



Appendix C

RF Test Data for 2.4GWIFI (Conducted Measurement)

Product Name: LED Bulb String Lights

Trade Mark: ASAHOM

Test Model: B1020

Environmental Conditions

| | |
|--------------------|-------------|
| Temperature: | 26.2° C |
| Relative Humidity: | 52.1% |
| ATM Pressure: | 100.0 kPa |
| Test Engineer: | Simba Huang |
| Supervised by: | Seal Chen |



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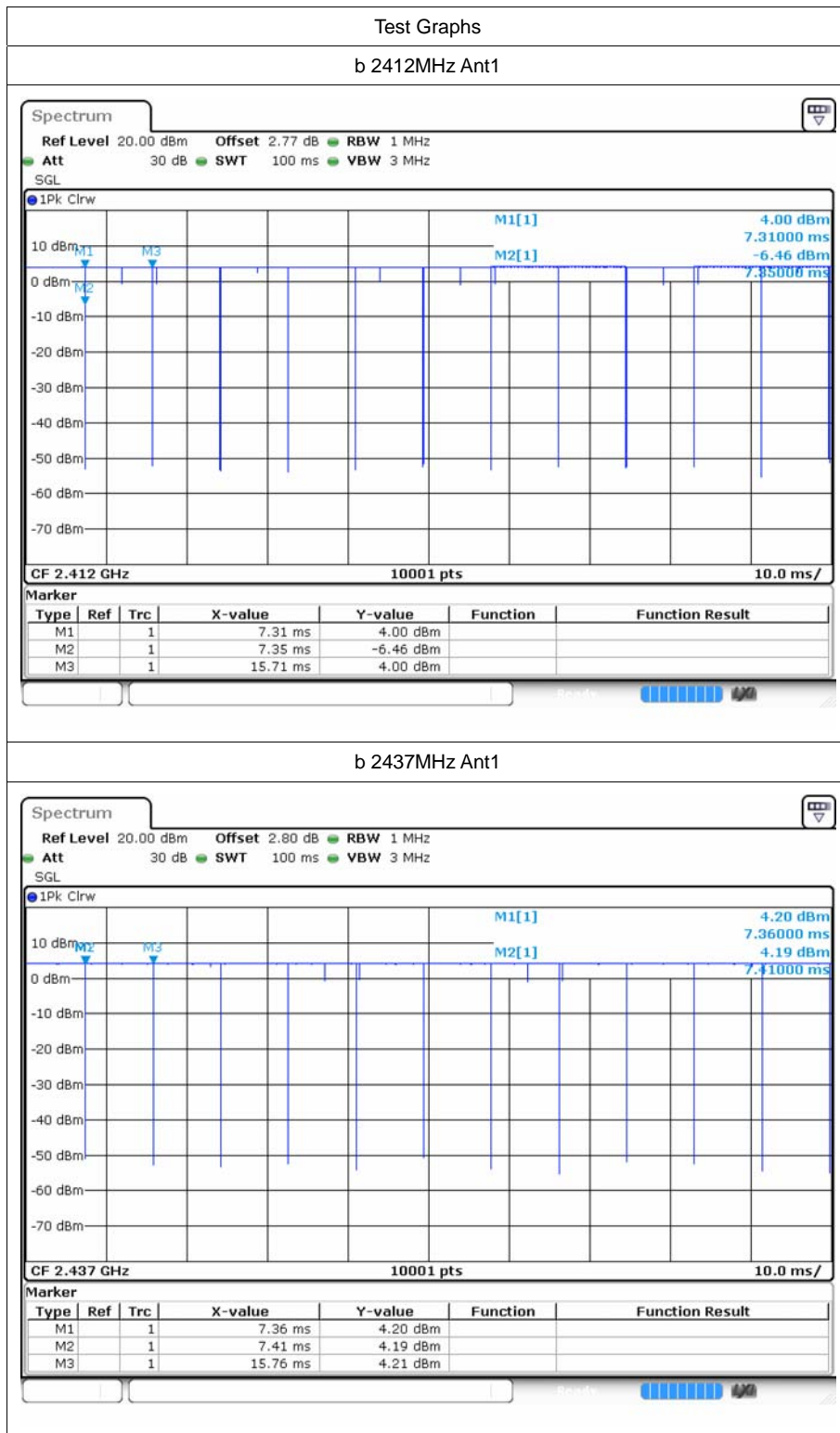
1 Duty Cycle

