FCC Test Report

Test report
On Behalf of
MICRO COMPUTER (HK) TECH LIMITED
For
MINI PC
Model No.: X1-370, X1-365, X1-**(Among them, *="0-9", "A-Z", "- ", "Space")**

FCC ID: 2A49R-X1

Prepared For :	**MICRO COMPUTER (HK) TECH LIMITED** **RM 18, 28/F, Shui On Centre, 6-8 Harbour Road, Waterfront, Wan Chai, HK HONG KONG, China**
Prepared By :	**Shenzhen HUAK Testing Technology Co., Ltd.** **1-2/F., Building B2, Junfeng Zhongcheng Zhizao Innovation Park, Heping, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China**
Date of Test:	**Feb. 13, 2025 ~ Mar. 27, 2025**
Date of Report:	**Mar. 27, 2025**
Report Number:	**HK2502140540-4E**

TEST RESULTCERTIFICATION

Applicant's name ..... :	MICRO COMPUTER (HK) TECH LIMITED
Address ..... :	RM 18, 28/F, Shui On Centre, 6-8 Harbour Road, Waterfront, Wan Chai, HK HONG KONG, China
Manufacturer's Name ..... :	MICRO COMPUTER (HK) TECH LIMITED
Address ..... :	RM 18, 28/F, Shui On Centre, 6-8 Harbour Road, Waterfront, Wan Chai, HK HONG KONG, China

Product description

Trade Mark:	N/A
Product name ..... :	MINI PC
Model and/or type reference ..... :	X1-370, X1-365, X1-****(Among them, *="0-9", "A-Z", "- ", "Space")
Standards ..... :	FCC 47 CFR Part 15 Subpart E

Date of Test.....:

Date (s) of performance of tests.....:	**Feb. 13, 2025 ~ Mar. 27, 2025**
Date of Issue.....:	**Mar. 27, 2025**
Test Result .....:	**Pass**

Testing Engineer : Len Liao
(Len Liao)

Technical Manager : Sliver Wan
(Sliver Wan)

Authorized Signatory : Jason Zhou
(Jason Zhou)

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** Modified History **

Revision	Description	Issued Data	Remark
Revision 1.0	Initial Test Report Release	Mar. 27, 2025	Jason Zhou

1. EUT Description

Product Name:	MINI PC		
Model Name:	X1-370		
Series Models:	X1-365, X1-****(Among them, *="0-9", "A-Z", "- ", "Space")		
Model Difference:	The differences between different models are only due to differences in sales regions and different naming conventions. Other circuit principles, safety structures, and key components are the same, and the differences do not affect the safety and electromagnetic compatibility performance of the product. The differences between different models are only due to differences in sales regions and different naming conventions Test sample model: X1-370.		
Trade Mark:	N/A		
Power Rating	DC 19V From Adapter With AC100-240V, 50/60Hz		
Frequency Range :	Band I+ II : IEEE 802.11a/n/ac(HT20)/ax(HE20)/be(EHT20): 5.180GHz-5.240GHz IEEE 802.11n/ac(HT40)/ax(HE40)/be(EHT40): 5.190GHz-5.230GHz IEEE 802.11ac(HT80)/ax(HE80)/be(EHT80): 5.210GHz IEEE 802.11a/n/ac(HT20)/ax(HE20): 5.260GHz-5.320GHz IEEE 802.11n/ac(HT40)/ax(HE40): 5.270GHz-5.310GHz IEEE 802.11ac(HT80)/ax(HE80): 5.290GHz IEEE 802.11ac(HT160)/ax(HE160): 5.250GHz Band III: IEEE 802.11a/n/ac(HT20)/ax(HE20): 5.500GHz-5.700GHz IEEE 802.11n/ac(HT40)/ax(HE40): 5.510GHz-5.670GHz IEEE 802.11ac(HT80)/ax(HE80): 5.530GHz-5.610GHz IEEE 802.11ac(HT160)/ax(HE160): 5.570GHz		
Modulation Technique:	64QAM, 16QAM, QPSK, BPSK for OFDM 256QAM for OFDM in 11ac mode only 1024QAM for OFDMA in 11ax mode only 4096QAM for OFDMA in 11be mode only		
Antenna Specification:	**5.2G:** **FPC antenna** Antenna 1: 0.22dBi Antenna 2: 1.81dBi MIMO: 4.10dBi	**5.3G:** **FPC antenna** Antenna 1: 0.23dBi Antenna 2: 2.75dBi MIMO: 4.68dBi	**5.6G:** **FPC antenna** Antenna 1: 0.13dBi Antenna 2: 2.12dBi MIMO: 4.25dBi
Operating Mode:	Client Without Radar Detection		

Note:
1.The EUT incorporates a MIMO function. Physically, it provides two completed transmitters and receivers (2T2R), two transmit signals are completely correlated, then, Direction gain=GANT + Array Gain(Array Gain=10 log(2) dB for power spectral density; Array Gain=0 for power measurement)
2. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.
3. Antenna gain Refer to the antenna specifications.
4. The cable loss data is obtained from the supplier.
5. The test results in the report only apply to the tested sample.

Remark:

1. The sample selected for test was engineering sample that approximated to production product and was provided by manufacturer.
2. This submittal(s) (test report) is intended for ***FCCID: 2A49R-X1*** filing to comply with FCC Part 15, Subpart E Rules.

2. Test Methodology

The tests documented in this report were performed in accordance with ANSI C63.10:2013 and FCC CFR 47 15.207, 15.209 and 15.407.

2.1 EUT Configuration

The EUT configuration for testing is installed for RF field strength measurement to meet the Commissions requirement, and is operated in a manner intended to generate the maximum emission in a continuous normal application.

2.2 EUT Exercise

The EUT is operated in the engineering mode to fix the Tx frequency for the purposes of measurement.

According to its specifications, the EUT must comply with the requirements of Section 15.407 under the FCC Rules Part 15 Subpart E.

2.3 General Test Procedures

Conducted Emissions

The EUT is placed on the turn table, which is positioned at 0.8 m above the ground plane. According to the requirements in Section 13.3 of ANSI C63.10:2013, the conducted emission from the EUT is measured in the frequency range between 0.15MHz and 30MHz, using the CISPR Quasi-Peak detector mode.

Radiated Emissions

Under 1GHz

The EUT is placed on a turn table, which is 0.8m above ground plane. The turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna, which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the maximum emissions, exploratory radiated emission measurements were made according to the requirements in Section 13.1.4.1 of ANSI C63.10:2013.

Above 1GHz

The EUT is placed on a turn table, which is 1.5m above ground plane. The turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna, which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the maximum emissions, exploratory radiated emission measurements were made according to the requirements in Section 13.1.4.1 of ANSI C63.10:2013.

