Test Date: Date: 5/14/2019; Ambient Temp: 23 °C; Tissue Temp: 21 °C

Probe: EX3DV4 - SN3662; ConvF(7.69, 7.69, 7.69); Calibrated: 4/24/2019;

Sensor-Surface: 2mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1416; Calibrated: 4/16/2019

Phantom: ELI v5.0; Type: QDOVA002AA; Serial: 2037

Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

### Procedure Notes:

**1900 MHz Body/Verification/Area Scan (61x81x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 5.63 W/kg

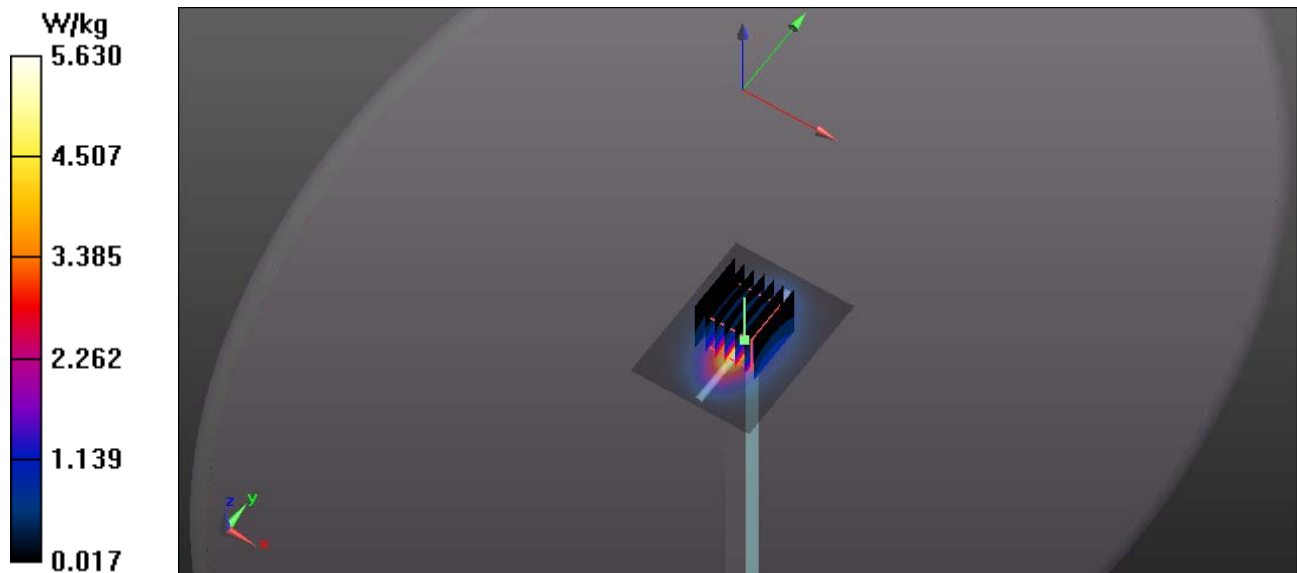
**1900 MHz Body/Verification/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

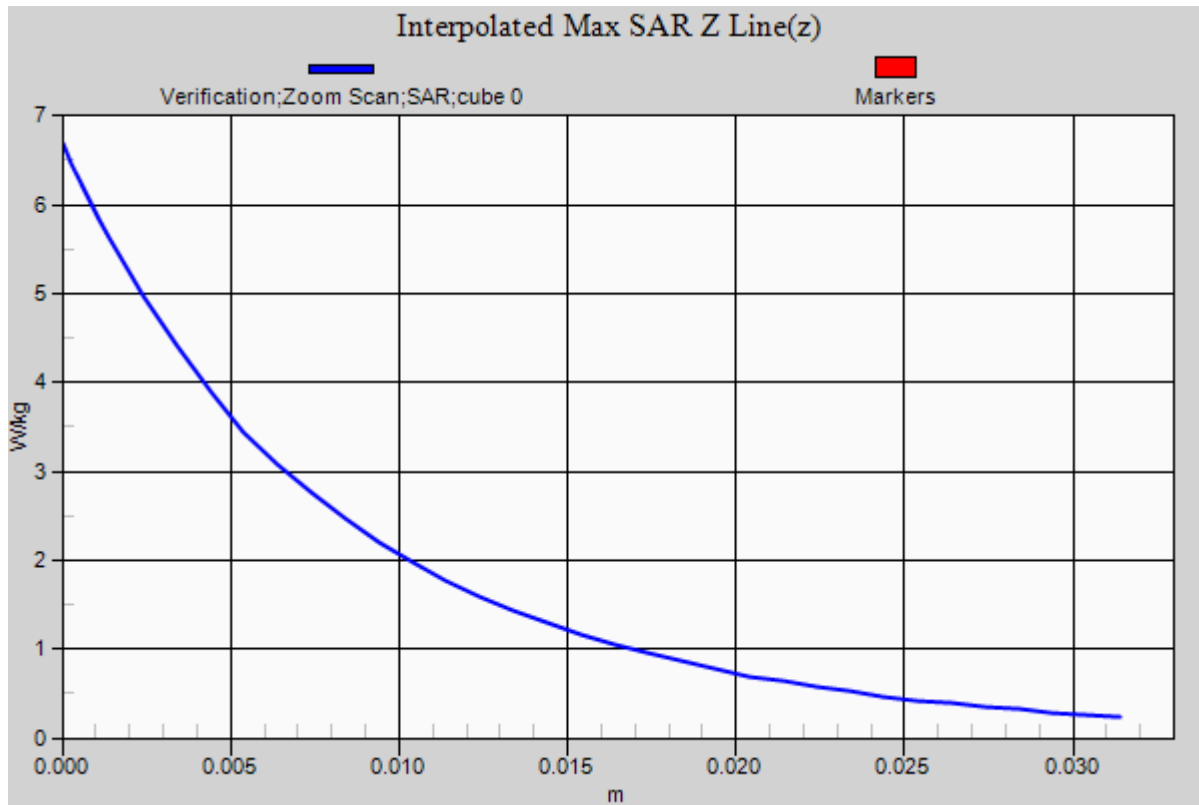
Reference Value = 52.612 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 6.68 W/kg

**SAR(1 g) = 3.98 W/kg; SAR(10 g) = 1.92 W/kg**

Maximum value of SAR (measured) = 5.63 W/kg





# RF Exposure Lab

## Plot 5

**DUT: Dipole 2300 MHz D2300V2; Type: D2300V2; Serial: D2300V2 - SN:1060**

Communication System: CW; Frequency: 2300 MHz; Duty Cycle: 1:1

Medium: MSL2300; Medium parameters used:  $f = 2300$  MHz;  $\sigma = 1.84$  S/m;  $\epsilon_r = 52.63$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Test Date: Date: 5/9/2019; Ambient Temp: 23 °C; Tissue Temp: 21 °C

Probe: EX3DV4 - SN3662; ConvF(7.43, 7.43, 7.43); Calibrated: 4/24/2019;

Sensor-Surface: 2mm (Mechanical Surface Detection)

Electronics: DAE4 Sn1416; Calibrated: 4/16/2019

Phantom: ELI v5.0; Type: QDOVA002AA; Serial: 2037

Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

### Procedure Notes:

**Body Verification/2300 MHz/Area Scan (61x101x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 8.95 W/kg

**Body Verification/2300 MHz/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

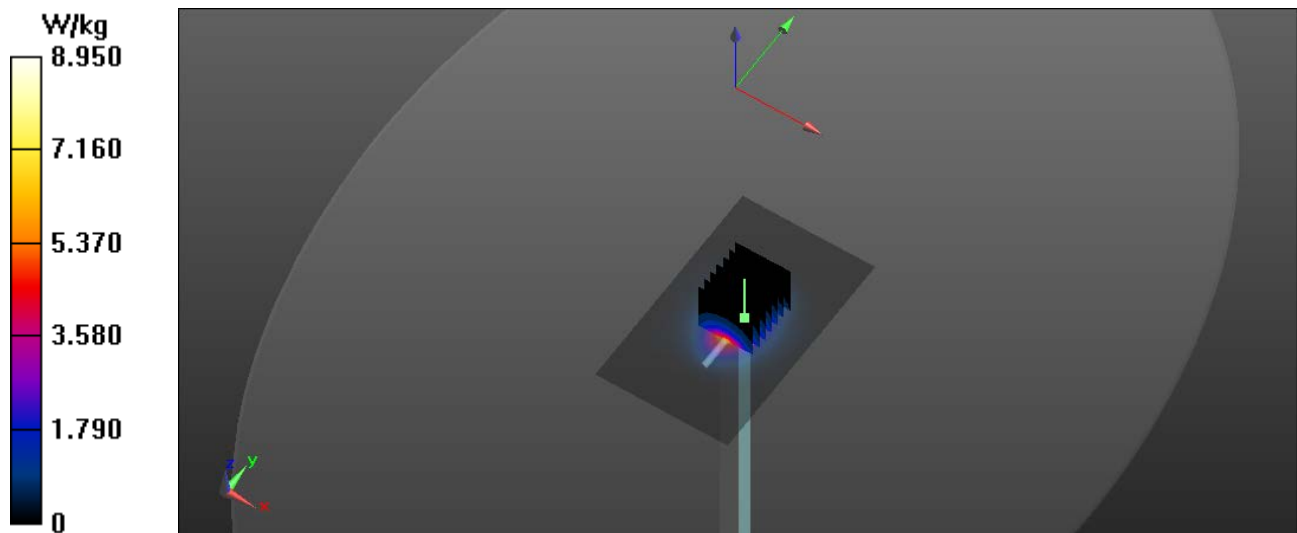
Reference Value = 53.597 V/m; Power Drift = -0.01 dB

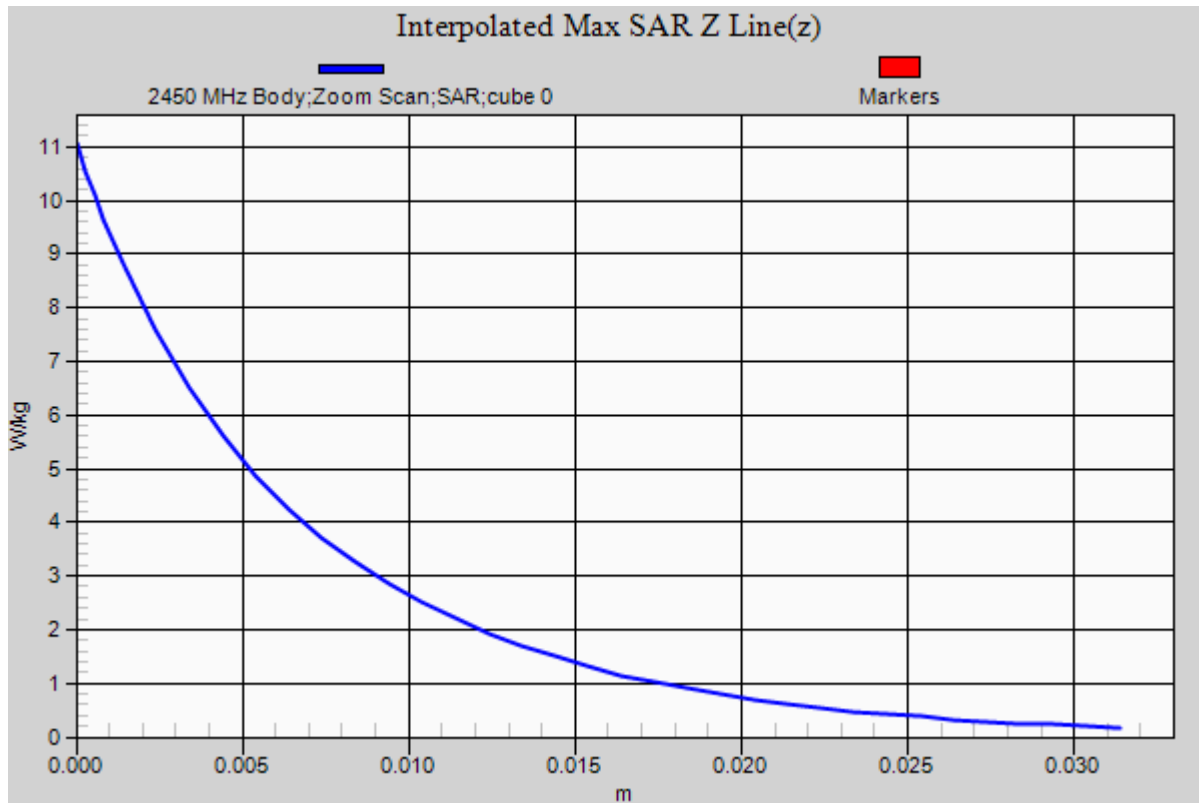
Peak SAR (extrapolated) = 11.18 W/kg

$P_{in} = 100$  mW

**SAR(1 g) = 4.82 W/kg; SAR(10 g) = 2.2 W/kg**

Maximum value of SAR (measured) = 8.71 W/kg





# RF Exposure Lab

## Plot 6

**DUT: Dipole 2550 MHz D2550V2; Type: D2550V2; Serial: D2550V2 - SN:1003**

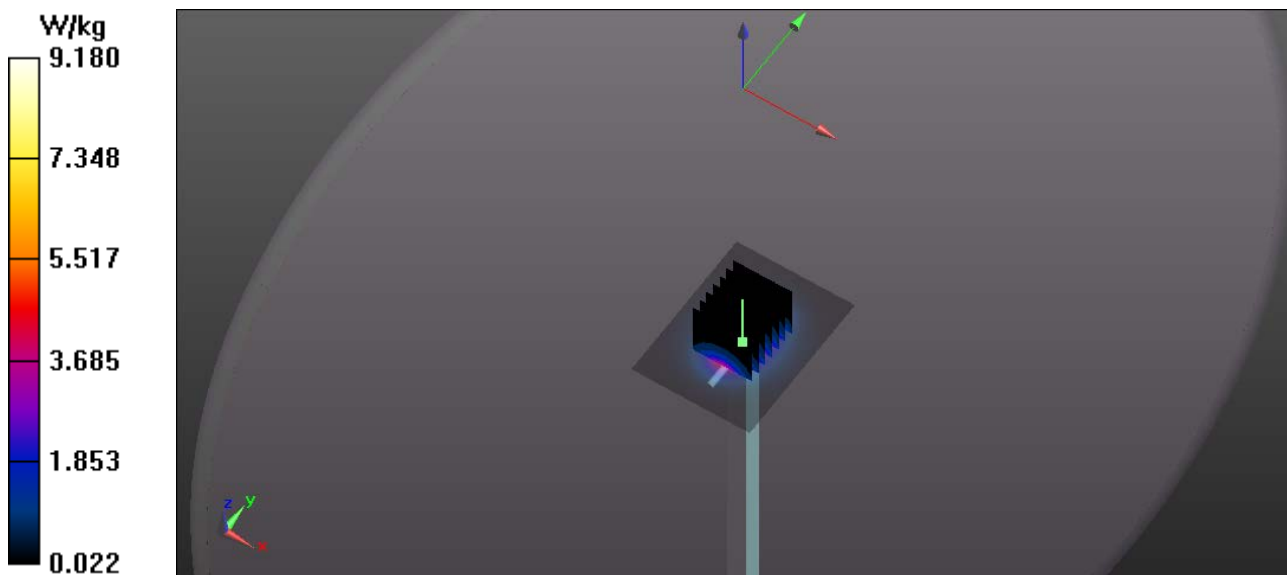
Communication System: CW; Frequency: 2550 MHz; Duty Cycle: 1:1  
Medium: MSL2600; Medium parameters used:  $f = 2550$  MHz;  $\sigma = 2.12$  S/m;  $\epsilon_r = 52.47$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section

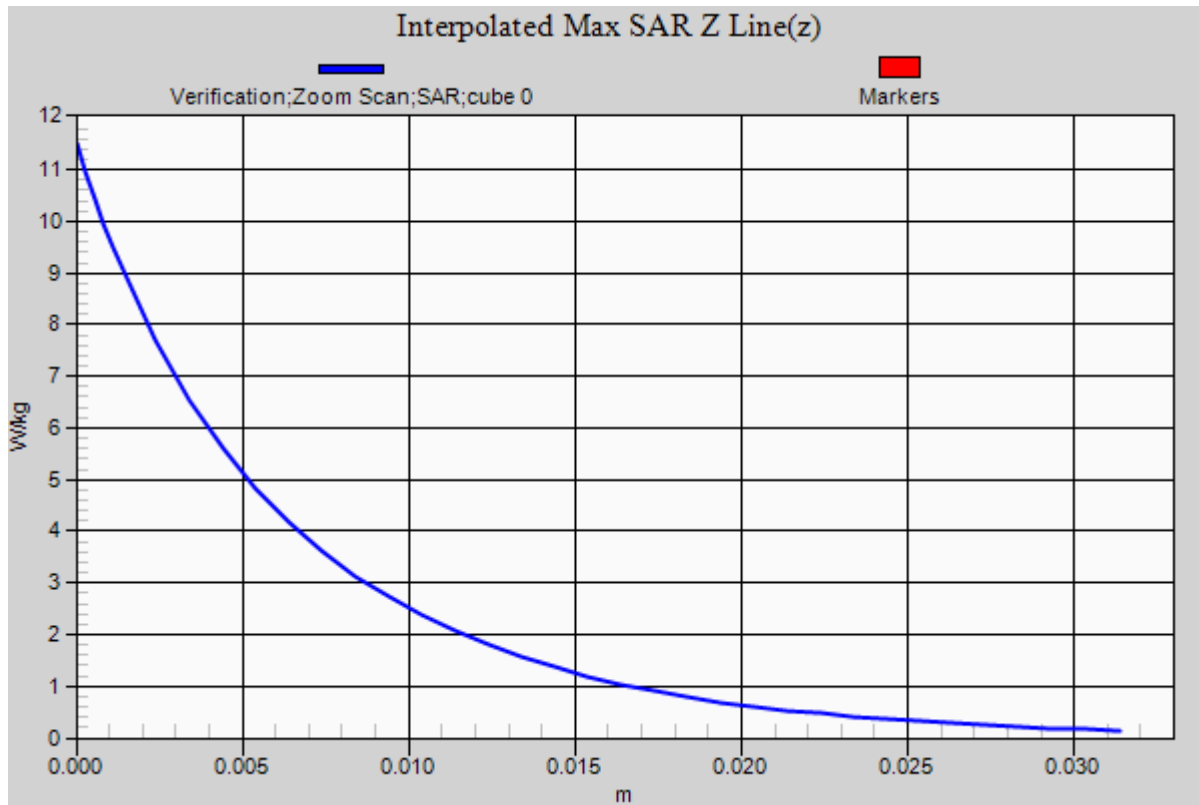
Test Date: Date: 5/9/2019; Ambient Temp: 23 °C; Tissue Temp: 21 °C  
Probe: EX3DV4 - SN3662; ConvF(7.12, 7.12, 7.12); Calibrated: 4/24/2019;  
Sensor-Surface: 2mm (Mechanical Surface Detection)  
Electronics: DAE4 Sn1416; Calibrated: 4/16/2019  
Phantom: ELI v5.0; Type: QDOVA002AA; Serial: 2037  
Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

### Procedure Notes:

**2550 MHz Body/Verification/Area Scan (61x81x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm  
Maximum value of SAR (interpolated) = 9.18 W/kg

**2550 MHz Body/Verification/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm  
Reference Value = 54.541 V/m; Power Drift = -0.02 dB  
Peak SAR (extrapolated) = 11.5 W/kg  
**SAR(1 g) = 5.41 W/kg; SAR(10 g) = 2.42 W/kg**  
Maximum value of SAR (measured) = 8.98 W/kg





# RF Exposure Lab

## Plot 7

**DUT: Dipole 2450 MHz D2450V2; Type: D2450V2; Serial: D2450V2 - SN: 829**

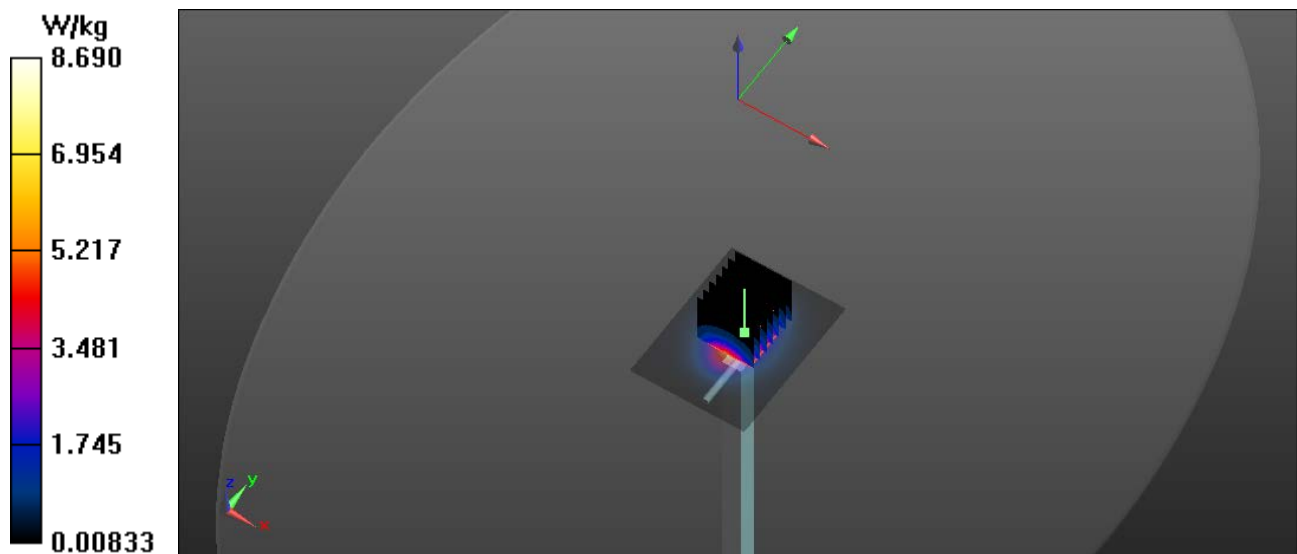
Communication System: CW; Frequency: 2450 MHz; Duty Cycle: 1:1  
Medium: MSL2450; Medium parameters used:  $f = 2450$  MHz;  $\sigma = 1.96$  S/m;  $\epsilon_r = 52.64$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section

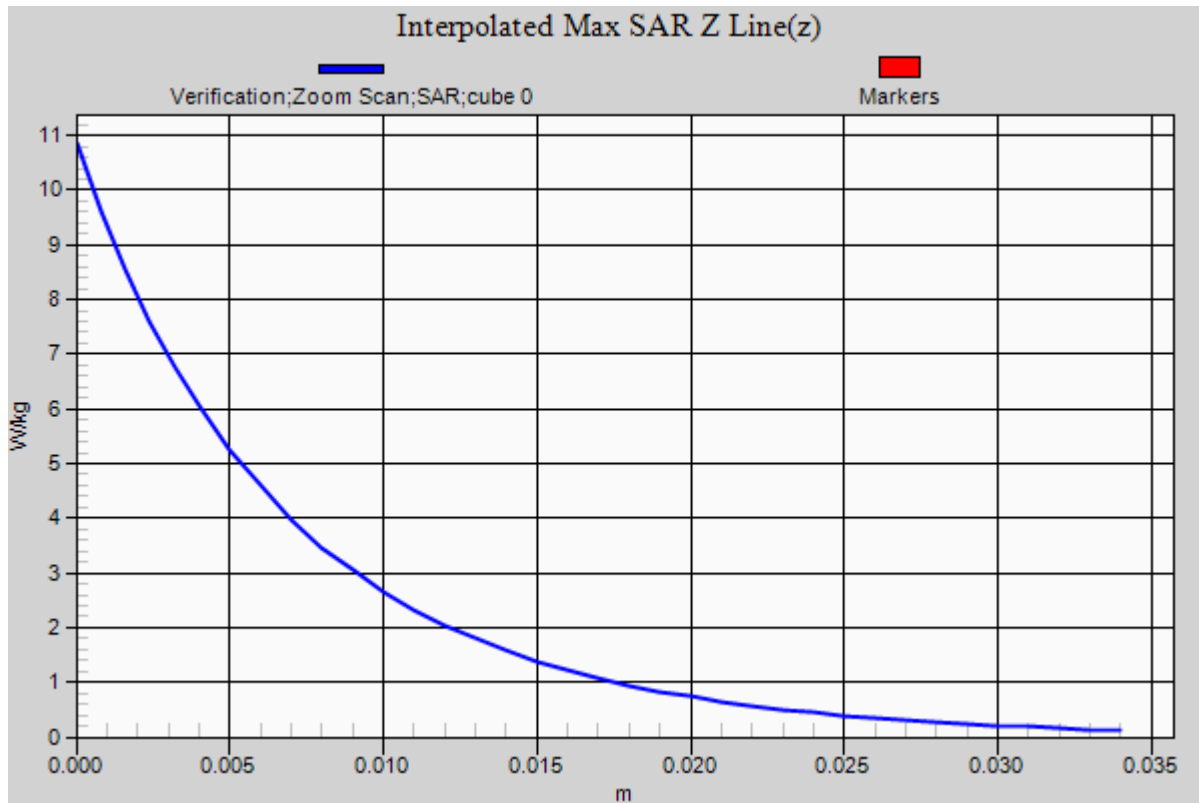
Test Date: Date: 5/8/2019; Ambient Temp: 23 °C; Tissue Temp: 21 °C  
Probe: EX3DV4 - SN3693; ConvF(7.29, 7.29, 7.29); Calibrated: 8/27/2018;  
Sensor-Surface: 2mm (Mechanical Surface Detection)  
Electronics: DAE4 Sn759; Calibrated: 8/20/2018  
Phantom: ELI v4.0; Type: QDOVA001BB; Serial: 1065  
Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

### Procedure Notes:

**Body Verification/2450 MHz/Area Scan (61x101x1):** Interpolated grid:  $dx=1.200$  mm,  $dy=1.200$  mm  
Maximum value of SAR (interpolated) = 8.68 W/kg

**Body Verification/2450 MHz/Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5$ mm,  $dy=5$ mm,  $dz=5$ mm  
Reference Value = 55.751 V/m; Power Drift = -0.01 dB  
Peak SAR (extrapolated) = 10.7 W/kg  
 $P_{in}=100$  mW  
**SAR(1 g) = 5.22 W/kg; SAR(10 g) = 2.41 W/kg**  
Maximum value of SAR (measured) = 5.91 W/kg





# RF Exposure Lab

## Plot 8

**DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: D5GHzV2 - SN: 1085**

Communication System: CW; Frequency: 5250 MHz; Duty Cycle: 1:1  
Medium: MSL 3-6 GHz; Medium parameters used (interpolated):  $f = 5250$  MHz;  $\sigma = 5.265$  S/m;  $\epsilon_r = 48.995$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section

Test Date: Date: 5/3/2019; Ambient Temp: 23 °C; Tissue Temp: 21 °C  
Probe: EX3DV4 - SN3693; ConvF(4.96, 4.96, 4.96); Calibrated: 8/27/2018;  
Sensor-Surface: 2mm (Mechanical Surface Detection)  
Electronics: DAE4 Sn759; Calibrated: 1/10/2018  
Phantom: ELI v4.0; Type: QDOVA001BB; Serial: 1065  
Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

### Procedure Notes:

**Body Verification/5250 MHz/Area Scan (61x81x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 1.58 W/kg

**Body Verification/5250 MHz/Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 11.705 V/m; Power Drift = 0.01 dB

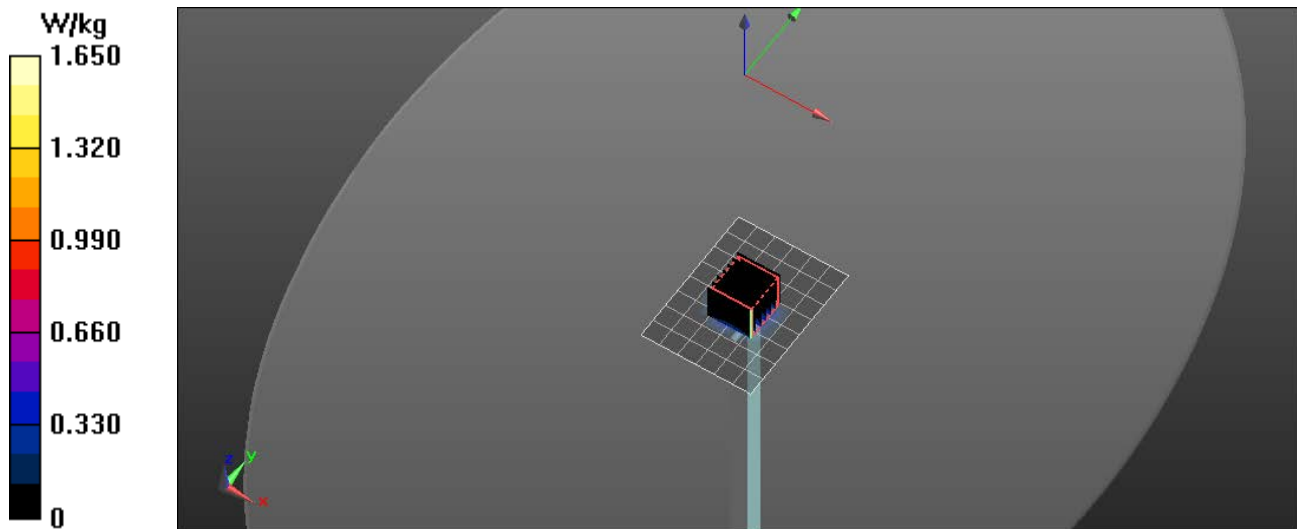
Peak SAR (extrapolated) = 3.75 W/kg

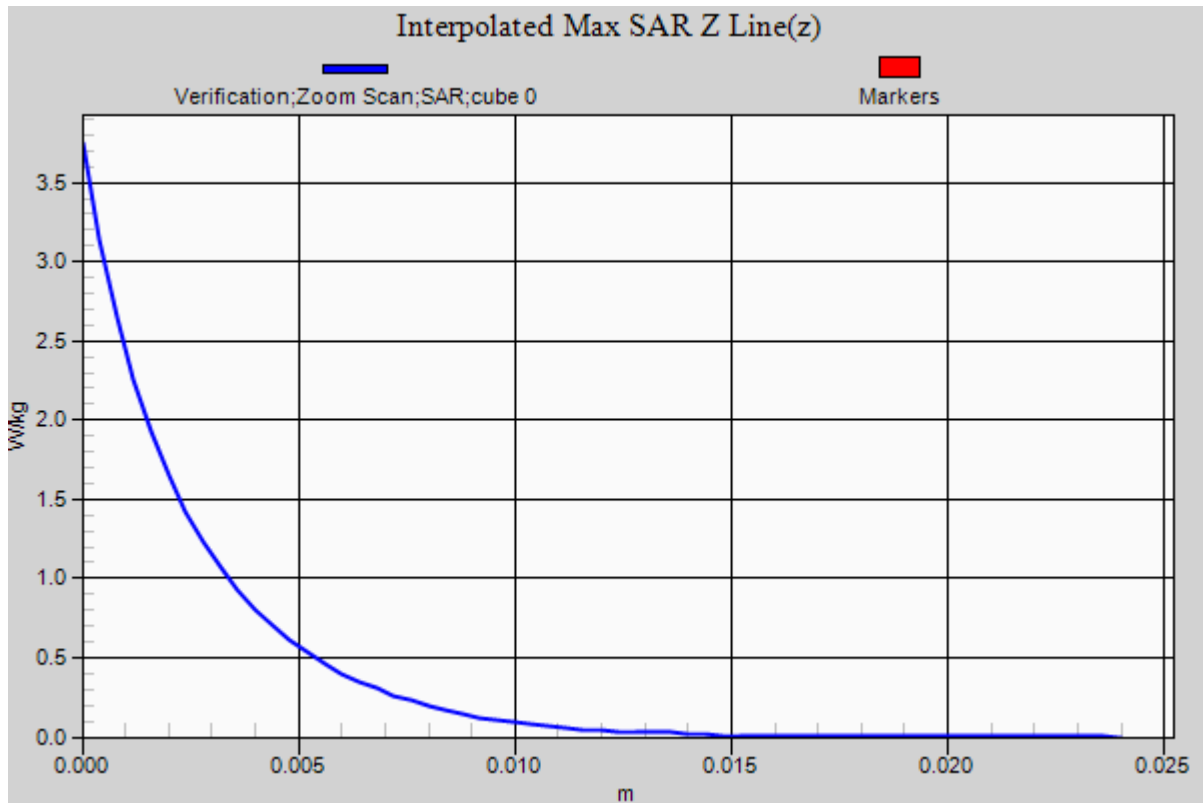
$P_{IN}$ =10 mW

**SAR(1 g) = 0.783 W/kg; SAR(10 g) = 0.231 W/kg**

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 1.65 W/kg





# RF Exposure Lab

## Plot 9

**DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: D5GHzV2 - SN: 1085**

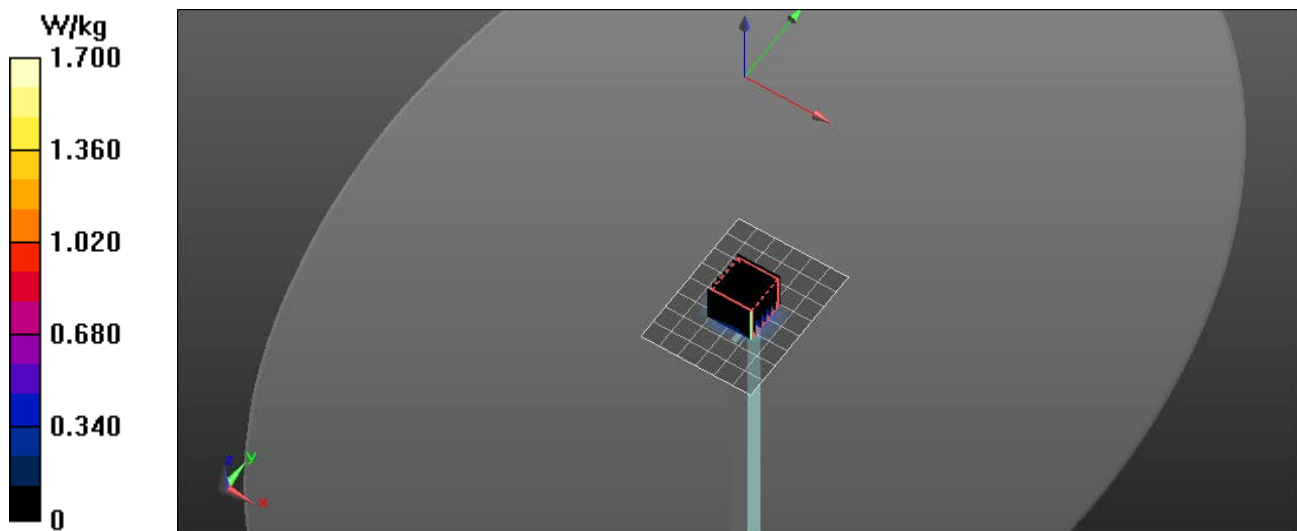
Communication System: CW; Frequency: 5600 MHz; Duty Cycle: 1:1  
Medium: MSL 3-6 GHz; Medium parameters used:  $f = 5600$  MHz;  $\sigma = 5.73$  S/m;  $\epsilon_r = 48.47$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section

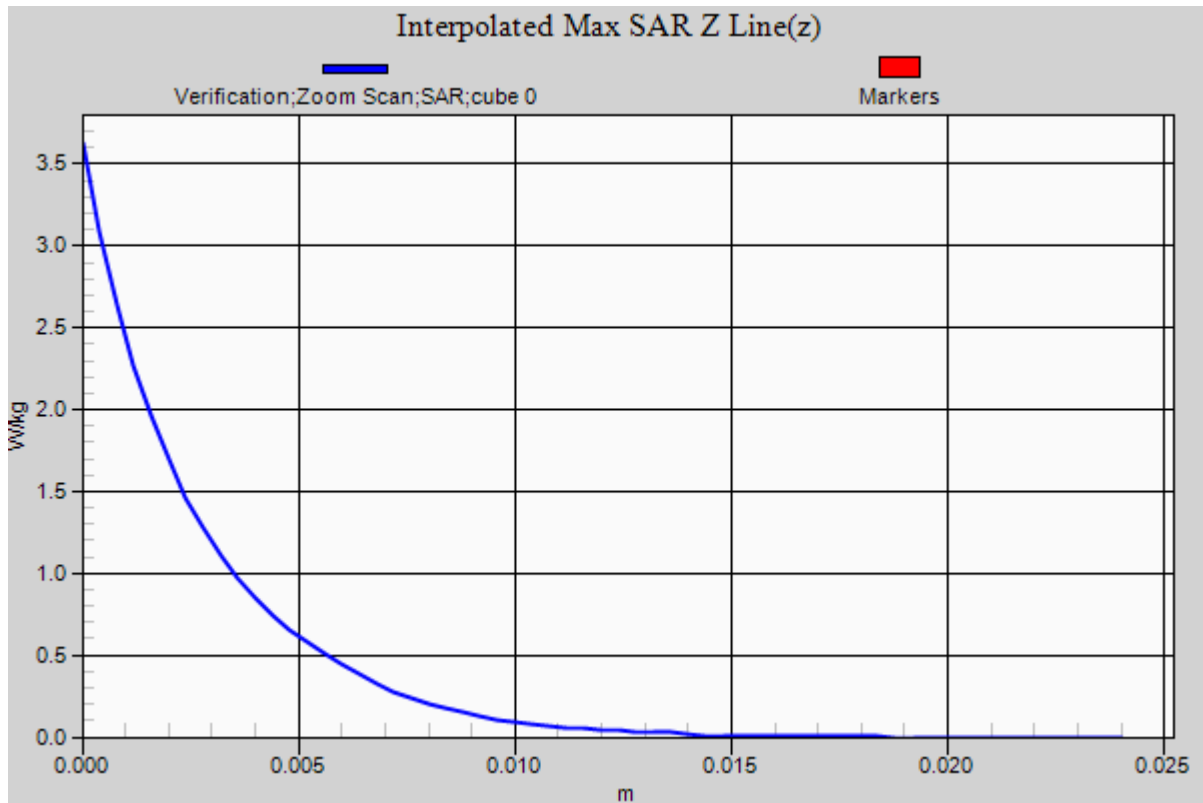
Test Date: Date: 5/3/2019; Ambient Temp: 23 °C; Tissue Temp: 21 °C  
Probe: EX3DV4 - SN3693; ConvF(4.77, 4.77, 4.77); Calibrated: 8/27/2018;  
Sensor-Surface: 2mm (Mechanical Surface Detection)  
Electronics: DAE4 Sn759; Calibrated: 1/10/2018  
Phantom: ELI v4.0; Type: QDOVA001BB; Serial: 1065  
Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

### Procedure Notes:

**Body Verification/5600 MHz/Area Scan (61x81x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm  
Maximum value of SAR (measured) = 1.64 W/kg

**Body Verification/5600 MHz/Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm  
Reference Value = 11.892 V/m; Power Drift = 0.01 dB  
Peak SAR (extrapolated) = 3.63 W/kg  
 $P_{IN}=10$  mW  
**SAR(1 g) = 0.823 W/kg; SAR(10 g) = 0.236 W/kg**  
Maximum value of SAR (measured) = 1.70 W/kg





# RF Exposure Lab

## Plot 10

**DUT: Dipole D5GHzV2; Type: D5GHzV2; Serial: D5GHzV2 - SN: 1085**

Communication System: CW; Frequency: 5750 MHz; Duty Cycle: 1:1  
Medium: MSL 3-6 GHz; Medium parameters used (interpolated):  $f = 5750$  MHz;  $\sigma = 5.925$  S/m;  $\epsilon_r = 48.245$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section

