

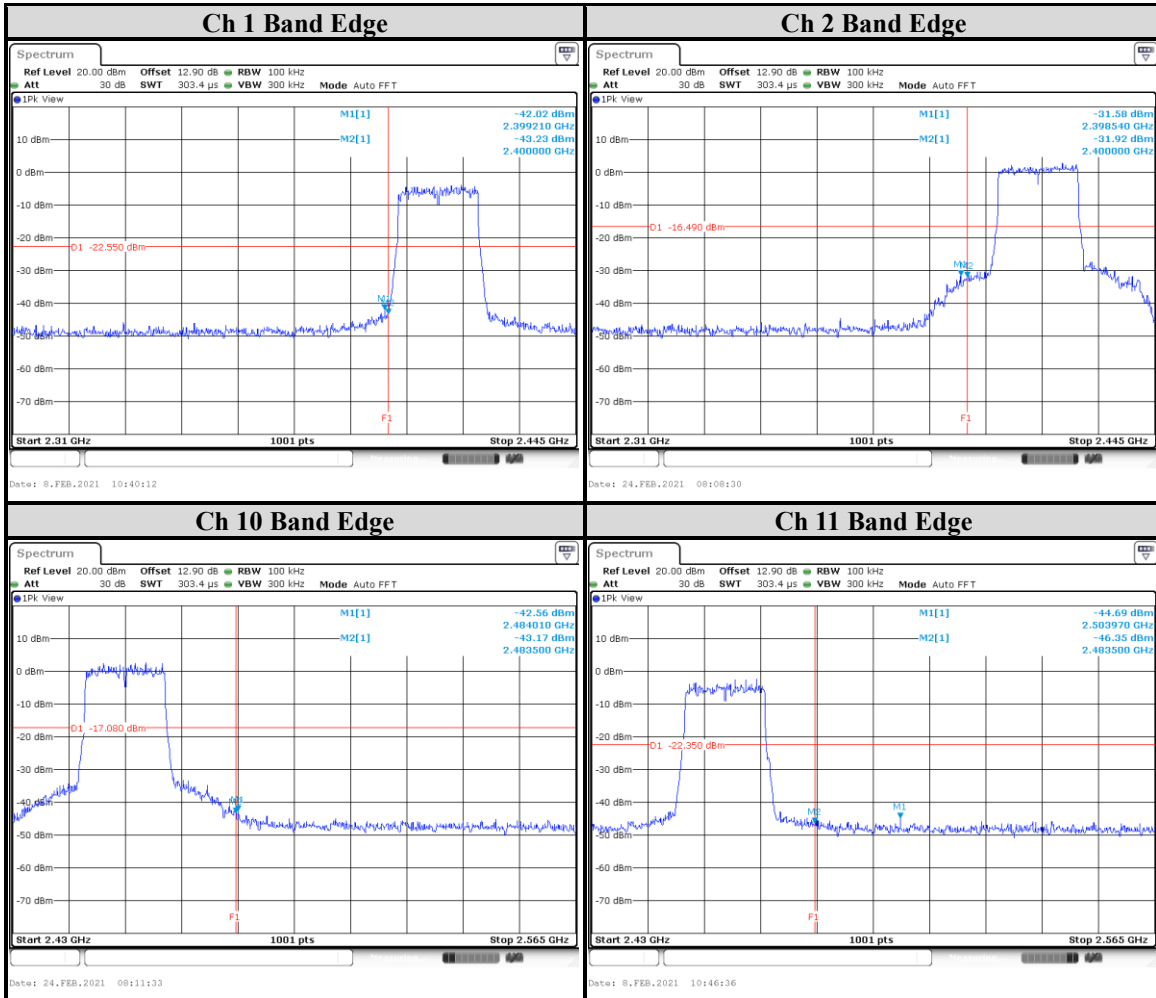
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Doc No: 17-EM-F0876 / 5.0



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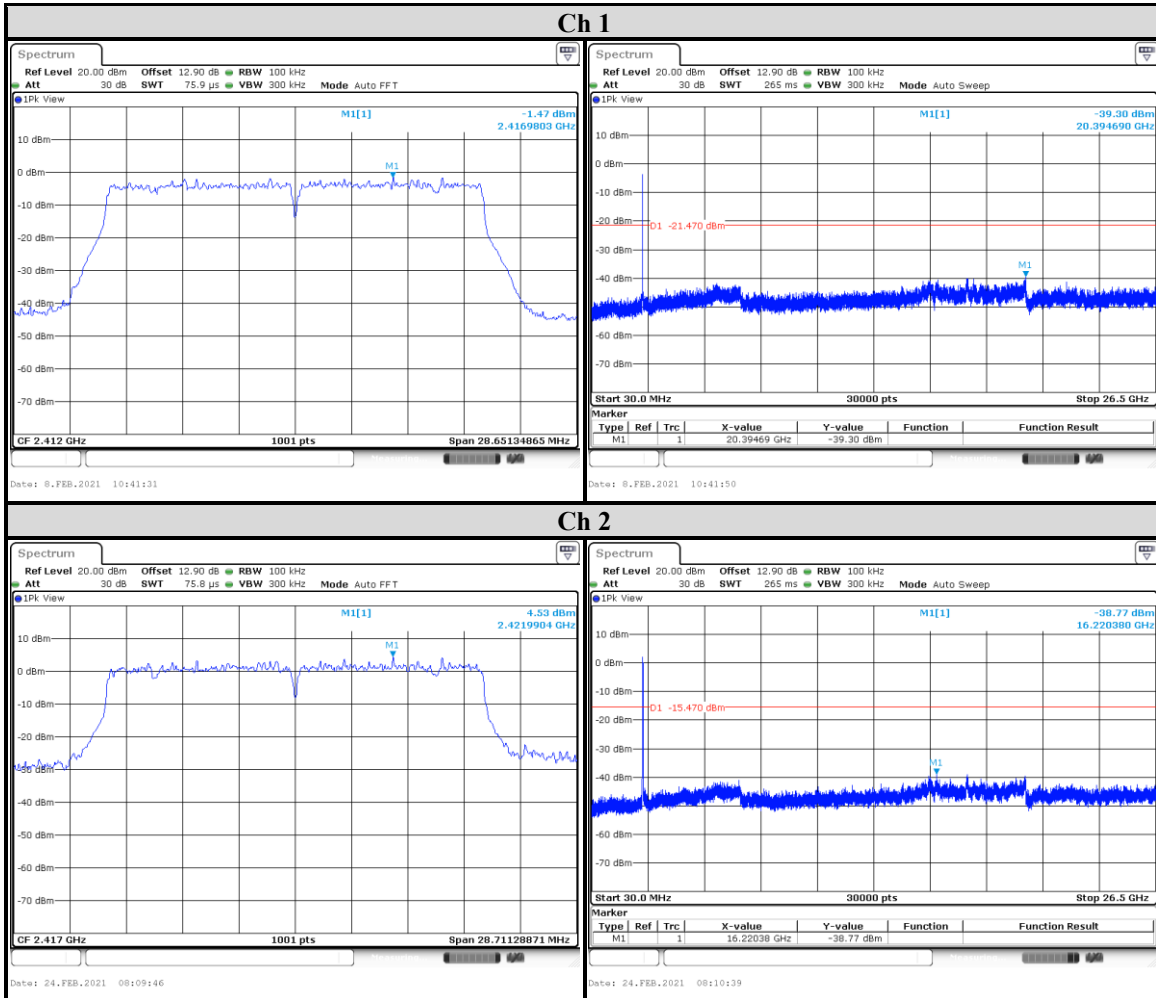
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CHAIN 1

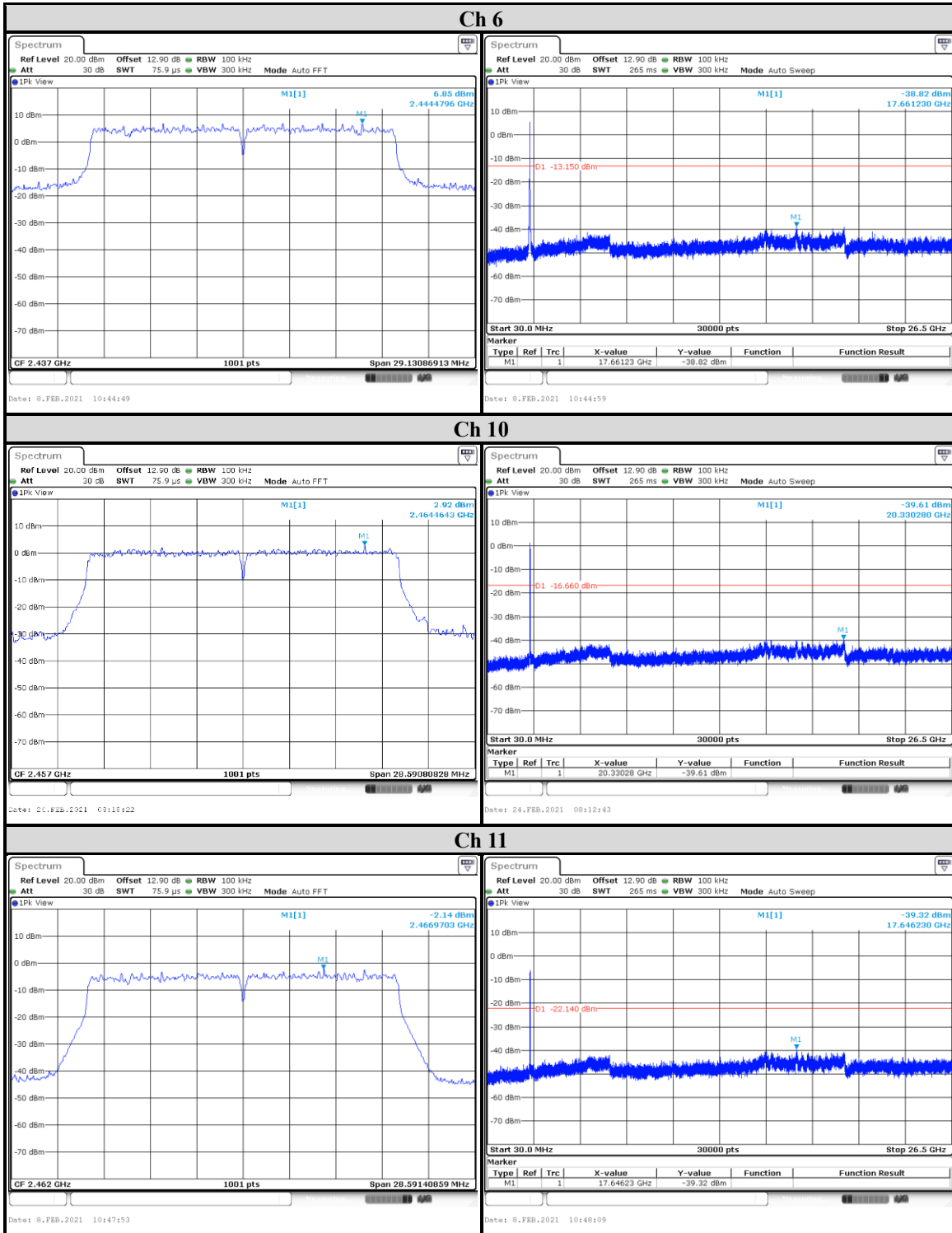


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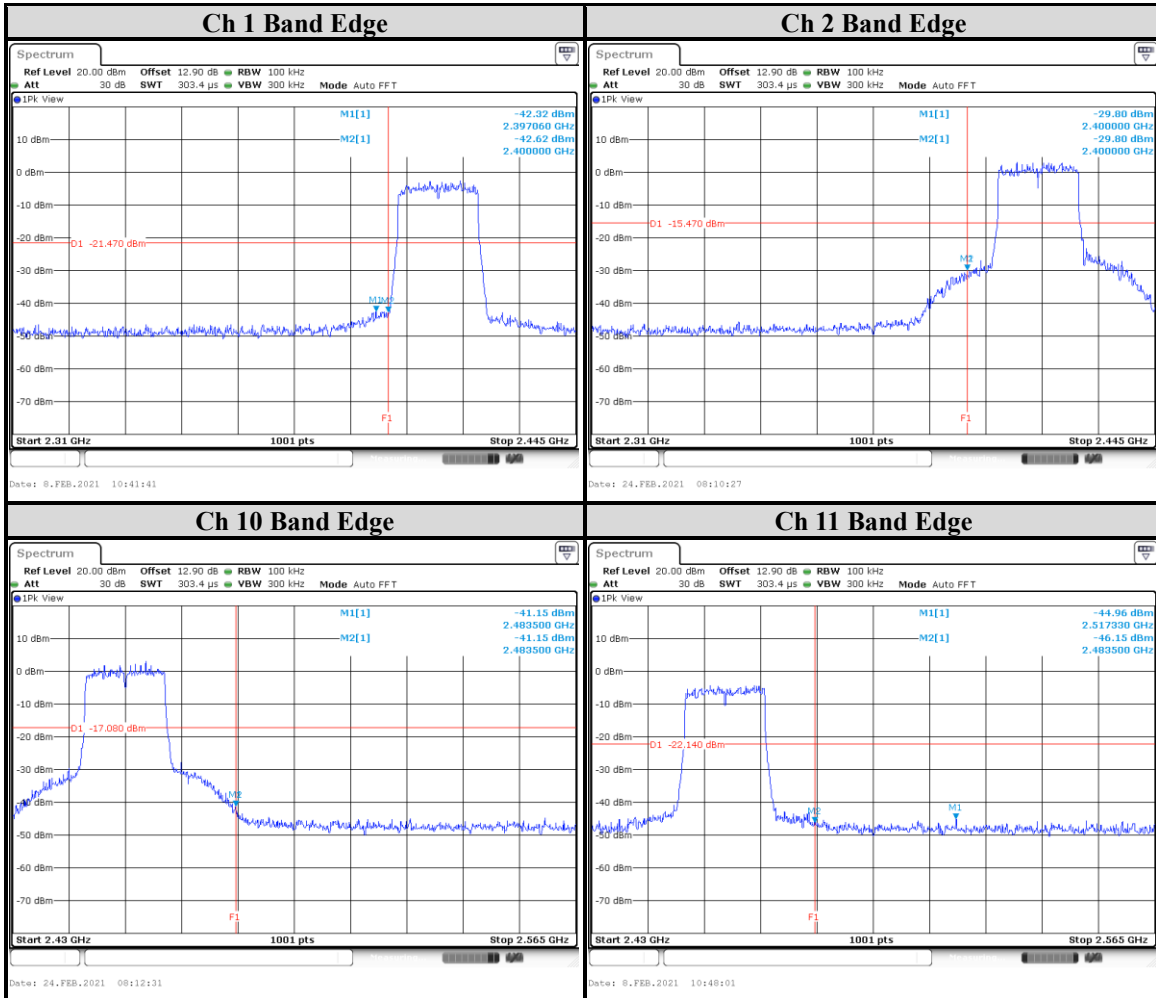
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9.5. Radiated Spurious Emission

