



**FCC PART 15/IC RSS-210  
TEST REPORT  
No. I14Z45895-SRD02**

**for**

**TCT Mobile Limited**

**HSUPA/HSDPA/UMTS dualband / GSM quadband mobile phone**

**With**

**Model name: 6043A**

**FCC ID: RAD493**

**IC: 9238A-0033**

**Hardware Version: PIO**

**Software Version: vAK2**

**Issued Date: 2014-06-18**

**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 TMC Beijing.

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## CONTENTS

<b>CONTENTS</b> .....	<b>2</b>
<b>1. TEST LATORATORY</b> .....	<b>7</b>
1.1. TESTING LOCATION.....	7
1.2. PROJECT DATA .....	7
1.3. SIGNATURE .....	7
<b>2. CLIENT INFORMATION</b> .....	<b>8</b>
2.1. APPLICANT INFORMATION.....	8
2.2. MANUFACTURER INFORMATION.....	8
<b>3. EQUIPMENT UNDER TEST (EUT) AND ANCILLARY EQUIPMENT(AE)</b> .....	<b>9</b>
3.1. ABOUT EUT .....	9
3.2. INTERNAL IDENTIFICATION OF EUT USED DURING THE TEST .....	9
3.3. INTERNAL IDENTIFICATION OF AE USED DURING THE TEST .....	9
3.4. GENERAL DESCRIPTION .....	9
<b>4. REFERENCE DOCUMENTS</b> .....	<b>10</b>
4.1. DOCUMENTS SUPPLIED BY APPLICANT .....	10
4.2. REFERENCE DOCUMENTS FOR TESTING .....	10
<b>5. LABORATORY ENVIRONMENT</b> .....	<b>10</b>
<b>6. SUMMARY OF TEST RESULTS</b> .....	<b>11</b>
6.1. SUMMARY OF TEST RESULTS .....	11
6.2. STATEMENTS.....	11
6.3. TEST CONDITIONS .....	11
<b>7. TEST EQUIPMENTS UTILIZED</b> .....	<b>12</b>
<b>ANNEX A: MEASUREMENT RESULTS</b> .....	<b>13</b>
A.1. MEASUREMENT METHOD .....	13
A.2. MAXIMUM OUTPUT POWER.....	14
A.3. PEAK POWER SPECTRAL DENSITY (CONDUCTED).....	15
A.4. OCCUPIED 26DB BANDWIDTH(CONDUCTED) .....	17
FIG. 1 OCCUPIED 26DB BANDWIDTH (802.11A, 5180MHZ).....	18
FIG. 2 OCCUPIED 26DB BANDWIDTH (802.11A, 5200MHZ).....	18
FIG. 3 OCCUPIED 26DB BANDWIDTH (802.11A, 5240MHZ).....	19
FIG. 4 OCCUPIED 26DB BANDWIDTH (802.11A, 5260MHZ).....	19
FIG. 5 OCCUPIED 26DB BANDWIDTH (802.11A, 5280MHZ).....	20
FIG. 6 OCCUPIED 26DB BANDWIDTH (802.11A, 5320MHZ).....	20
FIG. 7 OCCUPIED 26DB BANDWIDTH (802.11A, 5500MHZ).....	21
FIG. 8 OCCUPIED 26DB BANDWIDTH (802.11A, 5600MHZ).....	21
FIG. 9 OCCUPIED 26DB BANDWIDTH (802.11A, 5700MHZ).....	22
FIG. 10 OCCUPIED 26DB BANDWIDTH (802.11N-HT20, 5180MHZ) .....	22

FIG. 11	OCCUPIED 26DB BANDWIDTH (802.11N-HT20, 5200MHZ) .....	23
FIG. 12	OCCUPIED 26DB BANDWIDTH (802.11N-HT20, 5240MHZ) .....	23
FIG. 13	OCCUPIED 26DB BANDWIDTH (802.11N-HT20, 5260MHZ) .....	24
FIG. 14	OCCUPIED 26DB BANDWIDTH (802.11N-HT20, 5280MHZ) .....	24
FIG. 15	OCCUPIED 26DB BANDWIDTH (802.11N-HT20, 5320MHZ) .....	25
FIG. 16	OCCUPIED 26DB BANDWIDTH (802.11N-HT20, 5500MHZ).....	25
FIG. 17	OCCUPIED 26DB BANDWIDTH (802.11N-HT20, 5600MHZ).....	26
FIG. 18	OCCUPIED 26DB BANDWIDTH (802.11N-HT20, 5700MHZ).....	26
FIG. 19	OCCUPIED 26DB BANDWIDTH (802.11N-HT40, 5190MHZ) .....	27
FIG. 20	OCCUPIED 26DB BANDWIDTH (802.11N-HT40, 5230MHZ) .....	27
FIG. 21	OCCUPIED 26DB BANDWIDTH (802.11N-HT40, 5270MHZ) .....	28
FIG. 22	OCCUPIED 26DB BANDWIDTH (802.11N-HT40, 5310MHZ) .....	28
FIG. 23	OCCUPIED 26DB BANDWIDTH (802.11N-HT40, 5510MHZ).....	29
FIG. 24	OCCUPIED 26DB BANDWIDTH (802.11N-HT40, 5590MHZ).....	29
FIG. 25	OCCUPIED 26DB BANDWIDTH (802.11N-HT40, 5670MHZ).....	30
A.5. BAND EDGES COMPLIANCE.....		31
A5.1 BAND EDGES - CONDUCTED.....		31
FIG. 26	BAND EDGES (802.11A, 5180MHZ) .....	32
FIG. 27	BAND EDGES (802.11A, 5320MHZ) .....	32
FIG. 28	BAND EDGES (802.11A, 5500MHZ) .....	33
FIG. 29	BAND EDGES (802.11N-HT20, 5180MHZ) .....	33
FIG. 30	BAND EDGES (802.11N-HT20, 5320MHZ) .....	34
FIG. 31	BAND EDGES (802.11N-HT20, 5500MHZ) .....	34
FIG. 32	BAND EDGES (802.11N-HT40, 5190MHZ) .....	35
FIG. 33	BAND EDGES (802.11N-HT40, 5310MHZ) .....	35
FIG. 34	BAND EDGES (802.11N-HT40, 5510MHZ) .....	36
A5.2 BAND EDGES - RADIATED .....		37
FIG. 35	BAND EDGES (802.11A, 5180MHZ) .....	38
FIG. 36	BAND EDGES (802.11A, 5320MHZ) .....	38
FIG. 37	BAND EDGES (802.11A, 5550MHZ) .....	39
FIG. 38	BAND EDGES (802.11N-HT20, 5180MHZ) .....	39
FIG. 39	BAND EDGES (802.11N-HT20, 5320MHZ) .....	40
FIG. 40	BAND EDGES (802.11N-HT20, 5500MHZ) .....	40
FIG. 41	BAND EDGES (802.11N-HT40, 5190MHZ) .....	41
FIG. 42	BAND EDGES (802.11N-HT40, 5310MHZ) .....	41
FIG. 43	BAND EDGES (802.11N-HT40, 5510MHZ) .....	42
A.6. TRANSMITTER SPURIOUS EMISSION .....		43
FIG. 44	RADIATED SPURIOUS EMISSION (802.11A, CH36, 1 GHZ-6 GHZ).....	53
FIG. 45	RADIATED SPURIOUS EMISSION (802.11A, CH36, 6 GHZ-18 GHZ).....	54
FIG. 46	RADIATED SPURIOUS EMISSION (802.11A, CH40, 30 MHZ-1 GHZ).....	54
FIG. 47	RADIATED SPURIOUS EMISSION (802.11A, CH40, 1 GHZ-6 GHZ).....	55
FIG. 48	RADIATED SPURIOUS EMISSION (802.11A, CH40, 6 GHZ-18 GHZ).....	55
FIG. 49	RADIATED SPURIOUS EMISSION (802.11A, CH40, 18 GHZ-26.5 GHZ).....	56
FIG. 50	RADIATED SPURIOUS EMISSION (802.11A, CH40, 26.5 GHZ-40 GHZ).....	56

FIG. 51	RADIATED SPURIOUS EMISSION (802.11A, CH48, 1 GHZ-6 GHZ).....	57
FIG. 52	RADIATED SPURIOUS EMISSION (802.11A, CH48, 6 GHZ-18 GHZ).....	57
FIG. 53	RADIATED SPURIOUS EMISSION (802.11A, CH52, 1 GHZ-6 GHZ).....	58
FIG. 54	RADIATED SPURIOUS EMISSION (802.11A, CH52, 6 GHZ-18 GHZ).....	58
FIG. 55	RADIATED SPURIOUS EMISSION (802.11A, CH56, 30 MHZ-1 GHZ).....	59
FIG. 56	RADIATED SPURIOUS EMISSION (802.11A, CH56, 1 GHZ-6 GHZ).....	59
FIG. 57	RADIATED SPURIOUS EMISSION (802.11A, CH56, 6 GHZ-18 GHZ).....	60
FIG. 58	RADIATED SPURIOUS EMISSION (802.11A, CH56, 18 GHZ-26.5 GHZ).....	60
FIG. 59	RADIATED SPURIOUS EMISSION (802.11A, CH56, 26.5 GHZ-40 GHZ).....	61
FIG. 60	RADIATED SPURIOUS EMISSION (802.11A, CH64, 1 GHZ-6 GHZ).....	61
FIG. 61	RADIATED SPURIOUS EMISSION (802.11A, CH64, 6 GHZ-18 GHZ).....	62
FIG. 62	RADIATED SPURIOUS EMISSION (802.11A, CH100, 1 GHZ-6 GHZ).....	62
FIG. 63	RADIATED SPURIOUS EMISSION (802.11A, CH100, 6 GHZ-18 GHZ).....	63
FIG. 64	RADIATED SPURIOUS EMISSION (802.11A, CH116, 30 MHZ-1 GHZ).....	63
FIG. 65	RADIATED SPURIOUS EMISSION (802.11A, CH116, 1 GHZ-6 GHZ).....	64
FIG. 66	RADIATED SPURIOUS EMISSION (802.11A, CH116, 6 GHZ-18 GHZ).....	64
FIG. 67	RADIATED SPURIOUS EMISSION (802.11A, CH116, 18 GHZ-26.5 GHZ).....	65
FIG. 68	RADIATED SPURIOUS EMISSION (802.11A, CH116, 26.5 GHZ-40 GHZ).....	65
FIG. 69	RADIATED SPURIOUS EMISSION (802.11A, CH140, 1 GHZ-6 GHZ).....	66
FIG. 70	RADIATED SPURIOUS EMISSION (802.11A, CH140, 6 GHZ-18 GHZ).....	66
FIG. 71	RADIATED SPURIOUS EMISSION (802.11N-HT20, CH36, 1 GHZ-6 GHZ).....	67
FIG. 72	RADIATED SPURIOUS EMISSION (802.11N-HT20, CH36, 6 GHZ-18 GHZ).....	67
FIG. 73	RADIATED SPURIOUS EMISSION (802.11N-HT20, CH40, 30 MHZ-1 GHZ).....	68
FIG. 74	RADIATED SPURIOUS EMISSION (802.11N-HT20, CH40, 1 GHZ-6 GHZ).....	68
FIG. 75	RADIATED SPURIOUS EMISSION (802.11N-HT20, CH40, 6 GHZ-18 GHZ).....	69
FIG. 76	RADIATED SPURIOUS EMISSION (802.11N-HT20, CH40, 18 GHZ-26.5 GHZ).....	69
FIG. 77	RADIATED SPURIOUS EMISSION (802.11N-HT20, CH40, 26.5 GHZ-40 GHZ).....	70
FIG. 78	RADIATED SPURIOUS EMISSION (802.11N-HT20, CH48, 1 GHZ-6 GHZ).....	70
FIG. 79	RADIATED SPURIOUS EMISSION (802.11N-HT20, CH48, 6 GHZ-18 GHZ).....	71
FIG. 80	RADIATED SPURIOUS EMISSION (802.11N-HT20, CH52, 1 GHZ-6 GHZ).....	71
FIG. 81	RADIATED SPURIOUS EMISSION (802.11N-HT20, CH52, 6 GHZ-18 GHZ).....	72
FIG. 82	RADIATED SPURIOUS EMISSION (802.11N-HT20, CH56, 30 MHZ-1 GHZ).....	72
FIG. 83	RADIATED SPURIOUS EMISSION (802.11N-HT20, CH56, 1 GHZ-6 GHZ).....	73
FIG. 84	RADIATED SPURIOUS EMISSION (802.11N-HT20, CH56, 6 GHZ-18 GHZ).....	73
FIG. 85	RADIATED SPURIOUS EMISSION (802.11N-HT20, CH56, 18 GHZ-26.5 GHZ).....	74
FIG. 86	RADIATED SPURIOUS EMISSION (802.11N-HT20, CH56, 26.5 GHZ-40 GHZ).....	74
FIG. 87	RADIATED SPURIOUS EMISSION (802.11N-HT20, CH64, 1 GHZ-6 GHZ).....	75
FIG. 88	RADIATED SPURIOUS EMISSION (802.11N-HT20, CH64, 6 GHZ-18 GHZ).....	75
FIG. 89	RADIATED SPURIOUS EMISSION (802.11N-HT20, CH100, 1 GHZ-6 GHZ).....	76
FIG. 90	RADIATED SPURIOUS EMISSION (802.11N-HT20, CH100, 6 GHZ-18 GHZ).....	76
FIG. 91	RADIATED SPURIOUS EMISSION (802.11N-HT20, CH116, 30 MHZ-1 GHZ).....	77
FIG. 92	RADIATED SPURIOUS EMISSION (802.11N-HT20, CH116, 1 GHZ-6 GHZ).....	77
FIG. 93	RADIATED SPURIOUS EMISSION (802.11N-HT20, CH116, 6 GHZ-18 GHZ).....	78
FIG. 94	RADIATED SPURIOUS EMISSION (802.11N-HT20, CH116, 18 GHZ-26.5 GHZ).....	78

FIG. 95	RADIATED SPURIOUS EMISSION (802.11N-HT20, CH116, 26.5 GHZ-40 GHZ) .....	79
FIG. 96	RADIATED SPURIOUS EMISSION (802.11N-HT20, CH140, 1 GHZ-6 GHZ) .....	79
FIG. 97	RADIATED SPURIOUS EMISSION (802.11N-HT20, CH140, 6 GHZ-18 GHZ) .....	80
FIG. 98	RADIATED SPURIOUS EMISSION (802.11N-HT40, CH38, 30 MHZ-1 GHZ) .....	80
FIG. 99	RADIATED SPURIOUS EMISSION (802.11N-HT40, CH38, 1 GHZ-6 GHZ) .....	81
FIG. 100	RADIATED SPURIOUS EMISSION (802.11N-HT40, CH38, 6 GHZ-18 GHZ) .....	81
FIG. 101	RADIATED SPURIOUS EMISSION (802.11N-HT40, CH38, 18 GHZ-26.5 GHZ) .....	82
FIG. 102	RADIATED SPURIOUS EMISSION (802.11N-HT40, CH38, 26.5 GHZ-40 GHZ) .....	82
FIG. 103	RADIATED SPURIOUS EMISSION (802.11N-HT40, CH46, 1 GHZ-6 GHZ) .....	83
FIG. 104	RADIATED SPURIOUS EMISSION (802.11N-HT40, CH46, 6 GHZ-18 GHZ) .....	83
FIG. 105	RADIATED SPURIOUS EMISSION (802.11N-HT40, CH54, 30 MHZ-1 GHZ) .....	84
FIG. 106	RADIATED SPURIOUS EMISSION (802.11N-HT40, CH54, 1 GHZ-6 GHZ) .....	84
FIG. 107	RADIATED SPURIOUS EMISSION (802.11N-HT40, CH54, 6 GHZ-18 GHZ) .....	85
FIG. 108	RADIATED SPURIOUS EMISSION (802.11N-HT40, CH54, 18 GHZ-26.5 GHZ) .....	85
FIG. 109	RADIATED SPURIOUS EMISSION (802.11N-HT40, CH54, 26.5 GHZ-40 GHZ) .....	86
FIG. 110	RADIATED SPURIOUS EMISSION (802.11N-HT40, CH62, 1 GHZ-6 GHZ) .....	86
FIG. 111	RADIATED SPURIOUS EMISSION (802.11N-HT40, CH62, 6 GHZ-18 GHZ) .....	87
FIG. 112	RADIATED SPURIOUS EMISSION (802.11N-HT40, CH102, 1 GHZ-6 GHZ) .....	87
FIG. 113	RADIATED SPURIOUS EMISSION (802.11N-HT40, CH102, 6 GHZ-18 GHZ) .....	88
FIG. 114	RADIATED SPURIOUS EMISSION (802.11N-HT40, CH110, 30 MHZ-1 GHZ) .....	88
FIG. 115	RADIATED SPURIOUS EMISSION (802.11N-HT40, CH110, 1 GHZ-6 GHZ) .....	89
FIG. 116	RADIATED SPURIOUS EMISSION (802.11N-HT40, CH110, 6 GHZ-18 GHZ) .....	89
FIG. 117	RADIATED SPURIOUS EMISSION (802.11N-HT40, CH110, 18 GHZ-26.5 GHZ) .....	90
FIG. 118	RADIATED SPURIOUS EMISSION (802.11N-HT40, CH110, 26.5 GHZ-40 GHZ) .....	90
FIG. 119	RADIATED SPURIOUS EMISSION (802.11N-HT40, CH134, 1 GHZ-6 GHZ) .....	91
FIG. 120	RADIATED SPURIOUS EMISSION (802.11N-HT40, CH134, 6 GHZ-18 GHZ) .....	91
A.7.	SPURIOUS EMISSIONS RADIATED < 30MHZ .....	92
FIG. 121	RADIATED SPURIOUS EMISSION (802.11A, CH40, 9 KHZ ~30 MHZ) .....	92
A.8.	CONDUCTED EMISSION (150KHZ- 30MHZ) .....	93
FIG. 122	CONDUCTED EMISSION(802.11A, CH40, TX) .....	94
FIG. 123	CONDUCTED EMISSION(802.11A, IDLE) .....	95
A.9.	PEAK EXCURSION .....	96
FIG. 124	PEAK EXCURSIONS (802.11A, CH36, PEAK) .....	98
FIG. 125	PEAK EXCURSIONS (802.11A, CH40, PEAK) .....	98
FIG. 126	PEAK EXCURSIONS (802.11A, CH48, PEAK) .....	99
FIG. 127	PEAK EXCURSIONS (802.11A, CH36, AVERAGE) .....	99
FIG. 128	PEAK EXCURSIONS (802.11A, CH40, AVERAGE) .....	100
FIG. 129	PEAK EXCURSIONS (802.11A, CH48, AVERAGE) .....	100
FIG. 130	PEAK EXCURSIONS (802.11A, CH52, PEAK) .....	101
FIG. 131	PEAK EXCURSIONS (802.11A, CH56, PEAK) .....	101
FIG. 132	PEAK EXCURSIONS (802.11A, CH64, PEAK) .....	102
FIG. 133	PEAK EXCURSIONS (802.11A, CH52, AVERAGE) .....	102
FIG. 134	PEAK EXCURSIONS (802.11A, CH56, AVERAGE) .....	103
FIG. 135	PEAK EXCURSIONS (802.11A, CH64, AVERAGE) .....	103

FIG. 136	PEAK EXCURSIONS (802.11A, CH100, PEAK) .....	104
FIG. 137	PEAK EXCURSIONS (802.11A, CH120, PEAK) .....	104
FIG. 138	PEAK EXCURSIONS (802.11A, CH140, PEAK) .....	105
FIG. 139	PEAK EXCURSIONS (802.11A, CH100, AVERAGE).....	105
FIG. 140	PEAK EXCURSIONS (802.11A, CH120, AVERAGE).....	106
FIG. 141	PEAK EXCURSIONS (802.11A, CH140, AVERAGE).....	106
FIG. 142	PEAK EXCURSIONS (802.11N-HT20, CH36, PEAK) .....	107
FIG. 143	PEAK EXCURSIONS (802.11N-HT20, CH40, PEAK) .....	107
FIG. 144	PEAK EXCURSIONS (802.11N-HT20, CH48, PEAK) .....	108
FIG. 145	PEAK EXCURSIONS (802.11N-HT20, CH36, AVERAGE) .....	108
FIG. 146	PEAK EXCURSIONS (802.11N-HT20, CH40, AVERAGE) .....	109
FIG. 147	PEAK EXCURSIONS (802.11N-HT20, CH48, AVERAGE) .....	109
FIG. 148	PEAK EXCURSIONS (802.11N-HT20, CH52, PEAK) .....	110
FIG. 149	PEAK EXCURSIONS (802.11N-HT20, CH56, PEAK) .....	110
FIG. 150	PEAK EXCURSIONS (802.11N-HT20, CH64, PEAK) .....	111
FIG. 151	PEAK EXCURSIONS (802.11N-HT20, CH52, AVERAGE) .....	111
FIG. 152	PEAK EXCURSIONS (802.11N-HT20, CH56, AVERAGE) .....	112
FIG. 153	PEAK EXCURSIONS (802.11N-HT20, CH64, AVERAGE) .....	112
FIG. 154	PEAK EXCURSIONS (802.11N-HT20, CH100, PEAK) .....	113
FIG. 155	PEAK EXCURSIONS (802.11N-HT20, CH120, PEAK) .....	113
FIG. 156	PEAK EXCURSIONS (802.11N-HT20, CH140, PEAK) .....	114
FIG. 157	PEAK EXCURSIONS (802.11N-HT20, CH100, AVERAGE) .....	114
FIG. 158	PEAK EXCURSIONS (802.11N-HT20, CH120, AVERAGE) .....	115
FIG. 159	PEAK EXCURSIONS (802.11N-HT20, CH140, AVERAGE) .....	115
FIG. 160	PEAK EXCURSIONS (802.11N-HT40, CH38, PEAK) .....	116
FIG. 161	PEAK EXCURSIONS (802.11N-HT40, CH46, PEAK) .....	116
FIG. 162	PEAK EXCURSIONS (802.11N-HT40, CH54, PEAK) .....	117
FIG. 163	PEAK EXCURSIONS (802.11N-HT40, CH62, PEAK) .....	117
FIG. 164	PEAK EXCURSIONS (802.11N-HT40, CH38, AVERAGE) .....	118
FIG. 165	PEAK EXCURSIONS (802.11N-HT40, CH46, AVERAGE) .....	118
FIG. 166	PEAK EXCURSIONS (802.11N-HT40, CH54, AVERAGE) .....	119
FIG. 167	PEAK EXCURSIONS (802.11N-HT40, CH62, AVERAGE) .....	119
FIG. 168	PEAK EXCURSIONS (802.11N-HT40, CH102, PEAK) .....	120
FIG. 169	PEAK EXCURSIONS (802.11N-HT40, CH118, PEAK).....	120
FIG. 170	PEAK EXCURSIONS (802.11N-HT40, CH134, PEAK) .....	121
FIG. 171	PEAK EXCURSIONS (802.11N-HT40, CH102, AVERAGE) .....	121
FIG. 172	PEAK EXCURSIONS (802.11N-HT40, CH118, AVERAGE).....	122
FIG. 173	PEAK EXCURSIONS (802.11N-HT40, CH134, AVERAGE) .....	122
A.10.	FREQUENCY STABILITY .....	123
A.11.	POWER CONTROL .....	123
<b>ANNEX B: PHOTOGRAPHS OF THE TEST SET-UP .....</b>		<b>124</b>

## 1. TEST LATORATORY

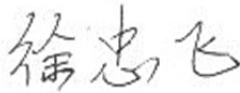
### 1.1. Testing Location

Company Name: TMC Beijing, Telecommunication Metrology Center of MIIT  
Address: No 52 Hua Yuanbei Road, Haidian District, Beijing, P.R.China  
Postal Code: 100191  
Telephone: 008610623046332561  
Fax: 008610623046332504

### 1.2. Project data

Testing Start Date: 2014-05-21  
Testing End Date: 2014-06-17

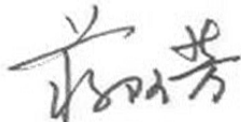
### 1.3. Signature



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Xu Zhongfei

(Prepared this test report)



---

Jiang Afang

(Reviewed this test report)



---

Xiao Li

Deputy Director of the laboratory

(Approved this test report)

## **2. CLIENT INFORMATION**

### **2.1. Applicant Information**

Company Name: TCT Mobile Limited  
Address /Post: 5F, C building, No. 232, Liang Jing Road ZhangJiang High-Tech Park,  
Pudong Area Shanghai, P.R. China. 201203  
Contact Person: Gong Zhizhou  
Telephone: 0086-21-51798260  
Fax: 0086-21-61460602

### **2.2. Manufacturer Information**

Company Name: TCT Mobile Limited  
Address /Post: 5F, C building, No. 232, Liang Jing Road ZhangJiang High-Tech Park,  
Pudong Area Shanghai, P.R. China. 201203  
Contact Person: Gong Zhizhou  
Telephone: 0086-21-51798260  
Fax: 0086-21-61460602



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

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

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

Description	HSUPA/HSDPA/UMTS dualband / GSM quadband mobile phone
Model name	6043A
FCC ID	RAD493
IC ID	9238A-0033
WLAN Frequency Range	ISM Bands: -5150MHz~5250MHz -5250MHz~5350MHz -5470MHz~5725MHz
Type of modulation	OFDM
Antenna	Integral Antenna
MAX Conducted Power	12.94 dBm(OFDM)
Extreme Temperature	-20/+55°C
Extreme vol. Limits	3.5VDC to 4.35VDC (nominal: 3.8VDC)

Note: Photographs of EUT are shown in ANNEX C of this test report. Components list, please refer to documents of the manufacturer; it is also included in the original test record of Telecommunication Metrology Center of MIIT of People's Republic of China.

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

<b>EUT ID*</b>	<b>IMEI</b>	<b>HW Version</b>	<b>SW Version</b>
EUT1	014086000000698	PIO	vAK2
EUT2	014086000000011	PIO	vAK2

\*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>Type</b>	<b>SN</b>
AE1	Travel Charger	CAC2500017C2	/
AE2	USB Cable	CBA0003AG0C1	/

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

##### **3.4. General Description**

Equipment Under Test (EUT) is a model of HSUPA/HSDPA/UMTS dualband / GSM quadband mobile phone with integrated antenna. It consists of normal options: Battery and Charger.

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.

FCC Part15	Title 47 of the Code of Federal Regulations; Chapter I Part 15 - Radio frequency devices	Oct, 2012
ANSI C63.4	Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz	2009
UNII: KDB 789033	Guidelines for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices - Part 15, Subpart E	2012-09
RSS-GEN	Spectrum Management and Telecommunications – Radio Standards Specification General Requirements and Information for the Certification of Radio communication Equipment	Issue 3
RSS-210	Spectrum Management and Telecommunications – Radio Standards Specification Low-power License-exempt Radio communication Devices (All Frequency Bands): Category I Equipment	Issue 8

## **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	A9	<b>P</b>
Power Spectral Density	15.407	A9	<b>P</b>
Occupied 26dB Bandwidth	15.403	A9	<b>P</b>
Band edge compliance	15.407	A9	<b>P</b>
Transmitter spurious emissions radiated	15.407	A9	<b>P</b>
Spurious emissions radiated < 30 MHz	15.407	A9	<b>P</b>
Spurious emissions conducted < 30 MHz	15.407	7.2.2	<b>P</b>
Peak Excursion	15.407	A9	<b>P</b>
Frequency Stability	15.407	A9	<b>NA</b>
Transmit Power Control	15.407	A9	<b>NA</b>

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 TMC
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

TMC has evaluated the test cases requested by the client/manufacture 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.