2.4 FCC Part 15.205 Restricted Bands of Operations

Except as shown in paragraph (d)of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.50 - 5.15
0.495 - 0.505 [1]	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960.0 - 1240	7.25 - 7.75
4.125 - 4.128	25.50 - 25.67	1300 - 1427	8.025 - 8.500
4.17725 - 4.17775	37.50 - 38.25	1435.0 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73.00 - 74.60	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.80 - 75.20	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108.00 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.90 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 -156.52525	2483.5 – 2500.0	17.7 - 21.4
8.37625 - 8.38675	156.70 - 156.90	2655 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.1700	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.20	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358.0	36.43 - 36.5([2])
12.57675 - 12.57725	322.0- 335.4	3600 - 4400	
13.36 - 13.41			

[1] Until February 1, 1999, this restricted band shall be 0.490-0.510MHz.
[2] Above 38.6

Except as provided in paragraphs (d) and (e), the field strength of emissions appearing within these frequency bands shall not exceed the limits shown in Section15.209.Atfrequenciesequaltoor less than 1000 MHz, compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

2.5 Description of Test Modes

Description	Modulation Technology	Modulation Type
26dB Bandwidth and 99% bandwidth	OFDM/ OFDMA	BPSK
Maximum conducted output power	OFDM/ OFDMA	BPSK
Band edges measurement	OFDM/ OFDMA	BPSK
Peak Power Spectral Density	OFDM/ OFDMA	BPSK
Radiated undesirable emission	OFDM/ OFDMA	BPSK
Power line conducted emission	OFDM/ OFDMA	BPSK

IEEE802.11a mode:

Channel (5180MHz), Channel (5200MHz), Channel (5240MHz), Channel (5260MHz), Channel (5280MHz), Channel (5320MHz), Channel (5500MHz), Channel (5580MHz)and Channel (5700MHz) with 6Mbps data rate were chosen for full testing.

IEEE802.11n/ac(HT20)/ax(HE20)/be(EHT20) mode:

Channel (5180MHz), Channel (5200MHz), and Channel (5240MHz) with 6Mbps data rate were chosen for full testing.

IEEE802.11n/ac(HT20)/ax(HE20) mode:

Channel (5260MHz), Channel (5280MHz), Channel (5320MHz), Channel (5500MHz), Channel (5580MHz) and Channel (5700MHz) with 6Mbps data rate were chosen for full testing.

IEEE802.11n/ac(HT40)/ax(HE40)/be(EHT40) mode:

Channel (5190MHz) and Channel (5230MHz) with 6Mbps data rate were chosen for full testing.

IEEE802.11n/ac(HT40)/ax(HE40) mode:
Channel (5270MHz), Channel (5310MHz), Channel (5510MHz), Channel (5550MHz) and Channel (5670MHz) with 6Mbps data rate were chosen for full testing.

IEEE802.11ac(HT80)/ax(HE80)/be(EHT80) mode:

Channel (5210MHz) with MCS0 data rate were chosen for full testing.

IEEE802.11ac(HT80)/ax(HE80) mode:
Channel (5290MHz), Channel (5530MHz), Channel (5610MHz) with MCS0 data rate were chosen for full testing.

IEEE802.11ac(HT160)/ax(HE160) mode:

Channel (5250MHz), Channel (5570MHz) with MCS0 data rate were chosen for full testing.

2.6 Antenna Description

An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can be used with the device. The use of a permanently attached or an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section"

* the antenna of this EUT is a unique(**FPC antenna** for WiFi).
* the EUT complies with the requirement of 15.203.

WIFI ANTENNA

3. Instrument Calibration

The measuring equipment, which was utilized in performing the tests documented here in, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipment, which is traceable to recognized national standards.

3.1 Measurement Equipment Used

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	L.I.S.N.	R&S	ENV216	HKE-002	2024/02/20	1 Year
2	L.I.S.N.	R&S	ENV216	HKE-059	2024/02/20	1 Year
3	EMI Test Receiver	R&S	ESR	HKE-005	2024/02/20	1 Year
4	Spectrum analyzer	Agilent	N9020A	HKE-025	2024/02/20	1 Year
5	Spectrum analyzer	R&S	FSV3044	HKE-126	2024/02/20	1 Year
6	Preamplifier	EMCI	EMC051845S	HKE-006	2024/02/20	1 Year
7	Preamplifier	Schwarzbeck	BBV 9743	HKE-016	2024/02/20	1 Year
8	Preamplifier	A.H. Systems	SAS-574	HKE-182	2024/02/20	1 Year
9	6d Attenuator	Pasternack	6db	HKE-184	2024/02/20	1 Year
10	EMI Test Receiver	Rohde & Schwarz	ESR-7	HKE-010	2024/02/20	1 Year
11	Broadband Antenna	Schwarzbeck	VULB9168	HKE-167	2024/02/21	2 Year
12	Loop Antenna	COM-POWER	AL-130R	HKE-014	2024/02/21	2 Year
13	Horn Antenna	Schwarzbeck	9120D	HKE-013	2024/02/21	2 Year
14	EMI Test Software	Tonscend	JS32-CE 2.5.0.6	HKE-081	/	/
15	EMI Test Software	Tonscend	JS32-RE 5.0.0	HKE-082	/	/
16	RF Automatic control unit	Tonscend	JS0806-2	HKE-060	2024/02/20	1 Year
17	High pass filter unit	Tonscend	JS0806-F	HKE-055	2024/02/20	1 Year
18	Wireless Communication Test Set	R&S	CMU200	HKE-026	2024/02/20	1 Year
19	Wireless Communication Test Set	R&S	CMW500	HKE-027	2024/02/20	1 Year
20	High-low temperature chamber	Guangke	HT-80L	HKE-118	2024/06/10	1 Year
21	Temperature and humidity meter	Boyang	HTC-1	HKE-075	2024/06/10	1 Year
22	RF Test Software	Tonscend	JS1120-3 Version 3.5.39	HKE-083	/	/
23	10dB Attenuator	Schwarzbeck	VTSD9561F	HKE-153	2024/02/20	1 Year
24	RSE Test Software	Tonscend	JS36-RSE 5.0.0	HKE-184	/	/

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1	L.I.S.N.	R&S	ENV216	HKE-002	2025/02/19	1 Year
2	L.I.S.N.	R&S	ENV216	HKE-059	2025/02/19	1 Year
3	EMI Test Receiver	R&S	ESR	HKE-005	2025/02/19	1 Year
4	Spectrum analyzer	Agilent	N9020A	HKE-025	2025/02/19	1 Year
5	Spectrum analyzer	R&S	FSV3044	HKE-126	2025/02/19	1 Year
6	Preamplifier	EMCI	EMC051845S	HKE-006	2025/02/19	1 Year
7	Preamplifier	Schwarzbeck	BBV 9743	HKE-016	2025/02/19	1 Year
8	Preamplifier	A.H. Systems	SAS-574	HKE-182	2025/02/19	1 Year
9	6d Attenuator	Pasternack	6db	HKE-184	2025/02/19	1 Year
10	EMI Test Receiver	Rohde & Schwarz	ESR-7	HKE-010	2025/02/19	1 Year
11	Broadband Antenna	Schwarzbeck	VULB9168	HKE-167	2024/02/21	2 Year
12	Loop Antenna	COM-POWER	AL-130R	HKE-014	2024/02/21	2 Year
13	Horn Antenna	Schwarzbeck	9120D	HKE-013	2024/02/21	2 Year
14	EMI Test Software	Tonscend	JS32-CE 2.5.0.6	HKE-081	/	/
15	EMI Test Software	Tonscend	JS32-RE 5.0.0	HKE-082	/	/
16	RF Automatic control unit	Tonscend	JS0806-2	HKE-060	2025/02/19	1 Year
17	High pass filter unit	Tonscend	JS0806-F	HKE-055	2025/02/19	1 Year
18	Wireless Communication Test Set	R&S	CMU200	HKE-026	2025/02/19	1 Year
19	Wireless Communication Test Set	R&S	CMW500	HKE-027	2025/02/19	1 Year
20	High-low temperature chamber	Guangke	HT-80L	HKE-118	2024/06/10	1 Year
21	Temperature and humidity meter	Boyang	HTC-1	HKE-075	2024/06/10	1 Year
22	RF Test Software	Tonscend	JS1120-3 Version 3.5.39	HKE-083	/	/
23	10dB Attenuator	Schwarzbeck	VTSD9561F	HKE-153	2025/02/19	1 Year
24	RSE Test Software	Tonscend	JS36-RSE 5.0.0	HKE-184	/	/

3.2 Measurement Uncertainty

For the test methods, according to the present document, the measurement uncertainty figures shall be calculated in accordance with TR 100 028-1 [2] and shall correspond to an expansion factor(coverage factor) k = 1,96 or k = 2 (which provide confidence levels of respectively 95% and 95,45% in the case where the distributions characterizing the actual measurement uncertainties are normal (Gaussian)).

