TEST REPORT

FCC ID: 2ACMLT201509 IC : 11498A-T201509

For

Condeco Ltd

Desk V2 Screen

Model No.	:	T201509
Trade Name	:	CONDECO
Prepared for	:	Condeco Ltd
Address	:	8th Floor, Exchange Tower, 2 Harbour Exchange Square, London E14 9GE UK
Prepared by	:	Shenzhen Alpha Product Testing Co., Ltd.
Address	:	Building B, East Area of Nanchang Second, Industrial Zone, Gushu 2nd Road, Bao'an, Shenzhen, China
Report No.	:	T1870180 02
Date of Receipt	:	February 22, 2017
Date of Test	:	February 22, 2017- May 18, 2017
Date of Report	:	May 18, 2017
Version Number	:	REV0

TABLE OF CONTENT

DECLARATION

Applicant : Condeco Ltd

Manufacturer : Creation Technology Changzhou Ltd

Product : Desk V2 Screen

(A) Model No. : T201509

(B) Trade Name : CONDECO

(C) Power supply : DC 5V form USB port

Measurement Standard Used:

FCC Rules and Regulations Part 15 Subpart C Section 15.247: 2016, RSS-247 ISSUE 2 FEB 2017, ANSI C63.4:2014, ANSI C63.10:2013

The device described above is tested by Shenzhen Alpha Product Testing Co., Ltd. to determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart C limits both conducted and radiated emissions. The test results are contained in this test report and Shenzhen Alpha Product Testing Co., Ltd. is assumed of full responsibility for the accuracy and completeness of these tests.

After the test, our opinion is that EUT compliance with the requirement of the above standards.

This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Shenzhen Alpha Product Testing Co., Ltd.

Tested by (name + signature).....:	Reak Yang Project Engineer	Reak Yang
Approved by (name + signature).....:	Simple Guan Project Manager	
Date of issue…… ……..:		May 18, 2017

1 General Information

1.1 Description of Device (EUT)

EUT	:	Desk V2 Screen
Model No.	:	T201509
DIFF.	:	N/A
Trade mark	:	CONDECO
Power supply	:	DC 5V form USB port
Radio Technology	:	IEEE 802.11b/g/n
Operation frequency	:	IEEE 802.11b/g: 2412MHz-2462MHz IEEE 802.11n HT20: 2412MHz-2462MHz IEEE 802.11n HT40: 2422MHz-2452MHz
Modulation	:	IEEE 802.11b: DSSS(CCK,DQPSK,DBPSK) IEEE 802.11g: OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n :OFDM(64QAM, 16QAM, QPSK, BPSK)
Antenna Type	:	Integral Antenna, WIFI Antenna gain -1.44dBi
Software version		FreeRTOS.
Hardware version		V4.0
Applicant	:	Condeco Ltd
Address	:	8th Floor, Exchange Tower, 2 Harbour Exchange Square, London E14 9GE UK
Manufacturer	:	Creation Technology Changzhou Ltd
Address	:	Building 2A, Jinton International Industrial Park, No. 8 Xihu Road, Wujin High-Tech Industrial Zone, Changzhou, Jiangsu 213164, China
Adapter	:	N/A

1.2 Description of Test Facility

Shenzhen Alpha Product Testing Co., Ltd

Building B, East Area of Nanchang Second, Industrial Zone, Gushu 2nd Road,

Bao'an, Shenzhen, China

March 25, 2015 File on Federal Communication Commission

Registration Number: 203110

July 18, 2014 Certificated by IC

Registration Number: 12135A

1.3 Test Procedure

POWER LINE CONDUCTED INTERFERENCE:
The test procedure used was ANSI Standard ANSI C63.4:2014 using a 50 u H LISN. Both Lines were observed. The bandwidth of the receiver was 10kHz with an appropriate sweep speed. The ambient temperature of the EUT was 25℃ with a humidity of 58%.

RADIATION INTERFERENCE:
The test procedure used was ANSI Standard ANSI C63.4:2014 using a ANRITSU spectrum analyzer with a pre-selector. The analyzer was calibrated in dB above a micro volt at the output of the antenna. The resolution bandwidth was 100kHz and the video bandwidth was 300 kHz up to 1 GHz and 1 MHz with a video BW of 3MHz above 1 GHz. The ambient temperature of the EUT was 25℃ with a humidity of 58%.

FORMULA OF CONVERSION FACTORS:
The Field Strength at 3m was established by adding the meter reading of the spectrum analyzer (which is set to read in units of dBuV) to the antenna correction factor supplied by the antenna manufacturer and cable loss. The antenna correction factors and cable loss are stated in terms of dB. The gain of the Pre-selector was accounted for in the Spectrum Analyzer Meter Reading.
Example:
Freq (MHz) METER READING + ACF + CABLE = FS
33.20 dBuV + 10.36 dB + 0.9 dB= 44.46 dBuV/m @ 3m
ANSI STANDARD ANSI C63.4:2014 10.1.7 MEASUREMENT PROCEDURES: The EUT was placed on a table 80 cm high and with dimensions of 1m by 1.5m. The EUT was placed in the center of the table (1.5m side). The table used for radiated measurements is capable of continuous rotation. When an emission was found, the table was rotated to produce the maximum signal strength. At this point, the antenna was raised and lowered from 1m to 4m. The antenna was placed in both the horizontal and vertical planes. The situation was similar for the conducted measurement except that the table did not rotate. The EUT was setup as described in ANSI Standard ANSI C63.4:2014 10.1.7 with the EUT 40 cm from the vertical ground wall.

2 Summary of Measurement

2.1 Summary of test result

Test Item	Standards Paragraph	Result
Spurious Emission	Section 15.209&RRSS-GEN Issue 4 8.9 8.10	Compliance
Conduction Emission	Section 15.207&RSS-GEN Issue 4 8.8	Compliance
Bandwidth Test	Section 15.247&RSS-247 Issue 2 5.2.a	Compliance
Peak Power	Section 15.247&RSS-247 Issue 2 5.4.d	Compliance
Power Density	Section 15.247&RSS-247 Issue 2 5.2.b	Compliance
Band Edge	Section 15.247&RSS-247 Issue 2 5.5	Compliance
Antenna Requirement	Section 15.203&RSS-GEN ISSUE 4 8.3	Compliance

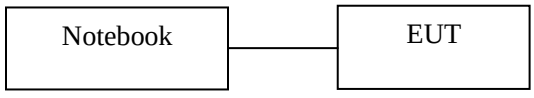
Note:
1："N/A" denotes test is not applicable in this Test Report
2：Test with the test procedure WIFI tool.
3：All tests are according to ANSI C63.10-2013:

2.2 Assistant equipment used for test

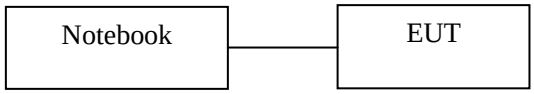
Description	:	Notebook
Manufacturer	:	Acer
Model No.	:	ZQT

2.3 Block Diagram of Test setup

1, For radiated emissions test: EUT was placed on a turn table, which is 0.8 meter high above ground for blew 1GHz, 1.5 meter high above ground for above 1GHz. EUT was be set into WIFI test mode by software before test.



2, For Power Line Conducted Emissions Test.



2.4 Test mode

Duty cycle :100%			
Mode	data rate (Mbps)(see Note)	Channel	Frequency (MHz)
IEEE 802.11b	1	Low :CH1	2412
	1	Middle: CH6	2437
	1	High: CH11	2462
IEEE 802.11g	6	Low :CH1	2412
	6	Middle: CH6	2437
	6	High: CH11	2462
IEEE 802.11 n/HT20 with 2.4G	6.5	Low :CH1	2412
	6.5	Middle: CH6	2437
	6.5	High: CH11	2462
IEEE 802.11 n/HT40 with 2.4G	13.5	Low :CH3	2422
	13.5	Middle:CH6	2437
	13.5	High:CH9	2452
Note:1. According exploratory test, EUT will have maximum output power in those data rate. so those data rate were used for all test. 2. The test software was used to control EUT work in Continuous TX mode, and select test channel.			

2.5 Channel list

For IEEE 802.11b/g and IEEE 802.11n/HT20 with 2.4G					
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
CH1	2412	CH5	2432	CH9	2452
CH2	2417	CH6	2437	CH10	2457
CH3	2422	CH7	2442	CH11	2462
CH4	2427	CH8	2447		

For IEEE 802.11n/HT40 with 2.4G					
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
CH1	/	CH5	2432	CH9	2452
CH2	/	CH6	2437	/	/
CH3	2422	CH7	2442	/	/
CH4	2427	CH8	2447	/	/

2.6 Test Conditions

Temperature range	21-25℃
Humidity range	40-75%
Pressure range	86-106kPa

2.7 Measurement Uncertainty (95% confidence levels, k=2)

Item	MU	Remark
Uncertainty for Power point Conducted Emissions Test	2.42dB	
Uncertainty for Radiation Emission test in 3m chamber (below 30MHz)	2.13 dB	Polarize: V
	2.57dB	Polarize: H
Uncertainty for Radiation Emission test in 3m chamber (30MHz to 1GHz)	3.54dB	Polarize: V
	4.1dB	Polarize: H
Uncertainty for Radiation Emission test in 3m chamber (1GHz to 25GHz)	2.08dB	Polarize: H
	2.56dB	Polarize: V
Uncertainty for radio frequency	1×10-9	
Uncertainty for conducted RF Power	0.65dB	
Uncertainty for temperature	0.2℃	
Uncertainty for humidity	1%	
Uncertainty for DC and low frequency voltages	0.06%	

2.8 Test Equipment List

Equipment	Manufacture	Model No.	Serial No.	Cal. Due	Cal. Interval
3m Semi-Anechoic	CHENYU	N/A	N/A	2017.07.21	2Year
Spectrum analyzer	Agilent	E4407B	MY46185649	2017.09.29	1Year
Receiver	R&S	ESPI	101873	2017.09.29	1Year
Receiver	R&S	ESCI	101165	2017.09.29	1Year
Bilog Antenna	SCHWARZBECK	VULB 9168	VULB9168-438	2017.09.30	2Year
Horn Antenna	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D(1201)	2017.09.30	2Year
L.I.S.N.#1	Schwarzbeck	NSLK8126	8126466	2017.09.29	1 Year
L.I.S.N.#2	ROHDE&SCHWARZ	ENV216	101043	2017.09.29	1 Year
Cable	Resenberger	N/A	No.1	2017.09.29	1Year
Cable	SCHWARZBECK	N/A	No.2	2017.09.29	1Year
Cable	SCHWARZBECK	N/A	No.3	2017.09.29	1Year
Pre-amplifier	HP	HP8347A	2834A00455	2017.09.29	1Year
Pre-amplifier	Agilent	8449B	3008A02664	2017.09.29	1Year
vector Signal Generator	Agilent	N5182A	MY49060042	2017.09.29	1 Year
vector Signal Generator	Agilent	E4438C	US44271917	2017.09.29	1 Year
X-series USB Peak and Average Power Sensor	Agilent	U2021XA	MY54080020	2017.09.29	1 Year
X-series USB Peak and Average Power Sensor	Agilent	U2021XA	MY54110001	2017.09.29	1 Year
Signal Analyzer	Agilent	N9020A	MY48030494	2017.09.29	1 Year

3 Spurious Emission

3.1 Radiation Emission

3.1.1 Radiation Emission Limits(15.209&15.205)

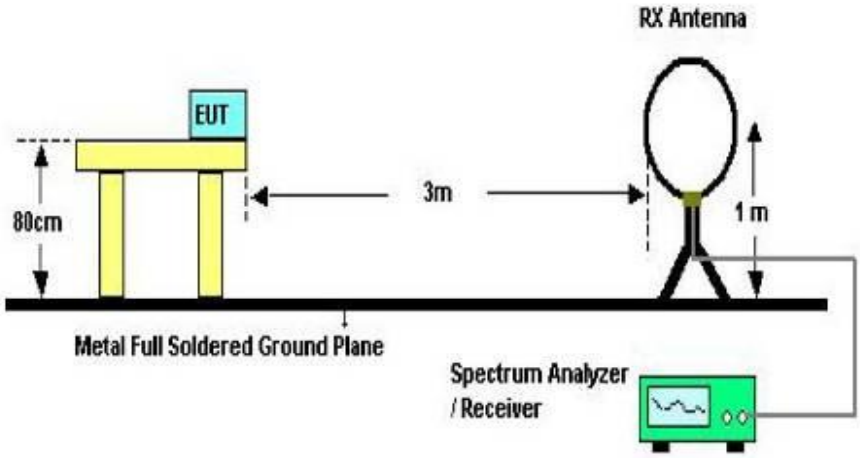
Frequencies (MHz)	Field Strength (micorvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

Harmonic emissions limits comply with below 54 dBuV/m at 3m. Other emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or comply with the radiated emissions limits specified in section 15.209(a) limit in the table below has to be followed.

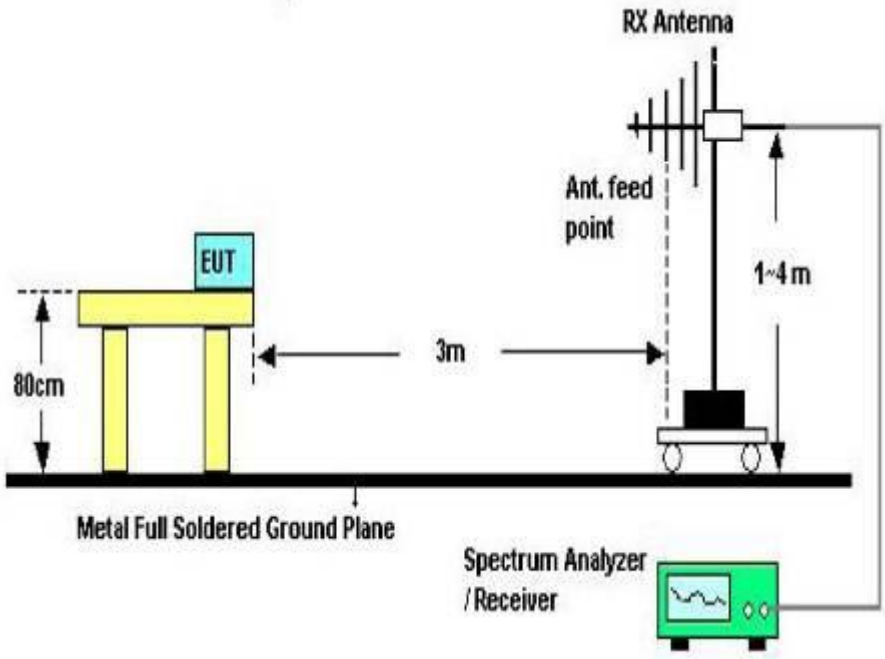
NOTE:

a) The tighter limit applies at the band edges.
b) Emission Level(dB uV/m)=20log Emission Level(uV/m)

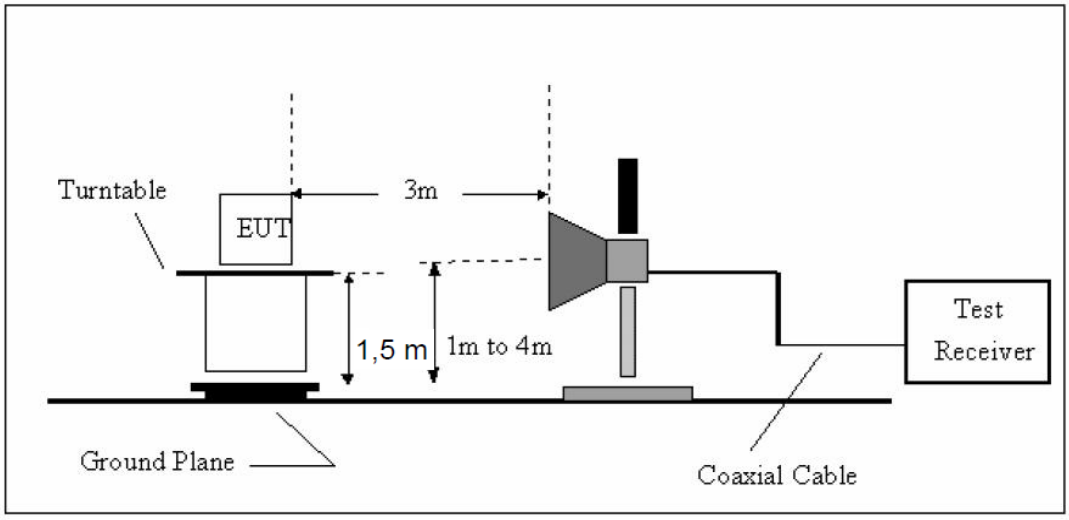
3.2 Test Setup



Below 30MHz Test Setup



Above 30MHz Test Setup



Above 1GHz Test Setup

3.3 Test Procedure

a) The measuring distance of 3m shall be used for measurements at frequency up to 1GHz and above 1GHz, The EUT was placed on a rotating 0.8 m high above ground, The table was rotated 360 degrees to determine the position of the highest radiation
b) The Test antenna shall vary between 1m and 4m,Both Horizontal and Vertical antenna are set of make measurement.
c) The initial step in collecting conducted emission data is a spectrum analyzer Peak detector mode pre-scanning the measurement frequency range. Significant Peaks are then marked. and then Qusia Peak Detector mode premeasured
d) If Peak value comply with QP limit Below 1GHz.The EUT deemed to comply with QP limit. But the Peak value and average value both need to comply with applicable limit above 1GHz.
e) For the actual test configuration, please see the test setup photo.

3.3.1 Test Equipment Setting For emission test Result

9KHz~150KHz	RBW 200Hz	VBW1KHz
150KHz~30MHz	RBW 9KHz	VBW 30KHz
30MHZ~1GHz	RBW 120KHz	VBW 300KHz
Above 1GHz	RBW 1MHz	VBW 3MHz

3.3.2 Test Condition

Continual Transmitting in maximum power.

3.4 Test Result

We have scanned the 9KHz from 25GHz to the EUT.
Detailed information please see the following page.

