



TEST REPORT

ETSI EN 300 328 V2.2.2 (2019-07)

Product : Dash Camera
Model Name : S800 PRO
Serial Model : please see page 5
Brand : **imou**
Report No. : PTC25081318716E-EM02

Prepared for

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13th Floor, Building 3, No. 582, Liye Road, Changhe Street, Binjiang District, Hangzhou,
China (Zhejiang) Pilot Free Trade Zone

Prepared by

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Report No.: PTC25081318716E-EM02

1 TEST RESULT CERTIFICATION

Applicant's name : Hangzhou Huacheng Network Technology Co.,Ltd.
Address : 13th Floor, Building 3, No. 582, Liye Road, Changhe Street,
Binjiang District, Hangzhou, China (Zhejiang) Pilot Free Trade
Zone
Manufacture's name : Hangzhou Huacheng Network Technology Co.,Ltd.
Address : 13th Floor, Building 3, No. 582, Liye Road, Changhe Street,
Binjiang District, Hangzhou, China (Zhejiang) Pilot Free Trade
Zone
Product name : Dash Camera
Model name : S800 PRO
Serial Model : (please see page 5.)

This device described above has been tested by PTC, and the test results show that the equipment under test (EUT) is in compliance with the Radio equipment Directive - 2014/53/EU requirements. And it is applicable only to the tested sample identified in the report.

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Date of Test

Date (s) of performance of tests : Feb. 23, 2025 to Mar. 22, 2025

Date of Issue: Mar. 23, 2025

Test Result: **Pass**

Test Engineer:

Technical Manager:



Simon Pu / Manager



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2 Test Summary

ETSI EN 300 328 V2.2.2				
Clause	Test Item	Limit	Frequency Range (MHz)	Applicable (Yes/No)
TRANSMITTER PARAMETERS				
4.3.1.1	RF output power	20 dBm	2400-2483.5	Y
4.3.2.2	Power Spectral Density	10 dBm per MHz	2400-2483.5	Y
4.3.1.2	Duty Cycle, Tx-sequence, Tx-gap	5 ms	2400-2483.5	N
4.3.1.3	Dwell time, Minimum Frequency Occupation and Hopping Sequence	400 ms	2400-2483.5	N
4.3.1.4	Hopping Frequency Separation	>100K	2400-2483.5	N
4.3.1.5	Medium Utilisation (MU) factor	--	2400-2483.5	N
4.3.1.6	Adaptivity (Adaptive Frequency Hopping)	--	2400-2483.5	Y
4.3.1.7	Occupied Channel Bandwidth	20 MHz	2400-2483.5	Y
4.3.1.8	Transmitter unwanted emissions in the out-of-band domain	Clause 4.3.1.8.2	2400-2483.5	Y
4.3.1.9	Transmitter unwanted emissions in the spurious domain	Clause 4.3.2.8.2	2400-2483.5	Y
RECEIVER PARAMETERS				
4.3.1.10	Spurious emissions	-57dBm	30-1000	Y
		-47dBm	1000-12750	
4.3.1.11	Receiver Blocking	--	2400-2483.5	Y

Remark: N/A: Not Applicable

RF: In this whole report RF means Radio Frequency.

A.M. Amplitude Modulation.

P.M. Pulse Modulation.



3 General Information

3.1 General Description of E.U.T.

Product Name	:	Dash Camera
Model Number	:	S800 PRO
Additional model	:	S1; S1 PRO; S1 PLUS; S1 MAX; S2; S2 PRO; S2 PLUS; S2 MAX; S3; S3 PRO; S3 PLUS; S3 MAX; S4; S4 PRO; S4 PLUS; S4 MAX; S5; S5 PRO; S5 PLUS; S5 MAX; S6; S6 PRO; S6 PLUS; S6 MAX; S7; S7 PRO; S7 PLUS; S7 MAX; S8; S8 PRO; S8 PLUS; S8 MAX; S9; S9 PRO; S9 PLUS; S9 MAX; S10; S10 PRO; S10 PLUS; S10 MAX; S11; S11 PRO; S11 PLUS; S11 MAX; S12; S12 PRO; S12 PLUS; S12 MAX; S13; S13 PRO; S13 PLUS; S13 MAX; S14; S14 PRO; S14 PLUS; S14 MAX; S15; S15 PRO; S15 PLUS; S15 MAX; S100; S100 PRO; S100 PLUS; S100 MAX; S200; S200 PRO; S200 PLUS; S200 MAX; S300; S300 PRO; S300 PLUS; S300 MAX; S400; S400 PRO; S400 PLUS; S400 MAX; S500; S500 PRO; S500 PLUS; S500 MAX; S600; S600 PRO; S600 PLUS; S600 MAX; S700; S700 PRO; S700 PLUS; S700 MAX; S800; S800 PRO; S800 PLUS; S800 MAX; M1; M1 PRO; M1 PLUS; M1 MAX; M2; M2 PRO; M2 PLUS; M2 MAX; M3; M3 PRO; M3 PLUS; M3 MAX; M4; M4 PRO; M4 PLUS; M4 MAX; M5; M5 PRO; M5 PLUS; M5 MAX; M6; M6 PRO; M6 PLUS; M6 MAX; M7; M7 PRO; M7 PLUS; M7 MAX; M8; M8 PRO; M8 PLUS; M8 MAX; M9; M9 PRO; M9 PLUS; M9 MAX; M10; M10 PRO; M10 PLUS; M10 MAX; M11; M11 PRO; M11 PLUS; M11 MAX; M12; M12 PRO; M12 PLUS; M12 MAX; M13; M13 PRO; M13 PLUS; M13 MAX; M14; M14 PRO; M14 PLUS; M14 MAX; M15; M15 PRO; M15 PLUS; M15 MAX; M100; M100 PRO; M100 PLUS; M100 MAX; M200; M200 PRO; M200 PLUS; M200 MAX; M300; M300 PRO; M300 PLUS; M300 MAX; M400; M400 PRO; M400 PLUS; M400 MAX; M500; M500 PRO; M500 PLUS; M500 MAX; M600; M600 PRO; M600 PLUS; M600 MAX; M700; M700 PRO; M700 PLUS; M700 MAX; M800; M800 PRO; M800 PLUS; M800 MAX; T1; T1 PRO; T1 PLUS; T1 MAX; T2; T2 PRO; T2 PLUS; T2 MAX; T3; T3 PRO; T3 PLUS; T3 MAX; T4;



	T4 PRO; T4 PLUS; T4 MAX; T5; T5 PRO; T5 PLUS; T5 MAX; T6; T6 PRO; T6 PLUS; T6 MAX; T7; T7 PRO; T7 PLUS; T7 MAX; T8; T8 PRO; T8 PLUS; T8 MAX; T9; T9 PRO; T9 PLUS; T9 MAX; T10; T10 PRO; T10 PLUS; T10 MAX; T11; T11 PRO; T11 PLUS; T11 MAX; T12; T12 PRO; T12 PLUS; T12 MAX; T13; T13 PRO; T13 PLUS; T13 MAX; T14; T14 PRO; T14 PLUS; T14 MAX; T15; T15 PRO; T15 PLUS; T15 MAX; T100; T100 PRO; T100 PLUS; T100 MAX; T200; T200 PRO; T200 PLUS; T200 MAX; T300; T300 PRO; T300 PLUS; T300 MAX; T400; T400 PRO; T400 PLUS; T400 MAX; T500; T500 PRO; T500 PLUS; T500 MAX; T600; T600 PRO; T600 PLUS; T600 MAX; T700; T700 PRO; T700 PLUS; T700 MAX; T800; T800 PRO; T800 PLUS; T800 MAX; H1; H1 PRO; H1 PLUS; H1 MAX; H2; H2 PRO; H2 PLUS; H2 MAX; H3; H3 PRO; H3 PLUS; H3 MAX; H4; H4 PRO; H4 PLUS; H4 MAX; H5; H5 PRO; H5 PLUS; H5 MAX; H6; H6 PRO; H6 PLUS; H6 MAX; H7; H7 PRO; H7 PLUS; H7 MAX; H8; H8 PRO; H8 PLUS; H8 MAX; H9; H9 PRO; H9 PLUS; H9 MAX; H10; H10 PRO; H10 PLUS; H10 MAX; H11; H11 PRO; H11 PLUS; H11 MAX; H12; H12 PRO; H12 PLUS; H12 MAX; H13; H13 PRO; H13 PLUS; H13 MAX; H14; H14 PRO; H14 PLUS; H14 MAX; H15; H15 PRO; H15 PLUS; H15 MAX; H100; H100 PRO; H100 PLUS; H100 MAX; H200; H200 PRO; H200 PLUS; H200 MAX; H300; H300 PRO; H300 PLUS; H300 MAX; H400; H400 PRO; H400 PLUS; H400 MAX; H500; H500 PRO; H500 PLUS; H500 MAX; H600; H600 PRO; H600 PLUS; H600 MAX; H700; H700 PRO; H700 PLUS; H700 MAX; H800; H800 PRO; H800 PLUS; H800 MAX; R1; R1 PRO; R1 PLUS; R1 MAX; R2; R2 PRO; R2 PLUS; R2 MAX; R3; R3 PRO; R3 PLUS; R3 MAX; R4; R4 PRO; R4 PLUS; R4 MAX; R5; R5 PRO; R5 PLUS; R5 MAX; R6; R6 PRO; R6 PLUS; R6 MAX; R7; R7 PRO; R7 PLUS; R7 MAX; R8; R8 PRO; R8 PLUS; R8 MAX; R9; R9 PRO; R9 PLUS; R9 MAX; R10; R10 PRO; R10 PLUS; R10 MAX; DH01; DH01PRO; DH01PLUS; DH01MAX; DH02; DH02PRO; DH02PLUS; DH02MAX; DH03; DH03PRO; DH03PLUS; DH03MAX; DH04; DH04PRO; DH04PLUS; DH04MAX; DH05; DH05PRO; DH05PLUS; DH05MAX; DH06; DH06PRO; DH06PLUS; DH06MAX; DH07; DH07PRO; DH07PLUS; DH07MAX; DH08; DH08PRO;
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		DH08PLUS; DH08MAX; DH09; DH09PRO; DH09PLUS; DH09MAX; DH10; DH10PRO; DH10PLUS; DH10MAX; P060S; P060V; P060P; P1200; P080S; P080V; P080P; P1400; P100S; P100V; P100P; P1600; P120S; P120V; P120P; P1800; P140S; P140V; P140P; P2000; P160S; P160V; P160P; P2200; P180S; P180V; P180P; P2400; P200S; P200V; P200P; P2600; P220S; P220V; P220P; P2800; P240S; P240V; P240P; P3000;
Specification	:	802.11 b/g/n20/n40
Operating frequency	:	2412 MHz to 2472 MHz ,13 channels
Antenna installation:	:	chip antenna
Type of Modulation	:	DSSS with DBPSK/DQPSK/CCK for 802.11b; OFDM with BPSK/QPSK/16QAM/64QAM for 802.11g/n;
Antenna Gain	:	3.59 dBi
Power supply	:	DC 3.7V li-on battery or DC 5V 1.5A via adapter DC 12V battery
Hardware version	:	N/A
Software version	:	N/A



3.2 Channel List

Wi-Fi 2.4G Frequency and Channel list for 802.11b/g/n(HT20):

Channel List for 802.11b/g/n(20MHz)							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
01	2412	05	2432	09	2452	13	2472
02	2417	06	2437	10	2457		
03	2422	07	2442	11	2462		
04	2427	08	2447	12	2467		

Test Wi-Fi 2.4G Frequency and Channel for 802.11b/g/n(HT20):

Lowest Frequency		Middle Frequency		Highest Frequency	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	2412	7	2442	13	2472

Test Wi-Fi 2.4G Frequency and Channel for 802.11b/g/n(HT40):

Lowest Frequency		Middle Frequency		Highest Frequency	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
03	2422	7	2442	11	2462



4 Equipment During Test

4.1 Equipments List

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibration Interval
1	EMC Analyzer (9k~26.5GHz)	Agilent	E4407B	MY45109572	Aug. 22,2024	1 Year
2	EXA Signal Analyzer	Keysight	N9010A	MY5052020752 6B25MPBW7X	Aug. 22,2024	1 Year
3	EMI Test Receiver	R&S	ESCI	101155	Aug. 22,2024	1 Year
4	EMI Test Receiver	Rohde&Schwarz	ESCI	101417	Aug. 22,2024	1 Year
5	Trilog Broadband Antenna	SCHWARZECK	VULB9160	9160-3355	Aug. 22,2024	1 Year
6	Amplifier	EM	EM-30180	060538	Aug. 22,2024	1 Year
7	Horn Antenna	SCHWARZECK	BBHA9120D	9120D-1246	Aug. 22,2024	1 Year
8	Loop Antenna	SCHWARZECK	FMZB1516	9130D-1243	Aug. 22,2024	1 Year
9	USB RF power sensor	DARE	RPR3006W	15I00041SNO03	Aug. 22,2024	1 Year
10	USB RF power sensor	DARE	RPR3006W	15I00041SNO04	Aug. 22,2024	1 Year
11	PreAmplifier	Agilent	8449B	60538	Aug. 22,2024	1 Year
12	Temperature& Humidity test chamber	GZGONGWEN	GDS-250	080821	Aug. 22,2024	1 Year
13	Signal Generator	Agilent	N5182A	MY46240556	Aug. 22,2024	1 Year
14	Signal Analyzer	Agilent	N9020A	MY49100060	Aug. 22,2024	1 Year



4.2 Measurement Uncertainty

Parameter	Uncertainty
Occupied Channel Bandwidth	$\pm 5\%$
RF output power, conducted	$\pm 1.5\text{dB}$
Power Spectral Density, conducted	$\pm 3\text{dB}$
Unwanted Emissions, conducted	$\pm 3\text{dB}$
All emissions, radiated	$\pm 6\text{dB}$
Time	$\pm 2\%$
Duty Cycle	$\pm 2\%$
Temperature	$\pm 1^\circ\text{C}$
Humidity	$\pm 5\%$
DC and low frequency voltages	$\pm 3\%$
Conduction disturbance(150kHz~30MHz)	$\pm 3.26\text{dB}$
Radiated Emission(30MHz~1GHz)	$\pm 4.76\text{dB}$
Radiated Emission(1GHz~25GHz)	$\pm 5.39\text{dB}$



5 RF Requirements

1. Normal Test Conditions:

Ambient Condition: 3.7VDC, 20 °C

2. Extreme Test Conditions:

Extreme Temperature: -10°C to +45°C;

For tests at extreme temperatures, measurements shall be made over the extremes of the operating temperature range as declared by the manufacturer.

Extreme Power Source Voltages: 4.04VDC

For tests at extreme voltages, measurements shall be made over the extremes of the power source voltage range as declared by the manufacturer.

Test Conditions	Normal	LTV	HTV
Temperature (°C)	20	-10	45
Voltage (V)	3.7	3.33	4.07

3. Test Mode

All test mode(s) and condition(s) mentioned were considered and evaluated respectively by performing full tests, the worst data were recorded and reported.

Channel List for 802.11b/g/n(20MHz)		
Test Channel	EUT Channel	Test Frequency (MHz)
lowest	CH01	2412
middle	CH07	2442
highest	CH13	2472

Channel List for 802.11b/g/n(40MHz)		
Test Channel	EUT Channel	Test Frequency (MHz)
lowest	CH03	2422
middle	CH07	2442
highest	CH11	2462



4. Additional Information

EN 300 328	Information Is Provided By The Manufacturer	
The type of modulation used by the equipment	☐ FHSS ☒ other forms of modulation	
Adaptive/non-adaptive equipment:	☐ non-adaptive Equipment ☒ adaptive Equipment without the possibility to switch to a non-adaptive mode ☐ adaptive Equipment which can also operate in a non-adaptive mode	
In case of adaptive equipment:	The maximum Channel Occupancy Time implemented by the equipment: ☐ The equipment has implemented an LBT based DAA mechanism case of equipment using modulation different from FHSS: ☐ The equipment is Frame Based equipment ☐ The equipment is Load Based equipment ☐ The equipment can switch dynamically between Frame Based and Load Based equipment The CCA time implemented by the equipment: ☐ The equipment has implemented an non-LBT based DAA mechanism ☐ The equipment can operate in more than one adaptive mode	
The worst case operational mode for each of the following tests:	RF Output Power Power Spectral Density Duty Cycle, Tx-Sequence, Tx-gap. Medium Utilisation. Adaptivity (adaptive equipment using modulations other than FHSS) Occupied Channel Bandwidth Transmitter Unwanted Emissions in the OOB domain. Transmitter Unwanted Emissions in the spurious domain Receiver spurious emissions Receiver Blocking.	PASS PASS N/A N/A PASS PASS PASS PASS PASS



The different transmit operating modes (tick all that apply):	☒ Operating mode 1: Single Antenna Equipment ☐ Equipment with only 1 antenna ☐ Equipment with 2 diversity antennas but only 1 antenna active at any moment in time ☒ Smart Antenna Systems with 2 or more antennas, but operating in a (legacy) mode where only 1 antenna is used. (e.g. IEEE 802.11™ [i.3] legacy mode in smart antenna systems) ☐ Operating mode 2: Smart Antenna Systems - Multiple Antennas without beam forming ☐ Single spatial stream / Standard throughput / (e.g. IEEE 802.11™ [i.3] legacy mode) ☐ High Throughput (> 1 spatial stream) using Occupied Channel Bandwidth 1 ☐ High Throughput (> 1 spatial stream) using Occupied Channel Bandwidth 2 ☐ Operating mode 3: Smart Antenna Systems - Multiple Antennas with beam forming ☐ Single spatial stream / Standard throughput (e.g. IEEE 802.11™ [i.3] legacy mode) ☐ High Throughput (> 1 spatial stream) using Occupied Channel Bandwidth 1 ☐ High Throughput (> 1 spatial stream) using Occupied Channel Bandwidth 2
Operating Frequency Range(s) of the equipment:	Operating Frequency Range: 2412 MHz to 2472 MHz
Type of Equipment (stand-alone, combined, plug-in radio device, etc.):	☒ Stand-alone ☐ Combined Equipment (Equipment where the radio part is fully integrated within another type of equipment) ☐ Plug-in radio device (Equipment intended for a variety of host systems) ☐ Other
Describe the test modes available which can facilitate testing:	Modulation Mode: DSSS with DBPSK/DQPSK/CCK for OFDM with 802.11b; BPSK/QPSK/16QAM/64QAM for 802.11g/n; Test Frequency: Low Frequency, Middle Frequency, High Frequency
The equipment type (e.g. Bluetooth®, IEEE 802.11™ [i.3], proprietary, etc.):	802.11b/g/HT20/HT40
NOTE: N/A means not applicable	



5.1 RF Output power

5.1.1 Definition

The RF output power is defined as the mean equivalent isotropically radiated power (e.i.r.p.) of the equipment during a transmission burst.

5.1.2 Limit

For adaptive equipment using wide band modulations other than FHSS, the maximum RF output power shall be 20 dBm.

The maximum RF output power for non-adaptive equipment shall be declared by the supplier and shall not exceed 20 dBm. See clause 5.3.1 m). For non-adaptive equipment using wide band modulations other than FHSS, the maximum RF output power shall be equal to or less than the value declared by the supplier.

5.1.3 EUT Operation Condition

The EUT was programmed to be in continuously transmitting mode.

5.1.4 Test Procedure

Step 1:

Use a fast power sensor suitable for 2.4 GHz and capable of minimum 1 MS/s.

Use the following settings:

- Sample speed 1 MS/s or faster.
- The samples shall represent the RMS power of the signal.
- Measurement duration: For non-adaptive equipment: equal to the observation period defined in clause 4.3.1.3.2 or clause 4.3.2.4.2. For adaptive equipment, the measurement duration shall be long enough to ensure a minimum number of bursts (at least 10) are captured.

NOTE 1: For adaptive equipment, to increase the measurement accuracy, a higher number of bursts may be used.

Step 2:

For conducted measurements on devices with one transmit chain:

- Connect the power sensor to the transmit port, sample the transmit signal and store the raw data.

Use these stored samples in all following steps.

For conducted measurements on devices with multiple transmit chains:

- Connect one power sensor to each transmit port for a synchronous measurement on all transmits ports.
- Trigger the power sensors so that they start sampling at the same time. Make sure the time difference between the samples of all sensors is less than 500 ns.
- For each individual sampling point (time domain), sum the coincident power samples of all ports and store them. Use these summed samples in all following steps.

Step 3:

Find the start and stop times of each burst in the stored measurement samples.

The start and stop times are defined as the points where the power is at least 30 dB below the highest



value of the stored samples in step 2.

NOTE 2: In case of insufficient dynamic range, the value of 30 dB may need to be reduced appropriately.

Step 4:

Between the start and stop times of each individual burst calculate the RMS power over the burst using the formula below. Save these P burst values, as well as the start and stop times for each burst.

$$P_{burst} = \frac{1}{k} \sum_{n=1}^k P_{sample}(n)$$

With 'k' being the total number of samples and 'n' the actual sample number

Step 5:

The highest of all P burst values (value "A" in dBm) will be used for maximum e.i.r.p. calculations.

Step 6:

Add the (stated) antenna assembly gain "G" in dBi of the individual antenna.

If applicable, add the additional beamforming gain "Y" in dB.

If more than one antenna assembly is intended for this power setting, the maximum overall antenna gain (G or G + Y) shall be used.

The RF Output Power (P) shall be calculated using the formula below:

$$P = A + G + Y$$

1. This value, which shall comply with the limit given in clause 4.3.1.2.3 or clause 4.3.2.2.3, shall be recorded in the test report.



5.1.5 Measurement Record

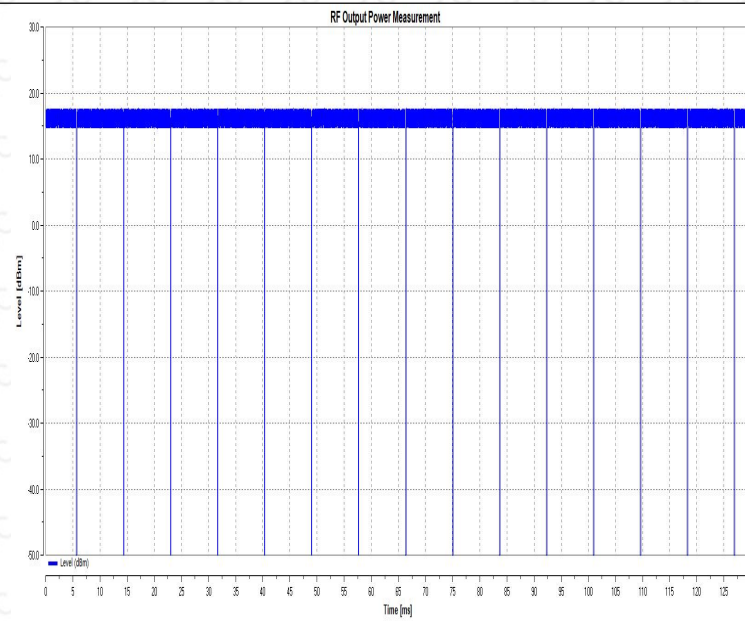
Test Condition	Test Mode	Antenna	Frequency [MHz]	Set Power	Burst Power [dBm]	Gain [dBi]	EIRP [dBm]	EIRP Limit [dBm]	Verdict
NTNV	11B	Ant1	2412	NA	15.71	0	15.71	20	PASS
NTNV	11B	Ant1	2442	NA	15.46	0	15.46	20	PASS
NTNV	11B	Ant1	2472	NA	16.42	0	16.42	20	PASS
NTNV	11G	Ant1	2412	NA	16.00	0	16.00	20	PASS
NTNV	11G	Ant1	2442	NA	15.80	0	15.80	20	PASS
NTNV	11G	Ant1	2472	NA	17.82	0	17.82	20	PASS
NTNV	11N20SIS O	Ant1	2412	NA	15.06	0	15.06	20	PASS
NTNV	11N20SIS O	Ant1	2442	NA	16.20	0	16.20	20	PASS
NTNV	11N20SIS O	Ant1	2472	NA	17.85	0	17.85	20	PASS
NTNV	11N40SIS O	Ant1	2422	NA	15.75	0	15.75	20	PASS
NTNV	11N40SIS O	Ant1	2442	NA	16.10	0	16.10	20	PASS
NTNV	11N40SIS O	Ant1	2462	NA	16.52	0	16.52	20	PASS

Test Graphs:

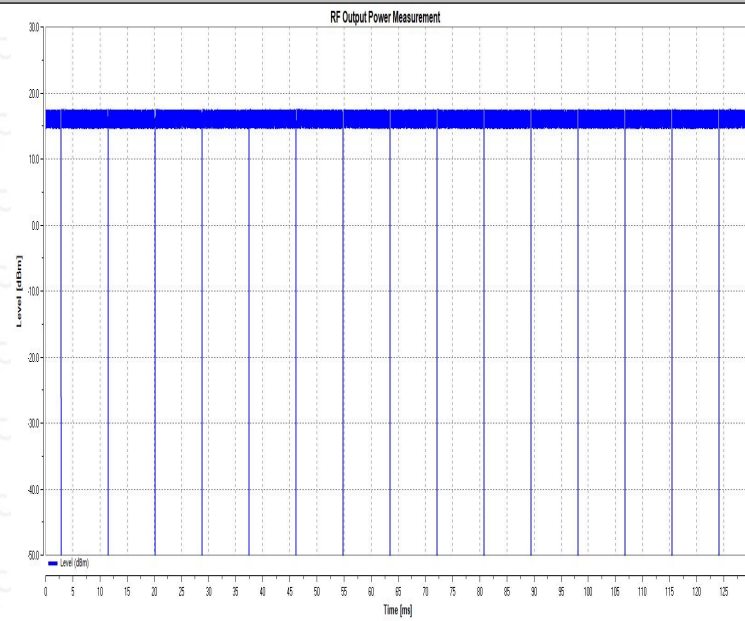
NTNV-11B-Ant1-2412-PASS



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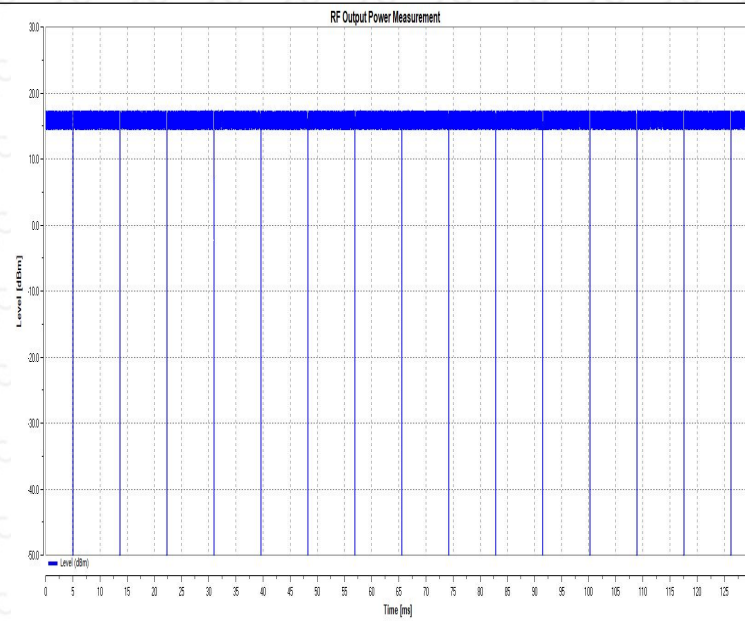
NTNV-11B-Ant1-2442-PASS



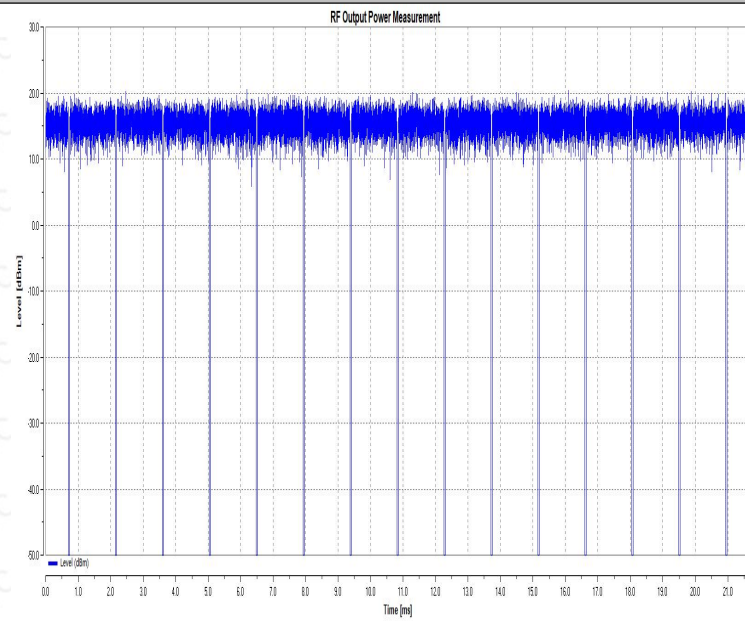
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Report No.: PTC25081318716E-EM02



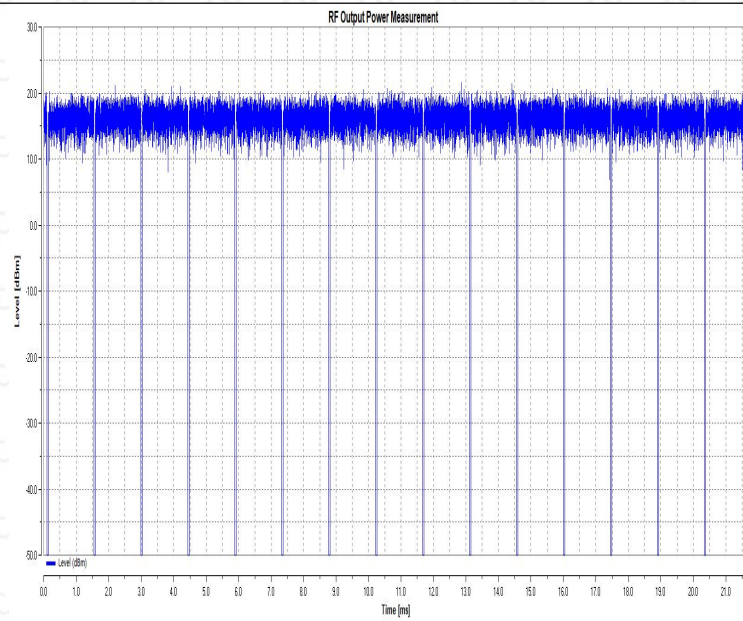
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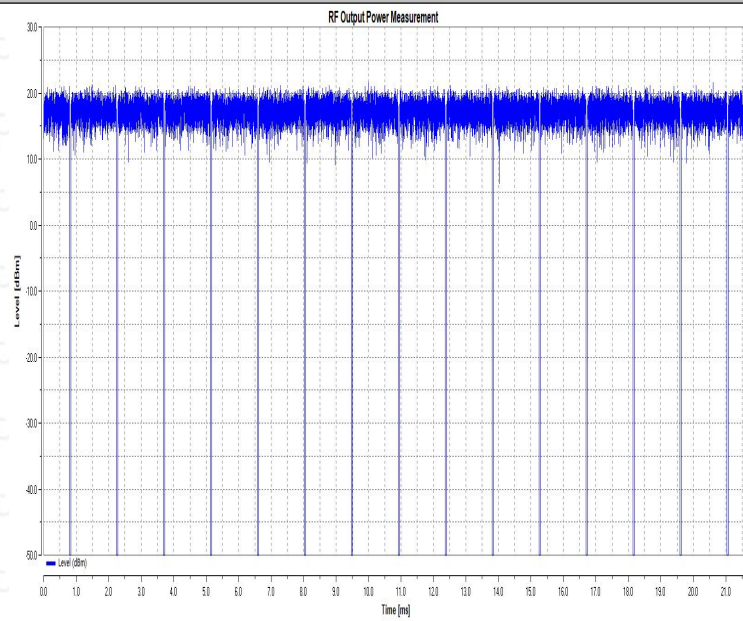
NTNV-11G-Ant1-2442-PASS