Table 6 is based on such expansion factors.

Table6: Maximum measurement uncertainty

Parameter	UNCERTAINTY
Radio frequency	±0.8 × 10-7
RF power, conducted	±3.35dB
Maximum frequency deviation: -within 300Hz and 6 kHz of audio frequency	1.3%
-within 6 kHz and 25 kHz of audio frequency	0.65 dB
Adjacent channel power	0.2054
Conducted spurious emission of transmitter, valid up to 6 GHz	±2.20dB
Conducted emission of receivers	±0.37dB
Radiated emission of transmitter, valid up to 6 GHz	±3.94 dB
Radiated emission of receiver, valid up to 6 GHz	±3.94 dB
RF level uncertainty for a given BER	±0.3 dB
Temperature	±0.1°C
Humidity	±1.0%

4. Facilities and Accreditations

4.1 Facilities

All measurement facilities used to collect the measurement data are located at
☒ 1-2/F., Building B2, Junfeng Zhongcheng Zhizao Innovation Park, Heping, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China
The sites are constructed in conformance with the requirements of ANSI C63.10:2013 and CISPR Publication 22.All receiving equipment conforms to CISPR Publication16 1, "RadioInterference Measuring Apparatus and Measurement Methods."

Testing Laboratory Authorization：

A2LA Accreditation Code is 4781.01.
FCC Designation Number is CN1229.
Canada IC CAB identifier is CN0045.
CNAS Registration Number is L9589.

4.2 Equipment

Radiated emissions are measured with one or more of the following types of linearly polarized antennas: tuned dipole, bucolical, log periodic, bi-log, and/or ridged waveguide, horn. Spectrum analyzers with preselectors and quasi-peak detectors are used to perform radiated measurements.

Conducted emissions are measured with Line Impedance Stabilization Networks and EMI Test Receivers.

Calibrated wideband preamplifiers, coaxial cables, and coaxial attenuators are also used for making measurements.

All receiving equipment conforms to CISPR Publication 16-1, "Radio Interference Measuring Apparatus and Measurement Methods."

4.3 Table of Accreditations and Listings

The test facilities used toper form radiated and conducted emissions tests are accredited by American Association for Laboratory Accreditation Program for the specific scope accreditation under Lab Code: 200581-0 to perform Electromagnetic Interference tests according to FCC Part 15 and CISPR 22 requirements. In addition, the test facilities are listed with USA, Certification and Engineering Bureau, 424105 for 10m chamber, 238958 for 3m chamber.

5. Setup of Equipment Under Test

5.1 Setup Configuration of EUT

See test photographs attached in Appendix 1 for the actual connections between EUT and support equipment.

5.2 Support Equipment

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Trade Mark	Model/Type No.	Specification	Remark
1	MINI PC	N/A	X1-370	N/A	EUT
2	Adapter	N/A	DSA-120PEFG-193 190632	Input: 100-240V, 50/60Hz, 2.0A Output: +19.0V, 6.32A, 120.08W	Accessory
3	Power line	N/A	N/A	Length:1.2m	Accessory
4	Laptop	Lenovo	TP00096A	Input: DC 20V, 2.25~3.25A Output: 5VDC, 0.5A	Peripheral
5	Display 1	AOC	280LM00004	N/A	Peripheral
6	Display 2	PHILIPS	279E1	N/A	Peripheral
7	Keyboard	N/A	N/A	N/A	Peripheral
8	Mouse	N/A	N/A	N/A	Peripheral
9	Earphone	N/A	N/A	N/A	Peripheral
10	USB flash disk	N/A	N/A	N/A	Peripheral

Note:

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.

2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.

3. For conducted measurements (Output Power, 26db Bandwidth and 99% Occupied Bandwidth, Power Spectral Density, Spurious Emissions), the antenna of EUT is connected to the test equipment via temporary antenna connector, the antenna connector is soldered on the antenna port of EUT, and the temporary antenna connector is listed in the Test Instruments.

6. FCC Part 15 Requirements

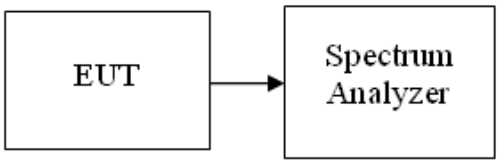
6.1 26dB Bandwidth and 99% Occupied Bandwidth

LIMIT

According to§15.403(i),for purposes of this subpart the emission bandwidth shall be determined by measuring the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, that are 26 dB down relative to the maximum level of the modulated carrier. Compliance with the emissions limits is based on the use of measurement instrumentation employing a peak detector function with an instrument resolutions bandwidth approximately equal to 1.0 percent of the emission bandwidth of the device under measurement.

Test Configuration

TESTPROCEDURE



1. Place the EUT on the table and set it in the transmitting mode.
2. Remove the antenna from the EUT and then connect a low-loss RF cable from the antenna port to the spectrum analyzer.
3. Set the spectrum analyzers RBW = approximately 1% of the emission bandwidth, VBW >RBW, Detector = Peak, Span>26dB bandwidth, and Sweep = auto, Trace mode = max hold.
4. Measure the maximum width of the emission that is 26dB down from the maximum of the emission.
   Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.
5. Repeat until all the rest channels were investigated.
6. Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used.
7. Use the 99 % power bandwidth function of the instrument (if available).

TESTRESULTS

No non-compliance noted

Test Data

Antenna 1

Testmode:IEEE802.11a mode

5150~5250MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5180	23.04	16.558
Mid	5200	25.18	16.546
High	5240	18.56	16.384

5250~5350MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5260	18.55	16.408
Mid	5280	18.50	16.376
High	5320	26.50	16.605

5470~5725MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5500	26.90	16.526
Mid	5580	18.56	16.396
High	5700	23.43	16.558

Testmode:IEEE802.11n HT20 mode

5150~5250MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5180	24.12	17.579
Mid	5200	24.81	17.566
High	5240	19.17	17.454

5250~5350MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5260	19.15	17.455
Mid	5280	19.18	17.459
High	5320	26.57	17.613

5470~5725MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5500	25.67	17.562
Mid	5580	19.15	17.456
High	5700	26.66	17.595

Testmode:IEEE802.11n HT40 mode

5150~5250MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5190	49.39	35.953
High	5230	38.91	35.857

5250~5350MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5270	38.99	35.835
High	5310	42.91	35.973

5470~5725MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5510	43.56	36.002
Mid	5550	39.10	35.847
High	5670	50.15	36.030

Testmode:IEEE802.11ac HT20 mode

5150~5250MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5180	23.48	17.587
Mid	5200	24.73	17.526
High	5240	19.17	17.450

5250~5350MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5260	19.10	17.438
Mid	5280	19.13	17.443
High	5320	23.37	17.529

5470~5725MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5500	24.61	17.508
Mid	5580	19.02	17.435
High	5700	22.75	17.565

Testmode:IEEE802.11ac HT40 mode

5150~5250MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5190	55.67	36.008
High	5230	39.13	35.834

5250~5350MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5270	38.73	35.728
High	5310	61.53	35.959

5470~5725MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5510	48.06	35.956
Mid	5550	38.69	35.752
High	5670	52.26	36.046

Testmode:IEEE802.11ac HT80 mode

5150~5250MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
--	5210	106.2	75.587