Requirements

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 20dB below the highest level of the desired power:

Frequency(MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

NOTE:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. For frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

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Test Procedures

[For 9 kHz ~ 30 MHz]

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. Parallel, perpendicular, and ground-parallel orientations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. For measurement below 30MHz, the initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured. If the emission level of the EUT measured by the peak detector is lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.

NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9kHz at frequency below 30MHz.

[For above 30 MHz]

- a. The EUT was placed on the top of a rotating table 0.8 meters (for 30MHz ~ 1GHz) / 1.5 meters (for above 1GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. For measurement below 1GHz, the initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured. If the emission level of the EUT measured by the peak detector is lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.
- f. The test-receiver system was set to peak and average detects function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

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Note:

- a. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
- b. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
- c. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is $\geq 1/T$ (Duty cycle < 98%) or 10Hz (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1GHz.

Configuration	Non-Beamforming mode		Beamforming mode	
	Average		Average	
	RBW	RBW	RBW	VBW
802.11b	1MHz	10Hz	-	-
802.11g		1kHz	-	-
802.11ax (HE20)_OFDM		2kHz	1MHz	2kHz
802.11ax (HE20)_OFDMA		300Hz		300Hz

Note: Refer to section 6.6 for duty cycle.

- d. All modes of operation were investigated (includes all external accessories) and the worst-case emissions are reported.

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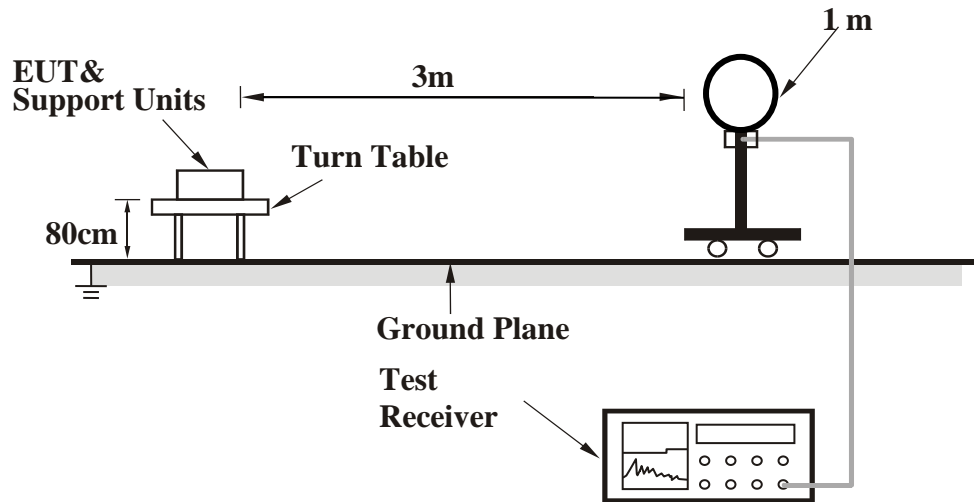
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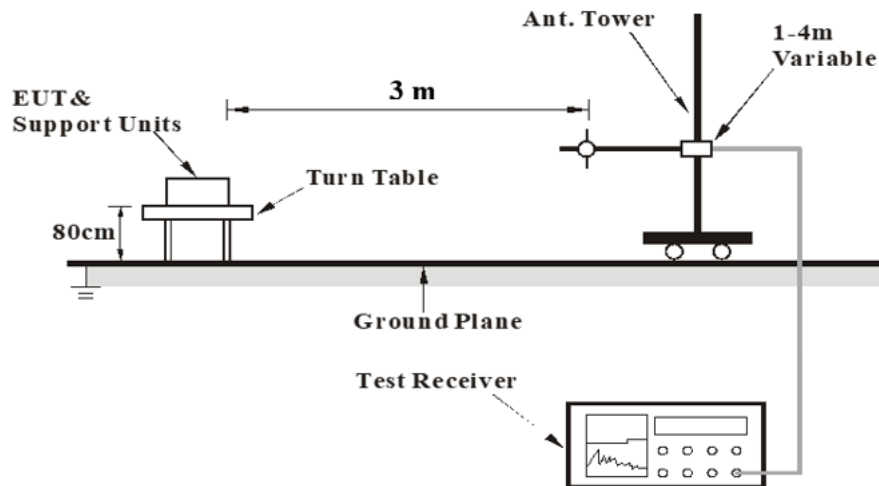
Doc No: 17-EM-F0876 / 5.0

Test Setup

<Frequency Range 9 kHz ~ 30 MHz>

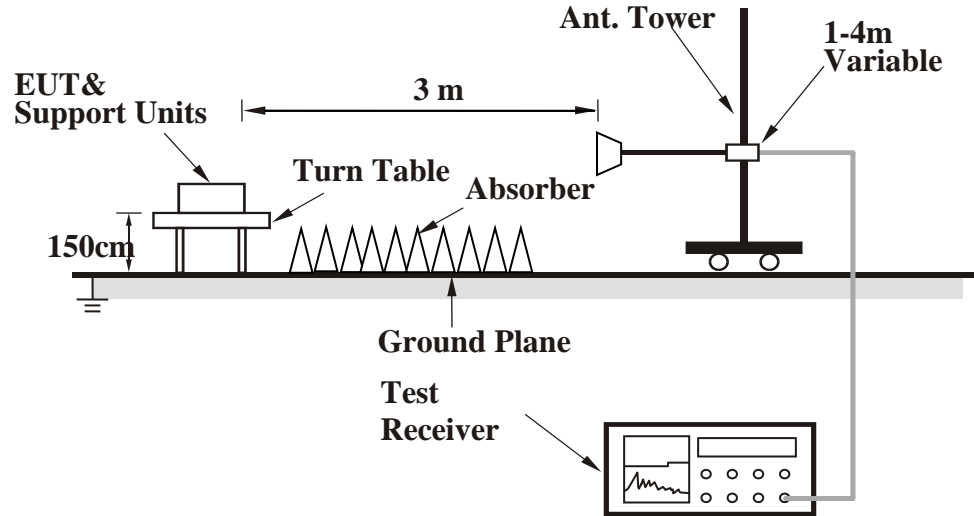


<Frequency Range 30 MHz ~ 1 GHz >





<Frequency Range above 1 GHz>



For the actual test configuration, please refer to the Setup Configurations.



Test Data

Above 1GHz Data

Non-Beamforming mode

802.11b

EUT Test Condition		Measurement Detail	
Channel	Channel 1	Frequency Range	1 GHz ~ 26.5 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
*	4824	44.67	2.54	47.21	74	-26.79	Peak
-	2387.4	37.68	6.02	43.7	54	-10.3	Average
@	2412	94.5	6.04	100.54	-	-	Average
-	2385.8	48.1	6.01	54.11	74	-19.89	Peak
@	2412	96.71	6.04	102.75	-	-	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	4824	50.23	2.54	52.77	54	-1.23	Average
-	4824	54.68	2.54	57.22	74	-16.78	Peak
-	2385.2	46.88	6.01	52.89	54	-1.11	Average
@	2412	102.72	6.04	108.76	-	-	Average
-	2386	54.3	6.01	60.31	74	-13.69	Peak
@	2412	105.93	6.04	111.97	-	-	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "*": The peak result under 20 dB above and complies with AVG limit, AVG result is deemed to comply with AVG limit.
6. The other emission levels were very low against the limit.

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EUT Test Condition		Measurement Detail	
Channel	Channel 6	Frequency Range	1 GHz ~ 26.5 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
*	4874	42.07	2.64	44.71	74	-29.29	Peak
-	2385.2	35.5	6.01	41.51	54	-12.49	Average
@	2437	93.08	6.04	99.12	-	-	Average
-	2488.8	35.75	6.02	41.77	54	-12.23	Average
-	2384.6	43.09	6.01	49.1	74	-24.9	Peak
@	2437	96.63	6.04	102.67	-	-	Peak
-	2495.4	43.3	6.02	49.32	74	-24.68	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	4874	50.01	2.64	52.65	54	-1.35	Average
-	4874	52.85	2.64	55.49	74	-18.51	Peak
-	2386.2	36.55	6.01	42.56	54	-11.44	Average
@	2437	102.69	6.04	108.73	-	-	Average
-	2488.4	39.21	6.02	45.23	54	-8.77	Average
-	2386.2	45.6	6.01	51.61	74	-22.39	Peak
@	2437	105.76	6.04	111.8	-	-	Peak
-	2483.6	48.38	6.02	54.4	74	-19.6	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "*": The peak result under 20 dB above and complies with AVG limit, AVG result is deemed to comply with AVG limit.
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EUT Test Condition		Measurement Detail	
Channel	Channel 11	Frequency Range	1 GHz ~ 26.5 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
*	4924	41.41	2.59	44	74	-30	Peak
@	2462	93.65	6.04	99.69	-	-	Average
-	2486	36.24	6.02	42.26	54	-11.74	Average
@	2462	95.47	6.04	101.51	-	-	Peak
-	2484	43.59	6.02	49.61	74	-24.39	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
*	4924	51.26	2.59	53.85	74	-20.15	Peak
@	2462	102.91	6.04	108.95	-	-	Average
-	2484.8	45.93	6.02	51.95	54	-2.05	Average
@	2462	105.01	6.04	111.05	-	-	Peak
-	2493.8	50.28	6.02	56.3	74	-17.7	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "* * ": The peak result under 20 dB above and complies with AVG limit, AVG result is deemed to comply with AVG limit.
6. The other emission levels were very low against the limit.

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802.11g

EUT Test Condition		Measurement Detail	
Channel	Channel 1	Frequency Range	1 GHz ~ 26.5 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
*	4824	38.7	2.54	41.24	74	-32.76	Peak
-	2389.6	35.93	6.02	41.95	54	-12.05	Average
@	2412	86.56	6.04	92.6	-	-	Average
-	2390	47.25	6.02	53.27	74	-20.73	Peak
@	2412	96.17	6.04	102.21	-	-	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
*	4824	50.7	2.54	53.24	74	-20.76	Peak
-	2389.8	46.81	6.02	52.83	54	-1.17	Average
@	2412	98.58	6.04	104.62	-	-	Average
-	2389	66.18	6.02	72.2	74	-1.8	Peak
@	2412	105.75	6.04	111.79	-	-	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "* * ": The peak result under 20 dB above and complies with AVG limit, AVG result is deemed to comply with AVG limit.
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EUT Test Condition		Measurement Detail	
Channel	Channel 2	Frequency Range	1 GHz ~ 26.5 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
*	4834	38.07	2.59	40.66	74	-33.34	Peak
-	2389.8	36.57	6.02	42.59	54	-11.41	Average
@	2417	89.49	6.04	95.53	-	-	Average
-	2389.6	50.94	6.02	56.96	74	-17.04	Peak
@	2417	98.22	6.04	104.26	-	-	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
*	4834	50.81	2.59	53.4	74	-20.6	Peak
-	2390	47.02	6.02	53.04	54	-0.96	Average
@	2417	100.53	6.04	106.57	-	-	Average
-	2389.6	63.43	6.02	69.45	74	-4.55	Peak
@	2417	107.45	6.04	113.49	-	-	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "* * ": The peak result under 20 dB above and complies with AVG limit, AVG result is deemed to comply with AVG limit.
6. The other emission levels were very low against the limit.

