



# CE RF Exposure Report

**Project No.** : 2401C127A  
**Equipment** : AX1500 Wi-Fi 6 5G NR Router  
**Brand Name** : Tenda  
**Model Name** : 5G01  
**Series Model** : N/A  
**Applicant** : SHENZHEN TENDA TECHNOLOGY CO.,LTD.  
**Address** : 6-8 Floor, Tower E3, No. 1001, Zhongshanyuan Road, Nanshan District, Shenzhen, China. 518052  
**Manufacturer** : SHENZHEN TENDA TECHNOLOGY CO.,LTD.  
**Address** : 6-8 Floor, Tower E3, No. 1001, Zhongshanyuan Road, Nanshan District, Shenzhen, China. 518052  
**Date of Receipt** : Jan. 16, 2024  
**Date of Test** : Jan. 17, 2024 ~ Jan. 28, 2024  
**Issued Date** : Apr. 09, 2024  
**Report Version** : R00  
**Test Sample** : Engineering Sample No.: SSL2024020649 for WIFI,  
DG2024011642 for WWAN.  
**Standard(s)** : EN 50385:2017  
EN 62232:2017  
EN IEC 62311: 2020

The above equipment has been tested and found compliance with the requirement of the relative standards by BTL Inc.

**Prepared by** : Edward Li  
Edward Li

**Approved by** : Steven Lu  
Steven Lu

Room 108, Building 2, No.1, Yile Road, Songshan Lake Zone, Dongguan City, Guangdong,  
People's Republic of China

Tel: +86-769-8318-3000 Web: [www.newbtl.com](http://www.newbtl.com) Service mail: [btl\\_qa@newbtl.com](mailto:btl_qa@newbtl.com)

### REPORT ISSUED HISTORY

Report No.	Version	Description	Issued Date	Note
BTL-ETSP-7-2401C127A	R00	This is a copy report which referencing test data are provided from the original test report (BTL-ETSP-7-2401C127). The product name, brand, model name, applicant and manufacturer information are changed which does not affect the test results. Other are kept the same.	Apr. 09, 2024	Valid

## 1. GENERAL INFORMATION

### 1.1 GENERAL DESCRIPTION OF EUT

Equipment	AX1500 Wi-Fi 6 5G NR Router	
Brand Name	Tenda	
Model Name	5G01	
Series Model	N/A	
Model Difference(s)	N/A	
Hardware Version	v1.0	
Software Version	V1.0.0.1	
Power Source	DC Voltage supplied from AC adapter. 1# Model: BN026-A24012E(EU) 2# Model: BN026-A24012B(UK)	
Power Rating	I/P: 100-240V~ 50/60Hz 0.7A    O/P: 12.0V $\equiv$ 2.0A 24.0W	
Product Description _2.4GHz	Operation Frequency	2412MHz ~ 2472MHz
	Modulation Technology	IEEE 802.11b: DSSS IEEE 802.11g: OFDM IEEE 802.11n: OFDM
	Bit Rate of Transmitter	IEEE 802.11b: 11/5.5/2/1 Mbps IEEE 802.11g: 54/48/36/24/18/12/9/6 Mbps IEEE 802.11n: up to 300 Mbps
	Max. e.i.r.p. _Non Beamforming	IEEE 802.11b: 18.87 dBm (77.09 mW) IEEE 802.11g: 19.89 dBm (97.50 mW) IEEE 802.11n(HT20): 19.90 dBm (97.72 mW) IEEE 802.11n(HT40): 19.79 dBm (95.28 mW)
	Max. e.i.r.p. _Beamforming	IEEE 802.11n(HT20): 19.77 dBm (94.84 mW) IEEE 802.11n(HT40): 19.51 dBm (89.33 mW)
Product Description _5GHz Band 1	Operation Frequency Band(s)	5150MHz ~ 5250MHz 5250MHz ~ 5350MHz 5470MHz ~ 5725MHz
	Modulation Technology	IEEE 802.11a/n/ac: OFDM IEEE 802.11ax: OFDMA
	Bit Rate of Transmitter	IEEE 802.11a: 54/48/36/24/18/12/9/6 Mbps IEEE 802.11n: up to 300 Mbps IEEE 802.11ac: up to 866.7 Mbps IEEE 802.11ax: up to 1201 Mbps
	Max. e.i.r.p. _Non Beamforming	IEEE 802.11a: 20.98 dBm (125.31 mW) IEEE 802.11n(HT20): 20.89 dBm (122.74 mW) IEEE 802.11n(HT40): 22.68 dBm (185.35 mW) IEEE 802.11ac(VHT20): 21.15 dBm (130.32 mW) IEEE 802.11ac(VHT40): 22.96 dBm (197.70 mW) IEEE 802.11ac(VHT80): 22.54 dBm (179.47 mW) IEEE 802.11ax(HE20): 21.58 dBm (143.88 mW) IEEE 802.11ax(HE40): 22.78 dBm (189.67 mW) IEEE 802.11ax(HE80): 22.58 dBm (181.13 mW)
	Max. e.i.r.p. _Beamforming	IEEE 802.11n(HT20): 20.66 dBm (116.41 mW) IEEE 802.11n(HT40): 22.14 dBm (163.68 mW) IEEE 802.11ac(VHT20): 20.89 dBm (122.74 mW) IEEE 802.11ac(VHT40): 22.66 dBm (184.50 mW) IEEE 802.11ac(VHT80): 22.15 dBm (164.06 mW) IEEE 802.11ax(HE20): 21.42 dBm (138.68 mW) IEEE 802.11ax(HE40): 22.41 dBm (174.18 mW) IEEE 802.11ax(HE80): 22.13 dBm (163.31 mW)

