FCC Test Report

Report No: WD-RF-R-190639-C0

Product Name	:	20MP Box Camera
Model Name	:	SR-C-U20-NITIDA-M
Series Model Name	:	SR-C-U20-NITIDA-M-FR
FCC ID	:	2ATPWNITIDA20
Applicant	:	SPARK S.R.L.
Received Date	:	May. 17, 2019
Tested Date	:	Sep. 25, 2019 ~ Oct. 09, 2019
Applicable Standard	:	47 CFR FCC Part 15, Subpart C (Section 15.247) KDB 558074 D01 DTS Meas. Guidance v05 ANSI C63.10 : 2013

Wendell Industrial Co., Ltd
Wendell Electrical Testing Lab.

Test Report

Issued Date: October 09, 2019

Project No.: 19Q051701

Product Name	20MP Box Camera
Trade Name	Spark
Model Name	SR-C-U20-NITIDA-M
Series Model Name	SR-C-U20-NITIDA-M-FR
FCC ID	2ATPWNITIDA20
Applicant	SPARK S.R.L.
Manufacturer	SPARK S.R.L.
EUT Rated Voltage	AC 24V，DC 12V，PoE
EUT Test Voltage	AC 120V / 60Hz (DC 12V Adapter)
EUT Supports Radios Application	WLAN 802.11b/g WLAN 802.11n (HT20/HT40)
Applicable Standard	47 CFR FCC Part 15, Subpart C (Section 15.247) KDB 558074 D01 DTS Meas. Guidance v05 ANSI C63.10 : 2013
Output Power	24.47 dBm
Test Result	Complied

Documented : Emma Lu

(Specialist / Emma Lu)

Technical Engineer : Jack Chang

(Deputy Section Manager / Jack Chang)

Approved : Gary Wu

(Project Manager / Gary Wu)

Table of Contents

Document Revision History

Report No.	Issue date	Description
WD-RF-R-190639-C0	October 09, 2019	Initial report

Summary of Test Result

Ref. Std. Clause	Test Items	Result
15.203 15.247(C)	Antenna Requirement	Pass
15.247(b)	Peak Output Power	Pass
15.247(a)(2)	6dB Bandwidth	Pass
15.247(e)	Power Spectral Density	Pass
15.247(d)	Conducted Band Edges and Conducted Spurious Emission	Pass
15.247(d)	Radiated Band Edges and Radiated Spurious Emission	Pass
15.207	AC Conducted Emission	Pass

1 Generation Information

1.1 Applicant

SPARK S.R.L.
VIA ANTONIO GRAMSCI, 86/A 42124 REGGIO EMILIA (ITALY)

1.2 Manufacturer

SPARK S.R.L.
VIA ANTONIO GRAMSCI, 86/A 42124 REGGIO EMILIA (ITALY)

1.3 Description of Equipment under Test

Product Name	20MP Box Camera
Model No.	SR-C-U20-NITIDA-M
Series Model Name	SR-C-U20-NITIDA-M-FR
FCC ID	2ATPWNITIDA20
Frequency Range	802.11b/g/n-20MHz: 2412~2462MHz 802.11n-40MHz: 2422~2452MHz
Number of Channels	802.11b/g/n-20MHz: 11, n-40MHz: 7
Data Rate	802.11b: 1-11Mbps, 802.11g: 6-54Mbps, 802.11n: up to 150Mbps
Channel separation	802.11b/g/n: 5 MHz
Type of Modulation	802.11b:DSSS (DBPSK, DQPSK, CCK) 802.11g/n:OFDM (BPSK, QPSK, 16QAM, 64QAM)
Antenna Information	Refer to the table “Antenna List”
EUT Supports Radios Application	WLAN 802.11b/g WLAN 802.11n (HT20/HT40)
EUT Rated Voltage	AC 24V，DC 12V，PoE
EUT Test Voltage	AC 120V / 60Hz (DC 12V Adapter)

Antenna List

No.	Manufacturer	Model No.	Antenna Type	Peak Gain
1	N/A	N/A	PCB Antenna	1 dBi for 2.4GHz

Remark: The antenna of EUT is conforming to FCC 15.203

Channel List

802.11b/g/n HT20		802.11n HT40	
Channel	Frequency(MHz)	Channel	Frequency(MHz)
01	2412	--	--
02	2417	--	--
03	2422	03	2422
04	2427	04	2427
05	2432	05	2432
06	2437	06	2437
07	2442	07	2442
08	2447	08	2447
09	2452	09	2452
10	2457	--	--
11	2462	--	--

Test Frequencies in each operating band

Frequency range over which the device operates in each operating band (Note 1)	Number of test frequencies required	Location of test frequencies inside the operating frequency range (Note 1,2)
≤ 1 MHz	1	near centre
> 1 MHz and ≤ 10 MHz	2	1 near high end, 1 near low end
> 10 MHz	3	1 near high end, 1 near centre, and 1 near low end

Note 1: The frequency range over which the device operates in a given operating band is the difference between the highest and lowest frequencies on which the device can be tuned within that given operating band. The frequency range can be smaller than or equal to the operating band, but cannot be greater than the operating band.

Note 2: In the third column of table 1, “near” means as close as possible to or at the centre / low end / high end of the frequency range over which the device operates.

