



中国认可
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检测
TESTING
CNAS L0310



FCC RF Test Report

Product Name: HUAWEI MediaPad T3 7.0

Model Number: BG2-W09

Report No: SYBH(Z-RF)002022017-2004

FCC ID: QISBG2-W09

Reliability Laboratory of Huawei Technologies Co., Ltd.

(Global Compliance and Testing Center of Huawei Technologies Co., Ltd)

Administration Building, Headquarters of Huawei Technologies Co., Ltd., Bantian, Longgang District,
Shenzhen, 518129, P.R.C

Tel: +86 755 28780808 Fax: +86 755 89652518



Notice

1. The laboratory has passed the accreditation by China National Accreditation Service for Conformity Assessment (CNAS). The accreditation number is L0310.
2. The laboratory has passed the accreditation by The American Association for Laboratory Accreditation (A2LA). The accreditation number is 2174.01
3. The laboratory has been listed by the US Federal Communications Commission to perform electromagnetic emission measurements. The site recognition number is 97456.
4. The laboratory has been listed by Industry Canada to perform electromagnetic emission measurements. The recognition numbers of test site are 6369A-1.
5. The laboratory (Reliability Lab of Huawei Technologies Co., Ltd) is also named "Global Compliance and Testing Center of Huawei Technologies Co., Ltd", the both names have coexisted since 2009.
6. The test report is invalid if not marked with the signatures of the persons responsible for preparing and approving the test report.
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8. The test report is only valid for the test samples.
9. Content of the test report, in part or in full, cannot be used for publicity and/or promotional purposes without prior written approval from the laboratory.



Applicant: Huawei Technologies Co., Ltd.
Address: Administration Building, Headquarters of Huawei Technologies Co., Ltd.,
Bantian, Longgang District, Shenzhen, 518129, P.R.C

Date of Receipt Sample: 2017-02-06
Start Date of Test: 2017-02-07
End Date of Test: 2017-03-06

Test Result: Pass

Approved by Senior Engineer:	2017-03-07	Roger zhang	<i>Roger Zhang</i>
	Date	Name	Signature

Prepared by:	2017-03-07	zhangshuangxia	<i>Zhang shuangxia</i>
	Date	Name	Signature



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1 General Information

1.1 Applied Standard

Applied Rules: 47 CFR FCC Part 2, Subpart J 2014
47 CFR FCC Part 15, Subpart C 2014
47 CFR FCC Part 15, Subpart E 2014

Test Method: KDB 789033 D02 General UNII Test Procedures New Rules v01r03
FCC KDB 558074 D01 DTS Meas Guidance v03r04

1.2 Test Location

Test Location 1: Reliability Laboratory of Huawei Technologies Co., Ltd.
Address: Administration Building, Headquarters of Huawei Technologies Co., Ltd., Bantian, Longgang District, Shenzhen, 518129, P.R.C

1.3 Test Environment Condition

Temperature: 15 to 30 °C (Ambient)
Relative Humidity: 20 to 85 % (Ambient)
Atmospheric Pressure: Not applicable

2 Test Summary

2.1 Measurement Technical Requirements

2.1.1 U-NII (5150-5250, 5250-5350, 5470-5725 MHz,5725-5850)

Test Item	Band	FCC Rule	Requirements	Test Result	Verdict
Emission Bandwidth	5150-5250	15.403(i) 15.407(a)(1)	No limit.	Appendix A	Pass
	5250-5350	15.403(i) 15.407(a)(2)			
	5470-5725	15.403(i) 15.407(a)(2)			
	5725-5850	15.403(i) 15.407(e)	≥ 500 kHz.		
Occupied Bandwidth	5150-5250	KDB 789033 § D	No limit.	Appendix B	Pass
	5250-5350				
	5470-5725				
	5725-5850				
Duty Cycle	--	--	No limit.	Appendix C	
Maximum Conducted Output Power	5150-5250	15.407(a)(1) 15.407(a)(4)	< 250mW (avg during transmission)	Appendix D	Pass
	5250-5350	15.407(a)(2) 15.407(a)(4)	<MIN{250mW,11dBm+ 10*lg(EBW)} (avg during transmission)		
	5470-5725	15.407(a)(2) 15.407(a)(4)	<MIN{250mW,11dBm+ 10*lg(EBW)} (avg during transmission)		
	5725-5850	15.407(a)(3)	< 1W (avg during transmission)		
Peak Power Spectral Density	5150-5250	15.407(a)(1) 15.407(a)(4)	<11dBm/MHz (avg during transmission)	Appendix E	
	5250-5350	15.407(a)(2)	<11dBm/MHz		

