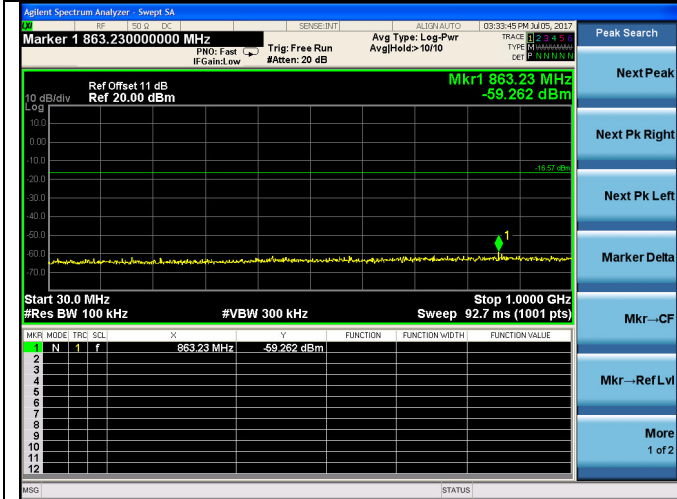
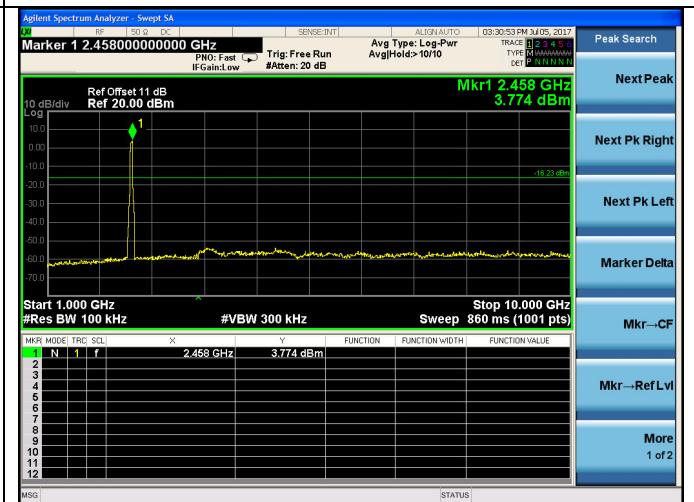
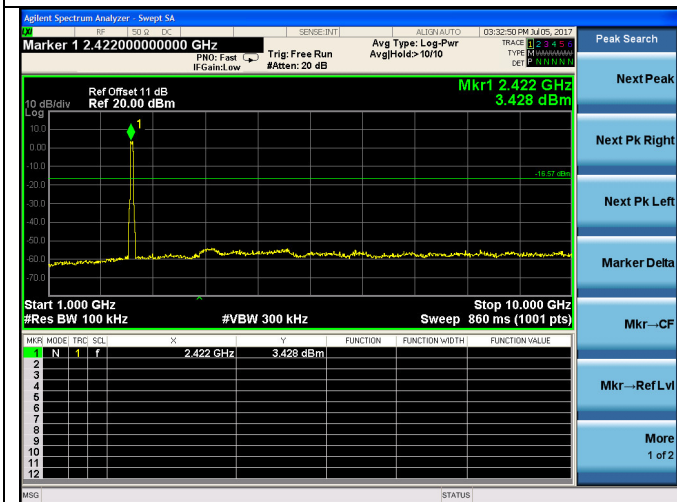
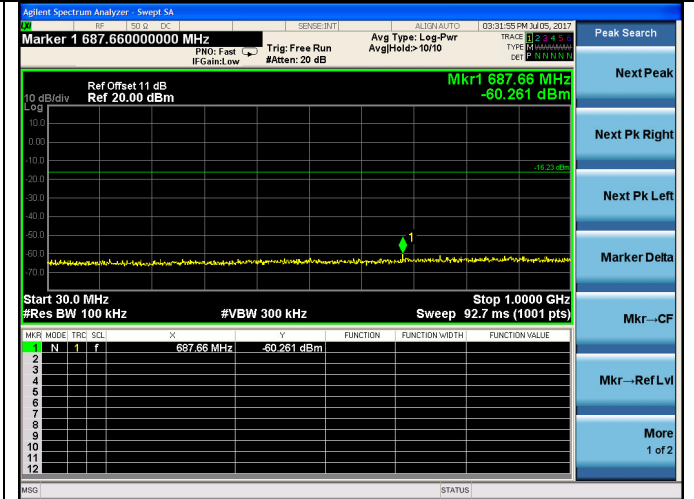
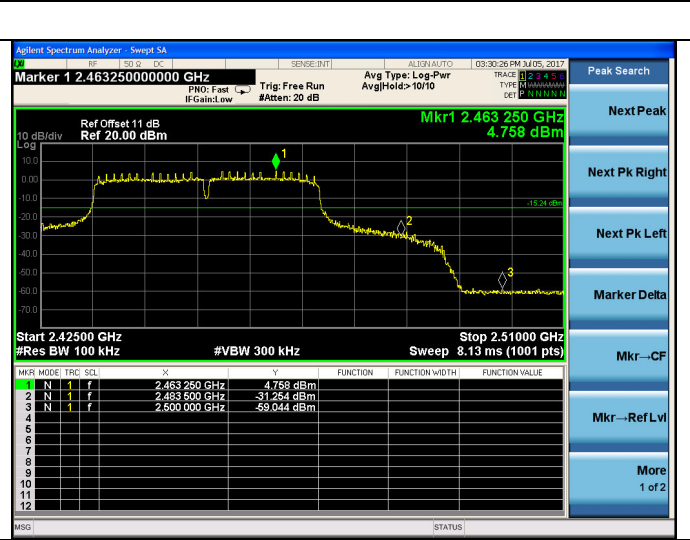
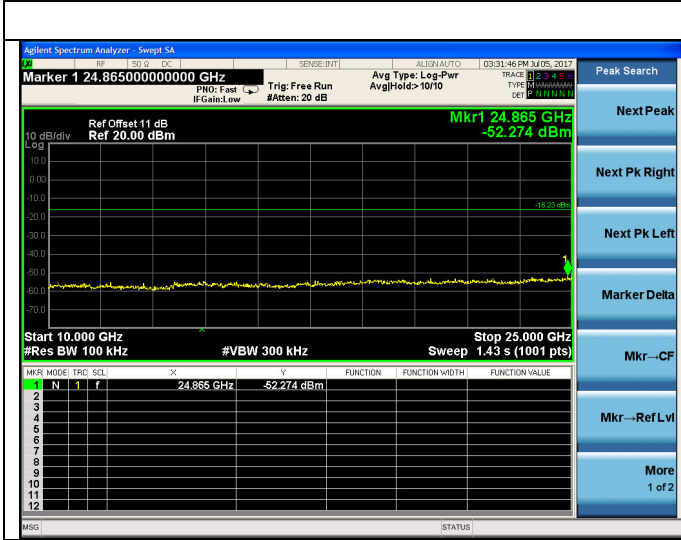


Test CH6: 2437MHz



Test CH9: 2452MHz





## 6. BAND EDGE COMPLIANCE TEST

### 6.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum	Agilent	E4446A	US44300459	Apr.22,17	1 Year
2.	Amp	HP	8449B	3008A02495	Apr.22.17	1 Year
3.	Horn Antenna	ETC	MCTD 1209	DRH15F03007	May.15,17	1 Year
4.	HF Cable	Hubersuhner	Sucoflex104	274094/4	Apr.22,17	1 Year

### 6.2. Limit

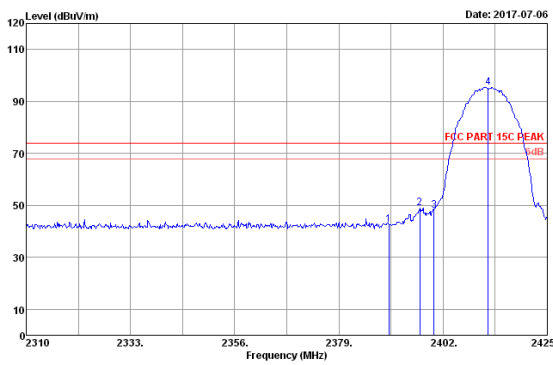
All the lower and upper band-edges emissions appearing within 2310MHz to 2390MHz and 2483.5MHz to 2500MHz restricted frequency bands shall not exceed the limits shown in 15.209, all the other emissions outside operation frequency band 2400MHz to 2483.5MHz shall be at least 20dB below the fundamental emissions, or comply with 15.209 limits.

