



## Appendix F. FCC 3G SAR Measurement Procedures

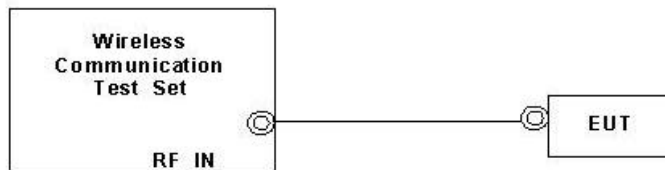
### Conducted Output Power:

The EUT was tested according to the requirements of the FCC 3G procedures and the TS 34.121. The EUT's WCDMA and HSPA function is Release 6 version supporting HSDPA Category 8. A detailed analysis of the output power for all WCDMA, HSPDA, and HSPA (HSUPA & HSDPA) modes is provided in the tables below. According to the FCC 3G procedures, handsets with both HSDPA and HSUPA should be tested according to Release 6 HSPA test procedures, and the EUT does not support VOIP function over the HSPA function. Device was tested according to procedure KDB941225 - section Release 6 HSPA Data Devices as documented/evaluated in the following table.

| WCDMA SAR Test mode - Conducted Power |              |                 |                |                |
|---------------------------------------|--------------|-----------------|----------------|----------------|
| Mode                                  | Setup        | Cell band (850) |                |                |
|                                       |              | CH4132          | CH4182         | CH4233         |
|                                       |              | 826.4<br>(MHz)  | 836.4<br>(MHz) | 846.6<br>(MHz) |
| WCDMA                                 | RMC 12.2Kbps | 22.22           | 22.20          | 22.23          |
| HSDPA                                 | Subtest 1    | 22.18           | 22.17          | 22.21          |
|                                       | Subtest 2    | 22.16           | 22.15          | 22.18          |
|                                       | Subtest 3    | 21.84           | 21.82          | 21.79          |
|                                       | Subtest 4    | 21.82           | 21.80          | 21.78          |

**WCDMA Setup Configuration:**

- a. The EUT was connected to Base Station referred to the drawing of Setup Configuration.
- b. The RF path losses were compensated into the measurements.
- c. A call was established between EUT and Base Station with following setting
  - i. Data rates: Varied from RMC 12.2Kbps
  - ii. RMC Test Loop = Loop Mode 1
  - iii. Power Ctrl Mode = All Up bits
- d. The transmitted maximum output power was recorded.



**Setup Configuration**

**HSDPA Setup Configuration:**

- a. The EUT was connected to Base Station referred to the drawing of Setup Configuration.
- b. The RF path losses were compensated into the measurements.
- c. A call was established between EUT and Base Station with following setting:
  - i. Set Gain Factors ( $\beta_c$  and  $\beta_d$ ) and parameters were set according to each
  - ii. Specific sub-test in the following table, C10.1.4, quoted from the TS 34.121
  - iii. Set RMC12.2Kbps + HSDPA mode.
  - iv. Set Cell Power = -86 dBm
  - v. Set HS-DSCH Configuration Type to FRC (H-set 1, QPSK)
  - vi. Select HSDPA Uplink Parameters
  - vii. Set DeltaACK, DeltaNACK and DeltaCQI = 8
  - viii. Set Ack-Nack Repetition Factor to 3
  - ix. Set CQI Feedback Cycle (k) to 4 ms
  - x. Set CQI Repetition Factor to 2
  - xi. Power Ctrl Mode = All Up bits
- d. The transmitted maximum output power was recorded.

**Table C.10.1.4:  $\beta$  values for transmitter characteristics tests with HS-DPCCH**

| Sub-test | $\beta_c$         | $\beta_d$         | $\beta_d$<br>(SF) | $\beta_c/\beta_d$ | $\beta_{HS}$<br>(Note 1,<br>Note 2) | CM (dB)<br>(Note 3) | MPR (dB)<br>(Note 3) |
|----------|-------------------|-------------------|-------------------|-------------------|-------------------------------------|---------------------|----------------------|
| 1        | 2/15              | 15/15             | 64                | 2/15              | 4/15                                | 0.0                 | 0.0                  |
| 2        | 12/15<br>(Note 4) | 15/15<br>(Note 4) | 64                | 12/15<br>(Note 4) | 24/15                               | 1.0                 | 0.0                  |
| 3        | 15/15             | 8/15              | 64                | 15/8              | 30/15                               | 1.5                 | 0.5                  |
| 4        | 15/15             | 4/15              | 64                | 15/4              | 30/15                               | 1.5                 | 0.5                  |

Note 1:  $\Delta_{ACK}, \Delta_{NACK}$  and  $\Delta_{CQI} = 30/15$  with  $\beta_{HS} = 30/15 * \beta_c$ .

