3.2 CONDUCTED EMISSION MEASUREMENT

3.2.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (dBµV)	
	Quasi-peak	Average
0.15 ~ 0.5 0.5 ~ 5 5 ~ 30	66 to 56 56 60	56 to 46 46 50

NOTE: 1. The lower limit shall apply at the transition frequencies.

2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

3. All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

3.2.2 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
EMI Test Receiver	Rohde&Schwarz	ESR3	101900	Feb. 15,22	Feb. 14,23
EMC32 test software	Rohde&Schwarz	EMC32	NA	NA	NA
LISN network	Rohde&Schwarz	ENV216	101922	Mar. 04,22	Mar. 03,23

NOTE:

1. The test was performed in CE shielded room.
2. The calibration interval of the above test instruments is 12 months. And the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.

3.2.3 TEST PROCEDURES

a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.

b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

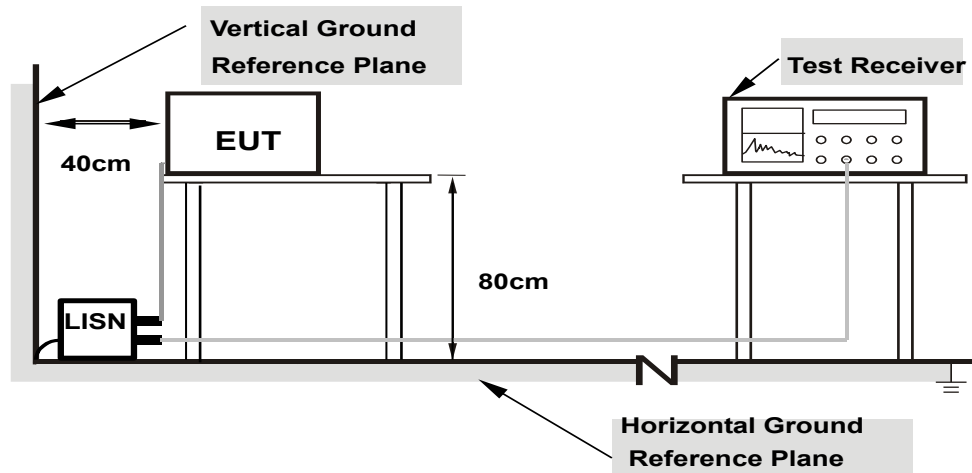c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

NOTE: All modes of operation were investigated and the worst-case emissions are reported.

BV 7Layers Communications Technology (Shenzhen) Co., Ltd

Room B37, Warehouse A5, No.3 Chiwan 4th Road, Zhaoshang Street, Nanshan District Shenzhen, Guangdong, People's Republic of China

Tel: +86 755 8869 6566
Fax: +86 755 8869 6577
Email: customerservice.sw@bureauveritas.com

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3.2.4 DEVIATION FROM TEST STANDARD

No deviation.

3.2.5 TEST SETUP

Note: 1.Support units were connected to second LISN.
2.Both of LISNs (AMN) are 80 cm from EUT and at least 80
from other units and other metal planes

For the actual test configuration, please refer to the attached file (Test Setup Photo).
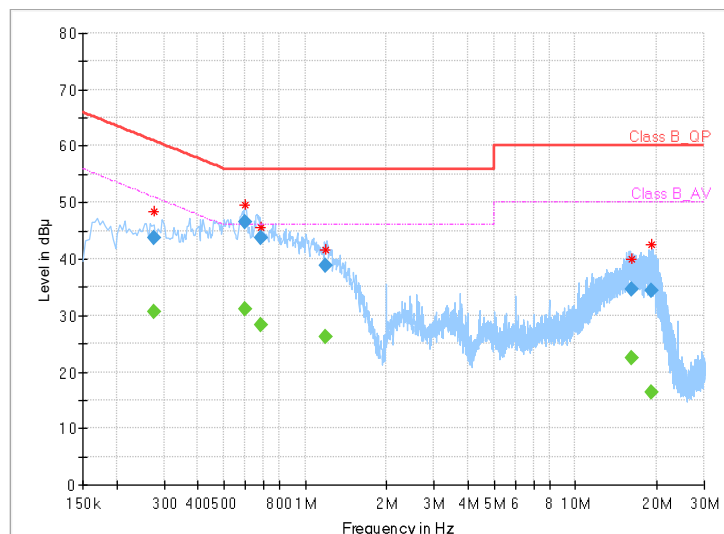
3.2.6 EUT OPERATING CONDITIONS

Same as 3.1.7.

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Room B37, Warehouse A5, No.3 Chiwan 4th Road, Zhaoshang Street, Nanshan District Shenzhen, Guangdong, People's Republic of China

Tel: +86 755 8869 6566
Fax: +86 755 8869 6577
Email: customerservice.sw@bureauveritas.com

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3.2.7 TEST RESULTS

CONDUCTED WORST-CASE DATA：

Frequency Range	150KHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120Vac, 60Hz	Environmental Conditions	26deg. C, 51%RH
Tested By	Carl Xie		

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.276000	---	30.66	50.94	20.28	L1	ON	9.7
0.276000	43.75	---	60.94	17.19	L1	ON	9.7
0.600000	---	31.15	46.00	14.85	L1	ON	9.7
0.600000	46.51	---	56.00	9.49	L1	ON	9.7
0.688000	---	28.34	46.00	17.66	L1	ON	9.7
0.688000	43.64	---	56.00	12.36	L1	ON	9.7
1.192000	---	26.23	46.00	19.77	L1	ON	9.7
1.192000	38.78	---	56.00	17.22	L1	ON	9.7
16.140000	---	22.52	50.00	27.48	L1	ON	9.8
16.140000	34.69	---	60.00	25.31	L1	ON	9.8
19.128000	---	16.34	50.00	33.66	L1	ON	9.8
19.128000	34.44	---	60.00	25.56	L1	ON	9.8

REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
　　　　　　2. "-": The Quasi-peak reading value also meets average limit and
　　　　　　　　measurement with the average detector is unnecessary.
　　　　　　3. The emission levels of other frequencies were very low against the limit.
　　　　　　4. Margin value = Limit value - Emission level
　　　　　　5. Correction factor = Insertion loss + Cable loss
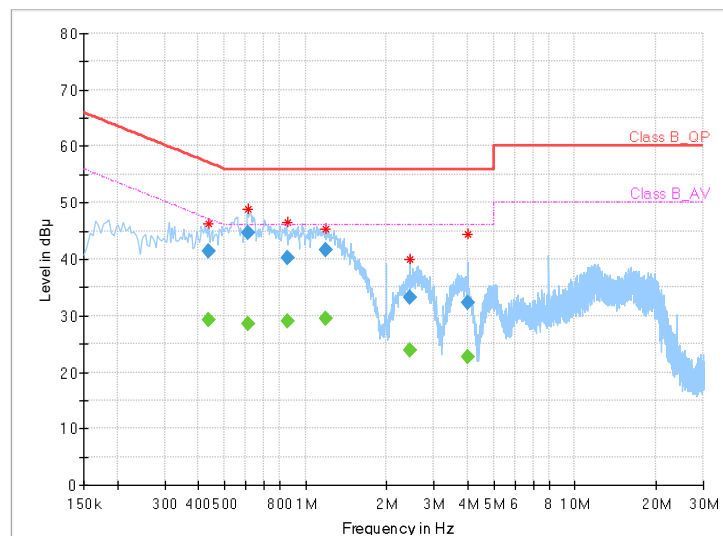　　　　　　6. Emission Level = Correction Factor + Reading Value.

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Room B37, Warehouse A5, No.3 Chiwan 4th Road, Zhaoshang Street, Nanshan District Shenzhen, Guangdong, People's Republic of China

Tel: +86 755 8869 6566
Fax: +86 755 8869 6577
Email: customerservice.sw@bureauveritas.com

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Frequency Range	150KHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
Input Power	120Vac, 60Hz	Environmental Conditions	26deg. C, 51%RH
Tested By	Carl Xie		

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.436000	---	29.17	47.14	17.97	N	ON	9.7
0.436000	41.45	---	57.14	15.69	N	ON	9.7
0.612000	---	28.64	46.00	17.36	N	ON	9.7
0.612000	44.57	---	56.00	11.43	N	ON	9.7
0.856000	---	28.98	46.00	17.02	N	ON	9.7
0.856000	40.33	---	56.00	15.67	N	ON	9.7
1.184000	---	29.54	46.00	16.46	N	ON	9.8
1.184000	41.63	---	56.00	14.37	N	ON	9.8
2.440000	---	23.90	46.00	22.10	N	ON	9.8
2.440000	33.17	---	56.00	22.83	N	ON	9.8
3.996000	---	22.58	46.00	23.42	N	ON	9.8
3.996000	32.19	---	56.00	23.81	N	ON	9.8

REMARKS: 1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
　　　　　　2. "-": The Quasi-peak reading value also meets average limit and
　　　　　　　　 measurement with the average detector is unnecessary.
　　　　　　3. The emission levels of other frequencies were very low against the limit.
　　　　　　4. Margin value = Limit value - Emission level
　　　　　　5. Correction factor = Insertion loss + Cable loss
　　　　　　6. Emission Level = Correction Factor + Reading Value.

Full Spectrum

BV 7Layers Communications Technology (Shenzhen) Co., Ltd

Room B37, Warehouse A5, No.3 Chiwan 4th Road, Zhaoshang Street, Nanshan District Shenzhen, Guangdong, People's Republic of China

Tel: +86 755 8869 6566
Fax: +86 755 8869 6577
Email: customerservice.sw@bureauveritas.com

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3.3 MAXIMUM CONDUCTED OUTPUT POWER MEASUREMENT

3.3.1 LIMITS OF MAXIMUM CONDUCTED OUTPUT POWER MEASUREMENT

Operation Band		EUT Category	LIMIT
U-NII-1		Outdoor Access Point	1 Watt (30 dBm) (Max. e.i.r.p ≦ 125mW(21 dBm) at any elevation angle above 30 degrees as measured from the horizon)
		Fixed point-to-point Access Point	1 Watt (30 dBm)
		Indoor Access Point	1 Watt (30 dBm)
	√	Client devices	250mW (24 dBm)
U-NII-2A		√	250mW (24 dBm) or 11 dBm+10 log B*
U-NII-2C		√	250mW (24 dBm) or 11 dBm+10 log B*
U-NII-3		√	1 Watt (30 dBm)

NOTE: Where B is the 26dB emission bandwidth in MHz.

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Room B37, Warehouse A5, No.3 Chiwan 4th Road, Zhaoshang Street, Nanshan District Shenzhen, Guangdong, People's Republic of China

Tel: +86 755 8869 6566
Fax: +86 755 8869 6577
Email: customerservice.sw@bureauveritas.com

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3.3.2   TEST SETUP

FOR POWER OUTPUT MEASUREMENT

802.11a, 802.11n/ac (20MHz), 802.11 n/ac (40MHz) TEST CONFIGURATION

```
┌──────────┐                    ┌──────────────┐      ┌──────────────┐
│          │                    │              │      │              │
│   EUT    │────┤ ├────────────│ Power Sensor │──────│ Power Meter  │
│          │  10dB ATTENUATION  │              │      │              │
└──────────┘  PAD               └──────────────┘      └──────────────┘
```

11ac TEST CONFIGURATION

```
┌──────────┐                         ┌──────────────┐
│          │                         │  SPECTRUM    │
│   EUT    │──────────────────┤ ├───│  ANALYZER    │
│          │    10dB ATTENUATION     │              │
└──────────┘    PAD                  └──────────────┘
```

FOR 26dB BANDWIDTH

```
┌──────────┐                         ┌──────────────┐
│          │                         │  SPECTRUM    │
│   EUT    │──────────────────┤ ├───│  ANALYZER    │
│          │    10dB ATTENUATION     │              │
└──────────┘    PAD                  └──────────────┘
```
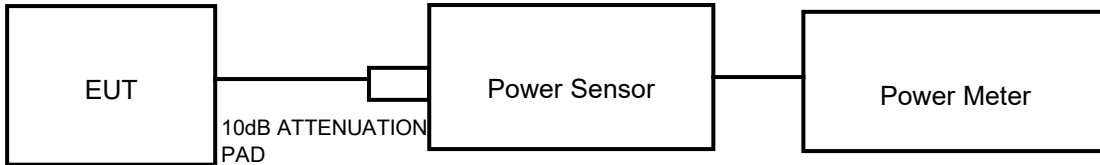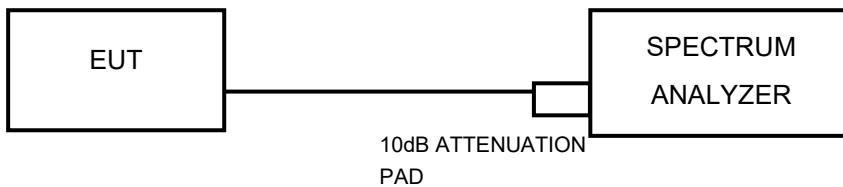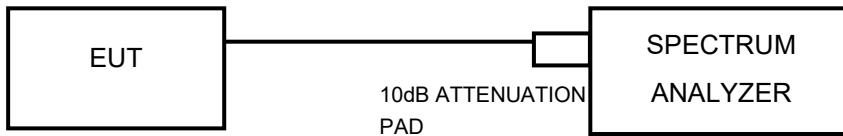
3.3.3   TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Power Meter	ANRITSU	ML2495A	1506002	Feb. 22,22	Feb. 21,23
EXA Signal Analyzer	KEYSIGHT	N9010A-526	MY54510322	Feb. 18,22	Feb. 17,23
EXA Signal Analyzer	KEYSIGHT	N9010A-544	MY54510355	May.15,22	May.14,23
Power Sensor	ANRITSU	MA2411B	1339352	May. 06,22	May. 05,23

NOTE:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.
2. The test was performed in RF Oven room.