Test Item	Band	FCC Rule	Requirements	Test Result	Verdict
		15.407(a)(4)	(avg during transmission)		
	5470-5725	15.407(a)(2) 15.407(a)(4)	<11dBm/MHz (avg during transmission)		
	5725-5850	15.407(a)(3) 15.407(a)(4)	<30dBm/500KHz (avg during transmission)		
Unwanted Emissions	5150-5250	15.407(b)(1) 15.407(b)(6) 15.407(b)(7) 15.209	<ul style="list-style-type: none"> F<1GHz: §15.209/§7.2.5 limit (QP). F≥1GHz & out-restricted: <-27dBm/MHz PK e.i.r.p. (exl. 5.15-5.35 GHz). F≥1GHz & in-restricted: §15.209/§7.2.5 limit (AV&PK). 	Appendix F	Pass
	5250-5350	15.407(b)(2) 15.407(b)(6) 15.407(b)(7) 15.209	<ul style="list-style-type: none"> F<1GHz: §15.209/§7.2.5 limit (QP). F≥1GHz & out-restricted: <-27dBm/MHz PK e.i.r.p. (exl. 5.25-5.35 GHz). F≥1GHz & in-restricted: §15.209/§7.2.5 limit (AV&PK). 		
	5470-5750	15.407(b)(3) 15.407(b)(6) 15.407(b)(7) 15.209	<ul style="list-style-type: none"> F<1GHz: §15.209/§7.2.5 limit (QP). F≥1GHz & out-restricted: <-27dBm/MHz PK e.i.r.p. (exl. 5.47-5.725 GHz). F≥1GHz & in-restricted: §15.209/§7.2.5 		

Test Item	Band	FCC Rule	Requirements	Test Result	Verdict
			limit (AV&PK).		
	5725-5850	15.407(b)(4) 15.407(b)(6) 15.407(b)(7) 15.209	<ul style="list-style-type: none"> ● F<1GHz: §15.209/§7.2.5 limit (QP) ● F≥1GHz & out-restricted: <-17dBm/MHz PK e.i.r.p(from the edge to 10 MHz above or below the band edge); <-27dBm/MHz PK e.i.r.p(for frequencies 10 MHz or greater above or below the band edge) (exl. 5725-5850 GHz). ● F≥1GHz & in-restricted: §15.209/§7.2.5 limit (AV&PK). 		
Frequence Stability	5150-5250 5250-5350 5470-5725 5725-5850	15.407(g)	FCC Part 15.407(g)	Appendix G	Pass



3 Description of the Equipment under Test (EUT)

3.1 General Description

HUAWEI MediaPad T3 7 (MediaPad T3 7) is an 7-inch tablet that incorporates a high-performance quad-core processor (MT8127) and supports 2.4G&5G Wi-Fi data connections.

NOTE: Only 5G WIFI test data included in this report




3.2 EUT Identity

NOTE: Unless otherwise noted in the report, the functional boards installed in the units shall be selected from the below list, but not means all the functional boards listed below shall be installed in one unit.

3.2.1 Board

Board		
Description	Hardware Version	Software Version
Main Board	SH1BG2W09LM	BG2-W09C128B001T01-log

3.2.2 Sub-Assembly

Name	Manufacture	Description
Adapter	Huawei Technologies Co., Ltd.	Model: HW-050100U01 Input voltage: ~100-240V 50/60Hz 0.2A Output voltage: 5V  1A
Li-ion Battery	Huawei Technologies Co., Ltd.	Battery Model: HB396481EBC Rated capacity: 3000mAh Nominal Voltage:  +3.8V Charging Voltage:  +4.35V

