



RF TEST REPORT

Applicant Honor Device Co., Ltd.
FCC ID 2AYGCTFY-LX3
Product Smart Phone
Model TFY-LX3
Report No. R2206A0587-R6
Issue Date July 14, 2022

TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in **FCC CFR47 Part 15C (2021)**. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

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Summary of measurement results

Number	Test Case	Clause in FCC rules	Verdict
1	Maximum output power	15.247(b)(3)	PASS
2	6 dB bandwidth	15.247(a)(2)	PASS
3	Power spectral density	15.247(e)	PASS
4	Band Edge	15.247(d)	PASS
5	Spurious RF Conducted Emissions	15.247(d)	PASS
6	Unwanted Emissions	15.247(d),15.205,15.209	PASS
7	Conducted Emissions	15.207	PASS
Date of Testing: January 11, 2022 and January 24, 2022			
Date of Sample Received: January 10, 2022			
Note: All indications of Pass/Fail in this report are opinions expressed by TA Technology (Shanghai) Co., Ltd. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only.			

TFY-LX3 (Report No.: R2206A0587-R6) is a variant model of TFY-LX3 (Report No.: R2201A0036-R6V1). Test values all duplicated from Original for variant. There is no test for variant in this report.

The difference between model TFY-LX3 and TFY-LX3 is show in the below table:

Item	Model	TFY-LX3(Before)	TFY-LX3(After)
Licensed Frequency	GSM	B2/B5 The primary and secondary antenna of B2 supports transmit and receive.	B2/B5 the difference changed by software: The primary antenna of B2 supports transmit and receive, The secondary antenna of B2 only supports receive.
Software	Version	4.2.0.35(C900E14R1P1)	4.2.0.149(C605E1R2P1)
RF	Tune-up	The primary antenna of GSM B2/B5、WCDMA B4/B5、LTE B4/B5/B13/B26/B66 are unchanged.	The primary antenna of WCDMA B2、LTE B2/B7/B38 and the secondary antenna of WCDMA B2/B4、LTE B2/B4/B7/B38/B66 are changed smaller.
Accessory	Battery	Manufacture: Sunwoda、NVT	Manufacture: Sunwoda、NVT、SCUD
Others		The same	

The detailed product change description please refers to the Difference Declaration Letter.



1. Test Laboratory

1.1. Notes of the test report

This report shall not be reproduced in full or partial, without the written approval of **TA technology (shanghai) co., Ltd.** The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein .Measurement Uncertainties were not taken into account and are published for informational purposes only. This report is written to support regulatory compliance of the applicable standards stated above.

1.2. Test facility

FCC (Designation number: CN1179, Test Firm Registration Number: 446626)

TA Technology (Shanghai) Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform measurements.

A2LA (Certificate Number: 3857.01)

TA Technology (Shanghai) Co., Ltd. has been listed by American Association for Laboratory Accreditation to perform measurement.

1.3. Testing Location

Company: TA Technology (Shanghai) Co., Ltd.
Address: Building 3, No.145, Jintang Rd, Tangzhen Industry Park, Pudong Shanghai, China
City: Shanghai
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E-mail: xukai@ta-shanghai.com

2. General Description of Equipment under Test

2.1. Applicant and Manufacturer Information

Applicant	Honor Device Co., Ltd.
Applicant address	Shum Yip Sky Park, No. 8089, Hongli West Road, Shenzhen, China
Manufacturer	Honor Device Co., Ltd.
Manufacturer address	Shum Yip Sky Park, No. 8089, Hongli West Road, Shenzhen, China

2.2. General information

EUT Description			
Model	TFY-LX3		
SN	A7NX011C30000083		
Hardware Version	HL6TFYM		
Software Version	4.2.0.149(C605E1R2P1)		
Power Supply	Battery / AC adapter		
Antenna Type	Internal Antenna		
Antenna Connector	A permanently attached antenna (meet with the standard FCC Part 15.203 requirement)		
Antenna Gain	-1.8dBi		
additional beamforming gain	NA		
Operating Frequency Range(s)	802.11b/g/n(HT20): 2412 ~ 2462 MHz 802.11n(HT40): 2422 ~ 2452 MHz Bluetooth LE V5.0: 2402 ~2480 MHz		
Modulation Type	802.11b: DSSS 802.11g/n(HT20/HT40): OFDM Bluetooth LE: GFSK		
Max. Conducted Power	Wi-Fi 2.4G: 19.02dBm Bluetooth LE: 6.95dBm		
EUT Accessory			
Accessory	Model	Manufacture	No.
Adapter	HW-100225E00	Honor Device Co., Ltd. (Manufacturer:Huntkey)	1
	HW-100225U00	Honor Device Co., Ltd. (Manufacturer:Huntkey)	2
	HW-100225B00	Honor Device Co., Ltd. (Manufacturer:Huntkey)	3
	HN-100225E00	Honor Device Co., Ltd. (Manufacturer: Salcomp)	4
	HN-100225U00	Honor Device Co., Ltd. (Manufacturer: Salcomp)	5
Battery	HB416492EFW	Honor Device Co., Ltd. (Manufacturer: Sunwoda Electronic Co.,LTD)	1



		Honor Device Co., Ltd. (Manufacturer: Dongguan NVT Technology Co., Ltd)	2
		Honor Device Co., Ltd. (Manufacturer: SCUD (Fujian) Electronics Co., LTD.)	3
Earphone	MEND1532B528A11	Jiangxi Lianchuang Hongsheng Electronic Co., LTD.	1
	1293-3283-3.5mm-339	BOLUO COUNTY QUANCHENG ELECTRONIC CO.,LTD.	2
	EPAB542-2WH05-DH	FOXCONN INTERCONNECT TECHNOLOGY LIMITED	3
USB Cable	RY0002	NingBo Broad Telecommunication Co., Ltd.	1
	AU2-CRO013HF	Freeport Resources Enterprises Corp.	2
	2120-00001-0	MING JI ELECTRONICS CO., LTD.	3
	L125UC007-CS-H	LUXSHARE PRECISION INDUSTRY CO., LTD.	4
	CUDU01B-HC451-EH	FOXCONN INTERCONNECT TECHNOLOGY LIMITED	5
<p>Note: 1. The EUT is sent from the applicant to TA and the information of the EUT is declared by the applicant.</p> <p>2. There are more than one Adapter, Battery, Earphone and USB Cable, each one should be applied throughout the compliance test respectively, however, only the worst case (Adapter 1, Battery 2, Earphone 1 and USB Cable 3) will be recorded in this report.</p>			

3. Applied Standards

According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

Test standards:

FCC CFR47 Part 15C (2021) Radio Frequency Devices

ANSI C63.10-2013

Reference standard:

KDB 558074 D01 15.247 Meas Guidance v05r02

4. Test Configuration

Test Mode

The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application.

The radiated emission was measured in the following position: EUT stand-up position (Z axis), lie-down position (X, Y axis). The worst emission was found in lie-down position (X axis) and the loop antenna is vertical, the others are vertical and horizontal. and the worst case was recorded.

