FCC PART 15C
TEST REPORT
No. B18N00835-RLAN

for

HUAWEI Technologies Co., Ltd.

HUAWEI MediaPad T3

Model Name: KOB-W09

with

Hardware Version: REACHW-V1.0

Software Version: KOB-W09C331B002-log

FCC ID: QISKOB-W09

Issued Date: 2018-06-20

Designation Number: CN1210

Note:

The test results in this test report relate only to the devices specified in this report. This report shall not be reproduced except in full without the written approval of SAICT.

Test Laboratory:

Shenzhen Academy of Information and Communications Technology

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REPORT HISTORY

Report Number	Revision	Description	Issue Date
B18N00835-RLAN	Rev.0	1st edition	2018-06-20

CONTENTS

1. TEST LATORATORY

1.1. Testing Location

Location:	Shenzhen Academy of Information and Communications Technology
Address:	Building G, Shenzhen International Innovation Center, No.1006 Shennan Road, Futian District, Shenzhen, Guangdong Province ,China
Postal Code:	518026
Telephone:	+86(0)755-33322000
Fax:	+86(0)755-33322001

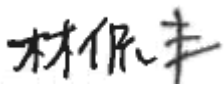
1.2. Testing Environment

Normal Temperature:	15-35℃
Relative Humidity:	20-75%

1.3. Project data

Testing Start Date:	2018-06-11
Testing End Date:	2018-06-20

1.4. Signature



Lin Kanfeng

(Prepared this test report)

Tang Weisheng

(Reviewed this test report)

Zhang Bojun

(Approved this test report)

2. CLIENT INFORMATION

2.1. Applicant Information

Company Name:	Huawei Technologies Co., Ltd
Address:	Administration Building，Huawei Base, Bantian, Longgang District, Shenzhen
City:	Shenzhen
Postal Code:	518129
Country:	China
Telephone:	15602311354
Fax:	/

2.2. Manufacturer Information

Company Name:	Huawei Technologies Co., Ltd
Address:	Administration Building, Huawei Base, Bantian, Longgang District, Shenzhen
City:	Shenzhen
Postal Code:	518129
Country:	China
Telephone:	15602311354
Fax:	/

3. Equipment Under Test (EUT) and Ancillary Equipment (AE)

3.1. About EUT

Description	HUAWEI MediaPad T3
Model Name	KOB-W09
Market Name	HUAWEI MediaPad T3
RLAN Frequency Range	ISM Bands: -5150MHz~5250MHz -5250MHz~5350MHz -5470MHz~5725MHz
Antenna Type	Integrated
FCC ID	QISKOB-W09
Condition of EUT as received	No obvious damage in appearance

Note: Components list, please refer to documents of the manufacturer

3.2. Internal Identification of EUT

EUT ID*	IMEI	HW Version	SW Version	Receive Date
EUT1	/	REACHW-V1.0	KOB-W09C331B002-log	2018-06-11

*EUT ID: is used to identify the test sample in the lab internally.

Note: According to Huawei Technologies Co., Ltd description that Remove 3 grounding shrapnel of the main board; Remove 5 Common mode Choke and replace them with 0 ohm resistance; Replace one high Q inductor with a laminated inductor and Remove 4 TVS. Else part have no changes C Band edge compliance and Radiated Spurious Emissions test selected worst case needs to been performed. else results are cited from the initial model. The report number for initial model is I17Z60880-EMC01 FCC_Report_Part15 WLAN 5G-Rev0_0620.

3.3. Internal Identification of AE

AE ID*	Description	Mode	Manufacturer
AE1	Adapter	/	/
AE2	Battery	/	/

AE2-1	
Model	HW-050100U01
Manufacturer	SHENZHEN HUNTKEY ELECTRONIC CO.,LTD.
AE2-2	
Model	HW-050100U01
Manufacturer	HUIZHOU BYD ELECTRONIC CO., LTD.
AE2-3	
Model	HW-050100U01
Manufacturer	DONGGUAN PHITEK ELECTRONICS CO.,LTD.