BV 7Layers Communications Technology (Shenzhen) Co., Ltd

Room B37, Warehouse A5, No.3 Chiwan 4th Road, Zhaoshang Street, Nanshan District Shenzhen, Guangdong, People's Republic of China

Tel: +86 755 8869 6566
Fax: +86 755 8869 6577
Email: customerservice.sw@bureauveritas.com

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3.3.4 TEST PROCEDURE

FOR POWER MEASUREMENT

For 802.11a, 802.11 n/ac (20MHz), 802.11 n/ac (40MHz)

Method PM is used to perform output power measurement, trigger and gating function of wide band power meter is enabled to measure max output power of TX on burst. Duty factor is not added to measured value.

For 802.11ac (80MHz)

1. Measure the duty cycle, x, of the transmitter output signal as described in II.B.
2. Set span to encompass the EBW (or, alternatively, the entire 99% occupied bandwidth) of the signal.
3. Set RBW = 1 MHz.
4. Set VBW ≥ 3 MHz.
5. Number of points in sweep ≥ 2 × span / RBW. (This ensures that bin-to-bin spacing is ≤ RBW/2, so that narrowband signals are not lost between frequency bins.)
6. Sweep time = auto.
7. Detector = power averaging (rms), if available. Otherwise, use sample detector mode.
8. Do not use sweep triggering. Allow the sweep to "free run."
9. Trace average at least 100 traces in power averaging (rms) mode; however, the number of traces to be averaged shall be increased above 100 as needed to ensure that the average accurately represents the true average over the on and off periods of the transmitter.
10. Add 10 log (1/x), where x is the duty cycle, to the measured power to compute the average power during the actual transmission times (because the measurement represents an average over both the on and off times of the transmission). For example, add 10 log (1/0.25) = 6 dB if the duty cycle is 25%.

BV 7Layers Communications Technology (Shenzhen) Co., Ltd

Room B37, Warehouse A5, No.3 Chiwan 4th Road, Zhaoshang Street, Nanshan District Shenzhen, Guangdong, People's Republic of China

Tel: +86 755 8869 6566
Fax: +86 755 8869 6577
Email: customerservice.sw@bureauveritas.com

FOR 99 PERCENT OCCUPIED BANDWIDTH

The following procedure shall be used for measuring (99 %) power bandwidth:

1. Set center frequency to the nominal EUT channel center frequency.
2. Set span = 1.5 times to 5.0 times the OBW.
3. Set RBW = 1 % to 5 % of the OBW
4. Set VBW ≥ 3 · RBW
5. 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.
6. Use the 99 % power bandwidth function of the instrument (if available).
7. If the instrument does not have a 99 % power bandwidth function, the trace data points are recovered and directly summed in power units. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5 % of the total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5 % of the total is reached; that frequency is recorded as the upper frequency. The 99% occupied bandwidth is the difference between these two frequencies.

FOR 26dB BANDWIDTH

1) Set RBW = approximately 1% of the emission bandwidth.
2) Set the VBW > RBW.
3) Detector = Peak.
4) Trace mode = max hold.
5) Measure the maximum width of the emission that is 26 dB down from the peak 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%.

FOR 6dB BANDWIDTH

1. Set RBW = 100 kHz.
2. Set the video bandwidth (VBW) ≥ 3 RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = auto couple.
6. Allow the trace to stabilize.
7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

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Room B37, Warehouse A5, No.3 Chiwan 4th Road, Zhaoshang Street, Nanshan District Shenzhen, Guangdong, People's Republic of China

Tel: +86 755 8869 6566
Fax: +86 755 8869 6577
Email: customerservice.sw@bureauveritas.com

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3.3.5   DEVIATION FROM TEST STANDARD

No deviation.

3.3.6   EUT OPERATING CONDITIONS

The software provided by client to enable the EUT under transmission condition continuously at specific channel frequencies individually.

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Room B37, Warehouse A5, No.3 Chiwan 4th Road, Zhaoshang Street, Nanshan District Shenzhen, Guangdong, People's Republic of China

Tel: +86 755 8869 6566
Fax: +86 755 8869 6577
Email: customerservice.sw@bureauveritas.com

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3.3.7 TEST RESULTS

Please Refer to Appendix. Of this test report.

BV 7Layers Communications Technology (Shenzhen) Co., Ltd

Room B37, Warehouse A5, No.3 Chiwan 4th Road, Zhaoshang Street, Nanshan District Shenzhen, Guangdong, People's Republic of China

Tel: +86 755 8869 6566
Fax: +86 755 8869 6577
Email: customerservice.sw@bureauveritas.com

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3.4 MAXIMUM POWER SPECTRAL DENSITY MEASUREMENT

3.4.1 LIMITS OF MAXIMUM POWER SPECTRAL DENSITY MEASUREMENT

Operation Band	EUT Category		LIMIT
U-NII-1		Outdoor Access Point	17dBm/ MHz
		Fixed point-to-point Access Point	
		Indoor Access Point	
	√	Client devices	11dBm/ MHz
U-NII-2A		√	11dBm/ MHz
U-NII-2C		√	11dBm/ MHz
U-NII-3		√	30dBm/ 500kHz

3.4.2 TEST SETUP
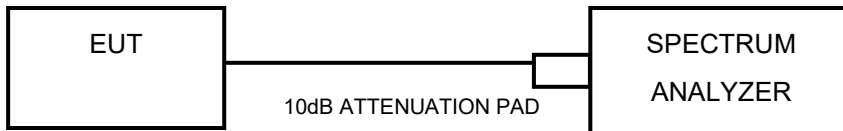
3.4.3 TEST INSTRUMENTS

Refer to section 3.3.3 to get information of above instrument.

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Room B37, Warehouse A5, No.3 Chiwan 4th Road, Zhaoshang Street, Nanshan District Shenzhen, Guangdong, People's Republic of China

Tel: +86 755 8869 6566
Fax: +86 755 8869 6577
Email: customerservice.sw@bureauveritas.com

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3.4.4 TEST PROCEDURES

Using method SA-2

1) Set span to encompass the entire emission bandwidth (EBW) of the signal.

2) Set RBW = 1 MHz, Set VBW ≥ 3 MHz, Detector = RMS

3) Set Channel power measure = 1MHz

4) Sweep time = auto, trigger set to "free run".

5) Trace average at least 100 traces in power averaging mode.

6) Add 10 log (1/x), where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times (because the measurement represents an average over both the on and off times of the transmission).

7) Record the max value

3.4.5 DEVIATION FROM TEST STANDARD

No deviation.

3.4.6 EUT OPERATING CONDITIONS

Same as 3.1.7.

BV 7Layers Communications Technology (Shenzhen) Co., Ltd

Room B37, Warehouse A5, No.3 Chiwan 4th Road, Zhaoshang Street, Nanshan District Shenzhen, Guangdong, People's Republic of China

Tel: +86 755 8869 6566
Fax: +86 755 8869 6577
Email: customerservice.sw@bureauveritas.com

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3.4.7 TEST RESULTS

Please Refer to Appendix. Of this test report.

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Room B37, Warehouse A5, No.3 Chiwan 4th Road, Zhaoshang Street, Nanshan District Shenzhen, Guangdong, People's Republic of China

Tel: +86 755 8869 6566
Fax: +86 755 8869 6577
Email: customerservice.sw@bureauveritas.com

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3.5 AUTOMATICALLY DISCONTINUE TRANSMISSION

3.5.1 LIMIT OF AUTOMATICALLY DISCONTINUE TRANSMISSION

The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or signalling information or the use of repetitive codes used by certain digital technologies to complete frame or burst intervals. Applicants shall include in their application for equipment authorization a description of how this requirement is met.

3.5.2 TEST INSTRUMENTS

Refer to section 3.3.3 to get information of above instrument.

3.5.3 TEST RESULT

While the EUT is not transmitting any information, the EUT can automatically discontinue transmission and become standby mode for power saving。 The EUT can detect the controlling of ACK message transmitting from remote device and verify whether it shall resend or discontinue transmission

BV 7Layers Communications Technology (Shenzhen) Co., Ltd

Room B37, Warehouse A5, No.3 Chiwan 4th Road, Zhaoshang Street, Nanshan District Shenzhen, Guangdong, People's Republic of China

Tel: +86 755 8869 6566
Fax: +86 755 8869 6577
Email: customerservice.sw@bureauveritas.com

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4 PHOTOGRAPHS OF THE TEST CONFIGURATION

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

BV 7Layers Communications Technology (Shenzhen) Co., Ltd

Room B37, Warehouse A5, No.3 Chiwan 4th Road, Zhaoshang Street, Nanshan District Shenzhen, Guangdong, People's Republic of China

Tel: +86 755 8869 6566
Fax: +86 755 8869 6577
Email: customerservice.sw@bureauveritas.com

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5 MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No modifications were made to the EUT by the lab during the test.

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Room B37, Warehouse A5, No.3 Chiwan 4th Road, Zhaoshang Street, Nanshan District Shenzhen, Guangdong, People's Republic of China

Tel: +86 755 8869 6566
Fax: +86 755 8869 6577
Email: customerservice.sw@bureauveritas.com

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6 APPENDIX
EMISSION BANDWIDTH

TEST RESULT

TestMode	Antenna	Frequency [MHz]	26db EBW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5180	26.160	5166.480	5192.640	---	---
		5200	25.640	5186.160	5211.800	---	---
		5240	23.400	5228.440	5251.840	---	---
		5260	30.400	5244.600	5275.000	---	---
		5300	27.040	5285.480	5312.520	---	---
		5320	24.400	5307.800	5332.200	---	---
		5500	26.000	5485.680	5511.680	---	---
		5580	27.560	5565.600	5593.160	---	---
		5700	23.280	5686.680	5709.960	---	---
		5720	26.680	5705.960	5732.640	---	---
		5720_UNII-2C	19.04	5705.960	5725	---	---
		5720_UNII-3	7.64	5725	5732.640	---	---
		5745	24.280	5731.880	5756.160	---	---
		5785	23.200	5772.480	5795.680	---	---
		5825	22.640	5813.040	5835.680	---	---
11N20SISO	Ant1	5180	27.920	5165.640	5193.560	---	---
		5200	29.040	5185.240	5214.280	---	---
		5240	29.720	5224.560	5254.280	---	---
		5260	31.640	5243.920	5275.560	---	---
		5300	30.520	5284.200	5314.720	---	---
		5320	27.400	5305.840	5333.240	---	---
		5500	30.200	5483.960	5514.160	---	---
		5580	28.160	5565.120	5593.280	---	---
		5700	30.000	5685.120	5715.120	---	---
		5720	26.360	5706.760	5733.120	---	---
		5720_UNII-2C	18.24	5706.760	5725	---	---
		5720_UNII-3	8.12	5725	5733.120	---	---
		5745	27.480	5730.840	5758.320	---	---
		5785	27.800	5769.920	5797.720	---	---
		5825	28.360	5810.960	5839.320	---	---