Product Description _5GHz Band 4	Max. e.i.r.p. _Non Beamforming		IEEE 802.11a: 13.86 dBm (24.32 mW) IEEE 802.11n(HT20): 13.81 dBm (24.04 mW) IEEE 802.11n(HT40): 13.73 dBm (23.60 mW) IEEE 802.11ac(VHT20): 13.92 dBm (24.66 mW) IEEE 802.11ac(VHT40): 13.75 dBm (23.71 mW) IEEE 802.11ac(VHT80): 13.74 dBm (23.66 mW) IEEE 802.11ax(HE20): 13.54 dBm (22.59 mW) IEEE 802.11ax(HE40): 13.81 dBm (24.04 mW) IEEE 802.11ax(HE80): 13.56 dBm (22.70 mW)
	Max. e.i.r.p. _Beamforming		IEEE 802.11n(HT20): 13.65 dBm (23.17 mW) IEEE 802.11n(HT40): 13.53 dBm (22.54 mW) IEEE 802.11ac(VHT20): 13.69 dBm (23.39 mW) IEEE 802.11ac(VHT40): 13.58 dBm (22.80 mW) IEEE 802.11ac(VHT80): 13.67 dBm (23.28 mW) IEEE 802.11ax(HE20): 13.33 dBm (21.53 mW) IEEE 802.11ax(HE40): 13.75 dBm (23.71 mW) IEEE 802.11ax(HE80): 13.50 dBm (22.39 mW)
Product Description _WCDMA	Operation Frequency Bands		Band I: UL:1920MHz ~ 1980MHz, DL: 2110MHz ~ 2170MHz Band VIII: UL: 880MHz ~ 915MHz, DL: 925MHz ~ 960MHz
	Modulation Type		BPSK, QPSK, 16QAM, 64QAM
	Power Class		3
	IMEI NO.		Radiated 869841060052583
	Max. Tune Up Power		Band I / VIII 25 dBm
Product Description _LTE	Operation Frequency Bands		LTE Band 1: Uplink: 1920-1980 MHz, Downlink: 2110-2170 MHz LTE Band 3: Uplink: 1710-1785 MHz, Downlink: 1805-1880 MHz LTE Band 7: Uplink: 2500-2570 MHz, Downlink: 2620-2690 MHz LTE Band 8: Uplink: 880-915 MHz, Downlink: 925-960 MHz LTE Band 20: Uplink: 832-862 MHz, Downlink: 791-821 MHz LTE Band 28: Uplink: 703-748 MHz, Downlink: 758-803 MHz LTE Band 38: Uplink: 2570-2620 MHz, Downlink: 2570-2620 MHz LTE Band 40: Uplink: 2300-2400 MHz, Downlink: 2300-2400 MHz
	Operation Bands	Uplink	LTE Band 1 / LTE Band 3 / LTE Band 7 / LTE Band 8 / LTE Band 20 / LTE Band 28 / LTE Band 38 / LTE Band 40 / LTE CA_1C / LTE CA_3C / LTE CA_7C / LTE CA_8B / LTE CA_38C / LTE CA_40C
		Downlink	/ LTE CA_1A-3A / LTE CA_1A-7A / LTE CA_1A-8A / LTE CA_1A-20A / LTE CA_3A-7A / LTE CA_3A-8A / LTE CA_3A-20A / LTE CA_3A-28A / LTE CA_7A-20A / LTE CA_7A-28A / LTE CA_8A-20A / LTE CA_8A-40A
	Modulation Type		UL: QPSK, 16QAM, 64QAM DL: QPSK, 16QAM, 64QAM, 256QAM
	Power Class		3
	IMEI NO.		Radiated 869841060052583
	Max. Tune Up Power		Band 1 / 3 / 7 / 8 / 20 / 28 / 38 / 40 / 25 dBm

Product Description _5G NR	Operation Bands (Note 2)		SA: n1 / n3 / n5 / n7 / n8 / n20 / n28 / n38 / n40 / n41 / n77 / n78
			SA UL MIMO: n38 / n40 / n41 / n77 / n78
			DC 3A_n7A
			DC_1A_n28A / DC_3A_n28A / DC_7A_n28A / DC_20A_n28A
			DC_1A_n40A / DC_3A_n40A / DC_8A_n40A
			DC_1A_n77A / DC_3A_n77A / DC_8A_n77A / DC_20A_n77A / DC_28A_n77A / DC_40A_n77A
			DC_1A_n78A / DC_3A_n78A / DC_7A_n78A / DC_8A_n78A / DC_20A_n78A / DC_28A_n78A / DC_38A_n78A
	Operation Frequency Bands		Band n1: Uplink: 1920-1980 MHz, Downlink: 2110-2170 MHz
			Band n3: Uplink: 1710-1785 MHz, Downlink: 1805-1880 MHz
			Band n5: Uplink: 824-849 MHz, Downlink: 869-894 MHz
			Band n7: Uplink: 2500-2570 MHz, Downlink: 2620-2690 MHz
			Band n8: Uplink: 880-915 MHz, Downlink: 925-960 MHz
			Band n20: Uplink: 832-862 MHz, Downlink: 791-821 MHz
			Band n28: Uplink: 703-748 MHz, Downlink: 758-803 MHz
			Band n38: Uplink: 2570-2620 MHz, Downlink: 2570-2620 MHz
			Band n40: Uplink: 2300-2400 MHz, Downlink: 2300-2400 MHz
			Band n41: Uplink: 2496-2690 MHz, Downlink: 2496-2690 MHz
			Band n77: Uplink: 3300-4200 MHz, Downlink: 3300-4200 MHz
			Band n78: Uplink: 3300-3800 MHz, Downlink: 3300-3800 MHz
	Modulation Type		DFT-s-OFDM PI/2 BPSK
			DFT-s-OFDM QPSK
			DFT-s-OFDM 16QAM
			DFT-s-OFDM 64QAM
			DFT-s-OFDM 256QAM
			DFT-s-OFDM PI/2 BPSK
	Power Class	2	SA: n41 / n77 / n78
			SA UL MIMO: n41 / n77 / n78
		3	SA: n1 / n3 / n5 / n7 / n8 / n20 / n28 / n38 / n40
			SA UL MIMO: n38 / n40
			DC 3A_n7A
			DC_1A_n28A / DC_3A_n28A / DC_7A_n28A / DC_20A_n28A
			DC_1A_n40A / DC_3A_n40A / DC_8A_n40A
			DC_1A_n77A / DC_3A_n77A / DC_8A_n77A / DC_20A_n77A / DC_28A_n77A / DC_40A_n77A
			DC_1A_n78A / DC_3A_n78A / DC_7A_n78A / DC_8A_n78A / DC_20A_n78A / DC_28A_n78A / DC_38A_n78A

