

from the PC 2 through the master and the client device to the PC 1 and played in full motion video using Media Player Classic Ver. 6.4.8.6 in order to properly load the network for the entire period of the test. 5) When radar burst with a level equal to the DFS Detection Threshold +1dB is generated on the

operating channel of the U-NII device. At time T0 the radar waveform generator sends a burst of pulse of the radar waveform at Detection Threshold +1dB.

6) Observe the transmissions of the EUT at the end of the radar Burst on the Operating Channel. Measure and record the transmissions from the UUT during the observation time (Channel Move Time). One 15 seconds plot is reported for the Short Pulse Radar Type 0. The plot for the Short Pulse Radar Types start at the end of the radar burst. The Channel Move Time will be calculated based on the zoom in 600ms plot of the Short Pulse Radar Type.

7) Measurement of the aggregate duration of the Channel Closed Transmission Time method. With the spectrum analyzer set to zero span tuned to the center frequency of the EUT operating channel at the radar simulated frequency, peak detection, and max hold, the dwell time per bin is given by: Dwell (0.3ms) =S (12000ms) / B (4000); where Dwell is the dwell time per spectrum analyzer sampling bin, S is sweep time and B is the number of spectrum analyzer sampling bins. An upper bound of the aggregate duration of the intermittent control signals of Channel Closing Transmission Time is calculated by: C (ms)= N X Dwell (0.3ms); where C is the Closing Time, N is the number of spectrum analyzer sampling bins (intermittent control signals) showing a U-NII transmission and Dwell is the dwell time per bin.

8) Measurement the EUT for more than 30 minutes following the channel move time to verify that no transmission or beacons occur on this channel.



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13.4 TEST DATA

Pass: Please Refer To DFS Report: BLA-EMC-202303-A11906



14 DFS: NON-OCCUPANCY PERIOD

Test Standard	47 CFR Part 15, Subpart E 15.407			
Test Method	KDB 905462 D02 Section 7.8.3			
Test Mode (Pre-Scan)	ТХ			
Test Mode (Final Test)	ТХ			
Tester	Charlie			
Temperature	25 ℃			
Humidity	60%			

14.1 LIMITS

Limit: Minimum 30 minutes

14.2 BLOCK DIAGRAM OF TEST SETUP



14.3 PROCEDURE

1) The radar pulse generator is setup to provide a pulse at frequency that the master and client are operating. A type 0 radar pulse with a 1us pulse width and a 1428us PRI is used for the testing.

2) The vector signal generator is adjusted to provide the radar burst (18 pulses) at the level of approximately -61dBm at the antenna port of the master device.

3) A trigger is provided from the pulse generator to the DFS monitoring system in order to capture the traffic and the occurrence of the radar pulse.

4) EUT will associate with the master at channel. The file i° iperf.exe i^{\pm} specified by the FCC is streamed from the PC 2 through the master and the client device to the PC 1 and played in full motion video using Media Player Classic Ver. 6.4.8.6 in order to properly load the network for the entire period of the test.

5) When radar burst with a level equal to the DFS Detection Threshold +1dB is generated on the operating channel of the U-NII device. At time T0 the radar waveform generator sends a burst of pulse of the radar waveform at Detection Threshold +1dB.

6) Observe the transmissions of the EUT at the end of the radar Burst on the Operating Channel.



Measure and record the transmissions from the UUT during the observation time (Channel Move Time). One 15 seconds plot is reported for the Short Pulse Radar Type 0. The plot for the Short Pulse Radar Types start at the end of the radar burst. The Channel Move Time will be calculated based on the zoom in 600ms plot of the Short Pulse Radar Type.

7) Measurement of the aggregate duration of the Channel Closed Transmission Time method. With the spectrum analyzer set to zero span tuned to the center frequency of the EUT operating channel at the radar simulated frequency, peak detection, and max hold, the dwell time per bin is given by: Dwell (0.3ms) =S (12000ms) / B (4000); where Dwell is the dwell time per spectrum analyzer sampling bin, S is sweep time and B is the number of spectrum analyzer sampling bins. An upper bound of the aggregate duration of the intermittent control signals of Channel Closing Transmission Time is calculated by: C (ms)= N X Dwell (0.3ms); where C is the Closing Time, N is the number of spectrum analyzer sampling bins (intermittent control signals) showing a U-NII transmission and Dwell is the dwell time per bin.