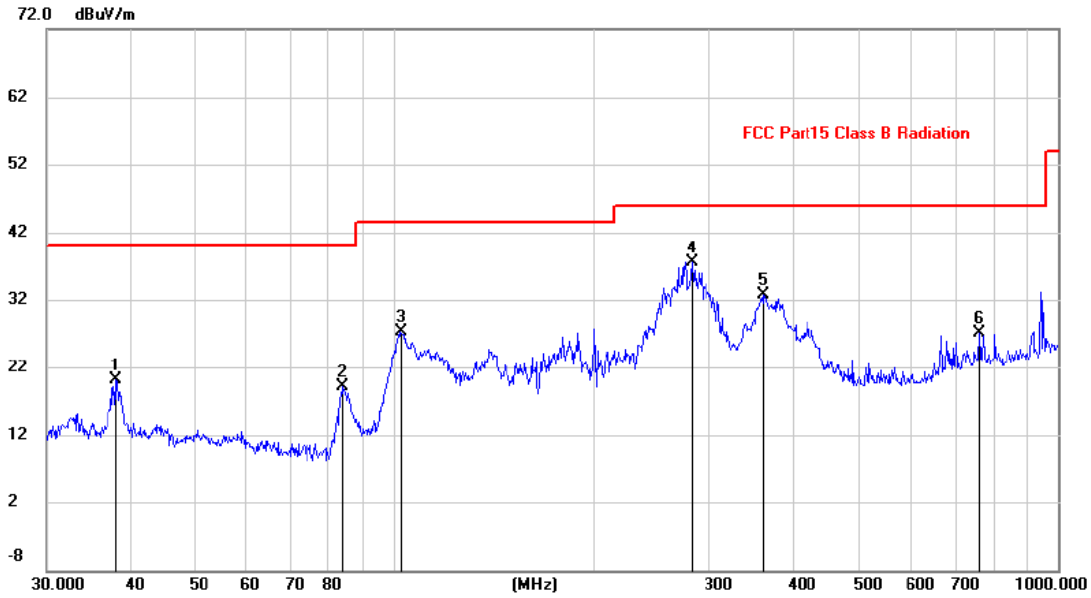
From 9KHz to 30MHz: Conclusion: PASS

Note: The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

Site LAB	Polarization: ***Horizontal***	Temperature:	23.5
Limit: FCC Part15 Class B Radiation	Power: DC 5V	Humidity:	51 %
EUT: Desk V2 Screen	Distance: 3m		
M/N: T201509			
Mode:WIFI			
Note:			

Radiated Emission Measurement

File :T201509 Data :#11 Date: 2017/3/17 Time: 10:53:02

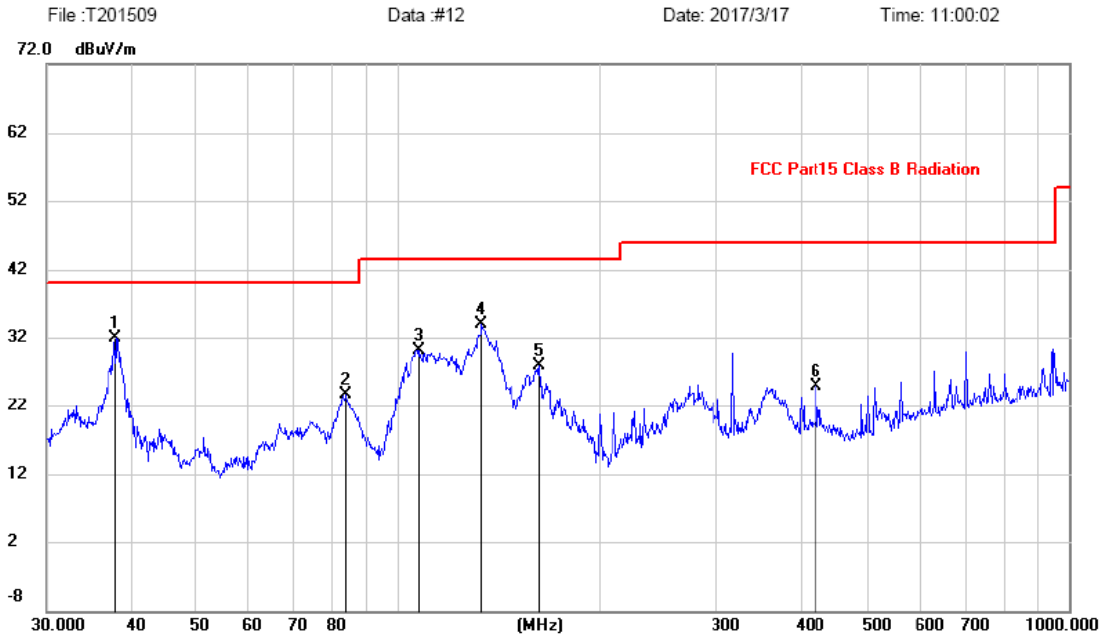


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		38.0783	6.34	13.84	20.18	40.00	-19.82	peak			
2		84.1100	9.56	9.61	19.17	40.00	-20.83	peak			
3		102.3597	16.50	10.82	27.32	43.50	-16.18	peak			
4	*	281.9946	24.45	13.00	37.45	46.00	-8.55	peak			
5		360.4476	18.08	14.53	32.61	46.00	-13.39	peak			
6		760.7036	5.33	21.83	27.16	46.00	-18.84	peak			

Note:1. *:Maximum data; x:Over limit; !:over margin.
2.Measurement=Reading Level+Correct Factor; Correct Factor=Antenna Factor+Cable Loss.

Site LAB	Polarization: ***Vertical***	Temperature:	23.5
Limit: FCC Part15 Class B Radiation	Power: DC 5V	Humidity:	51 %
EUT: Desk V2 Screen	Distance: 3m		
M/N: T201509			
Mode: WIFI			
Note:			

Radiated Emission Measurement



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	*	38.0782	18.11	13.84	31.95	40.00	-8.05	peak			
2		83.8155	14.19	9.60	23.79	40.00	-16.21	peak			
3		107.8876	18.85	11.32	30.17	43.50	-13.33	peak			
4		133.1511	20.43	13.42	33.85	43.50	-9.65	peak			
5		163.1817	13.58	14.32	27.90	43.50	-15.60	peak			
6		420.5803	8.90	16.05	24.95	46.00	-21.05	peak			

Note:1. *:Maximum data; x:Over limit; !:over margin.
2.Measurement=Reading Level+Correct Factor; Correct Factor=Antenna Factor+Cable Loss.

Remark: All modes and channels have been tested and only worst data of 802.11b, 2412MHz is listed in this report.

Test result(above 1GHz)

EUT	Desk V2 Screen	**Model Name**	T201509
Temperature	26°C	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 5V From USB port
Test Mode	IEEE 802.11b TX Low		

Antenna Polarity: Vertical

No	Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4824	43.65	33.95	10.18	34.26	53.52	74	20.48	PK
2	4824	34.11	33.95	10.18	34.26	43.98	54	10.02	AV
3	7226	/							
4	9648	/							
5	12060	/							

Antenna Polarity: Horizontal

1	4824	42.87	33.95	10.18	34.26	52.74	74	21.26	PK
2	4824	33.85	33.95	10.18	34.26	43.72	54	10.28	AV
3	7226	/							
4	9648	/							
5	12060	/							

Note:

1,Measuring frequency from 1GHz to 25GHz

2,Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK

2,Spectrum Set for AV measure: RBW=1MHz, VBW=3MHz, Sweep time=Auto, Detector: RMS

3, Result = Read level + Antenna factor + cable loss-Amp factor

4, All the other emissions not reported were too low to read and deemed to comply with FCC limit.

EUT	Desk V2 Screen	**Model Name**	T201509
Temperature	26°C	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 5V From USB port
Test Mode	IEEE 802.11b TX Mid		

Antenna Polarity: Vertical

No	Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4874	41.72	33.95	10.20	34.29	51.58	74	22.42	PK
2	4874	32.90	33.95	10.20	34.29	42.76	54	11.24	AV
3	7311	/							
4	9748	/							
5	12185	/							

Antenna Polarity: Horizontal

1	4874	41.62	33.93	10.20	34.29	51.46	74	22.54	PK
2	4874	32.62	33.93	10.20	34.29	42.46	54	11.54	AV
3	7311	/							
4	9748	/							
5	12185	/							

Note:

1,Measuring frequency from 1GHz to 25GHz

2,Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK

2,Spectrum Set for AV measure: RBW=1MHz, VBW=3MHz, Sweep time=Auto, Detector: RMS

3, Result = Read level + Antenna factor + cable loss-Amp factor

4, All the other emissions not reported were too low to read and deemed to comply with FCC limit.

EUT	Desk V2 Screen	**Model Name**	T201509
Temperature	26°C	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 5V From USB port
Test Mode	IEEE 802.11b TX High		

Antenna Polarity: Vertical

No	Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4924	42.50	33.95	10.23	34.25	52.43	74	21.57	PK
2	4924	33.00	33.95	10.23	34.25	42.93	54	11.07	AV
3	7386	/							
4	9848	/							
5	12310	/							

Antenna Polarity: Horizontal

1	4924	42.56	33.95	10.23	34.25	52.49	74	21.51	PK
2	4924	31.75	33.95	10.23	34.25	41.68	54	12.32	AV
3	7386	/							
4	9848	/							
5	12310	/							

Note:

1,Measuring frequency from 1GHz to 25GHz

2,Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK

2,Spectrum Set for AV measure: RBW=1MHz, VBW=3MHz, Sweep time=Auto, Detector: RMS

3, Result = Read level + Antenna factor + cable loss-Amp factor

4, All the other emissions not reported were too low to read and deemed to comply with FCC limit.

EUT	Desk V2 Screen	**Model Name**	T201509
Temperature	26°C	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 5V From USB port
Test Mode	IEEE 802.11g TX Low		

Antenna Polarity: Vertical

No	Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4824	43.62	33.95	10.18	34.26	53.49	74	20.51	PK
2	4824	34.41	33.95	10.18	34.26	44.28	54	9.72	AV
3	7226	/							
4	9648	/							
5	12060	/							

Antenna Polarity: Horizontal

1	4824	43.31	33.95	10.18	34.26	53.18	74	20.82	PK
2	4824	34.28	33.95	10.18	34.26	44.15	54	9.85	AV
3	7226	/							
4	9648	/							
5	12060	/							

Note:

1,Measuring frequency from 1GHz to 25GHz

2,Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK

2,Spectrum Set for AV measure: RBW=1MHz, VBW=3MHz, Sweep time=Auto, Detector: RMS

3, Result = Read level + Antenna factor + cable loss-Amp factor

4, All the other emissions not reported were too low to read and deemed to comply with FCC limit.

EUT	Desk V2 Screen	**Model Name**	T201509
Temperature	26°C	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 5V From USB port
Test Mode	IEEE 802.11g TX Mid		

Antenna Polarity: Vertical

No	Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4874	41.45	33.95	10.20	34.29	51.31	74	22.69	PK
2	4874	32.44	33.95	10.20	34.29	42.30	54	11.70	AV
3	7311	/							
4	9748	/							
5	12185	/							

Antenna Polarity: Horizontal

1	4874	42.31	33.93	10.20	34.29	52.15	74	21.85	PK
2	4874	33.00	33.93	10.20	34.29	42.84	54	11.16	AV
3	7311	/							
4	9748	/							
5	12185	/							

Note:

1,Measuring frequency from 1GHz to 25GHz

2,Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK

2,Spectrum Set for AV measure: RBW=1MHz, VBW=3MHz, Sweep time=Auto, Detector: RMS

3, Result = Read level + Antenna factor + cable loss-Amp factor

4, All the other emissions not reported were too low to read and deemed to comply with FCC limit.

EUT	Desk V2 Screen	**Model Name**	T201509
Temperature	26°C	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 5V From USB port
Test Mode	IEEE 802.11g TX High		

Antenna Polarity: Vertical

No	Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4924	41.99	33.95	10.23	34.25	51.92	74	22.08	PK
2	4924	32.95	33.95	10.23	34.25	42.88	54	11.12	AV
3	7386	/							
4	9848	/							
5	12310	/							

Antenna Polarity: Horizontal

1	4924	42.82	33.95	10.23	34.25	52.75	74	21.25	PK
2	4924	31.82	33.95	10.23	34.25	41.75	54	12.25	AV
3	7386	/							
4	9848	/							
5	12310	/							

Note:

1,Measuring frequency from 1GHz to 25GHz

2,Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK

2,Spectrum Set for AV measure: RBW=1MHz, VBW=3MHz, Sweep time=Auto, Detector: RMS

3, Result = Read level + Antenna factor + cable loss-Amp factor

4, All the other emissions not reported were too low to read and deemed to comply with FCC limit.

EUT	Desk V2 Screen	**Model Name**	T201509
Temperature	26°C	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 5V From USB port
Test Mode	IEEE 802.11n HT 20 TX Low		

Antenna Polarity: Vertical

No	Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4824	43.69	33.95	10.18	34.26	53.56	74	20.44	PK
2	4824	34.00	33.95	10.18	34.26	43.87	54	10.13	AV
3	7226	/							
4	9648	/							
5	12060	/							

Antenna Polarity: Horizontal

1	4824	43.70	33.95	10.18	34.26	53.57	74	20.43	PK
2	4824	34.02	33.95	10.18	34.26	43.89	54	10.11	AV
3	7226	/							
4	9648	/							
5	12060	/							

Note:

1,Measuring frequency from 1GHz to 25GHz

2,Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK

2,Spectrum Set for AV measure: RBW=1MHz, VBW=3MHz, Sweep time=Auto, Detector: RMS

3, Result = Read level + Antenna factor + cable loss-Amp factor

4, All the other emissions not reported were too low to read and deemed to comply with FCC limit.

EUT	Desk V2 Screen	**Model Name**	T201509
Temperature	26°C	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 5V From USB port
Test Mode	IEEE 802.11n HT 20 TX Mid		

Antenna Polarity: Vertical

No	Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4874	41.35	33.95	10.20	34.29	51.21	74	22.79	PK
2	4874	32.38	33.95	10.20	34.29	42.24	54	11.76	AV
3	7311	/							
4	9748	/							
5	12185	/							

Antenna Polarity: Horizontal

1	4874	41.84	33.93	10.20	34.29	51.68	74	22.32	PK
2	4874	32.44	33.93	10.20	34.29	42.28	54	11.72	AV
3	7311	/							
4	9748	/							
5	12185	/							

Note:

1,Measuring frequency from 1GHz to 25GHz

2,Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK

2,Spectrum Set for AV measure: RBW=1MHz, VBW=3MHz, Sweep time=Auto, Detector: RMS

3, Result = Read level + Antenna factor + cable loss-Amp factor

4, All the other emissions not reported were too low to read and deemed to comply with FCC limit.

EUT	Desk V2 Screen	**Model Name**	T201509
Temperature	26°C	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 5V From USB port
Test Mode	IEEE 802.11n HT20 TX High		

Antenna Polarity: Vertical

No	Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4924	42.47	33.95	10.23	34.25	52.40	74	21.60	PK
2	4924	32.96	33.95	10.23	34.25	42.89	54	11.11	AV
3	7386	/							
4	9848	/							
5	12310	/							

Antenna Polarity: Horizontal

1	4924	42.69	33.95	10.23	34.25	52.62	74	21.38	PK
2	4924	32.27	33.95	10.23	34.25	42.20	54	11.80	AV
3	7386	/							
4	9848	/							
5	12310	/							

Note:

1,Measuring frequency from 1GHz to 25GHz

2,Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK

2,Spectrum Set for AV measure: RBW=1MHz, VBW=3MHz, Sweep time=Auto, Detector: RMS

3, Result = Read level + Antenna factor + cable loss-Amp factor

4, All the other emissions not reported were too low to read and deemed to comply with FCC limit.

EUT	Desk V2 Screen	**Model Name**	T201509
Temperature	26°C	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 5V From USB port
Test Mode	IEEE 802.11n HT 40 TX Low		

Antenna Polarity: Vertical

No	Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4844	43.17	33.95	10.19	34.26	53.05	74	20.95	PK
2	4844	32.08	33.95	10.19	34.26	41.96	54	12.04	AV
3	7266	/							
4	9688	/							
5	12110	/							

Antenna Polarity: Horizontal

1	4844	43.25	33.95	10.19	34.26	53.13	74	20.87	PK
2	4844	31.40	33.95	10.19	34.26	41.28	54	12.72	AV
3	7266	/							
4	9688	/							
5	12110	/							

Note:

1,Measuring frequency from 1GHz to 25GHz

2,Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK

2,Spectrum Set for AV measure: RBW=1MHz, VBW=3MHz, Sweep time=Auto, Detector: RMS

3, Result = Read level + Antenna factor + cable loss-Amp factor

4, All the other emissions not reported were too low to read and deemed to comply with FCC limit.

EUT	Desk V2 Screen	**Model Name**	T201509
Temperature	26°C	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 5V From USB port
Test Mode	IEEE 802.11n HT 40 TX Mid		

Antenna Polarity: Vertical

No	Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4884	43.23	33.95	10.22	34.28	53.12	74	20.88	PK
2	4884	30.83	33.95	10.22	34.28	40.72	54	13.28	AV
3	7326	/							
4	9768	/							
5	12210	/							

Antenna Polarity: Horizontal

1	4884	43.35	33.95	10.22	34.28	53.24	74	20.76	PK
2	4884	32.85	33.95	10.22	34.28	42.74	54	11.26	AV
3	7326	/							
4	9768	/							
5	12210	/							

Note:

1,Measuring frequency from 1GHz to 25GHz

2,Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK

2,Spectrum Set for AV measure: RBW=1MHz, VBW=3MHz, Sweep time=Auto, Detector: RMS

3, Result = Read level + Antenna factor + cable loss-Amp factor

4, All the other emissions not reported were too low to read and deemed to comply with FCC limit.

EUT	Desk V2 Screen	**Model Name**	T201509
Temperature	26°C	**Relative Humidity**	56%
Pressure	960hPa	**Test voltage**	DC 5V From USB port
Test Mode	IEEE 802.11n HT40 TX High		

Antenna Polarity: Vertical

No	Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	4904	41.96	33.95	10.31	34.37	51.85	74	22.15	PK
2	4904	32.50	33.95	10.31	34.37	42.39	54	11.61	AV
3	7356	/							
4	9808	/							
5	12260	/							

Antenna Polarity: Horizontal

1	4904	42.38	33.95	10.31	34.37	52.27	74	21.73	PK
2	4904	32.14	33.95	10.31	34.37	42.03	54	11.97	AV
3	7356	/							
4	9808	/							
5	12260	/							

Note:

1,Measuring frequency from 1GHz to 25GHz

2,Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK

2,Spectrum Set for AV measure: RBW=1MHz, VBW=3MHz, Sweep time=Auto, Detector: RMS

3, Result = Read level + Antenna factor + cable loss-Amp factor

4, All the other emissions not reported were too low to read and deemed to comply with FCC limit.