In order to find the worst case condition, Pre-tests are needed at the presence of different data rate. Preliminary tests have been done on all the configuration for confirming worst case. Data rate below means worst-case rate of each test item.

Worst-case data rates are shown as following table.

Test Mode	Data Rate
Bluetooth(Low Energy)	1Mbps
802.11b	1 Mbps
802.11g	6 Mbps
802.11n HT20	MCS0
802.11n HT40	MCS0

5. Test Case Results

5.1. Maximum output power

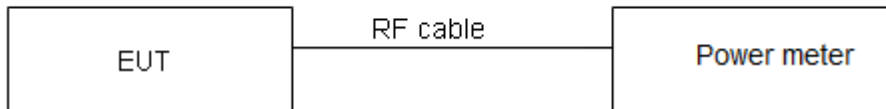
Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Methods of Measurement

During the process of the testing, The EUT was connected to Power meter with a known loss. The EUT is max power transmission with proper modulation.

Test Setup



Limits

Rule Part 15.247 (b) (3) specifies that " For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz: 1 Watt."

Average Output Power	$\leq 1W$ (30dBm)
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Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 2$, $U = 0.44$ dB.

**Test Results**

Test Mode	T _{on} (ms)	T _(on+off) (ms)	Duty cycle	Duty cycle correction Factor(dB)
802.11b	12.44	12.60	0.99	0.00
802.11g	2.06	2.10	0.98	0.00
802.11n HT20	1.92	1.96	0.98	0.00
802.11n HT40	0.95	1.00	0.95	0.24
Bluetooth LE	2.14	2.50	0.86	0.66

Note: when Duty cycle \geq 0.98, Duty cycle correction Factor not required.



Test Mode	Carrier frequency (MHz) \ Channel	Average Power Measured (dBm)	Average Power with duty factor (dBm)	Limit (dBm)	Conclusion
802.11b	2412/CH 1	18.75	18.75	30	PASS
	2437/CH 6	18.46	18.46	30	PASS
	2462/CH11	18.60	18.60	30	PASS
802.11g	2412/CH 1	14.67	14.67	30	PASS
	2417/CH 2	16.37	16.37	30	PASS
	2422/CH 3	18.80	18.80	30	PASS
	2427/CH 4	18.80	18.80	30	PASS
	2437/CH 6	19.02	19.02	30	PASS
	2447/CH 8	18.84	18.84	30	PASS
	2452/CH 9	18.51	18.51	30	PASS
	2457/CH 10	16.32	16.32	30	PASS
	2462/CH 11	14.34	14.34	30	PASS
802.11n HT20	2412/CH 1	14.47	14.47	30	PASS
	2417/CH 2	16.21	16.21	30	PASS
	2422/CH 3	18.72	18.72	30	PASS
	2427/CH 4	18.73	18.73	30	PASS
	2437/CH 6	18.87	18.87	30	PASS
	2447/CH 8	18.68	18.68	30	PASS
	2452/CH 9	18.30	18.30	30	PASS
	2457/CH 10	16.14	16.14	30	PASS
	2462/CH 11	14.12	14.12	30	PASS
802.11n HT40	2422/CH 3	11.34	11.58	30	PASS
	2427/CH 4	11.24	11.48	30	PASS
	2432/CH 5	12.76	13.00	30	PASS
	2437/CH 6	14.10	14.34	30	PASS
	2442/CH 7	12.64	12.88	30	PASS
	2447/CH 8	11.54	11.78	30	PASS
	2452/CH 9	11.25	11.49	30	PASS
Bluetooth (Low Energy)	2402/CH 0	5.69	6.35	30	PASS
	2440/CH 19	5.24	5.90	30	PASS
	2480/CH 39	6.29	6.95	30	PASS

Note: Average Power with duty factor = Average Power Measured +Duty cycle correction factor

5.2. 99% Bandwidth and 6dB Bandwidth

Ambient condition

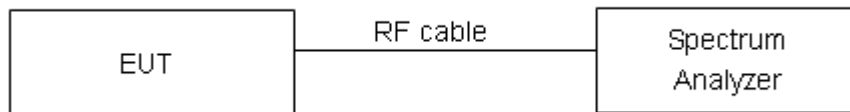
Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

The EUT was connected to the spectrum analyzer through an external attenuator (20dB) and a known loss cable. RBW is set to 100 kHz; VBW is set to 300 kHz on spectrum analyzer. Dector=Peak, Trace mode=max hold.

The EUT was connected to the spectrum analyzer through a known loss cable. The resolution bandwidth (RBW) shall be in the range of 1% to 5% of the actual occupied / x dB bandwidth and the video bandwidth (VBW) shall not be smaller than three times the RBW value.

Test Setup



Limits

Rule Part 15.247 (a) (2) specifies that “Systems using digital modulation techniques may operate in the 902–928 MHz, 2400–2483.5 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.”

minimum 6 dB bandwidth	≥ 500 kHz
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Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 2$, $U = 936$ Hz.

Test Results:

Test Mode	Carrier frequency (MHz)	99% bandwidth (MHz)	Minimum 6 dB bandwidth (MHz)	Limit (kHz)	Conclusion
802.11b	2412/CH 1	13.61	8.08	500	PASS
	2437/CH 6	14.07	9.07	500	PASS
	2462/CH11	13.71	8.54	500	PASS
802.11g	2412/CH 1	16.41	16.30	500	PASS
	2417/CH 2	16.49	15.36	500	PASS
	2422/CH 3	16.74	14.48	500	PASS
	2427/CH 4	16.85	12.94	500	PASS
	2437/CH 6	16.84	15.92	500	PASS
	2447/CH 8	16.71	15.00	500	PASS
	2452/CH 9	16.57	14.94	500	PASS
	2457/CH 10	16.47	15.67	500	PASS
	2462/CH 11	16.45	14.75	500	PASS
802.11n HT20	2412/CH 1	17.61	12.58	500	PASS
	2417/CH 2	17.68	16.36	500	PASS
	2422/CH 3	17.84	15.97	500	PASS
	2427/CH 4	17.94	16.27	500	PASS
	2437/CH 6	17.99	17.56	500	PASS
	2447/CH 8	17.88	16.00	500	PASS
	2452/CH 9	17.78	14.78	500	PASS
	2457/CH 10	17.66	15.10	500	PASS
	2462/CH 11	17.67	15.37	500	PASS
802.11n HT40	2422/CH 3	36.14	35.09	500	PASS
	2427/CH 4	36.24	35.74	500	PASS
	2432/CH 5	36.30	36.34	500	PASS
	2437/CH 6	36.32	36.33	500	PASS
	2442/CH 7	36.22	36.32	500	PASS
	2447/CH 8	36.13	35.34	500	PASS
	2452/CH 9	35.98	35.11	500	PASS
Bluetooth (Low Energy)	2402/CH 0	1.04	0.65	500	PASS
	2440/CH 19	1.04	0.65	500	PASS
	2480/CH 39	1.05	0.65	500	PASS

