



FCC ID: 2BCU7CDW543U

According to KDB 447498 D01 General RF Exposure Guidance v06, section 4.3.1

SAR Test Exclusion Threshold for < 100 MHz and < 200 mm as per Appendix C

SAR exclusion for 100 MHz at 50 mm is 237 mW.

For frequencies below 100 MHz, the following may be considered for SAR test exclusion (also illustrated in Appendix C):<sup>33</sup>

1) For *test separation distances* > 50 mm and < 200 mm, the power threshold at the corresponding test separation distance at 100 MHz in step b) is multiplied by  $[1 + \log(100/f_{(MHz)})]$

$$237 * [1 + \log(100/f_{(13.56)})] = 422 \text{ mW}$$

2) For *test separation distances*  $\leq$  50 mm, the power threshold determined by the equation in c) 1) for 50 mm and 100 MHz is multiplied by  $\frac{1}{2}$

$$422 * (1/2) = 221 \text{ mW}$$

### 1. SAR test exclusion threshold

**Frequency: 13.56**, test separation distances  $\leq$  50 mm.

Max. Tune-up Tolerance (mW)	SAR Test Exclusion Thresholds (mW)
0.0007	221

Remark:

-Based on field strength 23.79 dBuV/m at 30m, so 63.79 dBuV/m at 3m transmit power(eirp) of the device was calculated as 0.0007 mW(3m) using free space formula.



### <Collocated analysis>

#### General Note:

1.  $\Sigma(\text{Power Density} / \text{Limit})$ : This is a summation of [(power density for each transmitter/antenna included in the simultaneous transmission)/ (corresponding MPE limit)], for WWAN +WLAN + Bluetooth
2. Considering the WWAN module collocation with the other transmitters of the EIRP performance listed in the table above, the aggregated (power density /limit) is smaller than 1, and MPE of 4 collocated transmitters is compliant.

For Single RF Source (worst case)					
Operation Band	Antenna Gain (dBi)	Tune-up Limit (dBm)	Power Density at R = 20 cm (mW/m <sup>2</sup> )	FCC Limit (mW/m <sup>2</sup> )	Power Density / Limit
LTE	8	23.5	0.281	0.444	0.634
WLAN2.4G	3.4	26	0.17327	1.0	0.17327
BT	3.77	7.90	0.00292	1.0	0.00292
BLE	1.5	3.7	0.00066	1.0	0.00066
NFC	0	-31.41	0.00000	0.98	0

#### For Model: CDW543U-A10-1, CDW543U-A08-1

Collocated Operations (worst case)				
Max WWAN Power Density / Limit	Max WLAN Power Density / Limit	Max BT Power Density / Limit	Max NFC Power Density / Limit	$\Sigma(\text{Power Density} / \text{Limit})$ Of WWAN + WLAN + BT + NFC
0.634	0.17327	0.00292	0.00000	0.81019

#### For Model: CDW543U-A10, CDW543U-A08

Collocated Operations (worst case)				
Max WWAN Power Density / Limit	Max WLAN Power Density / Limit	Max NFC Power Density / Limit	Max BLE Power Density / Limit	$\Sigma(\text{Power Density} / \text{Limit})$ Of WWAN + WLAN + BLE + NFC
0.634	0.17327	0.00000	0.00066	0.80793

#### Data Reference:

Operation Band	FCC ID	Report number
LTE Band 71	PJ7-N75NA	FA930506
WLAN2.4G	2AC7Z-ESP32WROOM32E	RSHD200218007-00B
BT	2ADXEHY-234004PC	SZCR240100018002
BLE	2ADXE-HY-40R204PC	TRE1709025401

#### 2. Conclusion: No SAR is required.