4 POWER LINE CONDUCTED EMISSION

4.1 Limit

Frequency MHz	Limits dB(μV)	
	Quasi-peak Level	Average Level
0.15 -0.50	66 -56*	56 - 46*
0.50 -5.00	56	46
5.00 -30.00	60	50

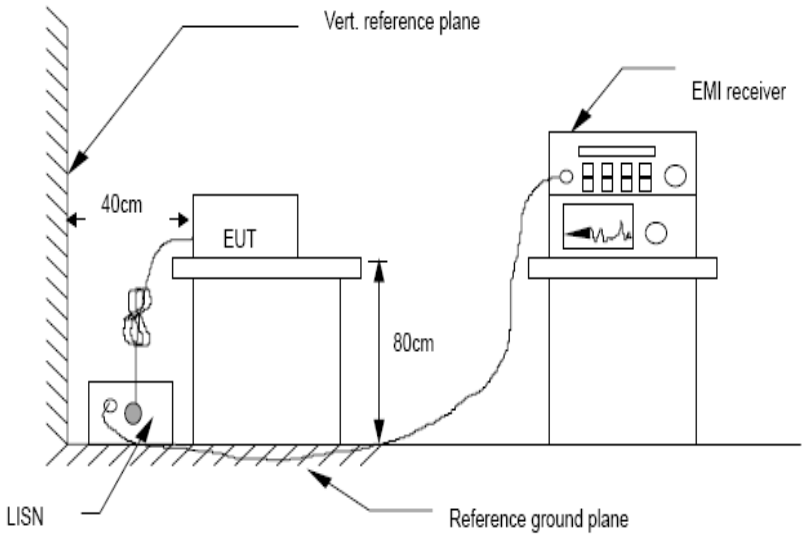
Notes:

1. *Decreasing linearly with logarithm of frequency.

2. The lower limit shall apply at the transition frequencies.

3.The limit decreases in line with the logarithm of the frequency in the rang of 0.15 to 0.50 MHz.

4.2 Test Setup



4.3 Test Procedure

The EUT is put on the plane 0.8m high above the ground by insulating support and is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm coupling impedance for the EUT system. Please refer the block diagram of the test setup and photographs. Both sides of AC lines are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to ANSI C63.4:2014 on Conducted Emission Measurement.

The bandwidth of test receiver is set at 9 kHz.

4.4 Test Results

TX MODE

Worse case is reported only

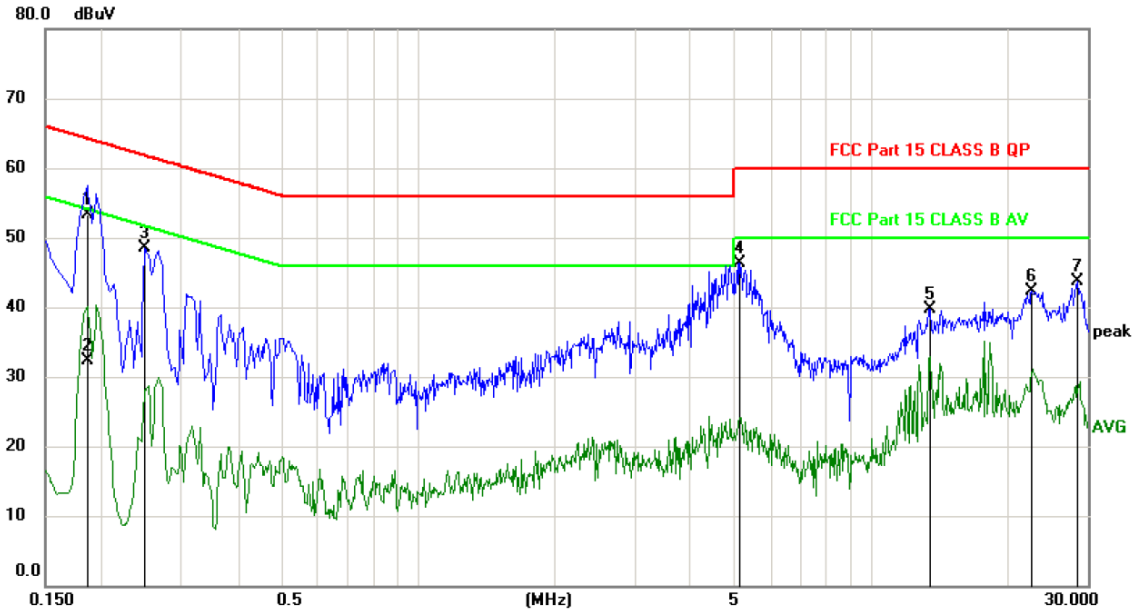
PASS

Detailed information please see the following page.

Site LAB	Phase:	*N*	Temperature: 24.2
Limit: FCC Part 15 CLASS B QP	Power:	AC 120V/60Hz	Humidity: 53 %
EUT: Desk V2 Screen			
M/N: T201509			
Mode: Working			
Note:			

Conducted Emission Measurement

File :desk V2 Screen Data :#3 Date: 2017-5-17 Time: 9:05:47

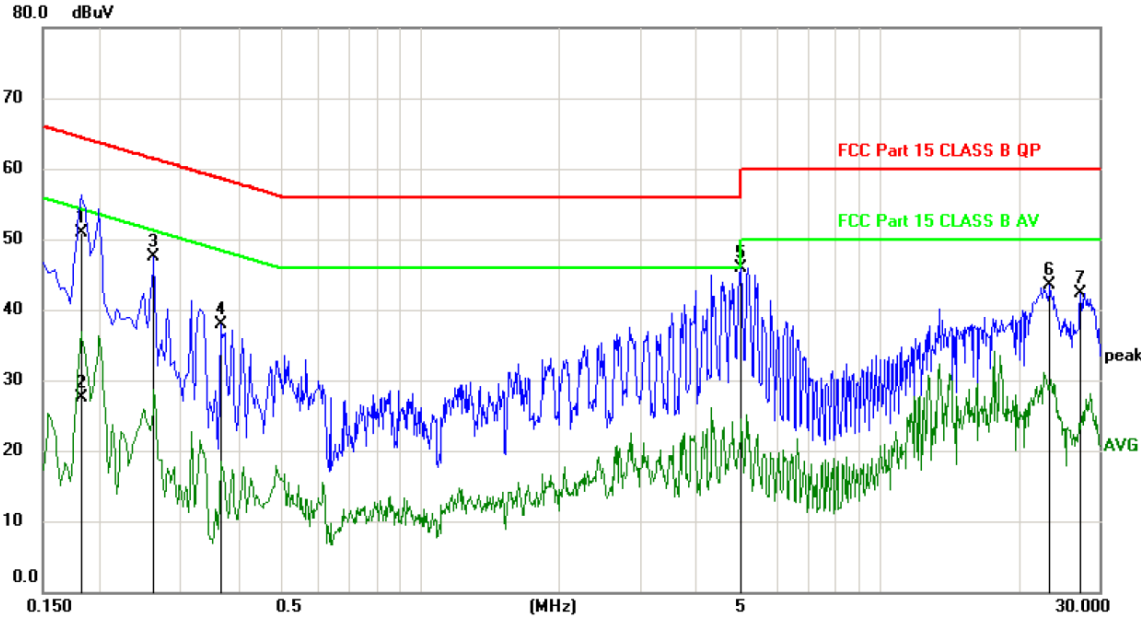


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	*	0.1860	43.49	9.74	53.23	64.21	-10.98	QP	
2		0.1860	22.66	9.74	32.40	54.21	-21.81	AVG	
3		0.2490	38.68	9.76	48.44	61.79	-13.35	peak	
4		5.1359	36.16	10.20	46.36	60.00	-13.64	peak	
5		13.4835	29.45	10.34	39.79	60.00	-20.21	peak	
6		22.6050	31.73	10.63	42.36	60.00	-17.64	peak	
7		28.5450	32.67	11.06	43.73	60.00	-16.27	peak	

Site LAB	Phase:	*L1*	Temperature: 24.2
Limit: FCC Part 15 CLASS B QP	Power:	AC 120V/60Hz	Humidity: 53 %
EUT: Desk V2 Screen			
M/N: T201509			
Mode: Working			
Note:			

Conducted Emission Measurement

File :desk V2 Screen Data :#4 Date: 2017-5-17 Time: 9:08:34



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1815	41.15	9.74	50.89	64.42	-13.53	QP	
2		0.1815	17.77	9.74	27.51	54.42	-26.91	AVG	
3		0.2625	37.65	9.76	47.41	61.35	-13.94	peak	
4		0.3660	28.21	9.77	37.98	58.59	-20.61	peak	
5	*	4.9920	35.75	10.19	45.94	56.00	-10.06	peak	
6		23.5005	32.72	10.70	43.42	60.00	-16.58	peak	
7		27.3750	31.35	10.94	42.29	60.00	-17.71	peak	

Remark: All modes and channels have been tested and only worst data of 802.11b, 2412MHz is listed in this report.

5 Conducted Maximum Output Power

5.1 Test limit

Please refer RSS-247 & section 15.247.

Regulation 15.247(b) The limit of Maximum Peak Output Power Measurement is 1W(30dBm)

5.2 Test Procedure

Details see the KDB558074 Meas Guidance V04

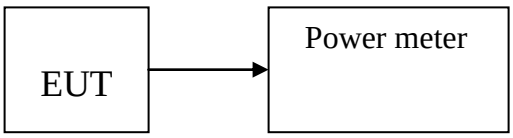
5.2.1 Place the EUT on the table and set it in transmitting mode.

5.2.2 Connected the EUT's antenna port to peak power meter by 20dB attenuator.

5.2.3 Measure out each mode and each bands peak output power of EUT.

Note: The cable loss and attenuator loss were offset into measure device as amplitude offset. Details see the KDB558074 DTS Meas Guidance V04

5.3 Test Setup



5.4 Test Results

PASS

Detailed information please see the following page.

Mode	Frequency (MHz)	PK Output power(dBm)	Limit (dBm)
IEEE 802.11 b	CH1: 2412	11.27	30
	CH6: 2437	10.75	30
	CH11: 2462	11.09	30
IEEE 802.11 g	CH1: 2412	9.19	30
	CH6: 2437	9.45	30
	CH11: 2462	9.46	30
IEEE 802.11 n/HT20 with 2.4G	CH1: 2412	9.62	30
	CH6: 2437	9.26	30
	CH11: 2462	9.64	30
IEEE 802.11 n/HT40 with 2.4G	CH1: 2422	8.42	30
	CH4: 2437	8.56	30
	CH7: 2452	8.53	30

Conclusion: PASS

6 PEAK POWER SPECTRAL DENSITY

6.1 Test limit

8.1.1 Please refer RSS-247 & section 15.247

8.1.2 For direct sequence systems, the peak power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8dBm in any 3kHz band during any time interval of continuous transmission.

8.1.3 The direct sequence operating of the hybrid system, with the frequency hopping operation turned off, shall comply with the power density requirements of paragraph (d) of this section.

6.2 Method of measurement

Details see the KDB558074 DTS Meas Guidance V4

8.2.1 Place the EUT on the table and set it in transmitting mode.

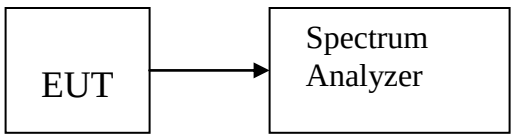
8.2.2 Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.

8.2.3 Set the spectrum analyzer as RBW = 3kHz, VBW = 10kHz, span=5-30%EBW, detail see the test plot.

8.2.4 Record the max reading.

8.2.5 Repeat the above procedure until the measurements for all frequencies are completed.

6.3 Test Setup



6.4 Test Results

Mode	Frequency (MHz)	Power Density Total	Limit (dBm)
IEEE 802.11 b	CH1: 2412	-13.079	8
	CH6: 2437	-15.039	8
	CH11: 2462	-16.182	8
IEEE 802.11 g	CH1: 2412	-16.976	8
	CH6: 2437	-16.996	8
	CH11: 2462	-19.823	8
IEEE 802.11 n/HT20 with 2.4G	CH1: 2412	-17.451	8
	CH6: 2437	-16.195	8
	CH11: 2462	-19.372	8
IEEE 802.11 n/HT40 with 2.4G	CH1: 2422	-13.897	8
	CH4: 2437	-13.339	8
	CH7: 2452	-15.732	8

Conclusion: PASS

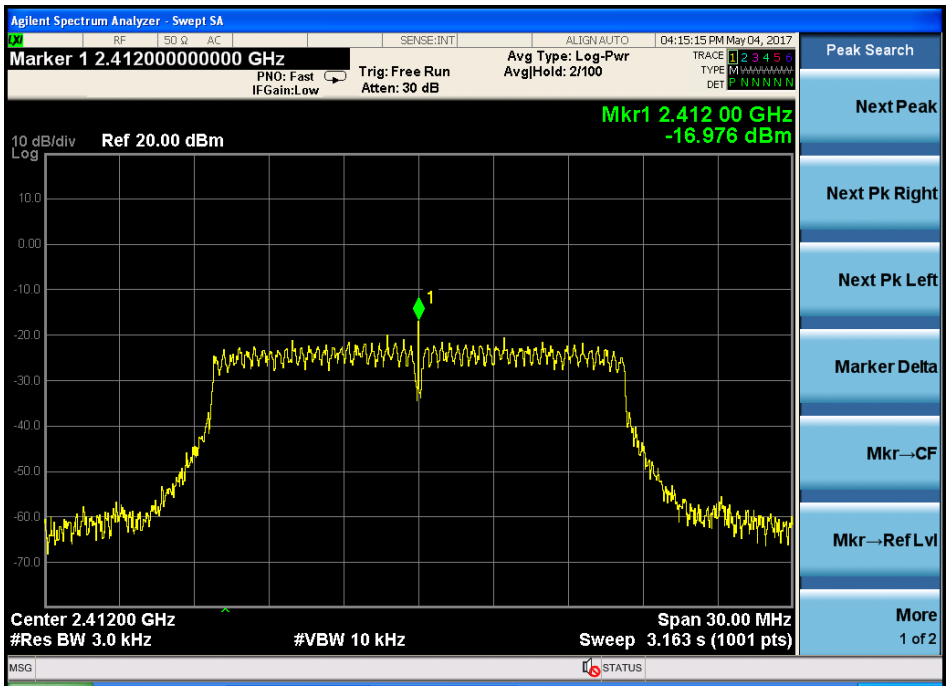
IEEE 802.11b :

CH Low :

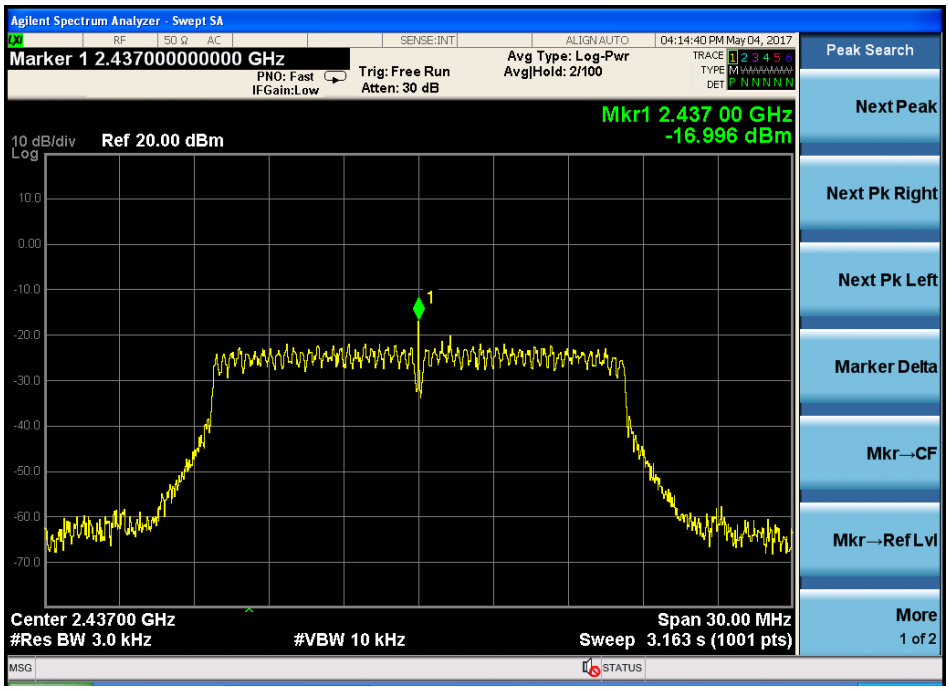
CH Mid:

CH Hig:

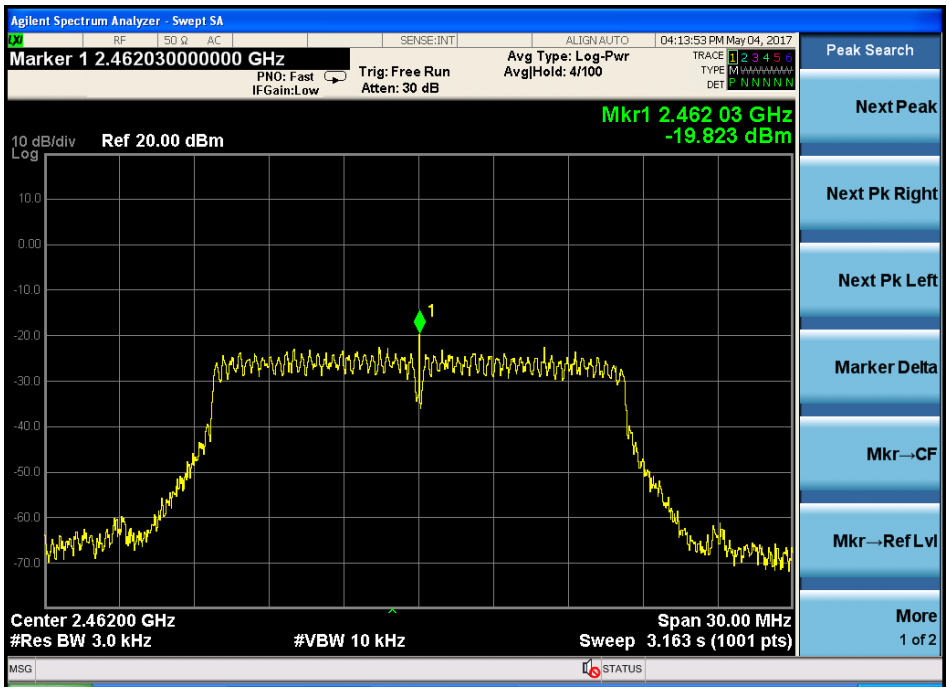
IEEE 802.11g :
CH Low



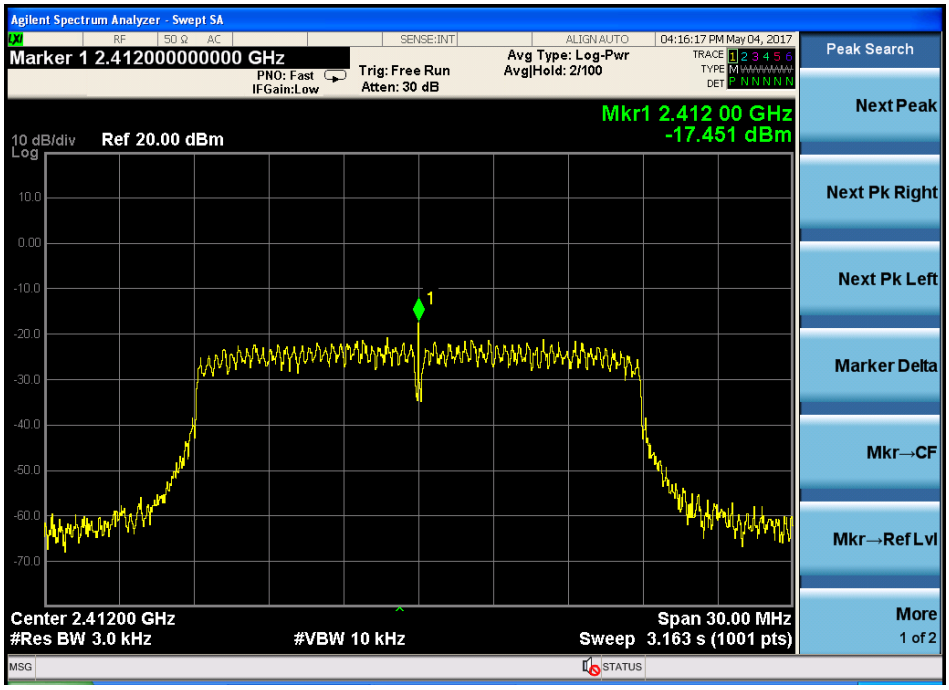
CH Mid:


Agilent Spectrum Analyzer - Swept SA
Marker 1 2.437000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 2/100
04:14:40 PM May 04, 2017
Mkr1 2.437 00 GHz
-16.996 dBm
10 dB/div
Log
Ref 20.00 dBm
Center 2.43700 GHz
#Res BW 3.0 kHz
#VBW 10 kHz
Span 30.00 MHz
Sweep 3.163 s (1001 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2

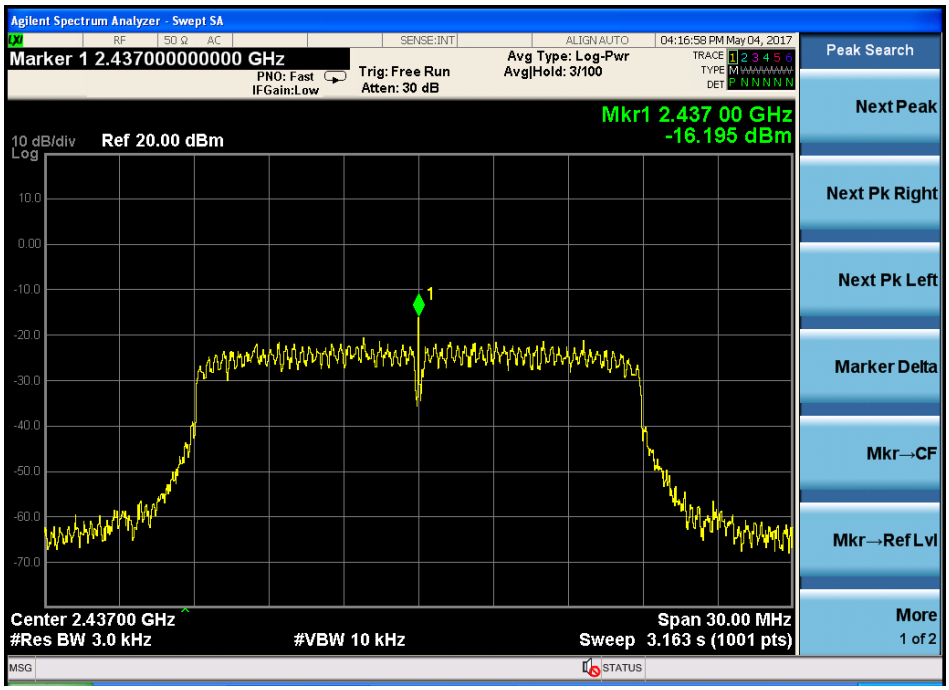
CH Hig:


Agilent Spectrum Analyzer - Swept SA
Marker 1 2.462030000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 4/100
04:13:53 PM May 04, 2017
Mkr1 2.462 03 GHz
-19.823 dBm
10 dB/div
Log
Ref 20.00 dBm
Center 2.46200 GHz
#Res BW 3.0 kHz
#VBW 10 kHz
Span 30.00 MHz
Sweep 3.163 s (1001 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2

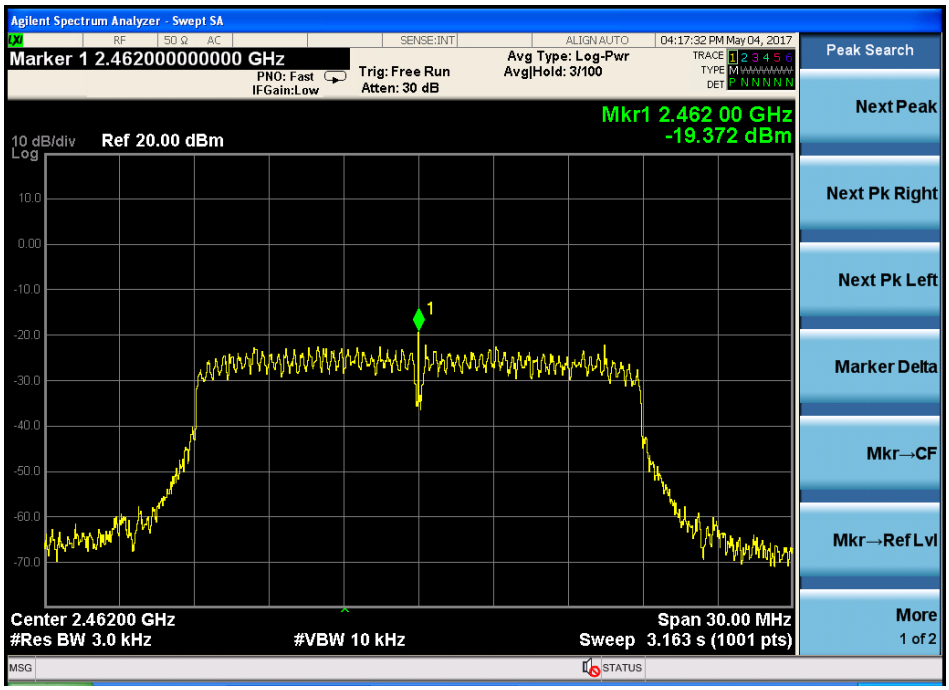
IEEE 802.11n HT20 :
CH Low :



CH Mid:

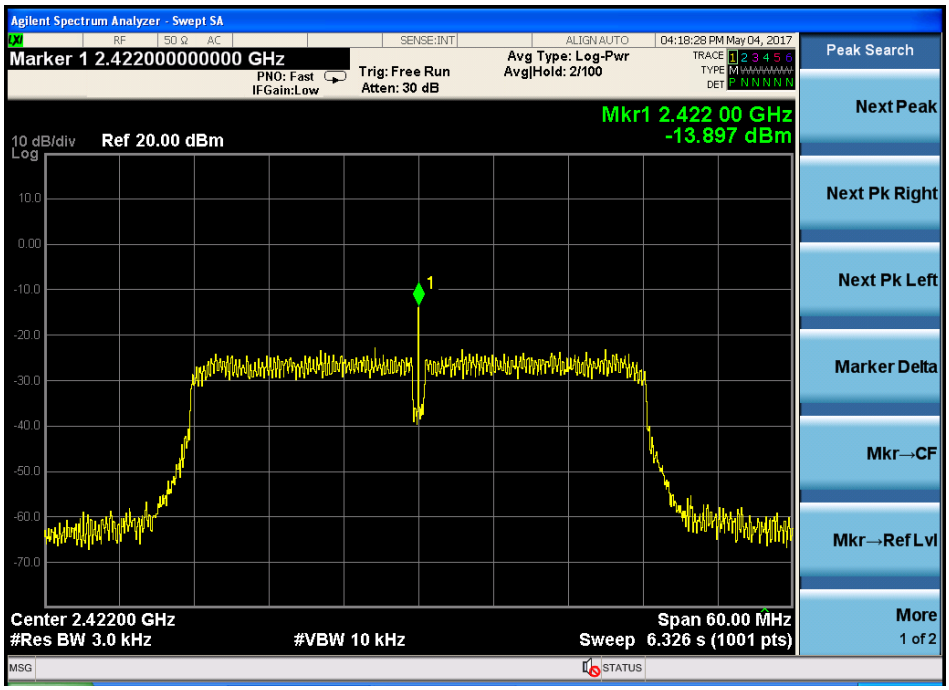


CH Hig:

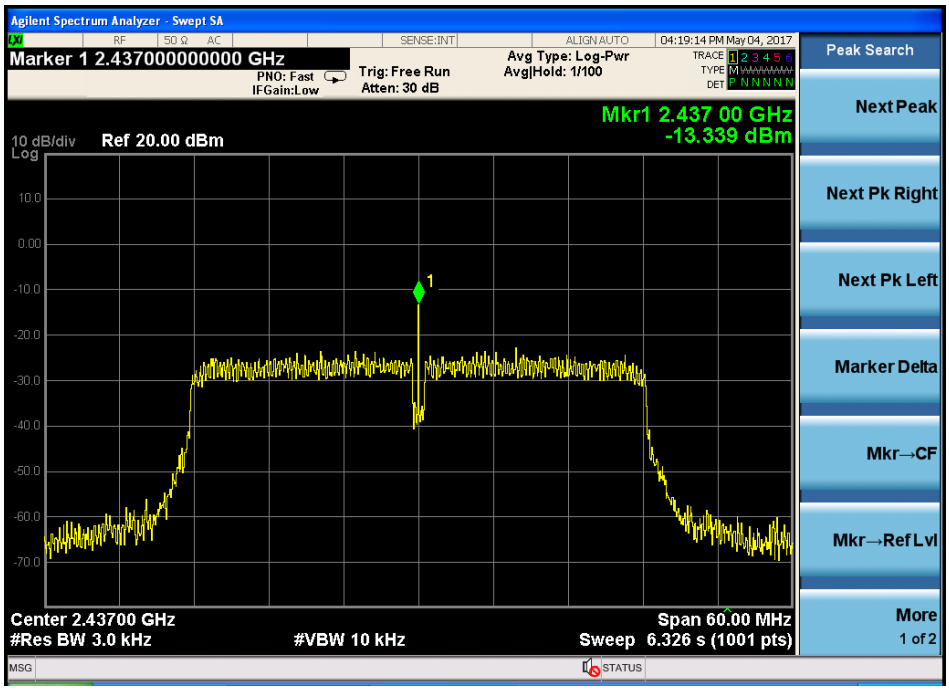


IEEE 802.11n HT40 :

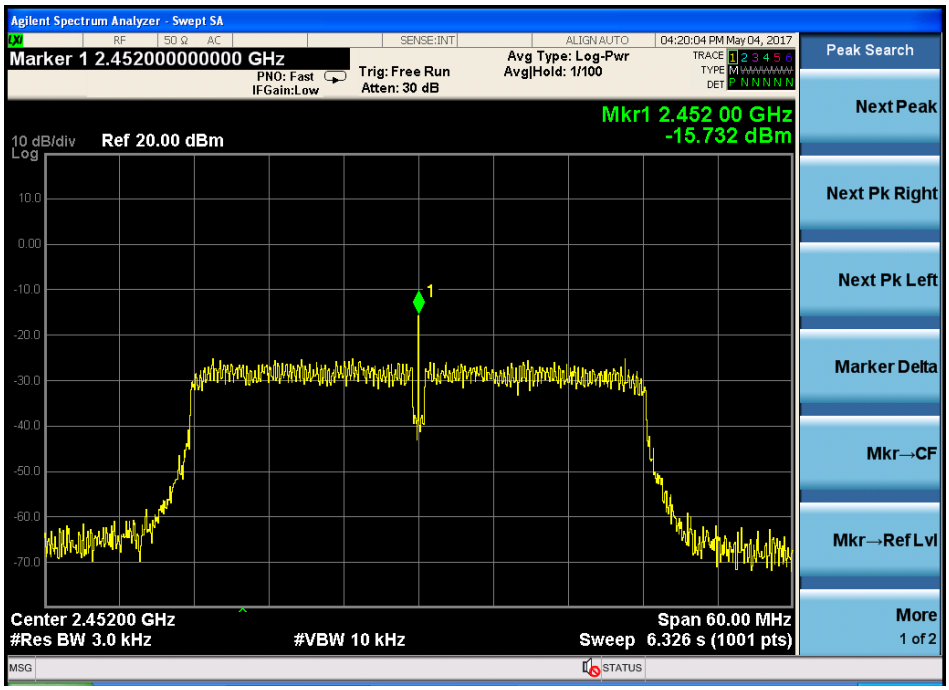
CH Low :



CH Mid:


Agilent Spectrum Analyzer - Swept SA
Marker 1 2.437000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 1/100
04:19:14 PM May 04, 2017
Mkr1 2.437 00 GHz
-13.339 dBm
10 dB/div
Log
Ref 20.00 dBm
Center 2.43700 GHz
#Res BW 3.0 kHz
#VBW 10 kHz
Span 60.00 MHz
Sweep 6.326 s (1001 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2

CH Hig:


Agilent Spectrum Analyzer - Swept SA
Marker 1 2.452000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 1/100
04:20:04 PM May 04, 2017
Mkr1 2.452 00 GHz
-15.732 dBm
10 dB/div
Log
Ref 20.00 dBm
Center 2.45200 GHz
#Res BW 3.0 kHz
#VBW 10 kHz
Span 60.00 MHz
Sweep 6.326 s (1001 pts)
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2

7 Bandwidth

7.1 Test limit

Please refer RSS-247 & section 15.247.

For direct sequence systems, the minimum 6dB bandwidth shall be at least 500 kHz.

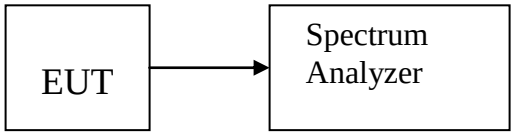
7.2 Method of measurement

Details see the KDB558074 D01 Meas Guidance V4

a) The bandwidth is measured at an amplitude level reduced 20dB from the reference level. The reference level is the level of the highest amplitude signal observed from the transmitter at the fundamental frequency. Once the reference level is established, the equipment is conditioned with typical modulating signal to produce the worst-case (i.e. the widest) bandwidth.

b) The test receiver set RBW = 100kHz, VBW≥300kHz, Peak Detector, Sweep time set auto, detail see the test plot.

7.3 Test Setup



7.4 Test Results

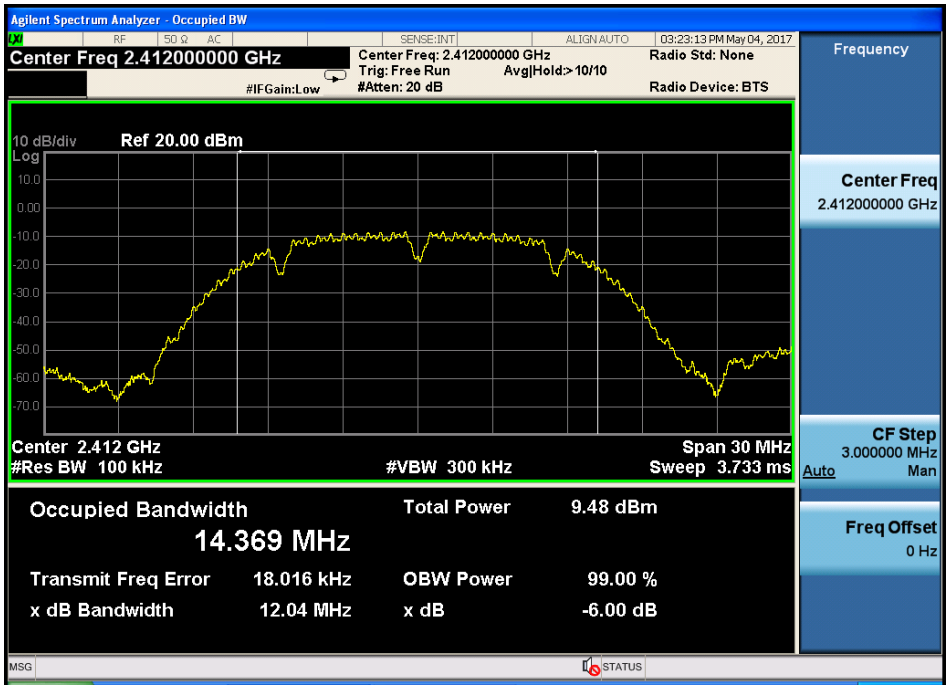
PASS.

Detailed information please see the following page.