Test Date: Date: 5/3/2019; Ambient Temp: 23 °C; Tissue Temp: 21 °C  
Probe: EX3DV4 - SN3693; ConvF(4.67, 4.67, 4.67); Calibrated: 8/27/2018;  
Sensor-Surface: 2mm (Mechanical Surface Detection)  
Electronics: DAE4 Sn759; Calibrated: 1/10/2018  
Phantom: ELI v4.0; Type: QDOVA001BB; Serial: 1065  
Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

### Procedure Notes:

**Body Verification/5750 MHz/Area Scan (61x81x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 1.56 W/kg

**Body Verification/5750 MHz/Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 11.621 V/m; Power Drift = -0.01 dB

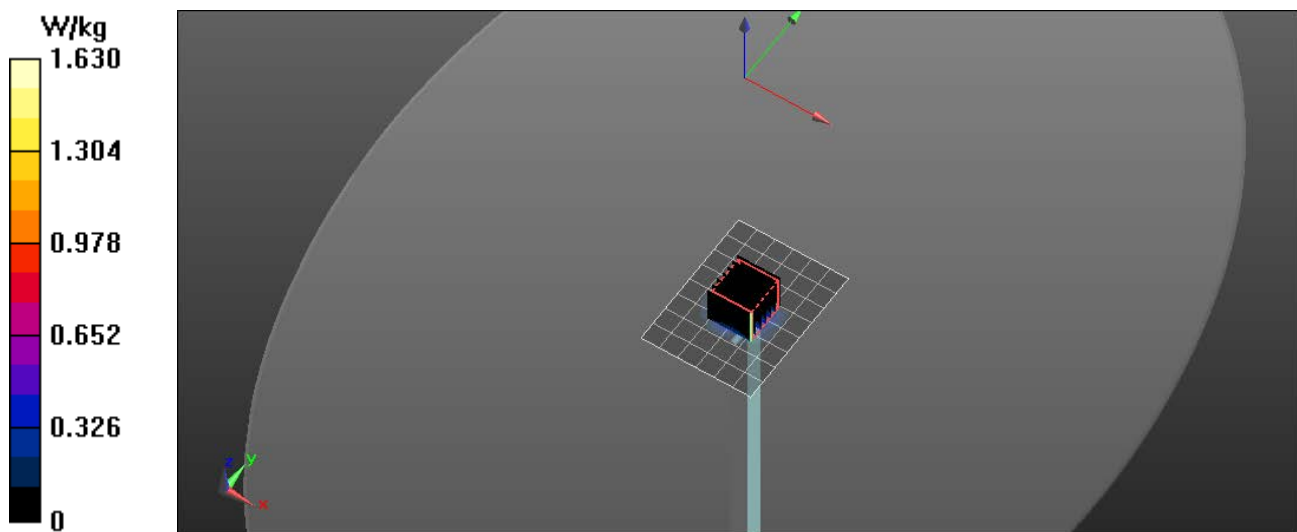
Peak SAR (extrapolated) = 3.47 W/kg

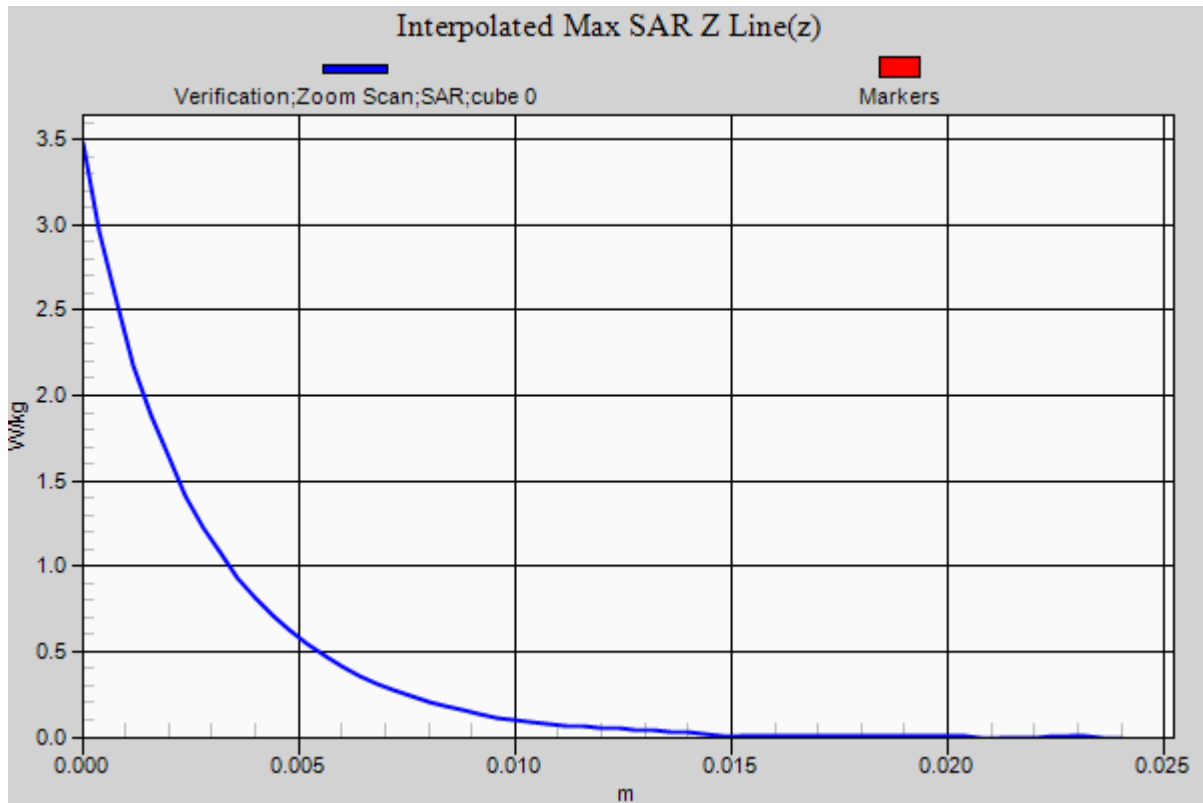
$P_{IN}$ =10 mW

**SAR(1 g) = 0.779 W/kg; SAR(10 g) = 0.228 W/kg**

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 1.63 W/kg





## Appendix B – SAR Test Data Plots

# RF Exposure Lab

## Plot 1

**DUT: HSN-C04C; Type: Tablet PC; Serial: Eng 1**

Communication System: LTE (SC-FDMA, 1 RB, 10 MHz, QPSK); Frequency: 711 MHz; Duty Cycle: 1:1  
Medium: MSL750; Medium parameters used (interpolated):  $f = 711$  MHz;  $\sigma = 0.98$  S/m;  $\epsilon_r = 55.687$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section

Test Date: Date: 5/6/2019; Ambient Temp: 23 °C; Tissue Temp: 21 °C

Probe: EX3DV4 - SN3662; ConvF(9.57, 9.57, 9.57); Calibrated: 4/24/2019;  
Sensor-Surface: 2mm (Mechanical Surface Detection)  
Electronics: DAE4 Sn1416; Calibrated: 4/16/2019  
Phantom: ELI v5.0; Type: QDOVA002AA; Serial: 2037  
Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

### Procedure Notes:

**750 MHz B12 LTE/Top High 1 RB 24 Offset/Area Scan (5x9x1):** Measurement grid: dx=15mm, dy=15mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 1.07 W/kg

**750 MHz B12 LTE/Top High 1 RB 24 Offset/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

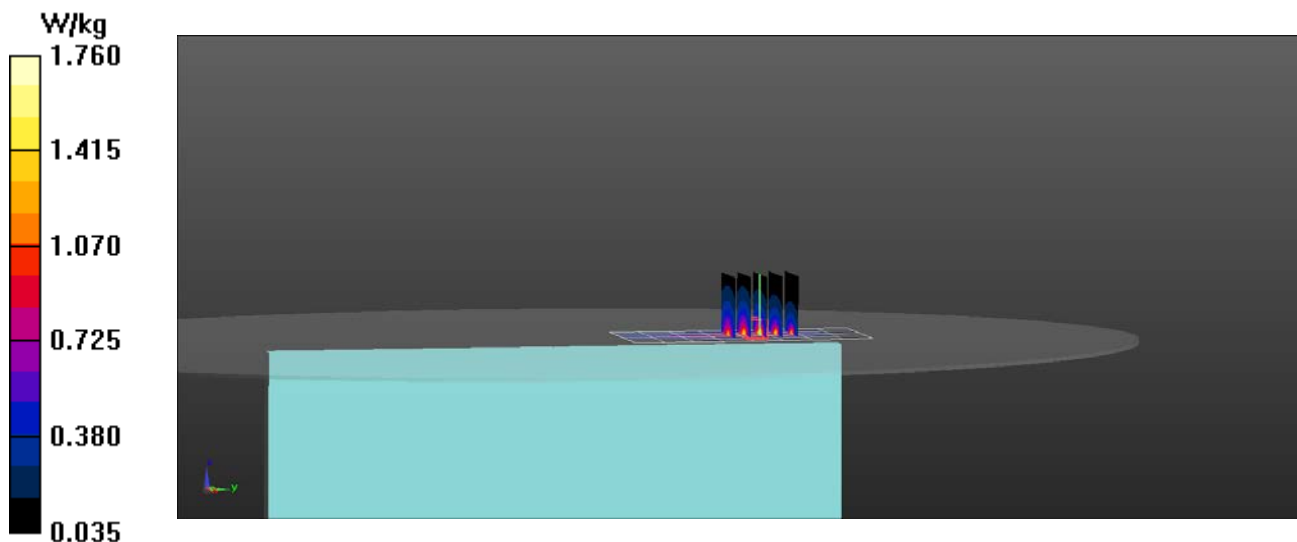
Reference Value = 16.32 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 2.34 W/kg

**SAR(1 g) = 1.1 W/kg**

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 1.76 W/kg



# RF Exposure Lab

## Plot 2

**DUT: HSN-C04C; Type: Tablet PC; Serial: Eng 1**

Communication System: LTE (SC-FDMA, 1 RB, 10 MHz, QPSK); Frequency: 782 MHz; Duty Cycle: 1:1  
Medium: MSL750; Medium parameters used (interpolated):  $f = 782 \text{ MHz}$ ;  $\sigma = 1 \text{ S/m}$ ;  $\epsilon_r = 55.452$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Flat Section

Test Date: Date: 5/7/2019; Ambient Temp: 23 °C; Tissue Temp: 21 °C

Probe: EX3DV4 - SN3662; ConvF(9.57, 9.57, 9.57); Calibrated: 4/24/2019;  
Sensor-Surface: 2mm (Mechanical Surface Detection)  
Electronics: DAE4 Sn1416; Calibrated: 4/16/2019  
Phantom: ELI v5.0; Type: QDOVA002AA; Serial: 2037  
Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

### Procedure Notes:

**750 MHz B13 LTE/Right Mid 1 RB 24 Offset/Area Scan (5x7x1):** Measurement grid: dx=15mm, dy=15mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 1.09 W/kg

**750 MHz B13 LTE/Right Mid 1 RB 24 Offset/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

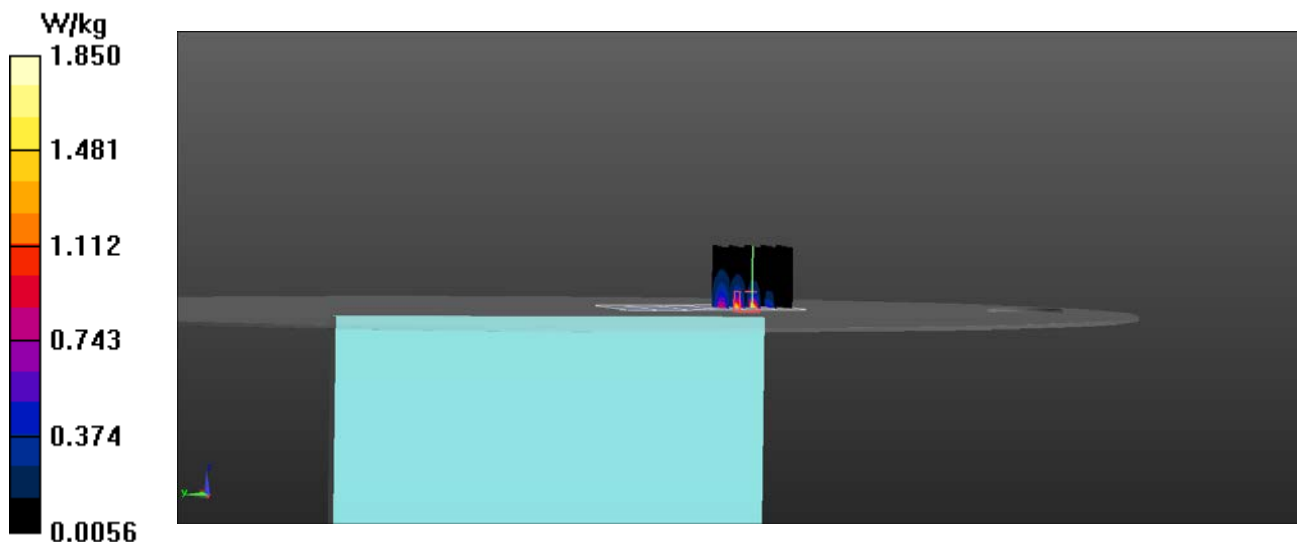
Reference Value = 11.80 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 4.36 W/kg

**SAR(1 g) = 1.13 W/kg**

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 1.85 W/kg



# RF Exposure Lab

## Plot 3

**DUT: HSN-C04C; Type: Tablet PC; Serial: Eng 1**

Communication System: UMTS (WCDMA); Frequency: 836.6 MHz; Duty Cycle: 1:1  
Medium: MSL835; Medium parameters used (interpolated):  $f = 836.6$  MHz;  $\sigma = 0.99$  S/m;  $\epsilon_r = 55.902$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section

Test Date: Date: 5/10/2019; Ambient Temp: 23 °C; Tissue Temp: 21 °C

Probe: EX3DV4 - SN3662; ConvF(9.34, 9.34, 9.34); Calibrated: 4/24/2019;  
Sensor-Surface: 2mm (Mechanical Surface Detection)  
Electronics: DAE4 Sn1416; Calibrated: 4/16/2019  
Phantom: ELI v5.0; Type: QDOVA002AA; Serial: 2037  
Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

### Procedure Notes:

**835 MHz WCDMA/Top Mid/Area Scan (5x9x1):** Measurement grid: dx=15mm, dy=15mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 1.39 W/kg

**835 MHz WCDMA/Top Mid/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

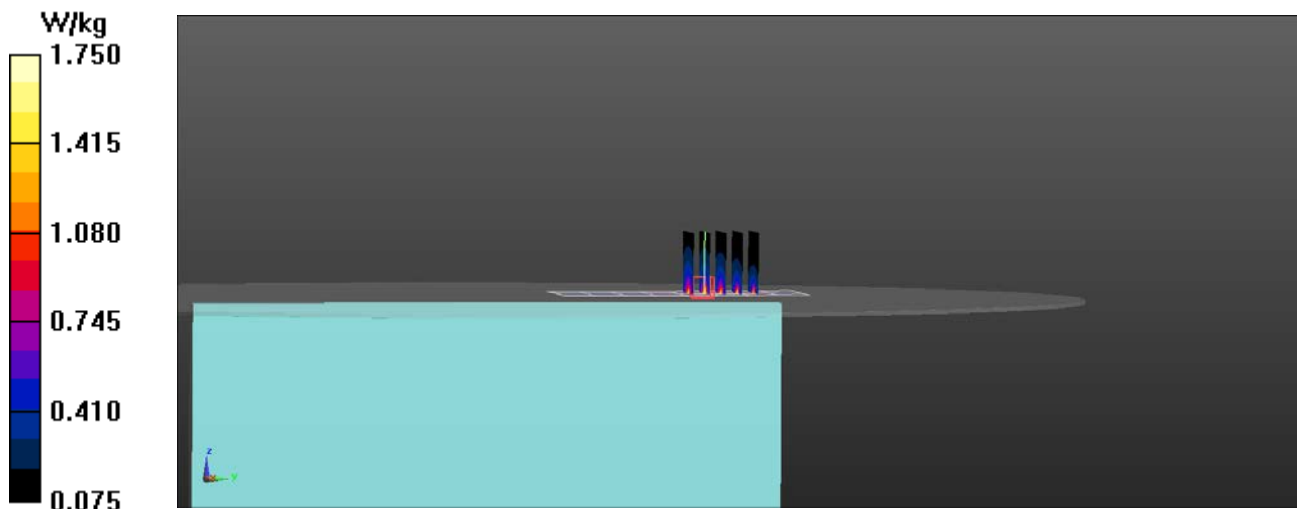
Reference Value = 7.908 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 2.27 W/kg

**SAR(1 g) = 0.893 W/kg**

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 1.75 W/kg



# RF Exposure Lab

## Plot 4

**DUT: HSN-C04C; Type: Tablet PC; Serial: Eng 1**

Communication System: LTE (SC-FDMA, 1 RB, 10 MHz, QPSK); Frequency: 831.5 MHz; Duty Cycle: 1:1  
Medium: MSL835; Medium parameters used (interpolated):  $f = 831.5$  MHz;  $\sigma = 0.987$  S/m;  $\epsilon_r = 55.924$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section

Test Date: Date: 5/10/2019; Ambient Temp: 23 °C; Tissue Temp: 21 °C

Probe: EX3DV4 - SN3662; ConvF(9.34, 9.34, 9.34); Calibrated: 4/24/2019;  
Sensor-Surface: 2mm (Mechanical Surface Detection)  
Electronics: DAE4 Sn1416; Calibrated: 4/16/2019  
Phantom: ELI v5.0; Type: QDOVA002AA; Serial: 2037  
Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

### Procedure Notes:

**835 MHz B26 LTE/Right Mid 1 RB 24 Offset/Area Scan (5x7x1):** Measurement grid: dx=15mm, dy=15mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.723 W/kg

**835 MHz B26 LTE/Right Mid 1 RB 24 Offset/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

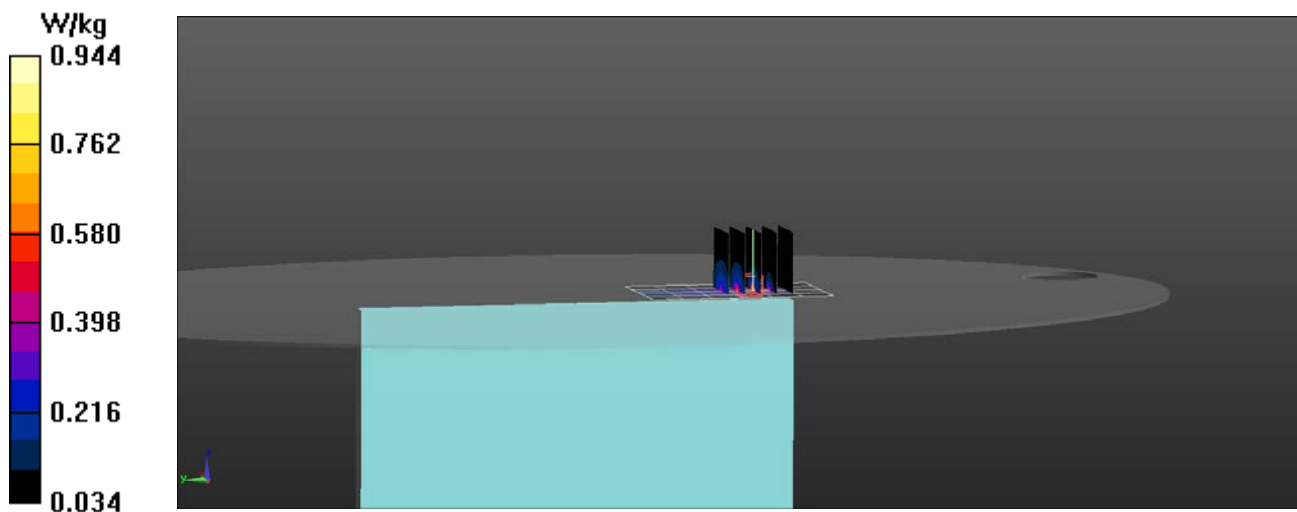
Reference Value = 4.592 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 1.17 W/kg

**SAR(1 g) = 0.616 W/kg**

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.944 W/kg



# RF Exposure Lab

## Plot 5

**DUT: HSN-C04C; Type: Tablet PC; Serial: Eng 1**

Communication System: UMTS (WCDMA); Frequency: 1732.6 MHz; Duty Cycle: 1:1  
Medium: MSL1750; Medium parameters used (interpolated):  $f = 1732.6$  MHz;  $\sigma = 1.503$  S/m;  $\epsilon_r = 53.375$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section

Test Date: Date: 5/13/2019; Ambient Temp: 23 °C; Tissue Temp: 21 °C

Probe: EX3DV4 - SN3662; ConvF(7.95, 7.95, 7.95); Calibrated: 4/24/2019;  
Sensor-Surface: 2mm (Mechanical Surface Detection)  
Electronics: DAE4 Sn1416; Calibrated: 4/16/2019  
Phantom: ELI v5.0; Type: QDOVA002AA; Serial: 2037  
Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

### Procedure Notes:

**1750 MHz WCDMA/Top Mid/Area Scan (5x9x1):** Measurement grid: dx=15mm, dy=15mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 1.20 W/kg

**1750 MHz WCDMA/Top Mid/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

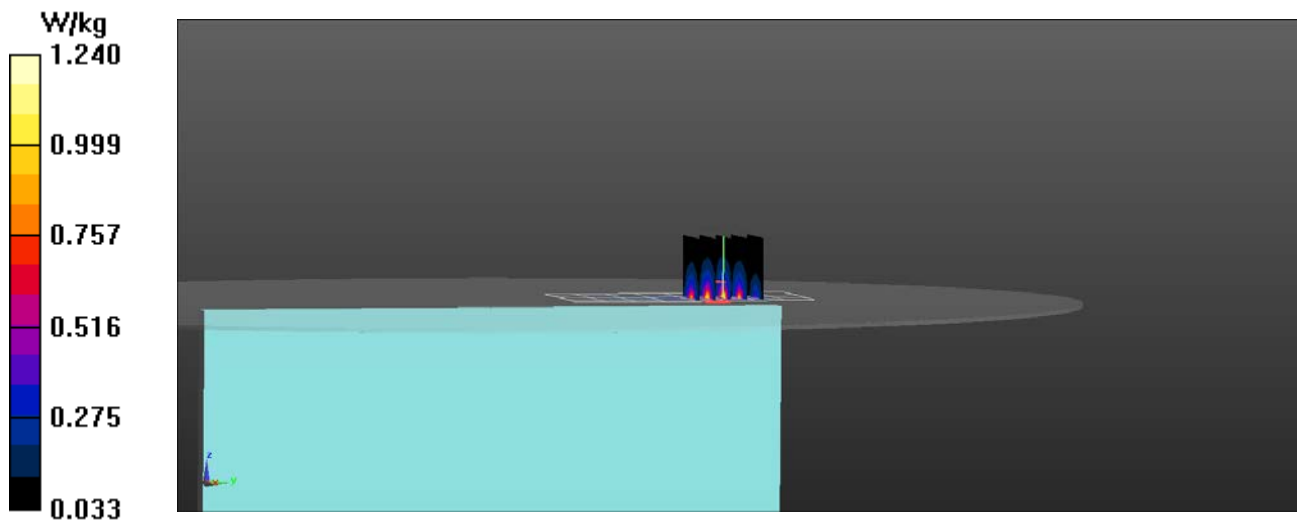
Reference Value = 3.464 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 1.51 W/kg

**SAR(1 g) = 0.945 W/kg**

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 1.24 W/kg



# RF Exposure Lab

## Plot 6

**DUT: HSN-C04C; Type: Tablet PC; Serial: Eng 1**

Communication System: LTE (SC-FDMA, 1 RB, 20 MHz, QPSK); Frequency: 1732.5 MHz; Duty Cycle: 1:1  
Medium: MSL1750; Medium parameters used (interpolated):  $f = 1732.5$  MHz;  $\sigma = 1.503$  S/m;  $\epsilon_r = 53.375$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section

Test Date: Date: 5/13/2019; Ambient Temp: 23 °C; Tissue Temp: 21 °C

Probe: EX3DV4 - SN3662; ConvF(7.95, 7.95, 7.95); Calibrated: 4/24/2019;  
Sensor-Surface: 2mm (Mechanical Surface Detection)  
Electronics: DAE4 Sn1416; Calibrated: 4/16/2019  
Phantom: ELI v5.0; Type: QDOVA002AA; Serial: 2037  
Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

### Procedure Notes:

**1750 MHz B4 LTE/Top Mid 1 RB 49 Offset/Area Scan (5x9x1):** Measurement grid: dx=15mm, dy=15mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 1.11 W/kg

**1750 MHz B4 LTE/Top Mid 1 RB 49 Offset/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

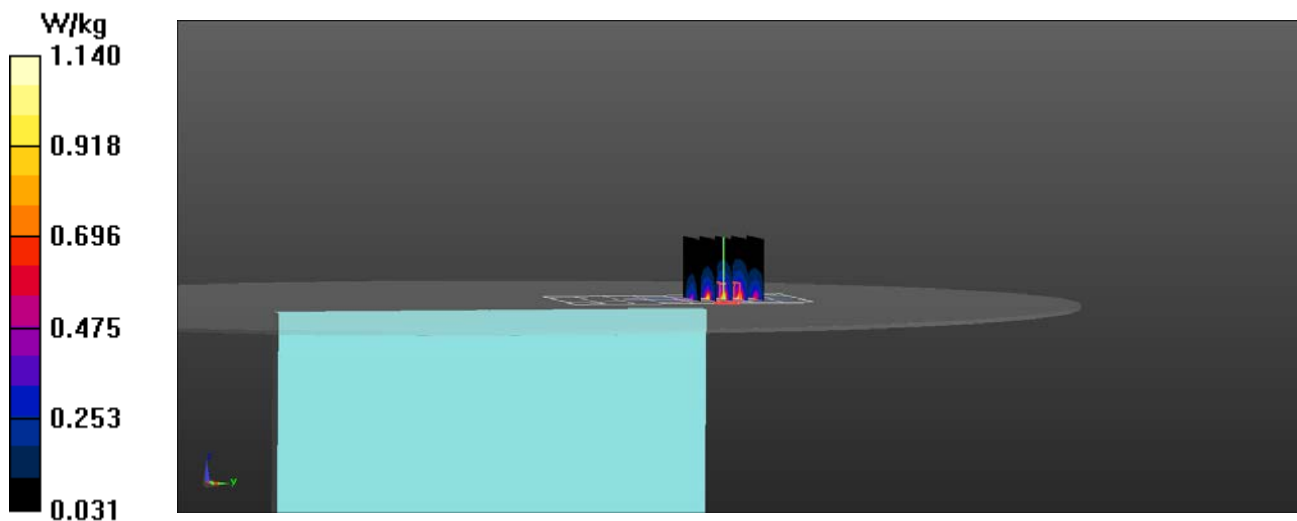
Reference Value = 0.4410 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 1.39 W/kg

**SAR(1 g) = 0.783 W/kg**

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 1.14 W/kg



# RF Exposure Lab

## Plot 7

**DUT: HSN-C04C; Type: Tablet PC; Serial: Eng 1**

Communication System: UMTS (WCDMA); Frequency: 1880 MHz; Duty Cycle: 1:1  
Medium: MSL1900; Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.45$  S/m;  $\epsilon_r = 52.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section

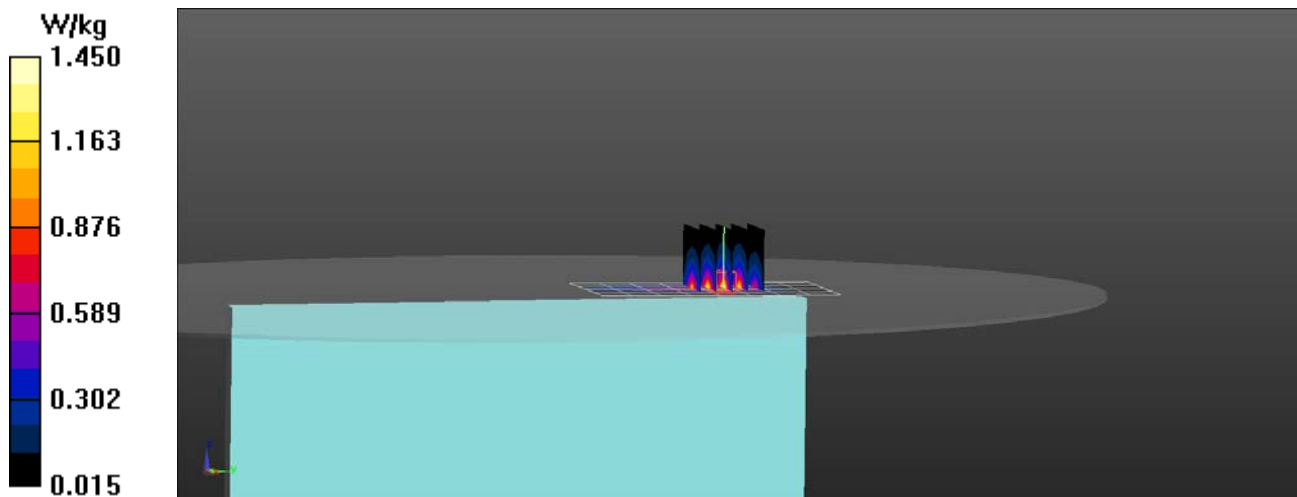
Test Date: Date: 5/14/2019; Ambient Temp: 23 °C; Tissue Temp: 21 °C

Probe: EX3DV4 - SN3662; ConvF(7.69, 7.69, 7.69); Calibrated: 4/24/2019;  
Sensor-Surface: 2mm (Mechanical Surface Detection)  
Electronics: DAE4 Sn1416; Calibrated: 4/16/2019  
Phantom: ELI v5.0; Type: QDOVA002AA; Serial: 2037  
Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

### Procedure Notes:

**1900 MHz WCDMA/Top Mid/Area Scan (5x9x1):** Measurement grid: dx=15mm, dy=15mm  
Maximum value of SAR (measured) = 1.04 W/kg

**1900 MHz WCDMA/Top Mid/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm  
Reference Value = 5.270 V/m; Power Drift = 0.03 dB  
Peak SAR (extrapolated) = 2.03 W/kg  
**SAR(1 g) = 0.964 W/kg**  
Maximum value of SAR (measured) = 1.45 W/kg



# RF Exposure Lab

## Plot 8

**DUT: HSN-C04C; Type: Tablet PC; Serial: Eng 1**

Communication System: LTE (SC-FDMA, 1 RB, 20 MHz, QPSK); Frequency: 1880 MHz; Duty Cycle: 1:1  
Medium: MSL1900; Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.45$  S/m;  $\epsilon_r = 52.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section

Test Date: Date: 5/14/2019; Ambient Temp: 23 °C; Tissue Temp: 21 °C

Probe: EX3DV4 - SN3662; ConvF(7.69, 7.69, 7.69); Calibrated: 4/24/2019;  
Sensor-Surface: 2mm (Mechanical Surface Detection)  
Electronics: DAE4 Sn1416; Calibrated: 4/16/2019  
Phantom: ELI v5.0; Type: QDOVA002AA; Serial: 2037  
Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

### Procedure Notes:

**1900 MHz B2 LTE/Top Mid 1 RB 49 Offset/Area Scan (5x9x1):** Measurement grid: dx=15mm, dy=15mm  
Maximum value of SAR (measured) = 0.984 W/kg

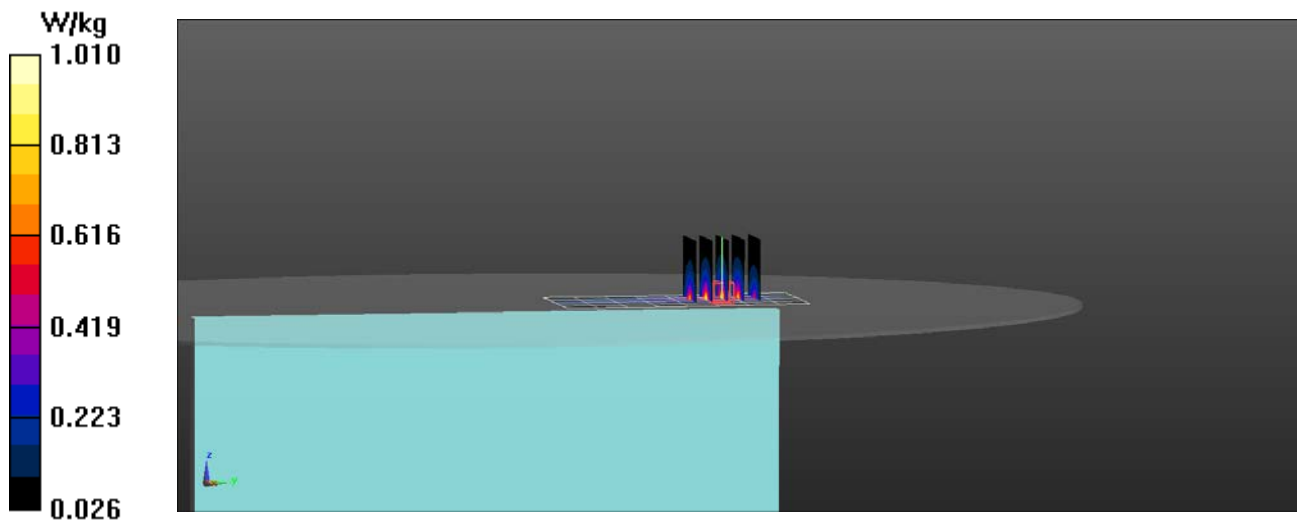
**1900 MHz B2 LTE/Top Mid 1 RB 49 Offset/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 4.353 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 1.24 W/kg

**SAR(1 g) = 0.746 W/kg**

Maximum value of SAR (measured) = 1.01 W/kg



# RF Exposure Lab

## Plot 9

**DUT: HSN-C04C; Type: Tablet PC; Serial: Eng 1**

Communication System: LTE (SC-FDMA, 1 RB, 10 MHz, QPSK); Frequency: 2310 MHz; Duty Cycle: 1:1  
Medium: MSL2300; Medium parameters used:  $f = 2310$  MHz;  $\sigma = 1.85$  S/m;  $\epsilon_r = 52.61$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section

Test Date: Date: 5/9/2019; Ambient Temp: 23 °C; Tissue Temp: 21 °C

Probe: EX3DV4 - SN3662; ConvF(7.43, 7.43, 7.43); Calibrated: 4/24/2019;  
Sensor-Surface: 2mm (Mechanical Surface Detection)  
Electronics: DAE4 Sn1416; Calibrated: 4/16/2019  
Phantom: ELI v5.0; Type: QDOVA002AA; Serial: 2037  
Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

### Procedure Notes:

**2300 MHz B30 LTE/Top Mid 1 RB 24 Offset/Area Scan (6x11x1):** Measurement grid: dx=12mm, dy=12mm  
Maximum value of SAR (measured) = 1.30 W/kg

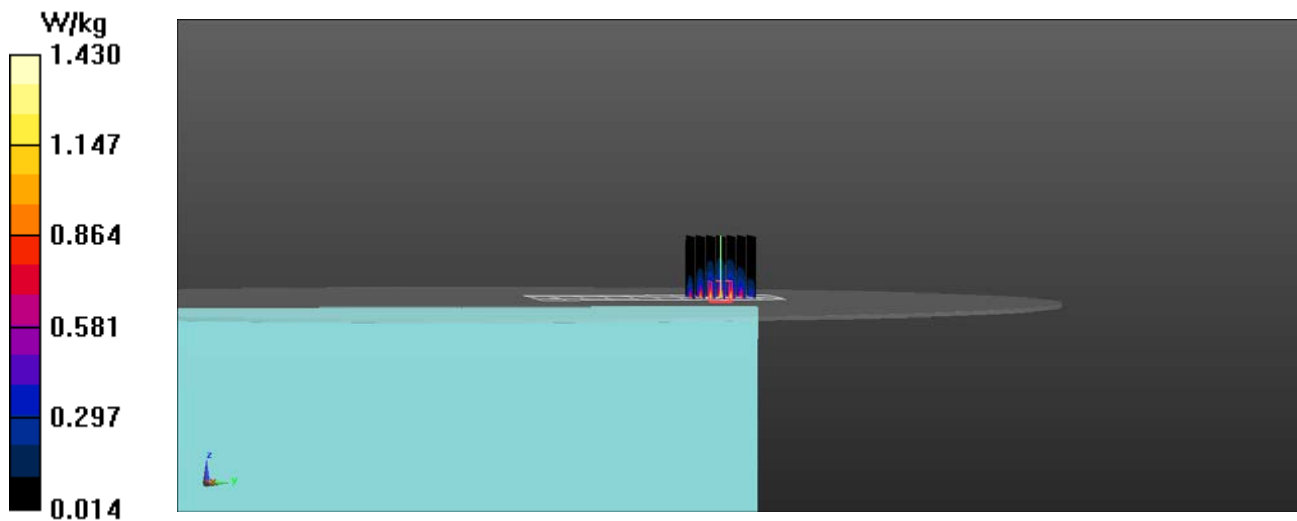
**2300 MHz B30 LTE/Top Mid 1 RB 24 Offset/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 0.6680 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 1.84 W/kg

**SAR(1 g) = 1.02 W/kg**

Maximum value of SAR (measured) = 1.43 W/kg



# RF Exposure Lab

## Plot 10

**DUT: HSN-C04C; Type: Tablet PC; Serial: Eng 1**

Communication System: LTE (SC-FDMA, 1 RB, 20 MHz, QPSK); Frequency: 2535 MHz; Duty Cycle: 1:1  
Medium: MSL2550; Medium parameters used (interpolated):  $f = 2535$  MHz;  $\sigma = 2.1$  S/m;  $\epsilon_r = 52.495$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section

Test Date: Date: 5/9/2019; Ambient Temp: 23 °C; Tissue Temp: 21 °C

Probe: EX3DV4 - SN3662; ConvF(7.12, 7.12, 7.12); Calibrated: 4/24/2019;  
Sensor-Surface: 2mm (Mechanical Surface Detection)  
Electronics: DAE4 Sn1416; Calibrated: 4/16/2019  
Phantom: ELI v5.0; Type: QDOVA002AA; Serial: 2037  
Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

### Procedure Notes:

**2600 MHz B7 LTE/Top Mid 1 RB 49 Offset/Area Scan (6x11x1):** Measurement grid: dx=12mm, dy=12mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 1.30 W/kg

**2600 MHz B7 LTE/Top Mid 1 RB 49 Offset/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

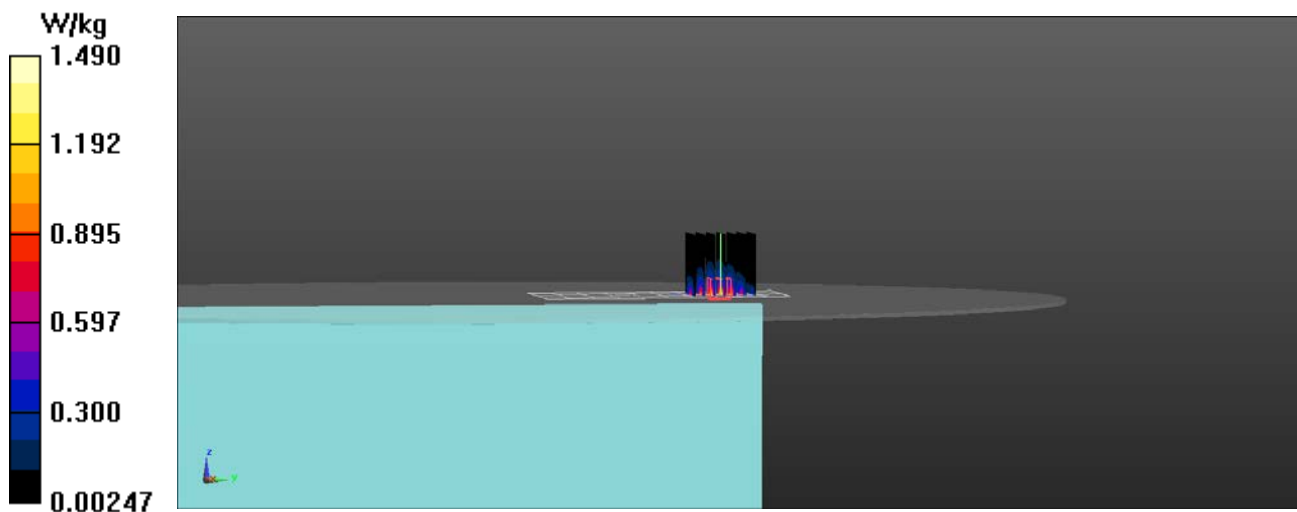
Reference Value = 0 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 2.05 W/kg

