



# FCC PART 15 TEST REPORT No. I17Z60687-SRD02

for

**TCL Communication Ltd.**

**LTE / UMTS / GSM mobile phone**

**50850**

**With**

**FCC ID: 2ACCJH077**

**Hardware Version: PIO1**

**Software Version: 7JACUD**

**Issued Date: 2017-05-17**



**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 CTTL.

**Test Laboratory:**

CTTL, Telecommunication Technology Labs, Academy of Telecommunication Research, MIIT

No. 52, Huayuan Bei Road, Haidian District, Beijing, P.R.China 100191

Tel: +86(0)10-62304633-2512, Fax: +86(0)10-62304633-2504

Email: [cttl\\_terminals@catr.cn](mailto:cttl_terminals@catr.cn), website: [www.chinattl.com](http://www.chinattl.com)

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## **REPORT HISTORY**

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## **1. TEST LATORATORY**

### **1.1. Testing Location**

Conducted testing Location: CTTL(huayuan North Road)

Address: No. 52, Huayuan North Road, Haidian District, Beijing,  
P. R. China100191

Radiated testing Location: CTTL(BDA)

Address: No.18A, Kangding Street, Beijing Economic-Technology  
Development Area, Beijing, P. R. China 100176

### **1.2. Testing Environment**

Normal Temperature: 15-35℃

Extreme Temperature: -20/+55℃

Relative Humidity: 20-75%

### **1.3. Project data**

Testing Start Date: 2017-04-13

Testing End Date: 2017-05-08

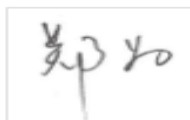
### **1.4. Signature**



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Jiang Xue

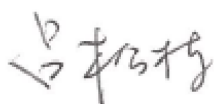
( Prepared this test report )



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Zheng Wei

(Reviewed this test report)



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Lv Songdong

(Approved this test report)

## **2. CLIENT INFORMATION**

### **2.1. Applicant Information**

Company Name: TCL Communication Ltd.  
Address: 5F, C building, No. 232, Liang Jing Road ZhangJiang High-Tech Park,  
Pudong Area Shanghai, P.R. China. 201203  
City: Shanghai  
Postal Code: 201203  
Country: China  
Telephone: 0086-21-31363544  
Fax: 0086-21-61460602

### **2.2. Manufacturer Information**

Company Name: TCL Communication Ltd.  
Address: 5F, C building, No. 232, Liang Jing Road ZhangJiang High-Tech Park,  
Pudong Area Shanghai, P.R. China. 201203  
City: Shanghai  
Postal Code: 201203  
Country: China  
Telephone: 0086-21-31363544  
Fax: 0086-21-61460602

### **3. EQUIPMENT UNDER TEST (EUT) AND ANCILLARY**

#### **EQUIPMENT(AE)**

##### **3.1. About EUT**

Description	LTE / UMTS / GSM mobile phone
Model name	5085O
FCC ID	2ACCJH077
IC ID	/
WLAN Frequency Range	ISM Bands: 5150MHz~5250MHz
Type of modulation	OFDM
Antenna	Integral Antenna
Voltage	3.8V DC by Battery

Note: Photographs of EUT are shown in ANNEX C of this test report. Components list, please refer to documents of the manufacturer.

##### **3.2. Internal Identification of EUT used during the test**

<b>EUT ID*</b>	<b>SN or IMEI</b>	<b>HW Version</b>	<b>SW Version</b>
UT01a	/	PIO1	7JACUD
UT02a	/	PIO1	7JACUD

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

##### **3.3. Internal Identification of AE used during the test**

<b>AE ID*</b>	<b>Description</b>	<b>SN</b>
AE1	Battery	Inbuilt
AE3	Charger	/
AE11	USB Cable	/
AE12	USB Cable	/

##### **AE1**

Model	TLp027AJ
SN	CAC2710010CJ
Manufacturer	COSLIGHT
Capacitance	2710 mAh
Nominal voltage	/

##### **AE3**

Model	CBA0058AGAD2
Manufacturer	TENPAO
Length of cable	/

##### **AE11**

Model CDA0000078CF  
Manufacturer LUXSHARE  
Length of cable 98cm

AE12

Model CDA0000104CF  
Manufacturer LUXSHARE  
Length of cable 98cm

\*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 LTE / UMTS / GSM mobile phone with integrated antenna and inbuilt battery.

It has Bluetooth (EDR) function.

It consists of normal options: travel charger, USB cable and Phone.

Manual and specifications of the EUT were provided to fulfil the test.

Samples undergoing test were selected by the client.

### 3.5. Interpretation of the Test Environment

For the test methods, the test environment uncertainty figures correspond to an expansion factor  $k=2$ .

Measurement Uncertainty

Parameter	Uncertainty
temperature	0.48°C
humidity	2 %
DC voltages	0.003V

## 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.

FCC Part15	Title 47 of the Code of Federal Regulations; Chapter I Part 15 - Radio frequency devices	2015
ANSI C63.10	Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz	2013
UNII: KDB 789033	Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices - Part 15, Subpart E	2014-06



## 5. LABORATORY ENVIRONMENT

Conducted RF performance testing is performed in shielding room.

EMC performance testing is performed in Semi-anechoic chamber.