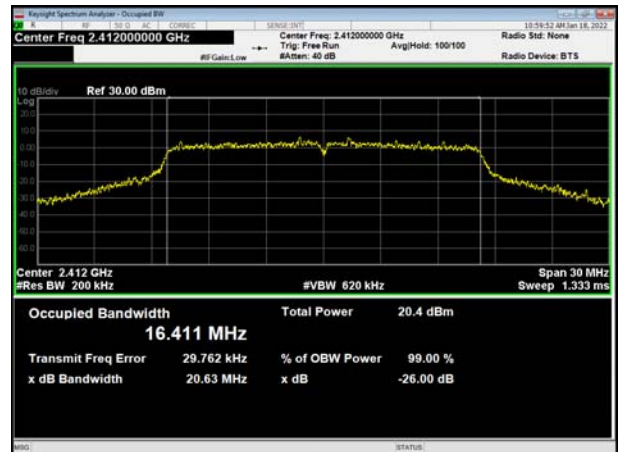


99%bandwidth

802.11b, Carrier frequency (MHz): 2412



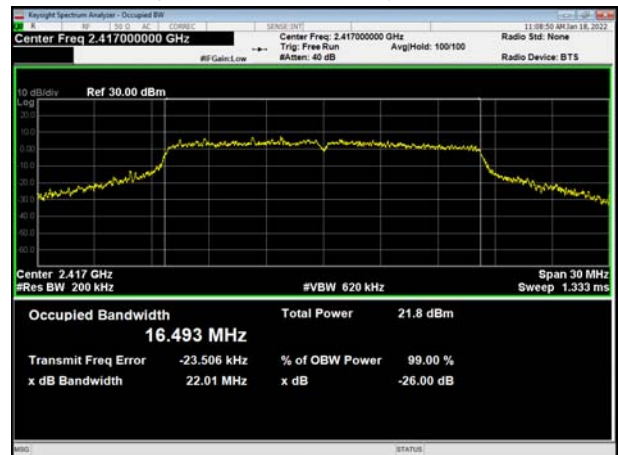
802.11g, Carrier frequency (MHz): 2412



802.11b, Carrier frequency (MHz): 2437



802.11g, Carrier frequency (MHz): 2417



802.11b, Carrier frequency (MHz):2462



802.11g, Carrier frequency (MHz): 2422





802.11g, Carrier frequency (MHz): 2427



802.11g, Carrier frequency (MHz): 2437



802.11g, Carrier frequency (MHz): 2447



802.11g, Carrier frequency (MHz): 2452



802.11g, Carrier frequency (MHz): 2457

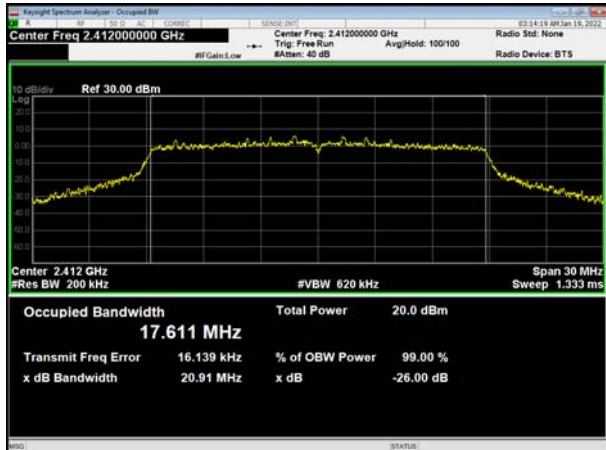


802.11g, Carrier frequency (MHz): 2462

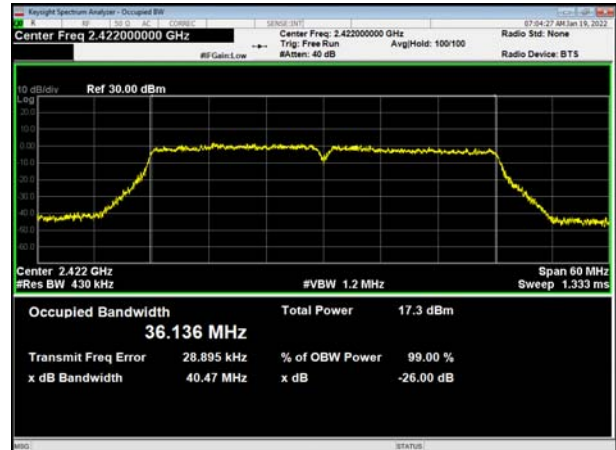




802.11n(HT20), Carrier frequency (MHz): 2412



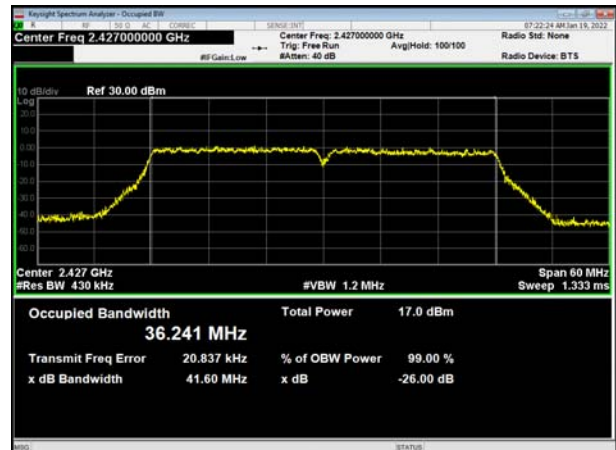
802.11n(HT40), Carrier frequency (MHz): 2422