*AE ID: is used to identify the test sample in the lab internally.

3.4. General Description

The Equipment under Test (EUT) is a model of HUAWEI MediaPad T3 with integrated antenna and inbuilt battery. It supports WLAN 802.11a/b/g/n (11n 20MHz and 40MHz)function.
Manual and specifications of the EUT were provided to fulfil the test.
Samples undergoing test were selected by the client.

4. REFERENCE DOCUMENTS

4.1. Documents supplied by applicant

EUT feature information is supplied by the applicant or manufacturer, which is the basis of testing.

4.2. Reference Documents for testing

The following documents listed in this section are referred for testing.

Reference	Title	Version
FCC Part15	FCC CFR 47,Part 15,Subpart C FCC CFR 47,Part 15,Subpart E	Oct,2017
ANSI C63.10	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices	Jun,2013
KDB 789033 D02	Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices Part 15, Subpart E	June,2014

5. SUMMARY OF TEST RESULTS

5.1. Summary of Test Results

No.	Test cases	Sub-clause of Part15E	Verdict
1	Band edge compliance	15.209	**P**
2	Radiated Spurious Emissions	15.407	**P**

Please refer to **ANNEX A** for detail.

5.2. Terms used in the result table

Terms used in Verdict column

P	Pass
NA	Not Available
F	Fail

Abbreviations

AC	Alternating Current
AFH	Adaptive Frequency Hopping
BW	Band Width
E.I.R.P.	equivalent isotropic radiated power
ISM	Industrial, Scientific and Medical
R&TTE	Radio and Telecommunications Terminal Equipment
RF	Radio Frequency
Tx	Transmitter

5.3. Laboratory Environment

Semi-anechoic chamber did not exceed following limits along the EMC testing

Temperature	Min. = 15 ˚C, Max. = 30 ˚C
Relative humidity	Min. = 35 %, Max. = 60 %
Shielding effectiveness	0.014MHz - 1MHz, >60dB; 1MHz - 18000MHz, >90dB.
Electrical insulation	> 2 MΩ
Ground system resistance	< 4Ω
Normalised site attenuation (NSA)	< ±4dB, 3m/10m distance, from 30 to 1000 MHz
Uniformity of field strength	Between 0 and 6 dB, from 80 to 6000 MHz

Shielded room did not exceed following limits along the EMC testing

Temperature	Min. = 15 ˚C, Max. = 30 ˚C
Relative humidity	Min. = 35 %, Max. = 60 %
Shielding effectiveness	0.014MHz - 1MHz, >60dB; 1MHz - 1000MHz, >90dB.
Electrical insulation	> 2 MΩ
Ground system resistance	< 4 Ω

Fully-anechoic chamber did not exceed following limits along the EMC testing

Temperature	Min. = 15 ˚C, Max. = 30 ˚C
Relative humidity	Min. = 35 %, Max. = 60 %
Shielding effectiveness	0.014MHz - 1MHz, >60dB; 1MHz - 1000MHz, >90dB.
Electrical insulation	> 2 MΩ
Ground system resistance	< 4Ω
Voltage Standing Wave Ratio (VSWR)	≤6dB, from 1 to 18 GHz,3m distance

6. TEST EQUIPMENTS UTILIZED

Radiated test system

NO.	Equipment	Model	Serial Number	Manufacturer	Calibration Due date	Calibration Period
1	Loop Antenna	HLA6120	35779	TESEQ	2019-05-02	3 years
2	BiLog Antenna	VULB9163	9163 329	Schwarzbeck	2020-02-27	3 years
3	Horn Antenna	3117	00066577	ETS-Lindgren	2019-04-05	3 years
4	Test Receiver	ESR7	101676	Rohde & Schwarz	2018-11-29	1 year
5	Spectrum Analyser	FSV40	101192	Rohde & Schwarz	2019-05-22	1 year
6	Chamber	FACT3-2.0	1285	ETS-Lindgren	2019-11-27	3 years
7	Antenna	QSH-SL-18-26-S-20	17013	Q-par	2020-01-15	3 years
8	Antenna	QSH-SL-26-40-K-20	17014	Q-par	2020-01-15	3 years