## 6. SUMMARY OF TEST RESULTS

### 6.1. Summary of Test Results

SUMMARY OF MEASUREMENT RESULTS	Sub-clause of Part15E	Sub-clause of IC	Verdict
Maximum Output Power	15.407	/	P
Power Spectral Density	15.407	/	P
Occupied 26dB Bandwidth	15.403	/	P
Band edge compliance	15.407	/	P
Transmitter spurious emissions radiated	15.407	/	P
Spurious emissions radiated < 30 MHz	15.407	/	P
Spurious emissions conducted < 30 MHz	15.407	/	P
Peak Excursion	15.407	/	P
Frequency Stability	15.407	/	NA
Transmit Power Control	15.407	/	NA

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

Terms used in Verdict column

P	Pass, The EUT complies with the essential requirements in the standard.
NM	Not measured, The test was not measured by CTTL
NA	Not Applicable, The test was not applicable
F	Fail, The EUT does not comply with the essential requirements in the standard

### 6.2. Statements

CTTL has evaluated the test cases requested by the client/manufacturer as listed in section 6.1 of this report for the EUT specified in section 3 according to the standards or reference documents listed in section 4.1.

This report only deals with the WLAN function among the features described in section 3.

This model is a variant product which model name is 5085C; all the test result has been derived from test report of 5085C.

### 6.3. Test Conditions

For this report, all the test cases are tested under normal temperature and normal voltage, and also under norm humidity, the specific condition is shown as follows:

Temperature	26°C
Voltage	3.8V
Humidity	44%

## 7. TEST EQUIPMENTS UTILIZED

### Conducted test system

No.	Equipment	Model	Serial Number	Manufacturer	Calibration date	Calibration Due date
1	Vector Signal Analyzer	FSQ40	200089	Rohde & Schwarz	2016-06-07	2017-06-06
2	Test Receiver	ESCI	100344	Rohde & Schwarz	2017-02-16	2018-03-15
3	LISN	ENV216	101200	Rohde & Schwarz	2016-07-11	2017-07-10
4	Shielding Room	S81	/	ETS-Lindgren	/	/

### 8. Radiated emission test system

No.	Equipment	Model	Serial Number	Manufacturer	Calibration Period	Calibration Due date
1	Test Receiver	ESU26	100376	Rohde & Schwarz	1 year	2017-11-30
2	BiLog Antenna	VULB9163	514	Schwarzbeck	3 years	2017-11-24
3	Dual-Ridge Waveguide Horn Antenna	3116	2661	ETS-Lindgren	3 years	2017-06-17
4	Dual-Ridge Waveguide Horn Antenna	3115	6914	ETS-Lindgren	3 years	2017-09-21
5	Vector Signal Analyzer	FSV	101047	Rohde & Schwarz	1 year	2017-06-28
6	Test Receiver	ESCI7	100948	Rohde & Schwarz	1 year	2017-07-05
7	AMN	ESH3-Z5	825562/028	Rohde & Schwarz	1 year	2017-07-06

## 9. Measurement Uncertainty

### 9.1. Transmitter Output Power

Measurement Uncertainty: 0.339dB,k=1.96

### 9.2. Peak Power Spectral Density

Measurement Uncertainty: 0.705dBm/MHz,k=1.96

### 9.3. Occupied Channel Bandwidth

Measurement Uncertainty: 60.80Hz,k=1.96

### 9.4. Band Edges Compliance

Measurement Uncertainty : 0.62dBm,k=1.96

### 9.5. Spurious Emissions

#### Conducted (k=1.96)

Frequency Range	Uncertainty(dBm)
$30\text{MHz} \leq f \leq 2\text{GHz}$	1.22
$2\text{GHz} \leq f \leq 3.6\text{GHz}$	1.22
$3.6\text{GHz} \leq f \leq 8\text{GHz}$	1.22
$8\text{GHz} \leq f \leq 12.75\text{GHz}$	1.51
$12.75\text{GHz} \leq f \leq 26\text{GHz}$	1.51
$26\text{GHz} \leq f \leq 40\text{GHz}$	1.59

#### Radiated (k=2)

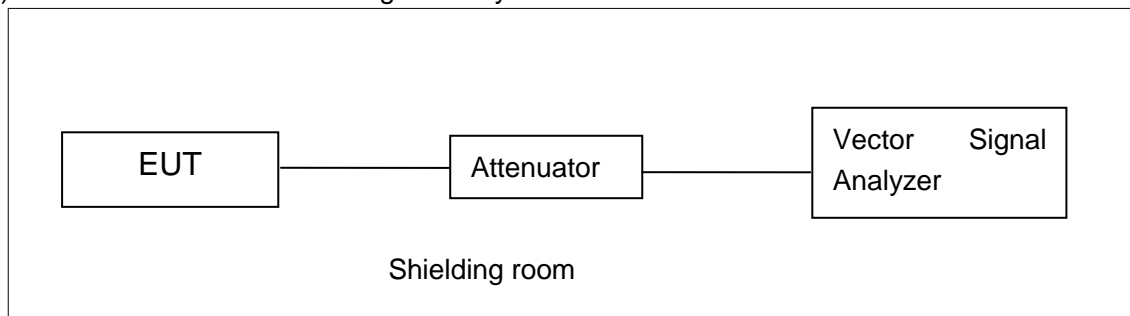
Frequency Range	Uncertainty(dBm)
9kHz-30MHz	
$30\text{MHz} \leq f \leq 1\text{GHz}$	4.86
$1\text{GHz} \leq f \leq 18\text{GHz}$	5.26
$18\text{GHz} \leq f \leq 40\text{GHz}$	5.28

## ANNEX A: MEASUREMENT RESULTS

### A.1. Measurement Method

#### A.1.1. Conducted Measurements

- 1). Connect the EUT to the test system correctly.
- 2). Set the EUT to the required work mode.
- 3). Set the EUT to the required channel.
- 4). Set the spectrum analyzer to start measurement.
- 5). Record the values. Vector Signal Analyzer