Firmware / Software Version

1	**Product Name**	20MP Box Camera
2	**Model No.**	SR-C-U20-NITIDA-M
3	**Test SW Version**	Putty ver_0.63.0
4	**RF power setting in TEST SW**	☐ RF power setting was not able to alter during testing. ☒ RF power setting was able to alter during testing. (See the following table)

Parameters of test software setting

Type of Modulation	Channel	Frequency (MHz)	Set Value
802.11b	01	2412	55.0
	06	2437	55.0
	11	2462	55.0
802.11g	01	2412	50.0
	06	2437	50.0
	11	2462	50.0
802.11n HT20	01	2412	50.0
	06	2437	50.0
	11	2462	50.0
802.11n HT40	03	2422	50.0
	06	2437	50.0
	09	2452	50.0

1.4 Test Mode Applicability And Tested Channel Detail

1. This device is a 20MP Box Camera with a built-in Wi-Fi transceiver.
2. The difference between the main model and the serial model is whether or not the intelligent analysis function of the software is supported. The serial model features FR software with the ability to support intelligent image analysis.
3. The EUT supports "Power over Ethernet" 、"DC 12V" and "AC 24V", the worst case is the DC 12V. The final test mode selects the DC 12V and records it in the report.
4. These tests were performed on a sample of equipment to demonstrate compliance with 47 CFR FCC Part 15, Subpart C (Section 15.247).
5. Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, XYZ axis and antenna ports.
6. The worst case was found when positioned on X axis for radiated emission. Following test modes were selected for the final test, and the final worst case is recorded in the report:

EUT Configure Mode	RE < 1G	RE ≥ 1G	ACM	ACP	Description
--	☒	☒	☒	☐	Transmit WIFI
--	☐	☐	☐	☒	Normal Link

Note : RE<1G: Radiated Emission below 1GHz RE≥1G: Radiated Emission above 1GHz
ACM: Antenna Port Conducted Measurement ACP: AC Power Line Conducted Emission

Following channel(s) was (were) selected for the final test as listed below:

Radiated Spurious Emission Measurement(Below 1GHz):

EUT Configure Mode	Mode	Available Channel	Tested Channel	Modulation Type	Data Rate (Mbps)
--	802.11b	1 ~ 11	06	DSSS	1

Radiated Spurious Emission Measurement(Above 1GHz):

EUT Configure Mode	Mode	Available Channel	Tested Channel	Modulation Type	Data Rate (Mbps)
--	802.11b	1 ~ 11	01, 06, 11	DSSS	1
--	802.11g	1 ~ 11	01, 06, 11	OFDM	6
--	802.11n HT20	1 ~ 11	01, 06, 11	OFDM	6.5
--	802.11n HT40	3 ~ 9	03, 06, 09	OFDM	13.5

Radiated Band Edge Emission Measurement(Above 1GHz):

EUT Configure Mode	Mode	Available Channel	Tested Channel	Modulation Type	Data Rate (Mbps)
--	802.11b	1 ~ 11	01, 11	DSSS	1
--	802.11g	1 ~ 11	01, 11	OFDM	6
--	802.11n HT20	1 ~ 11	01, 11	OFDM	6.5
--	802.11n HT40	3 ~ 9	03, 09	OFDM	13.5

Peak Output Power, 6dB Bandwidth, Power Spectral Density, Conducted Spurious Emission:

EUT Configure Mode	Mode	Available Channel	Tested Channel	Modulation Type	Data Rate (Mbps)
--	802.11b	1 ~ 11	01, 06, 11	DSSS	1
--	802.11g	1 ~ 11	01, 06, 11	OFDM	6
--	802.11n HT20	1 ~ 11	01, 06, 11	OFDM	6.5
--	802.11n HT40	3 ~ 9	03, 06, 09	OFDM	13.5

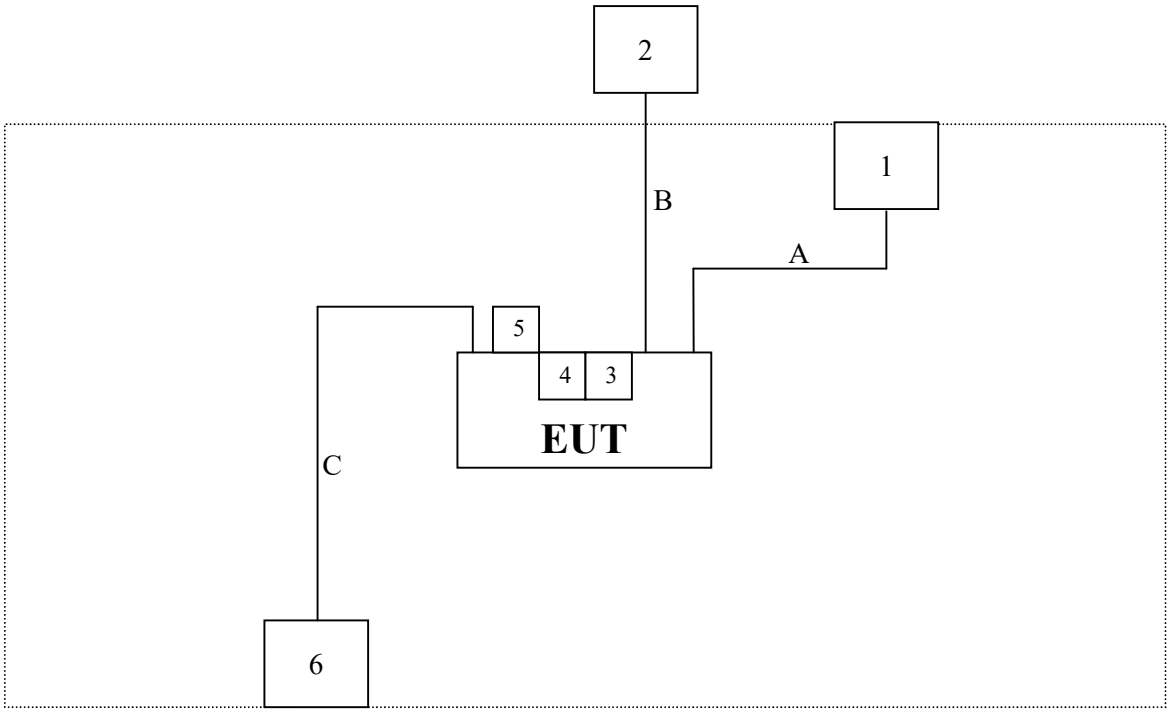
Conducted Band Edges:

