FCC REPORT

Product Name	:	set top box
Trade mark	:	NA
Model	:	Claro STB SEI800CCOA
FCC ID	:	2AOVU-SEI800CCOA
Report Number	:	BLA-EMC-202103-A5205
Date of sample receipt	:	2021/3/17
Date of Test	:	2021/3/17 to 2021/4/15
Date of Issue	:	2021/4/16
Test standard	:	FCC CFR Title 47 Part 15 Subpart E Section 15.407
Test result	:	PASS

Prepared for:

SHENZHEN SEI Robotics Co.,Ltd
4thfloor, Productivity Building D, #5 Hi-Tech Middle 2nd Road, Shenzhen Hi-Tech Industrial Park, Nanshan District, Shenzhen 518057, P.R.China.

Prepared by:

BlueAsia of Technical Services(Shenzhen) Co.,Ltd.
Building C, No. 107, Shihuan Road, Shiyan Sub-District, Baoan District, Shenzhen, Guangdong Province, China
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Compiled by: Sven

Review by: Sweet. Liang

Approved by:

Date: 2021/4/16

Version

Version No.	Date	Description
00	*2021/4/16*	*Original*

Contents

1 Test Summary

Test Item	Section in CFR 47	Result
Antenna requirement	15.203/15.407 (g)	Pass
AC Power Line Conducted Emission	15.207	Pass
Conducted Peak Output Power	15.407 (a)	Pass
26dB Occupied Bandwidth	15.407 (a)	Pass
6dB Emission Bandwidth	15.407(e)	Pass
Power Spectral Density	15.407 (a)	Pass
Band Edge	15.407(b)	Pass
Spurious Emission	15.205/15.209	Pass
Frequency Stability	15.407(g)	Pass

Pass: The EUT complies with the essential requirements in the standard.

2 General Information

2.1 Client Information

Applicant	SHENZHEN SEI Robotics Co.,Ltd
Address	4thfloor, Productivity Building D, #5 Hi-Tech Middle 2nd Road, Shenzhen Hi-Tech Industrial Park, Nanshan District, Shenzhen 518057, P.R.China.
Manufacturer	SHENZHEN SEI Robotics Co.,Ltd
Address	4thfloor, Productivity Building D, #5 Hi-Tech Middle 2nd Road , Shenzhen Hi-Tech Industrial Park, Nanshan District, Shenzhen 518057, P.R.China.
Factory	SHENZHEN SEI Robotics Co.,Ltd
Address	4thfloor, Productivity Building D, #5 Hi-Tech Middle 2nd Road , Shenzhen Hi-Tech Industrial Park, Nanshan District, Shenzhen 518057, P.R.China.
Product Name	set top box
Test Model No.	SEI800CCOA

2.2 General Description of E.U.T.

Operation Frequency:	Band 1 : 5180MHz-5240MHz; Band 4 : 5745MHz-5825MHz
Operation mode:	Indoor used
Channel numbers:	Band 1: 802.11a/802.11n(HT20)/802.11ac(HT20): 4, 802.11n(HT40)/802.11ac(HT40):2, 802.11ac(HT80): 1
	Band 4: 802.11a/802.11(HT20)/802.11ac(HT20): 5, 802.11n(HT40)/802.11ac(HT40): 2, 802.11ac(HT80): 1
Channel separation:	802.11a/n/ac(HT2): 20MHz, 802.11n/ac(HT40): 40MHz, 802.11ac(HT80): 80MHz
Modulation technology: (IEEE 802.11a/n/ac)	BPSK, QPSK,16-QAM, 64-QAM, 256-QAM
Data speed(IEEE 802.11a)	6Mbps, 9Mbps,12Mbps,18Mbps, 24Mbps,36Mbps,48Mbps, 54Mbps
Data speed (IEEE 802.11n/ac):	Up to 866.7Mbps
Antenna Type:	Internal antenna
Antenna gain:	1.9dBi(Provided by the customer)
Power supply:	DC12V
Note:	Antenna number : 2 SISO mode： 802.11a MIMO mode： 802.11n(HT20)/ 802.11n(HT40)/ 802.11ac(HT20)/ 802.11ac(HT40)/ 802.11ac(HT80) Directional gain of MIMO mode:2+10log2=5.01dBi
Remark:The Antenna Gain is supplied by the customer	

Operation Frequency each of channel

Band 1: 5150-5250MHz					
802.11a/802.11n20		802.11n40		802.11ac80	
Channel	Frequency	Channel	Frequency	Channel	Frequency
36	5180MHz	38	5190MHz	42	5210MHz
40	5200MHz	46	5230MHz		
44	5220MHz				
48	5240MHz				
Band 4					
802.11a/802.11n20		802.11n40		802.11ac80	
Channel	Frequency	Channel	Frequency	Channel	Frequency
149	5745MHz	151	5755MHz	155	5775MHz
153	5765MHz	159	5795MHz		
157	5785MHz				
161	5805MHz				
165	5825MHz				

Note:
In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

Band 1					
802.11a/802.11n20		802.11n40		802.11ac	
Channel	Frequency	Channel	Frequency	Channel	Frequency
The lowest channel	5180MHz	The lowest channel	5190MHz	The middle channel	5210MHz
The middle channel	5200MHz	The highest channel	5230MHz		
The highest channel	5240MHz				
Band 4					
802.11a/802.11n20		802.11n40			
Channel	Frequency	Channel	Frequency	Channel	Frequency
The lowest channel	5745MHz	The lowest channel	5755MHz	The middle channel	5775MHz
The middle channel	5785MHz	The highest channel	5795MHz		
The highest channel	5825MHz				

2.3 Test environment and mode

Operating Environment:	
Temperature:	24.0 °C
Humidity:	54 % RH
Atmospheric Pressure:	1010 mbar
Test mode:	
Continuously transmitting mode	Keep the EUT in 100% duty cycle transmitting with modulation.

We have verified the construction and function in typical operation. All the test modes were carried out with the EUT in transmitting operation, which was shown in this test report and defined as follows:

Per-scan all kind of data rate in lowest channel, and found the follow list which it was worst case.

Mode	Data rate
802.11a	6Mbps
802.11n(HT20)	6.5Mbps
802.11n(HT40)	13Mbps
802.11ac(HT20)	6.5Mbps
802.11ac(HT40)	13.5Mbps
802.11ac(HT80)	29.3Mbps

Final Test Mode:

According to ANSI C63.4 standards, the test results are both the “worst case” and “worst setup” 6 Mbps for 802.11a,6.5 Mbps for 802.11n20 and 13 Mbps for 802.11n40. All test items for 802.11a and 802.11n were performed with duty cycle above 98%, meet the requirements of KDB789033.

2.4 Description of Support Units

Manufacturer	Description	Model	Serial Number
Lenovo	Notebook computer	E470C	PF-10FB5C

2.5 Laboratory Location

All tests were performed at:

BlueAsia of Technical Services(Shenzhen) Co., Ltd.

Building C, No. 107, Shihuan Road, Shiyan Sub-District, Baoan District, Shenzhen, Guangdong Province, China

Telephone: TEL: +86-755-28682673 FAX: +86-755-28682673

No tests were sub-contracted.

2.6 Test Instruments list

Test Equipment Of Power Spectrum Density					
Equipment	**Manufacturer**	**Model**	**S/N**	**Cal.Date**	**Cal.Due**
Spectrum	R&S	FSP40	100817	2020/10/12	2021/10/11
Spectrum	Agilent	N9020A	MY49100060	2020/10/12	2021/10/11
Signal Generator	Agilent	N5182A	MY49060650	2020/10/12	2021/10/11
Signal Generator	Agilent	E8257D	MY44320250	2020/10/12	2021/10/11

Test Equipment Of Conducted Peak Output Power					
Equipment	**Manufacturer**	**Model**	**S/N**	**Cal.Date**	**Cal.Due**
Spectrum	R&S	FSP40	100817	2020/10/12	2021/10/11
Spectrum	Agilent	N9020A	MY49100060	2020/10/12	2021/10/11
Signal Generator	Agilent	N5182A	MY49060650	2020/10/12	2021/10/11
Signal Generator	Agilent	E8257D	MY44320250	2020/10/12	2021/10/11

Test Equipment Of Minimum 6dB Bandwidth					
Equipment	**Manufacturer**	**Model**	**S/N**	**Cal.Date**	**Cal.Due**
Spectrum	R&S	FSP40	100817	2020/10/12	2021/10/11
Spectrum	Agilent	N9020A	MY49100060	2020/10/12	2021/10/11
Signal Generator	Agilent	N5182A	MY49060650	2020/10/12	2021/10/11

Signal Generator	Agilent	E8257D	MY44320250	2020/10/12	2021/10/11

Test Equipment Of Conducted Emissions at AC Power Line (150kHz-30MHz)

Equipment	Manufacturer	Model	S/N	Cal.Date	Cal.Due
Shield room	SKET	833	N/A	2020/11/25	2023/11/24
Receiver	R&S	ESPI3	101082	2020/10/12	2021/10/11
LISN	R&S	ENV216	3560.6550.15	2020/10/12	2021/10/11
LISN	AT	AT166-2	AKK1806000003	2020/10/12	2021/10/11
EMI software	EZ	EZ-EMC	EEMC-3A1	N/A	N/A

Test Equipment Of Radiated Spurious Emissions and Band-edge

Equipment	Manufacturer	Model	S/N	Cal.Date	Cal.Due
Chamber	SKET	966	N/A	2020/11/10	2023/11/9
Spectrum	R&S	FSP40	100817	2020/10/12	2021/10/11
Receiver	R&S	ESR7	101199	2020/10/12	2021/10/11
broadband Antenna	Schwarzbeck	VULB9168	00836 P:00227	2020/9/26	2022/9/25
Horn Antenna	Schwarzbeck	9120D	01892 P:00331	2020/9/26	2022/9/25

Amplifier	SKET	PA-000318G-45	N/A	2020/10/16	2021/10/15
EMI software	EZ	EZ-EMC	EEMC-3A1	N/A	N/A
Loop antenna	SCHNARZBECK	FMZB1519B	00102	2020/9/26	2022/9/25
Controller	SKET	N/A	N/A	N/A	N/A
Coaxial Cable	BlueAsia	BLA-XC-02	N/A	N/A	N/A
Coaxial Cable	BlueAsia	BLA-XC-03	N/A	N/A	N/A
Coaxial Cable	BlueAsia	BLA-XC-01	N/A	N/A	N/A