Product Description _5G NR	IMEI NO.	Radiated	869841060052583
	Max. Tune Up Power	n1 / n3 / n5 / n7 / n8 / n20 / n28 / n38 / n40	25 dBm
		n41 / n77 / n78	28 dBm
		n38 (UL MIMO)	25 dBm
		n40 (UL MIMO)	25 dBm
		n41 (UL MIMO)	28 dBm
		n77 (UL MIMO)	28 dBm
		n78 (UL MIMO)	28 dBm

Note:

- For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
- LTE Band 20 and 5G NR Band n28 of DC\_20A\_n28A only primary RX. The frequency range of Band n28 is restricted to 703-733MHz(UL) and 758-788MHz(DL).

3. Channel List:

For 2.4GHz:

CH01 - CH13 for IEEE 802.11b, IEEE 802.11g, IEEE 802.11n(HT20) CH03 - CH11 for IEEE 802.11n(HT40)					
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
01	2412	06	2437	11	2462
02	2417	07	2442	12	2467
03	2422	08	2447	13	2472
04	2427	09	2452		
05	2432	10	2457		

For 5GHz:

IEEE 802.11a IEEE 802.11n(HT20) IEEE 802.11ac(VHT20) IEEE 802.11ax(HE20)		IEEE 802.11n(HT40) IEEE 802.11ac(VHT40) IEEE 802.11ax(HE40)		IEEE 802.11ac(VHT80) IEEE 802.11ax(HE80)	
Band 1		Band 1		Band 1	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	38	5190	42	5210
40	5200	46	5230		
44	5220				
48	5240				

IEEE 802.11a IEEE 802.11n(HT20) IEEE 802.11ac(VHT20) IEEE 802.11ax(HE20)		IEEE 802.11n(HT40) IEEE 802.11ac(VHT40) IEEE 802.11ax(HE40)		IEEE 802.11ac(VHT80) IEEE 802.11ax(HE80)	
Band 4		Band 4		Band 4	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
149	5745	151	5755	155	5775
153	5765	159	5795		
157	5785				
161	5805				
165	5825				

For WCDMA:

Bands	Sub-test	Channel	Frequency (MHz)	
WCDMA Band I	---	9613	Low	1922.6
		9750	Mid	1950.0
		9887	High	1977.4
WCDMA Band VIII	---	2713	Low	882.6
		2788	Mid	897.6
		2862	High	912.4

For LTE:

Band	Bandwidth	Low Channel	Mid Channel	High Channel	Low Frequency	Mid Frequency	High Frequency
1	5	18025	18300	18575	1922.5	1950.0	1977.5
1	10	18050	18300	18550	1925.0	1950.0	1975.0
1	15	18075	18300	18525	1927.5	1950.0	1972.5
1	20	18100	18300	18500	1930.0	1950.0	1970.0

Band	Bandwidth	Low Channel	Mid Channel	High Channel	Low Frequency	Mid Frequency	High Frequency
3	1.4	19207	19575	19943	1710.7	1747.5	1784.3
3	3	19215	19575	19935	1711.5	1747.5	1783.5
3	5	19225	19575	19925	1712.5	1747.5	1782.5
3	10	19250	19575	19900	1715.0	1747.5	1780.0
3	15	19275	19575	19875	1717.5	1747.5	1777.5
3	20	19300	19575	19850	1720.0	1747.5	1775.0

Band	Bandwidth	Low Channel	Mid Channel	High Channel	Low Frequency	Mid Frequency	High Frequency
7	5	20775	21100	21425	2502.5	2535.0	2567.5
7	10	20800	21100	21400	2505.0	2535.0	2565.0
7	15	20825	21100	21375	2507.5	2535.0	2562.5
7	20	20850	21100	21350	2510.0	2535.0	2560.0

Band	Bandwidth	Low Channel	Mid Channel	High Channel	Low Frequency	Mid Frequency	High Frequency
8	1.4	21457	21625	21793	880.7	897.5	914.3
8	3	21465	21625	21785	881.5	897.5	913.5
8	5	21475	21625	21775	882.5	897.5	912.5
8	10	21500	21625	21750	885.0	897.5	910.0

Band	Bandwidth	Low Channel	Mid Channel	High Channel	Low Frequency	Mid Frequency	High Frequency
20	5	24175	24300	24425	834.5	847.0	859.5
20	10	24200	24300	24400	837.0	847.0	857.0
20	15	24225	24300	24375	839.5	847.0	854.5
20	20	24250	24300	24350	842.0	847.0	852.0

Band	Bandwidth	Low Channel	Mid Channel	High Channel	Low Frequency	Mid Frequency	High Frequency
28	3	27225	27375	27645	704.5	719.5	746.5
28	5	27235	27385	27635	705.5	720.5	745.5
28	10	27260	27410	27610	708.0	723.0	743.0
28	15	27285	27435	27585	710.5	725.5	740.5
28	20	27310	27460	27560	713.0	728.0	738.0