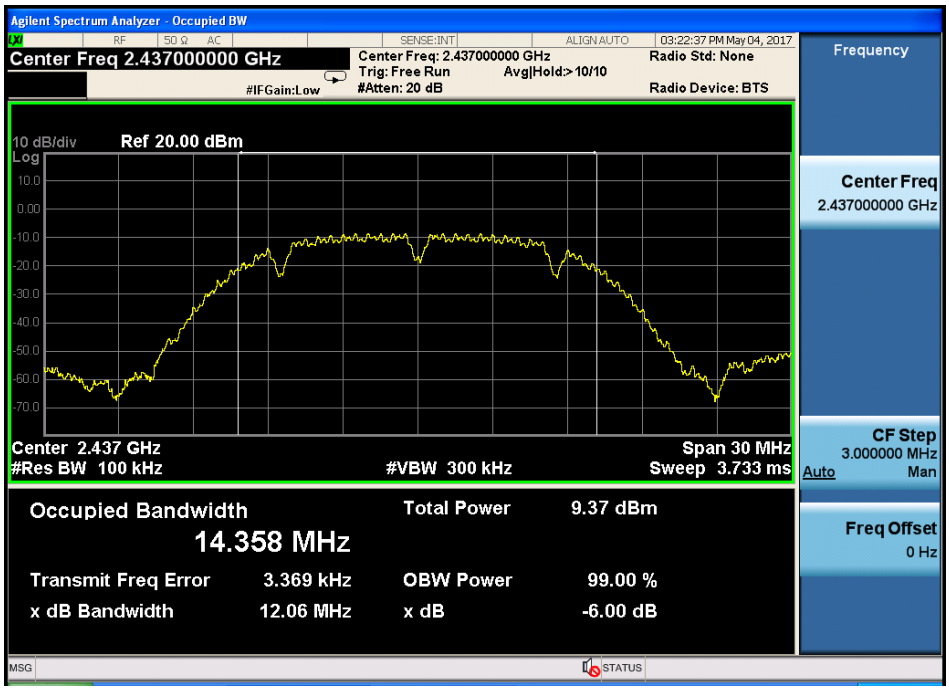
Mode	Frequency (MHz)	6dB Bandwidth (MHz)	Limit (kHz)
IEEE 802.11 b	CH1: 2412	12.04	≥500KHz
	CH6: 2437	12.06	≥500KHz
	CH11: 2462	11.11	≥500KHz
IEEE 802.11 g	CH1: 2412	16.31	≥500KHz
	CH6: 2437	16.29	≥500KHz
	CH11: 2462	16.30	≥500KHz
IEEE 802.11 n/HT20 with 2.4G	CH1: 2412	16.30	≥500KHz
	CH6: 2437	16.31	≥500KHz
	CH11: 2462	16.26	≥500KHz
IEEE 802.11 n/HT40 with 2.4G	CH1: 2422	35.17	≥500KHz
	CH4: 2437	35.15	≥500KHz
	CH7: 2452	35.45	≥500KHz
Conclusion: PASS			

Mode	Frequency (MHz)	99% Bandwidth (MHz)	Limit (kHz)
IEEE 802.11 b	CH1: 2412	14.369	N/A
	CH6: 2437	14.358	N/A
	CH11: 2462	14.370	N/A
IEEE 802.11 g	CH1: 2412	16.338	N/A
	CH6: 2437	16.318	N/A
	CH11: 2462	16.323	N/A
IEEE 802.11 n/HT20 with 2.4G	CH1: 2412	17.385	N/A
	CH6: 2437	17.409	N/A
	CH11: 2462	17.424	N/A
IEEE 802.11 n/HT40 with 2.4G	CH1: 2422	35.793	N/A
	CH4: 2437	35.772	N/A
	CH7: 2452	35.780	N/A
Conclusion: PASS			

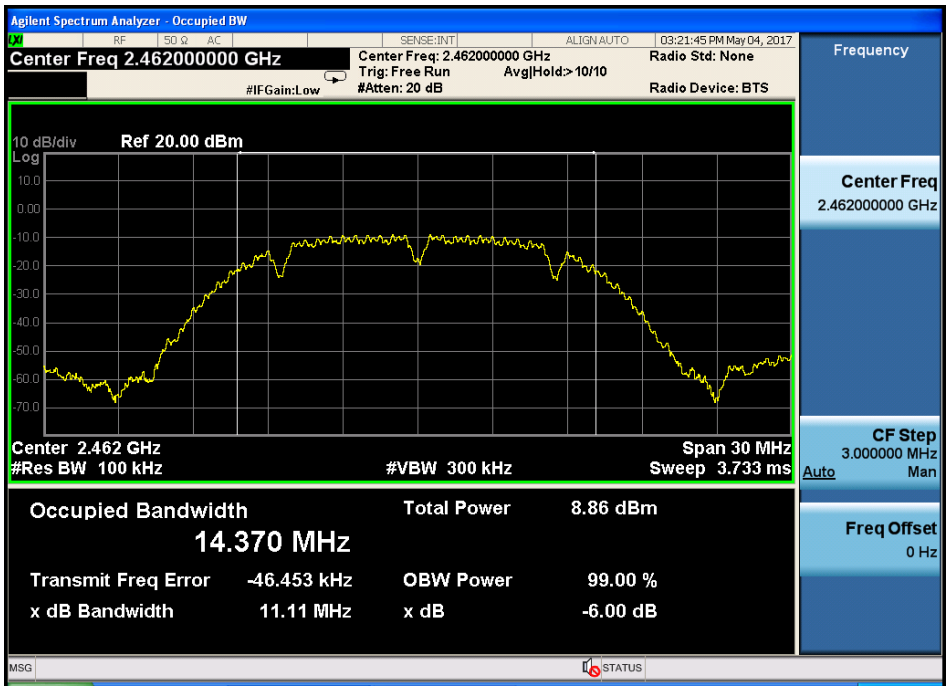
IEEE 802.11b:
CH Low :



CH Mid :

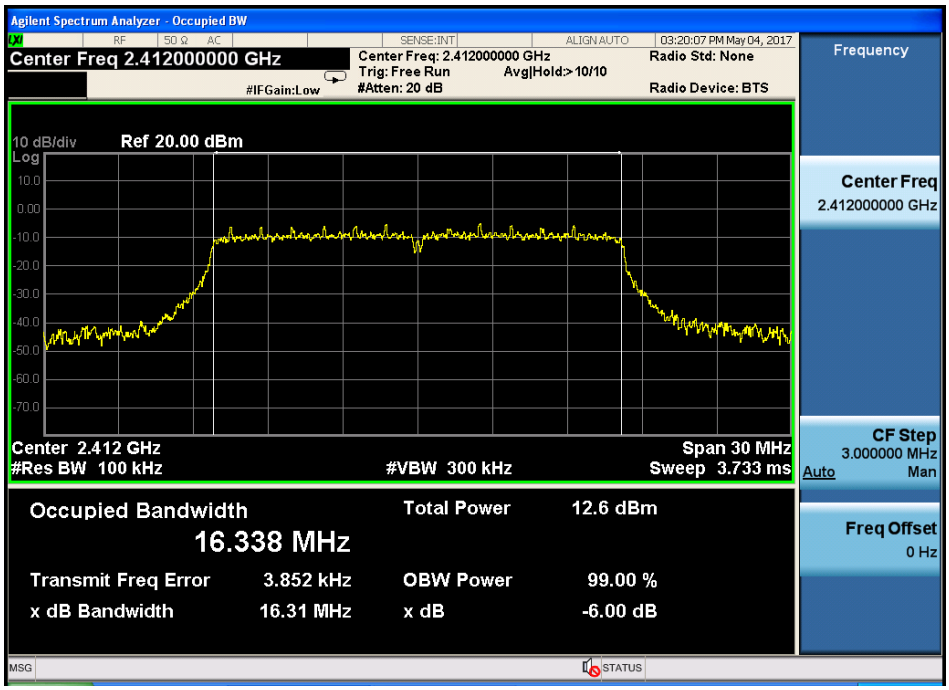


CH High :

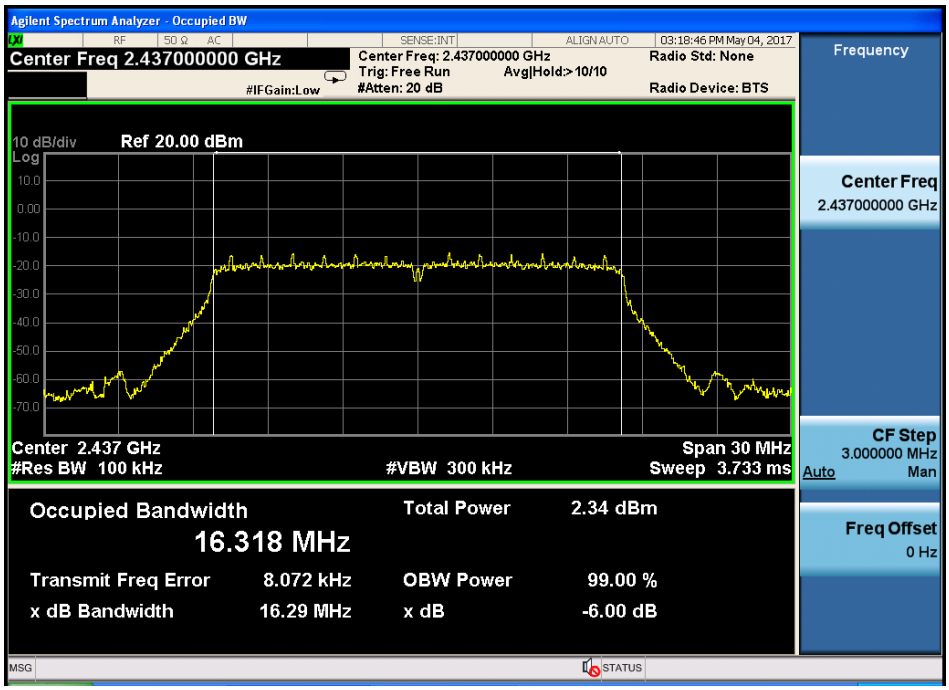


IEEE 802.11g:

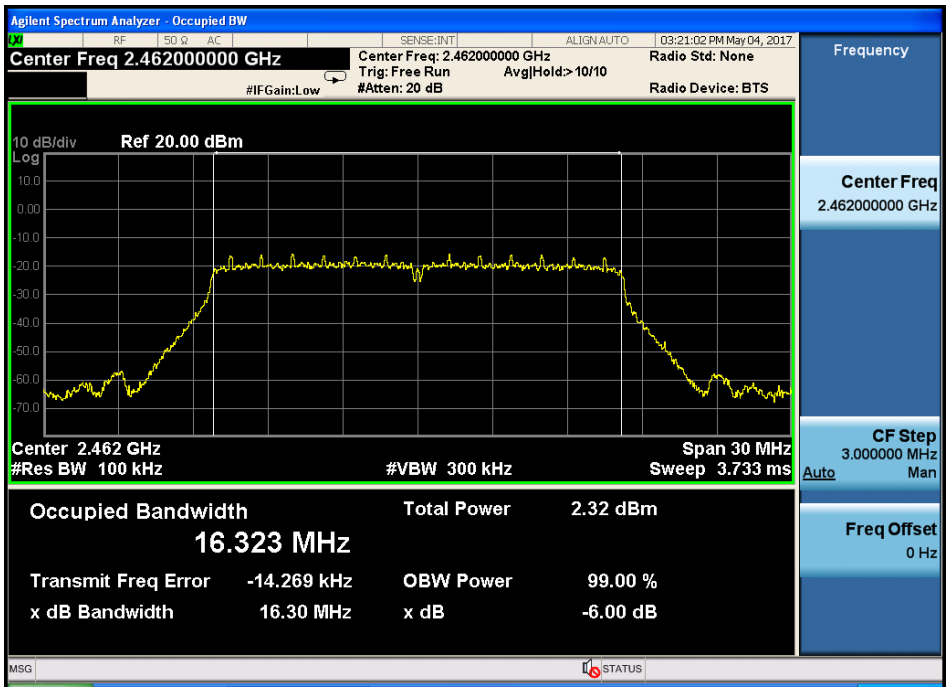
CH Low :



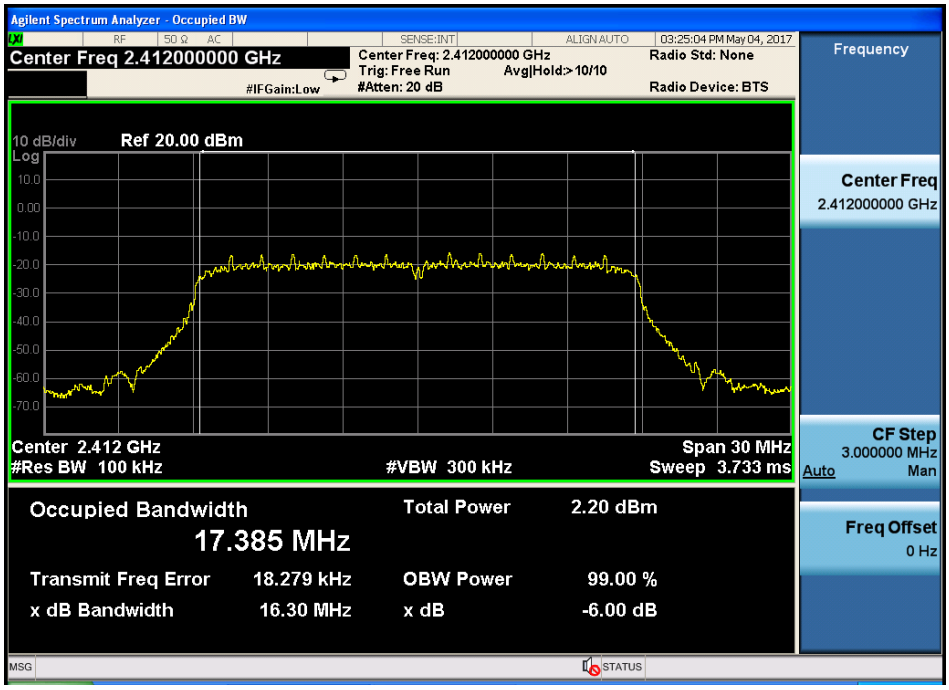
CH Mid:


Agilent Spectrum Analyzer - Occupied BW
RF 50 Ω AC
SENSE:INT
ALIGN AUTO
03:18:46 PM May 04, 2017
Center Freq 2.437000000 GHz
Center Freq: 2.437000000 GHz
Trig: Free Run
Avg|Hold:>10/10
#Atten: 20 dB
#IFGain:Low
Radio Std: None
Radio Device: BTS
Frequency
10 dB/div
Log
Ref 20.00 dBm
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
Center 2.437 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 30 MHz
Sweep 3.733 ms
Occupied Bandwidth
16.318 MHz
Total Power 2.34 dBm
Transmit Freq Error 8.072 kHz
OBW Power 99.00 %
x dB Bandwidth 16.29 MHz
x dB -6.00 dB
Center Freq
2.437000000 GHz
CF Step
3.000000 MHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS

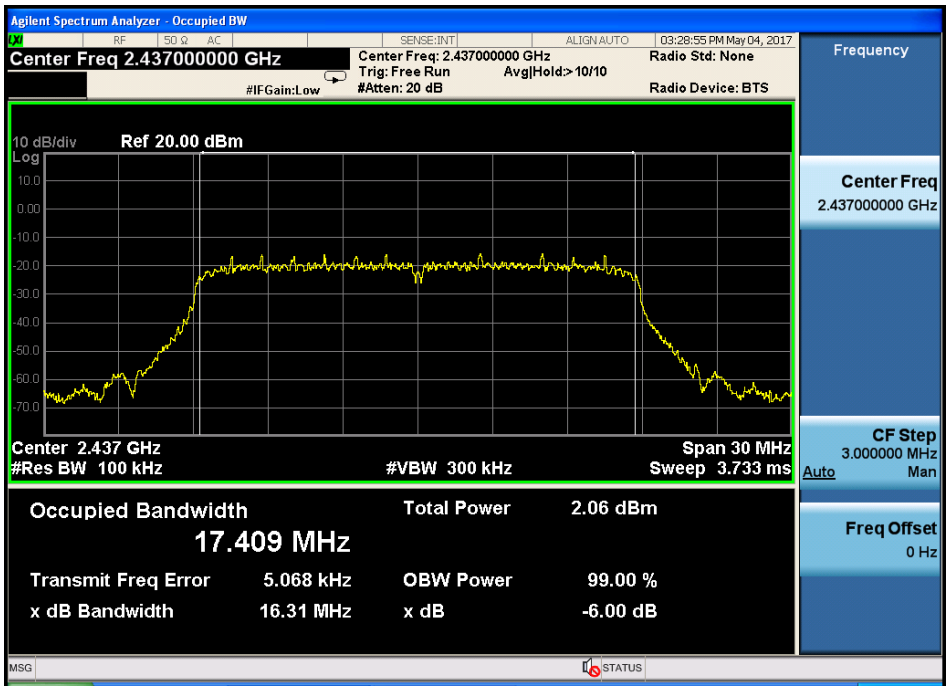
CH Hig:


Agilent Spectrum Analyzer - Occupied BW
RF 50 Ω AC
SENSE:INT
ALIGN AUTO
03:21:02 PM May 04, 2017
Center Freq 2.462000000 GHz
Center Freq: 2.462000000 GHz
Trig: Free Run
Avg|Hold:>10/10
#Atten: 20 dB
#IFGain:Low
Radio Std: None
Radio Device: BTS
Frequency
10 dB/div
Log
Ref 20.00 dBm
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
Center 2.462 GHz
#Res BW 100 kHz
#VBW 300 kHz
Span 30 MHz
Sweep 3.733 ms
Occupied Bandwidth
16.323 MHz
Total Power 2.32 dBm
Transmit Freq Error -14.269 kHz
OBW Power 99.00 %
x dB Bandwidth 16.30 MHz
x dB -6.00 dB
Center Freq
2.462000000 GHz
CF Step
3.000000 MHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS

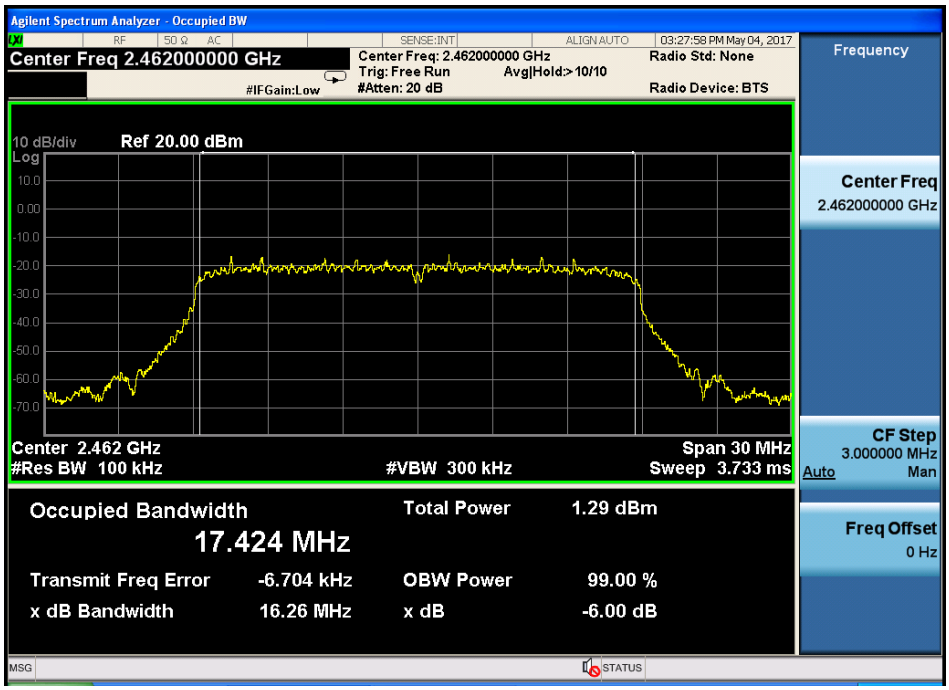
IEEE 802.11n HT20:
CH Low :



CH Mid :

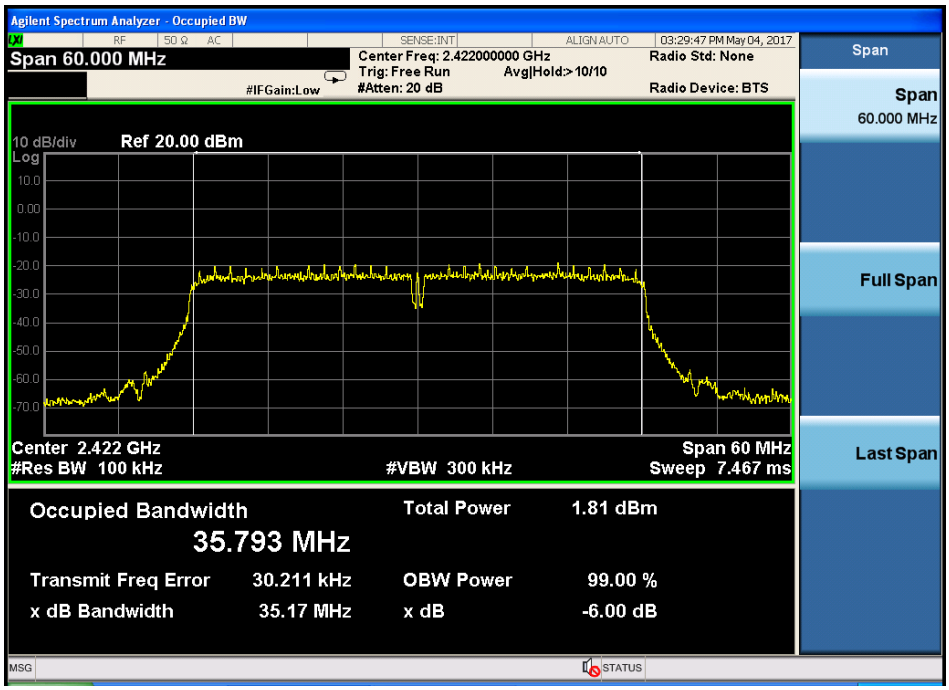


CH High :

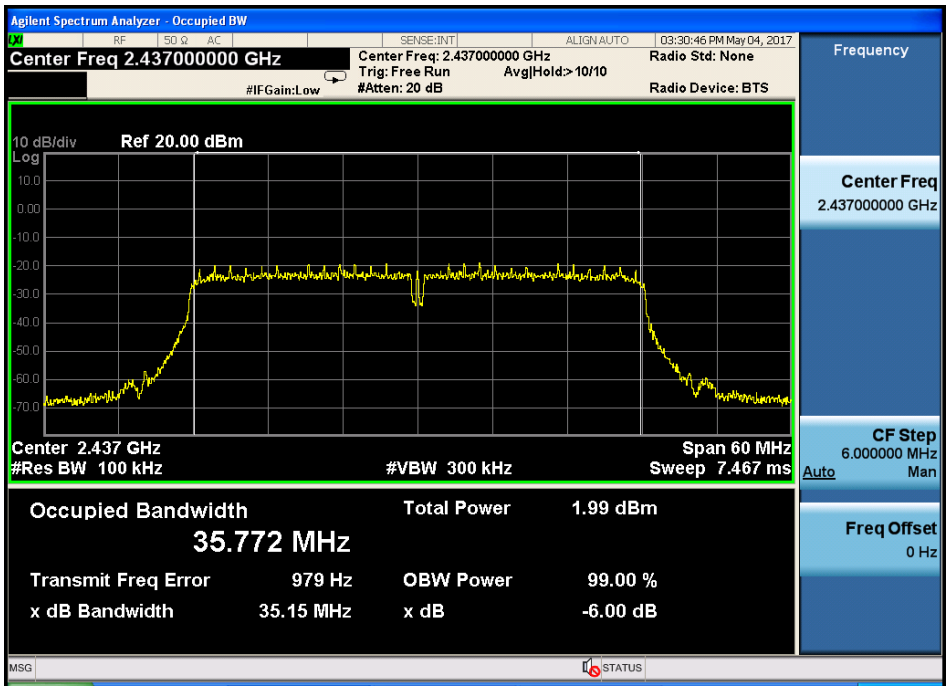


IEEE 802.11n/HT40:

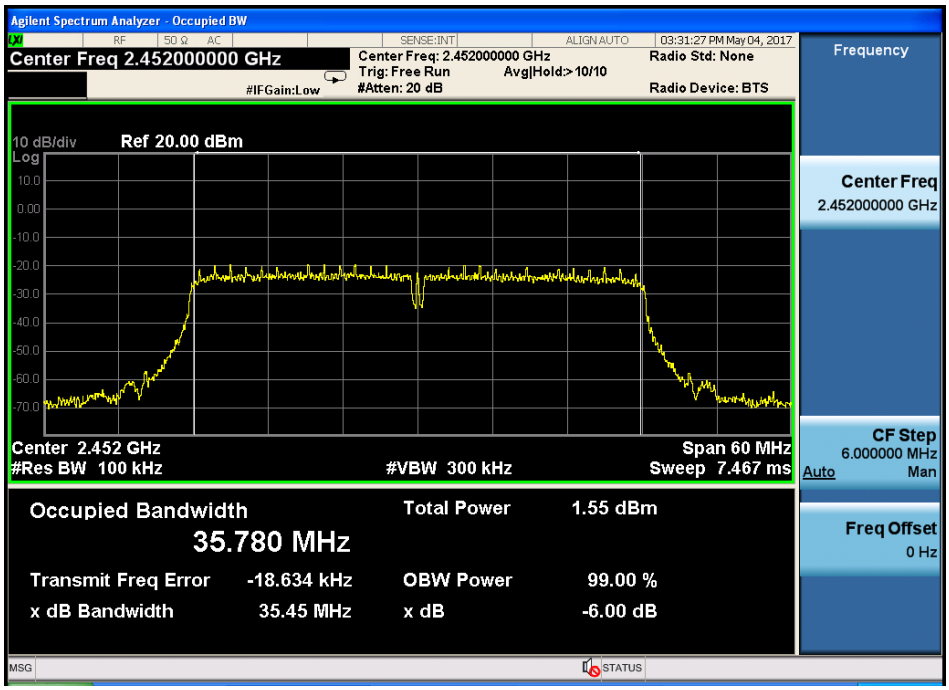
CH Low :



CH Mid:



CH High :



8 Band Edge Check

8.1 Test limit

Please refer RSS-247 & section 15.247.

All the lower and upper band-edges emissions appearing within 2310MHz to 2390MHz and 2483.5MHz to 2500MHz restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions outside operation frequency band 2400MHz to 2483.5MHz and 5725MHz to 5850MHz shall be at least 20dB below the fundamental emissions, or comply with 15.209 limits.

8.2 Test Procedure

8.2.1 Put the EUT on a 0.8m high table, power on the EUT. Emissions were scanned and measured rotating the EUT to 360 degrees, Find the maximum Emission

8.2.2 Check the spurious emissions out of band.

8.2.3 RBW 1MHz ,VBW 3MHz ,peak detector for peak value , RBW 1MHz ,VBW 3MHz , RMS detector for AV value.

8.3 Test Setup

Same as 3.2

8.4 Test Result

PASS.

Detailed information please see the following page.

Radiated Method:
IEEE 802.11b CH LOW

Band Edge Test result								
Test mode: TX Low								
Antenna polarity: Vertical								
Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2390	43.28	27.62	3.92	34.97	39.85	74	34.15	**PK**
2390	--	27.62	3.92	34.97	--	54	--	AV
Antenna Polarity: Horizontal								
2390	41.91	27.62	3.92	34.97	38.48	74	35.52	**PK**
2390	--	27.62	3.92	34.97	--	54	--	AV

Note:

1, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK

2, Spectrum Set for AV measure: RBW=1MHz, VBW=3MHz, Sweep time=Auto, Detector: RMS

3, Result = Read level + Antenna factor + cable loss-Amp factor

4, All the other emissions not reported were too low to read and deemed to comply with FCC limit.

IEEE 802.11b CH High

Band Edge Test result								
Test mode: TX High								
Antenna polarity: Vertical								
Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2483.5	43.12	27.89	4	34.97	40.04	74	33.96	**PK**
2483.5	--	27.89	4	34.97	--	54	--	AV
Antenna Polarity: Horizontal								
2483.5	42.32	27.89	4	34.97	39.24	74	34.76	**PK**
2483.5	--	27.89	4	34.97	--	54	--	AV

Note:

1, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK

2, Spectrum Set for AV measure: RBW=1MHz, VBW=3MHz, Sweep time=Auto, Detector: RMS

3, Result = Read level + Antenna factor + cable loss-Amp factor

4, All the other emissions not reported were too low to read and deemed to comply with FCC limit.

IEEE 802.11g CH LOW

Band Edge Test result								
Test mode: TX Low								
Antenna polarity: Vertical								
Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2390	41.78	27.62	3.92	34.97	38.35	74	35.65	**PK**
2390	--	27.62	3.92	34.97	--	54	--	AV
Antenna Polarity: Horizontal								
2390	42.73	27.62	3.92	34.97	39.3	74	34.7	**PK**
2390	--	27.62	3.92	34.97	--	54	--	AV

Note:

1, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK

2, Spectrum Set for AV measure: RBW=1MHz, VBW=3MHz, Sweep time=Auto, Detector: RMS

3, Result = Read level + Antenna factor + cable loss-Amp factor

4, All the other emissions not reported were too low to read and deemed to comply with FCC limit.

IEEE 802.11g CH High

Band Edge Test result								
Test mode: TX High								
Antenna polarity: Vertical								
Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2483.5	42.25	27.89	4	34.97	39.17	74	34.83	**PK**
2483.5		--	--	--	--	54	--	AV
Antenna Polarity: Horizontal								
2483.5	42.47	27.89	4	34.97	39.39	74	34.61	**PK**
2483.5		--	--	--	--	54	--	AV

Note:

1, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK

2, Spectrum Set for AV measure: RBW=1MHz, VBW=3MHz, Sweep time=Auto, Detector: RMS

3, Result = Read level + Antenna factor + cable loss-Amp factor

4, All the other emissions not reported were too low to read and deemed to comply with FCC limit.

IEEE 802.11n HT20 CH Low

Band Edge Test result								
Test mode: TX Low								
Antenna polarity: Vertical								
Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2390	42.55	27.62	3.92	34.97	39.12	74	34.88	**PK**
2390	--	27.62	3.92	34.97	--	54	--	AV
Antenna Polarity: Horizontal								
2390	42.87	27.62	3.92	34.97	39.44	74	34.56	**PK**
2390	--	27.62	3.92	34.97	--	54	--	AV

Note:

1, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK

2, Spectrum Set for AV measure: RBW=1MHz, VBW=3MHz, Sweep time=Auto, Detector: RMS

3, Result = Read level + Antenna factor + cable loss-Amp factor

4, All the other emissions not reported were too low to read and deemed to comply with FCC limit.

IEEE 802.11n HT20 CH High

Band Edge Test result								
Test mode: TX High								
Antenna polarity: Vertical								
Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2483.5	41.96	27.89	4	34.97	38.88	74	35.12	PK
2483.5		--	--	--	--	54	--	AV
Antenna Polarity: Horizontal								
2483.5	42.4	27.89	4	34.97	39.32	74	34.68	PK
2483.5		--	--	--	--	54	--	AV

Note:

1, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK

2, Spectrum Set for AV measure: RBW=1MHz, VBW=3MHz, Sweep time=Auto, Detector: RMS

3, Result = Read level + Antenna factor + cable loss-Amp factor

4, All the other emissions not reported were too low to read and deemed to comply with FCC limit.

IEEE 802.11n HT40 CH Low

Band Edge Test result								
Test mode: TX Low								
Antenna polarity: Vertical								
Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2390	42.55	27.62	3.92	34.97	39.12	74	34.88	**PK**
2390	--	27.62	3.92	34.97	--	54	--	AV
Antenna Polarity: Horizontal								
2390	42.51	27.62	3.92	34.97	39.08	74	34.92	**PK**
2390	--	27.62	3.92	34.97	--	54	--	AV

Note:

1, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK

2, Spectrum Set for AV measure: RBW=1MHz, VBW=3MHz, Sweep time=Auto, Detector: RMS

3, Result = Read level + Antenna factor + cable loss-Amp factor

4, All the other emissions not reported were too low to read and deemed to comply with FCC limit.

IEEE 802.11n HT40 CH High

Band Edge Test result								
Test mode: TX High								
Antenna polarity: Vertical								
Freq (MHz)	Read Level (dBuV/m)	Antenna Factor (dB/m)	Cable loss(dB)	Amp Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
2483.5	41.8	27.89	4	34.97	38.72	74	35.28	PK
2483.5		--	--	--	--	54	--	AV
Antenna Polarity: Horizontal								
2483.5	42.57	27.89	4	34.97	39.49	74	34.51	PK
2483.5		--	--	--	--	54	--	AV

Note:

1, Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK

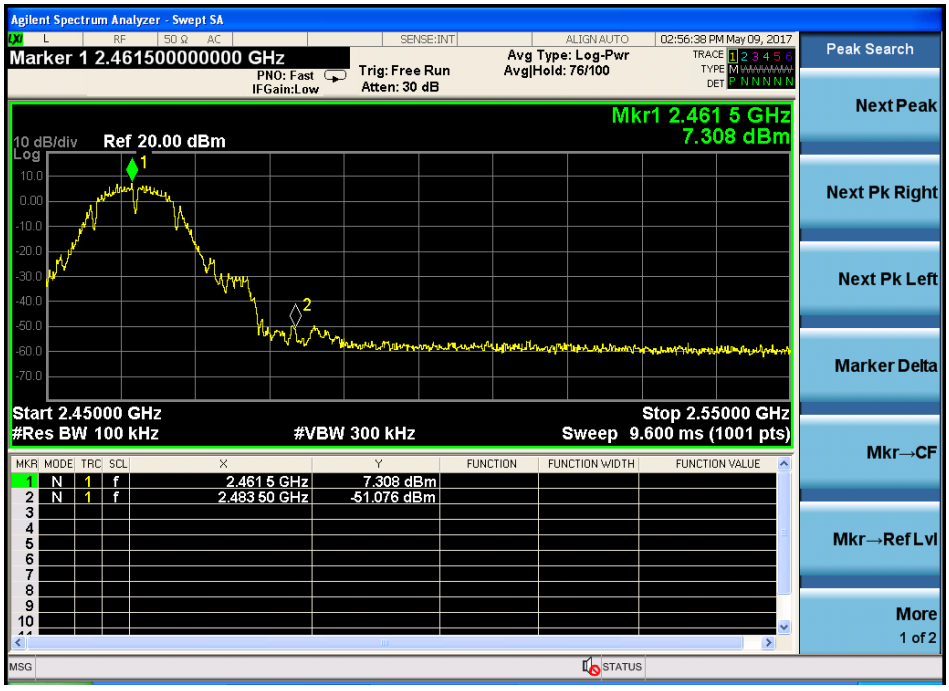
2, Spectrum Set for AV measure: RBW=1MHz, VBW=3MHz, Sweep time=Auto, Detector: RMS

3, Result = Read level + Antenna factor + cable loss-Amp factor

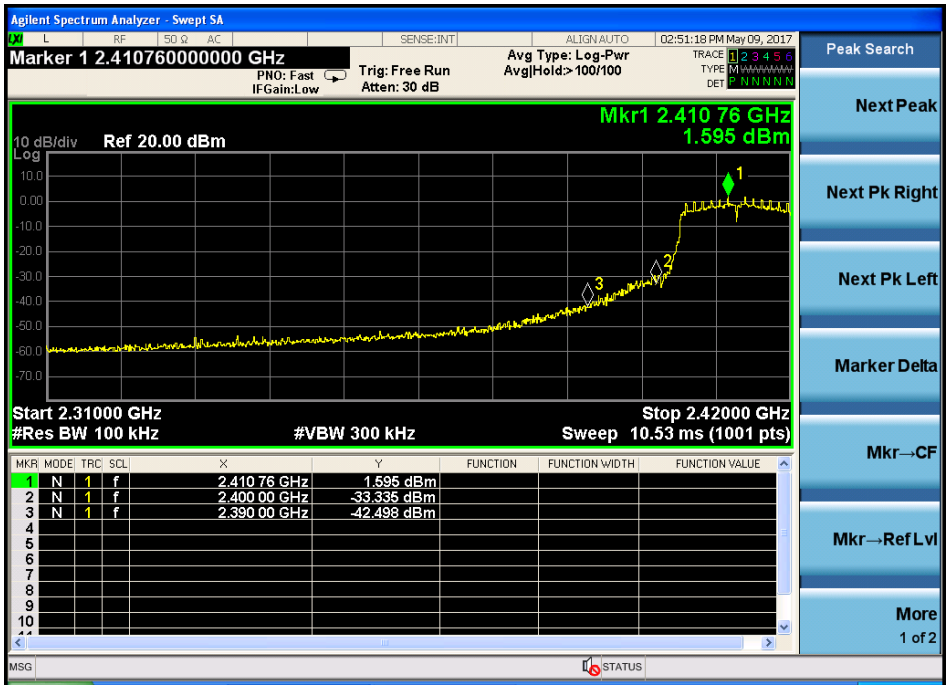
4, All the other emissions not reported were too low to read and deemed to comply with FCC limit.