### 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	2013-07-08	2014-07-07
2	Test Receiver	ESS	847151/015	Rohde & Schwarz	2013-11-29	2014-11-28
3	LISN	ESH2-Z5	829991/012	Rohde & Schwarz	2014-4-15	2015-4-14
4	Shielding Room	S81	/	ETS-Lindgren	/	/

### Radiated emission test system

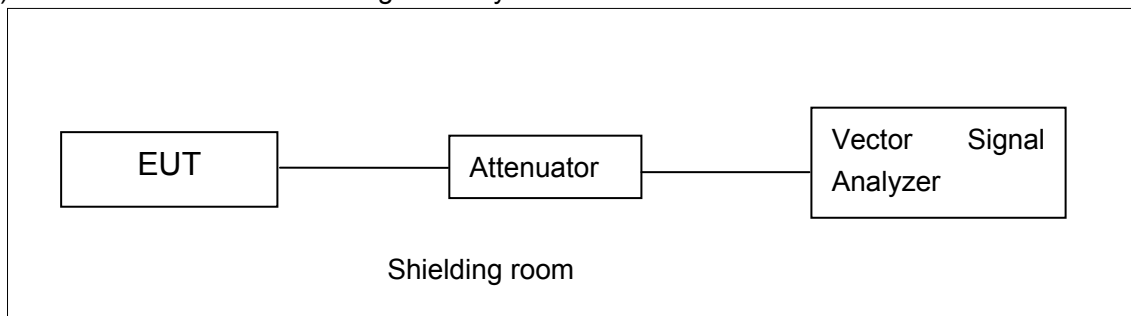
No.	Equipment	Model	Serial Number	Manufacturer	Calibration date	Calibration Due date
1	Test Receiver	ESU26	100376	Rohde & Schwarz	2013-11-6	2014-11-5
2	BiLog Antenna	VULB9163	9163-514	Schwarzbeck	2011-11-11	2014-11-10
3	Dual-Ridge Waveguide Horn Antenna	3117	00119024	ETS-Lindgren	2014-4-20	2017-4-19
4	Dual-Ridge Waveguide Horn Antenna	3116	2661	EMCO	2011-7-1	2014-06-30
5	Loop antenna	HFH2-Z2	829324/007	Rohde & Schwarz	2011-12-21	2014-12-20
6	Semi-anechoic chamber	/	CT000332-1074	Frankonia German	/	/

## 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

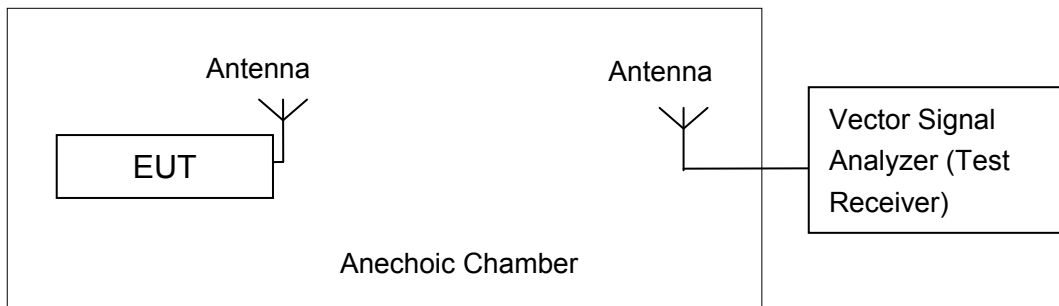


#### A.1.2. Radiated Emission Measurements

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	17dBm or 4+10logB
	5250MHz~5350MHz	24dBm or 11+10logB
	5470MHz~5725MHz	24dBm or 11+10logB

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)	12.79	12.62	12.73	12.42	11.58	11.08	10.63	10.48
	5200MHz (Ch40)	12.94	/	/	/	/	/	/	/
	5240MHz(Ch48)	12.78	/	/	/	/	/	/	/
	5260MHz(Ch52)	12.74	/	/	/	/	/	/	/
	5280MHz(Ch56)	12.10	/	/	/	/	/	/	/
	5320MHz(Ch64)	12.67	/	/	/	/	/	/	/
	5500MHz(Ch100)	12.84	/	/	/	/	/	/	/
	5580MHz(Ch116)	12.43	/	/	/	/	/	/	/
	5700MHz(Ch140)	12.22	/	/	/	/	/	/	/

The data rate 6Mbps 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)	11.24	11.22	10.98	10.02	10.00	9.23	9.62	9.00
	5200MHz (Ch40)	11.71	/	/	/	/	/	/	/
	5240MHz(Ch48)	11.78	/	/	/	/	/	/	/
	5260MHz(Ch52)	11.13	/	/	/	/	/	/	/
	5280MHz(Ch56)	10.96	/	/	/	/	/	/	/
	5320MHz(Ch64)	11.30	/	/	/	/	/	/	/
	5500MHz(Ch100)	11.31	/	/	/	/	/	/	/
	5580MHz(Ch116)	11.95	/	/	/	/	/	/	/
	5700MHz(Ch140)	10.49	/	/	/	/	/	/	/

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)	10.88	10.15	9.44	9.06	8.28	7.85	7.72	7.58
	5230MHz(Ch46)	10.96	/	/	/	/	/	/	/
	5270MHz(Ch54)	10.23	/	/	/	/	/	/	/
	5310MHz(Ch62)	10.32	/	/	/	/	/	/	/
	5510MHz(Ch102)	10.94	/	/	/	/	/	/	/
	5550MHz(Ch110)	10.79	/	/	/	/	/	/	/
	5670MHz(Ch134)	10.70	/	/	/	/	/	/	/

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

**Measurement Uncertainty:**

Measurement Uncertainty	0.75dB
-------------------------	--------

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

**Measurement Limit:**

Standard	Frequency (MHz)	Limit (dBm/MHz)
FCC CRF Part 15.407(a)	5150MHz~5250MHz	4
	5250MHz~5350MHz	11
	5470MHz~5725MHz	11

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

**Measurement Uncertainty:**

Measurement Uncertainty	0.75dB
-------------------------	--------

**Measurement Results:**

Mode	Channel	Power Spectral Density (dBm/MHz)	Conclusion
802.11a	5180 MHz	3.69	P
	5200 MHz	3.33	P
	5240 MHz	3.53	P
	5260 MHz	3.43	P
	5280 MHz	3.11	P
	5320 MHz	3.17	P
	5500 MHz	3.64	P
	5580 MHz	3.10	P
	5700 MHz	3.14	P
802.11n HT20	5180 MHz	3.56	P
	5200 MHz	3.75	P
	5240 MHz	3.33	P
	5260 MHz	3.46	P
	5280 MHz	2.49	P
	5320 MHz	3.04	P
	5500 MHz	3.75	P
	5580 MHz	2.95	P
	5700 MHz	2.90	P
802.11n HT40	5190 MHz	0.22	P
	5230 MHz	-0.13	P
	5270 MHz	-0.75	P
	5310 MHz	-0.29	P
	5510 MHz	0.04	P
	5550 MHz	0.26	P
	5670 MHz	0.25	P

**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 ( kHz)		conclusion
		Fig.	Value	
802.11a	5180 MHz	Fig.1	32300	P
	5200 MHz	Fig.2	34250	P
	5240 MHz	Fig.3	33200	P
	5260 MHz	Fig.4	33700	P
	5280 MHz	Fig.5	37700	P
	5320 MHz	Fig.6	34150	P
	5500 MHz	Fig.7	27350	P
	5600 MHz	Fig.8	27650	P
802.11n HT20	5700 MHz	Fig.9	26250	P
	5180 MHz	Fig.10	35650	P
	5200 MHz	Fig.11	37700	P
	5240 MHz	Fig.12	35300	P
	5260 MHz	Fig.13	34400	P
	5280 MHz	Fig.14	36350	P
	5320 MHz	Fig.15	35950	P
	5500 MHz	Fig.16	32050	P
802.11n HT40	5600 MHz	Fig.17	30900	P
	5700 MHz	Fig.18	26650	P
	5190 MHz	Fig.19	72800	P
	5230 MHz	Fig.20	73440	P
	5270 MHz	Fig.21	69920	P
	5310 MHz	Fig.22	70160	P
	5510 MHz	Fig.23	68000	P
5590 MHz	Fig.24	56080	P	
5670 MHz	Fig.25	42800	P	

**Conclusion: PASS**

**Test graphs as below:**

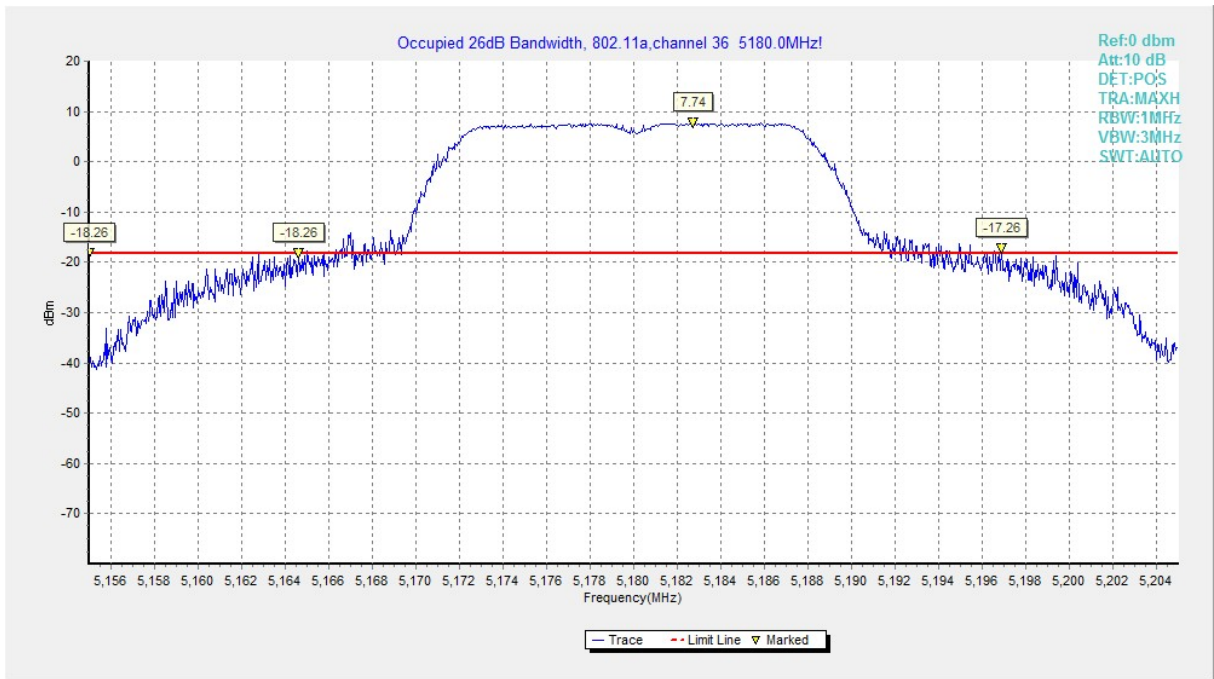


Fig. 1 Occupied 26dB Bandwidth (802.11a, 5180MHz)

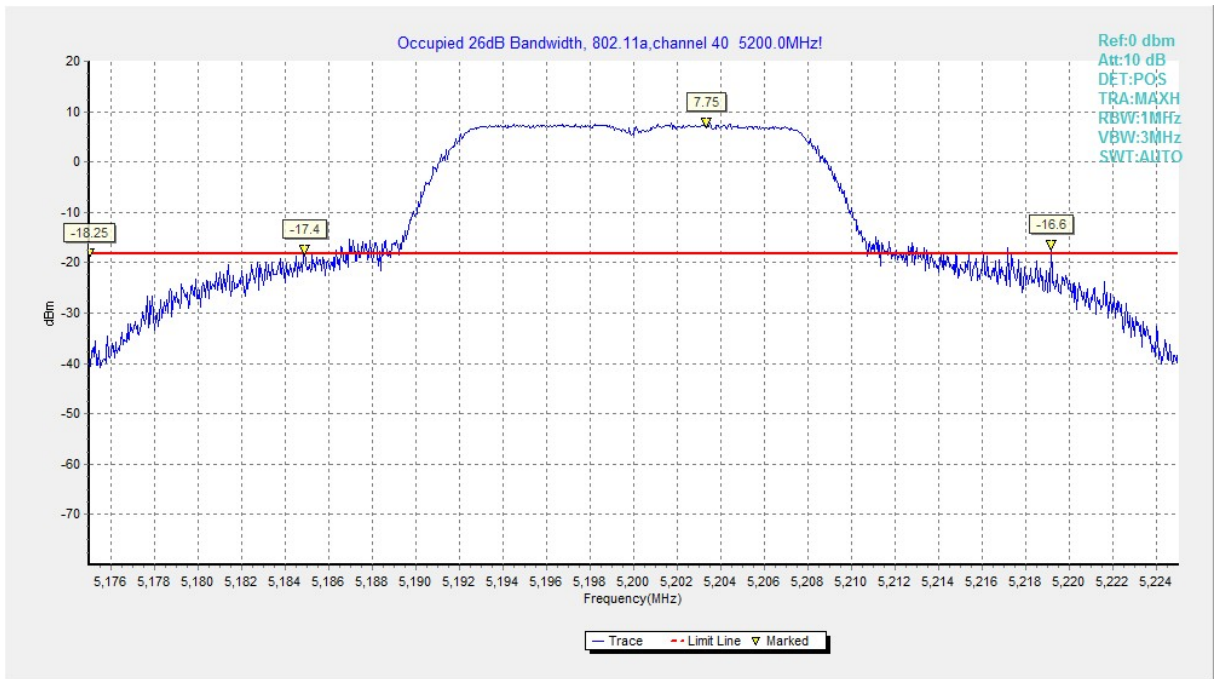
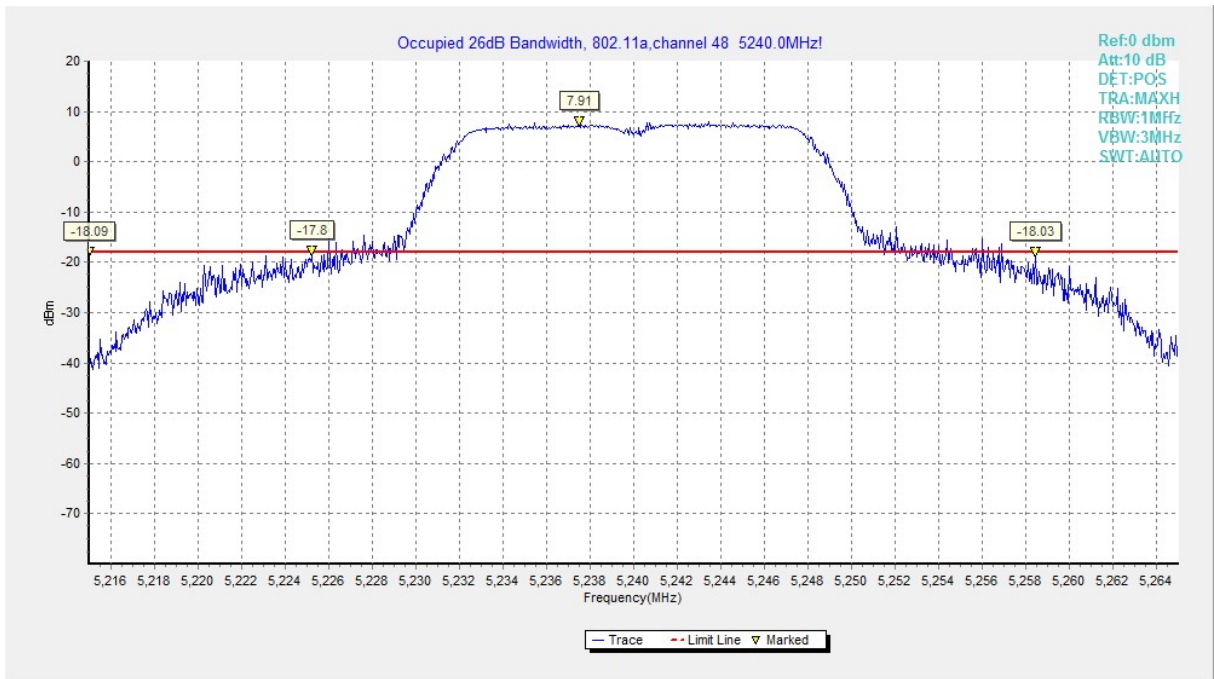
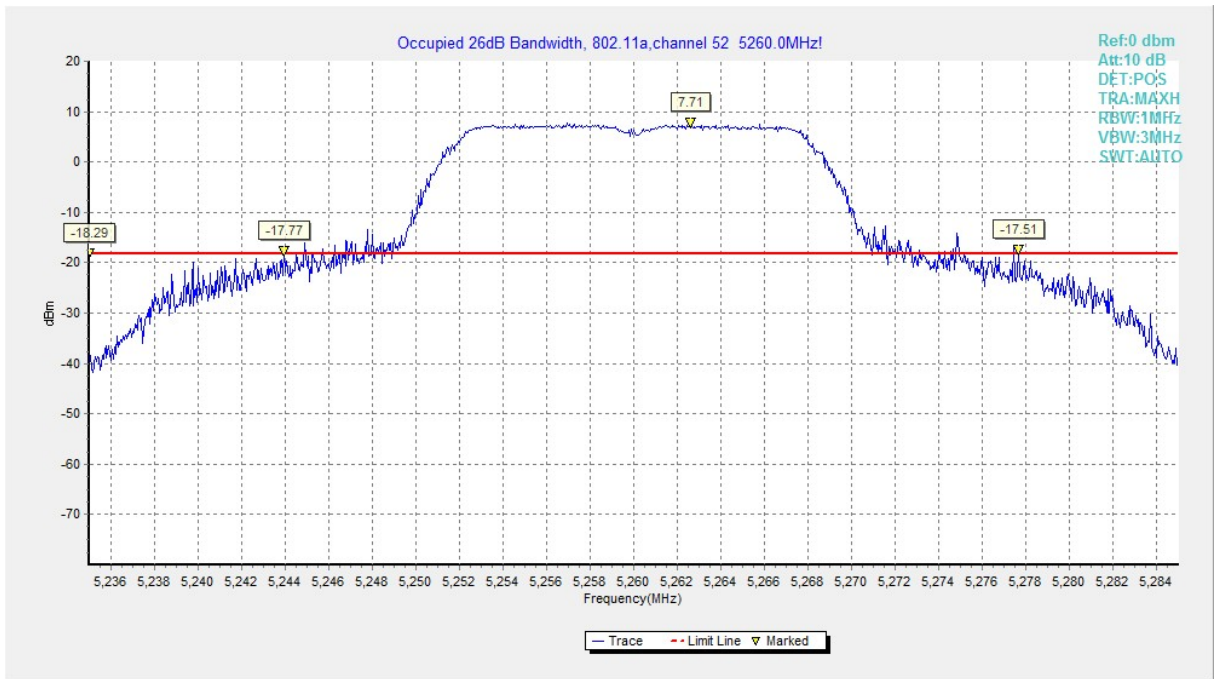


Fig. 2 Occupied 26dB Bandwidth (802.11a, 5200MHz)



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



**Fig. 4 Occupied 26dB Bandwidth (802.11a, 5260MHz)**

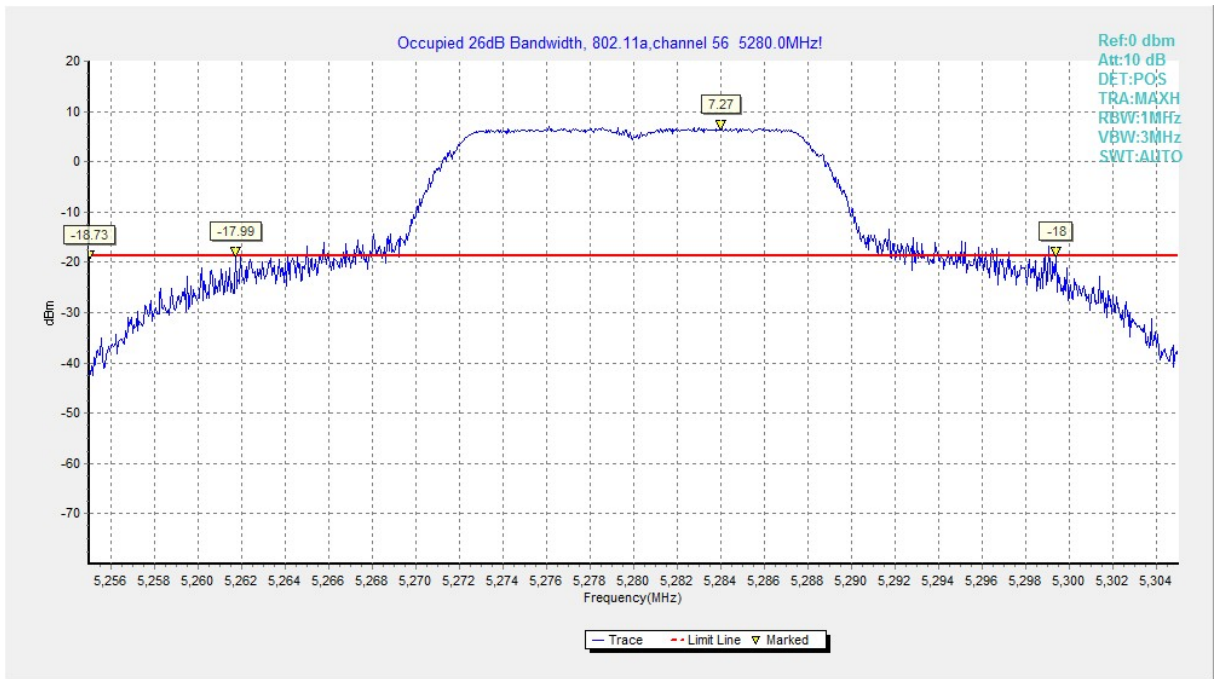


Fig. 5 Occupied 26dB Bandwidth (802.11a, 5280MHz)

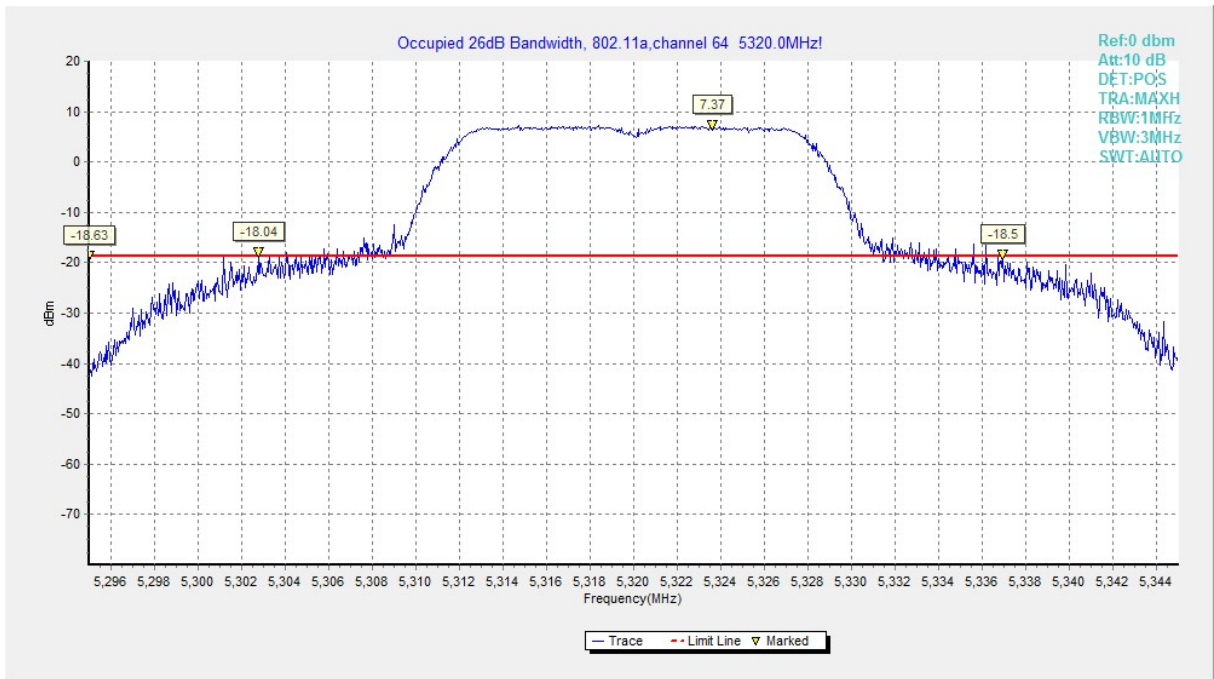


Fig. 6 Occupied 26dB Bandwidth (802.11a, 5320MHz)

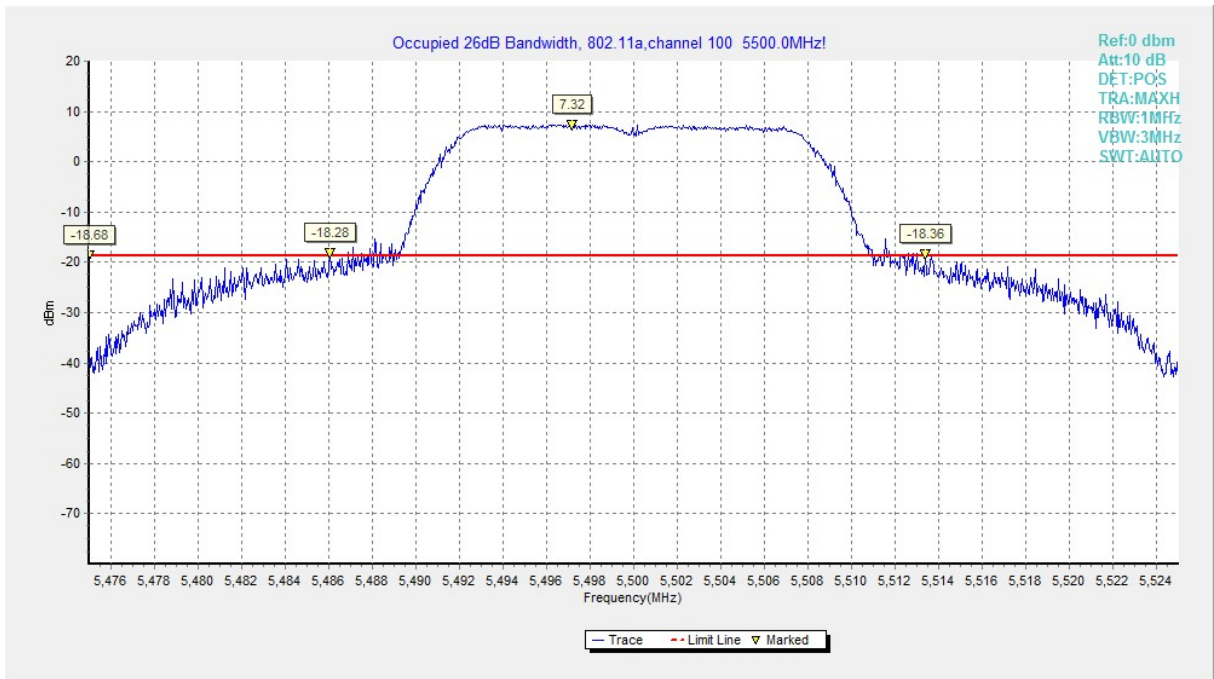


Fig. 7 Occupied 26dB Bandwidth (802.11a, 5500MHz)

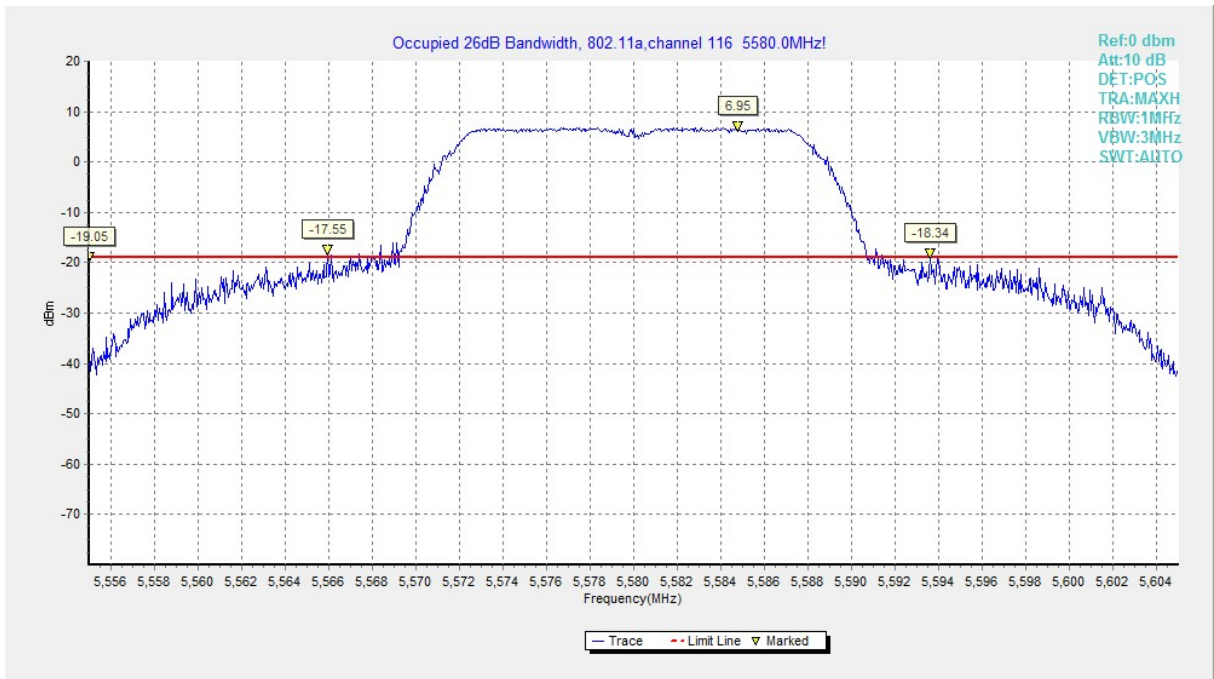


Fig. 8 Occupied 26dB Bandwidth (802.11a, 5600MHz)