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EUT Test Condition		Measurement Detail	
Channel	Channel 6	Frequency Range	1 GHz ~ 26.5 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
*	4874	38.75	2.64	41.39	74	-32.61	Peak
-	2388.2	38.15	6.02	44.17	54	-9.83	Average
@	2437	93.94	6.04	99.98	-	-	Average
-	2487.2	37.88	6.03	43.91	54	-10.09	Average
-	2388	55.82	6.02	61.84	74	-12.16	Peak
@	2437	102.35	6.04	108.39	-	-	Peak
-	2486.6	50.21	6.02	56.23	74	-17.77	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
*	4874	51.27	2.64	53.91	74	-20.09	Peak
-	2389.6	46.89	6.02	52.91	54	-1.09	Average
@	2437	101.6	6.04	107.64	-	-	Average
-	2484	47.05	6.02	53.07	54	-0.93	Average
-	2389.8	66.26	6.02	72.28	74	-1.72	Peak
@	2437	110.36	6.04	116.4	-	-	Peak
-	2483.6	66.26	6.02	72.28	74	-1.72	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "* * ": The peak result under 20 dB above and complies with AVG limit, AVG result is deemed to comply with AVG limit.
6. The other emission levels were very low against the limit.

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EUT Test Condition		Measurement Detail	
Channel	Channel 10	Frequency Range	1 GHz ~ 26.5 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
*	4914	38.62	2.6	41.22	74	-32.78	Peak
@	2457	88.6	6.04	94.64	-	-	Average
-	2485.8	36.45	6.02	42.47	54	-11.53	Average
@	2457	98.31	6.04	104.35	-	-	Peak
-	2484.4	49.15	6.02	55.17	74	-18.83	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
*	4914	50.86	2.6	53.46	74	-20.54	Peak
@	2457	99.75	6.04	105.79	-	-	Average
-	2483.8	45.31	6.02	51.33	54	-2.67	Average
@	2457	106.07	6.04	112.11	-	-	Peak
-	2486.2	60.54	6.02	66.56	74	-7.44	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "* * ": The peak result under 20 dB above and complies with AVG limit, AVG result is deemed to comply with AVG limit.
6. The other emission levels were very low against the limit.

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EUT Test Condition		Measurement Detail	
Channel	Channel 11	Frequency Range	1 GHz ~ 26.5 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
*	4924	36.57	2.59	39.16	74	-34.84	Peak
@	2462	85.19	6.04	91.23	-	-	Average
-	2485.8	36.14	6.02	42.16	54	-11.84	Average
@	2462	93.7	6.04	99.74	-	-	Peak
-	2484.6	43.42	6.02	49.44	74	-24.56	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
*	4924	46.31	2.59	48.9	74	-25.1	Peak
@	2462	96.17	6.04	102.21	-	-	Average
-	2483.8	43.78	6.02	49.8	54	-4.2	Average
@	2462	102.6	6.04	108.64	-	-	Peak
-	2483.8	64.05	6.02	70.07	74	-3.93	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "* * ": The peak result under 20 dB above and complies with AVG limit, AVG result is deemed to comply with AVG limit.
6. The other emission levels were very low against the limit.

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Doc No: 17-EM-F0876 / 5.0



802.11ax (HE20)

OFDM

EUT Test Condition		Measurement Detail	
Channel	Channel 1	Frequency Range	1 GHz ~ 26.5 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
*	4824	38.06	2.54	40.6	74	-33.4	Peak
-	2388.8	35.66	6.02	41.68	54	-12.32	Average
@	2412	82.86	6.04	88.9	-	-	Average
-	2324	41.66	6.06	47.72	74	-26.28	Peak
@	2412	92.49	6.04	98.53	-	-	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
*	4824	43.86	2.54	46.4	74	-27.6	Peak
-	2390	45.28	6.02	51.3	54	-2.7	Average
@	2412	94.19	6.04	100.23	-	-	Average
-	2390	61.01	6.02	67.03	74	-6.97	Peak
@	2412	104.05	6.04	110.09	-	-	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "* * ": The peak result under 20 dB above and complies with AVG limit, AVG result is deemed to comply with AVG limit.
6. The other emission levels were very low against the limit.

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EUT Test Condition		Measurement Detail	
Channel	Channel 2	Frequency Range	1 GHz ~ 26.5 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
*	4834	37.06	2.59	39.65	74	-34.35	Peak
-	2388.8	36.2	6.02	42.22	54	-11.78	Average
@	2417	88.05	6.04	94.09	-	-	Average
-	2386.4	44.95	6.01	50.96	74	-23.04	Peak
@	2417	97.19	6.04	103.23	-	-	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
*	4834	47.92	2.59	50.51	74	-23.49	Peak
-	2390	46.63	6.02	52.65	54	-1.35	Average
@	2417	96.86	6.04	102.9	-	-	Average
-	2388.4	66.28	6.02	72.3	74	-1.7	Peak
@	2417	108.3	6.04	114.34	-	-	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "* * ": The peak result under 20 dB above and complies with AVG limit, AVG result is deemed to comply with AVG limit.
6. The other emission levels were very low against the limit.

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Doc No: 17-EM-F0876 / 5.0



EUT Test Condition		Measurement Detail	
Channel	Channel 6	Frequency Range	1 GHz ~ 26.5 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
*	4874	39.06	2.64	41.7	74	-32.3	Peak
-	2388.8	36.9	6.02	42.92	54	-11.08	Average
@	2437	92.03	6.04	98.07	-	-	Average
-	2483.8	37.4	6.02	43.42	54	-10.58	Average
-	2389.2	47.03	6.02	53.05	74	-20.95	Peak
@	2437	101.22	6.04	107.26	-	-	Peak
-	2490.6	46.91	6.02	52.93	74	-21.07	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
*	4874	49.07	2.64	51.71	74	-22.29	Peak
-	2389.4	43.36	6.02	49.38	54	-4.62	Average
@	2437	99.02	6.04	105.06	-	-	Average
-	2483.6	41.88	6.02	47.9	54	-6.1	Average
-	2386.6	63.52	6.02	69.54	74	-4.46	Peak
@	2437	109.66	6.04	115.7	-	-	Peak
-	2489.8	56.8	6.02	62.82	74	-11.18	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "*": The peak result under 20 dB above and complies with AVG limit, AVG result is deemed to comply with AVG limit.
6. The other emission levels were very low against the limit.

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Doc No: 17-EM-F0876 / 5.0



EUT Test Condition		Measurement Detail	
Channel	Channel 10	Frequency Range	1 GHz ~ 26.5 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
*	4914	38.63	2.6	41.23	74	-32.77	Peak
@	2457	87.34	6.04	93.38	-	-	Average
-	2483.6	36.81	6.02	42.83	54	-11.17	Average
@	2457	98.21	6.04	104.25	-	-	Peak
-	2483.8	46.59	6.02	52.61	74	-21.39	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
*	4914	49.01	2.6	51.61	74	-22.39	Peak
@	2457	96.93	6.04	102.97	-	-	Average
-	2484	47.04	6.02	53.06	54	-0.94	Average
@	2457	108.22	6.04	114.26	-	-	Peak
-	2483.8	63.39	6.02	69.41	74	-4.59	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "* * ": The peak result under 20 dB above and complies with AVG limit, AVG result is deemed to comply with AVG limit.
6. The other emission levels were very low against the limit.

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EUT Test Condition		Measurement Detail	
Channel	Channel 11	Frequency Range	1 GHz ~ 26.5 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
*	4924	35.96	2.59	38.55	74	-35.45	Peak
@	2462	83.48	6.04	89.52	-	-	Average
-	2483.8	35.98	6.02	42	54	-12	Average
@	2462	93.36	6.04	99.4	-	-	Peak
-	2483.6	42.75	6.02	48.77	74	-25.23	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
*	4924	43.2	2.59	45.79	74	-28.21	Peak
@	2462	93.63	6.04	99.67	-	-	Average
-	2483.6	47	6.02	53.02	54	-0.98	Average
@	2462	104.65	6.04	110.69	-	-	Peak
-	2484	62.13	6.02	68.15	74	-5.85	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "* * ": The peak result under 20 dB above and complies with AVG limit, AVG result is deemed to comply with AVG limit.
6. The other emission levels were very low against the limit.

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OFDMA

EUT Test Condition		Measurement Detail	
Channel	Channel 1	Frequency Range	1 GHz ~ 26.5 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
*	4824	37.98	2.54	40.52	74	-33.48	Peak
-	2389.2	35.72	6.02	41.74	54	-12.26	Average
@	2412	82.33	6.04	88.37	-	-	Average
-	2325	42.26	6.05	48.31	74	-25.69	Peak
@	2412	91.22	6.04	97.26	-	-	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
*	4824	43.76	2.54	46.3	74	-27.7	Peak
-	2389.4	45.29	6.02	51.31	54	-2.69	Average
@	2412	91.91	6.04	97.95	-	-	Average
-	2389.2	64.15	6.02	70.17	74	-3.83	Peak
@	2412	104.87	6.04	110.91	-	-	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "* * ": The peak result under 20 dB above and complies with AVG limit, AVG result is deemed to comply with AVG limit.
6. The other emission levels were very low against the limit.

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EUT Test Condition		Measurement Detail	
Channel	Channel 2	Frequency Range	1 GHz ~ 26.5 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
*	4834	36.86	2.59	39.45	74	-34.55	Peak
-	2388.8	36.05	6.02	42.07	54	-11.93	Average
@	2417	87.05	6.04	93.09	-	-	Average
-	2386	44.51	6.01	50.52	74	-23.48	Peak
@	2417	94.57	6.04	100.61	-	-	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
*	4834	48.12	2.59	50.71	74	-23.29	Peak
-	2390	46.15	6.02	52.17	54	-1.83	Average
@	2417	95.34	6.04	101.38	-	-	Average
-	2388.8	67.07	6.02	73.09	74	-0.91	Peak
@	2417	107.49	6.04	113.53	-	-	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "* * ": The peak result under 20 dB above and complies with AVG limit, AVG result is deemed to comply with AVG limit.
6. The other emission levels were very low against the limit.

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EUT Test Condition		Measurement Detail	
Channel	Channel 6	Frequency Range	1 GHz ~ 26.5 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
*	4874	38.92	2.64	41.56	74	-32.44	Peak
-	2389	37.85	6.02	43.87	54	-10.13	Average
@	2437	91.49	6.04	97.53	-	-	Average
-	2483.6	37.57	6.02	43.59	54	-10.41	Average
-	2388.2	48.42	6.02	54.44	74	-19.56	Peak
@	2437	99.79	6.04	105.83	-	-	Peak
-	2483.8	46.65	6.02	52.67	74	-21.33	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
*	4874	49.23	2.64	51.87	74	-22.13	Peak
-	2390	45.04	6.02	51.06	54	-2.94	Average
@	2437	97.99	6.04	104.03	-	-	Average
-	2483.6	43.21	6.02	49.23	54	-4.77	Average
-	2386.4	64.43	6.01	70.44	74	-3.56	Peak
@	2437	109.49	6.04	115.53	-	-	Peak
-	2484.8	60.96	6.02	66.98	74	-7.02	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "* * ": The peak result under 20 dB above and complies with AVG limit, AVG result is deemed to comply with AVG limit.
6. The other emission levels were very low against the limit.

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EUT Test Condition		Measurement Detail	
Channel	Channel 10	Frequency Range	1 GHz ~ 26.5 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
*	4914	38.84	2.6	41.44	74	-32.56	Peak
@	2457	84.71	6.04	90.75	-	-	Average
-	2483.8	36.46	6.02	42.48	54	-11.52	Average
@	2457	95.66	6.04	101.7	-	-	Peak
-	2483.8	46.18	6.02	52.2	74	-21.8	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
*	4914	49.24	2.6	51.84	74	-22.16	Peak
@	2457	93.09	6.04	99.13	-	-	Average
-	2483.6	43.57	6.02	49.59	54	-4.41	Average
@	2457	103.14	6.04	109.18	-	-	Peak
-	2483.6	59.24	6.02	65.26	74	-8.74	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "* * ": The peak result under 20 dB above and complies with AVG limit, AVG result is deemed to comply with AVG limit.
6. The other emission levels were very low against the limit.

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EUT Test Condition		Measurement Detail	
Channel	Channel 11	Frequency Range	1 GHz ~ 26.5 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
*	4924	35.87	2.59	38.46	74	-35.54	Peak
@	2462	80.97	6.04	87.01	-	-	Average
-	2483.6	35.89	6.02	41.91	54	-12.09	Average
@	2462	90.35	6.04	96.39	-	-	Peak
-	2485.4	41.55	6.02	47.57	74	-26.43	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
*	4924	43.14	2.59	45.73	74	-28.27	Peak
@	2462	91.42	6.04	97.46	-	-	Average
-	2483.6	45.39	6.02	51.41	54	-2.59	Average
@	2462	102.77	6.04	108.81	-	-	Peak
-	2483.6	66.68	6.02	72.7	74	-1.3	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "* * ": The peak result under 20 dB above and complies with AVG limit, AVG result is deemed to comply with AVG limit.
6. The other emission levels were very low against the limit.