### 6.3. Test Procedure

1. The EUT is placed on a turntable, which is 1.5m above the ground plane and worked at highest radiated power.
2. The turntable was rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emission.
4. Set the spectrum analyzer in the following setting in order to capture the lower and upper band-edges of the emission:
  - (a) PEAK: RBW=1MHz; VBW=3MHz; Sweep=AUTO
  - (b) AVERAGE: RBW=1MHz; VBW=10Hz; Sweep=AUTO

### 6.4. Test Results

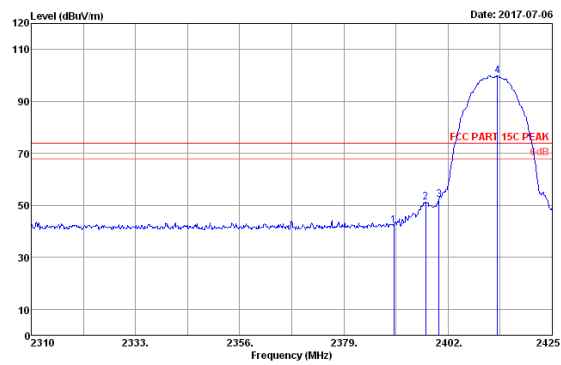
Pass (The testing data was attached in the next pages.)



Site no. : 3m Chamber Data no. : 7  
 Dis. / Ant. : 3m 2017 ANT 3007 HF Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK Pre : 101.2kPa  
 Env. / Ins. : 23.14C/52.3% Engineer : Garry  
 EUT : Cash Register M/N:SPB1-01  
 Power : AC 120V/60Hz  
 Test Mode : IEBE802.11b 2412MHz Tx Mode

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	AMP factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.00	27.69	7.84	43.37	36.39	42.51	74.00	31.49	Peak
2	2396.83	27.69	7.88	48.83	36.39	49.01	74.00	24.99	Peak
3	2400.00	27.69	7.88	48.86	36.39	49.14	74.00	25.86	Peak
4	2412.00	27.73	7.91	96.22	36.39	95.47	74.00	-21.47	Peak

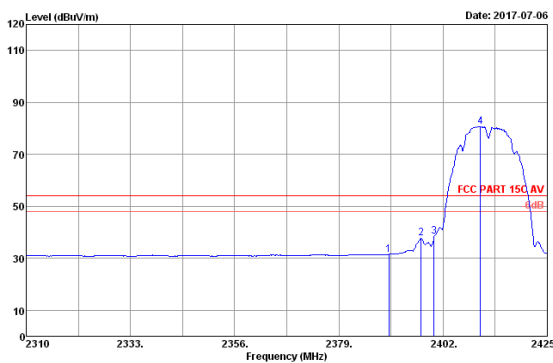
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading - Amp Factor  
 2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 8  
 Dis. / Ant. : 3m 2017 ANT 3007 HF Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK Pre : 101.2kPa  
 Env. / Ins. : 23.14C/52.3% Engineer : Garry  
 EUT : Cash Register M/N:SPB1-01  
 Power : AC 120V/60Hz  
 Test Mode : IEBE802.11b 2412MHz Tx Mode

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	AMP factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.00	27.69	7.84	43.13	36.39	42.27	74.00	31.73	Peak
2	2397.06	27.69	7.88	52.11	36.39	51.29	74.00	22.71	Peak
3	2400.00	27.69	7.88	52.32	36.39	52.00	74.00	22.00	Peak
4	2412.93	27.73	7.91	100.67	36.39	99.92	74.00	-25.92	Peak

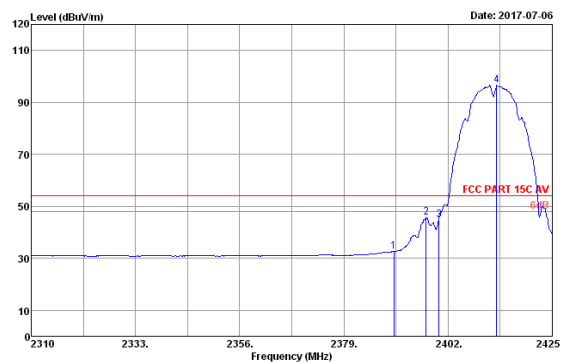
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading - Amp Factor  
 2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 9  
 Dis. / Ant. : 3m 2017 ANT 3007 HF Ant. pol. : VERTICAL  
 Limit : FCC PART 15C AV Pre : 101.2kPa  
 Env. / Ins. : 23.14C/52.3% Engineer : Garry  
 EUT : Cash Register M/N:SPB1-01  
 Power : AC 120V/60Hz  
 Test Mode : IEBE802.11b 2412MHz Tx Mode

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	AMP factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.00	27.69	7.84	32.33	36.39	31.47	54.00	22.53	Average
2	2397.17	27.69	7.88	38.61	36.39	37.79	54.00	16.21	Average
3	2400.00	27.69	7.88	39.09	36.39	38.27	54.00	15.73	Average
4	2410.28	27.73	7.91	81.51	36.39	80.76	54.00	-26.76	Average

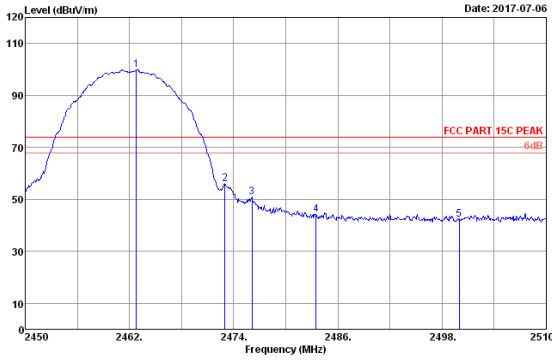
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading - Amp Factor  
 2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3m Chamber Data no. : 10  
 Dis. / Ant. : 3m 2017 ANT 3007 HF Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C AV Pre : 101.2kPa  
 Env. / Ins. : 23.14C/52.3% Engineer : Garry  
 EUT : Cash Register M/N:SPB1-01  
 Power : AC 120V/60Hz  
 Test Mode : IEBE802.11b 2412MHz Tx Mode

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	AMP factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.00	27.69	7.84	33.42	36.39	32.56	54.00	21.44	Average
2	2397.17	27.69	7.88	46.43	36.39	45.61	54.00	8.39	Average
3	2400.00	27.69	7.88	46.67	36.39	44.76	54.00	9.25	Average
4	2412.70	27.73	7.91	97.36	36.39	96.61	54.00	-42.61	Average