8) Measurement the EUT for more than 30 minutes following the channel move time to verify that no transmission or beacons occur on this channel.



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14.4 TEST DATA

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15 PEAK POWER SPECTRUM DENSITY

Test Standard	47 CFR Part 15, Subpart E 15.407			
Test Method	KDB 789033 D02 II F			
Test Mode (Pre-Scan)	ТХ			
Test Mode (Final Test)	ТХ			
Tester	Charlie			
Temperature	25 ℃			
Humidity	60%			

15.1 LIMITS

Frequency band(MHz)		Limit	
5150-5250		\leq 17dBm in 1MHz for master device	
		≤11dBm in 1MHz for client device	
5250-5	350	≤11dBm in 1MHz for client device	
5470-5725		≤11dBm in 1MHz for client device	
5725-5850		≤30dBm in 500 kHz	
Remark:	The maximum power spectral density is measured as a conducted emission		
	direct connection of a calibrated test instrument to the equipment under test.		

15.2 BLOCK DIAGRAM OF TEST SETUP





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15.3 TEST DATA



16 MAXIMUM CONDUCTED OUTPUT POWER

Test Standard	47 CFR Part 15, Subpart E 15.407				
Test Method	KDB 789033 D02 II E				
Test Mode (Pre-Scan)	ТХ				
Test Mode (Final Test)	ТХ				
Tester	Charlie				
Temperature	25 ℃				
Humidity	60%				

16.1 LIMITS

Free band(M	quency IHz)	Limit			
5150.5	250	\leq 1W(30dBm) for master device			
5150-5	250	≤250mW(24dBm) for client device			
5250-5	$\leq 250 \text{mW}(24 \text{dBm})$ for client device or $11 \text{dBm}+10 \log \text{B}^*$				
5470-5	725	≤250mW(24dBm) for client device or 11dBm+10logB*			
5725-5850		≤1W(30dBm)			
Remark:	* Where B is the 26dB emission bandwidth in MHz.				
	The maximum conducted output power must be measured over any interval of				
	continuous transmission using instrumentation calibrated in terms of an				
	rms-equivalent voltage.				

16.2 BLOCK DIAGRAM OF TEST SETUP





16.3 TEST DATA



17 MINIMUM 6 DB BANDWIDTH (5.725-5.85 GHZ BAND)

Test Standard	47 CFR Part 15, Subpart E 15.407			
Test Method	KDB 789033 D02 II C 2			
Test Mode (Pre-Scan)	ТХ			
Test Mode (Final Test)	ТХ			
Tester	Charlie			
Temperature	25 ℃			
Humidity	60%			

17.1 LIMITS

Limit: $\geq 500 \text{ kHz}$

17.2 BLOCK DIAGRAM OF TEST SETUP



17.3 TEST DATA



18 26DB EMISSION BANDWIDTH

Test Standard	47 CFR Part 15, Subpart E 15.407
Test Method	KDB 789033 D02 II C 1
Test Mode (Pre-Scan)	ТХ
Test Mode (Final Test)	ТХ
Tester	Charlie
Temperature	25 ℃
Humidity	60%

18.1 BLOCK DIAGRAM OF TEST SETUP



18.2 TEST DATA



19 99% BANDWIDTH

Test Standard	47 CFR Part 15, Subpart E 15.407			
Test Method	KDB 789033 II D			
Test Mode (Pre-Scan)	ТХ			
Test Mode (Final Test)	ТХ			
Tester	Charlie			
Temperature	25 ℃			
Humidity	60%			

19.1 BLOCK DIAGRAM OF TEST SETUP



19.2 TEST DATA



20 DUTY CYCLE

Test Standard	47 CFR Part 15, Subpart E 15.407			
Test Method	KDB 789033 II B 1			
Test Mode (Pre-Scan)	ТХ			
Test Mode (Final Test)	ТХ			
Tester	Charlie			
Temperature	25 ℃			
Humidity	60%			

20.1 BLOCK DIAGRAM OF TEST SETUP



20.2 TEST DATA



21 ANTENNA REQUIREMENT

Test Standard	47 CFR Part 15, Subpart E 15.407		
Test Method	N/A		

21.1 CONCLUSION

Standard Requirement:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit permanently attached antenna or of an so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

EUT Antenna:

The best case gain of the antenna is 5dBi.