Report No.: PTC25081318716E-EM02



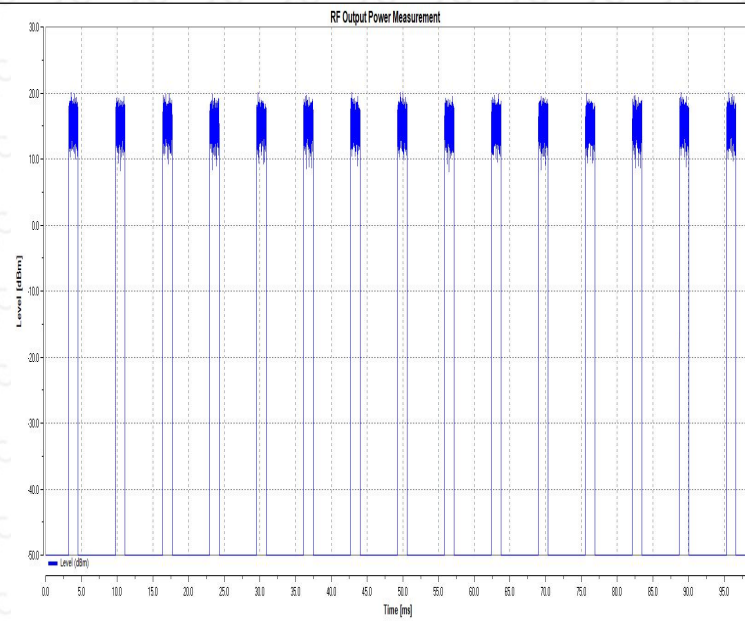
NTNV-11G-Ant1-2472-PASS



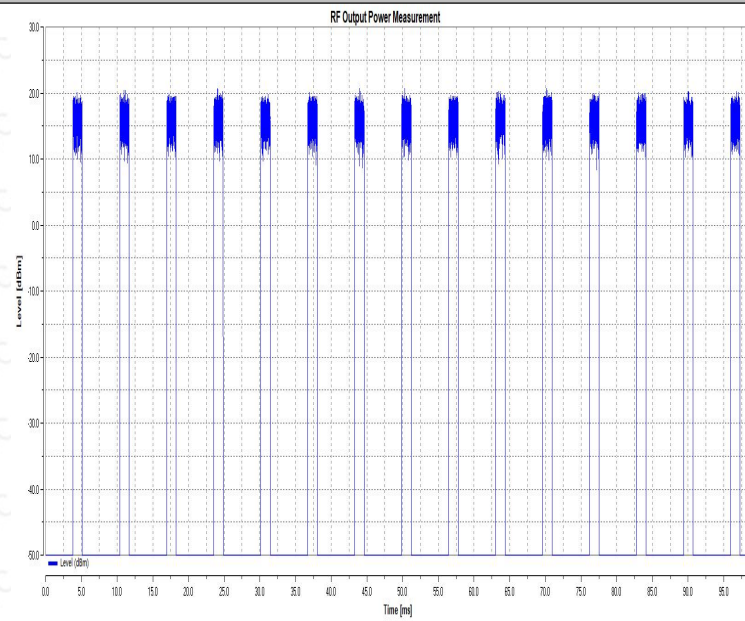
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Report No.: PTC25081318716E-EM02



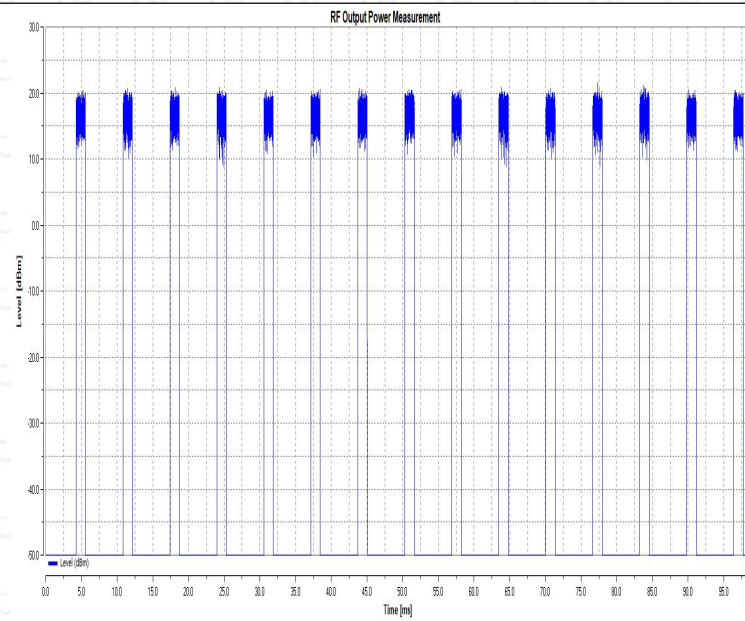
NTNV-11N20SISO-Ant1-2442-PASS



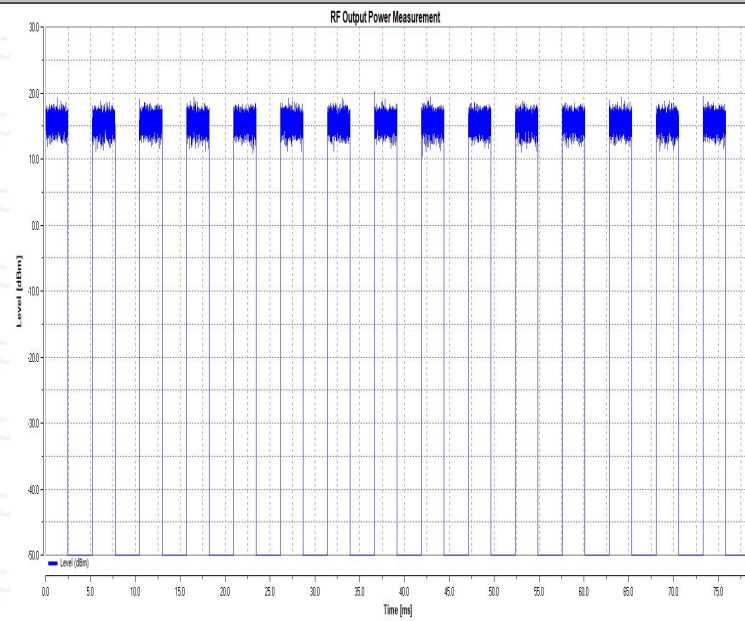
NTNV-11N20SISO-Ant1-2472-PASS



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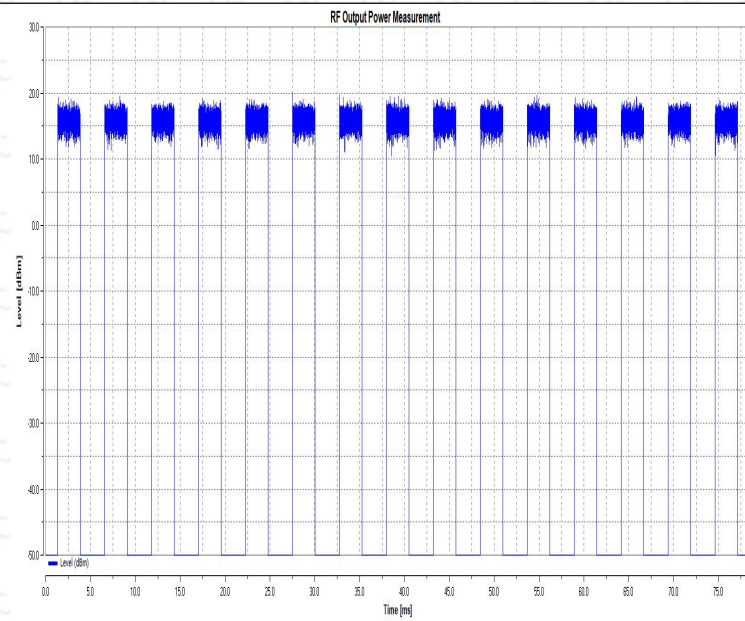
NTNV-11N40SISO-Ant1-2422-PASS



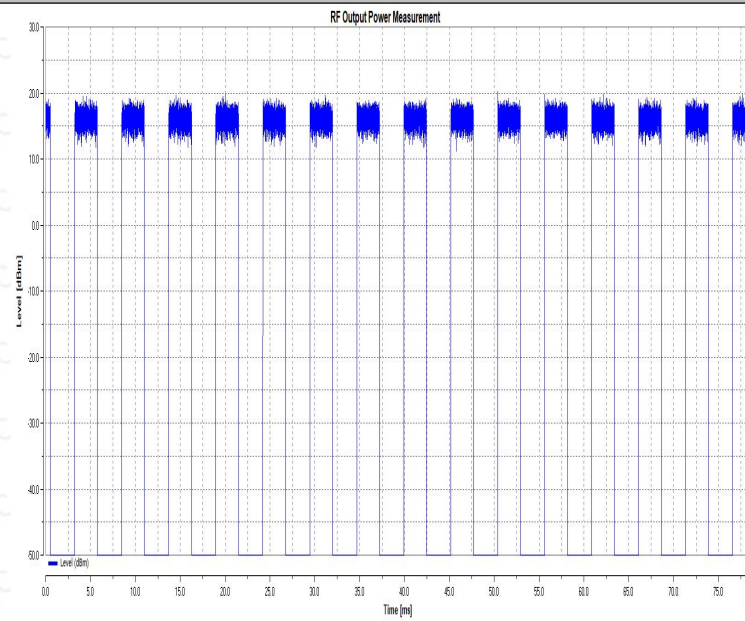
NTNV-11N40SISO-Ant1-2442-PASS



Report No.: PTC25081318716E-EM02



NTNV-11N40SISO-Ant1-2462-PASS



5.2 Power Spectral Density

5.2.1 Definition

The Power Spectral Density is the mean equivalent isotropically radiated power (e.i.r.p.) spectral density during a transmission burst.

5.2.2 Limit

For equipment using wide band modulations other than FHSS, the maximum Power Spectral Density is limited to 10 dBm per MHz.

5.2.3 EUT Operation Condition

The EUT was programmed to be in continuously transmitting mode.

5.2.4 Test Procedure

Step 1:

Connect the UUT to the spectrum analyser and use the following settings:

Start Frequency: 2 400 MHz

Stop Frequency: 2 483.5 MHz

Resolution BW: 10 kHz

Video BW: 30 kHz

Sweep Points: > 8 350

NOTE: For spectrum analysers not supporting this number of sweep points, the frequency band may be segmented.

Detector: RMS

Trace Mode: Max Hold

Sweep time: 10 s; the sweep time may be increased further until a value where the sweep time has no impact on the RMS value of the signal

For non-continuous signals, wait for the trace to stabilize.

Save the data (trace data) set to a file.

Step 2:

For conducted measurements on smart antenna systems using either operating mode 2 or operating mode 3 (see clause 5.1.3.2), repeat the measurement for each of the transmit ports. For each sampling point (frequency domain), add up the coincident power values (in mW) for the different transmit chains and use this as the new data set.

Step 3:

Add up the values for power for all the samples in the file using the formula below.

$$P_{Sum} = \sum_{n=1}^k P_{sample}(n)$$

With 'k' being the total number of samples and 'n' the actual sample number

Step 4:

Normalize the individual values for power (in dBm) so that the sum is equal to the RF Output Power (e.i.r.p.) measured in clause 5.3.2 and save the corrected data. The following formulas can be used:

$$C_{Corr} = P_{Sum} - P_{e.i.r.p.}$$

$$P_{Samplecorr}(n) = P_{Sample}(n) - C_{Corr}$$

With 'n' being the actual sample number

Step 5:

Starting from the first sample $P_{Samplecorr}(n)$ (lowest frequency), add up the power (in mW) of the following samples representing a 1 MHz segment and record the results for power and position (i.e. sample #1 to sample #100). This is the

Power Spectral Density (e.i.r.p.) for the first 1 MHz segment which shall be recorded.

Step 6:

Shift the start point of the samples added up in step 5 by one sample and repeat the procedure in step 5 (i.e. sample #2 to sample #101).

Step 7:

Repeat step 6 until the end of the data set and record the Power Spectral Density values for each of the 1 MHz segments.

From all the recorded results, the highest value is the maximum Power Spectral Density for the UUT.

This value, which shall comply with the limit given in clause 4.3.2.3.3, shall be recorded in the test report.

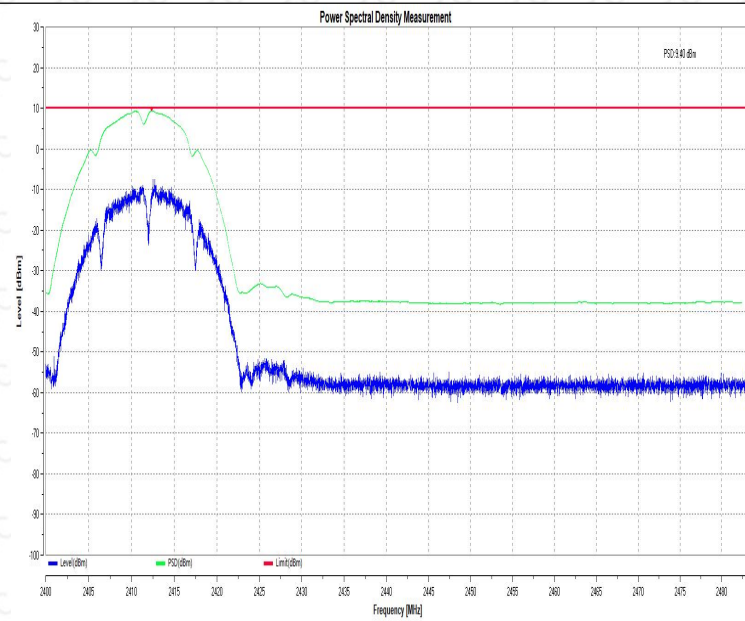


5.2.5 Measurement Record

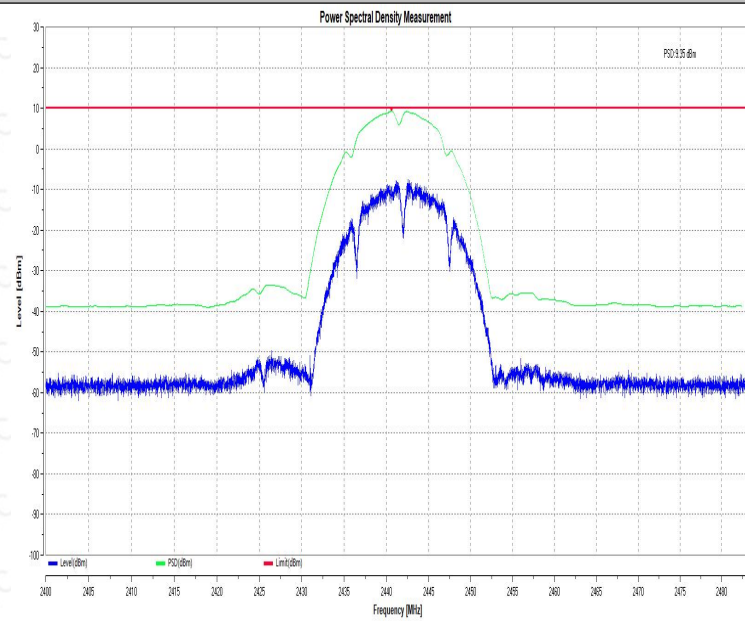
TestMode	Antenna	Frequency[MHz]	EIRP PSD[dBm/MHz]	Limit[dBm/MHz]	Verdict
11B	Ant1	2412	9.78	10	PASS
11B	Ant1	2442	9.54	10	PASS
11B	Ant1	2472	9.73	10	PASS
11G	Ant1	2412	6.08	10	PASS
11G	Ant1	2442	6.62	10	PASS
11G	Ant1	2472	8.24	10	PASS
11N20SISO	Ant1	2412	6.71	10	PASS
11N20SISO	Ant1	2442	6.75	10	PASS
11N20SISO	Ant1	2472	7.43	10	PASS
11N40SISO	Ant1	2422	2.53	10	PASS
11N40SISO	Ant1	2442	2.92	10	PASS
11N40SISO	Ant1	2462	3.44	10	PASS

Test Plots(Worst Mode)

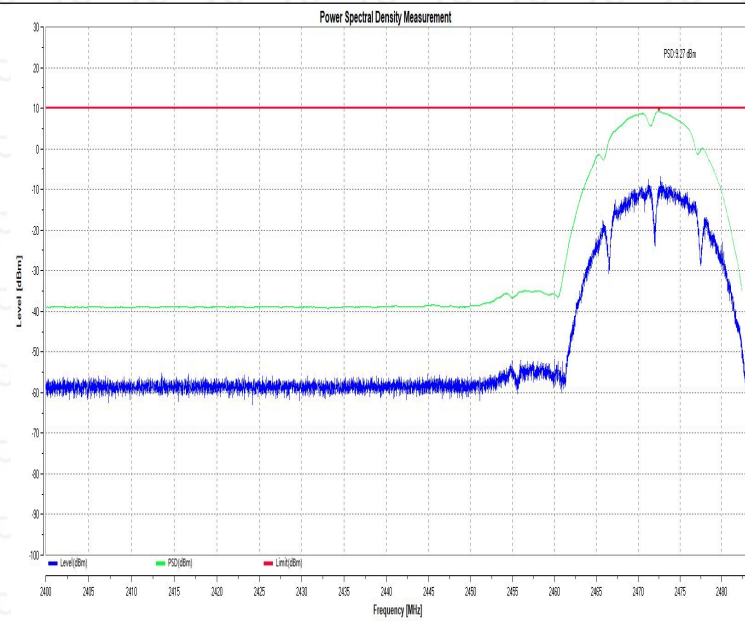
11B-Ant1-2412-PASS



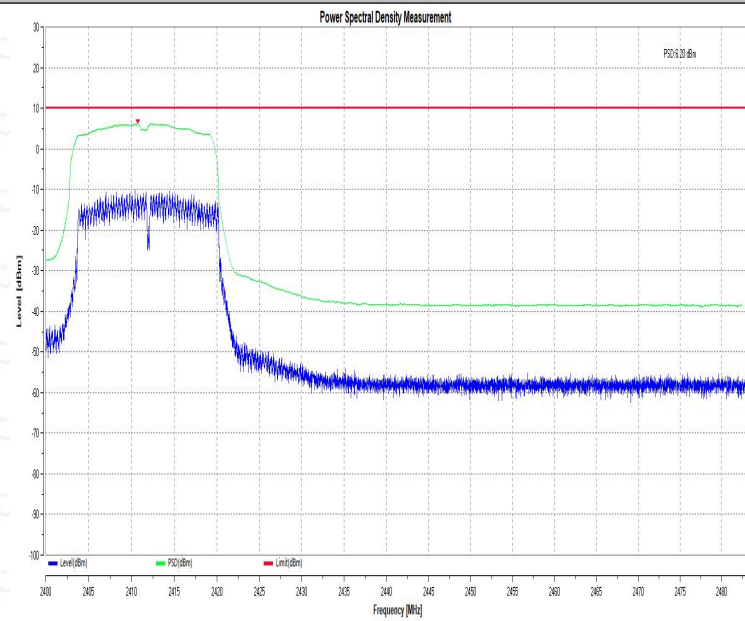
11B-Ant1-2442-PASS



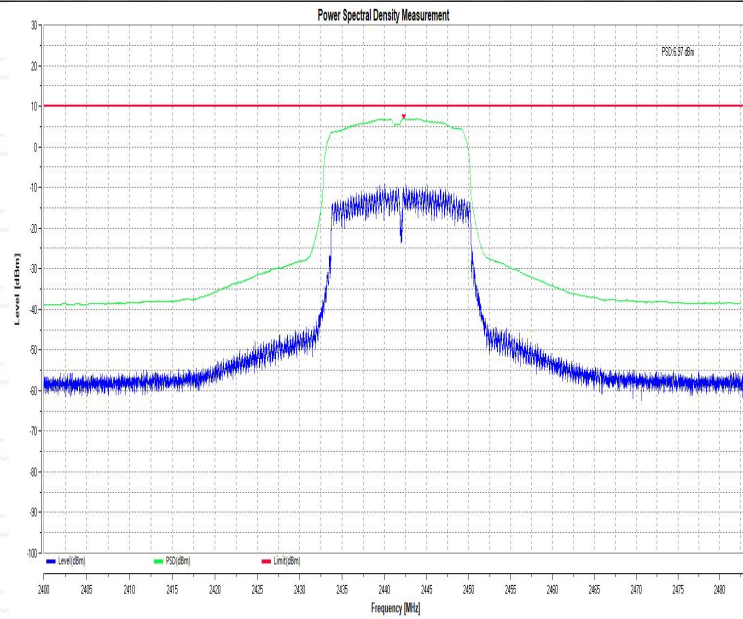
11B-Ant1-2472-PASS



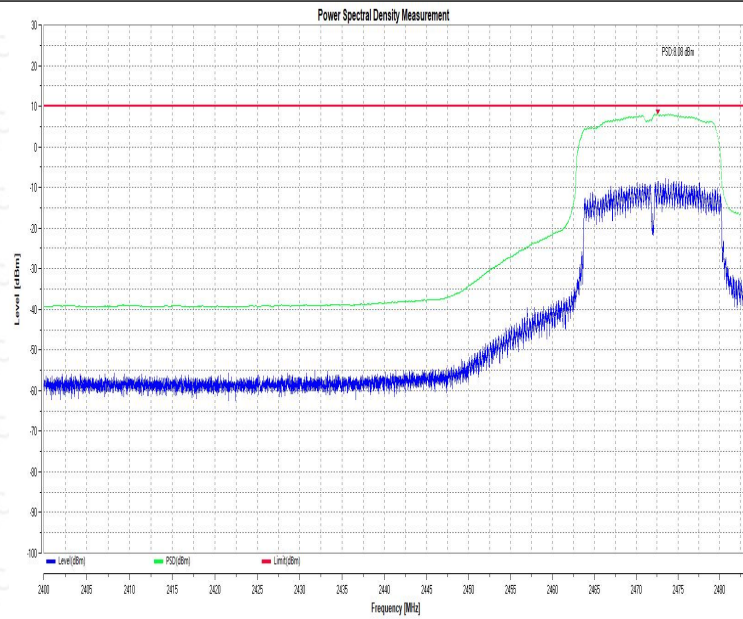
11G-Ant1-2412-PASS



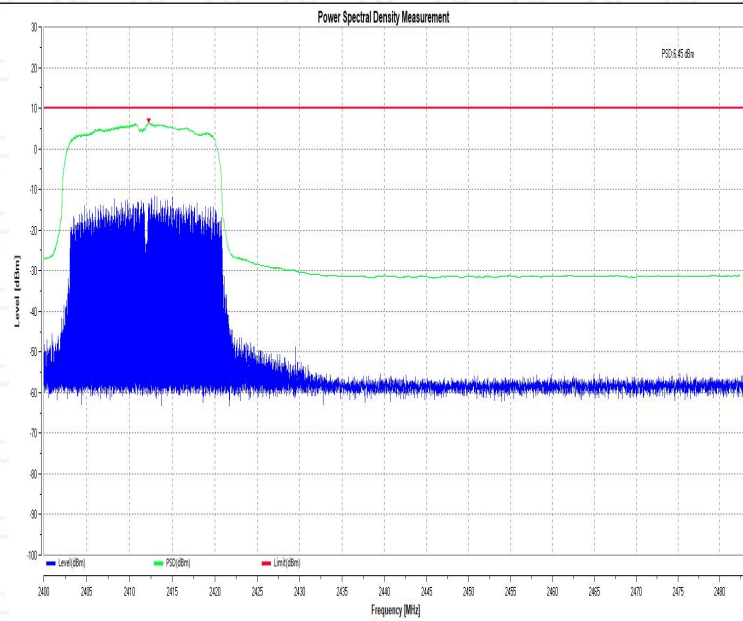
11G-Ant1-2442-PASS



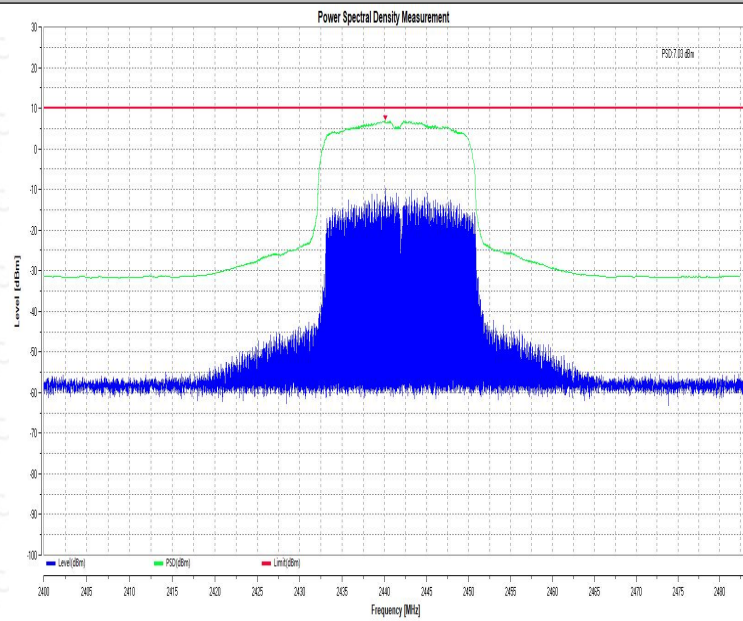
11G-Ant1-2472-PASS



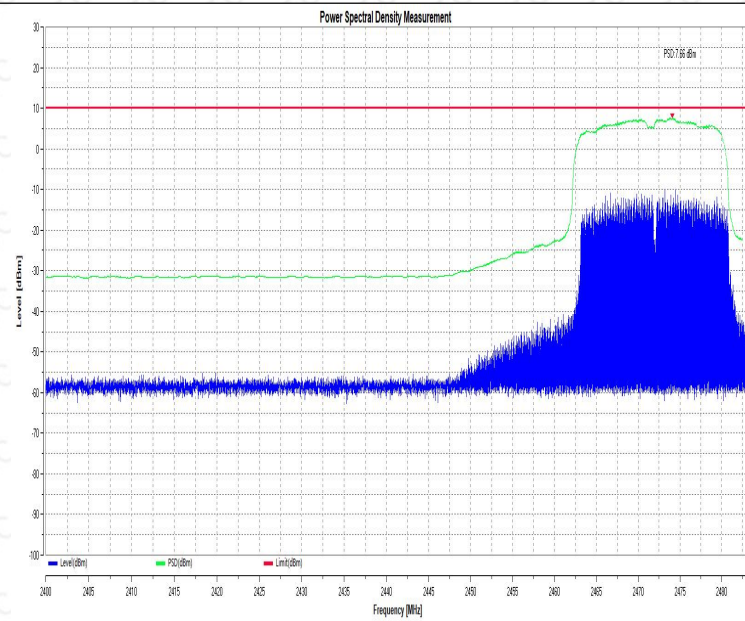
11N20SISO-Ant1-2412-PASS



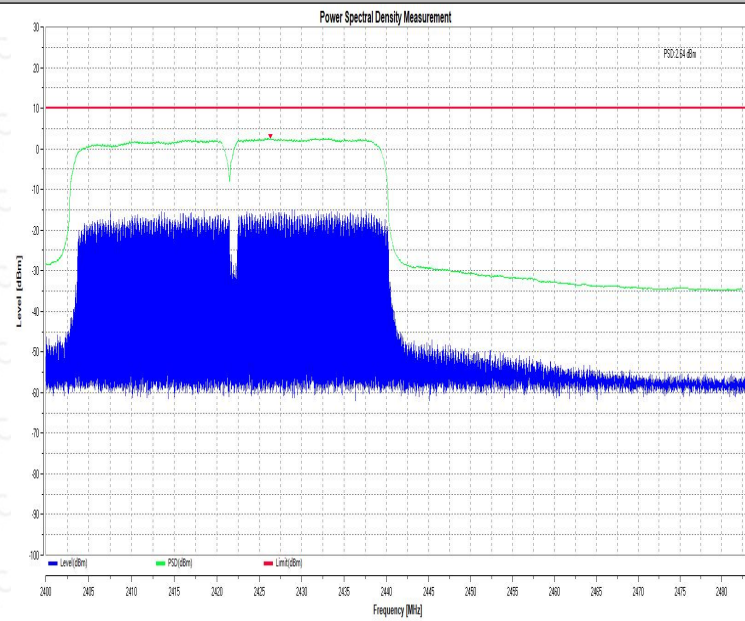
11N20SISO-Ant1-2442-PASS



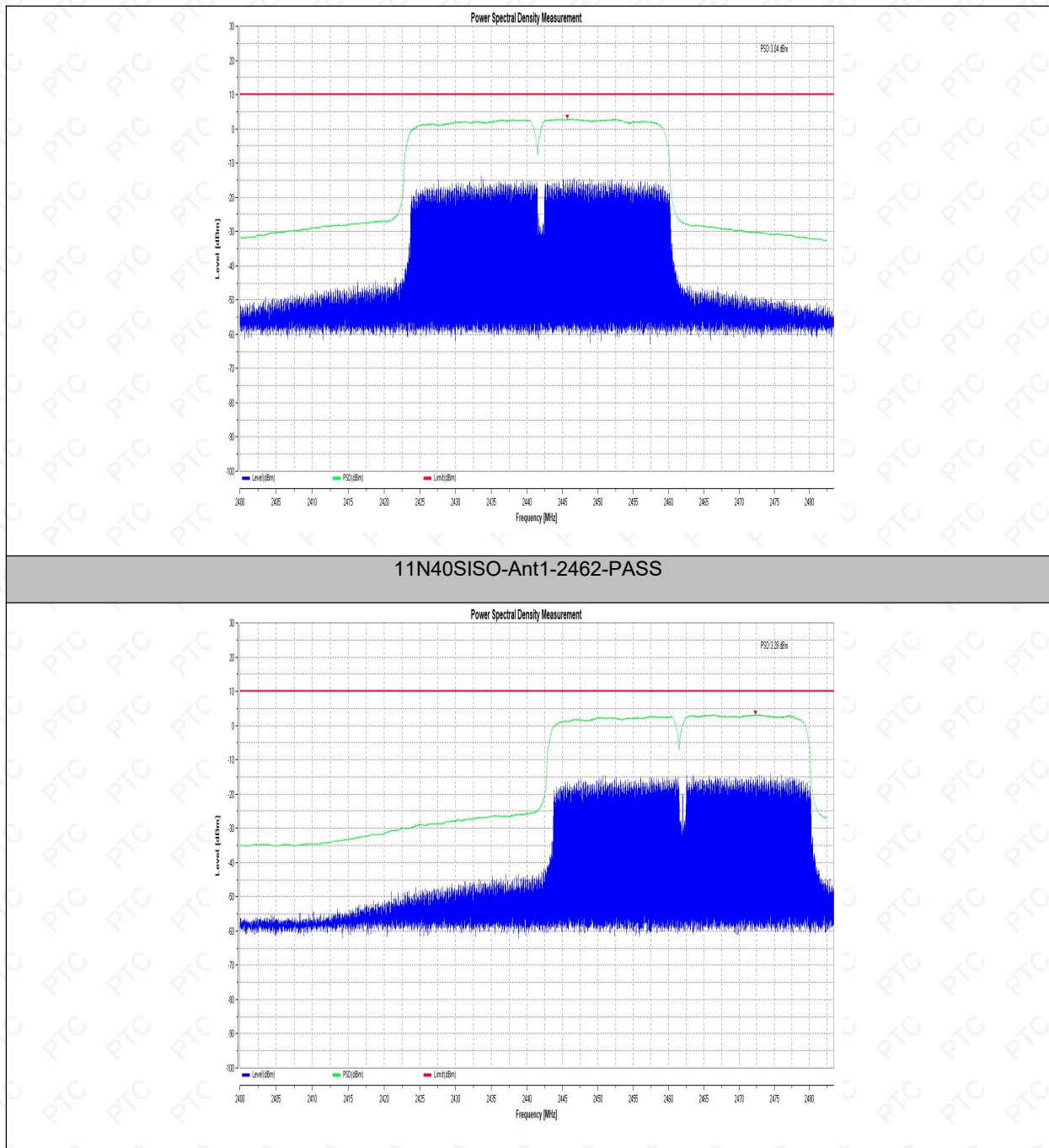
11N20SISO-Ant1-2472-PASS



11N40SISO-Ant1-2422-PASS



11N40SISO-Ant1-2442-PASS





5.3 Adaptivity

5.3.1 Definition

The frequency range of the equipment is determined by the lowest and highest

A. Non-LBT based Detect and Avoid:

1. The frequency shall remain unavailable for a minimum time equal to 1 second after which the channel maybe considered again as an 'available' channel;
2. $COT \leq 40 \text{ ms}$;
3. Idle Period = 5% of COT;
4. Detection threshold level = $-70\text{dBm/MHz} + 20 - P_{out \text{ E.I.R.P}}$ (P_{out} in dBm);