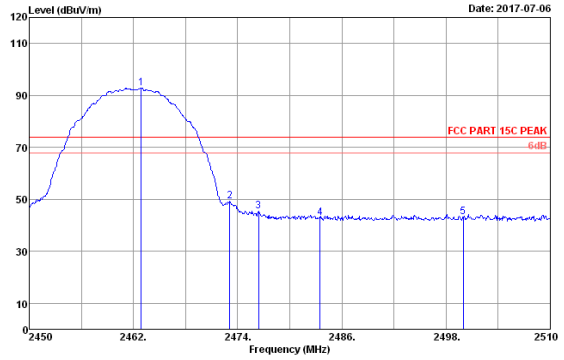
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading - Amp Factor  
 2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3n Chamber Data no. : 23  
 Dis. / Ant. : 3n 2017 ANT 3007 HF Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK Pre : 101.2kPa  
 Env. / Ins. : 23.1°C/52.3% Engineer : Garry  
 EUT : Cash Register M/N:SPB1-01  
 Power : AC 120V/60Hz  
 Test Mode : IEEB802.11b 2462MHz Tx Mode

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	AMP factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2462.78	27.83	7.98	100.34	36.38	99.77	74.00	-25.77	Peak
2	2472.98	27.87	8.02	55.34	36.38	55.85	74.00	18.15	Peak
3	2476.10	27.87	8.02	51.42	36.38	50.93	74.00	23.07	Peak
4	2483.50	27.87	8.02	44.50	36.38	44.01	74.00	29.99	Peak
5	2500.00	27.90	8.05	42.74	36.38	42.31	74.00	31.69	Peak

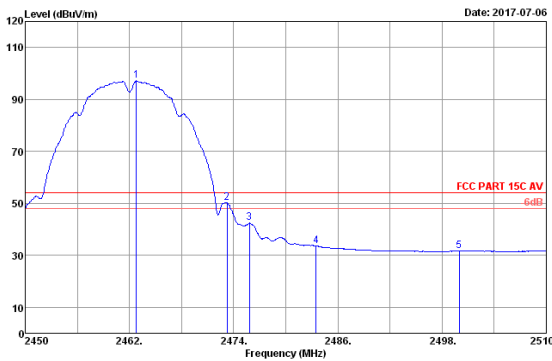
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading - Amp Factor  
 2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3n Chamber Data no. : 24  
 Dis. / Ant. : 3n 2017 ANT 3007 HF Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK Pre : 101.2kPa  
 Env. / Ins. : 23.1°C/52.3% Engineer : Garry  
 EUT : Cash Register M/N:SPB1-01  
 Power : AC 120V/60Hz  
 Test Mode : IEEB802.11b 2462MHz Tx Mode

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	AMP factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2462.90	27.83	7.98	93.49	36.38	92.92	74.00	-18.92	Peak
2	2473.10	27.87	8.02	49.82	36.38	49.33	74.00	24.67	Peak
3	2476.40	27.87	8.02	45.88	36.38	45.39	74.00	28.61	Peak
4	2483.50	27.87	8.02	43.51	36.38	43.02	74.00	30.98	Peak
5	2500.00	27.90	8.05	43.50	36.38	43.07	74.00	30.93	Peak

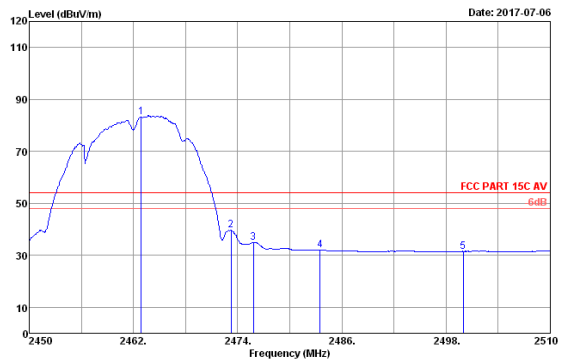
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading - Amp Factor  
 2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3n Chamber Data no. : 25  
 Dis. / Ant. : 3n 2017 ANT 3007 HF Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C AV Pre : 101.2kPa  
 Env. / Ins. : 23.1°C/52.3% Engineer : Garry  
 EUT : Cash Register M/N:SPB1-01  
 Power : AC 120V/60Hz  
 Test Mode : IEEB802.11b 2462MHz Tx Mode

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	AMP factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2462.78	27.83	7.98	97.75	36.38	97.18	54.00	-43.18	Average
2	2473.22	27.87	8.02	50.69	36.38	50.20	54.00	3.80	Average
3	2475.80	27.87	8.02	42.92	36.38	42.43	54.00	11.57	Average
4	2483.50	27.87	8.02	34.08	36.38	33.59	54.00	20.41	Average
5	2500.00	27.90	8.05	32.05	36.38	31.82	54.00	22.38	Average

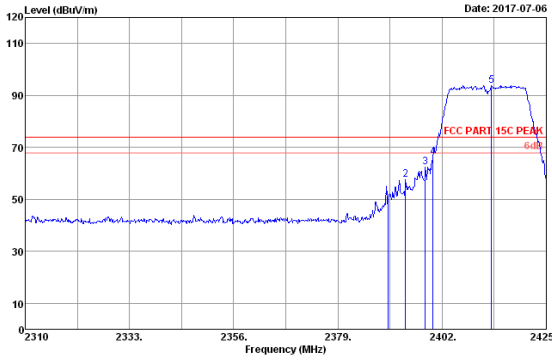
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading - Amp Factor  
 2. The emission levels that are 20dB below the official limit are not reported.



Site no. : 3n Chamber Data no. : 26  
 Dis. / Ant. : 3n 2017 ANT 3007 HF Ant. pol. : VERTICAL  
 Limit : FCC PART 15C AV Pre : 101.2kPa  
 Env. / Ins. : 23.1°C/52.3% Engineer : Garry  
 EUT : Cash Register M/N:SPB1-01  
 Power : AC 120V/60Hz  
 Test Mode : IEEB802.11b 2462MHz Tx Mode

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	AMP factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2462.90	27.83	7.98	83.76	36.38	83.19	54.00	-29.19	Average
2	2473.22	27.87	8.02	40.22	36.38	39.73	54.00	14.27	Average
3	2475.80	27.87	8.02	35.51	36.38	35.02	54.00	18.98	Average
4	2483.50	27.87	8.02	32.42	36.38	31.93	54.00	22.07	Average
5	2500.00	27.90	8.05	31.94	36.38	31.51	54.00	22.49	Average

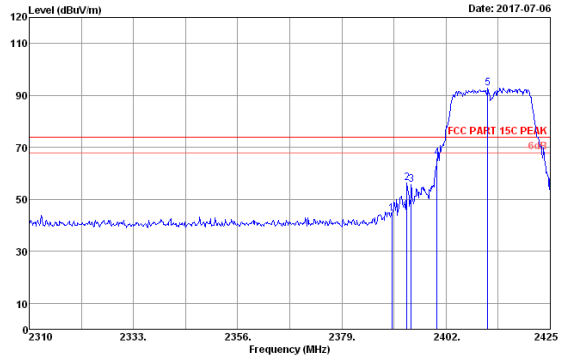
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading - Amp Factor  
 2. The emission levels that are 20dB below the official limit are not reported.



