

AT&T Radiated Performance Requirements

For Public Release at www.att.com/iotdevices; TRP and TIS requirements for IoT devices.

The tables below describe the TRP and TIS requirements which must be met for devices undergoing AT&T approval.

Not all bands listed in these tables are mandatory for IoT devices. However, devices are required to meet the requirements for all bands supported by the wireless module being used.

All testing must be performed in accordance with the current “CTIA Test Plan for Wireless Device Over-The-Air Performance” as specified by the requirements defined in PTCRB. The test plan can be downloaded from CTIA [here](#).

Table 1: LTE Requirements Cat 1+: Free-Space

Band	Minimum TRP Requirement	Minimum TIS Requirement (Primary Antenna)	Minimum TIS Requirement (Secondary Antenna) ¹	Comments
2	+20.0 dBm	-91 dBm/10 MHz	-86 dBm/10 MHz	
4	+20.0 dBm	-93 dBm/10 MHz	-88 dBm/10 MHz	
5	+18.0 dBm	-89 dBm/10 MHz	-84 dBm/10 MHz	
12	+18.0 dBm	-91 dBm/5 MHz	-86 dBm/5 MHz	
17	+18.0 dBm	-88 dBm/10 MHz	-83 dBm/10 MHz	
29	N/A	-88 dBm/10 MHz	-83 dBm/10 MHz	No transmit component for Band 29
30	+19.0 dBm	-91 dBm/10 MHz	-86 dBm/10 MHz	
66	+20.0 dBm	-93 dBm/10 MHz	-88 dBm/10 MHz	

¹ Secondary antenna branch TIS must be within 5 dB of primary antenna

Table 2: LTE Requirements Cat-M1: Free-Space

Band	Minimum TRP Requirement Power Class 3	Minimum TRP Requirement Power Class 5	Minimum TIS Requirement (Primary Antenna)	Comments
2	+20.0 dBm	+17.0 dBm	-96 dBm/720 kHz	per 36.521-1, Clause 6.2.2EA
4	+20.0 dBm	+17.0 dBm	-98 dBm/720 kHz	per 36.521-1, Clause 6.2.2EA
12	+18.0 dBm	+15.0 dBm	-93 dBm/720 kHz	per 36.521-1, Clause 6.2.2EA

Table 3: LTE Requirements Cat 1+: Wrist Phantom

Band	Minimum TRP Requirement	Minimum TIS Requirement (Primary Antenna)	Minimum TIS Requirement (Secondary Antenna) ^{2, 3}	Comments
2	+12.0 dBm	-83 dBm/10 MHz	-78 dBm/10 MHz	
4	+12.0 dBm	-83 dBm/10 MHz	-78 dBm/10 MHz	
5	+10.0 dBm	-81 dBm/10 MHz	-76 dBm/10 MHz	
12	+10.0 dBm	-83 dBm/5 MHz	-78 dBm/5 MHz	
17	+10.0 dBm	-80 dBm/10 MHz	-75 dBm/10 MHz	

² Secondary branch TIS must be within 5 dB of primary

³ Secondary antenna can be waived for wrist worn devices

Table 4: UMTS Requirements

Band	Minimum TRP Requirement	Minimum TIS Requirement (Primary)	Minimum TIS Requirement (Secondary Antenna) ⁴	Comments
2	+18.5 dBm	-102 dBm	-97 dBm	
5	+17.0 dBm	-100 dBm	-95 dBm	
2	+11.0 dBm	-91 dBm	-86 dBm	Wearable devices only
5	+11.0 dBm	-94 dBm	-89 dBm	Wearable devices only

⁴ Secondary antenna branch TIS must be within 5 dB of primary antenna

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