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Room B37, Warehouse A5, No.3 Chiwan 4th Road, Zhaoshang Street, Nanshan District Shenzhen, Guangdong, People's Republic of China

Tel: +86 755 8869 6566
Fax: +86 755 8869 6577
Email: customerservice.sw@bureauveritas.com

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11N40SISO	Ant1	5190	67.280	5155.600	5222.880	---	---
		5230	67.200	5198.640	5265.840	---	---
		5270	59.600	5241.120	5300.720	---	---
		5310	61.280	5280.400	5341.680	---	---
		5510	65.280	5477.840	5543.120	---	---
		5550	61.200	5520.560	5581.760	---	---
		5670	63.200	5636.560	5699.760	---	---
		5710	67.280	5675.920	5743.200	---	---
		5710_UNII-2C	49.08	5675.920	5725	---	---
		5710_UNII-3	18.2	5725	5743.200	---	---
		5755	65.120	5721.400	5786.520	---	---
		5795	65.040	5762.520	5827.560	---	---
11AC20SISO	Ant1	5180	28.320	5163.680	5192.000	---	---
		5200	24.160	5187.200	5211.360	---	---
		5240	25.720	5226.720	5252.440	---	---
		5260	27.640	5246.480	5274.120	---	---
		5300	26.080	5286.480	5312.560	---	---
		5320	28.400	5305.920	5334.320	---	---
		5500	30.040	5484.880	5514.920	---	---
		5580	23.360	5567.560	5590.920	---	---
		5700	22.840	5687.640	5710.480	---	---
		5720	24.920	5707.920	5732.840	---	---
		5720_UNII-2C	17.08	5707.920	5725	---	---
		5720_UNII-3	7.84	5725	5732.840	---	---
		5745	22.800	5732.360	5755.160	---	---
		5785	25.480	5772.280	5797.760	---	---
		5825	25.640	5810.920	5836.560	---	---
11AC40SISO	Ant1	5190	57.440	5160.320	5217.760	---	---
		5230	54.240	5202.640	5256.880	---	---
		5270	56.240	5241.520	5297.760	---	---
		5310	59.920	5282.160	5342.080	---	---
		5510	68.000	5474.240	5542.240	---	---
		5550	54.800	5521.920	5576.720	---	---
		5670	69.440	5633.680	5703.120	---	---
		5710	50.080	5685.680	5735.760	---	---

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Fax: +86 755 8869 6577
Email: customerservice.sw@bureauveritas.com

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		5710_UNII-2C	39.32	5685.680	5725	---	---
		5710_UNII-3	10.76	5725	5735.760	---	---
		5755	53.040	5727.080	5780.120	---	---
		5795	61.760	5765.400	5827.160	---	---
11AC80SISO	Ant1	5210	126.240	5137.520	5263.760	---	---
		5290	137.440	5220.080	5357.520	---	---
		5530	102.560	5481.840	5584.400	---	---
		5610	97.440	5561.040	5658.480	---	---
		5690	84.320	5646.800	5731.120	---	---
		5690_UNII-2C	78.2	5646.800	5725	---	---
		5690_UNII-3	6.12	5725	5731.120	---	---
		5775	133.120	5698.200	5831.320	---	---

TEST GRAPHS

11A_Ant1_5180
11A_Ant1_5200

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Fax: +86 755 8869 6577
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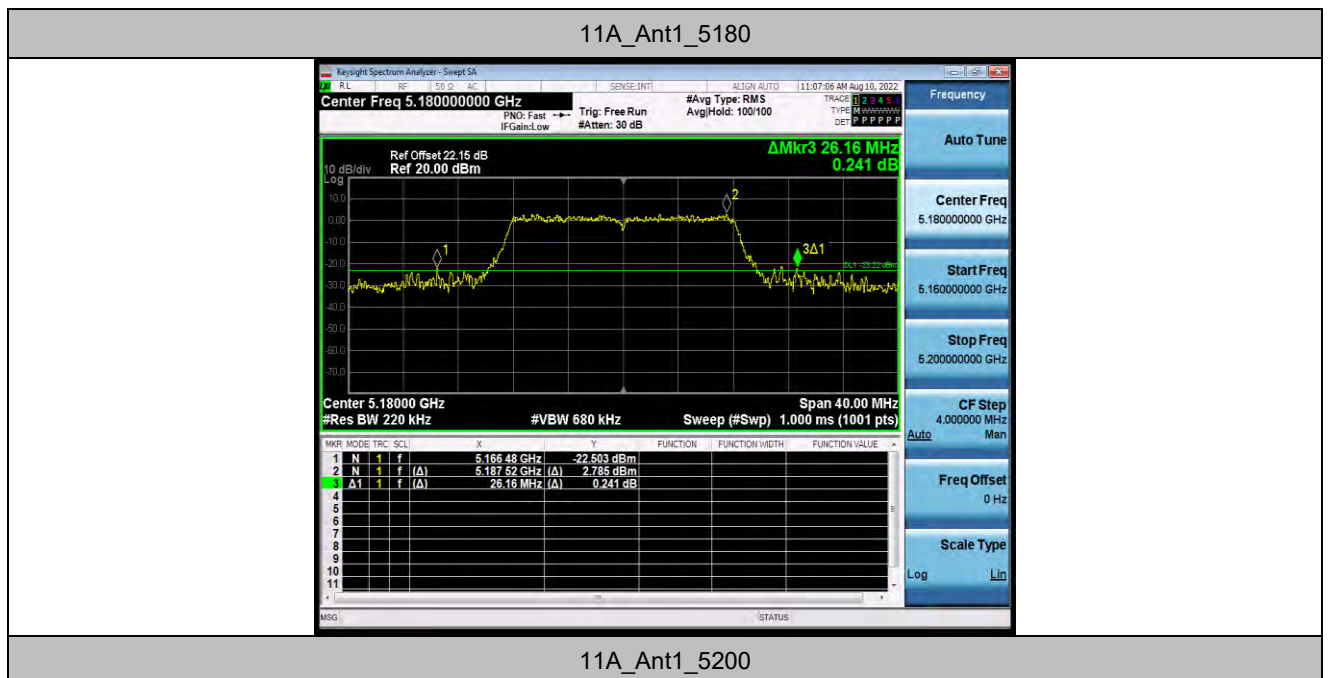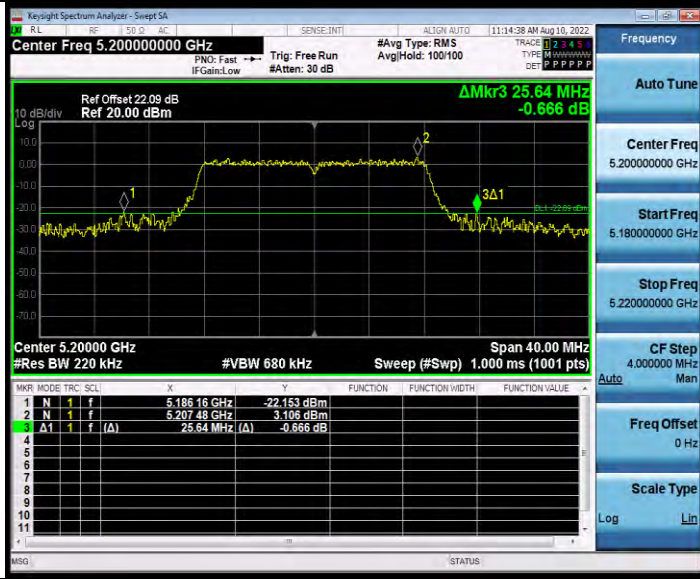
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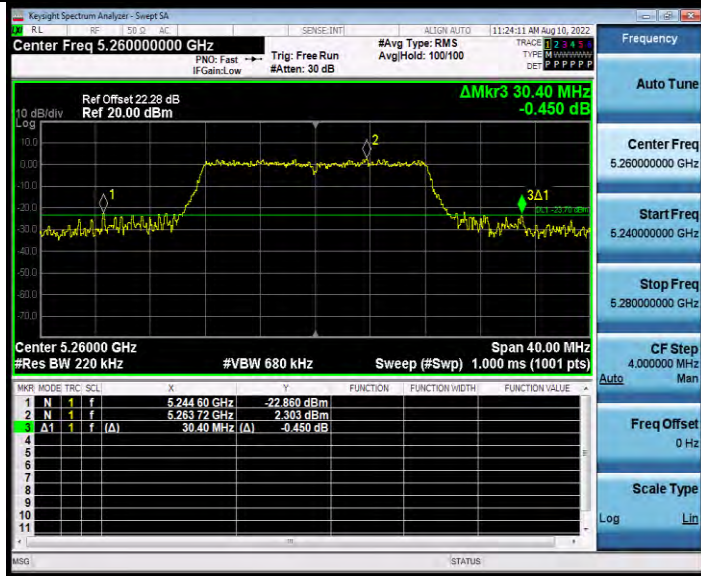
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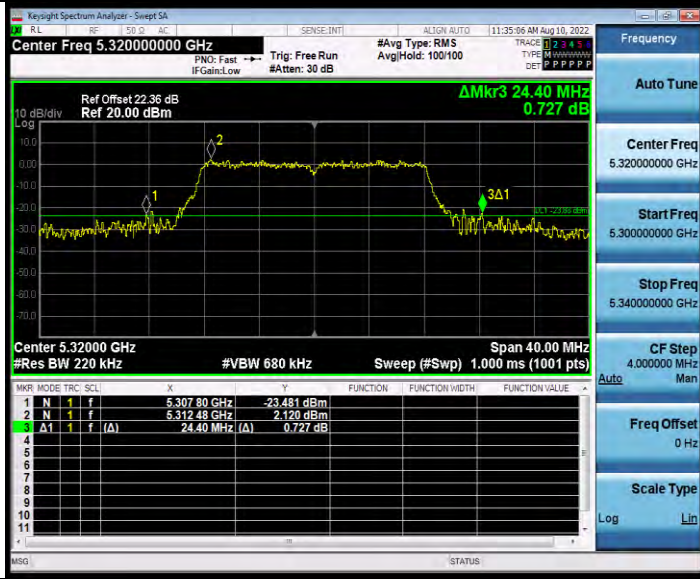
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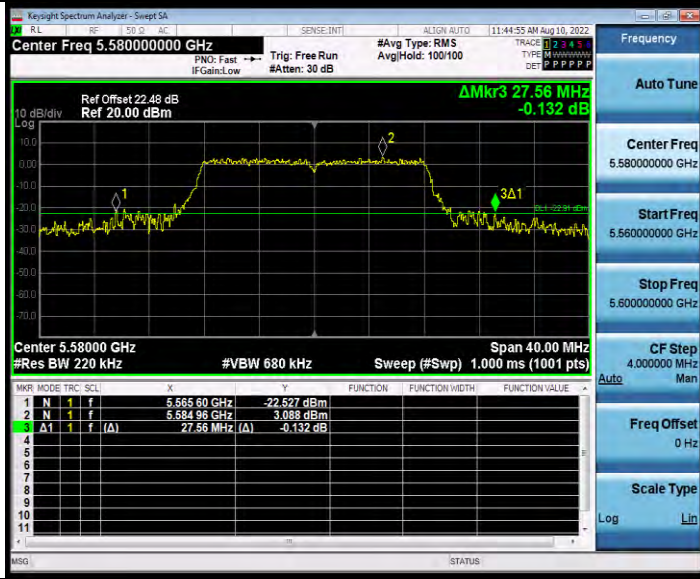
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11A_Ant1_5720

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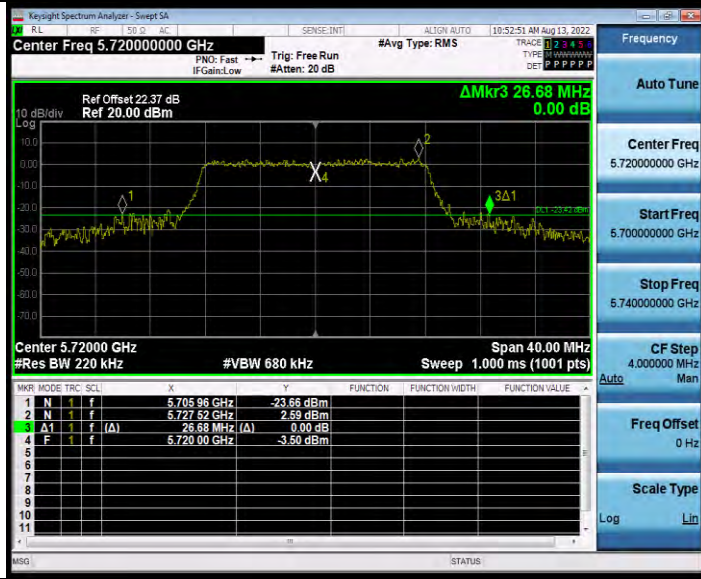
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11A_Ant1_5785