Date: 2017-07-06  
 Site no. : 3n Chamber Data no. : 33  
 Dis. / Ant. : 3n 2017 ANT 3007 HF Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK Pre : 101.2kPa  
 Env. / Ins. : 23.1°C/52.3% Engineer : Garry  
 EUT : Cash Register M/N:SPB1-01  
 Power : AC 120V/60Hz  
 Test Mode : IEEB802.11nHT20 2412MHz Tx Mode

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	AMP factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.00	27.69	7.84	48.85	36.39	48.99	74.00	25.01	Peak
2	2393.05	27.69	7.88	58.38	36.39	57.56	74.00	16.44	Peak
3	2398.32	27.69	7.88	63.36	36.39	62.54	74.00	11.46	Peak
4	2400.00	27.69	7.88	67.21	36.39	66.39	74.00	7.61	Peak
5	2412.93	27.73	7.91	94.00	36.39	93.85	74.00	-19.85	Peak

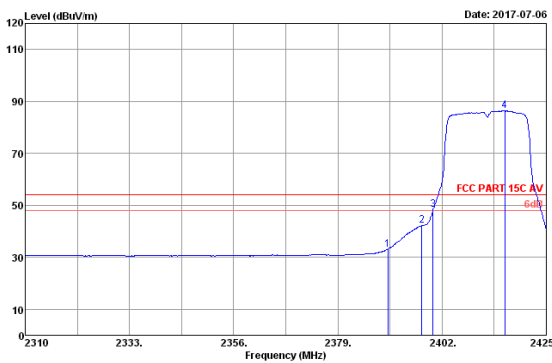
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading - Amp Factor  
 2. The emission levels that are 20dB below the official limit are not reported.



Date: 2017-07-06  
 Site no. : 3n Chamber Data no. : 34  
 Dis. / Ant. : 3n 2017 ANT 3007 HF Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK Pre : 101.2kPa  
 Env. / Ins. : 23.1°C/52.3% Engineer : Garry  
 EUT : Cash Register M/N:SPB1-01  
 Power : AC 120V/60Hz  
 Test Mode : IEEB802.11nHT20 2412MHz Tx Mode

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	AMP factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.04	27.69	7.88	45.21	36.39	44.39	74.00	29.61	Peak
2	2393.38	27.69	7.88	57.22	36.39	56.40	74.00	17.60	Peak
3	2394.30	27.69	7.88	56.43	36.39	55.61	74.00	18.39	Peak
4	2400.00	27.69	7.88	66.73	36.39	65.91	74.00	8.09	Peak
5	2411.20	27.73	7.91	93.40	36.39	92.65	74.00	-18.65	Peak

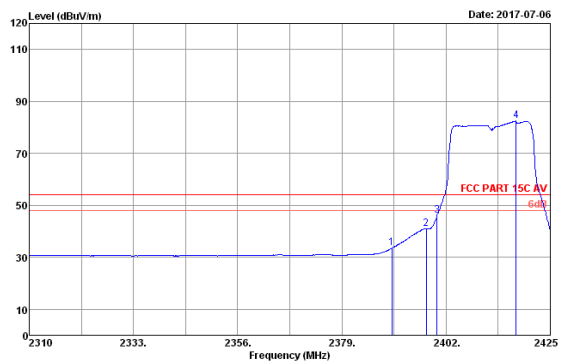
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading - Amp Factor  
 2. The emission levels that are 20dB below the official limit are not reported.



Date: 2017-07-06  
 Site no. : 3n Chamber Data no. : 35  
 Dis. / Ant. : 3n 2017 ANT 3007 HF Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C AV Pre : 101.2kPa  
 Env. / Ins. : 23.1°C/52.3% Engineer : Garry  
 EUT : Cash Register M/N:SPB1-01  
 Power : AC 120V/60Hz  
 Test Mode : IEEB802.11nHT20 2412MHz Tx Mode

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	AMP factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.04	27.69	7.88	33.92	36.39	33.10	54.00	20.90	Average
2	2397.52	27.69	7.88	42.98	36.39	42.16	54.00	11.84	Average
3	2400.05	27.69	7.88	49.12	36.39	48.30	54.00	5.70	Average
4	2415.80	27.73	7.91	87.10	36.39	86.35	54.00	-32.35	Average

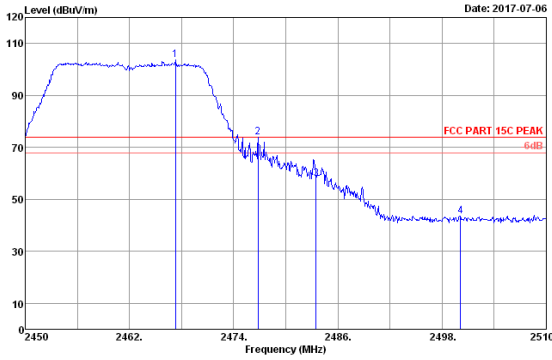
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading - Amp Factor  
 2. The emission levels that are 20dB below the official limit are not reported.



Date: 2017-07-06  
 Site no. : 3n Chamber Data no. : 36  
 Dis. / Ant. : 3n 2017 ANT 3007 HF Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C AV Pre : 101.2kPa  
 Env. / Ins. : 23.1°C/52.3% Engineer : Garry  
 EUT : Cash Register M/N:SPB1-01  
 Power : AC 120V/60Hz  
 Test Mode : IEEB802.11nHT20 2412MHz Tx Mode

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	AMP factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.04	27.69	7.88	34.31	36.39	33.49	54.00	20.51	Average
2	2397.63	27.69	7.88	41.87	36.39	41.05	54.00	12.95	Average
3	2400.05	27.69	7.88	46.93	36.39	46.11	54.00	7.89	Average
4	2417.41	27.73	7.91	83.22	36.38	82.48	54.00	-28.48	Average

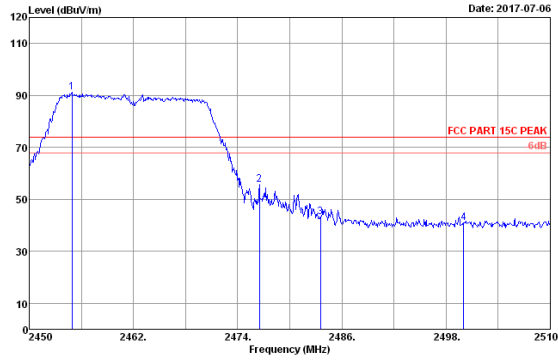
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading - Amp Factor  
 2. The emission levels that are 20dB below the official limit are not reported.



Date: 2017-07-06  
 Site no. : 3m Chamber Data no. : 49  
 Dis. / Ant. : 3m 2017 ANT 3007 HF Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK Pre : 101.2kPa  
 Env. / Ins. : 23.1°C/52.3% Engineer : Garry  
 EUT : Cash Register M/N:SPB1-01  
 Power : AC 120V/60Hz  
 Test Mode : IEEB802.11nHT20 2462MHz Tx Mode

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	AMP factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2467.28	27.83	7.98	104.36	36.38	103.79	74.00	-29.79	Peak
2	2476.82	27.87	8.02	74.38	36.38	73.89	74.00	0.11	Peak
3	2483.48	27.87	8.02	58.40	36.38	57.91	74.00	16.09	Peak
4	2500.10	27.90	8.05	44.03	36.38	43.60	74.00	30.40	Peak

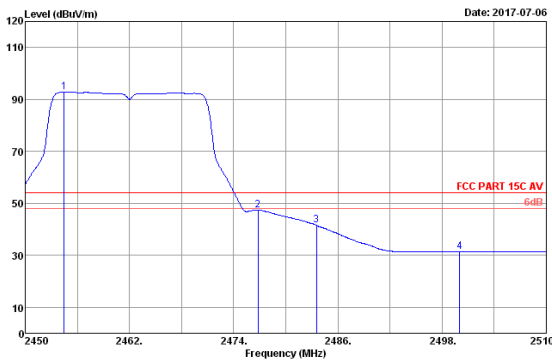
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -amp Factor  
 2. The emission levels that are 20dB below the official limit are not reported.