5250~5350MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
--	5290	109.5	75.779

5470~5725MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5530	104.5	75.848
High	5610	79.90	75.202

Testmode:IEEE802.11ac HT160 mode

5150~5350MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
--	5250	165.6	153.62

5470~5725MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
--	5570	172.5	155.81

Testmode:IEEE802.11ax HE20 mode

5150~5250MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5180	21.41	18.864
Mid	5200	20.65	18.804
High	5240	20.00	18.775

5250~5350MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5260	20.10	18.844
Mid	5280	20.02	18.787
High	5320	22.59	18.835

5470~5725MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5500	22.43	18.815
Mid	5580	20.03	18.790
High	5700	19.92	18.838

Testmode:IEEE802.11ax HE40 mode

5150~5250MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5190	44.95	37.686
High	5230	39.97	37.450

5250~5350MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5270	39.92	37.546
High	5310	52.12	37.712

5470~5725MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5510	43.05	37.692
Mid	5550	39.89	37.514
High	5670	42.79	37.790

Testmode:IEEE802.11ax HE80 mode

5150~5250MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
--	5210	101.2	77.255

5250~5350MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
--	5290	98.08	77.351

5470~5725MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5530	104.6	77.501
High	5610	81.39	77.205

Testmode:IEEE802.11ax HE160 mode

5150~5350MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
--	5250	166.6	155.92

5470~5725MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
--	5570	170.1	157.03

Testmode:IEEE802.11be EHT20 mode

5150~5250MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5180	21.00	18.845
Mid	5200	20.92	18.895
High	5240	20.09	18.819

Testmode:IEEE802.11be EHT40 mode

5150~5250MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5190	48.02	37.691
High	5230	39.96	37.536

Testmode:IEEE802.11be EHT80 mode

5150~5250MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
--	5210	96.79	77.125

Test Plot

IEEE802.11a mode:

5150~5250MHz

Low Channel

Mid Channel

High Channel

5250~5350MHz

Low Channel

Mid Channel

High Channel

5470~5725MHz

Low Channel

Mid Channel

High Channel

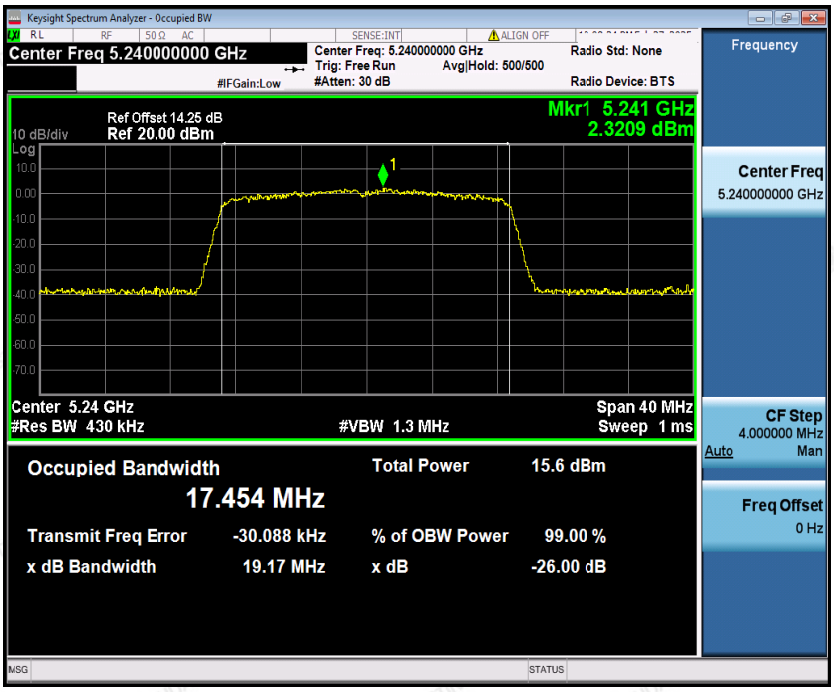
IEEE802.11n HT20 mode

5150~5250MHz

Low Channel

Mid Channel

High Channel



5250~5350MHz

Low Channel

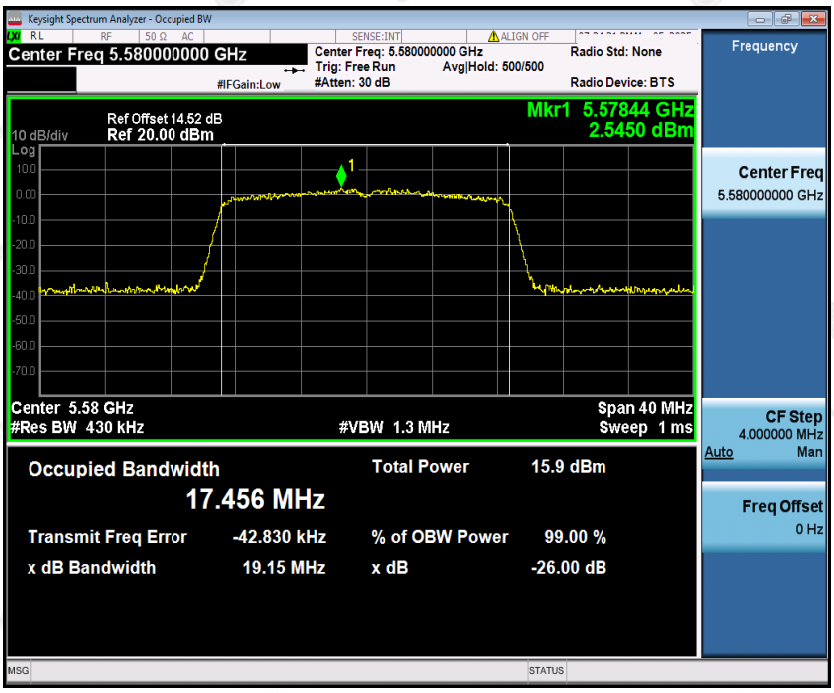
Mid Channel

High Channel

5470~5725MHz

Low Channel

Mid Channel



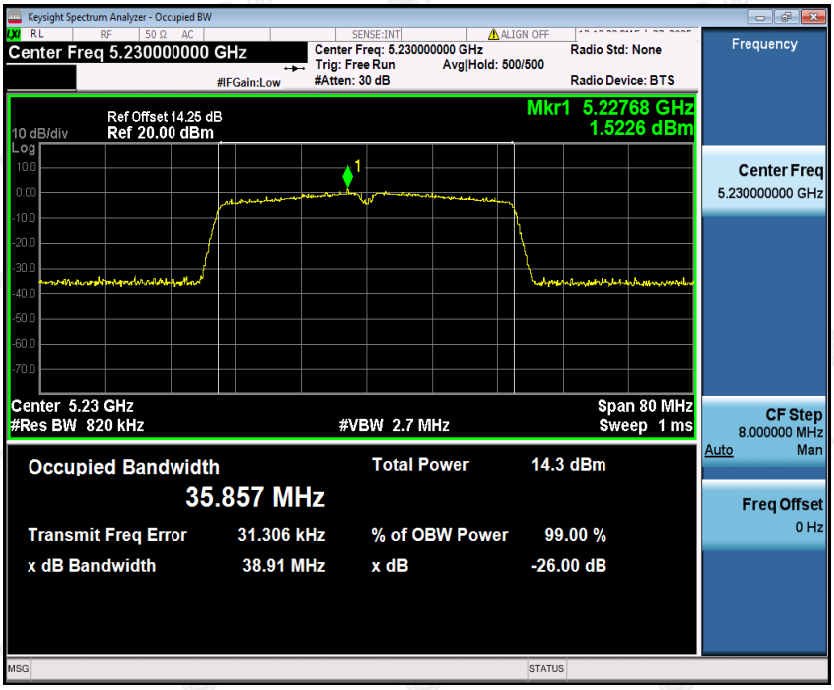
High Channel

IEEE802.11n HT40 mode

5150~5250MHz

Low Channel

High Channel



5250~5350MHz

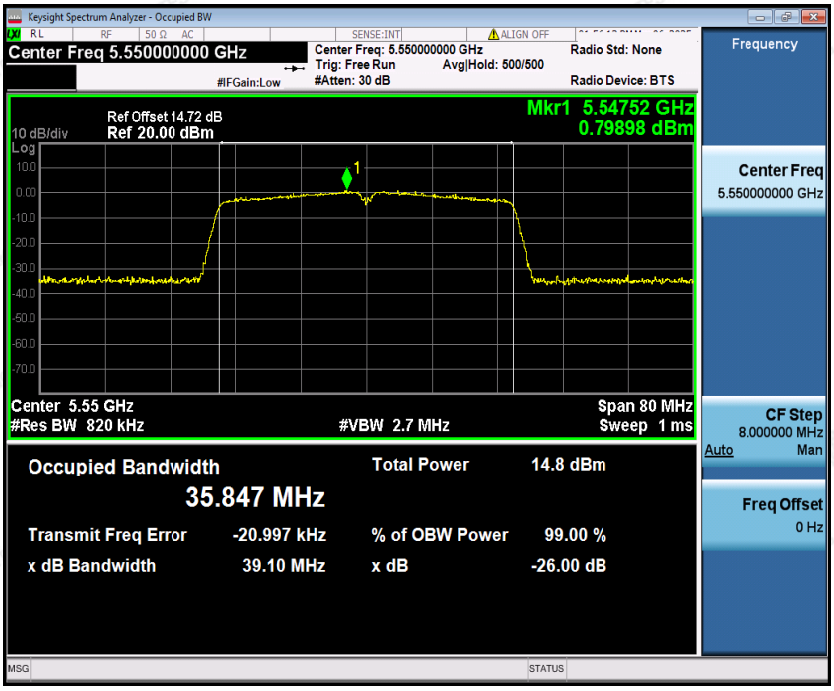
Low Channel

High Channel

5470~5725MHz

Low Channel

Mid Channel



High Channel

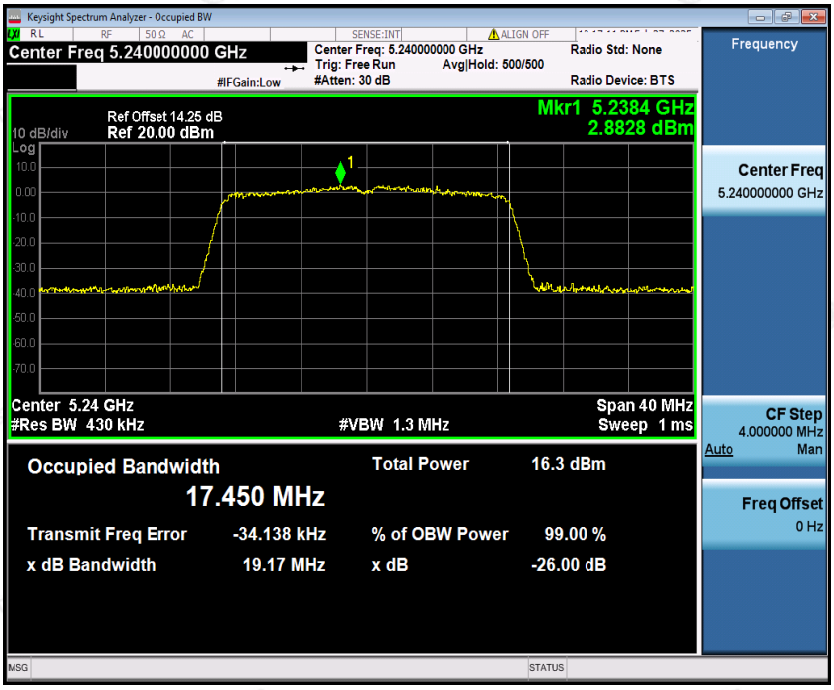
IEEE802.11ac HT20 mode

5150~5250MHz

Low Channel

Mid Channel

High Channel



5250~5350MHz

Low Channel

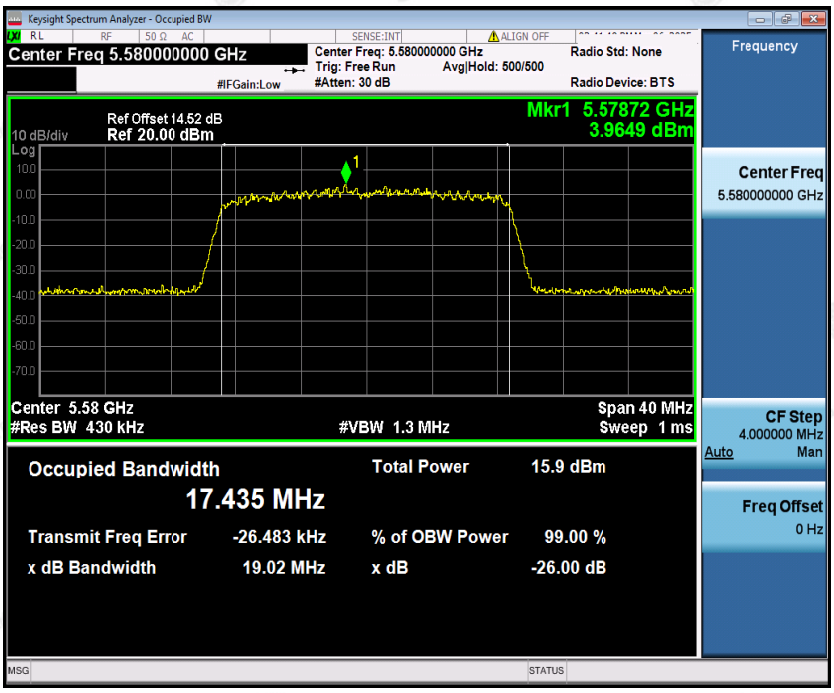
Mid Channel

High Channel

5470~5725MHz

Low Channel

Mid Channel



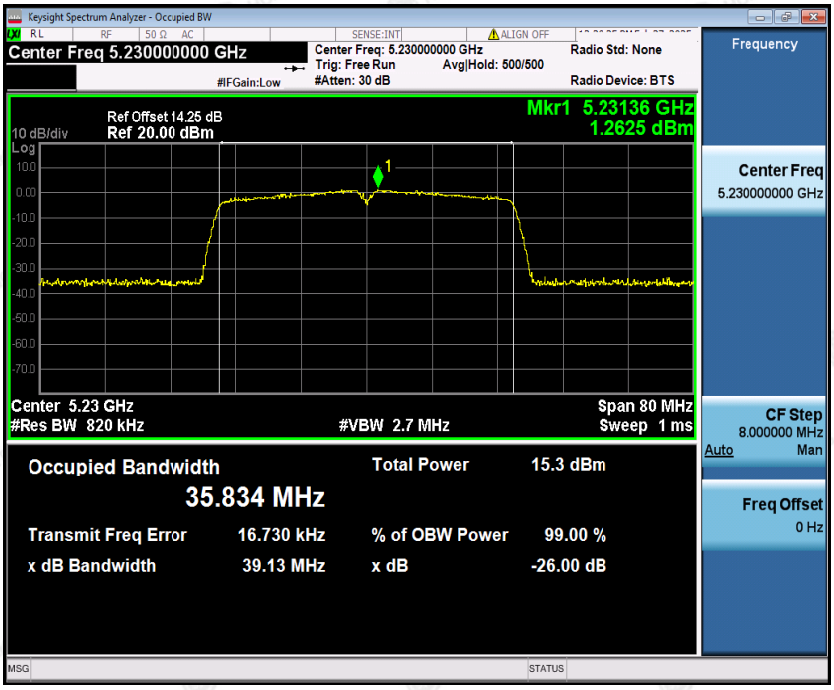
High Channel

IEEE802.11ac HT40 mode

5150~5250MHz

Low Channel

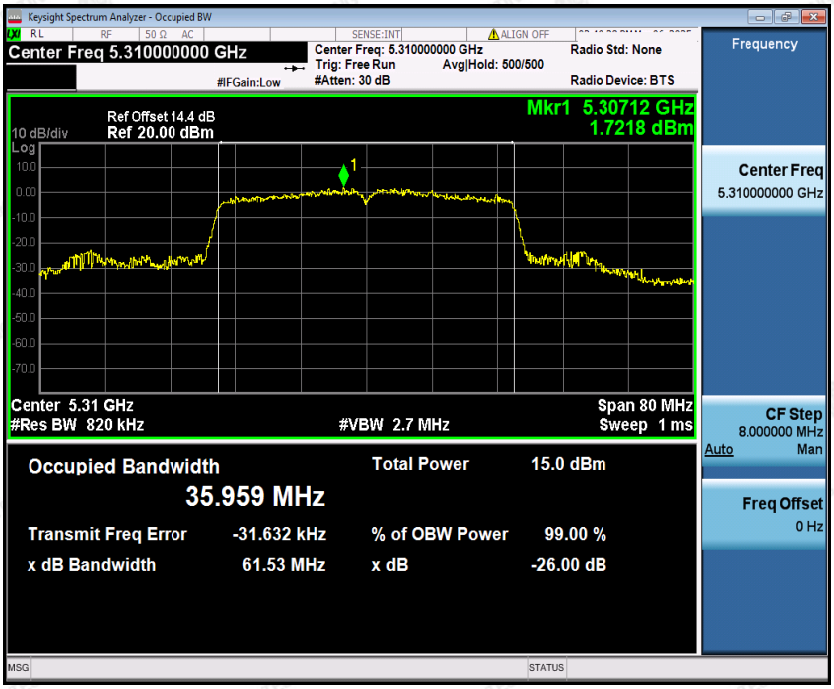
High Channel



5250~5350MHz

Low Channel

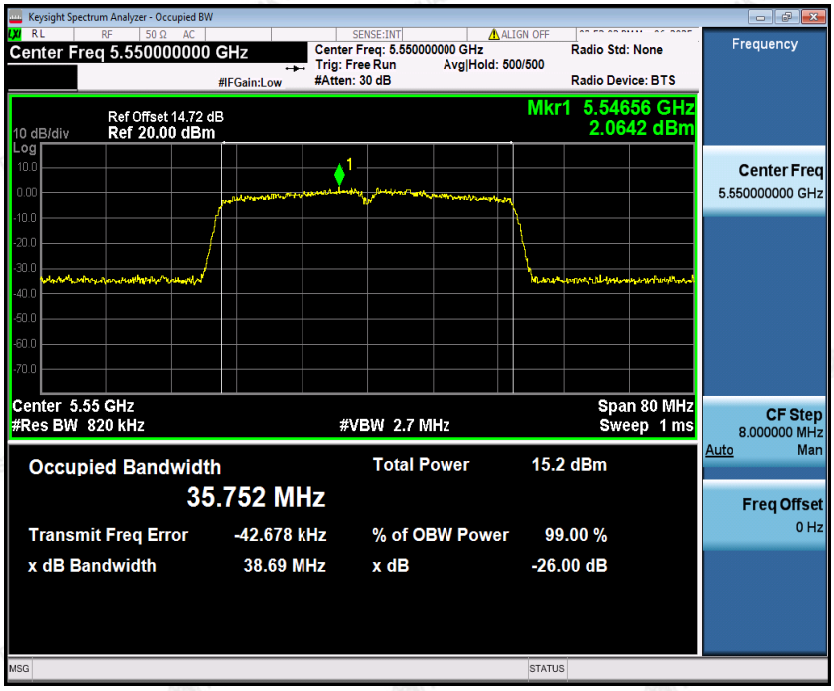
High Channel



5470~5725MHz

Low Channel

Mid Channel



High Channel

IEEE802.11ac HT80 mode

5150-5250MHz

5250-5350MHz

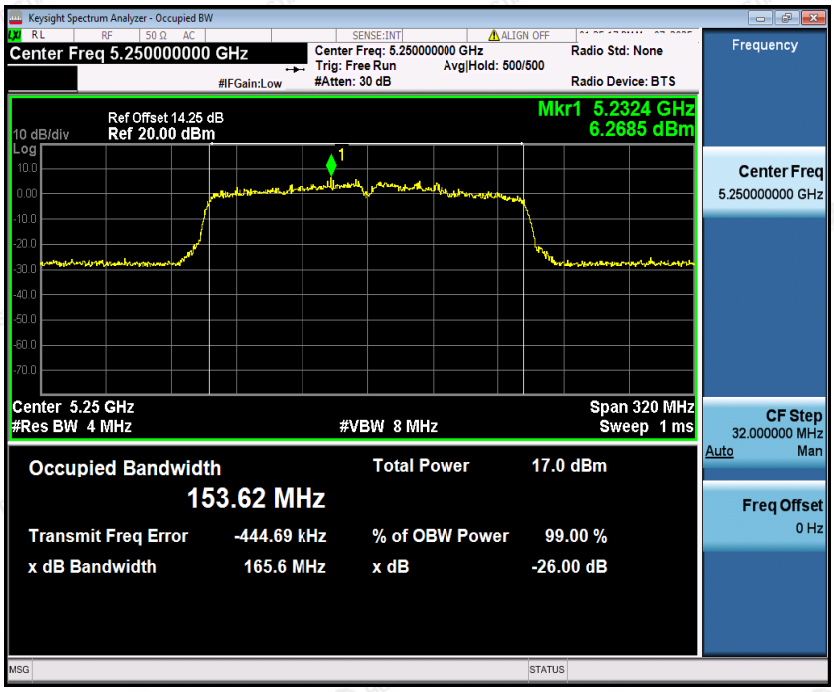
5470-5725MHz

Low Channel

High Channel

IEEE802.11ac HT160 mode

5150-5350MHz



5470-5725MHz

IEEE802.11ax HE20 mode

5150~5250MHz

Low Channel

Mid Channel

High Channel

5250~5350MHz

Low Channel

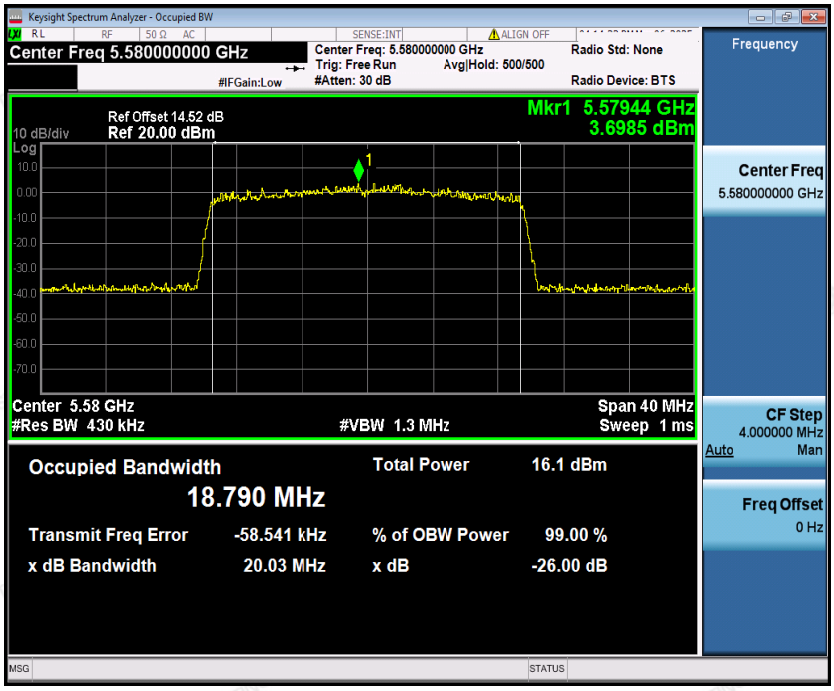
Mid Channel

High Channel

5470~5725MHz

Low Channel

Mid Channel



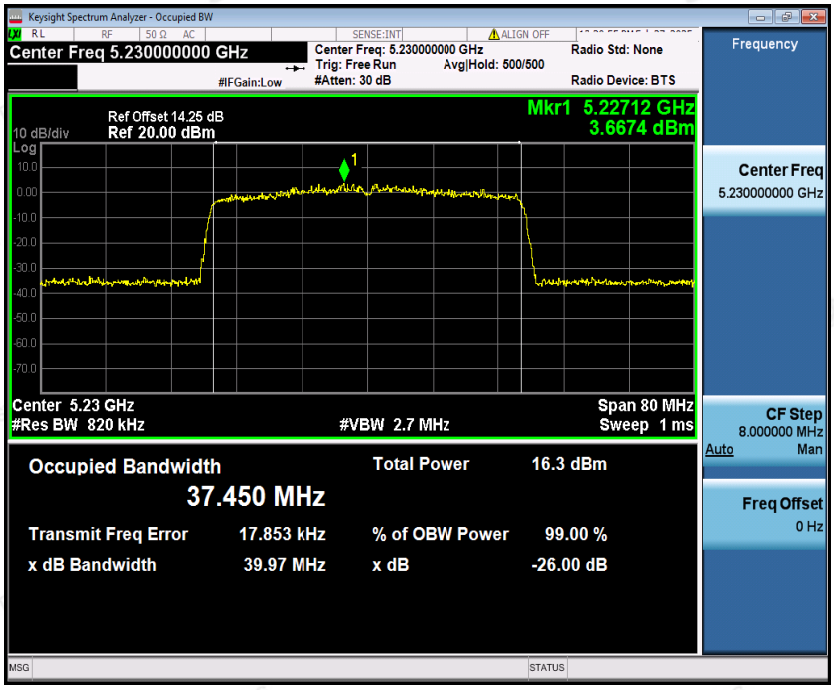
High Channel

IEEE802.11ax HE40 mode