**SAR(1 g) = 0.920 W/kg**

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 1.49 W/kg



# RF Exposure Lab

## Plot 11

**DUT: HSN-C04C; Type: Tablet PC; Serial: Eng 1**

Communication System: LTE (SC-FDMA, 1 RB, 20 MHz, QPSK); Frequency: 2593 MHz; Duty Cycle: 1:1  
Medium: MSL2550; Medium parameters used (extrapolated):  $f = 2593$  MHz;  $\sigma = 2.196$  S/m;  $\epsilon_r = 52.387$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section

Test Date: Date: 5/9/2019; Ambient Temp: 23 °C; Tissue Temp: 21 °C

Probe: EX3DV4 - SN3662; ConvF(7.12, 7.12, 7.12); Calibrated: 4/24/2019;  
Sensor-Surface: 2mm (Mechanical Surface Detection)  
Electronics: DAE4 Sn1416; Calibrated: 4/16/2019  
Phantom: ELI v5.0; Type: QDOVA002AA; Serial: 2037  
Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

### Procedure Notes:

**2500 MHz B41 LTE/Top Mid 1 RB 49 Offset/Area Scan (6x11x1):** Measurement grid: dx=12mm, dy=12mm

[Info: Extrapolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 1.05 W/kg

**2500 MHz B41 LTE/Top Mid 1 RB 49 Offset/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

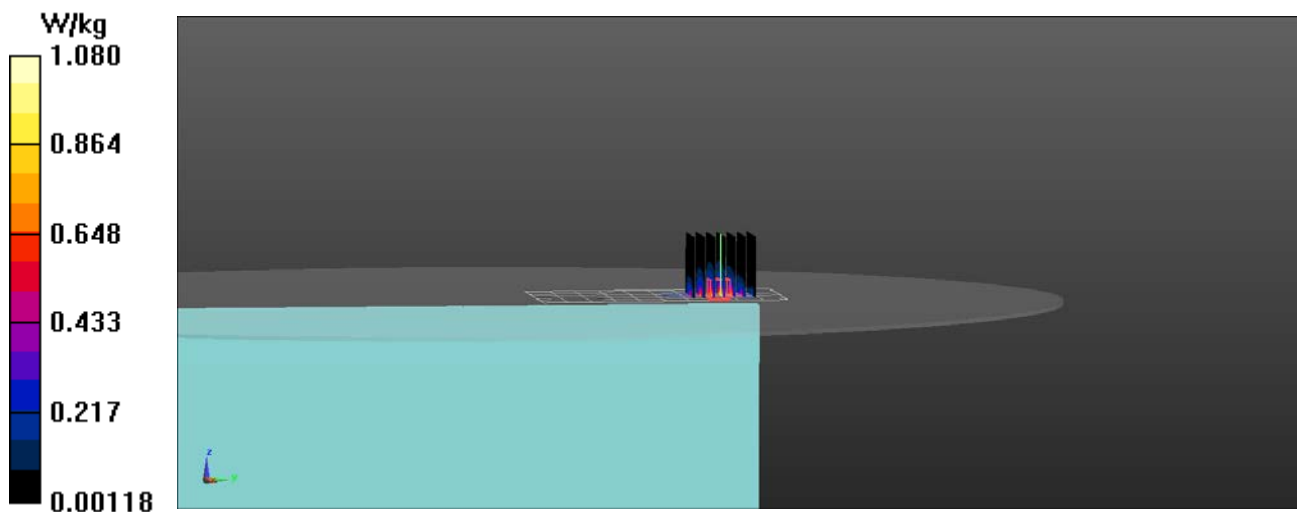
Reference Value = 1.124 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 1.41 W/kg

**SAR(1 g) = 0.742 W/kg**

[Info: Extrapolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 1.08 W/kg



# RF Exposure Lab

## Plot 12

**DUT: HSN-C04C; Type: Tablet PC; Serial: Eng 1**

Communication System: WiFi 802.11b (DSSS, 1 Mbps); Frequency: 2437 MHz; Duty Cycle: 1:1  
Medium: MSL2450; Medium parameters used (interpolated):  $f = 2437$  MHz;  $\sigma = 1.947$  S/m;  $\epsilon_r = 52.666$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section

Test Date: Date: 5/8/2019; Ambient Temp: 23 °C; Tissue Temp: 21 °C

Probe: EX3DV4 - SN3693; ConvF(7.26, 7.26, 7.26); Calibrated: 8/18/2017;  
Sensor-Surface: 2mm (Mechanical Surface Detection)  
Electronics: DAE4 Sn759; Calibrated: 8/20/2018  
Phantom: ELI v4.0; Type: QDOVA001BB; Serial: 1065  
Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

### Procedure Notes:

**2450 MHz Inpaq NA/Tablet Back Tx2 Mid/Area Scan (7x9x1):** Measurement grid: dx=10mm, dy=10mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 1.72 W/kg

**2450 MHz Inpaq NA/Tablet Back Tx2 Mid/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

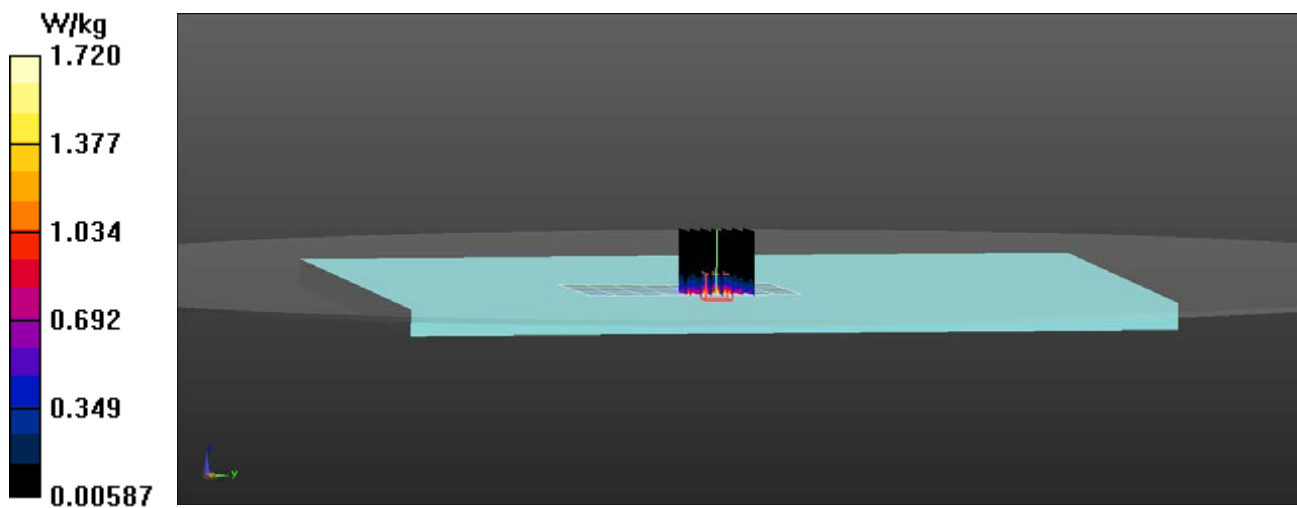
Reference Value = 1.202 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 3.04 W/kg

**SAR(1 g) = 0.923 W/kg**

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 1.72 W/kg



# RF Exposure Lab

## Plot 13

**DUT: HSN-C04C; Type: Tablet PC; Serial: Eng 1**

Communication System: WiFi 802.11a (OFDM, 6 Mbps); Frequency: 5280 MHz; Duty Cycle: 1:1  
Medium: MSL 3-6 GHz; Medium parameters used:  $f = 5280 \text{ MHz}$ ;  $\sigma = 5.31 \text{ S/m}$ ;  $\epsilon_r = 48.95$ ;  $\rho = 1000 \text{ kg/m}^3$   
Phantom section: Flat Section

Test Date: Date: 5/3/2019; Ambient Temp: 23 °C; Tissue Temp: 21 °C

Probe: EX3DV4 - SN3693; ConvF(4.46, 4.46, 4.46); Calibrated: 8/18/2017;  
Sensor-Surface: 2mm (Mechanical Surface Detection)  
Electronics: DAE4 Sn759; Calibrated: 8/20/2018  
Phantom: ELI v4.0; Type: QDOVA001BB; Serial: 1065  
Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

### Procedure Notes:

**5200 MHz Inpaq NA/Tablet Back Tx2 56/Area Scan (7x9x1):** Measurement grid:  $dx=10\text{mm}$ ,  $dy=10\text{mm}$   
Maximum value of SAR (measured) = 1.93 W/kg

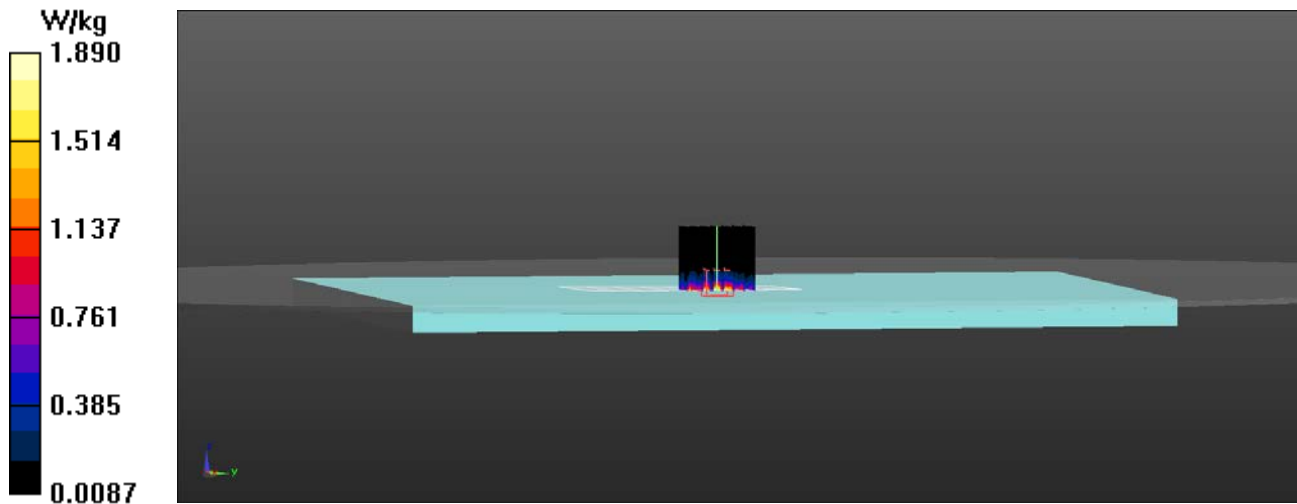
**5200 MHz Inpaq NA/Tablet Back Tx2 56/Zoom Scan (7x7x12)/Cube 0:** Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value = 4.337 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 4.08 W/kg

**SAR(1 g) = 0.951 W/kg**

Maximum value of SAR (measured) = 1.89 W/kg



# RF Exposure Lab

## Plot 14

**DUT: HSN-C04C; Type: Tablet PC; Serial: Eng 1**

Communication System: WiFi 802.11a (OFDM, 6 Mbps); Frequency: 5620 MHz; Duty Cycle: 1:1  
Medium: MSL 3-6 GHz; Medium parameters used:  $f = 5620$  MHz;  $\sigma = 5.75$  S/m;  $\epsilon_r = 48.44$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section

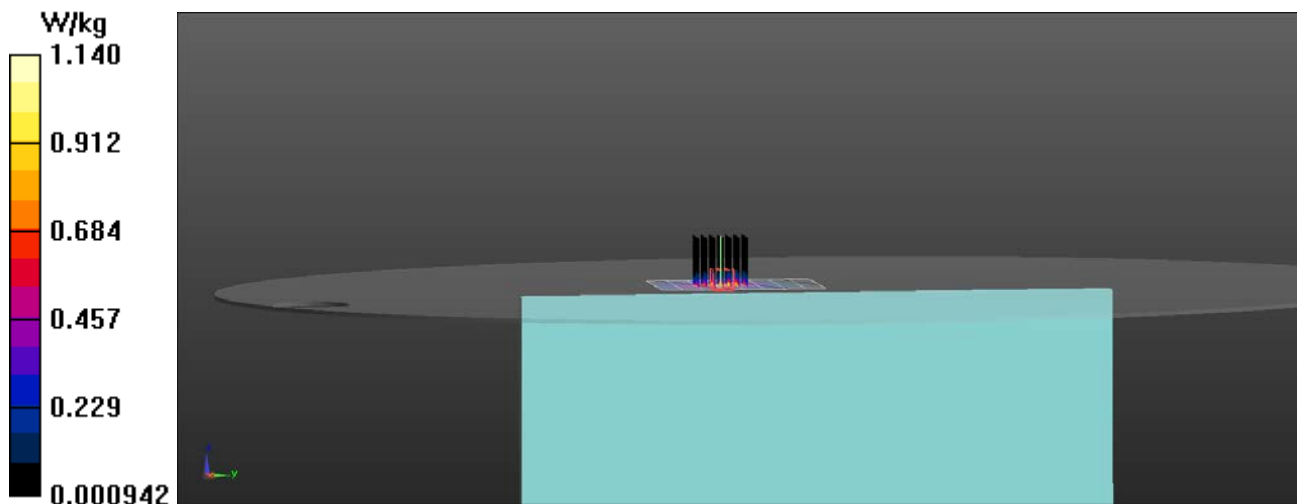
Test Date: Date: 5/7/2019; Ambient Temp: 23 °C; Tissue Temp: 21 °C

Probe: EX3DV4 - SN3693; ConvF(4, 4, 4); Calibrated: 8/18/2017;  
Sensor-Surface: 2mm (Mechanical Surface Detection)  
Electronics: DAE4 Sn759; Calibrated: 8/20/2018  
Phantom: ELI v4.0; Type: QDOVA001BB; Serial: 1065  
Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

### Procedure Notes:

**5600 MHz Inpaq NA/Tablet Top Tx2 124/Area Scan (7x9x1):** Measurement grid: dx=10mm, dy=10mm  
Maximum value of SAR (measured) = 1.08 W/kg

**5600 MHz Inpaq NA/Tablet Top Tx2 124/Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm  
Reference Value = 2.620 V/m; Power Drift = 0.03 dB  
Peak SAR (extrapolated) = 3.20 W/kg  
**SAR(1 g) = 0.579 W/kg**  
Maximum value of SAR (measured) = 1.14 W/kg



# RF Exposure Lab

## Plot 15

**DUT: HSN-C04C; Type: Tablet PC; Serial: Eng 1**

Communication System: WiFi 802.11a (OFDM, 6 Mbps); Frequency: 5825 MHz; Duty Cycle: 1:1  
Medium: MSL 3-6 GHz; Medium parameters used (interpolated):  $f = 5825$  MHz;  $\sigma = 6.025$  S/m;  $\epsilon_r = 48.133$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Phantom section: Flat Section

Test Date: Date: 5/6/2019; Ambient Temp: 23 °C; Tissue Temp: 21 °C

Probe: EX3DV4 - SN3693; ConvF(4.21, 4.21, 4.21); Calibrated: 8/18/2017;  
Sensor-Surface: 2mm (Mechanical Surface Detection)  
Electronics: DAE4 Sn759; Calibrated: 8/20/2018  
Phantom: ELI v4.0; Type: QDOVA001BB; Serial: 1065  
Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7417)

### Procedure Notes:

**5800 MHz Inpaq NA/Tablet Back Tx2 165/Area Scan (7x9x1):** Measurement grid: dx=10mm, dy=10mm

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 0.747 W/kg

**5800 MHz Inpaq NA/Tablet Back Tx2 165/Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

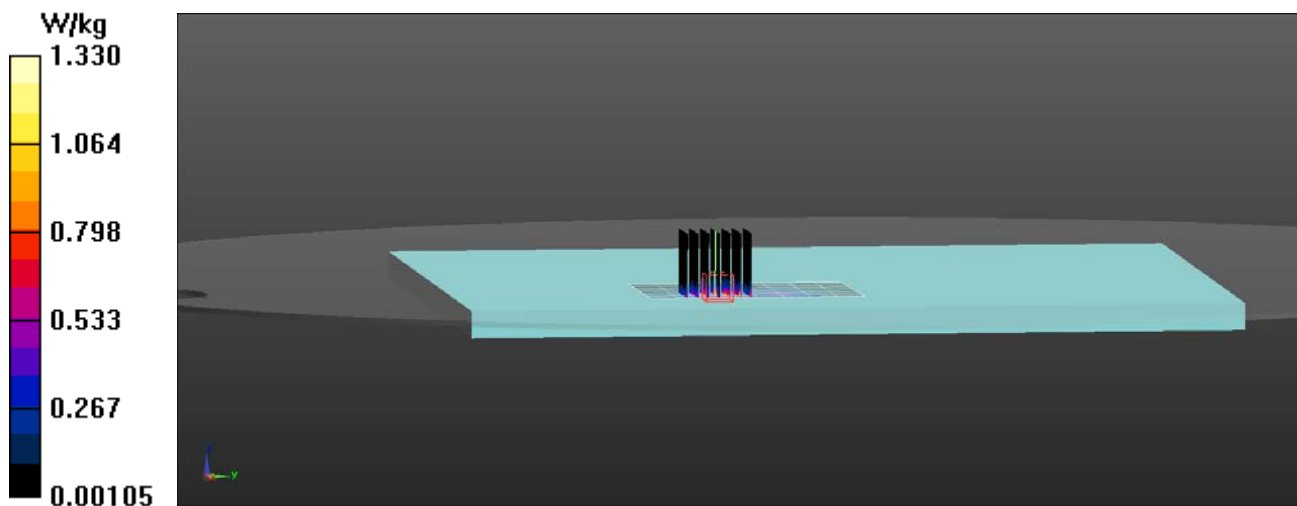
Reference Value = 0.1940 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 2.89 W/kg

**SAR(1 g) = 0.510 W/kg**

[Info: Interpolated medium parameters used for SAR evaluation.](#)

Maximum value of SAR (measured) = 1.33 W/kg



## **Appendix D – Probe Calibration Data Sheets**



Accredited by the Swiss Accreditation Service (SAS)

Accreditation No.: **SCS 0108**

The Swiss Accreditation Service is one of the signatories to the EA  
 Multilateral Agreement for the recognition of calibration certificates

Client **RF Exposure Lab**

Certificate No: **EX3-3662\_Apr19**

## CALIBRATION CERTIFICATE

Object **EX3DV4 - SN:3662**

Calibration procedure(s) **QA CAL-01.v9, QA CAL-14.v5, QA CAL-23.v5, QA CAL-25.v7**  
**Calibration procedure for dosimetric E-field probes**

Calibration date: **April 24, 2019**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).  
 The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature  $(22 \pm 3)^{\circ}\text{C}$  and humidity  $< 70\%$ .

Calibration Equipment used (M&TE critical for calibration)

| Primary Standards          | ID               | Cal Date (Certificate No.)        | Scheduled Calibration  |
|----------------------------|------------------|-----------------------------------|------------------------|
| Power meter NRP            | SN: 104778       | 03-Apr-19 (No. 217-02892/02893)   | Apr-20                 |
| Power sensor NRP-Z91       | SN: 103244       | 03-Apr-19 (No. 217-02892)         | Apr-20                 |
| Power sensor NRP-Z91       | SN: 103245       | 03-Apr-19 (No. 217-02893)         | Apr-20                 |
| Reference 20 dB Attenuator | SN: S5277 (20x)  | 04-Apr-19 (No. 217-02894)         | Apr-20                 |
| DAE4                       | SN: 660          | 19-Dec-18 (No. DAE4-660_Dec18)    | Dec-19                 |
| Reference Probe ES3DV2     | SN: 3013         | 31-Dec-18 (No. ES3-3013_Dec18)    | Dec-19                 |
| Secondary Standards        | ID               | Check Date (in house)             | Scheduled Check        |
| Power meter E4419B         | SN: GB41293874   | 06-Apr-16 (in house check Jun-18) | In house check: Jun-20 |
| Power sensor E4412A        | SN: MY41498087   | 06-Apr-16 (in house check Jun-18) | In house check: Jun-20 |
| Power sensor E4412A        | SN: 000110210    | 06-Apr-16 (in house check Jun-18) | In house check: Jun-20 |
| RF generator HP 8648C      | SN: US3642U01700 | 04-Aug-99 (in house check Jun-18) | In house check: Jun-20 |
| Network Analyzer E8358A    | SN: US41080477   | 31-Mar-14 (in house check Oct-18) | In house check: Oct-19 |

Calibrated by: **Claudio Leubler** **Laboratory Technician**

Signature

Approved by: **Katja Pokovic** **Technical Manager**

Issued: April 25, 2019

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.



Accredited by the Swiss Accreditation Service (SAS)

Accreditation No.: **SCS 0108**

The Swiss Accreditation Service is one of the signatories to the EA  
 Multilateral Agreement for the recognition of calibration certificates

## Glossary:

|                          |                                                                                                                                                         |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| TSL                      | tissue simulating liquid                                                                                                                                |
| NORM <sub>x,y,z</sub>    | sensitivity in free space                                                                                                                               |
| ConvF                    | sensitivity in TSL / NORM <sub>x,y,z</sub>                                                                                                              |
| DCP                      | diode compression point                                                                                                                                 |
| CF                       | crest factor (1/duty_cycle) of the RF signal                                                                                                            |
| A, B, C, D               | modulation dependent linearization parameters                                                                                                           |
| Polarization $\phi$      | $\phi$ rotation around probe axis                                                                                                                       |
| Polarization $\vartheta$ | $\vartheta$ rotation around an axis that is in the plane normal to probe axis (at measurement center),<br>i.e., $\vartheta = 0$ is normal to probe axis |
| Connector Angle          | information used in DASY system to align probe sensor X to the robot coordinate system                                                                  |

## Calibration is Performed According to the Following Standards:

- IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
- IEC 62209-1, "Measurement procedure for the assessment of Specific Absorption Rate (SAR) from hand-held and body-mounted devices used next to the ear (frequency range of 300 MHz to 6 GHz)", July 2016
- IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
- KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

## Methods Applied and Interpretation of Parameters:

- NORM<sub>x,y,z</sub>**: Assessed for E-field polarization  $\vartheta = 0$  ( $f \leq 900$  MHz in TEM-cell;  $f > 1800$  MHz: R22 waveguide). NORM<sub>x,y,z</sub> are only intermediate values, i.e., the uncertainties of NORM<sub>x,y,z</sub> does not affect the  $E^2$ -field uncertainty inside TSL (see below *ConvF*).
- NORM(f)<sub>x,y,z</sub>** = NORM<sub>x,y,z</sub> \* *frequency\_response* (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of *ConvF*.
- DCP<sub>x,y,z</sub>**: DCP are numerical linearization parameters assessed based on the data of power sweep with CW signal (no uncertainty required). DCP does not depend on frequency nor media.
- PAR**: PAR is the Peak to Average Ratio that is not calibrated but determined based on the signal characteristics
- A<sub>x,y,z</sub>; B<sub>x,y,z</sub>; C<sub>x,y,z</sub>; D<sub>x,y,z</sub>; VR<sub>x,y,z</sub>**: A, B, C, D are numerical linearization parameters assessed based on the data of power sweep for specific modulation signal. The parameters do not depend on frequency nor media. VR is the maximum calibration range expressed in RMS voltage across the diode.
- ConvF and Boundary Effect Parameters**: Assessed in flat phantom using E-field (or Temperature Transfer Standard for  $f \leq 800$  MHz) and inside waveguide using analytical field distributions based on power measurements for  $f > 800$  MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to NORM<sub>x,y,z</sub> \* *ConvF* whereby the uncertainty corresponds to that given for *ConvF*. A frequency dependent *ConvF* is used in DASY version 4.4 and higher which allows extending the validity from  $\pm 50$  MHz to  $\pm 100$  MHz.
- Spherical isotropy (3D deviation from isotropy)**: in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- Sensor Offset**: The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.
- Connector Angle**: The angle is assessed using the information gained by determining the NORM<sub>x</sub> (no uncertainty required).

# DASY/EASY - Parameters of Probe: EX3DV4 - SN:3662

## Basic Calibration Parameters

|                                                           | Sensor X | Sensor Y | Sensor Z | Unc (k=2) |
|-----------------------------------------------------------|----------|----------|----------|-----------|
| Norm ( $\mu\text{V}/(\text{V}/\text{m})^2$ ) <sup>A</sup> | 0.43     | 0.45     | 0.50     | ± 10.1 %  |
| DCP (mV) <sup>B</sup>                                     | 100.7    | 100.3    | 97.0     |           |

## Calibration Results for Modulation Response

| UID | Communication System Name |   | A<br>dB | B<br>dB/ $\sqrt{\mu\text{V}}$ | C   | D<br>dB | VR<br>mV | Max<br>dev. | Unc <sup>E</sup><br>(k=2) |
|-----|---------------------------|---|---------|-------------------------------|-----|---------|----------|-------------|---------------------------|
| 0   | CW                        | X | 0.0     | 0.0                           | 1.0 | 0.00    | 157.7    | ±1.9 %      | ± 4.7 %                   |
|     |                           | Y | 0.0     | 0.0                           | 1.0 |         | 152.9    |             |                           |
|     |                           | Y | 0.0     | 0.0                           | 1.0 |         | 153.2    |             |                           |

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

<sup>A</sup> The uncertainties of Norm X,Y,Z do not affect the E<sup>2</sup>-field uncertainty inside TSL (see Pages 5 and 6).

<sup>B</sup> Numerical linearization parameter: uncertainty not required.

<sup>E</sup> Uncertainty is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.

## DASY/EASY - Parameters of Probe: EX3DV4 - SN:3662

### Other Probe Parameters

|                                               |            |
|-----------------------------------------------|------------|
| Sensor Arrangement                            | Triangular |
| Connector Angle (°)                           | -22.4      |
| Mechanical Surface Detection Mode             | enabled    |
| Optical Surface Detection Mode                | disabled   |
| Probe Overall Length                          | 337 mm     |
| Probe Body Diameter                           | 10 mm      |
| Tip Length                                    | 9 mm       |
| Tip Diameter                                  | 2.5 mm     |
| Probe Tip to Sensor X Calibration Point       | 1 mm       |
| Probe Tip to Sensor Y Calibration Point       | 1 mm       |
| Probe Tip to Sensor Z Calibration Point       | 1 mm       |
| Recommended Measurement Distance from Surface | 1.4 mm     |

## DASY/EASY - Parameters of Probe: EX3DV4 - SN:3662

### Calibration Parameter Determined in Head Tissue Simulating Media

| f (MHz) <sup>C</sup> | Relative Permittivity <sup>F</sup> | Conductivity (S/m) <sup>F</sup> | ConvF X | ConvF Y | ConvF Z | Alpha <sup>G</sup> | Depth <sup>G</sup> (mm) | Unc (k=2) |
|----------------------|------------------------------------|---------------------------------|---------|---------|---------|--------------------|-------------------------|-----------|
| 750                  | 41.9                               | 0.89                            | 9.57    | 9.57    | 9.57    | 0.49               | 0.80                    | ± 12.0 %  |
| 900                  | 41.5                               | 0.97                            | 9.12    | 9.12    | 9.12    | 0.51               | 0.80                    | ± 12.0 %  |
| 1750                 | 40.1                               | 1.37                            | 8.23    | 8.23    | 8.23    | 0.38               | 0.85                    | ± 12.0 %  |
| 1900                 | 40.0                               | 1.40                            | 7.90    | 7.90    | 7.90    | 0.37               | 0.85                    | ± 12.0 %  |
| 2300                 | 39.5                               | 1.67                            | 7.50    | 7.50    | 7.50    | 0.39               | 0.85                    | ± 12.0 %  |
| 2450                 | 39.2                               | 1.80                            | 7.33    | 7.33    | 7.33    | 0.41               | 0.84                    | ± 12.0 %  |
| 2600                 | 39.0                               | 1.96                            | 7.21    | 7.21    | 7.21    | 0.42               | 0.85                    | ± 12.0 %  |
| 3500                 | 37.9                               | 2.91                            | 7.07    | 7.07    | 7.07    | 0.30               | 1.20                    | ± 13.1 %  |
| 3700                 | 37.7                               | 3.12                            | 6.92    | 6.92    | 6.92    | 0.35               | 1.25                    | ± 13.1 %  |
| 5250                 | 35.9                               | 4.71                            | 5.05    | 5.05    | 5.05    | 0.40               | 1.80                    | ± 13.1 %  |
| 5600                 | 35.5                               | 5.07                            | 4.81    | 4.81    | 4.81    | 0.40               | 1.80                    | ± 13.1 %  |
| 5750                 | 35.4                               | 5.22                            | 4.90    | 4.90    | 4.90    | 0.40               | 1.80                    | ± 13.1 %  |

<sup>C</sup> Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Validity of ConvF assessed at 6 MHz is 4-9 MHz, and ConvF assessed at 13 MHz is 9-19 MHz. Above 5 GHz frequency validity can be extended to ± 110 MHz.

<sup>F</sup> At frequencies below 3 GHz, the validity of tissue parameters ( $\epsilon$  and  $\sigma$ ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters ( $\epsilon$  and  $\sigma$ ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

<sup>G</sup> Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

## DASY/EASY - Parameters of Probe: EX3DV4 - SN:3662

### Calibration Parameter Determined in Body Tissue Simulating Media

| f (MHz) <sup>C</sup> | Relative Permittivity <sup>F</sup> | Conductivity (S/m) <sup>F</sup> | ConvF X | ConvF Y | ConvF Z | Alpha <sup>G</sup> | Depth <sup>G</sup> (mm) | Unc (k=2) |
|----------------------|------------------------------------|---------------------------------|---------|---------|---------|--------------------|-------------------------|-----------|
| 750                  | 55.5                               | 0.96                            | 9.55    | 9.55    | 9.55    | 0.47               | 0.80                    | ± 12.0 %  |
| 900                  | 55.0                               | 1.05                            | 9.34    | 9.34    | 9.34    | 0.45               | 0.80                    | ± 12.0 %  |
| 1750                 | 53.4                               | 1.49                            | 7.95    | 7.95    | 7.95    | 0.40               | 0.85                    | ± 12.0 %  |
| 1900                 | 53.3                               | 1.52                            | 7.69    | 7.69    | 7.69    | 0.43               | 0.84                    | ± 12.0 %  |
| 2300                 | 52.9                               | 1.81                            | 7.43    | 7.43    | 7.43    | 0.40               | 0.86                    | ± 12.0 %  |
| 2450                 | 52.7                               | 1.95                            | 7.36    | 7.36    | 7.36    | 0.40               | 0.85                    | ± 12.0 %  |
| 2600                 | 52.5                               | 2.16                            | 7.12    | 7.12    | 7.12    | 0.22               | 0.97                    | ± 12.0 %  |
| 3500                 | 51.3                               | 3.31                            | 6.83    | 6.83    | 6.83    | 0.30               | 1.25                    | ± 13.1 %  |
| 3700                 | 51.0                               | 3.55                            | 6.52    | 6.52    | 6.52    | 0.35               | 1.25                    | ± 13.1 %  |
| 5250                 | 48.9                               | 5.36                            | 4.30    | 4.30    | 4.30    | 0.50               | 1.90                    | ± 13.1 %  |
| 5600                 | 48.5                               | 5.77                            | 3.87    | 3.87    | 3.87    | 0.50               | 1.90                    | ± 13.1 %  |
| 5750                 | 48.3                               | 5.94                            | 4.07    | 4.07    | 4.07    | 0.50               | 1.90                    | ± 13.1 %  |

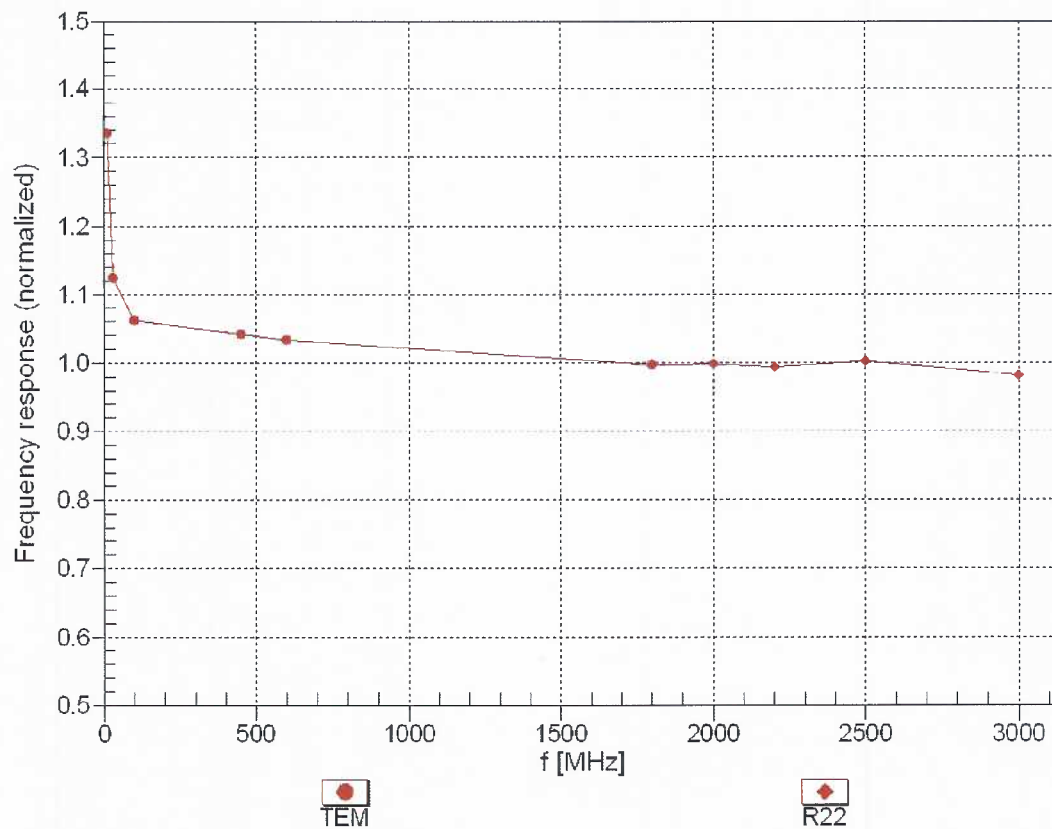
<sup>C</sup> Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Validity of ConvF assessed at 6 MHz is 4-9 MHz, and ConvF assessed at 13 MHz is 9-19 MHz. Above 5 GHz frequency validity can be extended to ± 110 MHz.

