Declaration of Electromagnetic Field Health Compliance

To whom it may concern,

As to the product **BTS3911B** 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 & OET Bulletin 65

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

1. 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.

θ, ϕ = elevation and azimuth angles.

R = distance from the antenna to the point of investigation.

2. 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.

3. 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.

Wifi 2.4G:

RF Source	Calculation for Individual Source		
RF Source #1	f	=	2400 to 2483.5 MHz

	$S_{Limit,i}$	=	10 W/m^2
	P , $G_{(\theta,\phi)}$	=	☐ $EIRP(=P\times G_{(\theta,\phi)})$: $EIRP^{(*)}$ = _____ W (=_____ dBm, all ports) ☒ $P\times G_{(\theta,\phi)}$: $P^{(*)}$ = 0.214 W (=23.3 dBm) (three ports, total rated power: 20.8dBm, tolerance: +/-2.5dB) _____ W (calculated, two ports) $G_{(\theta,\phi)}$ = 3.162 (=5 dBi) (Integrated antenna) _____ (*): The value is from: ☐ measured max (See relevant RF report), ☒ rated + declared tolerance, ☐ max allowed by RF standard. And, the transmission duty cycle is: ☐ ignored, ☒ used, that is: 100 %.
	θ,ϕ	=	The worst condition is considered, i.e. the max G is used.
	S_i	=	$\frac{P\times G_{(\theta,\phi)}}{4\times\pi}/R^2$ = 0.054 $/R^2$ W/m^2
	$\frac{S_i}{S_{Limit,i}}$	=	0.0054 / R^2

Wifi 5G:

RF Source	Calculation for Individual Source		
RF Source #1	f	=	5150 to 5850 MHz
	$S_{Limit,i}$	=	10 W/m^2
	P , $G_{(\theta,\phi)}$	=	☐ $EIRP(=P\times G_{(\theta,\phi)})$: $EIRP^{(*)}$ = _____ W (=_____ dBm, all ports) ☒ $P\times G_{(\theta,\phi)}$: $P^{(*)}$ = 0.214 W (=23.3 dBm) (three ports, total rated power: 20.8dBm, tolerance: +/-2.5dB) _____ W (calculated, two ports) $G_{(\theta,\phi)}$ = 7.943 (=9 dBi) (Integrated antenna) _____ (*): The value is from:

			☐ measured max (See relevant RF report), ☒ rated + declared tolerance, ☐ max allowed by RF standard. And, the transmission duty cycle is: ☐ ignored, ☒ used, that is: 100 %.
	θ, ϕ	=	The worst condition is considered, i.e. the max G is used.
	S_i	=	$\frac{P \times G_{(\theta,\phi)}}{4 \times \pi} / R^2$ = 0.135 $/ R^2$ W/m^2
	$\frac{S_i}{S_{Limit,i}}$	=	0.0135 / R^2

AWS Band:

RF Source	Calculation for Individual Source		
RF Source #1	f	=	2110 to 2155 MHz
	$S_{Limit,i}$	=	10 W/m^2
	P , $G_{(\theta,\phi)}$	=	☐ $EIRP(= P \times G_{(\theta,\phi)})$: $EIRP^{(*)}$ = _____ W (=_____ dBm, all ports) ☒ $P \times G_{(\theta,\phi)}$: $P^{(*)}$ = 0.447 W (=26.5 dBm) (two ports, total rated power: 24dBm, tolerance: +/-2.5dB) _____ W (calculated, two ports) $G_{(\theta,\phi)}$ = 1.995 (=3 dBi) (Integrated antenna) _____ (*): The value is from: ☐ measured max (See relevant RF report), ☒ rated + declared tolerance, ☐ max allowed by RF standard. And, the transmission duty cycle is: ☐ ignored, ☒ used, that is: 100 %.
	θ, ϕ	=	The worst condition is considered, i.e. the max G is used.
	S_i	=	$\frac{P \times G_{(\theta,\phi)}}{4 \times \pi} / R^2$ = 0.071 $/ R^2$ W/m^2
	$\frac{S_i}{S_{Limit,i}}$	=	0.0071 / R^2

PCS Band:

RF Source	Calculation for Individual Source		
RF Source #1	f	=	1930 to 1990 MHz

	$S_{Limit,i}$	=	10 W/m^2
	P , $G_{(\theta,\phi)}$	=	☐ $EIRP(=P\times G_{(\theta,\phi)})$: $EIRP^{(*)}$ = _____ W (=_____ dBm, all ports) ☒ $P\times G_{(\theta,\phi)}$: $P^{(*)}$ = 0.447 W (=26.5 dBm) (two ports, total rated power: 24dBm, tolerance: +/-2.5dB) _____ W (calculated, two ports) $G_{(\theta,\phi)}$ = 1.995 (=3 dBi) (Integrated antenna) _____ (*): The value is from: ☐ measured max (See relevant RF report), ☒ rated + declared tolerance, ☐ max allowed by RF standard. And, the transmission duty cycle is: ☐ ignored, ☒ used, that is: 100 %.
	θ,ϕ	=	The worst condition is considered, i.e. the max G is used.
	S_i	=	$\frac{P\times G_{(\theta,\phi)}}{4\times\pi}/R^2$ = 0.071 $/R^2$ W/m^2
	$\frac{S_i}{S_{Limit,i}}$	=	0.0071 / R^2
Whole Product	Calculation for Whole Product		
Whole Product	$\sum_i \frac{S_i}{S_{Limit,i}}$	=	0.0331 / $R^2 \le 1$
	R	≥	0.182 m (the minimum Safe Distance)
	NOTE: The result is the worst case of each individual source and simultaneous transmission sources (if applicable).		

Note: If the practical maximum antenna gain exceeds the value as described above, the safe distance must be recalculated and estimated.
Beyond the specified distance: 0.182 m

Person responsible for making this declaration:

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