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Beamforming mode

802.11ax (HE20)

OFDM

EUT Test Condition		Measurement Detail	
Channel	Channel 1	Frequency Range	1 GHz ~ 26.5 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
*	4824	38.28	2.54	40.82	74	-33.18	Peak
-	2382	35.34	6.01	41.35	54	-12.65	Average
@	2412	82.53	6.04	88.57	-	-	Average
-	2386	41.81	6.01	47.82	74	-26.18	Peak
@	2412	91.24	6.04	97.28	-	-	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
*	4824	43.74	2.54	46.28	74	-27.72	Peak
-	2389.6	42.61	6.02	48.63	54	-5.37	Average
@	2412	92.74	6.04	98.78	-	-	Average
-	2389.4	62.44	6.02	68.46	74	-5.54	Peak
@	2412	104.87	6.04	110.91	-	-	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "* * ": The peak result under 20 dB above and complies with AVG limit, AVG result is deemed to comply with AVG limit.
6. The other emission levels were very low against the limit.

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EUT Test Condition		Measurement Detail	
Channel	Channel 2	Frequency Range	1 GHz ~ 26.5 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
*	4834	37.22	2.59	39.81	74	-34.19	Peak
-	2386.4	36.17	6.01	42.18	54	-11.82	Average
@	2417	87.66	6.04	93.7	-	-	Average
-	2388.2	43.91	6.02	49.93	74	-24.07	Peak
@	2417	97.5	6.04	103.54	-	-	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
*	4834	47.79	2.59	50.38	74	-23.62	Peak
-	2388.4	47.03	6.02	53.05	54	-0.95	Average
@	2417	97.9	6.04	103.94	-	-	Average
-	2389.2	66.26	6.02	72.28	74	-1.72	Peak
@	2417	107.84	6.04	113.88	-	-	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. " * ": The peak result under 20 dB above and complies with AVG limit, AVG result is deemed to comply with AVG limit.
6. The other emission levels were very low against the limit.

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Doc No: 17-EM-F0876 / 5.0



EUT Test Condition		Measurement Detail	
Channel	Channel 6	Frequency Range	1 GHz ~ 26.5 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
*	4874	39.26	2.64	41.9	74	-32.1	Peak
-	2388	36.86	6.02	42.88	54	-11.12	Average
@	2437	91.86	6.04	97.9	-	-	Average
-	2484.2	36.95	6.02	42.97	54	-11.03	Average
-	2389	47.75	6.02	53.77	74	-20.23	Peak
@	2437	102	6.04	108.04	-	-	Peak
-	2483.8	48.48	6.02	54.5	74	-19.5	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
*	4874	49.94	2.64	52.58	74	-21.42	Peak
-	2390	44.43	6.02	50.45	54	-3.55	Average
@	2437	100.22	6.04	106.26	-	-	Average
-	2484.2	43.69	6.02	49.71	54	-4.29	Average
-	2388.6	59.84	6.02	65.86	74	-8.14	Peak
@	2437	109.32	6.04	115.36	-	-	Peak
-	2485.8	57.78	6.02	63.8	74	-10.2	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "* * ": The peak result under 20 dB above and complies with AVG limit, AVG result is deemed to comply with AVG limit.
6. The other emission levels were very low against the limit.

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EUT Test Condition		Measurement Detail	
Channel	Channel 10	Frequency Range	1 GHz ~ 26.5 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
*	4914	38.55	2.6	41.15	74	-32.85	Peak
@	2457	86.49	6.04	92.53	-	-	Average
-	2483.6	36.59	6.02	42.61	54	-11.39	Average
@	2457	98.75	6.04	104.79	-	-	Peak
-	2484	47.11	6.02	53.13	74	-20.87	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
*	4914	48.87	2.6	51.47	74	-22.53	Peak
@	2457	97.09	6.04	103.13	-	-	Average
-	2484.2	47.08	6.02	53.1	54	-0.9	Average
@	2457	108.14	6.04	114.18	-	-	Peak
-	2484.2	63.03	6.02	69.05	74	-4.95	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "* * ": The peak result under 20 dB above and complies with AVG limit, AVG result is deemed to comply with AVG limit.
6. The other emission levels were very low against the limit.

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EUT Test Condition		Measurement Detail	
Channel	Channel 11	Frequency Range	1 GHz ~ 26.5 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
*	4924	36	2.59	38.59	74	-35.41	Peak
@	2462	82.39	6.04	88.43	-	-	Average
-	2483.6	35.9	6.02	41.92	54	-12.08	Average
@	2462	93.23	6.04	99.27	-	-	Peak
-	2484	42.95	6.02	48.97	74	-25.03	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
*	4924	42.99	2.59	45.58	74	-28.42	Peak
@	2462	93.25	6.04	99.29	-	-	Average
-	2483.6	46.41	6.02	52.43	54	-1.57	Average
@	2462	105.09	6.04	111.13	-	-	Peak
-	2484	64.94	6.02	70.96	74	-3.04	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "* * ": The peak result under 20 dB above and complies with AVG limit, AVG result is deemed to comply with AVG limit.
6. The other emission levels were very low against the limit.

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OFDMA

EUT Test Condition		Measurement Detail	
Channel	Channel 1	Frequency Range	1 GHz ~ 26.5 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
*	4824	38.22	2.54	40.76	74	-33.24	Peak
-	2381	35.68	6	41.68	54	-12.32	Average
@	2412	81.59	6.04	87.63	-	-	Average
-	2388.2	43.23	6.02	49.25	74	-24.75	Peak
@	2412	90.25	6.04	96.29	-	-	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
*	4824	43.53	2.54	46.07	74	-27.93	Peak
-	2389.6	47.03	6.02	53.05	54	-0.95	Average
@	2412	92.54	6.04	98.58	-	-	Average
-	2389.8	64.8	6.02	70.82	74	-3.18	Peak
@	2412	104.17	6.04	110.21	-	-	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "* * ": The peak result under 20 dB above and complies with AVG limit, AVG result is deemed to comply with AVG limit.
6. The other emission levels were very low against the limit.

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EUT Test Condition		Measurement Detail	
Channel	Channel 2	Frequency Range	1 GHz ~ 26.5 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
*	4834	36.97	2.59	39.56	74	-34.44	Peak
-	2390	36.17	6.02	42.19	54	-11.81	Average
@	2417	85.56	6.04	91.6	-	-	Average
-	2385.8	42.47	6.01	48.48	74	-25.52	Peak
@	2417	94.82	6.04	100.86	-	-	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
*	4834	47.93	2.59	50.52	74	-23.48	Peak
-	2390	47.04	6.02	53.06	54	-0.94	Average
@	2417	96.93	6.04	102.97	-	-	Average
-	2389.4	64.17	6.02	70.19	74	-3.81	Peak
@	2417	107.06	6.04	113.1	-	-	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "* * ": The peak result under 20 dB above and complies with AVG limit, AVG result is deemed to comply with AVG limit.
6. The other emission levels were very low against the limit.

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EUT Test Condition		Measurement Detail	
Channel	Channel 6	Frequency Range	1 GHz ~ 26.5 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
*	4874	39.1	2.64	41.74	74	-32.26	Peak
-	2388.8	37.8	6.02	43.82	54	-10.18	Average
@	2437	90.68	6.04	96.72	-	-	Average
-	2485.8	37.11	6.02	43.13	54	-10.87	Average
-	2388.2	47.35	6.02	53.37	74	-20.63	Peak
@	2437	100.44	6.04	106.48	-	-	Peak
-	2486.4	47.88	6.02	53.9	74	-20.1	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
*	4874	49.1	2.64	51.74	74	-22.26	Peak
-	2389.6	47.11	6.02	53.13	54	-0.87	Average
@	2437	99.57	6.04	105.61	-	-	Average
-	2483.6	46.5	6.02	52.52	54	-1.48	Average
-	2389.4	64.77	6.02	70.79	74	-3.21	Peak
@	2437	108.59	6.04	114.63	-	-	Peak
-	2483.8	64.77	6.02	70.79	74	-3.21	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
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EUT Test Condition		Measurement Detail	
Channel	Channel 10	Frequency Range	1 GHz ~ 26.5 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
*	4914	38.78	2.6	41.38	74	-32.62	Peak
@	2457	84.78	6.04	90.82	-	-	Average
-	2483.6	36.87	6.02	42.89	54	-11.11	Average
@	2457	96.4	6.04	102.44	-	-	Peak
-	2483.8	48.24	6.02	54.26	74	-19.74	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
*	4914	49.29	2.6	51.89	74	-22.11	Peak
@	2457	95.16	6.04	101.2	-	-	Average
-	2483.8	46.97	6.02	52.99	54	-1.01	Average
@	2457	103.57	6.04	109.61	-	-	Peak
-	2483.6	57.62	6.02	63.64	74	-10.36	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "* * ": The peak result under 20 dB above and complies with AVG limit, AVG result is deemed to comply with AVG limit.
6. The other emission levels were very low against the limit.

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EUT Test Condition		Measurement Detail	
Channel	Channel 11	Frequency Range	1 GHz ~ 26.5 GHz

Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
*	4924	35.94	2.59	38.53	74	-35.47	Peak
@	2462	80.24	6.04	86.28	-	-	Average
-	2483.6	35.73	6.02	41.75	54	-12.25	Average
@	2462	89.95	6.04	95.99	-	-	Peak
-	2483.8	43.08	6.02	49.1	74	-24.9	Peak
Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
*	4924	43.11	2.59	45.7	74	-28.3	Peak
@	2462	91.85	6.04	97.89	-	-	Average
-	2483.6	46.67	6.02	52.69	54	-1.31	Average
@	2462	102.87	6.04	108.91	-	-	Peak
-	2483.6	64.7	6.02	70.72	74	-3.28	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. "@": Fundamental Frequency.
5. "* * ": The peak result under 20 dB above and complies with AVG limit, AVG result is deemed to comply with AVG limit.
6. The other emission levels were very low against the limit.

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9 kHz ~ 30 MHz Data:

For 9 kHz to 30 MHz radiated emission have performed all modes of operation were investigated. The amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required to be report.

No non-compliance noted:

KDB 414788 D01 OATS and Chamber Correlation Justification

- Base on FCC 15.31 (f) (2): measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field.

- OATs and chamber correlation testing had been performed and chamber measured test results is the worst case test result.

Although these tests were performed other than open area test site, adequate comparison measurements were confirmed against 30m open area test site. Therefore sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field based on KDB 414788.

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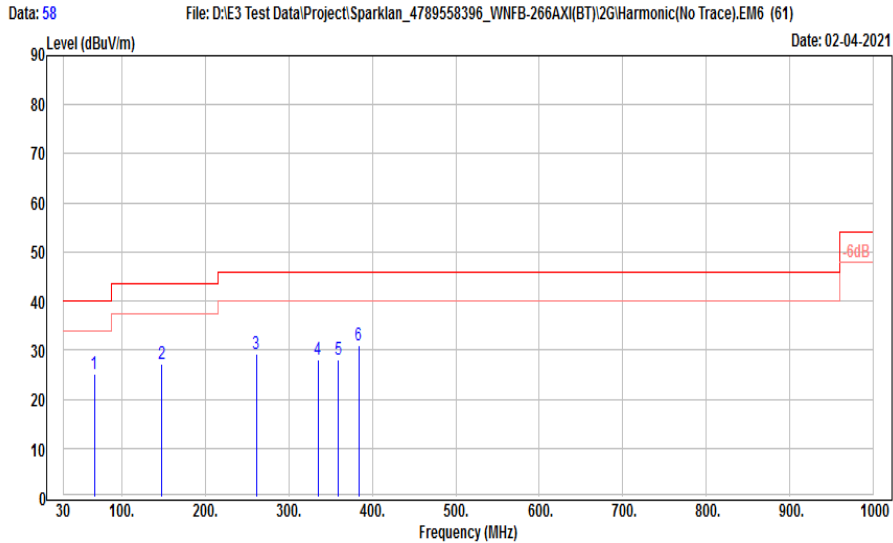
30 MHz ~ 1 GHz Data

Non-Beamforming mode

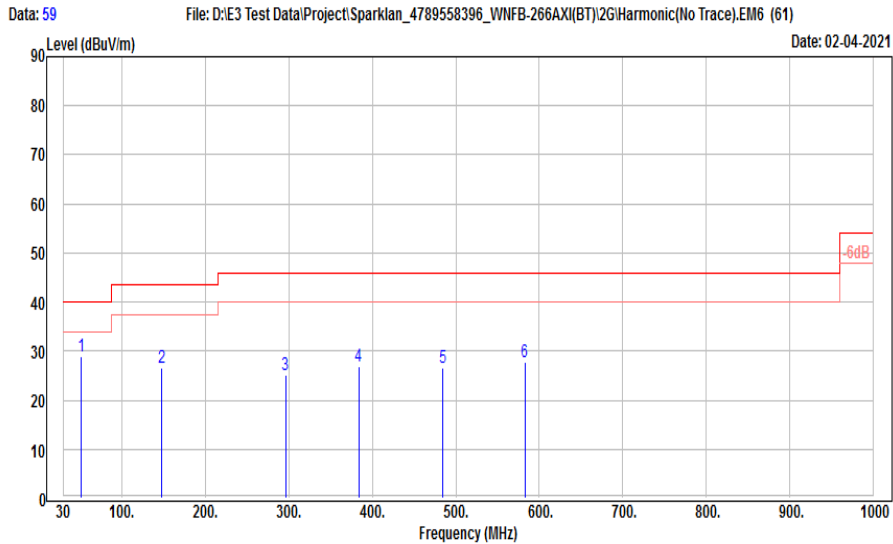
802.11b

EUT Test Condition		Measurement Detail	
Channel	Channel 1	Frequency Range	30 MHz ~ 1 GHz

Horizontal



Vertical



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Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	67.83	38.51	-13.5	25.01	40	-14.99	Peak
-	148.34	38.97	-11.84	27.13	43.5	-16.37	Peak
-	261.83	40.76	-11.58	29.18	46	-16.82	Peak
-	335.55	37.12	-9.17	27.95	46	-18.05	Peak
-	359.8	36.41	-8.33	28.08	46	-17.92	Peak
-	384.05	38.99	-7.89	31.1	46	-14.9	Peak

Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	52.31	40.59	-11.53	29.06	40	-10.94	Peak
-	148.34	38.35	-11.84	26.51	43.5	-16.99	Peak
-	296.75	35.6	-10.37	25.23	46	-20.77	Peak
-	384.05	34.83	-7.89	26.94	46	-19.06	Peak
-	484.93	31.62	-5.05	26.57	46	-19.43	Peak
-	582.9	30.51	-2.89	27.62	46	-18.38	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. The peak result complies with QP limit, QP result is deemed to comply with QP limit.
5. The other emission levels were very low against the limit.