Date: 2017-07-06  
 Site no. : 3m Chamber Data no. : 50  
 Dis. / Ant. : 3m 2017 ANT 3007 HF Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK Pre : 101.2kPa  
 Env. / Ins. : 23.1°C/52.3% Engineer : Garry  
 EUT : Cash Register M/N:SPB1-01  
 Power : AC 120V/60Hz  
 Test Mode : IEEB802.11nHT20 2462MHz Tx Mode

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	AMP factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2454.92	27.83	7.98	91.77	36.38	91.20	74.00	-17.20	Peak
2	2476.82	27.87	8.02	56.20	36.38	55.71	74.00	18.29	Peak
3	2483.54	27.87	8.02	43.62	36.38	43.13	74.00	30.87	Peak
4	2500.04	27.90	8.05	41.46	36.38	41.03	74.00	32.97	Peak

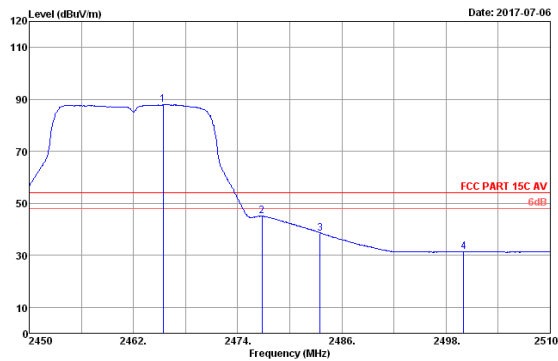
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -amp Factor  
 2. The emission levels that are 20dB below the official limit are not reported.



Date: 2017-07-06  
 Site no. : 3m Chamber Data no. : 51  
 Dis. / Ant. : 3m 2017 ANT 3007 HF Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C AV Pre : 101.2kPa  
 Env. / Ins. : 23.1°C/52.3% Engineer : Garry  
 EUT : Cash Register M/N:SPB1-01  
 Power : AC 120V/60Hz  
 Test Mode : IEEB802.11nHT20 2462MHz Tx Mode

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	AMP factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2454.50	27.83	7.98	93.39	36.38	92.82	54.00	-38.82	Average
2	2476.82	27.87	8.02	47.96	36.38	47.47	54.00	6.53	Average
3	2483.54	27.87	8.02	42.01	36.38	41.52	54.00	12.48	Average
4	2500.04	27.90	8.05	31.81	36.38	31.38	54.00	22.62	Average

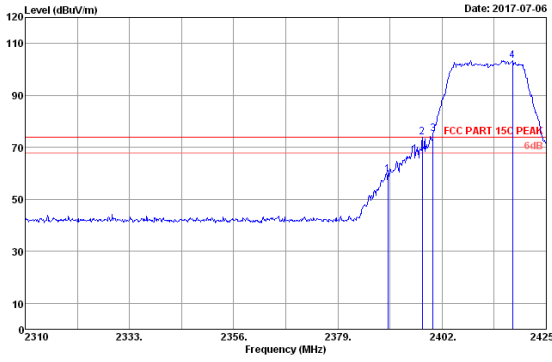
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -amp Factor  
 2. The emission levels that are 20dB below the official limit are not reported.



Date: 2017-07-06  
 Site no. : 3m Chamber Data no. : 52  
 Dis. / Ant. : 3m 2017 ANT 3007 HF Ant. pol. : VERTICAL  
 Limit : FCC PART 15C AV Pre : 101.2kPa  
 Env. / Ins. : 23.1°C/52.3% Engineer : Garry  
 EUT : Cash Register M/N:SPB1-01  
 Power : AC 120V/60Hz  
 Test Mode : IEEB802.11nHT20 2462MHz Tx Mode

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	AMP factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2465.42	27.83	7.98	88.49	36.38	87.92	54.00	-33.92	Average
2	2476.82	27.87	8.02	45.59	36.38	45.10	54.00	8.90	Average
3	2483.50	27.87	8.02	38.92	36.38	38.43	54.00	15.57	Average
4	2500.04	27.90	8.05	31.73	36.38	31.30	54.00	22.70	Average

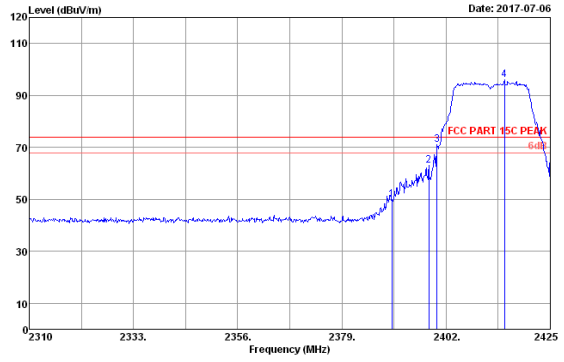
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -amp Factor  
 2. The emission levels that are 20dB below the official limit are not reported.



Date: 2017-07-06  
 Site no. : 3n Chamber Data no. : 59  
 Dis. / Ant. : 3n 2017 ANT 3007 HF Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK Pre : 101.2kPa  
 Env. / Ins. : 23.1°C/52.3% Engineer : Garry  
 EUT : Cash Register M/N:SPB1-01  
 Power : AC 120V/60Hz  
 Test Mode : IEEB802.11g 2412MHz Tx Mode

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	AMP factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.04	27.69	7.88	60.19	36.39	59.37	74.00	14.63	Peak
2	2397.63	27.69	7.88	74.35	36.39	74.03	74.00	-0.03	Peak
3	2400.05	27.69	7.88	76.01	36.39	75.19	74.00	-1.19	Peak
4	2417.53	27.73	7.91	104.21	36.38	103.47	74.00	-29.47	Peak

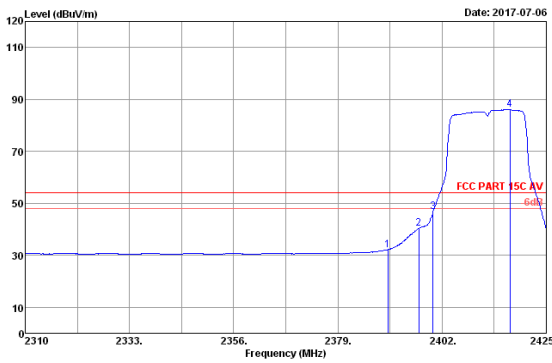
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading - Amp Factor  
 2. The emission levels that are 20dB below the official limit are not reported.



Date: 2017-07-06  
 Site no. : 3n Chamber Data no. : 60  
 Dis. / Ant. : 3n 2017 ANT 3007 HF Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK Pre : 101.2kPa  
 Env. / Ins. : 23.1°C/52.3% Engineer : Garry  
 EUT : Cash Register M/N:SPB1-01  
 Power : AC 120V/60Hz  
 Test Mode : IEEB802.11g 2412MHz Tx Mode

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	AMP factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.04	27.69	7.88	50.58	36.39	49.76	74.00	24.24	Peak
2	2398.21	27.69	7.88	63.35	36.39	63.03	74.00	10.97	Peak
3	2400.05	27.69	7.88	71.86	36.39	71.04	74.00	2.96	Peak
4	2414.88	27.73	7.91	96.87	36.39	96.12	74.00	-22.12	Peak

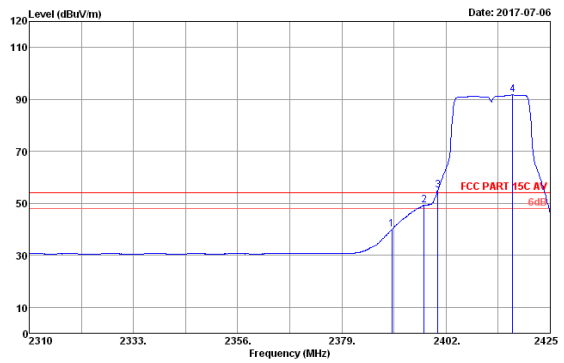
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading - Amp Factor  
 2. The emission levels that are 20dB below the official limit are not reported.