B. LBT based Detect and Avoid (Frame Based Equipment):

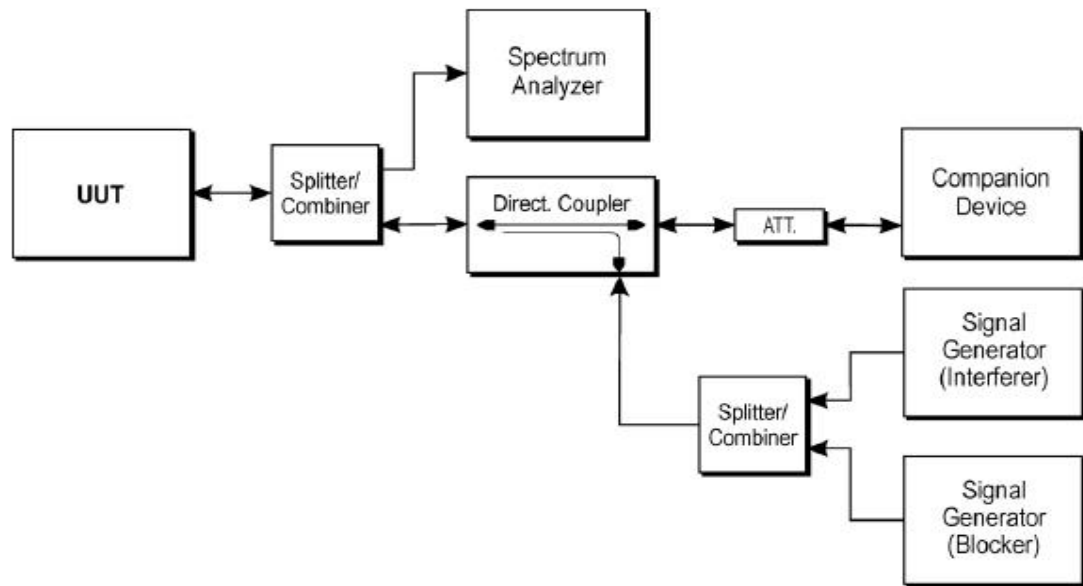
1. Minimum Clear Channel Assessment (CCA) time = 20 μs ;
2. CCA observation time declared by the supplier;
3. $COT = 1 \sim 40 \text{ ms}$;
4. Idle Period = 5% of COT;
5. Detection threshold level = $-70\text{dBm/MHz} + 20 - P_{out \text{ E.I.R.P}}$ (P_{out} in dBm);

C. LBT based Detect and Avoid (Load Based Equipment):

1. Minimum Clear Channel Assessment (CCA) time = 20 μs ;
2. CCA declared by the manufacturer;
3. $COT \leq (13 / 32) * q \text{ ms}$; $q = [4 \sim 32]$; 1.625ms~13ms;
4. Detection threshold level = $-73\text{dBm/MHz} + 20 - P_{out \text{ E.I.R.P}}$ (dBm);

Short Control Signalling Transmissions shall have a maximum duty cycle of 10% within an observation period of 50ms.

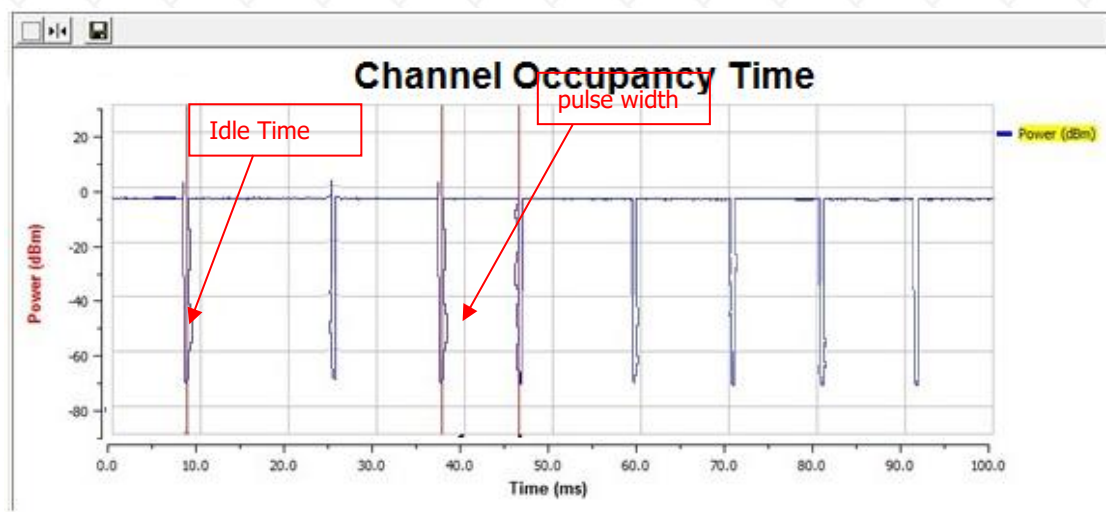
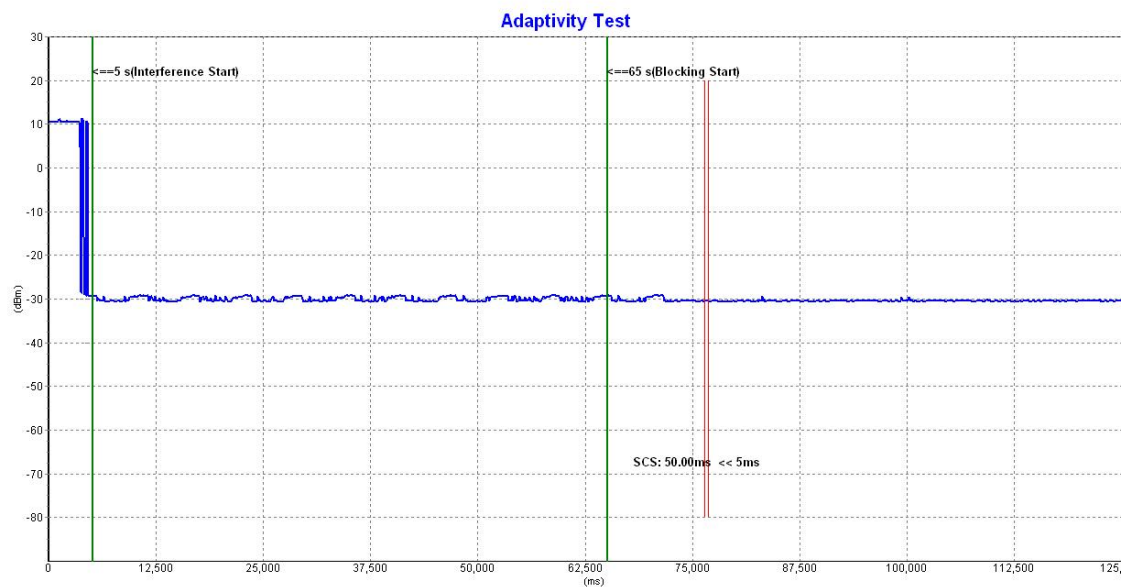
5.3.2 Test Procedure



5.3.3 Measurement Record

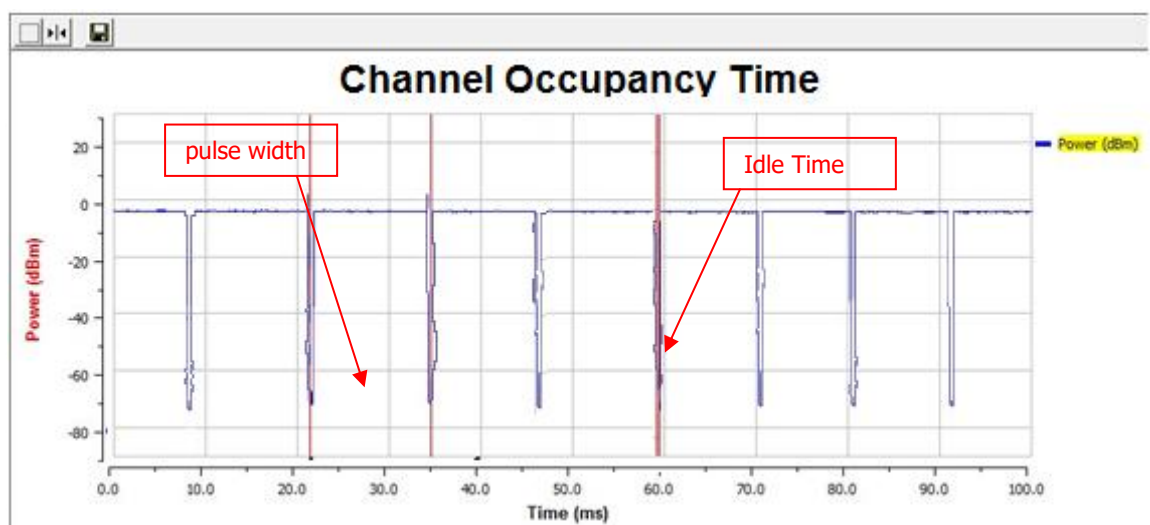
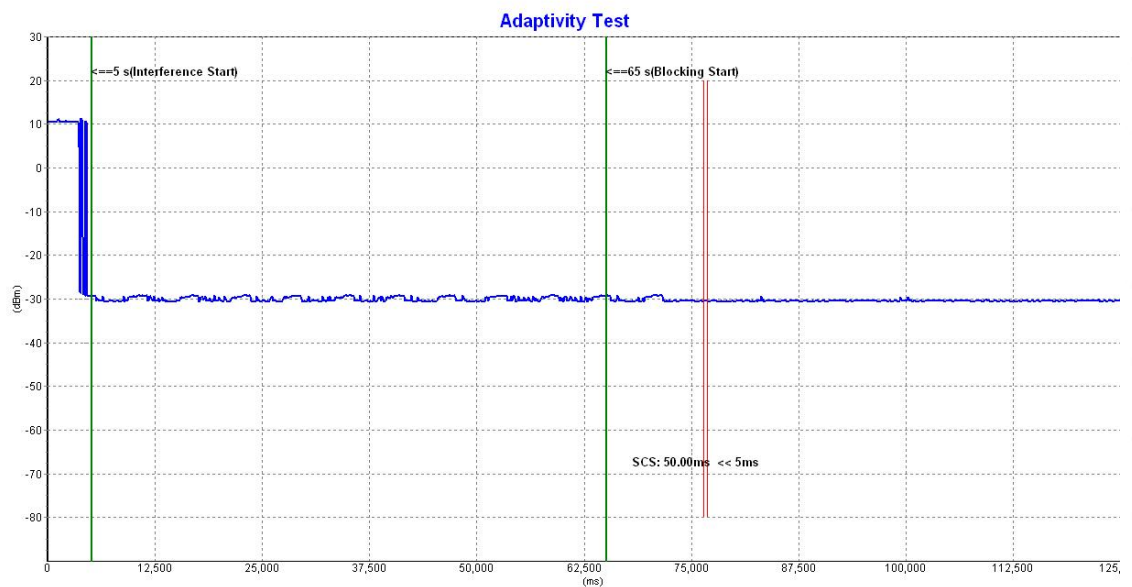
802.11b Low

AWGN Interference Level (dBm)	-66.50
Blocking Level (dBm)	-35
Interference Start Time (s)	5
Block the start time(s)	65
Suggest q Level	30
CCA (us)	24
Max COT (ms)	11.72
Idle Time (ms)	0.35
Duty Cycle (%)	0



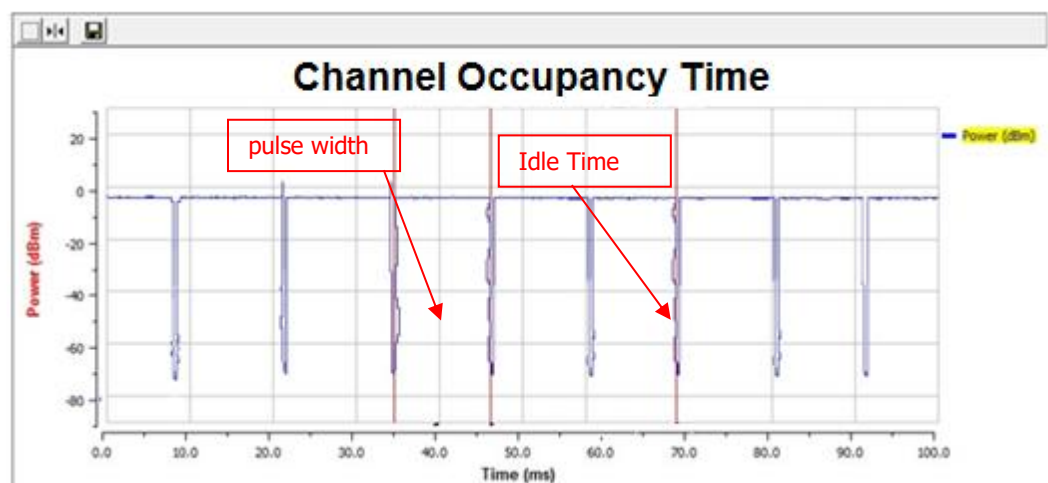
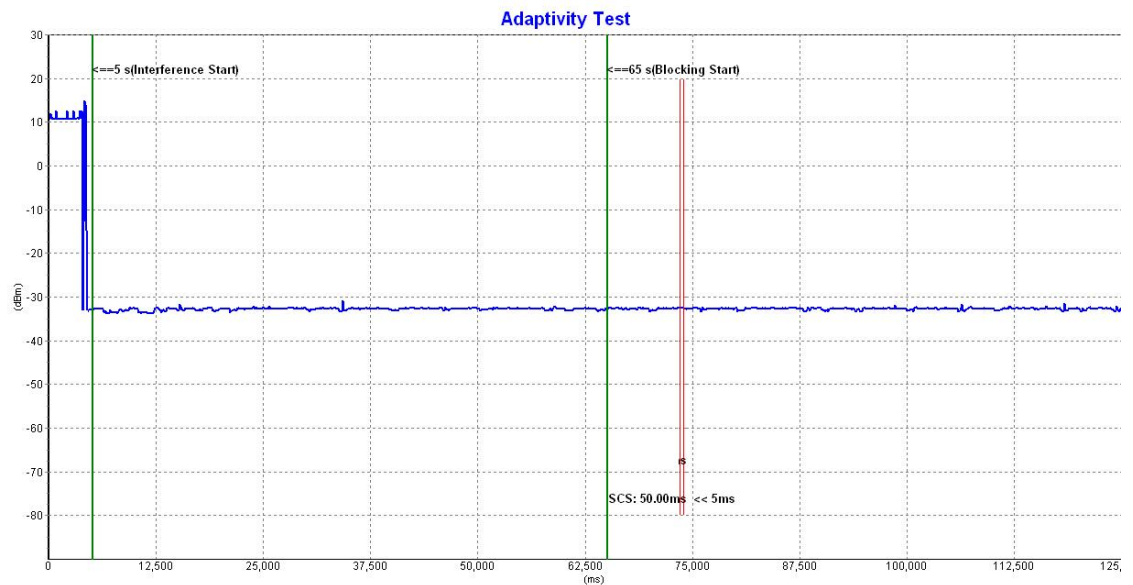
802.11b High

AWGN Interference Level (dBm)	-64.01
Blocking Level (dBm)	-35
Interference Start Time (s)	5
Block the start time(s)	65
Suggest q Level	30
CCA (us)	24
Max COT (ms)	11.72
Idle Time (ms)	0.35
Duty Cycle (%)	0



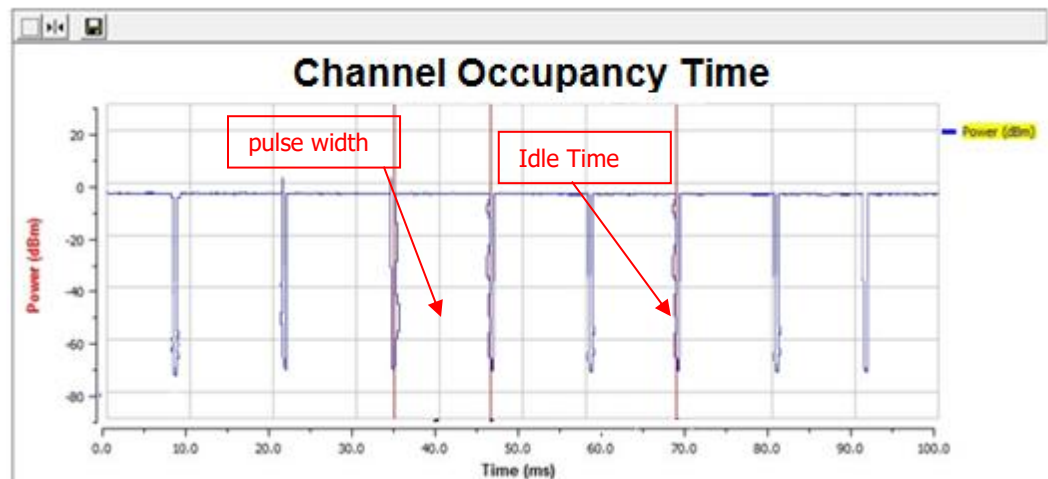
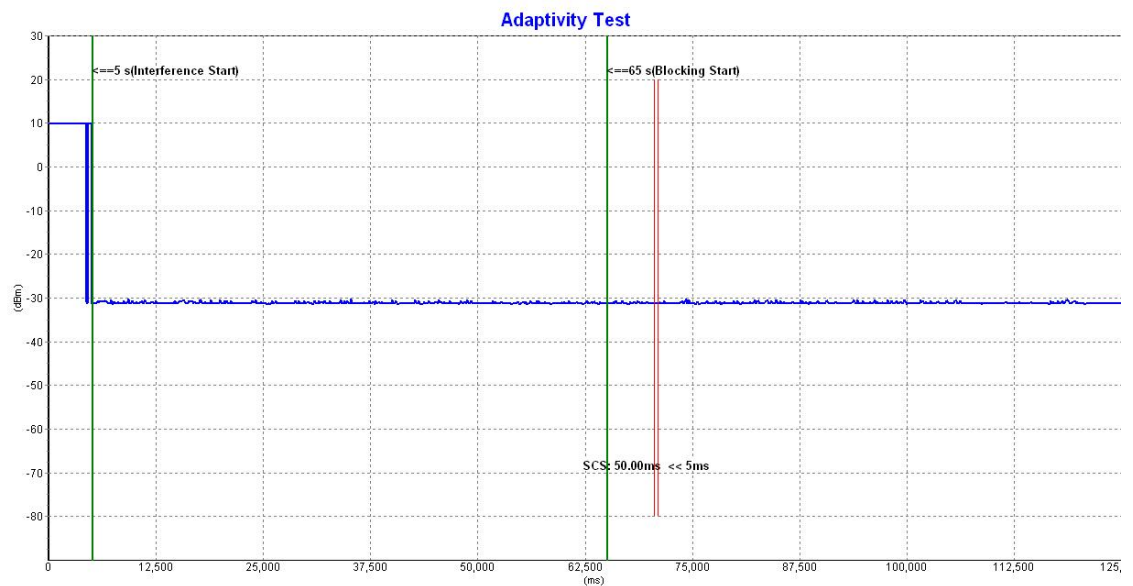
802.11g Low

AWGN Interference Level (dBm)	-61.30
Blocking Level (dBm)	-35
Interference Start Time (s)	5
Block the start time(s)	65
Suggest q Level	30
CCA (us)	23.5
Max COT (ms)	11.76
Idle Time (ms)	0.58
Duty Cycle (%)	0



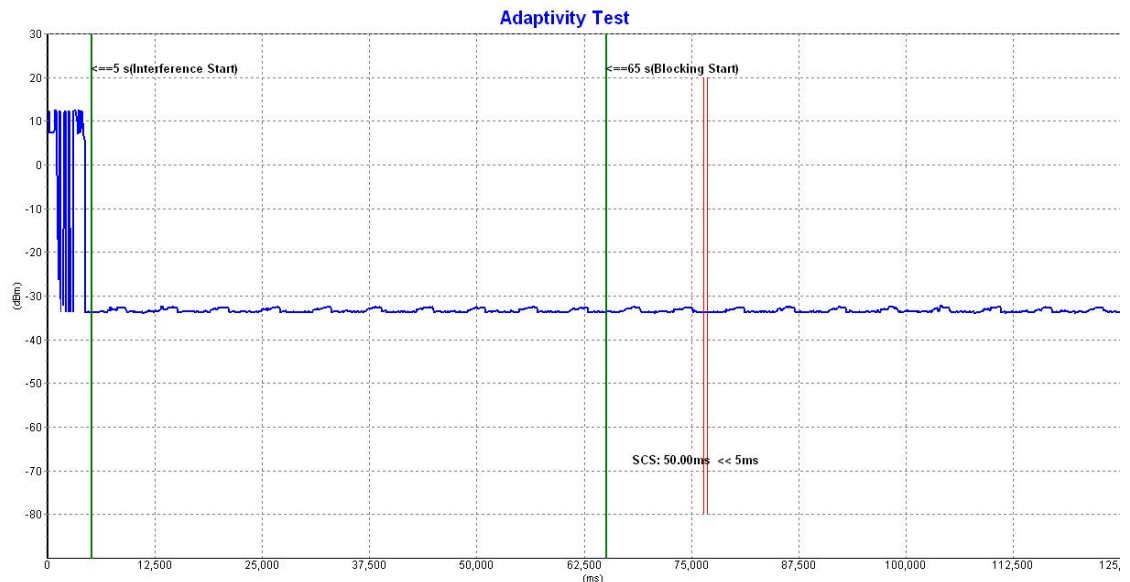
802.11g High

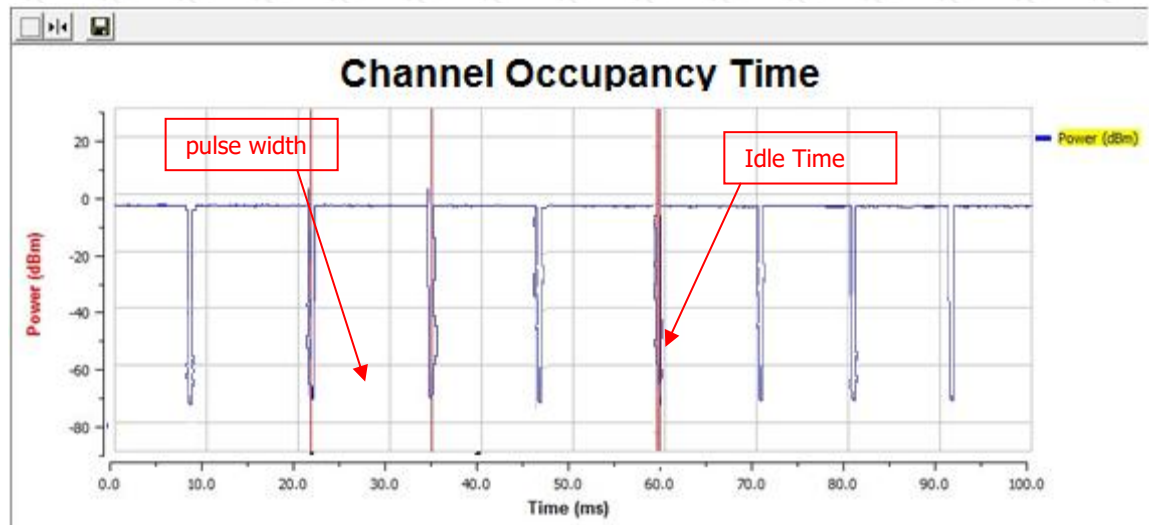
AWGN Interference Level (dBm)	-62.01
Blocking Level (dBm)	-35
Interference Start Time (s)	5
Block the start time(s)	65
Suggest q Level	30
CCA (us)	23.1
Max COT (ms)	11.87
Idle Time (ms)	0.49
Duty Cycle (%)	0



802.11n20 Low

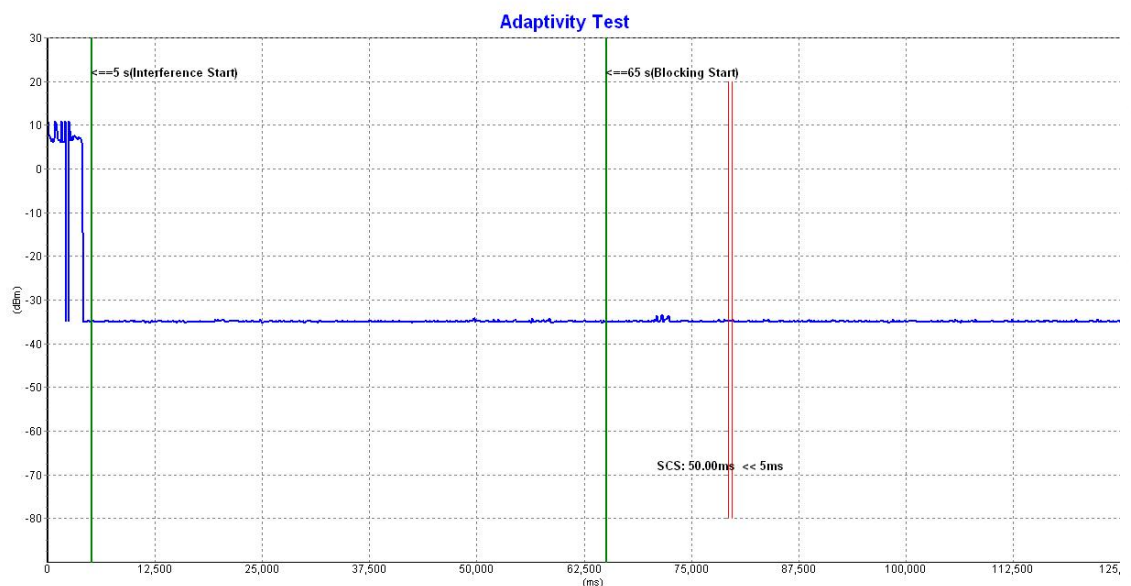
AWGN Interference Level (dBm)	-61.30
Blocking Level (dBm)	-35
Interference Start Time (s)	5
Block the start time(s)	65
Suggest q Level	30
CCA (us)	23.3
Max COT (ms)	11.78
Idle Time (ms)	0.47
Duty Cycle (%)	0

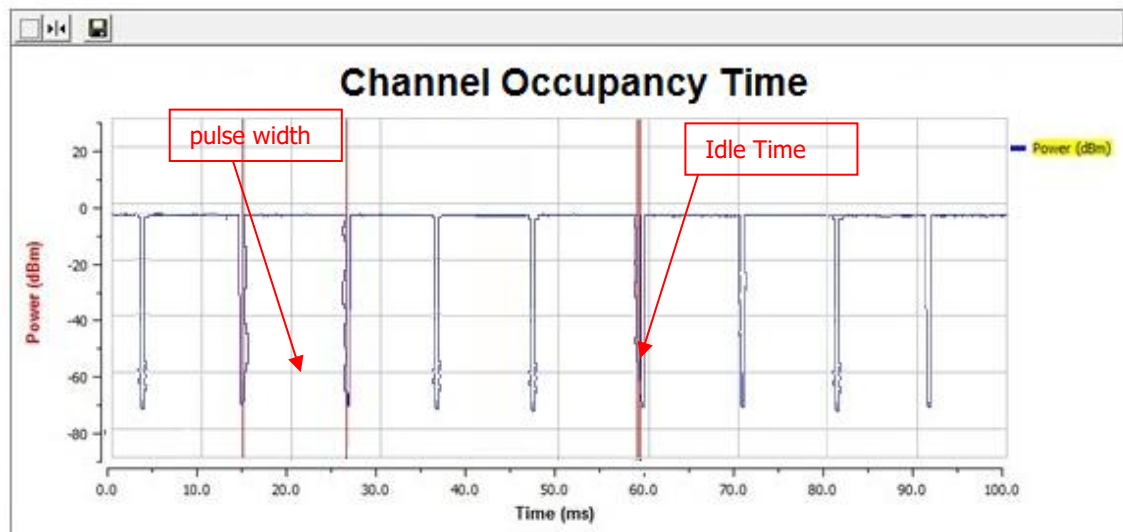




802.11n20 High

AWGN Interference Level (dBm)	-62.20
Blocking Level (dBm)	-35
Interference Start Time (s)	5
Block the start time(s)	65
Suggest q Level	30
CCA (us)	23.6
Max COT (ms)	11.85
Idle Time (ms)	0.38
Duty Cycle (%)	0





5.4 Occupied Channel Bandwidth

5.4.1 Definition

The Occupied Channel Bandwidth is the bandwidth that contains 99 % of the power of the signal.