Anechoic chamber

Fully anechoic chamber by ETS-Lindgren

Measurement uncertainty:

Frequency Range	uncertainty (dB)	Note
9kHz-30MHz	1.84	k=2
30MHz-1GHz	4.90	
1GHz-18GHz	5.32	
18GHz-40GHz	4.66	

ANNEX A: MEASUREMENT RESULTS

A.1. Band Edges Compliance

Measurement Limit:

Standard	Limit (dBuV/m)	
FCC 47 CFR Part 15.209	Peak	74
	Average	54

The measurement is made according to KDB 789033

Measurement Result:

Mode	Channel	Test Results	Conclusion
802.11n HT40	5190 MHz(CH38)	Fig.1	**P**

Conclusion: PASS

Test graphs as below:

The measurement results include the horizontal polarization and vertical polarization measurements.

NOTE: The test cases are selected as the worst cases for every conditions.

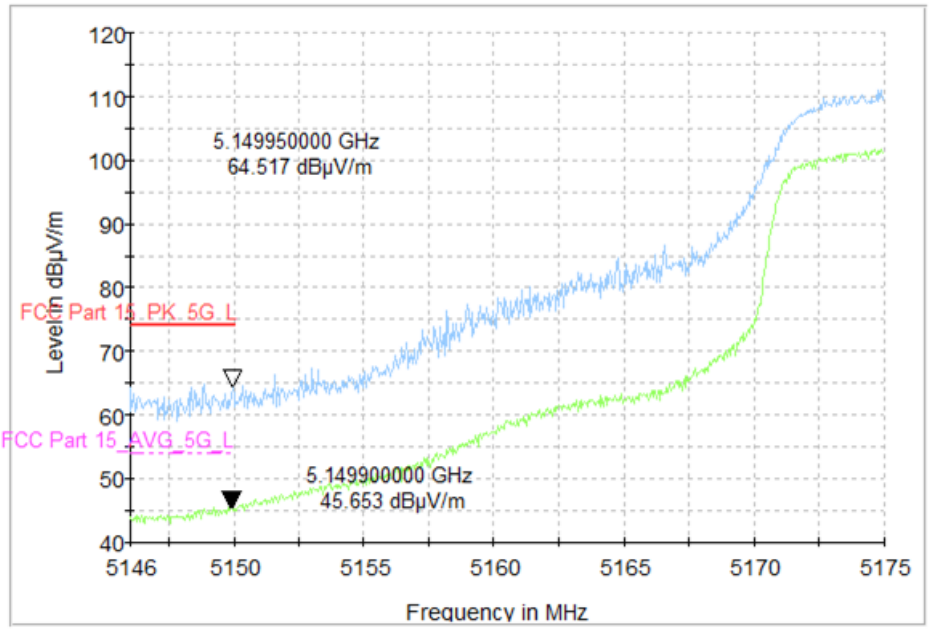


Fig. 1 Band Edges (802.11n-HT40, CH38 5190MHz)

A.2.1 Transmitter Spurious Emission

Measurement Limit:

Standard	Limit (dBm/MHz)
FCC 47 CFR Part 15.407	< -27

The measurement is made according to KDB 789033.
In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a) (see § 15.205(c)).

Limit in restricted band:

Frequency of emission (MHz)	Field strength (dBμV/m)	Measurement distance (m)
30-88	40.0	3
88-216	43.5	3
216-960	46.0	3
Above 960	54.0	3

Note: For frequency range below 960MHz, the limit in 15.209 is defined in 10m test distance. The limit used above is calculated from 10m to 3m.

Measurement Result:

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n HT40	5230MHz(Ch46)	1 GHz ~18 GHz	Fig.2	**P**
All channels		30 MHz ~1 GHz	Fig.3	**P**
		18 GHz ~26.5 GHz	Fig.4	**P**
		26.5GHz~40GHz	Fig.5	**P**

Conclusion: PASS
Test graphs as below:
The measurement results include the horizontal polarization and vertical polarization measurements.
NOTE: The test cases are selected as the worst cases for every conditions.