5150~5250MHz

Low Channel

High Channel



5250~5350MHz

Low Channel

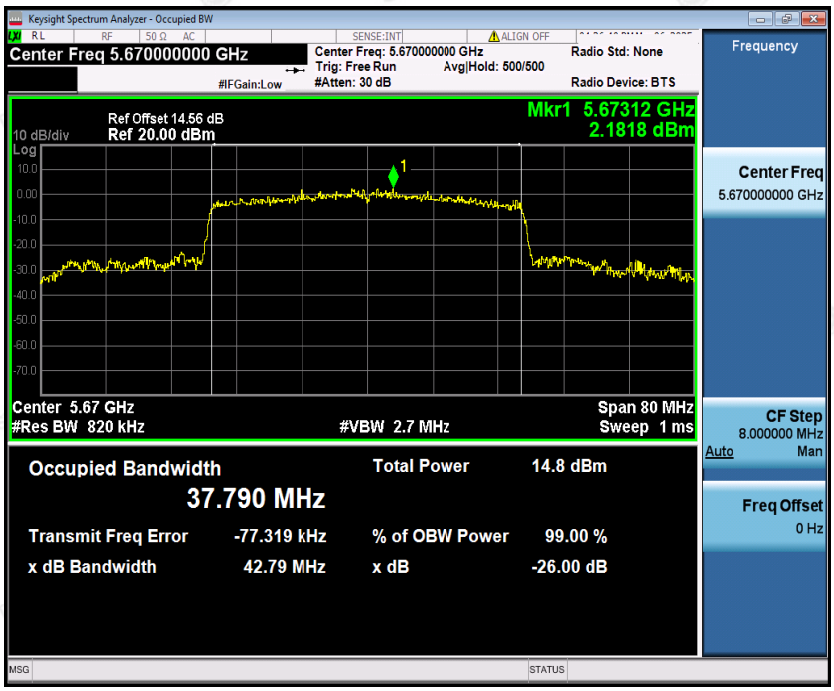
High Channel

5470~5725MHz

Low Channel

Mid Channel

High Channel



IEEE802.11ax HE80 mode

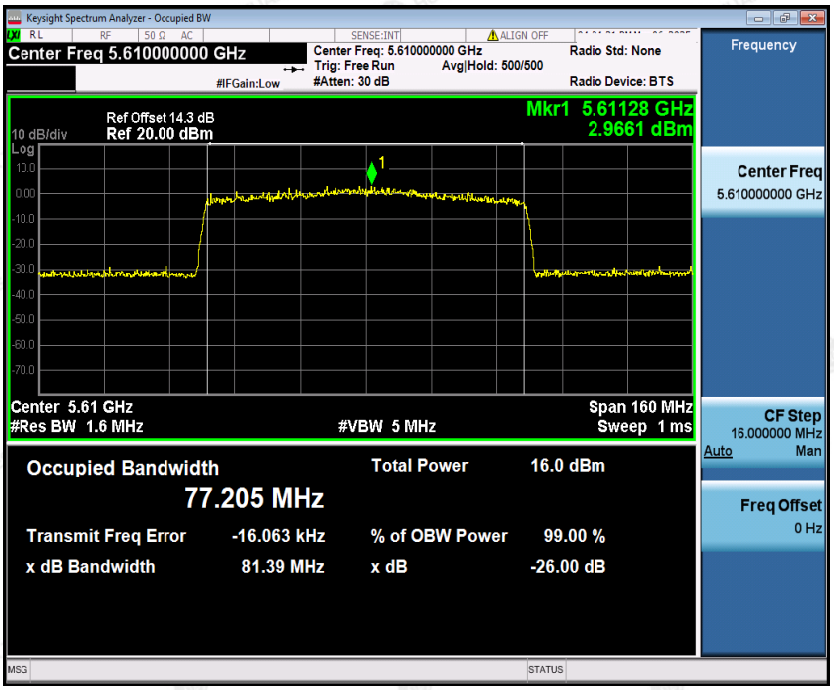
5150~5250MHz

5250~5350MHz

5470~5725MHz

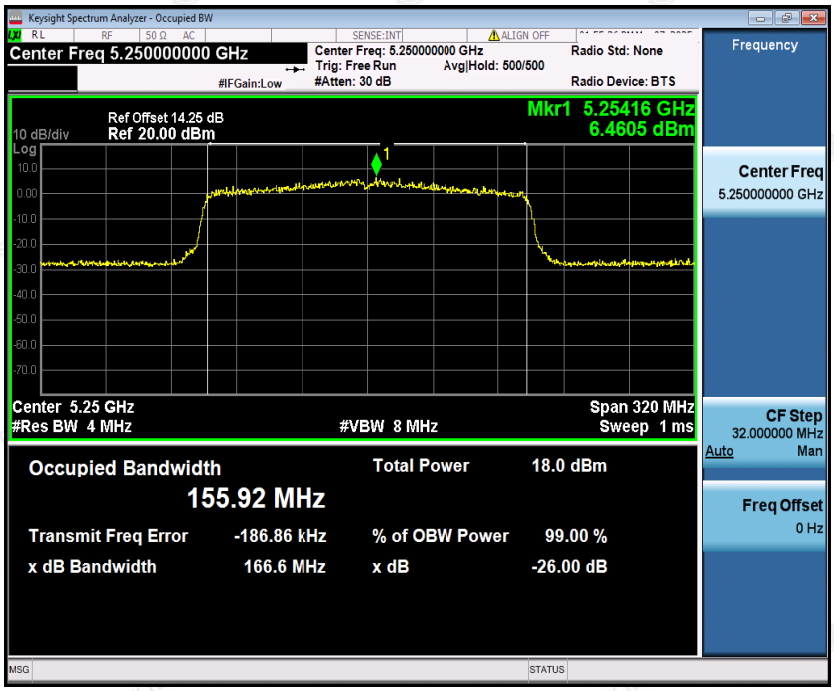
Low Channel

High Channel

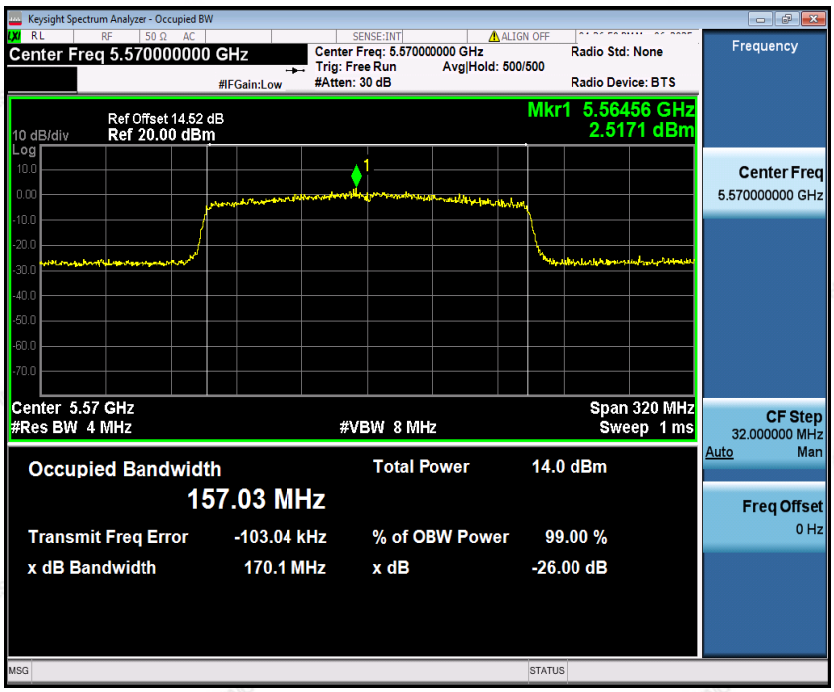


IEEE802.11ax HE160 mode

5150~5350MHz



5470~5725MHz



IEEE802.11be EHT20 mode

5150~5250MHz

Low Channel

Mid Channel

High Channel

IEEE802.11be EHT40 mode

5150~5250MHz

Low Channel

High Channel

IEEE802.11be EHT80 mode

5150~5250MHz

Antenna 2

Testmode:IEEE802.11a mode

5150~5250MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5180	24.06	16.577
Mid	5200	26.12	16.515
High	5240	18.47	16.393

5250~5350MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5260	18.59	16.406
Mid	5280	18.55	16.383
High	5320	23.79	16.519

5470~5725MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5500	25.45	16.539
Mid	5580	18.48	16.415
High	5700	24.41	16.554

Testmode:IEEE802.11n HT20 mode

5150~5250MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5180	25.45	17.571
Mid	5200	27.78	17.556
High	5240	19.26	17.454

5250~5350MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5260	19.22	17.438
Mid	5280	19.21	17.444
High	5320	28.84	17.581

5470~5725MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5500	25.36	17.555
Mid	5580	19.15	17.465
High	5700	27.21	17.572

Testmode:IEEE802.11n HT40 mode

5150~5250MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5190	47.12	35.963
High	5230	38.97	35.784

5250~5350MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5270	38.96	35.778
High	5310	53.08	35.926