Note 2: For the HS-DPCCH power mask requirement test in clause 5.2C, 5.7A, and the Error Vector Magnitude (EVM) with HS-DPCCH test in clause 5.13.1A, and HSDPA EVM with phase discontinuity in clause 5.13.1AA,  $\Delta_{ACK}$  and  $\Delta_{NACK} = 30/15$  with  $\beta_{HS} = 30/15 * \beta_c$ , and  $\Delta_{CQI} = 24/15$  with  $\beta_{HS} = 24/15 * \beta_c$ .

Note 3: CM = 1 for  $\beta_c/\beta_d=12/15, \beta_{HS}/\beta_c=24/15$ . For all other combinations of DPDCH, DPCCH and HS-DPCCH the MPR is based on the relative CM difference. This is applicable for only UEs that support HSDPA in release 6 and later releases.

Note 4: For subtest 2 the  $\beta_c/\beta_d$  ratio of 12/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to  $\beta_c = 11/15$  and  $\beta_d = 15/15$ .

**Setup Configuration**

**HSPA (HSUPA & HSPDA) Setup Configuration:**

- a. The EUT was connected to Base Station referred to the drawing of Setup Configuration.
- b. The RF path losses were compensated into the measurements.
- c. A call was established between EUT and Base Station with following setting \* :
  - i. Call Configs = 5.2B, 5.9B, 5.10B, and 5.13.2B with QPSK
  - ii. Set the Gain Factors ( $\beta_c$  and  $\beta_d$ ) and parameters (AG Index) were set according to each specific sub-test in the following table, C11.1.3, quoted from the TS 34.121
  - iii. Set Cell Power = -86 dBm
  - iv. Set Channel Type = 12.2k + HSPA
  - v. Set UE Target Power
  - vi. Power Ctrl Mode= Alternating bits
  - vii. Set and observe the E-TFCI
  - viii. Confirm that E-TFCI is equal to the target E-TFCI of 75 for sub-test 1, and other subtest's E-TFCI
- d. The transmitted maximum output power was recorded.

Table C.11.1.3:  $\beta$  values for transmitter characteristics tests with HS-DPCCH and E-DCH

| Sub-test | $\beta_c$      | $\beta_d$      | $\beta_d$ (SF) | $\beta_c/\beta_d$ | $\beta_{HS}$ (Note 1) | $\beta_{ec}$ | $\beta_{ed}$ (Note 5) (Note 6)                 | $\beta_{ed}$ (SF) | $\beta_{ed}$ (Codes) | CM (dB) (Note 2) | MPR (dB) (Note 2) | AG Index (Note 6) | E-TFCI |
|----------|----------------|----------------|----------------|-------------------|-----------------------|--------------|--|-------------------|----------------------|------------------|-------------------|-------------------|--------|
| 1        | 11/15 (Note 3) | 15/15 (Note 3) | 64             | 11/15 (Note 3)    | 22/15                 | 209/25       | 1309/225                                       | 4                 | 1                    | 1.0              | 0.0               | 20                | 75     |
| 2        | 6/15           | 15/15          | 64             | 6/15              | 12/15                 | 12/15        | 94/75  | 4                 | 1                    | 3.0              | 2.0               | 12                | 67     |
| 3        | 15/15          | 9/15           | 64             | 15/9              | 30/15                 | 30/15        | $\beta_{ed1}$ : 47/15<br>$\beta_{ed2}$ : 47/15 | 4                 | 2                    | 2.0              | 1.0               | 15                | 92     |
| 4        | 2/15           | 15/15          | 64             | 2/15              | 4/15                  | 2/15         | 56/75  | 4                 | 1                    | 3.0              | 2.0               | 17                | 71     |
| 5        | 15/15 (Note 4) | 15/15 (Note 4) | 64             | 15/15 (Note 4)    | 30/15                 | 24/15        | 134/15   | 4                 | 1                    | 1.0              | 0.0               | 21                | 81     |

Note 1:  $\Delta_{ACK}, \Delta_{NACK}$  and  $\Delta_{CQI} = 30/15$  with  $\beta_{HS} = 30/15 * \beta_c$ .

Note 2: CM = 1 for  $\beta_c/\beta_d=12/15, \beta_{HS}/\beta_c=24/15$ . For all other combinations of DPDCH, DPCCH, HS- DPCCH, E-DPDCH and E-DPCCH the MPR is based on the relative CM difference.

Note 3: For subtest 1 the  $\beta_c/\beta_d$  ratio of 11/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to  $\beta_c = 10/15$  and  $\beta_d = 15/15$ .

Note 4: For subtest 5 the  $\beta_c/\beta_d$  ratio of 15/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to  $\beta_c = 14/15$  and  $\beta_d = 15/15$ .