5.4.2 Limit

The Occupied Channel Bandwidth for each hopping frequency shall fall completely within the band given in clause 1.

For non-adaptive Frequency Hopping equipment with e.i.r.p greater than 10 dBm, the Occupied Channel Bandwidth for every occupied hopping frequency shall be equal to or less than the value declared by the supplier. This declared value shall not be greater than 5 MHz.

5.4.3 EUT Operation Condition

The EUT was programmed to be in continuously transmitting mode.

5.4.4 Test Procedure

Step 1:

Connect the UUT to the spectrum analyser and use the following settings:

Centre Frequency: The centre frequency of the channel under test

Resolution BW: ~ 1 % of the span without going below 1 %

Video BW: $3 \times \text{RBW}$

Frequency Span for frequency hopping equipment: Lowest frequency separation that is used within the hopping sequence

Frequency Span for other types of equipment: $2 \times \text{Nominal Channel Bandwidth}$ (e.g. 40 MHz for a 20 MHz channel)

Detector Mode: RMS

Trace Mode: Max Hold

Sweep time: 1 s

Step 2:

Wait for the trace to stabilize.

Find the peak value of the trace and place the analyser marker on this peak.

Step 3:

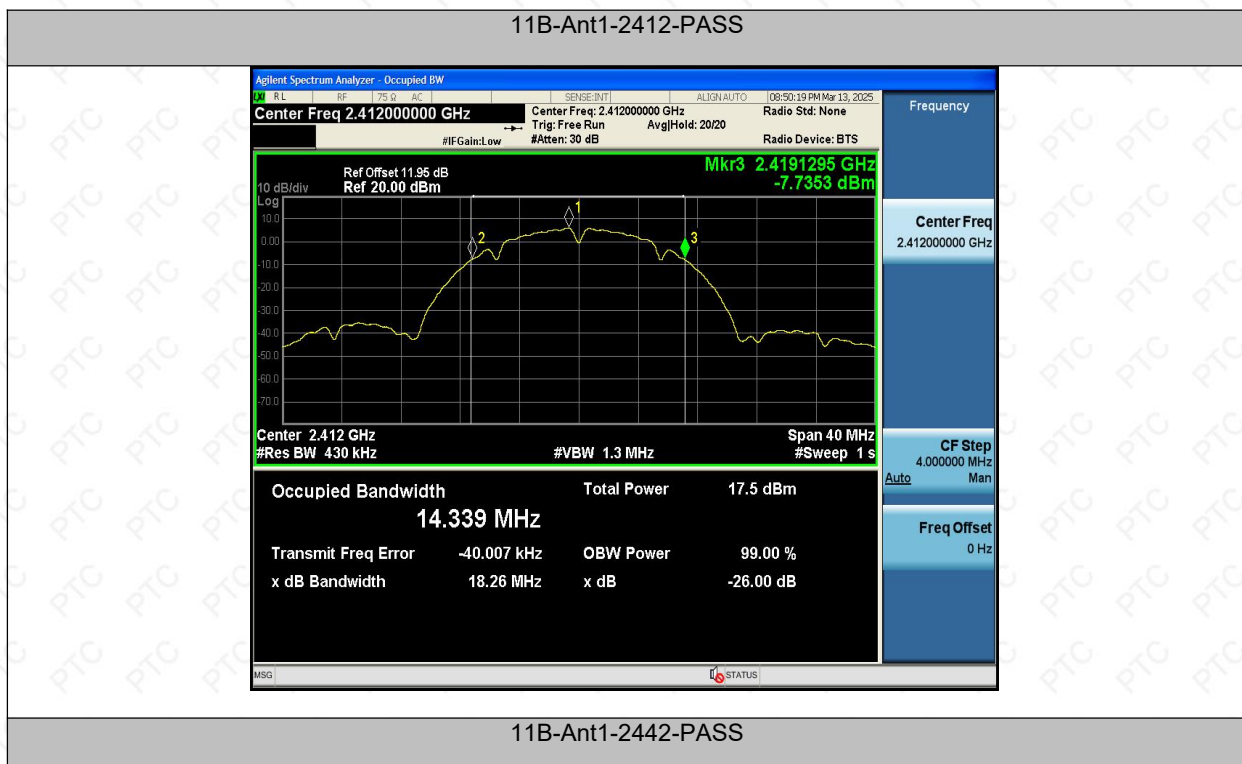
Use the 99 % bandwidth function of the spectrum analyser to measure the Occupied Channel Bandwidth of the UUT. This value shall be recorded.

NOTE: Make sure that the power envelope is sufficiently above the noise floor of the analyser to avoid the noise signals left and right from the power envelope being taken into account by this measurement.



5.4.5 Measurement Record

TestMode	Antenna	Frequency[MHz]	OCB[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
11B	Ant1	2412	14.339	2404.7905	2419.1295	2400 to 2483.5	PASS
11B	Ant1	2442	14.262	2434.8856	2449.1476	2400 to 2483.5	PASS
11B	Ant1	2472	14.325	2465.0045	2479.3295	2400 to 2483.5	PASS
11G	Ant1	2412	16.442	2403.7616	2420.2036	2400 to 2483.5	PASS
11G	Ant1	2442	16.428	2433.7858	2450.2138	2400 to 2483.5	PASS
11G	Ant1	2472	16.536	2463.7879	2480.3239	2400 to 2483.5	PASS
11N20SISO	Ant1	2412	17.490	2403.2465	2420.7365	2400 to 2483.5	PASS
11N20SISO	Ant1	2442	17.496	2433.2473	2450.7433	2400 to 2483.5	PASS
11N20SISO	Ant1	2472	17.502	2463.2602	2480.7622	2400 to 2483.5	PASS
11N40SISO	Ant1	2422	36.013	2404.0342	2440.0472	2400 to 2483.5	PASS
11N40SISO	Ant1	2442	36.017	2424.0107	2460.0277	2400 to 2483.5	PASS
11N40SISO	Ant1	2462	36.081	2443.9937	2480.0747	2400 to 2483.5	PASS





Report No.: PTC25081318716E-EM02



11B-Ant1-2472-PASS



11G-Ant1-2412-PASS



Report No.: PTC25081318716E-EM02



11G-Ant1-2442-PASS



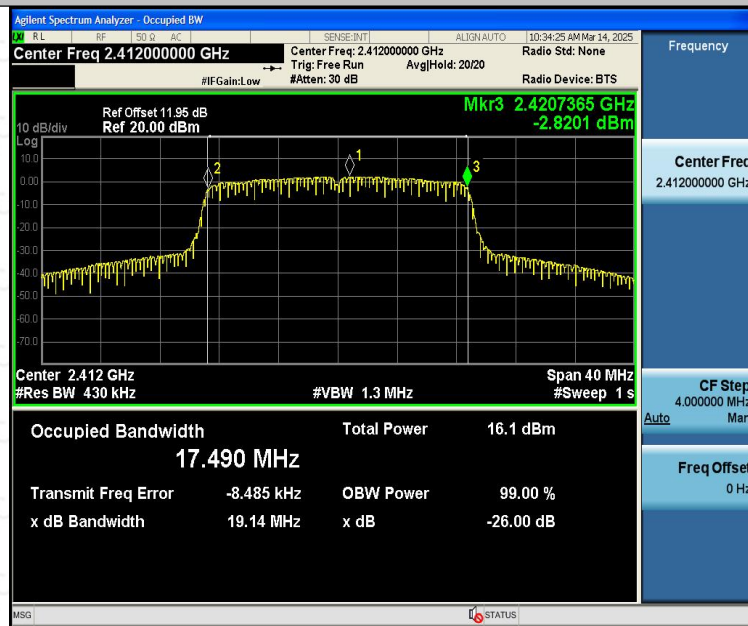
11G-Ant1-2472-PASS



Report No.: PTC25081318716E-EM02



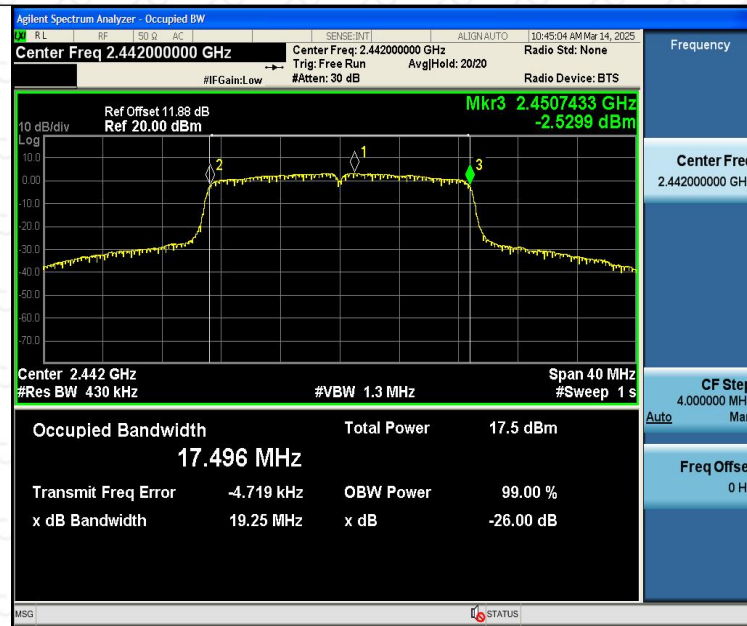
11N20SISO-Ant1-2412-PASS



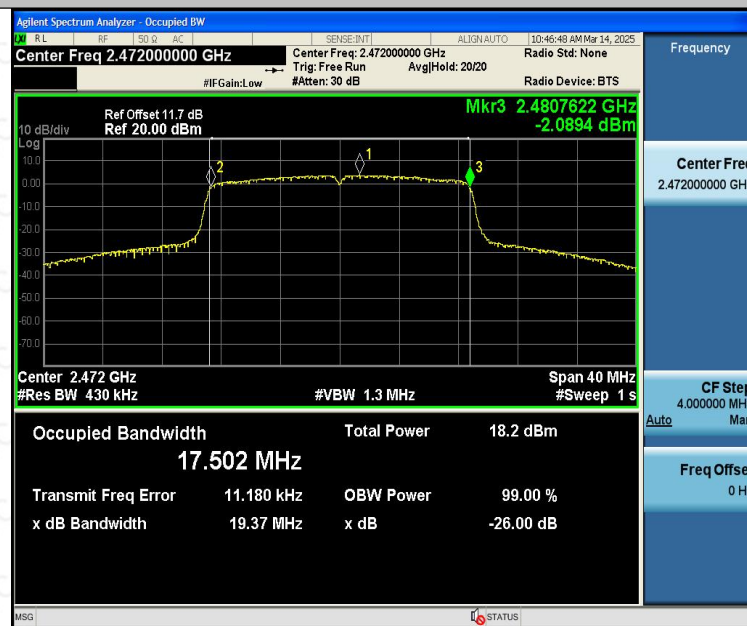
11N20SISO-Ant1-2442-PASS



Report No.: PTC25081318716E-EM02



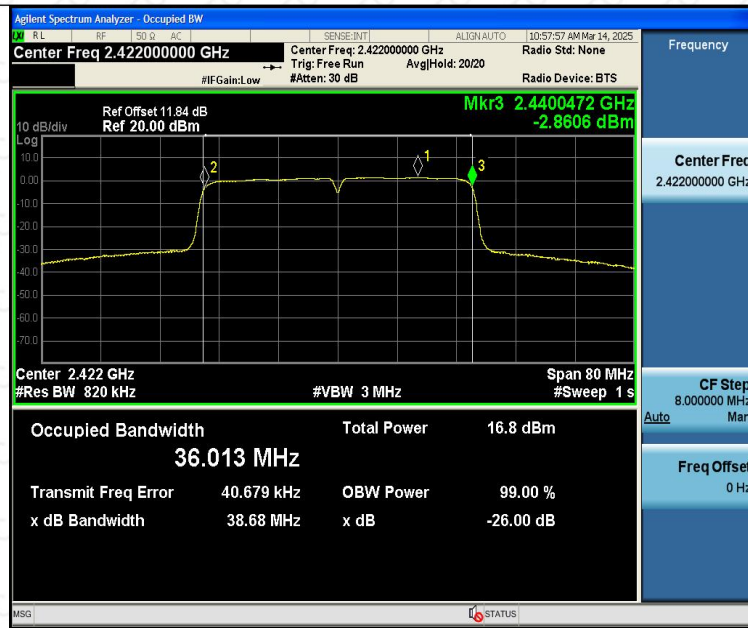
11N20SISO-Ant1-2472-PASS



11N40SISO-Ant1-2422-PASS



Report No.: PTC25081318716E-EM02



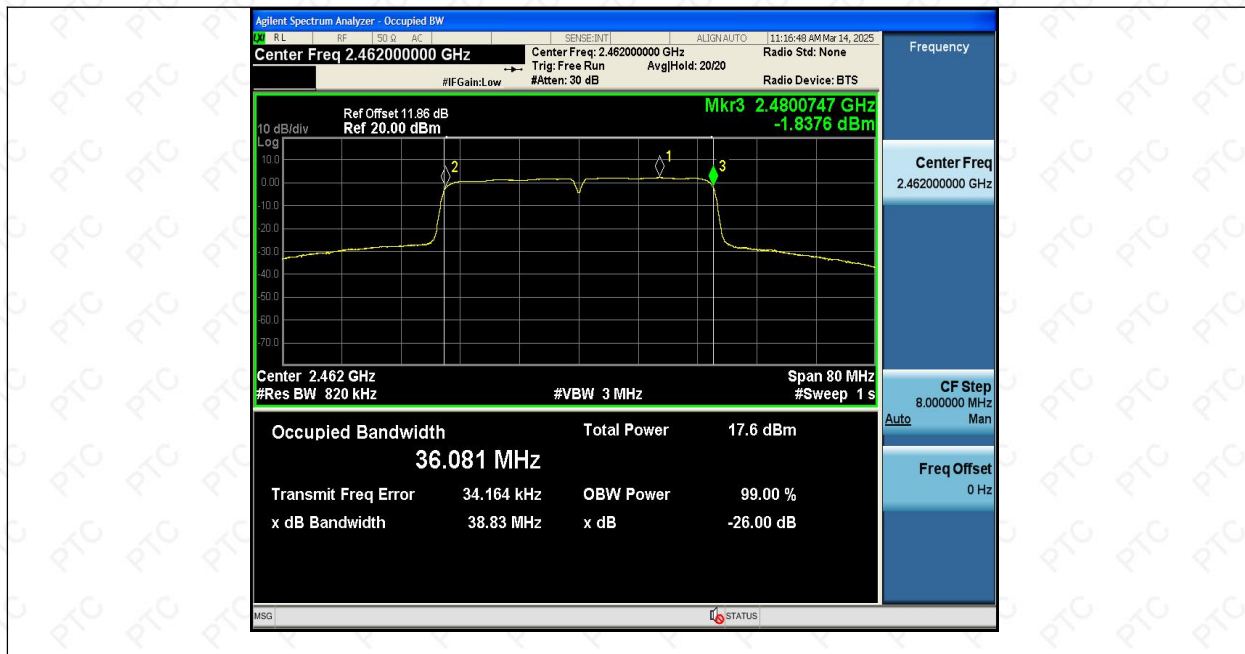
11N40SISO-Ant1-2442-PASS



11N40SISO-Ant1-2462-PASS



Report No.: PTC25081318716E-EM02





Report No.: PTC25081318716E-EM02

5.5 Transmitter unwanted emissions in the out-of-band domain

5.5.1 Definition

Transmitter unwanted emissions in the out-of-band domain are emissions when the equipment is in Transmit mode, on frequencies immediately outside the necessary bandwidth which results from the modulation process, but excluding spurious.

5.5.2 Limit

The transmitter unwanted emissions in the out-of-band domain but outside the allocated band, shall not exceed the values provided by the mask in figure 1.

NOTE: Within the 2 400 MHz to 2 483,5 MHz band, the Out-of-band emissions are fulfilled by compliance with the Occupied Channel Bandwidth requirement in clause 4.3.1.7.

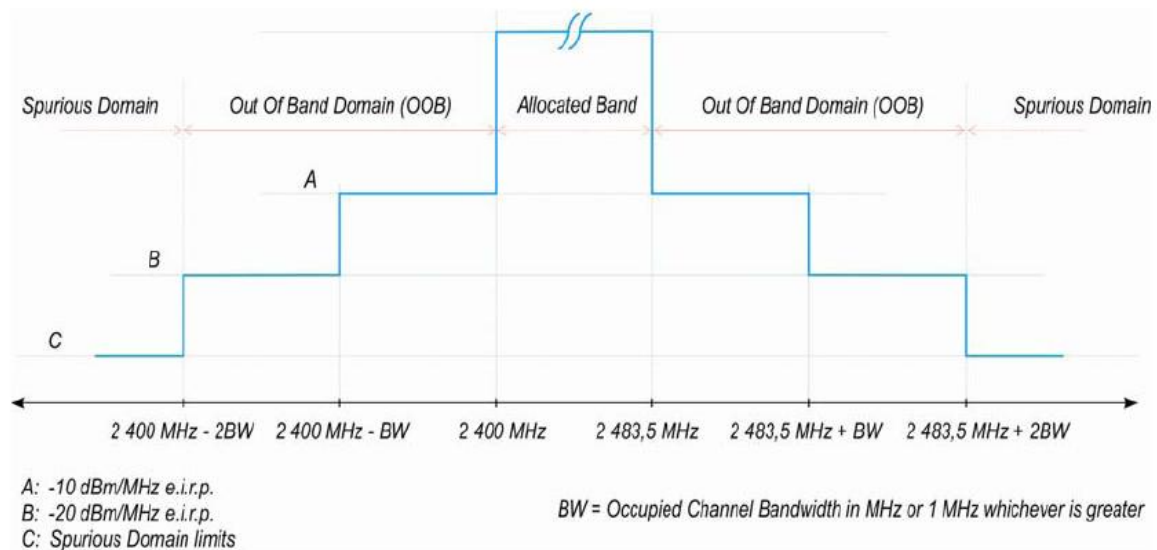


Figure 1: Transmit mask

5.5.3 EUT Operation Condition

The EUT was programmed to be in continuously transmitting mode.

5.5.4 Test Procedure

The applicable mask is defined by the measurement results from the tests performed under clause 5.3.8 (Occupied Channel Bandwidth).

The Out-of-band emissions within the different horizontal segments of the mask provided in figures 1 and 3 shall be measured using the steps below. This method assumes the spectrum analyser is equipped with the Time Domain Power option.

Step 1:

Connect the UUT to the spectrum analyser and use the following settings:

- Centre Frequency: 2 484 MHz
- Span: 0 Hz



- Resolution BW: 1 MHz
- Filter mode: Channel filter
- Video BW: 3 MHz
- Detector Mode: RMS
- Trace Mode: Max Hold
- Sweep Mode: Continuous
- Sweep Points: Sweep Time [s] / (1 μ s) or 5 000 whichever is greater
- Trigger Mode: Video trigger

NOTE 1: In case video triggering is not possible, an external trigger source may be used.

- Sweep Time: > 120 % of the duration of the longest burst detected during the measurement of the RF Output Power

Step 2 (segment 2 483,5 MHz to 2 483,5 MHz + BW):

Adjust the trigger level to select the transmissions with the highest power level.

For frequency hopping equipment operating in a normal hopping mode, the different hops will result in signal bursts with different power levels. In this case the burst with the highest power level shall be selected.

Set a window (start and stop lines) to match with the start and end of the burst and in which the RMS power shall be measured using the Time Domain Power function.

Select RMS power to be measured within the selected window and note the result which is the RMS power within this 1 MHz segment (2 483.5 MHz to 2 484.5 MHz). Compare this value with the applicable limit provided by the mask.

Increase the centre frequency in steps of 1 MHz and repeat this measurement for every 1 MHz segment within the range 2 483.5 MHz to 2 483.5 MHz + BW. The centre frequency of the last 1 MHz segment shall be set to 2 483.5 MHz + BW – 0.5 MHz (which means this may partly overlap with the previous 1 MHz segment).

Step 3 (segment 2 483,5 MHz + BW to 2 483,5 MHz + 2BW):

Change the centre frequency of the analyser to 2 484 MHz + BW and perform the measurement for the first

1 MHz segment within range 2 483.5 MHz + BW to 2 483.5 MHz + 2BW. Increase the centre frequency in

1 MHz steps and repeats the measurements to cover this whole range. The centre frequency of the last 1 MHz segment shall be set to 2 483.5 MHz + 2 BW – 0.5 MHz (which means this may partly overlap with the previous 1 MHz segment).

Step 4 (segment 2 400 MHz - BW to 2 400 MHz):

Change the centre frequency of the analyser to 2 399,5 MHz and perform the measurement for the first 1 MHz segment within range 2 400 MHz - BW to 2 400 MHz Reduce the centre frequency in 1 MHz steps and repeat the measurements to cover this whole range. The centre frequency of the last 1

MHz segment shall be set to

2 400 MHz - BW + 0,5 MHz (which means this may partly overlap with the previous 1 MHz segment).

Step 5 (segment 2 400 MHz - 2BW to 2 400 MHz - BW):

Change the centre frequency of the analyser to 2 399.5 MHz - BW and perform the measurement for the first 1 MHz segment within range 2 400 MHz - 2BW to 2 400 MHz - BW. Reduce the centre frequency in 1 MHz steps and repeat the measurements to cover this whole range. The centre frequency of the last 1 MHz segment shall be set to 2 400 MHz - 2BW + 0.5 MHz (which means this may partly overlap with the previous 1 MHz segment).

Step 6:

In case of conducted measurements on equipment with a single transmit chain, the declared antenna assembly gain "G" in dBi shall be added to the results for each of the 1 MHz segments and compared with the limits provided by the mask given in figure 1 or figure 3. If more than one antenna assembly is intended for this power setting, the antenna with the highest gain shall be considered.

In case of conducted measurements on smart antenna systems (equipment with multiple transmit chains), the measurements need to be repeated for each of the active transmit chains. The declared antenna assembly gain

"G" in dBi for a single antenna shall be added to these results. If more than one antenna assembly is intended for this power setting, the antenna with the highest gain shall be considered. Comparison with the applicable limits shall be done using any of the options given below:

- Option 1: the results for each of the transmit chains for the corresponding 1 MHz segments shall be added. The additional beamforming gain "Y" in dB shall be added as well and the resulting values compared with the limits provided by the mask given in figure 1 or figure 3.
- Option 2: the limits provided by the mask given in figure 1 or figure 3 shall be reduced by $10 \times \log_{10}(A_{ch})$ and the additional beamforming gain "Y" in dB. The results for each of the transmit chains shall be individually compared with these reduced limits.

NOTE 2: A_{ch} refers to the number of active transmit chains.

**5.5.5 Measurement Record**

TestMode	Antenna	Frequency[MHz]	Freq. [MHz]	Level[dBm]	Limit[dBm]	Verdict
11B	Ant1	2412	2371.822	-50.31	-20.00	PASS
11B	Ant1	2412	2372.161	-50.05	-20.00	PASS
11B	Ant1	2412	2373.161	-50.08	-20.00	PASS
11B	Ant1	2412	2374.161	-49.53	-20.00	PASS
11B	Ant1	2412	2375.161	-49.41	-20.00	PASS
11B	Ant1	2412	2376.161	-49.68	-20.00	PASS
11B	Ant1	2412	2377.161	-50.29	-20.00	PASS
11B	Ant1	2412	2378.161	-50.57	-20.00	PASS
11B	Ant1	2412	2379.161	-50.46	-20.00	PASS
11B	Ant1	2412	2380.161	-50.01	-20.00	PASS
11B	Ant1	2412	2381.161	-48.71	-20.00	PASS
11B	Ant1	2412	2382.161	-47.21	-20.00	PASS
11B	Ant1	2412	2383.161	-45.70	-20.00	PASS
11B	Ant1	2412	2384.161	-45.02	-20.00	PASS
11B	Ant1	2412	2385.161	-44.07	-20.00	PASS
11B	Ant1	2412	2386.161	-43.11	-10.00	PASS
11B	Ant1	2412	2386.5	-43.24	-10.00	PASS
11B	Ant1	2412	2387.5	-44.18	-10.00	PASS
11B	Ant1	2412	2388.5	-45.81	-10.00	PASS
11B	Ant1	2412	2389.5	-47.61	-10.00	PASS
11B	Ant1	2412	2390.5	-45.93	-10.00	PASS
11B	Ant1	2412	2391.5	-42.92	-10.00	PASS
11B	Ant1	2412	2392.5	-39.70	-10.00	PASS
11B	Ant1	2412	2393.5	-35.88	-10.00	PASS
11B	Ant1	2412	2394.5	-33.15	-10.00	PASS
11B	Ant1	2412	2395.5	-32.66	-10.00	PASS
11B	Ant1	2412	2396.5	-31.12	-10.00	PASS
11B	Ant1	2412	2397.5	-30.58	-10.00	PASS
11B	Ant1	2412	2398.5	-31.20	-10.00	PASS



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11B	Ant1	2412	2399.5	-33.21	-10.00	PASS
11B	Ant1	2412	2484	-50.75	-10.00	PASS
11B	Ant1	2412	2485	-50.64	-10.00	PASS
11B	Ant1	2412	2486	-50.50	-10.00	PASS
11B	Ant1	2412	2487	-50.80	-10.00	PASS
11B	Ant1	2412	2488	-50.17	-10.00	PASS
11B	Ant1	2412	2489	-50.14	-10.00	PASS
11B	Ant1	2412	2490	-50.17	-10.00	PASS
11B	Ant1	2412	2491	-50.12	-10.00	PASS
11B	Ant1	2412	2492	-50.67	-10.00	PASS
11B	Ant1	2412	2493	-50.19	-10.00	PASS
11B	Ant1	2412	2494	-50.41	-10.00	PASS
11B	Ant1	2412	2495	-50.71	-10.00	PASS
11B	Ant1	2412	2496	-50.75	-10.00	PASS
11B	Ant1	2412	2497	-50.91	-10.00	PASS
11B	Ant1	2412	2497.339	-51.02	-10.00	PASS
11B	Ant1	2412	2498.339	-51.03	-20.00	PASS
11B	Ant1	2412	2499.339	-50.68	-20.00	PASS
11B	Ant1	2412	2500.339	-50.51	-20.00	PASS
11B	Ant1	2412	2501.339	-50.26	-20.00	PASS
11B	Ant1	2412	2502.339	-50.05	-20.00	PASS
11B	Ant1	2412	2503.339	-50.44	-20.00	PASS
11B	Ant1	2412	2504.339	-50.09	-20.00	PASS
11B	Ant1	2412	2505.339	-50.16	-20.00	PASS
11B	Ant1	2412	2506.339	-50.45	-20.00	PASS
11B	Ant1	2412	2507.339	-50.74	-20.00	PASS
11B	Ant1	2412	2508.339	-51.09	-20.00	PASS
11B	Ant1	2412	2509.339	-51.58	-20.00	PASS
11B	Ant1	2412	2510.339	-51.62	-20.00	PASS
11B	Ant1	2412	2511.339	-51.76	-20.00	PASS
11B	Ant1	2412	2511.678	-51.78	-20.00	PASS
11B	Ant1	2472	2371.85	-53.29	-20.00	PASS



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11B	Ant1	2472	2372.175	-53.28	-20.00	PASS
11B	Ant1	2472	2373.175	-53.25	-20.00	PASS
11B	Ant1	2472	2374.175	-53.21	-20.00	PASS
11B	Ant1	2472	2375.175	-53.16	-20.00	PASS
11B	Ant1	2472	2376.175	-53.03	-20.00	PASS
11B	Ant1	2472	2377.175	-52.92	-20.00	PASS
11B	Ant1	2472	2378.175	-52.82	-20.00	PASS
11B	Ant1	2472	2379.175	-52.75	-20.00	PASS
11B	Ant1	2472	2380.175	-52.95	-20.00	PASS
11B	Ant1	2472	2381.175	-52.75	-20.00	PASS
11B	Ant1	2472	2382.175	-52.79	-20.00	PASS
11B	Ant1	2472	2383.175	-52.86	-20.00	PASS
11B	Ant1	2472	2384.175	-52.96	-20.00	PASS
11B	Ant1	2472	2385.175	-53.02	-20.00	PASS
11B	Ant1	2472	2386.175	-53.08	-10.00	PASS
11B	Ant1	2472	2386.5	-53.09	-10.00	PASS
11B	Ant1	2472	2387.5	-52.98	-10.00	PASS
11B	Ant1	2472	2388.5	-52.98	-10.00	PASS
11B	Ant1	2472	2389.5	-52.87	-10.00	PASS
11B	Ant1	2472	2390.5	-52.80	-10.00	PASS
11B	Ant1	2472	2391.5	-52.81	-10.00	PASS
11B	Ant1	2472	2392.5	-52.72	-10.00	PASS
11B	Ant1	2472	2393.5	-52.62	-10.00	PASS
11B	Ant1	2472	2394.5	-52.57	-10.00	PASS
11B	Ant1	2472	2395.5	-52.54	-10.00	PASS
11B	Ant1	2472	2396.5	-52.57	-10.00	PASS
11B	Ant1	2472	2397.5	-52.61	-10.00	PASS
11B	Ant1	2472	2398.5	-52.51	-10.00	PASS
11B	Ant1	2472	2399.5	-52.36	-10.00	PASS
11B	Ant1	2472	2484	-33.55	-10.00	PASS
11B	Ant1	2472	2485	-32.17	-10.00	PASS
11B	Ant1	2472	2486	-31.56	-10.00	PASS



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11B	Ant1	2472	2487	-31.55	-10.00	PASS
11B	Ant1	2472	2488	-33.15	-10.00	PASS
11B	Ant1	2472	2489	-35.13	-10.00	PASS
11B	Ant1	2472	2490	-35.18	-10.00	PASS
11B	Ant1	2472	2491	-36.80	-10.00	PASS
11B	Ant1	2472	2492	-38.90	-10.00	PASS
11B	Ant1	2472	2493	-43.53	-10.00	PASS
11B	Ant1	2472	2494	-44.17	-10.00	PASS
11B	Ant1	2472	2495	-44.47	-10.00	PASS
11B	Ant1	2472	2496	-43.73	-10.00	PASS
11B	Ant1	2472	2497	-42.34	-10.00	PASS
11B	Ant1	2472	2497.325	-42.30	-10.00	PASS
11B	Ant1	2472	2498.325	-42.49	-20.00	PASS
11B	Ant1	2472	2499.325	-44.29	-20.00	PASS
11B	Ant1	2472	2500.325	-43.47	-20.00	PASS
11B	Ant1	2472	2501.325	-44.23	-20.00	PASS
11B	Ant1	2472	2502.325	-45.76	-20.00	PASS
11B	Ant1	2472	2503.325	-46.47	-20.00	PASS
11B	Ant1	2472	2504.325	-46.91	-20.00	PASS
11B	Ant1	2472	2505.325	-47.24	-20.00	PASS
11B	Ant1	2472	2506.325	-47.09	-20.00	PASS
11B	Ant1	2472	2507.325	-46.63	-20.00	PASS
11B	Ant1	2472	2508.325	-46.88	-20.00	PASS
11B	Ant1	2472	2509.325	-46.89	-20.00	PASS
11B	Ant1	2472	2510.325	-47.01	-20.00	PASS
11B	Ant1	2472	2511.325	-47.19	-20.00	PASS
11B	Ant1	2472	2511.65	-47.47	-20.00	PASS
11G	Ant1	2412	2367.616	-49.22	-20.00	PASS
11G	Ant1	2412	2368.058	-49.02	-20.00	PASS
11G	Ant1	2412	2369.058	-48.62	-20.00	PASS
11G	Ant1	2412	2370.058	-48.16	-20.00	PASS
11G	Ant1	2412	2371.058	-47.67	-20.00	PASS