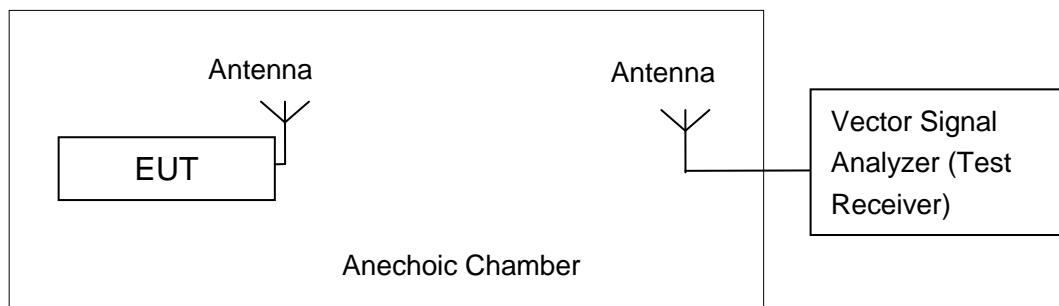


#### A.1.2. Radiated Emission Measurements

In the case of radiated emission, the used settings are as follows,

Sweep frequency from 30 MHz to 1GHz, RBW = 100 kHz, VBW = 300 kHz;

Sweep frequency from 1 GHz to 26GHz, RBW = 1MHz, VBW = 10Hz;



The measurement is made according to KDB 789033

The radiated emission test is performed in semi-anechoic chamber. The distance from the EUT to the reference point of measurement antenna is 3m. The test is carried out on both vertical and horizontal polarization and only maximization result of both polarizations is kept. During the test, the turntable is rotated 360° and the measurement antenna is moved from 1m to 4m to get the maximization result.

## A.2. Maximum output Power

### Measurement Limit and Method:

Standard	Frequency (MHz)	Limit (dBm)
FCC CRF Part 15.407(a)	5150MHz~5250MHz	24dBm

Limit use the less value, and B is the 26dB bandwidth.

The measurement method SA-1 is made according to KDB 789033

### Measurement Results:

#### 802.11a mode

Mode	Channel	Test Result (dBm)							
		Data Rate (Mbps)							
		6	9	12	18	24	36	48	54
802.11a	5180MHz (Ch36)	14.33	14.28	14.48	14.47	14.18	14.12	14.24	14.25
	5200MHz (Ch40)	/	/	14.37	/	/	/	/	/
	5240MHz(Ch48)	/	/	14.41	/	/	/	/	/

The data rate 12Mbps is selected as worse condition, and the following cases are performed with this condition.

#### 802.11n-HT20 mode

Mode	Channel	Test Result (dBm)							
		Data Rate							
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
802.11n (HT20)	5180MHz (Ch36)	13.52	13.46	13.43	13.38	13.32	13.30	13.27	13.02
	5200MHz (Ch40)	13.15	/	/	/	/	/	/	/
	5240MHz(Ch48)	13.36	/	/	/	/	/	/	/

The data rate MCS0 is selected as worse condition, and the following cases are performed with this condition.

#### 802.11n-HT40 mode

Mode	Channel	Test Result (dBm)							
		Data Rate							
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
802.11n (HT40)	5190MHz (Ch38)	13.48	13.40	13.32	13.23	13.11	12.79	12.76	12.71
	5230MHz(Ch46)	13.41	/	/	/	/	/	/	/

The data rate MCS0 is selected as worse condition, and the following cases are performed with this condition.

### A.3. Peak Power Spectral Density (conducted)

#### Measurement Limit:

Standard	Frequency (MHz)	Limit (dBm/MHz)
FCC CRF Part 15.407(a)	5150MHz~5250MHz	11

The output power measurement method SA-1 is made according to KDB 789033

#### Measurement Results:

Mode	Channel	Power Spectral Density (dBm/MHz)	Conclusion
802.11a	5180 MHz	9.38	P
	5200 MHz	9.14	P
	5240 MHz	9.53	P

Note:802.11a was selected as the worst-case of the test case.

**Conclusion: PASS**

### A.4. Occupied 26dB Bandwidth(conducted)

#### Measurement Limit:

Standard	Limit (kHz)
FCC 47 CFR Part 15.403 (i)	/

The measurement is made according to KDB 789033

#### Measurement Uncertainty:

Measurement Uncertainty	60.80Hz
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#### Measurement Result:

Mode	Channel	Occupied 26dB Bandwidth ( MHz)		conclusion
802.11a	5180 MHz	Fig.1	24.70	P
	5200 MHz	Fig.2	23.95	P
	5240 MHz	Fig.3	25.30	P
802.11n HT40	5190 MHz	Fig.4	41.12	P
	5230 MHz	Fig.5	40.72	P

**Conclusion: PASS**

Test graphs as below:



Fig. 1 Occupied 26dB Bandwidth (802.11a, 5180MHz)



Fig. 2 Occupied 26dB Bandwidth (802.11a, 5200MHz)





Fig. 3 Occupied 26dB Bandwidth (802.11a, 5240MHz)