Band	Bandwidth	Low Channel	Mid Channel	High Channel	Low Frequency	Mid Frequency	High Frequency
38	5	37775	38000	38225	2572.5	2595.0	2617.5
38	10	37800	38000	38200	2575.0	2595.0	2615.0
38	15	37825	38000	38175	2577.5	2595.0	2612.5
38	20	37850	38000	38150	2580.0	2595.0	2610.0

Band	Bandwidth	Low Channel	Mid Channel	High Channel	Low Frequency	Mid Frequency	High Frequency
40	5	38675	39150	39625	2302.5	2350.0	2397.5
40	10	38700	39150	39600	2305.0	2350.0	2395.0
40	15	38725	39150	39575	2307.5	2350.0	2392.5
40	20	38750	39150	39550	2310.0	2350.0	2390.0

### LTE CA\_1C

Range	CC-Combo / N <sub>RB_agg</sub> [RB]	CC1 Note1					CC2 Note1				
		BW [RB]	N <sub>UL</sub>	f <sub>UL</sub> [MHz]	N <sub>DL</sub>	f <sub>DL</sub> [MHz]	BW [RB]	N <sub>UL</sub>	f <sub>UL</sub> [MHz]	N <sub>DL</sub>	f <sub>DL</sub> [MHz]
Low	75+75	75	18075	1927.5	75	2117.5	75	18225	1942.5	225	2132.5
	100+100	100	18100	1930	100	2120	100	18298	1949.8	298	2139.8
Mid	75+75	75	18225	1942.5	225	2132.5	75	18375	1957.5	375	2147.5
	100+100	100	18201	1940.1	201	2130.1	100	18399	1959.9	399	2149.9
High	75+75	75	18375	1957.5	375	2147.5	75	18525	1972.5	525	2162.5
	100+100	100	18302	1950.2	302	2140.2	100	18500	1970	500	2160

Note 1: Carriers in increasing frequency order.

### LTE CA\_3C

Range	CC-Combo / N <sub>RB_agg</sub> [RB]	CC1 Note1					CC2 Note1					
		BW [RB]	N <sub>UL</sub>	f <sub>UL</sub> [MHz]	N <sub>DL</sub>	f <sub>DL</sub> [MHz]	BW [RB]	N <sub>UL</sub>	f <sub>UL</sub> [MHz]	N <sub>DL</sub>	f <sub>DL</sub> [MHz]	
Low	25+100	25	19233	1713.3	1233	1808.3	100	19350	1725	1350	1820	
		100	19300	1720	1300	1815	25	19417	1731.7	1417	1826.7	
	50+100	50	19255	1715.5	1255	1810.5	100	19399	1729.9	1399	1824.9	
		100	19300	1720	1300	1815	50	19444	1734.4	1444	1829.4	
	75+100	75	19278	1717.8	1278	1812.8	100	19449	1734.9	1449	1829.9	
		100	19300	1720	1300	1815	75	19471	1737.1	1471	1832.1	
Mid	25+100	100	19300	1720	1300	1815	100	19498	1739.8	1498	1834.8	
		25	19483	1738.3	1483	1833.3	100	19600	1750.0	1600	1845.0	
	50+100	100	19550	1745	1550	1840	25	19667	1756.7	1667	1851.7	
		50	19481	1738.1	1481	1833.1	100	19625	1752.5	1625	1847.5	
	75+100	100	19526	1742.6	1526	1837.6	50	19670	1757.0	1670	1852.0	
		75	19478	1737.8	1478	1832.8	100	19649	1754.9	1649	1849.9	
High	25+100	100	19501	1740.1	1501	1835.1	75	19672	1757.2	1672	1852.2	
		100	19476	1737.6	1476	1832.6	100	19674	1757.4	1674	1852.4	
	50+100	25	19733	1763.3	1733	1858.3	100	19850	1775	1850	1870	
		100	19800	1770	1800	1865	25	19917	1781.7	1917	1876.7	
	75+100	50	19706	1760.6	1706	1855.6	100	19850	1775	1850	1870	
		100	19751	1765.1	1751	1860.1	50	19895	1779.5	1895	1874.5	
Note 1:	Carriers in increasing frequency order.	75+100	75	19679	1757.9	1679	1852.9	100	19850	1775	1850	1870
			100	19701	1760.1	1701	1855.1	75	19872	1777.2	1872	1872.2
		100+100	100	19652	1755.2	1652	1850.2	100	19850	1775	1850	1870

### LTE CA\_7C

Range	CC-Combo / N <sub>RB_agg</sub> [RB]	CC1 Note1					CC2 Note1				
		BW [RB]	N <sub>UL</sub>	f <sub>UL</sub> [MHz]	N <sub>DL</sub>	f <sub>DL</sub> [MHz]	BW [RB]	N <sub>UL</sub>	f <sub>UL</sub> [MHz]	N <sub>DL</sub>	f <sub>DL</sub> [MHz]
Low	50+100	50	20805	2505.5	2805	2625.5	100	20949	2519.9	2949	2639.9
		100	20850	2510	2850	2630	50	20994	2524.4	2994	2644.4
	75+75	75	20825	2507.5	2825	2627.5	75	20975	2522.5	2975	2642.5
	75+100	75	20828	2507.8	2828	2627.8	100	20999	2524.9	2999	2644.9
		100	20850	2510	2850	2630	75	21021	2527.1	3021	2647.1
	100+100	100	20850	2510	2850	2630	100	21048	2529.8	3048	2649.8
Mid	50+100	50	21006	2525.6	3006	2645.6	100	21150	2540	3150	2660
		100	21051	2530.1	3051	2650.1	50	21195	2544.5	3195	2664.5
	75+75	75	21025	2527.5	3025	2647.5	75	21175	2542.5	3175	2662.5
	75+100	75	21003	2525.3	3003	2645.3	100	21174	2542.4	3174	2662.4
		100	21026	2527.6	3026	2647.6	75	21197	2544.7	3197	2664.7
	100+100	100	21001	2525.1	3001	2645.1	100	21199	2544.9	3199	2664.9
High	50+100	50	21206	2545.6	3206	2665.6	100	21350	2560	3350	2680
		100	21251	2550.1	3251	2670.1	50	21395	2564.5	3395	2684.5
	75+75	75	21225	2547.5	3225	2667.5	75	21375	2562.5	3375	2682.5
	75+100	75	21179	2542.9	3179	2662.9	100	21350	2560	3350	2680
		100	21201	2545.1	3201	2665.1	75	21372	2562.2	3372	2682.2
	100+100	100	21152	2540.2	3152	2660.2	100	21350	2560	3350	2680
Note 1: Carriers in increasing frequency order.											