Date: 2017-07-06  
 Site no. : 3n Chamber Data no. : 61  
 Dis. / Ant. : 3n 2017 ANT 3007 HF Ant. pol. : VERTICAL  
 Limit : FCC PART 15C AV Pre : 101.2kPa  
 Env. / Ins. : 23.1°C/52.3% Engineer : Garry  
 EUT : Cash Register M/N:SPB1-01  
 Power : AC 120V/60Hz  
 Test Mode : IEEB802.11g 2412MHz Tx Mode

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	AMP factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.04	27.69	7.88	32.96	36.39	32.14	54.00	21.86	Average
2	2396.93	27.69	7.88	41.13	36.39	40.31	54.00	13.69	Average
3	2400.05	27.69	7.88	47.59	36.39	46.77	54.00	7.23	Average
4	2416.95	27.73	7.91	86.83	36.38	86.09	54.00	-32.09	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading - Amp Factor  
 2. The emission levels that are 20dB below the official limit are not reported.

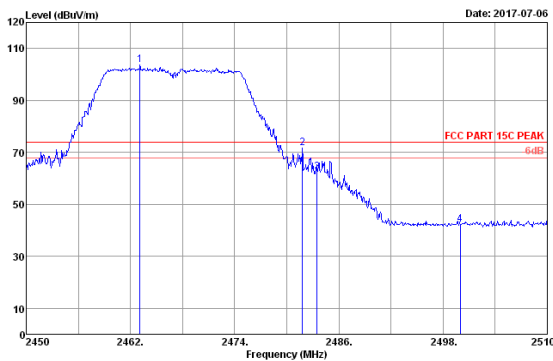


Date: 2017-07-06  
 Site no. : 3n Chamber Data no. : 62  
 Dis. / Ant. : 3n 2017 ANT 3007 HF Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C AV Pre : 101.2kPa  
 Env. / Ins. : 23.1°C/52.3% Engineer : Garry  
 EUT : Cash Register M/N:SPB1-01  
 Power : AC 120V/60Hz  
 Test Mode : IEEB802.11g 2412MHz Tx Mode

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	AMP factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.04	27.69	7.88	40.71	36.39	39.89	54.00	14.11	Average
2	2397.17	27.69	7.88	50.11	36.39	49.29	54.00	4.71	Average
3	2400.16	27.69	7.88	55.81	36.39	54.09	54.00	-0.99	Average
4	2416.72	27.73	7.91	92.50	36.38	91.76	54.00	-37.76	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading - Amp Factor  
 2. The emission levels that are 20dB below the official limit are not reported.

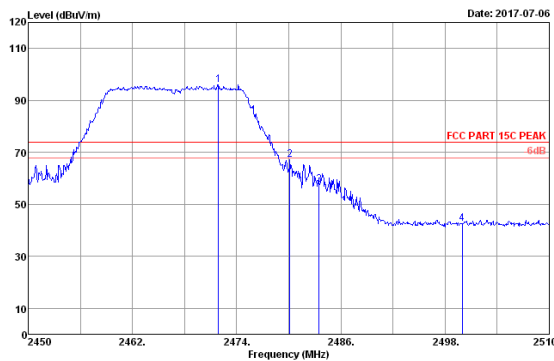




Date: 2017-07-06  
 Site no. : 3n Chamber Data no. : 75  
 Dis. / Ant. : 3n 2017 ANT 3007 HF Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK Pre : 101.2kPa  
 Env. / Ins. : 23.1°C/52.3% Engineer : Garry  
 EUT : Cash Register M/N:SPB1-01  
 Power : AC 120V/60Hz  
 Test Mode : IEEE802.11g 2462MHz Tx Mode

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	AMP factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2463.08	27.83	7.98	104.22	36.38	103.65	74.00	-29.65	Peak
2	2481.00	27.87	8.02	72.25	36.38	71.78	74.00	2.24	Peak
3	2483.50	27.87	8.02	62.97	36.38	62.48	74.00	11.52	Peak
4	2500.00	27.90	8.05	42.73	36.38	42.30	74.00	31.70	Peak

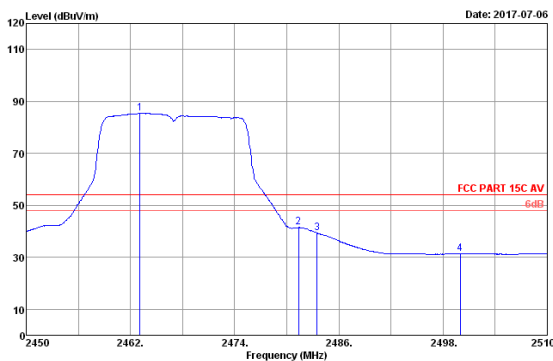
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -amp Factor  
 2. The emission levels that are 20dB below the official limit are not reported.



Date: 2017-07-06  
 Site no. : 3n Chamber Data no. : 76  
 Dis. / Ant. : 3n 2017 ANT 3007 HF Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK Pre : 101.2kPa  
 Env. / Ins. : 23.1°C/52.3% Engineer : Garry  
 EUT : Cash Register M/N:SPB1-01  
 Power : AC 120V/60Hz  
 Test Mode : IEEE802.11g 2462MHz Tx Mode

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	AMP factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2471.90	27.87	8.02	96.56	36.38	96.07	74.00	-22.07	Peak
2	2480.12	27.87	8.02	67.59	36.38	67.10	74.00	6.90	Peak
3	2483.50	27.87	8.02	58.06	36.38	57.57	74.00	16.43	Peak
4	2500.00	27.90	8.05	43.02	36.38	42.59	74.00	31.41	Peak

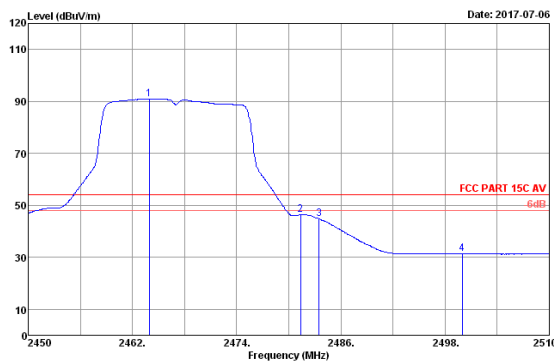
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -amp Factor  
 2. The emission levels that are 20dB below the official limit are not reported.



Date: 2017-07-06  
 Site no. : 3n Chamber Data no. : 77  
 Dis. / Ant. : 3n 2017 ANT 3007 HF Ant. pol. : VERTICAL  
 Limit : FCC PART 15C AV Pre : 101.2kPa  
 Env. / Ins. : 23.1°C/52.3% Engineer : Garry  
 EUT : Cash Register M/N:SPB1-01  
 Power : AC 120V/60Hz  
 Test Mode : IEEE802.11g 2462MHz Tx Mode

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	AMP factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2463.08	27.83	7.98	86.06	36.38	85.49	54.00	-31.49	Average
2	2481.38	27.87	8.02	42.12	36.38	41.83	54.00	12.37	Average
3	2483.50	27.87	8.02	39.84	36.38	39.35	54.00	14.65	Average
4	2500.00	27.90	8.05	31.73	36.38	31.30	54.00	22.70	Average

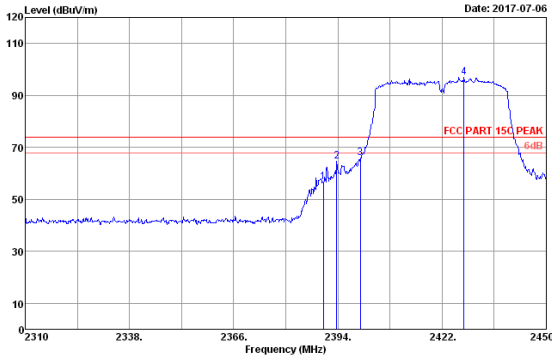
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -amp Factor  
 2. The emission levels that are 20dB below the official limit are not reported.