EUT Configure Mode	Mode	Available Channel	Tested Channel	Modulation Type	Data Rate (Mbps)
--	802.11b	1 ~ 11	01, 11	DSSS	1
--	802.11g	1 ~ 11	01, 11	OFDM	6
--	802.11n HT20	1 ~ 11	01, 11	OFDM	6.5
--	802.11n HT40	3 ~ 9	03, 09	OFDM	13.5

AC Conducted Emission:

EUT Configure Mode	Mode	Available Channel	Tested Channel	Modulation Type	Data Rate (Mbps)
--	802.11b	1 ~ 11	06	DSSS	1

1.5 Configuration of Tested System



Test Table

1.6 EUT Exercise Software

1. Setup the EUT as shown in Section 1.5
2. Execute software “Putty ver_0.63.0”.
3. Configure the test mode, the test channel, and the data rate.
4. Press “OK” to start the continuous transmit.
5. Verify that the EUT works properly.

1.7 Tested System Details

The types for all equipment, plus descriptions of all cables used in the tested system (including inserted cards) are:

No.	Product	Manufacturer	Model No.	Serial No.	Power Cord
1	Adapter	HOIOTO	ADS-18FQ-12 12018EPCU	N/A	Non-shielded, Non-Core, 1.4m
2	Notebook PC	acer	N16Q1	NXVD4TA023742254707600	Non-shielded, 1 Core, 0.8m
3	Micro SD Card	ADATA	16GB	N/A	N/A
4	Micro SD Card	ADATA	16GB	N/A	N/A
5	Flash drive	SanDisk	SDDDC2-032G	N/A	N/A
6	Earphone & Microphone	E-books	E-EPA057	N/A	Non-shielded, Non-Core, 1.4m

No.	Signal Cable Type	Signal cable Description
A	Power Cable	Non-shielded, Non-Core, 1.4m
B	LAN Cable	Non-shielded, Non-Core, 6m
C	Audio Cable	Non-shielded, Non-Core, 1.4m

1.8 Test Facility

Items	Required (IEC 60068-1)	Actual
Temperature (°C)	15-35	25
Humidity (% RH)	25-75	65
Barometric pressure (mbar)	860-1060	1001

Description: Accredited by TAF
Accredited Number: 2965

Issued by: Wendell Industrial Co., Ltd

Lab Address: 6F/6F-1, No.188, Baoqiao Rd., Xindian Dist.,
New Taipei City 23145, Taiwan R.O.C

Test Lab: Wendell Electrical Testing Lab.

Test Location: No.67-9, Shimen Rd., Tucheng Dist.,
New Taipei City 236, Taiwan R.O.C

FCC Accreditation Number: TW2965

FCC Designation Number: TW1118

1.9 Measurement Uncertainty

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence (level based on a coverage factor K=2)

Measurement Project	Measuring Range	Expended Uncertainty
AC Conducted Emission	0.150 ~ 30 MHz	2.9 dB
Radiated Emission	0.009 ~ 30 MHz	3.8 dB
	30 ~ 1000 MHz	3.5 dB
	1000 ~ 18000 MHz	3.7 dB
	18000 ~ 40000 MHz	3.8 dB
Unwanted Emission Strength Measurement	1000 ~ 6000 MHz	2.5 dB
RF Power, Conducted	1000 ~ 6000 MHz	1.3 dB
Occupied Bandwidth	1000 ~ 6000 MHz	3 %
Power Density	1000 ~ 6000 MHz	1.4 dB
Duty Cycle	1000 ~ 6000 MHz	2.4 %
DC Power Supply	0.5 ~ 30 V	1.7 %
Temperature	15 ~ 30 ℃	0.8 ℃
Humidity	40 ~ 80 %	3.8 %

Note: Please note that the measurement uncertainty are provided for informational purpose only and are not used in determining the Pass/Fail results.

1.10 List of Test Equipment

For Conducted measurements / RF Conducted Measurement Room

Equipment		Manufacturer	Model No.	Serial No.	Cal. Date	Due Date
✓	Spectrum analyzer	Keysight	N9010A	MY54200737	2019/9/6	2020/9/5
✓	Wideband Peak Power Meter	Anritsu	ML2495A	1733007	2019/9/6	2020/9/5
✓	Pulse Power Sensor + Precision Adaptor	Anritsu	MA2411B	1726022	2019/9/6	2020/9/5
	Temperature Chamber	TAICHY	MHK-225LK	1061121	2019/4/29	2020/4/28
	Wireless Connectivity Tester	R&S	CMW270	101307	2019/4/24	2020/4/23
✓	Attenuator	MVE	MVE2211-10	CT-9-056	2019/8/22	2020/8/21
	Attenuator	MVE	MVE2211-20	CT-9-057	2019/8/22	2020/8/21
	Attenuator	MVE	MVE2211-30	CT-9-058	2019/8/22	2020/8/21
	Power Divider	MVE	MVE8546	170826003	2019/8/22	2020/8/21
	Power Splitter	MVE	MVE8547	170302047	2019/8/28	2020/8/27
	DC Power Supply	GW INSTEK	GPC-3060D	GER817636	2019/8/21	2020/8/20

Remark:

1. All equipments are calibrated every one year.
2. The test instruments marked with "✓" are used to measure the final test results.