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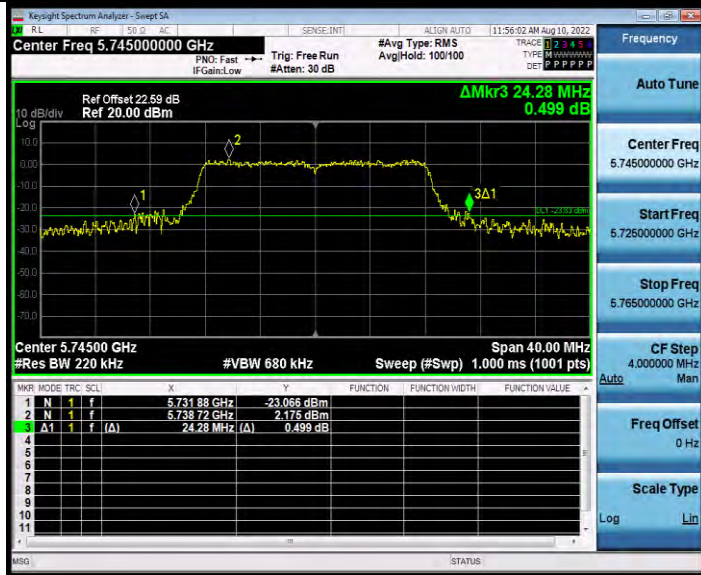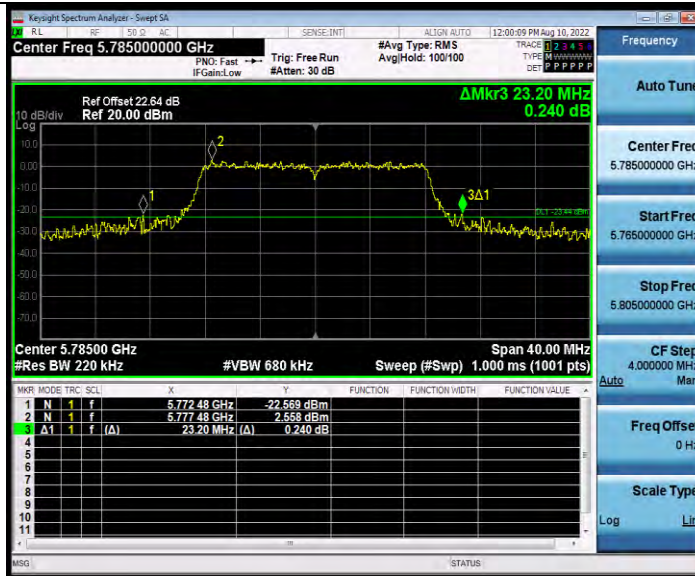
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11N20SISO_Ant1_5180

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(Shenzhen) Co., Ltd

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Zhaoshang Street, Nanshan District Shenzhen,
Guangdong, People's Republic of China

Tel: +86 755 8869 6566
Fax: +86 755 8869 6577
Email: customerservice.sw@bureauveritas.com

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11N20SISO_Ant1_5200

11N20SISO_Ant1_5240

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Fax: +86 755 8869 6577
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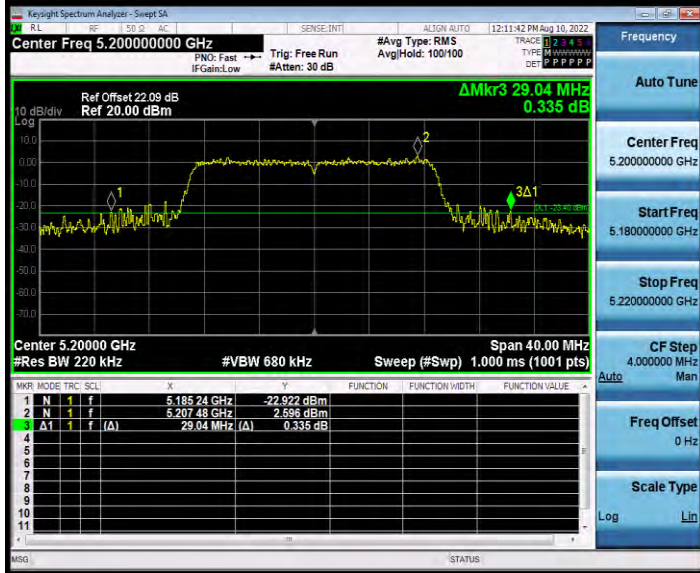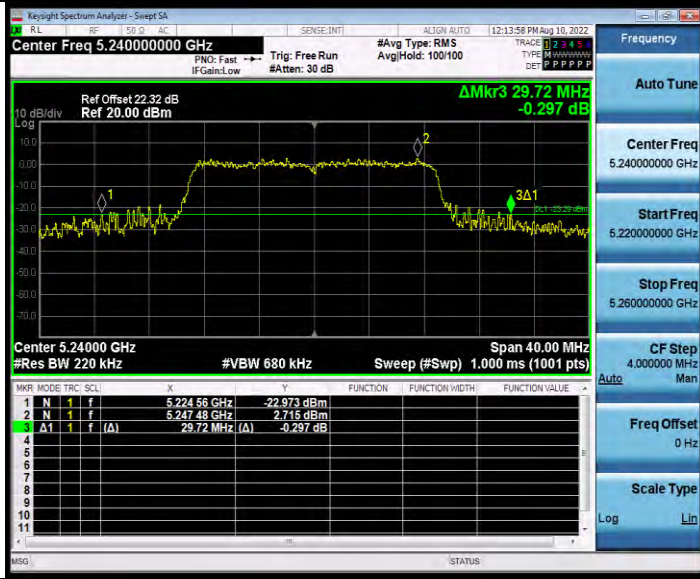
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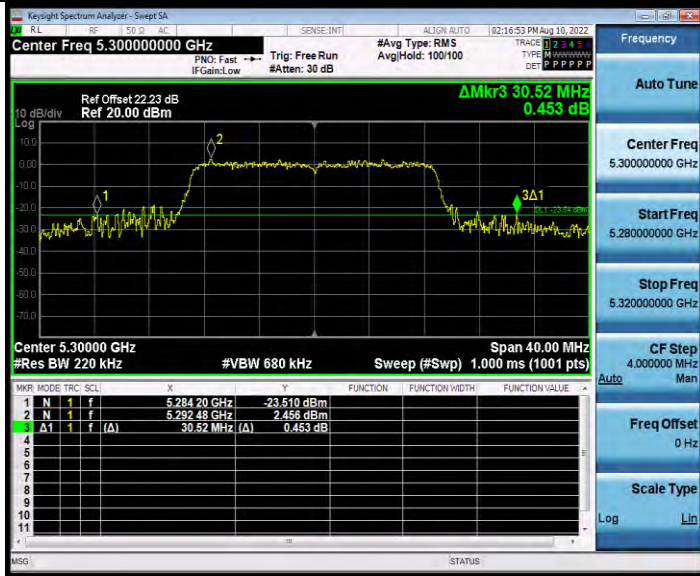
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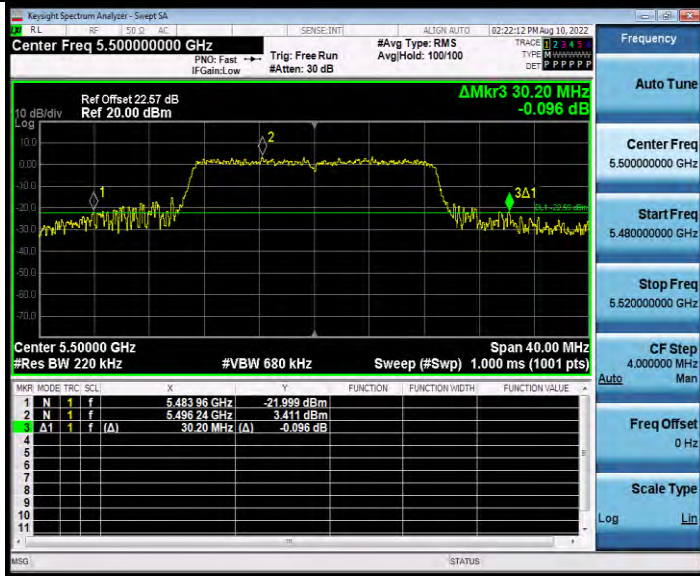
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11N20SISO_Ant1_5700

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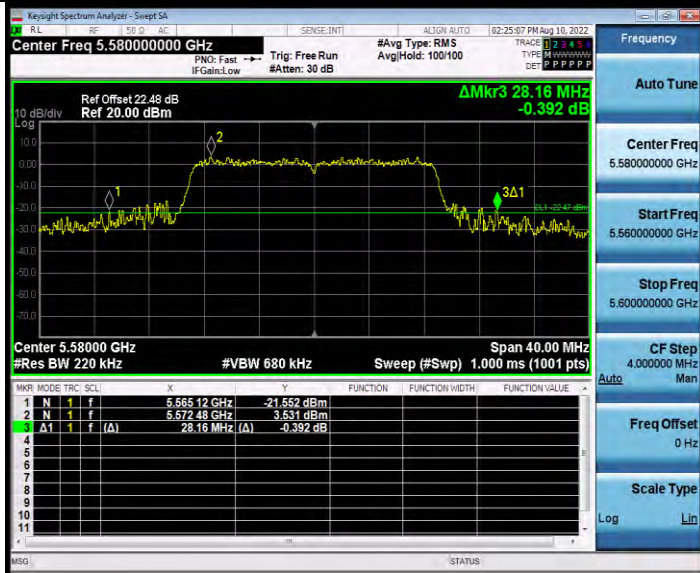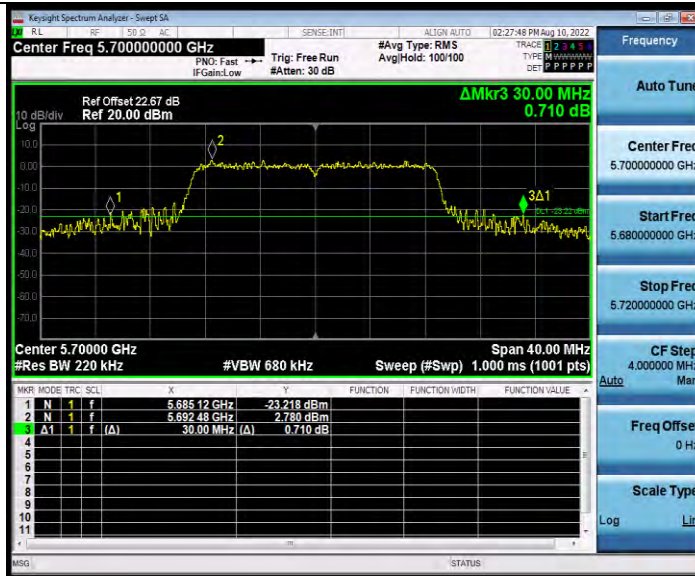
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11N20SISO_Ant1_5745

11N20SISO_Ant1_5785

11N20SISO_Ant1_5825

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Fax: +86 755 8869 6577
Email: customerservice.sw@bureauveritas.com

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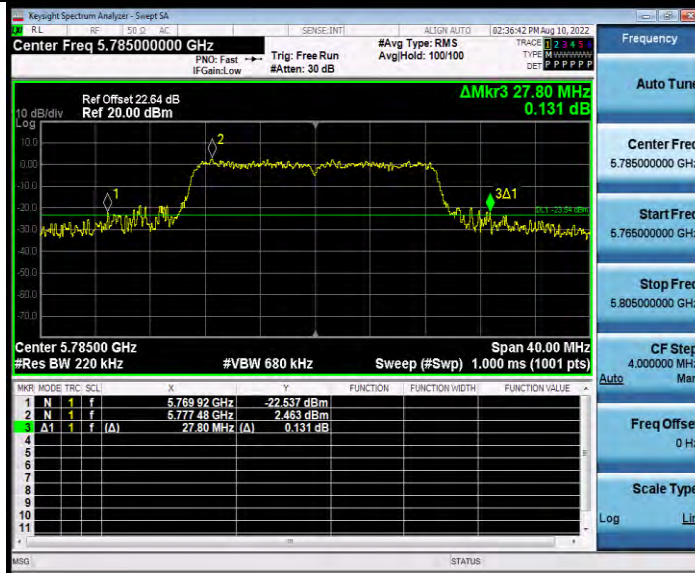
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11N40SISO_Ant1_5230