Note 5: In case of testing by UE using E-DPDCH Physical Layer category 1, Sub-test 3 is omitted according to TS25.306 Table 5.1g.

Note 6:  $\beta_{ed}$  can not be set directly, it is set by Absolute Grant Value.

**Setup Configuration**

**Note:** For details settings in the Agilent 8960 test equipment, please refer to the user guide “ HSUPA Measurement Guide with 8960 V7.5.0 Release 7 (2007-06) Ver.: v.02.18”



| Call Setup Screen                        |  |        |                                      |       |                         |            |  |           |                                  |              |                             |   |                           |        |                       |    |                       |    |                                     |        |                              |
|--|--|--------|--------------------------------------|-------|-------------------------|------------|--|-----------|----------------------------------|--------------|-----------------------------|---|---------------------------|--------|-----------------------|----|-----------------------|----|-------------------------------------|--------|------------------------------|
| Call Control                             | Active Cell Operating Mode   |        | Call Parms                           |       |                         |            |  |           |                                  |              |                             |   |                           |        |                       |    |                       |    |                                     |        |                              |
| Channel (UARFCN) Info                    | <table border="1"> <thead> <tr> <th colspan="2">UE Information</th> </tr> </thead> <tbody> <tr> <td>INSI:</td> <td></td> </tr> <tr> <td>INEI:</td> <td></td> </tr> <tr> <td>Power Class:</td> <td></td> </tr> </tbody> </table>  |        | UE Information                       |       | INSI:                   |            | INEI:                                    |           | Power Class:                     |              | Cell Power                  |   |                           |        |                       |    |                       |    |                                     |        |                              |
| UE Information                           |  |        |                                      |       |                         |            |  |           |                                  |              |                             |   |                           |        |                       |    |                       |    |                                     |        |                              |
| INSI:                                    |  |        |                                      |       |                         |            |  |           |                                  |              |                             |   |                           |        |                       |    |                       |    |                                     |        |                              |
| INEI:                                    |  |        |                                      |       |                         |            |  |           |                                  |              |                             |   |                           |        |                       |    |                       |    |                                     |        |                              |
| Power Class:                             |  |        |                                      |       |                         |            |  |           |                                  |              |                             |   |                           |        |                       |    |                       |    |                                     |        |                              |
| Cell Parameters                          | <table border="1"> <thead> <tr> <th colspan="2">UE Expected Open Loop Transmit Power</th> </tr> </thead> <tbody> <tr> <td>Initial PRACH TX Power:</td> <td>-11.70 dBm</td> </tr> <tr> <td>Initial DPCCCH TX Power:</td> <td>-0.56 dBm</td> </tr> </tbody> </table>   |        | UE Expected Open Loop Transmit Power |       | Initial PRACH TX Power: | -11.70 dBm | Initial DPCCCH TX Power:                 | -0.56 dBm | -86.00<br>dBm/3.84 MHz           |              |                             |   |                           |        |                       |    |                       |    |                                     |        |                              |
| UE Expected Open Loop Transmit Power     |  |        |                                      |       |                         |            |  |           |                                  |              |                             |   |                           |        |                       |    |                       |    |                                     |        |                              |
| Initial PRACH TX Power:                  | -11.70 dBm   |        |                                      |       |                         |            |  |           |                                  |              |                             |   |                           |        |                       |    |                       |    |                                     |        |                              |
| Initial DPCCCH TX Power:                 | -0.56 dBm  |        |                                      |       |                         |            |  |           |                                  |              |                             |   |                           |        |                       |    |                       |    |                                     |        |                              |
| Generator Info                           | <table border="1"> <thead> <tr> <th>Uplink Parameters</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>PRACH Preambles</td> <td>64</td> </tr> <tr> <td>PRACH Ramping Cycles (N<sub>MAX</sub>)</td> <td>2</td> </tr> <tr> <td>Available Subchannels (Bit Mask)</td> <td>000000000001</td> </tr> <tr> <td>Uplink DPCH Scrambling Code</td> <td>0</td> </tr> <tr> <td>Uplink DPCH Bc/Bd Control</td> <td>Manual</td> </tr> <tr> <td>Manual Uplink DPCH Bc</td> <td>11</td> </tr> <tr> <td>Manual Uplink DPCH Bd</td> <td>15</td> </tr> <tr> <td>Maximum Uplink Transmit Power Level</td> <td>21 dBm</td> </tr> </tbody> </table> |        | Uplink Parameters                    | Value | PRACH Preambles         | 64         | PRACH Ramping Cycles (N <sub>MAX</sub> ) | 2         | Available Subchannels (Bit Mask) | 000000000001 | Uplink DPCH Scrambling Code | 0 | Uplink DPCH Bc/Bd Control | Manual | Manual Uplink DPCH Bc | 11 | Manual Uplink DPCH Bd | 15 | Maximum Uplink Transmit Power Level | 21 dBm | Channel Type<br>12.2k + HSPA |