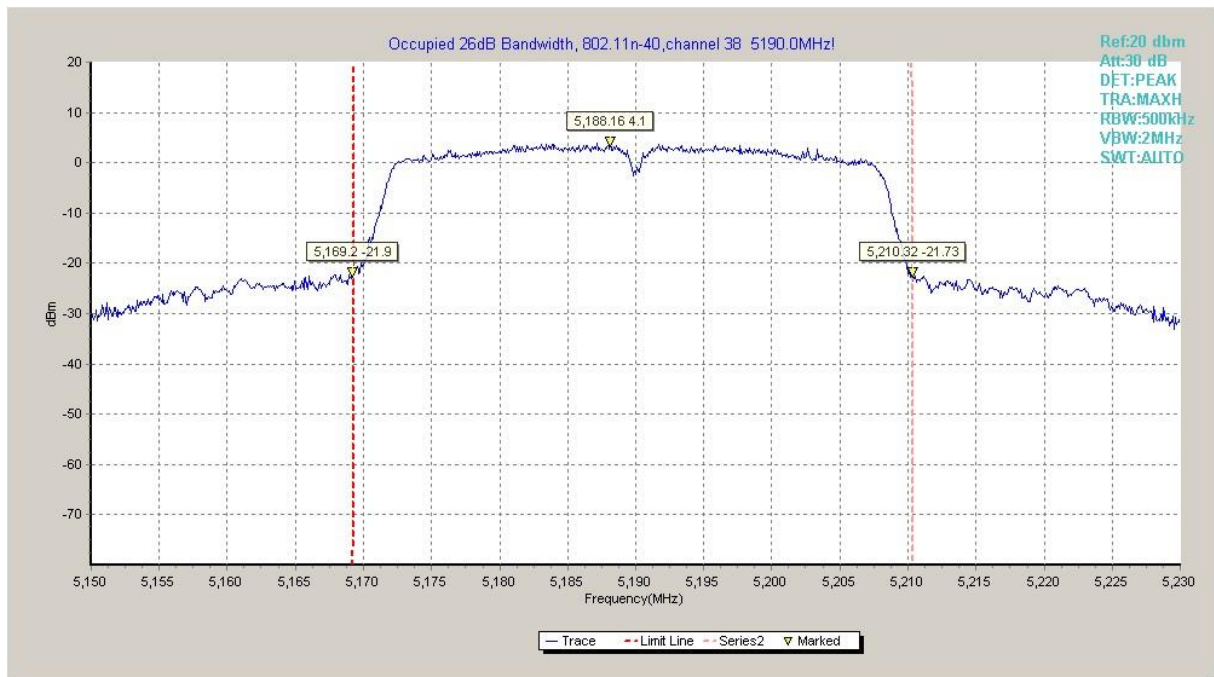
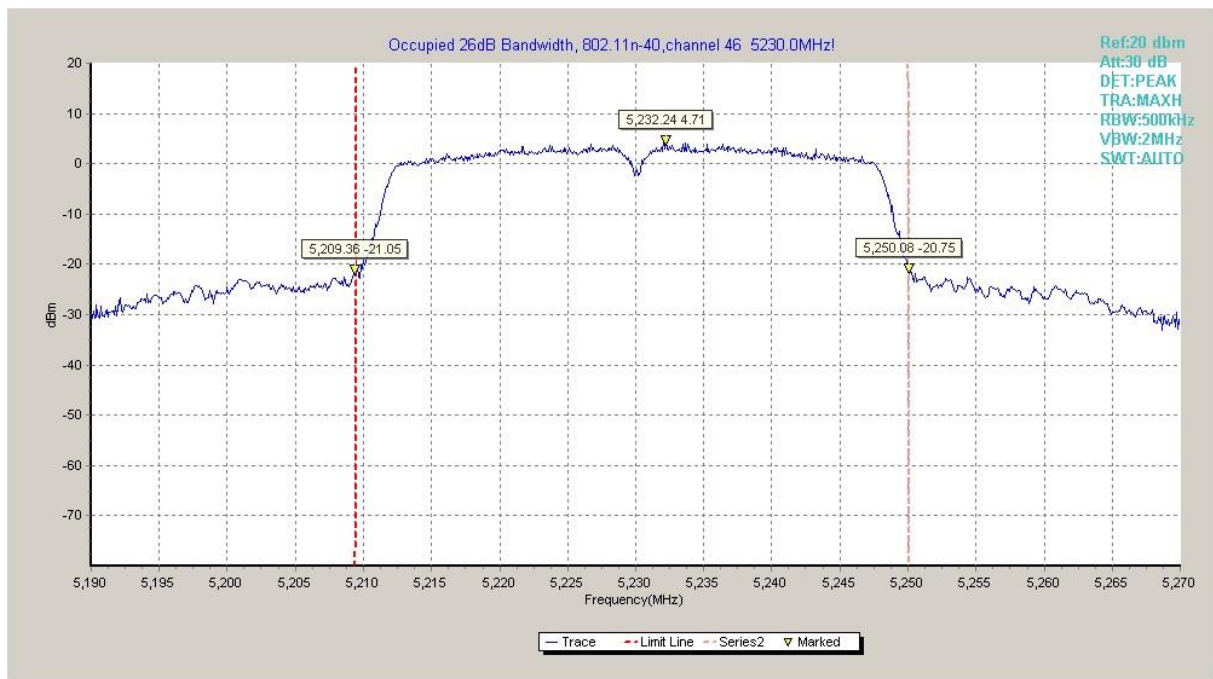


Fig. 4 Occupied 26dB Bandwidth (802.11n-HT40, 5190MHz)





**Fig. 5 Occupied 26dB Bandwidth (802.11n-HT40, 5230MHz)**

## A.5. Band Edges Compliance

### A5.1 Band Edges - Radiated

#### Measurement Limit:

Standard	Limit (dB $\mu$ V/m)	
FCC 47 CFR Part 15.209	Peak	74
	Average	54

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)).

