RF EXPOSURE EVALUATION

According to FCC 1.1310: 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)

FCC ID：**2AKW5-RH560-4G**

EUT Specification

EUT	**Wireless Machinery Monitoring Station**
Frequency band (Operating)	☒GSM: 850/1900 ☒WCDMA: UMTS FDD Band II, UMTS FDD Band V ☒E-UTRA: LTE Band 2, LTE Band 4, LTE Band 5, LTE Band 17 ☐Bluetooth: 2.402GHz ~ 2.48GHz ☒Others---Zigbee: 2405~2480MHz
Device category	☐Portable (<20cm separation) ☒Mobile (>20cm separation) ☐Others ___
Exposure classification	☐Occupational/Controlled exposure ☒General Population/Uncontrolled exposure
Antenna diversity	☒Single antenna ☐Multiple antennas ☐Tx diversity ☐Rx diversity ☐Tx/Rx diversity
Antenna gain (Max)	GSM/WCDMA/LTE: 1.0 dBi Zigbee: 4.0 dBi
Evaluation applied	☒MPE Evaluation ☐SAR Evaluation

Limits for Maximum Permissible Exposure(MPE)

Frequency Range(MHz)	**Electric Field Strength(V/m)**	**Magnetic Field Strength(A/m)**	**Power Density(mW/cm^2)**	**Average Time**
(A) Limits for Occupational/Control Exposures				
300-1500	**--**	**--**	**F/300**	**6**
1500-100000	**--**	**--**	**5**	**6**
(B) Limits for General Population/Uncontrol Exposures				
300-1500	**--**	**--**	**F/1500**	**6**
1500-100000	**--**	**--**	**1**	**30**

Friis transmission formula: Pd=(Pout*G)\(4*pi*R2)

Where
Pd= Power density in mW/cm^2
Pout=output power to antenna in Mw
G= gain of antenna in linear scale
Pi=3.1416
R= distance between observation point and center of the radiator in cm
Pd the limit of MPE. If we know the maximum gain of the antenna and total power input to the antenna, through the calculation, we will know the distance where the MPE limit is reached.

Operating Mode	Max. Measured Power (dBm)	Tune up tolerance (dBm)	Max. Tune up Power (dBm)	Antenna Gain	Power density at 20cm (mW/cm^2)	Power density Limits (mW/cm^2)
GSM850	32.51	32.0±1	33	1	0.4997	0.550
GSM1900	28.55	28.0±1	29	1	0.1989	1.000
WCDMA850	21.95	21.0±1	22	1	0.0397	0.550
WCDMA1900	21.89	21.0±1	22	1	0.0397	1.000
LTE Band 2	22.83	22.0±1	23	1	0.0500	1.000
LTE Band 4	22.89	22.0±1	23	1	0.0500	1.000
LTE Band 5	22.77	22.0±1	23	1	0.0500	0.550
LTE Band 17	22.72	22.0±1	23	1	0.0500	0.471

Measurement Result

Conclusion: No SAR is required.