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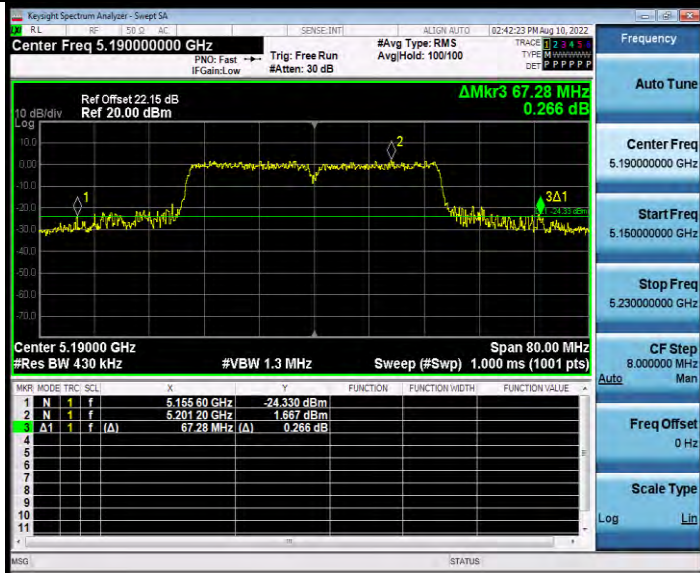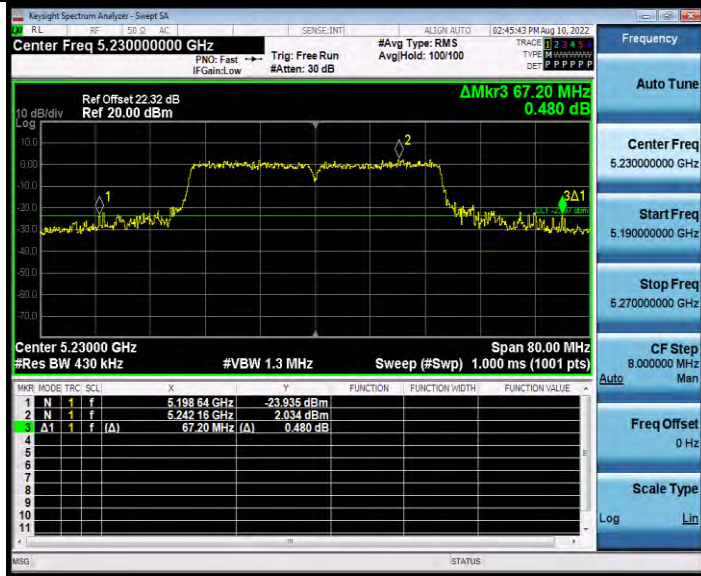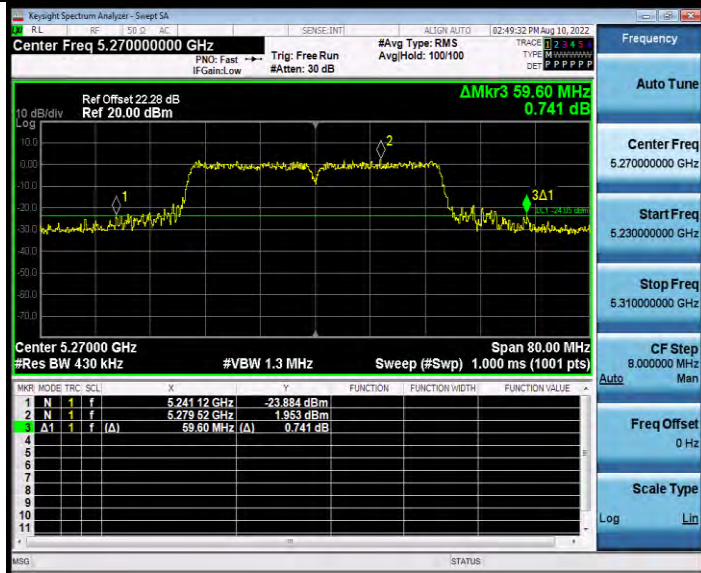
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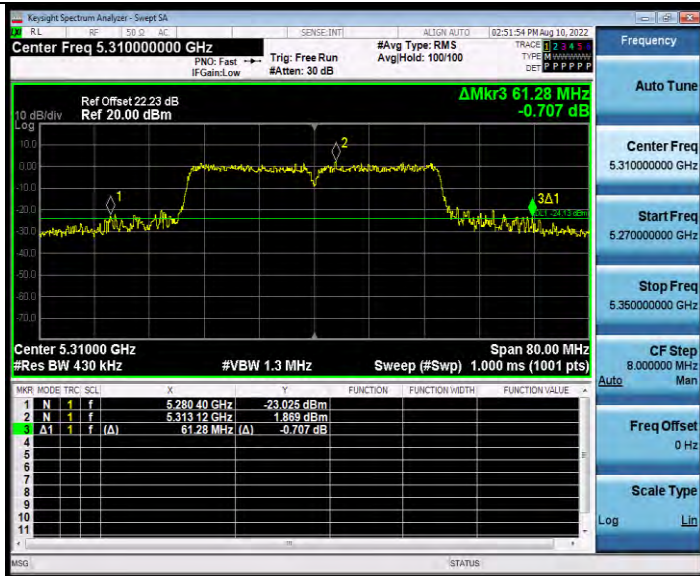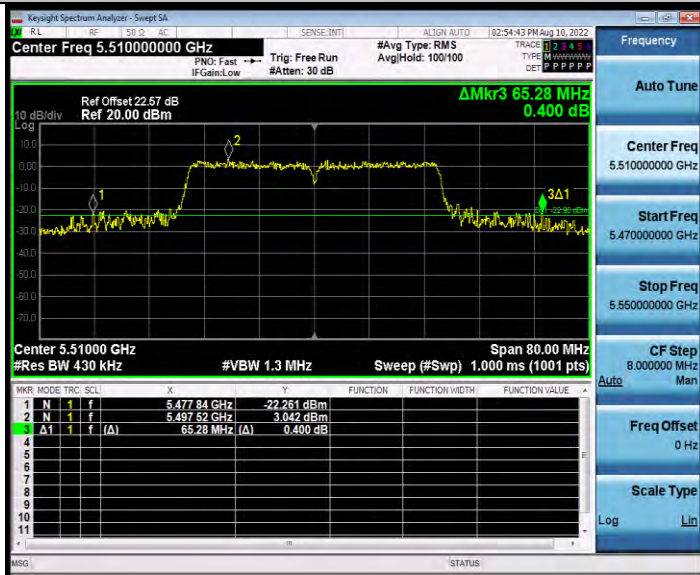
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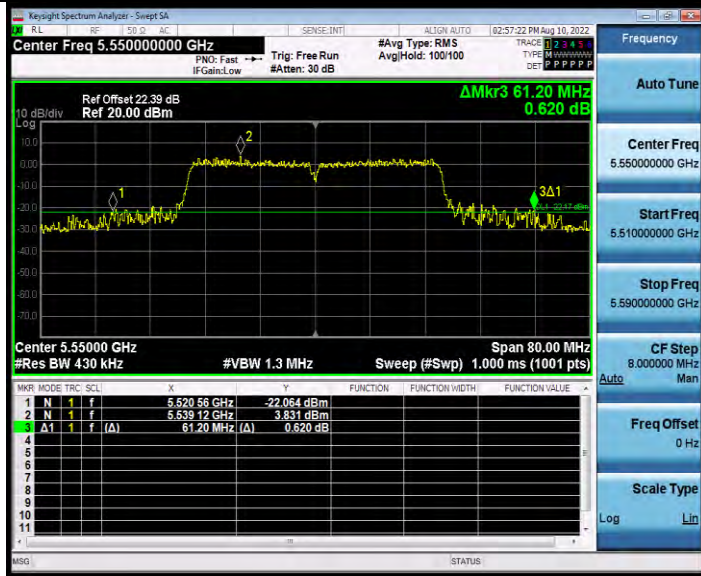
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11N40SISO_Ant1_5710

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Email: customerservice.sw@bureauveritas.com

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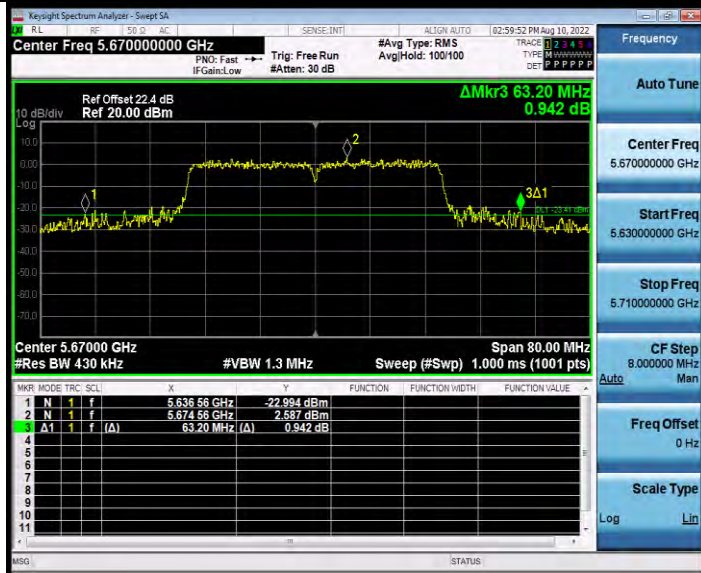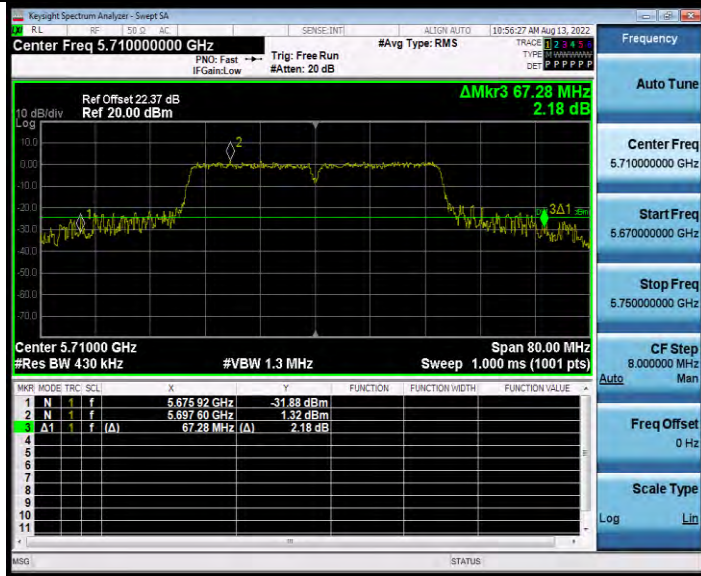
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11N40SISO_Ant1_5795