For AC Conduction measurements / Conducted Room

	Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Due Date
✓	EMI Test Receiver	R&S	ESR3	102309	2019/5/16	2020/5/15
✓	2-Line V-Network LISN	R&S	ENV216	101185	2019/5/20	2020/5/19
✓	LISN	SCHWARZBECK	NSLK 8127RC	05028	2019/5/20	2020/5/19
✓	Transient Limiter	EM Electronics Corporation	EM-7600	857	2019/5/16	2020/5/15
✓	50ohm Cable	EMCI	EMCCFD300-BM-BM-5000	170613	2019/5/16	2020/5/15
✓	50 ohm terminal impedance	HUBER+SUHNER	50 ohm terminal impedance	CT-1-109-1	2019/5/13	2020/5/12

Remark:

1. All equipments are calibrated every one year.
2. The test instruments marked with "✓" are used to measure the final test results.
3. Test Software version: FARAD EZ-EMC Ver.EMC-CON 3A1

For Radiated measurements / 9x6x6 Semi Anechoic Room

Equipment		Manufacturer	Model No.	Serial No.	Cal. Date	Due Date
✓	Spectrum Analyzer	Keysight	N9010A	MY52220228	2019/4/25	2020/4/24
✓	EMI Receiver	Keysight	N9038A	MY51210173	2019/9/26	2020/9/25
✓	Pre-Amplifier	EMEC	EMC330	060668	2019/9/25	2020/9/24
✓	Pre-Amplifier	EMCI	EMC051845SE	980525	2019/9/25	2020/9/24
✓	Pre-Amplifier	EMCI	EMC184045SE	980515	2019/9/25	2020/9/24
✓	Pre-Amplifier	EMEC	EM01G18G	060648	2019/9/24	2020/9/23
✓	Cable	EMEC	EM-CB400	105060103	2019/9/25	2020/9/24
✓	Cable	EMEC	EM-CB400	105060102	2019/9/25	2020/9/24
✓	Cable	EMEC	EM-CB400	105060101	2019/9/25	2020/9/24
✓	Cable	EMCI	EMC102-KM-KM-600	170637	2019/9/25	2020/9/24
✓	Cable	HUBER+SUHNER	SF102	MY2751/2	2019/9/25	2020/9/24
✓	Cable	EMCI	EMC102-KM-KM-3000	170635	2019/9/25	2020/9/24
✓	Loop Antenna	EMCI	LPA600	277	2019/7/24	2020/7/23
✓	TRILOG super broad Antenna	Schwarzbeck	VULB 9168	VULB 9168-700 & 1421	2019/9/24	2020/9/23
✓	Horn Antenna	Schwarzbeck	BBHA 9120D	01557	2019/9/26	2020/9/25
✓	Horn Antenna	Schwarzbeck	BBHA 9170	703	2019/10/2	2020/10/1
✓	RF Filter	EMEC	BRF-2400-2500	002	2019/9/25	2020/9/24
	RF Filter	EMEC	BRF-5150-5350	104	2019/9/25	2020/9/24
	RF Filter	EMEC	BRF-5470-5725	092	2019/9/25	2020/9/24
	RF Filter	EMEC	BRF-5725-5875	091	2019/9/25	2020/9/24
✓	RF Filter	EMEC	HPF-2800	002	2019/9/25	2020/9/24
	RF Filter	EMEC	HPF-5850	059	2019/9/25	2020/9/24

Remark:

1. All equipments are calibrated every one year.
2. The test instruments marked with "✓" are used to measure the final test results.
3. Test Software version: FARAD EZ-EMC Ver.WD-03A1-1

2 Test Result

2.1 Antenna Requirement

2.1.1 Applicable Standard

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.

An intentional radiator shall be designed to ensure that no antenna other than as furnished by the responsible party shall be used with the device. If transmitting antennas of directional gain greater than 6dBi are using the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi, for compliance to FCC 47CFR 15.247 (c) requirements.

2.1.2 Antenna Connected Construction

Non-standard antenna connector is used.

2.1.3 Antenna Gain

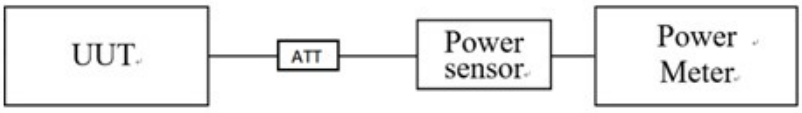
No.	Manufacturer	Model No.	Antenna Type	Peak Gain
1	N/A	N/A	PCB Antenna	1 dBi for 2.4GHz

2.2 Peak Output Power Measurement

2.2.1 Limit

For systems using digital modulation in the 2400-2483.5MHz, the limit for peak output power is 1W. If transmitting antenna of directional gain greater than 6dBi is used, the peak output power from the intentional radiator shall be reduced below the above stated value by the amount in dB that the directional gain of the antenna exceeds 6 dBi. In case of point-to-point operation, the limit has to be reduced by 1dB for every 3dB that the directional gain of the antenna exceeds 6dBi.

2.2.2 Test Setup



2.2.3 Test Procedure

1. Enable the EUT transmit continuously.
2. Let EUT be connected to the power meter, and record the max. reading.
3. Measurement using a gated RF average power meter, since this measurement is made only during the ON time of the transmitter, no duty cycle correction is required.

2.2.4 Test Result

802.11b

Frequency (MHz)	Peak power (dBm)			Limit (dBm)	Result
	Chain A	Chain B	Total		
2412	23.94	--	--	≤ 30	Pass
2437	23.77	--	--	≤ 30	Pass
2462	24.05	--	--	≤ 30	Pass

Remark:

1. Peak Power = Reading value on power meter + cable loss
2. 10 Log(X/mW) = dBm, X=1 watt (Limit)
   1 watt = 30 dBm

802.11g

Frequency (MHz)	Peak power (dBm)			Limit (dBm)	Result
	Chain A	Chain B	Total		
2412	23.91	--	--	≤ 30	Pass
2437	24.08	--	--	≤ 30	Pass
2462	24.47	--	--	≤ 30	Pass

Remark:

1. Peak Power = Reading value on power meter + cable loss
2. 10 Log(X/mW) = dBm, X=1 watt (Limit)
   1 watt = 30 dBm

802.11n HT20

Frequency (MHz)	Peak power (dBm)			Limit (dBm)	Result
	Chain A	Chain B	Total		
2412	23.76	--	--	≤ 30	Pass
2437	24.06	--	--	≤ 30	Pass
2462	24.39	--	--	≤ 30	Pass

Remark:

1. Peak Power = Reading value on power meter + cable loss
2. 10 Log(X/mW) = dBm, X=1 watt (Limit)
   1 watt = 30 dBm

802.11n HT40

Frequency (MHz)	Peak power (dBm)			Limit (dBm)	Result
	Chain A	Chain B	Total		
2422	23.56	--	--	≤ 30	Pass
2437	23.59	--	--	≤ 30	Pass
2452	23.79	--	--	≤ 30	Pass

Remark:

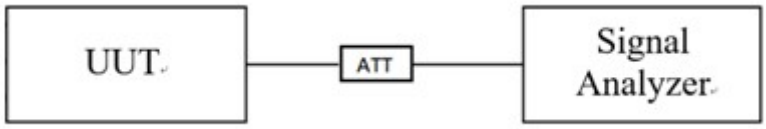
1. Peak Power = Reading value on power meter + cable loss
2. 10 Log(X/mW) = dBm, X=1 watt (Limit)
   1 watt = 30 dBm

2.3 6dB Bandwidth Measurement

2.3.1 Limit

The minimum 6 dB bandwidth shall be at least 500 kHz.

2.3.2 Test Setup



2.3.3 Test Procedure

1. Enable the EUT transmit continuously.
2. Spectrum analyzer set:
   a) RBW = 100 kHz
   b) VBW ≥ 3 RBW
   c) Detector = peak
   d) Sweep time = auto couple
   e) Trace mode = max hold.

2.3.4 Test Result

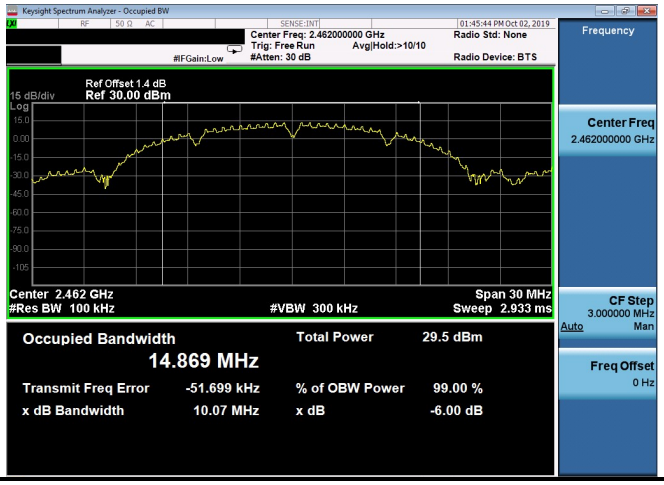
802.11b

Frequency (MHz)	6dB BW (kHz)		Limit (kHz)	Result
	Chain A	Chain B		
2412	10070	--	≥ 500	Pass
2437	10060	--	≥ 500	Pass
2462	10070	--	≥ 500	Pass

WLAN 802.11b (2412 MHz)

WLAN 802.11b (2437 MHz)

WLAN 802.11b (2462 MHz)



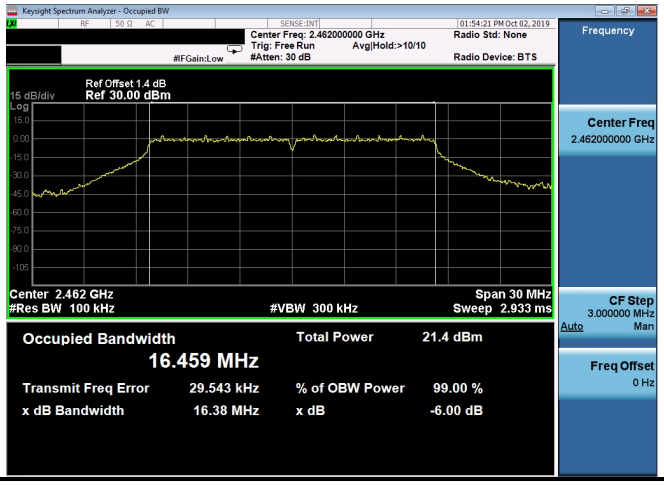
802.11g

Frequency (MHz)	6dB BW (kHz)		Limit (kHz)	Result
	Chain A	Chain B		
2412	16380	--	≥ 500	Pass
2437	16380	--	≥ 500	Pass
2462	16380	--	≥ 500	Pass

WLAN 802.11g (2412 MHz)

WLAN 802.11g (2437 MHz)

WLAN 802.11g (2462 MHz)