| Uplink Parameters                        | Value  |        |                                      |       |                         |            |  |           |                                  |              |                             |   |                           |        |                       |    |                       |    |                                     |        |                              |
| PRACH Preambles                          | 64   |        |                                      |       |                         |            |  |           |                                  |              |                             |   |                           |        |                       |    |                       |    |                                     |        |                              |
| PRACH Ramping Cycles (N <sub>MAX</sub> ) | 2  |        |                                      |       |                         |            |  |           |                                  |              |                             |   |                           |        |                       |    |                       |    |                                     |        |                              |
| Available Subchannels (Bit Mask)         | 000000000001   |        |                                      |       |                         |            |  |           |                                  |              |                             |   |                           |        |                       |    |                       |    |                                     |        |                              |
| Uplink DPCH Scrambling Code              | 0  |        |                                      |       |                         |            |  |           |                                  |              |                             |   |                           |        |                       |    |                       |    |                                     |        |                              |
| Uplink DPCH Bc/Bd Control                | Manual   |        |                                      |       |                         |            |  |           |                                  |              |                             |   |                           |        |                       |    |                       |    |                                     |        |                              |
| Manual Uplink DPCH Bc                    | 11   |        |                                      |       |                         |            |  |           |                                  |              |                             |   |                           |        |                       |    |                       |    |                                     |        |                              |
| Manual Uplink DPCH Bd                    | 15   |        |                                      |       |                         |            |  |           |                                  |              |                             |   |                           |        |                       |    |                       |    |                                     |        |                              |
| Maximum Uplink Transmit Power Level      | 21 dBm   |        |                                      |       |                         |            |  |           |                                  |              |                             |   |                           |        |                       |    |                       |    |                                     |        |                              |
| Uplink Parameters                        |  |        | Paging Service<br>RB Test Mode       |       |                         |            |  |           |                                  |              |                             |   |                           |        |                       |    |                       |    |                                     |        |                              |
| UE Rep Neas                              |  |        | HSPA Parameters                      |       |                         |            |  |           |                                  |              |                             |   |                           |        |                       |    |                       |    |                                     |        |                              |
| Close Menu                               |  |        | 34,121 Preset Call Configs           |       |                         |            |  |           |                                  |              |                             |   |                           |        |                       |    |                       |    |                                     |        |                              |
|  |  |        | Channel (UARFCN) Parms               |       |                         |            |  |           |                                  |              |                             |   |                           |        |                       |    |                       |    |                                     |        |                              |
|  | Active Cell<br>Idle  |        | Sys Type: UTRA FDD                   |       |                         |            |  |           |                                  |              |                             |   |                           |        |                       |    |                       |    |                                     |        |                              |
| 2 of 4                                   | IntRef   | Offset | 1 of 3                               |       |                         |            |  |           |                                  |              |                             |   |                           |        |                       |    |                       |    |                                     |        |                              |