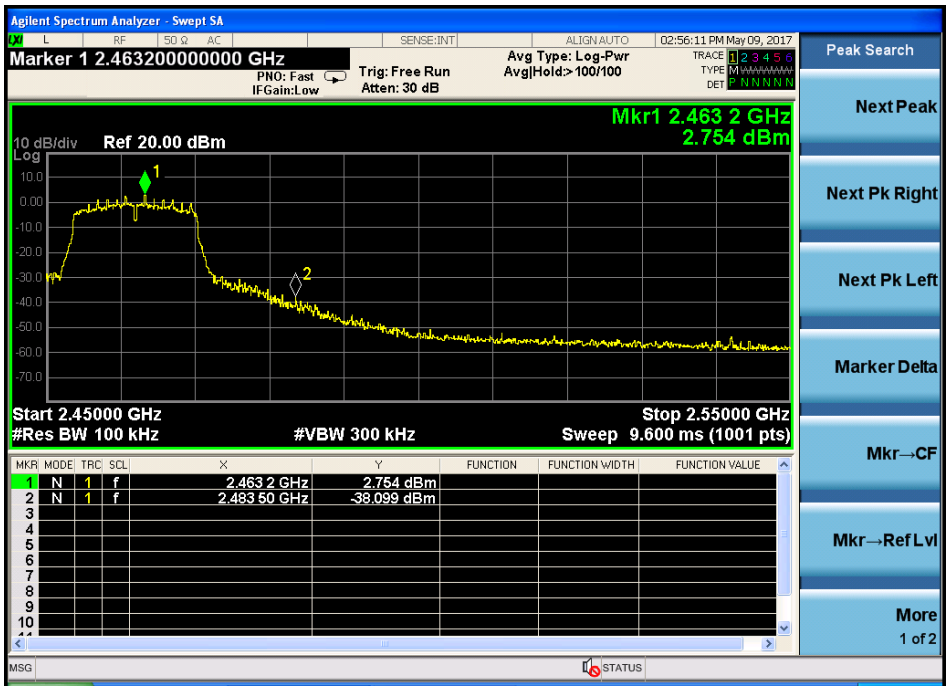
Conducted Method:

802.11b

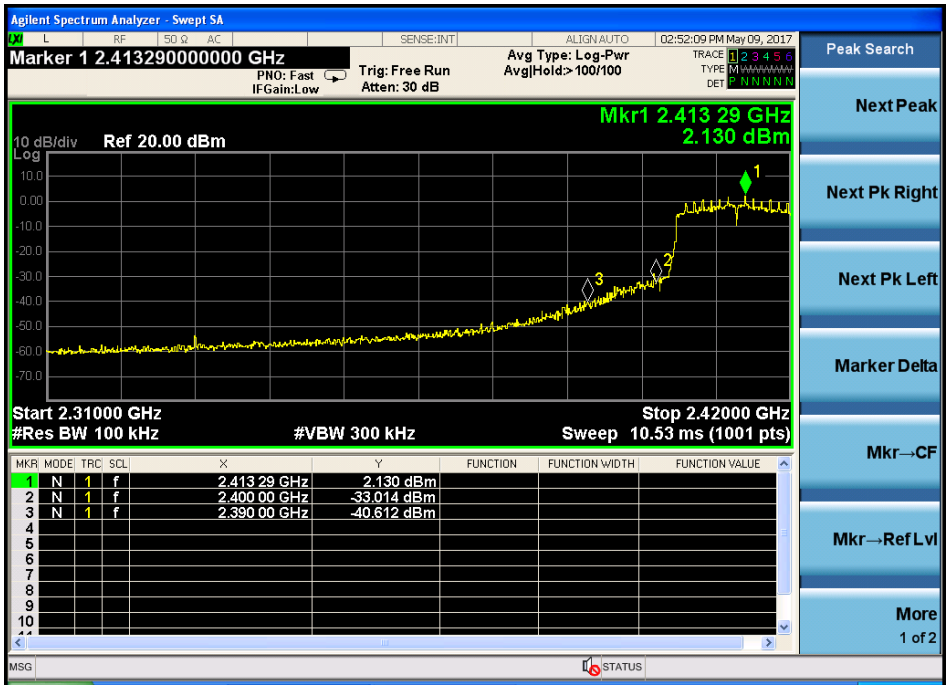


802.11g


Agilent Spectrum Analyzer - Swept SA
Marker 1 2.410760000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
02:51:18 PM May 09, 2017
Mkr1 2.410 76 GHz
1.595 dBm
10 dB/div
Log
Ref 20.00 dBm
Start 2.31000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 2.42000 GHz
Sweep 10.53 ms (1001 pts)
1 N 1 f 2.410 76 GHz 1.595 dBm
2 N 1 f 2.400 00 GHz -33.335 dBm
3 N 1 f 2.390 00 GHz -42.498 dBm
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2


Agilent Spectrum Analyzer - Swept SA
Marker 1 2.463200000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
02:56:11 PM May 09, 2017
Mkr1 2.463 2 GHz
2.754 dBm
10 dB/div
Log
Ref 20.00 dBm
Start 2.45000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 2.55000 GHz
Sweep 9.600 ms (1001 pts)
1 N 1 f 2.463 2 GHz 2.754 dBm
2 N 1 f 2.483 50 GHz -38.099 dBm
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2

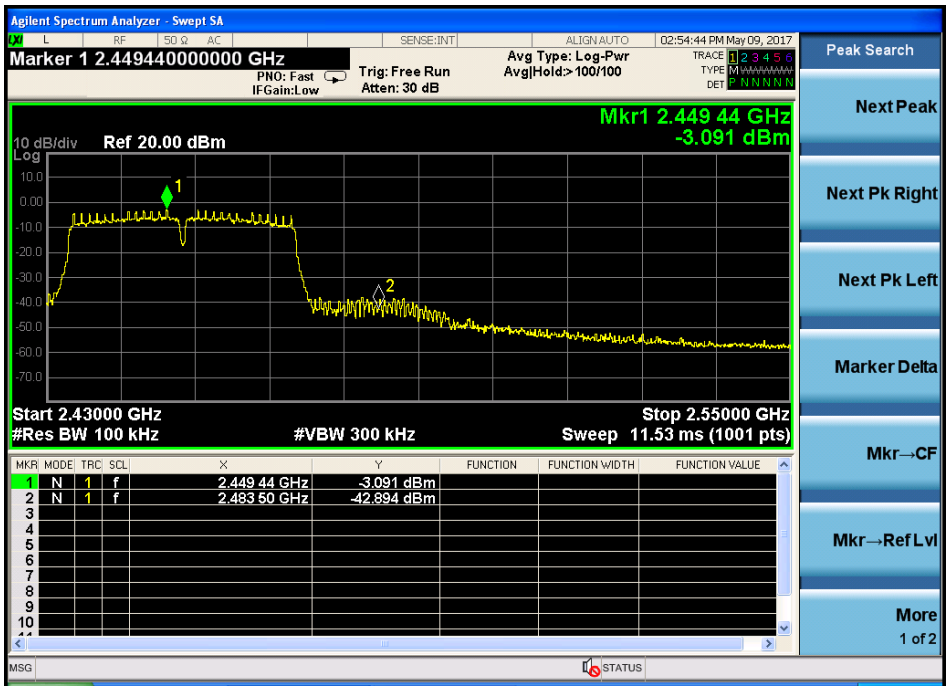
802.11n HT20


Agilent Spectrum Analyzer - Swept SA
Marker 1 2.413290000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
02:52:09 PM May 09, 2017
Mkr1 2.413 29 GHz
2.130 dBm
10 dB/div
Ref 20.00 dBm
Log
Start 2.31000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 2.42000 GHz
Sweep 10.53 ms (1001 pts)
1 N 1 f 2.413 29 GHz 2.130 dBm
2 N 1 f 2.400 00 GHz -33.014 dBm
3 N 1 f 2.390 00 GHz -40.612 dBm
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2
MSG
STATUS


Agilent Spectrum Analyzer - Swept SA
Marker 1 2.460700000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
02:55:30 PM May 09, 2017
Mkr1 2.460 7 GHz
1.288 dBm
10 dB/div
Ref 20.00 dBm
Log
Start 2.45000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 2.55000 GHz
Sweep 9.600 ms (1001 pts)
1 N 1 f 2.460 7 GHz 1.288 dBm
2 N 1 f 2.483 50 GHz -41.356 dBm
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2
MSG
STATUS

802.11n HT40


Agilent Spectrum Analyzer - Swept SA
Marker 1 2.424520000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
02:52:56 PM May 09, 2017
Mkr1 2.424 52 GHz
-3.411 dBm
10 dB/div
Log
Ref 20.00 dBm
Start 2.31000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 2.45000 GHz
Sweep 13.40 ms (1001 pts)
1 N 1 f 2.424 52 GHz -3.411 dBm
2 N 1 f 2.400 00 GHz -37.207 dBm
3 N 1 f 2.390 00 GHz -39.601 dBm
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2


Agilent Spectrum Analyzer - Swept SA
Marker 1 2.449440000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold:>100/100
02:54:44 PM May 09, 2017
Mkr1 2.449 44 GHz
-3.091 dBm
10 dB/div
Log
Ref 20.00 dBm
Start 2.43000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 2.55000 GHz
Sweep 11.53 ms (1001 pts)
1 N 1 f 2.449 44 GHz -3.091 dBm
2 N 1 f 2.483 50 GHz -42.894 dBm
Peak Search
Next Peak
Next Pk Right
Next Pk Left
Marker Delta
Mkr→CF
Mkr→Ref Lvl
More
1 of 2

9 Antenna Requirement

9.1 Standard 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 shall be considered sufficient to comply with the provisions of this Section. 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.

9.2 Antenna Connected Construction

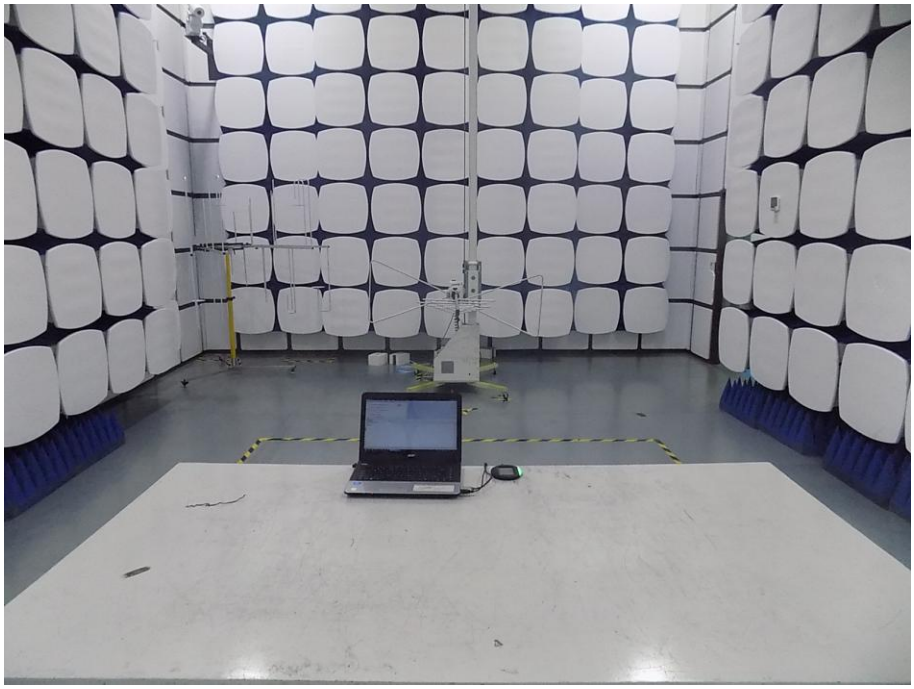
The antenna is PCB antenna and no consideration of replacement. Please see EUT photo for details.

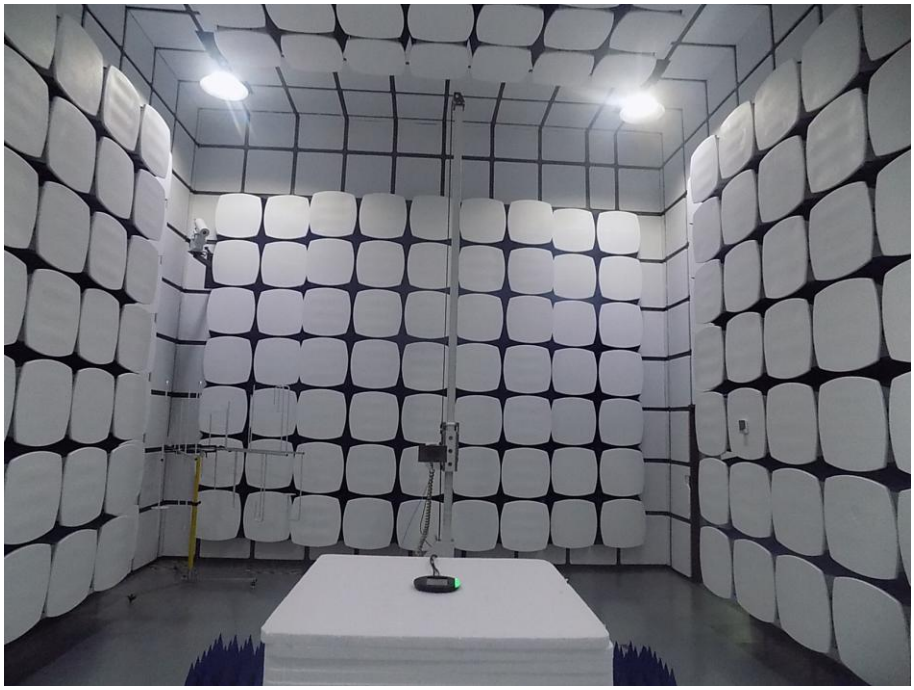
9.3 Result

The EUT antenna is PCB Antenna. It comply with the standard requirement.