802.11n(HT20), Carrier frequency (MHz): 2417



802.11n(HT40), Carrier frequency (MHz): 2427



802.11n(HT20), Carrier frequency (MHz): 2422

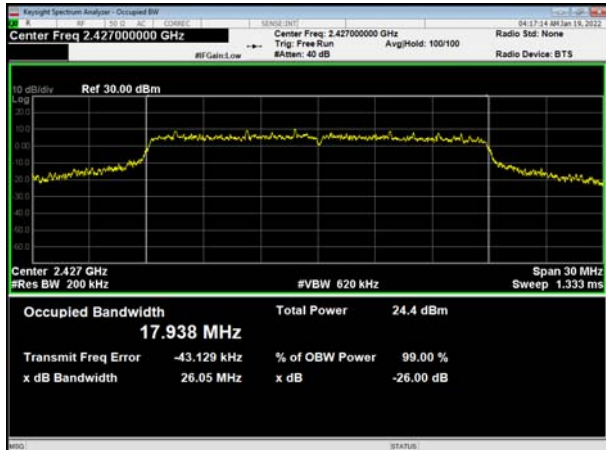


802.11n(HT40), Carrier frequency (MHz): 2432

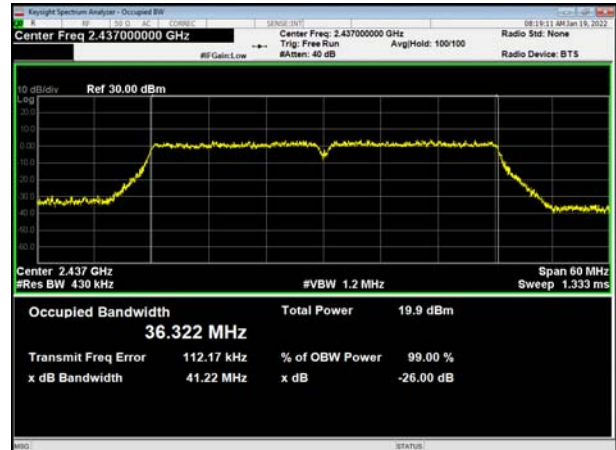




802.11n(HT20), Carrier frequency (MHz): 2427



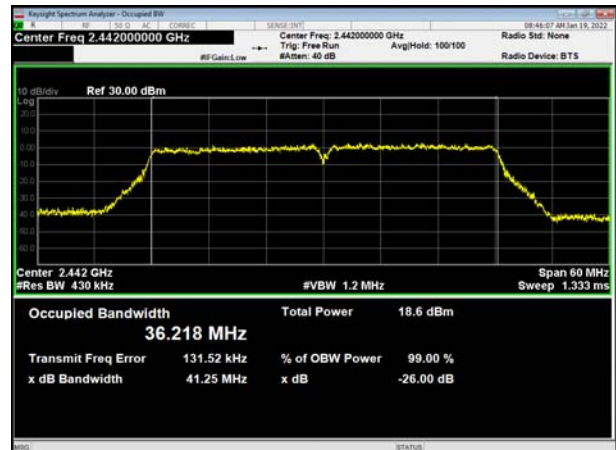
802.11n(HT40), Carrier frequency (MHz): 2437



802.11n(HT20), Carrier frequency (MHz): 2437



802.11n(HT40), Carrier frequency (MHz): 2442



802.11n(HT20), Carrier frequency (MHz): 2447



802.11n(HT40), Carrier frequency (MHz): 2447





802.11n(HT20), Carrier frequency (MHz): 2452



802.11n(HT40), Carrier frequency (MHz): 2452



802.11n(HT20), Carrier frequency (MHz): 2457



802.11n(HT20), Carrier frequency (MHz): 2462



Bluetooth LE Carrier frequency (MHz): 2402



Bluetooth LE Carrier frequency (MHz): 2440

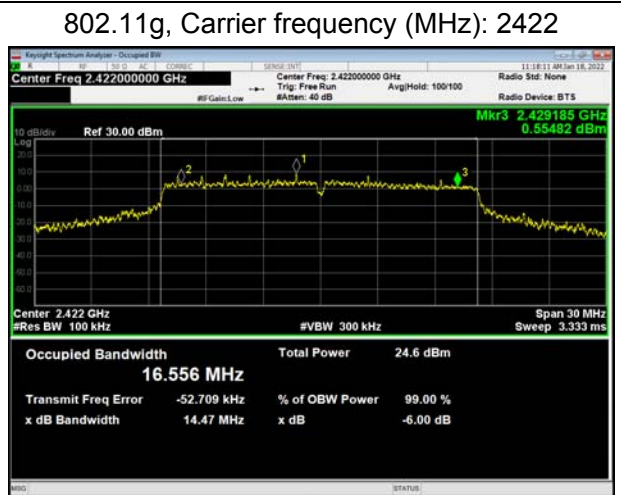
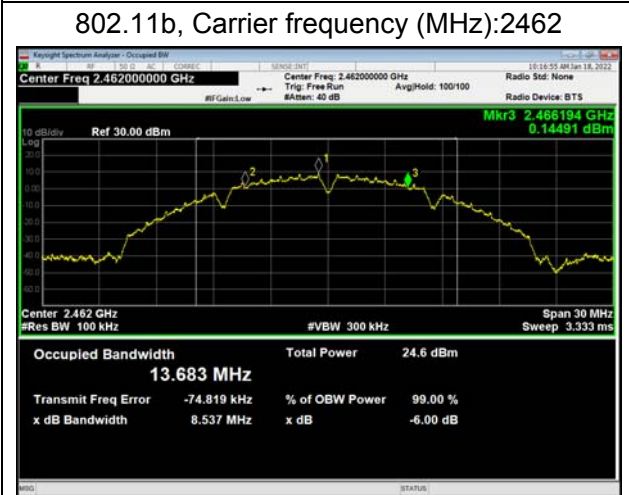
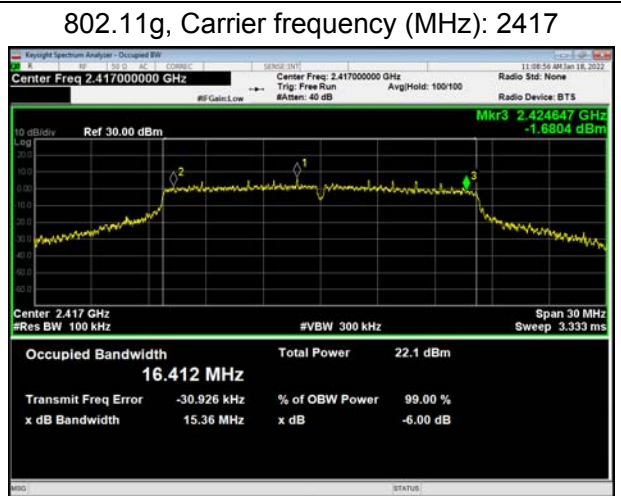
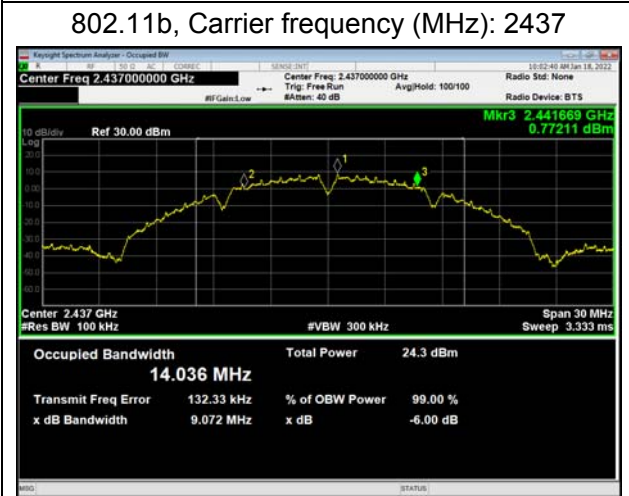
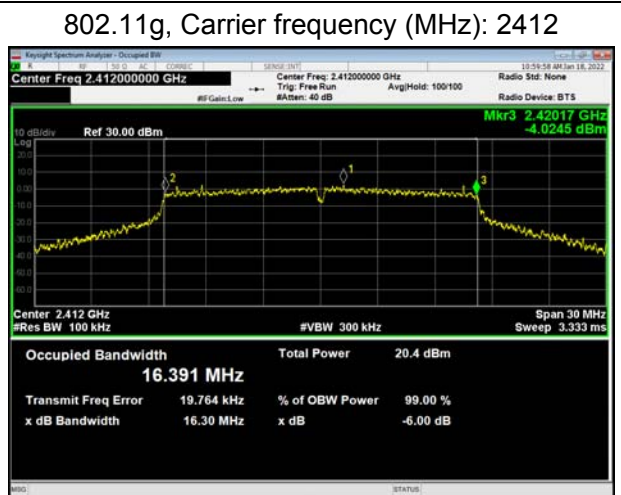
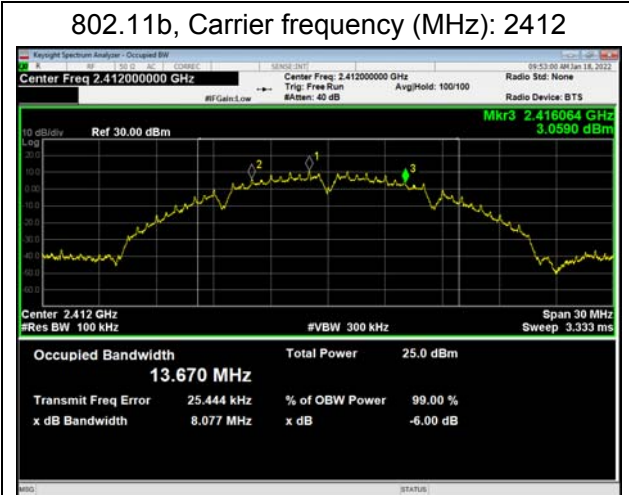