3.3 Technical Description

Characteristics	Description			
IEEE 802.11 WLAN Mode Supported	<input checked="" type="checkbox"/> 802.11a (20 MHz channel bandwidth) , <input checked="" type="checkbox"/> 802.11n (20 MHz channel bandwidth), <input checked="" type="checkbox"/> 802.11n (40 MHz channel bandwidth),			
TX/RX Operating Range	All	fc = 5000 MHz + N * 5 MHz, where: - fc = "Operating Frequency" in MHz, - N = "Channel Number".		
	5150-5250 MHz (U-NII)	N = 36 to 48 with step of 4 for the 20 MHz channel bandwidth. N = 38 to 46 with step of 4 for the 40 MHz channel bandwidth. N = 42 for the 80 MHz channel bandwidth.		
	5250-5350 MHz (U-NII)	N = 52 to 64 with step of 4 for the 20 MHz channel bandwidth. N = 54 to 62 with step of 4 for the 40 MHz channel bandwidth. N = 58 for the 80 MHz channel bandwidth.		
	5470-5600 MHz (U-NII)	N = 100 to 116 with step of 4 for the 20 MHz channel bandwidth. N = 102 to 110 with step of 4 for the 40 MHz channel bandwidth. N = 106 for the 80 MHz channel bandwidth.		
	5650-5725 MHz (U-NII)	N = 132 to 140 with step of 4 for the 20 MHz channel bandwidth. N = 134 for the 40 MHz channel bandwidth.		
	5725-5850 MHz (U-NII)	N = 149 to 165 with step of 4 for the 20 MHz channel bandwidth. N = 151 to 159 with step of 4 for the 40 MHz channel bandwidth. N = 155 for the 80 MHz channel bandwidth.		
Modulation Type	BPSK/QPSK/16QAM/64QAM (OFDM).			
Emission Designator	U-NII(5150-5250 , 5250-5350, 5470-5725)	22M2G7D (for 802.11a mode), 21M9G7D (for 802.11n 20 MHz mode), 40M5G7D (for 802.11n 40 MHz mode),		
	U-NII(5725-5850)	15M6G7D (for 802.11a mode), 16M0G7D (for 802.11n 20 MHz mode), 36M3G7D (for 802.11n 40 MHz mode),		
TPC	<input type="checkbox"/> Supported, <input checked="" type="checkbox"/> Not Supported			
Antenna	Type	<input type="checkbox"/> External, <input checked="" type="checkbox"/> Integrated		
	Ports	<input checked="" type="checkbox"/> Ant 1, <input type="checkbox"/> Ant 2, <input type="checkbox"/> Ant 3, <input type="checkbox"/> Ant 4		
	Smart System	<input checked="" type="checkbox"/> SISO (for 802.11a/n/ac), <input type="checkbox"/> MIMO (for 802.11n/ac), <input type="checkbox"/> Diversity (for 802.11a) : Tx Rx		
	Gain	0.04 dBi (per antenna port, max.)		
	Remark	When the EUT is put into service, the practical maximum antenna gain should NOT exceed the value as described above.		
Power Supply	Type	<input checked="" type="checkbox"/> AC/DC Adapter	<input type="checkbox"/> PoE:	<input type="checkbox"/> Other:



4 General Test Conditions / Configurations

4.1 Test Modes

NOTE: Worst cases for each IEEE 802.11 mode are selected to perform tests.

Test Mode	Test Modes Description
11A	IEEE 802.11a with data rate of 6 Mbps using SISO mode.
11N20	IEEE 802.11n with data rate of MCS0 and bandwidth of 20 MHz using SISO mode.
11N40	IEEE 802.11n with data rate of MCS0 and bandwidth of 40 MHz using SISO mode.

4.2 EUT Configurations

4.2.1 General Configurations

Configuration	Description
Test Antenna Ports	Until otherwise specified, <ul style="list-style-type: none"> All TX tests are performed at all TX antenna ports of the EUT, and All RX tests are performed at all RX antenna ports of the EUT.
Multiple RF Sources	Other than the tested RF source of the EUT, other RF source(s) are disabled or shutdown during measurements.

4.2.2 Customized Configurations

4.2.2.1 U-NII

Test Mode	Test Channel	Frequency [MHz]	Antenna Port	Power Conf., per Port	Duty cycle [%]
11A	36,	5180	Ant 1	15	99
11A	48	5240	Ant 1	15	99
11A	52	5260	Ant 1	15	99
11A	64	5320	Ant 1	15	99
11A	100	5500	Ant 1	15	99
11A	140	5700	Ant 1	15	99
11A	149	5745	Ant 1	15	99
11A	165	5825	Ant 1	15	99
11N20	36	5180	Ant 1	15	99
11N20	48	5240	Ant 1	15	99
11N20	52	5260	Ant 1	15	99
11N20	64	5320	Ant 1	15	99