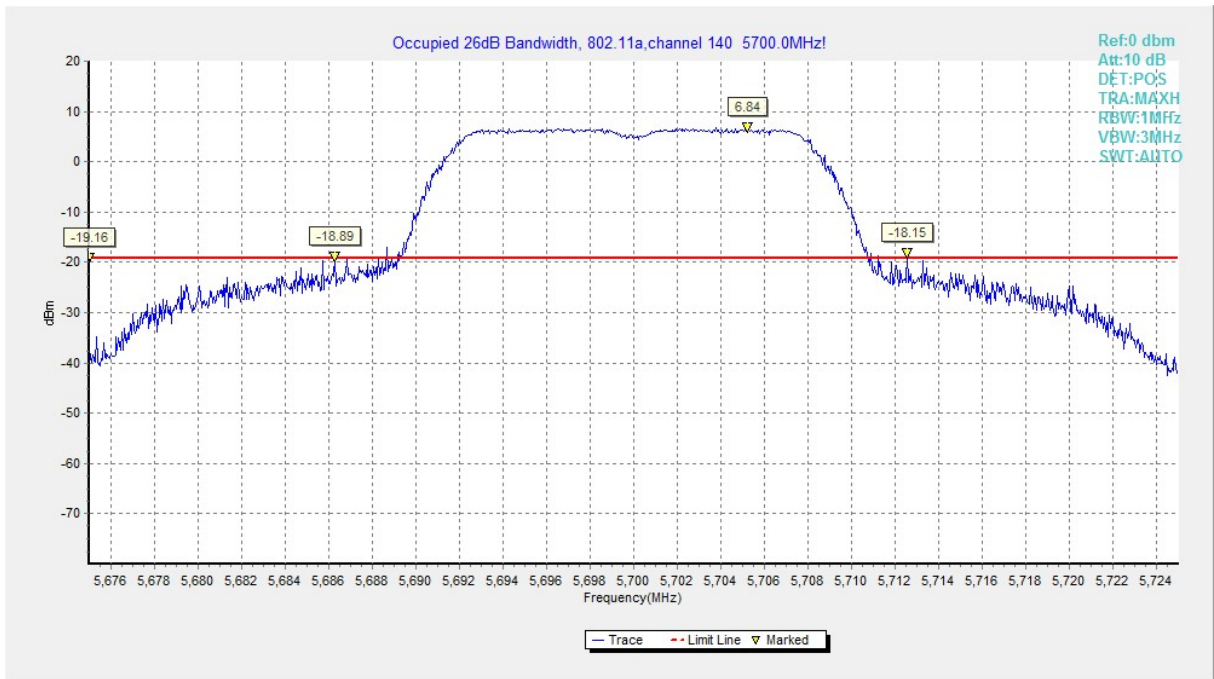


Fig. 9 Occupied 26dB Bandwidth (802.11a, 5700MHz)

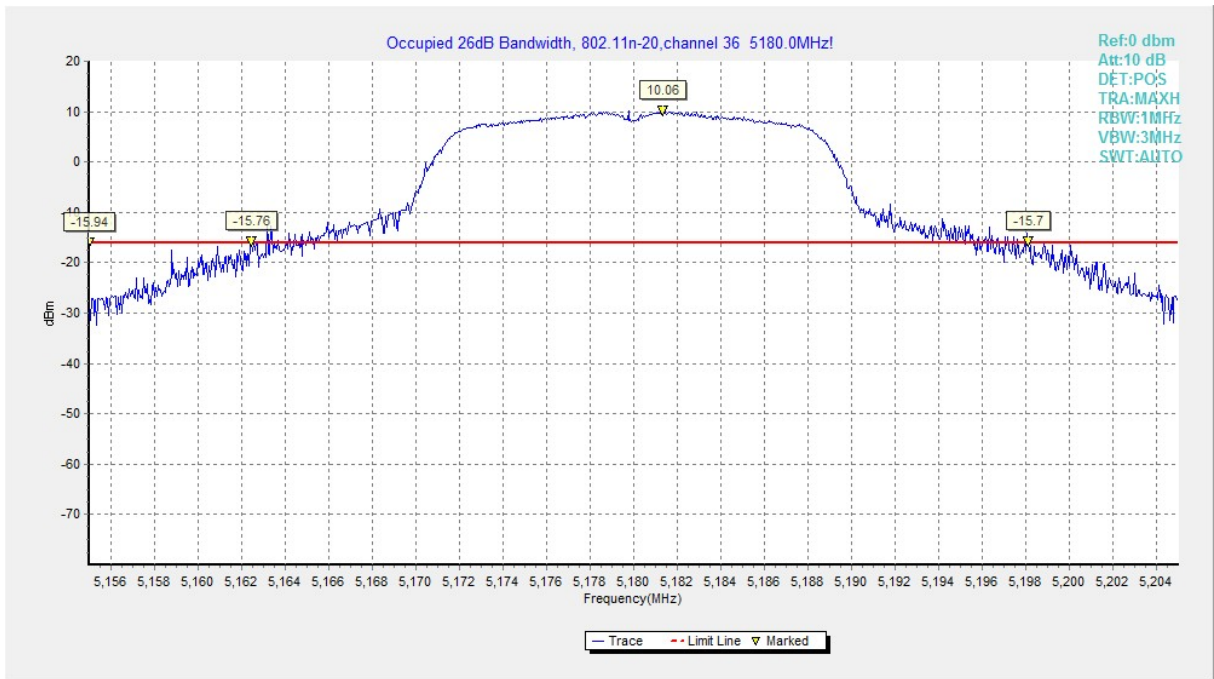


Fig. 10 Occupied 26dB Bandwidth (802.11n-HT20, 5180MHz)

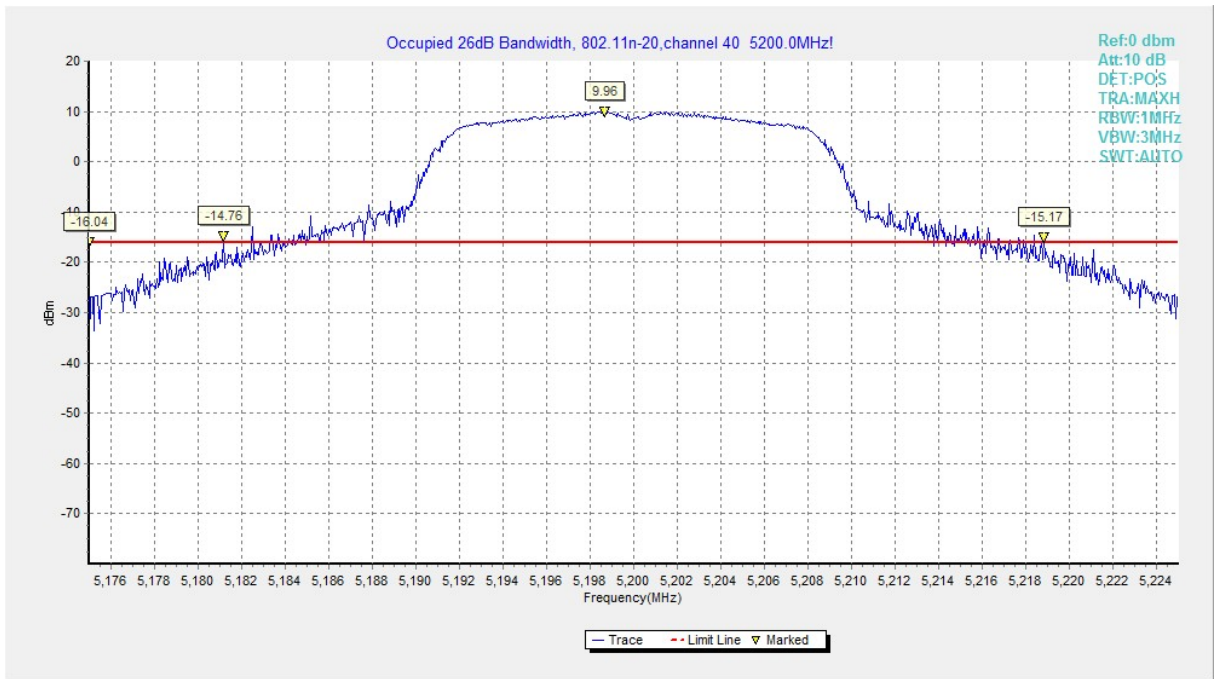


Fig. 11 Occupied 26dB Bandwidth (802.11n-HT20, 5200MHz)

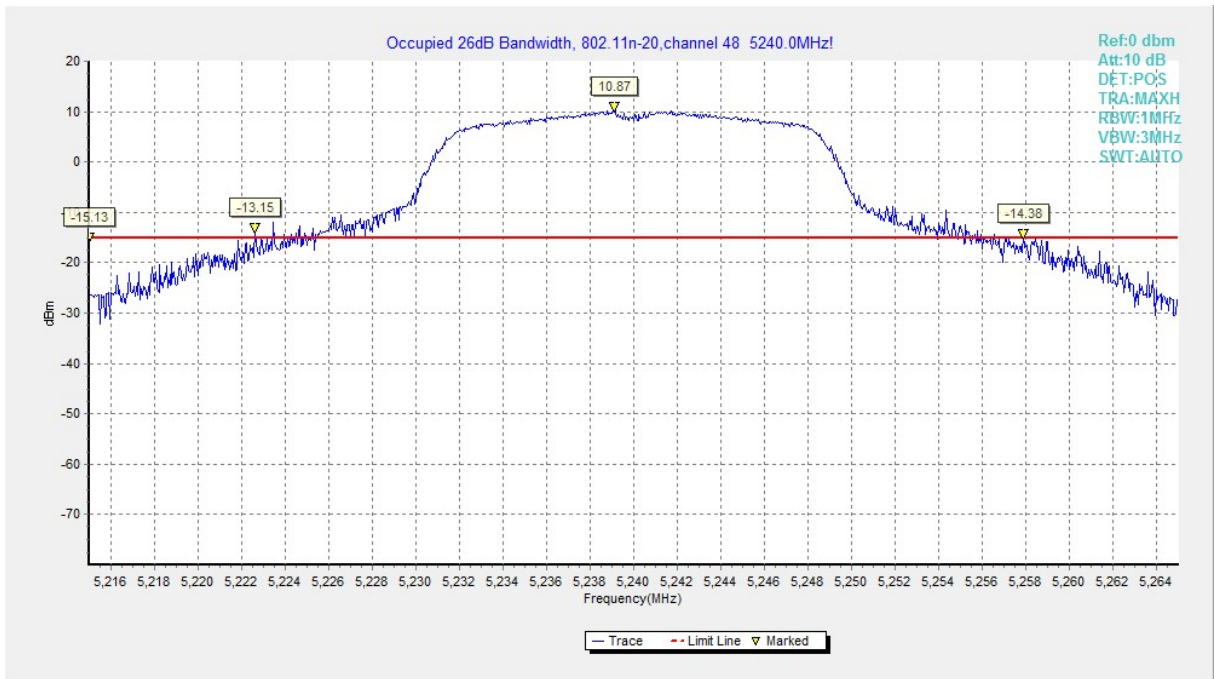


Fig. 12 Occupied 26dB Bandwidth (802.11n-HT20, 5240MHz)

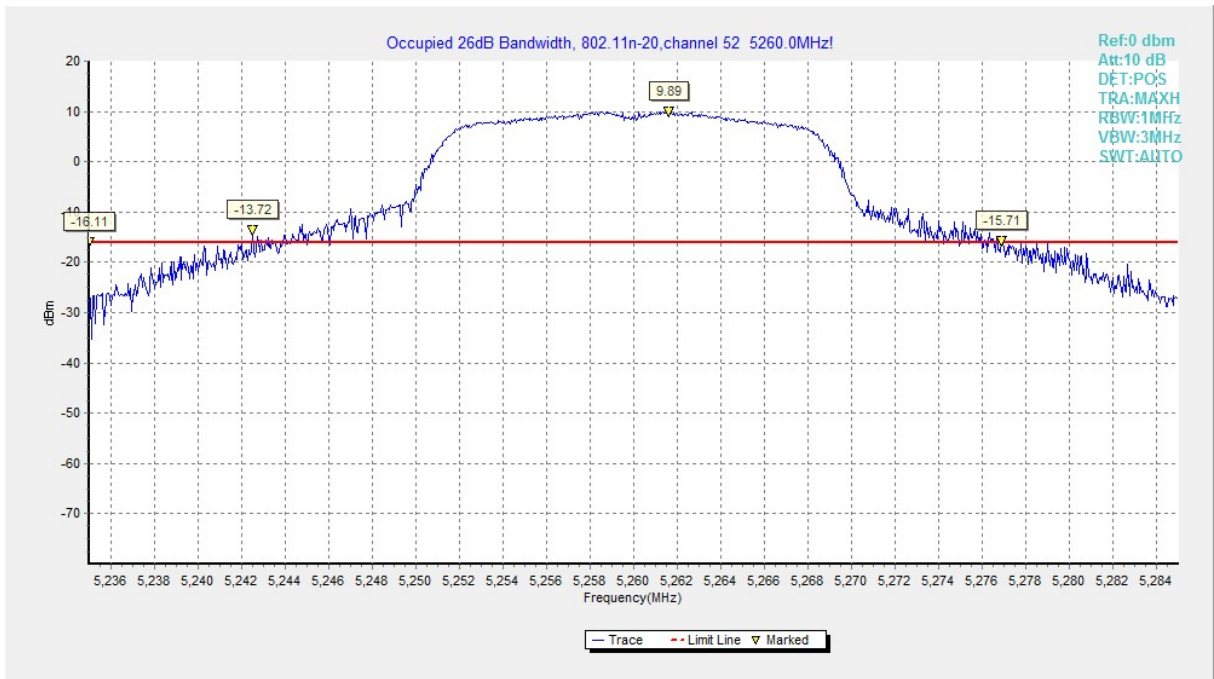


Fig. 13 Occupied 26dB Bandwidth (802.11n-HT20, 5260MHz)

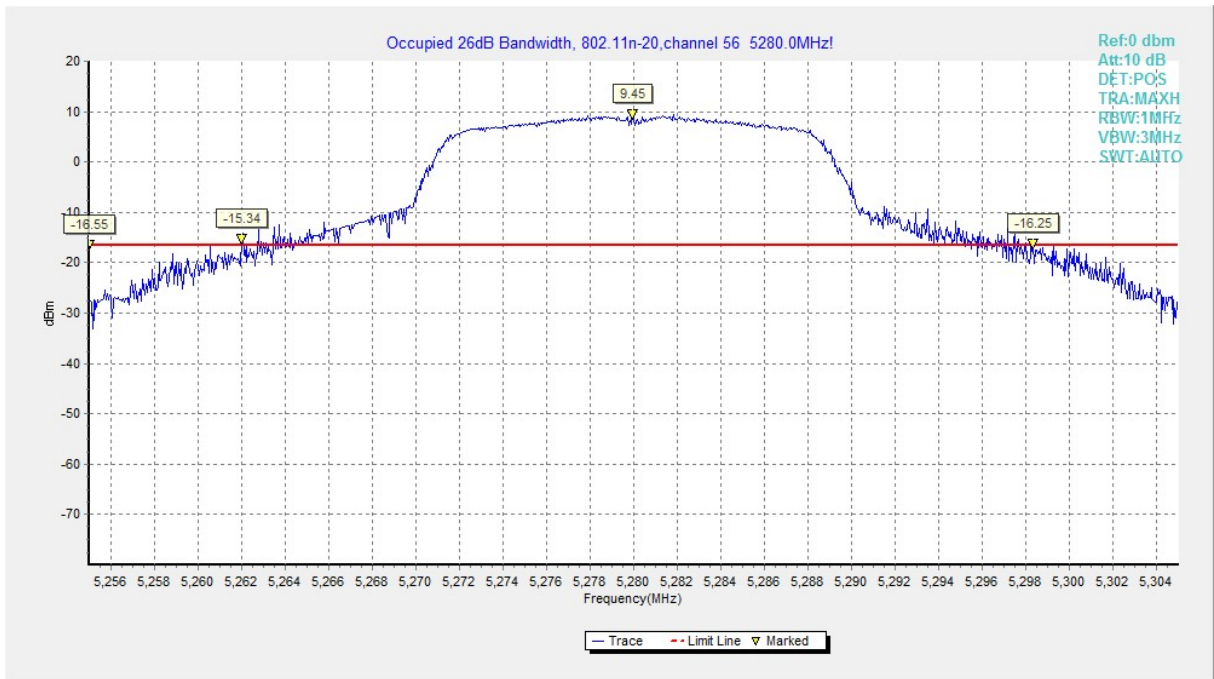
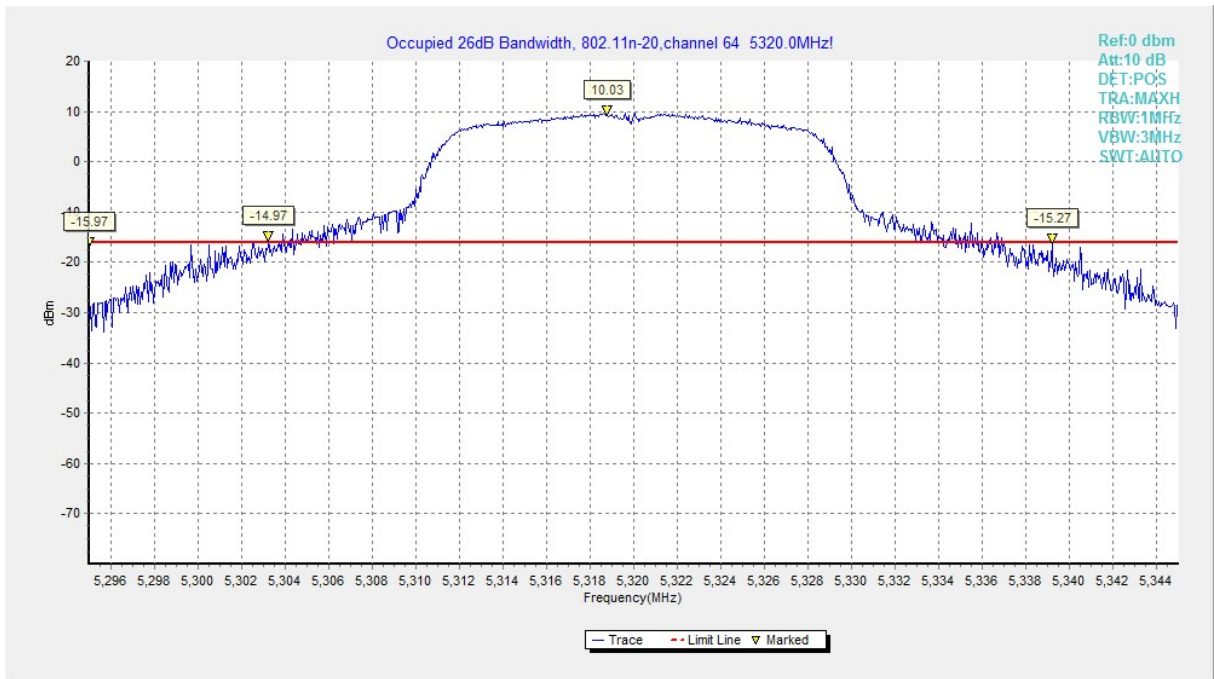
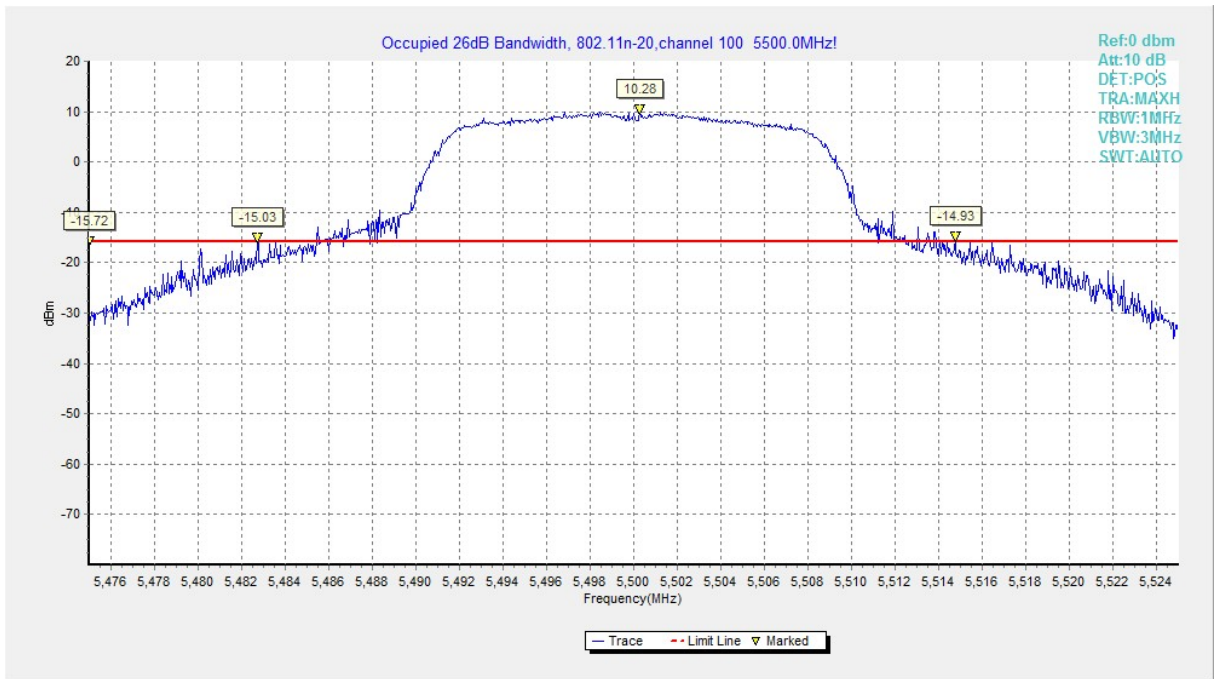


Fig. 14 Occupied 26dB Bandwidth (802.11n-HT20, 5280MHz)





**Fig. 15 Occupied 26dB Bandwidth (802.11n-HT20, 5320MHz)**



**Fig. 16 Occupied 26dB Bandwidth (802.11n-HT20, 5500MHz)**

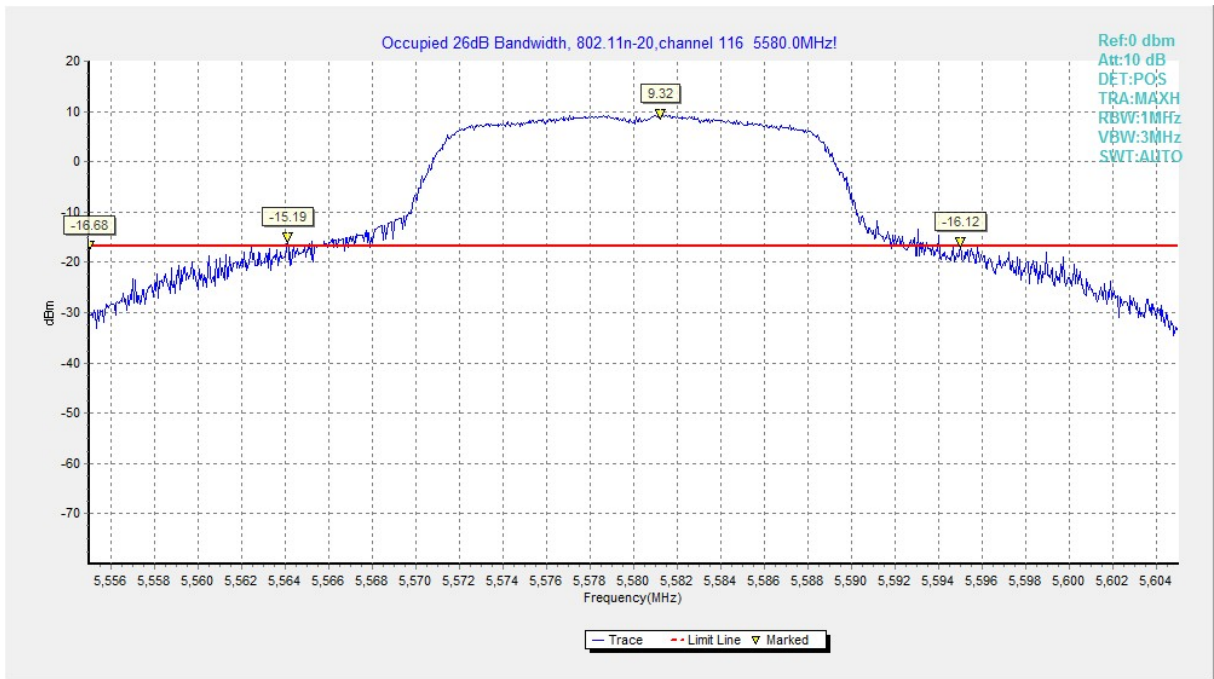


Fig. 17 Occupied 26dB Bandwidth (802. 11n-HT20, 5600MHz)