Bluetooth LE Carrier frequency (MHz): 2480





6 dB bandwidth





802.11g, Carrier frequency (MHz): 2427



802.11g, Carrier frequency (MHz): 2437



802.11g, Carrier frequency (MHz): 2447



802.11g, Carrier frequency (MHz): 2452



802.11g, Carrier frequency (MHz): 2457

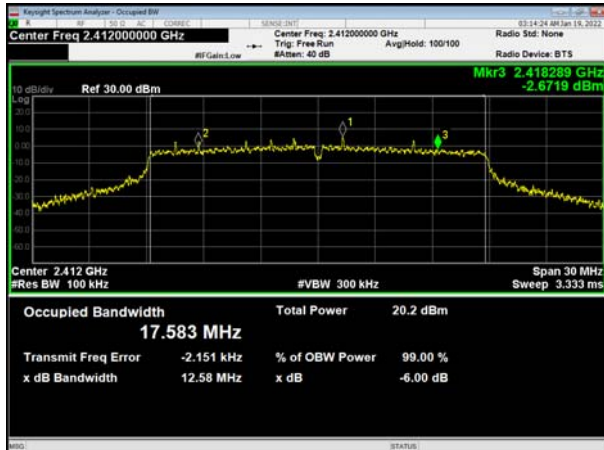


802.11g, Carrier frequency (MHz): 2462





802.11n(HT20), Carrier frequency (MHz): 2412



802.11n(HT40), Carrier frequency (MHz): 2422



802.11n(HT20), Carrier frequency (MHz): 2417



802.11n(HT40), Carrier frequency (MHz): 2427



802.11n(HT20), Carrier frequency (MHz): 2422



802.11n(HT40), Carrier frequency (MHz): 2432





802.11n(HT20), Carrier frequency (MHz): 2427



802.11n(HT40), Carrier frequency (MHz): 2437



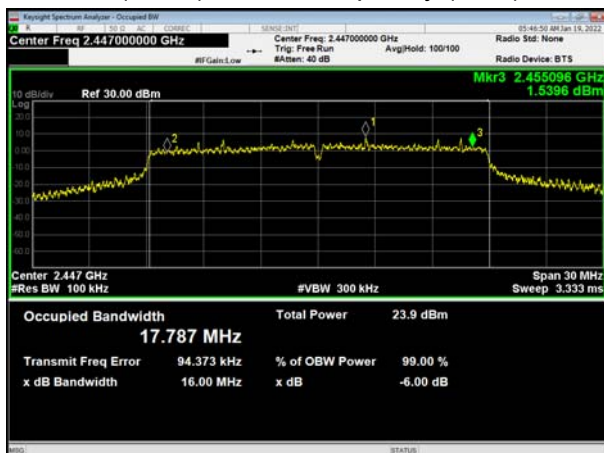
802.11n(HT20), Carrier frequency (MHz): 2437



802.11n(HT40), Carrier frequency (MHz): 2442



802.11n(HT20), Carrier frequency (MHz): 2447



802.11n(HT40), Carrier frequency (MHz): 2447





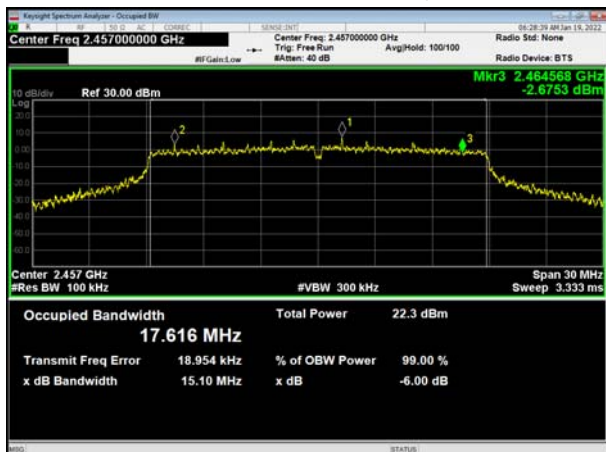
802.11n(HT20), Carrier frequency (MHz): 2452



802.11n(HT40), Carrier frequency (MHz): 2452



802.11n(HT20), Carrier frequency (MHz): 2457



802.11n(HT20), Carrier frequency (MHz): 2462

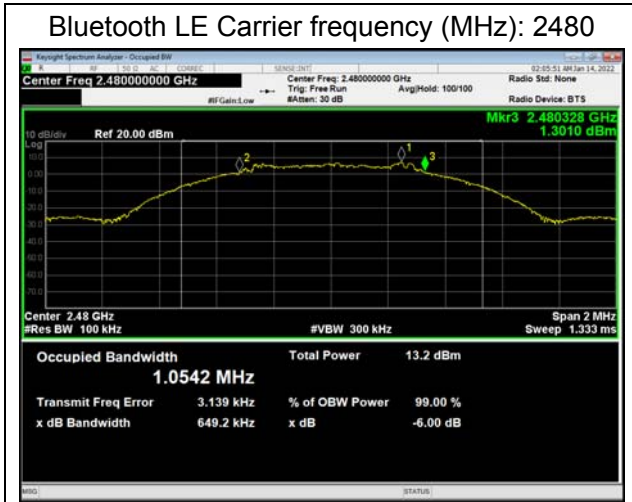


Bluetooth LE Carrier frequency (MHz): 2402



Bluetooth LE Carrier frequency (MHz): 2440





5.3. Band Edge

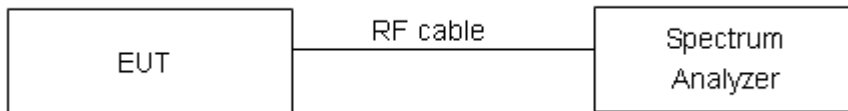
Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

The EUT was connected to the spectrum analyzer through an external attenuator (20dB) and a known loss cable the band edge of the lowest and highest channels were measured. The peak detector is used and RBW is set to 100 kHz and VBW is set to 300 kHz on spectrum analyzer. Spectrum analyzer plots are included on the following pages.