### LTE CA\_8B

Range	CC-Combo / N <sub>RB_agg</sub> [RB]	CC1 Note1					CC2 Note1				
		BW [RB]	N <sub>UL</sub>	f <sub>UL</sub> [MHz]	N <sub>DL</sub>	f <sub>DL</sub> [MHz]	BW [RB]	N <sub>UL</sub>	f <sub>UL</sub> [MHz]	N <sub>DL</sub>	f <sub>DL</sub> [MHz]
Low	25+50	25	21478	882.8	3478	927.8	50	21550	890	3550	935
	50+25	50	21500	885	3500	930	25	21572	892.2	3572	937.2
	50+50	50	21500	885	3500	930	50	21599	894.9	3599	939.9
Mid	25+50	25	21578	892.8	3578	937.8	50	21650	900.0	3650	945.0
	50+25	50	21600	895.0	3600	940.0	25	21672	902.2	3672	947.2
	50+50	50	21676	892.6	3576	937.6	50	21675	902.5	3675	947.5
High	25+50	25	21678	902.8	3678	947.8	50	21750	910	3750	955
	50+25	50	21700	905	3700	950	25	21772	912.2	3772	957.2
	50+50	50	21651	900.1	3651	945.1	50	21750	910	3750	955

Note 1: Carriers in increasing frequency order.

### LTE CA\_38C

Range	CC-Combo / N <sub>RB_agg</sub> [RB]	CC1 Note1			CC2 Note1		
		BW [RB]	N <sub>UL/DL</sub>	f <sub>UL/DL</sub> [MHz]	BW [RB]	N <sub>UL/DL</sub>	f <sub>UL/DL</sub> [MHz]
Low	75+75	75	37825	2577.5	75	37975	2592.5
	100+100	100	37850	2580	100	38048	2599.8
Mid	75+75	75	37925	2587.5	75	38075	2602.5
	100+100	100	37901	2585.1	100	38099	2604.9
High	75+75	75	38025	2597.5	75	38175	2612.5
	100+100	100	37952	2590.2	100	38150	2610

Note 1: Carriers in increasing frequency order.

### LTE CA\_40C

Range	CC-Combo / N <sub>RB_agg</sub> [RB]	CC1 Note1			CC2 Note1		
		BW [RB]	N <sub>UL/DL</sub>	f <sub>UL/DL</sub> [MHz]	BW [RB]	N <sub>UL/DL</sub>	f <sub>UL/DL</sub> [MHz]
Low	50+100	50	38705	2305.5	100	38849	2319.9
		100	38750	2310	50	38894	2324.4
	75+75	75	38725	2307.5	75	38875	2322.5
	75+100	75	38728	2307.8	100	38899	2324.9
		100	38750	2310	75	38921	2327.1
	100+100	100	38750	2310	100	38948	2329.8
Mid	50+100	50	39056	2340.6	100	39200	2355.0
		100	39101	2345.1	50	39245	2359.5
	75+75	75	39075	2342.5	75	39225	2357.5
	75+100	75	39053	2340.3	100	39224	2357.4
		100	39076	2342.6	75	39247	2359.7
	100+100	100	39051	2340.1	100	39249	2359.9
High	50+100	50	39406	2375.6	100	39550	2390
		100	39451	2380.1	50	39595	2394.5
	75+75	75	39425	2377.5	75	39575	2392.5
	75+100	75	39379	2372.9	100	39550	2390
		100	39401	2375.1	75	39572	2392.2
	100+100	100	39352	2370.2	100	39550	2390
Note 1: Carriers in increasing frequency order.							

For 5G NR:

5G NR n1						
Bandwidth	Low Channel	Mid Channel	High Channel	Low Frequency	Mid Frequency	High Frequency
5	384500	390000	395500	1922.5	1950	1977.5
10	385000	390000	395000	1925	1950	1975
15	385500	390000	394500	1927.5	1950	1972.5
20	386000	390000	394000	1930	1950	1970
25	386500	390000	393500	1932.5	1950	1967.5
30	387000	390000	393000	1935	1950	1965
40	388000	390000	392000	1940	1950	1960
50	389000	390000	391000	1945	1950	1955

5G NR n3						
Bandwidth	Low Channel	Mid Channel	High Channel	Low Frequency	Mid Frequency	High Frequency
5	342500	349500	356500	1712.5	1747.5	1782.5
10	343000	349500	356000	1715	1747.5	1780
15	343500	349500	355500	1717.5	1747.5	1777.5
20	344000	349500	355000	1720	1747.5	1775
25	344500	349500	354500	1722.5	1747.5	1772.5
30	345000	349500	354000	1725	1747.5	1770

5G NR n5						
Bandwidth	Low Channel	Mid Channel	High Channel	Low Frequency	Mid Frequency	High Frequency
5	165300	167300	169300	826.5	836.5	846.5
10	165800	167300	168800	829	836.5	844
15	166300	167300	168300	831.5	836.5	841.5
20	166800	167300	167800	834	836.5	839

5G NR n7						
Bandwidth	Low Channel	Mid Channel	High Channel	Low Frequency	Mid Frequency	High Frequency
5	500500	507000	513500	2502.5	2535	2567.5
10	501000	507000	513000	2505	2535	2565
15	501500	507000	512500	2507.5	2535	2562.5
20	502000	507000	512000	2510	2535	2560