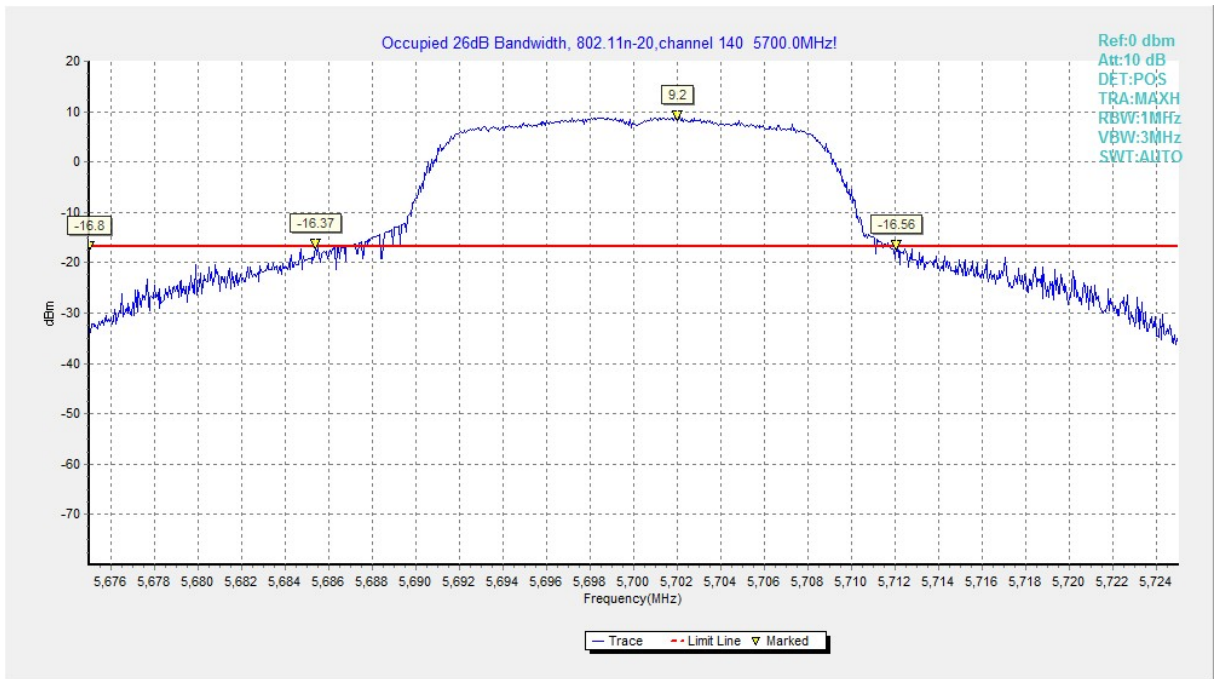
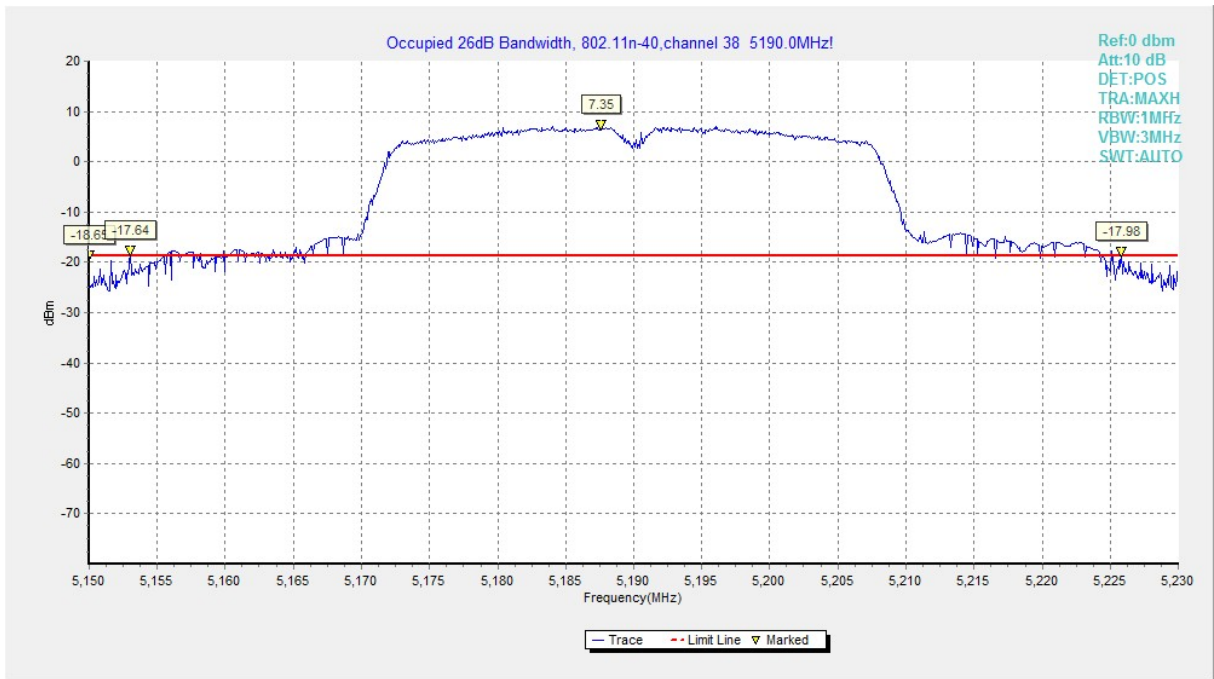
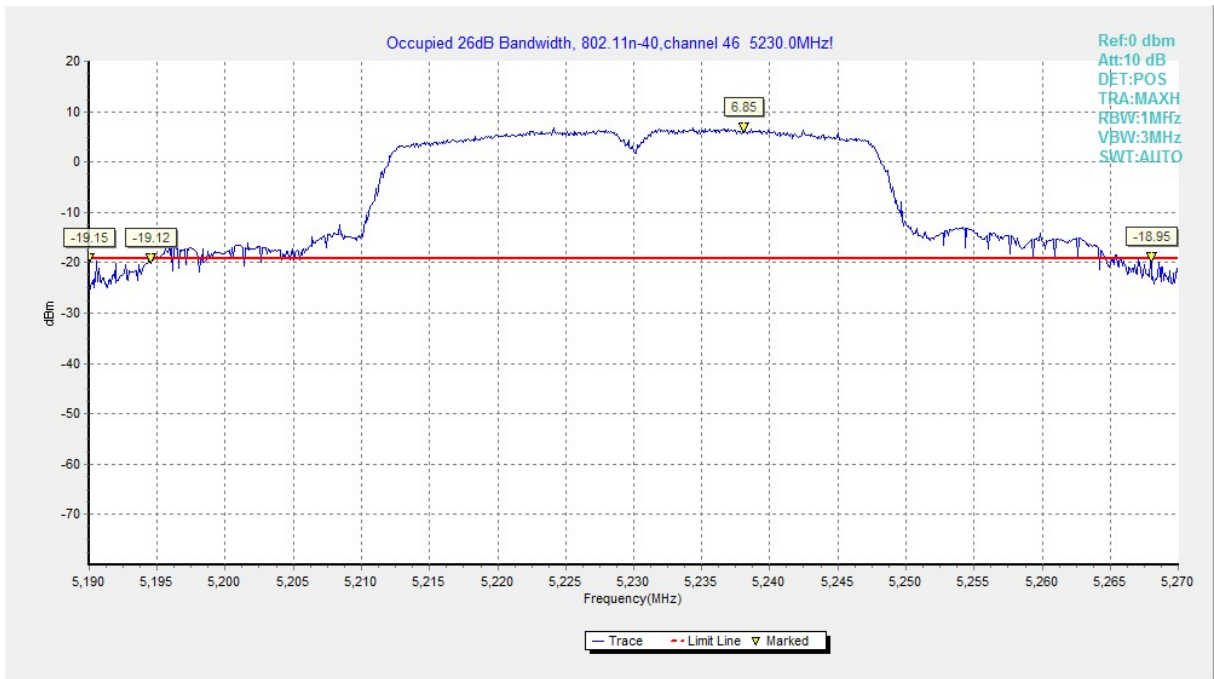


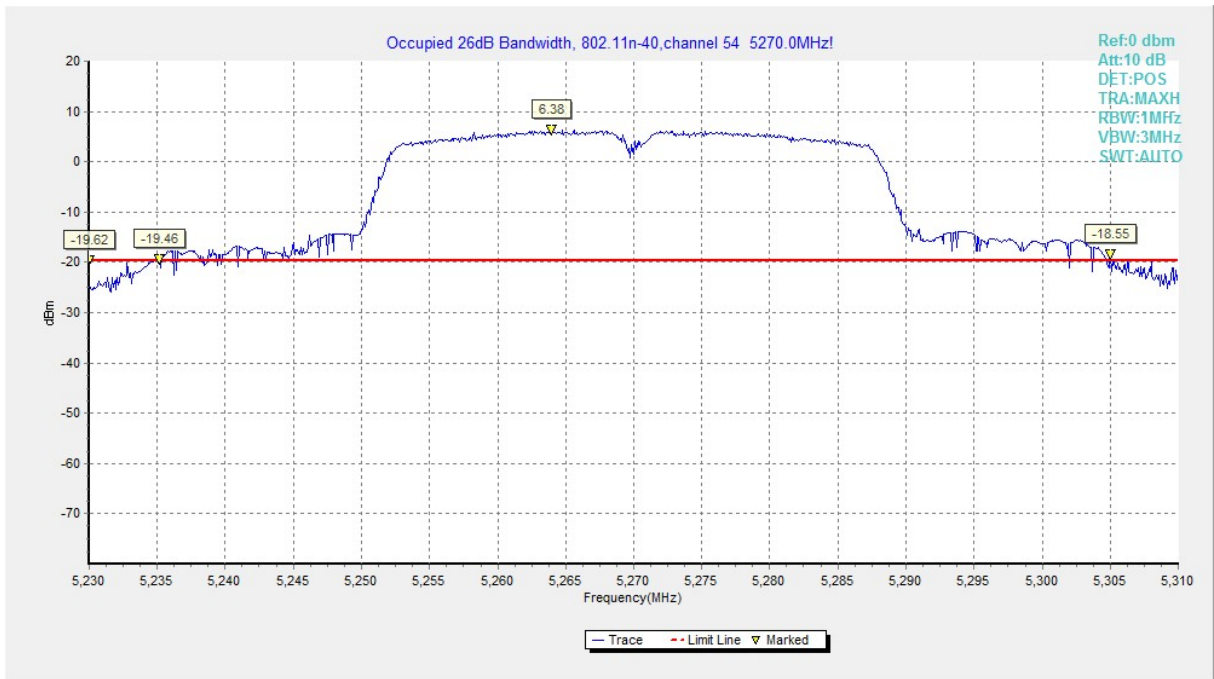
Fig. 18 Occupied 26dB Bandwidth (802. 11n-HT20, 5700MHz)



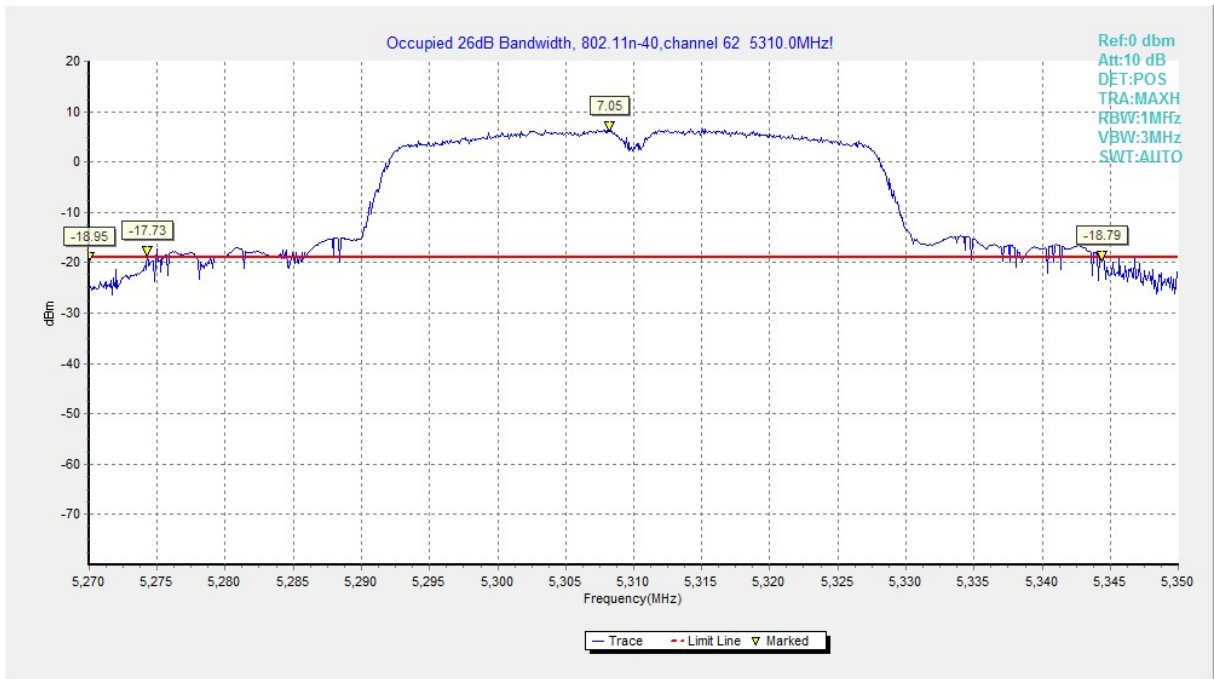
**Fig. 19 Occupied 26dB Bandwidth (802.11n-HT40, 5190MHz)**



**Fig. 20 Occupied 26dB Bandwidth (802.11n-HT40, 5230MHz)**



**Fig. 21 Occupied 26dB Bandwidth (802.11n-HT40, 5270MHz)**



**Fig. 22 Occupied 26dB Bandwidth (802.11n-HT40, 5310MHz)**

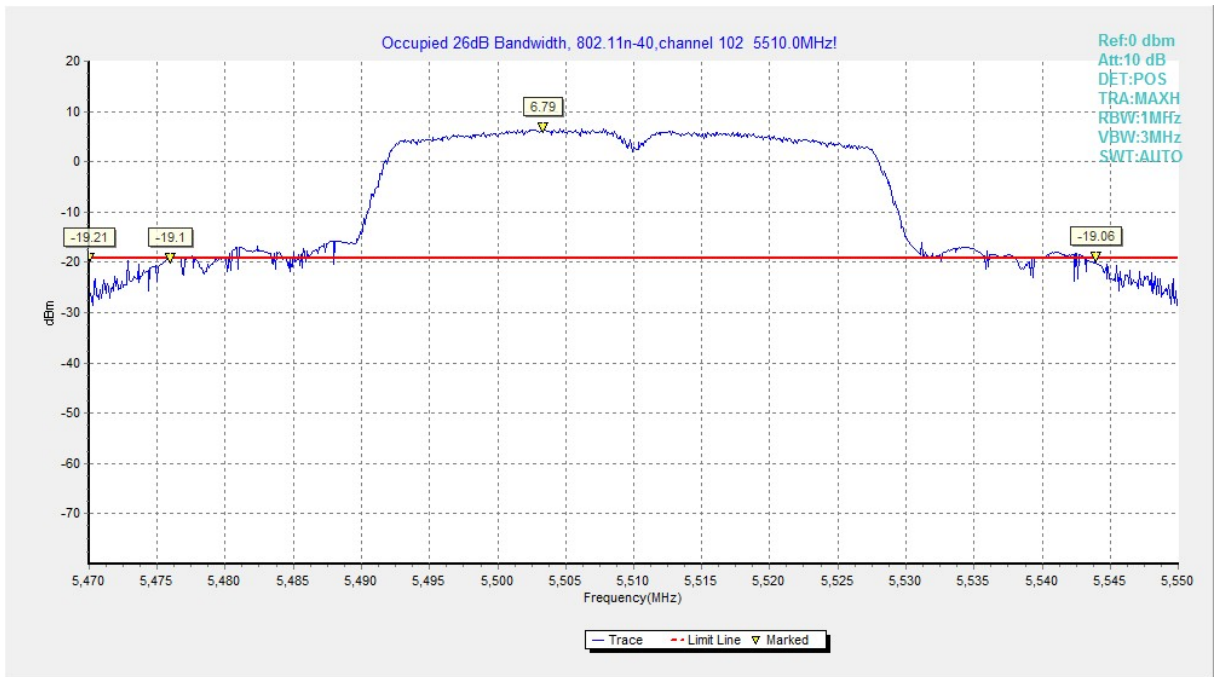


Fig. 23 Occupied 26dB Bandwidth (802. 11n-HT40, 5510MHz)

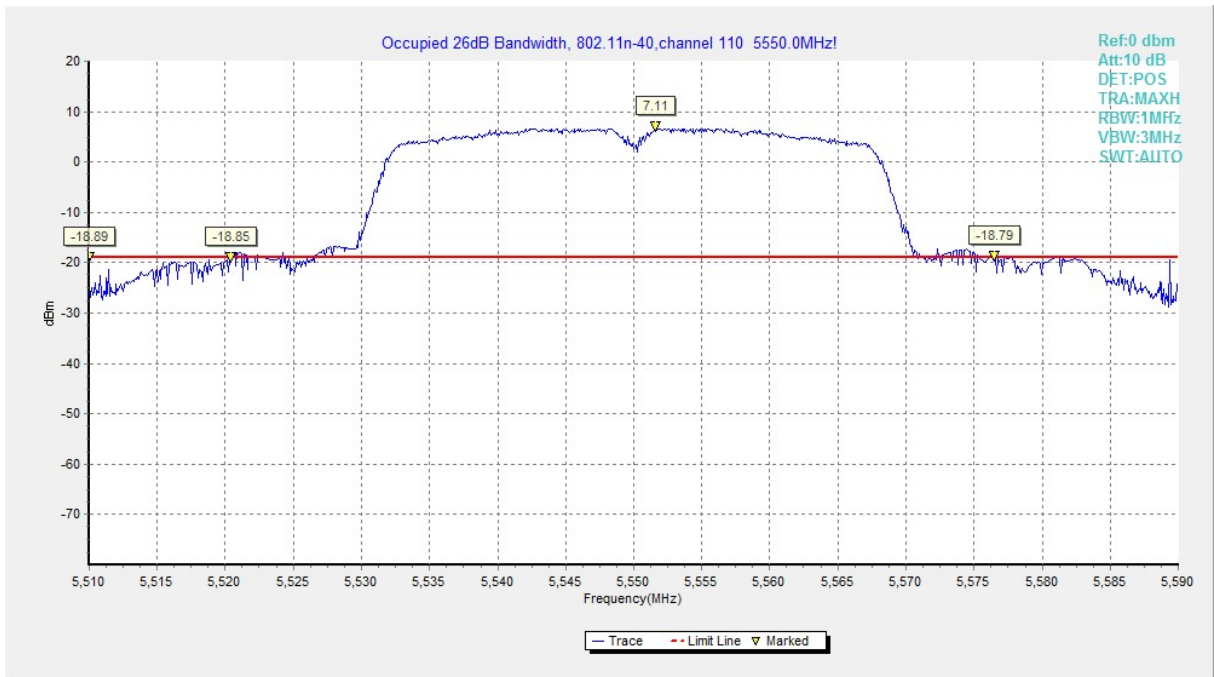


Fig. 24 Occupied 26dB Bandwidth (802. 11n-HT40, 5590MHz)

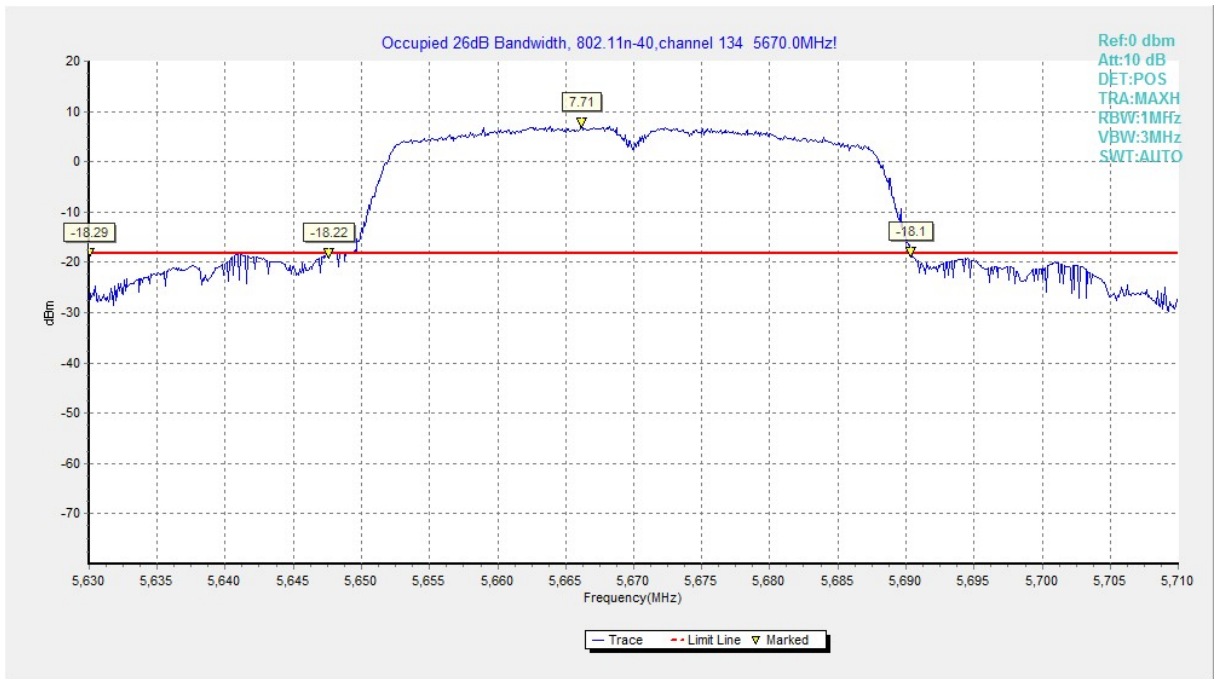


Fig. 25 Occupied 26dB Bandwidth (802. 11n-HT40, 5670MHz)

## A.5. Band Edges Compliance

### A5.1 Band Edges - conducted

#### Measurement Limit:

Standard	Limit (dBc)
FCC 47 CFR Part 15.407	> 20

The measurement is made according to KDB 789033

#### Measurement Uncertainty:

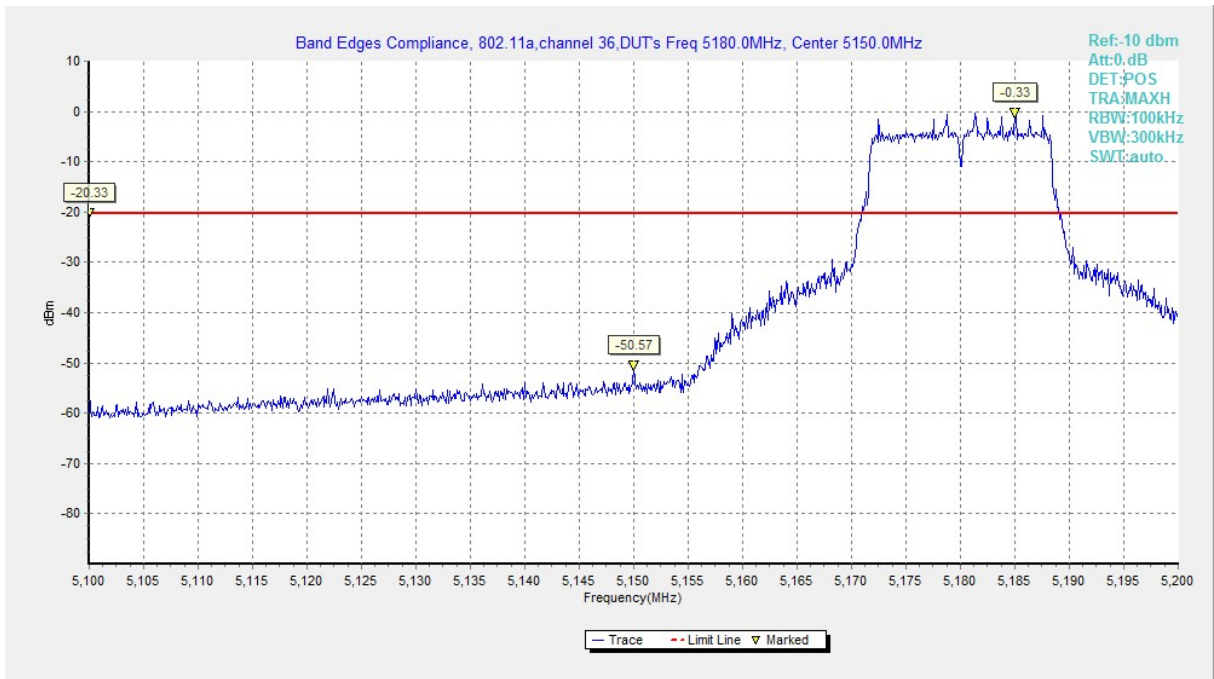
Measurement Uncertainty	0.75dB
-------------------------	--------

#### Measurement Result:

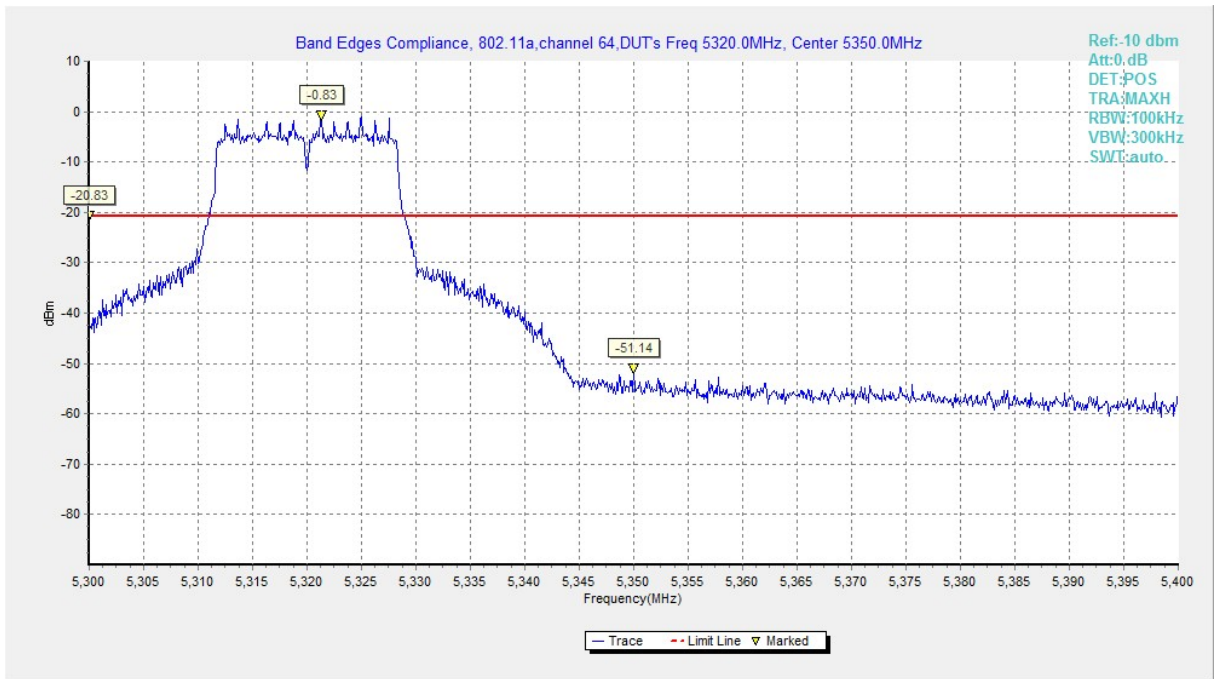
Mode	Channel	Test Results	Conclusion
802.11a	5180 MHz	Fig.26	P
	5320 MHz	Fig.27	P
	5500 MHz	Fig.28	P
802.11n HT20	5180 MHz	Fig.29	P
	5320 MHz	Fig.30	P
	5500 MHz	Fig.31	P
802.11n HT40	5190 MHz	Fig.32	P
	5310 MHz	Fig.33	P
	5510 MHz	Fig.34	P

**Conclusion: PASS**

Test graphs as below:

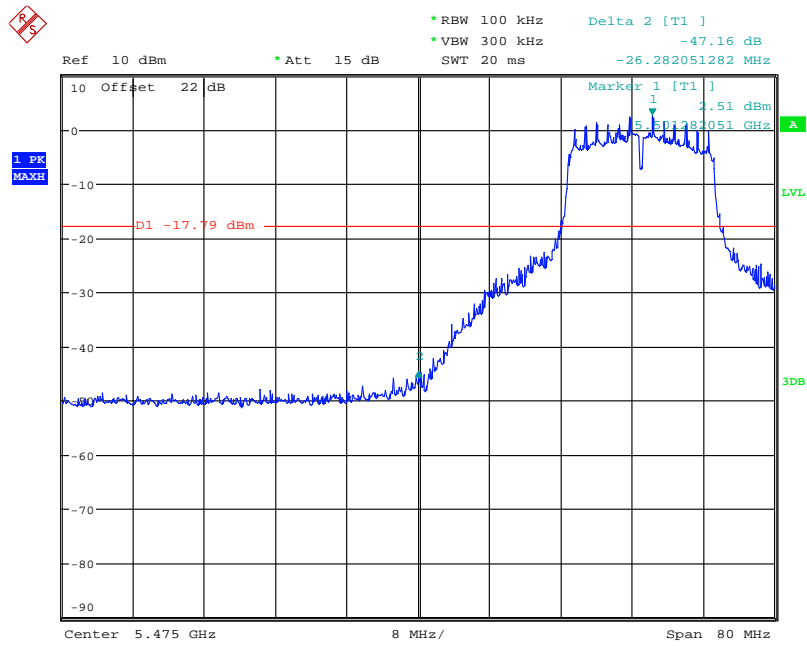


**Fig. 26 Band Edges (802.11a, 5180MHz)**



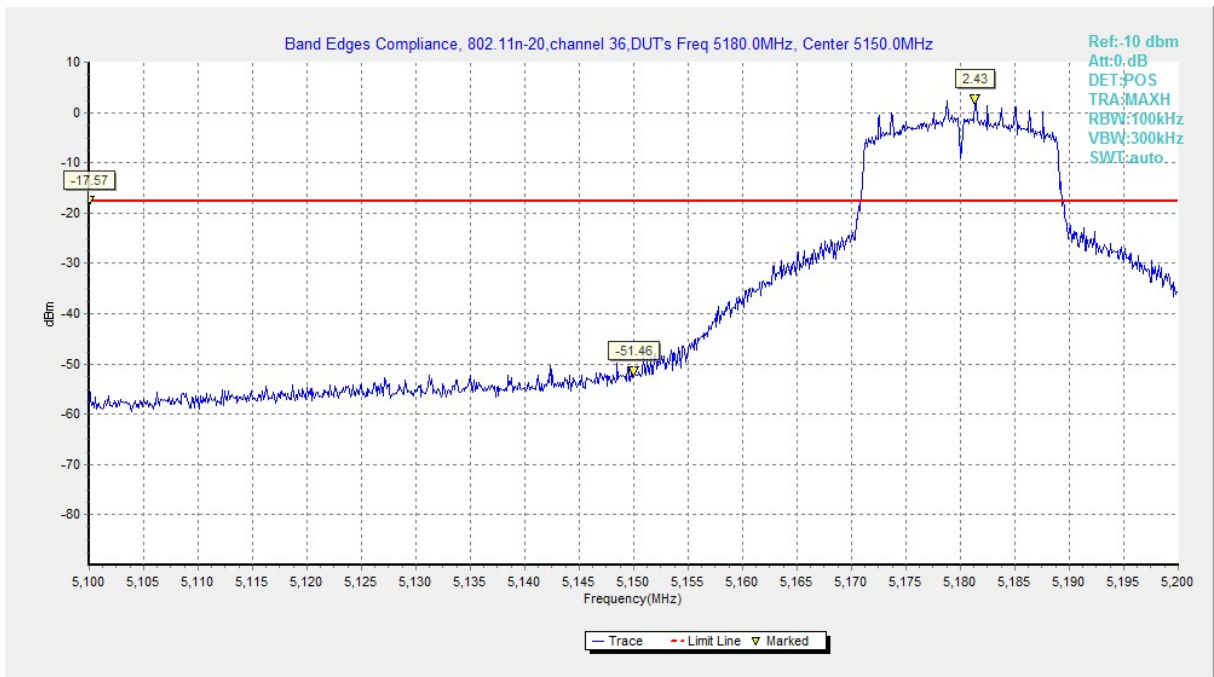
**Fig. 27 Band Edges (802.11a, 5320MHz)**