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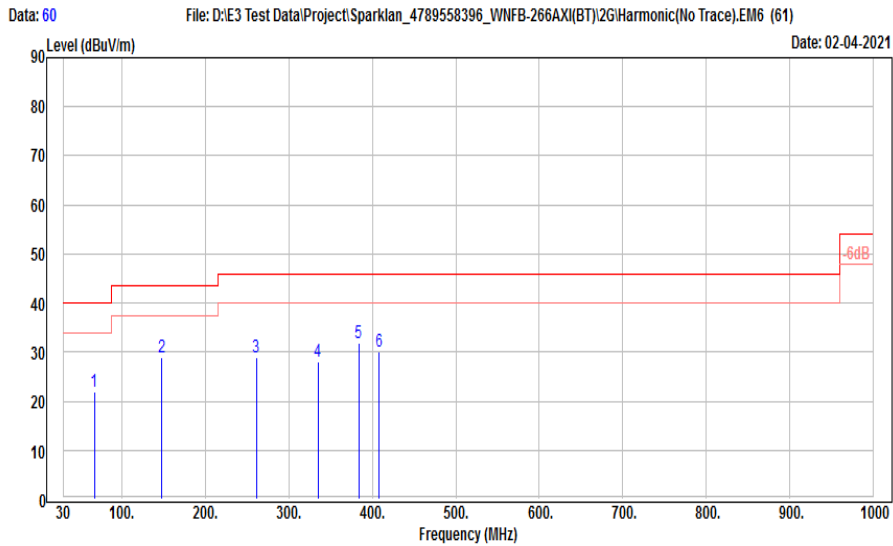


Beamforming mode

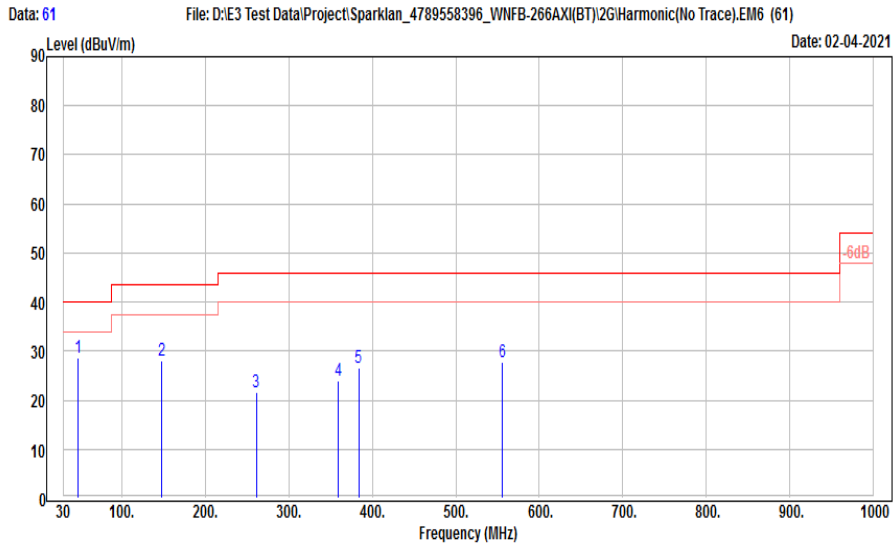
802.11ax (HE20)

EUT Test Condition		Measurement Detail	
Channel	Channel 6	Frequency Range	30 MHz ~ 1 GHz

Horizontal



Vertical



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Antenna Polarity & Test Distance: Horizontal at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	67.83	35.28	-13.5	21.78	40	-18.22	Peak
-	148.34	40.76	-11.84	28.92	43.5	-14.58	Peak
-	261.83	40.63	-11.58	29.05	46	-16.95	Peak
-	335.55	37.16	-9.17	27.99	46	-18.01	Peak
-	384.05	39.73	-7.89	31.84	46	-14.16	Peak
-	408.3	37.31	-7.17	30.14	46	-15.86	Peak

Antenna Polarity & Test Distance: Vertical at 3 m							
Notation	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
-	48.43	40.28	-11.55	28.73	40	-11.27	Peak
-	148.34	39.93	-11.84	28.09	43.5	-15.41	Peak
-	261.83	33.34	-11.58	21.76	46	-24.24	Peak
-	359.8	32.23	-8.33	23.9	46	-22.1	Peak
-	384.05	34.48	-7.89	26.59	46	-19.41	Peak
-	555.74	31.06	-3.28	27.78	46	-18.22	Peak

Remarks:

1. Result value (dBuV/m) = Reading value (dBuV/m) + Correction Factor (dB/m).
2. Margin(dB) = Result value (dBuV/m) - Limit value (dBuV/m).
3. Correction Factor (dB/m) = Antenna Factor (dBuV/m) + Cable Loss (dB) - Preamp Factor (dB).
4. The peak result complies with QP limit, QP result is deemed to comply with QP limit.
5. The other emission levels were very low against the limit.

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9.6. AC Power Line Conducted Emission

Requirements

Frequency (MHz)	Conducted limit (dB μ V)	
	Quasi-peak	Average
0.15 - 0.5	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30	60	50

Note:

1. The lower limit shall apply at the transition frequencies.
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

Test Procedures

- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

NOTE:

1. The resolution bandwidth and video bandwidth of test receiver is 9kHz for quasi-peak detection (QP) and average detection (AV) at frequency 0.15MHz-30MHz.

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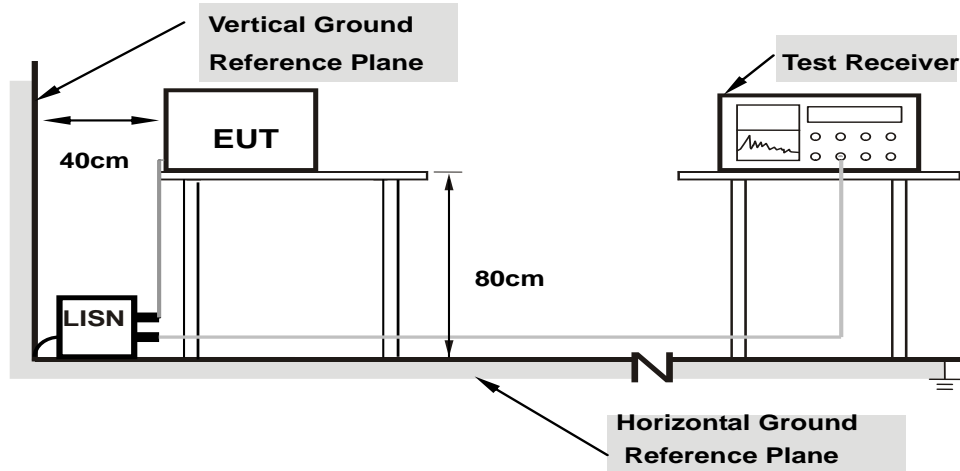
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Test Setup



Note: 1.Support units were connected to second LISN.

For the actual test configuration, please refer to the Setup Configurations.

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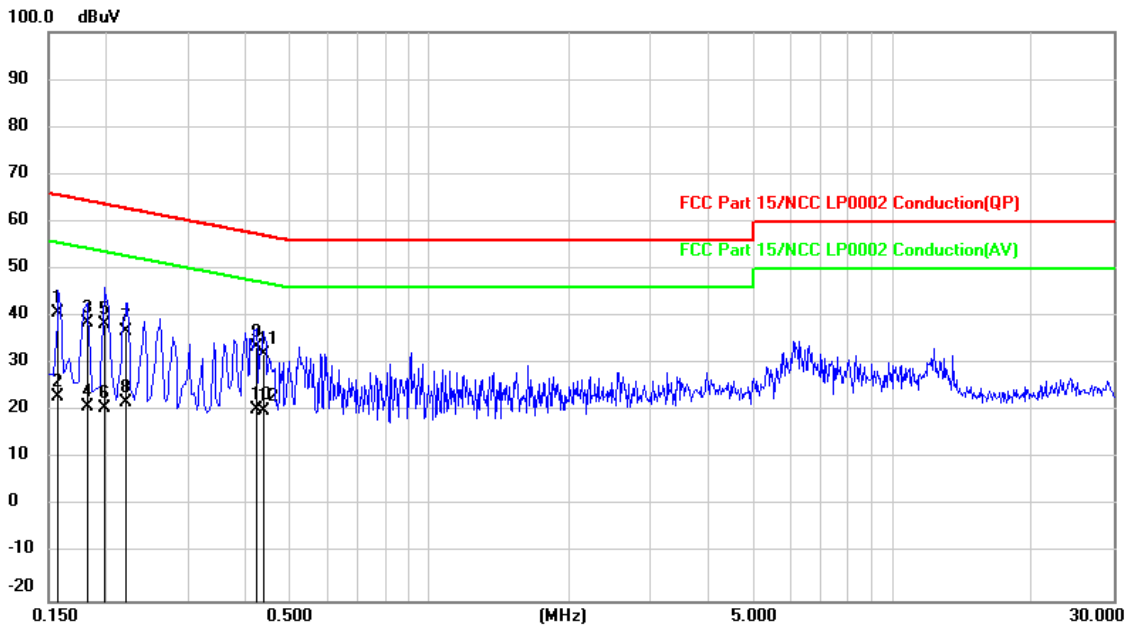
Test Data

Non-Beamforming mode

802.11b

EUT Test Condition		Measurement Detail	
Channel	Channel 1	Frequency Range	150 kHz ~ 30 MHz

Phase of Power : Line (L)



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No.	Frequency (MHz)	Reading (dBuV)	Correct dB	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1580	21.15	19.54	40.69	65.57	-24.88	QP
2	0.1580	3.39	19.54	22.93	55.57	-32.64	AVG
3	0.1819	19.17	19.53	38.70	64.40	-25.70	QP
4	0.1819	1.56	19.53	21.09	54.40	-33.31	AVG
5	0.1980	18.86	19.53	38.39	63.69	-25.30	QP
6	0.1980	1.19	19.53	20.72	53.69	-32.97	AVG
7	0.2220	17.30	19.53	36.83	62.74	-25.91	QP
8	0.2220	2.24	19.53	21.77	52.74	-30.97	AVG
9	0.4220	14.04	19.51	33.55	57.41	-23.86	QP
10	0.4220	0.95	19.51	20.46	47.41	-26.95	AVG
11	0.4380	12.59	19.51	32.10	57.10	-25.00	QP
12	0.4380	0.52	19.51	20.03	47.10	-27.07	AVG

Remarks:

1. Result value (dBuV) = Reading value (dBuV) + Correction Factor (dB)
2. Margin(dB) = Result value (dBuV) - Limit value (dBuV)
3. Correction Factor(dB) = Insertion loss(dB) + Cable loss(dB)
4. The other emission levels were very low against the limit.