Test Equipment Of Radiated Emissions which fall in the restricted bands

Equipment	Manufacturer	Model	S/N	Cal.Date	Cal.Due
Chamber	SKET	966	N/A	2020/11/10	2023/11/9
Spectrum	R&S	FSP40	100817	2020/10/12	2021/10/11
Receiver	R&S	ESR7	101199	2020/10/12	2021/10/11
broadband Antenna	Schwarzbeck	VULB9168	00836 P:00227	2020/9/26	2022/9/25
Horn Antenna	Schwarzbeck	9120D	01892 P:00331	2020/9/26	2022/9/25
Amplifier	SKET	PA-000318G-45	N/A	2020/10/16	2021/10/15
EMI software	EZ	EZ-EMC	EEMC-3A1	N/A	N/A
Loop antenna	SCHNARZBECK	FMZB1519B	00102	2020/9/26	2022/9/25
Controller	SKET	N/A	N/A	N/A	N/A
Coaxial Cable	BlueAsia	BLA-XC-02	N/A	N/A	N/A
Coaxial Cable	BlueAsia	BLA-XC-03	N/A	N/A	N/A
Coaxial Cable	BlueAsia	BLA-XC-01	N/A	N/A	N/A

3 Test results andMeasurement Data

3.1 Antenna requirement

Standard requirement:	FCC Part15 E Section 15.203 /407(a)

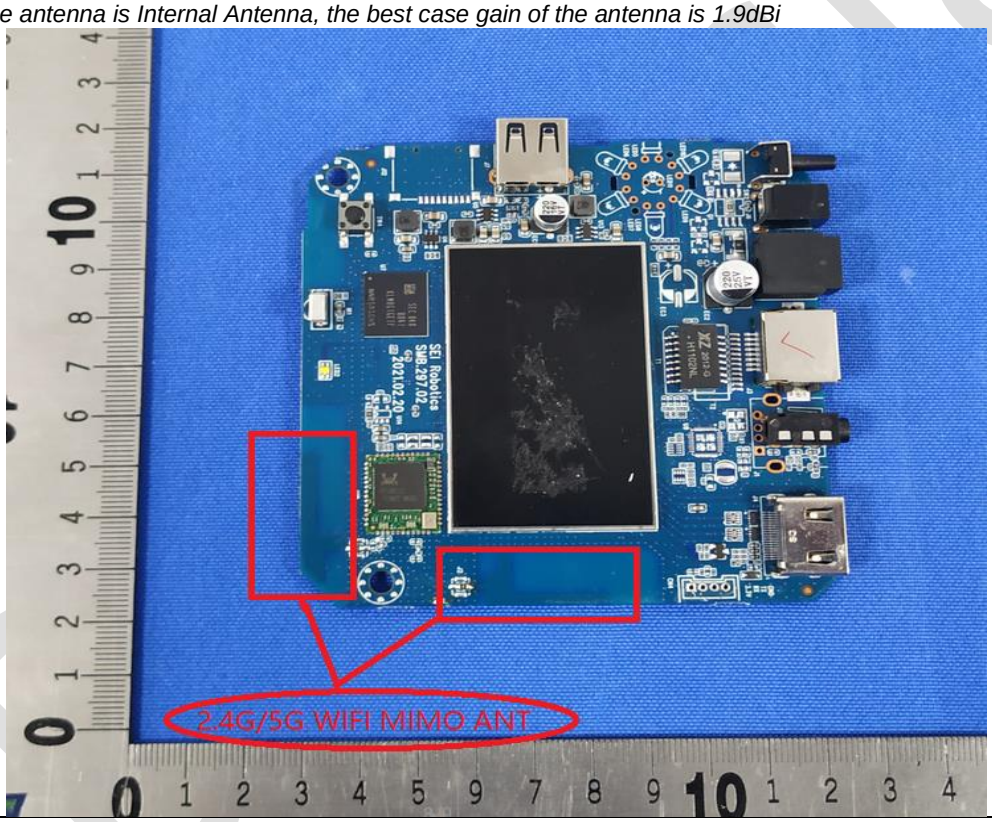
15.203 requirement:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

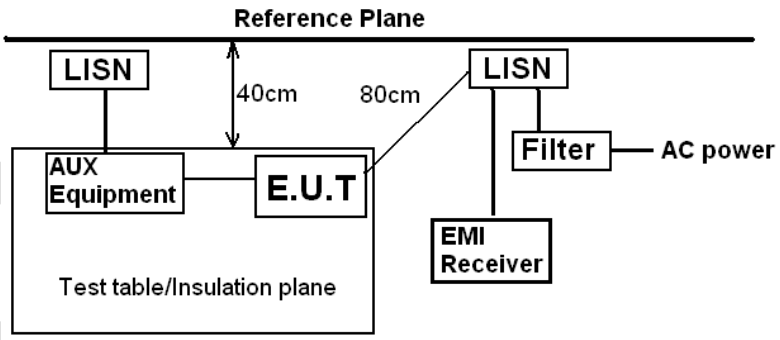
This requirementdoes not apply to carrier currentdevices or to devices operated underthe provisions of §15.211, § 15.213,§ 15.217, § 15.219, or § 15.221. Further, thisrequirement does not apply to intentionalradiators that must be professionallyinstalled, such as perimeterprotection systems and some field disturbancesensors, or to other intentionalradiators which, in accordancewith § 15.31(d), must be measured at theinstallation site. However, the installershall be responsible for ensuring thatthe proper antenna is employed so thatthe limits in this part are not exceeded.

E.U.T Antenna:	

The antenna is Internal Antenna, the best case gain of the antenna is 1.9dBi



4 Conducted Emission

<table>
<tr><td>Test Requirement:</td><td>FCC Part15 C Section 15.207</td></tr>
<tr><td>Test Method:</td><td>ANSI C63.10: 2013</td></tr>
<tr><td>Test Frequency Range:</td><td>150 kHz to 30MHz</td></tr>
<tr><td>Class / Severity:</td><td>Class B</td></tr>
<tr><td>Receiver setup:</td><td>RBW=9 kHz, VBW=30 kHz</td></tr>
<tr><td>Limit:</td><td>
<table>
<tr><td rowspan="2">Frequency range (MHz)</td><td colspan="2">Limit (dBuV)</td></tr>
<tr><td>Quasi-peak</td><td>Average</td></tr>
<tr><td>0.15-0.5</td><td>66 to 56*</td><td>56 to 46*</td></tr>
<tr><td>0.5-5</td><td>56</td><td>46</td></tr>
<tr><td>5-30</td><td>60</td><td>50</td></tr>
</table>
* Decreases with the logarithm of the frequency.
</td></tr>
<tr><td>Test procedure</td><td>1. The E.U.T and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). It provides a 50ohm/50uH coupling impedance for the measuring equipment.
2. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs).
3. Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10: 2014 on conducted measurement.</td></tr>
<tr><td>Test setup:</td><td> 

Remark:
E.U.T: Equipment Under Test
LISN: Line Impedence Stabilization Network
Test table height=0.8m</td></tr>
<tr><td>Test Instruments:</td><td>Refer to section 5.7 for details</td></tr>
<tr><td>Test mode:</td><td>Refer to section 5.3 for details.</td></tr>
<tr><td>Test results:</td><td>Pass</td></tr>
</table>

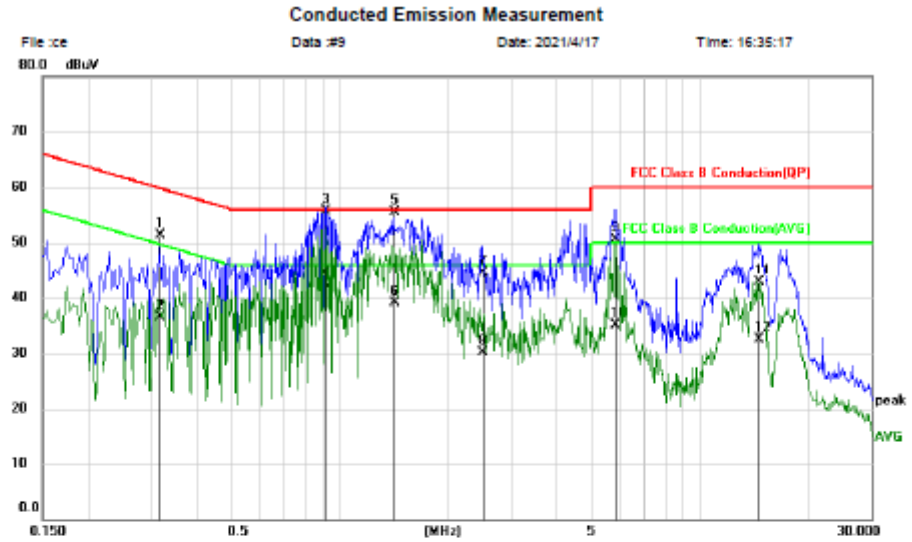
Measurement Data:

EUT:	set top box	**Model:**	SEI800CCOA
Test By:	Sven	**Test mode:**	Wifi mode
Power Source:	AC120V/60Hz	**Temp./Hum.(%H):**	26℃/60%RH
Test Frequency:	150kHz to 30MHz	**Phase:**	Line

Notes:

1. *An initial pre-scan was performed on the line and neutral lines with peak detector.*
2. *Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.*
3. *Final Level =Receiver Read level + LISN Factor + Cable Loss.*

EUT:	set top box	Model:	SEI800CCOA
Test By:	Sven	Test mode:	Wifi mode
Power Source:	AC120V/60Hz	Temp./Hum.(%H):	26℃/60%RH
Test Frequency:	150kHz to 30MHz	Phase:	Neutral



Site
Limit: FCC Class B Conduction(QP)
EUT: set top box
M/N: SEI800CCOA
Mode: 5G Wifi mode
Note:

Phase: N
Power:

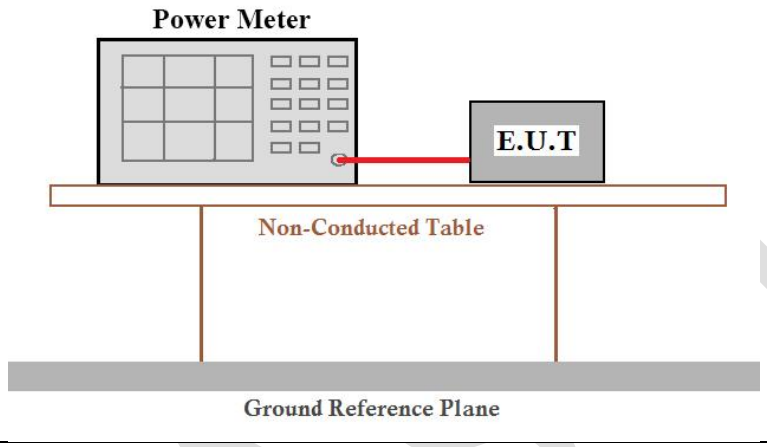
Temperature:
Humidity: %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.3180	41.63	9.77	51.40	59.76	-8.36	QP	
2		0.3180	26.64	9.77	36.41	49.76	-13.35	AVG	
3	*	0.9140	45.80	9.83	55.63	56.00	-0.37	QP	
4		0.9140	32.60	9.83	42.43	46.00	-3.57	AVG	
5		1.4220	45.58	9.85	55.43	56.00	-0.57	QP	
6		1.4220	29.18	9.85	39.03	46.00	-6.97	AVG	
7		2.4940	34.59	9.87	44.46	56.00	-11.54	QP	
8		2.4940	20.28	9.87	30.15	46.00	-15.85	AVG	
9		5.8300	40.53	9.98	50.51	60.00	-9.49	QP	
10		5.8300	25.18	9.98	35.16	50.00	-14.84	AVG	
11		14.6100	32.64	10.30	42.94	60.00	-17.06	QP	
12		14.6100	22.25	10.30	32.55	50.00	-17.45	AVG	

Notes:

1. *An initial pre-scan was performed on the line and neutral lines with peak detector.*
2. *Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.*
3. *Final Level =Receiver Read level + LISN Factor + Cable Loss.*

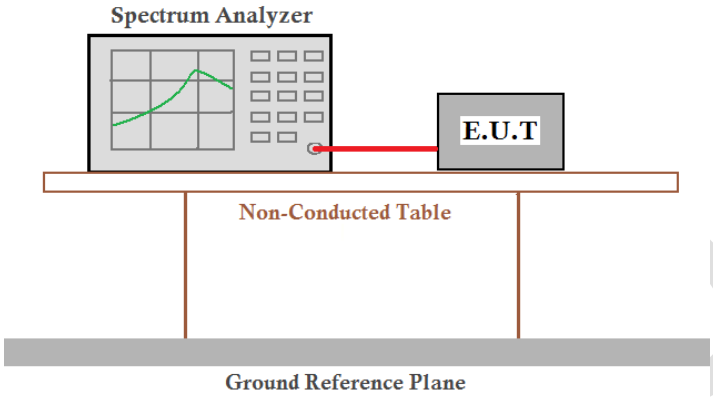
5 Conducted Output Power

Test Requirement:	FCC Part15 E Section 15.407 (a) (1) (ii) (2)& (a) (3)
Test Method:	ANSI C63.10: 2013, KDB 789033
Limit:	**Band 1:** 250mW **Band 4:**1W.
Test setup:	
Test Instruments:	Refer to section 5.7 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Measurement Data

Please Refer To Appendix: Appendix2

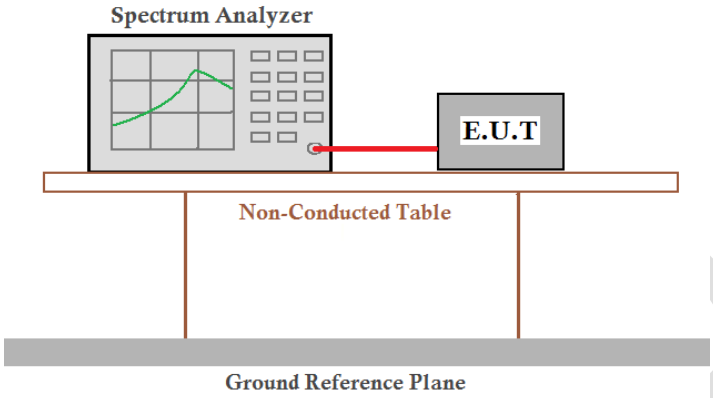
6 Occupy Bandwidth

Test Requirement:	FCC Part15 E Section 15.407 (a) (5) and Section 15.407 (e)
Test Method:	ANSI C63.10:2013 and KDB 789033
Limit:	Band 1: N/A(26dB Emission Bandwidth and 99% Occupy Bandwidth) Band 4: >500kHz(6dB Bandwidth)
Test setup:	
Test Instruments:	Refer to section 5.7 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Measurement Data

Please Refer To Appendix: Appendix2

7 Power Spectral Density

Test Requirement:	FCC Part15 E Section 15.407 (a) (1) (ii) (2)& (a) (3)
Test Method:	ANSI C63.10:2013, KDB 789033
Limit:	**Band 1:**11 dBm/MHz **Band 4:** 30dBm/500kHz
Test setup:	
Test Instruments:	Refer to section 5.7 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

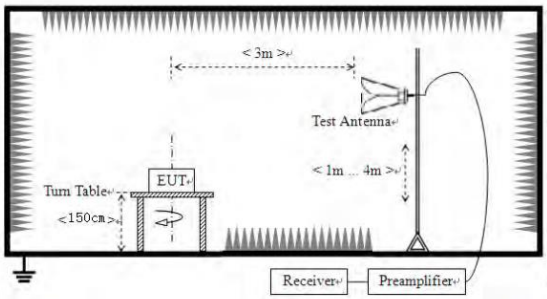
Measurement Data

Please Refer To Appendix: Appendix2

8 Spurious Emission

Band Edge and Restricted Band

<table>
<tr><td>Test Requirement:</td><td>FCC Part15 E Section 15.407 (b)</td></tr>
<tr><td>Test Method:</td><td>ANSI C63.10:2013 , KDB 789033</td></tr>
<tr><td>Test Frequency Range:</td><td>Band 1: 4.5 GHz to 5.15 GHz and 5.25GHz to 5.46GHz
Band 4: 5.35 GHz to 5.46 GHzand 5.725GHz to 5.85GHz</td></tr>
<tr><td>Receiver setup:</td><td>Band Edge:
<table>
<tr><td>Detector</td><td>RBW</td><td>VBW</td><td>Remark</td></tr>
<tr><td>Quasi-peak</td><td>120kHz</td><td>300kHz</td><td>Quasi-peak Value</td></tr>
<tr><td>RMS</td><td>1MHz</td><td>3MHz</td><td>Average Value</td></tr>
</table>
Restricted Band:
<table>
<tr><td>Frequency</td><td>Detector</td><td>RBW</td><td>VBW</td><td>Remark</td></tr>
<tr><td rowspan="2">Above 1GHz</td><td>Peak</td><td>1MHz</td><td>3MHz</td><td>Peak Value</td></tr>
<tr><td>RMS</td><td>1MHz</td><td>3MHz</td><td>Average Value</td></tr>
</table></td></tr>
<tr><td>Limit:</td><td>Band Edge:
<table>
<tr><td></td><td>Limit (dBuV/m @3m)</td><td>Remark</td></tr>
<tr><td rowspan="4">Band 1/2/3/4</td><td>68.20</td><td>Peak Value</td></tr>
<tr><td>54.00</td><td>Average Value</td></tr>
<tr><td>68.20</td><td>Peak Value</td></tr>
<tr><td>54.00</td><td>Average Value</td></tr>
<tr><td colspan="3">Remark:
1. Band 1/2/3/4 limit:
E[dBμV/m] = EIRP[dBm] + 95.2=68.2 dBuV/m,for EIPR[dBm]=-27dBm.</td></tr>
</table>
Restricted Band:
<table>
<tr><td>Frequency</td><td>Limit (dBuV/m @3m)</td><td>Remark</td></tr>
<tr><td rowspan="2">Above 1GHz</td><td>74.00</td><td>Peak Value</td></tr>
<tr><td>54.00</td><td>Average Value</td></tr>
</table></td></tr>
<tr><td>Remark:</td><td>The test methods for Band Edge and Restricted Bandare the same.
The following tests use the sideband limits as the minimum reference requirements to determine whether the results meet</td></tr>
<tr><td>Test Procedure:</td><td>1. The EUT was placed on the top of a rotating table 0.8 meters above the groundat a 3 meter camber. The table was rotated 360 degrees todetermine the position of the highest radiation.
2. The EUT was set 3 meters away from the interference-receiving antenna, whichwas mounted on the top of a variable-height antenna tower.
3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
4. For each suspected emission, the EUT was arranged to its worst case and thenthe antenna was tuned to heights from 1 meter to 4 meters and the rotatablewas turned from 0 degrees to 360 degrees to find the maximum reading.
5. The test-receiver system was set to Peak Detect Function and SpecifiedBandwidth with Maximum Hold Mode.
6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.</td></tr>
</table>

Test setup:	
Test Instruments:	Refer to section 5.7 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Measurement Data

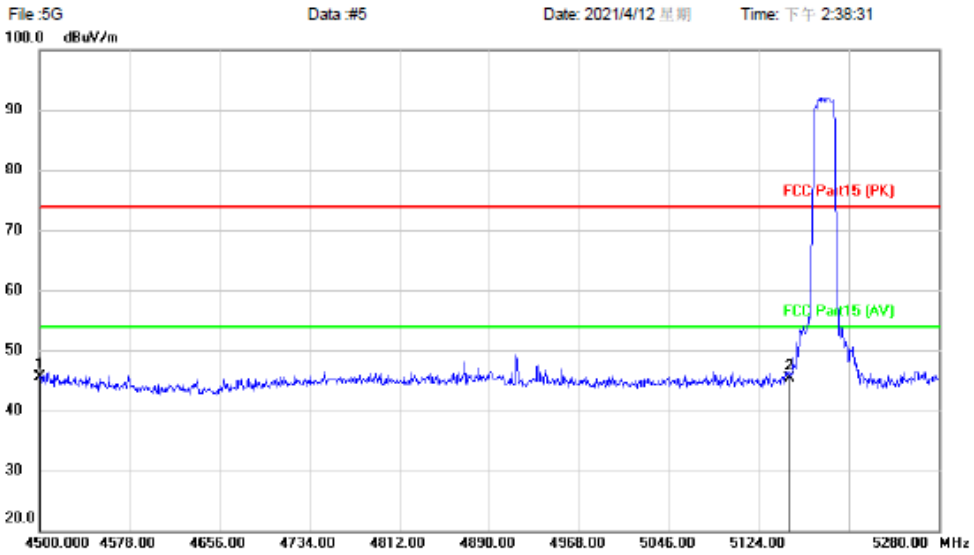
Remark: During the test, pre-scan the 802.11a/n/ac mode, and found the 802.11n20 mode which it is worse case.