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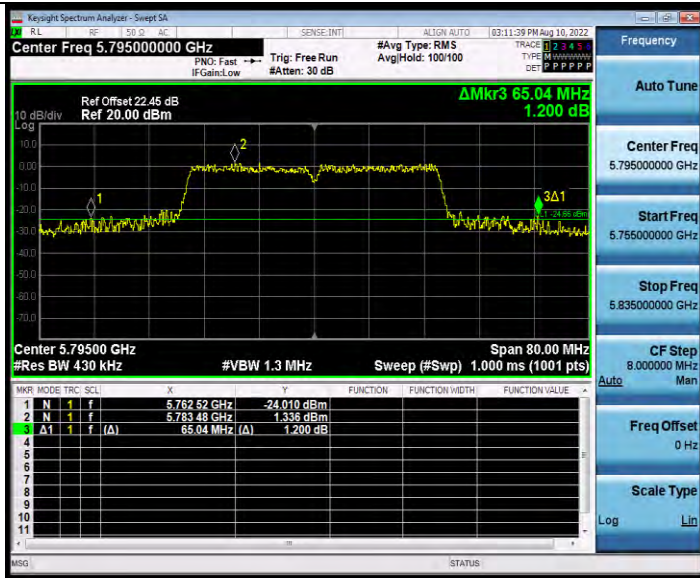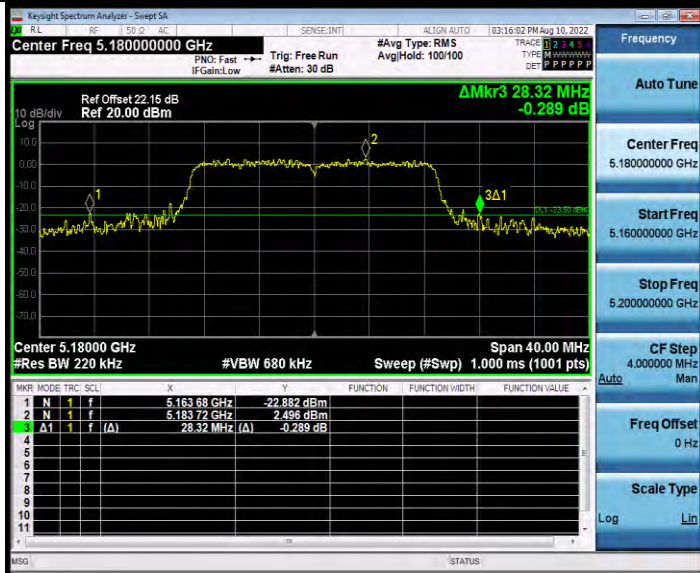
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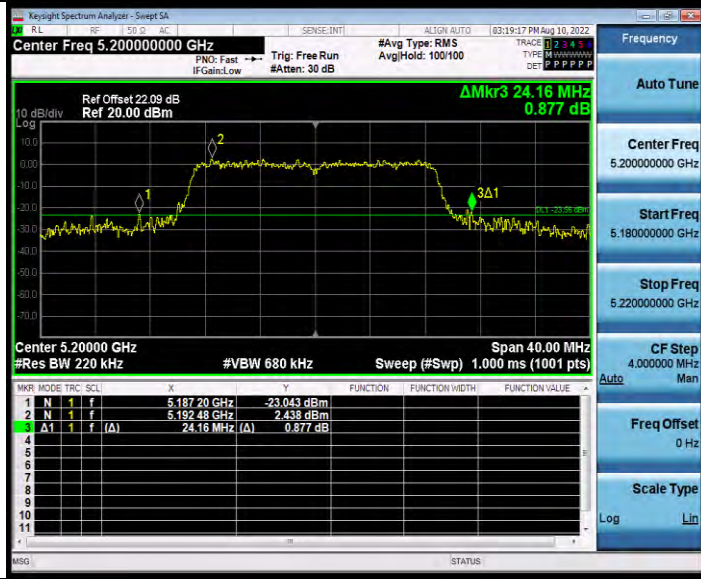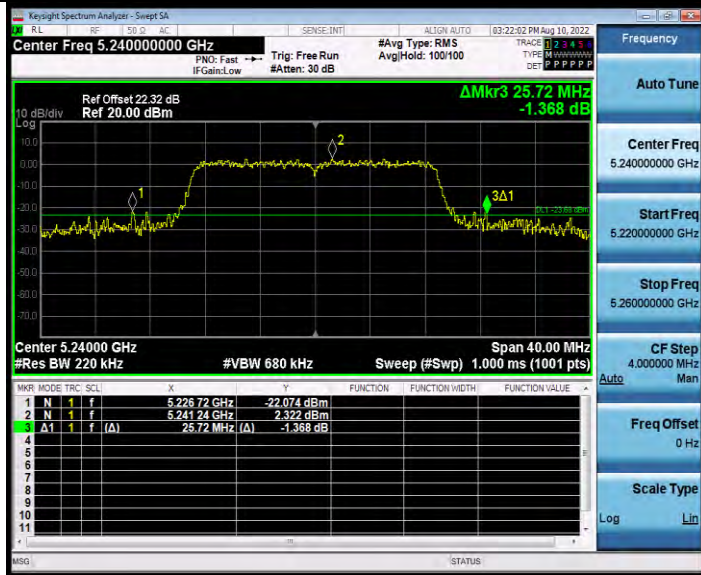
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11AC20SISO_Ant1_5320

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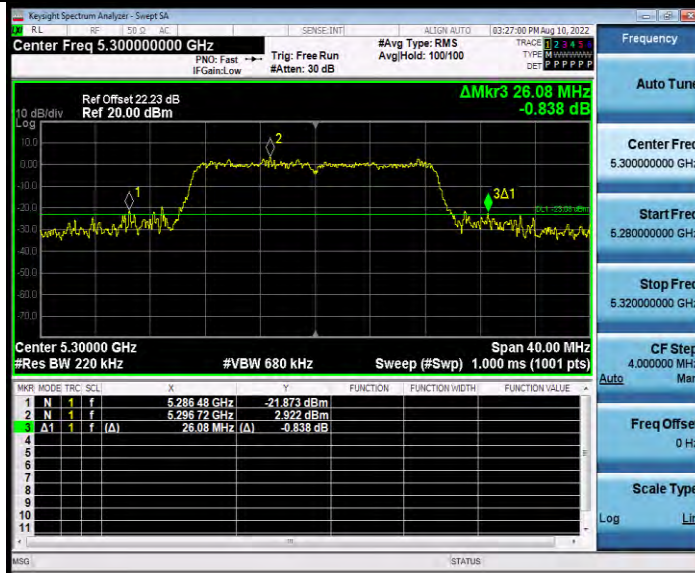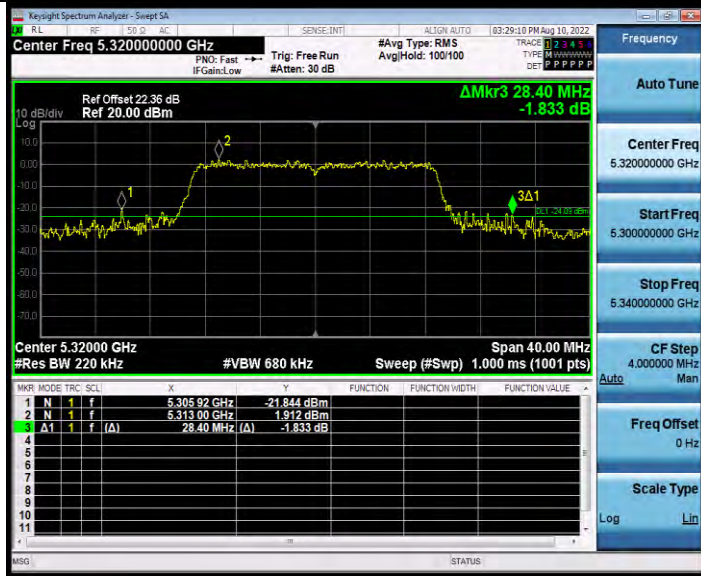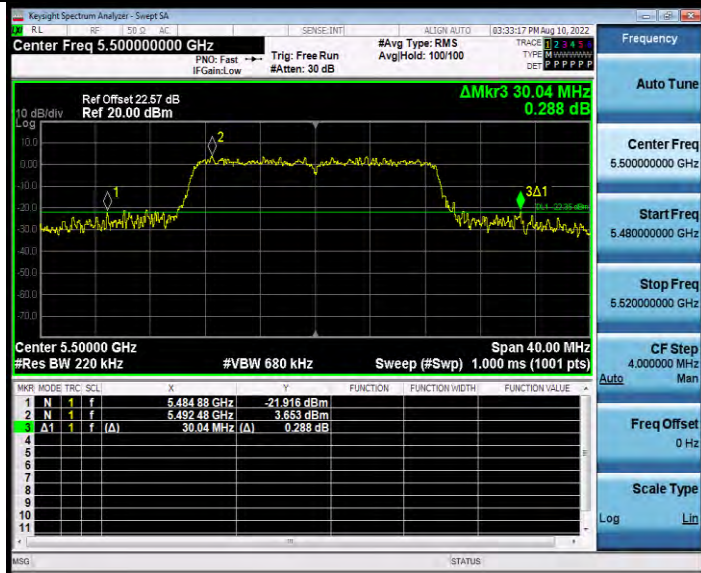
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11AC20SISO_Ant1_5720

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Email: customerservice.sw@bureauveritas.com

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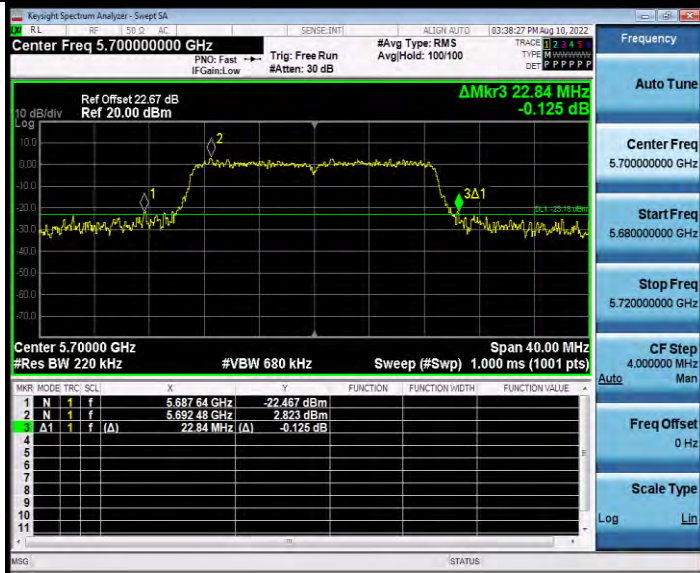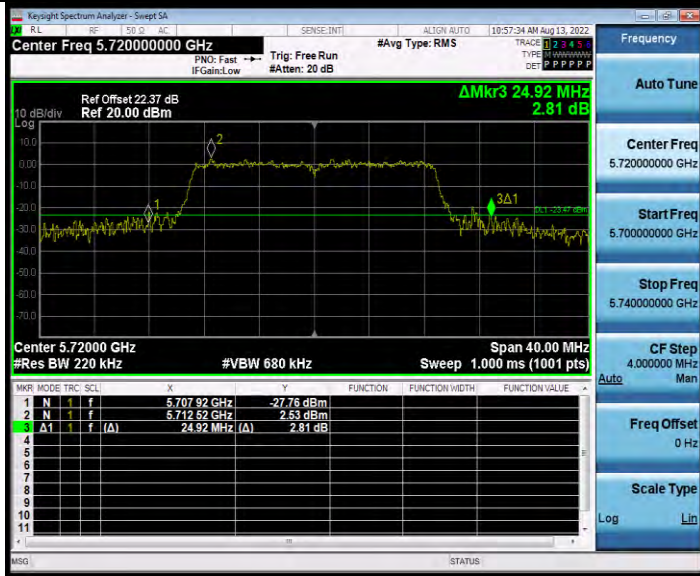
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11AC20SISO_Ant1_5785

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Email: customerservice.sw@bureauveritas.com