5G NR n8						
Bandwidth	Low Channel	Mid Channel	High Channel	Low Frequency	Mid Frequency	High Frequency
5	176500	179500	182500	882.5	897.5	912.5
10	177000	179500	182000	885	897.5	910
15	177500	179500	181500	887.5	897.5	907.5
20	178000	179500	181000	890	897.5	905

5G NR n20						
Bandwidth	Low Channel	Mid Channel	High Channel	Low Frequency	Mid Frequency	High Frequency
5	166900	169400	171900	834.5	847	859.5
10	167400	169400	171400	837	847	857
15	167900	169400	170900	839.5	847	854.5
20	168400	169400	170400	842	847	852

5G NR n28						
Bandwidth	Low Channel	Mid Channel	High Channel	Low Frequency	Mid Frequency	High Frequency
5	141100	145100	149100	705.5	725.5	745.5
10	141600	145100	148600	708	725.5	743
15	142100	145100	148100	710.5	725.5	740.5
20	142600	145100	147600	713	725.5	738
30	143600	/	146600	718	/	733

5G NR n38						
Bandwidth	Low Channel	Mid Channel	High Channel	Low Frequency	Mid Frequency	High Frequency
10	515000	519000	523000	2575	2595	2615
15	515500	519000	522500	2577.5	2595	2612.5
20	516000	519000	522000	2580	2595	2610
40	518000	519000	520000	2590	2595	2600

5G NR n40						
Bandwidth	Low Channel	Mid Channel	High Channel	Low Frequency	Mid Frequency	High Frequency
10	461000	470000	479000	2305	2350	2395
15	461500	470000	478500	2307.5	2350	2392.5
20	462000	470000	478000	2310	2350	2390
25	462500	470000	477500	2300.8	2350	2387.5
30	463000	470000	477000	2315	2350	2385
40	464000	470000	476000	2320	2350	2380
50	465000	470000	475000	2325	2350	2375
60	466000	470000	474000	2330	2350	2370
80	468000	470000	472000	2340	2350	2360

5G NR n41						
Bandwidth	Low Channel	Mid Channel	High Channel	Low Frequency	Mid Frequency	High Frequency
10	500202	518598	537000	2501.01	2592.99	2685
15	500700	518598	536496	2503.5	2592.99	2682.48
20	501204	518598	535998	2506.02	2592.99	2679.99
40	503202	518598	534000	2516.01	2592.99	2670
50	504204	518598	532998	2521.02	2592.99	2664.99
60	505200	518598	531996	2526	2592.99	2659.98
80	507204	518598	529998	2536.02	2592.99	2649.99
90	508200	518598	528996	2541	2592.99	2644.98
100	509202	518598	528000	2546.01	2592.99	2640

5G NR n77						
Bandwidth	Low Channel	Mid Channel	High Channel	Low Frequency	Mid Frequency	High Frequency
10	620334	650000	679666	3305.01	3750	4194.99
15	620500	650000	679500	3307.5	3750	4192.5
20	620668	650000	679332	3310.02	3750	4189.98
40	621334	650000	678666	3320.01	3750	4179.99
50	621668	650000	678332	3325.02	3750	4174.98
60	622000	650000	678000	3330	3750	4170
80	622668	650000	677332	3340.02	3750	4159.98
90	623000	650000	677000	3345	3750	4155
100	623334	650000	676666	3350.01	3750	4149.99

5G NR n78						
Bandwidth	Low Channel	Mid Channel	High Channel	Low Frequency	Mid Frequency	High Frequency
10	620334	636666	653000	3305.01	3549.99	3795
15	620500	636666	652832	3307.5	3549.99	3792.48
20	620668	636666	652666	3310.02	3549.99	3789.99
40	621334	636666	652000	3320.01	3549.99	3780
50	621668	636666	651666	3325.02	3549.99	3774.99
60	622000	636666	651332	3330	3549.99	3769.98
80	622668	636666	650666	3340.02	3549.99	3759.99
90	623000	636666	650332	3345	3549.99	3754.98
100	623334	636666	650000	3350.01	3549.99	3750

#### 4. Table for Filed Antenna:

For 2.4GHz:

Ant.	Brand	P/N	Antenna Type	Connector	Gain (dBi)
1	<b>Tenda</b>	N/A	PCB	N/A	3.81
2	<b>Tenda</b>	N/A	PCB	N/A	4.3

Note:

- 1) The EUT supports MIMO(Except IEEE 802.11b and IEEE 802.11g mode). Physically, the EUT provides two completed transmitters and receivers (2T2R).
- 2) Beamforming Gain: 3 dB.
- 3) The antenna gain and beamforming gain are provided by the manufacturer.

For 5GHz Band :

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	<b>Tenda</b>	N/A	PCB	N/A	3.29
2	<b>Tenda</b>	N/A	PCB	N/A	4.28

Note:

- 1) The EUT supports MIMO(Except IEEE 802.11a mode). Physically, the EUT provides two completed transmitters and receivers (2T2R).
- 2) Beamforming Gain: 3dB.
- 3) The antenna gain and beamforming gain are provided by the manufacturer.

For 5GHz Band 4:

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	<i>Tenda</i>	N/A	PCB	N/A	3.35
2	<i>Tenda</i>	N/A	PCB	N/A	4.41

Note:

- 1) The EUT supports MIMO(Except IEEE 802.11a mode). Physically, the EUT provides two completed transmitters and receivers (2T2R).
- 2) Beamforming Gain: 3dB.
- 3) The antenna gain and beamforming gain are provided by the manufacturer.

For WCDMA:

Ant. P/N	Type	Ant. Brand	Antenna Gain(dBi)	Note
N/A	PCB	<i>Tenda</i>	6.88	WCDMA Band I
			2.16	WCDMA Band VIII

Note: The antenna gain is provided by the manufacturer.