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11G	Ant1	2412	2372.058	-47.26	-20.00	PASS
11G	Ant1	2412	2373.058	-46.76	-20.00	PASS
11G	Ant1	2412	2374.058	-46.25	-20.00	PASS
11G	Ant1	2412	2375.058	-45.76	-20.00	PASS
11G	Ant1	2412	2376.058	-45.26	-20.00	PASS
11G	Ant1	2412	2377.058	-44.70	-20.00	PASS
11G	Ant1	2412	2378.058	-44.16	-20.00	PASS
11G	Ant1	2412	2379.058	-43.53	-20.00	PASS
11G	Ant1	2412	2380.058	-42.91	-20.00	PASS
11G	Ant1	2412	2381.058	-42.28	-20.00	PASS
11G	Ant1	2412	2382.058	-41.69	-20.00	PASS
11G	Ant1	2412	2383.058	-41.05	-20.00	PASS
11G	Ant1	2412	2384.058	-40.39	-10.00	PASS
11G	Ant1	2412	2384.5	-40.11	-10.00	PASS
11G	Ant1	2412	2385.5	-39.44	-10.00	PASS
11G	Ant1	2412	2386.5	-38.78	-10.00	PASS
11G	Ant1	2412	2387.5	-37.98	-10.00	PASS
11G	Ant1	2412	2388.5	-36.30	-10.00	PASS
11G	Ant1	2412	2389.5	-34.09	-10.00	PASS
11G	Ant1	2412	2390.5	-32.10	-10.00	PASS
11G	Ant1	2412	2391.5	-30.33	-10.00	PASS
11G	Ant1	2412	2392.5	-28.86	-10.00	PASS
11G	Ant1	2412	2393.5	-27.59	-10.00	PASS
11G	Ant1	2412	2394.5	-26.45	-10.00	PASS
11G	Ant1	2412	2395.5	-25.43	-10.00	PASS
11G	Ant1	2412	2396.5	-24.46	-10.00	PASS
11G	Ant1	2412	2397.5	-23.52	-10.00	PASS
11G	Ant1	2412	2398.5	-22.68	-10.00	PASS
11G	Ant1	2412	2399.5	-21.84	-10.00	PASS
11G	Ant1	2412	2484	-50.50	-10.00	PASS
11G	Ant1	2412	2485	-50.52	-10.00	PASS
11G	Ant1	2412	2486	-50.52	-10.00	PASS



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11G	Ant1	2412	2487	-50.70	-10.00	PASS
11G	Ant1	2412	2488	-50.62	-10.00	PASS
11G	Ant1	2412	2489	-50.60	-10.00	PASS
11G	Ant1	2412	2490	-50.61	-10.00	PASS
11G	Ant1	2412	2491	-50.58	-10.00	PASS
11G	Ant1	2412	2492	-50.71	-10.00	PASS
11G	Ant1	2412	2493	-50.61	-10.00	PASS
11G	Ant1	2412	2494	-50.68	-10.00	PASS
11G	Ant1	2412	2495	-50.76	-10.00	PASS
11G	Ant1	2412	2496	-50.48	-10.00	PASS
11G	Ant1	2412	2497	-50.45	-10.00	PASS
11G	Ant1	2412	2498	-50.35	-10.00	PASS
11G	Ant1	2412	2499	-50.36	-10.00	PASS
11G	Ant1	2412	2499.442	-50.35	-10.00	PASS
11G	Ant1	2412	2500.442	-50.61	-20.00	PASS
11G	Ant1	2412	2501.442	-50.65	-20.00	PASS
11G	Ant1	2412	2502.442	-50.63	-20.00	PASS
11G	Ant1	2412	2503.442	-50.94	-20.00	PASS
11G	Ant1	2412	2504.442	-50.71	-20.00	PASS
11G	Ant1	2412	2505.442	-50.73	-20.00	PASS
11G	Ant1	2412	2506.442	-50.77	-20.00	PASS
11G	Ant1	2412	2507.442	-50.88	-20.00	PASS
11G	Ant1	2412	2508.442	-50.92	-20.00	PASS
11G	Ant1	2412	2509.442	-51.04	-20.00	PASS
11G	Ant1	2412	2510.442	-51.18	-20.00	PASS
11G	Ant1	2412	2511.442	-51.24	-20.00	PASS
11G	Ant1	2412	2512.442	-50.93	-20.00	PASS
11G	Ant1	2412	2513.442	-50.83	-20.00	PASS
11G	Ant1	2412	2514.442	-50.66	-20.00	PASS
11G	Ant1	2412	2515.442	-50.49	-20.00	PASS
11G	Ant1	2412	2515.884	-50.50	-20.00	PASS
11G	Ant1	2472	2366.964	-52.89	-20.00	PASS



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11G	Ant1	2472	2367.428	-52.92	-20.00	PASS
11G	Ant1	2472	2367.964	-52.90	-20.00	PASS
11G	Ant1	2472	2368.964	-52.92	-20.00	PASS
11G	Ant1	2472	2369.964	-52.97	-20.00	PASS
11G	Ant1	2472	2370.964	-53.00	-20.00	PASS
11G	Ant1	2472	2371.964	-53.10	-20.00	PASS
11G	Ant1	2472	2372.964	-53.11	-20.00	PASS
11G	Ant1	2472	2373.964	-53.08	-20.00	PASS
11G	Ant1	2472	2374.964	-53.01	-20.00	PASS
11G	Ant1	2472	2375.964	-52.98	-20.00	PASS
11G	Ant1	2472	2376.964	-52.96	-20.00	PASS
11G	Ant1	2472	2377.964	-52.94	-20.00	PASS
11G	Ant1	2472	2378.964	-52.93	-20.00	PASS
11G	Ant1	2472	2379.964	-53.04	-20.00	PASS
11G	Ant1	2472	2380.964	-52.92	-20.00	PASS
11G	Ant1	2472	2381.964	-52.93	-20.00	PASS
11G	Ant1	2472	2382.964	-52.90	-20.00	PASS
11G	Ant1	2472	2383.5	-52.90	-10.00	PASS
11G	Ant1	2472	2383.964	-52.85	-10.00	PASS
11G	Ant1	2472	2384.5	-52.84	-10.00	PASS
11G	Ant1	2472	2385.5	-52.84	-10.00	PASS
11G	Ant1	2472	2386.5	-52.85	-10.00	PASS
11G	Ant1	2472	2387.5	-52.86	-10.00	PASS
11G	Ant1	2472	2388.5	-52.88	-10.00	PASS
11G	Ant1	2472	2389.5	-52.88	-10.00	PASS
11G	Ant1	2472	2390.5	-52.86	-10.00	PASS
11G	Ant1	2472	2391.5	-52.82	-10.00	PASS
11G	Ant1	2472	2392.5	-52.78	-10.00	PASS
11G	Ant1	2472	2393.5	-52.71	-10.00	PASS
11G	Ant1	2472	2394.5	-52.66	-10.00	PASS
11G	Ant1	2472	2395.5	-52.63	-10.00	PASS
11G	Ant1	2472	2396.5	-52.58	-10.00	PASS



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11G	Ant1	2472	2397.5	-52.50	-10.00	PASS
11G	Ant1	2472	2398.5	-52.43	-10.00	PASS
11G	Ant1	2472	2399.5	-52.25	-10.00	PASS
11G	Ant1	2472	2484	-10.43	-10.00	PASS
11G	Ant1	2472	2485	-11.34	-10.00	PASS
11G	Ant1	2472	2486	-12.29	-10.00	PASS
11G	Ant1	2472	2487	-13.28	-10.00	PASS
11G	Ant1	2472	2488	-14.32	-10.00	PASS
11G	Ant1	2472	2489	-15.43	-10.00	PASS
11G	Ant1	2472	2490	-16.71	-10.00	PASS
11G	Ant1	2472	2491	-18.20	-10.00	PASS
11G	Ant1	2472	2492	-19.86	-10.00	PASS
11G	Ant1	2472	2493	-21.82	-10.00	PASS
11G	Ant1	2472	2494	-24.05	-10.00	PASS
11G	Ant1	2472	2495	-26.06	-10.00	PASS
11G	Ant1	2472	2496	-27.29	-10.00	PASS
11G	Ant1	2472	2497	-28.15	-10.00	PASS
11G	Ant1	2472	2498	-28.92	-10.00	PASS
11G	Ant1	2472	2499	-29.63	-10.00	PASS
11G	Ant1	2472	2499.536	-30.00	-10.00	PASS
11G	Ant1	2472	2500	-30.34	-10.00	PASS
11G	Ant1	2472	2500.536	-30.82	-20.00	PASS
11G	Ant1	2472	2501.536	-31.61	-20.00	PASS
11G	Ant1	2472	2502.536	-32.43	-20.00	PASS
11G	Ant1	2472	2503.536	-33.19	-20.00	PASS
11G	Ant1	2472	2504.536	-34.03	-20.00	PASS
11G	Ant1	2472	2505.536	-34.82	-20.00	PASS
11G	Ant1	2472	2506.536	-35.52	-20.00	PASS
11G	Ant1	2472	2507.536	-36.19	-20.00	PASS
11G	Ant1	2472	2508.536	-36.82	-20.00	PASS
11G	Ant1	2472	2509.536	-37.44	-20.00	PASS
11G	Ant1	2472	2510.536	-38.05	-20.00	PASS



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11G	Ant1	2472	2511.536	-38.65	-20.00	PASS
11G	Ant1	2472	2512.536	-39.27	-20.00	PASS
11G	Ant1	2472	2513.536	-39.91	-20.00	PASS
11G	Ant1	2472	2514.536	-40.53	-20.00	PASS
11G	Ant1	2472	2515.536	-41.12	-20.00	PASS
11G	Ant1	2472	2516.072	-41.45	-20.00	PASS
11G	Ant1	2472	2516.536	-41.68	-20.00	PASS
11N20SISO	Ant1	2412	2365.52	-51.76	-20.00	PASS
11N20SISO	Ant1	2412	2366.01	-51.68	-20.00	PASS
11N20SISO	Ant1	2412	2367.01	-51.45	-20.00	PASS
11N20SISO	Ant1	2412	2368.01	-51.41	-20.00	PASS
11N20SISO	Ant1	2412	2369.01	-51.18	-20.00	PASS
11N20SISO	Ant1	2412	2370.01	-50.96	-20.00	PASS
11N20SISO	Ant1	2412	2371.01	-50.83	-20.00	PASS
11N20SISO	Ant1	2412	2372.01	-50.66	-20.00	PASS
11N20SISO	Ant1	2412	2373.01	-50.28	-20.00	PASS
11N20SISO	Ant1	2412	2374.01	-50.15	-20.00	PASS
11N20SISO	Ant1	2412	2375.01	-49.67	-20.00	PASS
11N20SISO	Ant1	2412	2376.01	-49.46	-20.00	PASS
11N20SISO	Ant1	2412	2377.01	-49.16	-20.00	PASS
11N20SISO	Ant1	2412	2378.01	-48.92	-20.00	PASS
11N20SISO	Ant1	2412	2379.01	-48.42	-20.00	PASS
11N20SISO	Ant1	2412	2380.01	-48.21	-20.00	PASS
11N20SISO	Ant1	2412	2381.01	-47.94	-20.00	PASS
11N20SISO	Ant1	2412	2382.01	-47.46	-20.00	PASS
11N20SISO	Ant1	2412	2383.01	-47.05	-10.00	PASS
11N20SISO	Ant1	2412	2383.5	-46.86	-10.00	PASS
11N20SISO	Ant1	2412	2384.5	-46.17	-10.00	PASS
11N20SISO	Ant1	2412	2385.5	-45.63	-10.00	PASS
11N20SISO	Ant1	2412	2386.5	-44.26	-10.00	PASS
11N20SISO	Ant1	2412	2387.5	-41.22	-10.00	PASS
11N20SISO	Ant1	2412	2388.5	-38.80	-10.00	PASS



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11N20SISO	Ant1	2412	2389.5	-37.08	-10.00	PASS
11N20SISO	Ant1	2412	2390.5	-35.14	-10.00	PASS
11N20SISO	Ant1	2412	2391.5	-33.43	-10.00	PASS
11N20SISO	Ant1	2412	2392.5	-31.65	-10.00	PASS
11N20SISO	Ant1	2412	2393.5	-30.81	-10.00	PASS
11N20SISO	Ant1	2412	2394.5	-29.46	-10.00	PASS
11N20SISO	Ant1	2412	2395.5	-28.39	-10.00	PASS
11N20SISO	Ant1	2412	2396.5	-28.06	-10.00	PASS
11N20SISO	Ant1	2412	2397.5	-26.32	-10.00	PASS
11N20SISO	Ant1	2412	2398.5	-25.41	-10.00	PASS
11N20SISO	Ant1	2412	2399.5	-24.64	-10.00	PASS
11N20SISO	Ant1	2412	2484	-51.36	-10.00	PASS
11N20SISO	Ant1	2412	2485	-51.42	-10.00	PASS
11N20SISO	Ant1	2412	2486	-51.41	-10.00	PASS
11N20SISO	Ant1	2412	2487	-51.43	-10.00	PASS
11N20SISO	Ant1	2412	2488	-51.51	-10.00	PASS
11N20SISO	Ant1	2412	2489	-51.52	-10.00	PASS
11N20SISO	Ant1	2412	2490	-51.49	-10.00	PASS
11N20SISO	Ant1	2412	2491	-51.52	-10.00	PASS
11N20SISO	Ant1	2412	2492	-51.61	-10.00	PASS
11N20SISO	Ant1	2412	2493	-51.59	-10.00	PASS
11N20SISO	Ant1	2412	2494	-51.62	-10.00	PASS
11N20SISO	Ant1	2412	2495	-51.55	-10.00	PASS
11N20SISO	Ant1	2412	2496	-51.51	-10.00	PASS
11N20SISO	Ant1	2412	2497	-51.65	-10.00	PASS
11N20SISO	Ant1	2412	2498	-51.60	-10.00	PASS
11N20SISO	Ant1	2412	2499	-51.62	-10.00	PASS
11N20SISO	Ant1	2412	2500	-51.64	-10.00	PASS
11N20SISO	Ant1	2412	2500.49	-51.79	-10.00	PASS
11N20SISO	Ant1	2412	2501.49	-51.92	-20.00	PASS
11N20SISO	Ant1	2412	2502.49	-51.99	-20.00	PASS
11N20SISO	Ant1	2412	2503.49	-52.16	-20.00	PASS



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11N20SISO	Ant1	2412	2504.49	-52.05	-20.00	PASS
11N20SISO	Ant1	2412	2505.49	-52.10	-20.00	PASS
11N20SISO	Ant1	2412	2506.49	-52.13	-20.00	PASS
11N20SISO	Ant1	2412	2507.49	-52.24	-20.00	PASS
11N20SISO	Ant1	2412	2508.49	-52.25	-20.00	PASS
11N20SISO	Ant1	2412	2509.49	-52.34	-20.00	PASS
11N20SISO	Ant1	2412	2510.49	-52.41	-20.00	PASS
11N20SISO	Ant1	2412	2511.49	-52.18	-20.00	PASS
11N20SISO	Ant1	2412	2512.49	-51.97	-20.00	PASS
11N20SISO	Ant1	2412	2513.49	-52.12	-20.00	PASS
11N20SISO	Ant1	2412	2514.49	-52.00	-20.00	PASS
11N20SISO	Ant1	2412	2515.49	-51.84	-20.00	PASS
11N20SISO	Ant1	2412	2516.49	-51.84	-20.00	PASS
11N20SISO	Ant1	2412	2517.49	-51.73	-20.00	PASS
11N20SISO	Ant1	2412	2517.98	-51.69	-20.00	PASS
11N20SISO	Ant1	2472	2364.998	-53.18	-20.00	PASS
11N20SISO	Ant1	2472	2365.496	-53.22	-20.00	PASS
11N20SISO	Ant1	2472	2365.998	-53.19	-20.00	PASS
11N20SISO	Ant1	2472	2366.998	-53.23	-20.00	PASS
11N20SISO	Ant1	2472	2367.998	-53.22	-20.00	PASS
11N20SISO	Ant1	2472	2368.998	-53.23	-20.00	PASS
11N20SISO	Ant1	2472	2369.998	-53.30	-20.00	PASS
11N20SISO	Ant1	2472	2370.998	-53.30	-20.00	PASS
11N20SISO	Ant1	2472	2371.998	-53.20	-20.00	PASS
11N20SISO	Ant1	2472	2372.998	-53.38	-20.00	PASS
11N20SISO	Ant1	2472	2373.998	-53.36	-20.00	PASS
11N20SISO	Ant1	2472	2374.998	-53.31	-20.00	PASS
11N20SISO	Ant1	2472	2375.998	-53.30	-20.00	PASS
11N20SISO	Ant1	2472	2376.998	-53.23	-20.00	PASS
11N20SISO	Ant1	2472	2377.998	-53.20	-20.00	PASS
11N20SISO	Ant1	2472	2378.998	-53.22	-20.00	PASS
11N20SISO	Ant1	2472	2379.998	-53.26	-20.00	PASS



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11N20SISO	Ant1	2472	2380.998	-53.14	-20.00	PASS
11N20SISO	Ant1	2472	2381.998	-53.13	-20.00	PASS
11N20SISO	Ant1	2472	2382.5	-53.13	-10.00	PASS
11N20SISO	Ant1	2472	2382.998	-53.08	-10.00	PASS
11N20SISO	Ant1	2472	2383.5	-53.07	-10.00	PASS
11N20SISO	Ant1	2472	2384.5	-53.05	-10.00	PASS
11N20SISO	Ant1	2472	2385.5	-53.03	-10.00	PASS
11N20SISO	Ant1	2472	2386.5	-53.05	-10.00	PASS
11N20SISO	Ant1	2472	2387.5	-53.01	-10.00	PASS
11N20SISO	Ant1	2472	2388.5	-52.99	-10.00	PASS
11N20SISO	Ant1	2472	2389.5	-53.06	-10.00	PASS
11N20SISO	Ant1	2472	2390.5	-53.03	-10.00	PASS
11N20SISO	Ant1	2472	2391.5	-53.01	-10.00	PASS
11N20SISO	Ant1	2472	2392.5	-52.96	-10.00	PASS
11N20SISO	Ant1	2472	2393.5	-52.91	-10.00	PASS
11N20SISO	Ant1	2472	2394.5	-52.83	-10.00	PASS
11N20SISO	Ant1	2472	2395.5	-52.79	-10.00	PASS
11N20SISO	Ant1	2472	2396.5	-52.71	-10.00	PASS
11N20SISO	Ant1	2472	2397.5	-52.64	-10.00	PASS
11N20SISO	Ant1	2472	2398.5	-52.60	-10.00	PASS
11N20SISO	Ant1	2472	2399.5	-52.35	-10.00	PASS
11N20SISO	Ant1	2472	2484	-18.41	-10.00	PASS
11N20SISO	Ant1	2472	2485	-19.48	-10.00	PASS
11N20SISO	Ant1	2472	2486	-20.82	-10.00	PASS
11N20SISO	Ant1	2472	2487	-21.66	-10.00	PASS
11N20SISO	Ant1	2472	2488	-22.49	-10.00	PASS
11N20SISO	Ant1	2472	2489	-24.07	-10.00	PASS
11N20SISO	Ant1	2472	2490	-25.58	-10.00	PASS
11N20SISO	Ant1	2472	2491	-26.67	-10.00	PASS
11N20SISO	Ant1	2472	2492	-28.41	-10.00	PASS
11N20SISO	Ant1	2472	2493	-30.23	-10.00	PASS
11N20SISO	Ant1	2472	2494	-32.22	-10.00	PASS



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11N20SISO	Ant1	2472	2495	-33.58	-10.00	PASS
11N20SISO	Ant1	2472	2496	-36.91	-10.00	PASS
11N20SISO	Ant1	2472	2497	-40.42	-10.00	PASS
11N20SISO	Ant1	2472	2498	-41.82	-10.00	PASS
11N20SISO	Ant1	2472	2499	-42.41	-10.00	PASS
11N20SISO	Ant1	2472	2500	-42.87	-10.00	PASS
11N20SISO	Ant1	2472	2500.502	-43.40	-10.00	PASS
11N20SISO	Ant1	2472	2501	-43.64	-10.00	PASS
11N20SISO	Ant1	2472	2501.502	-43.81	-20.00	PASS
11N20SISO	Ant1	2472	2502.502	-43.92	-20.00	PASS
11N20SISO	Ant1	2472	2503.502	-44.27	-20.00	PASS
11N20SISO	Ant1	2472	2504.502	-44.79	-20.00	PASS
11N20SISO	Ant1	2472	2505.502	-44.89	-20.00	PASS
11N20SISO	Ant1	2472	2506.502	-45.55	-20.00	PASS
11N20SISO	Ant1	2472	2507.502	-45.53	-20.00	PASS
11N20SISO	Ant1	2472	2508.502	-46.02	-20.00	PASS
11N20SISO	Ant1	2472	2509.502	-46.19	-20.00	PASS
11N20SISO	Ant1	2472	2510.502	-46.52	-20.00	PASS
11N20SISO	Ant1	2472	2511.502	-46.72	-20.00	PASS
11N20SISO	Ant1	2472	2512.502	-46.92	-20.00	PASS
11N20SISO	Ant1	2472	2513.502	-47.10	-20.00	PASS
11N20SISO	Ant1	2472	2514.502	-47.42	-20.00	PASS
11N20SISO	Ant1	2472	2515.502	-47.62	-20.00	PASS
11N20SISO	Ant1	2472	2516.502	-47.61	-20.00	PASS
11N20SISO	Ant1	2472	2517.502	-47.95	-20.00	PASS
11N20SISO	Ant1	2472	2518.004	-48.11	-20.00	PASS
11N20SISO	Ant1	2472	2518.502	-48.21	-20.00	PASS
11N40SISO	Ant1	2422	2328.474	-51.63	-20.00	PASS
11N40SISO	Ant1	2422	2328.487	-51.65	-20.00	PASS
11N40SISO	Ant1	2422	2329.487	-51.58	-20.00	PASS
11N40SISO	Ant1	2422	2330.487	-51.40	-20.00	PASS
11N40SISO	Ant1	2422	2331.487	-51.27	-20.00	PASS



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11N40SISO	Ant1	2422	2332.487	-51.26	-20.00	PASS
11N40SISO	Ant1	2422	2333.487	-51.18	-20.00	PASS
11N40SISO	Ant1	2422	2334.487	-51.04	-20.00	PASS
11N40SISO	Ant1	2422	2335.487	-50.94	-20.00	PASS
11N40SISO	Ant1	2422	2336.487	-50.89	-20.00	PASS
11N40SISO	Ant1	2422	2337.487	-50.75	-20.00	PASS
11N40SISO	Ant1	2422	2338.487	-50.65	-20.00	PASS
11N40SISO	Ant1	2422	2339.487	-50.54	-20.00	PASS
11N40SISO	Ant1	2422	2340.487	-50.40	-20.00	PASS
11N40SISO	Ant1	2422	2341.487	-50.30	-20.00	PASS
11N40SISO	Ant1	2422	2342.487	-50.22	-20.00	PASS
11N40SISO	Ant1	2422	2343.487	-50.07	-20.00	PASS
11N40SISO	Ant1	2422	2344.487	-50.04	-20.00	PASS
11N40SISO	Ant1	2422	2345.487	-49.72	-20.00	PASS
11N40SISO	Ant1	2422	2346.487	-49.45	-20.00	PASS
11N40SISO	Ant1	2422	2347.487	-49.41	-20.00	PASS
11N40SISO	Ant1	2422	2348.487	-49.25	-20.00	PASS
11N40SISO	Ant1	2422	2349.487	-49.19	-20.00	PASS
11N40SISO	Ant1	2422	2350.487	-48.86	-20.00	PASS
11N40SISO	Ant1	2422	2351.487	-48.68	-20.00	PASS
11N40SISO	Ant1	2422	2352.487	-48.38	-20.00	PASS
11N40SISO	Ant1	2422	2353.487	-48.18	-20.00	PASS
11N40SISO	Ant1	2422	2354.487	-48.02	-20.00	PASS
11N40SISO	Ant1	2422	2355.487	-47.71	-20.00	PASS
11N40SISO	Ant1	2422	2356.487	-47.66	-20.00	PASS
11N40SISO	Ant1	2422	2357.487	-47.17	-20.00	PASS
11N40SISO	Ant1	2422	2358.487	-46.90	-20.00	PASS
11N40SISO	Ant1	2422	2359.487	-46.85	-20.00	PASS
11N40SISO	Ant1	2422	2360.487	-46.67	-20.00	PASS
11N40SISO	Ant1	2422	2361.487	-46.44	-20.00	PASS
11N40SISO	Ant1	2422	2362.487	-46.25	-20.00	PASS
11N40SISO	Ant1	2422	2363.487	-45.71	-20.00	PASS



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11N40SISO	Ant1	2422	2364.487	-45.19	-10.00	PASS
11N40SISO	Ant1	2422	2364.5	-45.24	-10.00	PASS
11N40SISO	Ant1	2422	2365.5	-44.53	-10.00	PASS
11N40SISO	Ant1	2422	2366.5	-44.12	-10.00	PASS
11N40SISO	Ant1	2422	2367.5	-43.95	-10.00	PASS
11N40SISO	Ant1	2422	2368.5	-43.32	-10.00	PASS
11N40SISO	Ant1	2422	2369.5	-42.89	-10.00	PASS
11N40SISO	Ant1	2422	2370.5	-41.20	-10.00	PASS
11N40SISO	Ant1	2422	2371.5	-39.74	-10.00	PASS
11N40SISO	Ant1	2422	2372.5	-38.16	-10.00	PASS
11N40SISO	Ant1	2422	2373.5	-37.09	-10.00	PASS
11N40SISO	Ant1	2422	2374.5	-35.58	-10.00	PASS
11N40SISO	Ant1	2422	2375.5	-34.70	-10.00	PASS
11N40SISO	Ant1	2422	2376.5	-34.03	-10.00	PASS
11N40SISO	Ant1	2422	2377.5	-33.03	-10.00	PASS
11N40SISO	Ant1	2422	2378.5	-32.42	-10.00	PASS
11N40SISO	Ant1	2422	2379.5	-32.16	-10.00	PASS
11N40SISO	Ant1	2422	2380.5	-31.25	-10.00	PASS
11N40SISO	Ant1	2422	2381.5	-30.22	-10.00	PASS
11N40SISO	Ant1	2422	2382.5	-30.43	-10.00	PASS
11N40SISO	Ant1	2422	2383.5	-29.72	-10.00	PASS
11N40SISO	Ant1	2422	2384.5	-28.96	-10.00	PASS
11N40SISO	Ant1	2422	2385.5	-27.65	-10.00	PASS
11N40SISO	Ant1	2422	2386.5	-27.09	-10.00	PASS
11N40SISO	Ant1	2422	2387.5	-27.35	-10.00	PASS
11N40SISO	Ant1	2422	2388.5	-26.82	-10.00	PASS
11N40SISO	Ant1	2422	2389.5	-27.45	-10.00	PASS
11N40SISO	Ant1	2422	2390.5	-26.41	-10.00	PASS
11N40SISO	Ant1	2422	2391.5	-26.78	-10.00	PASS
11N40SISO	Ant1	2422	2392.5	-26.65	-10.00	PASS
11N40SISO	Ant1	2422	2393.5	-26.78	-10.00	PASS
11N40SISO	Ant1	2422	2394.5	-26.38	-10.00	PASS



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11N40SISO	Ant1	2422	2395.5	-26.11	-10.00	PASS
11N40SISO	Ant1	2422	2396.5	-25.87	-10.00	PASS
11N40SISO	Ant1	2422	2397.5	-25.27	-10.00	PASS
11N40SISO	Ant1	2422	2398.5	-24.99	-10.00	PASS
11N40SISO	Ant1	2422	2399.5	-25.06	-10.00	PASS
11N40SISO	Ant1	2422	2484	-44.06	-10.00	PASS
11N40SISO	Ant1	2422	2485	-44.25	-10.00	PASS
11N40SISO	Ant1	2422	2486	-44.80	-10.00	PASS
11N40SISO	Ant1	2422	2487	-44.96	-10.00	PASS
11N40SISO	Ant1	2422	2488	-44.98	-10.00	PASS
11N40SISO	Ant1	2422	2489	-45.18	-10.00	PASS
11N40SISO	Ant1	2422	2490	-45.35	-10.00	PASS
11N40SISO	Ant1	2422	2491	-44.99	-10.00	PASS
11N40SISO	Ant1	2422	2492	-45.72	-10.00	PASS
11N40SISO	Ant1	2422	2493	-45.86	-10.00	PASS
11N40SISO	Ant1	2422	2494	-46.11	-10.00	PASS
11N40SISO	Ant1	2422	2495	-46.44	-10.00	PASS
11N40SISO	Ant1	2422	2496	-46.46	-10.00	PASS
11N40SISO	Ant1	2422	2497	-46.76	-10.00	PASS
11N40SISO	Ant1	2422	2498	-46.81	-10.00	PASS
11N40SISO	Ant1	2422	2499	-46.85	-10.00	PASS
11N40SISO	Ant1	2422	2500	-47.08	-10.00	PASS
11N40SISO	Ant1	2422	2501	-47.32	-10.00	PASS
11N40SISO	Ant1	2422	2502	-47.42	-10.00	PASS
11N40SISO	Ant1	2422	2503	-47.62	-10.00	PASS
11N40SISO	Ant1	2422	2504	-47.80	-10.00	PASS
11N40SISO	Ant1	2422	2505	-47.91	-10.00	PASS
11N40SISO	Ant1	2422	2506	-47.97	-10.00	PASS
11N40SISO	Ant1	2422	2507	-48.03	-10.00	PASS
11N40SISO	Ant1	2422	2508	-48.17	-10.00	PASS
11N40SISO	Ant1	2422	2509	-48.26	-10.00	PASS
11N40SISO	Ant1	2422	2510	-48.33	-10.00	PASS



