



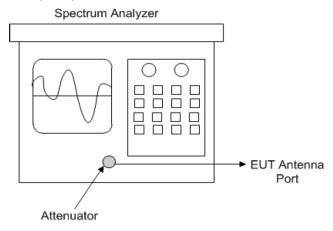
#### 3.7 Conducted Out of Band Emission Measurement

#### 3.7.1 Limits of Conducted Out of Band Emission Measurement

- a. If the maximum peak conducted output power procedure was used to determine compliance as described in 11.9.1, then the peak output power measured in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz (i.e., 20 dBc).
- b. If maximum conducted (average) output power was used to determine compliance as described in 11.9.2. then the peak power in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 30 dB relative to the maximum in-band peak PSD level in 100 kHz (i.e., 30 dBc).

#### 3.7.2 Test Setup

- DTS emissions in non-restricted frequency bands Subclause 11.11 of ANSI C63.10 is applicable.
- DTS emissions in restricted frequency bands Subclause 11.12 of ANSI C63.10 is applicable



Spectrum analyzer test configuration

### 3.7.3 Test Instruments

Refer to section 5 to get information of above instrument.

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#### 3.7.4 Test Procedure

- a. Establish a reference level by using the following procedure:
  - 1) Set instrument center frequency to DTS channel center frequency.
  - 2) Set the span to 21.5 times the DTS bandwidth)
  - 3) Set the RBW= 100 kHz)
  - 4) Set the VBW ≥3 x RBW
  - 5) Detector = peak
  - 6) Sweep time = auto coupling
  - 7) Trace mode =max hold
  - 8) Allow trace to fully stabilize
  - 9) Use the peak marker function to determine the maximum PSD level.

Note that the channel found to contain the maximum PSD level can be used to establish the reference level.

- b. Establish an emission level by using the following procedure:
  - 1) Set the center frequency and span to encompass frequency range to be measured.
  - 2) Set the RBW = 100 kHz
  - 3) Set the VBW ≥ 300 kHz.
  - 4) Detector = peak.
  - 5) Sweep time = auto couple.
  - 6) Trace mode = max hold.
  - 7) Allow trace to fully stabilize.
  - 8) Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.

## 3.7.5 Deviation from Test Standard

No deviation.

### 3.7.6 EUT Operating Condition

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

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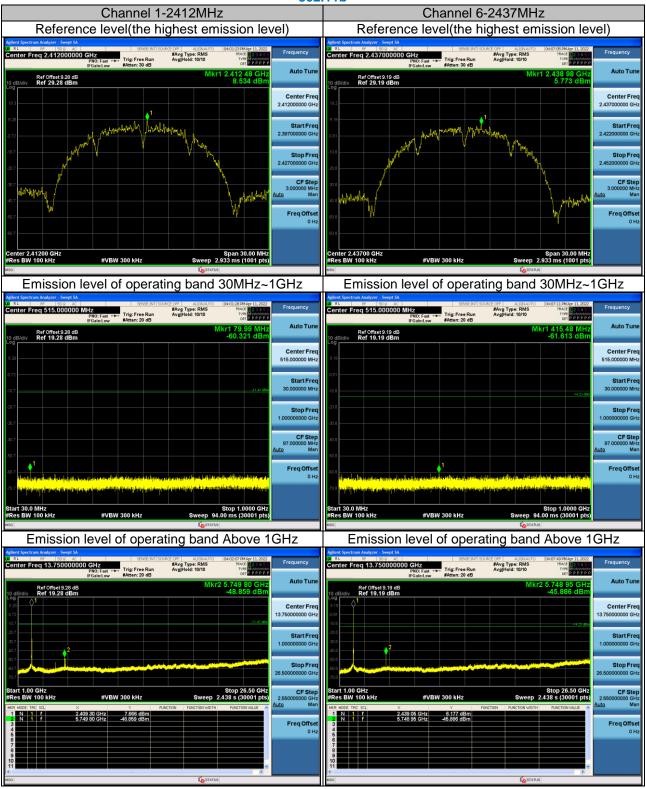
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#### 3.7.7 Test results