For LTE:

Ant. P/N	Type	Ant. Brand	Antenna Gain(dBi)	Note
N/A	PCB	<i>Tenda</i>	6.88	LTE Band 1
			5.35	LTE Band 3
			6.04	LTE Band 7
			2.51	LTE Band 8
			1.70	LTE Band 20
			-1.09	LTE Band 28
			6.41	LTE Band 38
			5.56	LTE Band 40

Note: The antenna gain is provided by the manufacturer.

For 5G NR:

Ant. P/N	Type	Ant. Brand	Antenna Gain(dBi)	Note
N/A	PCB	<i>Tenda</i>	6.88	5G NR n1
			5.35	5G NR n3
			1.70	5G NR n5
			6.04	5G NR n7
			2.51	5G NR n8
			1.70	5G NR n20
			-1.09	5G NR n28
			6.41	5G NR n38
			6.41	5G NR n38
			5.56	5G NR n40
			5.56	5G NR n40
			6.41	5G NR n41
			6.41	5G NR n41
			5.70	5G NR n77
			5.70	5G NR n77
			5.70	5G NR n78
			5.70	5G NR n78

Note: The antenna gain is provided by the manufacturer.

## 5. The worst case for 1TX/2TX as follow:

For 2.4GHz:

Non Beamforming:

Operating Mode / TX Mode	1TX	2TX
IEEE 802.11b	V (Ant. 1)	-
IEEE 802.11g	V (Ant. 1)	-
IEEE 802.11n(HT20)	-	V (Ant. 1+Ant. 2)
IEEE 802.11n(HT40)	-	V (Ant. 1+Ant. 2)

Beamforming:

Operating Mode / TX Mode	2TX
IEEE 802.11n(HT20)	V (Ant. 1+Ant. 2)
IEEE 802.11n(HT40)	V (Ant. 1+Ant. 2)

For 5GHz:

Non Beamforming:

Operating Mode / TX Mode	1TX	2TX
IEEE 802.11a	V (Ant. 1)	-
IEEE 802.11n(HT20)	-	V (Ant. 1+Ant. 2)
IEEE 802.11n(HT40)	-	V (Ant. 1+Ant. 2)
IEEE 802.11ac(VHT20)	-	V (Ant. 1+Ant. 2)
IEEE 802.11ac(VHT40)	-	V (Ant. 1+Ant. 2)
IEEE 802.11ac(VHT80)	-	V (Ant. 1+Ant. 2)
IEEE 802.11ax(HE20)	-	V (Ant. 1+Ant. 2)
IEEE 802.11ax(HE40)	-	V (Ant. 1+Ant. 2)
IEEE 802.11ax(HE80)	-	V (Ant. 1+Ant. 2)

Beamforming:

Operating Mode / TX Mode	2TX
IEEE 802.11n(HT20)	V (Ant. 1+Ant. 2)
IEEE 802.11n(HT40)	V (Ant. 1+Ant. 2)
IEEE 802.11ac(VHT20)	V (Ant. 1+Ant. 2)
IEEE 802.11ac(VHT40)	V (Ant. 1+Ant. 2)
IEEE 802.11ac(VHT80)	V (Ant. 1+Ant. 2)
IEEE 802.11ax(HE20)	V (Ant. 1+Ant. 2)
IEEE 802.11ax(HE40)	V (Ant. 1+Ant. 2)
IEEE 802.11ax(HE80)	V (Ant. 1+Ant. 2)

## 2. MAXIMUM PERMISSIBLE EXPOSURE

### 2.1 APPLICABLE STANDARD

According to its specifications, the EUT must comply with the requirements of the following standards:

EN 50385 - Product standard to demonstrate the compliance of base station equipment with radiofrequency electromagnetic field exposure limits (110 MHz - 100 GHz), when placed on the market

EN 62232 - Determination of RF field strength, power density and SAR in the vicinity of radio communication base stations for the purpose of evaluating human exposure

EN IEC 62311 - Assessment of electronic and electrical equipment related to human exposure restrictions for electromagnetic fields (0 Hz to 300 GHz)

### 1 LIMIT

Council Recommendation 1999/519/EC Annex III

Reference levels for electric, magnetic and electromagnetic fields (0Hz to 300GHz)

Frequency range	E-field strength (V/m)	H-field strength (A/m)	B-field (μT)	Equivalent plane wave power density $S_{eq}$ (W/m <sup>2</sup> )
0-1 Hz	—	$3,2 \times 10^4$	$4 \times 10^4$	—
1-8 Hz	10 000	$3,2 \times 10^4/f^2$	$4 \times 10^4/f^2$	—
8-25 Hz	10 000	$4\,000/f$	$5\,000/f$	—
0,025-0,8 kHz	$250/f$	$4/f$	$5/f$	—
0,8-3 kHz	$250/f$	5	6,25	—
3-150 kHz	87	5	6,25	—
0,15-1 MHz	87	$0,73/f$	$0,92/f$	—
1-10 MHz	$87/f^{1/2}$	$0,73/f$	$0,92/f$	—
10-400 MHz	28	0,073	0,092	2
400-2 000 MHz	$1,375\ f^{1/2}$	$0,0037\ f^{1/2}$	$0,0046\ f^{1/2}$	$f/200$
2-300 GHz	61	0,16	0,20	10

## 2 MPE Calculation Method

If a reflecting ground plane is present (e.g. see Figure B.14), use Equation (B.18):

$$S = (1 + |\Gamma|)^2 \frac{\bar{P}_{\text{net}} G_{\theta, \phi}}{4\pi r^2} \quad (\text{B.18})$$

with reflection coefficient  $|\Gamma| = 1$  for the theoretical highest field strength scenario of a perfectly conducting ground plane (e.g. flat metallic roof) or with reflection coefficient  $|\Gamma| = 0,6$  for typical [15] ground reflection conditions. Use of the far-field spherical formulas in the near-field region will overestimate the field strength levels.

$$|\Gamma| = 0.6$$

$$\bar{P}_{\text{net}} = \text{Output Power (W)}$$

$$G_{\theta, \phi} = \text{EUT Antenna gain (Linear ratio)}$$

$$\text{e.i.r.p. (W)} = \bar{P}_{\text{net}} * G_{\theta, \phi}$$

$r=0.26\text{m}$ , as the calculated distance.