5470~5725MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5510	49.49	36.000
Mid	5550	39.03	35.896
High	5670	45.36	36.056

Testmode:IEEE802.11ac HT20 mode

5150~5250MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5180	24.05	17.507
Mid	5200	23.10	17.529
High	5240	19.01	17.394

5250~5350MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5260	19.13	17.468
Mid	5280	19.14	17.425
High	5320	23.85	17.559

5470~5725MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5500	27.56	17.581
Mid	5580	19.26	17.478
High	5700	24.60	17.570

Testmode:IEEE802.11ac HT40 mode

5150~5250MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5190	47.90	35.891
High	5230	38.82	35.712

5250~5350MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5270	38.92	35.773
High	5310	60.74	35.986

5470~5725MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5510	54.17	36.065
Mid	5550	38.94	35.851
High	5670	64.07	36.075

Testmode:IEEE802.11ac HT80 mode

5150~5250MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
--	5210	98.22	75.562

5250~5350MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
--	5290	115.4	76.346

5470~5725MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5530	109.9	76.087
High	5610	80.15	75.401

Testmode:IEEE802.11ac HT160 mode

5150~5350MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
--	5250	164.0	152.97

5470~5725MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
--	5570	318.0	157.54

Testmode:IEEE802.11ax HE20 mode

5150~5250MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5180	20.27	18.843
Mid	5200	23.82	18.865
High	5240	20.04	18.788

5250~5350MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5260	19.98	18.804
Mid	5280	20.19	18.803
High	5320	20.10	18.859