Example for HSPA Subtest 1, and other subtests following table, C11.1.3  
(Gain Factors ( $\beta_c = 11$  and  $\beta_d = 15$ ))

| Call Setup Screen                    |  |        |                                      |  |                         |            |                          |                    |   |                                |                        |                                |           |                                |               |                                |                           |                                 |                   |                                 |                                 |
|--------------------------------------|--|--------|--------------------------------------|--|-------------------------|------------|--------------------------|--------------------|---|--------------------------------|------------------------|--------------------------------|-----------|--------------------------------|---------------|--------------------------------|---------------------------|---------------------------------|-------------------|---------------------------------|---------------------------------|
| Call Control                         | Active Cell Operating Mode   |        | Serving Grant                        |  |                         |            |                          |                    |   |                                |                        |                                |           |                                |               |                                |                           |                                 |                   |                                 |                                 |
| Additional Screens                   | <table border="1"> <thead> <tr> <th colspan="2">UE Information</th> </tr> </thead> <tbody> <tr> <td>INSI:</td> <td></td> </tr> <tr> <td>INEI:</td> <td></td> </tr> <tr> <td>Power Class:</td> <td></td> </tr> </tbody> </table>  |        | UE Information                       |  | INSI:                   |            | INEI:                    |                    | Power Class:                                |                                | AG Mode<br>Single Shot |                                |           |                                |               |                                |                           |                                 |                   |                                 |                                 |
| UE Information                       |  |        |                                      |  |                         |            |                          |                    |   |                                |                        |                                |           |                                |               |                                |                           |                                 |                   |                                 |                                 |
| INSI:                                |  |        |                                      |  |                         |            |                          |                    |   |                                |                        |                                |           |                                |               |                                |                           |                                 |                   |                                 |                                 |
| INEI:                                |  |        |                                      |  |                         |            |                          |                    |   |                                |                        |                                |           |                                |               |                                |                           |                                 |                   |                                 |                                 |
| Power Class:                         |  |        |                                      |  |                         |            |                          |                    |   |                                |                        |                                |           |                                |               |                                |                           |                                 |                   |                                 |                                 |
| Cell Parameters                      | <table border="1"> <thead> <tr> <th colspan="2">UE Expected Open Loop Transmit Power</th> </tr> </thead> <tbody> <tr> <td>Initial PRACH TX Power:</td> <td>-11.70 dBm</td> </tr> <tr> <td>Initial DPCCCH TX Power:</td> <td>-0.56 dBm</td> </tr> </tbody> </table>   |        | UE Expected Open Loop Transmit Power |  | Initial PRACH TX Power: | -11.70 dBm | Initial DPCCCH TX Power: | -0.56 dBm          | Single Shot AG<br>20: (119/15) <sup>2</sup> |                                |                        |                                |           |                                |               |                                |                           |                                 |                   |                                 |                                 |
| UE Expected Open Loop Transmit Power |  |        |                                      |  |                         |            |                          |                    |   |                                |                        |                                |           |                                |               |                                |                           |                                 |                   |                                 |                                 |
| Initial PRACH TX Power:              | -11.70 dBm   |        |                                      |  |                         |            |                          |                    |   |                                |                        |                                |           |                                |               |                                |                           |                                 |                   |                                 |                                 |
| Initial DPCCCH TX Power:             | -0.56 dBm  |        |                                      |  |                         |            |                          |                    |   |                                |                        |                                |           |                                |               |                                |                           |                                 |                   |                                 |                                 |
| Generator Info                       | <table border="1"> <thead> <tr> <th colspan="2">Call Processing Status</th> </tr> </thead> <tbody> <tr> <td>Current Service Type:</td> <td>None</td> </tr> <tr> <td>MM Status:</td> <td>Abs Single Shot AG</td> </tr> <tr> <td>GMN State:</td> <td>Index 15: (67/15)<sup>2</sup></td> </tr> <tr> <td>Current DPCH:</td> <td>Index 16: (75/15)<sup>2</sup></td> </tr> <tr> <td>HSUPA In:</td> <td>Index 17: (84/15)<sup>2</sup></td> </tr> <tr> <td>UE Rep E-DCH:</td> <td>Index 18: (95/15)<sup>2</sup></td> </tr> <tr> <td>Last Received Throughput:</td> <td>Index 19: (106/15)<sup>2</sup></td> </tr> <tr> <td>ACKs Transmitted:</td> <td>Index 20: (119/15)<sup>2</sup></td> </tr> </tbody> </table> |        | Call Processing Status               |  | Current Service Type:   | None       | MM Status:               | Abs Single Shot AG | GMN State:                                  | Index 15: (67/15) <sup>2</sup> | Current DPCH:          | Index 16: (75/15) <sup>2</sup> | HSUPA In: | Index 17: (84/15) <sup>2</sup> | UE Rep E-DCH: | Index 18: (95/15) <sup>2</sup> | Last Received Throughput: | Index 19: (106/15) <sup>2</sup> | ACKs Transmitted: | Index 20: (119/15) <sup>2</sup> | Send Single Shot Absolute Grant |