#### Measurement Uncertainty:

Measurement Uncertainty	0.75dB
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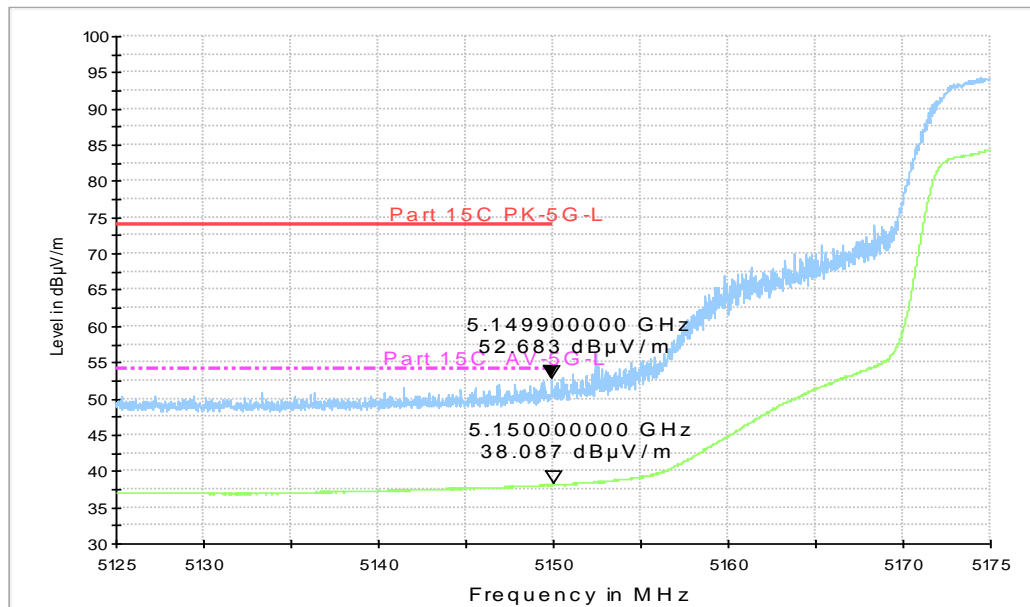
#### Measurement Result:

Mode	Channel	Test Results	Conclusion
802.11a	5180 MHz	Fig.6	P
802.11n HT20	5180 MHz	Fig.7	P
802.11n HT40	5190 MHz	Fig.8	P

**Conclusion: PASS**

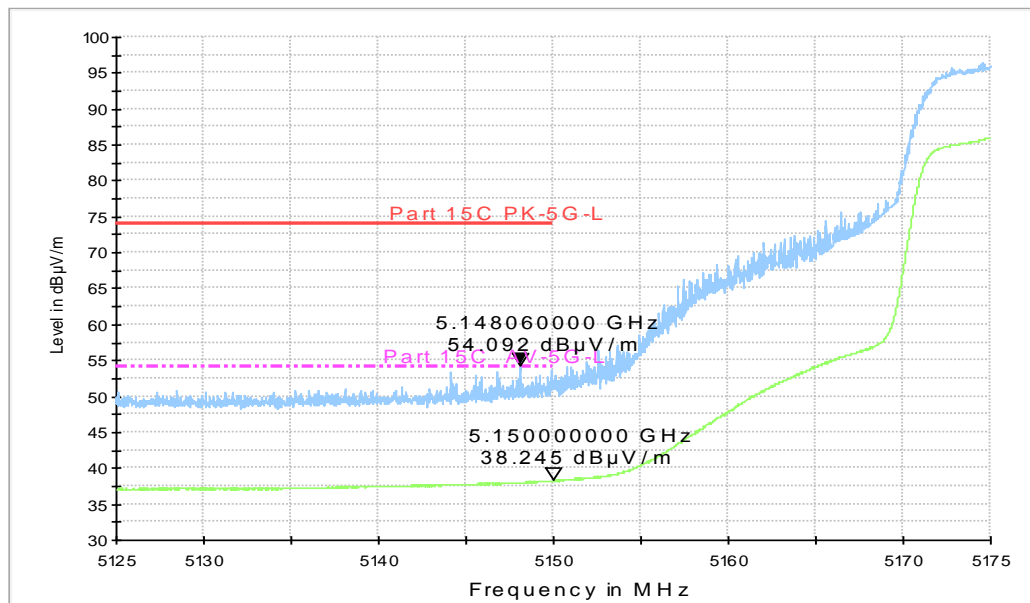
Test graphs as below:

RE - Power-5.125GHz-5.175GHz



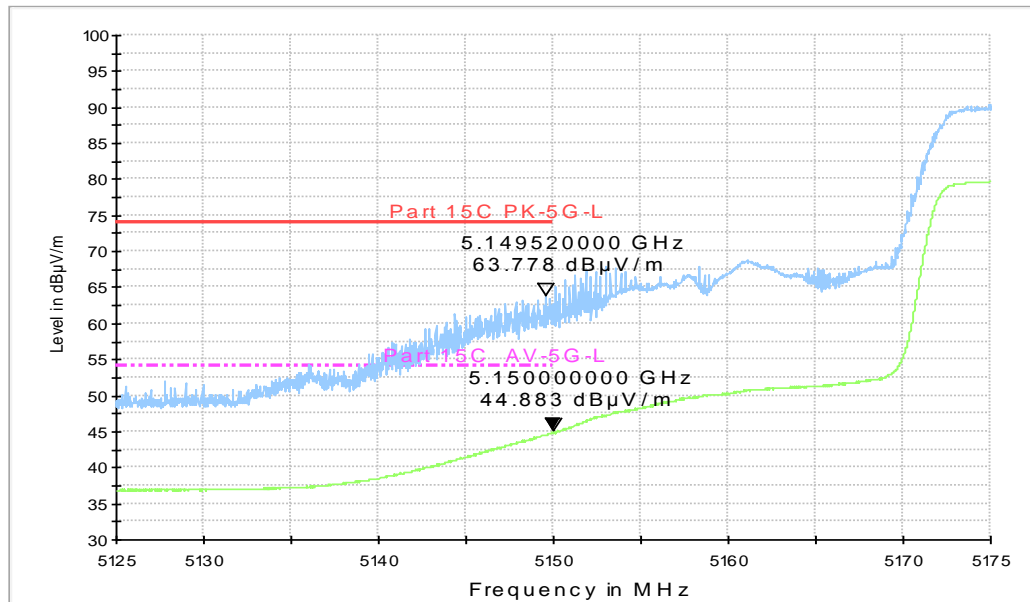
**Fig.6 Band Edges (802.11a, 5180MHz)**

RE - Power-5.125GHz-5.175GHz



**Fig.7 Band Edges (802.11n-HT20, 5180MHz)**

RE - Power-5.125GHz-5.175GHz



**Fig.8 Band Edges (802.11n-HT40, 5190MHz)**

## A.6. Transmitter Spurious Emission

### Measurement Limit:

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

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 uncertainty:

Expanded measurement uncertainty for this test item is U =3.9 dB, k=2.