11N20	100	5500	Ant 1	15	99
11N20	140	5700	Ant 1	15	99
11N20	149	5745	Ant 1	15	99
11N20	165	5825	Ant 1	15	99
11N40	38	5190	Ant 1	13	95
11N40	46	5230	Ant 1	13	95
11N40	54	5270	Ant 1	13	95
11N40	62	5310	Ant 1	13	95
11N40	102	5510	Ant 1	13	95
11N40	134	5670	Ant 1	13	95
11N40	151	5755	Ant 1	13	95
11N40	159	5795	Ant 1	13	95

4.3 Test Environments

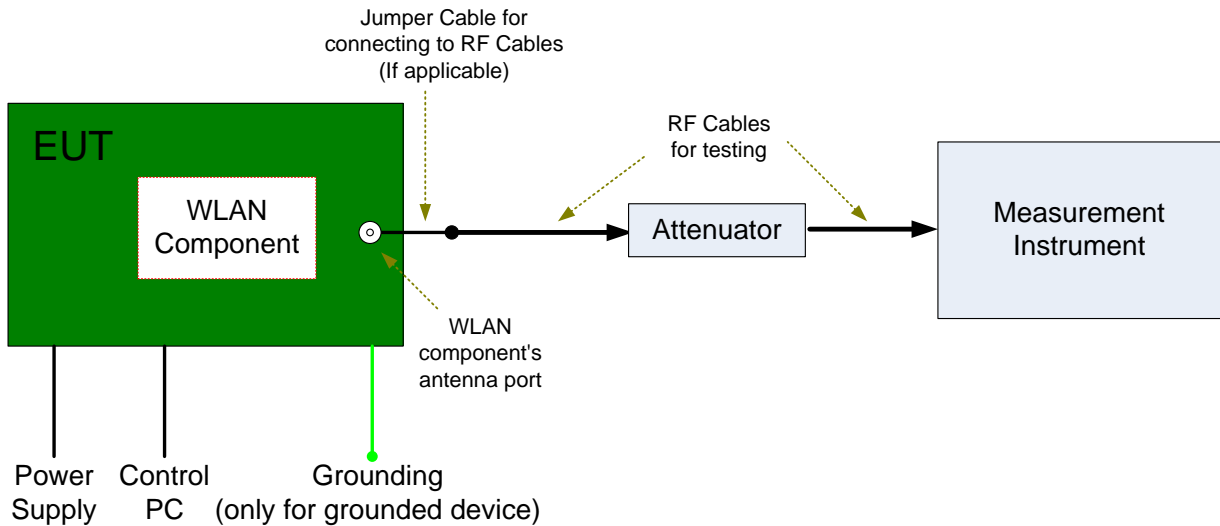
Environment Parameter	Selected Values During Tests	
Relative Humidity	Ambient	
Temperature	TN	Ambient
Voltage	VL	3.5V
	VN	3.8V
	VH	4.35V

NOTE: VL= lower extreme test voltage
 VN= nominal voltage
 VH= upper extreme test voltage
 TN= normal temperature

4.4 Test Setups

4.4.1 Test Setup 1

The WLAN component's antenna ports(s) of the EUT are connected to the measurement instrument per an appropriate attenuator. The EUT is controlled by PC/software to emit the specified signals for the purpose of measurements.





