FCC RF EXPOSURE REPORT

FCC ID: QISR250D

Project No.	**: 1609C073C**
Equipment	**: Remote Unit**
Model	**: R250D**
Applicant	**: Huawei Technologies Co.,Ltd.**
Address	**: Administration Building, Headquarters of Huawei Technologies Co., Ltd., Bantian, Longgang District Shenzhen China**
According:	**: FCC Guidelines for Human Exposure IEEE C95.1**

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MPE CALCULATION METHOD:

Calculation Method of RF Safety Distance:

$$S = \frac{PG}{4\pi r^2} = \frac{EIRP}{4\pi r^2}$$

where:
S = power density
P = power input to the antenna
G = power gain of the antenna in the direction of interest relative to an isotropic radiator
R = distance to the center of radiation of the antenna

Table for Filed Antenna

5G Band 2-3

Ant.	Manufacturer	Model Name	Antenna Type	Connector	Gain(dBi)
1	泓林微电子（昆山）有限公司	N/A	Internal	U.FL	6.3
2	HUAWEI	N/A	Internal	N/A	6.3

Note:
(1) The EUT incorporates a MIMO function. Physically, the EUT provides two completed transmitters and receivers (2T2R), all transmit signals are completely uncorrelated, then,**Direction gain = G_{ANT}**,that is Directional gain=6.3.
The UNII-2A out power limit is 24-6.30+6=23.70,
UNII-2C out power limit is 24-6.30+6=23.70
the UNII-2A power density limit is 11-6.30+6=10.70,
UNII-2C power density limit is 11-6.30+6=10.70

(2) For 2TX with beamforming:
The EUT with beamforming function, then, Direction gain = G_{ANT}+10log(N_{ANT}/N_{SS}), where N_{SS} = the number of independent spatial streams of data.
For 2TX with beamforming: Directional gain=6.3+10log(2/2)=6.3+0=6.3 dBi.
The UNII-2A out power limit is 23-6.30+6=23.70,
UNII-2C out power limit is 23-6.30+6=23.70
the UNII-2A power density limit is 11-6.30+6=10.70,
UNII-2C power density limit is 11-6.30+6=10.70

Operating Mode / TX Mode	2TX
802.11a	V (Ant 1+Ant 2)
802.11n(20MHz)	V (Ant 1+Ant 2)
802.11n(40MHz)	V (Ant 1+Ant 2)
802.11ac(20MHz)	V (Ant 1+Ant 2)
802.11ac(40MHz)	V (Ant 1+Ant 2)
802.11ac80MHz)	V (Ant 1+Ant 2)

TEST RESULTS

UNII-2A

EUT :	Remote Unit	Model Name :	R250D
Temperature :	25 ℃	Relative Humidity:	60 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX A MODE / CH52, CH60, CH64-Ant 1+Ant 2		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm^2)	Limit of Power Density (S) (mW/cm^2)	Test Result
6.3	4.2658	21.40	138.0384	0.11720614	1	Complies
6.3	4.2658	21.52	141.9058	0.12048982	1	Complies
6.3	4.2658	21.42	138.6756	0.11774714	1	Complies

UNII-2A 2TX with Beamforming

EUT :	Remote Unit	Model Name :	R250D
Temperature:	25 ℃	Relative Humidity:	60 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX AC20 MODE / CH52, CH60, CH64-Ant 1+Ant 2		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm^2)	Limit of Power Density (S) (mW/cm^2)	Test Result
6.3	4.2658	19.60	91.2011	0.07743733	1	Complies
6.3	4.2658	19.88	97.2747	0.08259436	1	Complies
6.3	4.2658	19.83	96.1612	0.08164891	1	Complies

UNII-2C

EUT：	Remote Unit	Model Name :	R250D
Temperature:	25 ℃	Relative Humidity:	60 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX A MODE / CH100, CH116, CH140-Ant 1+Ant 2		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm^2)	Limit of Power Density (S) (mW/cm^2)	Test Result
6.3	4.2658	19.69	93.1108	0.07905883	1	Complies
6.3	4.2658	20.86	121.8990	0.10350239	1	Complies
6.3	4.2658	17.99	62.9506	0.05345033	1	Complies

UNII-2C 2TX with Beamforming

EUT：	Remote Unit	Model Name :	R250D
Temperature:	25 ℃	Relative Humidity:	60 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	TX N20 MODE / CH100, CH116, CH140-Ant 1+Ant 2		

Antenna Gain (dBi)	Antenna Gain (numeric)	Peak Output Power (dBm)	Peak Output Power (mW)	Power Density (S) (mW/cm^2)	Limit of Power Density (S) (mW/cm^2)	Test Result
6.3	4.2658	19.50	89.1251	0.07567464	1	Complies
6.3	4.2658	19.64	92.0450	0.07815385	1	Complies
6.3	4.2658	18.22	66.3743	0.05635732	1	Complies

Note: the calculated distance is 25 cm.