Date: 2017-07-06  
 Site no. : 3n Chamber Data no. : 78  
 Dis. / Ant. : 3n 2017 ANT 3007 HF Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C AV Pre : 101.2kPa  
 Env. / Ins. : 23.1°C/52.3% Engineer : Garry  
 EUT : Cash Register M/N:SPB1-01  
 Power : AC 120V/60Hz  
 Test Mode : IEEE802.11g 2462MHz Tx Mode

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	AMP factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2463.92	27.83	7.98	91.55	36.38	90.98	54.00	-36.98	Average
2	2481.38	27.87	8.02	47.02	36.38	46.53	54.00	7.47	Average
3	2483.50	27.87	8.02	45.29	36.38	44.80	54.00	9.20	Average
4	2500.00	27.90	8.05	31.74	36.38	31.31	54.00	22.69	Average

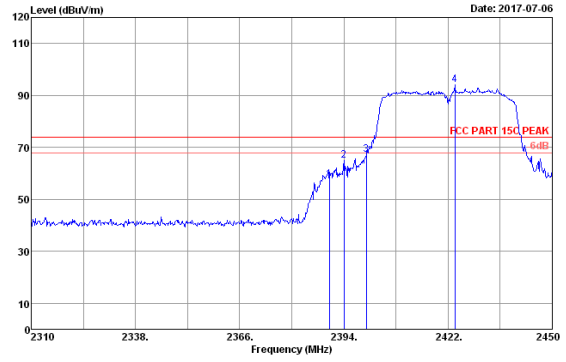
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading -amp Factor  
 2. The emission levels that are 20dB below the official limit are not reported.



Date: 2017-07-06  
 Site no. : 3n Chamber Data no. : 85  
 Dis. / Ant. : 3n 2017 ANT 3007 HF Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK Ant. Pre : 101.2kPa  
 Env. / Ins. : 23.1°C/52.3% Engineer : Garry  
 EUT : Cash Register M/N:SPB1-01  
 Power : AC 120V/60Hz  
 Test Mode : IEEB802.11nHT40 2422MHz Tx Mode

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	AMP factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.08	27.69	7.88	57.46	36.39	65.64	74.00	17.36	Peak
2	2393.72	27.69	7.88	65.50	36.39	64.69	74.00	9.32	Peak
3	2400.02	27.69	7.88	66.71	36.39	65.89	74.00	8.11	Peak
4	2427.88	27.76	7.91	97.79	36.38	97.08	74.00	-23.08	Peak

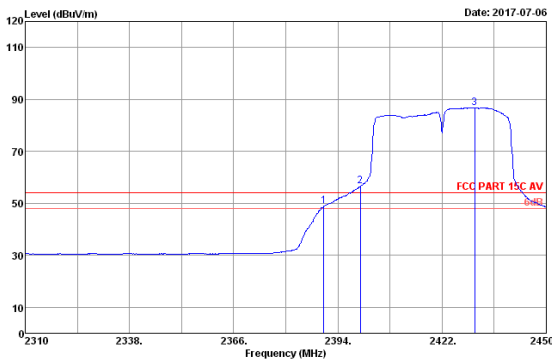
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading - Amp Factor  
 2. The emission levels that are 20dB below the official limit are not reported.



Date: 2017-07-06  
 Site no. : 3n Chamber Data no. : 86  
 Dis. / Ant. : 3n 2017 ANT 3007 HF Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK Ant. Pre : 101.2kPa  
 Env. / Ins. : 23.1°C/52.3% Engineer : Garry  
 EUT : Cash Register M/N:SPB1-01  
 Power : AC 120V/60Hz  
 Test Mode : IEEB802.11nHT40 2422MHz Tx Mode

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	AMP factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.08	27.69	7.88	58.31	36.39	57.49	74.00	16.51	Peak
2	2394.08	27.69	7.88	65.79	36.39	64.97	74.00	9.03	Peak
3	2400.02	27.69	7.88	68.12	36.39	67.30	74.00	6.70	Peak
4	2423.82	27.76	7.91	94.85	36.38	94.14	74.00	-20.14	Peak

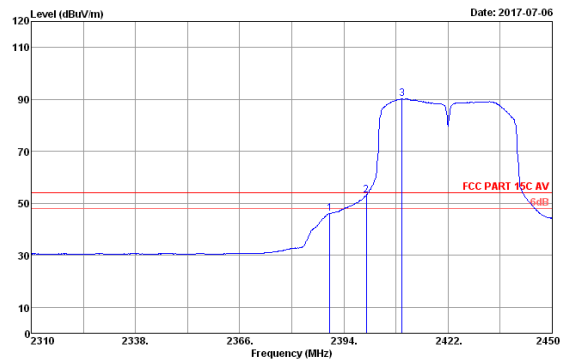
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading - Amp Factor  
 2. The emission levels that are 20dB below the official limit are not reported.



Date: 2017-07-06  
 Site no. : 3n Chamber Data no. : 87  
 Dis. / Ant. : 3n 2017 ANT 3007 HF Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C AV Ant. Pre : 101.2kPa  
 Env. / Ins. : 23.1°C/52.3% Engineer : Garry  
 EUT : Cash Register M/N:SPB1-01  
 Power : AC 120V/60Hz  
 Test Mode : IEEB802.11nHT40 2422MHz Tx Mode

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	AMP factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.22	27.69	7.88	49.71	36.39	48.89	54.00	5.11	Average
2	2400.02	27.69	7.88	57.41	36.39	56.59	54.00	-2.59	Average
3	2430.82	27.76	7.95	87.52	36.38	86.85	54.00	-32.85	Average

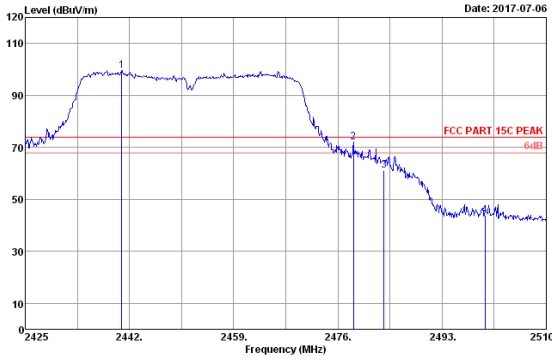
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading - Amp Factor  
 2. The emission levels that are 20dB below the official limit are not reported.