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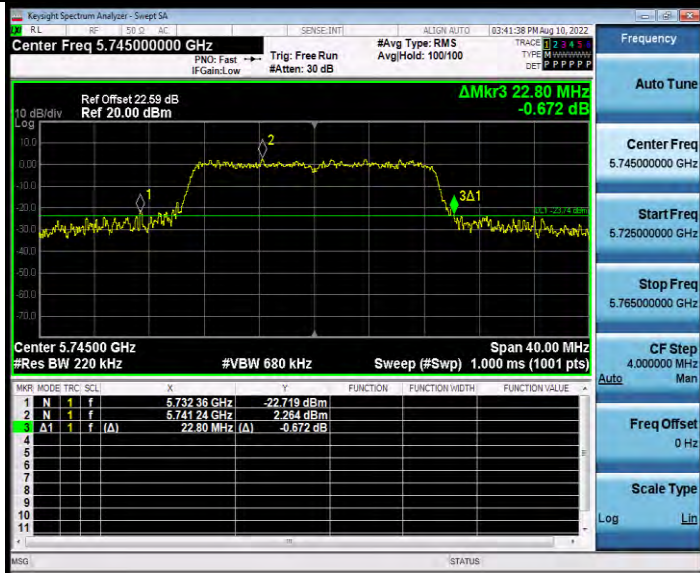
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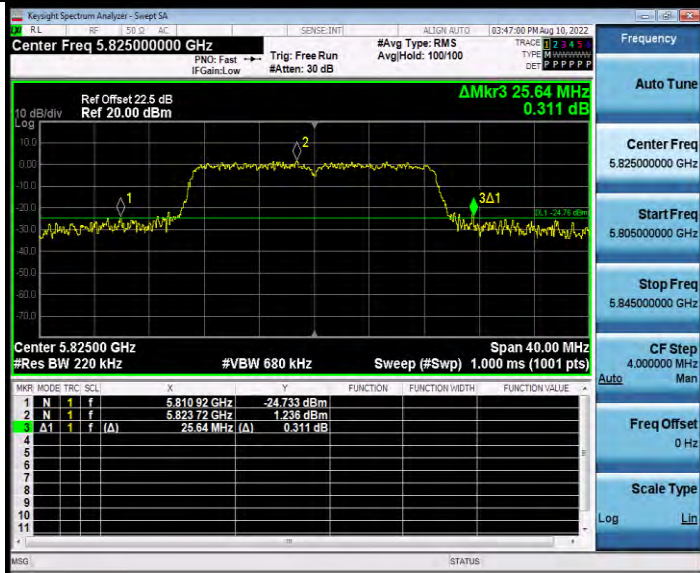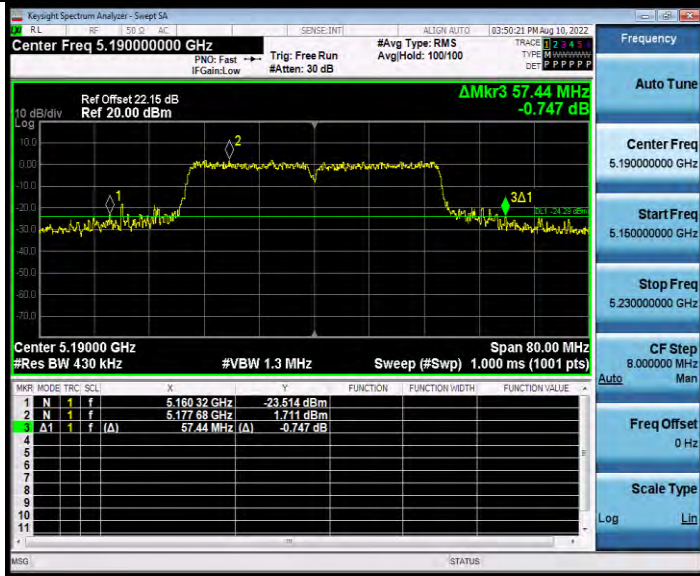
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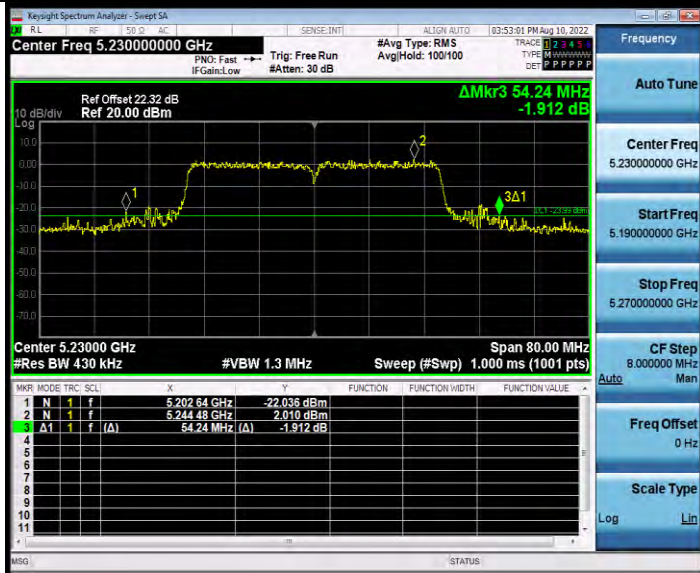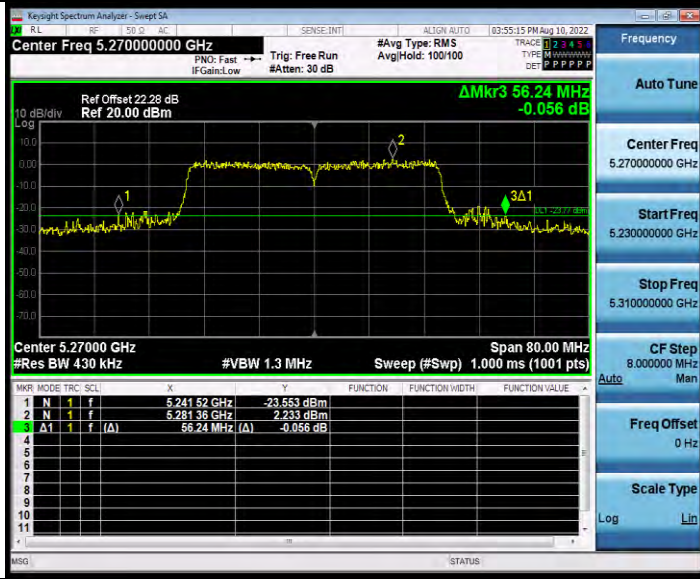
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11AC40SISO_Ant1_5510

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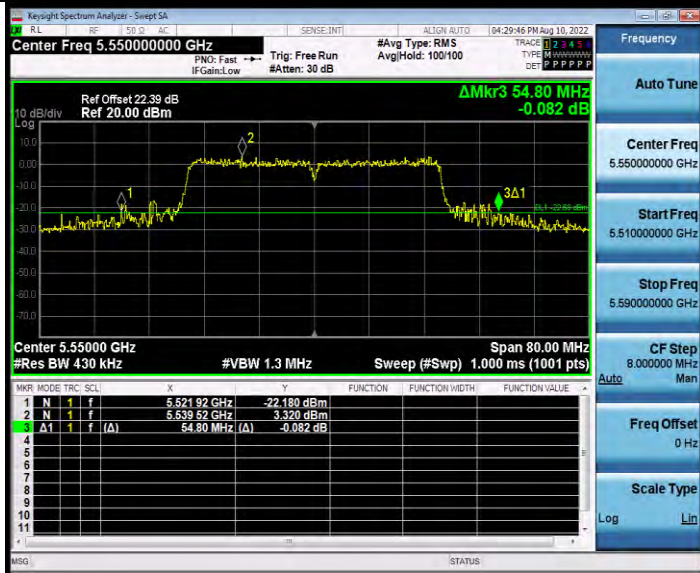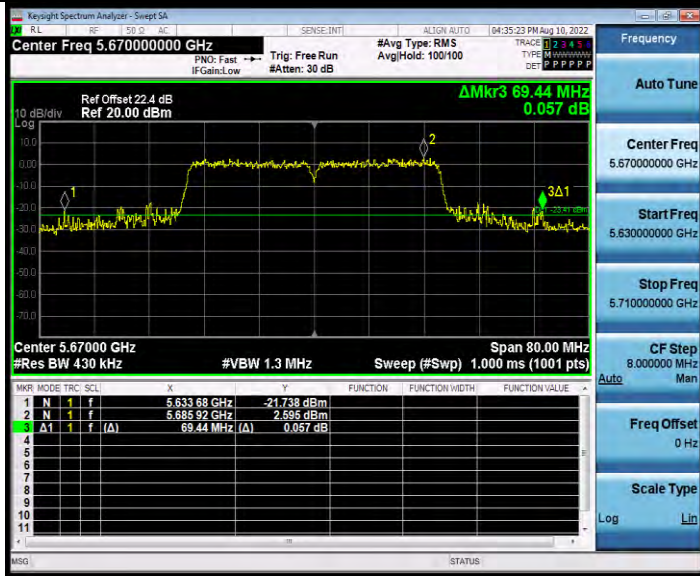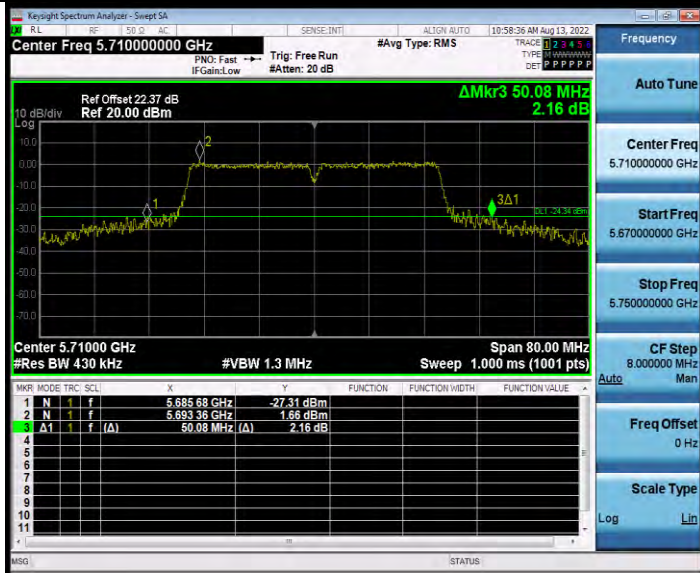
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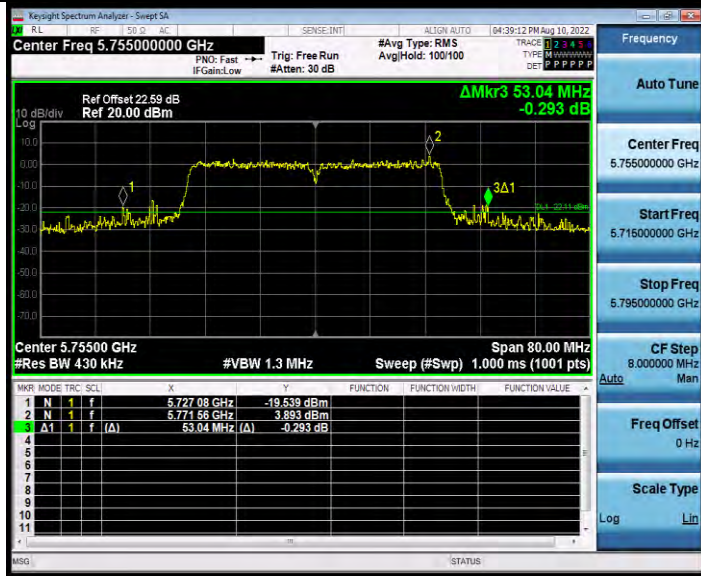
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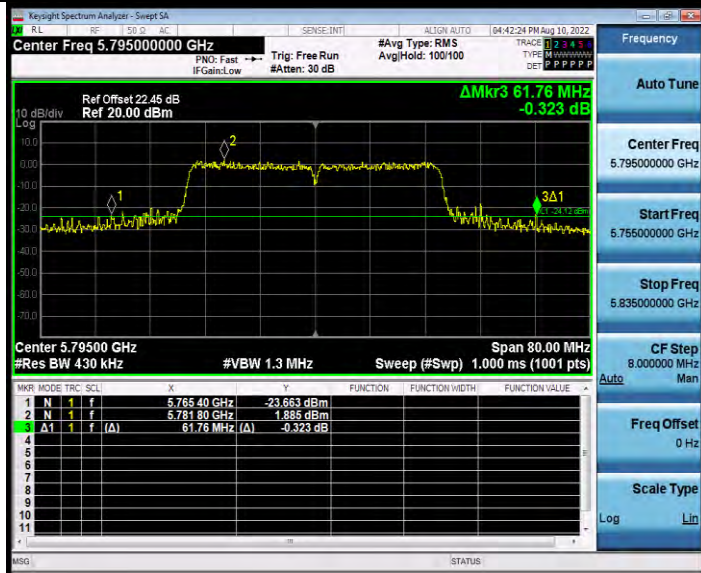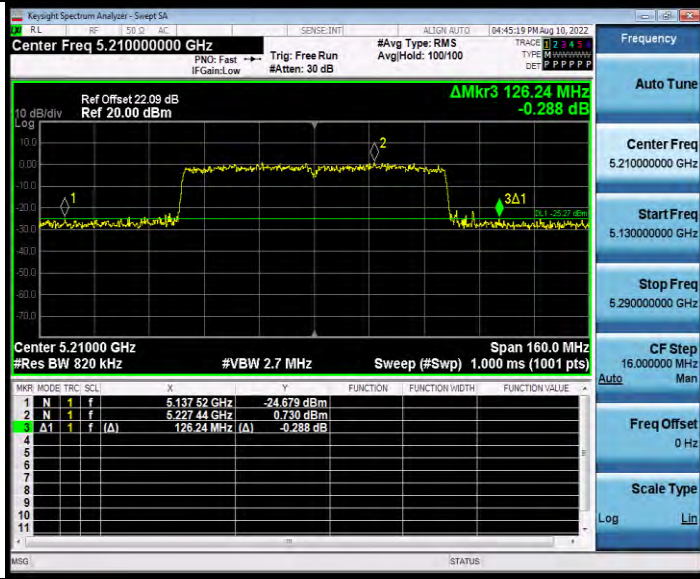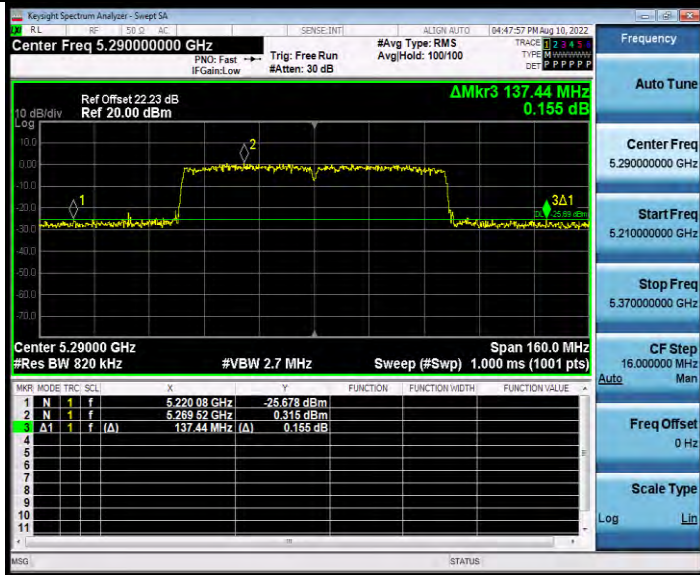
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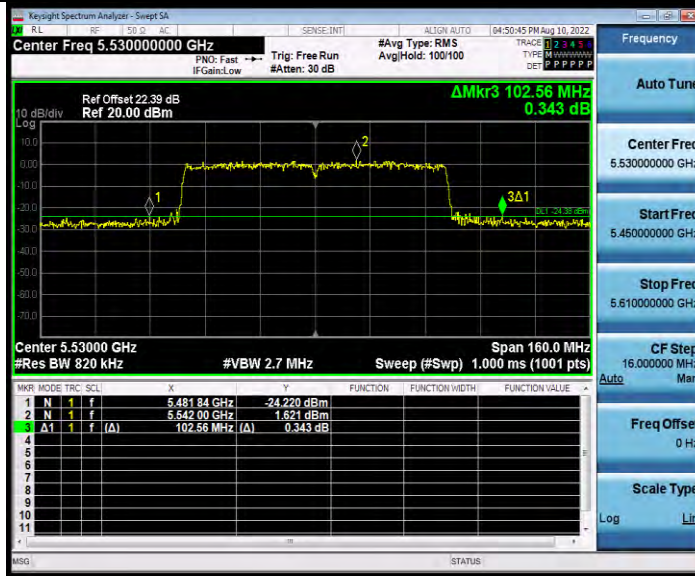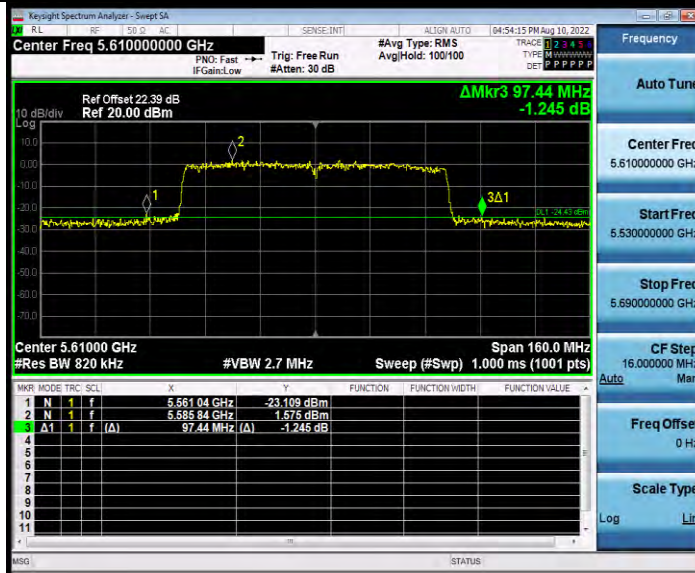
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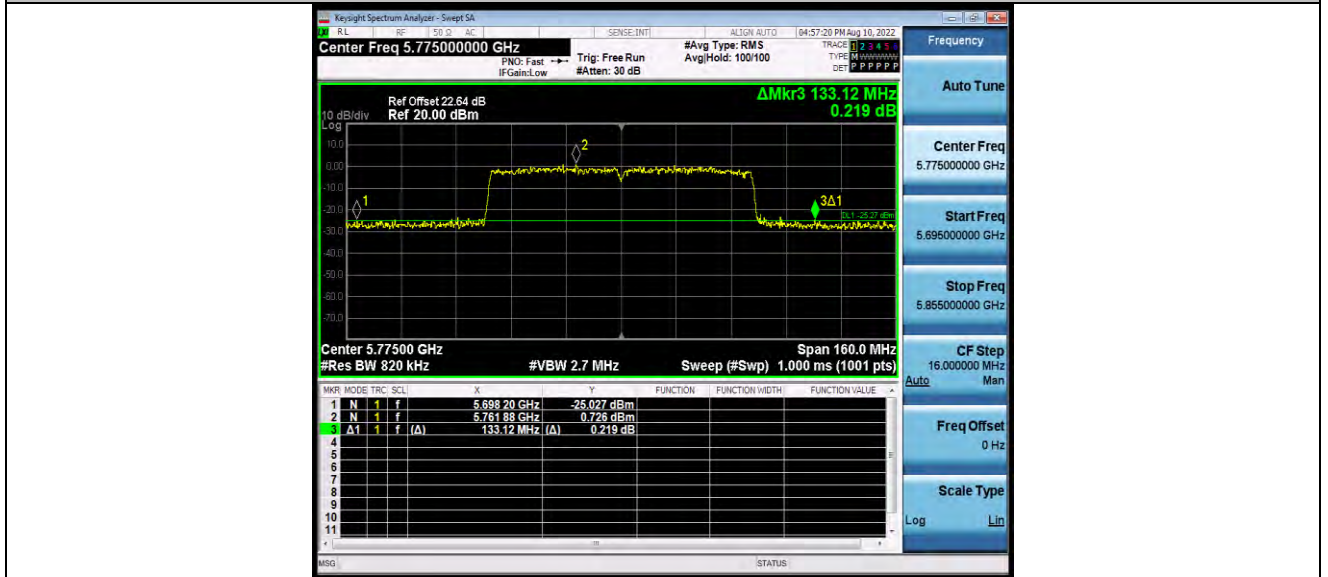
OCCUPIED CHANNEL BANDWIDTH