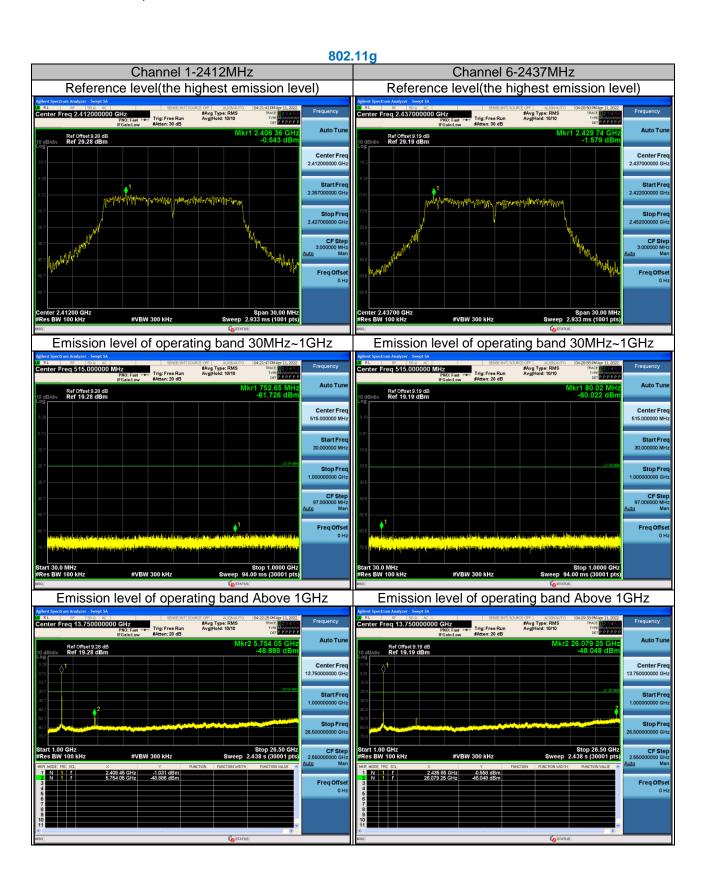


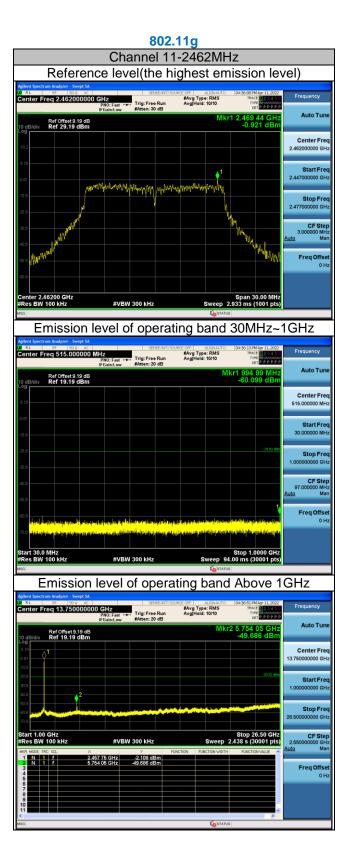


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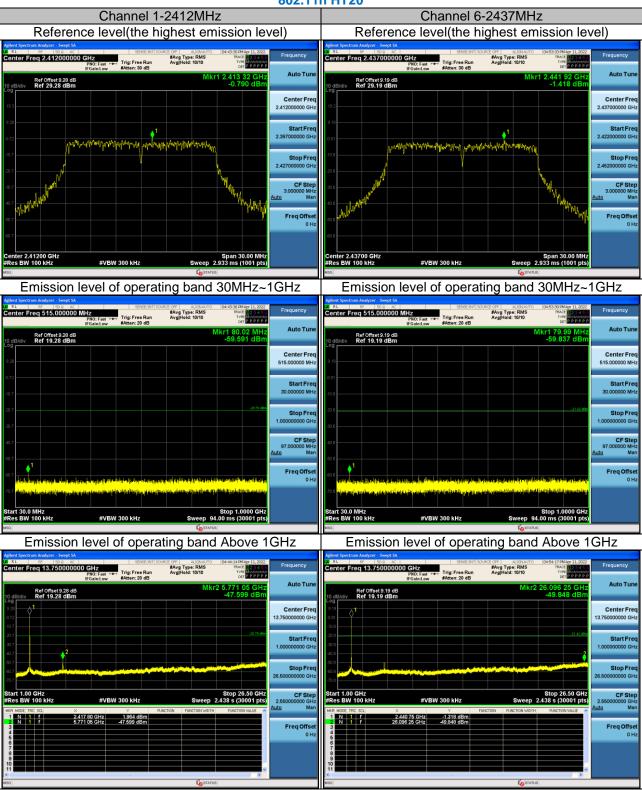
802.11b Channel 11-2462MHz Reference level(the highest emission level) enter Freq 2.462000000 GHz #Avg Type: RMS AvalHold: 10/10 Ref Offset 9.19 dB Ref 29.19 dBm Center Fred 462000000 GH Emission level of operating band 30MHz~1GHz #Avg Type: RMS Avg|Hold: 10/10 Ref Offset 9.19 dB Ref 19.19 dBm Center Fre 515.000000 MH CF Step 000000 MHz Man Emission level of operating band Above 1GHz #Avg Type: RMS Avg|Hold: 10/10 Ref Offset 9.19 dB Ref 19.19 dBm CF Step 00000 GH: Mar Start 1.00 GHz Res BW 100 kHz 2.463 70 GHz 5.748 95 GHz 5.565 dBm -47.145 dBm