<sup>F</sup> At frequencies below 3 GHz, the validity of tissue parameters ( $\epsilon$  and  $\sigma$ ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters ( $\epsilon$  and  $\sigma$ ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

<sup>G</sup> Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

## Frequency Response of E-Field

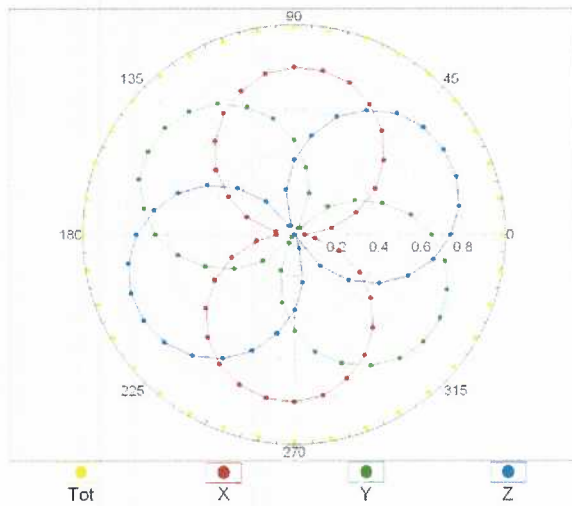
(TEM-Cell:ifi110 EXX, Waveguide: R22)



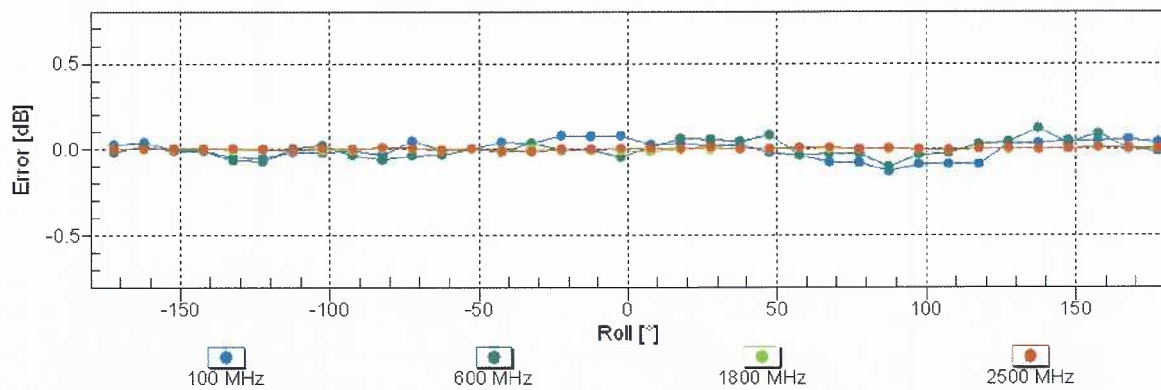
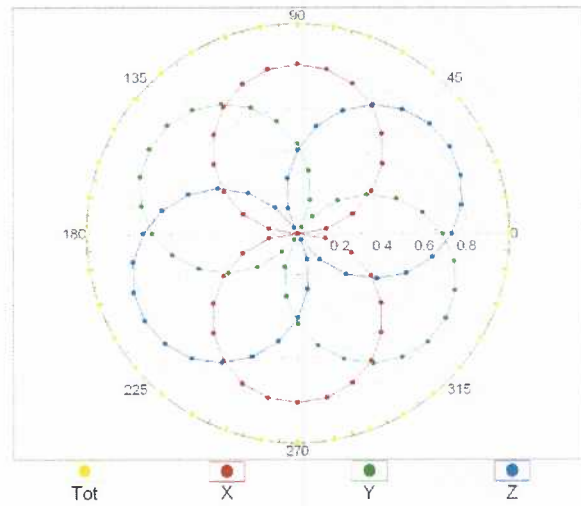
Uncertainty of Frequency Response of E-field:  $\pm 6.3\%$  ( $k=2$ )

## Receiving Pattern ( $\phi$ ), $\vartheta = 0^\circ$

f=600 MHz,TEM

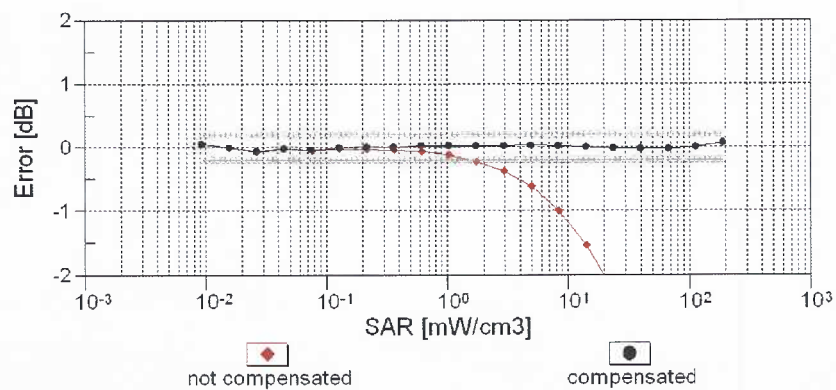
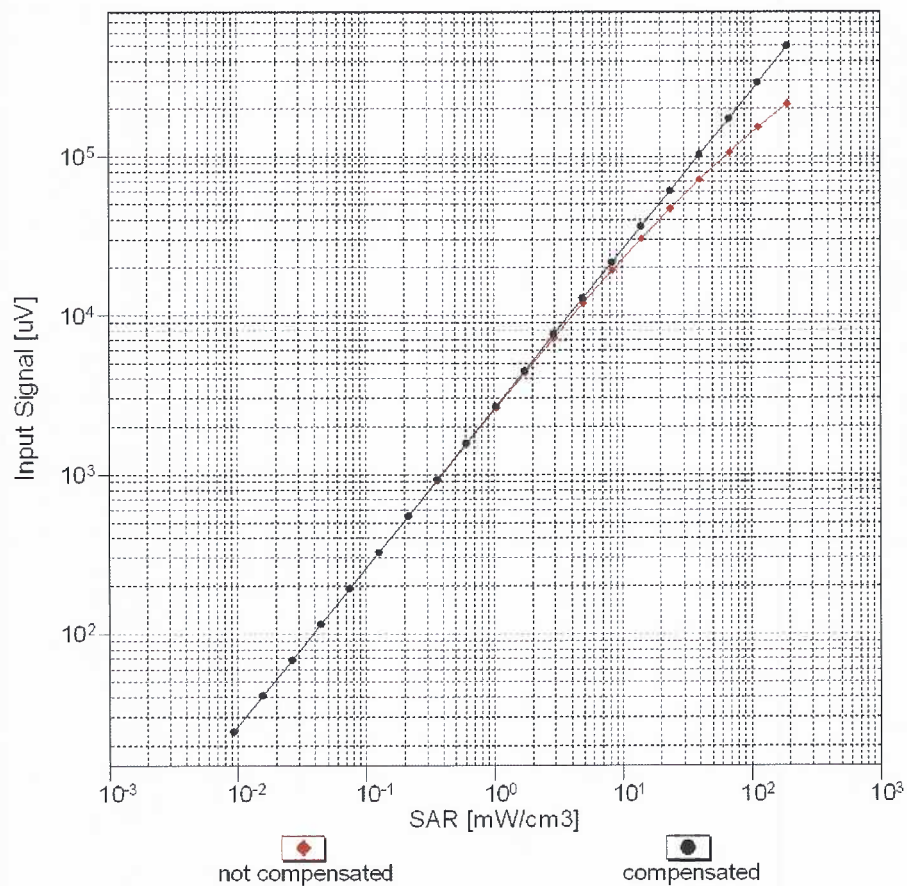


f=1800 MHz,R22



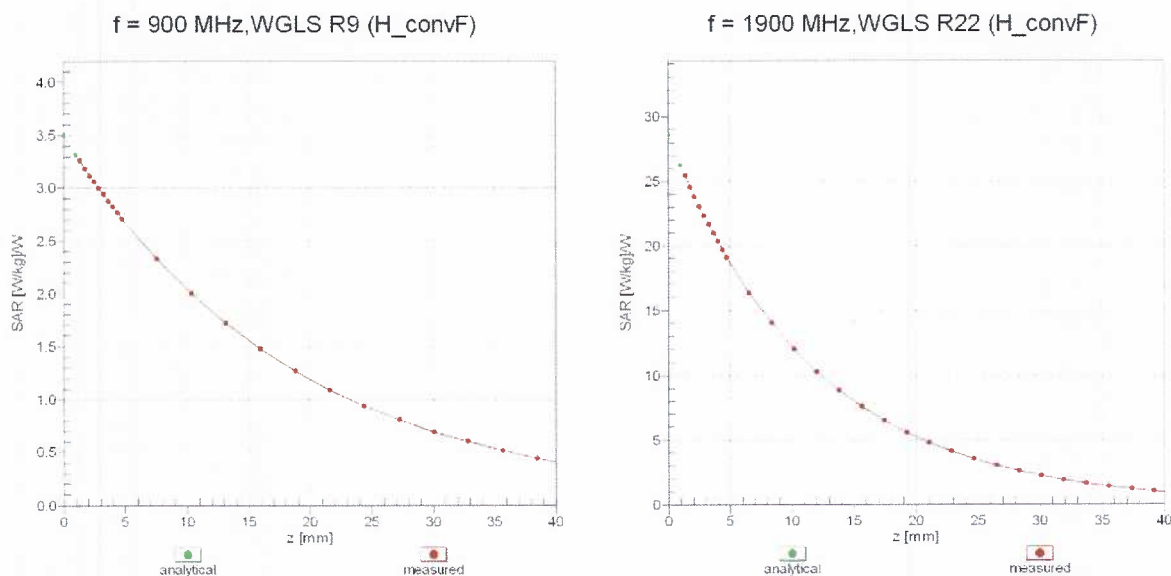
Uncertainty of Axial Isotropy Assessment:  $\pm 0.5\%$  ( $k=2$ )

# Dynamic Range $f(\text{SAR}_{\text{head}})$ (TEM cell , $f_{\text{eval}} = 1900 \text{ MHz}$ )



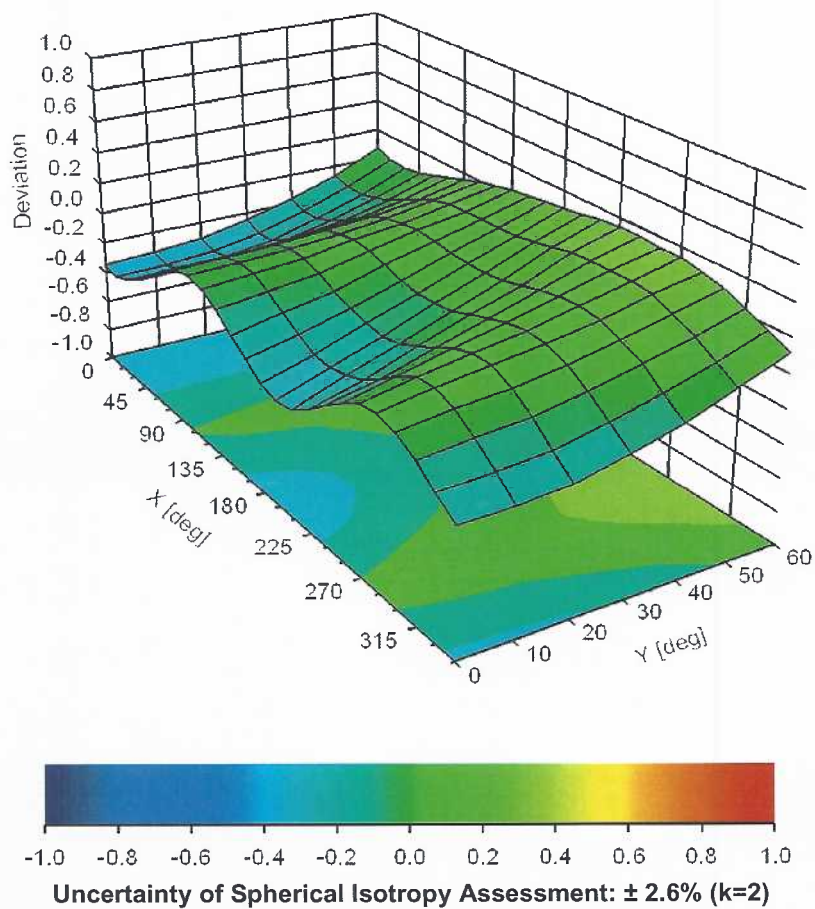
Uncertainty of Linearity Assessment:  $\pm 0.6\%$  ( $k=2$ )

## Conversion Factor Assessment



## Deviation from Isotropy in Liquid

Error ( $\phi, \theta$ ),  $f = 900 \text{ MHz}$





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Accreditation No.: **SCS 0108**

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 Multilateral Agreement for the recognition of calibration certificates

Client **RF Exposure Lab**

Certificate No: **EX3-3693\_Aug18**

## CALIBRATION CERTIFICATE

Object **EX3DV4 - SN:3693**

Calibration procedure(s) **QA CAL-01.v9, QA CAL-14.v4, QA CAL-23.v5, QA CAL-25.v6**  
**Calibration procedure for dosimetric E-field probes**

Calibration date: **August 27, 2018**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).  
 The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature ( $22 \pm 3$ )°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

| Primary Standards          | ID               | Cal Date (Certificate No.)        | Scheduled Calibration  |
|----------------------------|------------------|-----------------------------------|------------------------|
| Power meter NRP            | SN: 104778       | 04-Apr-18 (No. 217-02672/02673)   | Apr-19                 |
| Power sensor NRP-Z91       | SN: 103244       | 04-Apr-18 (No. 217-02672)         | Apr-19                 |
| Power sensor NRP-Z91       | SN: 103245       | 04-Apr-18 (No. 217-02673)         | Apr-19                 |
| Reference 20 dB Attenuator | SN: S5277 (20x)  | 04-Apr-18 (No. 217-02682)         | Apr-19                 |
| Reference Probe ES3DV2     | SN: 3013         | 30-Dec-17 (No. ES3-3013_Dec17)    | Dec-18                 |
| DAE4                       | SN: 660          | 21-Dec-17 (No. DAE4-660_Dec17)    | Dec-18                 |
| Secondary Standards        | ID               | Check Date (in house)             | Scheduled Check        |
| Power meter E4419B         | SN: GB41293874   | 06-Apr-16 (in house check Jun-18) | In house check: Jun-20 |
| Power sensor E4412A        | SN: MY41498087   | 06-Apr-16 (in house check Jun-18) | In house check: Jun-20 |
| Power sensor E4412A        | SN: 000110210    | 06-Apr-16 (in house check Jun-18) | In house check: Jun-20 |
| RF generator HP 8648C      | SN: US3642U01700 | 04-Aug-99 (in house check Jun-18) | In house check: Jun-20 |
| Network Analyzer E8358A    | SN: US41080477   | 31-Mar-14 (in house check Oct-17) | In house check: Oct-18 |

|                |                               |                                          |               |
|----------------|-------------------------------|------------------------------------------|---------------|
| Calibrated by: | Name<br><b>Jeton Kastrati</b> | Function<br><b>Laboratory Technician</b> | Signature<br> |
| Approved by:   | Name<br><b>Katja Pokovic</b>  | Technical Manager<br>                    |               |

Issued: August 30, 2018

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.



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### Glossary:

|                          |                                                                                                                                                         |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| TSL                      | tissue simulating liquid                                                                                                                                |
| NORM <sub>x,y,z</sub>    | sensitivity in free space                                                                                                                               |
| ConvF                    | sensitivity in TSL / NORM <sub>x,y,z</sub>                                                                                                              |
| DCP                      | diode compression point                                                                                                                                 |
| CF                       | crest factor (1/duty_cycle) of the RF signal                                                                                                            |
| A, B, C, D               | modulation dependent linearization parameters                                                                                                           |
| Polarization $\varphi$   | $\varphi$ rotation around probe axis                                                                                                                    |
| Polarization $\vartheta$ | $\vartheta$ rotation around an axis that is in the plane normal to probe axis (at measurement center),<br>i.e., $\vartheta = 0$ is normal to probe axis |
| Connector Angle          | information used in DASY system to align probe sensor X to the robot coordinate system                                                                  |

### Calibration is Performed According to the Following Standards:

- IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
- IEC 62209-1, "Measurement procedure for the assessment of Specific Absorption Rate (SAR) from hand-held and body-mounted devices used next to the ear (frequency range of 300 MHz to 6 GHz)", July 2016
- IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
- KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

### Methods Applied and Interpretation of Parameters:

- NORM<sub>x,y,z</sub>**: Assessed for E-field polarization  $\vartheta = 0$  ( $f \leq 900$  MHz in TEM-cell;  $f > 1800$  MHz: R22 waveguide). NORM<sub>x,y,z</sub> are only intermediate values, i.e., the uncertainties of NORM<sub>x,y,z</sub> does not affect the E<sup>2</sup>-field uncertainty inside TSL (see below *ConvF*).
- NORM(*f*)<sub>x,y,z</sub>** = NORM<sub>x,y,z</sub> \* *frequency\_response* (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of *ConvF*.
- DCP<sub>x,y,z</sub>**: DCP are numerical linearization parameters assessed based on the data of power sweep with CW signal (no uncertainty required). DCP does not depend on frequency nor media.
- PAR**: PAR is the Peak to Average Ratio that is not calibrated but determined based on the signal characteristics
- A<sub>x,y,z</sub>; B<sub>x,y,z</sub>; C<sub>x,y,z</sub>; D<sub>x,y,z</sub>; VR<sub>x,y,z</sub>**: A, B, C, D are numerical linearization parameters assessed based on the data of power sweep for specific modulation signal. The parameters do not depend on frequency nor media. VR is the maximum calibration range expressed in RMS voltage across the diode.
- ConvF and Boundary Effect Parameters**: Assessed in flat phantom using E-field (or Temperature Transfer Standard for  $f \leq 800$  MHz) and inside waveguide using analytical field distributions based on power measurements for  $f > 800$  MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to NORM<sub>x,y,z</sub> \* *ConvF* whereby the uncertainty corresponds to that given for *ConvF*. A frequency dependent *ConvF* is used in DASY version 4.4 and higher which allows extending the validity from  $\pm 50$  MHz to  $\pm 100$  MHz.
- Spherical isotropy (3D deviation from isotropy)**: in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- Sensor Offset**: The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.
- Connector Angle**: The angle is assessed using the information gained by determining the NORM<sub>x</sub> (no uncertainty required).

# Probe EX3DV4

## SN:3693

Manufactured: April 22, 2009  
Calibrated: August 27, 2018

Calibrated for DASY/EASY Systems  
(Note: non-compatible with DASY2 system!)

# DASY/EASY - Parameters of Probe: EX3DV4 - SN:3693

## Basic Calibration Parameters

|                                                           | Sensor X | Sensor Y | Sensor Z | Unc (k=2) |
|-----------------------------------------------------------|----------|----------|----------|-----------|
| Norm ( $\mu\text{V}/(\text{V}/\text{m})^2$ ) <sup>A</sup> | 0.39     | 0.30     | 0.35     | ± 10.1 %  |
| DCP (mV) <sup>B</sup>                                     | 96.9     | 97.3     | 107.3    |           |

## Modulation Calibration Parameters

| UID | Communication System Name |   | A<br>dB | B<br>dB $\sqrt{\mu\text{V}}$ | C   | D<br>dB | VR<br>mV | Unc <sup>E</sup><br>(k=2) |
|-----|---------------------------|---|---------|------------------------------|-----|---------|----------|---------------------------|
| 0   | CW                        | X | 0.0     | 0.0                          | 1.0 | 0.00    | 133.1    | ±1.7 %                    |
|     |                           | Y | 0.0     | 0.0                          | 1.0 |         | 130.6    |                           |
|     |                           | Z | 0.0     | 0.0                          | 1.0 |         | 133.5    |                           |

Note: For details on UID parameters see Appendix.

## Sensor Model Parameters

|   | C1<br>fF | C2<br>fF | $\alpha$<br>$\text{V}^{-1}$ | T1<br>$\text{ms}\cdot\text{V}^{-2}$ | T2<br>$\text{ms}\cdot\text{V}^{-1}$ | T3<br>ms | T4<br>$\text{V}^{-2}$ | T5<br>$\text{V}^{-1}$ | T6    |
|---|----------|----------|-----------------------------|-------------------------------------|-------------------------------------|----------|-----------------------|-----------------------|-------|
| X | 32.78    | 256.2    | 38.66                       | 10.42                               | 1.187                               | 5.061    | 0.000                 | 0.479                 | 1.010 |
| Y | 38.15    | 291.7    | 37.34                       | 12.40                               | 1.152                               | 4.996    | 0.986                 | 0.358                 | 1.004 |
| Z | 26.99    | 197.7    | 34.43                       | 5.333                               | 0.521                               | 5.037    | 0.437                 | 0.333                 | 1.004 |

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

<sup>A</sup> The uncertainties of Norm X,Y,Z do not affect the E<sup>2</sup>-field uncertainty inside TSL (see Pages 5 and 6).

<sup>B</sup> Numerical linearization parameter: uncertainty not required.

<sup>E</sup> Uncertainty is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.

## DASY/EASY - Parameters of Probe: EX3DV4 - SN:3693

### Calibration Parameter Determined in Head Tissue Simulating Media

| f (MHz) <sup>C</sup> | Relative Permittivity <sup>F</sup> | Conductivity (S/m) <sup>F</sup> | ConvF X | ConvF Y | ConvF Z | Alpha <sup>G</sup> | Depth <sup>G</sup> (mm) | Unc (k=2) |
|----------------------|------------------------------------|---------------------------------|---------|---------|---------|--------------------|-------------------------|-----------|
| 750                  | 41.9                               | 0.89                            | 9.64    | 9.64    | 9.64    | 0.55               | 0.84                    | ± 12.0 %  |
| 835                  | 41.5                               | 0.90                            | 9.37    | 9.37    | 9.37    | 0.37               | 0.97                    | ± 12.0 %  |
| 900                  | 41.5                               | 0.97                            | 9.16    | 9.16    | 9.16    | 0.53               | 0.80                    | ± 12.0 %  |
| 1750                 | 40.1                               | 1.37                            | 8.10    | 8.10    | 8.10    | 0.31               | 0.86                    | ± 12.0 %  |
| 1900                 | 40.0                               | 1.40                            | 7.78    | 7.78    | 7.78    | 0.28               | 0.90                    | ± 12.0 %  |
| 2300                 | 39.5                               | 1.67                            | 7.42    | 7.42    | 7.42    | 0.32               | 0.92                    | ± 12.0 %  |
| 2450                 | 39.2                               | 1.80                            | 6.95    | 6.95    | 6.95    | 0.35               | 0.92                    | ± 12.0 %  |
| 2600                 | 39.0                               | 1.96                            | 6.90    | 6.90    | 6.90    | 0.30               | 0.99                    | ± 12.0 %  |
| 5250                 | 35.9                               | 4.71                            | 4.96    | 4.96    | 4.96    | 0.40               | 1.80                    | ± 13.1 %  |
| 5600                 | 35.5                               | 5.07                            | 4.77    | 4.77    | 4.77    | 0.40               | 1.80                    | ± 13.1 %  |
| 5750                 | 35.4                               | 5.22                            | 4.67    | 4.67    | 4.67    | 0.40               | 1.80                    | ± 13.1 %  |

<sup>C</sup> Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz frequency validity can be extended to ± 110 MHz.

<sup>F</sup> At frequencies below 3 GHz, the validity of tissue parameters ( $\epsilon$  and  $\sigma$ ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters ( $\epsilon$  and  $\sigma$ ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

<sup>G</sup> Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

## DASY/EASY - Parameters of Probe: EX3DV4 - SN:3693

### Calibration Parameter Determined in Body Tissue Simulating Media

| f (MHz) <sup>C</sup> | Relative Permittivity <sup>F</sup> | Conductivity (S/m) <sup>F</sup> | ConvF X | ConvF Y | ConvF Z | Alpha <sup>G</sup> | Depth <sup>G</sup> (mm) | Unc (k=2) |
|----------------------|------------------------------------|---------------------------------|---------|---------|---------|--------------------|-------------------------|-----------|
| 750                  | 55.5                               | 0.96                            | 9.77    | 9.77    | 9.77    | 0.46               | 0.85                    | ± 12.0 %  |
| 835                  | 55.2                               | 0.97                            | 9.40    | 9.40    | 9.40    | 0.43               | 0.89                    | ± 12.0 %  |
| 900                  | 55.0                               | 1.05                            | 9.25    | 9.25    | 9.25    | 0.39               | 0.93                    | ± 12.0 %  |
| 1750                 | 53.4                               | 1.49                            | 7.77    | 7.77    | 7.77    | 0.32               | 0.89                    | ± 12.0 %  |
| 1900                 | 53.3                               | 1.52                            | 7.44    | 7.44    | 7.44    | 0.40               | 0.93                    | ± 12.0 %  |
| 2300                 | 52.9                               | 1.81                            | 7.43    | 7.43    | 7.43    | 0.40               | 0.90                    | ± 12.0 %  |
| 2450                 | 52.7                               | 1.95                            | 7.29    | 7.29    | 7.29    | 0.31               | 0.95                    | ± 12.0 %  |
| 2600                 | 52.5                               | 2.16                            | 7.13    | 7.13    | 7.13    | 0.29               | 1.05                    | ± 12.0 %  |
| 5250                 | 48.9                               | 5.36                            | 4.46    | 4.46    | 4.46    | 0.50               | 1.90                    | ± 13.1 %  |
| 5600                 | 48.5                               | 5.77                            | 3.91    | 3.91    | 3.91    | 0.50               | 1.90                    | ± 13.1 %  |
| 5750                 | 48.3                               | 5.94                            | 4.05    | 4.05    | 4.05    | 0.50               | 1.90                    | ± 13.1 %  |

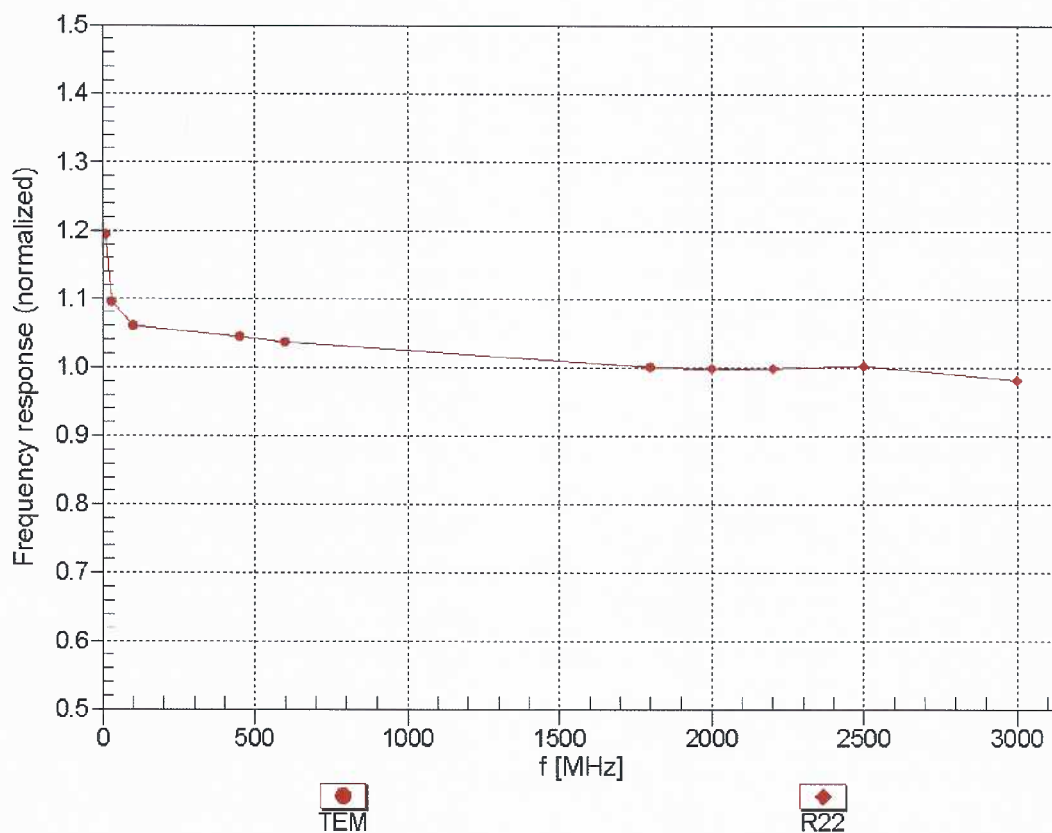
<sup>C</sup> Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz frequency validity can be extended to ± 110 MHz.

<sup>F</sup> At frequencies below 3 GHz, the validity of tissue parameters ( $\epsilon$  and  $\sigma$ ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters ( $\epsilon$  and  $\sigma$ ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

<sup>G</sup> Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

## Frequency Response of E-Field

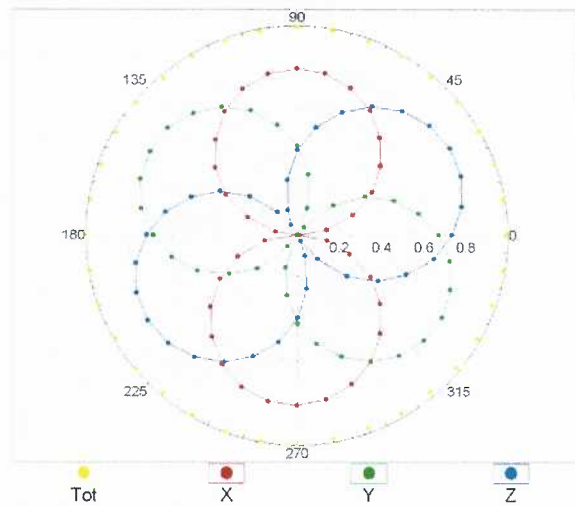
(TEM-Cell:ifi110 EXX, Waveguide: R22)



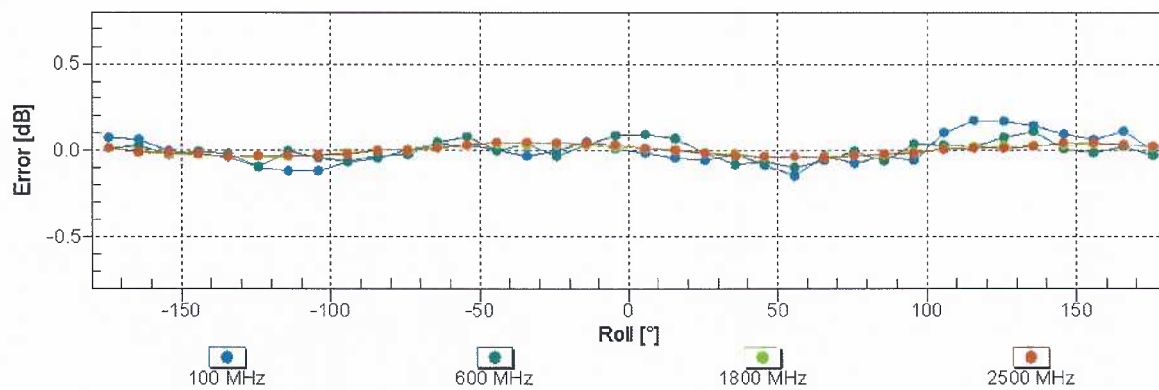
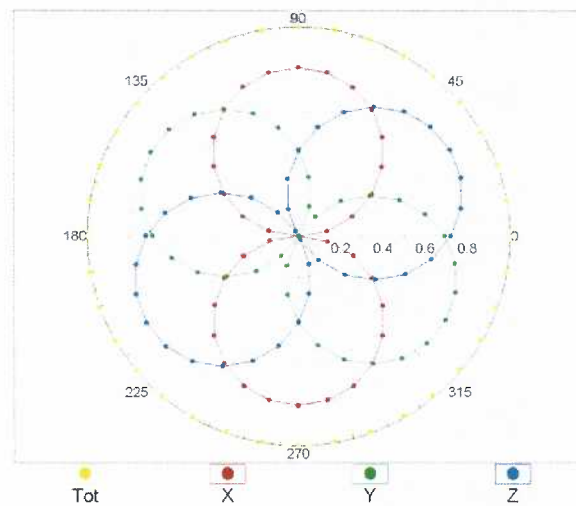
Uncertainty of Frequency Response of E-field:  $\pm 6.3\%$  ( $k=2$ )

## Receiving Pattern ( $\phi$ ), $\vartheta = 0^\circ$

f=600 MHz,TEM

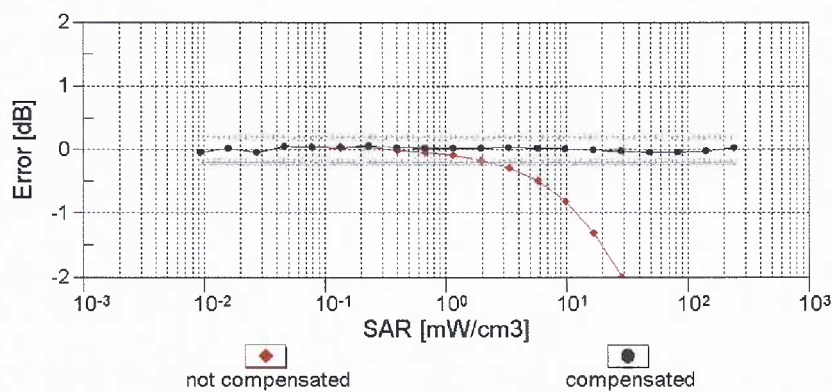
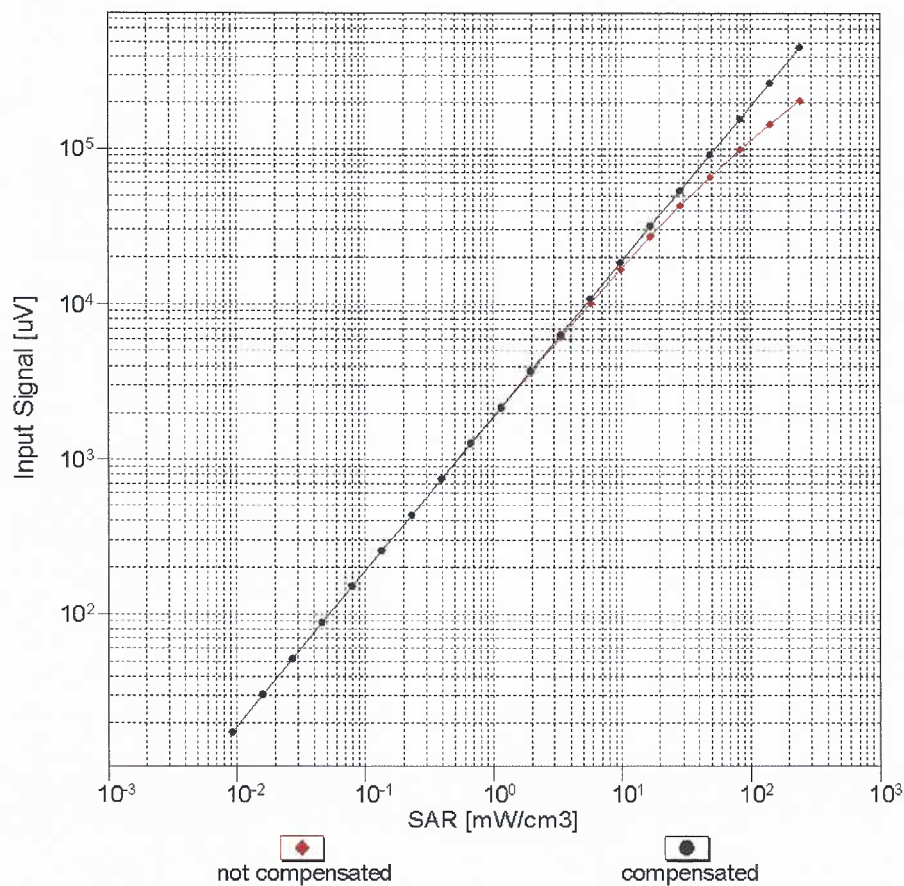


f=1800 MHz,R22



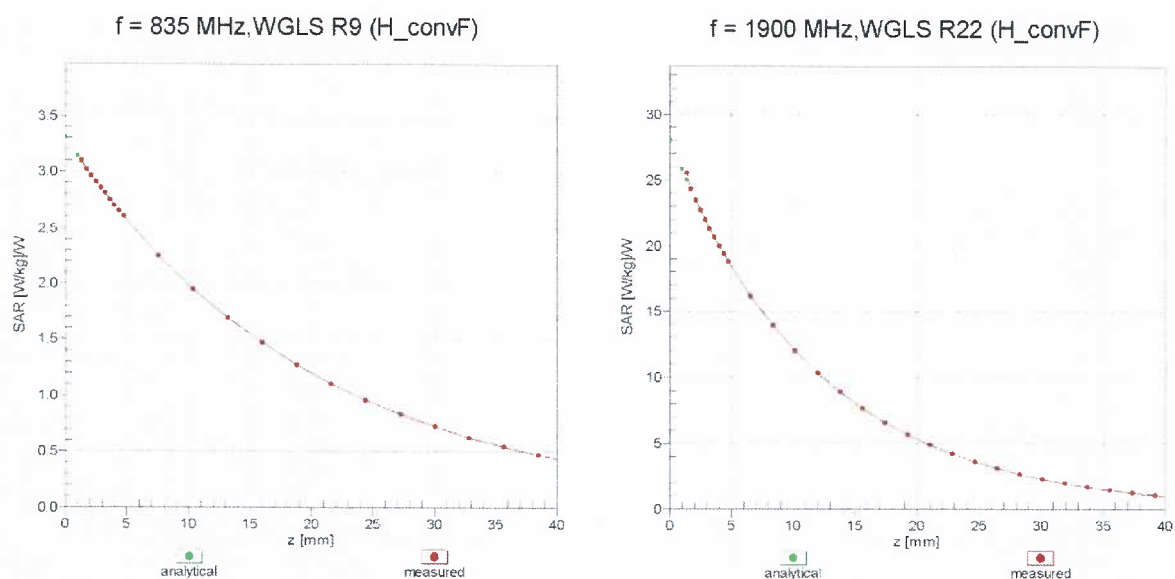
Uncertainty of Axial Isotropy Assessment:  $\pm 0.5\%$  (k=2)

## Dynamic Range $f(\text{SAR}_{\text{head}})$ (TEM cell , $f_{\text{eval}} = 1900 \text{ MHz}$ )



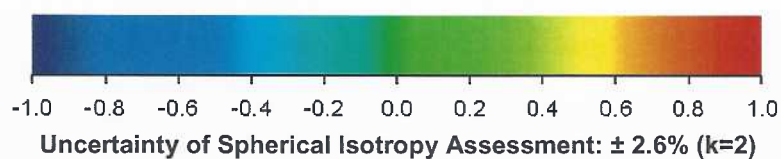
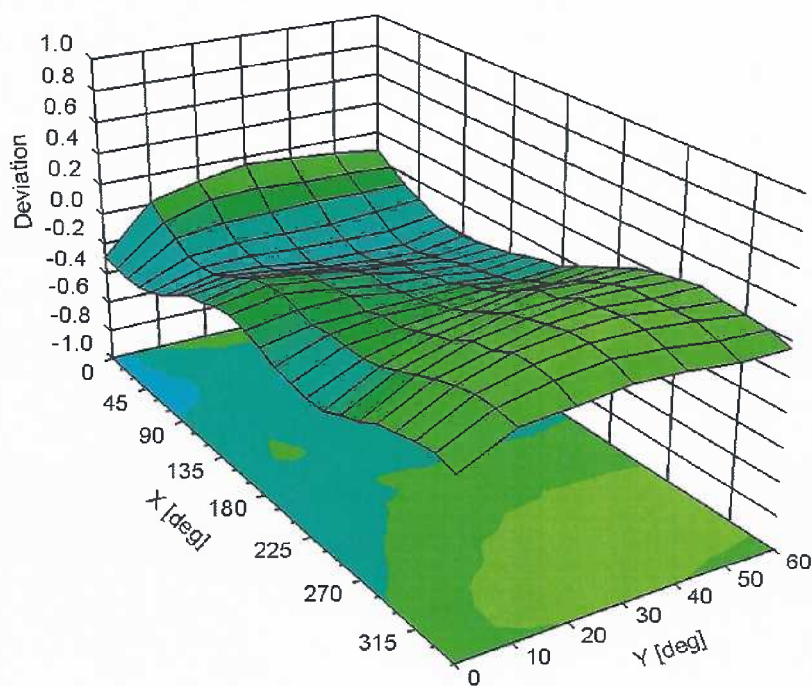
Uncertainty of Linearity Assessment:  $\pm 0.6\%$  ( $k=2$ )

## Conversion Factor Assessment



## Deviation from Isotropy in Liquid

Error ( $\phi, \theta$ ),  $f = 900 \text{ MHz}$



## DASY/EASY - Parameters of Probe: EX3DV4 - SN:3693

### Other Probe Parameters

|                                               |            |
|-----------------------------------------------|------------|
| Sensor Arrangement                            | Triangular |
| Connector Angle (°)                           | 105.7      |
| Mechanical Surface Detection Mode             | enabled    |
| Optical Surface Detection Mode                | disabled   |
| Probe Overall Length                          | 337 mm     |
| Probe Body Diameter                           | 10 mm      |
| Tip Length                                    | 9 mm       |
| Tip Diameter                                  | 2.5 mm     |
| Probe Tip to Sensor X Calibration Point       | 1 mm       |
| Probe Tip to Sensor Y Calibration Point       | 1 mm       |
| Probe Tip to Sensor Z Calibration Point       | 1 mm       |
| Recommended Measurement Distance from Surface | 1.4 mm     |