TEST RESULT

TestMode	Antenna	Frequency [MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11A	Ant1	5180	16.991	5171.463	5188.454	---	---
		5200	16.911	5191.529	5208.440	---	---
		5240	16.972	5231.503	5248.475	---	---
		5260	16.944	5251.519	5268.463	---	---
		5300	16.915	5291.509	5308.424	---	---
		5320	16.946	5311.479	5328.425	---	---
		5500	16.967	5491.469	5508.436	---	---
		5580	16.962	5571.477	5588.439	---	---
		5700	16.914	5691.528	5708.442	---	---
		5720	17.215	5711.3828	5728.5978	---	---
		5720_UNII-2C	13.617	5711.3828	5725	---	---
		5720_UNII-3	3.598	5725	5728.5978	---	---
		5745	16.967	5736.469	5753.436	---	---
		5785	16.909	5776.497	5793.406	---	---
		5825	16.974	5816.483	5833.457	---	---
11N20SISO	Ant1	5180	17.883	5171.014	5188.897	---	---
		5200	17.895	5191.009	5208.904	---	---
		5240	17.879	5231.025	5248.904	---	---
		5260	17.934	5251.0160	5268.9500	---	---
		5300	17.862	5291.059	5308.921	---	---
		5320	17.907	5311.020	5328.927	---	---
		5500	17.868	5491.041	5508.909	---	---
		5580	17.877	5571.054	5588.931	---	---
		5700	17.913	5691.022	5708.935	---	---
		5720	18.330	5710.8193	5729.1493	---	---
		5720_UNII-2C	14.181	5710.8193	5725	---	---
		5720_UNII-3	4.149	5725	5729.1493	---	---
		5745	17.877	5736.007	5753.884	---	---
		5785	17.904	5775.995	5793.899	---	---
		5825	17.894	5816.040	5833.934	---	---

BV 7Layers Communications Technology (Shenzhen) Co., Ltd

Room B37, Warehouse A5, No.3 Chiwan 4th Road, Zhaoshang Street, Nanshan District Shenzhen, Guangdong, People's Republic of China

Tel: +86 755 8869 6566
Fax: +86 755 8869 6577
Email: customerservice.sw@bureauveritas.com

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		5190	36.646	5171.591	5208.237	---	---
11N40SISO	Ant1	5230	36.656	5211.664	5248.320	---	---
		5270	36.594	5251.738	5288.332	---	---
		5310	36.516	5291.714	5328.230	---	---
		5510	36.715	5491.680	5528.395	---	---
		5550	36.527	5531.740	5568.267	---	---
		5670	36.498	5651.743	5688.241	---	---
		5710	37.343	5691.4222	5728.7652	---	---
		5710_UNII-2C	33.578	5691.4222	5725	---	---
		5710_UNII-3	3.765	5725	5728.7652	---	---
		5755	36.690	5736.653	5773.343	---	---
		5795	36.630	5776.640	5813.270	---	---
11AC20SISO	Ant1	5180	17.867	5171.043	5188.910	---	---
		5200	17.845	5191.064	5208.909	---	---
		5240	17.833	5231.075	5248.908	---	---
		5260	17.867	5251.030	5268.897	---	---
		5300	17.838	5291.057	5308.895	---	---
		5320	17.837	5311.050	5328.887	---	---
		5500	17.857	5491.036	5508.893	---	---
		5580	17.887	5571.020	5588.907	---	---
		5700	17.891	5691.051	5708.942	---	---
		5720	18.089	5710.9676	5729.0566	---	---
		5720_UNII-2C	14.032	5710.9676	5725	---	---
		5720_UNII-3	4.057	5725	5729.0566	---	---
		5745	17.860	5736.036	5753.896	---	---
		5785	17.849	5776.027	5793.876	---	---
		5825	17.866	5816.017	5833.883	---	---
11AC40SISO	Ant1	5190	36.588	5171.693	5208.281	---	---
		5230	36.479	5211.780	5248.259	---	---
		5270	36.584	5251.723	5288.307	---	---
		5310	36.506	5291.738	5328.244	---	---
		5510	36.667	5491.646	5528.313	---	---
		5550	36.543	5531.720	5568.263	---	---
		5670	36.678	5651.676	5688.354	---	---
		5710	36.980	5691.5525	5728.5325	---	---

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		5710_UNII-2C	33.448	5691.5525	5725	---	---
		5710_UNII-3	3.533	5725	5728.5325	---	---
		5755	36.657	5736.594	5773.251	---	---
		5795	36.655	5776.617	5813.272	---	---
11AC80SISO	Ant1	5210	76.047	5171.947	5247.994	---	---
		5290	76.156	5251.878	5328.034	---	---
		5530	75.960	5492.028	5567.988	---	---
		5610	76.188	5571.877	5648.065	---	---
		5690	76.032	5651.9947	5728.0267	---	---
		5690_UNII-2C	73.005	5651.9947	5725	---	---
		5690_UNII-3	3.027	5725	5728.0267	---	---
		5775	76.201	5736.867	5813.068	---	---

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Tel: +86 755 8869 6566
Fax: +86 755 8869 6577
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TEST GRAPHS

11A_Ant1_5180
11A_Ant1_5200
11A_Ant1_5240

BV 7Layers Communications Technology (Shenzhen) Co., Ltd

Room B37, Warehouse A5, No.3 Chiwan 4th Road, Zhaoshang Street, Nanshan District Shenzhen, Guangdong, People's Republic of China

Tel: +86 755 8869 6566
Fax: +86 755 8869 6577
Email: customerservice.sw@bureauveritas.com

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11A_Ant1_5260

11A_Ant1_5300

11A_Ant1_5320

11A_Ant1_5500