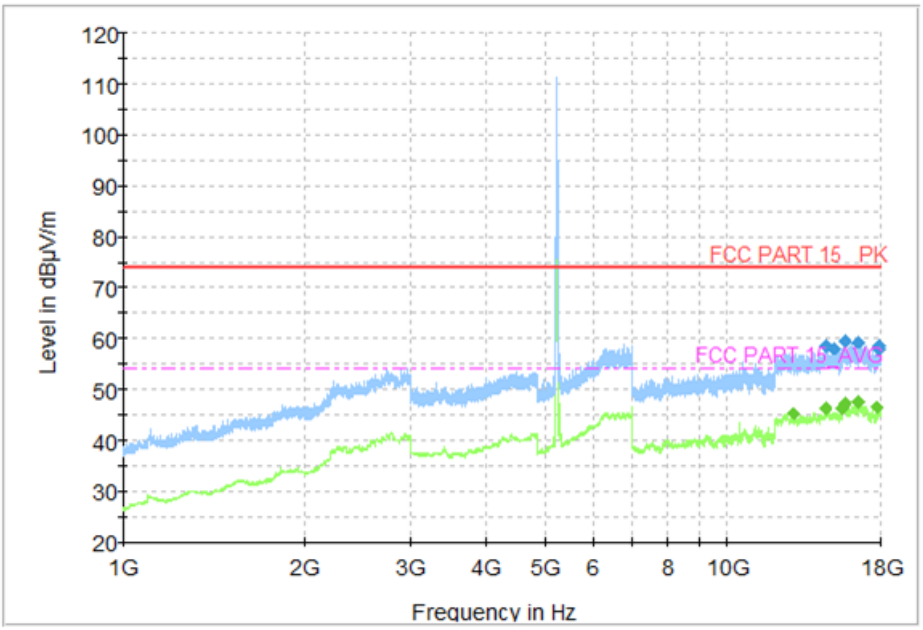


Fig. 2 Transmitter Spurious Emission (802.11n-HT40, 5230MHz)

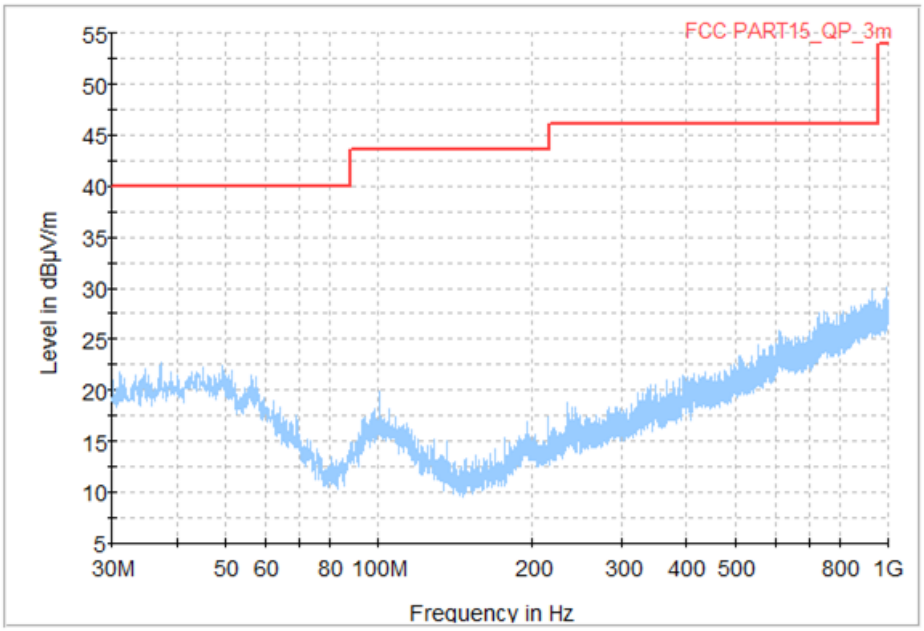


Fig. 3 Transmitter Spurious Emission (All channel, 30MHz~1GHz)