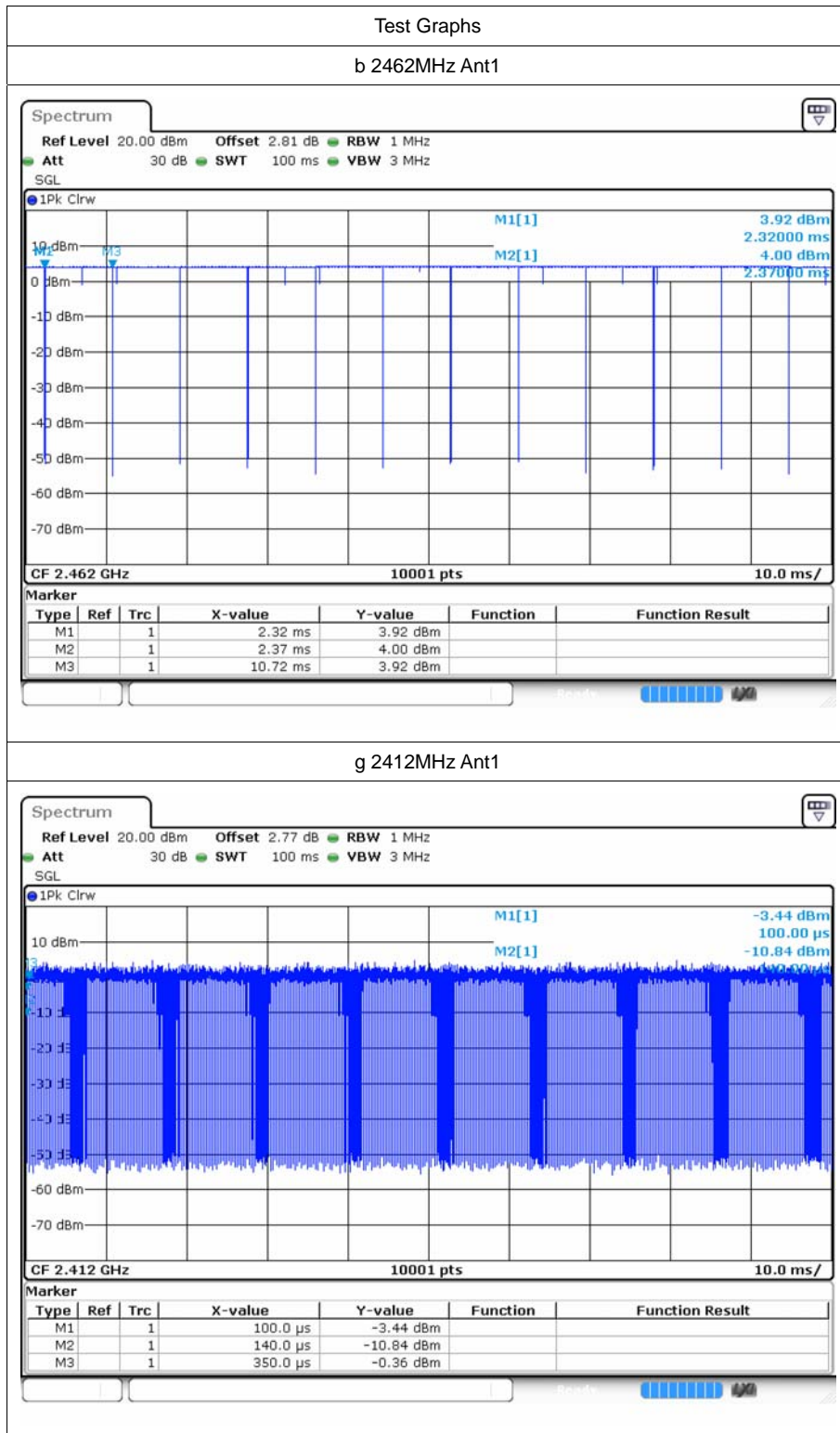
1.1 Test Result

| Mode | Frequency (MHz) | Antenna | Duty Cycle (%) | 1/T (kHz) |
|------|-----------------|---------|----------------|-----------|
| b | 2412 | Ant1 | 99.61 | 0.12 |
| b | 2437 | Ant1 | 99.59 | 0.12 |
| b | 2462 | Ant1 | 99.61 | 0.12 |
| g | 2412 | Ant1 | 87.02 | 4.76 |
| g | 2437 | Ant1 | 87.05 | 4.76 |
| g | 2462 | Ant1 | 86.83 | 4.76 |
| n20 | 2412 | Ant1 | 87.58 | 4.35 |
| n20 | 2437 | Ant1 | 87.6 | 4.35 |
| n20 | 2462 | Ant1 | 87.58 | 4.35 |
| n40 | 2422 | Ant1 | 88.04 | 4.17 |
| n40 | 2437 | Ant1 | 88.07 | 4 |
| n40 | 2452 | Ant1 | 88.04 | 4.17 |