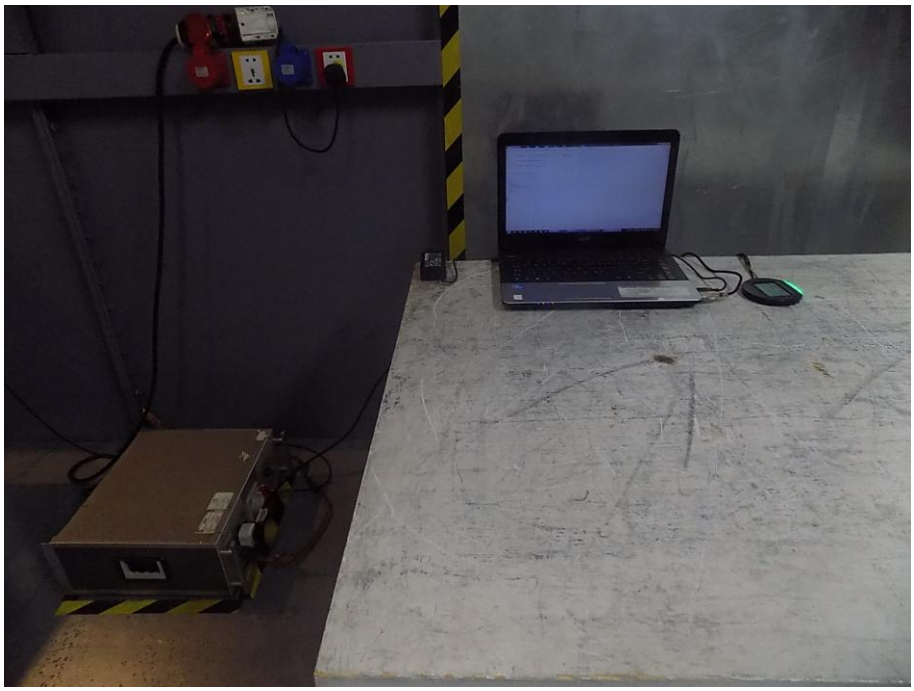
10 Test setup photo

Photographs of Radiated Emission Test Setup

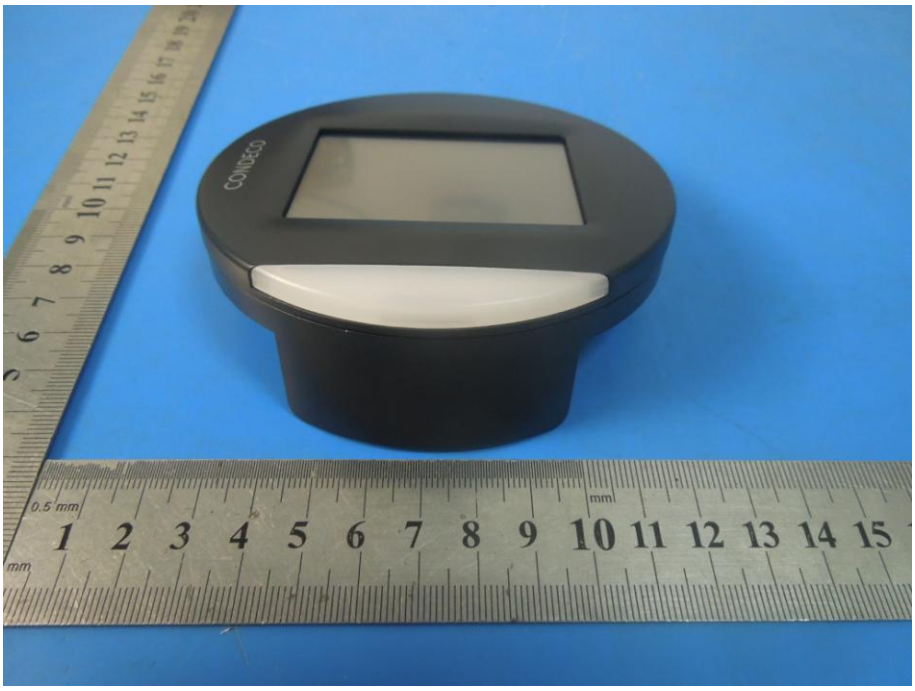


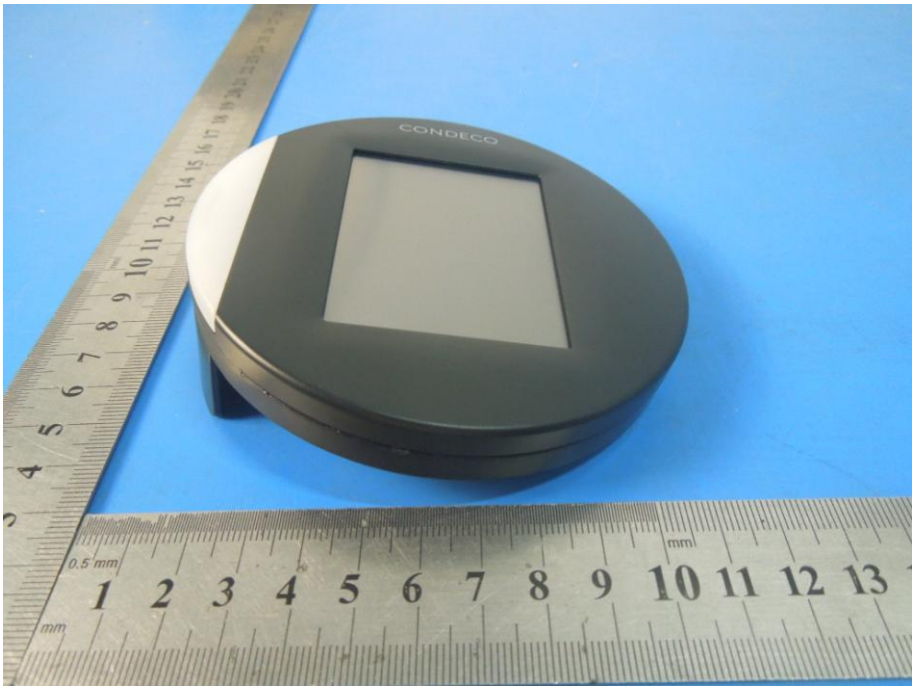


Photographs of Conducted Emission test setup

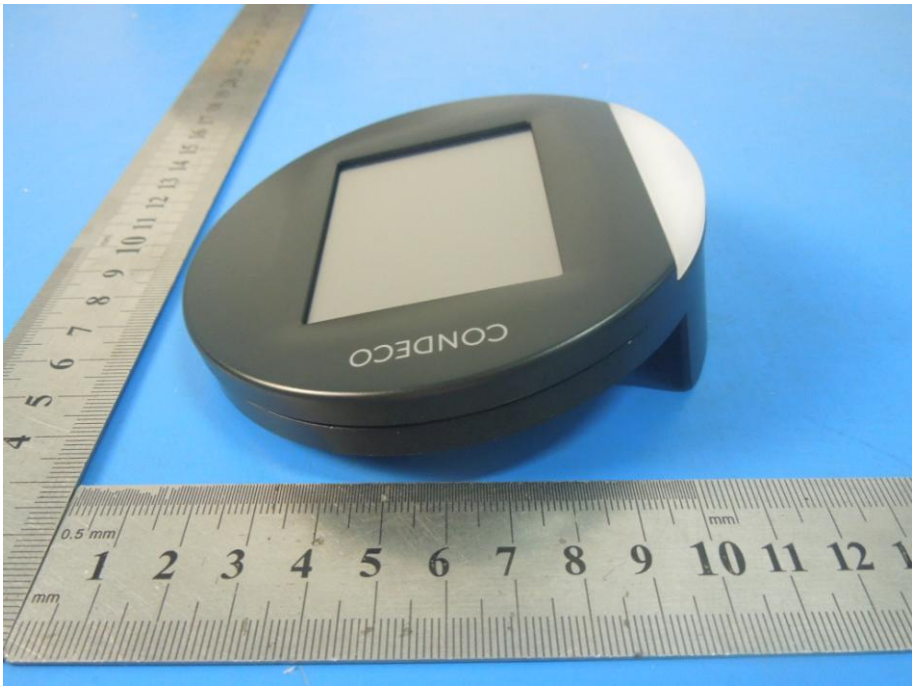


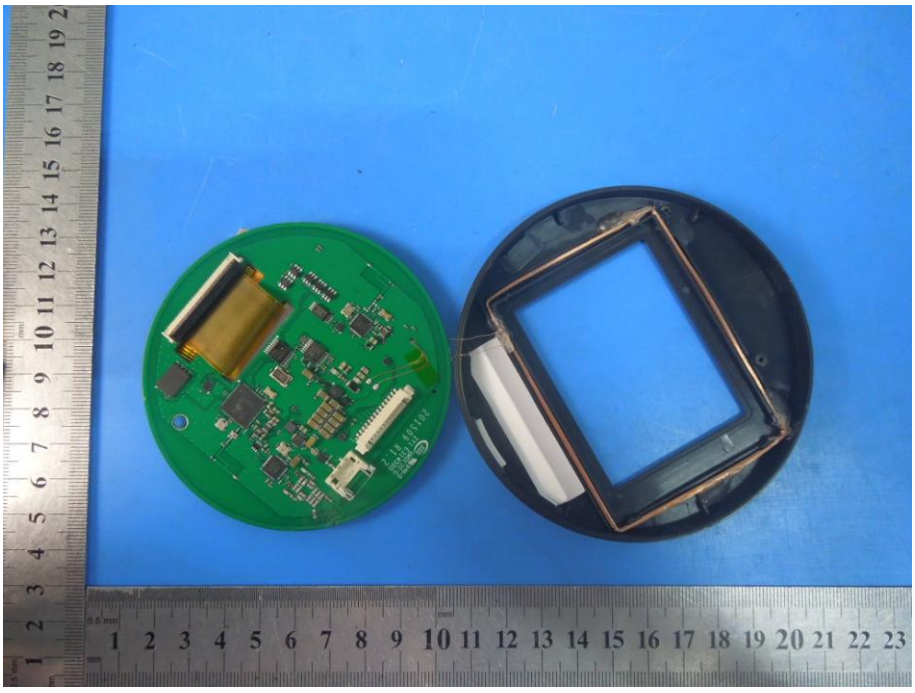
11 Photos of EUT

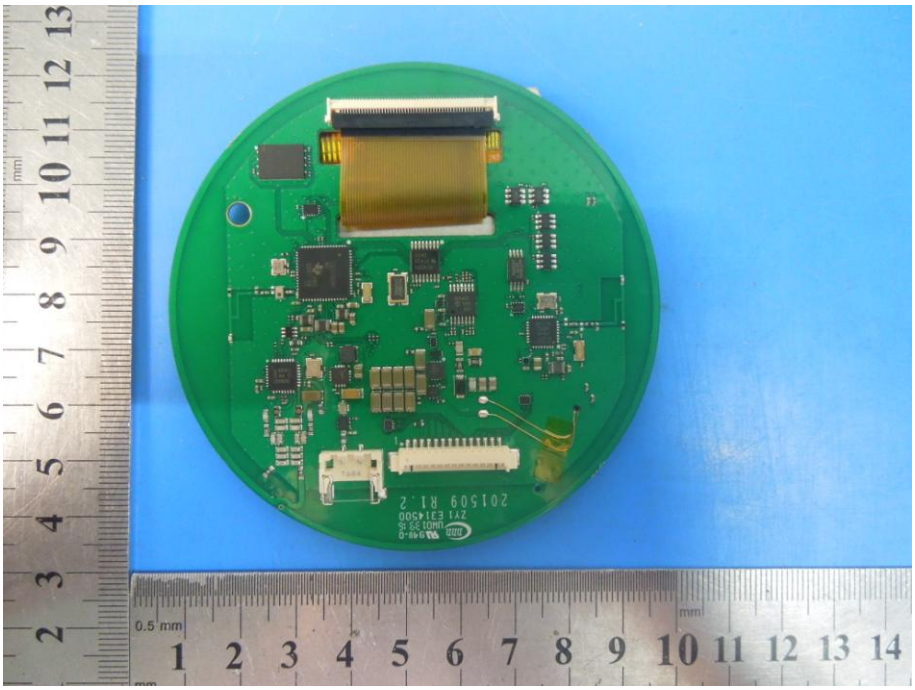

CONDECO
0.5 mm
mm
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

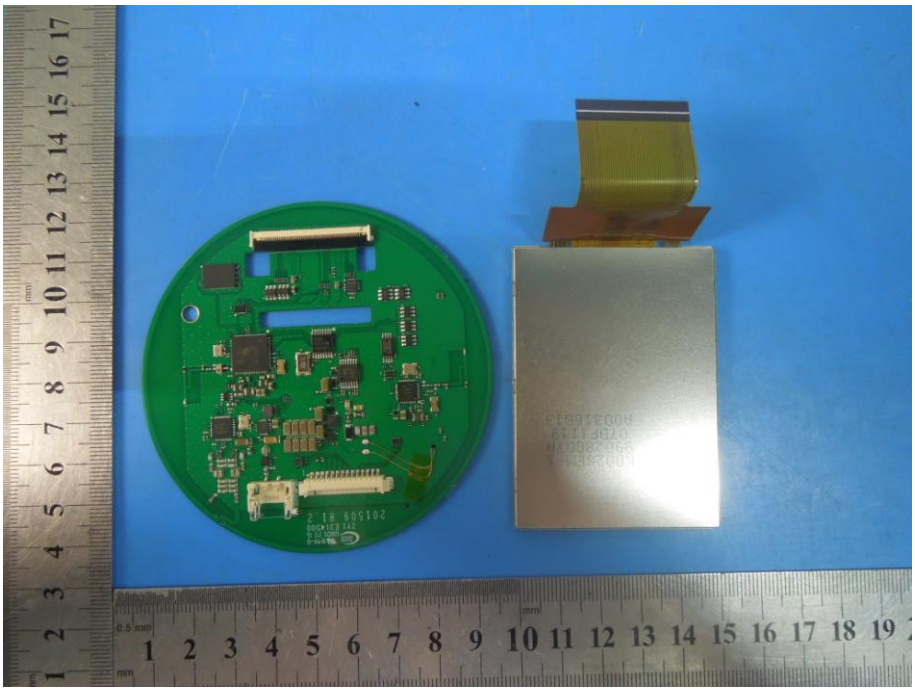

CONDECO
0.5 mm
mm
1 2 3 4 5 6 7 8 9 10 11 12 13

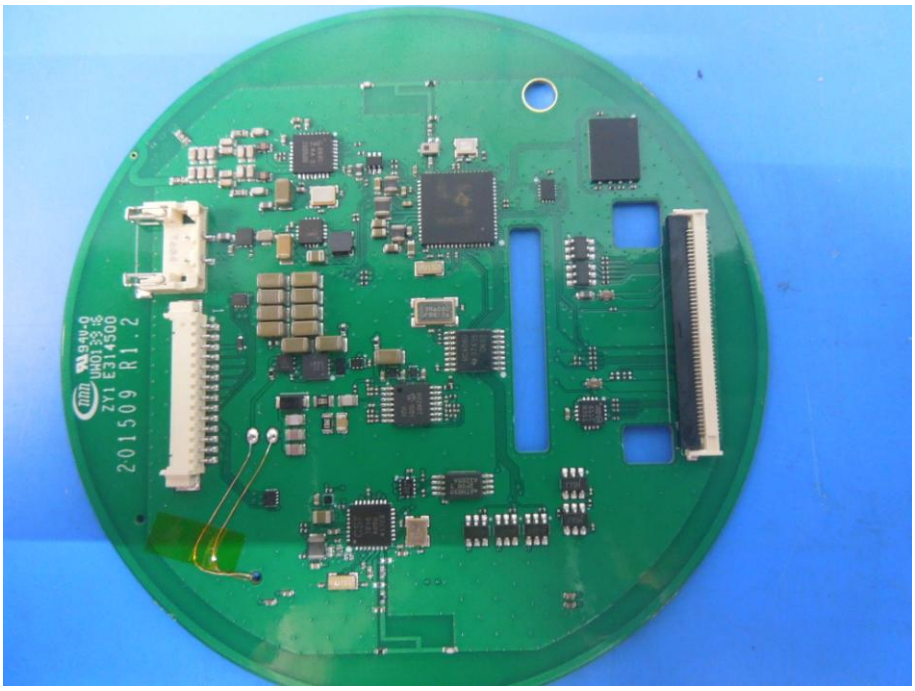

CONDECO
0.5 mm
mm
1 2 3 4 5 6 7 8 9 10 11 12 13

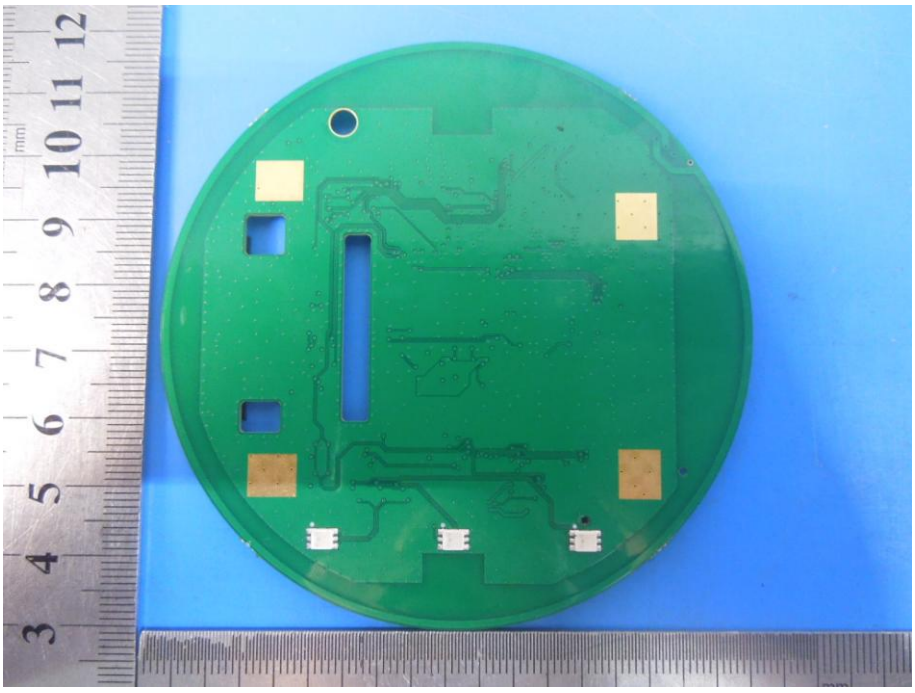

CONDECO
0.5 mm
mm
1 2 3 4 5 6 7 8 9 10 11 12

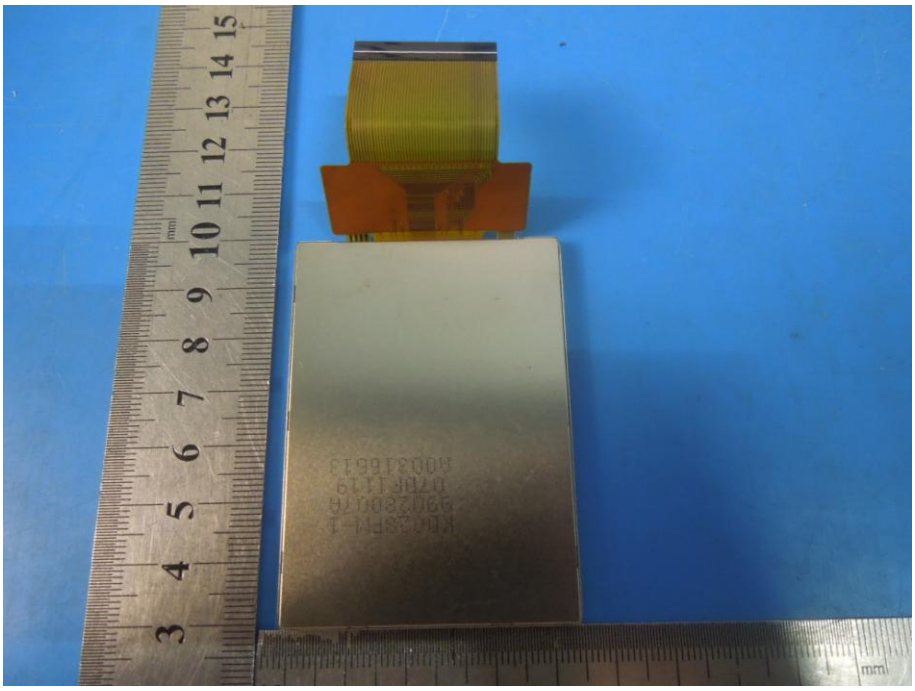


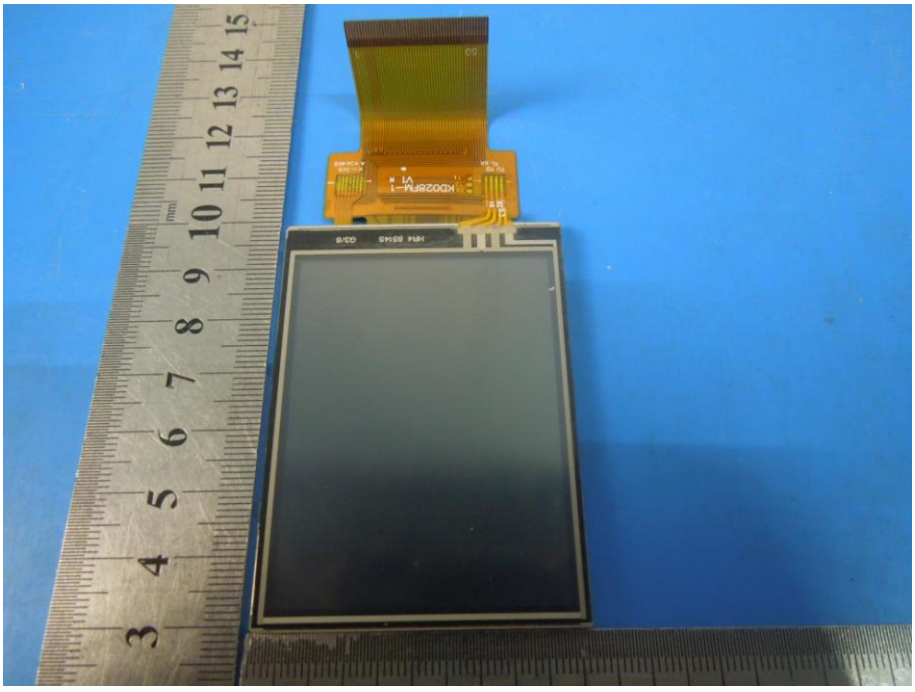












---------END OF THE REPORT-------