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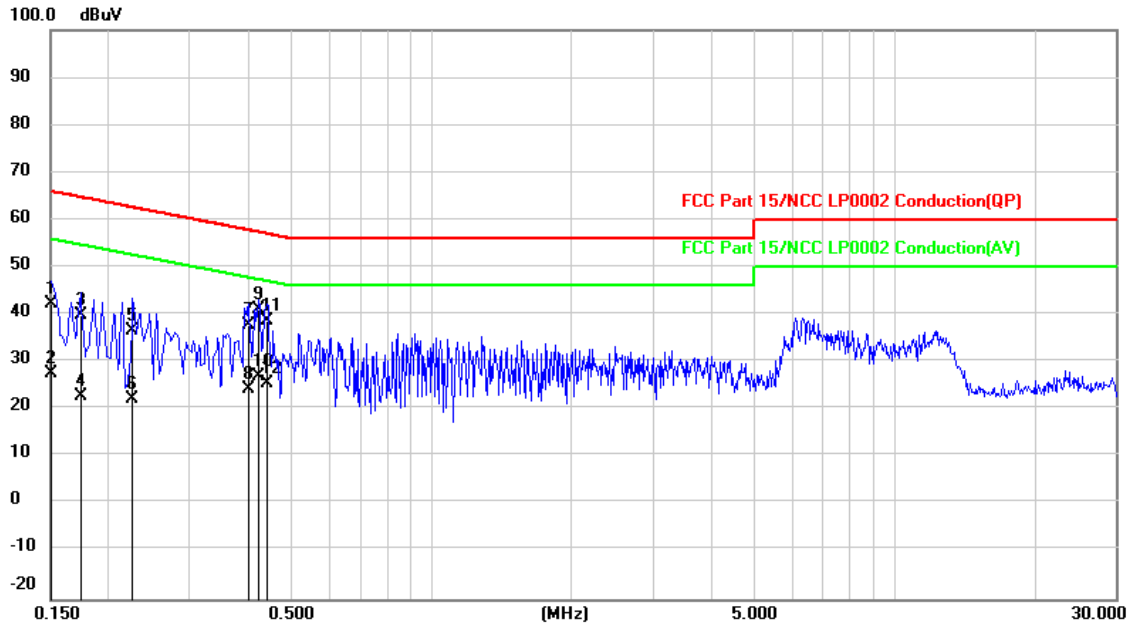
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Phase of Power : Neutral (N)



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No.	Frequency (MHz)	Reading (dBuV)	Correct dB	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1500	22.59	19.54	42.13	66.00	-23.87	QP
2	0.1500	7.98	19.54	27.52	56.00	-28.48	AVG
3	0.1740	20.28	19.54	39.82	64.77	-24.95	QP
4	0.1740	3.20	19.54	22.74	54.77	-32.03	AVG
5	0.2260	16.97	19.53	36.50	62.60	-26.10	QP
6	0.2260	2.62	19.53	22.15	52.60	-30.45	AVG
7	0.4020	18.22	19.51	37.73	57.81	-20.08	QP
8	0.4020	4.73	19.51	24.24	47.81	-23.57	AVG
9	0.4220	21.53	19.51	41.04	57.41	-16.37	QP
10	0.4220	7.33	19.51	26.84	47.41	-20.57	AVG
11	0.4420	19.19	19.51	38.70	57.02	-18.32	QP
12	0.4420	6.06	19.51	25.57	47.02	-21.45	AVG

Remarks:

1. Result value (dBuV) = Reading value (dBuV) + Correction Factor (dB)
2. Margin(dB) = Result value (dBuV) - Limit value (dBuV)
3. Correction Factor(dB) = Insertion loss(dB) + Cable loss(dB)
4. The other emission levels were very low against the limit.

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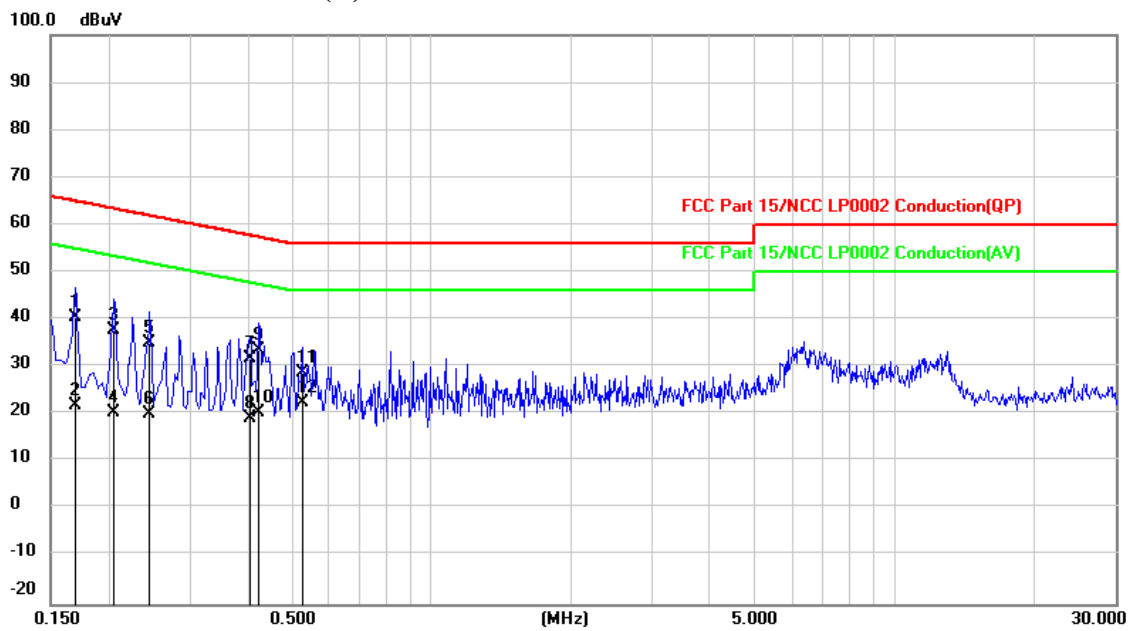
Beamforming mode

802.11ax (HE20)

OFDM

EUT Test Condition		Measurement Detail	
Channel	Channel 6	Frequency Range	150 kHz ~ 30 MHz

Phase of Power : Line (L)



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No.	Frequency (MHz)	Reading (dBuV)	Correct dB	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1700	20.87	19.54	40.41	64.96	-24.55	QP
2	0.1700	2.37	19.54	21.91	54.96	-33.05	AVG
3	0.2060	18.15	19.53	37.68	63.37	-25.69	QP
4	0.2060	0.91	19.53	20.44	53.37	-32.93	AVG
5	0.2460	15.46	19.53	34.99	61.89	-26.90	QP
6	0.2460	0.53	19.53	20.06	51.89	-31.83	AVG
7	0.4060	12.13	19.51	31.64	57.73	-26.09	QP
8	0.4060	-0.35	19.51	19.16	47.73	-28.57	AVG
9	0.4220	14.07	19.51	33.58	57.41	-23.83	QP
10	0.4220	0.89	19.51	20.40	47.41	-27.01	AVG
11	0.5260	9.29	19.52	28.81	56.00	-27.19	QP
12	0.5260	2.88	19.52	22.40	46.00	-23.60	AVG

Remarks:

1. Result value (dBuV) = Reading value (dBuV) + Correction Factor (dB)
2. Margin(dB) = Result value (dBuV) - Limit value (dBuV)
3. Correction Factor(dB) = Insertion loss(dB) + Cable loss(dB)
4. The other emission levels were very low against the limit.

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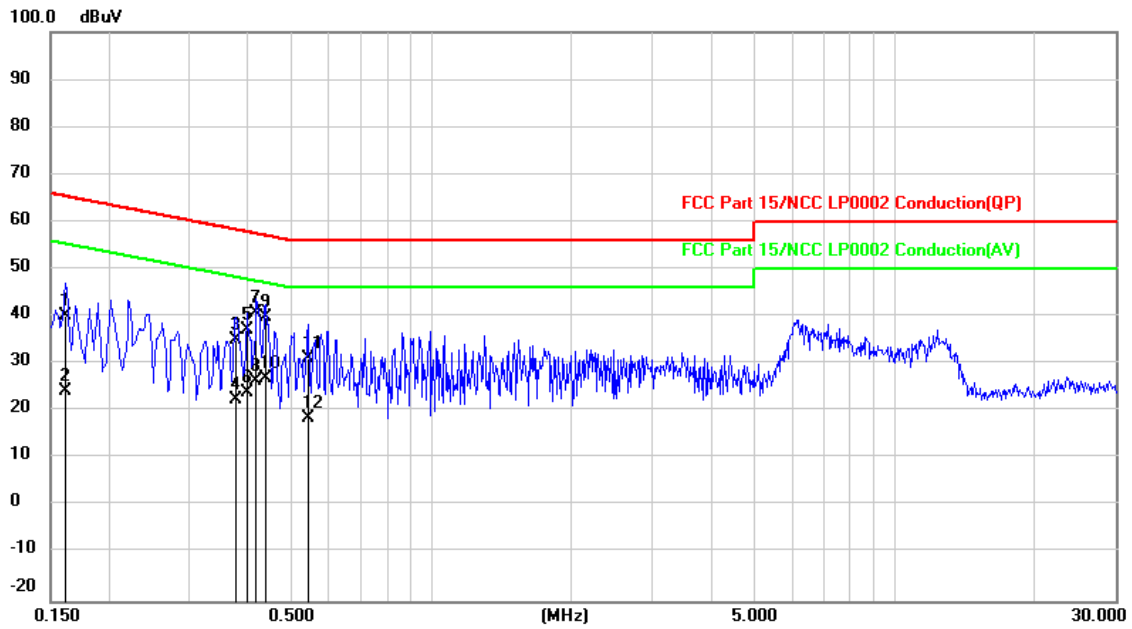
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Phase of Power : Neutral (N)



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No.	Frequency (MHz)	Reading (dBuV)	Correct dB	Result (dBuV)	Limit (dBuV)	Margin (dB)	Remark
1	0.1620	20.50	19.54	40.04	65.36	-25.32	QP
2	0.1620	4.77	19.54	24.31	55.36	-31.05	AVG
3	0.3780	15.66	19.51	35.17	58.32	-23.15	QP
4	0.3780	2.86	19.51	22.37	48.32	-25.95	AVG
5	0.3980	17.69	19.51	37.20	57.90	-20.70	QP
6	0.3980	4.38	19.51	23.89	47.90	-24.01	AVG
7	0.4180	21.21	19.51	40.72	57.49	-16.77	QP
8	0.4180	6.82	19.51	26.33	47.49	-21.16	AVG
9	0.4380	20.32	19.51	39.83	57.10	-17.27	QP
10	0.4380	7.38	19.51	26.89	47.10	-20.21	AVG
11	0.5420	11.78	19.52	31.30	56.00	-24.70	QP
12	0.5420	-0.98	19.52	18.54	46.00	-27.46	AVG

Remarks:

1. Result value (dBuV) = Reading value (dBuV) + Correction Factor (dB)
2. Margin(dB) = Result value (dBuV) - Limit value (dBuV)
3. Correction Factor(dB) = Insertion loss(dB) + Cable loss(dB)
4. The other emission levels were very low against the limit.

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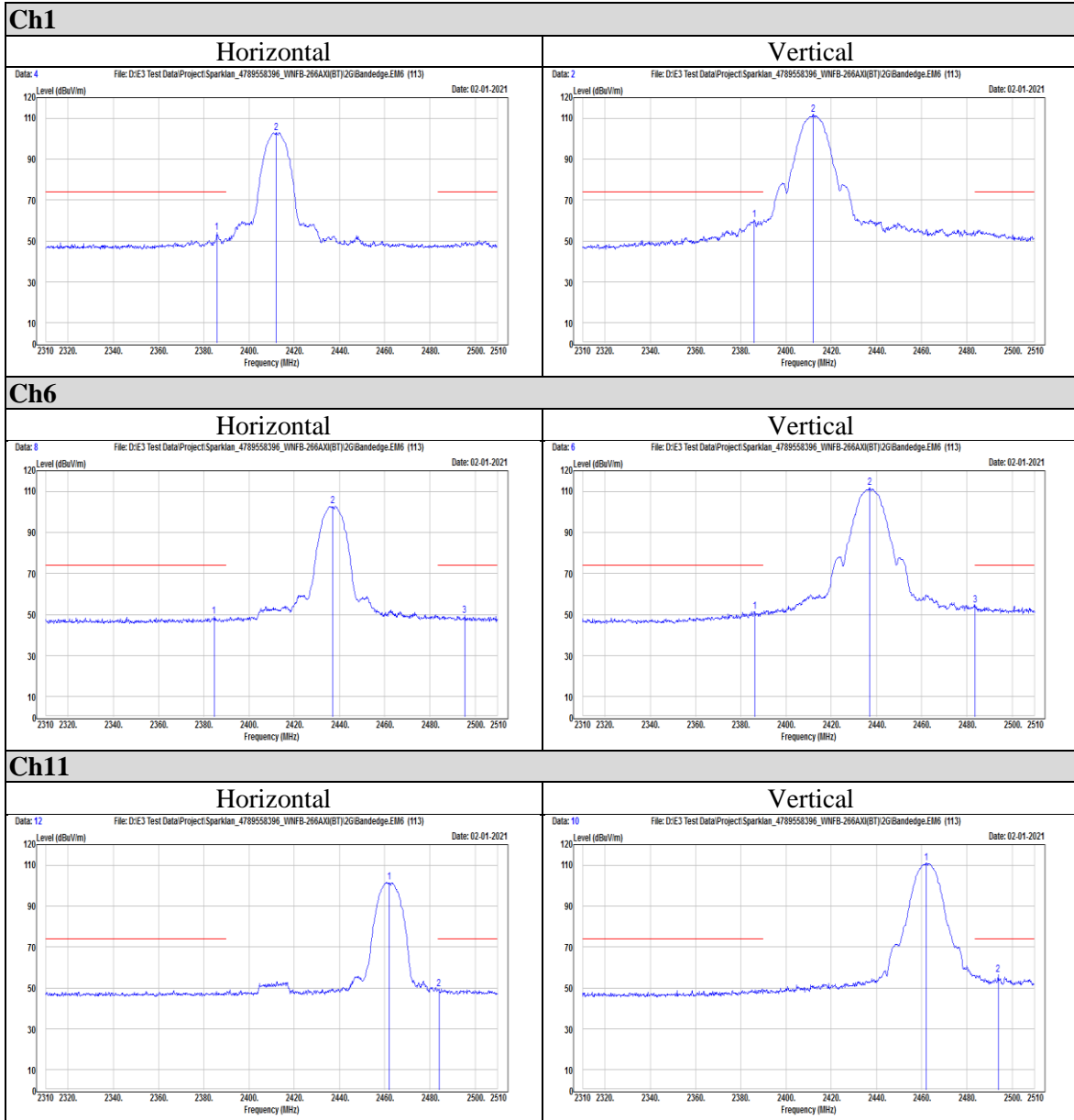