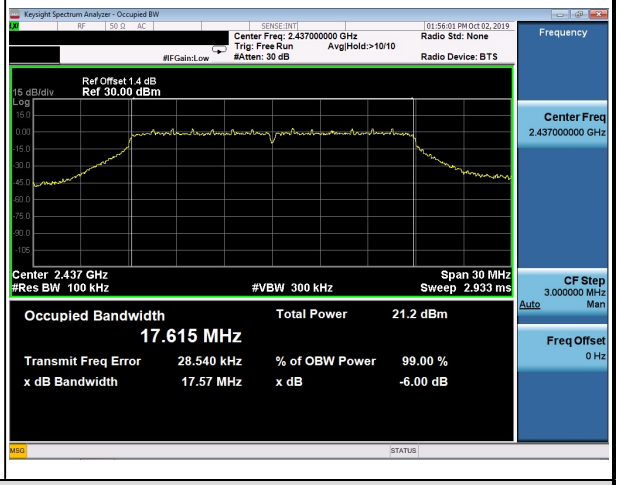


802.11n HT20

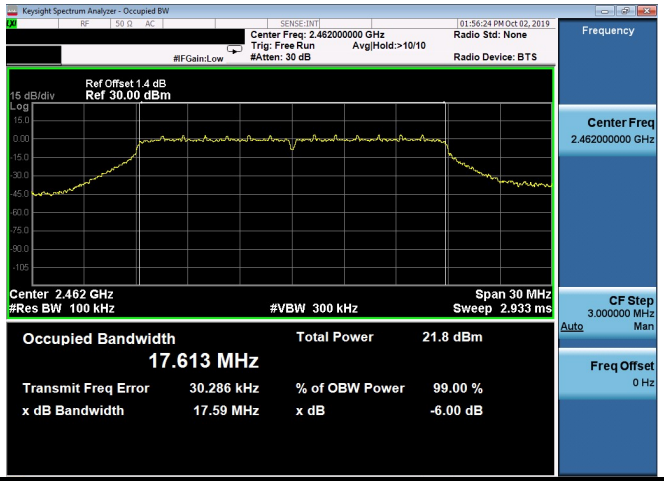
Frequency (MHz)	6dB BW (kHz)		Limit (kHz)	Result
	Chain A	Chain B		
2412	17580	--	≥ 500	Pass
2437	17570	--	≥ 500	Pass
2462	17590	--	≥ 500	Pass

WLAN 802.11n HT20 (2412 MHz)

WLAN 802.11n HT20 (2437 MHz)



WLAN 802.11n HT20 (2462 MHz)

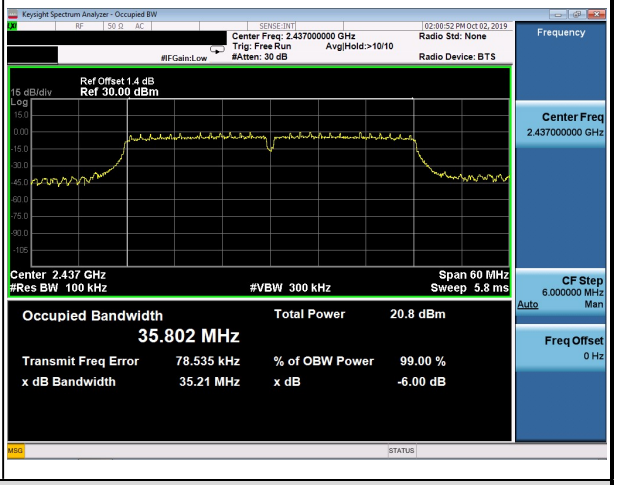


802.11n HT40

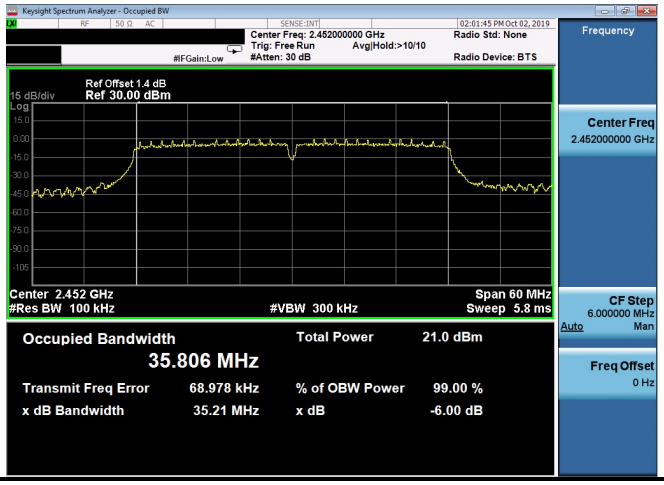
Frequency (MHz)	6dB BW (kHz)		Limit (kHz)	Result
	Chain A	Chain B		
2422	35210	--	≥ 500	Pass
2437	35210	--	≥ 500	Pass
2452	35210	--	≥ 500	Pass

WLAN 802.11n HT40 (2422 MHz)

WLAN 802.11n HT40 (2437 MHz)



WLAN 802.11n HT40 (2452 MHz)

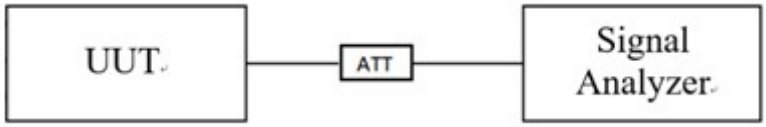


2.4 Power Spectral Density Measurement

2.4.1 Limit

The peak power spectral density shall not be greater than 8dBm in any 3kHz band at any time interval of continuous transmission.

2.4.2 Test Setup



2.4.3 Test Procedure

1. Enable the EUT transmit continuously.
2. Spectrum analyzer set:
   a) RBW = 3 kHz ~ 100 kHz
   b) VBW ≥ 3 RBW
   c) Span = 1.5 times DTS Channel 6dB Bandwidth
   d) Detector = peak
   e) Sweep time = auto couple
   f) Trace mode = max hold.