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**Fig. 28 Band Edges (802.11a, 5500MHz)**



**Fig. 29 Band Edges (802.11n-HT20, 5180MHz)**

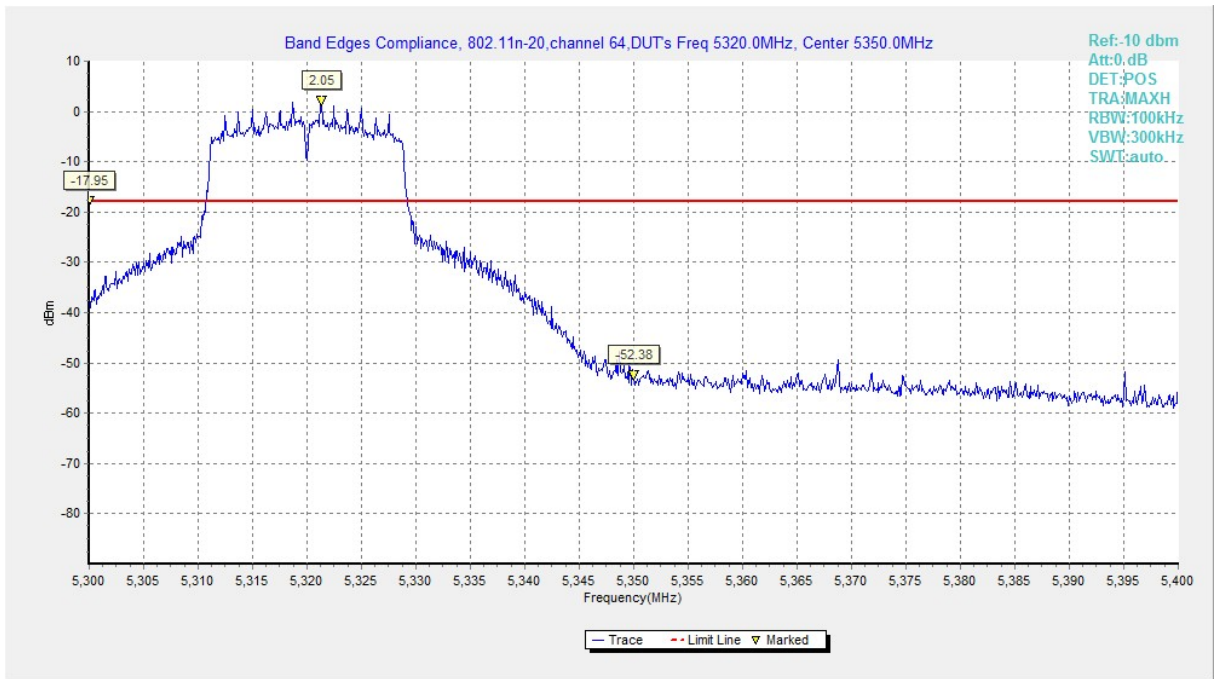
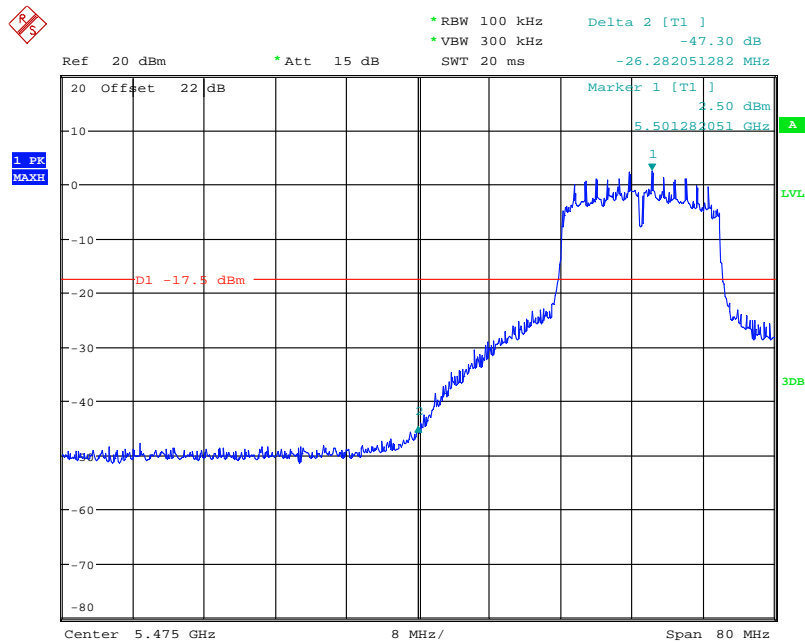
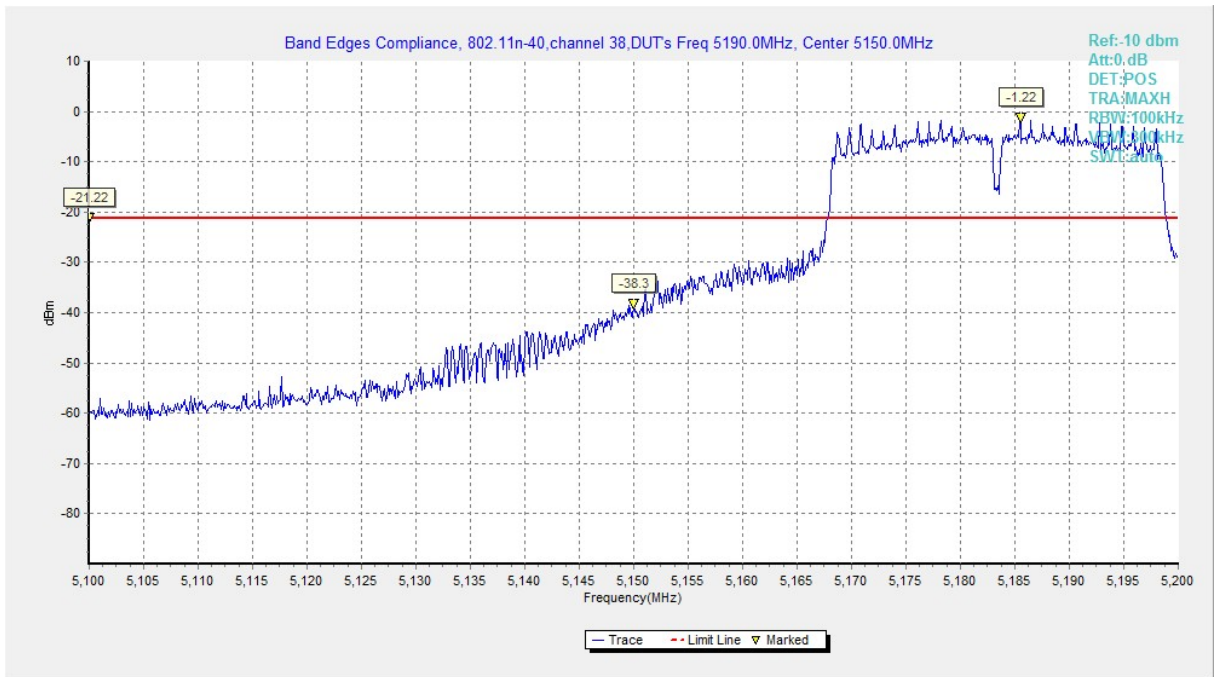


Fig. 30 Band Edges (802.11n-HT20, 5320MHz)

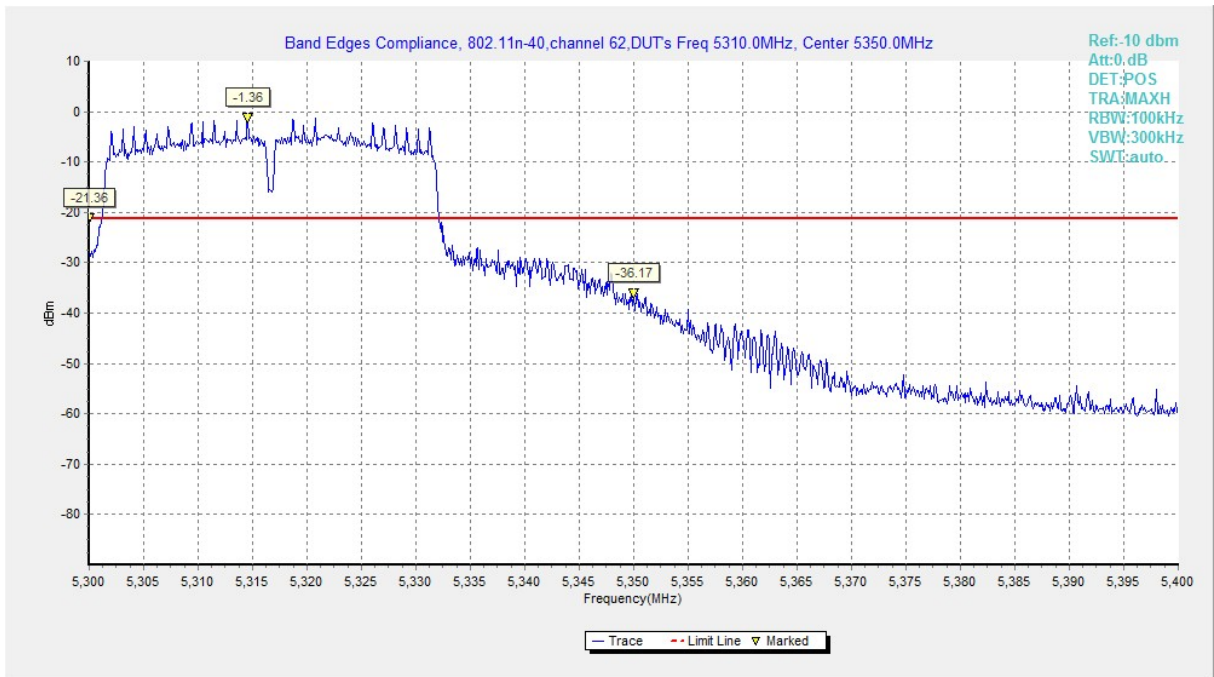


Date: 12.JUN.2014 10:53:26

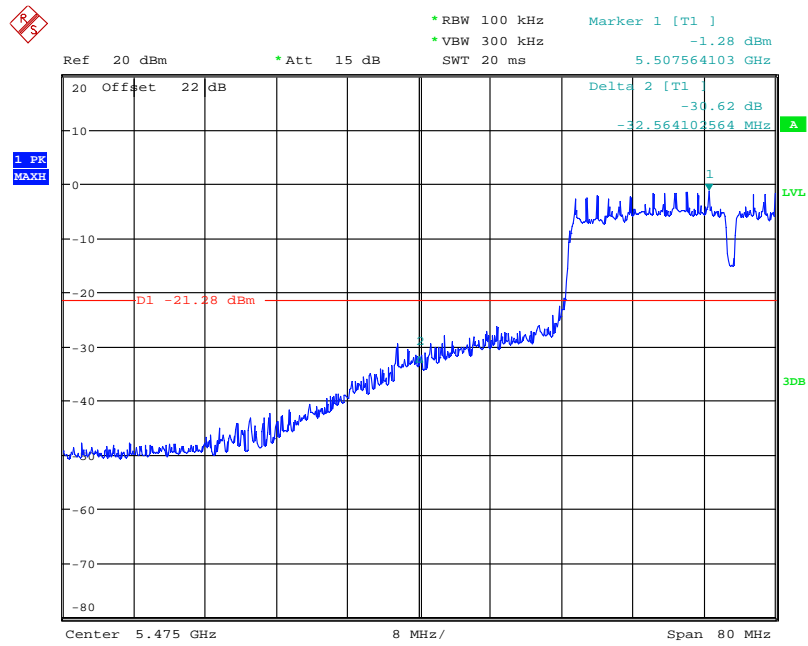
Fig. 31 Band Edges (802.11n-HT20, 5500MHz)



**Fig. 32 Band Edges (802.11n-HT40, 5190MHz)**



**Fig. 33 Band Edges (802.11n-HT40, 5310MHz)**



Date: 12.JUN.2014 10:52:40

**Fig. 34 Band Edges (802.11n-HT40, 5510MHz)**

**A5.2 Band Edges - Radiated**

**Measurement Limit:**

Standard	Limit (dBc)
FCC 47 CFR Part 15.407	> 20

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
-------------------------	--------

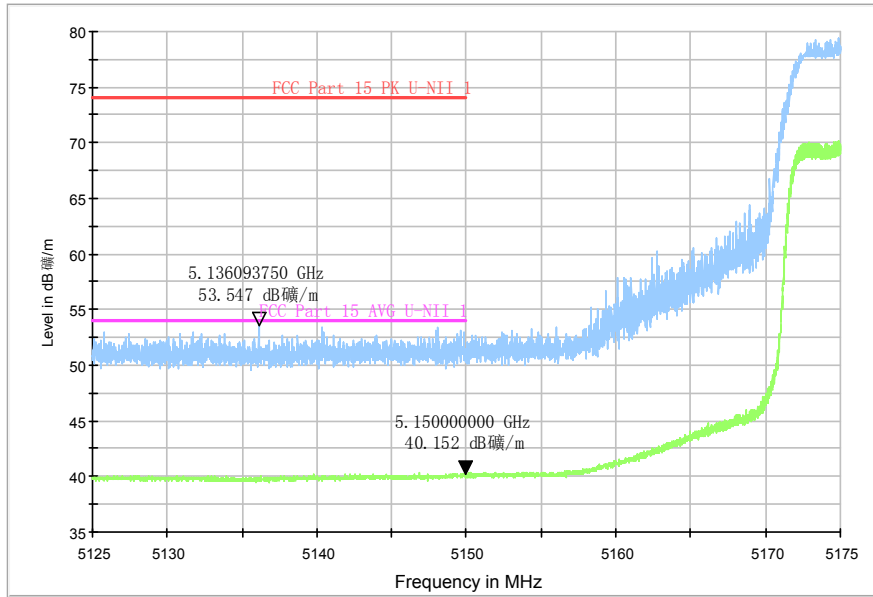
**Measurement Result:**

Mode	Channel	Test Results	Conclusion
802.11a	5180 MHz	Fig.35	P
	5320 MHz	Fig.36	P
	5500 MHz	Fig.37	P
802.11n HT20	5180 MHz	Fig.38	P
	5320 MHz	Fig.39	P
	5500 MHz	Fig.40	P
802.11n HT40	5190 MHz	Fig.41	P
	5310 MHz	Fig.42	P
	5510 MHz	Fig.43	P

**Conclusion: PASS**

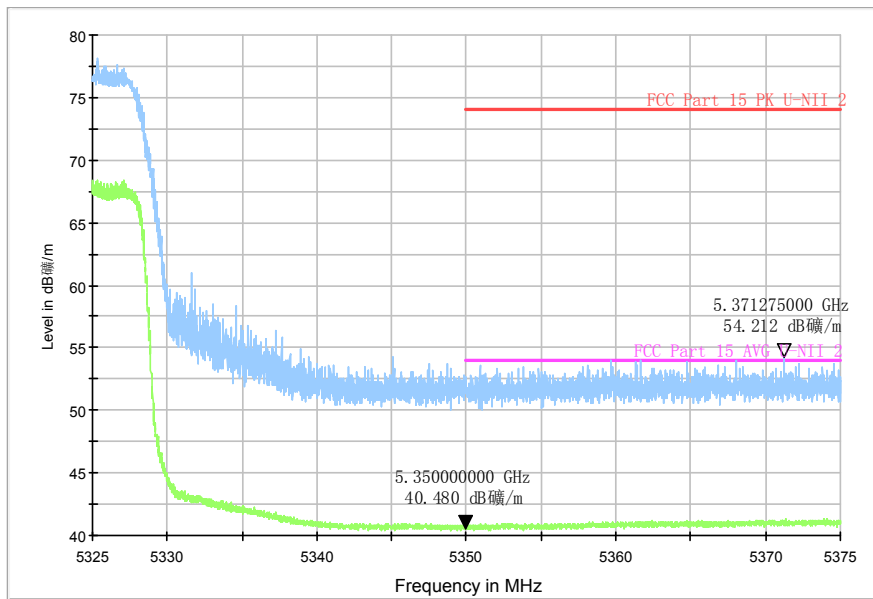
**Test graphs as below:**

RE-Power\_5.125G-5.175GHz

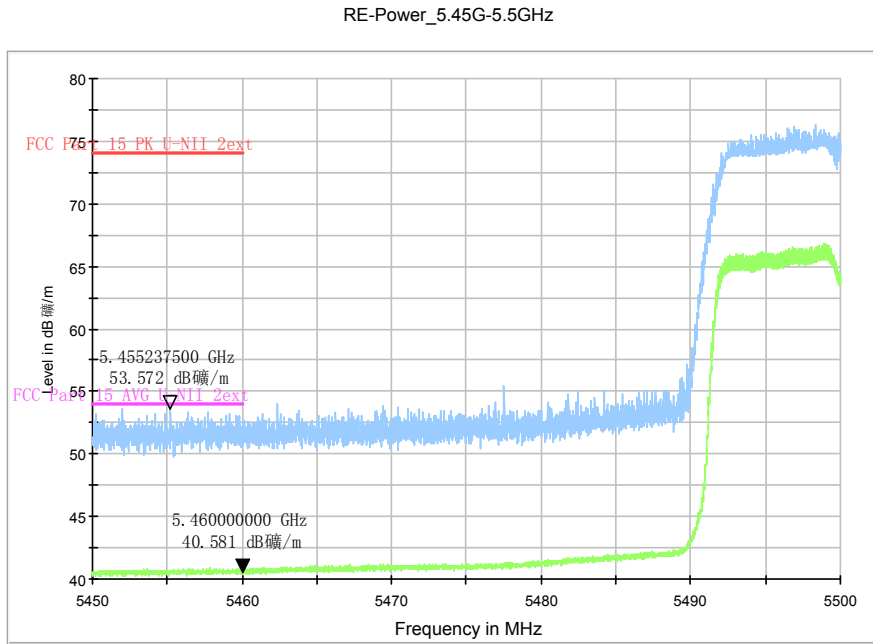


**Fig. 35 Band Edges (802.11a, 5180MHz)**

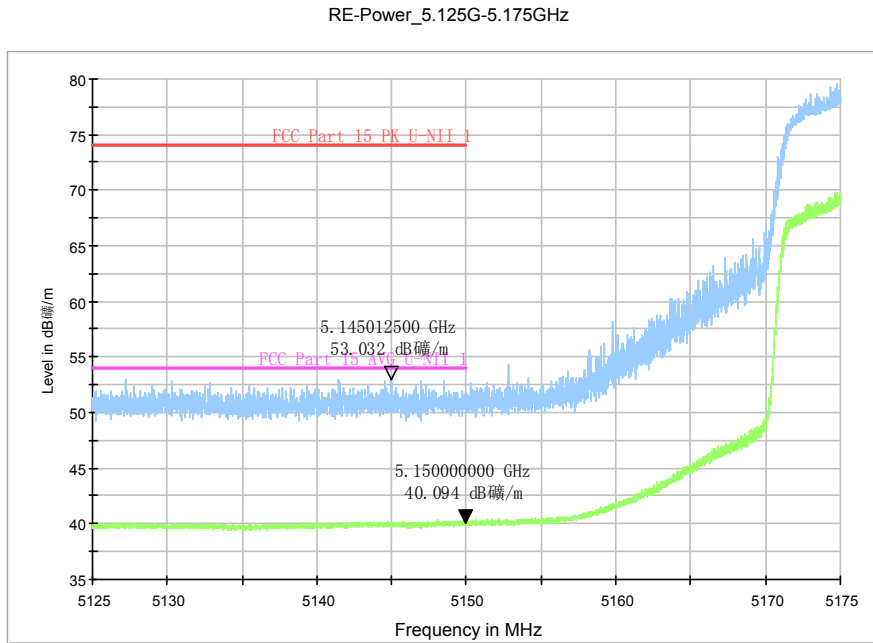
RE-Power\_5.325G-5.375GHz



**Fig. 36 Band Edges (802.11a, 5320MHz)**

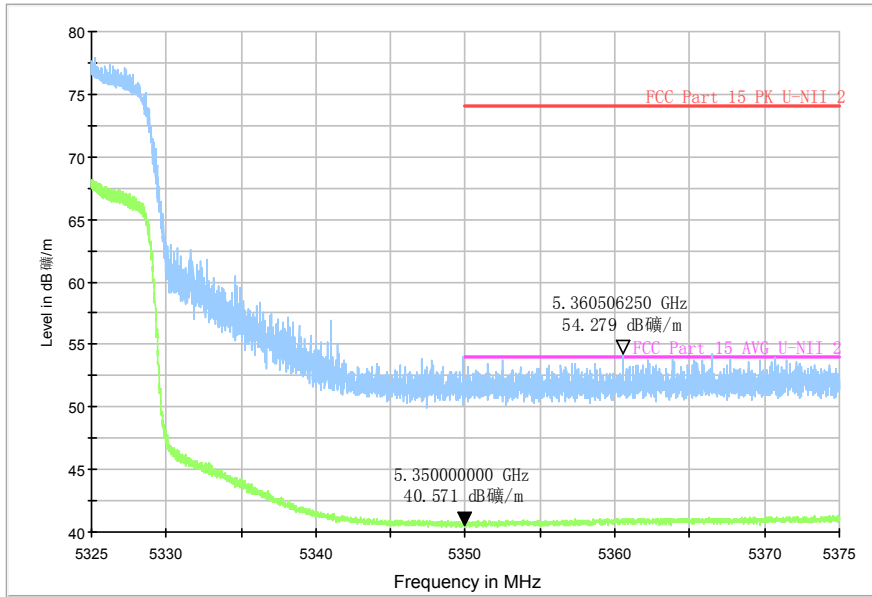


**Fig. 37 Band Edges (802.11a, 5550MHz)**



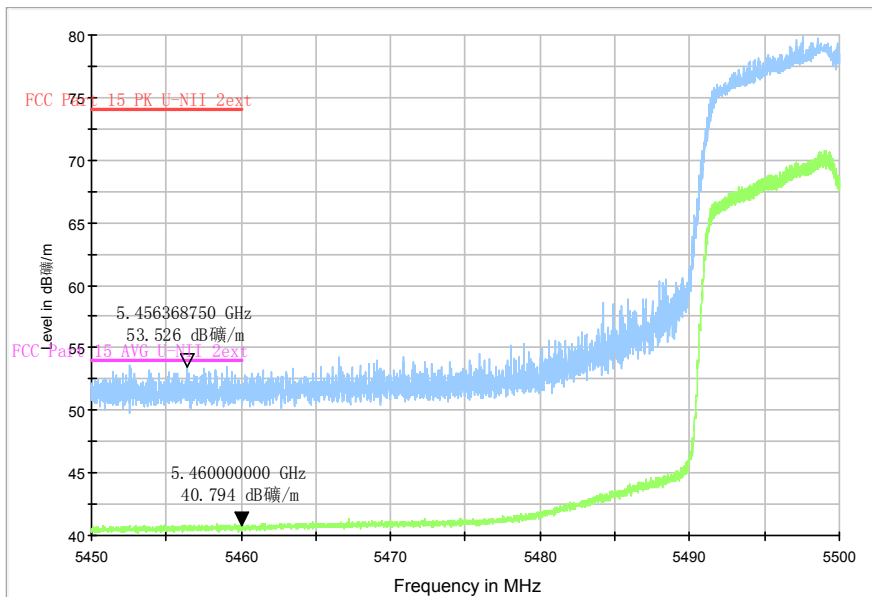
**Fig. 38 Band Edges (802.11n-HT20, 5180MHz)**

RE-Power\_5.325G-5.375GHz



**Fig. 39 Band Edges (802.11n-HT20, 5320MHz)**

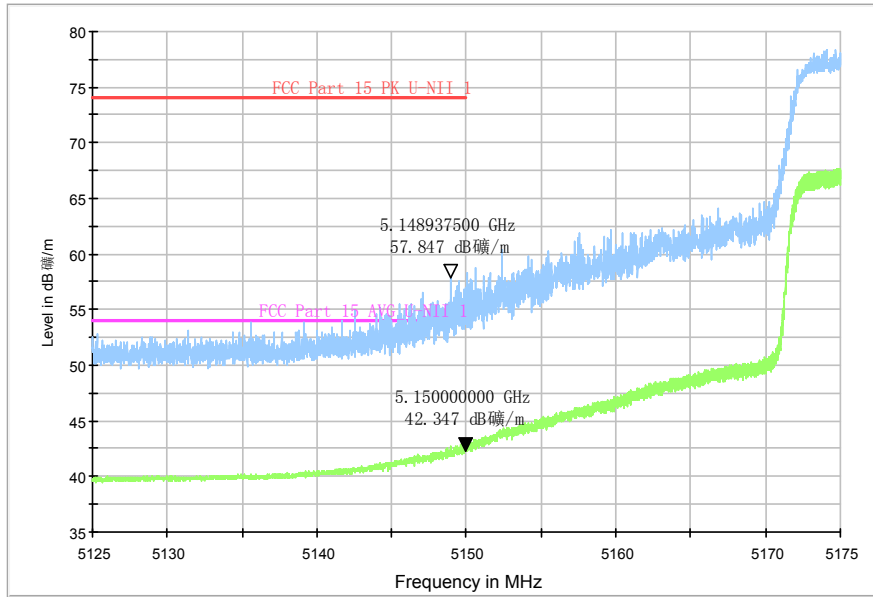
RE-Power\_5.45G-5.5GHz



**Fig. 40 Band Edges (802.11n-HT20, 5500MHz)**

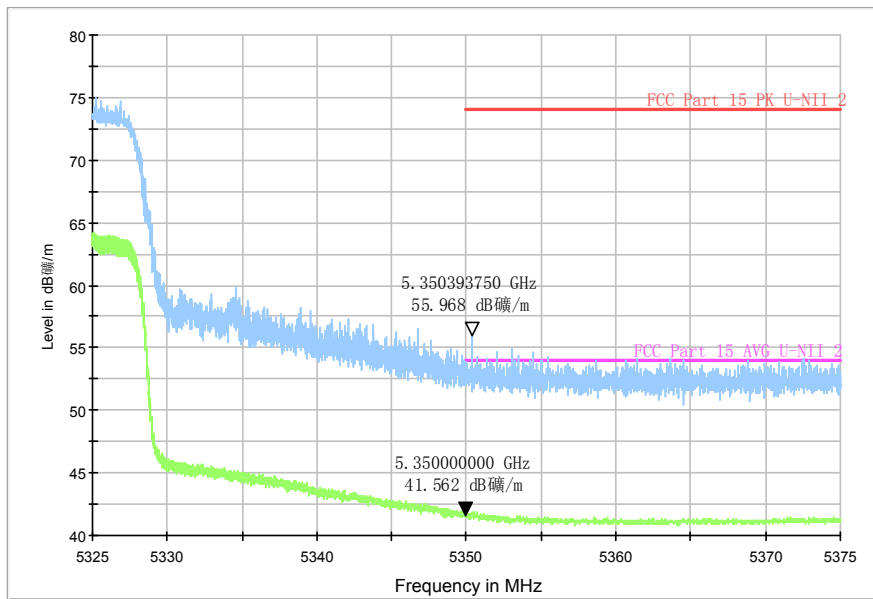


RE-Power\_5.125G-5.175GHz



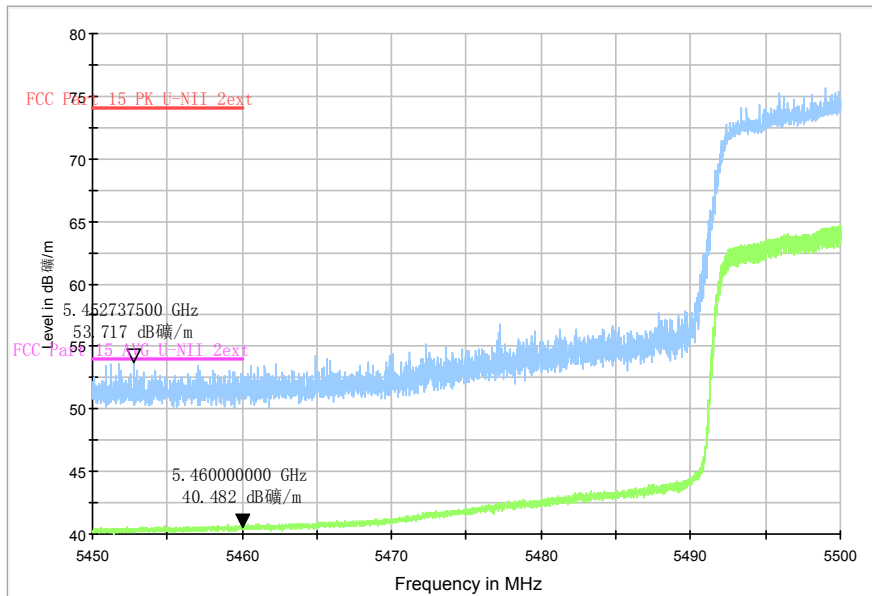
**Fig. 41 Band Edges (802.11n-HT40, 5190MHz)**