22 APPENDIX

Appendix1

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Limit (dBm)	Verdict
NVNT	а	5180	Ant1	10.199	23	Pass
NVNT	a	5200	Ant1	10.505	23	Pass
NVNT	a	5240	Ant1	10.923	23	Pass
NVNT	a	5260	Ant1	11.412	23	Pass
NVNT	а	5280	Ant1	11.712	23	Pass
NVNT	а	5320	Ant1	11.424	23	Pass
NVNT	а	5500	Ant1	12.993	23	Pass
NVNT	а	5600	Ant1	12.499	23	Pass
NVNT	а	5700	Ant1	10.18	23	Pass
NVNT	а	5745	Ant1	9.489	29	Pass
NVNT	а	5785	Ant1	8.79	29	Pass
NVNT	а	5825	Ant1	7.546	29	Pass
NVNT	ac20	5180	Ant1	9.347	23	Pass
NVNT	ac20	5200	Ant1	9.739	23	Pass
NVNT	ac20	5240	Ant1	10.134	23	Pass
NVNT	ac20	5260	Ant1	11.031	23	Pass
NVNT	ac20	5280	Ant1	10.575	23	Pass
NVNT	ac20	5320	Ant1	9.82	23	Pass
NVNT	ac20	5500	Ant1	11.229	23	Pass
NVNT	ac20	5600	Ant1	11.569	23	Pass
NVNT	ac20	5700	Ant1	9.254	23	Pass
NVNT	ac20	5745	Ant1	8.343	29	Pass
NVNT	ac20	5785	Ant1	7.862	29	Pass
NVNT	ac20	5825	Ant1	7.062	29	Pass
NVNT	ac40	5190	Ant1	11.558	23	Pass
NVNT	ac40	5230	Ant1	11.37	23	Pass
NVNT	ac40	5270	Ant1	11.332	23	Pass
NVNT	ac40	5310	Ant1	10.621	23	Pass
NVNT	ac40	5510	Ant1	11.885	23	Pass
NVNT	ac40	5590	Ant1	12.023	23	Pass
NVNT	ac40	5670	Ant1	10.445	23	Pass
NVNT	ac40	5755	Ant1	9.034	29	Pass
NVNT	ac40	5795	Ant1	8.369	29	Pass
NVNT	ac80	5210	Ant1	11.467	23	Pass
NVNT	ac80	5290	Ant1	11.086	23	Pass
NVNT	ac80	5530	Ant1	11.96	23	Pass
NVNT	ac80	5610	Ant1	11.696	23	Pass
NVNT	ac80	5775	Ant1	8.463	29	Pass
NVNT	n20	5180	Ant1	9.97	23	Pass

22.1 MAXIMUM CONDUCTED OUTPUT POWER



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NVNT	n20	5200	Ant1	10.372	23	Pass
NVNT	n20	5240	Ant1	10.833	23	Pass
NVNT	n20	5260	Ant1	11.314	23	Pass
NVNT	n20	5280	Ant1	11.655	23	Pass
NVNT	n20	5320	Ant1	11.299	23	Pass
NVNT	n20	5500	Ant1	12.873	23	Pass
NVNT	n20	5600	Ant1	12.433	23	Pass
NVNT	n20	5700	Ant1	10.068	23	Pass
NVNT	n20	5745	Ant1	9.403	29	Pass
NVNT	n20	5785	Ant1	8.624	29	Pass
NVNT	n20	5825	Ant1	7.576	29	Pass
NVNT	n40	5190	Ant1	10.932	23	Pass
NVNT	n40	5230	Ant1	10.65	23	Pass
NVNT	n40	5270	Ant1	10.734	23	Pass
NVNT	n40	5310	Ant1	10.007	23	Pass
NVNT	n40	5510	Ant1	11.281	23	Pass
NVNT	n40	5590	Ant1	11.509	23	Pass
NVNT	n40	5670	Ant1	10.027	23	Pass
NVNT	n40	5755	Ant1	8.648	29	Pass
NVNT	n40	5795	Ant1	8.043	29	Pass

Power NVNT a 5180MHz Ant1



Power NVNT a 5200MHz Ant1





Power NVNT a 5240MHz Ant1



Power NVNT a 5260MHz Ant1





Power NVNT a 5280MHz Ant1



Power NVNT a 5320MHz Ant1





Power NVNT a 5500MHz Ant1



Power NVNT a 5600MHz Ant1





Power NVNT a 5700MHz Ant1



Power NVNT a 5745MHz Ant1