4.5 Test Conditions

4.5.1 U-NII

Test Case	Test Conditions		
	Configuration	Description	
Emission Bandwidth (EBW)	Meas. Method	FCC KDB 789033 §C).	
	Test Env.	NTNV	
	Test Setup	Test Setup 1	
	EUT Conf.	All EUT conf. with Tx modes.	
Maximum Conducted Output Power	Meas. Method	FCC KDB 789033 §E)d)	
	Test Env.	NTNV	
	Test Setup	Test Setup 1	
	EUT Conf.	All EUT conf. with Tx modes.	
Peak Power Spectral Density	Meas. Method	FCC KDB 789033 §F).	
	Test Env.	NTNV	
	Test Setup	Test Setup 1	
	EUT Conf.	All EUT conf. with Tx modes.	
Peak Excursion Ratio	Meas. Method	FCC KDB 789033 §F).	
	Test Env.	NTNV	
	Test Setup	Test Setup 1	
	EUT Conf.	All EUT conf. with Tx modes.	
Unwanted Emissions (Cond.)	Meas. Method	FCC KDB 789033 §G), Conducted (antenna-port). NOTE: Antenna-port conducted measurements (Cond.) are acceptable as an alternative to radiated measurements (Rad.) for demonstrating compliance to the limits in the restricted frequency bands. If conducted measurements are performed, then proper impedance matching must be ensured and an additional radiated test (Rad-a) for cabinet/case emissions will also be required.	
	Test Env.	NTNV	
	Test Setup	Test Setup 1	
	EUT Conf.	5150-5250	All EUT Test Mode 20 MHz bandwidth: Ch.36, Ch.48 40 MHz bandwidth: Ch.38, Ch.46
		5250-5350	All EUT Test Mode 20 MHz bandwidth: Ch.52, Ch.64 40 MHz bandwidth: Ch.54, Ch.62
5470-5725		All EUT Test Mode 20 MHz bandwidth: Ch.100, Ch.140 40 MHz bandwidth: Ch.102, Ch.134	
5725-5850		All EUT Test Mode 20 MHz bandwidth: Ch.149, Ch.157, Ch.165	



Test Case	Test Conditions	
	Configuration	Description
		40 MHz bandwidth: Ch.151, Ch.159
Frequency Stability	Meas. Method	15.407(g) Frequency Stability
	Test Env.	(1)VL, VN and VH of Rated Voltage at Ambient Climate. (2) -5 °C,5°C,15°C,-25°C,35°C,45°C,50°C
	Test Setup	Test Setup 1
	EUT Conf.	Ch.36,Ch.165

**5 Main Test Instruments**

NOTE: Unless otherwise specified, the calibration intervals for test instruments were Annual (per year). The other intervals, if applicable, are marked with (##y), which denotes ## years calibration interval.

Main Test Equipments					
Equipment Name	Manufacturer	Model	Serial Number	Cal Date	Cal- Due
Power supply	KEITHLEY	2303	1342889	2016/10/13	2017/10/12
Wireless Communication Test set	Agilent	N4010A	MY49081592	2016/8/5	2017/8/5
Universal Radio Communication Tester	R&S	CMU200	123299	2016/11/14	2017/11/14
Spectrum Analyzer	Agilent	N9020A	MY52090652	2016/6/29	2017/6/29
Universal Radio Communication Tester	R & S	CMW500	126854	2016/12/29	2017/12/29
Signal Analyzer	R&S	FSQ31	200021	2016/8/5	2017/8/5
Spectrum Analyzer	Agilent	N9030A	MY49431698	2016/8/5	2017/8/5
Temperature Chamber	WEISS	WKL64	56246002940010	2016/12/21	2017/12/20
Signal generator	Agilent	E8257D	MY49281095	2016/8/5	2017/8/5
Vector Signal Generator	R&S	SMU200A	104162	2016/8/5	2017/8/5
Test receiver	R&S	ESU26	100387	2016/6/21	2017/6/21
Spectrum analyzer	R&S	FSU3	200474	2016/5/24	2017/5/24
Spectrum analyzer	R&S	FSU43	100144	2016/6/2	2017/6/2
LOOP Antennas(9kHz-30MHz)	R&S	HFH2-Z2	100262	2015/4/30	2017/4/29
LOOP Antennas(9kHz-30MHz)	R&S	HFH2-Z2	100263	2015/4/30	2017/4/29
Trilog Broadband Antenna (30M~3GHz)	SCHWARZBECK	VULB 9163	9163-490	2015/4/30	2017/4/29
Trilog Broadband Antenna (30M~3GHz)	SCHWARZBECK	VULB 9163	9163-520	2015/4/30	2017/4/29
Double-Ridged Waveguide Horn Antenna (1G~18GHz)	R&S	HF907	100304	2015/4/30	2017/4/29
double ridged horn antenna (0.8G-18GHz)	R&S	HF907	100305	2015/4/30	2017/4/29
Pyramidal Horn Antenna(18GHz-26.5GHz)	ETS-Lindgren	Sep-60	5140299	2015/7/15	2017/7/14
Artificial Main Network	R&S	ENV4200	100134	2016/6/2	2017/6/2
Line Impedance Stabilization Network	R&S	ENV216	100382	2016/6/2	2017/6/2



6 Appendixes

Appendix No.	Description
SYBH(Z-RF)002022017-2004-A	Appendix for_5G WLAN

END