Date: 2017-07-06  
 Site no. : 3n Chamber Data no. : 88  
 Dis. / Ant. : 3n 2017 ANT 3007 HF Ant. pol. : VERTICAL  
 Limit : FCC PART 15C AV Ant. Pre : 101.2kPa  
 Env. / Ins. : 23.1°C/52.3% Engineer : Garry  
 EUT : Cash Register M/N:SPB1-01  
 Power : AC 120V/60Hz  
 Test Mode : IEEB802.11nHT40 2422MHz Tx Mode

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	AMP factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2390.22	27.69	7.88	46.95	36.39	46.13	54.00	7.87	Average
2	2400.02	27.69	7.88	53.92	36.39	53.10	54.00	0.90	Average
3	2409.68	27.73	7.88	90.95	36.39	90.17	54.00	-36.17	Average

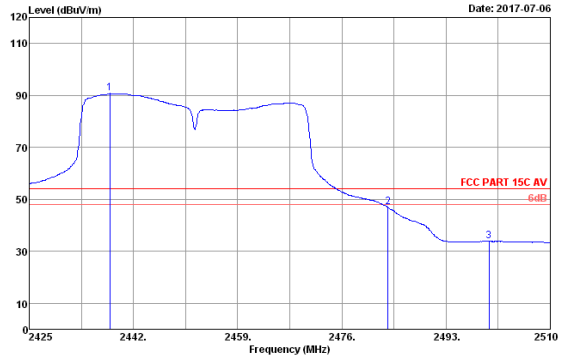
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading - Amp Factor  
 2. The emission levels that are 20dB below the official limit are not reported.



Date: 2017-07-06  
 Site no. : 3n Chamber Data no. : 101  
 Dis. / Ant. : 3n 2017 ANT 3007 HF Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C PEAK Pre : 101.2kPa  
 Env. / Ins. : 23.1°C/52.3% Engineer : Garry  
 EUT : Cash Register M/N:SPB1-01  
 Power : AC 120V/60Hz  
 Test Mode : IEEB802.11nHT40 2452MHz Tx Mode

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	AMP factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2440.73	27.80	7.95	100.24	36.38	99.61	74.00	-25.61	Peak
2	2478.55	27.87	8.02	72.59	36.38	71.90	74.00	2.10	Peak
3	2483.50	27.87	8.02	61.75	36.38	61.26	74.00	12.74	Peak
4	2500.00	27.90	8.05	44.28	36.38	43.85	74.00	30.16	Peak

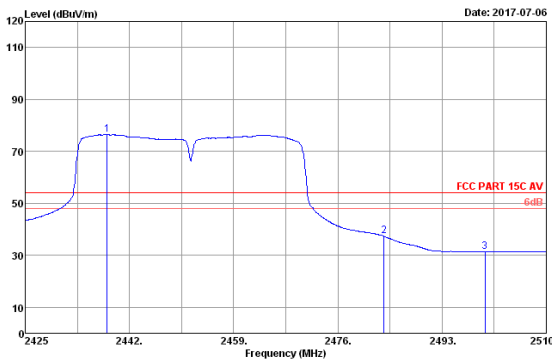
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading - Amp Factor  
 2. The emission levels that are 20dB below the official limit are not reported.



Date: 2017-07-06  
 Site no. : 3n Chamber Data no. : 102  
 Dis. / Ant. : 3n 2017 ANT 3007 HF Ant. pol. : HORIZONTAL  
 Limit : FCC PART 15C AV Pre : 101.2kPa  
 Env. / Ins. : 23.1°C/52.3% Engineer : Garry  
 EUT : Cash Register M/N:SPB1-01  
 Power : AC 120V/60Hz  
 Test Mode : IEEB802.11nHT40 2452MHz Tx Mode

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	AMP factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2438.18	27.80	7.95	91.36	36.38	90.73	54.00	-36.73	Average
2	2483.50	27.87	8.02	47.46	36.38	46.97	54.00	7.03	Average
3	2500.00	27.90	8.05	34.26	36.38	33.83	54.00	20.17	Average

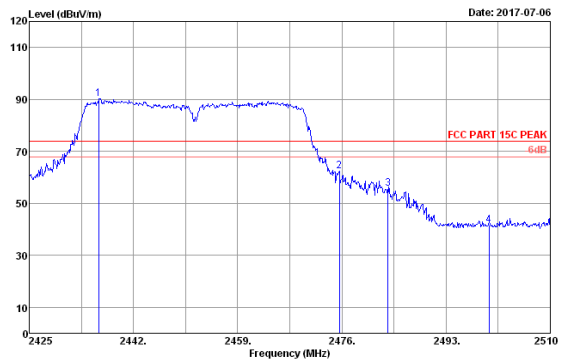
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading - Amp Factor  
 2. The emission levels that are 20dB below the official limit are not reported.



Date: 2017-07-06  
 Site no. : 3n Chamber Data no. : 103  
 Dis. / Ant. : 3n 2017 ANT 3007 HF Ant. pol. : VERTICAL  
 Limit : FCC PART 15C AV Pre : 101.2kPa  
 Env. / Ins. : 23.1°C/52.3% Engineer : Garry  
 EUT : Cash Register M/N:SPB1-01  
 Power : AC 120V/60Hz  
 Test Mode : IEEB802.11nHT40 2452MHz Tx Mode

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	AMP factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2438.35	27.80	7.95	77.07	36.38	76.44	54.00	-22.44	Average
2	2483.50	27.87	8.02	38.07	36.38	37.58	54.00	16.42	Average
3	2500.00	27.90	8.05	31.88	36.38	31.45	54.00	22.55	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading - Amp Factor  
 2. The emission levels that are 20dB below the official limit are not reported.



Date: 2017-07-06  
 Site no. : 3n Chamber Data no. : 104  
 Dis. / Ant. : 3n 2017 ANT 3007 HF Ant. pol. : VERTICAL  
 Limit : FCC PART 15C PEAK Pre : 101.2kPa  
 Env. / Ins. : 23.1°C/52.3% Engineer : Garry  
 EUT : Cash Register M/N:SPB1-01  
 Power : AC 120V/60Hz  
 Test Mode : IEEB802.11nHT40 2452MHz Tx Mode

No.	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	AMP factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	2436.31	27.76	7.95	90.87	36.38	90.20	74.00	-16.20	Peak
2	2475.88	27.87	8.02	62.87	36.38	62.38	74.00	11.62	Peak
3	2483.50	27.87	8.02	56.14	36.38	55.65	74.00	18.35	Peak
4	2500.00	27.90	8.05	42.06	36.38	41.63	74.00	32.37	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading - Amp Factor  
 2. The emission levels that are 20dB below the official limit are not reported.

## 7. 6dB Bandwidth Test

### 7.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum	Agilent	N9030A	MY51380221	Oct.18,15	1 Year
2.	Attenuator (20dB)	Agilent	8491B	MY39262165	Apr.27,17	1 Year
3.	RF Cable	Marvelous Microwave Inc	SFL402105FLEX	NO.1	Oct.17.15	1 Year

### 7.2. Limit

For direct sequence systems, the minimum 6dB bandwidth shall be at least 500kHz

### 7.3. Test Procedure

The transmitter output was connected to a spectrum analyzer, The bandwidth of the fundamental frequency was measured by spectrum analyzer with 100kHz RBW and 300kHz VBW. The 6dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6dB.

### 7.4. Test Results

EUT: Cash Register		
M/N: SPB1-01		
Test date: 2017-07-03	Pressure: 102.3±1.0 kpa	Humidity: 51.5±3.0%
Tested by: Lynn	Test site: RF site	Temperature: 22.1±0.6 °C

Test Mode	CH	6dB bandwidth (MHz)		Limit (kHz)
		ANT0	ANT1	
11b	CH1	8.571	8.105	≥ 500
	CH6	8.097	8.563	≥ 500
	CH11	8.097	8.096	≥ 500
11g	CH1	16.41	16.41	≥ 500
	CH6	16.39	16.38	≥ 500
	CH11	16.41	16.40	≥ 500
11n HT20	CH1	17.61	17.61	≥ 500
	CH6	17.34	17.60	≥ 500
	CH11	17.61	17.61	≥ 500
11n HT40	CH3	35.21	35.19	≥ 500
	CH6	35.38	35.50	≥ 500
	CH9	35.23	35.23	≥ 500
Conclusion : PASS				