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11N40SISO	Ant1	2422	2511	-48.37	-10.00	PASS
11N40SISO	Ant1	2422	2512	-48.37	-10.00	PASS
11N40SISO	Ant1	2422	2513	-48.38	-10.00	PASS
11N40SISO	Ant1	2422	2514	-48.46	-10.00	PASS
11N40SISO	Ant1	2422	2515	-48.48	-10.00	PASS
11N40SISO	Ant1	2422	2516	-48.52	-10.00	PASS
11N40SISO	Ant1	2422	2517	-48.59	-10.00	PASS
11N40SISO	Ant1	2422	2518	-48.61	-10.00	PASS
11N40SISO	Ant1	2422	2519	-48.68	-10.00	PASS
11N40SISO	Ant1	2422	2519.013	-48.70	-10.00	PASS
11N40SISO	Ant1	2422	2520.013	-48.80	-20.00	PASS
11N40SISO	Ant1	2422	2521.013	-48.86	-20.00	PASS
11N40SISO	Ant1	2422	2522.013	-48.91	-20.00	PASS
11N40SISO	Ant1	2422	2523.013	-48.99	-20.00	PASS
11N40SISO	Ant1	2422	2524.013	-49.04	-20.00	PASS
11N40SISO	Ant1	2422	2525.013	-49.13	-20.00	PASS
11N40SISO	Ant1	2422	2526.013	-49.19	-20.00	PASS
11N40SISO	Ant1	2422	2527.013	-49.26	-20.00	PASS
11N40SISO	Ant1	2422	2528.013	-49.34	-20.00	PASS
11N40SISO	Ant1	2422	2529.013	-49.27	-20.00	PASS
11N40SISO	Ant1	2422	2530.013	-49.40	-20.00	PASS
11N40SISO	Ant1	2422	2531.013	-49.38	-20.00	PASS
11N40SISO	Ant1	2422	2532.013	-49.44	-20.00	PASS
11N40SISO	Ant1	2422	2533.013	-49.52	-20.00	PASS
11N40SISO	Ant1	2422	2534.013	-49.54	-20.00	PASS
11N40SISO	Ant1	2422	2535.013	-49.58	-20.00	PASS
11N40SISO	Ant1	2422	2536.013	-49.58	-20.00	PASS
11N40SISO	Ant1	2422	2537.013	-49.46	-20.00	PASS
11N40SISO	Ant1	2422	2538.013	-49.17	-20.00	PASS
11N40SISO	Ant1	2422	2539.013	-49.07	-20.00	PASS
11N40SISO	Ant1	2422	2540.013	-48.99	-20.00	PASS
11N40SISO	Ant1	2422	2541.013	-48.96	-20.00	PASS



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11N40SISO	Ant1	2422	2542.013	-48.99	-20.00	PASS
11N40SISO	Ant1	2422	2543.013	-48.94	-20.00	PASS
11N40SISO	Ant1	2422	2544.013	-48.90	-20.00	PASS
11N40SISO	Ant1	2422	2545.013	-48.92	-20.00	PASS
11N40SISO	Ant1	2422	2546.013	-48.91	-20.00	PASS
11N40SISO	Ant1	2422	2547.013	-49.20	-20.00	PASS
11N40SISO	Ant1	2422	2548.013	-48.99	-20.00	PASS
11N40SISO	Ant1	2422	2549.013	-49.11	-20.00	PASS
11N40SISO	Ant1	2422	2550.013	-49.10	-20.00	PASS
11N40SISO	Ant1	2422	2551.013	-49.12	-20.00	PASS
11N40SISO	Ant1	2422	2552.013	-49.15	-20.00	PASS
11N40SISO	Ant1	2422	2553.013	-49.20	-20.00	PASS
11N40SISO	Ant1	2422	2554.013	-48.94	-20.00	PASS
11N40SISO	Ant1	2422	2555.013	-49.27	-20.00	PASS
11N40SISO	Ant1	2422	2555.026	-49.26	-20.00	PASS
11N40SISO	Ant1	2462	2328.338	-52.49	-20.00	PASS
11N40SISO	Ant1	2462	2328.419	-52.54	-20.00	PASS
11N40SISO	Ant1	2462	2329.419	-52.34	-20.00	PASS
11N40SISO	Ant1	2462	2330.419	-52.28	-20.00	PASS
11N40SISO	Ant1	2462	2331.419	-52.28	-20.00	PASS
11N40SISO	Ant1	2462	2332.419	-52.24	-20.00	PASS
11N40SISO	Ant1	2462	2333.419	-52.21	-20.00	PASS
11N40SISO	Ant1	2462	2334.419	-52.21	-20.00	PASS
11N40SISO	Ant1	2462	2335.419	-52.10	-20.00	PASS
11N40SISO	Ant1	2462	2336.419	-52.13	-20.00	PASS
11N40SISO	Ant1	2462	2337.419	-52.05	-20.00	PASS
11N40SISO	Ant1	2462	2338.419	-51.93	-20.00	PASS
11N40SISO	Ant1	2462	2339.419	-51.90	-20.00	PASS
11N40SISO	Ant1	2462	2340.419	-51.87	-20.00	PASS
11N40SISO	Ant1	2462	2341.419	-51.84	-20.00	PASS
11N40SISO	Ant1	2462	2342.419	-51.82	-20.00	PASS
11N40SISO	Ant1	2462	2343.419	-51.77	-20.00	PASS



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11N40SISO	Ant1	2462	2344.419	-51.75	-20.00	PASS
11N40SISO	Ant1	2462	2345.419	-51.79	-20.00	PASS
11N40SISO	Ant1	2462	2346.419	-51.80	-20.00	PASS
11N40SISO	Ant1	2462	2347.419	-52.00	-20.00	PASS
11N40SISO	Ant1	2462	2348.419	-51.97	-20.00	PASS
11N40SISO	Ant1	2462	2349.419	-51.92	-20.00	PASS
11N40SISO	Ant1	2462	2350.419	-51.89	-20.00	PASS
11N40SISO	Ant1	2462	2351.419	-51.85	-20.00	PASS
11N40SISO	Ant1	2462	2352.419	-51.74	-20.00	PASS
11N40SISO	Ant1	2462	2353.419	-51.74	-20.00	PASS
11N40SISO	Ant1	2462	2354.419	-51.61	-20.00	PASS
11N40SISO	Ant1	2462	2355.419	-51.62	-20.00	PASS
11N40SISO	Ant1	2462	2356.419	-51.57	-20.00	PASS
11N40SISO	Ant1	2462	2357.419	-51.53	-20.00	PASS
11N40SISO	Ant1	2462	2358.419	-51.41	-20.00	PASS
11N40SISO	Ant1	2462	2359.419	-51.30	-20.00	PASS
11N40SISO	Ant1	2462	2360.419	-51.27	-20.00	PASS
11N40SISO	Ant1	2462	2361.419	-51.20	-20.00	PASS
11N40SISO	Ant1	2462	2362.419	-51.10	-20.00	PASS
11N40SISO	Ant1	2462	2363.419	-51.05	-20.00	PASS
11N40SISO	Ant1	2462	2364.419	-50.91	-10.00	PASS
11N40SISO	Ant1	2462	2364.5	-50.85	-10.00	PASS
11N40SISO	Ant1	2462	2365.5	-50.75	-10.00	PASS
11N40SISO	Ant1	2462	2366.5	-50.69	-10.00	PASS
11N40SISO	Ant1	2462	2367.5	-50.62	-10.00	PASS
11N40SISO	Ant1	2462	2368.5	-50.53	-10.00	PASS
11N40SISO	Ant1	2462	2369.5	-50.38	-10.00	PASS
11N40SISO	Ant1	2462	2370.5	-50.31	-10.00	PASS
11N40SISO	Ant1	2462	2371.5	-50.23	-10.00	PASS
11N40SISO	Ant1	2462	2372.5	-50.17	-10.00	PASS
11N40SISO	Ant1	2462	2373.5	-50.03	-10.00	PASS
11N40SISO	Ant1	2462	2374.5	-49.86	-10.00	PASS



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11N40SISO	Ant1	2462	2375.5	-49.76	-10.00	PASS
11N40SISO	Ant1	2462	2376.5	-49.67	-10.00	PASS
11N40SISO	Ant1	2462	2377.5	-49.59	-10.00	PASS
11N40SISO	Ant1	2462	2378.5	-49.51	-10.00	PASS
11N40SISO	Ant1	2462	2379.5	-49.38	-10.00	PASS
11N40SISO	Ant1	2462	2380.5	-49.27	-10.00	PASS
11N40SISO	Ant1	2462	2381.5	-49.20	-10.00	PASS
11N40SISO	Ant1	2462	2382.5	-49.00	-10.00	PASS
11N40SISO	Ant1	2462	2383.5	-48.90	-10.00	PASS
11N40SISO	Ant1	2462	2384.5	-48.48	-10.00	PASS
11N40SISO	Ant1	2462	2385.5	-48.35	-10.00	PASS
11N40SISO	Ant1	2462	2386.5	-48.15	-10.00	PASS
11N40SISO	Ant1	2462	2387.5	-48.26	-10.00	PASS
11N40SISO	Ant1	2462	2388.5	-47.82	-10.00	PASS
11N40SISO	Ant1	2462	2389.5	-47.68	-10.00	PASS
11N40SISO	Ant1	2462	2390.5	-47.19	-10.00	PASS
11N40SISO	Ant1	2462	2391.5	-47.03	-10.00	PASS
11N40SISO	Ant1	2462	2392.5	-46.71	-10.00	PASS
11N40SISO	Ant1	2462	2393.5	-46.35	-10.00	PASS
11N40SISO	Ant1	2462	2394.5	-46.17	-10.00	PASS
11N40SISO	Ant1	2462	2395.5	-46.00	-10.00	PASS
11N40SISO	Ant1	2462	2396.5	-45.64	-10.00	PASS
11N40SISO	Ant1	2462	2397.5	-45.03	-10.00	PASS
11N40SISO	Ant1	2462	2398.5	-44.69	-10.00	PASS
11N40SISO	Ant1	2462	2399.5	-44.60	-10.00	PASS
11N40SISO	Ant1	2462	2484	-21.98	-10.00	PASS
11N40SISO	Ant1	2462	2485	-23.08	-10.00	PASS
11N40SISO	Ant1	2462	2486	-22.51	-10.00	PASS
11N40SISO	Ant1	2462	2487	-23.01	-10.00	PASS
11N40SISO	Ant1	2462	2488	-23.33	-10.00	PASS
11N40SISO	Ant1	2462	2489	-23.44	-10.00	PASS
11N40SISO	Ant1	2462	2490	-26.99	-10.00	PASS



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11N40SISO	Ant1	2462	2491	-24.31	-10.00	PASS
11N40SISO	Ant1	2462	2492	-25.15	-10.00	PASS
11N40SISO	Ant1	2462	2493	-25.23	-10.00	PASS
11N40SISO	Ant1	2462	2494	-26.22	-10.00	PASS
11N40SISO	Ant1	2462	2495	-27.09	-10.00	PASS
11N40SISO	Ant1	2462	2496	-27.43	-10.00	PASS
11N40SISO	Ant1	2462	2497	-27.64	-10.00	PASS
11N40SISO	Ant1	2462	2498	-27.14	-10.00	PASS
11N40SISO	Ant1	2462	2499	-28.40	-10.00	PASS
11N40SISO	Ant1	2462	2500	-29.18	-10.00	PASS
11N40SISO	Ant1	2462	2501	-30.75	-10.00	PASS
11N40SISO	Ant1	2462	2502	-31.49	-10.00	PASS
11N40SISO	Ant1	2462	2503	-32.05	-10.00	PASS
11N40SISO	Ant1	2462	2504	-32.56	-10.00	PASS
11N40SISO	Ant1	2462	2505	-33.41	-10.00	PASS
11N40SISO	Ant1	2462	2506	-33.80	-10.00	PASS
11N40SISO	Ant1	2462	2507	-33.93	-10.00	PASS
11N40SISO	Ant1	2462	2508	-34.75	-10.00	PASS
11N40SISO	Ant1	2462	2509	-35.94	-10.00	PASS
11N40SISO	Ant1	2462	2510	-36.10	-10.00	PASS
11N40SISO	Ant1	2462	2511	-37.08	-10.00	PASS
11N40SISO	Ant1	2462	2512	-37.99	-10.00	PASS
11N40SISO	Ant1	2462	2513	-39.19	-10.00	PASS
11N40SISO	Ant1	2462	2514	-40.35	-10.00	PASS
11N40SISO	Ant1	2462	2515	-40.85	-10.00	PASS
11N40SISO	Ant1	2462	2516	-40.82	-10.00	PASS
11N40SISO	Ant1	2462	2517	-41.30	-10.00	PASS
11N40SISO	Ant1	2462	2518	-40.36	-10.00	PASS
11N40SISO	Ant1	2462	2519	-41.07	-10.00	PASS
11N40SISO	Ant1	2462	2519.081	-41.20	-10.00	PASS
11N40SISO	Ant1	2462	2520.081	-41.78	-20.00	PASS
11N40SISO	Ant1	2462	2521.081	-42.45	-20.00	PASS



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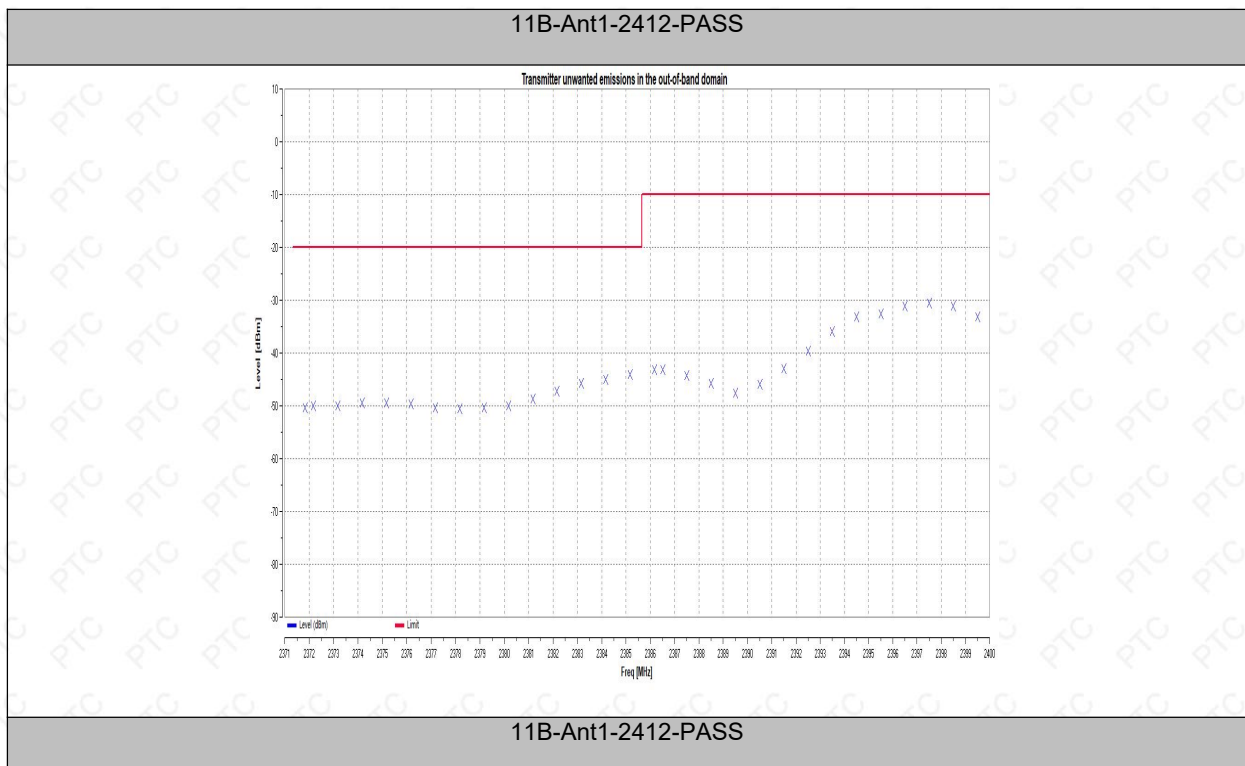
11N40SISO	Ant1	2462	2522.081	-42.43	-20.00	PASS
11N40SISO	Ant1	2462	2523.081	-43.06	-20.00	PASS
11N40SISO	Ant1	2462	2524.081	-42.91	-20.00	PASS
11N40SISO	Ant1	2462	2525.081	-42.99	-20.00	PASS
11N40SISO	Ant1	2462	2526.081	-43.35	-20.00	PASS
11N40SISO	Ant1	2462	2527.081	-43.61	-20.00	PASS
11N40SISO	Ant1	2462	2528.081	-43.61	-20.00	PASS
11N40SISO	Ant1	2462	2529.081	-43.88	-20.00	PASS
11N40SISO	Ant1	2462	2530.081	-44.18	-20.00	PASS
11N40SISO	Ant1	2462	2531.081	-43.92	-20.00	PASS
11N40SISO	Ant1	2462	2532.081	-44.64	-20.00	PASS
11N40SISO	Ant1	2462	2533.081	-45.01	-20.00	PASS
11N40SISO	Ant1	2462	2534.081	-45.38	-20.00	PASS
11N40SISO	Ant1	2462	2535.081	-45.56	-20.00	PASS
11N40SISO	Ant1	2462	2536.081	-45.48	-20.00	PASS
11N40SISO	Ant1	2462	2537.081	-45.91	-20.00	PASS
11N40SISO	Ant1	2462	2538.081	-45.82	-20.00	PASS
11N40SISO	Ant1	2462	2539.081	-45.87	-20.00	PASS
11N40SISO	Ant1	2462	2540.081	-46.01	-20.00	PASS
11N40SISO	Ant1	2462	2541.081	-46.38	-20.00	PASS
11N40SISO	Ant1	2462	2542.081	-46.61	-20.00	PASS
11N40SISO	Ant1	2462	2543.081	-46.62	-20.00	PASS
11N40SISO	Ant1	2462	2544.081	-46.71	-20.00	PASS
11N40SISO	Ant1	2462	2545.081	-46.84	-20.00	PASS
11N40SISO	Ant1	2462	2546.081	-46.87	-20.00	PASS
11N40SISO	Ant1	2462	2547.081	-46.95	-20.00	PASS
11N40SISO	Ant1	2462	2548.081	-47.13	-20.00	PASS
11N40SISO	Ant1	2462	2549.081	-47.24	-20.00	PASS
11N40SISO	Ant1	2462	2550.081	-47.34	-20.00	PASS
11N40SISO	Ant1	2462	2551.081	-47.43	-20.00	PASS
11N40SISO	Ant1	2462	2552.081	-47.47	-20.00	PASS
11N40SISO	Ant1	2462	2553.081	-47.58	-20.00	PASS



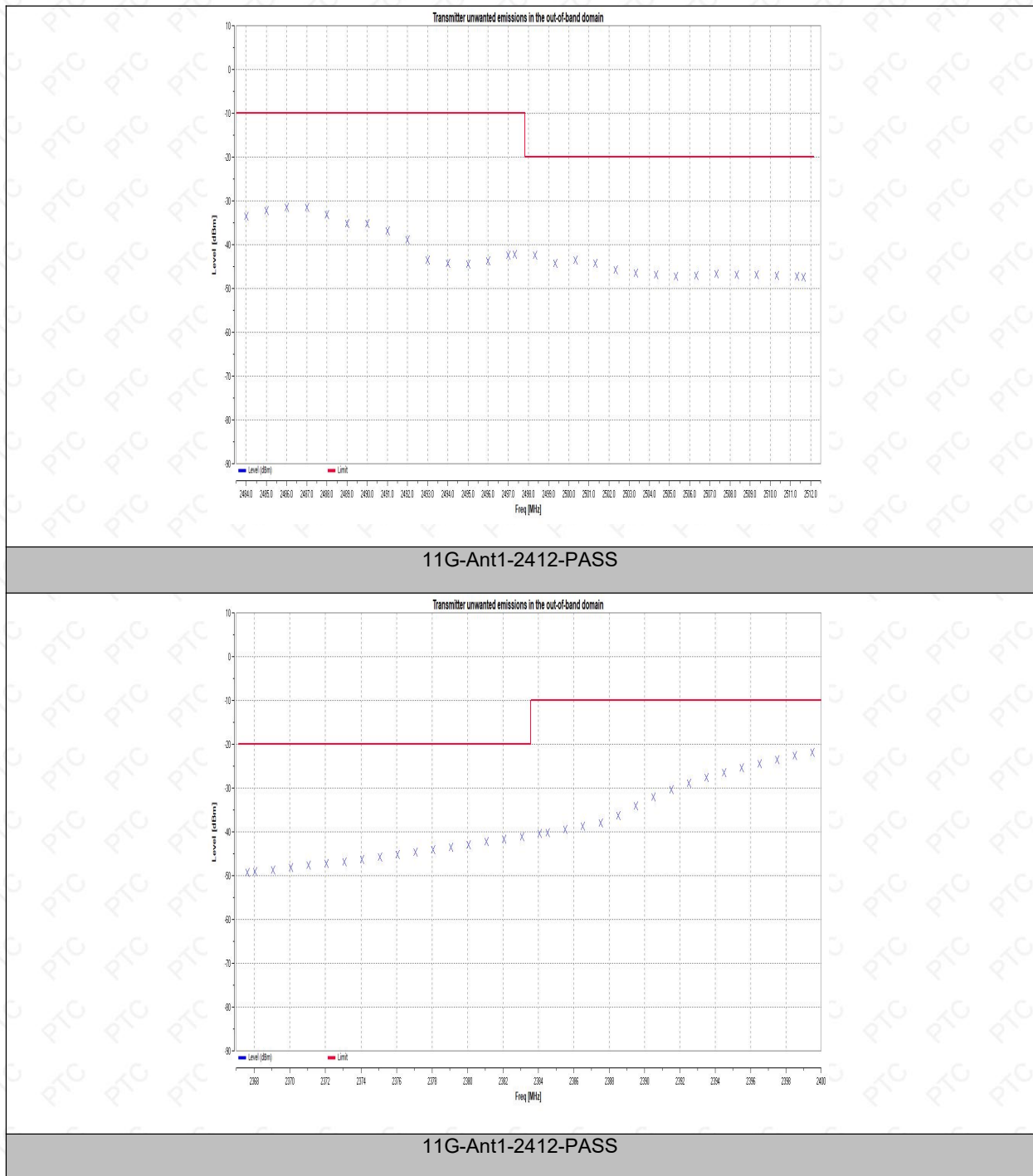
Report No.: PTC25081318716E-EM02

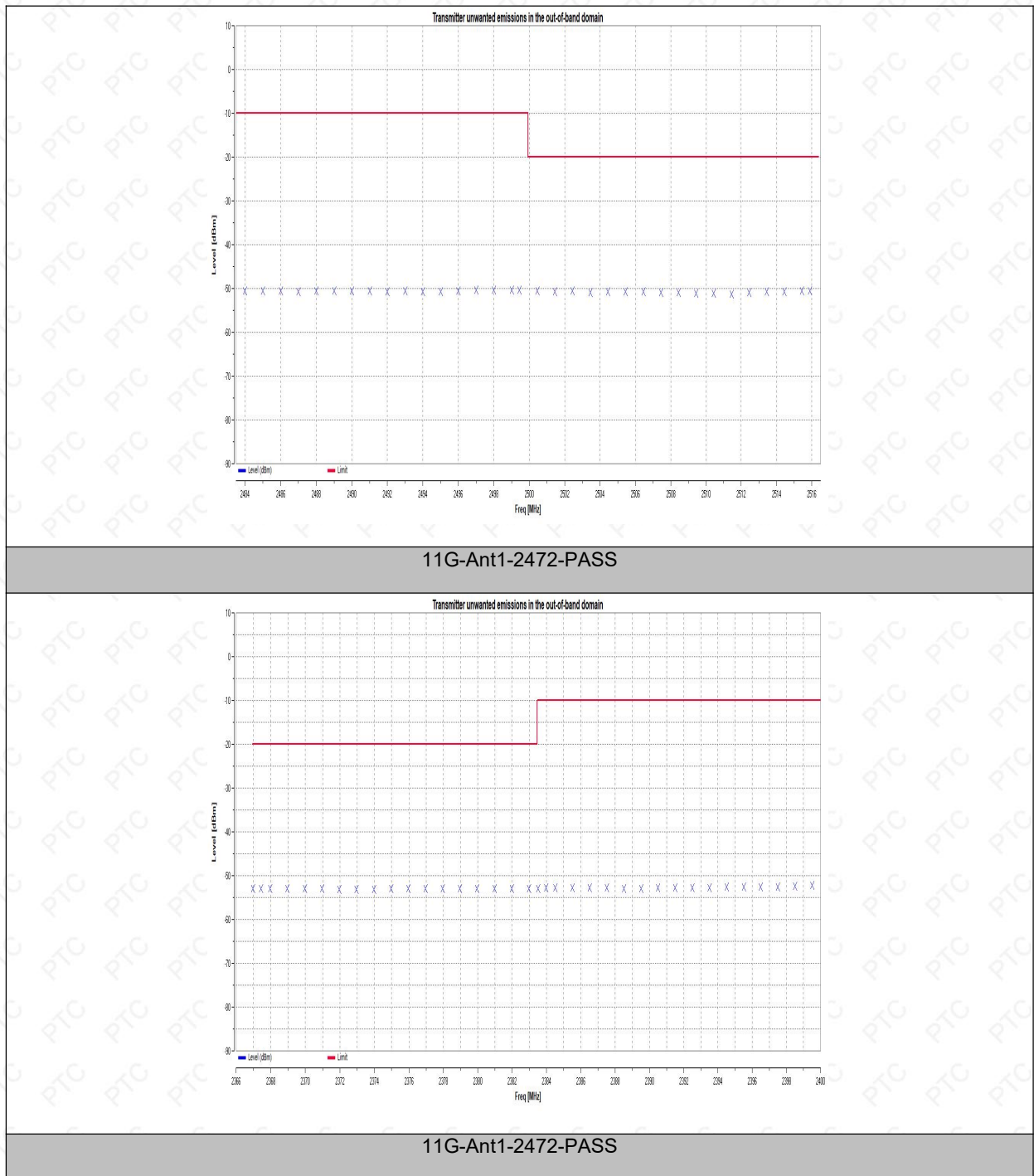
11N40SISO	Ant1	2462	2554.081	-47.68	-20.00	PASS
11N40SISO	Ant1	2462	2555.081	-47.79	-20.00	PASS
11N40SISO	Ant1	2462	2555.162	-47.82	-20.00	PASS

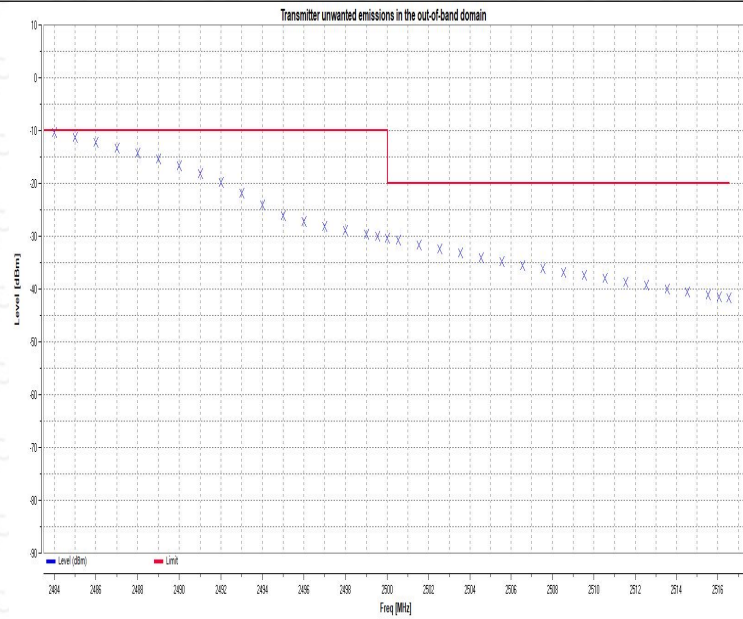
Test Graphs:



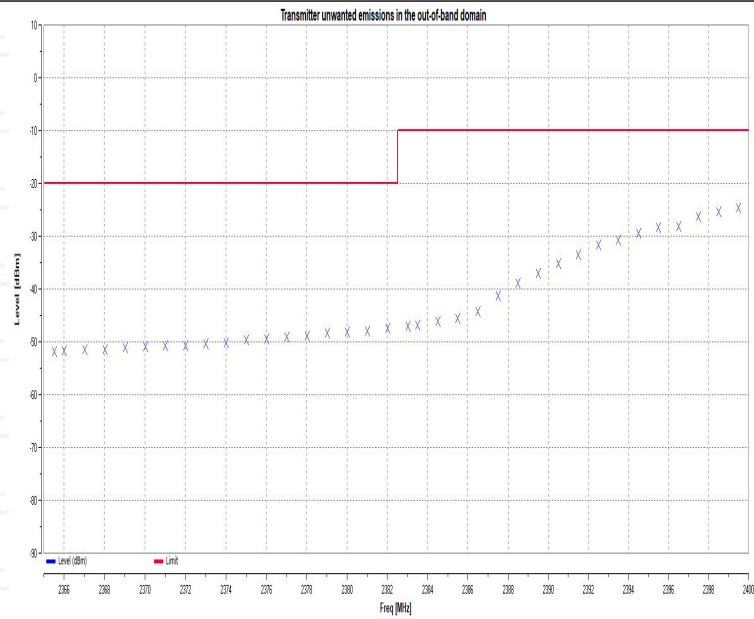




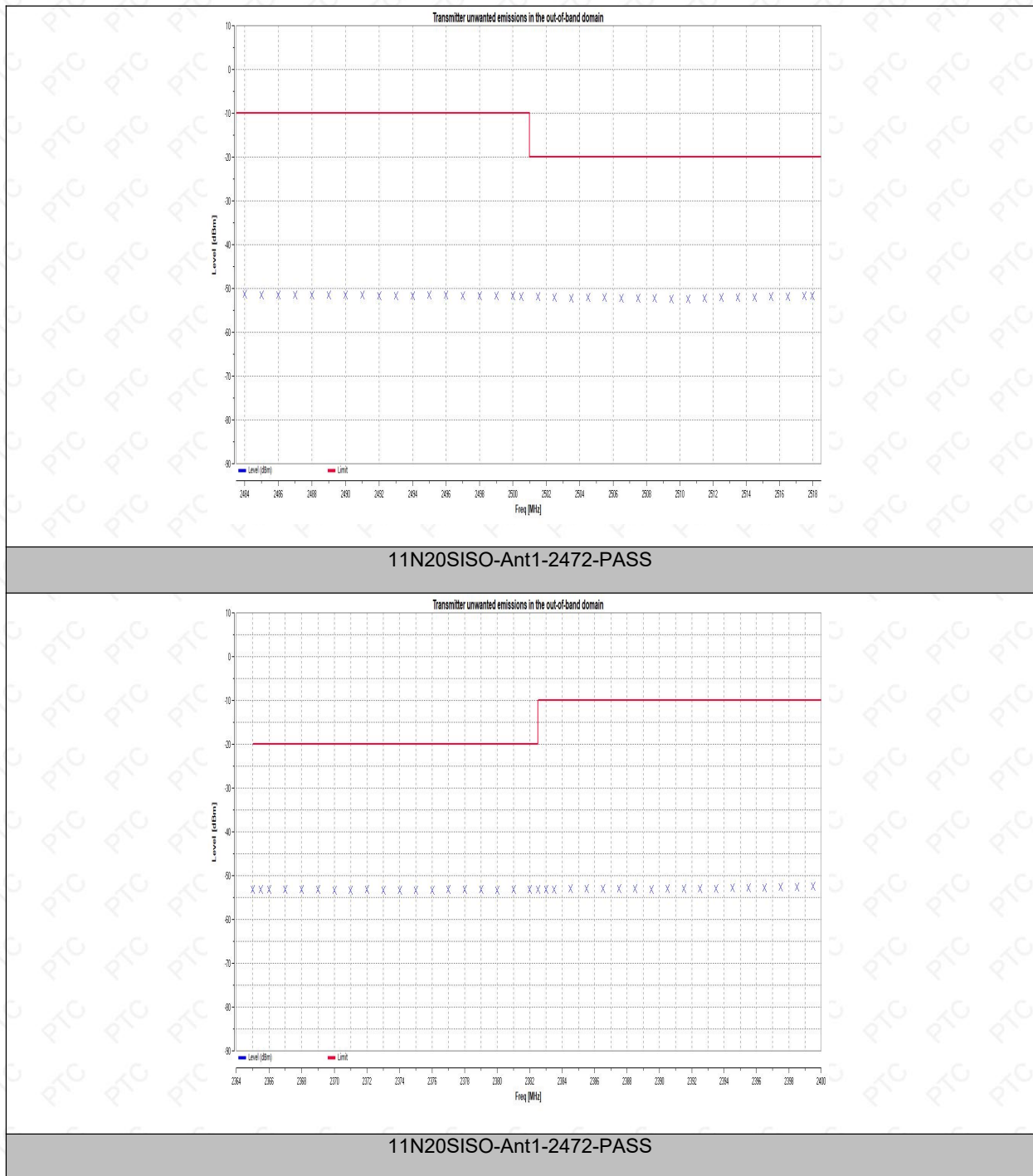


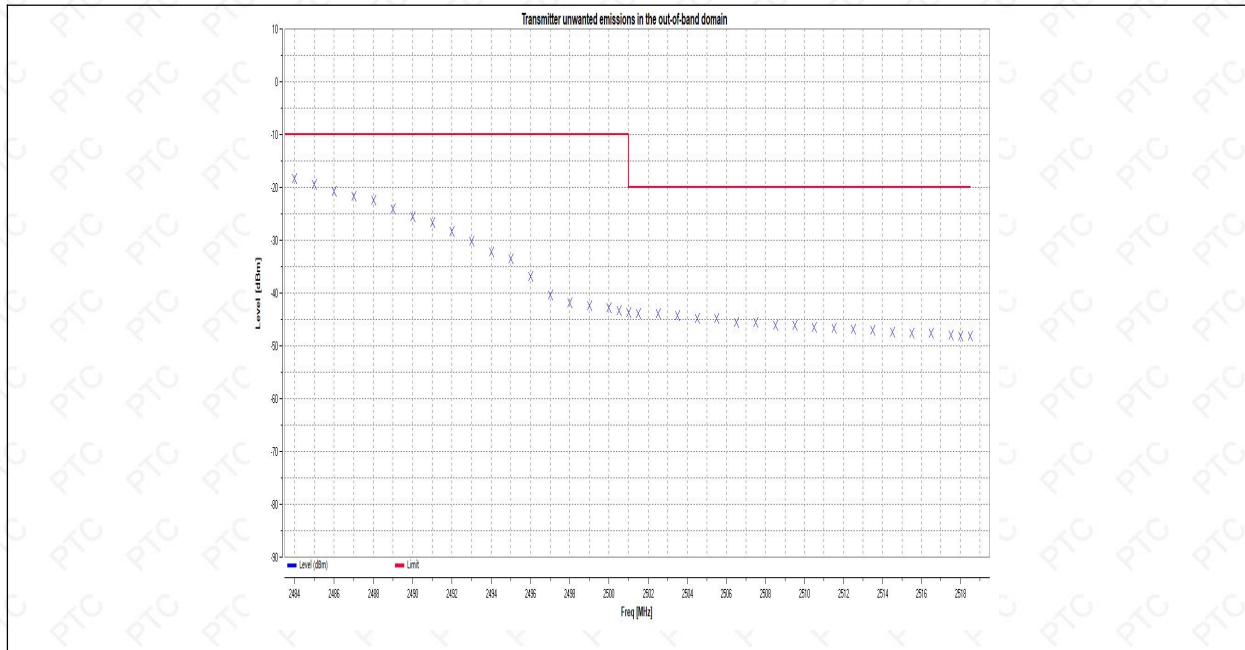


11N20SISO-Ant1-2412-PASS

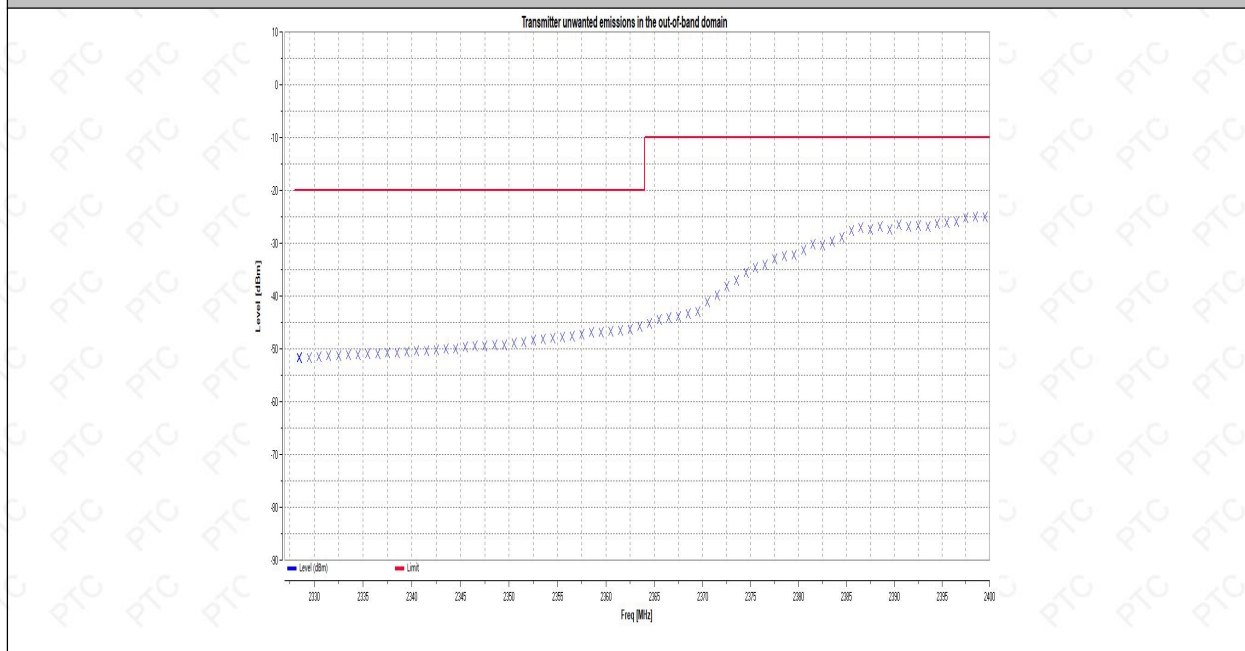


11N20SISO-Ant1-2412-PASS

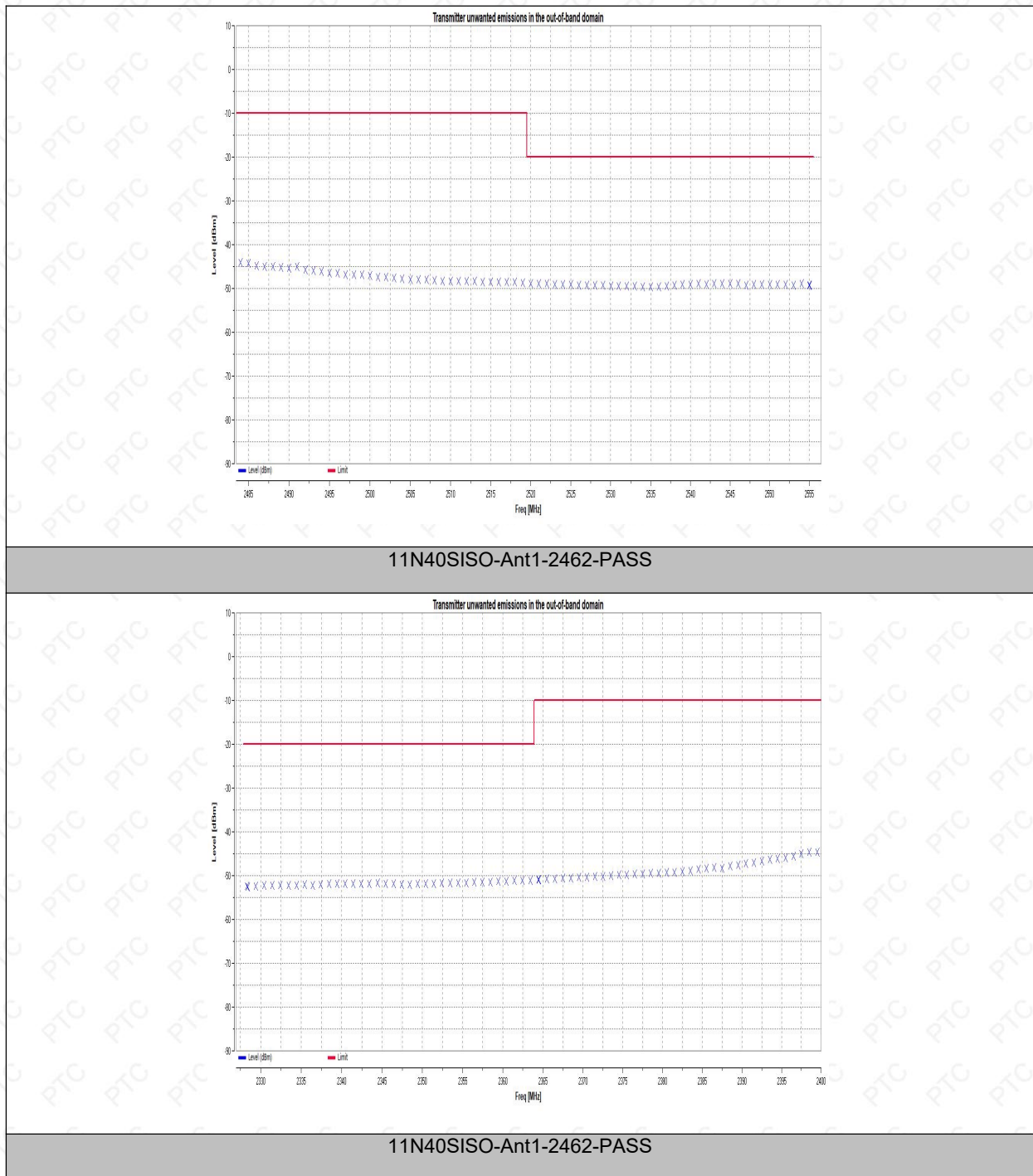


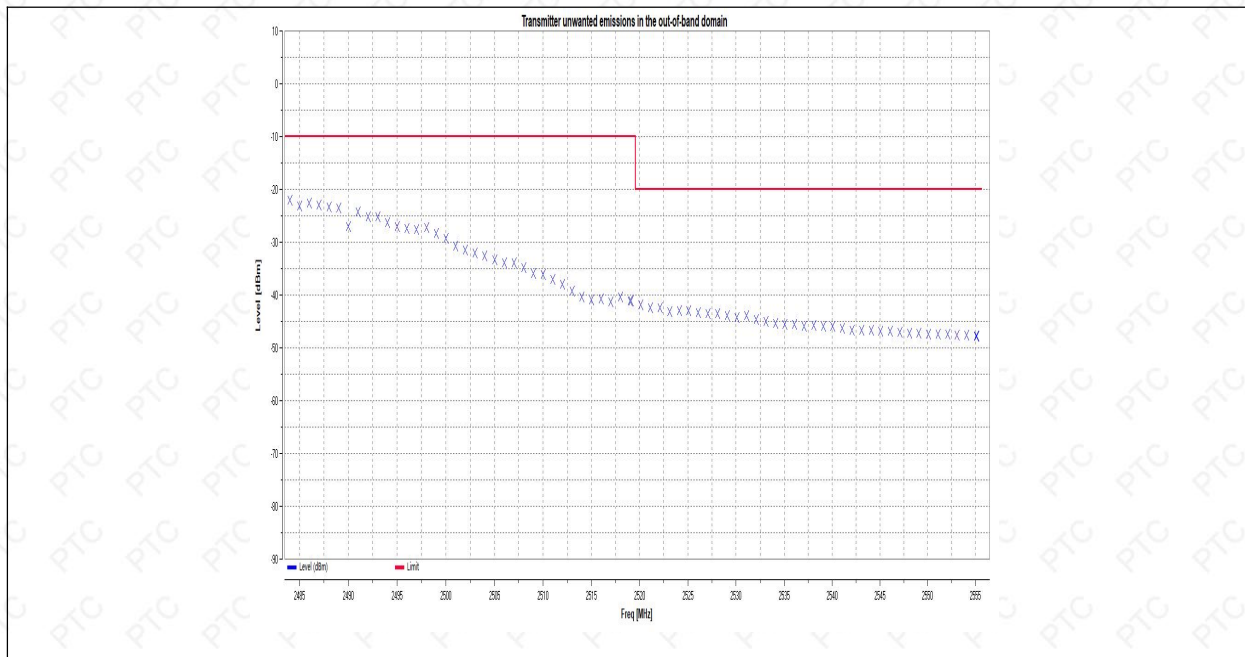


11N40SISO-Ant1-2422-PASS



11N40SISO-Ant1-2422-PASS





5.6 Transmitter unwanted emissions in the spurious domain

5.6.1 Definition

Transmitter unwanted emissions in the spurious domain are emissions outside the allocated band and outside the out-of-band domain as indicated in figure 1 when the equipment is in Transmit mode.

5.6.2 Limit

Table 1: Transmitter limits for spurious emissions

Frequency range	Maximum power,e.r.p. (≤ 1 GHz) e.i.r.p. (> 1 GHz)	Bandwidth
30 MHz to 47 MHz	-36 dBm	100 kHz
47 MHz to 74 MHz	-54 dBm	100 kHz
74 MHz to 87.5 MHz	-36 dBm	100 kHz
87.5 MHz to 118 MHz	-54 dBm	100 kHz
118 MHz to 174 MHz	-36 dBm	100 kHz
174 MHz to 230 MHz	-54 dBm	100 kHz
230 MHz to 470 MHz	-36 dBm	100 kHz
470 MHz to 862 MHz	-54 dBm	100 kHz
862 MHz to 1 GHz	-36 dBm	100 kHz
1 GHz to 12.75 GHz	-30 dBm	1 MHz

5.6.3 EUT Operation Condition

The EUT was programmed to be in continuously transmitting mode.

5.6.4 Test Procedure

The test site as described in annex B and applicable measurement procedures as described in annex C shall be used.

The test procedure is further as described under clause 5.3.10.2.1.



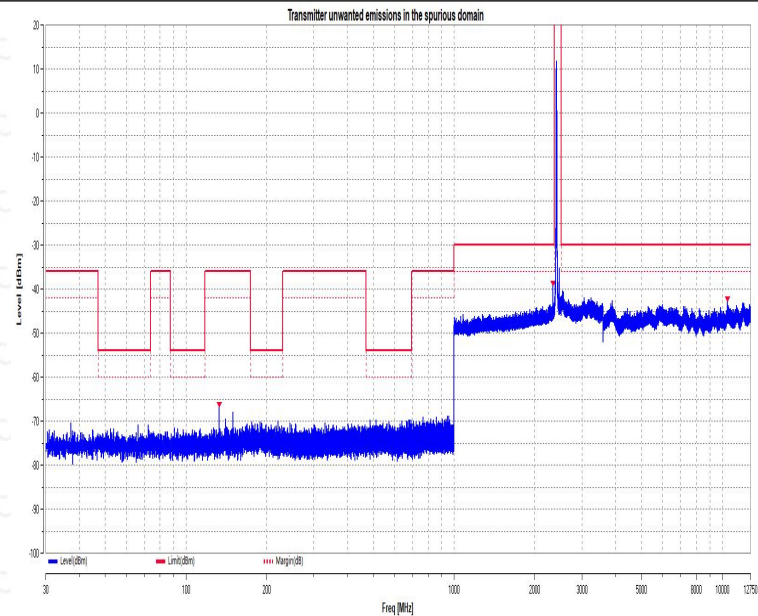
5.6.5 Measurement Record

TestMode	Antenna	Frequency[MHz]	Freq. [MHz]	Level[dBm]	Limit[dBm]	Verdict
11B	Ant1	2412	133.28	-66.95	-36	PASS
11B	Ant1	2412	2343.38	-39.3	-30	PASS
11B	Ant1	2412	10475.56	-42.98	-30	PASS
11B	Ant1	2472	133.28	-68.69	-36	PASS
11B	Ant1	2472	2513.12	-40.83	-30	PASS
11B	Ant1	2472	11987.12	-43.13	-30	PASS
11G	Ant1	2412	149.96	-67.68	-36	PASS
11G	Ant1	2412	2545.38	-39.81	-30	PASS
11G	Ant1	2412	12061.78	-42.85	-30	PASS
11G	Ant1	2472	2519.92	-32.91	-30	PASS
11G	Ant1	2472	2529.12	-34.11	-30	PASS
11G	Ant1	2472	149.93	-68.53	-36	PASS
11G	Ant1	2472	11977.30	-42.68	-30	PASS
11N20SISO	Ant1	2412	133.37	-61.84	-36	PASS
11N20SISO	Ant1	2412	2566.85	-41.37	-30	PASS
11N20SISO	Ant1	2412	6314.19	-43.06	-30	PASS
11N20SISO	Ant1	2472	141.68	-62.38	-36	PASS
11N20SISO	Ant1	2472	2541.65	-40.57	-30	PASS
11N20SISO	Ant1	2472	6052.74	-43.24	-30	PASS
11N40SISO	Ant1	2422	149.96	-59.86	-36	PASS
11N40SISO	Ant1	2422	2562.45	-41.08	-30	PASS
11N40SISO	Ant1	2422	12019.15	-42.57	-30	PASS
11N40SISO	Ant1	2462	30.26	-62.72	-36	PASS
11N40SISO	Ant1	2462	2564.45	-39.86	-30	PASS
11N40SISO	Ant1	2462	11393.7	-42.76	-30	PASS

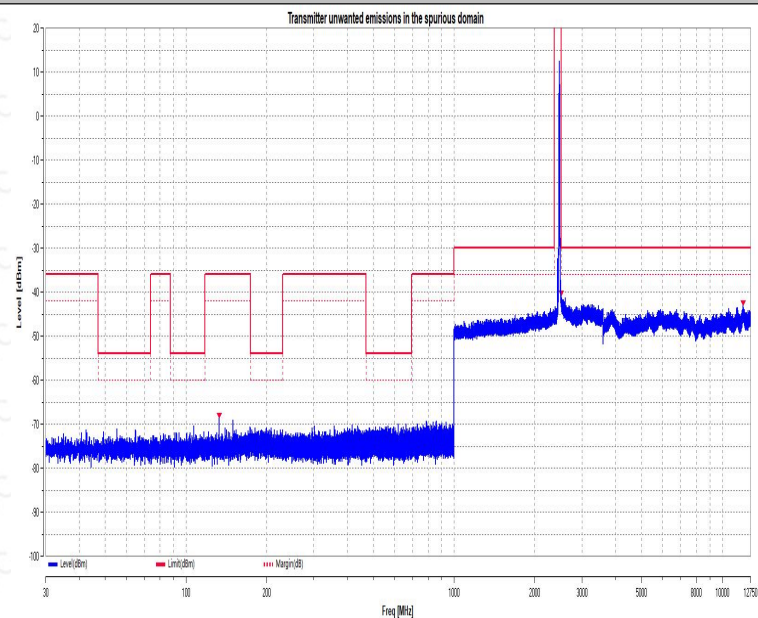


Test Graphs:

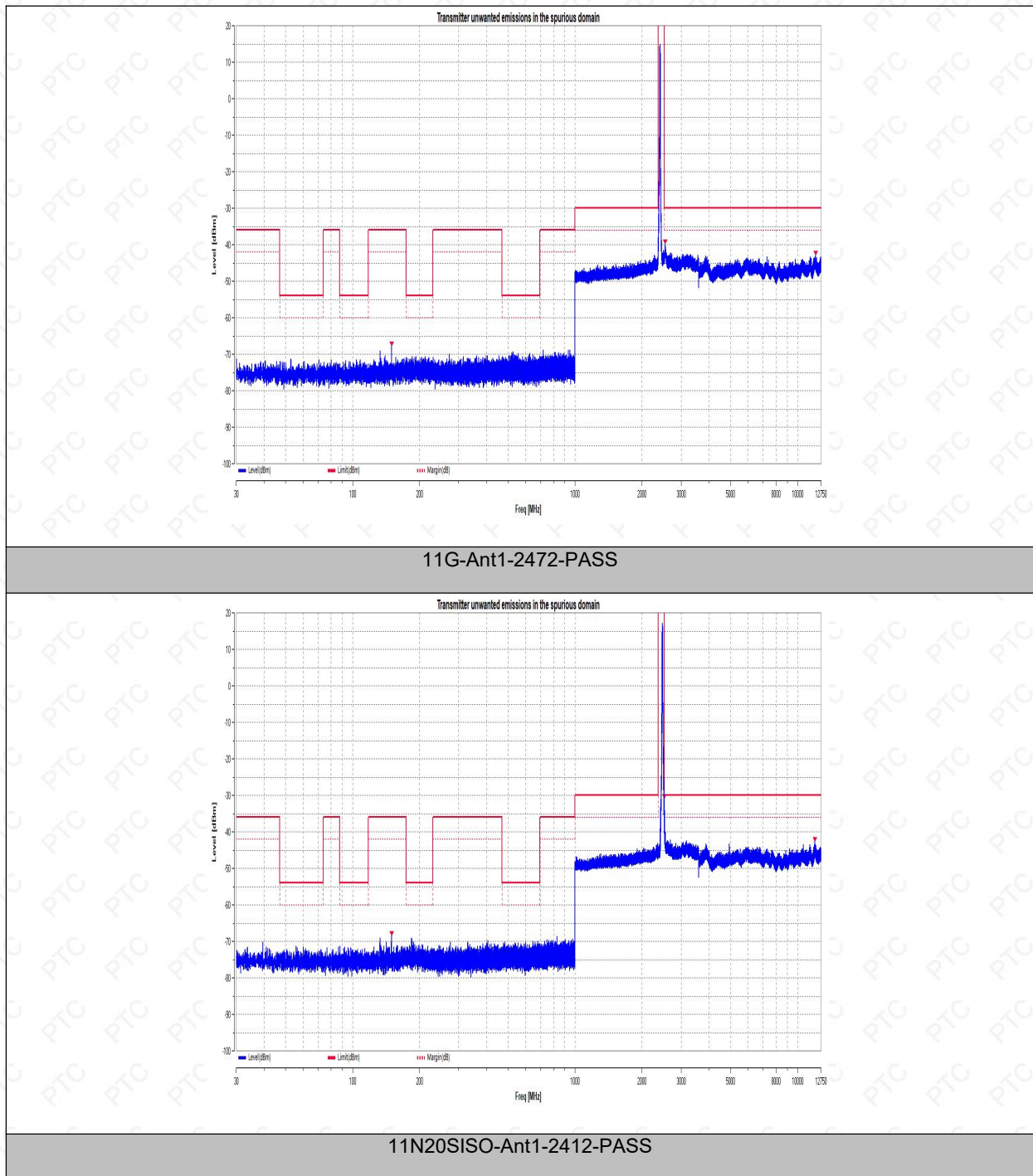
11B-Ant1-2412-PASS

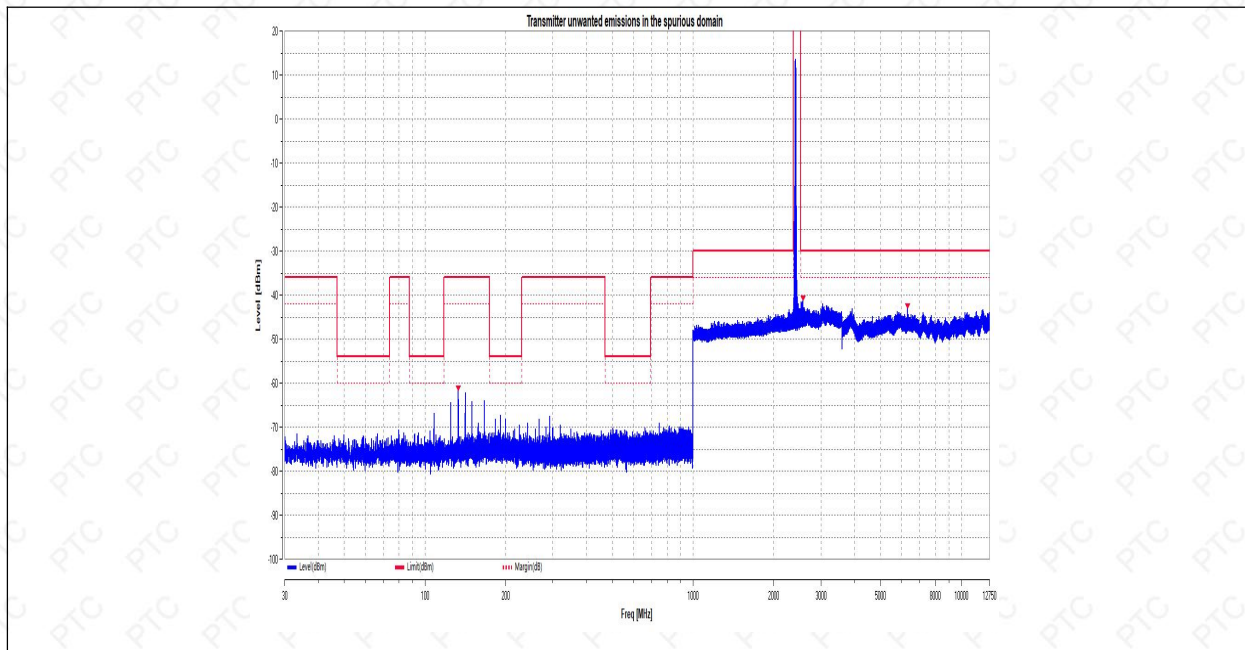


11B-Ant1-2472-PASS

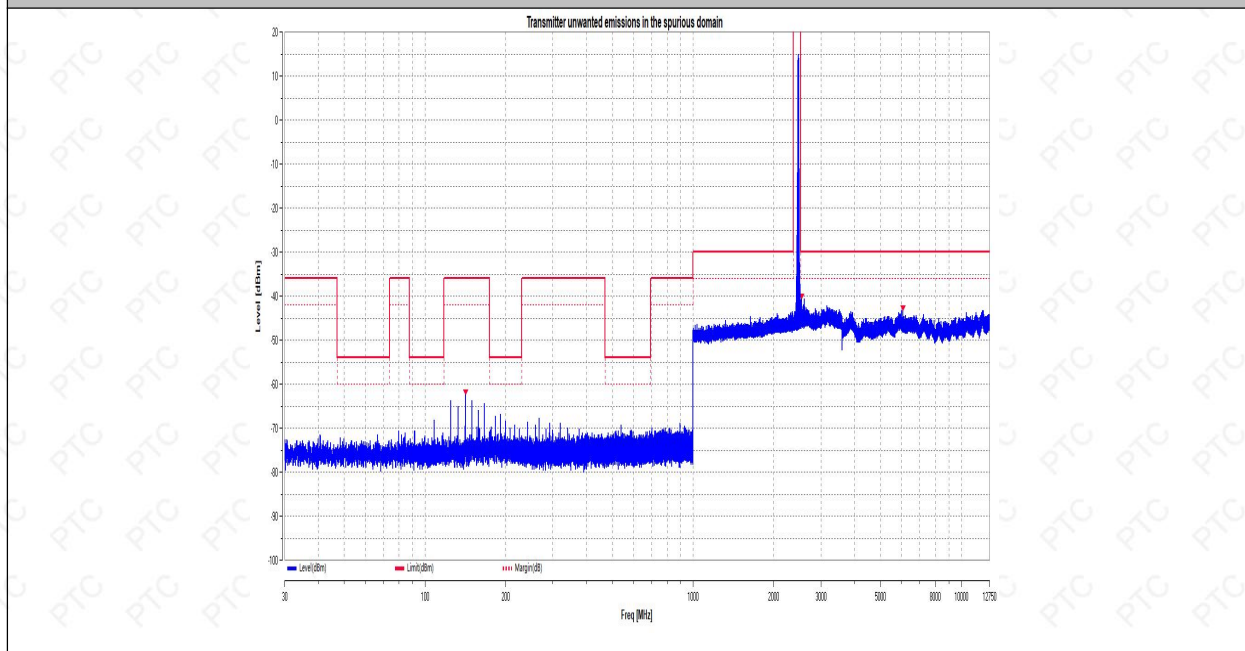


11G-Ant1-2412-PASS

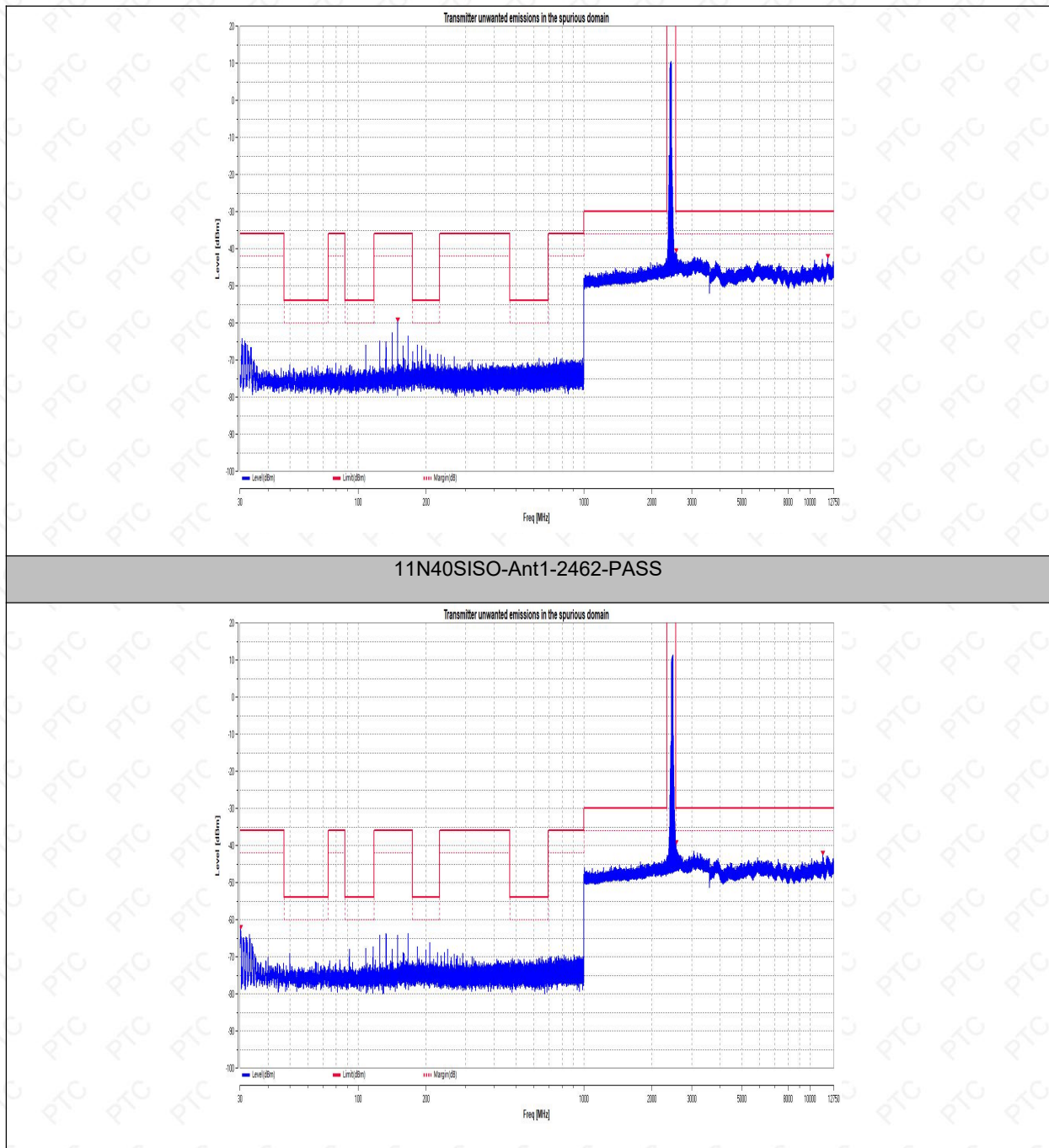




11N20SISO-Ant1-2472-PASS



11N40SISO-Ant1-2422-PASS



5.7 Receiver spurious emissions

5.7.1 Definition

Receiver spurious emissions are emissions at any frequency when the equipment is in receive mode.