#### 802.11n HT20





# 802.11n HT20 Channel 11-2462MHz Reference level(the highest emission level) enter Freq 2.462000000 GHz #Avg Type: RMS AvglHold: 10/10 Ref Offset 9.19 dB Ref 29.19 dBm Center Fred 462000000 GH CF Step Emission level of operating band 30MHz~1GHz #Avg Type: RMS Avg|Hold: 10/10 Ref Offset 9.19 dB Ref 19.19 dBm Center Fre 515.000000 MH CF Step 000000 MHz Man tart 30.0 MHz Res BW 100 kHz Emission level of operating band Above 1GHz #Avg Type: RMS Avg|Hold: 10/10 Ref Offset 9.19 dB Ref 19.19 dBm CF Step 00000 GH: Mar Start 1.00 GHz #Res BW 100 kHz -3.064 dBm -47.793 dBm



## 802.11n HT40 Channel 3-2422MHz Channel 6-2437MHz Reference level(the highest emission level) Reference level(the highest emission level) enter Freq 2.422000000 GHz #Avg Type: RMS AvaiHold: 10/10 nter Freq 2.437000000 GHz #Avg Type: RMS AvalHold: 10/10 Ref Offset 9.19 dB Ref 29.19 dBm Ref Offset 9.28 dB Ref 29.28 dBm Center Fre Center Fre Start Fre CF S CF Ste #VBW 300 kHz Emission level of operating band 30MHz~1GHz Emission level of operating band 30MHz~1GHz enter Freg 515.000000 MHz #Avg Type: RMS Avg|Hold: 10/10 ter Freg 515.000000 MH; #Avg Type: RMS AvalHold: 10/10 Ref Offset 9.28 dB Ref 19.28 dBm Ref Offset 9.19 dB Ref 19.19 dBm Center Fre Center Fre Stop Fre CF St CF Ste Stop 1.0000 GHz Sweep 94.00 ms (30001 pts) Emission level of operating band Above 1GHz Emission level of operating band Above 1GHz #Avg Type: RMS Avg|Hold: 10/10 #Avg Type: RMS AvalHold: 10/10 Ref Offset 9.28 dB Ref 19.28 dBm Ref Offset 9.19 dB Ref 19.19 dBm Center Fre Center Fr Stop Fre Stop Fre Start 1.00 GHz Res BW 100 k Stop 26.50 GHz 2.438 s (30001 pts Stop 26.50 GHz ep 2.438 s (30001 pts art 1.00 GHz Res BW 100 kH CF St CF Ste 2.406 75 GHz 5.777 00 GHz -1.869 dBm -47.153 dBm 2.432 25 GHz 5.791 45 GHz

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# 802.11n HT40 Channel 9-2452MHz Reference level(the highest emission level) er Freq 2.452000000 GHz #Avg Type: RMS Avg|Hold: 10/10 Ref Offset 9.19 dB Ref 29.19 dBm CF Step 6.000000 MHz enter 2.45200 GHz Res BW 100 kHz Span 60.00 MHz Sweep 5.800 ms (1001 pts #VBW 300 kHz Emission level of operating band 30MHz~1GHz enter Freq 515.000000 MHz #Avg Type: RMS Avg|Hold: 10/10 Ref Offset 9.19 dB Ref 19.19 dBm Center Free art 30.0 MHz Res BW 100 kHz Emission level of operating band Above 1GHz #Avg Type: RMS Avg|Hold: 10/10 Ref Offset 9.19 dB Ref 29.19 dBm Center Fre