RE-Power\_5.325G-5.375GHz



**Fig. 42 Band Edges (802.11n-HT40, 5310MHz)**

RE-Power\_5.45G-5.5GHz



**Fig. 43 Band Edges (802.11n-HT40, 5510MHz)**

## 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.

### Measurement Results:

802.11a mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11a	36(5180MHz)	1 GHz ~ 6 GHz	Fig.44	P
		6 GHz ~ 18 GHz	Fig.45	P
	40(5200MHz)	30 MHz ~1 GHz	Fig.46	P
		1 GHz ~ 6 GHz	Fig.47	P
		6 GHz ~ 18 GHz	Fig.48	P
		18 GHz ~ 26.5 GHz	Fig.49	P
		26.5 GHz ~ 40 GHz	Fig.50	P
	48(5240MHz)	1 GHz ~ 6 GHz	Fig.51	P
		6 GHz ~ 18 GHz	Fig.52	P
	52(5260MHz)	1 GHz ~ 6 GHz	Fig.53	P
		6 GHz ~ 18 GHz	Fig.54	P
	56(5280MHz)	30 MHz ~1 GHz	Fig.55	P
		1 GHz ~ 6 GHz	Fig.56	P
		6 GHz ~ 18 GHz	Fig.57	P
		18 GHz ~ 26.5 GHz	Fig.58	P
		26.5 GHz ~ 40 GHz	Fig.59	P
	64(5320MHz)	1 GHz ~ 6 GHz	Fig.60	P
		6 GHz ~ 18 GHz	Fig.61	P
	100(5500MHz)	1 GHz ~ 6 GHz	Fig.62	P
		6 GHz ~ 18 GHz	Fig.63	P
	116(5580MHz)	30 MHz ~1 GHz	Fig.64	P
		1 GHz ~ 6 GHz	Fig.65	P
		6 GHz ~ 18 GHz	Fig.66	P
		18 GHz ~ 26.5 GHz	Fig.67	P
		26.5 GHz ~ 40 GHz	Fig.68	P
	140(5700MHz)	1 GHz ~ 6 GHz	Fig.69	P
		6 GHz ~ 18 GHz	Fig.70	P

**802.11n-HT20 mode**

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n -HT20	36(5180MHz)	1 GHz ~ 6 GHz	Fig.71	P
		6 GHz ~ 18 GHz	Fig.72	P
	40(5200MHz)	30 MHz ~1 GHz	Fig.73	P
		1 GHz ~ 6 GHz	Fig.74	P
		6 GHz ~ 18 GHz	Fig.75	P
		18 GHz ~ 26.5 GHz	Fig.76	P
		26.5 GHz ~ 40 GHz	Fig.77	P
	48(5240MHz)	1 GHz ~ 6 GHz	Fig.78	P
		6 GHz ~ 18 GHz	Fig.79	P
	52(5260MHz)	1 GHz ~ 6 GHz	Fig.80	P
		6 GHz ~ 18 GHz	Fig.81	P
	56(5280MHz)	30 MHz ~1 GHz	Fig.82	P
		1 GHz ~ 6 GHz	Fig.83	P
		6 GHz ~ 18 GHz	Fig.84	P
		18 GHz ~ 26.5 GHz	Fig.85	P
		26.5 GHz ~ 40 GHz	Fig.86	P
	64(5320MHz)	1 GHz ~ 6 GHz	Fig.87	P
		6 GHz ~ 18 GHz	Fig.88	P
	100(5500MHz)	1 GHz ~ 6 GHz	Fig.89	P
		6 GHz ~ 18 GHz	Fig.90	P
	116(5580MHz)	30 MHz ~1 GHz	Fig.91	P
		1 GHz ~ 6 GHz	Fig.92	P
		6 GHz ~ 18 GHz	Fig.93	P
		18 GHz ~ 26.5 GHz	Fig.94	P
		26.5 GHz ~ 40 GHz	Fig.95	P
	140(5700MHz)	1 GHz ~ 6 GHz	Fig.96	P
		6 GHz ~ 18 GHz	Fig.97	P

**802.11n-HT40 mode**

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n HT40	38(5190MHz)	30 MHz ~1 GHz	Fig.98	P
		1 GHz ~ 6 GHz	Fig.99	P
		6 GHz ~ 18 GHz	Fig.100	P
		18 GHz ~ 26.5 GHz	Fig.101	P
		26.5 GHz ~ 40 GHz	Fig.102	P
	46(5230MHz)	1 GHz ~ 6 GHz	Fig.103	P
		6 GHz ~ 18 GHz	Fig.104	P
	54(5270MHz)	30 MHz ~1 GHz	Fig.105	P
		1 GHz ~ 6 GHz	Fig.106	P
		6 GHz ~ 18 GHz	Fig.107	P
		18 GHz ~ 26.5 GHz	Fig.108	P
		26.5 GHz ~ 40 GHz	Fig.109	P
	62(5310MHz)	1 GHz ~ 6 GHz	Fig.110	P
		6 GHz ~ 18 GHz	Fig.111	P
	102(5510MHz)	1 GHz ~ 6 GHz	Fig.112	P
		6 GHz ~ 18 GHz	Fig.113	P
	110(5500MHz)	30 MHz ~1 GHz	Fig.114	P
		1 GHz ~ 6 GHz	Fig.115	P
		6 GHz ~ 18 GHz	Fig.116	P
		18 GHz ~ 26.5 GHz	Fig.117	P
26.5 GHz ~ 40 GHz		Fig.118	P	
134(5670MHz)	1 GHz ~ 6 GHz	Fig.119	P	
	6 GHz ~ 18 GHz	Fig.120	P	

**Conclusion: PASS**

**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:

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

**802.11a**

Channel 36

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P <sub>Mea</sub> (dBuV/m)	Polarization
5136.090	53.5	-35.1	34.6	54.000	H
17779.500	52.0	-18.5	45.6	24.900	V
17884.500	50.8	-18.5	45.6	23.700	V
17982.000	50.6	-17.7	45.6	22.700	V
17890.500	50.6	-18.5	45.6	23.500	V
17808.000	50.6	-18.5	45.6	23.500	V

Channel 40

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P <sub>Mea</sub> (dBuV/m)	Polarization
17872.500	50.3	-18.5	45.6	23.200	V
17803.500	50.1	-18.5	45.6	23.000	V
17848.500	49.8	-18.5	45.6	22.700	V
17835.000	49.8	-18.5	45.6	22.700	H
17838.000	49.7	-18.5	45.6	22.600	V
17712.000	49.7	-18.9	45.6	23.000	V

Channel 48

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P <sub>Mea</sub> (dBuV/m)	Polarization
17809.500	50.2	-18.5	45.6	23.100	V
17859.000	49.9	-18.5	45.6	22.800	V
17862.000	49.8	-18.5	45.6	22.700	V
17806.500	49.8	-18.5	45.6	22.700	V
17851.500	49.7	-18.5	45.6	22.600	V
17811.000	49.5	-18.5	45.6	22.400	H

Channel 52

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P <sub>Mea</sub> (dBuV/m)	Polarization
17835.000	37.9	-18.5	45.6	10.800	V
17827.500	37.6	-18.5	45.6	10.500	H
17845.500	37.6	-18.5	45.6	10.500	V
17796.000	37.6	-18.5	45.6	10.500	V
17832.000	37.4	-18.5	45.6	10.300	V
17863.500	37.3	-18.5	45.6	10.200	V

Channel 56

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P <sub>Mea</sub> (dBuV/m)	Polarization
17827.500	37.9	-18.5	45.6	10.800	V
17835.000	37.6	-18.5	45.6	10.500	H
17863.500	37.6	-18.5	45.6	10.500	V
17790.000	37.5	-18.5	45.6	10.400	H
17862.000	37.5	-18.5	45.6	10.400	V
17776.500	37.4	-18.5	45.6	10.300	V

Channel 64

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P <sub>Mea</sub> (dBuV/m)	Polarization
5350.000	40.5	-34.8	34.6	40.700	V
17827.500	37.6	-18.5	45.6	10.500	V
17811.000	37.5	-18.5	45.6	10.400	H
17779.500	37.4	-18.5	45.6	10.300	H
17800.500	37.4	-18.5	45.6	10.300	V
17799.000	37.4	-18.5	45.6	10.300	V

Channel 100

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P <sub>Mea</sub> (dBuV/m)	Polarization
5455.200	53.6	-34.9	34.6	53.900	V
17707.500	52.8	-18.9	45.6	26.100	V
17806.500	52.5	-18.5	45.6	25.400	V
17967.000	52.0	-17.7	45.6	24.100	V
17796.000	51.9	-18.5	45.6	24.800	V
17800.500	51.8	-18.5	45.6	24.700	V

Channel 116

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P <sub>Mea</sub> (dBuV/m)	Polarization
17982.000	51.7	-17.7	45.6	23.800	V
17754.000	51.3	-18.5	45.6	24.200	V
17835.000	51.3	-18.5	45.6	24.200	V
17719.500	51.2	-18.9	45.6	24.500	H
17971.500	51.1	-17.7	45.6	23.200	V
17928.000	51.1	-17.7	45.6	23.200	V



Channel 140

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P <sub>Mea</sub> (dBuV/m)	Polarization
17856.000	51.6	-18.5	45.6	24.500	V
17845.500	51.3	-18.5	45.6	24.200	V
17905.500	51.3	-18.5	45.6	24.200	V
17835.000	51.1	-18.5	45.6	24.000	V
17679.000	51.0	-18.9	45.6	24.300	V
17787.000	51.0	-18.5	45.6	23.900	V

**802.11n-HT20**

Channel 36

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P <sub>Mea</sub> (dBuV/m)	Polarization
5145.000	53.0	-35.1	34.6	53.500	V
17811.000	50.5	-18.5	45.6	23.400	V
17869.500	49.8	-18.5	45.6	22.700	V
17763.000	49.6	-18.5	45.6	22.500	V
17847.000	49.2	-18.5	45.6	22.100	H
17839.500	49.1	-18.5	45.6	22.000	V

Channel 40

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P <sub>Mea</sub> (dBuV/m)	Polarization
17862.000	50.0	-18.5	45.6	22.900	V
17677.500	49.1	-18.9	45.6	22.400	V
17908.500	49.1	-18.5	45.6	22.000	V
17806.500	48.9	-18.5	45.6	21.800	V
17905.500	48.8	-18.5	45.6	21.700	V
17872.500	48.8	-18.5	45.6	21.700	V

Channel 48

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P <sub>Mea</sub> (dBuV/m)	Polarization
17842.500	49.8	-18.5	45.6	22.700	V
17784.000	49.3	-18.5	45.6	22.200	V
17836.500	49.2	-18.5	45.6	22.100	H
17811.000	48.8	-18.5	45.6	21.700	V
17830.500	48.8	-18.5	45.6	21.700	H
17919.000	48.8	-17.7	45.6	20.900	V

Channel 52

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P <sub>Mea</sub> (dBuV/m)	Polarization
17835.000	37.9	-18.5	45.6	10.800	H
17799.000	37.6	-18.5	45.6	10.500	V
17766.000	37.6	-18.5	45.6	10.500	V
17806.500	37.5	-18.5	45.6	10.400	V
17863.500	37.5	-18.5	45.6	10.400	V
17803.500	37.4	-18.5	45.6	10.300	V

Channel 56

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P <sub>Mea</sub> (dBuV/m)	Polarization
17835.000	37.8	-18.5	45.6	10.700	V
17803.500	37.6	-18.5	45.6	10.500	V
17809.500	37.6	-18.5	45.6	10.500	V
17782.500	37.6	-18.5	45.6	10.500	V
17806.500	37.5	-18.5	45.6	10.400	V
17800.500	37.5	-18.5	45.6	10.400	H

Channel 64

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P <sub>Mea</sub> (dBuV/m)	Polarization
5350.000	40.6	-34.8	34.6	40.800	V
17845.500	37.7	-18.5	45.6	10.600	V
17835.000	37.7	-18.5	45.6	10.600	V
17803.500	37.6	-18.5	45.6	10.500	V
17832.000	37.6	-18.5	45.6	10.500	V
17779.500	37.6	-18.5	45.6	10.500	H

Channel 100

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P <sub>Mea</sub> (dBuV/m)	Polarization
5456.360	53.5	-34.9	34.6	53.800	V
17649.000	51.7	-18.9	45.6	25.000	V
17982.000	51.2	-17.7	45.6	23.300	H
17835.000	51.1	-18.5	45.6	24.000	V
17773.500	50.9	-18.5	45.6	23.800	V
17995.500	50.8	-17.7	45.6	22.900	V

Channel 116

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P <sub>Mea</sub> (dBuV/m)	Polarization
18000.000	51.5	-17.7	44.5	24.700	V
17782.500	50.9	-18.5	45.6	23.800	V
17769.000	50.7	-18.5	45.6	23.600	V
17752.500	50.7	-18.5	45.6	23.600	H
17890.500	50.6	-18.5	45.6	23.500	V
17707.500	50.6	-18.9	45.6	23.900	V

Channel 140

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P <sub>Mea</sub> (dBuV/m)	Polarization
17853.000	51.5	-18.5	45.6	24.400	V
17982.000	51.4	-17.7	45.6	23.500	V
17928.000	51.4	-17.7	45.6	23.500	H
17821.500	51.2	-18.5	45.6	24.100	V
17986.500	51.2	-17.7	45.6	23.300	H
17782.500	51.1	-18.5	45.6	24.000	V

**802.11n-HT40**

Channel 38

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P <sub>Mea</sub> (dBuV/m)	Polarization
5148.900	57.8	-35.1	34.6	58.300	V
17841.000	49.2	-18.5	45.6	22.100	V
17782.500	49.0	-18.5	45.6	21.900	H
17806.500	48.9	-18.5	45.6	21.800	V
17752.500	48.8	-18.5	45.6	21.700	V
17787.000	48.8	-18.5	45.6	21.700	H

Channel 46

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P <sub>Mea</sub> (dBuV/m)	Polarization
17809.500	49.2	-18.5	45.6	22.100	V
17853.000	49.2	-18.5	45.6	22.100	V
17749.500	49.1	-18.5	45.6	22.000	V
17776.500	49.1	-18.5	45.6	22.000	V
17841.000	48.9	-18.5	45.6	21.800	V
17835.000	48.7	-18.5	45.6	21.600	H

Channel 54

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P <sub>Mea</sub> (dBuV/m)	Polarization
17845.500	37.7	-18.5	45.6	10.600	H
17835.000	37.6	-18.5	45.6	10.500	V
17827.500	37.6	-18.5	45.6	10.500	V
17799.000	37.5	-18.5	45.6	10.400	H
17800.500	37.5	-18.5	45.6	10.400	V
17862.000	37.5	-18.5	45.6	10.400	V

Channel 62

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P <sub>Mea</sub> (dBuV/m)	Polarization
5350.000	41.6	-34.8	34.6	41.800	V
17835.000	37.8	-18.5	45.6	10.700	V
17776.500	37.7	-18.5	45.6	10.600	V
17824.500	37.6	-18.5	45.6	10.500	V
17806.500	37.6	-18.5	45.6	10.500	H
17799.000	37.5	-18.5	45.6	10.400	V

Channel 102

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P <sub>Mea</sub> (dBuV/m)	Polarization
5452.700	53.7	-34.9	34.6	54.000	V
17976.000	52.3	-17.7	45.6	24.400	V
17893.500	51.6	-18.5	45.6	24.500	H
17863.500	51.5	-18.5	45.6	24.400	V
17991.000	51.5	-17.7	45.6	23.600	V
17676.000	51.3	-18.9	45.6	24.600	V

Channel 110

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P <sub>Mea</sub> (dBuV/m)	Polarization
17973.000	51.9	-17.7	45.6	24.000	V
17796.000	51.6	-18.5	45.6	24.500	V
17611.500	51.2	-18.9	45.6	24.500	V
17982.000	51.2	-17.7	45.6	23.300	H
17838.000	51.1	-18.5	45.6	24.000	V
17949.000	51.1	-17.7	45.6	23.200	V

Channel 134

Frequency(MHz)	Result (dBuV/m)	Cable Loss	Antenna Factor	P <sub>Mea</sub> (dBuV/m)	Polarization
17832.000	52.2	-18.5	45.6	25.100	V
17835.000	51.6	-18.5	45.6	24.500	V
17811.000	51.4	-18.5	45.6	24.300	V
17998.500	51.3	-17.7	45.6	23.400	V
17922.000	51.1	-17.7	45.6	23.200	V
17965.500	50.9	-17.7	45.6	23.000	V

Test graphs as below:

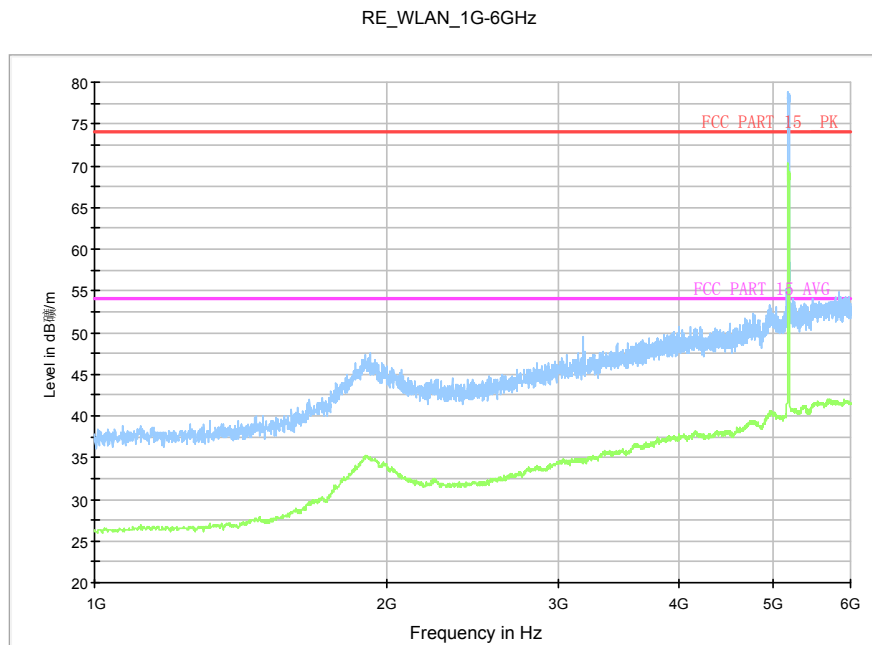
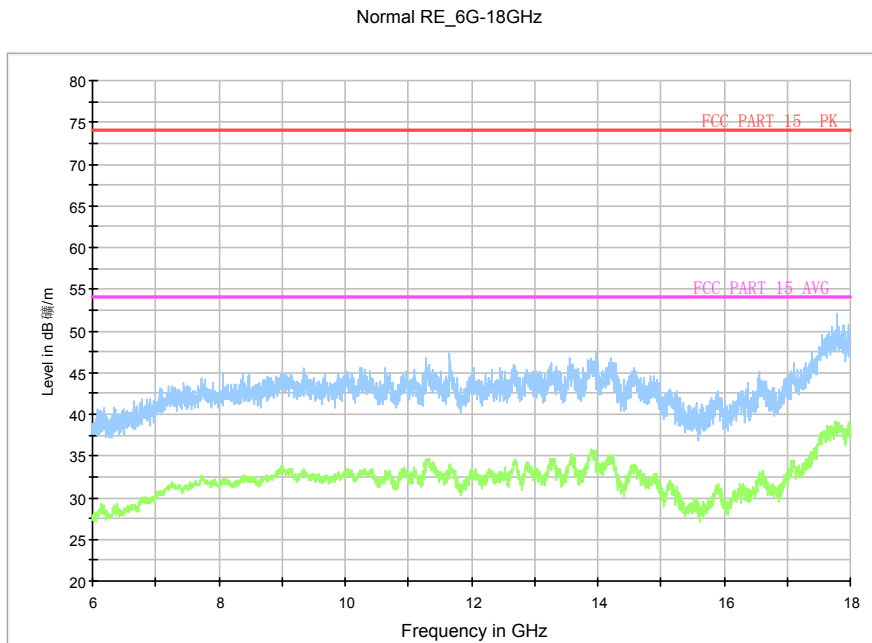
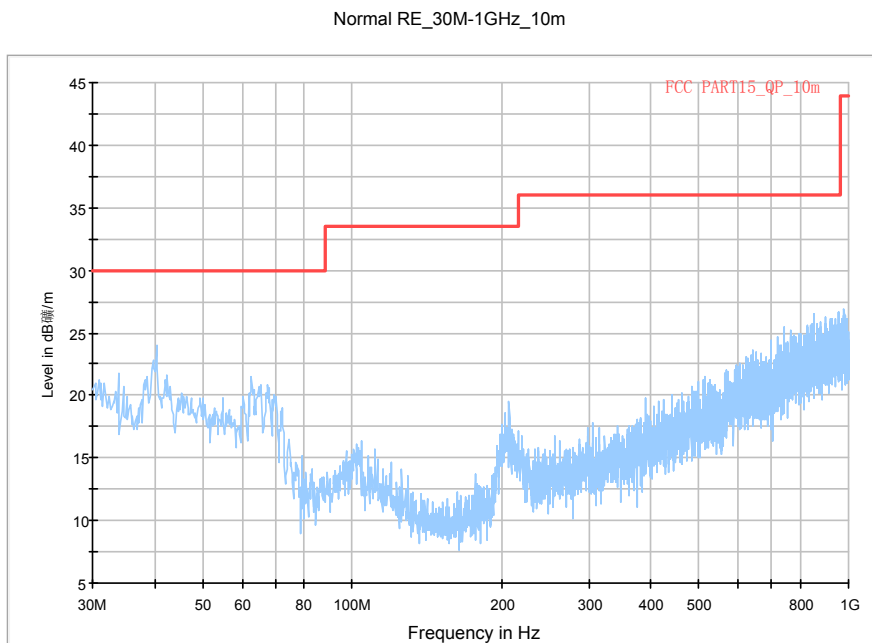


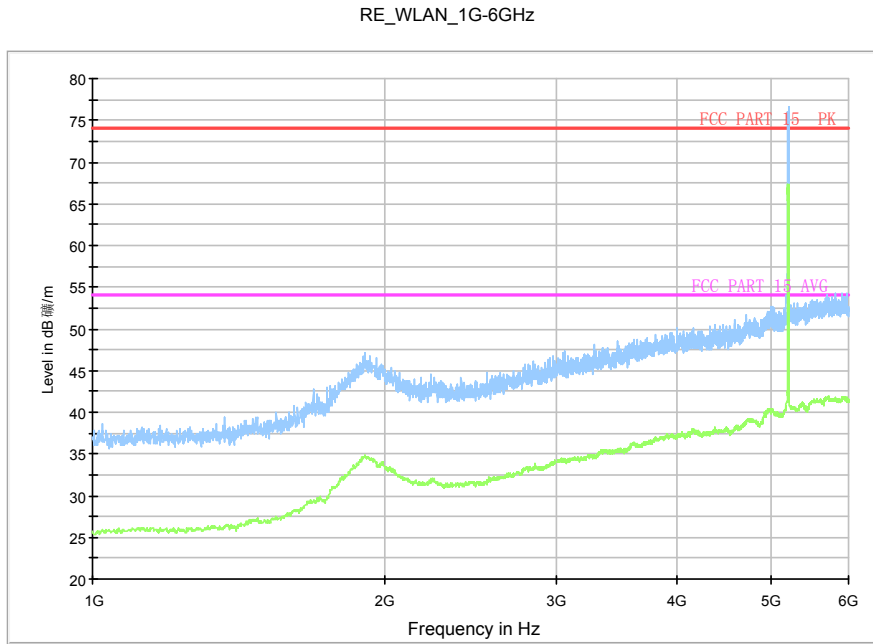
Fig. 44 Radiated Spurious Emission (802.11a, ch36, 1 GHz-6 GHz)



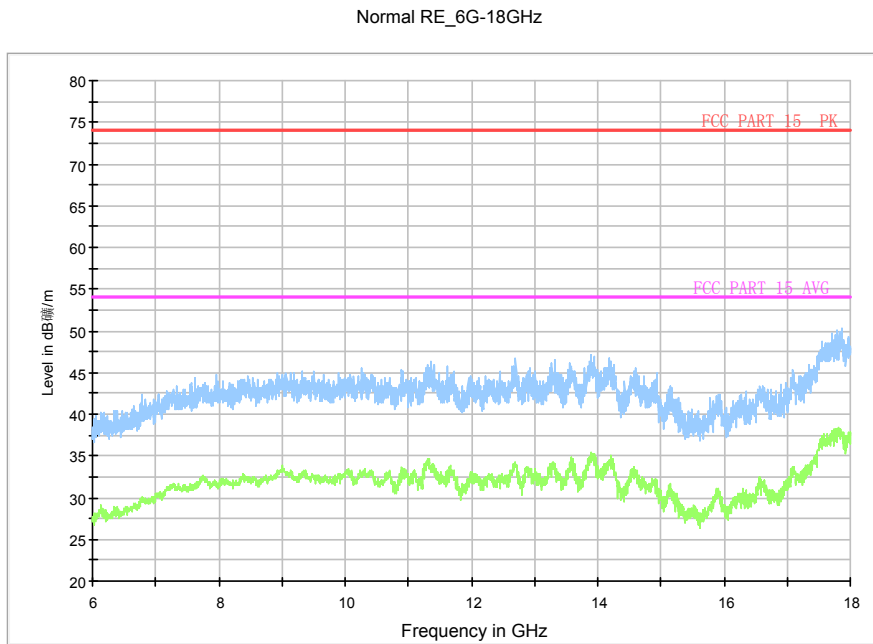
**Fig. 45 Radiated Spurious Emission (802.11a, ch36, 6 GHz-18 GHz)**