Appendix I Radiated Band Edge Measurement

Non-Beamforming mode

802.11b

Peak



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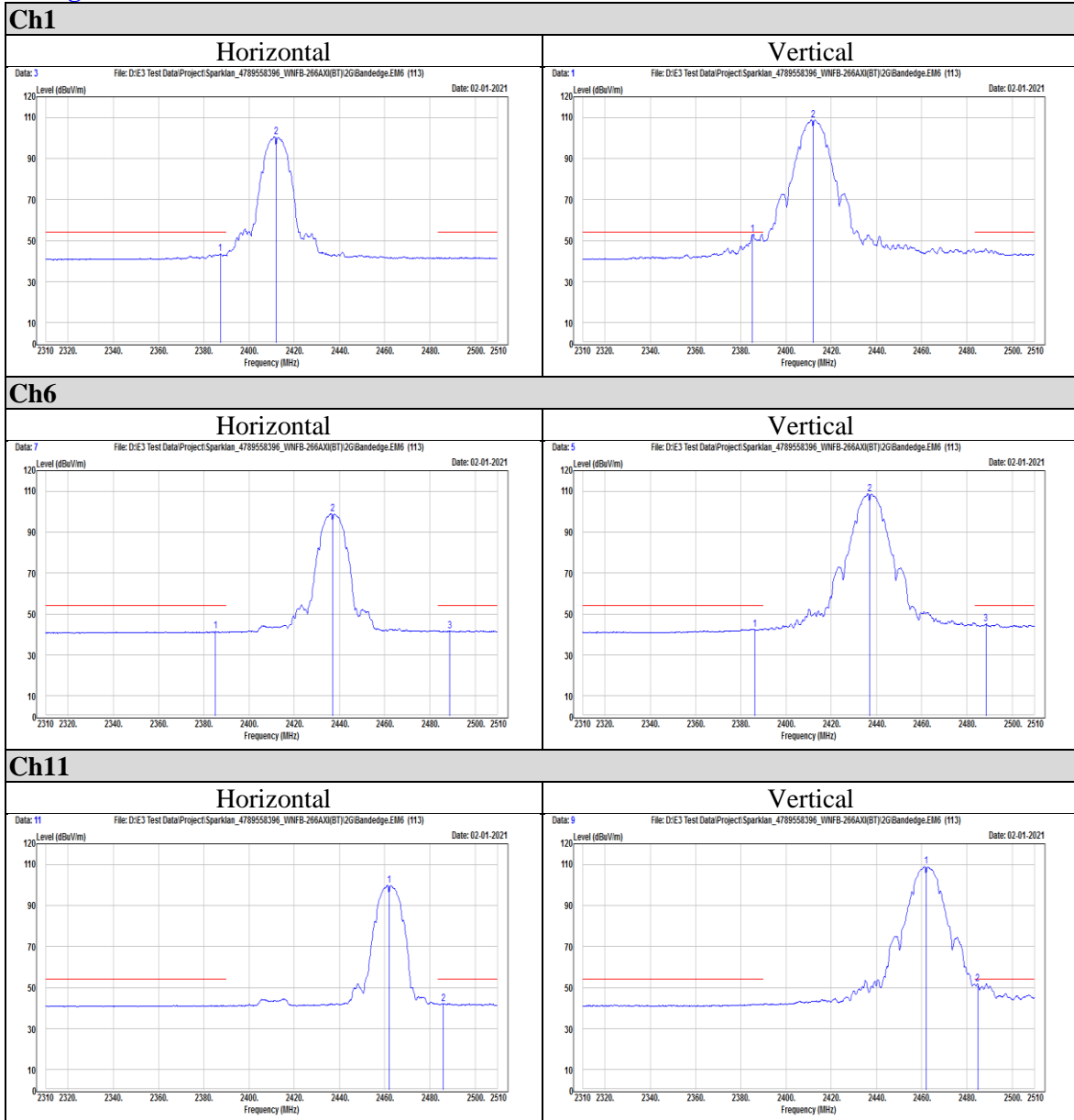
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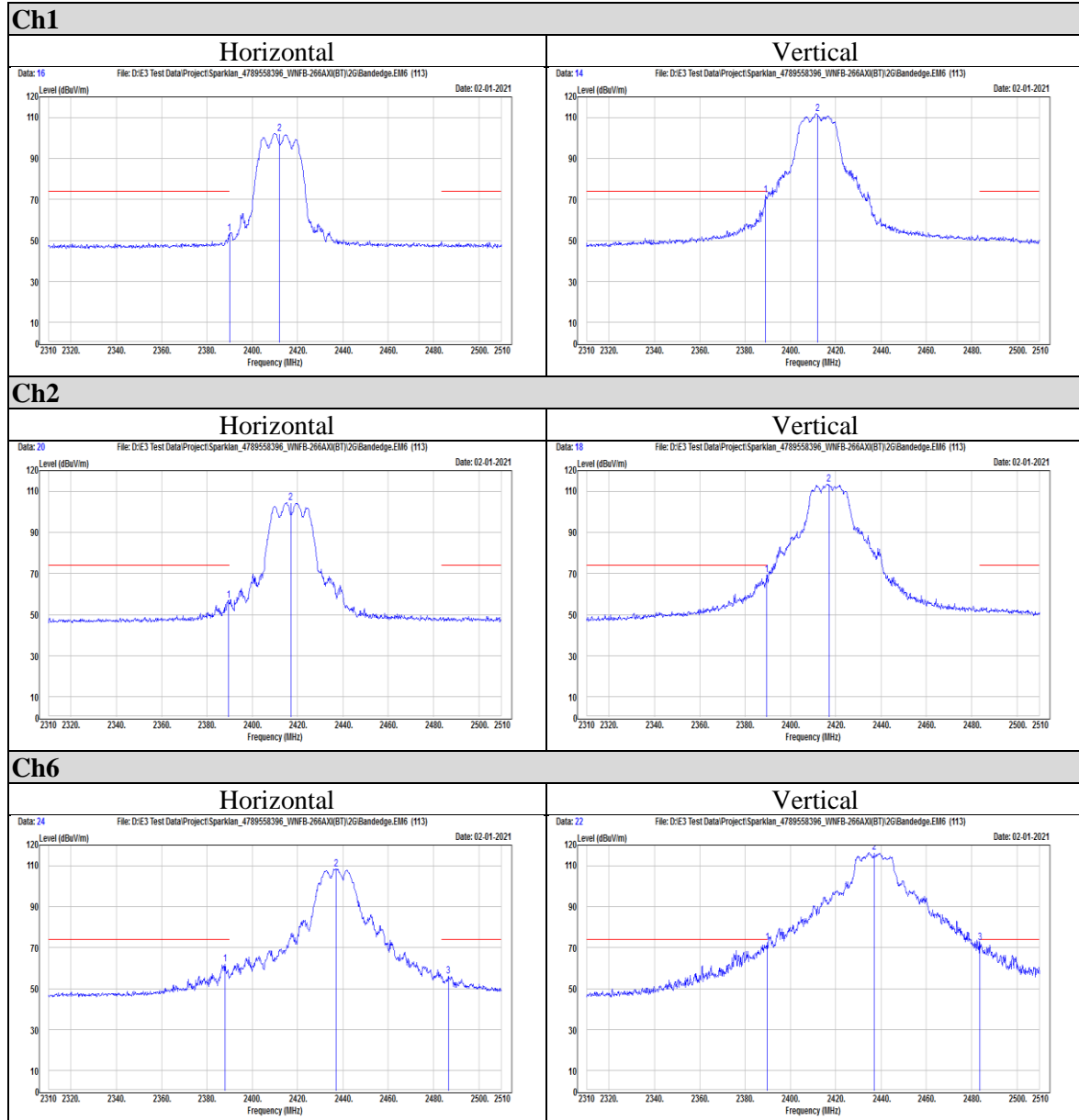
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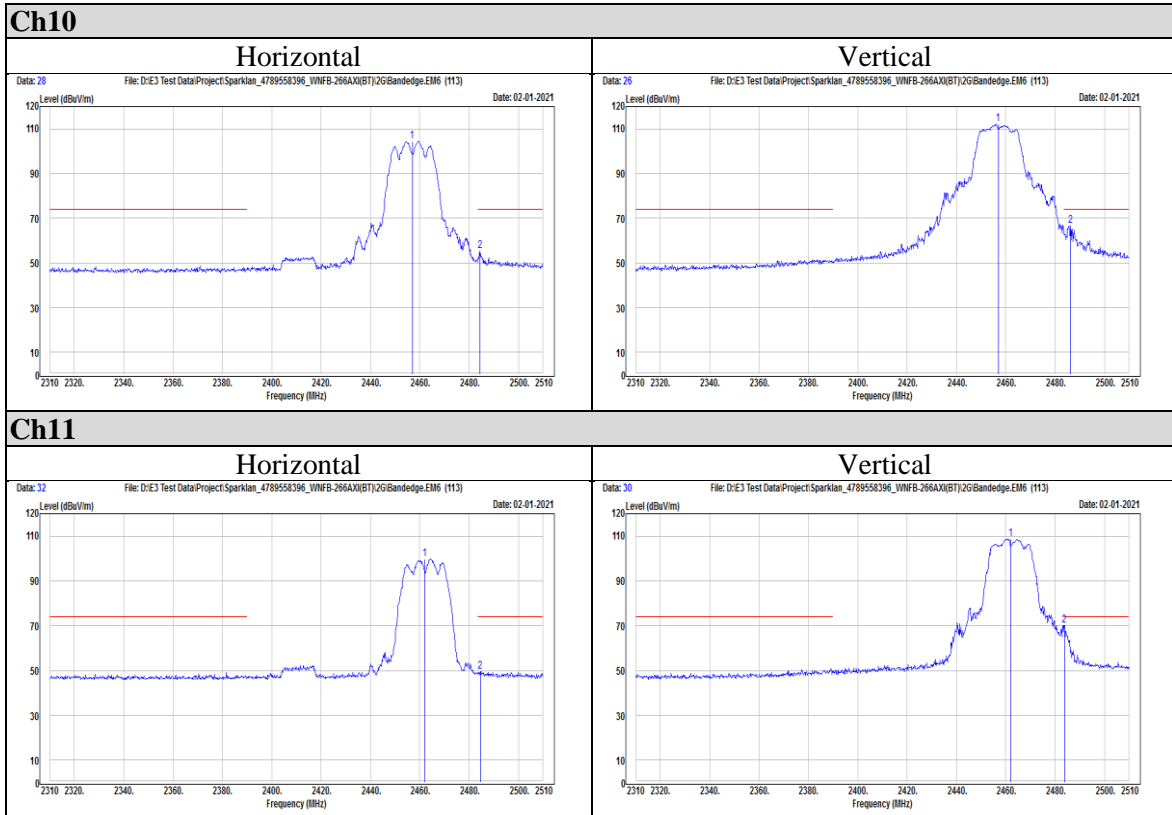