**Appendix: Modulation Calibration Parameters**

| UID           | Communication System Name                     |   | A<br>dB | B<br>dB $\sqrt{\mu V}$ | C     | D<br>dB | VR<br>mV | Max<br>Unc <sup>E</sup><br>(k=2) |
|---------------|-----------------------------------------------|---|---------|------------------------|-------|---------|----------|----------------------------------|
| 0             | CW                                            | X | 0.00    | 0.00                   | 1.00  | 0.00    | 133.1    | $\pm 1.7 \%$                     |
|               |                                               | Y | 0.00    | 0.00                   | 1.00  |         | 130.6    |                                  |
|               |                                               | Z | 0.00    | 0.00                   | 1.00  |         | 133.5    |                                  |
| 10010-<br>CAA | SAR Validation (Square, 100ms, 10ms)          | X | 2.51    | 65.57                  | 10.47 | 10.00   | 20.0     | $\pm 9.6 \%$                     |
|               |                                               | Y | 2.40    | 65.09                  | 10.16 |         | 20.0     |                                  |
|               |                                               | Z | 1.89    | 63.20                  | 8.39  |         | 20.0     |                                  |
| 10011-<br>CAB | UMTS-FDD (WCDMA)                              | X | 0.91    | 68.37                  | 14.94 | 0.00    | 150.0    | $\pm 9.6 \%$                     |
|               |                                               | Y | 1.35    | 74.07                  | 18.63 |         | 150.0    |                                  |
|               |                                               | Z | 0.82    | 66.98                  | 14.05 |         | 150.0    |                                  |
| 10012-<br>CAB | IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps)      | X | 1.06    | 64.24                  | 15.41 | 0.41    | 150.0    | $\pm 9.6 \%$                     |
|               |                                               | Y | 1.17    | 65.38                  | 16.46 |         | 150.0    |                                  |
|               |                                               | Z | 1.03    | 63.69                  | 14.73 |         | 150.0    |                                  |
| 10013-<br>CAB | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps) | X | 4.62    | 66.97                  | 17.24 | 1.46    | 150.0    | $\pm 9.6 \%$                     |
|               |                                               | Y | 4.73    | 66.91                  | 17.24 |         | 150.0    |                                  |
|               |                                               | Z | 4.44    | 66.96                  | 16.86 |         | 150.0    |                                  |
| 10021-<br>DAC | GSM-FDD (TDMA, GMSK)                          | X | 100.00  | 113.69                 | 27.59 | 9.39    | 50.0     | $\pm 9.6 \%$                     |
|               |                                               | Y | 15.92   | 88.65                  | 20.46 |         | 50.0     |                                  |
|               |                                               | Z | 100.00  | 107.55                 | 24.08 |         | 50.0     |                                  |
| 10023-<br>DAC | GPRS-FDD (TDMA, GMSK, TN 0)                   | X | 100.00  | 113.26                 | 27.45 | 9.57    | 50.0     | $\pm 9.6 \%$                     |
|               |                                               | Y | 10.59   | 83.36                  | 18.82 |         | 50.0     |                                  |
|               |                                               | Z | 35.50   | 95.64                  | 21.13 |         | 50.0     |                                  |
| 10024-<br>DAC | GPRS-FDD (TDMA, GMSK, TN 0-1)                 | X | 100.00  | 110.83                 | 25.00 | 6.56    | 60.0     | $\pm 9.6 \%$                     |
|               |                                               | Y | 100.00  | 107.89                 | 23.67 |         | 60.0     |                                  |
|               |                                               | Z | 100.00  | 105.51                 | 21.87 |         | 60.0     |                                  |
| 10025-<br>DAC | EDGE-FDD (TDMA, 8PSK, TN 0)                   | X | 3.94    | 66.80                  | 23.64 | 12.57   | 50.0     | $\pm 9.6 \%$                     |
|               |                                               | Y | 4.42    | 70.18                  | 25.25 |         | 50.0     |                                  |
|               |                                               | Z | 3.29    | 63.55                  | 21.61 |         | 50.0     |                                  |
| 10026-<br>DAC | EDGE-FDD (TDMA, 8PSK, TN 0-1)                 | X | 8.10    | 88.70                  | 31.28 | 9.56    | 60.0     | $\pm 9.6 \%$                     |
|               |                                               | Y | 8.90    | 90.14                  | 31.40 |         | 60.0     |                                  |
|               |                                               | Z | 5.79    | 82.38                  | 28.74 |         | 60.0     |                                  |
| 10027-<br>DAC | GPRS-FDD (TDMA, GMSK, TN 0-1-2)               | X | 100.00  | 109.25                 | 23.40 | 4.80    | 80.0     | $\pm 9.6 \%$                     |
|               |                                               | Y | 100.00  | 106.54                 | 22.28 |         | 80.0     |                                  |
|               |                                               | Z | 100.00  | 104.71                 | 20.66 |         | 80.0     |                                  |
| 10028-<br>DAC | GPRS-FDD (TDMA, GMSK, TN 0-1-2-3)             | X | 100.00  | 107.37                 | 21.81 | 3.55    | 100.0    | $\pm 9.6 \%$                     |
|               |                                               | Y | 100.00  | 106.10                 | 21.41 |         | 100.0    |                                  |
|               |                                               | Z | 100.00  | 103.48                 | 19.41 |         | 100.0    |                                  |
| 10029-<br>DAC | EDGE-FDD (TDMA, 8PSK, TN 0-1-2)               | X | 5.40    | 80.16                  | 26.89 | 7.80    | 80.0     | $\pm 9.6 \%$                     |
|               |                                               | Y | 5.81    | 81.12                  | 26.89 |         | 80.0     |                                  |
|               |                                               | Z | 3.99    | 74.82                  | 24.51 |         | 80.0     |                                  |
| 10030-<br>CAA | IEEE 802.15.1 Bluetooth (GFSK, DH1)           | X | 100.00  | 107.75                 | 23.04 | 5.30    | 70.0     | $\pm 9.6 \%$                     |
|               |                                               | Y | 100.00  | 105.38                 | 22.04 |         | 70.0     |                                  |
|               |                                               | Z | 100.00  | 102.15                 | 19.84 |         | 70.0     |                                  |
| 10031-<br>CAA | IEEE 802.15.1 Bluetooth (GFSK, DH3)           | X | 0.32    | 60.24                  | 5.01  | 1.88    | 100.0    | $\pm 9.6 \%$                     |
|               |                                               | Y | 100.00  | 98.91                  | 17.16 |         | 100.0    |                                  |
|               |                                               | Z | 0.21    | 60.00                  | 4.08  |         | 100.0    |                                  |

|           |                                                     |   |        |        |       |       |       |         |
|-----------|-----------------------------------------------------|---|--------|--------|-------|-------|-------|---------|
| 10032-CAA | IEEE 802.15.1 Bluetooth (GFSK, DH5)                 | X | 49.70  | 283.71 | 16.38 | 1.17  | 100.0 | ± 9.6 % |
|           |                                                     | Y | 100.00 | 94.28  | 14.55 |       | 100.0 |         |
|           |                                                     | Z | 21.39  | 60.54  | 1.42  |       | 100.0 |         |
| 10033-CAA | IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH1)           | X | 10.55  | 88.91  | 21.86 | 5.30  | 70.0  | ± 9.6 % |
|           |                                                     | Y | 7.04   | 83.33  | 20.28 |       | 70.0  |         |
|           |                                                     | Z | 5.31   | 79.96  | 17.86 |       | 70.0  |         |
| 10034-CAA | IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH3)           | X | 1.97   | 70.15  | 12.93 | 1.88  | 100.0 | ± 9.6 % |
|           |                                                     | Y | 3.62   | 77.97  | 16.97 |       | 100.0 |         |
|           |                                                     | Z | 1.05   | 64.71  | 9.63  |       | 100.0 |         |
| 10035-CAA | IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH5)           | X | 1.21   | 66.21  | 10.77 | 1.17  | 100.0 | ± 9.6 % |
|           |                                                     | Y | 2.71   | 75.92  | 16.05 |       | 100.0 |         |
|           |                                                     | Z | 0.74   | 62.66  | 8.21  |       | 100.0 |         |
| 10036-CAA | IEEE 802.15.1 Bluetooth (8-DPSK, DH1)               | X | 16.37  | 95.16  | 23.78 | 5.30  | 70.0  | ± 9.6 % |
|           |                                                     | Y | 9.05   | 87.03  | 21.55 |       | 70.0  |         |
|           |                                                     | Z | 7.29   | 84.15  | 19.32 |       | 70.0  |         |
| 10037-CAA | IEEE 802.15.1 Bluetooth (8-DPSK, DH3)               | X | 1.77   | 69.16  | 12.52 | 1.88  | 100.0 | ± 9.6 % |
|           |                                                     | Y | 3.14   | 76.38  | 16.39 |       | 100.0 |         |
|           |                                                     | Z | 0.98   | 64.10  | 9.34  |       | 100.0 |         |
| 10038-CAA | IEEE 802.15.1 Bluetooth (8-DPSK, DH5)               | X | 1.24   | 66.70  | 11.11 | 1.17  | 100.0 | ± 9.6 % |
|           |                                                     | Y | 2.88   | 76.97  | 16.58 |       | 100.0 |         |
|           |                                                     | Z | 0.76   | 62.89  | 8.45  |       | 100.0 |         |
| 10039-CAB | CDMA2000 (1xRTT, RC1)                               | X | 0.64   | 62.07  | 7.96  | 0.00  | 150.0 | ± 9.6 % |
|           |                                                     | Y | 4.76   | 84.60  | 18.89 |       | 150.0 |         |
|           |                                                     | Z | 0.45   | 60.19  | 6.19  |       | 150.0 |         |
| 10042-CAB | IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Halfrate) | X | 100.00 | 108.14 | 24.10 | 7.78  | 50.0  | ± 9.6 % |
|           |                                                     | Y | 8.20   | 80.05  | 16.33 |       | 50.0  |         |
|           |                                                     | Z | 9.72   | 81.12  | 15.57 |       | 50.0  |         |
| 10044-CAA | IS-91/EIA/TIA-553 FDD (FDMA, FM)                    | X | 0.00   | 65.80  | 22.18 | 0.00  | 150.0 | ± 9.6 % |
|           |                                                     | Y | 0.05   | 126.22 | 5.06  |       | 150.0 |         |
|           |                                                     | Z | 0.16   | 126.88 | 0.43  |       | 150.0 |         |
| 10048-CAA | DECT (TDD, TDMA/FDM, GFSK, Full Slot, 24)           | X | 10.50  | 80.73  | 19.78 | 13.80 | 25.0  | ± 9.6 % |
|           |                                                     | Y | 6.27   | 73.47  | 16.77 |       | 25.0  |         |
|           |                                                     | Z | 6.57   | 72.48  | 15.23 |       | 25.0  |         |
| 10049-CAA | DECT (TDD, TDMA/FDM, GFSK, Double Slot, 12)         | X | 13.23  | 86.11  | 20.42 | 10.79 | 40.0  | ± 9.6 % |
|           |                                                     | Y | 6.76   | 76.65  | 16.75 |       | 40.0  |         |
|           |                                                     | Z | 6.92   | 76.03  | 15.42 |       | 40.0  |         |
| 10056-CAA | UMTS-TDD (TD-SCDMA, 1.28 Mcps)                      | X | 12.01  | 87.16  | 22.22 | 9.03  | 50.0  | ± 9.6 % |
|           |                                                     | Y | 8.86   | 82.28  | 20.46 |       | 50.0  |         |
|           |                                                     | Z | 10.91  | 84.91  | 20.22 |       | 50.0  |         |
| 10058-DAC | EDGE-FDD (TDMA, 8PSK, TN 0-1-2-3)                   | X | 4.26   | 75.92  | 24.41 | 6.55  | 100.0 | ± 9.6 % |
|           |                                                     | Y | 4.53   | 76.62  | 24.38 |       | 100.0 |         |
|           |                                                     | Z | 3.28   | 71.52  | 22.33 |       | 100.0 |         |
| 10059-CAB | IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps)            | X | 1.12   | 65.70  | 16.18 | 0.61  | 110.0 | ± 9.6 % |
|           |                                                     | Y | 1.24   | 66.83  | 17.14 |       | 110.0 |         |
|           |                                                     | Z | 1.04   | 64.56  | 15.22 |       | 110.0 |         |
| 10060-CAB | IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps)          | X | 100.00 | 134.39 | 33.58 | 1.30  | 110.0 | ± 9.6 % |
|           |                                                     | Y | 100.00 | 136.71 | 34.87 |       | 110.0 |         |
|           |                                                     | Z | 12.40  | 108.39 | 28.07 |       | 110.0 |         |

|           |                                                |   |      |       |       |      |       |         |
|-----------|------------------------------------------------|---|------|-------|-------|------|-------|---------|
| 10061-CAB | IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps)      | X | 4.70 | 89.70 | 25.19 | 2.04 | 110.0 | ± 9.6 % |
|           |                                                | Y | 4.44 | 87.85 | 24.54 |      | 110.0 |         |
|           |                                                | Z | 2.03 | 77.34 | 20.69 |      | 110.0 |         |
| 10062-CAC | IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps)       | X | 4.38 | 66.79 | 16.57 | 0.49 | 100.0 | ± 9.6 % |
|           |                                                | Y | 4.54 | 66.95 | 16.76 |      | 100.0 |         |
|           |                                                | Z | 4.22 | 66.86 | 16.25 |      | 100.0 |         |
| 10063-CAC | IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps)       | X | 4.41 | 66.93 | 16.69 | 0.72 | 100.0 | ± 9.6 % |
|           |                                                | Y | 4.56 | 67.04 | 16.83 |      | 100.0 |         |
|           |                                                | Z | 4.24 | 66.98 | 16.36 |      | 100.0 |         |
| 10064-CAC | IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps)      | X | 4.64 | 67.13 | 16.89 | 0.86 | 100.0 | ± 9.6 % |
|           |                                                | Y | 4.80 | 67.21 | 17.01 |      | 100.0 |         |
|           |                                                | Z | 4.45 | 67.14 | 16.54 |      | 100.0 |         |
| 10065-CAC | IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps)      | X | 4.53 | 67.01 | 16.99 | 1.21 | 100.0 | ± 9.6 % |
|           |                                                | Y | 4.68 | 67.08 | 17.07 |      | 100.0 |         |
|           |                                                | Z | 4.33 | 66.96 | 16.60 |      | 100.0 |         |
| 10066-CAC | IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps)      | X | 4.55 | 67.05 | 17.17 | 1.46 | 100.0 | ± 9.6 % |
|           |                                                | Y | 4.69 | 67.08 | 17.21 |      | 100.0 |         |
|           |                                                | Z | 4.34 | 66.93 | 16.73 |      | 100.0 |         |
| 10067-CAC | IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps)      | X | 4.86 | 67.41 | 17.69 | 2.04 | 100.0 | ± 9.6 % |
|           |                                                | Y | 4.98 | 67.30 | 17.64 |      | 100.0 |         |
|           |                                                | Z | 4.60 | 67.16 | 17.18 |      | 100.0 |         |
| 10068-CAC | IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps)      | X | 4.91 | 67.37 | 17.88 | 2.55 | 100.0 | ± 9.6 % |
|           |                                                | Y | 5.01 | 67.22 | 17.78 |      | 100.0 |         |
|           |                                                | Z | 4.67 | 67.20 | 17.41 |      | 100.0 |         |
| 10069-CAC | IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps)      | X | 4.98 | 67.41 | 18.07 | 2.67 | 100.0 | ± 9.6 % |
|           |                                                | Y | 5.09 | 67.26 | 17.97 |      | 100.0 |         |
|           |                                                | Z | 4.70 | 67.15 | 17.55 |      | 100.0 |         |
| 10071-CAB | IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 9 Mbps)  | X | 4.74 | 67.09 | 17.56 | 1.99 | 100.0 | ± 9.6 % |
|           |                                                | Y | 4.83 | 66.96 | 17.50 |      | 100.0 |         |
|           |                                                | Z | 4.54 | 67.04 | 17.16 |      | 100.0 |         |
| 10072-CAB | IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 12 Mbps) | X | 4.71 | 67.40 | 17.79 | 2.30 | 100.0 | ± 9.6 % |
|           |                                                | Y | 4.80 | 67.26 | 17.69 |      | 100.0 |         |
|           |                                                | Z | 4.48 | 67.21 | 17.32 |      | 100.0 |         |
| 10073-CAB | IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 18 Mbps) | X | 4.81 | 67.70 | 18.18 | 2.83 | 100.0 | ± 9.6 % |
|           |                                                | Y | 4.87 | 67.45 | 18.00 |      | 100.0 |         |
|           |                                                | Z | 4.56 | 67.46 | 17.69 |      | 100.0 |         |
| 10074-CAB | IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 24 Mbps) | X | 4.84 | 67.73 | 18.37 | 3.30 | 100.0 | ± 9.6 % |
|           |                                                | Y | 4.88 | 67.39 | 18.13 |      | 100.0 |         |
|           |                                                | Z | 4.59 | 67.52 | 17.89 |      | 100.0 |         |
| 10075-CAB | IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 36 Mbps) | X | 4.89 | 67.79 | 18.64 | 3.82 | 90.0  | ± 9.6 % |
|           |                                                | Y | 4.92 | 67.45 | 18.38 |      | 90.0  |         |
|           |                                                | Z | 4.63 | 67.54 | 18.14 |      | 90.0  |         |
| 10076-CAB | IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 48 Mbps) | X | 4.95 | 67.71 | 18.84 | 4.15 | 90.0  | ± 9.6 % |
|           |                                                | Y | 4.96 | 67.32 | 18.54 |      | 90.0  |         |
|           |                                                | Z | 4.68 | 67.42 | 18.31 |      | 90.0  |         |
| 10077-CAB | IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 54 Mbps) | X | 4.99 | 67.84 | 18.96 | 4.30 | 90.0  | ± 9.6 % |
|           |                                                | Y | 5.00 | 67.42 | 18.65 |      | 90.0  |         |
|           |                                                | Z | 4.72 | 67.54 | 18.44 |      | 90.0  |         |

|           |                                                     |   |        |        |       |      |       |         |
|-----------|-----------------------------------------------------|---|--------|--------|-------|------|-------|---------|
| 10081-CAB | CDMA2000 (1xRTT, RC3)                               | X | 0.35   | 60.00  | 5.91  | 0.00 | 150.0 | ± 9.6 % |
|           |                                                     | Y | 0.93   | 68.99  | 12.63 |      | 150.0 |         |
|           |                                                     | Z | 0.31   | 60.00  | 5.31  |      | 150.0 |         |
| 10082-CAB | IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Fullrate) | X | 0.74   | 60.00  | 4.42  | 4.77 | 80.0  | ± 9.6 % |
|           |                                                     | Y | 0.78   | 60.00  | 4.54  |      | 80.0  |         |
|           |                                                     | Z | 0.63   | 60.00  | 3.21  |      | 80.0  |         |
| 10090-DAC | GPRS-FDD (TDMA, GMSK, TN 0-4)                       | X | 100.00 | 110.96 | 25.08 | 6.56 | 60.0  | ± 9.6 % |
|           |                                                     | Y | 100.00 | 107.95 | 23.71 |      | 60.0  |         |
|           |                                                     | Z | 100.00 | 105.61 | 21.93 |      | 60.0  |         |
| 10097-CAB | UMTS-FDD (HSDPA)                                    | X | 1.73   | 68.88  | 15.45 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                     | Y | 2.11   | 71.60  | 17.53 |      | 150.0 |         |
|           |                                                     | Z | 1.64   | 68.63  | 14.86 |      | 150.0 |         |
| 10098-CAB | UMTS-FDD (HSUPA, Subtest 2)                         | X | 1.69   | 68.83  | 15.43 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                     | Y | 2.06   | 71.60  | 17.53 |      | 150.0 |         |
|           |                                                     | Z | 1.60   | 68.55  | 14.84 |      | 150.0 |         |
| 10099-DAC | EDGE-FDD (TDMA, 8PSK, TN 0-4)                       | X | 8.15   | 88.80  | 31.31 | 9.56 | 60.0  | ± 9.6 % |
|           |                                                     | Y | 8.95   | 90.21  | 31.41 |      | 60.0  |         |
|           |                                                     | Z | 5.83   | 82.50  | 28.78 |      | 60.0  |         |
| 10100-CAE | LTE-FDD (SC-FDMA, 100% RB, 20 MHz, QPSK)            | X | 2.86   | 70.20  | 16.73 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                     | Y | 3.31   | 72.31  | 17.94 |      | 150.0 |         |
|           |                                                     | Z | 2.70   | 69.79  | 16.38 |      | 150.0 |         |
| 10101-CAE | LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)          | X | 2.97   | 67.29  | 15.87 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                     | Y | 3.22   | 68.29  | 16.58 |      | 150.0 |         |
|           |                                                     | Z | 2.86   | 67.20  | 15.57 |      | 150.0 |         |
| 10102-CAE | LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)          | X | 3.08   | 67.33  | 16.00 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                     | Y | 3.32   | 68.25  | 16.66 |      | 150.0 |         |
|           |                                                     | Z | 2.97   | 67.28  | 15.71 |      | 150.0 |         |
| 10103-CAF | LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK)            | X | 5.99   | 75.93  | 20.73 | 3.98 | 65.0  | ± 9.6 % |
|           |                                                     | Y | 6.07   | 75.29  | 20.20 |      | 65.0  |         |
|           |                                                     | Z | 4.92   | 73.90  | 19.72 |      | 65.0  |         |
| 10104-CAF | LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)          | X | 5.78   | 73.18  | 20.28 | 3.98 | 65.0  | ± 9.6 % |
|           |                                                     | Y | 6.05   | 73.33  | 20.14 |      | 65.0  |         |
|           |                                                     | Z | 4.95   | 71.50  | 19.26 |      | 65.0  |         |
| 10105-CAF | LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)          | X | 5.44   | 71.81  | 19.96 | 3.98 | 65.0  | ± 9.6 % |
|           |                                                     | Y | 5.66   | 71.91  | 19.81 |      | 65.0  |         |
|           |                                                     | Z | 4.62   | 69.93  | 18.84 |      | 65.0  |         |
| 10108-CAF | LTE-FDD (SC-FDMA, 100% RB, 10 MHz, QPSK)            | X | 2.46   | 69.75  | 16.61 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                     | Y | 2.87   | 71.83  | 17.90 |      | 150.0 |         |
|           |                                                     | Z | 2.29   | 69.26  | 16.18 |      | 150.0 |         |
| 10109-CAF | LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)          | X | 2.61   | 67.38  | 15.71 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                     | Y | 2.88   | 68.51  | 16.60 |      | 150.0 |         |
|           |                                                     | Z | 2.50   | 67.30  | 15.35 |      | 150.0 |         |
| 10110-CAF | LTE-FDD (SC-FDMA, 100% RB, 5 MHz, QPSK)             | X | 1.94   | 69.06  | 15.97 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                     | Y | 2.36   | 71.54  | 17.68 |      | 150.0 |         |
|           |                                                     | Z | 1.77   | 68.41  | 15.33 |      | 150.0 |         |
| 10111-CAF | LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)           | X | 2.37   | 68.86  | 15.85 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                     | Y | 2.75   | 70.67  | 17.33 |      | 150.0 |         |
|           |                                                     | Z | 2.26   | 68.83  | 15.37 |      | 150.0 |         |

|           |                                                |   |      |       |       |      |       |         |
|-----------|------------------------------------------------|---|------|-------|-------|------|-------|---------|
| 10112-CAF | LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)     | X | 2.74 | 67.47 | 15.80 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                | Y | 3.01 | 68.49 | 16.64 |      | 150.0 |         |
|           |                                                | Z | 2.63 | 67.46 | 15.47 |      | 150.0 |         |
| 10113-CAF | LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)      | X | 2.52 | 69.06 | 16.02 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                | Y | 2.90 | 70.76 | 17.42 |      | 150.0 |         |
|           |                                                | Z | 2.40 | 69.05 | 15.53 |      | 150.0 |         |
| 10114-CAC | IEEE 802.11n (HT Greenfield, 13.5 Mbps, BPSK)  | X | 4.85 | 67.10 | 16.54 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                | Y | 5.01 | 67.40 | 16.77 |      | 150.0 |         |
|           |                                                | Z | 4.69 | 67.08 | 16.26 |      | 150.0 |         |
| 10115-CAC | IEEE 802.11n (HT Greenfield, 81 Mbps, 16-QAM)  | X | 5.09 | 67.17 | 16.57 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                | Y | 5.27 | 67.46 | 16.79 |      | 150.0 |         |
|           |                                                | Z | 4.91 | 67.15 | 16.27 |      | 150.0 |         |
| 10116-CAC | IEEE 802.11n (HT Greenfield, 135 Mbps, 64-QAM) | X | 4.92 | 67.25 | 16.54 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                | Y | 5.11 | 67.62 | 16.80 |      | 150.0 |         |
|           |                                                | Z | 4.75 | 67.24 | 16.26 |      | 150.0 |         |
| 10117-CAC | IEEE 802.11n (HT Mixed, 13.5 Mbps, BPSK)       | X | 4.82 | 66.96 | 16.49 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                | Y | 5.00 | 67.35 | 16.76 |      | 150.0 |         |
|           |                                                | Z | 4.67 | 66.99 | 16.23 |      | 150.0 |         |
| 10118-CAC | IEEE 802.11n (HT Mixed, 81 Mbps, 16-QAM)       | X | 5.18 | 67.44 | 16.71 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                | Y | 5.35 | 67.70 | 16.92 |      | 150.0 |         |
|           |                                                | Z | 4.97 | 67.29 | 16.35 |      | 150.0 |         |
| 10119-CAC | IEEE 802.11n (HT Mixed, 135 Mbps, 64-QAM)      | X | 4.93 | 67.30 | 16.57 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                | Y | 5.10 | 67.61 | 16.81 |      | 150.0 |         |
|           |                                                | Z | 4.76 | 67.27 | 16.28 |      | 150.0 |         |
| 10140-CAE | LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)     | X | 3.09 | 67.34 | 15.89 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                | Y | 3.34 | 68.25 | 16.56 |      | 150.0 |         |
|           |                                                | Z | 2.97 | 67.29 | 15.60 |      | 150.0 |         |
| 10141-CAE | LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)     | X | 3.22 | 67.55 | 16.12 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                | Y | 3.47 | 68.39 | 16.75 |      | 150.0 |         |
|           |                                                | Z | 3.11 | 67.58 | 15.86 |      | 150.0 |         |
| 10142-CAE | LTE-FDD (SC-FDMA, 100% RB, 3 MHz, QPSK)        | X | 1.65 | 68.54 | 14.75 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                | Y | 2.23 | 72.50 | 17.47 |      | 150.0 |         |
|           |                                                | Z | 1.45 | 67.51 | 13.76 |      | 150.0 |         |
| 10143-CAE | LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)      | X | 2.04 | 68.18 | 14.12 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                | Y | 2.77 | 72.39 | 17.05 |      | 150.0 |         |
|           |                                                | Z | 1.79 | 67.15 | 12.96 |      | 150.0 |         |
| 10144-CAE | LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)      | X | 1.68 | 64.77 | 11.84 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                | Y | 2.17 | 67.69 | 14.28 |      | 150.0 |         |
|           |                                                | Z | 1.45 | 63.78 | 10.64 |      | 150.0 |         |
| 10145-CAF | LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)      | X | 0.57 | 60.00 | 5.87  | 0.00 | 150.0 | ± 9.6 % |
|           |                                                | Y | 0.86 | 62.73 | 9.11  |      | 150.0 |         |
|           |                                                | Z | 0.48 | 60.00 | 5.03  |      | 150.0 |         |
| 10146-CAF | LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)    | X | 0.85 | 60.00 | 5.89  | 0.00 | 150.0 | ± 9.6 % |
|           |                                                | Y | 1.15 | 61.47 | 7.56  |      | 150.0 |         |
|           |                                                | Z | 0.69 | 60.00 | 4.71  |      | 150.0 |         |
| 10147-CAF | LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)    | X | 0.86 | 60.00 | 5.95  | 0.00 | 150.0 | ± 9.6 % |
|           |                                                | Y | 1.22 | 62.00 | 7.94  |      | 150.0 |         |
|           |                                                | Z | 0.70 | 60.00 | 4.76  |      | 150.0 |         |

|           |                                            |   |      |       |       |      |       |         |
|-----------|--------------------------------------------|---|------|-------|-------|------|-------|---------|
| 10149-CAE | LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)  | X | 2.62 | 67.46 | 15.77 | 0.00 | 150.0 | ± 9.6 % |
|           |                                            | Y | 2.89 | 68.60 | 16.66 |      | 150.0 |         |
|           |                                            | Z | 2.51 | 67.39 | 15.41 |      | 150.0 |         |
| 10150-CAE | LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)  | X | 2.75 | 67.54 | 15.86 | 0.00 | 150.0 | ± 9.6 % |
|           |                                            | Y | 3.02 | 68.57 | 16.69 |      | 150.0 |         |
|           |                                            | Z | 2.64 | 67.55 | 15.53 |      | 150.0 |         |
| 10151-CAF | LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK)    | X | 6.60 | 79.47 | 22.11 | 3.98 | 65.0  | ± 9.6 % |
|           |                                            | Y | 6.59 | 78.37 | 21.43 |      | 65.0  |         |
|           |                                            | Z | 5.32 | 77.23 | 21.01 |      | 65.0  |         |
| 10152-CAF | LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)  | X | 5.33 | 73.23 | 19.77 | 3.98 | 65.0  | ± 9.6 % |
|           |                                            | Y | 5.58 | 73.27 | 19.68 |      | 65.0  |         |
|           |                                            | Z | 4.46 | 71.33 | 18.57 |      | 65.0  |         |
| 10153-CAF | LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)  | X | 5.80 | 74.65 | 20.79 | 3.98 | 65.0  | ± 9.6 % |
|           |                                            | Y | 6.01 | 74.50 | 20.60 |      | 65.0  |         |
|           |                                            | Z | 4.89 | 72.87 | 19.68 |      | 65.0  |         |
| 10154-CAF | LTE-FDD (SC-FDMA, 50% RB, 10 MHz, QPSK)    | X | 1.99 | 69.55 | 16.25 | 0.00 | 150.0 | ± 9.6 % |
|           |                                            | Y | 2.44 | 72.19 | 18.04 |      | 150.0 |         |
|           |                                            | Z | 1.82 | 68.87 | 15.60 |      | 150.0 |         |
| 10155-CAF | LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)  | X | 2.38 | 68.92 | 15.90 | 0.00 | 150.0 | ± 9.6 % |
|           |                                            | Y | 2.75 | 70.72 | 17.36 |      | 150.0 |         |
|           |                                            | Z | 2.27 | 68.91 | 15.43 |      | 150.0 |         |
| 10156-CAF | LTE-FDD (SC-FDMA, 50% RB, 5 MHz, QPSK)     | X | 1.40 | 67.46 | 13.55 | 0.00 | 150.0 | ± 9.6 % |
|           |                                            | Y | 2.14 | 73.17 | 17.29 |      | 150.0 |         |
|           |                                            | Z | 1.18 | 66.04 | 12.26 |      | 150.0 |         |
| 10157-CAF | LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)   | X | 1.42 | 64.20 | 10.93 | 0.00 | 150.0 | ± 9.6 % |
|           |                                            | Y | 2.05 | 68.56 | 14.27 |      | 150.0 |         |
|           |                                            | Z | 1.16 | 62.82 | 9.46  |      | 150.0 |         |
| 10158-CAF | LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)  | X | 2.53 | 69.18 | 16.09 | 0.00 | 150.0 | ± 9.6 % |
|           |                                            | Y | 2.91 | 70.88 | 17.49 |      | 150.0 |         |
|           |                                            | Z | 2.41 | 69.20 | 15.62 |      | 150.0 |         |
| 10159-CAF | LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)   | X | 1.47 | 64.37 | 11.06 | 0.00 | 150.0 | ± 9.6 % |
|           |                                            | Y | 2.17 | 69.13 | 14.58 |      | 150.0 |         |
|           |                                            | Z | 1.20 | 62.92 | 9.54  |      | 150.0 |         |
| 10160-CAE | LTE-FDD (SC-FDMA, 50% RB, 15 MHz, QPSK)    | X | 2.54 | 69.31 | 16.47 | 0.00 | 150.0 | ± 9.6 % |
|           |                                            | Y | 2.87 | 70.85 | 17.58 |      | 150.0 |         |
|           |                                            | Z | 2.32 | 68.65 | 15.89 |      | 150.0 |         |
| 10161-CAE | LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)  | X | 2.63 | 67.51 | 15.68 | 0.00 | 150.0 | ± 9.6 % |
|           |                                            | Y | 2.92 | 68.64 | 16.63 |      | 150.0 |         |
|           |                                            | Z | 2.51 | 67.49 | 15.29 |      | 150.0 |         |
| 10162-CAE | LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)  | X | 2.75 | 67.78 | 15.85 | 0.00 | 150.0 | ± 9.6 % |
|           |                                            | Y | 3.03 | 68.85 | 16.76 |      | 150.0 |         |
|           |                                            | Z | 2.62 | 67.80 | 15.48 |      | 150.0 |         |
| 10166-CAF | LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)   | X | 3.17 | 69.88 | 19.75 | 3.01 | 150.0 | ± 9.6 % |
|           |                                            | Y | 3.43 | 70.48 | 19.76 |      | 150.0 |         |
|           |                                            | Z | 2.81 | 68.26 | 18.43 |      | 150.0 |         |
| 10167-CAF | LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM) | X | 3.81 | 72.89 | 20.15 | 3.01 | 150.0 | ± 9.6 % |
|           |                                            | Y | 4.38 | 74.23 | 20.42 |      | 150.0 |         |
|           |                                            | Z | 3.25 | 70.82 | 18.68 |      | 150.0 |         |

|           |                                            |   |       |       |       |      |       |         |
|-----------|--------------------------------------------|---|-------|-------|-------|------|-------|---------|
| 10168-CAF | LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM) | X | 4.50  | 76.69 | 22.26 | 3.01 | 150.0 | ± 9.6 % |
|           |                                            | Y | 5.20  | 77.95 | 22.40 |      | 150.0 |         |
|           |                                            | Z | 3.82  | 74.38 | 20.74 |      | 150.0 |         |
| 10169-CAE | LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK)      | X | 2.60  | 68.07 | 18.92 | 3.01 | 150.0 | ± 9.6 % |
|           |                                            | Y | 2.86  | 69.54 | 19.35 |      | 150.0 |         |
|           |                                            | Z | 2.42  | 66.98 | 17.74 |      | 150.0 |         |
| 10170-CAE | LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)    | X | 3.49  | 74.33 | 21.57 | 3.01 | 150.0 | ± 9.6 % |
|           |                                            | Y | 4.36  | 77.73 | 22.58 |      | 150.0 |         |
|           |                                            | Z | 3.17  | 72.75 | 20.22 |      | 150.0 |         |
| 10171-AAE | LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)    | X | 2.78  | 69.40 | 18.22 | 3.01 | 150.0 | ± 9.6 % |
|           |                                            | Y | 3.30  | 71.79 | 18.96 |      | 150.0 |         |
|           |                                            | Z | 2.51  | 68.00 | 16.90 |      | 150.0 |         |
| 10172-CAF | LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK)      | X | 5.91  | 86.87 | 27.62 | 6.02 | 65.0  | ± 9.6 % |
|           |                                            | Y | 6.32  | 86.01 | 26.16 |      | 65.0  |         |
|           |                                            | Z | 3.09  | 75.39 | 22.58 |      | 65.0  |         |
| 10173-CAF | LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)    | X | 13.09 | 98.55 | 29.49 | 6.02 | 65.0  | ± 9.6 % |
|           |                                            | Y | 12.30 | 93.80 | 26.59 |      | 65.0  |         |
|           |                                            | Z | 5.66  | 84.54 | 24.14 |      | 65.0  |         |
| 10174-CAF | LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)    | X | 8.21  | 89.21 | 25.92 | 6.02 | 65.0  | ± 9.6 % |
|           |                                            | Y | 7.97  | 85.68 | 23.40 |      | 65.0  |         |
|           |                                            | Z | 3.39  | 75.61 | 20.33 |      | 65.0  |         |
| 10175-CAF | LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK)      | X | 2.56  | 67.73 | 18.64 | 3.01 | 150.0 | ± 9.6 % |
|           |                                            | Y | 2.82  | 69.16 | 19.06 |      | 150.0 |         |
|           |                                            | Z | 2.39  | 66.65 | 17.46 |      | 150.0 |         |
| 10176-CAF | LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)    | X | 3.50  | 74.35 | 21.59 | 3.01 | 150.0 | ± 9.6 % |
|           |                                            | Y | 4.37  | 77.76 | 22.59 |      | 150.0 |         |
|           |                                            | Z | 3.17  | 72.78 | 20.23 |      | 150.0 |         |
| 10177-CAH | LTE-FDD (SC-FDMA, 1 RB, 5 MHz, QPSK)       | X | 2.58  | 67.87 | 18.72 | 3.01 | 150.0 | ± 9.6 % |
|           |                                            | Y | 2.85  | 69.33 | 19.15 |      | 150.0 |         |
|           |                                            | Z | 2.40  | 66.77 | 17.53 |      | 150.0 |         |
| 10178-CAF | LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)     | X | 3.47  | 74.17 | 21.48 | 3.01 | 150.0 | ± 9.6 % |
|           |                                            | Y | 4.32  | 77.50 | 22.46 |      | 150.0 |         |
|           |                                            | Z | 3.15  | 72.62 | 20.14 |      | 150.0 |         |
| 10179-CAF | LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)    | X | 3.09  | 71.68 | 19.74 | 3.01 | 150.0 | ± 9.6 % |
|           |                                            | Y | 3.76  | 74.51 | 20.58 |      | 150.0 |         |
|           |                                            | Z | 2.79  | 70.11 | 18.36 |      | 150.0 |         |
| 10180-CAF | LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)     | X | 2.78  | 69.36 | 18.19 | 3.01 | 150.0 | ± 9.6 % |
|           |                                            | Y | 3.29  | 71.72 | 18.91 |      | 150.0 |         |
|           |                                            | Z | 2.51  | 67.97 | 16.87 |      | 150.0 |         |
| 10181-CAE | LTE-FDD (SC-FDMA, 1 RB, 15 MHz, QPSK)      | X | 2.58  | 67.85 | 18.72 | 3.01 | 150.0 | ± 9.6 % |
|           |                                            | Y | 2.84  | 69.31 | 19.15 |      | 150.0 |         |
|           |                                            | Z | 2.40  | 66.75 | 17.53 |      | 150.0 |         |
| 10182-CAE | LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)    | X | 3.46  | 74.14 | 21.47 | 3.01 | 150.0 | ± 9.6 % |
|           |                                            | Y | 4.31  | 77.47 | 22.45 |      | 150.0 |         |
|           |                                            | Z | 3.15  | 72.59 | 20.13 |      | 150.0 |         |
| 10183-AAD | LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)    | X | 2.77  | 69.34 | 18.18 | 3.01 | 150.0 | ± 9.6 % |
|           |                                            | Y | 3.28  | 71.69 | 18.90 |      | 150.0 |         |
|           |                                            | Z | 2.51  | 67.95 | 16.86 |      | 150.0 |         |

|           |                                               |   |      |       |       |      |       |         |
|-----------|-----------------------------------------------|---|------|-------|-------|------|-------|---------|
| 10184-CAE | LTE-FDD (SC-FDMA, 1 RB, 3 MHz, QPSK)          | X | 2.59 | 67.89 | 18.74 | 3.01 | 150.0 | ± 9.6 % |
|           |                                               | Y | 2.85 | 69.35 | 19.17 |      | 150.0 |         |
|           |                                               | Z | 2.40 | 66.79 | 17.55 |      | 150.0 |         |
| 10185-CAE | LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)        | X | 3.48 | 74.22 | 21.51 | 3.01 | 150.0 | ± 9.6 % |
|           |                                               | Y | 4.33 | 77.57 | 22.50 |      | 150.0 |         |
|           |                                               | Z | 3.16 | 72.68 | 20.17 |      | 150.0 |         |
| 10186-AAE | LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)        | X | 2.79 | 69.40 | 18.21 | 3.01 | 150.0 | ± 9.6 % |
|           |                                               | Y | 3.30 | 71.77 | 18.93 |      | 150.0 |         |
|           |                                               | Z | 2.52 | 68.00 | 16.89 |      | 150.0 |         |
| 10187-CAF | LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)        | X | 2.60 | 67.99 | 18.84 | 3.01 | 150.0 | ± 9.6 % |
|           |                                               | Y | 2.87 | 69.44 | 19.26 |      | 150.0 |         |
|           |                                               | Z | 2.42 | 66.90 | 17.66 |      | 150.0 |         |
| 10188-CAF | LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)      | X | 3.60 | 74.96 | 21.95 | 3.01 | 150.0 | ± 9.6 % |
|           |                                               | Y | 4.53 | 78.50 | 22.98 |      | 150.0 |         |
|           |                                               | Z | 3.27 | 73.38 | 20.59 |      | 150.0 |         |
| 10189-AAF | LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)      | X | 2.85 | 69.84 | 18.51 | 3.01 | 150.0 | ± 9.6 % |
|           |                                               | Y | 3.39 | 72.31 | 19.27 |      | 150.0 |         |
|           |                                               | Z | 2.57 | 68.39 | 17.17 |      | 150.0 |         |
| 10193-CAC | IEEE 802.11n (HT Greenfield, 6.5 Mbps, BPSK)  | X | 4.22 | 66.74 | 16.16 | 0.00 | 150.0 | ± 9.6 % |
|           |                                               | Y | 4.41 | 67.05 | 16.50 |      | 150.0 |         |
|           |                                               | Z | 4.10 | 66.98 | 15.94 |      | 150.0 |         |
| 10194-CAC | IEEE 802.11n (HT Greenfield, 39 Mbps, 16-QAM) | X | 4.36 | 66.95 | 16.30 | 0.00 | 150.0 | ± 9.6 % |
|           |                                               | Y | 4.56 | 67.31 | 16.63 |      | 150.0 |         |
|           |                                               | Z | 4.22 | 67.13 | 16.07 |      | 150.0 |         |
| 10195-CAC | IEEE 802.11n (HT Greenfield, 65 Mbps, 64-QAM) | X | 4.39 | 66.96 | 16.31 | 0.00 | 150.0 | ± 9.6 % |
|           |                                               | Y | 4.60 | 67.33 | 16.65 |      | 150.0 |         |
|           |                                               | Z | 4.24 | 67.10 | 16.06 |      | 150.0 |         |
| 10196-CAC | IEEE 802.11n (HT Mixed, 6.5 Mbps, BPSK)       | X | 4.20 | 66.72 | 16.14 | 0.00 | 150.0 | ± 9.6 % |
|           |                                               | Y | 4.40 | 67.07 | 16.50 |      | 150.0 |         |
|           |                                               | Z | 4.08 | 66.92 | 15.90 |      | 150.0 |         |
| 10197-CAC | IEEE 802.11n (HT Mixed, 39 Mbps, 16-QAM)      | X | 4.36 | 66.95 | 16.31 | 0.00 | 150.0 | ± 9.6 % |
|           |                                               | Y | 4.57 | 67.32 | 16.64 |      | 150.0 |         |
|           |                                               | Z | 4.22 | 67.12 | 16.07 |      | 150.0 |         |
| 10198-CAC | IEEE 802.11n (HT Mixed, 65 Mbps, 64-QAM)      | X | 4.38 | 66.95 | 16.31 | 0.00 | 150.0 | ± 9.6 % |
|           |                                               | Y | 4.60 | 67.33 | 16.65 |      | 150.0 |         |
|           |                                               | Z | 4.23 | 67.09 | 16.06 |      | 150.0 |         |
| 10219-CAC | IEEE 802.11n (HT Mixed, 7.2 Mbps, BPSK)       | X | 4.16 | 66.77 | 16.11 | 0.00 | 150.0 | ± 9.6 % |
|           |                                               | Y | 4.36 | 67.12 | 16.48 |      | 150.0 |         |
|           |                                               | Z | 4.04 | 67.00 | 15.89 |      | 150.0 |         |
| 10220-CAC | IEEE 802.11n (HT Mixed, 43.3 Mbps, 16-QAM)    | X | 4.36 | 66.91 | 16.29 | 0.00 | 150.0 | ± 9.6 % |
|           |                                               | Y | 4.56 | 67.28 | 16.62 |      | 150.0 |         |
|           |                                               | Z | 4.21 | 67.08 | 16.06 |      | 150.0 |         |
| 10221-CAC | IEEE 802.11n (HT Mixed, 72.2 Mbps, 64-QAM)    | X | 4.40 | 66.90 | 16.30 | 0.00 | 150.0 | ± 9.6 % |
|           |                                               | Y | 4.61 | 67.26 | 16.63 |      | 150.0 |         |
|           |                                               | Z | 4.25 | 67.06 | 16.06 |      | 150.0 |         |
| 10222-CAC | IEEE 802.11n (HT Mixed, 15 Mbps, BPSK)        | X | 4.80 | 66.97 | 16.48 | 0.00 | 150.0 | ± 9.6 % |
|           |                                               | Y | 4.97 | 67.32 | 16.74 |      | 150.0 |         |
|           |                                               | Z | 4.65 | 66.99 | 16.22 |      | 150.0 |         |