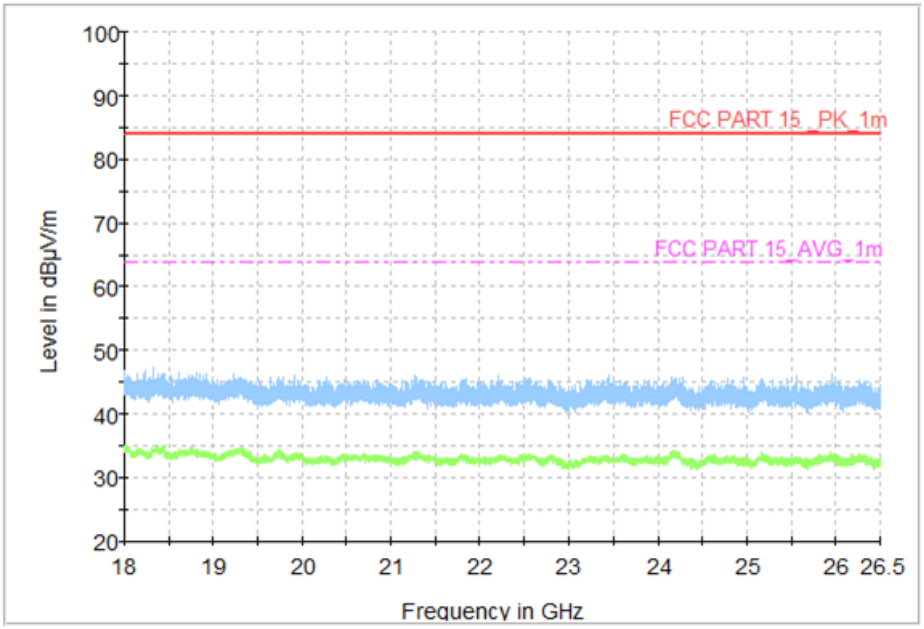


Fig. 4 Transmitter Spurious Emission (All channel, 18GHz~26.5GHz)

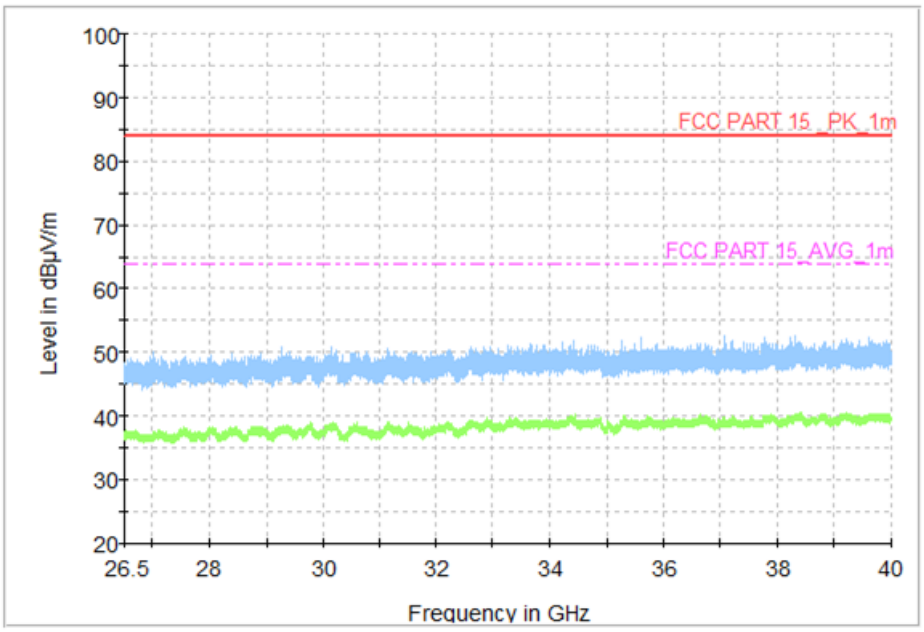


Fig. 5 Transmitter Spurious Emission (All channel, 26.5GHz~40GHz)

