

## Declaration of Electromagnetic Field Health Compliance for RU3832 LTE AWS Band

To whom it may concern,

As to the product **RU3832** made by Huawei Technologies Co., Ltd., we declare that it complies with the Basic restrictions/Reference levels for electric, magnetic and electromagnetic fields as specified in following standards(s):

| Nr. | Standard                                             |
|-----|------------------------------------------------------|
| 1   | 47CFR FCC Part 1 (10-1-13 Edition) & OET Bulletin 65 |
| 2   | RSS-102 (Issue4, March 2010)                         |

The compliance is demonstrated based on the following calculation model assessment:

- The power density according to far-field model is:

$$S = \frac{P \times G_{(\theta, \phi)}}{4 \times \pi \times R^2}$$

Where:

- $P$  = input power of the antenna.
- $G$  = antenna gain relative to an isotropic antenna.
- $\theta, \phi$  = elevation and azimuth angles.
- $R$  = distance from the antenna to the point of investigation.

- For single or multiple RF sources, the calculated power density should comply with following:

$$\sum_i \frac{S_i}{S_{Limit,i}} \leq 1$$

Where:

- $S_i$  = the power density when the  $f$  is  $i$ .
- $S_{Limit,i}$  = the reference level requirement for power density when  $f$  is  $i$ .
- $f$  = operating frequency.

- The calculation of the power density or safe distance is:

NOTE 1: The RF exposure evaluation is base on the far-field and the radiation exposure is over-estimated.

NOTE 2: The maximum output power level is taken into account as a worst case for the purpose of the calculation of power density or safe distance.

NOTE 3: The minimum antenna feed cable loss (assumed no cable loss) is taken into account as a worst case for the purpose of the calculation of power density or safe distance.

NOTE 4: The maximum antenna radiation exposure orientation and maximum antenna gain is taken into account as a worst case for the purpose of the calculation of power density or safe distance.

| RF Source | Calculation for Individual Source |
|-----------|-----------------------------------|
|-----------|-----------------------------------|

|                  |                                                                                                                     |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|------------------|---------------------------------------------------------------------------------------------------------------------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RF Source #1     | $f$                                                                                                                 | =      | <u>2110</u> to <u>2155</u> MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|                  | $S_{Limit,i}$                                                                                                       | =      | = <u>10</u> W/m <sup>2</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|                  | $P$ , $G_{(\theta,\phi)}$                                                                                           | =      | <input checked="" type="checkbox"/> $P \times G_{(\theta,\phi)}$ :<br>$P^{(*)}$ = <u>67.6</u> W (per port)<br><u>135.2</u> W (calculated, two ports)<br>$G_{(\theta,\phi)}$ = <u>56.2</u> (= <u>17.5</u> dBi)<br>$(*)$ : The value is from:<br><input type="checkbox"/> measured max (See relevant RF report),<br><input checked="" type="checkbox"/> rated + declared tolerance,<br><input type="checkbox"/> max allowed by RF standard.<br>And, the transmission duty cycle is:<br><input checked="" type="checkbox"/> ignored,<br><input type="checkbox"/> used, that is: _____ % (for mode: _____). |
|                  | $\theta, \phi$                                                                                                      | =      | The worst condition is considered, i.e. the max $G$ is used.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|                  | $S_i$                                                                                                               | =      | $\frac{P \times G_{(\theta,\phi)}}{4 \times \pi} / R^2 = \underline{545.95} / R^2$ W/m <sup>2</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|                  | $\frac{S_i}{S_{Limit,i}}$                                                                                           | =      | <u>54.6</u> / $R^2$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|                  |                                                                                                                     |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| RF Sources       | Calculation for Simultaneous Transmission Sources                                                                   |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| (Not applicable) | (Not applicable)                                                                                                    |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Whole Product    | Calculation for Whole Product                                                                                       |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Whole Product    | $\frac{S}{S_{Limit}}$                                                                                               | =      | <u>54.6</u> / $R^2 \leq 1$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|                  | $R$                                                                                                                 | $\geq$ | <u>7.39</u> m (the minimum Safe Distance)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|                  | NOTE: The result is the worst case of each individual source and simultaneous transmission sources (if applicable). |        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

Person responsible for making this declaration:



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