EUT Description:Tire pressure monitoring system sensor
Model Name:AS14Z
Series Model:AS02,AS04,AS06,AS06Z,AS08Z,AS10Z,AS12Z,AS16ZZ,
AS18ZZ,AS20ZZ,AS22ZZ,
FCC ID: 2BL54-AS14Z
Equipment type: Mobile equipment

Test procedures according to the technical standards: KDB 447498 D01 V06 andFCC 2.1091.

RF Exposure Evaluation
According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate theenvironrment impact of human exposure to radio frequency(RF) Radiation as specifed in§1.1307(6)

Limits for Maximum Permissible Exposure (MPE)

| Frequency range (MHz) | Electric field strength (V/m) | Magnetic field strength (A/m) | Power density (mW/cm2) | Averaging time (minutes) |
|---|---|---|---|---|
| (0)Limits for Occupational/Controlled Exposure | | | | |
| 0.3-3.0 | 614 | 1.63 | *(100) | ≤6 |
| 3.0-30 | 1842/f | 4.89/f | *(900/f 2) | <6 |
| 30-300 | 61.4 | 0.163 | 1.0 | <6 |
| 300-1,500 | | | f/300 | <6 |
| 1,500-100,000 | | | 5 | <6 |
| (d)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 2) | <30 |
| 30-300 | 27.5 | 0.073 | 0.2 | <30 |
| 300-1,500 | | | f/1500 | <30 |
| 1,500-100,000 | | | 1.0 | <30 |

f= frequency in MHz.*= Plane-wave equivalent power density.

F = frequency in MHz
Formula: Pd = (Pout*G)/(4*π*r2)
Where :
Pd = power density in mW/cm2,
Pout = output power to antenna in mW;
G = gain of antenna in linear scale,
π= 3.14;
R = distance between observation point and center of the radiator in cm
Pd id the limit of MPE, 1 mW/cm2. If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

Measurement Result:

TX frequency range: 433.92MHz

Operation Frequency: 433.92MHz

Type: Internal antenna

R=20cm

EIRP=E-104.7+20logD=67.95-104.7+20log3=-27.207dBm

Maximum Conducted Output Power: -27.207dBm

| Frequency(MHz) | EIRP Power (dBm) | EIRP Power (mW) | Turn-up (dBm) | Max Turn-up (dBm) | Evaluation result (mW/cm2) | Power denslty Lmits (mW/cm2) |
|---|---|---|---|---|---|---|
| 433.92 | -27.207 | 0.00190239 | -27± 1 | -26 | 0.0000005 | 0.28928 |

Conclusion: the max result : 0.0000005 ≤ 1.0 compliance with FCC's RF Exposure.

So a SAR test is not required