



## Prediction of MPE at a given distance

### 1. Limits

The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation as specified in 1.1307(b)

KDB Test Methodology: KDB 447498 D01 v06.

| Frequency range (MHz)                                   | Electric field strength (V/m) | Magnetic field strength (A/m) | Power density (mW/cm <sup>2</sup> ) | Averaging time (minutes) |
|---------------------------------------------------------|-------------------------------|-------------------------------|-------------------------------------|--------------------------|
| (A) Limits for Occupational/Controlled Exposure         |                               |                               |                                     |                          |
| 0.3-3.0                                                 | 614                           | 1.63                          | *100                                | 6                        |
| 3.0-30                                                  | 1842/f                        | 4.89/f                        | *900/f <sup>2</sup>                 | 6                        |
| 30-300                                                  | 61.4                          | 0.163                         | 1.0                                 | 6                        |
| 300-1,500                                               |                               |                               | f/300                               | 6                        |
| 1,500-100,000                                           |                               |                               | 5                                   | 6                        |
| (B) Limits for General Population/Uncontrolled Exposure |                               |                               |                                     |                          |
| 0.3-1.34                                                | 614                           | 1.63                          | *100                                | 30                       |
| 1.34-30                                                 | 824/f                         | 2.19/f                        | *180/f <sup>2</sup>                 | 30                       |
| 30-300                                                  | 27.5                          | 0.073                         | 0.2                                 | 30                       |
| 300-1,500                                               |                               |                               | f/1500                              | 30                       |
| 1,500-100,000                                           |                               |                               | 1.0                                 | 30                       |

### 2. Test Procedure

Equation from page 18 of OET Bulletin 65, Edition 97-01

$$S = \frac{P \times G}{4 \times \pi \times R^2}$$

Where:

S = power density

P = power input to the antenna

G = numeric gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the centre of radiation of the antenna



## FCC ID: 2BSYK-E10

### 3. Result

| Mode    | Frequency (MHz) | Prediction distance (cm) | RF output power(Max) (dBm) | Tune-up power (Max) |          | MPE (mW/cm <sup>2</sup> ) | Limit (mW/cm <sup>2</sup> ) | SAR Test Exclusion |
|---------|-----------------|--------------------------|----------------------------|---------------------|----------|---------------------------|-----------------------------|--------------------|
|         |                 |                          |                            | dBm                 | mW       |                           |                             |                    |
| LTE B2  | 1850~1910       | 20                       | 23.97                      | 24                  | 251.1886 | 0.0126                    | 1.0000                      | Yes                |
| LTE B4  | 1710~1755       | 20                       | 24.24                      | 25                  | 316.2278 | 0.0125                    | 1.0000                      | Yes                |
| LTE B5  | 824~849         | 20                       | 24.47                      | 25                  | 316.2278 | 0.0950                    | 0.5493                      | Yes                |
| LTE B12 | 699~716         | 20                       | 24.21                      | 25                  | 316.2278 | 0.0253                    | 0.4660                      | Yes                |
| LTE B13 | 777~787         | 20                       | 23.68                      | 24                  | 251.1886 | 0.0099                    | 0.5180                      | Yes                |
| LTE B17 | 704~716         | 20                       | 23.91                      | 24                  | 251.1886 | 0.0522                    | 0.4693                      | Yes                |
| LTE B66 | 1710~1780       | 20                       | 23.82                      | 24                  | 251.1886 | 0.0201                    | 1.0000                      | Yes                |
| LTE B38 | 2570~2620       | 20                       | 24.82                      | 25                  | 316.2278 | 0.0125                    | 1.0000                      | Yes                |
| LTE B41 | 2496~2690       | 20                       | 24.25                      | 25                  | 316.2278 | 0.0916                    | 1.0000                      | Yes                |

#### LTE:

Maximum Gain is -5.99dBi for LTE Band 2  
Maximum Gain is -7.02dBi for LTE Band 4  
Maximum Gain is 1.79dBi for LTE Band 5  
Maximum Gain is -3.95dBi for LTE Band 12  
Maximum Gain is 0.19dBi for LTE Band 13  
Maximum Gain is -3.95dBi for LTE Band 17  
Maximum Gain is -7.02dBi for LTE Band 66  
Maximum Gain is 1.63dBi for LTE Band 38  
Maximum Gain is 2.25dBi for LTE Band 41

**Conclusion: Then SAR evaluation is not required.**