Test Setup



Limits

Rule Part 15.247(d) specifies that “In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits.” If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.”

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 1.96$.

Frequency	Uncertainty
2GHz-3GHz	1.407 dB

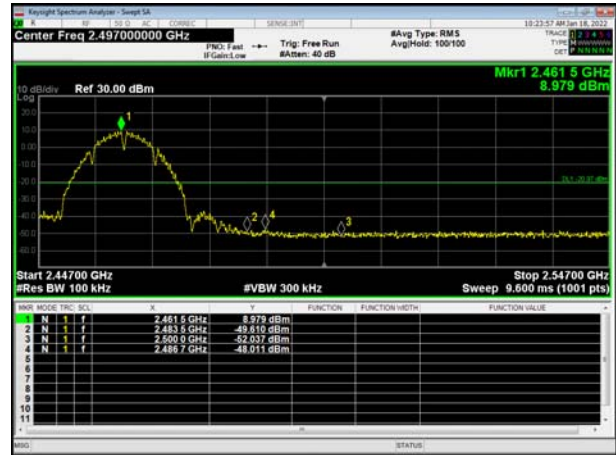
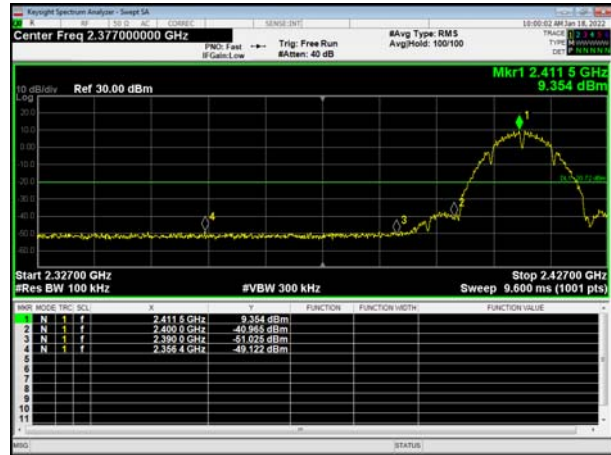
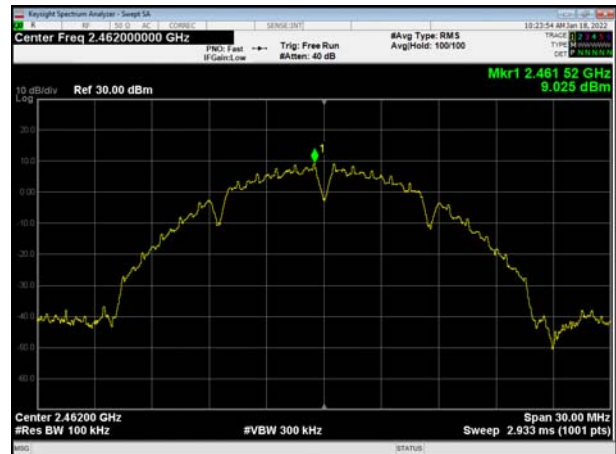