2.4.4 Test Result

802.11b

Frequency (MHz)	Power Spectral Density (dBm)			Limit (dBm)	Result
	Chain A	Chain B	Total		
2412	-0.824	--	--	≤ 8	Pass
2437	-0.721	--	--	≤ 8	Pass
2462	-0.469	--	--	≤ 8	Pass

Remark: PSD = Reading value on spectrum analyzer + cable loss

WLAN 802.11b (2412 MHz)

WLAN 802.11b (2437 MHz)

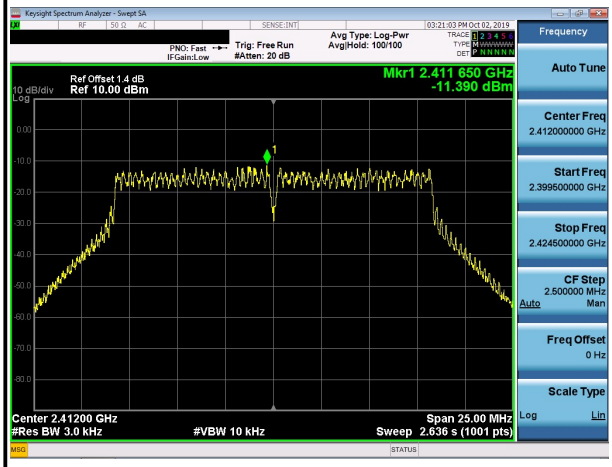
WLAN 802.11b (2462 MHz)

802.11g

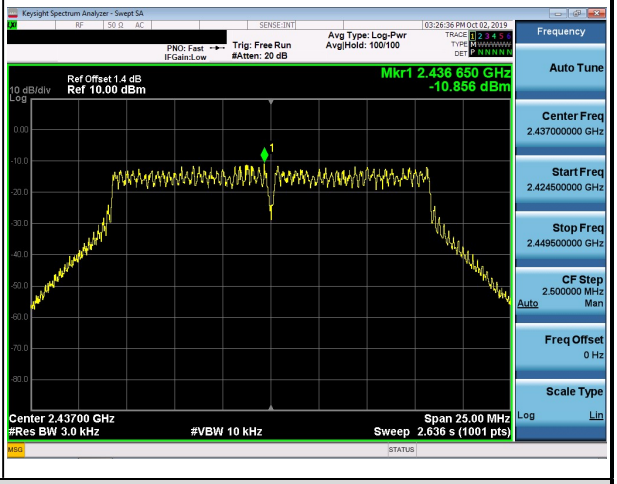
Frequency (MHz)	Power Spectral Density (dBm)			Limit (dBm)	Result
	Chain A	Chain B	Total		
2412	-11.390	--	--	≤ 8	Pass
2437	-10.856	--	--	≤ 8	Pass
2462	-10.550	--	--	≤ 8	Pass

Remark: PSD = Reading value on spectrum analyzer + cable loss

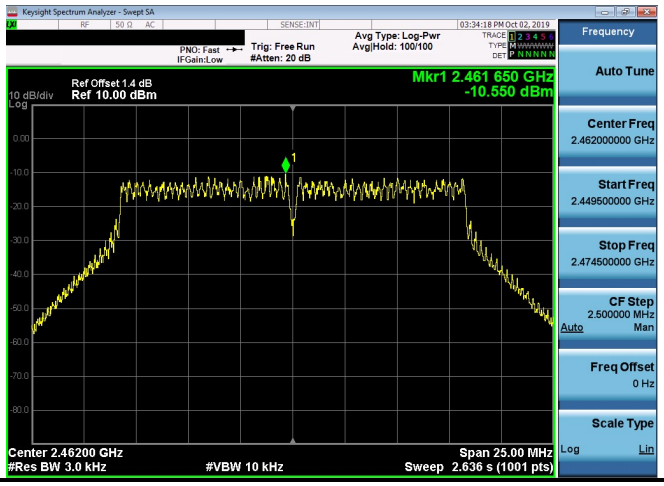
WLAN 802.11g (2412 MHz)



WLAN 802.11g (2437 MHz)



WLAN 802.11g (2462 MHz)

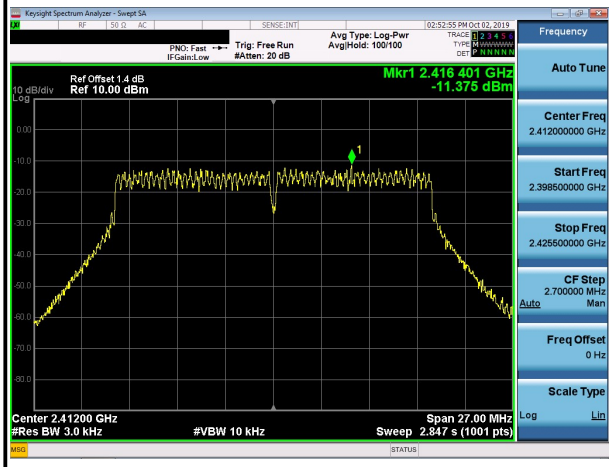


802.11n HT20

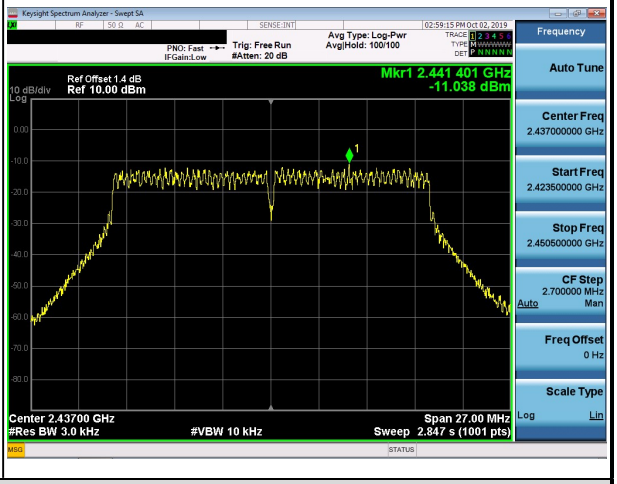
Frequency (MHz)	Power Spectral Density (dBm)			Limit (dBm)	Result
	Chain A	Chain B	Total		
2412	-11.375	--	--	≤ 8	Pass
2437	-11.038	--	--	≤ 8	Pass
2462	-10.690	--	--	≤ 8	Pass