**Fig. 46 Radiated Spurious Emission (802.11a, ch40, 30 MHz-1 GHz)**

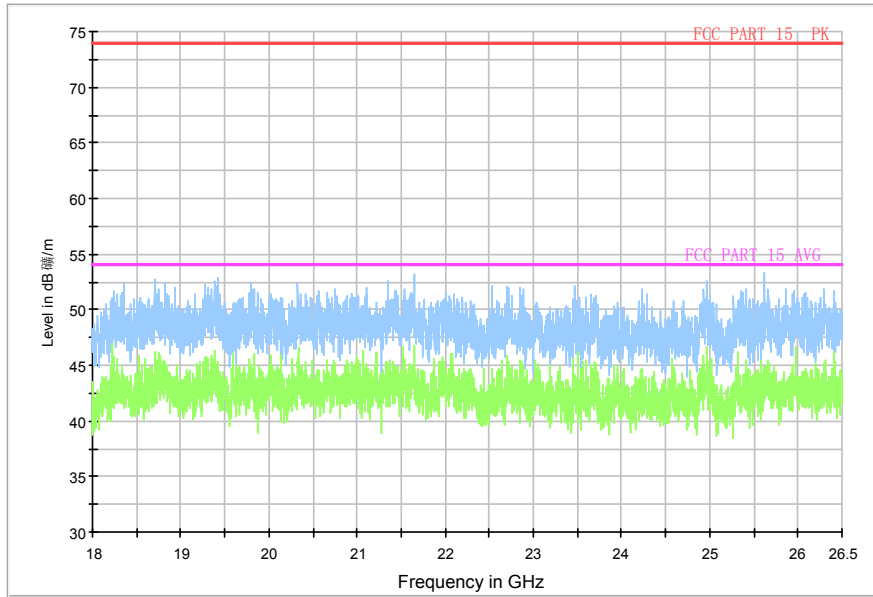


**Fig. 47 Radiated Spurious Emission (802.11a, ch40, 1 GHz-6 GHz)**



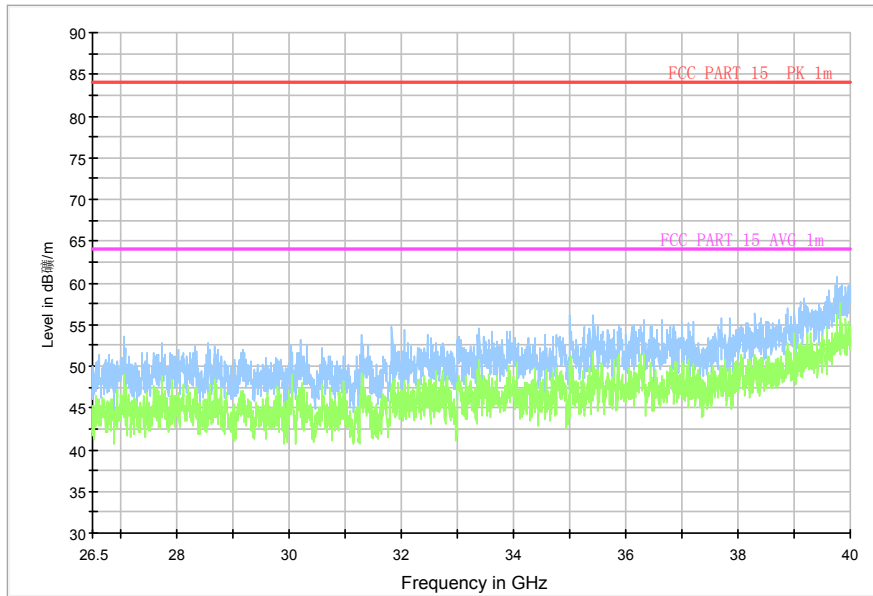
**Fig. 48 Radiated Spurious Emission (802.11a, ch40, 6 GHz-18 GHz)**

Normal RE\_18G-26.5GHz



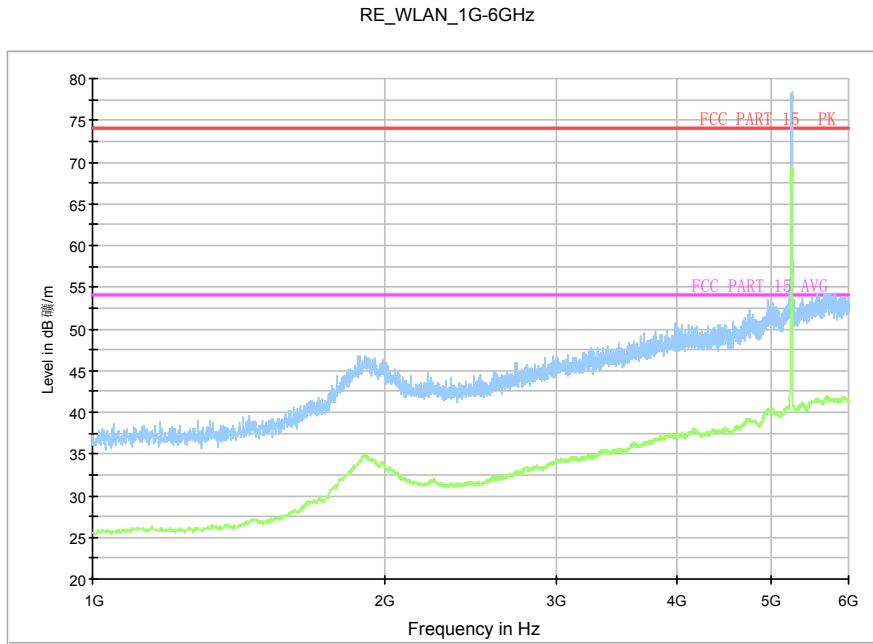
**Fig. 49 Radiated Spurious Emission (802.11a, ch40, 18 GHz-26.5 GHz)**

Normal RE\_26.5G-40GHz

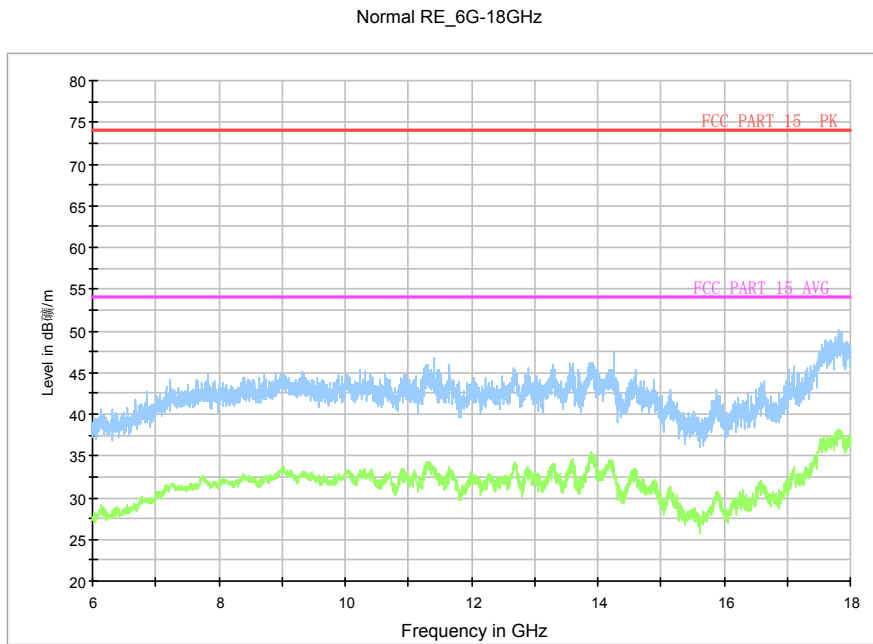


**Fig. 50 Radiated Spurious Emission (802.11a, ch40, 26.5 GHz-40 GHz)**

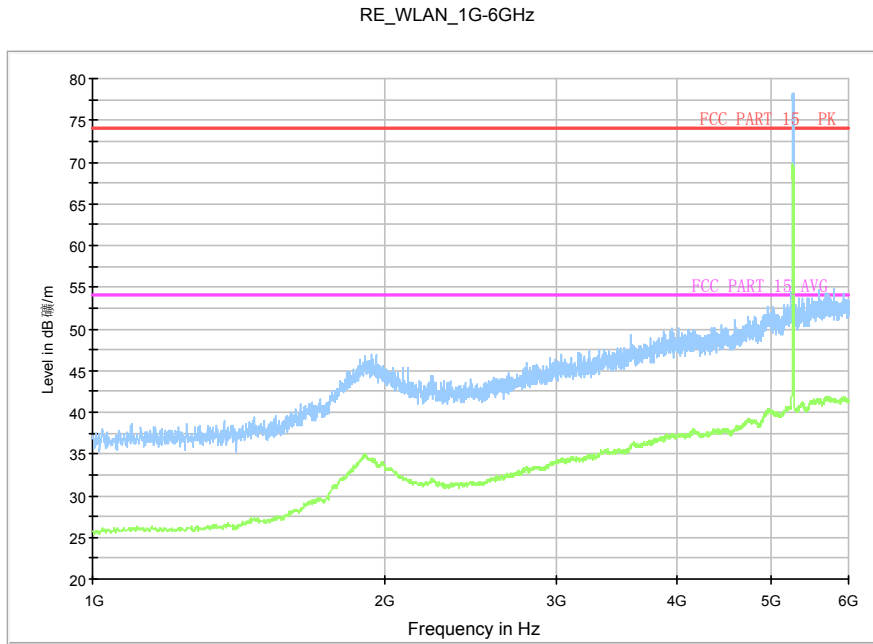




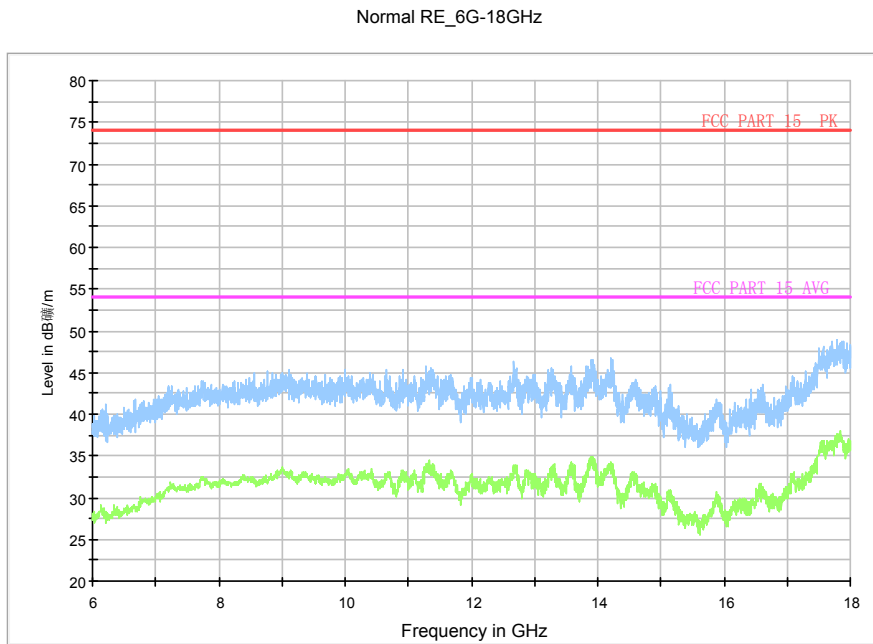
**Fig. 51 Radiated Spurious Emission (802.11a, ch48, 1 GHz-6 GHz)**



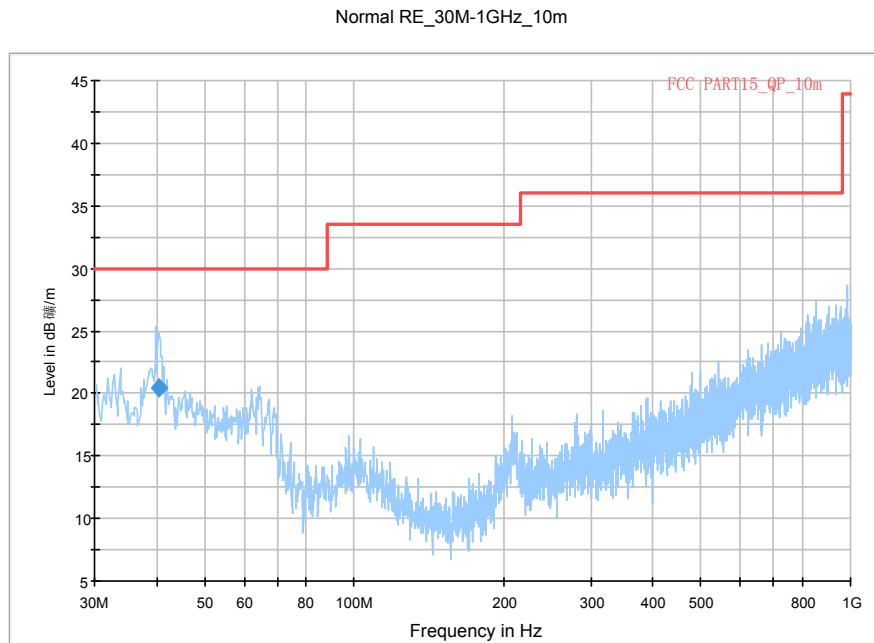
**Fig. 52 Radiated Spurious Emission (802.11a, ch48, 6 GHz-18 GHz)**



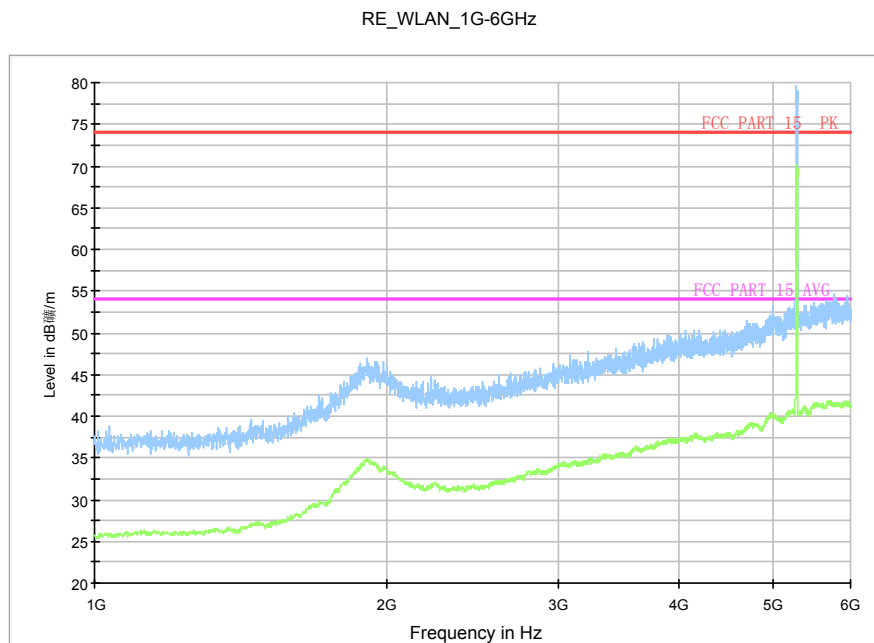
**Fig. 53 Radiated Spurious Emission (802.11a, ch52, 1 GHz-6 GHz)**



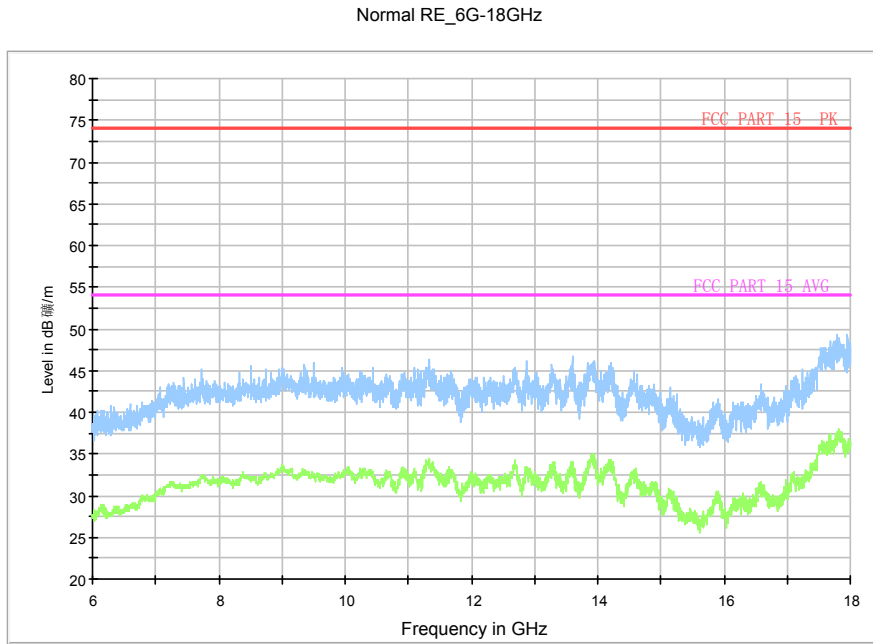
**Fig. 54 Radiated Spurious Emission (802.11a, ch52, 6 GHz-18 GHz)**



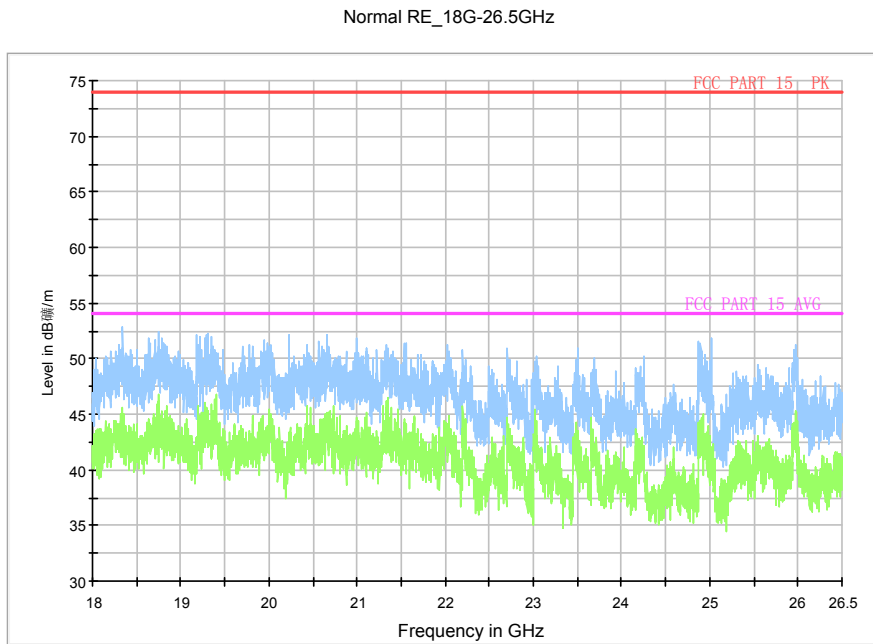
**Fig. 55 Radiated Spurious Emission (802.11a, ch56, 30 MHz-1 GHz)**



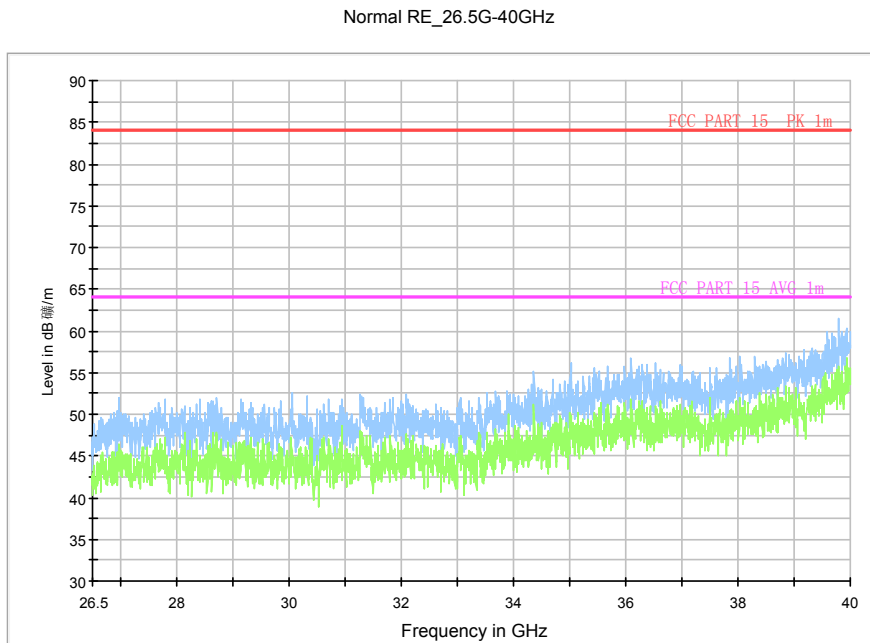
**Fig. 56 Radiated Spurious Emission (802.11a, ch56, 1 GHz-6 GHz)**



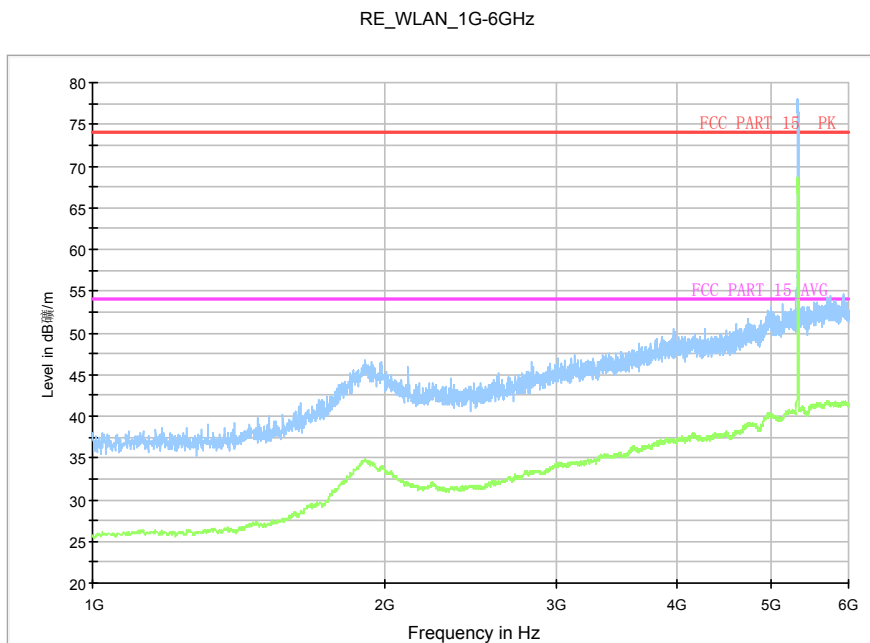
**Fig. 57 Radiated Spurious Emission (802.11a, ch56, 6 GHz-18 GHz)**



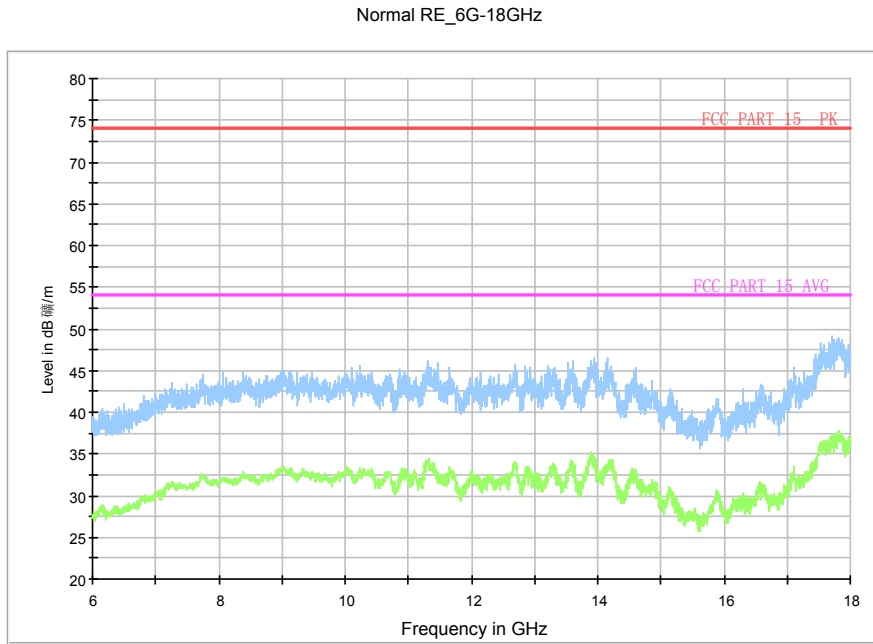
**Fig. 58 Radiated Spurious Emission (802.11a, ch56, 18 GHz-26.5 GHz)**



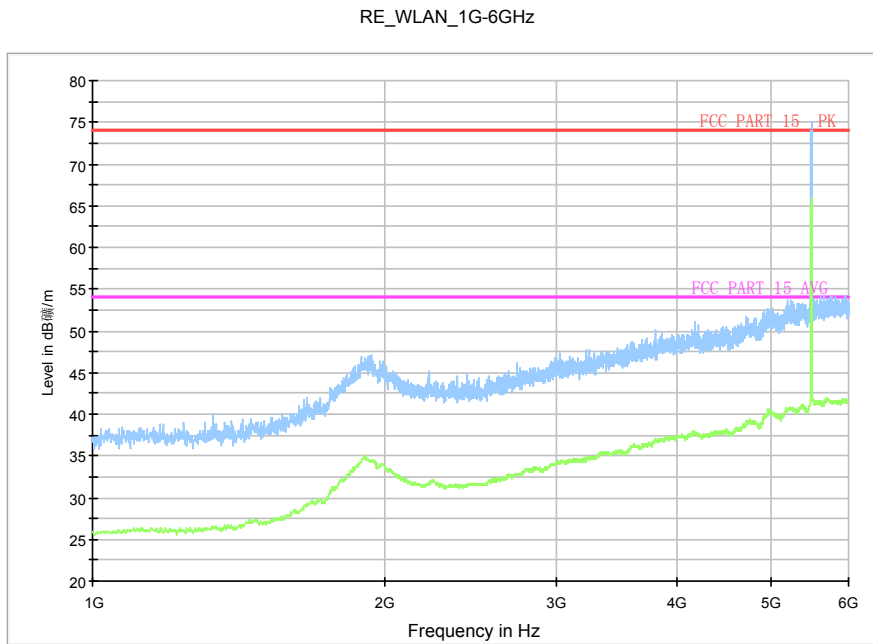
**Fig. 59 Radiated Spurious Emission (802.11a, ch56, 26.5 GHz-40 GHz)**



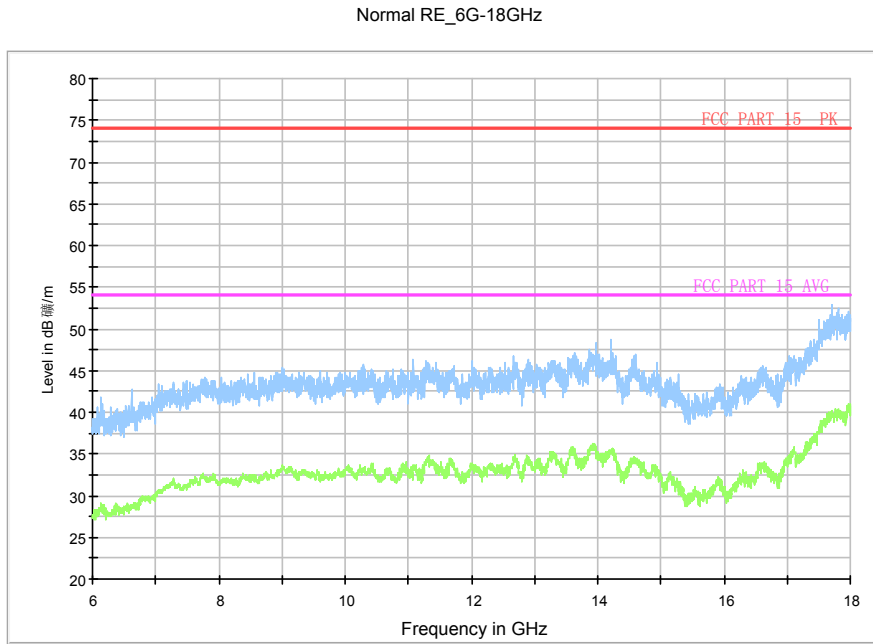
**Fig. 60 Radiated Spurious Emission (802.11a, ch64, 1 GHz-6 GHz)**