5470~5725MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5500	22.96	18.890
Mid	5580	20.08	18.823
High	5700	20.40	18.838

Testmode:IEEE802.11ax HE40 mode

5150~5250MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5190	47.97	37.754
High	5230	39.67	37.533

5250~5350MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5270	39.99	37.440
High	5310	43.08	37.665

5470~5725MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5510	41.13	37.856
Mid	5550	39.93	37.636
High	5670	40.30	37.820

Testmode:IEEE802.11ax HE80 mode

5150~5250MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
--	5210	96.57	77.355

5250~5350MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
--	5290	121.8	77.915

5470~5725MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5530	110.5	77.691
High	5610	81.27	77.055

Testmode:IEEE802.11ax HE160 mode

5150~5350MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
--	5250	166.3	154.90

5470~5725MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
--	5570	318.3	158.50

Testmode:IEEE802.11be EHT20 mode
5150~5250MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5180	20.06	18.808
Mid	5200	20.02	18.873
High	5240	20.04	18.715

Testmode:IEEE802.11be EHT40 mode
5150~5250MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	5190	52.88	37.774
High	5230	39.72	37.461

Testmode:IEEE802.11be EHT80 mode
5150~5250MHz

Channel	Frequency(MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
--	5210	101.9	77.244

Test Plot

IEEE802.11a mode:

5150~5250MHz

Low Channel

Mid Channel

High Channel

5250~5350MHz

Low Channel

Mid Channel

High Channel

5470~5725MHz

Low Channel

Mid Channel

High Channel

IEEE802.11n HT20 mode

5150~5250MHz

Low Channel

Mid Channel