Test Results: PASS

802.11b, Channel No.: 1



802.11b, Channel No.: 11

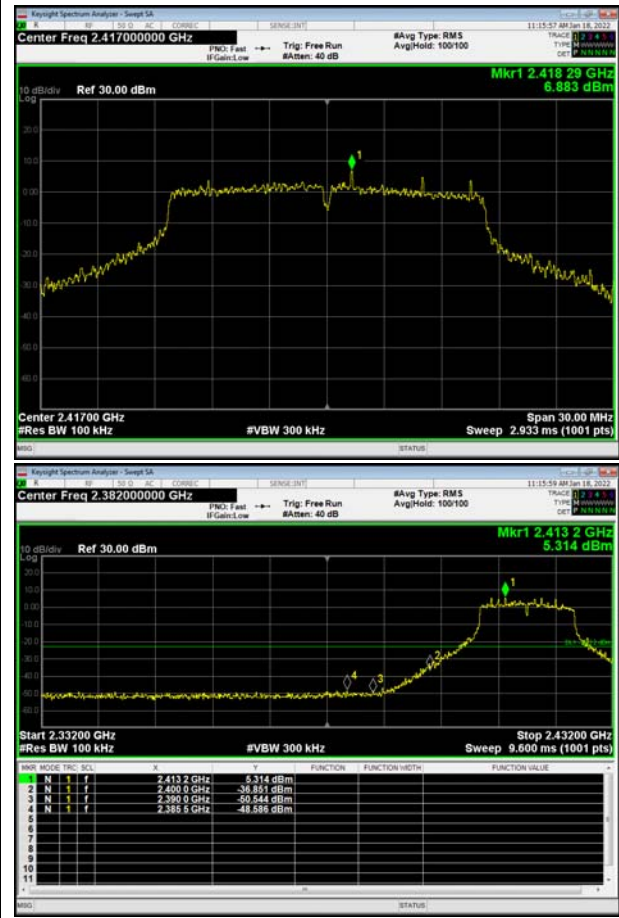




802.11g, Channel No.: 1



802.11g, Channel No.: 2





802.11g, Channel No.: 3

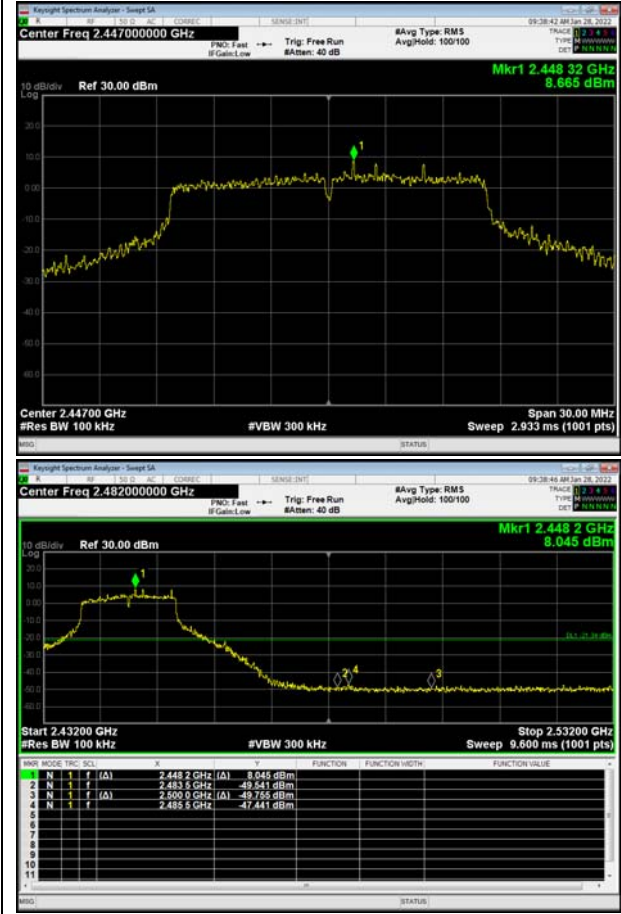


802.11g, Channel No.: 4





802.11g, Channel No.: 8



802.11g, Channel No.: 9





802.11g, Channel No.: 10

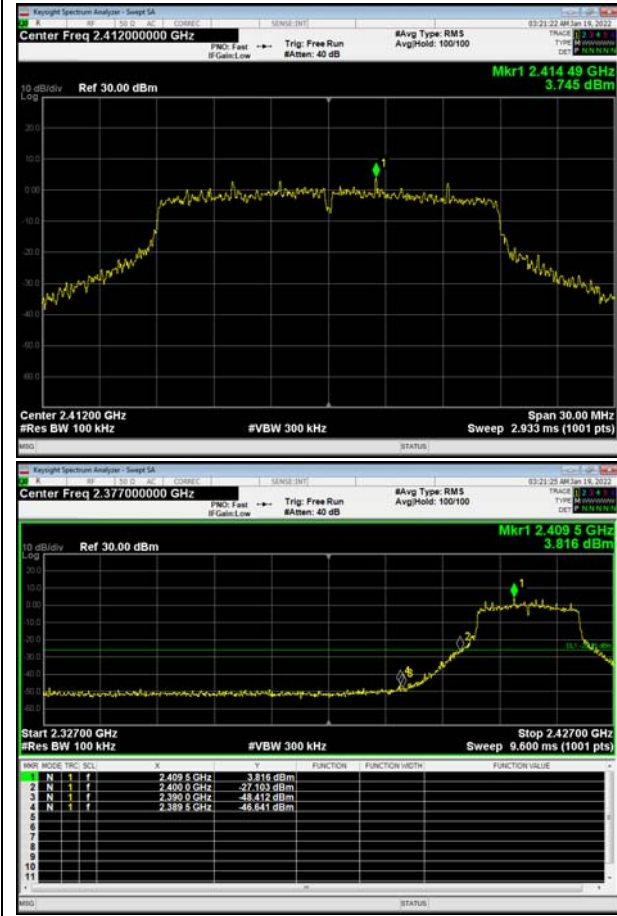


802.11g, Channel No.: 11





802.11n(HT20), Channel No. 1



802.11n(HT20), Channel No. 2

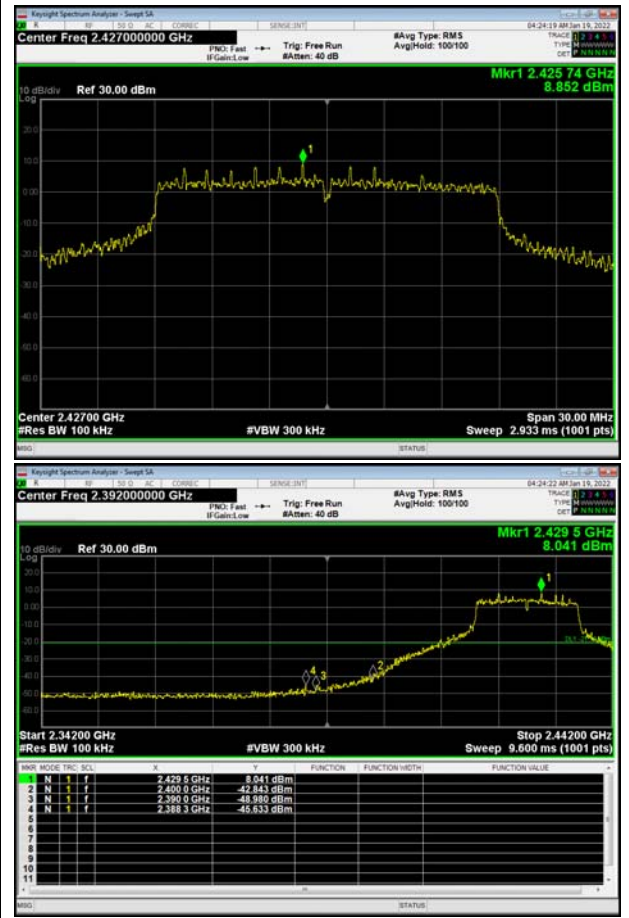




802.11n(HT20), Channel No. 3



802.11n(HT20), Channel No. 4