Band1:

802.11n20:

Lowest channel

Radiated Emission Measurement



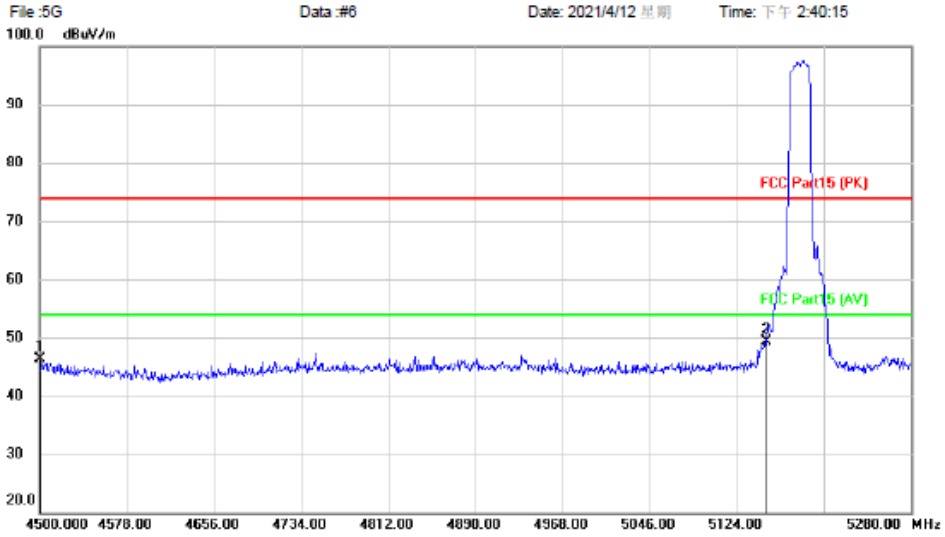
Site
Limit: FCC Part15 (PK)
EUT: set top box
M/N: SEI800CCOA
Mode: 5G band 1 802.11n20-L
Note:

Polarization: *Vertical*
Power:
Distance: 3m

Temperature:
Humidity: %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	*	4500.000	45.61	-0.16	45.45	74.00	-28.55	peak			
2		5150.000	44.87	0.36	45.23	74.00	-28.77	peak			

Radiated Emission Measurement

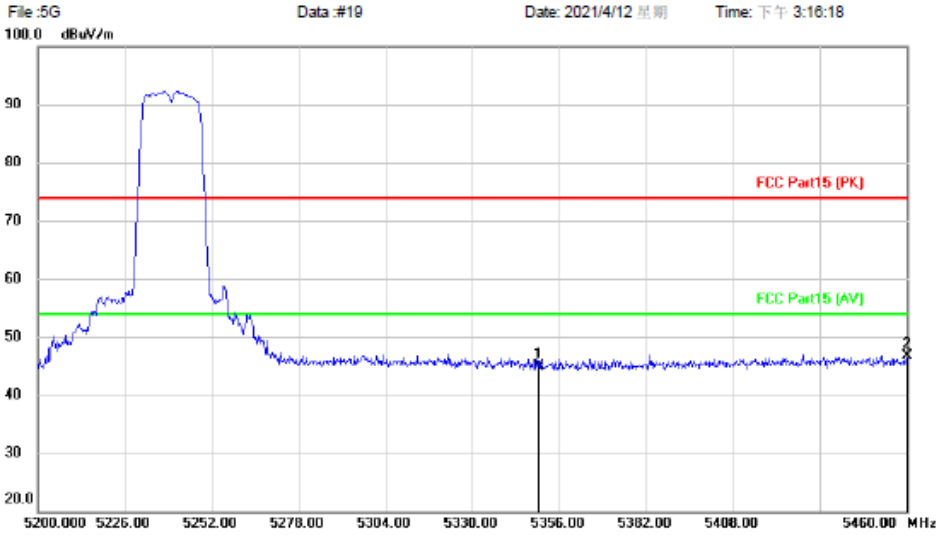


Site	Polarization: *Horizontal*	Temperature:
Limit: FCC Part15 (PK)	Power:	Humidity: %
EUT: set top box	Distance: 3m	
M/N: SEI800CCOA		
Mode: 5G band 1 802.11n20-L		
Note:		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		4500.000	46.50	-0.16	46.34	74.00	-27.66	peak			
2	*	5150.000	48.89	0.36	49.25	74.00	-24.75	peak			

Highest channel

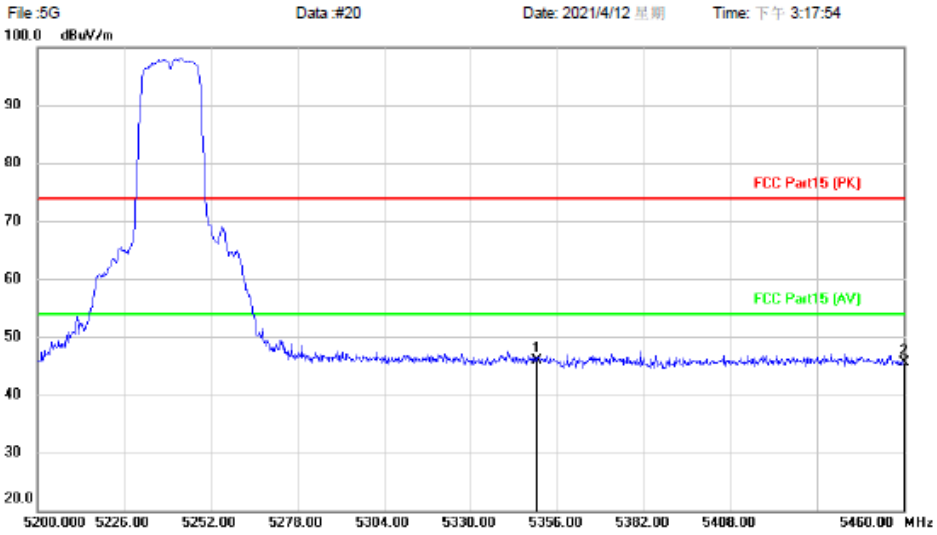
Radiated Emission Measurement



Site	Polarization: *Vertical*	Temperature:
Limit: FCC Part15 (PK)	Power:	Humidity: %
EUT: set top box	Distance: 3m	
M/N: SEI800CCOA		
Mode: 5G band 1 802.11n20-H		
Note:		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		5350.000	44.27	0.68	44.95	74.00	-29.05	peak			
2	*	5460.000	45.83	0.91	46.74	74.00	-27.26	peak			

Radiated Emission Measurement



Site
Limit: FCC Part15 (PK)
EUT: set top box
M/N: SEI800CCOA
Mode: 5G band 1 802.11n20-H
Note:

Polarization: *Horizontal*
Power:
Distance: 3m

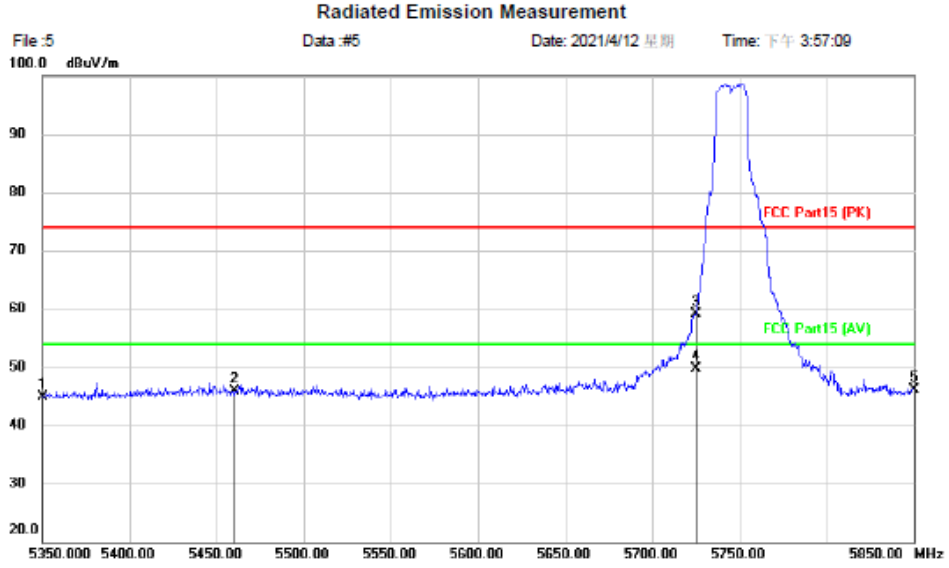
Temperature:
Humidity: %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	*	5350.000	45.32	0.68	46.00	74.00	-28.00	peak			
2		5460.000	44.60	0.91	45.51	74.00	-28.49	peak			

Band4:

802.11n20

Lowest channel



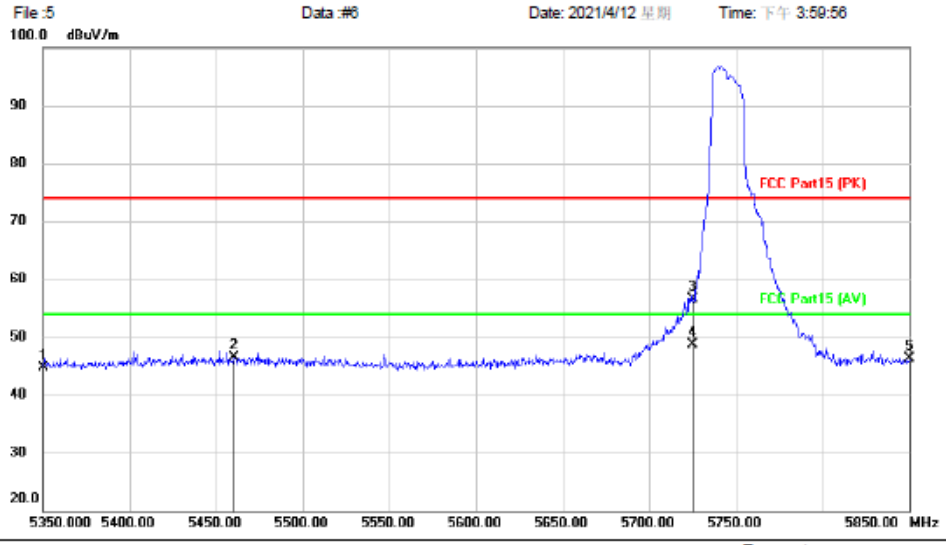
Site
Limit: FCC Part15 (PK)
EUT: set top box
M/N: SEI800CCOA
Mode: 5G band 4 802.11n20-L
Note:

Polarization: *Horizontal*
Power:
Distance: 3m

Temperature:
Humidity: %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		5350.000	44.24	0.68	44.92	74.00	-29.08	peak			
2		5460.000	45.07	0.91	45.98	74.00	-28.02	peak			
3		5725.000	58.14	0.94	59.08	74.00	-14.92	peak			
4	*	5725.000	48.82	0.94	49.76	54.00	-4.24	AVG			
5		5850.000	45.18	0.94	46.12	74.00	-27.88	peak			

Radiated Emission Measurement



Site
Limit: FCC Part15 (PK)
EUT: set top box
M/N: SEI800CCOA
Mode: 5G band 4 802.11n20-L
Note:

Polarization: *Vertical*
Power:
Distance: 3m

Temperature:
Humidity: %

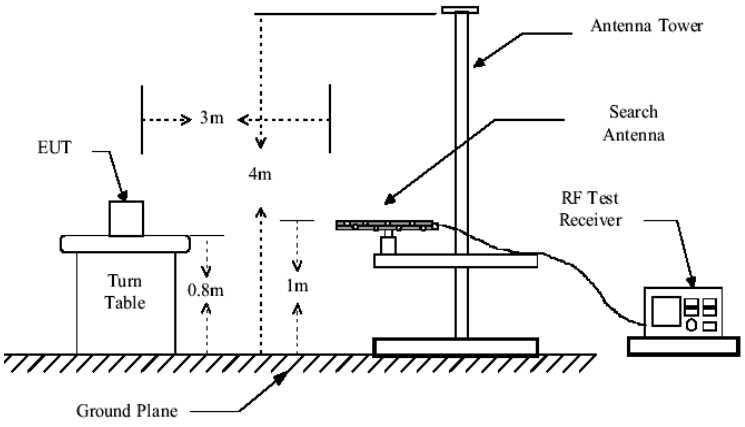
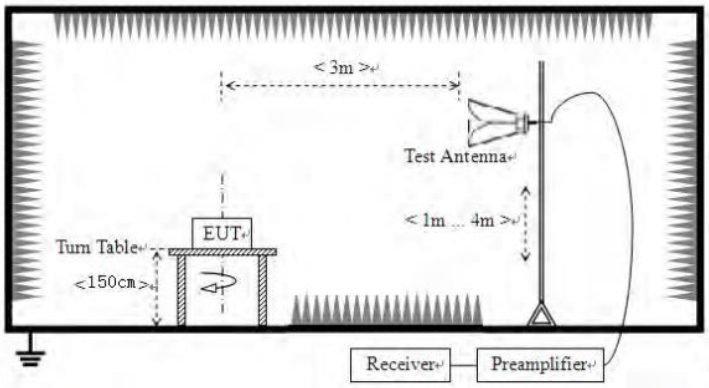
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		5350.000	44.01	0.68	44.69	74.00	-29.31	peak			
2		5460.000	45.59	0.91	46.50	74.00	-27.50	peak			
3		5725.000	55.58	0.94	56.52	74.00	-17.48	peak			
4	*	5725.000	47.85	0.94	48.79	54.00	-5.21	AVG			
5		5850.000	45.42	0.94	46.36	74.00	-27.64	peak			

Remark:

1. *Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor*
2. *The emission levels of other frequencies are very lower than the limit and not show in test report.*
3. *Correct factor= Antenna Factor + Cable Loss – Preamplifier Factor*
4. *For frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.*

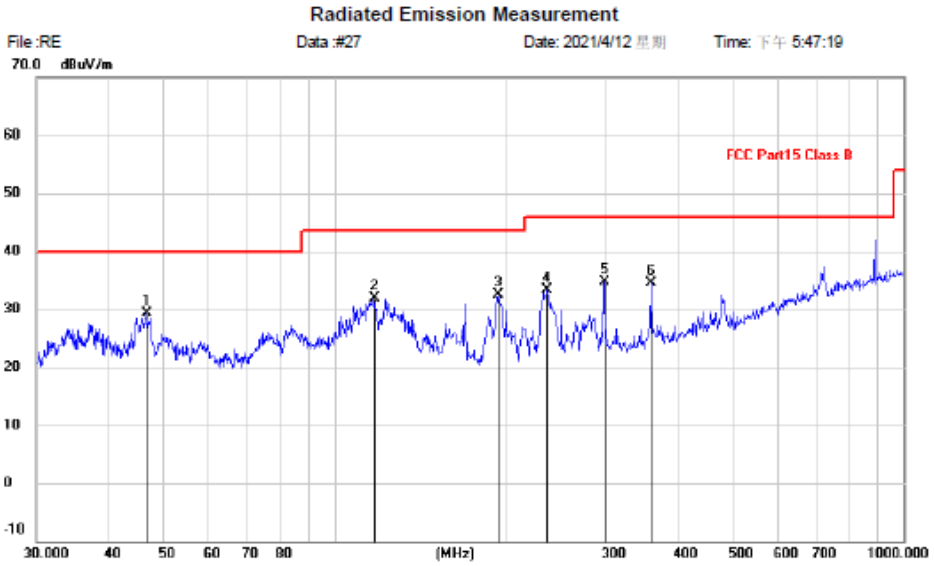
8.1.1 Unwanted Emissions in the Restricted Bands

<table>
<tr><td>Test Requirement:</td><td>FCC Part15 C Section 15.209 and 15.205</td></tr>
<tr><td>Test Method:</td><td>ANSI C63.10:2013</td></tr>
<tr><td>Test Frequency Range:</td><td>30MHz to 40GHz</td></tr>
<tr><td>Test site:</td><td>Measurement Distance: 3m</td></tr>
<tr><td>Receiver setup:</td><td>
<table>
<tr><th>Frequency</th><th>Detector</th><th>RBW</th><th>VBW</th><th>Remark</th></tr>
<tr><td>30MHz-1GHz</td><td>Quasi-peak</td><td>100kHz</td><td>300kHz</td><td>Quasi-peak Value</td></tr>
<tr><td>Above 1GHz</td><td>Peak</td><td>1MHz</td><td>3MHz</td><td>Peak Value</td></tr>
</table>
</td></tr>
<tr><td>Limit:</td><td>
<table>
<tr><th>Frequency</th><th>Limit (dBuV/m @3m)</th><th>Remark</th></tr>
<tr><td>30MHz-88MHz</td><td>40.0</td><td>Quasi-peak Value</td></tr>
<tr><td>88MHz-216MHz</td><td>43.5</td><td>Quasi-peak Value</td></tr>
<tr><td>216MHz-960MHz</td><td>46.0</td><td>Quasi-peak Value</td></tr>
<tr><td>960MHz-1GHz</td><td>54.0</td><td>Quasi-peak Value</td></tr>
</table>
<table>
<tr><th>Frequency</th><th>Limit (dBm/MHz)</th><th>Remark</th></tr>
<tr><td rowspan="2">Above 1GHz</td><td>68.20</td><td>Peak Value</td></tr>
<tr><td>54.00</td><td>Average Value</td></tr>
<tr><td colspan="3">Remark:
1. Above 1GHz limit:
E[dBμV/m] = EIRP[dBm] + 95.2=68.2 dBuV/m,for EIPR[dBm]=-27dBm.</td></tr>
</table>
</td></tr>
<tr><td>Test Procedure:</td><td>1. The EUT was placed on the top of a rotating table 0.8 meters above the groundat a 3 meter camber. The table was rotated 360 degrees todetermine the position of the highest radiation.
2. The EUT was set 3 meters away from the interference-receiving antenna, whichwas mounted on the top of a variable-height antenna tower.
3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
4. For each suspected emission, the EUT was arranged to its worst case and thenthe antenna was tuned to heights from 1 meter to 4 meters and the rotatablewas turned from 0 degrees to 360 degrees to find the maximum reading.
5. The test-receiver system was set to Peak Detect Function and SpecifiedBandwidth with Maximum Hold Mode.
6. If the emission level of the EUT in peak mode was 10dB lower than the limitspecified, then testing could be stopped and the peak values of the EUT wouldbe reported. Otherwise the emissions that did not have 10dB margin would bere-tested one by one using peak, quasi-peak or average method as specified andthen reported in a data sheet.</td></tr>
</table>

Test setup:	Below 1GHz  Above 1GHz 
Test Instruments:	Refer to section 5.7 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Below 1GHz

Horizontal:



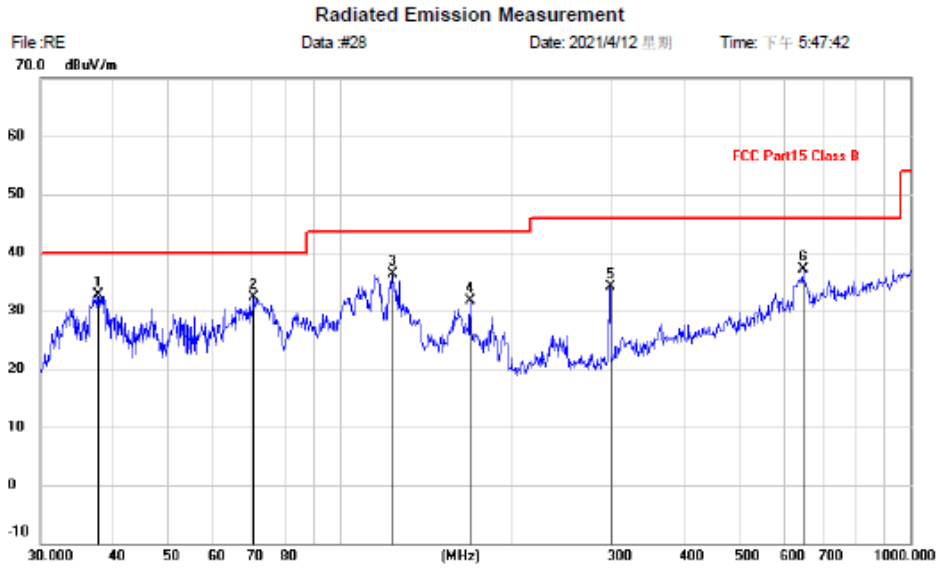
Site
Limit: FCC Part15 Class B
EUT: set top box
M/N: SEI800CCOA
Mode: 5G WIFI mode
Note:

Polarization: *Horizontal*
Power:
Distance: 3m

Temperature:
Humidity: %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	*	46.6664	4.91	24.40	29.31	40.00	-10.69	QP			
2		117.3603	9.65	22.31	31.96	43.50	-11.54	QP			
3		194.4534	12.18	20.25	32.43	43.50	-11.07	QP			
4		236.6447	10.44	22.83	33.27	46.00	-12.73	QP			
5		297.2241	11.02	23.72	34.74	46.00	-11.26	QP			
6		359.1860	8.50	26.05	34.55	46.00	-11.45	QP			

Vertical:



Site
Limit: FCC Part15 Class B
EUT: set top box
M/N: SEI800CCOA
Mode: 5G WIFI mode
Note:

Polarization: *Vertical*
Power:
Distance: 3m

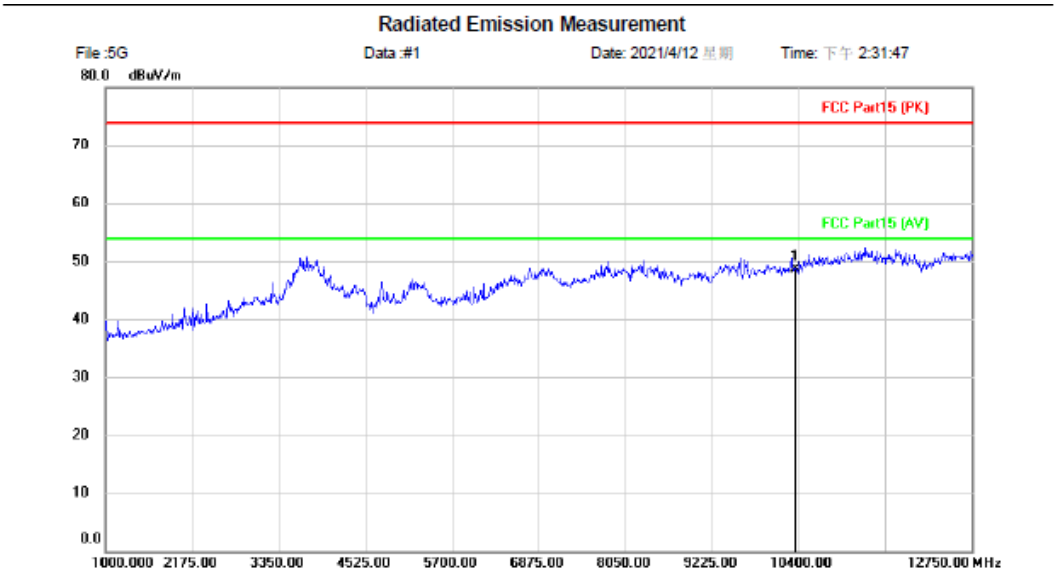
Temperature:
Humidity: %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	*	37.6798	9.13	23.65	32.78	40.00	-7.22	QP			
2		70.8315	11.42	20.96	32.38	40.00	-7.62	QP			
3		123.2655	13.56	22.67	36.23	43.50	-7.27	QP			
4		169.5990	9.70	22.02	31.72	43.50	-11.78	QP			
5		297.2241	10.36	23.72	34.08	46.00	-11.92	QP			
6		647.3856	4.67	32.37	37.04	46.00	-8.96	QP			

Above 1GHz:

Band 1:802.11a mode(worst case)

Lowest channel



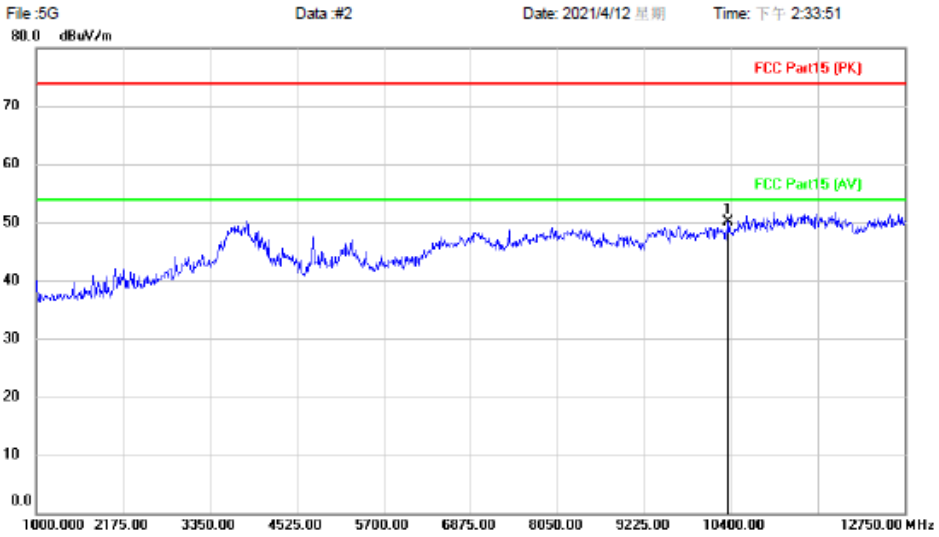
Site
Limit: FCC Part15 (PK)
EUT: set top box
M/N: SEI800CCOA
Mode: 5G band 1 802.11a-5180
Note:

Polarization: *Horizontal*
Power:
Distance: 3m

Temperature:
Humidity: %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	*	10360.000	37.56	11.09	48.65	74.00	-25.35	peak			

Radiated Emission Measurement



Site
Limit: FCC Part15 (PK)
EUT: set top box
M/N: SEI800CCOA
Mode: 5G band 1 802.11a-5180
Note:

Polarization: *Vertical*
Power:
Distance: 3m

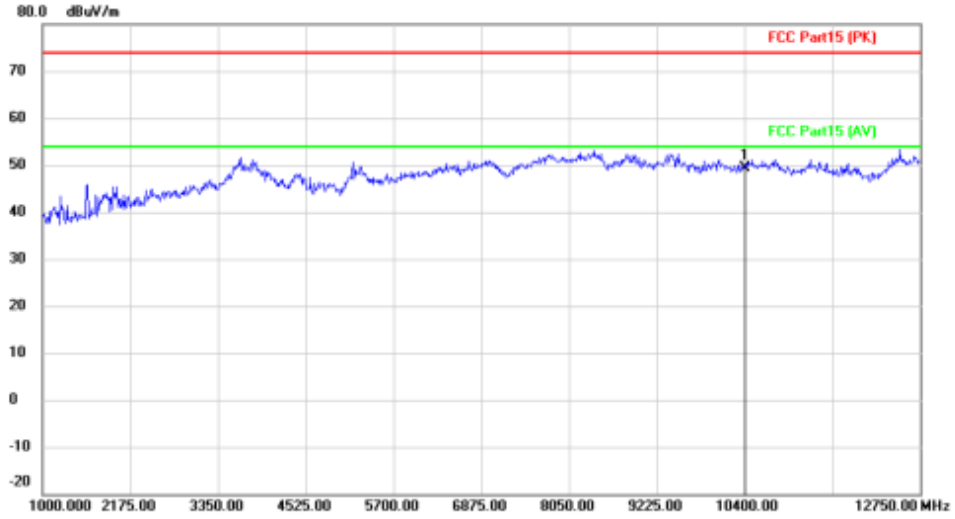
Temperature:
Humidity: %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	*	10360.000	38.93	11.09	50.02	74.00	-23.98	peak			

Middle channel

Site
Limit: FCC Part15 (PK)
Polarization: *Vertical*
Power:
Temperature:
Humidity: %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	*	10400.000	47.13	2.13	49.26	74.00	-24.74	peak			



Site
Limit: FCC Part15 (PK)

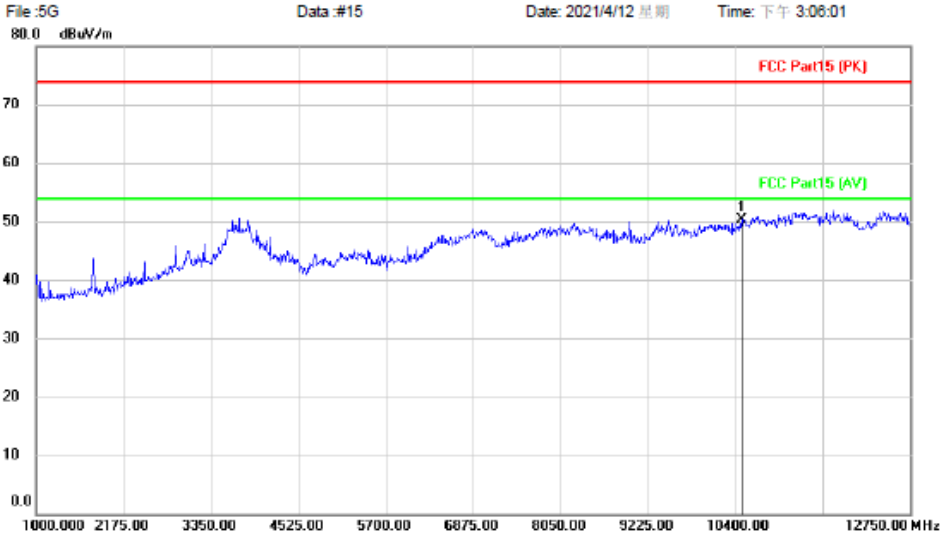
Polarization: *Vertical*
Power:

Temperature:
Humidity: %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	*	10400.000	47.13	2.13	49.26	74.00	-24.74	peak			

Highest channel

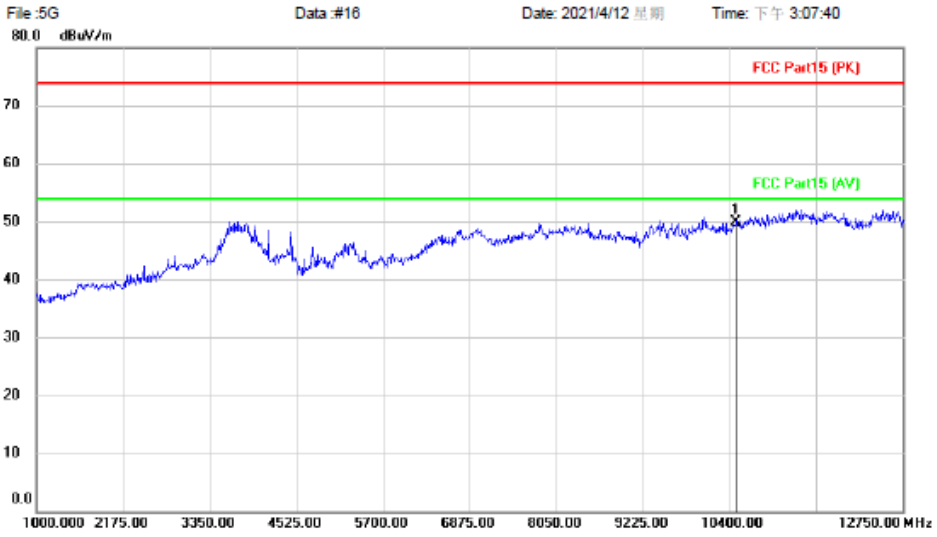
Radiated Emission Measurement



Site	Polarization: *Horizontal*	Temperature:
Limit: FCC Part15 (PK)	Power:	Humidity: %
EUT: set top box	Distance: 3m	
M/N: SEI800CCOA		
Mode: 5G band 1 802.11a-5240		
Note:		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	*	10480.000	39.12	11.18	50.30	74.00	-23.70	peak			

Radiated Emission Measurement



Site	Polarization: *Vertical*	Temperature:
Limit: FCC Part15 (PK)	Power:	Humidity: %
EUT: set top box	Distance: 3m	
M/N: SEI800CCOA		
Mode: 5G band 1 802.11a-5240		
Note:		

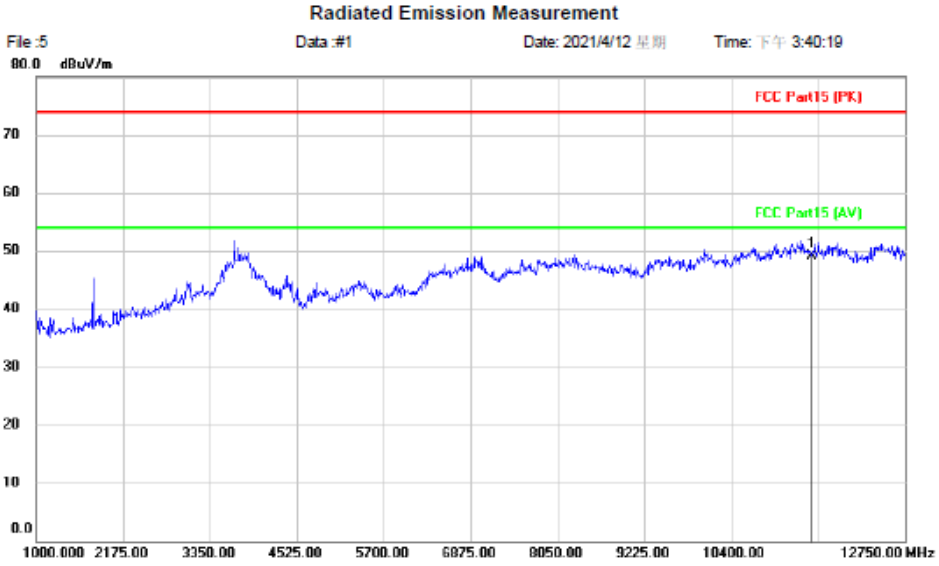
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	*	10480.000	38.71	11.18	49.89	74.00	-24.11	peak			

Remark:

1. Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
2. The emission levels of other frequencies are very lower than the limit and not show in test report.
3. Correct factor = Antenna Factor + Cable Loss – Preamplifier Factor

Band4:802.11a mode(worst case)

Lowest channel



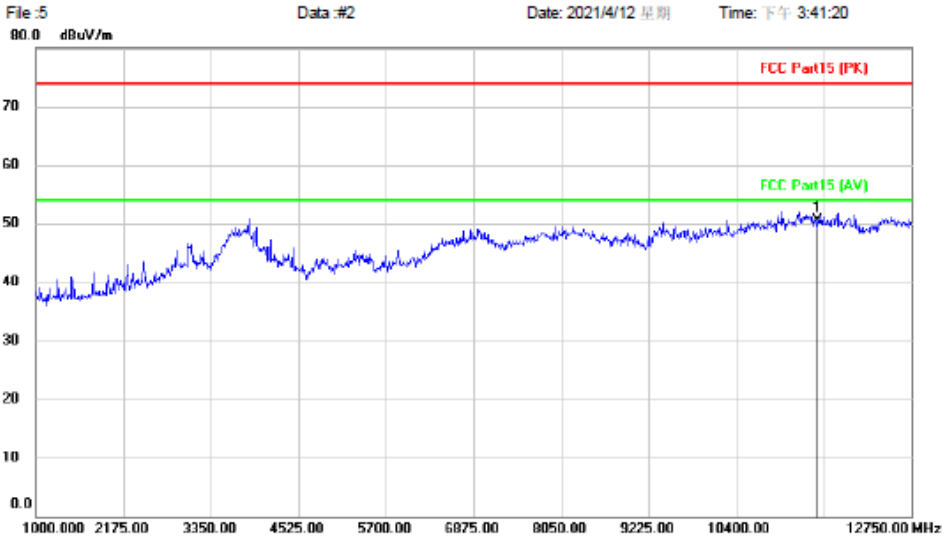
Site
Limit: FCC Part15 (PK)
EUT: set top box
M/N: SEI800CCOA
Mode: 5G band 4 802.11a-5745
Note:

Polarization: *Horizontal*
Power:
Distance: 3m

Temperature:
Humidity: %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	*	11490.000	37.31	11.89	49.20	74.00	-24.80	peak			

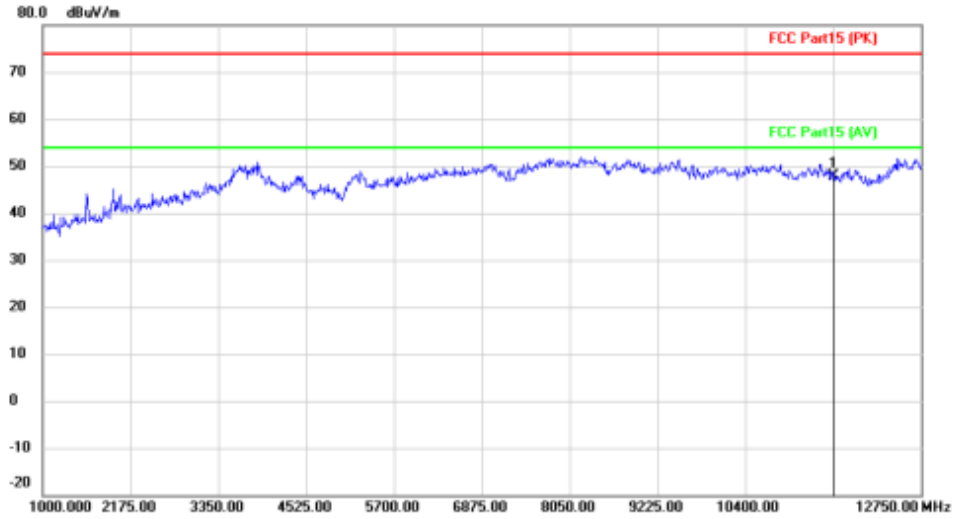
Radiated Emission Measurement



Site	Polarization: *Vertical*	Temperature:
Limit: FCC Part15 (PK)	Power:	Humidity: %
EUT: set top box	Distance: 3m	
M/N: SEI800CCOA		
Mode: 5G band 4 802.11a-5745		
Note:		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	*	11490.000	38.65	11.89	50.54	74.00	-23.46	peak			

Middle channel



Site
Limit: FCC Part15 (PK)

Polarization: *Vertical*
Power:

Temperature:
Humidity: %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	*	11570.000	47.05	0.73	47.78	74.00	-26.22	peak			

Site
Limit: FCC Part15 (PK)

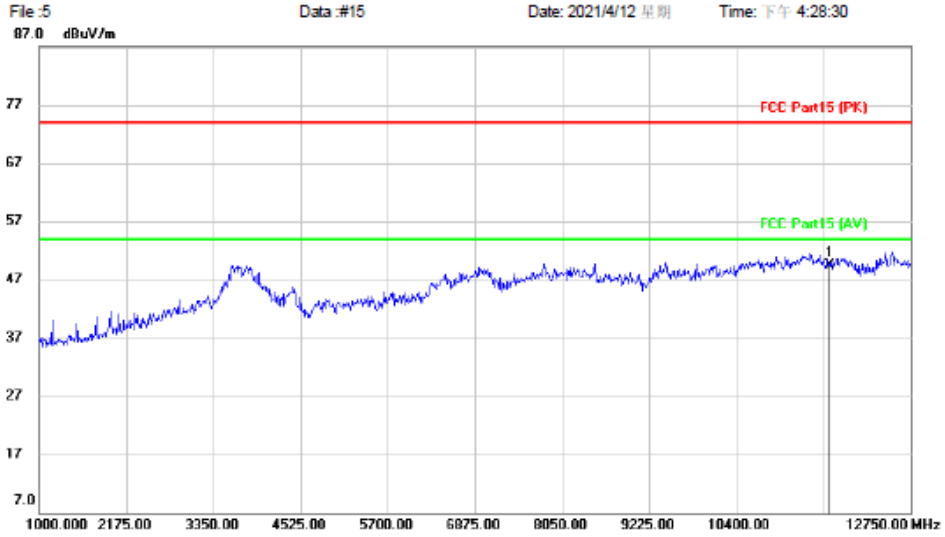
Polarization: *Horizontal*
Power:

Temperature:
Humidity: %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	*	11570.000	46.37	0.90	47.27	74.00	-26.73	peak			

Highest channel

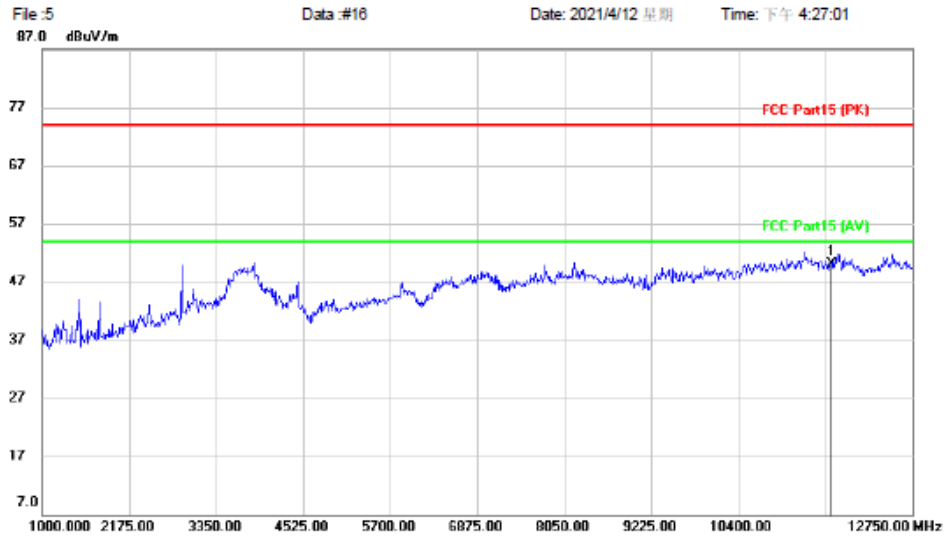
Radiated Emission Measurement



Site	Polarization: *Vertical*	Temperature:
Limit: FCC Part15 (PK)	Power:	Humidity: %
EUT: set top box	Distance: 3m	
M/N: SEI800CCOA		
Mode: 5G band 4 802.11a-5825		
Note:		

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	*	11650.000	37.63	11.93	49.56	74.00	-24.44	peak			

Radiated Emission Measurement



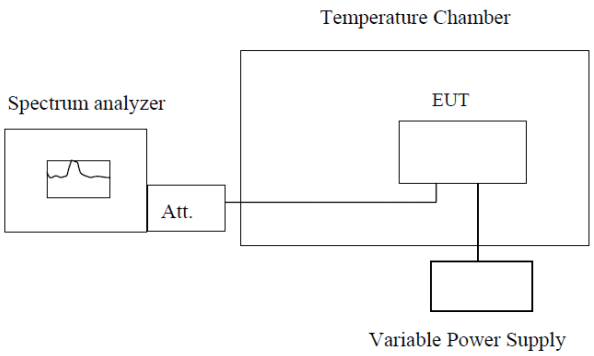
Site
Limit: FCC Part15 (PK)
EUT: set top box
M/N: SEI800CCOA
Mode: 5G band 4 802.11a-5825
Note:

Polarization: *Horizontal*
Power:
Distance: 3m

Temperature:
Humidity: %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	*	11650.000	38.09	11.93	50.02	74.00	-23.98	peak			

8.2 Frequency stability

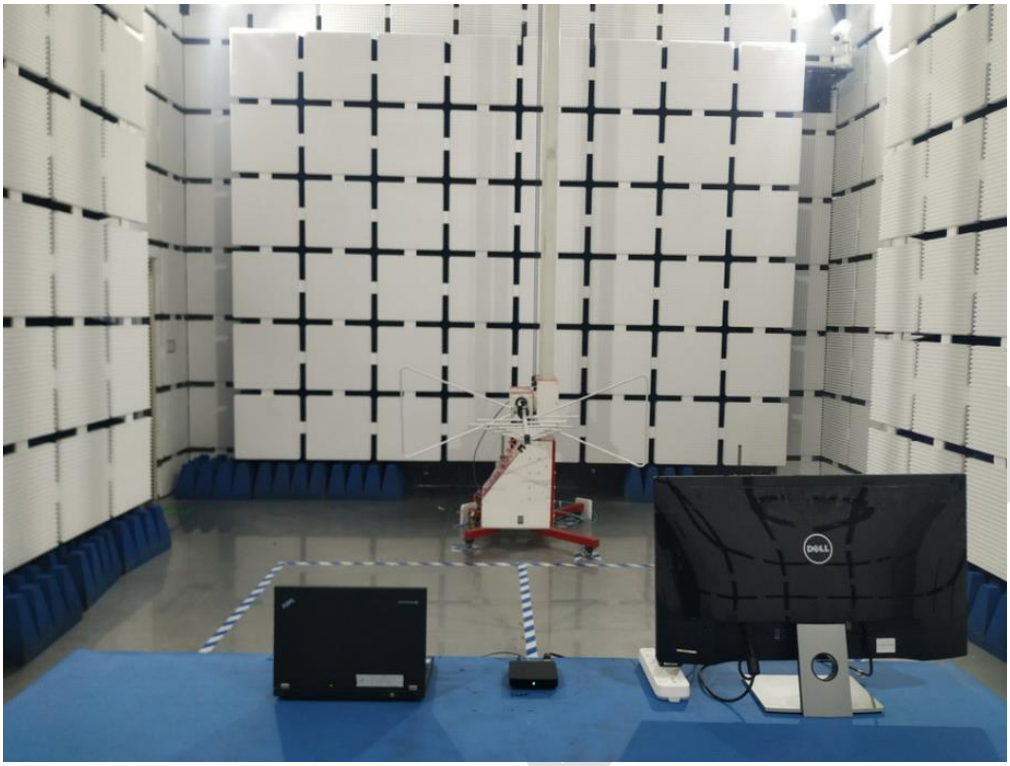
Test Requirement:	FCC Part15 E Section 15.407 (g)
Limit:	Manufacturers of U-NII devices are responsible for ensuringfrequency stability such that anemission is maintained within the band of operation under all conditions of normal operation asspecified in the user's manual.
Test setup:	 **Note :** Measurement setup for testing on Antenna connector
Test procedure:	1. The EUT is installed in an environment test chamber with external power source. 2. Set the chamber to operate at 50 centigrade and external power source to output at nominal voltage ofEUT. 3. A sufficient stabilization period at each temperature is used prior to each frequency measurement. 4. When temperature is stabled, measure the frequency stability. 5. The test shall be performed under -30 to 50 centigrade and 85 to 115 percent of the nominal voltage.Change setting of chamber and external power source to complete all conditions.
Test Instruments:	Refer to section 5.7 for details
Test mode:	Refer to section 5.3 for details, and all channels have been tested, only shows the worst channel data in this report.
Test results:	Passed

Measurement Data

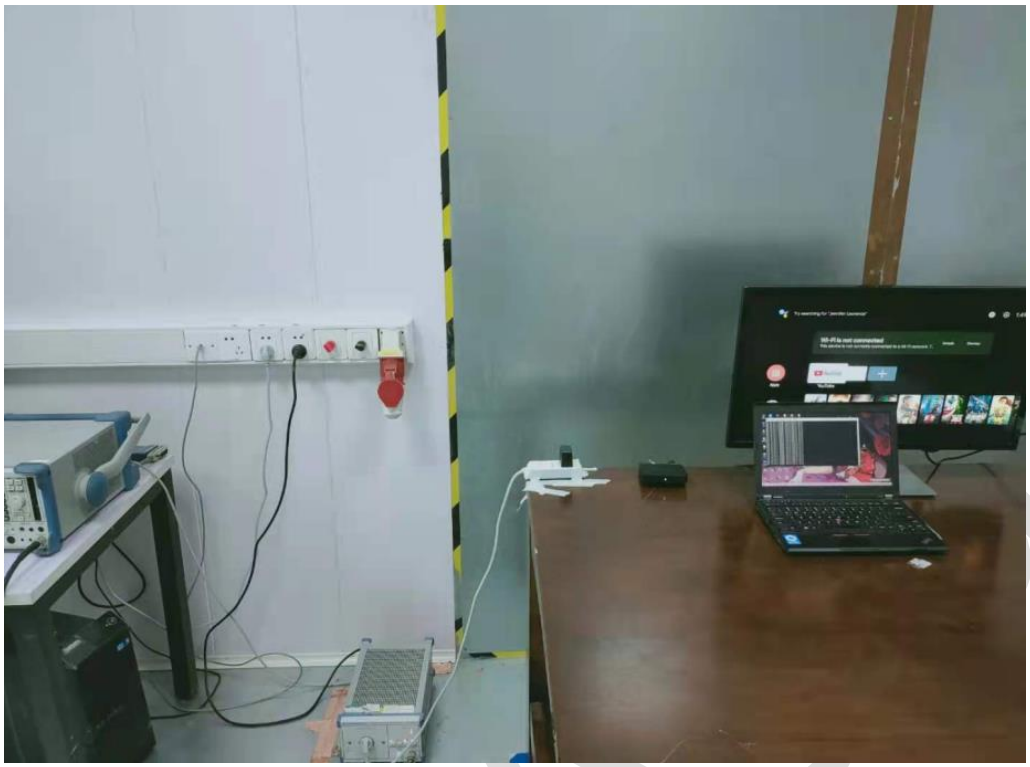
Please Refer To Appendix: Appendix2

9 Test Setup Photo

Radiated emission



Conducted Emission



10 EUT Constructional Details

Reference to the test report No. BLA-EMC-202103-A5201

------End of report------