|           |                                           |   |       |        |       |      |       |         |
|-----------|-------------------------------------------|---|-------|--------|-------|------|-------|---------|
| 10223-CAC | IEEE 802.11n (HT Mixed, 90 Mbps, 16-QAM)  | X | 5.04  | 67.12  | 16.56 | 0.00 | 150.0 | ± 9.6 % |
|           |                                           | Y | 5.26  | 67.55  | 16.86 |      | 150.0 |         |
|           |                                           | Z | 4.85  | 67.05  | 16.24 |      | 150.0 |         |
| 10224-CAC | IEEE 802.11n (HT Mixed, 150 Mbps, 64-QAM) | X | 4.84  | 67.10  | 16.47 | 0.00 | 150.0 | ± 9.6 % |
|           |                                           | Y | 5.01  | 67.44  | 16.72 |      | 150.0 |         |
|           |                                           | Z | 4.69  | 67.14  | 16.22 |      | 150.0 |         |
| 10225-CAB | UMTS-FDD (HSPA+)                          | X | 2.48  | 66.09  | 14.60 | 0.00 | 150.0 | ± 9.6 % |
|           |                                           | Y | 2.74  | 67.15  | 15.74 |      | 150.0 |         |
|           |                                           | Z | 2.35  | 66.01  | 13.97 |      | 150.0 |         |
| 10226-CAA | LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)  | X | 14.63 | 100.77 | 30.27 | 6.02 | 65.0  | ± 9.6 % |
|           |                                           | Y | 13.50 | 95.53  | 27.22 |      | 65.0  |         |
|           |                                           | Z | 6.14  | 86.10  | 24.79 |      | 65.0  |         |
| 10227-CAA | LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)  | X | 14.28 | 98.83  | 28.99 | 6.02 | 65.0  | ± 9.6 % |
|           |                                           | Y | 12.07 | 92.18  | 25.50 |      | 65.0  |         |
|           |                                           | Z | 5.79  | 84.16  | 23.43 |      | 65.0  |         |
| 10228-CAA | LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)    | X | 7.72  | 92.84  | 29.85 | 6.02 | 65.0  | ± 9.6 % |
|           |                                           | Y | 8.40  | 91.70  | 28.18 |      | 65.0  |         |
|           |                                           | Z | 3.85  | 80.05  | 24.56 |      | 65.0  |         |
| 10229-CAC | LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)    | X | 13.19 | 98.68  | 29.54 | 6.02 | 65.0  | ± 9.6 % |
|           |                                           | Y | 12.39 | 93.91  | 26.64 |      | 65.0  |         |
|           |                                           | Z | 5.71  | 84.67  | 24.19 |      | 65.0  |         |
| 10230-CAC | LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)    | X | 12.76 | 96.74  | 28.27 | 6.02 | 65.0  | ± 9.6 % |
|           |                                           | Y | 11.09 | 90.72  | 24.97 |      | 65.0  |         |
|           |                                           | Z | 5.35  | 82.75  | 22.86 |      | 65.0  |         |
| 10231-CAC | LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK)      | X | 7.26  | 91.45  | 29.29 | 6.02 | 65.0  | ± 9.6 % |
|           |                                           | Y | 7.93  | 90.49  | 27.69 |      | 65.0  |         |
|           |                                           | Z | 3.69  | 79.12  | 24.10 |      | 65.0  |         |
| 10232-CAE | LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)    | X | 13.17 | 98.65  | 29.53 | 6.02 | 65.0  | ± 9.6 % |
|           |                                           | Y | 12.38 | 93.90  | 26.63 |      | 65.0  |         |
|           |                                           | Z | 5.70  | 84.65  | 24.18 |      | 65.0  |         |
| 10233-CAE | LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)    | X | 12.71 | 96.69  | 28.26 | 6.02 | 65.0  | ± 9.6 % |
|           |                                           | Y | 11.07 | 90.70  | 24.96 |      | 65.0  |         |
|           |                                           | Z | 5.33  | 82.71  | 22.85 |      | 65.0  |         |
| 10234-CAE | LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK)      | X | 6.94  | 90.39  | 28.79 | 6.02 | 65.0  | ± 9.6 % |
|           |                                           | Y | 7.56  | 89.42  | 27.20 |      | 65.0  |         |
|           |                                           | Z | 3.57  | 78.42  | 23.69 |      | 65.0  |         |
| 10235-CAE | LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)   | X | 13.20 | 98.72  | 29.56 | 6.02 | 65.0  | ± 9.6 % |
|           |                                           | Y | 12.41 | 93.95  | 26.65 |      | 65.0  |         |
|           |                                           | Z | 5.70  | 84.66  | 24.19 |      | 65.0  |         |
| 10236-CAE | LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)   | X | 12.89 | 96.88  | 28.31 | 6.02 | 65.0  | ± 9.6 % |
|           |                                           | Y | 11.19 | 90.84  | 25.00 |      | 65.0  |         |
|           |                                           | Z | 5.38  | 82.84  | 22.89 |      | 65.0  |         |
| 10237-CAE | LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK)     | X | 7.27  | 91.51  | 29.31 | 6.02 | 65.0  | ± 9.6 % |
|           |                                           | Y | 7.94  | 90.56  | 27.72 |      | 65.0  |         |
|           |                                           | Z | 3.68  | 79.11  | 24.10 |      | 65.0  |         |
| 10238-CAE | LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)   | X | 13.14 | 98.63  | 29.53 | 6.02 | 65.0  | ± 9.6 % |
|           |                                           | Y | 12.35 | 93.88  | 26.62 |      | 65.0  |         |
|           |                                           | Z | 5.68  | 84.62  | 24.17 |      | 65.0  |         |

|           |                                            |   |       |       |       |      |      |         |
|-----------|--------------------------------------------|---|-------|-------|-------|------|------|---------|
| 10239-CAE | LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)    | X | 12.66 | 96.64 | 28.25 | 6.02 | 65.0 | ± 9.6 % |
|           |                                            | Y | 11.03 | 90.67 | 24.95 |      | 65.0 |         |
|           |                                            | Z | 5.31  | 82.67 | 22.84 |      | 65.0 |         |
| 10240-CAE | LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK)      | X | 7.25  | 91.49 | 29.30 | 6.02 | 65.0 | ± 9.6 % |
|           |                                            | Y | 7.92  | 90.52 | 27.70 |      | 65.0 |         |
|           |                                            | Z | 3.67  | 79.11 | 24.10 |      | 65.0 |         |
| 10241-CAA | LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM) | X | 8.07  | 83.66 | 26.60 | 6.98 | 65.0 | ± 9.6 % |
|           |                                            | Y | 8.23  | 82.37 | 25.42 |      | 65.0 |         |
|           |                                            | Z | 6.15  | 79.65 | 24.57 |      | 65.0 |         |
| 10242-CAA | LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM) | X | 7.13  | 81.10 | 25.49 | 6.98 | 65.0 | ± 9.6 % |
|           |                                            | Y | 7.19  | 79.66 | 24.27 |      | 65.0 |         |
|           |                                            | Z | 5.16  | 76.21 | 23.08 |      | 65.0 |         |
| 10243-CAA | LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)   | X | 5.70  | 77.08 | 24.75 | 6.98 | 65.0 | ± 9.6 % |
|           |                                            | Y | 5.79  | 76.18 | 23.77 |      | 65.0 |         |
|           |                                            | Z | 4.35  | 72.84 | 22.46 |      | 65.0 |         |
| 10244-CAC | LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)   | X | 3.90  | 69.73 | 14.28 | 3.98 | 65.0 | ± 9.6 % |
|           |                                            | Y | 4.14  | 69.75 | 14.43 |      | 65.0 |         |
|           |                                            | Z | 2.32  | 64.19 | 10.29 |      | 65.0 |         |
| 10245-CAC | LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)   | X | 3.76  | 68.99 | 13.88 | 3.98 | 65.0 | ± 9.6 % |
|           |                                            | Y | 4.05  | 69.22 | 14.14 |      | 65.0 |         |
|           |                                            | Z | 2.29  | 63.87 | 10.07 |      | 65.0 |         |
| 10246-CAC | LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK)     | X | 3.54  | 71.57 | 15.31 | 3.98 | 65.0 | ± 9.6 % |
|           |                                            | Y | 4.20  | 73.49 | 16.58 |      | 65.0 |         |
|           |                                            | Z | 2.19  | 66.68 | 12.21 |      | 65.0 |         |
| 10247-CAE | LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)   | X | 3.93  | 70.34 | 15.60 | 3.98 | 65.0 | ± 9.6 % |
|           |                                            | Y | 4.37  | 71.41 | 16.50 |      | 65.0 |         |
|           |                                            | Z | 2.89  | 67.23 | 13.31 |      | 65.0 |         |
| 10248-CAE | LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)   | X | 3.84  | 69.61 | 15.25 | 3.98 | 65.0 | ± 9.6 % |
|           |                                            | Y | 4.32  | 70.82 | 16.23 |      | 65.0 |         |
|           |                                            | Z | 2.83  | 66.58 | 12.98 |      | 65.0 |         |
| 10249-CAE | LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK)     | X | 6.16  | 80.46 | 20.36 | 3.98 | 65.0 | ± 9.6 % |
|           |                                            | Y | 6.18  | 79.81 | 20.33 |      | 65.0 |         |
|           |                                            | Z | 3.97  | 75.17 | 17.64 |      | 65.0 |         |
| 10250-CAE | LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)  | X | 5.62  | 76.39 | 20.75 | 3.98 | 65.0 | ± 9.6 % |
|           |                                            | Y | 5.74  | 75.93 | 20.59 |      | 65.0 |         |
|           |                                            | Z | 4.58  | 74.22 | 19.36 |      | 65.0 |         |
| 10251-CAE | LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)  | X | 5.03  | 73.18 | 18.92 | 3.98 | 65.0 | ± 9.6 % |
|           |                                            | Y | 5.31  | 73.34 | 19.08 |      | 65.0 |         |
|           |                                            | Z | 4.06  | 70.93 | 17.39 |      | 65.0 |         |
| 10252-CAE | LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK)    | X | 7.24  | 83.33 | 23.20 | 3.98 | 65.0 | ± 9.6 % |
|           |                                            | Y | 6.94  | 81.44 | 22.37 |      | 65.0 |         |
|           |                                            | Z | 5.41  | 79.92 | 21.58 |      | 65.0 |         |
| 10253-CAE | LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)  | X | 5.26  | 72.84 | 19.45 | 3.98 | 65.0 | ± 9.6 % |
|           |                                            | Y | 5.49  | 72.84 | 19.41 |      | 65.0 |         |
|           |                                            | Z | 4.40  | 71.02 | 18.22 |      | 65.0 |         |
| 10254-CAE | LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)  | X | 5.65  | 74.03 | 20.30 | 3.98 | 65.0 | ± 9.6 % |
|           |                                            | Y | 5.87  | 73.92 | 20.21 |      | 65.0 |         |
|           |                                            | Z | 4.76  | 72.26 | 19.12 |      | 65.0 |         |

|           |                                             |   |      |       |       |      |      |         |
|-----------|---------------------------------------------|---|------|-------|-------|------|------|---------|
| 10255-CAE | LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK)     | X | 6.29 | 78.80 | 21.96 | 3.98 | 65.0 | ± 9.6 % |
|           |                                             | Y | 6.30 | 77.79 | 21.37 |      | 65.0 |         |
|           |                                             | Z | 5.06 | 76.49 | 20.76 |      | 65.0 |         |
| 10256-CAA | LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM) | X | 2.61 | 64.47 | 10.42 | 3.98 | 65.0 | ± 9.6 % |
|           |                                             | Y | 2.96 | 65.33 | 11.13 |      | 65.0 |         |
|           |                                             | Z | 1.66 | 61.09 | 7.28  |      | 65.0 |         |
| 10257-CAA | LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM) | X | 2.56 | 63.97 | 10.05 | 3.98 | 65.0 | ± 9.6 % |
|           |                                             | Y | 2.92 | 64.89 | 10.82 |      | 65.0 |         |
|           |                                             | Z | 1.65 | 60.87 | 7.05  |      | 65.0 |         |
| 10258-CAA | LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)   | X | 2.21 | 64.99 | 10.99 | 3.98 | 65.0 | ± 9.6 % |
|           |                                             | Y | 2.77 | 67.33 | 12.75 |      | 65.0 |         |
|           |                                             | Z | 1.46 | 61.94 | 8.37  |      | 65.0 |         |
| 10259-CAC | LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)   | X | 4.60 | 72.78 | 17.56 | 3.98 | 65.0 | ± 9.6 % |
|           |                                             | Y | 4.92 | 73.23 | 18.04 |      | 65.0 |         |
|           |                                             | Z | 3.51 | 69.91 | 15.55 |      | 65.0 |         |
| 10260-CAC | LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)   | X | 4.59 | 72.39 | 17.37 | 3.98 | 65.0 | ± 9.6 % |
|           |                                             | Y | 4.92 | 72.90 | 17.90 |      | 65.0 |         |
|           |                                             | Z | 3.52 | 69.59 | 15.38 |      | 65.0 |         |
| 10261-CAC | LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK)     | X | 6.31 | 80.89 | 21.20 | 3.98 | 65.0 | ± 9.6 % |
|           |                                             | Y | 6.19 | 79.71 | 20.87 |      | 65.0 |         |
|           |                                             | Z | 4.43 | 76.66 | 19.01 |      | 65.0 |         |
| 10262-CAE | LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)   | X | 5.59 | 76.27 | 20.67 | 3.98 | 65.0 | ± 9.6 % |
|           |                                             | Y | 5.72 | 75.84 | 20.52 |      | 65.0 |         |
|           |                                             | Z | 4.55 | 74.08 | 19.27 |      | 65.0 |         |
| 10263-CAE | LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)   | X | 5.02 | 73.16 | 18.92 | 3.98 | 65.0 | ± 9.6 % |
|           |                                             | Y | 5.30 | 73.32 | 19.07 |      | 65.0 |         |
|           |                                             | Z | 4.06 | 70.92 | 17.39 |      | 65.0 |         |
| 10264-CAE | LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK)     | X | 7.12 | 83.00 | 23.05 | 3.98 | 65.0 | ± 9.6 % |
|           |                                             | Y | 6.85 | 81.18 | 22.25 |      | 65.0 |         |
|           |                                             | Z | 5.32 | 79.60 | 21.43 |      | 65.0 |         |
| 10265-CAE | LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)  | X | 5.33 | 73.24 | 19.78 | 3.98 | 65.0 | ± 9.6 % |
|           |                                             | Y | 5.58 | 73.28 | 19.69 |      | 65.0 |         |
|           |                                             | Z | 4.46 | 71.34 | 18.58 |      | 65.0 |         |
| 10266-CAE | LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)  | X | 5.79 | 74.63 | 20.77 | 3.98 | 65.0 | ± 9.6 % |
|           |                                             | Y | 6.01 | 74.49 | 20.59 |      | 65.0 |         |
|           |                                             | Z | 4.89 | 72.85 | 19.66 |      | 65.0 |         |
| 10267-CAE | LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK)    | X | 6.58 | 79.40 | 22.08 | 3.98 | 65.0 | ± 9.6 % |
|           |                                             | Y | 6.57 | 78.32 | 21.41 |      | 65.0 |         |
|           |                                             | Z | 5.30 | 77.16 | 20.98 |      | 65.0 |         |
| 10268-CAE | LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)  | X | 5.96 | 73.22 | 20.37 | 3.98 | 65.0 | ± 9.6 % |
|           |                                             | Y | 6.21 | 73.29 | 20.22 |      | 65.0 |         |
|           |                                             | Z | 5.14 | 71.69 | 19.40 |      | 65.0 |         |
| 10269-CAE | LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)  | X | 5.96 | 72.84 | 20.22 | 3.98 | 65.0 | ± 9.6 % |
|           |                                             | Y | 6.20 | 72.91 | 20.10 |      | 65.0 |         |
|           |                                             | Z | 5.18 | 71.41 | 19.28 |      | 65.0 |         |
| 10270-CAE | LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK)    | X | 6.23 | 76.00 | 20.96 | 3.98 | 65.0 | ± 9.6 % |
|           |                                             | Y | 6.35 | 75.47 | 20.49 |      | 65.0 |         |
|           |                                             | Z | 5.32 | 74.55 | 20.15 |      | 65.0 |         |

|           |                                                                    |   |        |        |       |      |       |         |
|-----------|--------------------------------------------------------------------|---|--------|--------|-------|------|-------|---------|
| 10274-CAB | UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.10)                          | X | 2.34   | 66.81  | 14.69 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                    | Y | 2.62   | 68.03  | 15.92 |      | 150.0 |         |
|           |                                                                    | Z | 2.21   | 66.68  | 14.08 |      | 150.0 |         |
| 10275-CAB | UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.4)                           | X | 1.44   | 68.53  | 15.18 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                    | Y | 1.86   | 72.07  | 17.62 |      | 150.0 |         |
|           |                                                                    | Z | 1.32   | 67.78  | 14.48 |      | 150.0 |         |
| 10277-CAA | PHS (QPSK)                                                         | X | 2.18   | 61.09  | 6.72  | 9.03 | 50.0  | ± 9.6 % |
|           |                                                                    | Y | 2.24   | 61.20  | 6.85  |      | 50.0  |         |
|           |                                                                    | Z | 1.56   | 59.15  | 4.54  |      | 50.0  |         |
| 10278-CAA | PHS (QPSK, BW 884MHz, Rolloff 0.5)                                 | X | 3.31   | 65.77  | 11.35 | 9.03 | 50.0  | ± 9.6 % |
|           |                                                                    | Y | 3.43   | 66.36  | 11.86 |      | 50.0  |         |
|           |                                                                    | Z | 2.47   | 63.10  | 8.79  |      | 50.0  |         |
| 10279-CAA | PHS (QPSK, BW 884MHz, Rolloff 0.38)                                | X | 3.36   | 65.91  | 11.47 | 9.03 | 50.0  | ± 9.6 % |
|           |                                                                    | Y | 3.51   | 66.55  | 12.01 |      | 50.0  |         |
|           |                                                                    | Z | 2.51   | 63.19  | 8.90  |      | 50.0  |         |
| 10290-AAB | CDMA2000, RC1, SO55, Full Rate                                     | X | 0.55   | 60.70  | 6.89  | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                    | Y | 1.57   | 71.17  | 13.79 |      | 150.0 |         |
|           |                                                                    | Z | 0.43   | 60.00  | 5.78  |      | 150.0 |         |
| 10291-AAB | CDMA2000, RC3, SO55, Full Rate                                     | X | 0.35   | 60.00  | 5.89  | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                    | Y | 0.88   | 68.42  | 12.36 |      | 150.0 |         |
|           |                                                                    | Z | 0.31   | 60.00  | 5.29  |      | 150.0 |         |
| 10292-AAB | CDMA2000, RC3, SO32, Full Rate                                     | X | 0.34   | 60.13  | 6.21  | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                    | Y | 32.57  | 110.87 | 25.46 |      | 150.0 |         |
|           |                                                                    | Z | 0.30   | 60.00  | 5.55  |      | 150.0 |         |
| 10293-AAB | CDMA2000, RC3, SO3, Full Rate                                      | X | 0.47   | 62.79  | 8.16  | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                    | Y | 100.00 | 129.73 | 30.90 |      | 150.0 |         |
|           |                                                                    | Z | 0.34   | 60.84  | 6.50  |      | 150.0 |         |
| 10295-AAB | CDMA2000, RC1, SO3, 1/8th Rate 25 fr.                              | X | 21.80  | 94.03  | 24.61 | 9.03 | 50.0  | ± 9.6 % |
|           |                                                                    | Y | 10.29  | 83.42  | 21.60 |      | 50.0  |         |
|           |                                                                    | Z | 18.76  | 90.39  | 22.23 |      | 50.0  |         |
| 10297-AAD | LTE-FDD (SC-FDMA, 50% RB, 20 MHz, QPSK)                            | X | 2.48   | 69.89  | 16.70 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                    | Y | 2.90   | 71.99  | 18.00 |      | 150.0 |         |
|           |                                                                    | Z | 2.30   | 69.40  | 16.27 |      | 150.0 |         |
| 10298-AAD | LTE-FDD (SC-FDMA, 50% RB, 3 MHz, QPSK)                             | X | 0.80   | 62.04  | 8.74  | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                    | Y | 1.54   | 69.24  | 13.91 |      | 150.0 |         |
|           |                                                                    | Z | 0.63   | 60.57  | 7.13  |      | 150.0 |         |
| 10299-AAD | LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)                           | X | 1.28   | 62.79  | 8.90  | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                    | Y | 1.89   | 66.17  | 11.32 |      | 150.0 |         |
|           |                                                                    | Z | 0.83   | 59.79  | 5.92  |      | 150.0 |         |
| 10300-AAD | LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)                           | X | 1.04   | 60.46  | 6.87  | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                    | Y | 1.40   | 62.36  | 8.64  |      | 150.0 |         |
|           |                                                                    | Z | 0.71   | 58.57  | 4.53  |      | 150.0 |         |
| 10301-AAA | IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, QPSK, PUSC)                 | X | 4.74   | 67.13  | 17.88 | 4.17 | 50.0  | ± 9.6 % |
|           |                                                                    | Y | 4.69   | 66.45  | 17.92 |      | 50.0  |         |
|           |                                                                    | Z | 4.19   | 65.82  | 16.84 |      | 50.0  |         |
| 10302-AAA | IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, QPSK, PUSC, 3 CTRL symbols) | X | 5.21   | 67.89  | 18.77 | 4.96 | 50.0  | ± 9.6 % |
|           |                                                                    | Y | 5.09   | 66.62  | 18.38 |      | 50.0  |         |
|           |                                                                    | Z | 4.70   | 66.71  | 17.77 |      | 50.0  |         |

|           |                                                                     |   |      |       |       |       |       |         |
|-----------|---------------------------------------------------------------------|---|------|-------|-------|-------|-------|---------|
| 10303-AAA | IEEE 802.16e WiMAX (31:15, 5ms, 10MHz, 64QAM, PUSC)                 | X | 5.02 | 67.85 | 18.70 | 4.96  | 50.0  | ± 9.6 % |
|           |                                                                     | Y | 4.86 | 66.33 | 18.21 |       | 50.0  |         |
|           |                                                                     | Z | 4.51 | 66.60 | 17.64 |       | 50.0  |         |
| 10304-AAA | IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, 64QAM, PUSC)                 | X | 4.62 | 66.40 | 17.42 | 4.17  | 50.0  | ± 9.6 % |
|           |                                                                     | Y | 4.67 | 66.23 | 17.75 |       | 50.0  |         |
|           |                                                                     | Z | 4.22 | 65.74 | 16.72 |       | 50.0  |         |
| 10305-AAA | IEEE 802.16e WiMAX (31:15, 10ms, 10MHz, 64QAM, PUSC, 15 symbols)    | X | 5.39 | 72.72 | 20.66 | 6.02  | 35.0  | ± 9.6 % |
|           |                                                                     | Y | 4.79 | 70.33 | 20.43 |       | 35.0  |         |
|           |                                                                     | Z | 4.15 | 68.57 | 18.14 |       | 35.0  |         |
| 10306-AAA | IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 64QAM, PUSC, 18 symbols)    | X | 5.13 | 69.90 | 19.93 | 6.02  | 35.0  | ± 9.6 % |
|           |                                                                     | Y | 4.84 | 68.23 | 19.72 |       | 35.0  |         |
|           |                                                                     | Z | 4.35 | 67.45 | 18.21 |       | 35.0  |         |
| 10307-AAA | IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, QPSK, PUSC, 18 symbols)     | X | 5.08 | 70.20 | 19.92 | 6.02  | 35.0  | ± 9.6 % |
|           |                                                                     | Y | 4.77 | 68.50 | 19.72 |       | 35.0  |         |
|           |                                                                     | Z | 4.25 | 67.50 | 18.09 |       | 35.0  |         |
| 10308-AAA | IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 16QAM, PUSC)                | X | 5.12 | 70.64 | 20.16 | 6.02  | 35.0  | ± 9.6 % |
|           |                                                                     | Y | 4.77 | 68.84 | 19.93 |       | 35.0  |         |
|           |                                                                     | Z | 4.25 | 67.77 | 18.27 |       | 35.0  |         |
| 10309-AAA | IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 16QAM, AMC 2x3, 18 symbols) | X | 5.14 | 69.95 | 20.02 | 6.02  | 35.0  | ± 9.6 % |
|           |                                                                     | Y | 4.87 | 68.35 | 19.83 |       | 35.0  |         |
|           |                                                                     | Z | 4.35 | 67.48 | 18.29 |       | 35.0  |         |
| 10310-AAA | IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, QPSK, AMC 2x3, 18 symbols)  | X | 5.13 | 70.13 | 19.99 | 6.02  | 35.0  | ± 9.6 % |
|           |                                                                     | Y | 4.81 | 68.40 | 19.75 |       | 35.0  |         |
|           |                                                                     | Z | 4.32 | 67.59 | 18.24 |       | 35.0  |         |
| 10311-AAD | LTE-FDD (SC-FDMA, 100% RB, 15 MHz, QPSK)                            | X | 2.83 | 68.90 | 16.32 | 0.00  | 150.0 | ± 9.6 % |
|           |                                                                     | Y | 3.26 | 70.86 | 17.46 |       | 150.0 |         |
|           |                                                                     | Z | 2.65 | 68.52 | 15.97 |       | 150.0 |         |
| 10313-AAA | iDEN 1:3                                                            | X | 3.36 | 72.20 | 15.56 | 6.99  | 70.0  | ± 9.6 % |
|           |                                                                     | Y | 3.23 | 71.05 | 14.93 |       | 70.0  |         |
|           |                                                                     | Z | 2.47 | 70.33 | 14.60 |       | 70.0  |         |
| 10314-AAA | iDEN 1:6                                                            | X | 7.46 | 85.19 | 22.96 | 10.00 | 30.0  | ± 9.6 % |
|           |                                                                     | Y | 5.21 | 79.23 | 20.77 |       | 30.0  |         |
|           |                                                                     | Z | 8.81 | 89.37 | 24.10 |       | 30.0  |         |
| 10315-AAB | IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 96pc duty cycle)           | X | 0.97 | 64.18 | 15.35 | 0.17  | 150.0 | ± 9.6 % |
|           |                                                                     | Y | 1.09 | 65.56 | 16.62 |       | 150.0 |         |
|           |                                                                     | Z | 0.95 | 63.77 | 14.73 |       | 150.0 |         |
| 10316-AAB | IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 96pc duty cycle)       | X | 4.27 | 66.73 | 16.30 | 0.17  | 150.0 | ± 9.6 % |
|           |                                                                     | Y | 4.44 | 66.97 | 16.55 |       | 150.0 |         |
|           |                                                                     | Z | 4.11 | 66.81 | 16.00 |       | 150.0 |         |
| 10317-AAC | IEEE 802.11a WiFi 5 GHz (OFDM, 6 Mbps, 96pc duty cycle)             | X | 4.27 | 66.73 | 16.30 | 0.17  | 150.0 | ± 9.6 % |
|           |                                                                     | Y | 4.44 | 66.97 | 16.55 |       | 150.0 |         |
|           |                                                                     | Z | 4.11 | 66.81 | 16.00 |       | 150.0 |         |
| 10400-AAD | IEEE 802.11ac WiFi (20MHz, 64-QAM, 99pc duty cycle)                 | X | 4.31 | 66.93 | 16.26 | 0.00  | 150.0 | ± 9.6 % |
|           |                                                                     | Y | 4.53 | 67.33 | 16.61 |       | 150.0 |         |
|           |                                                                     | Z | 4.13 | 66.97 | 15.96 |       | 150.0 |         |
| 10401-AAD | IEEE 802.11ac WiFi (40MHz, 64-QAM, 99pc duty cycle)                 | X | 4.97 | 66.63 | 16.27 | 0.00  | 150.0 | ± 9.6 % |
|           |                                                                     | Y | 5.22 | 67.18 | 16.63 |       | 150.0 |         |
|           |                                                                     | Z | 4.86 | 66.85 | 16.09 |       | 150.0 |         |

|           |                                                                                 |   |        |        |       |      |       |         |
|-----------|---------------------------------------------------------------------------------|---|--------|--------|-------|------|-------|---------|
| 10402-AAD | IEEE 802.11ac WiFi (80MHz, 64-QAM, 99pc duty cycle)                             | X | 5.35   | 67.25  | 16.49 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                                 | Y | 5.52   | 67.59  | 16.72 |      | 150.0 |         |
|           |                                                                                 | Z | 5.21   | 67.33  | 16.26 |      | 150.0 |         |
| 10403-AAB | CDMA2000 (1xEV-DO, Rev. 0)                                                      | X | 0.55   | 60.70  | 6.89  | 0.00 | 115.0 | ± 9.6 % |
|           |                                                                                 | Y | 1.57   | 71.17  | 13.79 |      | 115.0 |         |
|           |                                                                                 | Z | 0.43   | 60.00  | 5.78  |      | 115.0 |         |
| 10404-AAB | CDMA2000 (1xEV-DO, Rev. A)                                                      | X | 0.55   | 60.70  | 6.89  | 0.00 | 115.0 | ± 9.6 % |
|           |                                                                                 | Y | 1.57   | 71.17  | 13.79 |      | 115.0 |         |
|           |                                                                                 | Z | 0.43   | 60.00  | 5.78  |      | 115.0 |         |
| 10406-AAB | CDMA2000, RC3, SO32, SCH0, Full Rate                                            | X | 100.00 | 121.47 | 29.36 | 0.00 | 100.0 | ± 9.6 % |
|           |                                                                                 | Y | 100.00 | 116.93 | 27.68 |      | 100.0 |         |
|           |                                                                                 | Z | 100.00 | 111.07 | 24.20 |      | 100.0 |         |
| 10410-AAE | LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9, Subframe Conf=4) | X | 100.00 | 127.60 | 32.19 | 3.23 | 80.0  | ± 9.6 % |
|           |                                                                                 | Y | 47.53  | 108.69 | 25.78 |      | 80.0  |         |
|           |                                                                                 | Z | 7.51   | 90.42  | 21.34 |      | 80.0  |         |
| 10415-AAA | IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 99pc duty cycle)                       | X | 0.89   | 63.20  | 14.69 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                                 | Y | 1.01   | 64.66  | 16.11 |      | 150.0 |         |
|           |                                                                                 | Z | 0.90   | 63.14  | 14.25 |      | 150.0 |         |
| 10416-AAA | IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 99pc duty cycle)                   | X | 4.21   | 66.70  | 16.23 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                                 | Y | 4.41   | 67.06  | 16.58 |      | 150.0 |         |
|           |                                                                                 | Z | 4.08   | 66.88  | 15.99 |      | 150.0 |         |
| 10417-AAB | IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 99pc duty cycle)                       | X | 4.21   | 66.70  | 16.23 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                                 | Y | 4.41   | 67.06  | 16.58 |      | 150.0 |         |
|           |                                                                                 | Z | 4.08   | 66.88  | 15.99 |      | 150.0 |         |
| 10418-AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc duty cycle, Long preamble)   | X | 4.21   | 66.94  | 16.30 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                                 | Y | 4.41   | 67.28  | 16.64 |      | 150.0 |         |
|           |                                                                                 | Z | 4.08   | 67.11  | 16.07 |      | 150.0 |         |
| 10419-AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc duty cycle, Short preamble)  | X | 4.23   | 66.86  | 16.28 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                                 | Y | 4.43   | 67.20  | 16.62 |      | 150.0 |         |
|           |                                                                                 | Z | 4.09   | 67.03  | 16.04 |      | 150.0 |         |
| 10422-AAB | IEEE 802.11n (HT Greenfield, 7.2 Mbps, BPSK)                                    | X | 4.33   | 66.82  | 16.29 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                                 | Y | 4.53   | 67.16  | 16.62 |      | 150.0 |         |
|           |                                                                                 | Z | 4.19   | 66.99  | 16.05 |      | 150.0 |         |
| 10423-AAB | IEEE 802.11n (HT Greenfield, 43.3 Mbps, 16-QAM)                                 | X | 4.45   | 67.07  | 16.37 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                                 | Y | 4.67   | 67.43  | 16.71 |      | 150.0 |         |
|           |                                                                                 | Z | 4.29   | 67.21  | 16.12 |      | 150.0 |         |
| 10424-AAB | IEEE 802.11n (HT Greenfield, 72.2 Mbps, 64-QAM)                                 | X | 4.38   | 67.01  | 16.35 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                                 | Y | 4.60   | 67.39  | 16.69 |      | 150.0 |         |
|           |                                                                                 | Z | 4.22   | 67.14  | 16.10 |      | 150.0 |         |
| 10425-AAB | IEEE 802.11n (HT Greenfield, 15 Mbps, BPSK)                                     | X | 5.04   | 67.22  | 16.60 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                                 | Y | 5.22   | 67.55  | 16.84 |      | 150.0 |         |
|           |                                                                                 | Z | 4.84   | 67.12  | 16.26 |      | 150.0 |         |
| 10426-AAB | IEEE 802.11n (HT Greenfield, 90 Mbps, 16-QAM)                                   | X | 5.08   | 67.41  | 16.68 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                                 | Y | 5.25   | 67.68  | 16.90 |      | 150.0 |         |
|           |                                                                                 | Z | 4.88   | 67.29  | 16.34 |      | 150.0 |         |

|           |                                                                |   |        |        |       |      |       |         |
|-----------|----------------------------------------------------------------|---|--------|--------|-------|------|-------|---------|
| 10427-AAB | IEEE 802.11n (HT Greenfield, 150 Mbps, 64-QAM)                 | X | 5.02   | 67.08  | 16.52 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                | Y | 5.21   | 67.45  | 16.78 |      | 150.0 |         |
|           |                                                                | Z | 4.85   | 67.10  | 16.25 |      | 150.0 |         |
| 10430-AAC | LTE-FDD (OFDMA, 5 MHz, E-TM 3.1)                               | X | 4.34   | 73.60  | 18.73 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                | Y | 4.67   | 74.31  | 19.65 |      | 150.0 |         |
|           |                                                                | Z | 4.56   | 75.21  | 18.83 |      | 150.0 |         |
| 10431-AAC | LTE-FDD (OFDMA, 10 MHz, E-TM 3.1)                              | X | 3.81   | 67.34  | 16.02 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                | Y | 4.07   | 67.85  | 16.58 |      | 150.0 |         |
|           |                                                                | Z | 3.64   | 67.45  | 15.66 |      | 150.0 |         |
| 10432-AAC | LTE-FDD (OFDMA, 15 MHz, E-TM 3.1)                              | X | 4.14   | 67.15  | 16.26 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                | Y | 4.37   | 67.55  | 16.66 |      | 150.0 |         |
|           |                                                                | Z | 3.98   | 67.29  | 15.98 |      | 150.0 |         |
| 10433-AAC | LTE-FDD (OFDMA, 20 MHz, E-TM 3.1)                              | X | 4.40   | 67.05  | 16.37 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                | Y | 4.61   | 67.43  | 16.71 |      | 150.0 |         |
|           |                                                                | Z | 4.25   | 67.19  | 16.13 |      | 150.0 |         |
| 10434-AAA | W-CDMA (BS Test Model 1, 64 DPCH)                              | X | 4.41   | 74.13  | 18.22 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                | Y | 5.02   | 75.91  | 19.74 |      | 150.0 |         |
|           |                                                                | Z | 4.48   | 75.04  | 17.90 |      | 150.0 |         |
| 10435-AAE | LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9) | X | 100.00 | 127.28 | 32.04 | 3.23 | 80.0  | ± 9.6 % |
|           |                                                                | Y | 37.77  | 105.68 | 25.00 |      | 80.0  |         |
|           |                                                                | Z | 6.65   | 88.77  | 20.79 |      | 80.0  |         |
| 10447-AAC | LTE-FDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)                 | X | 2.99   | 66.80  | 14.43 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                | Y | 3.36   | 68.04  | 15.68 |      | 150.0 |         |
|           |                                                                | Z | 2.75   | 66.44  | 13.65 |      | 150.0 |         |
| 10448-AAC | LTE-FDD (OFDMA, 10 MHz, E-TM 3.1, Clipping 44%)                | X | 3.68   | 67.14  | 15.90 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                | Y | 3.93   | 67.65  | 16.46 |      | 150.0 |         |
|           |                                                                | Z | 3.53   | 67.26  | 15.55 |      | 150.0 |         |
| 10449-AAC | LTE-FDD (OFDMA, 15 MHz, E-TM 3.1, Clipping 44%)                | X | 3.99   | 66.98  | 16.16 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                | Y | 4.20   | 67.40  | 16.58 |      | 150.0 |         |
|           |                                                                | Z | 3.85   | 67.13  | 15.89 |      | 150.0 |         |
| 10450-AAC | LTE-FDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)                | X | 4.21   | 66.83  | 16.23 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                | Y | 4.41   | 67.22  | 16.58 |      | 150.0 |         |
|           |                                                                | Z | 4.07   | 66.98  | 15.98 |      | 150.0 |         |
| 10451-AAA | W-CDMA (BS Test Model 1, 64 DPCH, Clipping 44%)                | X | 2.72   | 66.13  | 13.34 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                | Y | 3.20   | 67.97  | 15.02 |      | 150.0 |         |
|           |                                                                | Z | 2.40   | 65.33  | 12.26 |      | 150.0 |         |
| 10456-AAB | IEEE 802.11ac WiFi (160MHz, 64-QAM, 99pc duty cycle)           | X | 6.02   | 67.79  | 16.78 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                | Y | 6.18   | 68.16  | 17.02 |      | 150.0 |         |
|           |                                                                | Z | 6.18   | 68.79  | 17.02 |      | 150.0 |         |
| 10457-AAA | UMTS-FDD (DC-HSDPA)                                            | X | 3.59   | 65.49  | 15.98 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                | Y | 3.73   | 65.74  | 16.31 |      | 150.0 |         |
|           |                                                                | Z | 3.53   | 65.80  | 15.77 |      | 150.0 |         |
| 10458-AAA | CDMA2000 (1xEV-DO, Rev. B, 2 carriers)                         | X | 3.34   | 70.08  | 15.60 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                | Y | 4.35   | 74.00  | 18.36 |      | 150.0 |         |
|           |                                                                | Z | 2.73   | 67.81  | 13.63 |      | 150.0 |         |
| 10459-AAA | CDMA2000 (1xEV-DO, Rev. B, 3 carriers)                         | X | 4.80   | 69.70  | 17.95 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                | Y | 5.15   | 70.28  | 18.81 |      | 150.0 |         |
|           |                                                                | Z | 4.66   | 69.99  | 17.32 |      | 150.0 |         |