| Call Processing Status               |  |        |                                      |  |                         |            |                          |                    |   |                                |                        |                                |           |                                |               |                                |                           |                                 |                   |                                 |                                 |
| Current Service Type:                | None   |        |                                      |  |                         |            |                          |                    |   |                                |                        |                                |           |                                |               |                                |                           |                                 |                   |                                 |                                 |
| MM Status:                           | Abs Single Shot AG   |        |                                      |  |                         |            |                          |                    |   |                                |                        |                                |           |                                |               |                                |                           |                                 |                   |                                 |                                 |
| GMN State:                           | Index 15: (67/15) <sup>2</sup>   |        |                                      |  |                         |            |                          |                    |   |                                |                        |                                |           |                                |               |                                |                           |                                 |                   |                                 |                                 |
| Current DPCH:                        | Index 16: (75/15) <sup>2</sup>   |        |                                      |  |                         |            |                          |                    |   |                                |                        |                                |           |                                |               |                                |                           |                                 |                   |                                 |                                 |
| HSUPA In:                            | Index 17: (84/15) <sup>2</sup>   |        |                                      |  |                         |            |                          |                    |   |                                |                        |                                |           |                                |               |                                |                           |                                 |                   |                                 |                                 |
| UE Rep E-DCH:                        | Index 18: (95/15) <sup>2</sup>   |        |                                      |  |                         |            |                          |                    |   |                                |                        |                                |           |                                |               |                                |                           |                                 |                   |                                 |                                 |
| Last Received Throughput:            | Index 19: (106/15) <sup>2</sup>  |        |                                      |  |                         |            |                          |                    |   |                                |                        |                                |           |                                |               |                                |                           |                                 |                   |                                 |                                 |
| ACKs Transmitted:                    | Index 20: (119/15) <sup>2</sup>  |        |                                      |  |                         |            |                          |                    |   |                                |                        |                                |           |                                |               |                                |                           |                                 |                   |                                 |                                 |
| Uplink Parameters                    |  |        | Send Relative Grant Up               |  |                         |            |                          |                    |   |                                |                        |                                |           |                                |               |                                |                           |                                 |                   |                                 |                                 |
| UE Rep Neas                          |  |        | Send Relative Grant Down             |  |                         |            |                          |                    |   |                                |                        |                                |           |                                |               |                                |                           |                                 |                   |                                 |                                 |
| Trig Output Setup<br>Sys Frame Clock |  |        | Return                               |  |                         |            |                          |                    |   |                                |                        |                                |           |                                |               |                                |                           |                                 |                   |                                 |                                 |
|                                      | Active Cell<br>Idle  |        | Sys Type: UTRA FDD                   |  |                         |            |                          |                    |   |                                |                        |                                |           |                                |               |                                |                           |                                 |                   |                                 |                                 |
| 2 of 4                               | IntRef   | Offset | 1 of 2                               |  |                         |            |                          |                    |   |                                |                        |                                |           |                                |               |                                |                           |                                 |                   |                                 |                                 |