Worst Case Result

802.11n HT40 CH46

Frequency (MHz)	MaxPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB)
14550.000000	58.50	74.00	15.50	V	20.4
15114.500000	58.14	74.00	15.86	V	20.0
15678.500000	59.56	74.00	14.44	V	21.3
16562.000000	59.19	74.00	14.81	V	22.5
17905.000000	58.59	74.00	15.41	H	24.0
17892.500000	58.11	74.00	15.89	V	23.9

Frequency (MHz)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Pol	Corr. (dB)
12900.000000	45.31	54.00	8.69	V	20.0
14557.000000	46.18	54.00	7.82	H	20.4
15575.000000	46.19	54.00	7.81	V	21.0
15664.000000	47.24	54.00	6.76	V	21.3
16588.500000	47.36	54.00	6.64	V	22.8
17699.500000	46.45	54.00	7.55	H	22.9

Note:

A "reference path loss" is established and the A_{Rpl} is the attenuation of “reference path loss”, and including the gain of receive antenna, the gain of the preamplifier, the cable loss. P_{Mea} is the field strength recorded from the instrument. The measurement results are obtained as described below:

Result = P_{Mea} + A_{Rpl} = P_{Mea} + Cable Loss + Antenna Factor

A.2.2. Radiated Spurious Emissions < 30MHz

Measurement Limit (15.209, 9kHz-30MHz):

Frequency (MHz)	Field strength (μV/m)	Measurement distance (m)
0.009 - 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30.0	30	30

The measurement is made according to KDB 789033.

Note: The measurement distance during the test is 3m. The limit used in plots recalculated based on the extrapolation factor of 40 dB/decade.

Measurement Result(Worst case):

Mode	Frequency Range	Test Results	Conclusion
All Channel	9 kHz ~30 MHz	Fig.6	P

Conclusion: PASS

Test graphs as below:

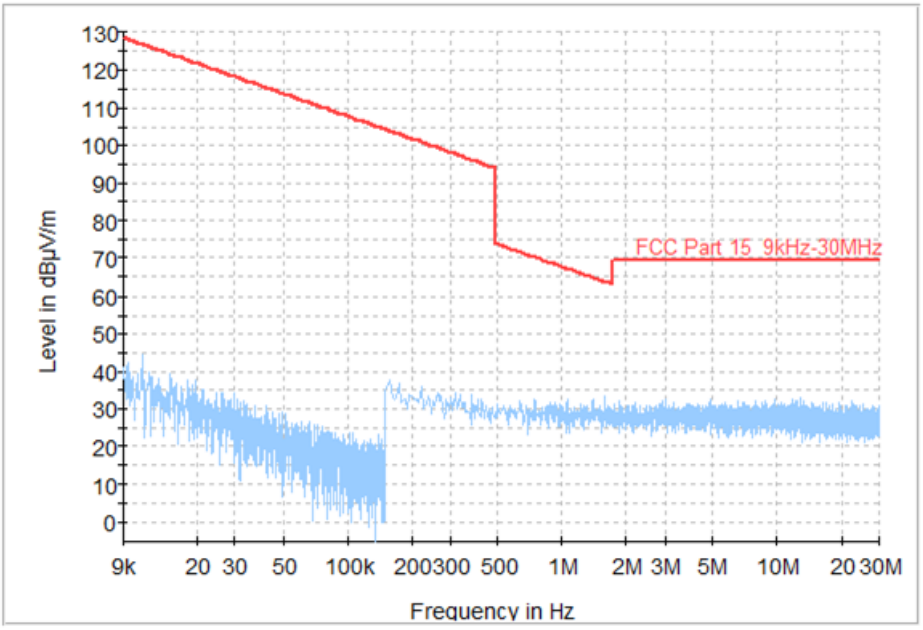


Fig. 6 Radiated Spurious Emission (All Channel, 9 kHz ~30 MHz)

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