**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:

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

**Measurement Results:**
**AVERAGE Results:**
**802.11a**
**Channel 36**

Frequency (MHz)	Meas. Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
5148.800	36.9	-33.0	34.4	35.46	54.0	17.1	H
5150.000	37.1	-32.9	34.4	35.57	54.0	16.9	V
10360.500	33.8	-29.8	37.9	25.68	54.0	20.2	H
15539.300	40.2	-26.3	40.1	26.39	54.0	13.8	V
17804.200	39.9	-23.1	41.0	22.02	54.0	14.1	V
17886.700	38.8	-24.0	40.9	21.95	54.0	15.2	H

**Channel 40**

Frequency (MHz)	Meas. Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
5154.800	36.7	-32.9	34.4	35.14	54.0	17.3	V
5280.000	37.5	-32.2	34.4	35.29	54.0	16.5	V
10400.100	33.9	-29.6	38.0	25.51	54.0	20.1	V
15598.700	39.4	-26.4	40.1	25.66	54.0	14.6	H
17807.500	40.0	-23.0	41.0	22.08	54.0	14.0	H
17894.400	38.8	-24.1	40.9	22.04	54.0	15.2	H

**Channel 48**

Frequency (MHz)	Meas. Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
5186.400	36.8	-32.4	34.4	34.80	54.0	17.2	H
5320.000	37.9	-31.9	34.5	35.30	54.0	16.1	V
10480.400	32.7	-30.7	38.1	25.33	54.0	21.3	H
15718.600	39.6	-26.4	40.2	25.73	54.0	14.4	V
17809.700	40.0	-23.0	41.0	22.05	54.0	14.0	V

17894.400	38.7	-24.1	40.9	22.00	54.0	15.3	H
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### 802.11n-HT20

#### Channel 36

Frequency (MHz)	Meas. Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
5148.000	37.1	-33.0	34.4	35.64	54.0	16.9	H
5149.600	37.4	-32.9	34.4	35.88	54.0	16.6	V
10360.500	34.5	-29.8	37.9	26.33	54.0	19.5	H
15540.400	40.0	-26.3	40.1	26.19	54.0	14.0	V
17809.700	40.2	-23.0	41.0	22.20	54.0	13.8	H
17886.700	39.2	-24.0	40.9	22.38	54.0	14.8	V

#### Channel 40

Frequency (MHz)	Meas. Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
5151.200	36.6	-32.9	34.4	35.04	54.0	17.4	H
5280.000	38.0	-32.2	34.4	35.74	54.0	16.0	H
10400.100	34.6	-29.6	38.0	26.19	54.0	19.4	V
15599.800	39.8	-26.4	40.1	26.04	54.0	14.2	V
17810.800	40.1	-23.0	41.0	22.18	54.0	13.9	H
17894.400	38.9	-24.1	40.9	22.19	54.0	15.1	H

#### Channel 48

Frequency (MHz)	Meas. Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
5189.600	37.3	-32.5	34.4	35.35	54.0	16.7	H
5320.000	38.2	-31.9	34.5	35.59	54.0	15.8	V
10480.400	33.4	-30.7	38.1	26.00	54.0	20.6	H
15717.500	38.3	-26.4	40.2	24.51	54.0	15.7	V
17800.900	40.1	-23.1	41.0	22.30	54.0	13.9	H
17872.400	39.2	-23.8	40.9	22.13	54.0	14.8	V

### 802.11n-HT40

#### Channel 38

Frequency (MHz)	Meas. Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
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5127.600	36.2	-33.2	34.4	34.88	54.0	17.8	V
5261.200	37.4	-32.3	34.4	35.33	54.0	16.6	H
10380.300	34.5	-29.7	38.0	26.25	54.0	19.5	V
15576.700	38.2	-26.3	40.1	24.40	54.0	15.8	H
17799.800	40.2	-23.2	41.0	22.38	54.0	13.8	V
17895.500	39.0	-24.1	40.9	22.30	54.0	15.0	V

Channel 46

Frequency (MHz)	Meas. Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
5159.600	36.3	-32.8	34.4	34.71	54.0	17.7	V
5329.600	37.2	-31.9	34.5	34.57	54.0	16.8	V
10459.500	33.3	-30.4	38.1	25.56	54.0	20.7	H
15684.500	37.4	-26.4	40.2	23.63	54.0	16.6	V
17809.700	40.3	-23.0	41.0	22.32	54.0	13.7	V
17877.900	39.2	-23.9	40.9	22.22	54.0	14.8	H

**PEAK Results:**
**802.11a**
**Channel 36**

Frequency (MHz)	Meas. Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
5146.920	52.0	-33.0	34.4	50.51	74.0	22.0	H
5149.900	52.7	-32.9	34.4	51.18	74.0	21.3	H
10359.950	45.1	-29.8	37.9	36.97	74.0	28.9	H
15536.000	53.2	-26.3	40.1	39.44	74.0	20.8	V
17798.150	54.1	-23.2	41.0	36.35	74.0	19.9	V
17929.600	52.6	-24.6	40.9	36.33	74.0	21.4	H