Remark: PSD = Reading value on spectrum analyzer + cable loss

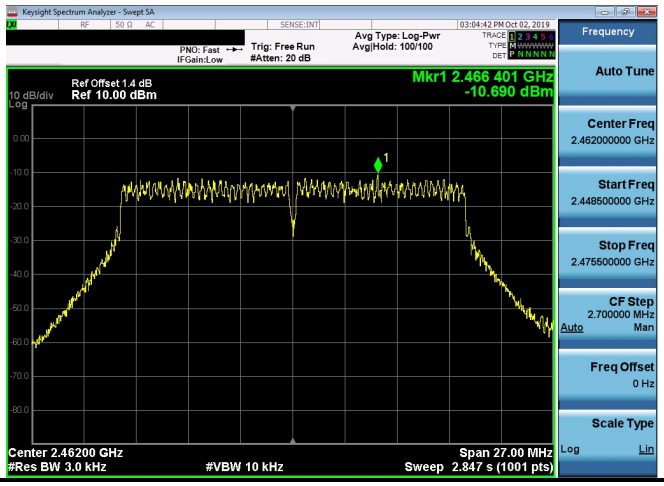
WLAN 802.11n HT20 (2412 MHz)



WLAN 802.11n HT20 (2437 MHz)



WLAN 802.11n HT20 (2462 MHz)

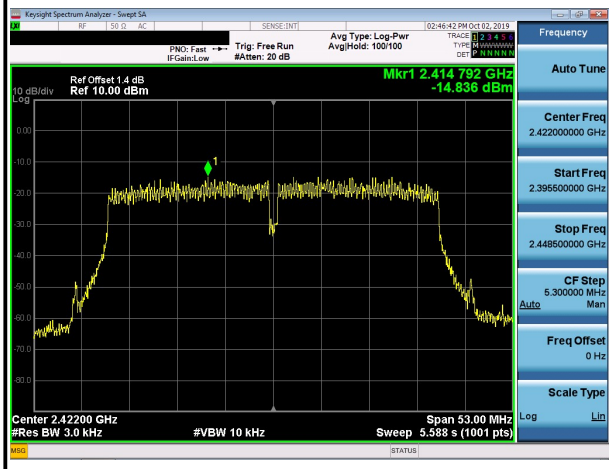


802.11n HT40

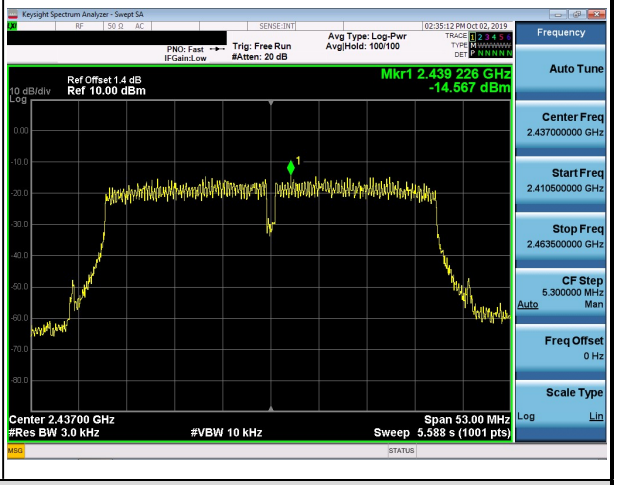
Frequency (MHz)	Power Spectral Density (dBm)			Limit (dBm)	Result
	Chain A	Chain B	Total		
2422	-14.836	--	--	≤ 8	Pass
2437	-14.567	--	--	≤ 8	Pass
2452	-14.051	--	--	≤ 8	Pass

Remark: PSD = Reading value on spectrum analyzer + cable loss

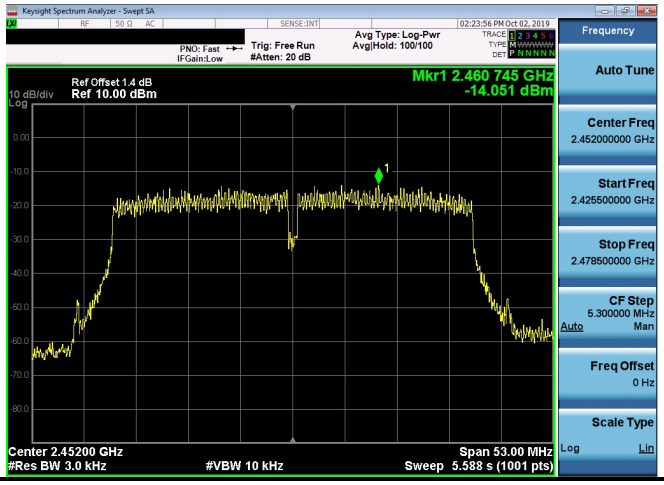
WLAN 802.11n HT40 (2422 MHz)



WLAN 802.11n HT40 (2437 MHz)



WLAN 802.11n HT40 (2452 MHz)

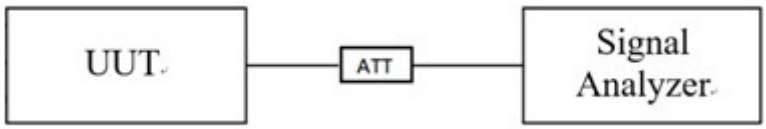


2.5 Conducted Band Edges and Spurious Emission Measurement

2.5.1 Limit

In any 100 KHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator in operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100KHz bandwidth within the band that contains the highest level of the desired power, In addition, radiated emissions which fall in the restricted bands, as defined in must also comply with the radiated emission limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required under this paragraph shall be 30 dB instead of 20 dB

2.5.2 Test Setup



2.5.3 Test Procedure

1. Enable the EUT transmit continuously.
2. Spectrum analyzer set :
   a) RBW = 100 kHz
   b) VBW ≥ 3 RBW
   c) Detector = peak
   d) Sweep time = auto couple
   e) Trace mode = max hold.