|           |                                                                   |   |        |        |       |      |       |         |
|-----------|-------------------------------------------------------------------|---|--------|--------|-------|------|-------|---------|
| 10460-AAA | UMTS-FDD (WCDMA, AMR)                                             | X | 0.87   | 70.93  | 16.52 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                   | Y | 1.46   | 79.26  | 21.40 |      | 150.0 |         |
|           |                                                                   | Z | 0.76   | 68.76  | 15.32 |      | 150.0 |         |
| 10461-AAA | LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)   | X | 100.00 | 133.64 | 34.98 | 3.29 | 80.0  | ± 9.6 % |
|           |                                                                   | Y | 100.00 | 121.27 | 29.54 |      | 80.0  |         |
|           |                                                                   | Z | 11.51  | 98.13  | 24.42 |      | 80.0  |         |
| 10462-AAA | LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9) | X | 1.56   | 66.37  | 11.18 | 3.23 | 80.0  | ± 9.6 % |
|           |                                                                   | Y | 0.87   | 60.00  | 7.45  |      | 80.0  |         |
|           |                                                                   | Z | 0.67   | 60.00  | 6.91  |      | 80.0  |         |
| 10463-AAA | LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9) | X | 0.80   | 60.00  | 7.65  | 3.23 | 80.0  | ± 9.6 % |
|           |                                                                   | Y | 0.89   | 60.00  | 6.91  |      | 80.0  |         |
|           |                                                                   | Z | 0.69   | 60.00  | 6.22  |      | 80.0  |         |
| 10464-AAB | LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)     | X | 100.00 | 130.01 | 33.13 | 3.23 | 80.0  | ± 9.6 % |
|           |                                                                   | Y | 30.66  | 103.77 | 24.63 |      | 80.0  |         |
|           |                                                                   | Z | 3.86   | 82.95  | 19.21 |      | 80.0  |         |
| 10465-AAB | LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)   | X | 1.24   | 64.19  | 10.21 | 3.23 | 80.0  | ± 9.6 % |
|           |                                                                   | Y | 0.87   | 60.00  | 7.39  |      | 80.0  |         |
|           |                                                                   | Z | 0.67   | 60.00  | 6.85  |      | 80.0  |         |
| 10466-AAB | LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)   | X | 0.80   | 60.00  | 7.60  | 3.23 | 80.0  | ± 9.6 % |
|           |                                                                   | Y | 0.90   | 60.00  | 6.88  |      | 80.0  |         |
|           |                                                                   | Z | 0.69   | 60.00  | 6.19  |      | 80.0  |         |
| 10467-AAD | LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)     | X | 100.00 | 130.52 | 33.35 | 3.23 | 80.0  | ± 9.6 % |
|           |                                                                   | Y | 47.97  | 109.22 | 25.94 |      | 80.0  |         |
|           |                                                                   | Z | 4.78   | 85.69  | 20.10 |      | 80.0  |         |
| 10468-AAD | LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)   | X | 1.33   | 64.86  | 10.52 | 3.23 | 80.0  | ± 9.6 % |
|           |                                                                   | Y | 0.87   | 60.00  | 7.41  |      | 80.0  |         |
|           |                                                                   | Z | 0.67   | 60.00  | 6.88  |      | 80.0  |         |
| 10469-AAD | LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)   | X | 0.80   | 60.00  | 7.61  | 3.23 | 80.0  | ± 9.6 % |
|           |                                                                   | Y | 0.89   | 60.00  | 6.87  |      | 80.0  |         |
|           |                                                                   | Z | 0.69   | 60.00  | 6.19  |      | 80.0  |         |
| 10470-AAD | LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)    | X | 100.00 | 130.55 | 33.36 | 3.23 | 80.0  | ± 9.6 % |
|           |                                                                   | Y | 49.35  | 109.54 | 26.00 |      | 80.0  |         |
|           |                                                                   | Z | 4.82   | 85.81  | 20.13 |      | 80.0  |         |
| 10471-AAD | LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)  | X | 1.31   | 64.74  | 10.46 | 3.23 | 80.0  | ± 9.6 % |
|           |                                                                   | Y | 0.87   | 60.00  | 7.39  |      | 80.0  |         |
|           |                                                                   | Z | 0.66   | 60.00  | 6.86  |      | 80.0  |         |
| 10472-AAD | LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)  | X | 0.80   | 60.00  | 7.59  | 3.23 | 80.0  | ± 9.6 % |
|           |                                                                   | Y | 0.89   | 60.00  | 6.86  |      | 80.0  |         |
|           |                                                                   | Z | 0.69   | 60.00  | 6.17  |      | 80.0  |         |
| 10473-AAD | LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)    | X | 100.00 | 130.51 | 33.34 | 3.23 | 80.0  | ± 9.6 % |
|           |                                                                   | Y | 48.03  | 109.20 | 25.91 |      | 80.0  |         |
|           |                                                                   | Z | 4.74   | 85.60  | 20.06 |      | 80.0  |         |
| 10474-AAD | LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)  | X | 1.30   | 64.69  | 10.43 | 3.23 | 80.0  | ± 9.6 % |
|           |                                                                   | Y | 0.87   | 60.00  | 7.39  |      | 80.0  |         |
|           |                                                                   | Z | 0.66   | 60.00  | 6.86  |      | 80.0  |         |
| 10475-AAD | LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)  | X | 0.80   | 60.00  | 7.59  | 3.23 | 80.0  | ± 9.6 % |
|           |                                                                   | Y | 0.89   | 60.00  | 6.86  |      | 80.0  |         |
|           |                                                                   | Z | 0.69   | 60.00  | 6.17  |      | 80.0  |         |

|           |                                                                     |   |        |        |       |      |      |         |
|-----------|---------------------------------------------------------------------|---|--------|--------|-------|------|------|---------|
| 10477-AAE | LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)    | X | 1.23   | 64.18  | 10.18 | 3.23 | 80.0 | ± 9.6 % |
|           |                                                                     | Y | 0.87   | 60.00  | 7.37  |      | 80.0 |         |
|           |                                                                     | Z | 0.66   | 60.00  | 6.83  |      | 80.0 |         |
| 10478-AAE | LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)    | X | 0.80   | 60.00  | 7.58  | 3.23 | 80.0 | ± 9.6 % |
|           |                                                                     | Y | 0.89   | 60.00  | 6.85  |      | 80.0 |         |
|           |                                                                     | Z | 0.69   | 60.00  | 6.16  |      | 80.0 |         |
| 10479-AAA | LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)   | X | 100.00 | 126.80 | 33.24 | 3.23 | 80.0 | ± 9.6 % |
|           |                                                                     | Y | 16.83  | 96.78  | 24.93 |      | 80.0 |         |
|           |                                                                     | Z | 17.83  | 99.90  | 25.23 |      | 80.0 |         |
| 10480-AAA | LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9) | X | 100.00 | 110.98 | 25.88 | 3.23 | 80.0 | ± 9.6 % |
|           |                                                                     | Y | 4.24   | 73.22  | 15.24 |      | 80.0 |         |
|           |                                                                     | Z | 1.74   | 65.87  | 11.40 |      | 80.0 |         |
| 10481-AAA | LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9) | X | 16.05  | 88.37  | 19.67 | 3.23 | 80.0 | ± 9.6 % |
|           |                                                                     | Y | 2.80   | 68.08  | 12.86 |      | 80.0 |         |
|           |                                                                     | Z | 1.19   | 61.90  | 9.13  |      | 80.0 |         |
| 10482-AAB | LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)     | X | 1.57   | 64.75  | 11.63 | 2.23 | 80.0 | ± 9.6 % |
|           |                                                                     | Y | 2.36   | 69.10  | 14.35 |      | 80.0 |         |
|           |                                                                     | Z | 0.89   | 60.11  | 8.42  |      | 80.0 |         |
| 10483-AAB | LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)   | X | 2.03   | 64.54  | 11.14 | 2.23 | 80.0 | ± 9.6 % |
|           |                                                                     | Y | 2.19   | 64.68  | 11.58 |      | 80.0 |         |
|           |                                                                     | Z | 1.14   | 60.00  | 7.47  |      | 80.0 |         |
| 10484-AAB | LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)   | X | 1.90   | 63.58  | 10.68 | 2.23 | 80.0 | ± 9.6 % |
|           |                                                                     | Y | 2.12   | 64.08  | 11.29 |      | 80.0 |         |
|           |                                                                     | Z | 1.17   | 60.00  | 7.46  |      | 80.0 |         |
| 10485-AAD | LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)     | X | 3.45   | 74.98  | 17.66 | 2.23 | 80.0 | ± 9.6 % |
|           |                                                                     | Y | 3.58   | 75.04  | 18.20 |      | 80.0 |         |
|           |                                                                     | Z | 1.95   | 68.57  | 14.43 |      | 80.0 |         |
| 10486-AAD | LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)   | X | 2.25   | 65.84  | 12.95 | 2.23 | 80.0 | ± 9.6 % |
|           |                                                                     | Y | 2.80   | 68.12  | 14.63 |      | 80.0 |         |
|           |                                                                     | Z | 1.49   | 62.13  | 10.33 |      | 80.0 |         |
| 10487-AAD | LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)   | X | 2.22   | 65.29  | 12.67 | 2.23 | 80.0 | ± 9.6 % |
|           |                                                                     | Y | 2.76   | 67.57  | 14.36 |      | 80.0 |         |
|           |                                                                     | Z | 1.49   | 61.80  | 10.12 |      | 80.0 |         |
| 10488-AAD | LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)    | X | 3.71   | 75.02  | 19.43 | 2.23 | 80.0 | ± 9.6 % |
|           |                                                                     | Y | 3.72   | 74.14  | 19.13 |      | 80.0 |         |
|           |                                                                     | Z | 2.67   | 71.23  | 17.54 |      | 80.0 |         |
| 10489-AAD | LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)  | X | 3.33   | 70.04  | 17.15 | 2.23 | 80.0 | ± 9.6 % |
|           |                                                                     | Y | 3.44   | 69.76  | 17.22 |      | 80.0 |         |
|           |                                                                     | Z | 2.72   | 68.09  | 15.79 |      | 80.0 |         |
| 10490-AAD | LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)  | X | 3.38   | 69.72  | 17.01 | 2.23 | 80.0 | ± 9.6 % |
|           |                                                                     | Y | 3.50   | 69.51  | 17.12 |      | 80.0 |         |
|           |                                                                     | Z | 2.77   | 67.83  | 15.66 |      | 80.0 |         |
| 10491-AAD | LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)    | X | 3.67   | 72.22  | 18.70 | 2.23 | 80.0 | ± 9.6 % |
|           |                                                                     | Y | 3.79   | 71.87  | 18.50 |      | 80.0 |         |
|           |                                                                     | Z | 2.91   | 69.73  | 17.36 |      | 80.0 |         |
| 10492-AAD | LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)  | X | 3.59   | 68.89  | 17.30 | 2.23 | 80.0 | ± 9.6 % |
|           |                                                                     | Y | 3.72   | 68.74  | 17.28 |      | 80.0 |         |
|           |                                                                     | Z | 3.08   | 67.54  | 16.30 |      | 80.0 |         |

|           |                                                                      |   |      |       |       |      |      |         |
|-----------|----------------------------------------------------------------------|---|------|-------|-------|------|------|---------|
| 10493-AAD | LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)   | X | 3.63 | 68.68 | 17.20 | 2.23 | 80.0 | ± 9.6 % |
|           |                                                                      | Y | 3.77 | 68.57 | 17.21 |      | 80.0 |         |
|           |                                                                      | Z | 3.12 | 67.39 | 16.21 |      | 80.0 |         |
| 10494-AAE | LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)     | X | 4.02 | 73.80 | 19.26 | 2.23 | 80.0 | ± 9.6 % |
|           |                                                                      | Y | 4.14 | 73.43 | 19.01 |      | 80.0 |         |
|           |                                                                      | Z | 3.12 | 70.94 | 17.86 |      | 80.0 |         |
| 10495-AAE | LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)   | X | 3.62 | 69.18 | 17.57 | 2.23 | 80.0 | ± 9.6 % |
|           |                                                                      | Y | 3.76 | 69.07 | 17.51 |      | 80.0 |         |
|           |                                                                      | Z | 3.11 | 67.77 | 16.60 |      | 80.0 |         |
| 10496-AAE | LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)   | X | 3.69 | 68.89 | 17.47 | 2.23 | 80.0 | ± 9.6 % |
|           |                                                                      | Y | 3.82 | 68.78 | 17.42 |      | 80.0 |         |
|           |                                                                      | Z | 3.19 | 67.60 | 16.55 |      | 80.0 |         |
| 10497-AAA | LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)   | X | 0.98 | 60.00 | 7.66  | 2.23 | 80.0 | ± 9.6 % |
|           |                                                                      | Y | 1.21 | 61.40 | 9.41  |      | 80.0 |         |
|           |                                                                      | Z | 0.85 | 60.00 | 6.48  |      | 80.0 |         |
| 10498-AAA | LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9) | X | 1.17 | 60.00 | 6.48  | 2.23 | 80.0 | ± 9.6 % |
|           |                                                                      | Y | 1.25 | 60.00 | 7.54  |      | 80.0 |         |
|           |                                                                      | Z | 1.13 | 60.00 | 5.14  |      | 80.0 |         |
| 10499-AAA | LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9) | X | 1.19 | 60.00 | 6.32  | 2.23 | 80.0 | ± 9.6 % |
|           |                                                                      | Y | 1.26 | 60.00 | 7.39  |      | 80.0 |         |
|           |                                                                      | Z | 1.19 | 60.00 | 4.94  |      | 80.0 |         |
| 10500-AAB | LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)     | X | 3.61 | 75.28 | 18.49 | 2.23 | 80.0 | ± 9.6 % |
|           |                                                                      | Y | 3.60 | 74.56 | 18.55 |      | 80.0 |         |
|           |                                                                      | Z | 2.31 | 70.18 | 15.90 |      | 80.0 |         |
| 10501-AAB | LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)   | X | 2.83 | 68.30 | 14.92 | 2.23 | 80.0 | ± 9.6 % |
|           |                                                                      | Y | 3.15 | 69.25 | 15.83 |      | 80.0 |         |
|           |                                                                      | Z | 2.02 | 65.03 | 12.70 |      | 80.0 |         |
| 10502-AAB | LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)   | X | 2.81 | 67.87 | 14.64 | 2.23 | 80.0 | ± 9.6 % |
|           |                                                                      | Y | 3.17 | 68.94 | 15.62 |      | 80.0 |         |
|           |                                                                      | Z | 2.02 | 64.68 | 12.43 |      | 80.0 |         |
| 10503-AAD | LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)     | X | 3.64 | 74.69 | 19.28 | 2.23 | 80.0 | ± 9.6 % |
|           |                                                                      | Y | 3.66 | 73.87 | 19.00 |      | 80.0 |         |
|           |                                                                      | Z | 2.62 | 70.94 | 17.40 |      | 80.0 |         |
| 10504-AAD | LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)   | X | 3.30 | 69.88 | 17.06 | 2.23 | 80.0 | ± 9.6 % |
|           |                                                                      | Y | 3.41 | 69.63 | 17.15 |      | 80.0 |         |
|           |                                                                      | Z | 2.69 | 67.93 | 15.70 |      | 80.0 |         |
| 10505-AAD | LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)   | X | 3.35 | 69.57 | 16.93 | 2.23 | 80.0 | ± 9.6 % |
|           |                                                                      | Y | 3.48 | 69.39 | 17.05 |      | 80.0 |         |
|           |                                                                      | Z | 2.74 | 67.69 | 15.57 |      | 80.0 |         |
| 10506-AAD | LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)    | X | 3.97 | 73.59 | 19.16 | 2.23 | 80.0 | ± 9.6 % |
|           |                                                                      | Y | 4.10 | 73.25 | 18.92 |      | 80.0 |         |
|           |                                                                      | Z | 3.08 | 70.76 | 17.76 |      | 80.0 |         |
| 10507-AAD | LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)  | X | 3.61 | 69.10 | 17.52 | 2.23 | 80.0 | ± 9.6 % |
|           |                                                                      | Y | 3.74 | 68.99 | 17.47 |      | 80.0 |         |
|           |                                                                      | Z | 3.10 | 67.69 | 16.55 |      | 80.0 |         |

|           |                                                                     |   |      |        |       |      |       |         |
|-----------|---------------------------------------------------------------------|---|------|--------|-------|------|-------|---------|
| 10508-AAD | LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9) | X | 3.67 | 68.79  | 17.42 | 2.23 | 80.0  | ± 9.6 % |
|           |                                                                     | Y | 3.81 | 68.69  | 17.37 |      | 80.0  |         |
|           |                                                                     | Z | 3.18 | 67.50  | 16.48 |      | 80.0  |         |
| 10509-AAD | LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)   | X | 4.19 | 71.63  | 18.46 | 2.23 | 80.0  | ± 9.6 % |
|           |                                                                     | Y | 4.34 | 71.54  | 18.29 |      | 80.0  |         |
|           |                                                                     | Z | 3.49 | 69.77  | 17.46 |      | 80.0  |         |
| 10510-AAD | LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9) | X | 4.02 | 68.41  | 17.47 | 2.23 | 80.0  | ± 9.6 % |
|           |                                                                     | Y | 4.18 | 68.47  | 17.43 |      | 80.0  |         |
|           |                                                                     | Z | 3.54 | 67.28  | 16.67 |      | 80.0  |         |
| 10511-AAD | LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9) | X | 4.08 | 68.19  | 17.41 | 2.23 | 80.0  | ± 9.6 % |
|           |                                                                     | Y | 4.24 | 68.23  | 17.36 |      | 80.0  |         |
|           |                                                                     | Z | 3.62 | 67.16  | 16.64 |      | 80.0  |         |
| 10512-AAE | LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)   | X | 4.39 | 73.11  | 18.91 | 2.23 | 80.0  | ± 9.6 % |
|           |                                                                     | Y | 4.57 | 73.09  | 18.76 |      | 80.0  |         |
|           |                                                                     | Z | 3.55 | 70.80  | 17.76 |      | 80.0  |         |
| 10513-AAE | LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9) | X | 3.92 | 68.58  | 17.57 | 2.23 | 80.0  | ± 9.6 % |
|           |                                                                     | Y | 4.08 | 68.69  | 17.52 |      | 80.0  |         |
|           |                                                                     | Z | 3.44 | 67.34  | 16.73 |      | 80.0  |         |
| 10514-AAE | LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9) | X | 3.95 | 68.18  | 17.44 | 2.23 | 80.0  | ± 9.6 % |
|           |                                                                     | Y | 4.10 | 68.28  | 17.40 |      | 80.0  |         |
|           |                                                                     | Z | 3.50 | 67.06  | 16.65 |      | 80.0  |         |
| 10515-AAA | IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 99pc duty cycle)           | X | 0.85 | 63.44  | 14.76 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                     | Y | 0.97 | 65.05  | 16.30 |      | 150.0 |         |
|           |                                                                     | Z | 0.86 | 63.31  | 14.29 |      | 150.0 |         |
| 10516-AAA | IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 99pc duty cycle)         | X | 1.00 | 82.07  | 20.52 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                     | Y | 6.58 | 117.44 | 34.05 |      | 150.0 |         |
|           |                                                                     | Z | 0.52 | 71.82  | 16.88 |      | 150.0 |         |
| 10517-AAA | IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 99pc duty cycle)          | X | 0.71 | 65.99  | 15.57 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                     | Y | 0.90 | 69.36  | 18.20 |      | 150.0 |         |
|           |                                                                     | Z | 0.69 | 65.04  | 14.76 |      | 150.0 |         |
| 10518-AAB | IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 99pc duty cycle)           | X | 4.21 | 66.82  | 16.23 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                     | Y | 4.40 | 67.17  | 16.57 |      | 150.0 |         |
|           |                                                                     | Z | 4.07 | 67.02  | 15.99 |      | 150.0 |         |
| 10519-AAB | IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 99pc duty cycle)          | X | 4.34 | 66.98  | 16.31 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                     | Y | 4.56 | 67.34  | 16.66 |      | 150.0 |         |
|           |                                                                     | Z | 4.19 | 67.14  | 16.06 |      | 150.0 |         |
| 10520-AAB | IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 99pc duty cycle)          | X | 4.20 | 66.91  | 16.23 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                     | Y | 4.42 | 67.30  | 16.59 |      | 150.0 |         |
|           |                                                                     | Z | 4.06 | 67.06  | 15.98 |      | 150.0 |         |
| 10521-AAB | IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 99pc duty cycle)          | X | 4.13 | 66.86  | 16.20 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                     | Y | 4.35 | 67.28  | 16.58 |      | 150.0 |         |
|           |                                                                     | Z | 3.99 | 66.98  | 15.94 |      | 150.0 |         |
| 10522-AAB | IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 99pc duty cycle)          | X | 4.17 | 66.96  | 16.28 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                     | Y | 4.41 | 67.42  | 16.68 |      | 150.0 |         |
|           |                                                                     | Z | 4.01 | 67.01  | 15.97 |      | 150.0 |         |

|           |                                                            |   |      |       |       |      |       |         |
|-----------|------------------------------------------------------------|---|------|-------|-------|------|-------|---------|
| 10523-AAB | IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 99pc duty cycle) | X | 4.12 | 67.05 | 16.25 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                            | Y | 4.33 | 67.40 | 16.59 |      | 150.0 |         |
|           |                                                            | Z | 3.99 | 67.23 | 16.03 |      | 150.0 |         |
| 10524-AAB | IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 99pc duty cycle) | X | 4.13 | 66.97 | 16.30 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                            | Y | 4.35 | 67.37 | 16.67 |      | 150.0 |         |
|           |                                                            | Z | 3.98 | 67.09 | 16.04 |      | 150.0 |         |
| 10525-AAB | IEEE 802.11ac WiFi (20MHz, MCS0, 99pc duty cycle)          | X | 4.18 | 66.09 | 15.94 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                            | Y | 4.39 | 66.46 | 16.28 |      | 150.0 |         |
|           |                                                            | Z | 4.05 | 66.29 | 15.72 |      | 150.0 |         |
| 10526-AAB | IEEE 802.11ac WiFi (20MHz, MCS1, 99pc duty cycle)          | X | 4.29 | 66.34 | 16.05 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                            | Y | 4.52 | 66.77 | 16.40 |      | 150.0 |         |
|           |                                                            | Z | 4.14 | 66.48 | 15.80 |      | 150.0 |         |
| 10527-AAB | IEEE 802.11ac WiFi (20MHz, MCS2, 99pc duty cycle)          | X | 4.23 | 66.32 | 15.98 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                            | Y | 4.45 | 66.75 | 16.35 |      | 150.0 |         |
|           |                                                            | Z | 4.08 | 66.48 | 15.75 |      | 150.0 |         |
| 10528-AAB | IEEE 802.11ac WiFi (20MHz, MCS3, 99pc duty cycle)          | X | 4.24 | 66.33 | 16.02 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                            | Y | 4.46 | 66.76 | 16.38 |      | 150.0 |         |
|           |                                                            | Z | 4.09 | 66.47 | 15.77 |      | 150.0 |         |
| 10529-AAB | IEEE 802.11ac WiFi (20MHz, MCS4, 99pc duty cycle)          | X | 4.24 | 66.33 | 16.02 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                            | Y | 4.46 | 66.76 | 16.38 |      | 150.0 |         |
|           |                                                            | Z | 4.09 | 66.47 | 15.77 |      | 150.0 |         |
| 10531-AAB | IEEE 802.11ac WiFi (20MHz, MCS6, 99pc duty cycle)          | X | 4.20 | 66.33 | 15.98 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                            | Y | 4.44 | 66.81 | 16.38 |      | 150.0 |         |
|           |                                                            | Z | 4.04 | 66.44 | 15.72 |      | 150.0 |         |
| 10532-AAB | IEEE 802.11ac WiFi (20MHz, MCS7, 99pc duty cycle)          | X | 4.09 | 66.19 | 15.91 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                            | Y | 4.31 | 66.68 | 16.32 |      | 150.0 |         |
|           |                                                            | Z | 3.95 | 66.32 | 15.67 |      | 150.0 |         |
| 10533-AAB | IEEE 802.11ac WiFi (20MHz, MCS8, 99pc duty cycle)          | X | 4.25 | 66.42 | 16.02 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                            | Y | 4.47 | 66.85 | 16.39 |      | 150.0 |         |
|           |                                                            | Z | 4.09 | 66.58 | 15.79 |      | 150.0 |         |
| 10534-AAB | IEEE 802.11ac WiFi (40MHz, MCS0, 99pc duty cycle)          | X | 4.82 | 66.28 | 16.10 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                            | Y | 5.01 | 66.66 | 16.38 |      | 150.0 |         |
|           |                                                            | Z | 4.67 | 66.35 | 15.86 |      | 150.0 |         |
| 10535-AAB | IEEE 802.11ac WiFi (40MHz, MCS1, 99pc duty cycle)          | X | 4.86 | 66.40 | 16.17 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                            | Y | 5.07 | 66.83 | 16.46 |      | 150.0 |         |
|           |                                                            | Z | 4.69 | 66.42 | 15.91 |      | 150.0 |         |
| 10536-AAB | IEEE 802.11ac WiFi (40MHz, MCS2, 99pc duty cycle)          | X | 4.75 | 66.37 | 16.13 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                            | Y | 4.96 | 66.84 | 16.44 |      | 150.0 |         |
|           |                                                            | Z | 4.60 | 66.44 | 15.89 |      | 150.0 |         |
| 10537-AAB | IEEE 802.11ac WiFi (40MHz, MCS3, 99pc duty cycle)          | X | 4.84 | 66.47 | 16.18 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                            | Y | 5.01 | 66.80 | 16.43 |      | 150.0 |         |
|           |                                                            | Z | 4.68 | 66.51 | 15.93 |      | 150.0 |         |
| 10538-AAB | IEEE 802.11ac WiFi (40MHz, MCS4, 99pc duty cycle)          | X | 4.88 | 66.35 | 16.16 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                            | Y | 5.08 | 66.76 | 16.45 |      | 150.0 |         |
|           |                                                            | Z | 4.71 | 66.38 | 15.90 |      | 150.0 |         |
| 10540-AAB | IEEE 802.11ac WiFi (40MHz, MCS6, 99pc duty cycle)          | X | 4.81 | 66.30 | 16.16 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                            | Y | 5.01 | 66.72 | 16.45 |      | 150.0 |         |
|           |                                                            | Z | 4.65 | 66.34 | 15.90 |      | 150.0 |         |

|           |                                                    |   |      |       |       |      |       |         |
|-----------|----------------------------------------------------|---|------|-------|-------|------|-------|---------|
| 10541-AAB | IEEE 802.11ac WiFi (40MHz, MCS7, 99pc duty cycle)  | X | 4.80 | 66.22 | 16.09 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                    | Y | 4.99 | 66.61 | 16.37 |      | 150.0 |         |
|           |                                                    | Z | 4.65 | 66.32 | 15.87 |      | 150.0 |         |
| 10542-AAB | IEEE 802.11ac WiFi (40MHz, MCS8, 99pc duty cycle)  | X | 4.95 | 66.33 | 16.17 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                    | Y | 5.14 | 66.71 | 16.44 |      | 150.0 |         |
|           |                                                    | Z | 4.79 | 66.39 | 15.92 |      | 150.0 |         |
| 10543-AAB | IEEE 802.11ac WiFi (40MHz, MCS9, 99pc duty cycle)  | X | 5.05 | 66.50 | 16.28 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                    | Y | 5.22 | 66.78 | 16.50 |      | 150.0 |         |
|           |                                                    | Z | 4.85 | 66.47 | 15.99 |      | 150.0 |         |
| 10544-AAB | IEEE 802.11ac WiFi (80MHz, MCS0, 99pc duty cycle)  | X | 5.18 | 66.28 | 16.07 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                    | Y | 5.35 | 66.69 | 16.34 |      | 150.0 |         |
|           |                                                    | Z | 5.04 | 66.36 | 15.85 |      | 150.0 |         |
| 10545-AAB | IEEE 802.11ac WiFi (80MHz, MCS1, 99pc duty cycle)  | X | 5.38 | 66.85 | 16.32 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                    | Y | 5.55 | 67.20 | 16.55 |      | 150.0 |         |
|           |                                                    | Z | 5.18 | 66.73 | 16.00 |      | 150.0 |         |
| 10546-AAB | IEEE 802.11ac WiFi (80MHz, MCS2, 99pc duty cycle)  | X | 5.21 | 66.40 | 16.10 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                    | Y | 5.39 | 66.83 | 16.38 |      | 150.0 |         |
|           |                                                    | Z | 5.06 | 66.45 | 15.86 |      | 150.0 |         |
| 10547-AAB | IEEE 802.11ac WiFi (80MHz, MCS3, 99pc duty cycle)  | X | 5.34 | 66.70 | 16.25 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                    | Y | 5.47 | 66.95 | 16.43 |      | 150.0 |         |
|           |                                                    | Z | 5.17 | 66.69 | 15.98 |      | 150.0 |         |
| 10548-AAB | IEEE 802.11ac WiFi (80MHz, MCS4, 99pc duty cycle)  | X | 5.46 | 67.25 | 16.50 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                    | Y | 5.68 | 67.76 | 16.81 |      | 150.0 |         |
|           |                                                    | Z | 5.19 | 66.93 | 16.08 |      | 150.0 |         |
| 10550-AAB | IEEE 802.11ac WiFi (80MHz, MCS6, 99pc duty cycle)  | X | 5.33 | 66.84 | 16.34 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                    | Y | 5.46 | 67.06 | 16.50 |      | 150.0 |         |
|           |                                                    | Z | 5.15 | 66.78 | 16.05 |      | 150.0 |         |
| 10551-AAB | IEEE 802.11ac WiFi (80MHz, MCS7, 99pc duty cycle)  | X | 5.19 | 66.33 | 16.04 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                    | Y | 5.39 | 66.81 | 16.34 |      | 150.0 |         |
|           |                                                    | Z | 5.04 | 66.38 | 15.81 |      | 150.0 |         |
| 10552-AAB | IEEE 802.11ac WiFi (80MHz, MCS8, 99pc duty cycle)  | X | 5.18 | 66.41 | 16.08 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                    | Y | 5.36 | 66.79 | 16.33 |      | 150.0 |         |
|           |                                                    | Z | 5.05 | 66.52 | 15.87 |      | 150.0 |         |
| 10553-AAB | IEEE 802.11ac WiFi (80MHz, MCS9, 99pc duty cycle)  | X | 5.23 | 66.33 | 16.07 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                    | Y | 5.41 | 66.74 | 16.34 |      | 150.0 |         |
|           |                                                    | Z | 5.09 | 66.42 | 15.85 |      | 150.0 |         |
| 10554-AAC | IEEE 802.11ac WiFi (160MHz, MCS0, 99pc duty cycle) | X | 5.62 | 66.62 | 16.16 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                    | Y | 5.77 | 67.01 | 16.40 |      | 150.0 |         |
|           |                                                    | Z | 5.48 | 66.65 | 15.91 |      | 150.0 |         |
| 10555-AAC | IEEE 802.11ac WiFi (160MHz, MCS1, 99pc duty cycle) | X | 5.71 | 66.86 | 16.26 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                    | Y | 5.88 | 67.28 | 16.52 |      | 150.0 |         |
|           |                                                    | Z | 5.54 | 66.80 | 15.97 |      | 150.0 |         |
| 10556-AAC | IEEE 802.11ac WiFi (160MHz, MCS2, 99pc duty cycle) | X | 5.78 | 67.06 | 16.35 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                    | Y | 5.92 | 67.39 | 16.56 |      | 150.0 |         |
|           |                                                    | Z | 5.59 | 66.96 | 16.04 |      | 150.0 |         |
| 10557-AAC | IEEE 802.11ac WiFi (160MHz, MCS3, 99pc duty cycle) | X | 5.70 | 66.81 | 16.25 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                    | Y | 5.87 | 67.22 | 16.50 |      | 150.0 |         |
|           |                                                    | Z | 5.54 | 66.82 | 15.99 |      | 150.0 |         |

|           |                                                                 |   |        |        |       |      |       |         |
|-----------|-----------------------------------------------------------------|---|--------|--------|-------|------|-------|---------|
| 10558-AAC | IEEE 802.11ac WiFi (160MHz, MCS4, 99pc duty cycle)              | X | 5.68   | 66.79  | 16.25 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                 | Y | 5.89   | 67.32  | 16.56 |      | 150.0 |         |
|           |                                                                 | Z | 5.51   | 66.77  | 15.98 |      | 150.0 |         |
| 10560-AAC | IEEE 802.11ac WiFi (160MHz, MCS6, 99pc duty cycle)              | X | 5.71   | 66.77  | 16.28 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                 | Y | 5.89   | 67.21  | 16.54 |      | 150.0 |         |
|           |                                                                 | Z | 5.55   | 66.76  | 16.02 |      | 150.0 |         |
| 10561-AAC | IEEE 802.11ac WiFi (160MHz, MCS7, 99pc duty cycle)              | X | 5.66   | 66.78  | 16.32 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                 | Y | 5.83   | 67.22  | 16.58 |      | 150.0 |         |
|           |                                                                 | Z | 5.49   | 66.74  | 16.03 |      | 150.0 |         |
| 10562-AAC | IEEE 802.11ac WiFi (160MHz, MCS8, 99pc duty cycle)              | X | 5.69   | 66.89  | 16.37 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                 | Y | 5.89   | 67.40  | 16.67 |      | 150.0 |         |
|           |                                                                 | Z | 5.52   | 66.86  | 16.09 |      | 150.0 |         |
| 10563-AAC | IEEE 802.11ac WiFi (160MHz, MCS9, 99pc duty cycle)              | X | 5.83   | 67.00  | 16.39 | 0.00 | 150.0 | ± 9.6 % |
|           |                                                                 | Y | 5.99   | 67.36  | 16.62 |      | 150.0 |         |
|           |                                                                 | Z | 5.66   | 66.99  | 16.13 |      | 150.0 |         |
| 10564-AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 99pc duty cycle)  | X | 4.52   | 66.80  | 16.34 | 0.46 | 150.0 | ± 9.6 % |
|           |                                                                 | Y | 4.71   | 67.11  | 16.64 |      | 150.0 |         |
|           |                                                                 | Z | 4.37   | 66.94  | 16.08 |      | 150.0 |         |
| 10565-AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 99pc duty cycle) | X | 4.71   | 67.24  | 16.68 | 0.46 | 150.0 | ± 9.6 % |
|           |                                                                 | Y | 4.92   | 67.55  | 16.97 |      | 150.0 |         |
|           |                                                                 | Z | 4.55   | 67.39  | 16.44 |      | 150.0 |         |
| 10566-AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 99pc duty cycle) | X | 4.55   | 67.03  | 16.47 | 0.46 | 150.0 | ± 9.6 % |
|           |                                                                 | Y | 4.75   | 67.36  | 16.77 |      | 150.0 |         |
|           |                                                                 | Z | 4.39   | 67.14  | 16.20 |      | 150.0 |         |
| 10567-AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 99pc duty cycle) | X | 4.59   | 67.50  | 16.90 | 0.46 | 150.0 | ± 9.6 % |
|           |                                                                 | Y | 4.80   | 67.84  | 17.20 |      | 150.0 |         |
|           |                                                                 | Z | 4.45   | 67.67  | 16.67 |      | 150.0 |         |
| 10568-AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 99pc duty cycle) | X | 4.43   | 66.68  | 16.15 | 0.46 | 150.0 | ± 9.6 % |
|           |                                                                 | Y | 4.65   | 67.08  | 16.49 |      | 150.0 |         |
|           |                                                                 | Z | 4.24   | 66.65  | 15.80 |      | 150.0 |         |
| 10569-AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 99pc duty cycle) | X | 4.60   | 67.82  | 17.09 | 0.46 | 150.0 | ± 9.6 % |
|           |                                                                 | Y | 4.78   | 68.07  | 17.33 |      | 150.0 |         |
|           |                                                                 | Z | 4.46   | 68.04  | 16.90 |      | 150.0 |         |
| 10570-AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 99pc duty cycle) | X | 4.58   | 67.53  | 16.94 | 0.46 | 150.0 | ± 9.6 % |
|           |                                                                 | Y | 4.79   | 67.84  | 17.22 |      | 150.0 |         |
|           |                                                                 | Z | 4.42   | 67.66  | 16.69 |      | 150.0 |         |
| 10571-AAA | IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 90pc duty cycle)       | X | 1.05   | 64.80  | 15.67 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                                 | Y | 1.17   | 65.98  | 16.71 |      | 130.0 |         |
|           |                                                                 | Z | 1.00   | 63.98  | 14.85 |      | 130.0 |         |
| 10572-AAA | IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 90pc duty cycle)       | X | 1.07   | 65.55  | 16.13 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                                 | Y | 1.19   | 66.83  | 17.22 |      | 130.0 |         |
|           |                                                                 | Z | 1.01   | 64.59  | 15.26 |      | 130.0 |         |
| 10573-AAA | IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 90pc duty cycle)     | X | 45.90  | 133.30 | 34.49 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                                 | Y | 100.00 | 153.39 | 40.97 |      | 130.0 |         |
|           |                                                                 | Z | 1.58   | 84.66  | 22.16 |      | 130.0 |         |
| 10574-AAA | IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 90pc duty cycle)      | X | 1.35   | 74.48  | 20.46 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                                 | Y | 1.66   | 77.75  | 22.43 |      | 130.0 |         |
|           |                                                                 | Z | 1.11   | 71.01  | 18.64 |      | 130.0 |         |