Example: AG – Index = 20 for HSPA subtest 1



| Call Setup Screen                   |  |                                     |             |                    |      |           |      |     |        |        |        |    |    |     |    |     |      |     |      |     |      |    |    |     |    |     |      |     |      |     |      |    |    |     |    |     |      |     |      |     |      |    |    |     |    |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |     |    |     |      |     |      |     |      |     |      |  |
|-------------------------------------|--|-------------------------------------|-------------|--------------------|------|-----------|------|-----|--------|--------|--------|----|----|-----|----|-----|------|-----|------|-----|------|----|----|-----|----|-----|------|-----|------|-----|------|----|----|-----|----|-----|------|-----|------|-----|------|----|----|-----|----|-----|------|-----|------|-----|------|----|----|-----|------|-----|------|-----|------|-----|------|----|----|-----|------|-----|------|-----|------|-----|------|----|----|-----|------|-----|------|-----|------|-----|------|----|----|-----|------|-----|------|-----|------|-----|------|-----|----|-----|------|-----|------|-----|------|-----|------|--|
| Screen Ctrl                         | Recorded E-TFCI Information  | E-TFCI Record                       |             |                    |      |           |      |     |        |        |        |    |    |     |    |     |      |     |      |     |      |    |    |     |    |     |      |     |      |     |      |    |    |     |    |     |      |     |      |     |      |    |    |     |    |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |     |    |     |      |     |      |     |      |     |      |  |
| Channel (UARFCN) Info               | E-TFCI Recording State   | E-TFCI Rec Count                    |             |                    |      |           |      |     |        |        |        |    |    |     |    |     |      |     |      |     |      |    |    |     |    |     |      |     |      |     |      |    |    |     |    |     |      |     |      |     |      |    |    |     |    |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |     |    |     |      |     |      |     |      |     |      |  |
|                                     | Idle   | 15                                  |             |                    |      |           |      |     |        |        |        |    |    |     |    |     |      |     |      |     |      |    |    |     |    |     |      |     |      |     |      |    |    |     |    |     |      |     |      |     |      |    |    |     |    |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |     |    |     |      |     |      |     |      |     |      |  |
| HSPA Information                    | Recorded E-TFCI Values   | Start Recording E-TFCI Values       |             |                    |      |           |      |     |        |        |        |    |    |     |    |     |      |     |      |     |      |    |    |     |    |     |      |     |      |     |      |    |    |     |    |     |      |     |      |     |      |    |    |     |    |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |     |    |     |      |     |      |     |      |     |      |  |
| E-TFCI Recording Information        | <table border="1"> <tr><td>1:</td><td>75</td><td>11:</td><td>75</td><td>21:</td><td>----</td><td>31:</td><td>----</td><td>41:</td><td>----</td></tr> <tr><td>2:</td><td>75</td><td>12:</td><td>75</td><td>22:</td><td>----</td><td>32:</td><td>----</td><td>42:</td><td>----</td></tr> <tr><td>3:</td><td>75</td><td>13:</td><td>75</td><td>23:</td><td>----</td><td>33:</td><td>----</td><td>43:</td><td>----</td></tr> <tr><td>4:</td><td>75</td><td>14:</td><td>75</td><td>24:</td><td>----</td><td>34:</td><td>----</td><td>44:</td><td>----</td></tr> <tr><td>5:</td><td>75</td><td>15:</td><td>75</td><td>25:</td><td>----</td><td>35:</td><td>----</td><td>45:</td><td>----</td></tr> <tr><td>6:</td><td>75</td><td>16:</td><td>----</td><td>26:</td><td>----</td><td>36:</td><td>----</td><td>46:</td><td>----</td></tr> <tr><td>7:</td><td>75</td><td>17:</td><td>----</td><td>27:</td><td>----</td><td>37:</td><td>----</td><td>47:</td><td>----</td></tr> <tr><td>8:</td><td>75</td><td>18:</td><td>----</td><td>28:</td><td>----</td><td>38:</td><td>----</td><td>48:</td><td>----</td></tr> <tr><td>9:</td><td>75</td><td>19:</td><td>----</td><td>29:</td><td>----</td><td>39:</td><td>----</td><td>49:</td><td>----</td></tr> <tr><td>10:</td><td>75</td><td>20:</td><td>----</td><td>30:</td><td>----</td><td>40:</td><td>----</td><td>50:</td><td>----</td></tr> </table> | 1:                                  | 75          | 11:                | 75   | 21:       | ---- | 31: | ----   | 41:    | ----   | 2: | 75 | 12: | 75 | 22: | ---- | 32: | ---- | 42: | ---- | 3: | 75 | 13: | 75 | 23: | ---- | 33: | ---- | 43: | ---- | 4: | 75 | 14: | 75 | 24: | ---- | 34: | ---- | 44: | ---- | 5: | 75 | 15: | 75 | 25: | ---- | 35: | ---- | 45: | ---- | 6: | 75 | 16: | ---- | 26: | ---- | 36: | ---- | 46: | ---- | 7: | 75 | 17: | ---- | 27: | ---- | 37: | ---- | 47: | ---- | 8: | 75 | 18: | ---- | 28: | ---- | 38: | ---- | 48: | ---- | 9: | 75 | 19: | ---- | 29: | ---- | 39: | ---- | 49: | ---- | 10: | 75 | 20: | ---- | 30: | ---- | 40: | ---- | 50: | ---- |  |
| 1:                                  | 75   | 11:                                 | 75          | 21:                | ---- | 31:       | ---- | 41: | ----   |        |        |    |    |     |    |     |      |     |      |     |      |    |    |     |    |     |      |     |      |     |      |    |    |     |    |     |      |     |      |     |      |    |    |     |    |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |     |    |     |      |     |      |     |      |     |      |  |
| 2:                                  | 75   | 12:                                 | 75          | 22:                | ---- | 32:       | ---- | 42: | ----   |        |        |    |    |     |    |     |      |     |      |     |      |    |    |     |    |     |      |     |      |     |      |    |    |     |    |     |      |     |      |     |      |    |    |     |    |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |     |    |     |      |     |      |     |      |     |      |  |
| 3:                                  | 75   | 13:                                 | 75          | 23:                | ---- | 33:       | ---- | 43: | ----   |        |        |    |    |     |    |     |      |     |      |     |      |    |    |     |    |     |      |     |      |     |      |    |    |     |    |     |      |     |      |     |      |    |    |     |    |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |     |    |     |      |     |      |     |      |     |      |  |