802.11g

Peak





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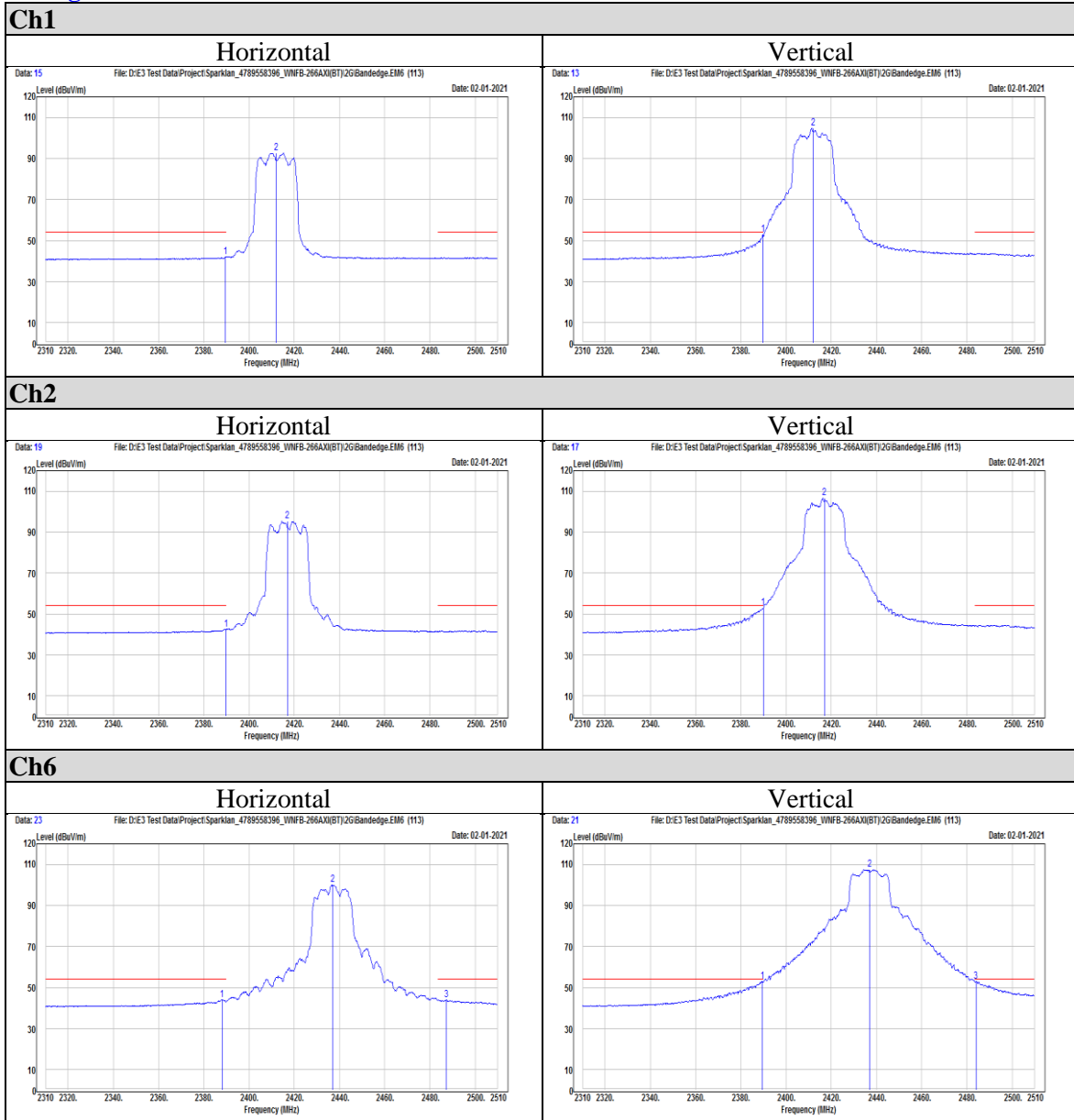
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Average

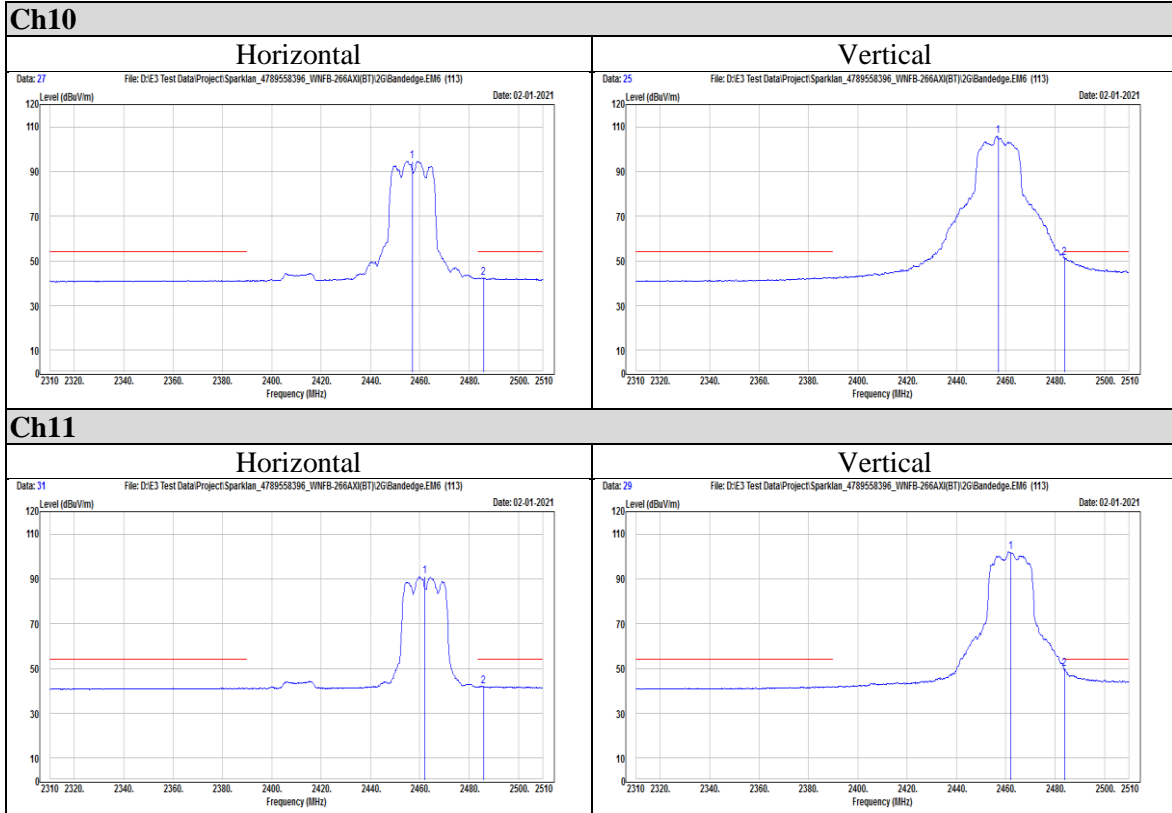


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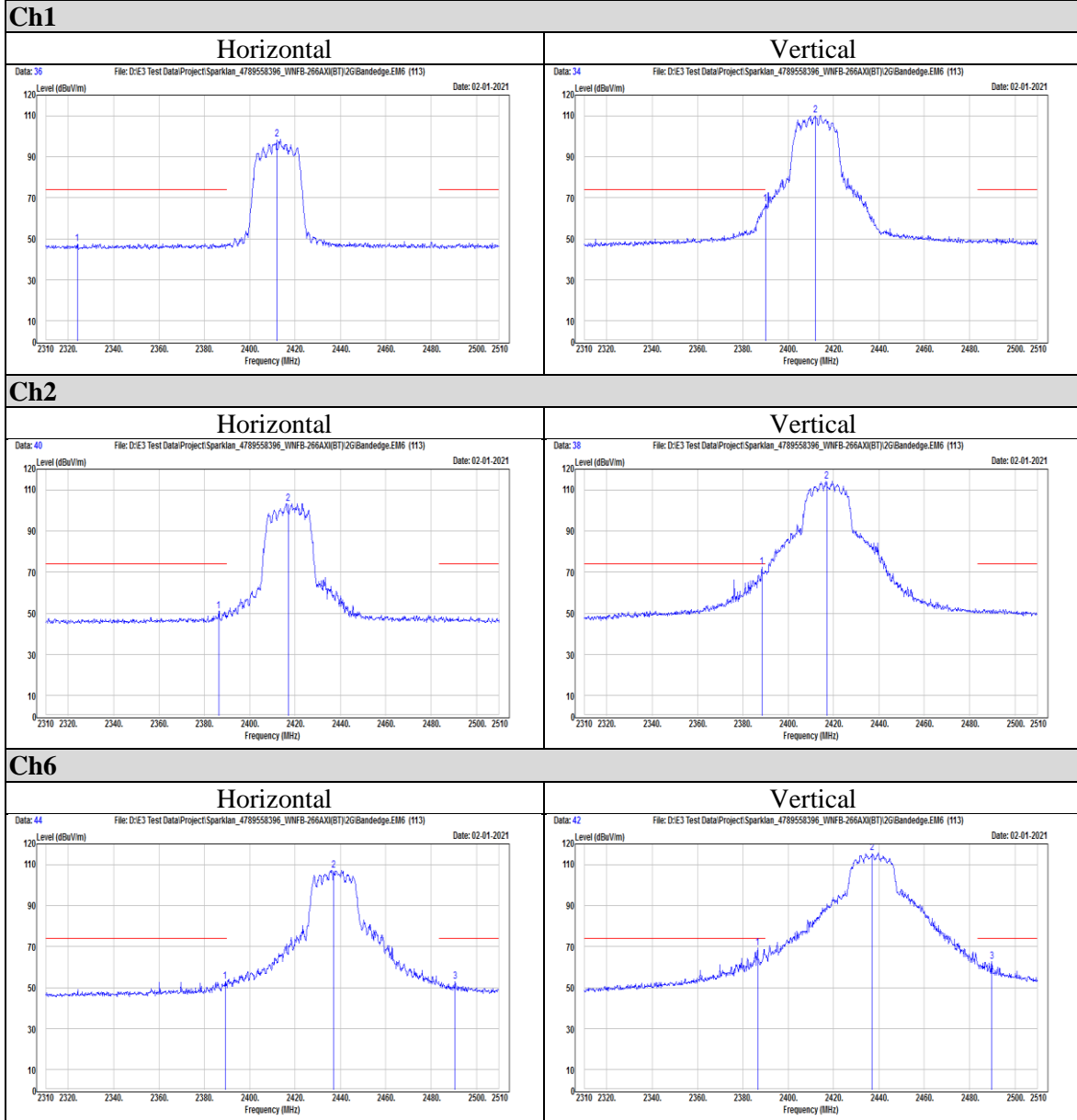
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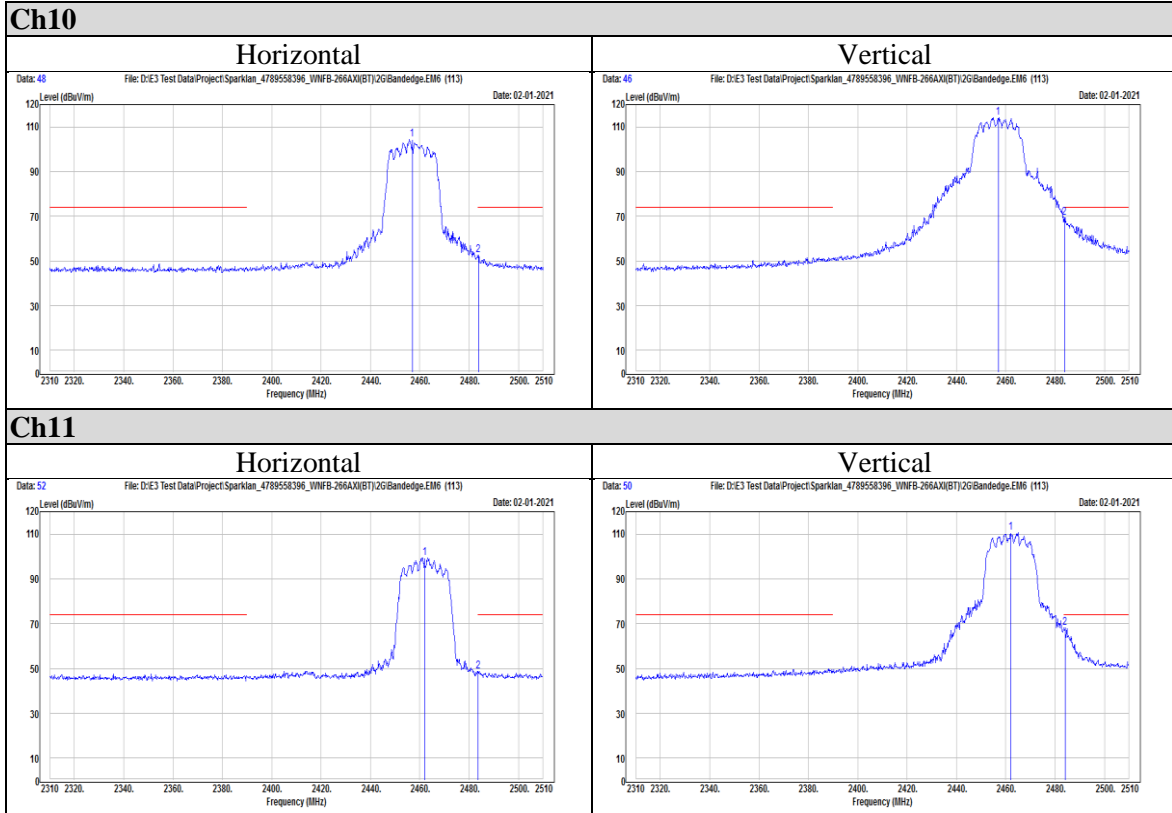
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802.11ax (HE20)

OFDM
Peak





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