|           |                                                                 |   |      |       |       |      |       |         |
|-----------|-----------------------------------------------------------------|---|------|-------|-------|------|-------|---------|
| 10575-AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc duty cycle)  | X | 4.32 | 66.63 | 16.40 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                                 | Y | 4.48 | 66.85 | 16.63 |      | 130.0 |         |
|           |                                                                 | Z | 4.16 | 66.71 | 16.08 |      | 130.0 |         |
| 10576-AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc duty cycle)  | X | 4.35 | 66.88 | 16.51 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                                 | Y | 4.52 | 67.08 | 16.73 |      | 130.0 |         |
|           |                                                                 | Z | 4.19 | 66.99 | 16.21 |      | 130.0 |         |
| 10577-AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 90pc duty cycle) | X | 4.50 | 67.10 | 16.65 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                                 | Y | 4.69 | 67.32 | 16.88 |      | 130.0 |         |
|           |                                                                 | Z | 4.33 | 67.20 | 16.35 |      | 130.0 |         |
| 10578-AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle) | X | 4.42 | 67.29 | 16.79 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                                 | Y | 4.60 | 67.52 | 17.02 |      | 130.0 |         |
|           |                                                                 | Z | 4.26 | 67.40 | 16.51 |      | 130.0 |         |
| 10579-AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 90pc duty cycle) | X | 4.15 | 66.32 | 15.93 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                                 | Y | 4.34 | 66.61 | 16.20 |      | 130.0 |         |
|           |                                                                 | Z | 3.97 | 66.27 | 15.55 |      | 130.0 |         |
| 10580-AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 90pc duty cycle) | X | 4.18 | 66.36 | 15.93 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                                 | Y | 4.38 | 66.67 | 16.22 |      | 130.0 |         |
|           |                                                                 | Z | 3.97 | 66.21 | 15.49 |      | 130.0 |         |
| 10581-AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 90pc duty cycle) | X | 4.34 | 67.41 | 16.79 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                                 | Y | 4.51 | 67.61 | 16.99 |      | 130.0 |         |
|           |                                                                 | Z | 4.18 | 67.53 | 16.51 |      | 130.0 |         |
| 10582-AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 90pc duty cycle) | X | 4.07 | 66.06 | 15.68 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                                 | Y | 4.26 | 66.35 | 15.96 |      | 130.0 |         |
|           |                                                                 | Z | 3.88 | 65.96 | 15.27 |      | 130.0 |         |
| 10583-AAB | IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 90pc duty cycle)       | X | 4.32 | 66.63 | 16.40 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                                 | Y | 4.48 | 66.85 | 16.63 |      | 130.0 |         |
|           |                                                                 | Z | 4.16 | 66.71 | 16.08 |      | 130.0 |         |
| 10584-AAB | IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 90pc duty cycle)       | X | 4.35 | 66.88 | 16.51 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                                 | Y | 4.52 | 67.08 | 16.73 |      | 130.0 |         |
|           |                                                                 | Z | 4.19 | 66.99 | 16.21 |      | 130.0 |         |
| 10585-AAB | IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 90pc duty cycle)      | X | 4.50 | 67.10 | 16.65 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                                 | Y | 4.69 | 67.32 | 16.88 |      | 130.0 |         |
|           |                                                                 | Z | 4.33 | 67.20 | 16.35 |      | 130.0 |         |
| 10586-AAB | IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 90pc duty cycle)      | X | 4.42 | 67.29 | 16.79 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                                 | Y | 4.60 | 67.52 | 17.02 |      | 130.0 |         |
|           |                                                                 | Z | 4.26 | 67.40 | 16.51 |      | 130.0 |         |
| 10587-AAB | IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 90pc duty cycle)      | X | 4.15 | 66.32 | 15.93 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                                 | Y | 4.34 | 66.61 | 16.20 |      | 130.0 |         |
|           |                                                                 | Z | 3.97 | 66.27 | 15.55 |      | 130.0 |         |
| 10588-AAB | IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 90pc duty cycle)      | X | 4.18 | 66.36 | 15.93 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                                 | Y | 4.38 | 66.67 | 16.22 |      | 130.0 |         |
|           |                                                                 | Z | 3.97 | 66.21 | 15.49 |      | 130.0 |         |
| 10589-AAB | IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 90pc duty cycle)      | X | 4.34 | 67.41 | 16.79 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                                 | Y | 4.51 | 67.61 | 16.99 |      | 130.0 |         |
|           |                                                                 | Z | 4.18 | 67.53 | 16.51 |      | 130.0 |         |
| 10590-AAB | IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 90pc duty cycle)      | X | 4.07 | 66.06 | 15.68 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                                 | Y | 4.26 | 66.35 | 15.96 |      | 130.0 |         |
|           |                                                                 | Z | 3.88 | 65.96 | 15.27 |      | 130.0 |         |

|           |                                                       |   |      |       |       |      |       |         |
|-----------|-------------------------------------------------------|---|------|-------|-------|------|-------|---------|
| 10591-AAB | IEEE 802.11n (HT Mixed, 20MHz, MCS0, 90pc duty cycle) | X | 4.48 | 66.74 | 16.55 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                       | Y | 4.64 | 66.92 | 16.75 |      | 130.0 |         |
|           |                                                       | Z | 4.33 | 66.86 | 16.26 |      | 130.0 |         |
| 10592-AAB | IEEE 802.11n (HT Mixed, 20MHz, MCS1, 90pc duty cycle) | X | 4.58 | 67.02 | 16.67 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                       | Y | 4.77 | 67.23 | 16.87 |      | 130.0 |         |
|           |                                                       | Z | 4.41 | 67.10 | 16.37 |      | 130.0 |         |
| 10593-AAB | IEEE 802.11n (HT Mixed, 20MHz, MCS2, 90pc duty cycle) | X | 4.50 | 66.88 | 16.51 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                       | Y | 4.68 | 67.11 | 16.73 |      | 130.0 |         |
|           |                                                       | Z | 4.33 | 66.96 | 16.20 |      | 130.0 |         |
| 10594-AAB | IEEE 802.11n (HT Mixed, 20MHz, MCS3, 90pc duty cycle) | X | 4.56 | 67.08 | 16.70 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                       | Y | 4.74 | 67.30 | 16.91 |      | 130.0 |         |
|           |                                                       | Z | 4.39 | 67.16 | 16.40 |      | 130.0 |         |
| 10595-AAB | IEEE 802.11n (HT Mixed, 20MHz, MCS4, 90pc duty cycle) | X | 4.53 | 67.07 | 16.60 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                       | Y | 4.71 | 67.27 | 16.81 |      | 130.0 |         |
|           |                                                       | Z | 4.35 | 67.13 | 16.30 |      | 130.0 |         |
| 10596-AAB | IEEE 802.11n (HT Mixed, 20MHz, MCS5, 90pc duty cycle) | X | 4.45 | 67.00 | 16.58 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                       | Y | 4.64 | 67.24 | 16.80 |      | 130.0 |         |
|           |                                                       | Z | 4.27 | 67.01 | 16.25 |      | 130.0 |         |
| 10597-AAB | IEEE 802.11n (HT Mixed, 20MHz, MCS6, 90pc duty cycle) | X | 4.40 | 66.85 | 16.41 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                       | Y | 4.59 | 67.11 | 16.65 |      | 130.0 |         |
|           |                                                       | Z | 4.23 | 66.87 | 16.08 |      | 130.0 |         |
| 10598-AAB | IEEE 802.11n (HT Mixed, 20MHz, MCS7, 90pc duty cycle) | X | 4.41 | 67.15 | 16.73 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                       | Y | 4.59 | 67.39 | 16.96 |      | 130.0 |         |
|           |                                                       | Z | 4.26 | 67.25 | 16.45 |      | 130.0 |         |
| 10599-AAB | IEEE 802.11n (HT Mixed, 40MHz, MCS0, 90pc duty cycle) | X | 5.20 | 67.26 | 16.87 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                       | Y | 5.33 | 67.39 | 16.98 |      | 130.0 |         |
|           |                                                       | Z | 5.07 | 67.39 | 16.64 |      | 130.0 |         |
| 10600-AAB | IEEE 802.11n (HT Mixed, 40MHz, MCS1, 90pc duty cycle) | X | 5.34 | 67.77 | 17.10 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                       | Y | 5.47 | 67.86 | 17.18 |      | 130.0 |         |
|           |                                                       | Z | 5.05 | 67.37 | 16.59 |      | 130.0 |         |
| 10601-AAB | IEEE 802.11n (HT Mixed, 40MHz, MCS2, 90pc duty cycle) | X | 5.22 | 67.48 | 16.98 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                       | Y | 5.34 | 67.55 | 17.05 |      | 130.0 |         |
|           |                                                       | Z | 5.03 | 67.40 | 16.63 |      | 130.0 |         |
| 10602-AAB | IEEE 802.11n (HT Mixed, 40MHz, MCS3, 90pc duty cycle) | X | 5.31 | 67.47 | 16.88 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                       | Y | 5.47 | 67.70 | 17.03 |      | 130.0 |         |
|           |                                                       | Z | 5.04 | 67.16 | 16.42 |      | 130.0 |         |
| 10603-AAB | IEEE 802.11n (HT Mixed, 40MHz, MCS4, 90pc duty cycle) | X | 5.34 | 67.68 | 17.13 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                       | Y | 5.55 | 68.04 | 17.35 |      | 130.0 |         |
|           |                                                       | Z | 5.07 | 67.36 | 16.68 |      | 130.0 |         |
| 10604-AAB | IEEE 802.11n (HT Mixed, 40MHz, MCS5, 90pc duty cycle) | X | 5.19 | 67.13 | 16.83 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                       | Y | 5.43 | 67.67 | 17.14 |      | 130.0 |         |
|           |                                                       | Z | 4.98 | 67.00 | 16.46 |      | 130.0 |         |
| 10605-AAB | IEEE 802.11n (HT Mixed, 40MHz, MCS6, 90pc duty cycle) | X | 5.28 | 67.45 | 16.99 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                       | Y | 5.44 | 67.68 | 17.14 |      | 130.0 |         |
|           |                                                       | Z | 5.02 | 67.15 | 16.54 |      | 130.0 |         |
| 10606-AAB | IEEE 802.11n (HT Mixed, 40MHz, MCS7, 90pc duty cycle) | X | 5.09 | 66.96 | 16.59 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                       | Y | 5.20 | 67.02 | 16.66 |      | 130.0 |         |
|           |                                                       | Z | 4.89 | 66.84 | 16.22 |      | 130.0 |         |

|           |                                                   |   |      |       |       |      |       |         |
|-----------|---------------------------------------------------|---|------|-------|-------|------|-------|---------|
| 10607-AAB | IEEE 802.11ac WiFi (20MHz, MCS0, 90pc duty cycle) | X | 4.33 | 66.11 | 16.21 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                   | Y | 4.50 | 66.32 | 16.42 |      | 130.0 |         |
|           |                                                   | Z | 4.18 | 66.24 | 15.93 |      | 130.0 |         |
| 10608-AAB | IEEE 802.11ac WiFi (20MHz, MCS1, 90pc duty cycle) | X | 4.46 | 66.41 | 16.34 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                   | Y | 4.65 | 66.67 | 16.57 |      | 130.0 |         |
|           |                                                   | Z | 4.28 | 66.49 | 16.05 |      | 130.0 |         |
| 10609-AAB | IEEE 802.11ac WiFi (20MHz, MCS2, 90pc duty cycle) | X | 4.35 | 66.23 | 16.15 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                   | Y | 4.54 | 66.50 | 16.39 |      | 130.0 |         |
|           |                                                   | Z | 4.18 | 66.29 | 15.84 |      | 130.0 |         |
| 10610-AAB | IEEE 802.11ac WiFi (20MHz, MCS3, 90pc duty cycle) | X | 4.41 | 66.44 | 16.34 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                   | Y | 4.59 | 66.68 | 16.57 |      | 130.0 |         |
|           |                                                   | Z | 4.24 | 66.51 | 16.05 |      | 130.0 |         |
| 10611-AAB | IEEE 802.11ac WiFi (20MHz, MCS4, 90pc duty cycle) | X | 4.32 | 66.20 | 16.17 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                   | Y | 4.51 | 66.47 | 16.40 |      | 130.0 |         |
|           |                                                   | Z | 4.14 | 66.25 | 15.86 |      | 130.0 |         |
| 10612-AAB | IEEE 802.11ac WiFi (20MHz, MCS5, 90pc duty cycle) | X | 4.30 | 66.31 | 16.19 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                   | Y | 4.50 | 66.61 | 16.44 |      | 130.0 |         |
|           |                                                   | Z | 4.10 | 66.27 | 15.84 |      | 130.0 |         |
| 10613-AAB | IEEE 802.11ac WiFi (20MHz, MCS6, 90pc duty cycle) | X | 4.29 | 66.09 | 16.01 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                   | Y | 4.49 | 66.41 | 16.28 |      | 130.0 |         |
|           |                                                   | Z | 4.10 | 66.08 | 15.67 |      | 130.0 |         |
| 10614-AAB | IEEE 802.11ac WiFi (20MHz, MCS7, 90pc duty cycle) | X | 4.28 | 66.40 | 16.32 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                   | Y | 4.47 | 66.69 | 16.57 |      | 130.0 |         |
|           |                                                   | Z | 4.11 | 66.46 | 16.02 |      | 130.0 |         |
| 10615-AAB | IEEE 802.11ac WiFi (20MHz, MCS8, 90pc duty cycle) | X | 4.30 | 66.00 | 15.89 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                   | Y | 4.49 | 66.26 | 16.14 |      | 130.0 |         |
|           |                                                   | Z | 4.11 | 66.01 | 15.56 |      | 130.0 |         |
| 10616-AAB | IEEE 802.11ac WiFi (40MHz, MCS0, 90pc duty cycle) | X | 4.98 | 66.35 | 16.40 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                   | Y | 5.14 | 66.59 | 16.56 |      | 130.0 |         |
|           |                                                   | Z | 4.81 | 66.34 | 16.11 |      | 130.0 |         |
| 10617-AAB | IEEE 802.11ac WiFi (40MHz, MCS1, 90pc duty cycle) | X | 5.02 | 66.47 | 16.44 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                   | Y | 5.20 | 66.77 | 16.63 |      | 130.0 |         |
|           |                                                   | Z | 4.82 | 66.38 | 16.11 |      | 130.0 |         |
| 10618-AAB | IEEE 802.11ac WiFi (40MHz, MCS2, 90pc duty cycle) | X | 4.92 | 66.49 | 16.47 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                   | Y | 5.11 | 66.84 | 16.68 |      | 130.0 |         |
|           |                                                   | Z | 4.75 | 66.49 | 16.18 |      | 130.0 |         |
| 10619-AAB | IEEE 802.11ac WiFi (40MHz, MCS3, 90pc duty cycle) | X | 4.99 | 66.47 | 16.38 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                   | Y | 5.12 | 66.62 | 16.50 |      | 130.0 |         |
|           |                                                   | Z | 4.78 | 66.37 | 16.04 |      | 130.0 |         |
| 10620-AAB | IEEE 802.11ac WiFi (40MHz, MCS4, 90pc duty cycle) | X | 5.02 | 66.35 | 16.37 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                   | Y | 5.19 | 66.61 | 16.54 |      | 130.0 |         |
|           |                                                   | Z | 4.81 | 66.23 | 16.02 |      | 130.0 |         |
| 10621-AAB | IEEE 802.11ac WiFi (40MHz, MCS5, 90pc duty cycle) | X | 5.02 | 66.45 | 16.56 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                   | Y | 5.19 | 66.74 | 16.74 |      | 130.0 |         |
|           |                                                   | Z | 4.86 | 66.48 | 16.29 |      | 130.0 |         |
| 10622-AAB | IEEE 802.11ac WiFi (40MHz, MCS6, 90pc duty cycle) | X | 5.02 | 66.56 | 16.61 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                   | Y | 5.19 | 66.85 | 16.79 |      | 130.0 |         |
|           |                                                   | Z | 4.84 | 66.54 | 16.31 |      | 130.0 |         |

|           |                                                    |   |      |       |       |      |       |         |
|-----------|----------------------------------------------------|---|------|-------|-------|------|-------|---------|
| 10623-AAB | IEEE 802.11ac WiFi (40MHz, MCS7, 90pc duty cycle)  | X | 4.91 | 66.09 | 16.22 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                    | Y | 5.06 | 66.33 | 16.38 |      | 130.0 |         |
|           |                                                    | Z | 4.74 | 66.10 | 15.92 |      | 130.0 |         |
| 10624-AAB | IEEE 802.11ac WiFi (40MHz, MCS8, 90pc duty cycle)  | X | 5.10 | 66.37 | 16.43 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                    | Y | 5.27 | 66.61 | 16.59 |      | 130.0 |         |
|           |                                                    | Z | 4.91 | 66.33 | 16.12 |      | 130.0 |         |
| 10625-AAB | IEEE 802.11ac WiFi (40MHz, MCS9, 90pc duty cycle)  | X | 5.22 | 66.63 | 16.63 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                    | Y | 5.38 | 66.84 | 16.77 |      | 130.0 |         |
|           |                                                    | Z | 5.00 | 66.51 | 16.28 |      | 130.0 |         |
| 10626-AAB | IEEE 802.11ac WiFi (80MHz, MCS0, 90pc duty cycle)  | X | 5.32 | 66.29 | 16.33 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                    | Y | 5.46 | 66.57 | 16.48 |      | 130.0 |         |
|           |                                                    | Z | 5.17 | 66.30 | 16.05 |      | 130.0 |         |
| 10627-AAB | IEEE 802.11ac WiFi (80MHz, MCS1, 90pc duty cycle)  | X | 5.60 | 67.10 | 16.71 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                    | Y | 5.73 | 67.29 | 16.81 |      | 130.0 |         |
|           |                                                    | Z | 5.36 | 66.86 | 16.31 |      | 130.0 |         |
| 10628-AAB | IEEE 802.11ac WiFi (80MHz, MCS2, 90pc duty cycle)  | X | 5.31 | 66.25 | 16.20 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                    | Y | 5.46 | 66.55 | 16.37 |      | 130.0 |         |
|           |                                                    | Z | 5.14 | 66.21 | 15.90 |      | 130.0 |         |
| 10629-AAB | IEEE 802.11ac WiFi (80MHz, MCS3, 90pc duty cycle)  | X | 5.49 | 66.72 | 16.44 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                    | Y | 5.57 | 66.76 | 16.47 |      | 130.0 |         |
|           |                                                    | Z | 5.29 | 66.59 | 16.09 |      | 130.0 |         |
| 10630-AAB | IEEE 802.11ac WiFi (80MHz, MCS4, 90pc duty cycle)  | X | 5.68 | 67.51 | 16.83 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                    | Y | 5.90 | 67.96 | 17.07 |      | 130.0 |         |
|           |                                                    | Z | 5.34 | 66.93 | 16.27 |      | 130.0 |         |
| 10631-AAB | IEEE 802.11ac WiFi (80MHz, MCS5, 90pc duty cycle)  | X | 5.63 | 67.48 | 17.02 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                    | Y | 5.82 | 67.86 | 17.23 |      | 130.0 |         |
|           |                                                    | Z | 5.40 | 67.29 | 16.67 |      | 130.0 |         |
| 10632-AAB | IEEE 802.11ac WiFi (80MHz, MCS6, 90pc duty cycle)  | X | 5.65 | 67.46 | 17.04 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                    | Y | 5.72 | 67.47 | 17.05 |      | 130.0 |         |
|           |                                                    | Z | 5.44 | 67.32 | 16.69 |      | 130.0 |         |
| 10633-AAB | IEEE 802.11ac WiFi (80MHz, MCS7, 90pc duty cycle)  | X | 5.32 | 66.30 | 16.27 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                    | Y | 5.51 | 66.72 | 16.50 |      | 130.0 |         |
|           |                                                    | Z | 5.15 | 66.30 | 15.99 |      | 130.0 |         |
| 10634-AAB | IEEE 802.11ac WiFi (80MHz, MCS8, 90pc duty cycle)  | X | 5.36 | 66.54 | 16.45 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                    | Y | 5.51 | 66.83 | 16.61 |      | 130.0 |         |
|           |                                                    | Z | 5.20 | 66.59 | 16.19 |      | 130.0 |         |
| 10635-AAB | IEEE 802.11ac WiFi (80MHz, MCS9, 90pc duty cycle)  | X | 5.20 | 65.70 | 15.73 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                    | Y | 5.36 | 66.01 | 15.90 |      | 130.0 |         |
|           |                                                    | Z | 5.03 | 65.65 | 15.41 |      | 130.0 |         |
| 10636-AAC | IEEE 802.11ac WiFi (160MHz, MCS0, 90pc duty cycle) | X | 5.78 | 66.65 | 16.42 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                    | Y | 5.90 | 66.91 | 16.56 |      | 130.0 |         |
|           |                                                    | Z | 5.61 | 66.61 | 16.12 |      | 130.0 |         |
| 10637-AAC | IEEE 802.11ac WiFi (160MHz, MCS1, 90pc duty cycle) | X | 5.90 | 67.00 | 16.58 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                    | Y | 6.04 | 67.28 | 16.73 |      | 130.0 |         |
|           |                                                    | Z | 5.69 | 66.82 | 16.22 |      | 130.0 |         |
| 10638-AAC | IEEE 802.11ac WiFi (160MHz, MCS2, 90pc duty cycle) | X | 5.94 | 67.10 | 16.61 | 0.46 | 130.0 | ± 9.6 % |
|           |                                                    | Y | 6.05 | 67.30 | 16.71 |      | 130.0 |         |
|           |                                                    | Z | 5.75 | 66.99 | 16.28 |      | 130.0 |         |

|           |                                                        |   |        |        |       |       |       |         |
|-----------|--------------------------------------------------------|---|--------|--------|-------|-------|-------|---------|
| 10639-AAC | IEEE 802.11ac WiFi (160MHz, MCS3, 90pc duty cycle)     | X | 5.87   | 66.88  | 16.54 | 0.46  | 130.0 | ± 9.6 % |
|           |                                                        | Y | 6.00   | 67.17  | 16.69 |       | 130.0 |         |
|           |                                                        | Z | 5.69   | 66.82  | 16.24 |       | 130.0 |         |
| 10640-AAC | IEEE 802.11ac WiFi (160MHz, MCS4, 90pc duty cycle)     | X | 5.79   | 66.67  | 16.37 | 0.46  | 130.0 | ± 9.6 % |
|           |                                                        | Y | 5.97   | 67.09  | 16.59 |       | 130.0 |         |
|           |                                                        | Z | 5.60   | 66.55  | 16.04 |       | 130.0 |         |
| 10641-AAC | IEEE 802.11ac WiFi (160MHz, MCS5, 90pc duty cycle)     | X | 5.95   | 66.94  | 16.53 | 0.46  | 130.0 | ± 9.6 % |
|           |                                                        | Y | 6.07   | 67.17  | 16.65 |       | 130.0 |         |
|           |                                                        | Z | 5.72   | 66.71  | 16.14 |       | 130.0 |         |
| 10642-AAC | IEEE 802.11ac WiFi (160MHz, MCS6, 90pc duty cycle)     | X | 5.93   | 67.02  | 16.75 | 0.46  | 130.0 | ± 9.6 % |
|           |                                                        | Y | 6.09   | 67.36  | 16.93 |       | 130.0 |         |
|           |                                                        | Z | 5.75   | 66.97  | 16.45 |       | 130.0 |         |
| 10643-AAC | IEEE 802.11ac WiFi (160MHz, MCS7, 90pc duty cycle)     | X | 5.79   | 66.72  | 16.48 | 0.46  | 130.0 | ± 9.6 % |
|           |                                                        | Y | 5.94   | 67.06  | 16.66 |       | 130.0 |         |
|           |                                                        | Z | 5.59   | 66.57  | 16.12 |       | 130.0 |         |
| 10644-AAC | IEEE 802.11ac WiFi (160MHz, MCS8, 90pc duty cycle)     | X | 5.83   | 66.84  | 16.56 | 0.46  | 130.0 | ± 9.6 % |
|           |                                                        | Y | 6.00   | 67.25  | 16.78 |       | 130.0 |         |
|           |                                                        | Z | 5.64   | 66.74  | 16.23 |       | 130.0 |         |
| 10645-AAC | IEEE 802.11ac WiFi (160MHz, MCS9, 90pc duty cycle)     | X | 6.00   | 67.07  | 16.64 | 0.46  | 130.0 | ± 9.6 % |
|           |                                                        | Y | 6.21   | 67.54  | 16.89 |       | 130.0 |         |
|           |                                                        | Z | 5.77   | 66.86  | 16.26 |       | 130.0 |         |
| 10646-AAE | LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Subframe=2,7)  | X | 10.86  | 99.58  | 34.54 | 9.30  | 60.0  | ± 9.6 % |
|           |                                                        | Y | 12.75  | 100.34 | 33.52 |       | 60.0  |         |
|           |                                                        | Z | 5.31   | 84.82  | 28.77 |       | 60.0  |         |
| 10647-AAE | LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Subframe=2,7) | X | 9.54   | 97.33  | 33.94 | 9.30  | 60.0  | ± 9.6 % |
|           |                                                        | Y | 11.34  | 98.50  | 33.07 |       | 60.0  |         |
|           |                                                        | Z | 4.72   | 82.70  | 28.08 |       | 60.0  |         |
| 10648-AAA | CDMA2000 (1x Advanced)                                 | X | 0.33   | 60.00  | 5.33  | 0.00  | 150.0 | ± 9.6 % |
|           |                                                        | Y | 0.54   | 62.99  | 9.08  |       | 150.0 |         |
|           |                                                        | Z | 0.29   | 60.00  | 4.72  |       | 150.0 |         |
| 10652-AAC | LTE-TDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)         | X | 3.41   | 67.48  | 16.36 | 2.23  | 80.0  | ± 9.6 % |
|           |                                                        | Y | 3.57   | 67.58  | 16.63 |       | 80.0  |         |
|           |                                                        | Z | 3.03   | 66.68  | 15.51 |       | 80.0  |         |
| 10653-AAC | LTE-TDD (OFDMA, 10 MHz, E-TM 3.1, Clipping 44%)        | X | 3.91   | 66.47  | 16.67 | 2.23  | 80.0  | ± 9.6 % |
|           |                                                        | Y | 4.05   | 66.58  | 16.80 |       | 80.0  |         |
|           |                                                        | Z | 3.59   | 65.97  | 16.06 |       | 80.0  |         |
| 10654-AAC | LTE-TDD (OFDMA, 15 MHz, E-TM 3.1, Clipping 44%)        | X | 3.92   | 66.00  | 16.72 | 2.23  | 80.0  | ± 9.6 % |
|           |                                                        | Y | 4.05   | 66.15  | 16.82 |       | 80.0  |         |
|           |                                                        | Z | 3.64   | 65.53  | 16.15 |       | 80.0  |         |
| 10655-AAD | LTE-TDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)        | X | 4.00   | 65.85  | 16.74 | 2.23  | 80.0  | ± 9.6 % |
|           |                                                        | Y | 4.12   | 66.05  | 16.84 |       | 80.0  |         |
|           |                                                        | Z | 3.73   | 65.37  | 16.19 |       | 80.0  |         |
| 10658-AAA | Pulse Waveform (200Hz, 10%)                            | X | 8.11   | 79.21  | 17.64 | 10.00 | 50.0  | ± 9.6 % |
|           |                                                        | Y | 5.18   | 73.01  | 14.95 |       | 50.0  |         |
|           |                                                        | Z | 4.63   | 71.52  | 13.37 |       | 50.0  |         |
| 10659-AAA | Pulse Waveform (200Hz, 20%)                            | X | 100.00 | 107.57 | 23.76 | 6.99  | 60.0  | ± 9.6 % |
|           |                                                        | Y | 5.94   | 76.36  | 14.90 |       | 60.0  |         |
|           |                                                        | Z | 5.07   | 74.93  | 13.37 |       | 60.0  |         |

|           |                             |   |        |        |       |      |       |         |
|-----------|-----------------------------|---|--------|--------|-------|------|-------|---------|
| 10660-AAA | Pulse Waveform (200Hz, 40%) | X | 100.00 | 102.40 | 19.98 | 3.98 | 80.0  | ± 9.6 % |
|           |                             | Y | 100.00 | 101.57 | 19.73 |      | 80.0  |         |
|           |                             | Z | 9.47   | 80.34  | 13.09 |      | 80.0  |         |
| 10661-AAA | Pulse Waveform (200Hz, 60%) | X | 0.90   | 65.14  | 7.58  | 2.22 | 100.0 | ± 9.6 % |
|           |                             | Y | 100.00 | 98.16  | 17.19 |      | 100.0 |         |
|           |                             | Z | 0.28   | 60.00  | 4.46  |      | 100.0 |         |
| 10662-AAA | Pulse Waveform (200Hz, 80%) | X | 42.12  | 60.80  | 1.47  | 0.97 | 120.0 | ± 9.6 % |
|           |                             | Y | 0.19   | 60.00  | 4.14  |      | 120.0 |         |
|           |                             | Z | 1.43   | 244.46 | 28.28 |      | 120.0 |         |

<sup>E</sup> Uncertainty is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.

## Appendix E – Dipole Calibration Data Sheets



Accredited by the Swiss Accreditation Service (SAS)

Accreditation No.: **SCS 0108**

The Swiss Accreditation Service is one of the signatories to the EA  
 Multilateral Agreement for the recognition of calibration certificates

Client **RF Exposure Lab**

Certificate No: **D750V3-1016\_Jul18**

## CALIBRATION CERTIFICATE

Object **D750V3 - SN:1016**

Calibration procedure(s) **QA CAL-05.v10**  
**Calibration procedure for dipole validation kits above 700 MHz**

Calibration date: **July 13, 2018**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).  
 The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature ( $22 \pm 3$ )°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

| Primary Standards               | ID #               | Cal Date (Certificate No.)        | Scheduled Calibration  |
|---------------------------------|--------------------|-----------------------------------|------------------------|
| Power meter NRP                 | SN: 104778         | 04-Apr-18 (No. 217-02672/02673)   | Apr-19                 |
| Power sensor NRP-Z91            | SN: 103244         | 04-Apr-18 (No. 217-02672)         | Apr-19                 |
| Power sensor NRP-Z91            | SN: 103245         | 04-Apr-18 (No. 217-02673)         | Apr-19                 |
| Reference 20 dB Attenuator      | SN: 5058 (20k)     | 04-Apr-18 (No. 217-02682)         | Apr-19                 |
| Type-N mismatch combination     | SN: 5047.2 / 06327 | 04-Apr-18 (No. 217-02683)         | Apr-19                 |
| Reference Probe EX3DV4          | SN: 7349           | 30-Dec-17 (No. EX3-7349_Dec17)    | Dec-18                 |
| DAE4                            | SN: 601            | 26-Oct-17 (No. DAE4-601_Oct17)    | Oct-18                 |
| Secondary Standards             | ID #               | Check Date (in house)             | Scheduled Check        |
| Power meter EPM-442A            | SN: GB37480704     | 07-Oct-15 (in house check Oct-16) | In house check: Oct-18 |
| Power sensor HP 8481A           | SN: US37292783     | 07-Oct-15 (in house check Oct-16) | In house check: Oct-18 |
| Power sensor HP 8481A           | SN: MY41092317     | 07-Oct-15 (in house check Oct-16) | In house check: Oct-18 |
| RF generator R&S SMT-06         | SN: 100972         | 15-Jun-15 (in house check Oct-16) | In house check: Oct-18 |
| Network Analyzer Agilent E8358A | SN: US41080477     | 31-Mar-14 (in house check Oct-17) | In house check: Oct-18 |

Calibrated by: **Manu Seitz** Name **Manu Seitz** Function **Laboratory Technician**

Approved by: **Katja Pokovic** Name **Katja Pokovic** Function **Technical Manager**

Signature

Issued: July 16, 2018

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.



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Accreditation No.: **SCS 0108**

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Multilateral Agreement for the recognition of calibration certificates

### Glossary:

|       |                                 |
|-------|---------------------------------|
| TSL   | tissue simulating liquid        |
| ConvF | sensitivity in TSL / NORM x,y,z |
| N/A   | not applicable or not measured  |

### Calibration is Performed According to the Following Standards:

- IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
- IEC 62209-1, "Measurement procedure for the assessment of Specific Absorption Rate (SAR) from hand-held and body-mounted devices used next to the ear (frequency range of 300 MHz to 6 GHz)", July 2016
- IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
- KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

### Additional Documentation:

- DASY4/5 System Handbook

### Methods Applied and Interpretation of Parameters:

- Measurement Conditions:** Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- Antenna Parameters with TSL:** The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- Feed Point Impedance and Return Loss:** These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- Electrical Delay:** One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- SAR measured:** SAR measured at the stated antenna input power.
- SAR normalized:** SAR as measured, normalized to an input power of 1 W at the antenna connector.
- SAR for nominal TSL parameters:** The measured TSL parameters are used to calculate the nominal SAR result.

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor  $k=2$ , which for a normal distribution corresponds to a coverage probability of approximately 95%.

## Measurement Conditions

DASY system configuration, as far as not given on page 1.

|                                     |                        |             |
|-------------------------------------|------------------------|-------------|
| <b>DASY Version</b>                 | DASY5                  | V52.10.1    |
| <b>Extrapolation</b>                | Advanced Extrapolation |             |
| <b>Phantom</b>                      | Modular Flat Phantom   |             |
| <b>Distance Dipole Center - TSL</b> | 15 mm                  | with Spacer |
| <b>Zoom Scan Resolution</b>         | dx, dy, dz = 5 mm      |             |
| <b>Frequency</b>                    | 750 MHz $\pm$ 1 MHz    |             |

## Head TSL parameters

The following parameters and calculations were applied.

|                                                | Temperature         | Permittivity   | Conductivity         |
|------------------------------------------------|---------------------|----------------|----------------------|
| <b>Nominal Head TSL parameters</b>             | 22.0 °C             | 41.9           | 0.89 mho/m           |
| <b>Measured Head TSL parameters</b>            | (22.0 $\pm$ 0.2) °C | 40.9 $\pm$ 6 % | 0.89 mho/m $\pm$ 6 % |
| <b>Head TSL temperature change during test</b> | < 0.5 °C            | ----           | ----                 |

## SAR result with Head TSL

|                                                             |                    |                                                |
|-------------------------------------------------------------|--------------------|------------------------------------------------|
| <b>SAR averaged over 1 cm<sup>3</sup> (1 g) of Head TSL</b> | Condition          |                                                |
| SAR measured                                                | 250 mW input power | 2.07 W/kg                                      |
| SAR for nominal Head TSL parameters                         | normalized to 1W   | <b>8.23 W/kg <math>\pm</math> 17.0 % (k=2)</b> |

|                                                               |                    |                                                |
|---------------------------------------------------------------|--------------------|------------------------------------------------|
| <b>SAR averaged over 10 cm<sup>3</sup> (10 g) of Head TSL</b> | condition          |                                                |
| SAR measured                                                  | 250 mW input power | 1.35 W/kg                                      |
| SAR for nominal Head TSL parameters                           | normalized to 1W   | <b>5.38 W/kg <math>\pm</math> 16.5 % (k=2)</b> |

## Body TSL parameters

The following parameters and calculations were applied.

|                                                | Temperature         | Permittivity   | Conductivity         |
|------------------------------------------------|---------------------|----------------|----------------------|
| <b>Nominal Body TSL parameters</b>             | 22.0 °C             | 55.5           | 0.96 mho/m           |
| <b>Measured Body TSL parameters</b>            | (22.0 $\pm$ 0.2) °C | 55.3 $\pm$ 6 % | 0.96 mho/m $\pm$ 6 % |
| <b>Body TSL temperature change during test</b> | < 0.5 °C            | ----           | ----                 |

## SAR result with Body TSL

|                                                             |                    |                                                |
|-------------------------------------------------------------|--------------------|------------------------------------------------|
| <b>SAR averaged over 1 cm<sup>3</sup> (1 g) of Body TSL</b> | Condition          |                                                |
| SAR measured                                                | 250 mW input power | 2.14 W/kg                                      |
| SAR for nominal Body TSL parameters                         | normalized to 1W   | <b>8.55 W/kg <math>\pm</math> 17.0 % (k=2)</b> |

|                                                               |                    |                                                |
|---------------------------------------------------------------|--------------------|------------------------------------------------|
| <b>SAR averaged over 10 cm<sup>3</sup> (10 g) of Body TSL</b> | condition          |                                                |
| SAR measured                                                  | 250 mW input power | 1.41 W/kg                                      |
| SAR for nominal Body TSL parameters                           | normalized to 1W   | <b>5.64 W/kg <math>\pm</math> 16.5 % (k=2)</b> |

## Appendix (Additional assessments outside the scope of SCS 0108)

### Antenna Parameters with Head TSL

|                                      |                                |
|--------------------------------------|--------------------------------|
| Impedance, transformed to feed point | 53.4 $\Omega$ + 0.0 j $\Omega$ |
| Return Loss                          | - 29.6 dB                      |

### Antenna Parameters with Body TSL

|                                      |                                |
|--------------------------------------|--------------------------------|
| Impedance, transformed to feed point | 48.8 $\Omega$ - 2.6 j $\Omega$ |
| Return Loss                          | - 30.7 dB                      |

### General Antenna Parameters and Design

|                                  |          |
|----------------------------------|----------|
| Electrical Delay (one direction) | 1.038 ns |
|----------------------------------|----------|

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.

No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

### Additional EUT Data

|                 |                |
|-----------------|----------------|
| Manufactured by | SPEAG          |
| Manufactured on | March 22, 2010 |

## DASY5 Validation Report for Head TSL

Date: 13.07.2018

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 750 MHz; Type: D750V3; Serial: D750V3 - SN:1016**

Communication System: UID 0 - CW; Frequency: 750 MHz

Medium parameters used:  $f = 750 \text{ MHz}$ ;  $\sigma = 0.89 \text{ S/m}$ ;  $\epsilon_r = 40.9$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(10.22, 10.22, 10.22) @ 750 MHz; Calibrated: 30.12.2017
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 26.10.2017
- Phantom: Flat Phantom 4.9 (front); Type: QD 00L P49 AA; Serial: 1001
- DASY52 52.10.1(1476); SEMCAD X 14.6.11(7439)

### Dipole Calibration for Head Tissue/Pin=250 mW, d=15mm/Zoom Scan (7x7x7)/Cube 0:

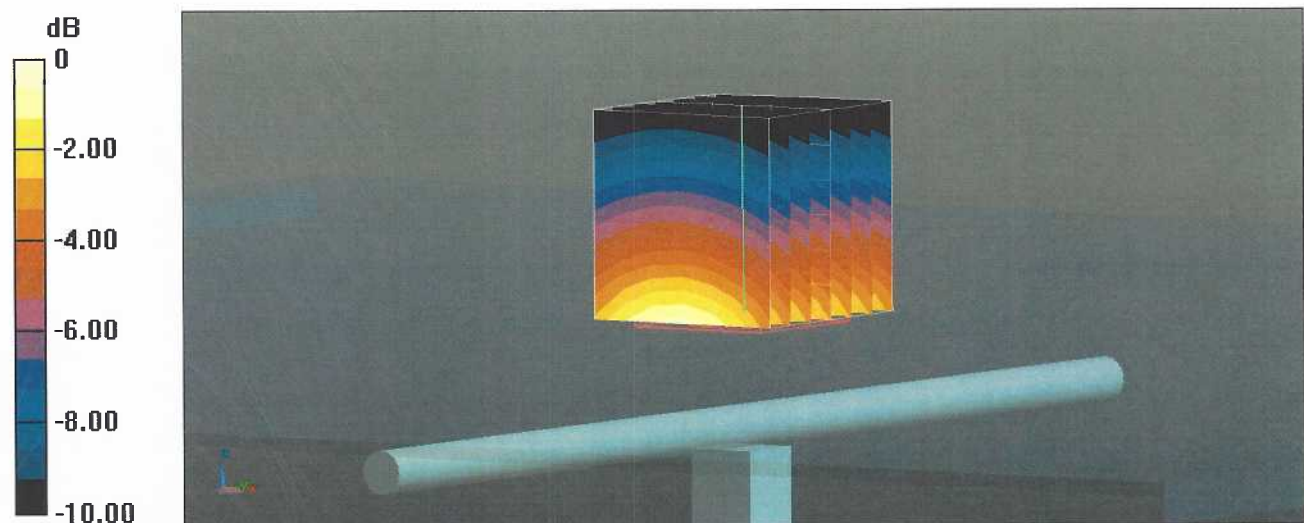
Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 59.03 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 3.10 W/kg

**SAR(1 g) = 2.07 W/kg; SAR(10 g) = 1.35 W/kg**

Maximum value of SAR (measured) = 2.76 W/kg



0 dB = 2.76 W/kg = 4.41 dBW/kg

## Impedance Measurement Plot for Head TSL