| 4:                                  | 75   | 14:                                 | 75          | 24:                | ---- | 34:       | ---- | 44: | ----   |        |        |    |    |     |    |     |      |     |      |     |      |    |    |     |    |     |      |     |      |     |      |    |    |     |    |     |      |     |      |     |      |    |    |     |    |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |     |    |     |      |     |      |     |      |     |      |  |
| 5:                                  | 75   | 15:                                 | 75          | 25:                | ---- | 35:       | ---- | 45: | ----   |        |        |    |    |     |    |     |      |     |      |     |      |    |    |     |    |     |      |     |      |     |      |    |    |     |    |     |      |     |      |     |      |    |    |     |    |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |     |    |     |      |     |      |     |      |     |      |  |
| 6:                                  | 75   | 16:                                 | ----        | 26:                | ---- | 36:       | ---- | 46: | ----   |        |        |    |    |     |    |     |      |     |      |     |      |    |    |     |    |     |      |     |      |     |      |    |    |     |    |     |      |     |      |     |      |    |    |     |    |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |     |    |     |      |     |      |     |      |     |      |  |
| 7:                                  | 75   | 17:                                 | ----        | 27:                | ---- | 37:       | ---- | 47: | ----   |        |        |    |    |     |    |     |      |     |      |     |      |    |    |     |    |     |      |     |      |     |      |    |    |     |    |     |      |     |      |     |      |    |    |     |    |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |     |    |     |      |     |      |     |      |     |      |  |
| 8:                                  | 75   | 18:                                 | ----        | 28:                | ---- | 38:       | ---- | 48: | ----   |        |        |    |    |     |    |     |      |     |      |     |      |    |    |     |    |     |      |     |      |     |      |    |    |     |    |     |      |     |      |     |      |    |    |     |    |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |     |    |     |      |     |      |     |      |     |      |  |
| 9:                                  | 75   | 19:                                 | ----        | 29:                | ---- | 39:       | ---- | 49: | ----   |        |        |    |    |     |    |     |      |     |      |     |      |    |    |     |    |     |      |     |      |     |      |    |    |     |    |     |      |     |      |     |      |    |    |     |    |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |     |    |     |      |     |      |     |      |     |      |  |
| 10:                                 | 75   | 20:                                 | ----        | 30:                | ---- | 40:       | ---- | 50: | ----   |        |        |    |    |     |    |     |      |     |      |     |      |    |    |     |    |     |      |     |      |     |      |    |    |     |    |     |      |     |      |     |      |    |    |     |    |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |     |    |     |      |     |      |     |      |     |      |  |
| Clear UE Info                       | 15/15  | Send Step Up TPC Bit Pattern        |             |                    |      |           |      |     |        |        |        |    |    |     |    |     |      |     |      |     |      |    |    |     |    |     |      |     |      |     |      |    |    |     |    |     |      |     |      |     |      |    |    |     |    |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |     |    |     |      |     |      |     |      |     |      |  |
| Return                              |  | Send Step Down TPC Bit Pattern      |             |                    |      |           |      |     |        |        |        |    |    |     |    |     |      |     |      |     |      |    |    |     |    |     |      |     |      |     |      |    |    |     |    |     |      |     |      |     |      |    |    |     |    |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |     |    |     |      |     |      |     |      |     |      |  |
|                                     | <table border="1"> <tr> <td><input type="checkbox"/> Background</td> <td>Active Cell</td> <td>Sys Type: UTRA FDD</td> </tr> <tr> <td></td> <td>Connected</td> <td></td> </tr> <tr> <td></td> <td>IntRef</td> <td>Offset</td> </tr> </table>  | <input type="checkbox"/> Background | Active Cell | Sys Type: UTRA FDD |      | Connected |      |     | IntRef | Offset | Return |    |    |     |    |     |      |     |      |     |      |    |    |     |    |     |      |     |      |     |      |    |    |     |    |     |      |     |      |     |      |    |    |     |    |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |     |    |     |      |     |      |     |      |     |      |  |
| <input type="checkbox"/> Background | Active Cell  | Sys Type: UTRA FDD                  |             |                    |      |           |      |     |        |        |        |    |    |     |    |     |      |     |      |     |      |    |    |     |    |     |      |     |      |     |      |    |    |     |    |     |      |     |      |     |      |    |    |     |    |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |     |    |     |      |     |      |     |      |     |      |  |
|                                     | Connected  |                                     |             |                    |      |           |      |     |        |        |        |    |    |     |    |     |      |     |      |     |      |    |    |     |    |     |      |     |      |     |      |    |    |     |    |     |      |     |      |     |      |    |    |     |    |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |     |    |     |      |     |      |     |      |     |      |  |
|                                     | IntRef   | Offset                              |             |                    |      |           |      |     |        |        |        |    |    |     |    |     |      |     |      |     |      |    |    |     |    |     |      |     |      |     |      |    |    |     |    |     |      |     |      |     |      |    |    |     |    |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |    |    |     |      |     |      |     |      |     |      |     |    |     |      |     |      |     |      |     |      |  |

Example: Confirm that E-TFCI is equal to the target E-TFCI of 75 for sub-test 1



**Reference:**

- [1] 941225 D01 SAR test for 3G devices v02, SAR Measurement Procedures for 3G Devices CDMA 2000/Ev-Do/WCDMA/HSDPA/HSPA Oct. 2007 Laboratory Division Office of Engineering and Technology Federal Communications Commission
- [2.] TS 34.121 Universal Mobile Telecommunications System (UMTS); Terminal Conformance Specification, Radio Transmission and Reception (FDD)
- [3.] HSUPA Measurement Guide with 8960 V7.5.0 Release 7 (2007-06) Ver.: v.02.18