802.11n(HT20), Channel No. 8

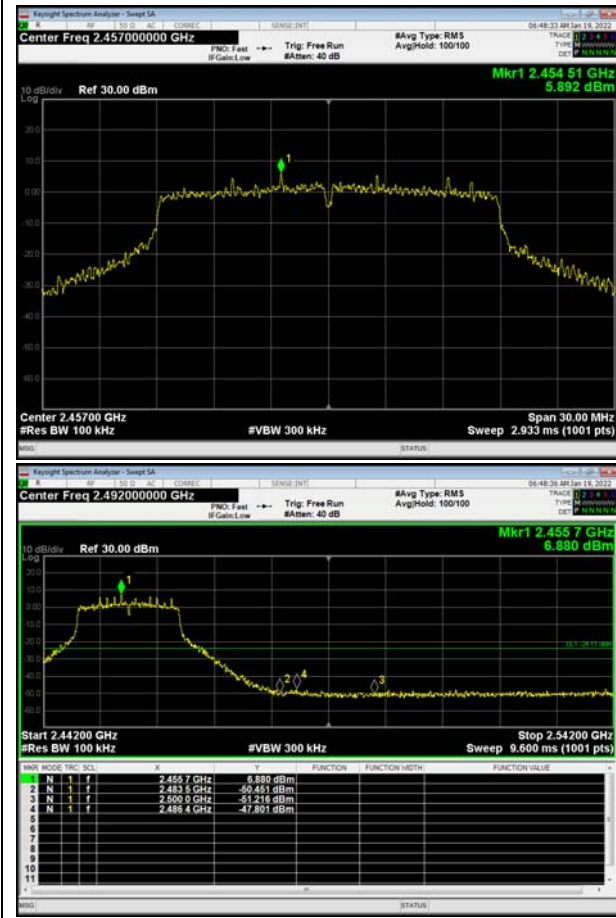


802.11n(HT20), Channel No. 9





802.11n(HT20), Channel No. 10

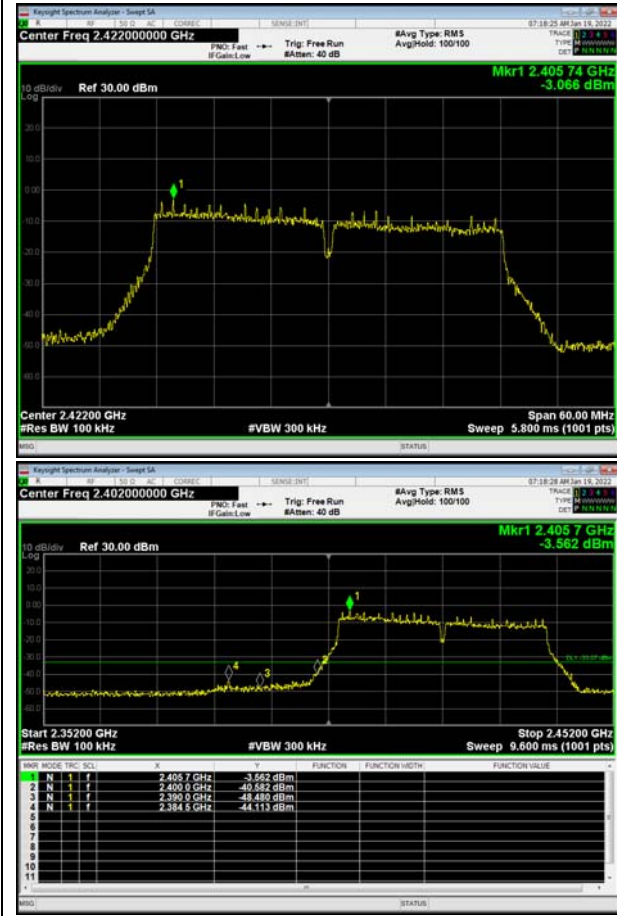


802.11n(HT20), Channel No. 11





802.11n(HT40), Channel No. 3

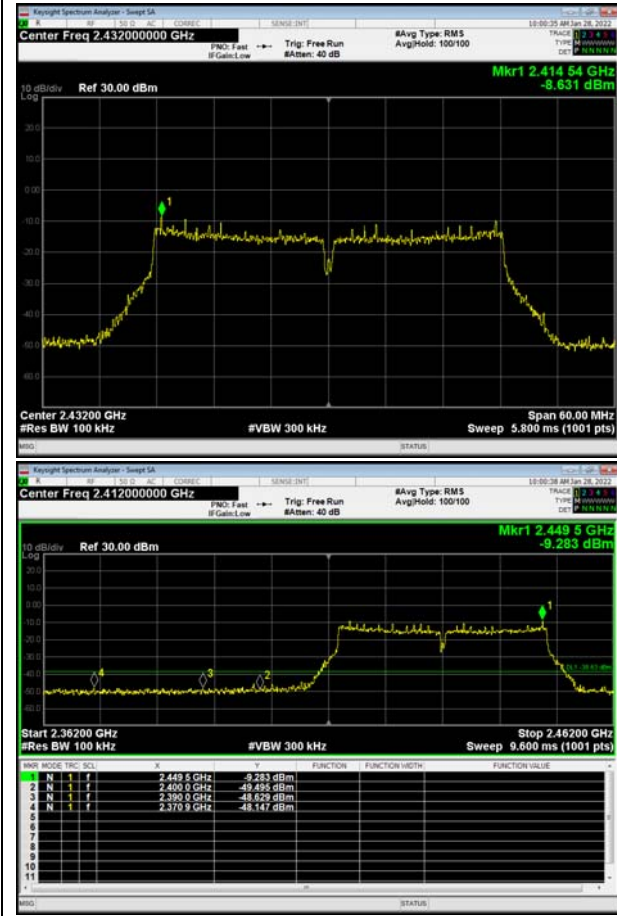


802.11n(HT40), Channel No. 4





802.11n(HT40), Channel No. 5



802.11n(HT40), Channel No. 6

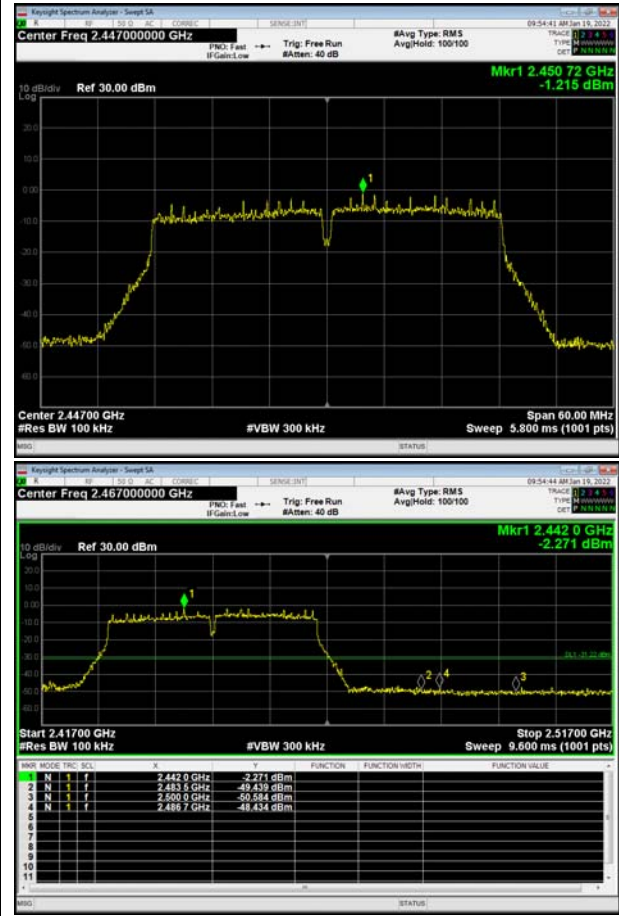


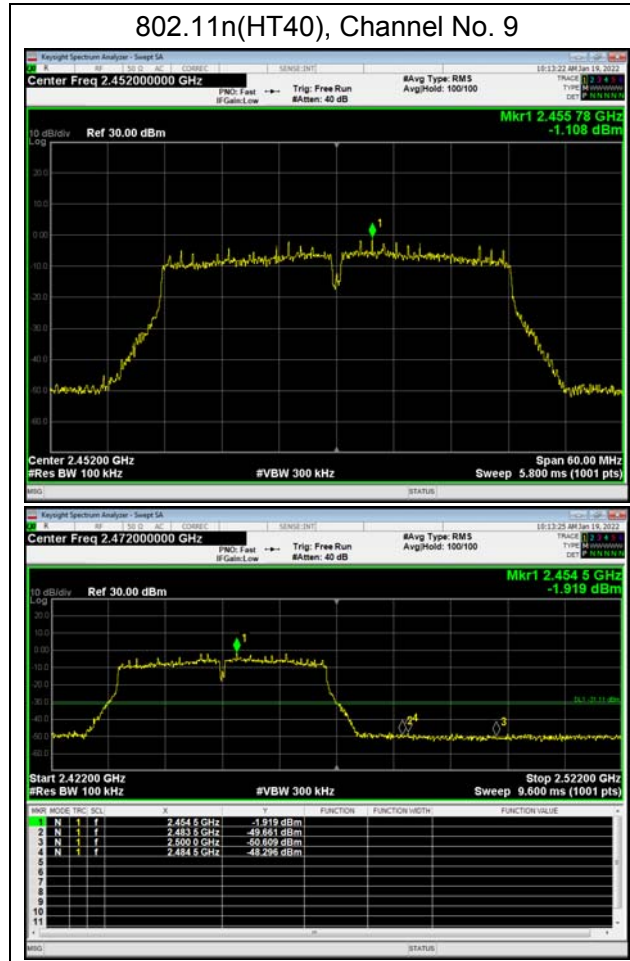


802.11n(HT40), Channel No. 7



802.11n(HT40), Channel No. 8







Bluetooth LE, Channel No.: 0



Bluetooth LE, Channel No.: 39