### 3. TEST RESULTS

#### For 2.4GHz\_Non Beamforming:

Max. e.i.r.p. (dBm)	Max. e.i.r.p. (W)	Power density (W/m <sup>2</sup> )	Limit (W/m <sup>2</sup> )	Result
19.90	0.0977	0.2946	10	Pass

#### For 2.4GHz\_Beamforming:

Max. e.i.r.p. (dBm)	Max. e.i.r.p. (W)	Power density (W/m <sup>2</sup> )	Limit (W/m <sup>2</sup> )	Result
19.77	0.0948	0.2860	10	Pass

#### For 5GHz\_Non Beamforming:

Max. e.i.r.p. (dBm)	Max. e.i.r.p. (W)	Power density (W/m <sup>2</sup> )	Limit (W/m <sup>2</sup> )	Result
22.96	0.1977	0.5961	10	Pass

#### For 5GHz\_Beamforming:

Max. e.i.r.p. (dBm)	Max. e.i.r.p. (W)	Power density (W/m <sup>2</sup> )	Limit (W/m <sup>2</sup> )	Result
22.66	0.1845	0.5563	10	Pass

#### For WCDMA:

Band	Frequency (MHz)	Max. Tune Up Power (dBm)	Max. Tune Up Power (W)	Antenna Gain (dBi)	Antenna Gain (Linear ratio)	Power density (W/m <sup>2</sup> )	Limit (W/m <sup>2</sup> )	Result
Band I	1922.6	25	0.3162	6.88	4.8753	4.6484	9.6130	Pass
Band VIII	882.6	25	0.3162	2.51	1.7824	1.6994	4.4130	Pass

#### For LTE:

Band	Frequency (MHz)	Max. Tune Up Power (dBm)	Max. Tune Up Power (W)	Antenna Gain (dBi)	Antenna Gain (Linear ratio)	Power density (W/m <sup>2</sup> )	Limit (W/m <sup>2</sup> )	Result
Band 1	1922.5	25	0.3162	6.88	4.8753	4.6484	9.6125	Pass
Band 3	1710.7	25	0.3162	5.35	3.4277	3.2682	8.5535	Pass
Band 7	2502.5	25	0.3162	6.04	4.0179	3.8309	10	Pass
Band 8	880.7	25	0.3162	2.51	1.7824	1.6994	4.4035	Pass
Band 20	834.5	25	0.3162	1.70	1.4791	1.4103	4.1725	Pass
Band 28	704.5	25	0.3162	-1.09	0.7780	0.7418	3.5225	Pass
Band 38	2572.5	25	0.3162	6.41	4.3752	4.1716	10	Pass
Band 40	2302.5	25	0.3162	5.56	3.5975	3.4301	10	Pass

**For 5G NR:**

Band	Frequency (MHz)	Max. Tune Up Power (dBm)	Max. Tune Up Power (W)	Antenna Gain (dBi)	Antenna Gain (Linear ratio)	Power density (W/m <sup>2</sup> )	Limit (W/m <sup>2</sup> )	Result
NR n1	1922.5	25	0.3162	6.88	4.8753	4.6484	9.6125	Pass
NR n3	1712.5	25	0.3162	5.35	3.4277	3.2682	8.5625	Pass
NR n5	826.5	25	0.3162	1.70	1.4791	1.4103	4.1325	Pass
NR n7	2502.5	25	0.3162	6.04	4.0179	3.8309	10	Pass
NR n8	882.5	25	0.3162	2.51	1.7824	1.6994	4.4125	Pass
NR n20	834.5	25	0.3162	1.70	1.4791	1.4103	4.1725	Pass
NR n28	705.5	25	0.3162	-1.09	0.7780	0.7418	3.5275	Pass
NR n38	2575	25	0.3162	6.41	4.3752	4.1716	10	Pass
NR n40	2305	25	0.3162	5.56	3.5975	3.4301	10	Pass
NR n41	2501.01	28	0.6310	6.41	4.3752	8.3235	10	Pass
NR n77	3305.01	28	0.6310	5.70	3.7154	7.0681	10	Pass
NR n78	3305.01	28	0.6310	5.70	3.7154	7.0681	10	Pass
NR n38 (UL MIMO)	2575	25	0.3162	6.41	4.3752	4.1716	10	Pass
NR n40 (UL MIMO)	2305	25	0.3162	5.56	3.5975	3.4301	10	Pass
NR n41 (UL MIMO)	2501.01	28	0.6310	6.41	4.3752	8.3235	10	Pass
NR n77 (UL MIMO)	3305.01	28	0.6310	5.70	3.7154	7.0681	10	Pass
NR n78 (UL MIMO)	3305.01	28	0.6310	5.70	3.7154	7.0681	10	Pass

**Conclusion:**

All of the 2.4GHz, 5GHz and 5G NR device can transmit simultaneously, the formula of calculated the exposure is:

$$(CPD\ 1 / LPD1) + (CPD2 / LPD2) + \dots \text{etc.} < 1$$

**CPD = Calculation Power Density**

**LPD = Limit of Power Density**

Therefore, the calculation of this situation is  $(0.2946 / 10) + (0.5961 / 10) + (8.3235 / 10) = 0.91$ , which is less than the "1" limit.

RF exposure assessment has been performed above to prove that this unit will not generate the harmful EM emission above the reference level as specified in EC Council Recommendation (1999/519/EC).

**End of Test Report**