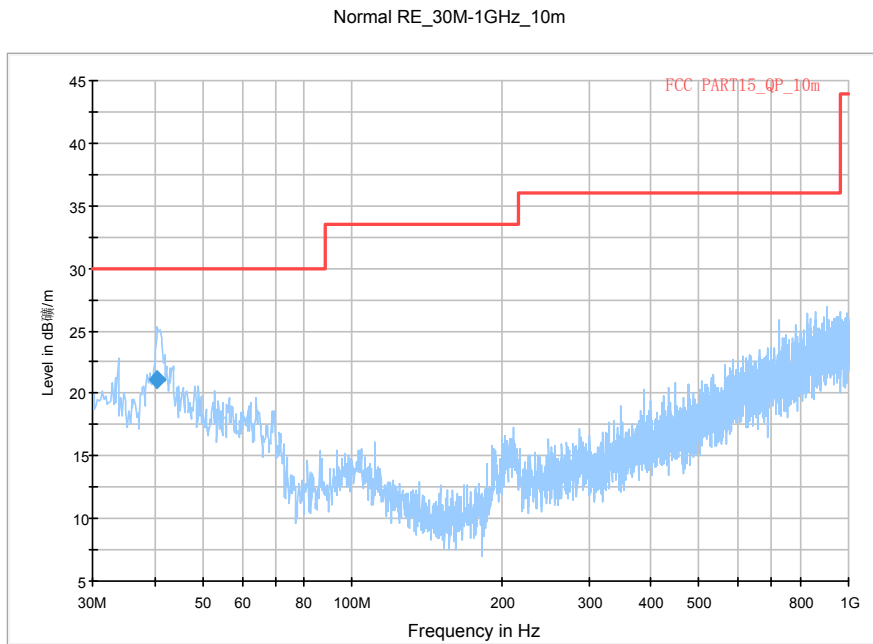
**Fig. 61 Radiated Spurious Emission (802.11a, ch64, 6 GHz-18 GHz)**



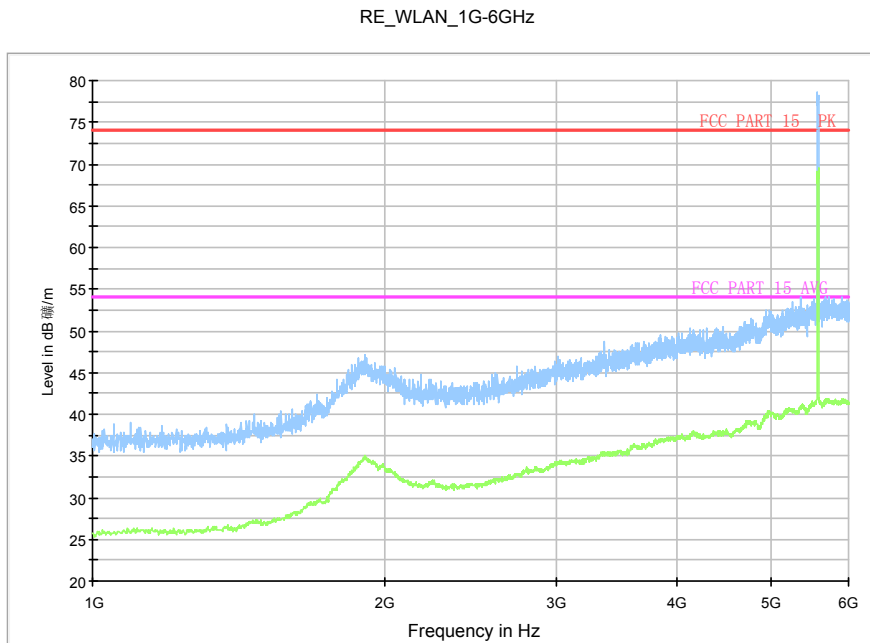
**Fig. 62 Radiated Spurious Emission (802.11a, ch100, 1 GHz-6 GHz)**



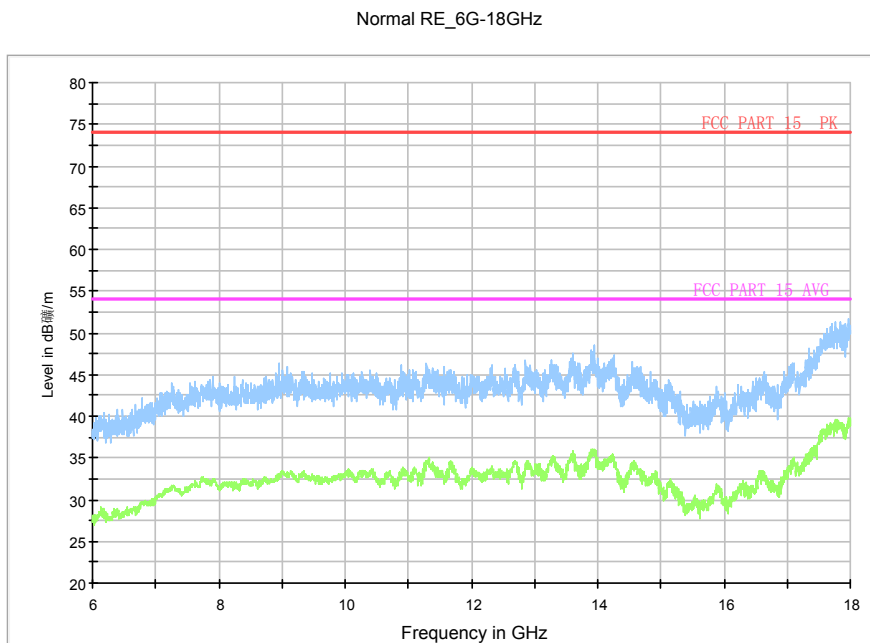
**Fig. 63 Radiated Spurious Emission (802.11a, ch100, 6 GHz-18 GHz)**



**Fig. 64 Radiated Spurious Emission (802.11a, ch116, 30 MHz-1 GHz)**



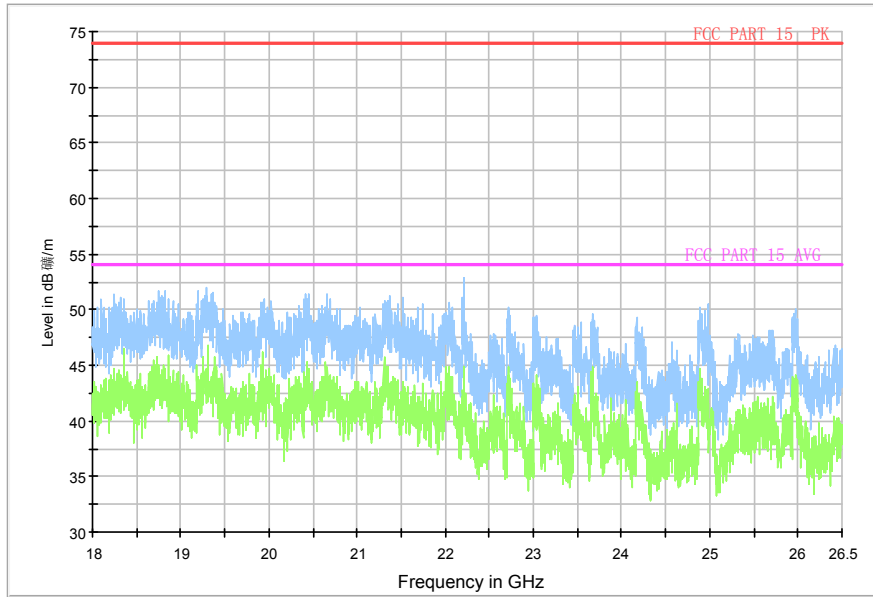
**Fig. 65 Radiated Spurious Emission (802.11a, ch116, 1 GHz-6 GHz)**



**Fig. 66 Radiated Spurious Emission (802.11a, ch116, 6 GHz-18 GHz)**

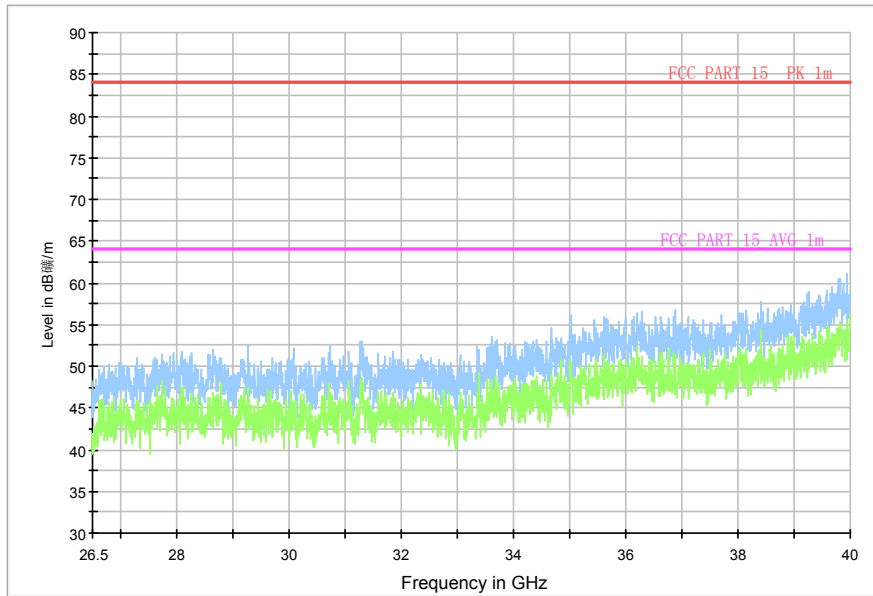


Normal RE\_18G-26.5GHz

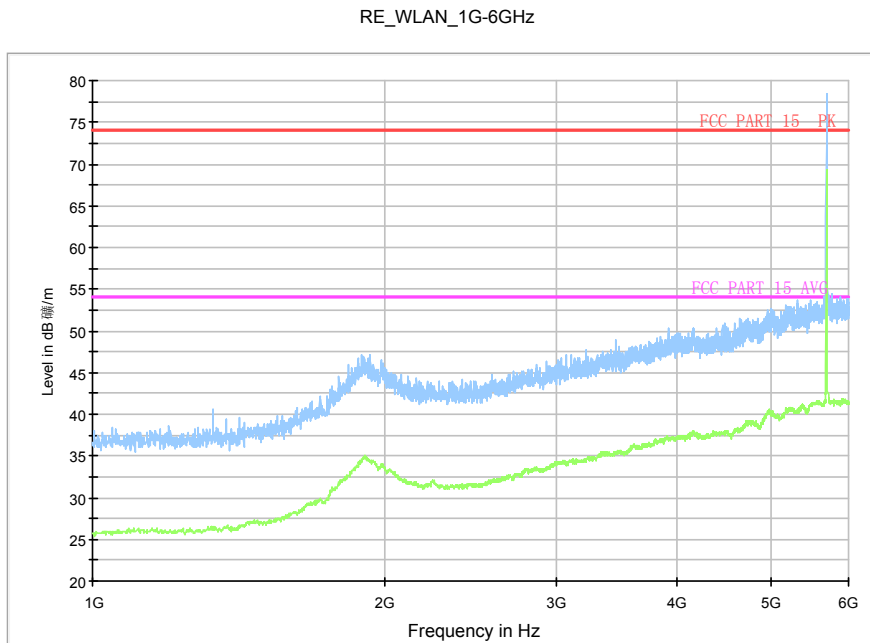


**Fig. 67 Radiated Spurious Emission (802.11a, ch116, 18 GHz-26.5 GHz)**

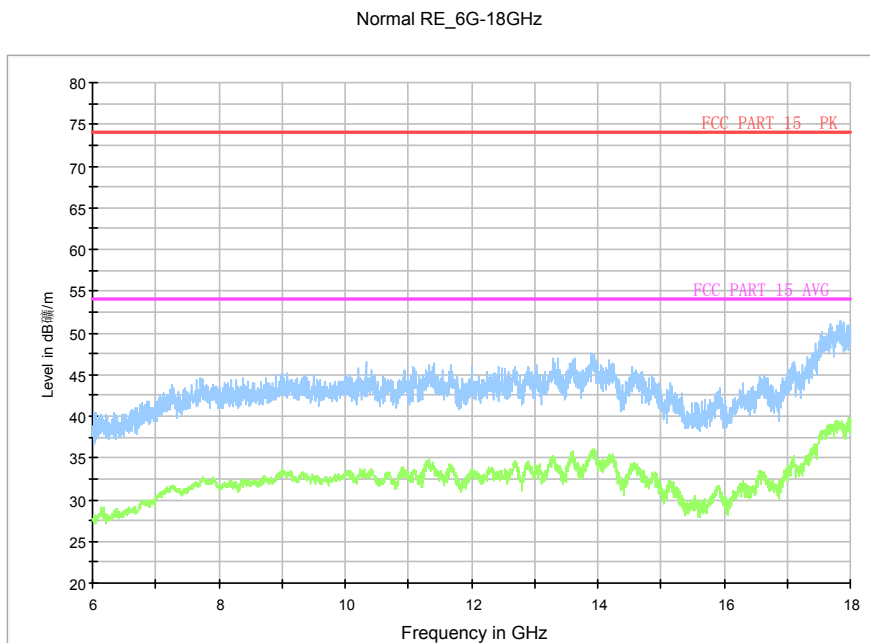
Normal RE\_26.5G-40GHz



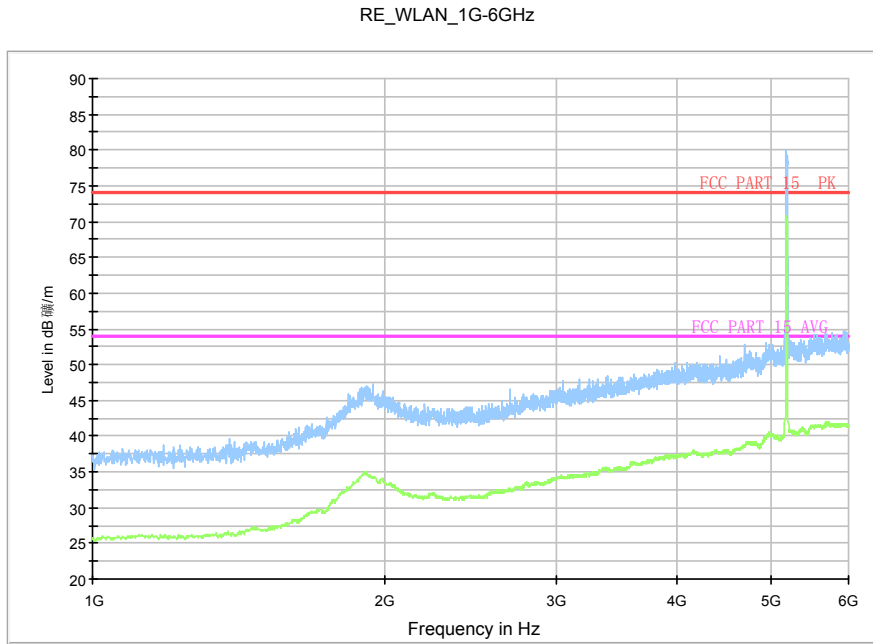
**Fig. 68 Radiated Spurious Emission (802.11a, ch116, 26.5 GHz-40 GHz)**



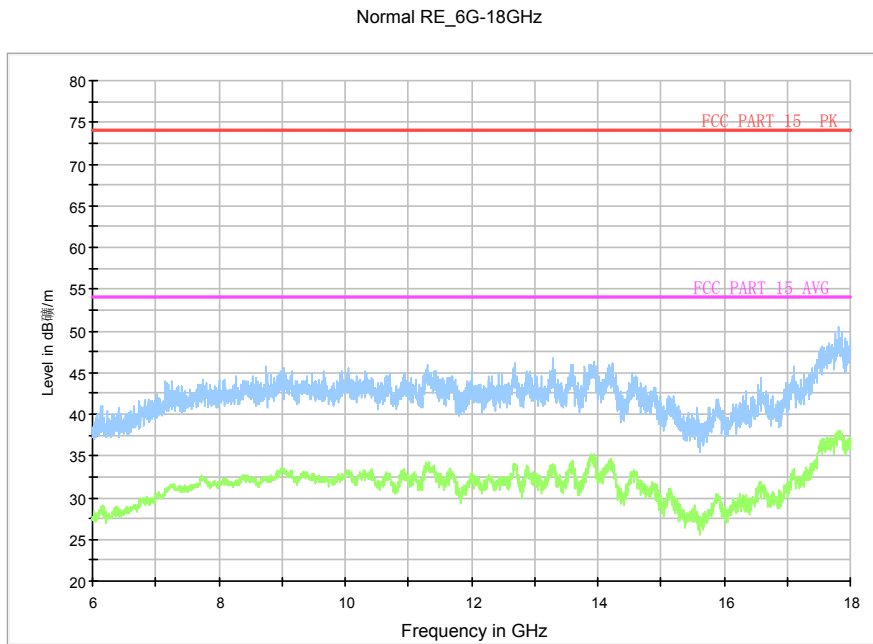
**Fig. 69 Radiated Spurious Emission (802.11a, ch140, 1 GHz-6 GHz)**



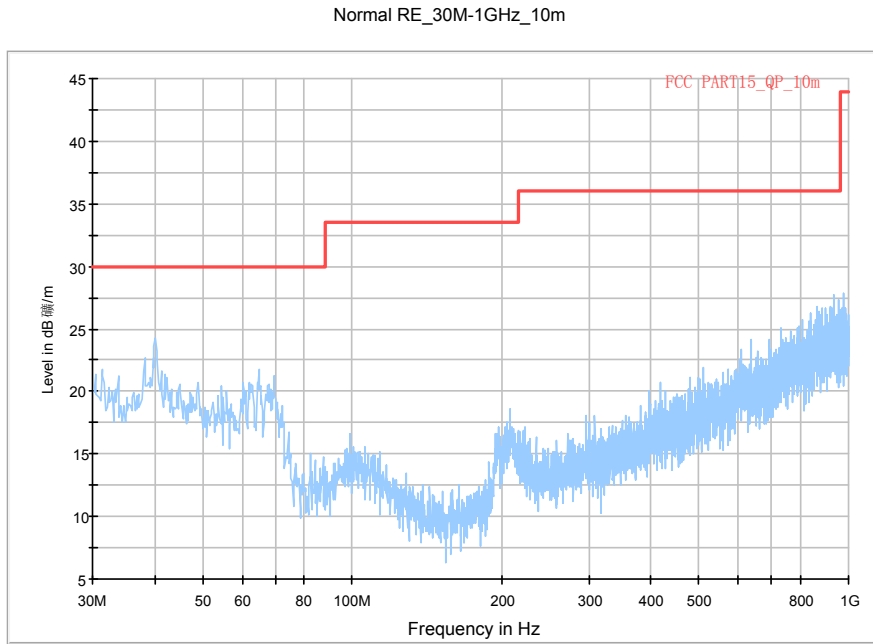
**Fig. 70 Radiated Spurious Emission (802.11a, ch140, 6 GHz-18 GHz)**



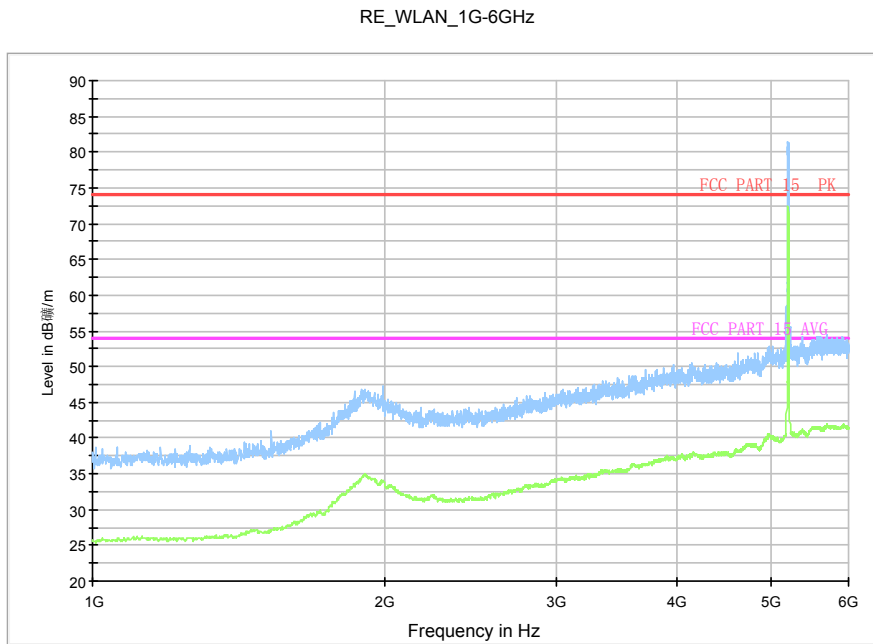
**Fig. 71 Radiated Spurious Emission (802.11n-HT20, ch36, 1 GHz-6 GHz)**



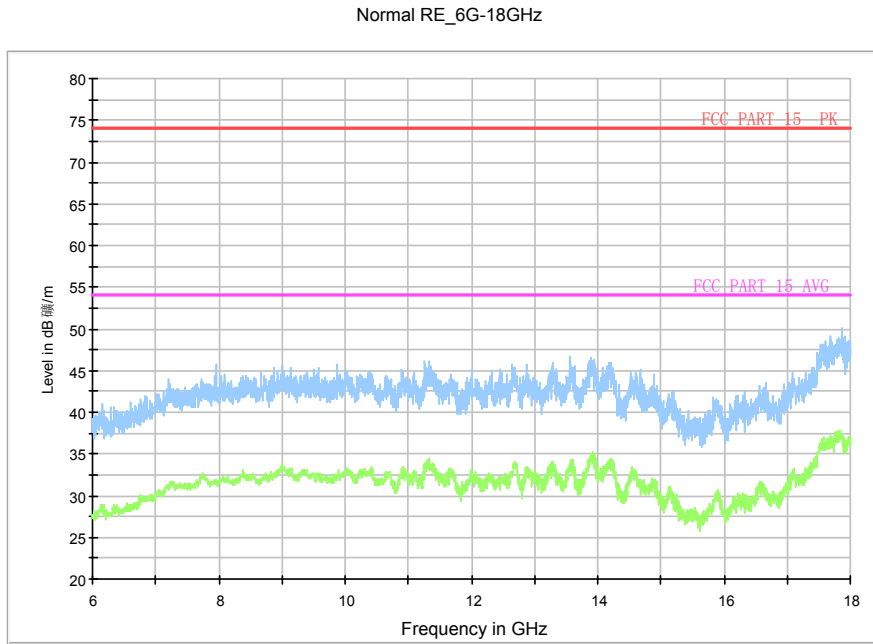
**Fig. 72 Radiated Spurious Emission (802.11n-HT20, ch36, 6 GHz-18 GHz)**



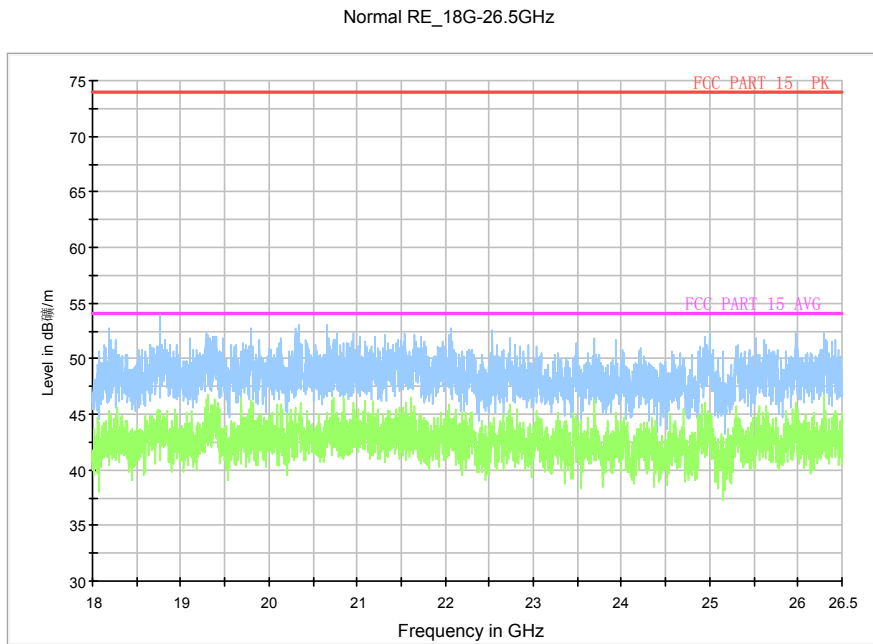
**Fig. 73 Radiated Spurious Emission (802.11n-HT20, ch40, 30 MHz-1 GHz)**



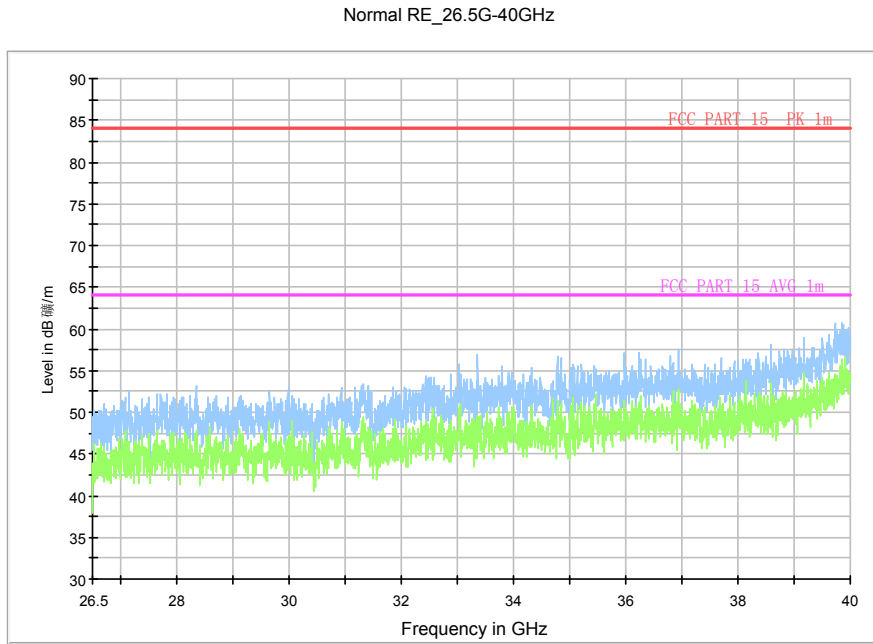
**Fig. 74 Radiated Spurious Emission (802.11n-HT20, ch40, 1 GHz-6 GHz)**



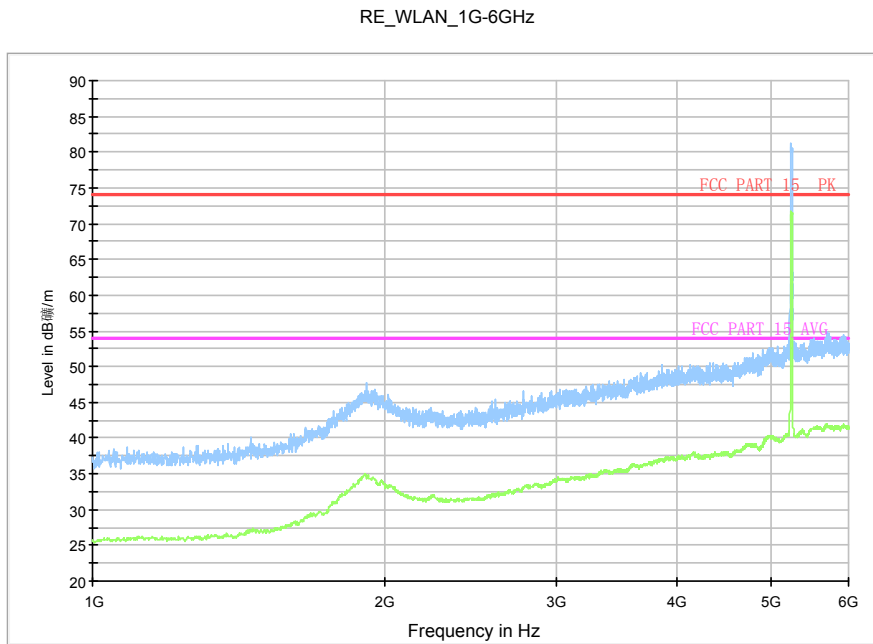
**Fig. 75 Radiated Spurious Emission (802.11n-HT20, ch40, 6 GHz-18 GHz)**



**Fig. 76 Radiated Spurious Emission (802.11n-HT20, ch40, 18 GHz-26.5 GHz)**



**Fig. 77 Radiated Spurious Emission (802.11n-HT20, ch40, 26.5 GHz-40 GHz)**



**Fig. 78 Radiated Spurious Emission (802.11n-HT20, ch48, 1 GHz-6 GHz)**