5.7.2 Limit

Table 2: Spurious emission limits for receivers

Frequency range	Maximum power e.r.p. (≤ 1 GHz) e.i.r.p. (> 1 GHz)	Measurement bandwidth
30 MHz to 1 GHz	-57 dBm	100 kHz
1 GHz to 12.75 GHz	-47 dBm	1 MHz

5.7.3 EUT Operation Condition

The EUT was programmed to be in continuously transmitting mode.

5.7.4 Test Procedure

The test site as described in annex B and applicable measurement procedures as described in annex C shall be used.

The test procedure is further as described under clause 5.3.11.2.1.



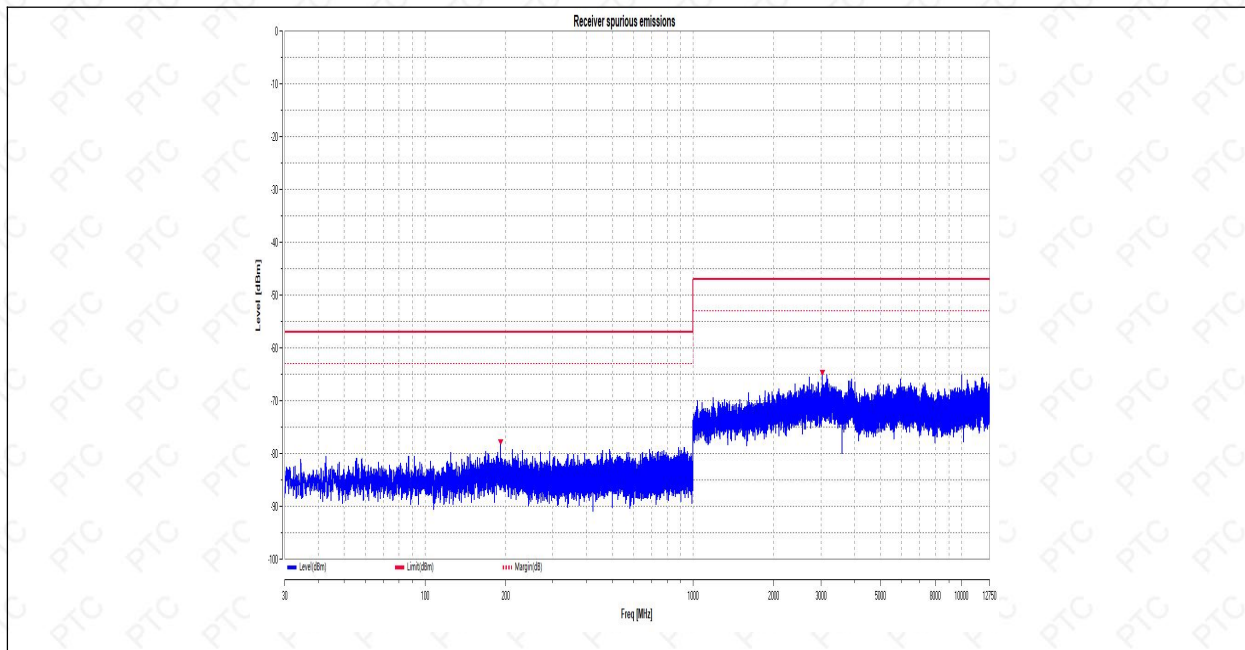
Report No.: PTC25081318716E-EM02

5.7.5 Test Result

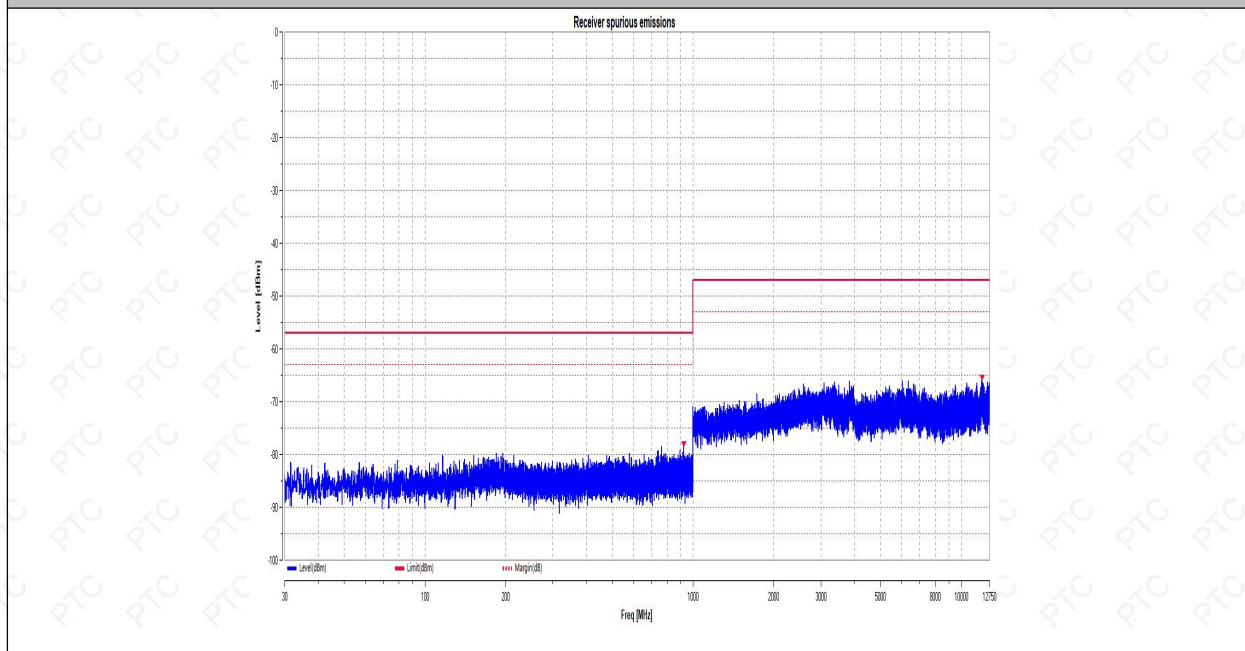
TestMode	Antenna	Frequency[MHz]	Freq. [MHz]	Level[dBm]	Limit[dBm]	Verdict
11B	Ant1	2412	191.75	-78.39	-57.00	PASS
11B	Ant1	2412	3033.14	-65.13	-47.00	PASS
11B	Ant1	2472	923.9	-78.45	-57.00	PASS
11B	Ant1	2472	11969.02	-65.87	-47.00	PASS
11G	Ant1	2412	808.91	-77.96	-57.00	PASS
11G	Ant1	2412	2571.37	-64.65	-47.00	PASS
11G	Ant1	2472	832.63	-78.62	-57.00	PASS
11G	Ant1	2472	12129.21	-65.28	-47.00	PASS
11N20SISO	Ant1	2412	578.97	-78.18	-57.00	PASS
11N20SISO	Ant1	2412	11247.18	-65.34	-47.00	PASS
11N20SISO	Ant1	2472	506.85	-78.55	-57.00	PASS
11N20SISO	Ant1	2472	2361.83	-65.27	-47.00	PASS
11N40SISO	Ant1	2422	800.62	-77.23	-57.00	PASS
11N40SISO	Ant1	2422	3936.72	-65.02	-47.00	PASS
11N40SISO	Ant1	2462	786.7	-79.21	-57.00	PASS
11N40SISO	Ant1	2462	11969.8	-65.27	-47.00	PASS

Test Graphs:

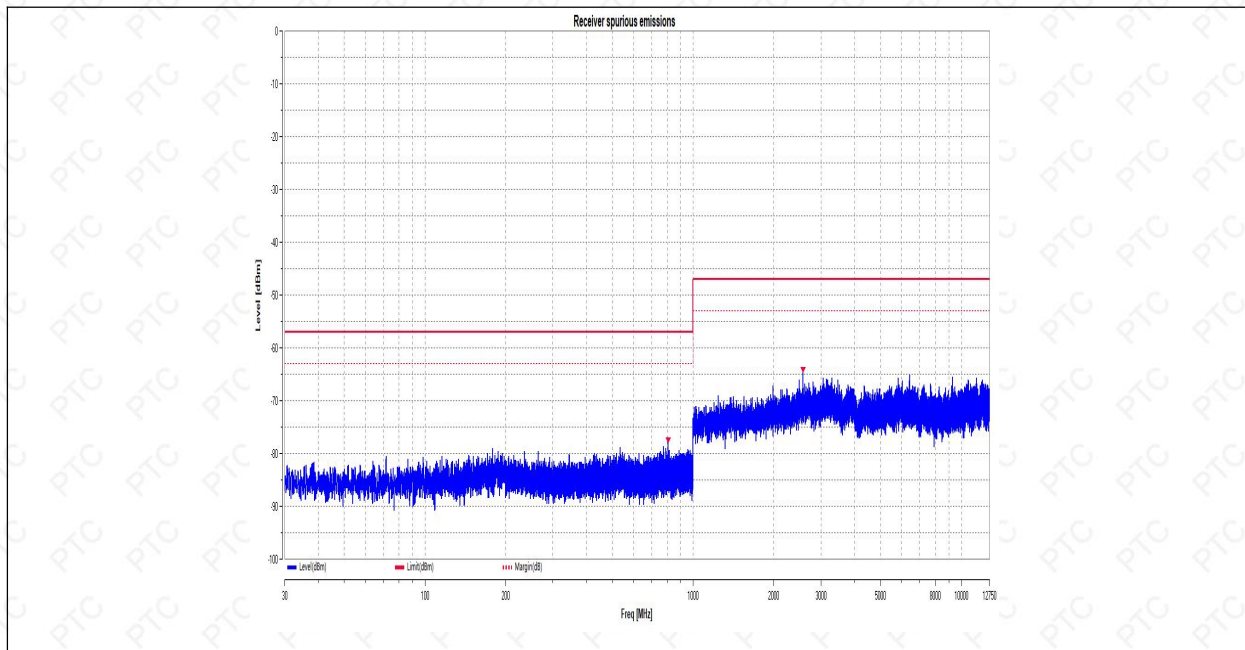
11B-Ant1-2412-PASS



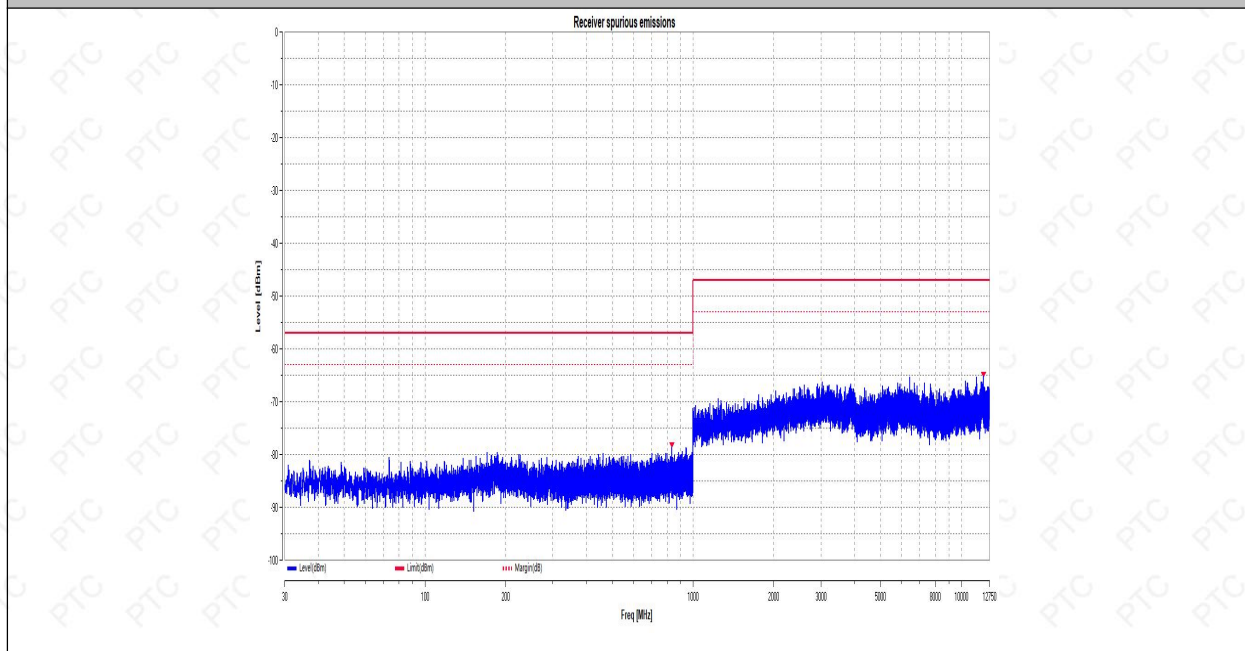
11B-Ant1-2472-PASS



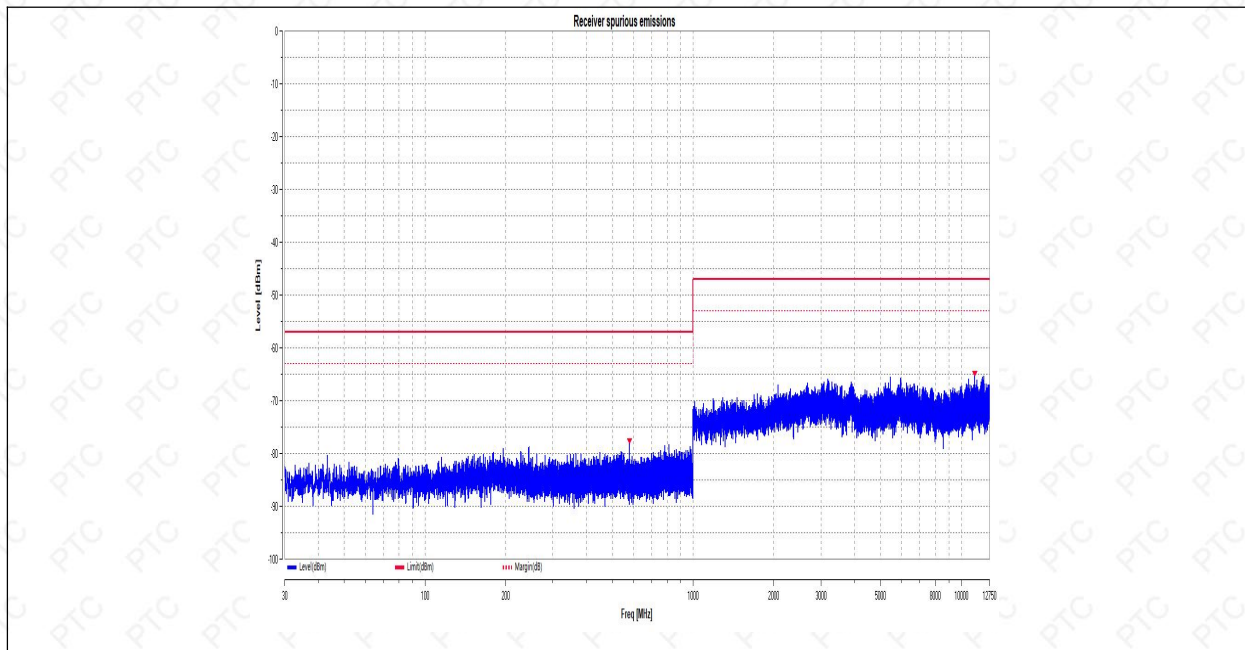
11G-Ant1-2412-PASS



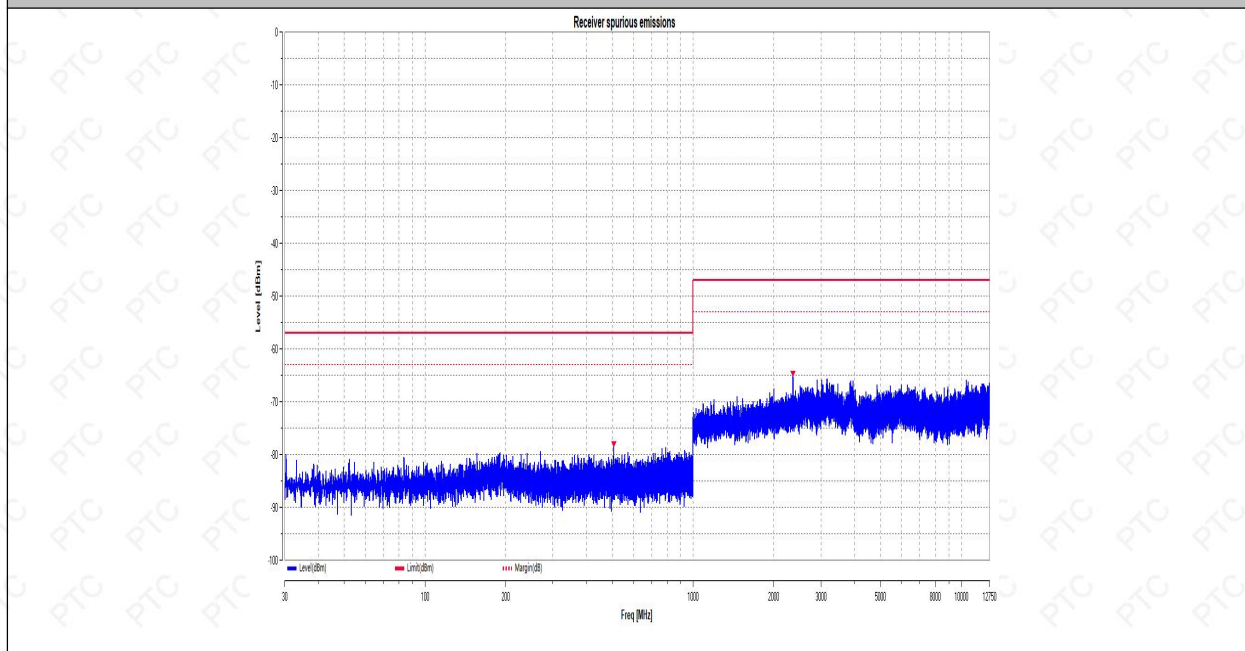
11G-Ant1-2472-PASS



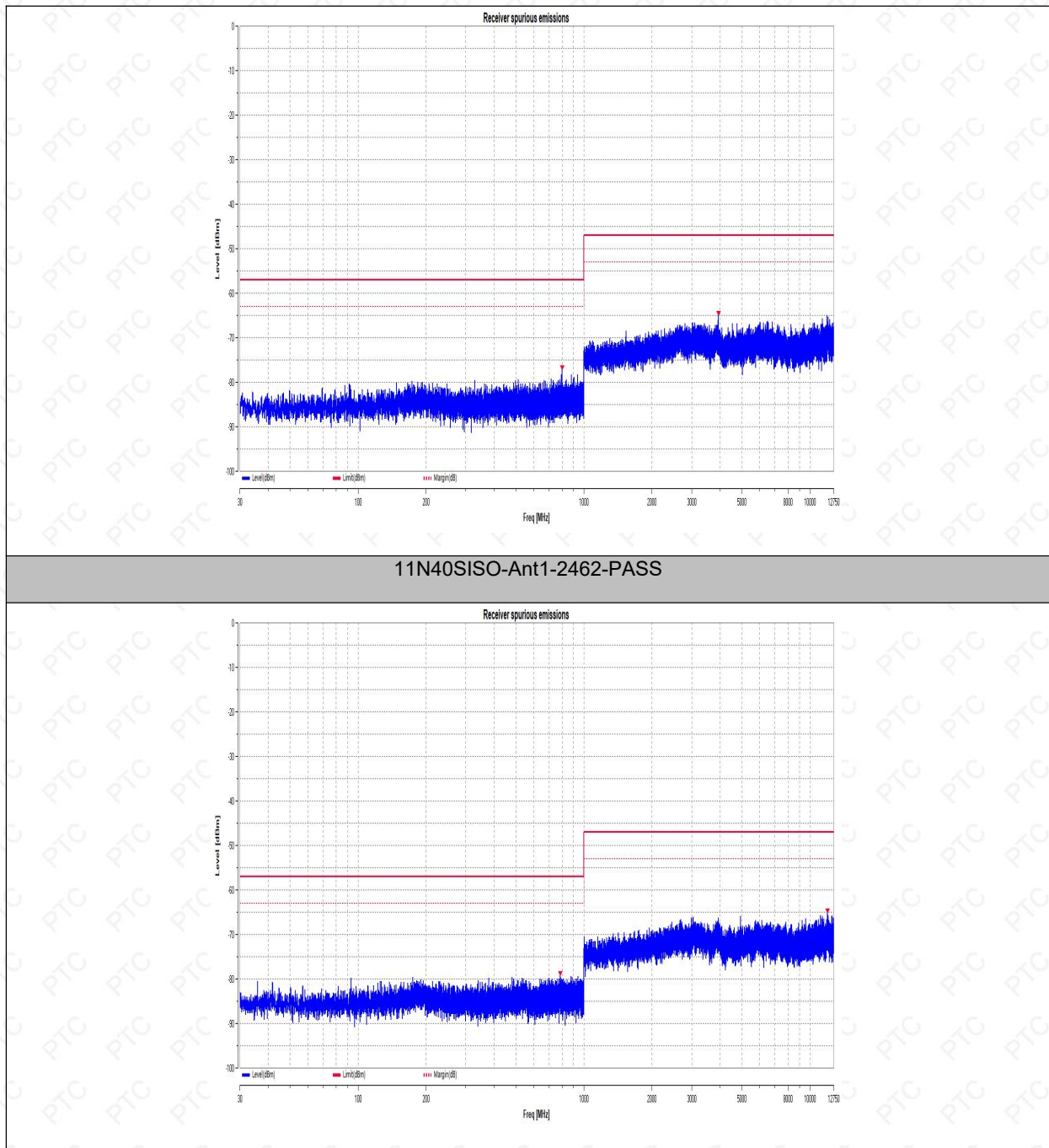
11N20SISO-Ant1-2412-PASS



11N20SISO-Ant1-2472-PASS



11N40SISO-Ant1-2422-PASS



Remark:

1. The emission behaviour belongs to narrowband spurious emission.
2. The all data rate modes had been test, but only worse test data was recorded in the test report.

5.8 RECEIVER BLOCKING

Limit

For equipment that supports a PER or FER test to be performed, the minimum performance criterion shall be a PER or FER less than or equal to 10 % FER less than or equal to 10 %.

For equipment that does not support a PER or a FER test to be performed, the minimum performance criterion shall be no loss of the wireless transmission function needed for the intended use of the equipment.

Receiver Blocking parameters for Receiver Category 1 equipment			
Wanted signal mean power from companion device (dBm) (see notes 1 and 4)	Blocking signal frequency (MHz)	Blocking signal power (dBm) (see note 4)	Type of blocking signal
$(-133 \text{ dBm} + 10 \times \log_{10} (\text{OCBW}))$ or -68 dBm whichever is less (see note 2)	2 380 2 504	-34	CW
$(-139 \text{ dBm} + 10 \times \log_{10} (\text{OCBW}))$ or -74 dBm whichever is less (see note 3)	2 300 2 330 2 360 2 524 2 584 2 674		

Receiver Blocking parameters receiver Category 2 equipment			
Wanted signal mean power from companion device (dBm) (see notes 1 and 3)	Blocking signal Frequency(MHz)	Blocking signal power (dBm)(see note 3)	Type of Blocking signal
$(-139 \text{ dBm} + 10 \times \log_{10} (\text{OCBW}) + 10 \text{ dB})$ or $(-74 \text{ dBm} + 10 \text{ dB})$ whichever is less (see note 2)	2 380 2 504 2 300 2 584	-34	CW

NOTE 1: OCBW is in Hz.

NOTE 2: In case of radiated measurements using a companion device and the level of the wanted signal from the companion device cannot be determined, a relative test may be performed using a wanted signal up to $P_{\min} + 26 \text{ dB}$ where $P_{\min}$ is the minimum level of wanted signal required to meet the minimum performance criteria as defined in clause 4.3.1.12.3 in the absence of any blocking signal.

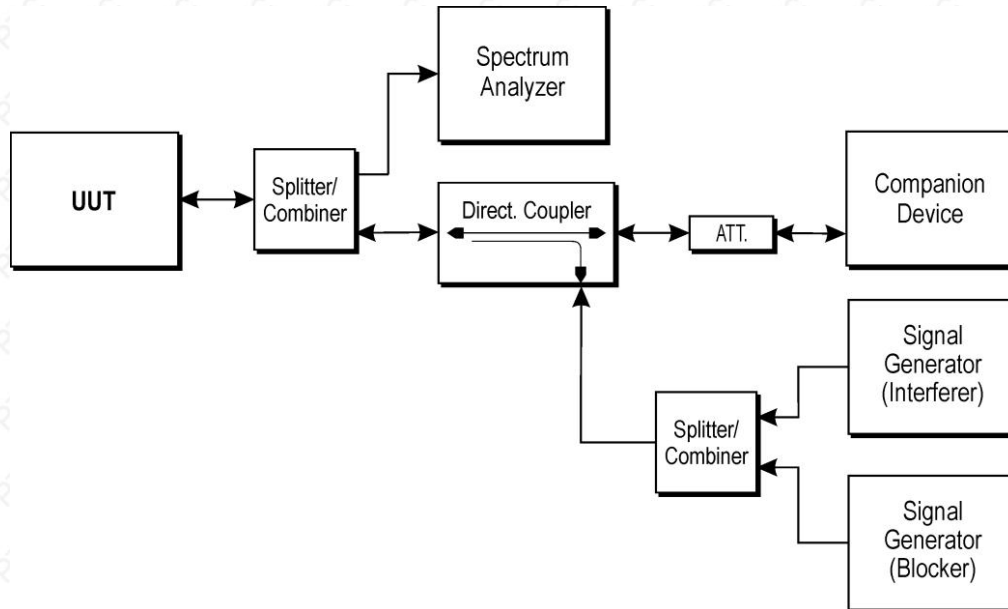
NOTE 3: The level specified is the level at the UUT receiver input assuming a 0 dBi antenna assembly gain. In case of conducted measurements, this level has to be corrected for the (in-band) antenna assembly gain (G). In case of radiated measurements, this level is equivalent to a power flux density (PFD) in front of the UUT antenna with the UUT being configured/positioned as recorded in clause 5.4.3.2.2.

Receiver Blocking parameters receiver Category 3 equipment			
Wanted signal mean power from companion device (dBm) (see notes 1 and 3)	Blocking signal Frequency(MHz)	Blocking signal power (dBm)(see note 3)	Type of Blocking signal
(-139 dBm + 10 × log 10 (OCBW) + 20 dB) or (-74 dBm + 20 dB) whichever is less (see note 2)	2 380 2 504 2 300 2 584	-34	CW
NOTE 1: OCBW is in Hz. NOTE 2: In case of radiated measurements using a companion device and the level of the wanted signal from the companion device cannot be determined, a relative test may be performed using a wanted signal up to P min + 30 dB where P min is the minimum level of wanted signal required to meet the minimum performance criteria as defined in clause 4.3.1.12.3 in the absence of any blocking signal. NOTE 3: The level specified is the level at the UUT receiver input assuming a 0 dBi antenna assembly gain. In case of conducted measurements, this level has to be corrected for the (in-band) antenna assembly gain (G). In case of radiated measurements, this level is equivalent to a power flux density (PFD) in front of the UUT antenna with the UUT being configured/positioned as recorded in clause 5.4.3.2.2.			

5.8.1 TEST PROCEDURES

1. Please refer to ETSI EN 300 328 (V2.2.2) clause 5.3.7.1 for the test conditions.
 2. Please refer to ETSI EN 300 328 (V2.2.2) clause 5.3.7.2 for the measurement method.
- RBW: ≥ Occupied Channel Bandwidth (use next available RBW setting above the Occupied Channel Bandwidth)
 - Filter type: Channel Filter
 - RBW: 1M
 - VBW: 3M (Max 2M)
 - Detector Mode: RMS
 - Centre Frequency: Equal to the hopping frequency to be tested
 - Span: 0 Hz
 - Sweep time: > Channel Occupancy Time of the UUT. If the Channel Occupancy Time is non-contiguous (non-LBT based equipment), the sweep time shall be sufficient to cover the period over which the Channel Occupancy Time is spread out.
 - Trace Mode: Clear/Write
 - Trigger Mode: Video

5.8.2 TEST SETUP LAYOUT



5.8.3 TEST RESULTS

Test Channel: Lowest

Wanted signal mean power form Companion device(dBm)	Blocking signal frequency(MHz)	Blocking signal power(dBm)	PER (%)	Limit	Results
(-133 dBm + 10 × log ₁₀ (OCBW)) or -68 dBm whichever is less	2380	-34	0.91	≤10%	Pass
	2504	-34	2.32		Pass
(-139 dBm + 10 × log ₁₀ (OCBW)) or -74 dBm whichever is less	2300	-34	0.04		Pass
	2330	-34	2.28		Pass
	2360	-34	2.44		Pass
	2524	-34	2.13		Pass
	2584	-34	0.14		Pass
	2674	-34	1.24		Pass



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Test Channel: Highest

Wanted signal mean power form Companion device(dBm)	Blocking signal frequency(MHz)	Blocking signal power(dBm)	PER (%)	Limit	Result
(-133 dBm + 10 × log ₁₀ (OCBW)) or -68 dBm whichever is less	2380	-34	2.59	≤10%	Pass
	2504	-34	2.37		Pass
(-139 dBm + 10 × log ₁₀ (OCBW)) or -74 dBm whichever is less	2300	-34	1.12		Pass
	2330	-34	2.89		Pass
	2360	-34	2.61		Pass
	2524	-34	0.17		Pass
	2584	-34	2.85		Pass
	2674	-34	1.09		Pass

*****THE END REPORT*****