**Channel 40**

Frequency (MHz)	Meas. Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
5038.200	49.0	-33.1	34.5	47.64	74.0	25.0	H
5330.200	50.8	-31.9	34.5	48.14	74.0	23.2	V
10400.100	46.2	-29.6	38.0	37.81	74.0	27.8	H
15600.350	54.6	-26.4	40.1	40.81	74.0	19.4	V
17832.800	53.4	-23.3	40.9	35.79	74.0	20.6	H
17876.800	53.2	-23.9	40.9	36.23	74.0	20.8	H

**Channel 48**

Frequency (MHz)	Meas. Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
5179.000	49.4	-32.5	34.4	47.53	74.0	24.6	V
5342.400	50.3	-31.8	34.6	47.57	74.0	23.7	V
10479.850	44.9	-30.6	38.1	37.47	74.0	29.1	H
15715.850	52.9	-26.4	40.2	39.09	74.0	21.1	V
17423.050	52.2	-25.3	41.2	36.33	74.0	21.8	V
17815.200	53.4	-23.1	40.9	35.49	74.0	20.6	H

**802.11n-HT20**
**Channel 36**

Frequency (MHz)	Meas. Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
5148.060	54.1	-33.0	34.4	52.62	74.0	19.9	H
5149.920	53.7	-32.9	34.4	52.22	74.0	20.3	H
10359.950	47.7	-29.8	37.9	39.62	74.0	26.3	V
15532.700	53.8	-26.3	40.1	40.00	74.0	20.2	H
17791.550	53.4	-23.3	41.0	35.73	74.0	20.6	V
17885.600	52.8	-24.0	40.9	35.95	74.0	21.2	H

**Channel 40**

Frequency (MHz)	Meas. Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
5155.400	49.7	-32.9	34.4	48.08	74.0	24.3	H
5256.800	51.3	-32.4	34.4	49.23	74.0	22.7	V
10400.100	46.3	-29.6	38.0	37.97	74.0	27.7	V
15606.950	53.2	-26.4	40.1	39.40	74.0	20.8	H
17742.050	52.2	-24.1	41.0	35.31	74.0	21.8	H
17817.950	53.7	-23.1	40.9	35.90	74.0	20.3	V

**Channel 48**

Frequency (MHz)	Meas. Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
5183.800	49.8	-32.5	34.4	47.83	74.0	24.2	H
5296.000	51.7	-32.1	34.5	49.27	74.0	22.3	H
10479.850	45.3	-30.6	38.1	37.82	74.0	28.7	V
15721.900	51.0	-26.4	40.2	37.12	74.0	23.0	H
16945.100	51.9	-25.7	41.4	36.19	74.0	22.1	V
17811.350	53.1	-23.0	41.0	35.16	74.0	20.9	V



### 802.11n-HT40

#### Channel 38

Frequency (MHz)	Meas. Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
5148.260	63.3	-33.0	34.4	61.81	74.0	10.7	H
5149.520	63.8	-32.9	34.4	62.28	74.0	10.2	V
10379.750	45.6	-29.7	38.0	37.32	74.0	28.4	H
15586.600	52.4	-26.4	40.1	38.58	74.0	21.6	V
16944.000	52.0	-25.7	41.4	36.21	74.0	22.0	H
17794.850	52.6	-23.2	41.0	34.90	74.0	21.4	H

#### Channel 46

Frequency (MHz)	Meas. Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)
5156.000	49.7	-32.9	34.4	48.14	74.0	24.3	V
5303.400	51.0	-32.0	34.5	48.58	74.0	23.0	H
10460.500	44.5	-30.4	38.1	36.81	74.0	29.5	V
15698.250	51.0	-26.4	40.2	37.18	74.0	23.0	V
17780.550	53.1	-23.5	41.0	35.56	74.0	20.9	V
17850.950	52.8	-23.6	40.9	35.46	74.0	21.2	H

## A.7. Conducted Emission (150kHz- 30MHz)

### Test Condition:

Voltage (V)	Frequency (Hz)
110	60

### Measurement uncertainty:

Expanded measurement uncertainty for this test item is  $U = 3.2\text{dB}$ ,  $k=2$ .

### Measurement Result and limit:

WLAN (Quasi-peak Limit)

Frequency range (MHz)	Quasi-peak Limit (dB $\mu$ V)	Result (dB $\mu$ V)		Conclusion
		With charger		
		11a mode	Idle	
0.15 to 0.5	66 to 56	Fig. 9	Fig. 10	P
0.5 to 5	56			
5 to 30	60			
NOTE: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.				

WLAN (Average Limit)

Frequency range (MHz)	Average Limit (dBμV)	Result (dBμV)		Conclusion
		With charger		
		11a mode	Idle	
0.15 to 0.5	56 to 46	Fig. 9	Fig. 10	P
0.5 to 5	46			
5 to 30	50			
NOTE: The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.5 MHz.				

**Conclusion: PASS**

Test graphs as below:

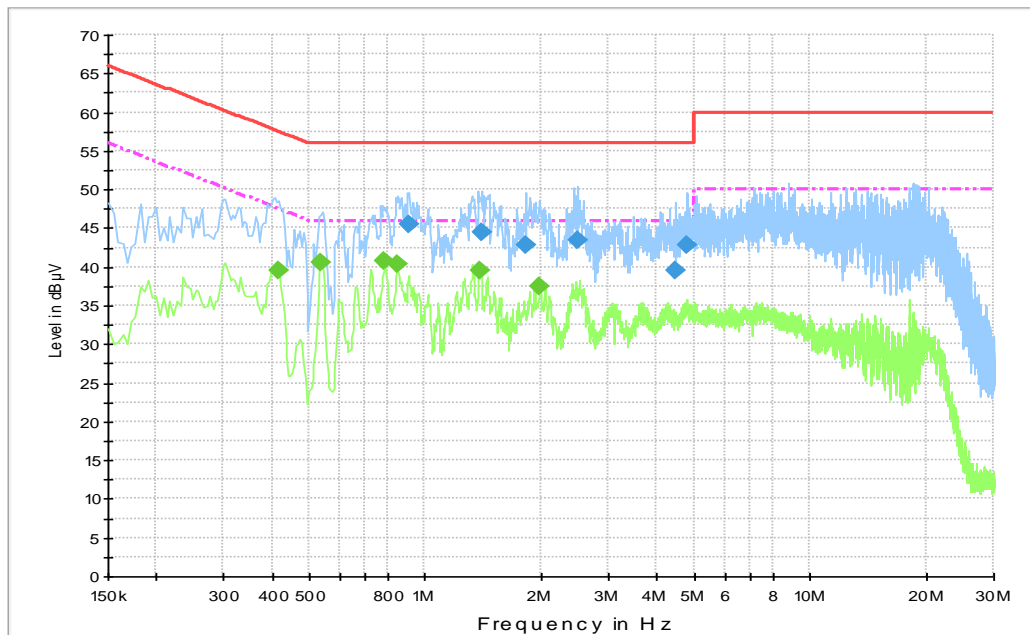


Fig.9 Conducted Emission(802.11a, Ch40, TX)

### Final Result 1

Frequency (MHz)	QuasiPeak (dBμV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.906000	45.5	GND	L1	10.2	10.5	56.0
1.405500	44.4	GND	L1	10.2	11.6	56.0
1.828500	42.8	GND	L1	10.3	13.2	56.0
2.490000	43.4	GND	L1	10.3	12.6	56.0
4.479000	39.6	GND	L1	10.4	16.4	56.0
4.794000	42.8	GND	L1	10.4	13.2	56.0

### Final Result 2

Frequency (MHz)	Average (dBμV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.415500	39.6	GND	L1	10.2	8.0	47.5
0.537000	40.5	GND	L1	10.2	5.5	46.0
0.784500	40.7	GND	L1	10.2	5.3	46.0
0.847500	40.4	GND	L1	10.2	5.6	46.0
1.387500	39.5	GND	L1	10.2	6.5	46.0
1.986000	37.4	GND	L1	10.3	8.6	46.0

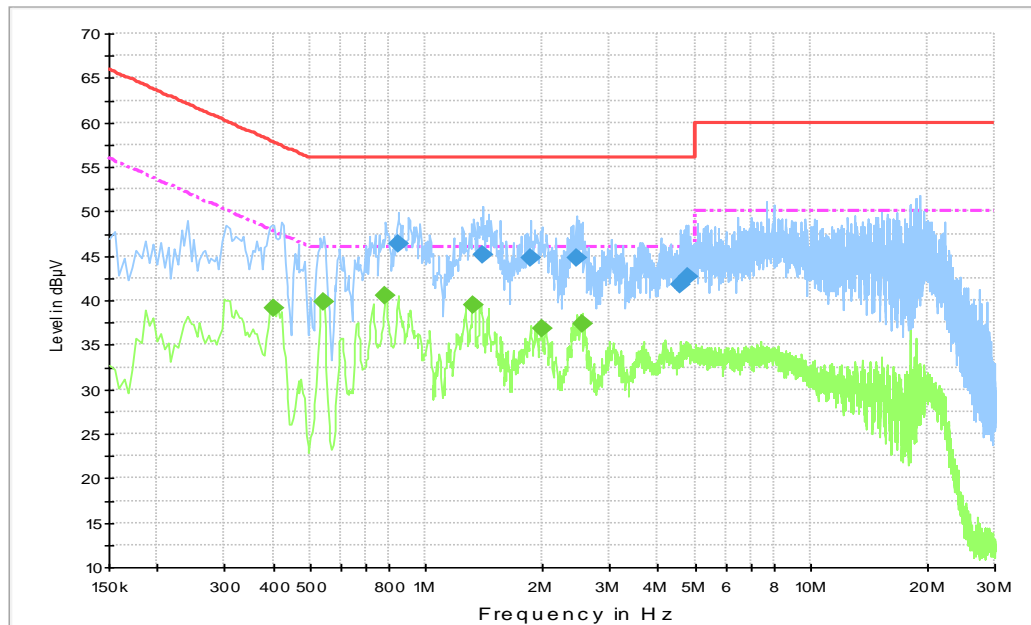


Fig.10 Conducted Emission(802.11a, IDLE)

## Final Result 1

Frequency (MHz)	QuasiPeak (dBμV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.847500	46.4	GND	L1	10.2	9.6	56.0
1.401000	45.2	GND	L1	10.2	10.8	56.0
1.873500	44.7	GND	L1	10.3	11.3	56.0
2.449500	44.8	GND	L1	10.3	11.2	56.0
4.573500	41.8	GND	L1	10.4	14.2	56.0
4.789500	42.6	GND	L1	10.4	13.4	56.0

## Final Result 2

Frequency (MHz)	Average (dBμV)	PE	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.402000	39.2	GND	L1	10.2	8.6	47.8
0.541500	39.8	GND	L1	10.2	6.2	46.0
0.784500	40.6	GND	L1	10.2	5.4	46.0
1.329000	39.4	GND	L1	10.2	6.6	46.0
1.995000	36.9	GND	L1	10.3	9.1	46.0
2.535000	37.4	GND	L1	10.3	8.6	46.0

### A.8. Frequency Stability

Manufacturers ensured the EUT meet the requirement of frequency stability, such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

#### Measurement Result:

Mode	Channel	Test Condition		Result(MHz)
802.11a	5180 MHz	Tnom	Vnom	0.02
		Tmax	Vnom	
		Tmin	Vnom	
		Vmax	Tnom	
		Vmin	Tnom	

### A.9. Power control

A Transmission Power Control mechanism is not required for systems with an e.i.r.p. of less than 27dBm (500 mW).

\*\*\* END OF REPORT BODY \*\*\*