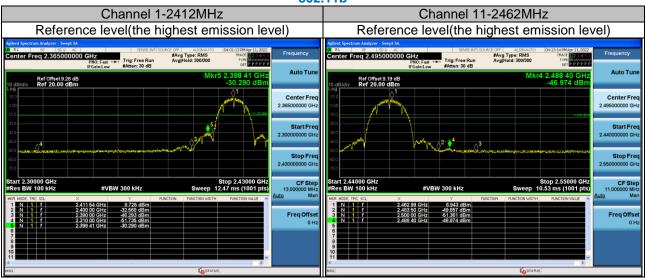
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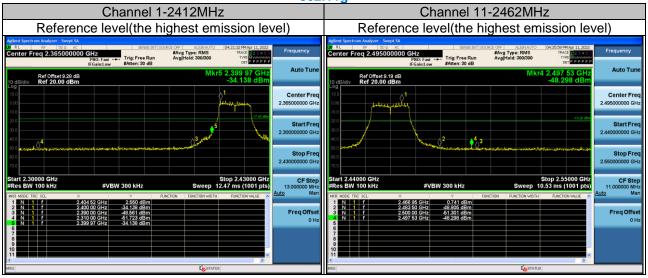
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## Band-edge 802.11b

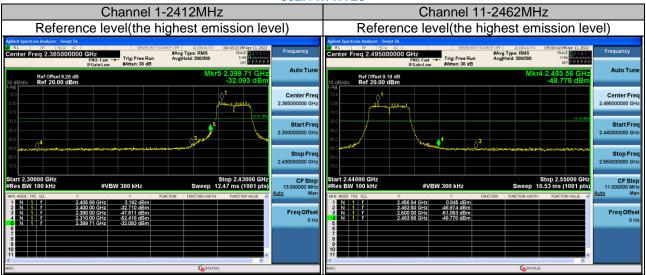


802.11g

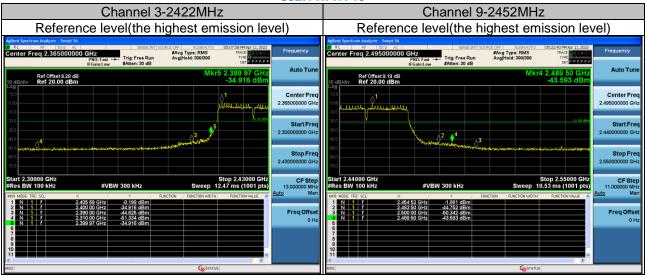




#### 802.11n HT20



#### 802.11n HT40



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## 4. Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo).

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Test Report No.: 220218KH01-1-RF-US-03

## 5. Test Instruments

Description & Manufacturer	Model No.	Serial No.	Due Date of Calibration
Spectrum Keysight	N9020A	MY51240612	2021/09/16
Spectrum Analyzer Rohde&Schwarz	FSV-40N	101783	2021/09/16
Power Meter 10Hz~18GHz Tonscend	JS0806-2	188060126	2021/09/16
Signal generator Keysight	E4421B	GB40051020	2021/09/16
Signal generator Keysight	N5182A	MY47420944	2021/09/16
Test Software Tonscend	JS0806-2	NA	NA
Hygrothermograph Yuhuaze	HTC-1	NA	2021/09/16

## Note:

- 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to CEPREI/CHINA.
- 2. The test was performed in Chamber 1.

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## Appendix - Information on The Testing Laboratories

We, <u>Hwa-Hsing (Dongguan) Co., Ltd.</u>, A global provider of TESTING and CERTIFICATION services for consumer products, electronic products and wireless information technology products. Adhering to the core values "HONEST and TRUSTWORTHY, OBJECTIVE and IMPARTIALITY, RIGOROUS and AFFICIENT", commitment to provide professional, perfect and efficient comprehensive ONE-STOP solution of TESTING and CERTIFICATION services for Manufacturers, Buyers, Traders, Brands, Retailers. Assist client to better manage risk, protect their brands, reduce costs and cut time to over 150 markets in global. Our laboratories are FCC recognized accredited test firms and accredited and approved according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

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