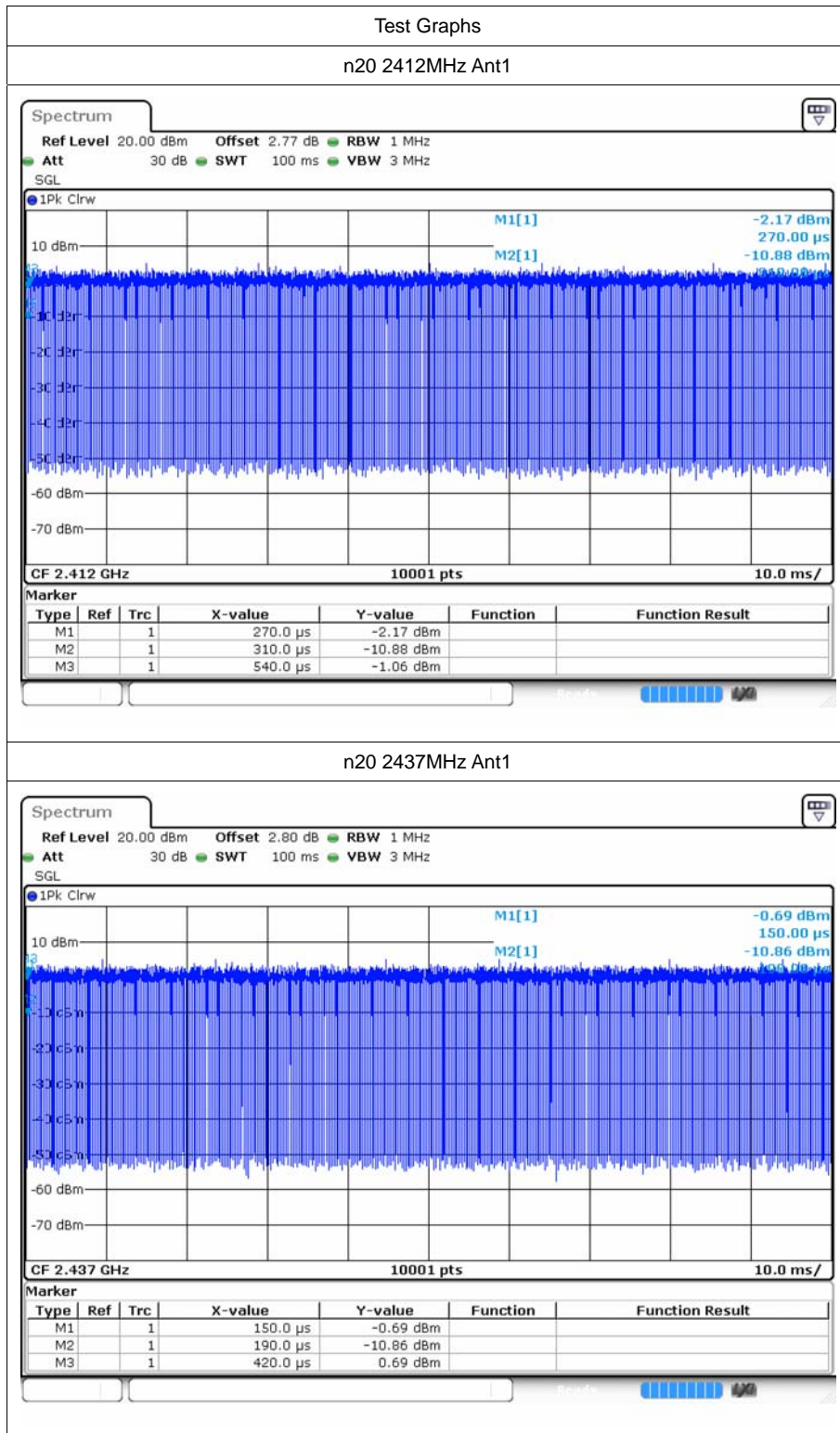


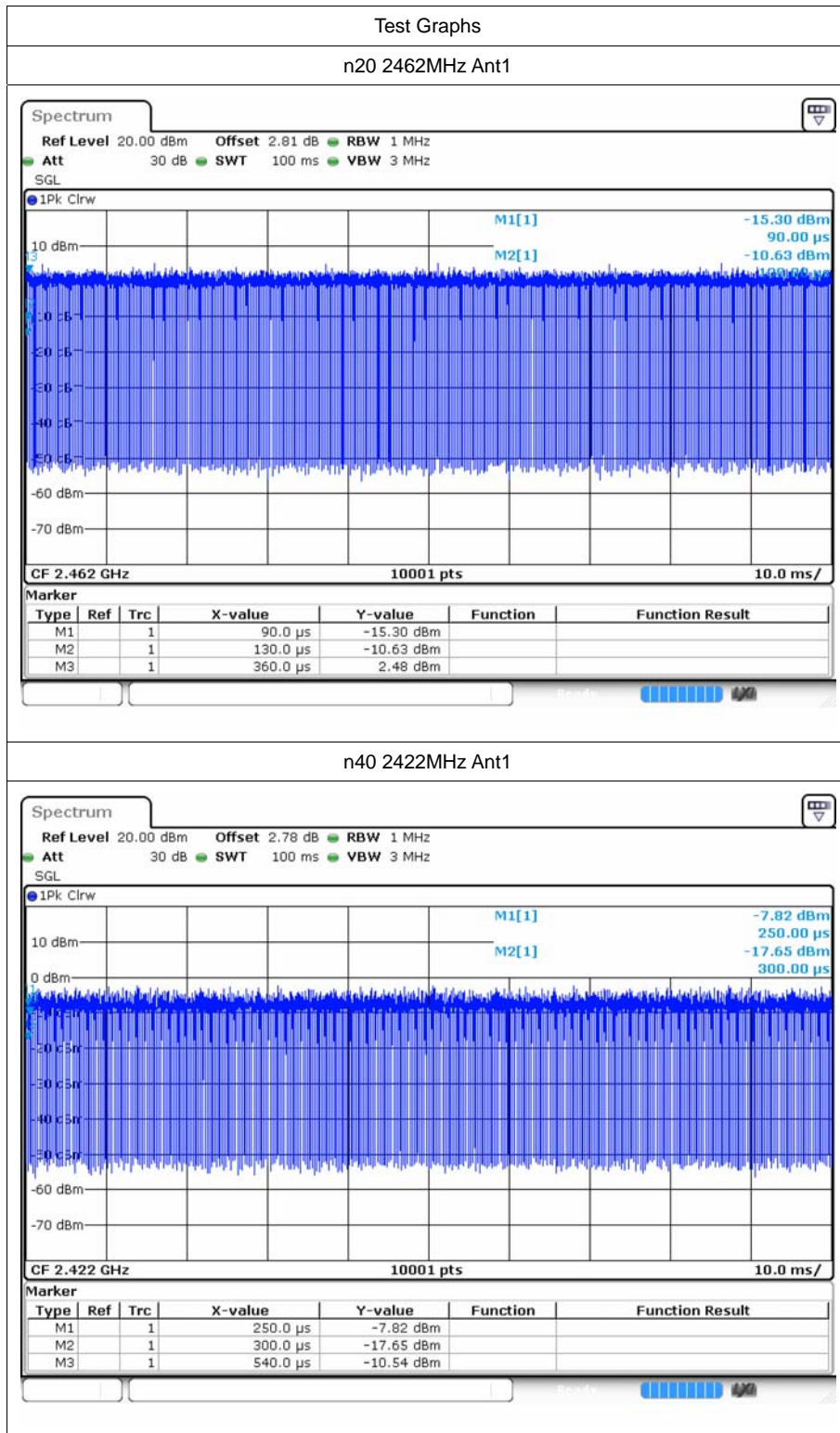
1.2 Test Graphs

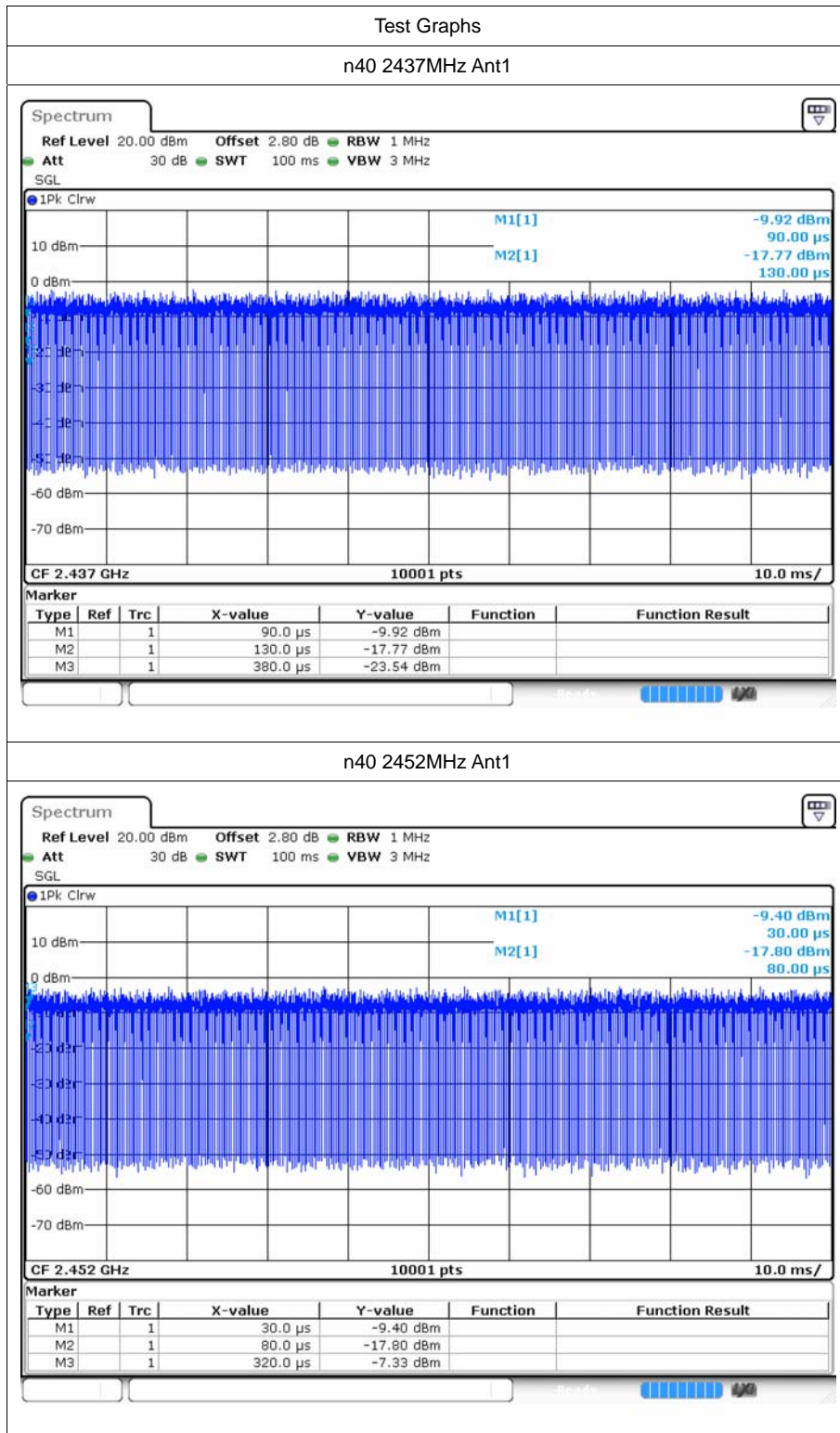














2 Maximum Conducted Output Power

2.1 Test Result

| Mode | Frequency (MHz) | Antenna | Conducted Power (dBm) | Limit (dBm) | Verdict |
|------|-----------------|---------|-----------------------|-------------|---------|
| b | 2412 | Ant1 | 14.49 | 30 | Pass |
| b | 2437 | Ant1 | 14.56 | 30 | Pass |
| b | 2462 | Ant1 | 14.43 | 30 | Pass |
| g | 2412 | Ant1 | 14.13 | 30 | Pass |
| g | 2437 | Ant1 | 14.12 | 30 | Pass |
| g | 2462 | Ant1 | 14.1 | 30 | Pass |
| n20 | 2412 | Ant1 | 14.05 | 30 | Pass |
| n20 | 2437 | Ant1 | 14.09 | 30 | Pass |
| n20 | 2462 | Ant1 | 13.95 | 30 | Pass |
| n40 | 2422 | Ant1 | 14 | 30 | Pass |
| n40 | 2437 | Ant1 | 13.88 | 30 | Pass |
| n40 | 2452 | Ant1 | 13.88 | 30 | Pass |

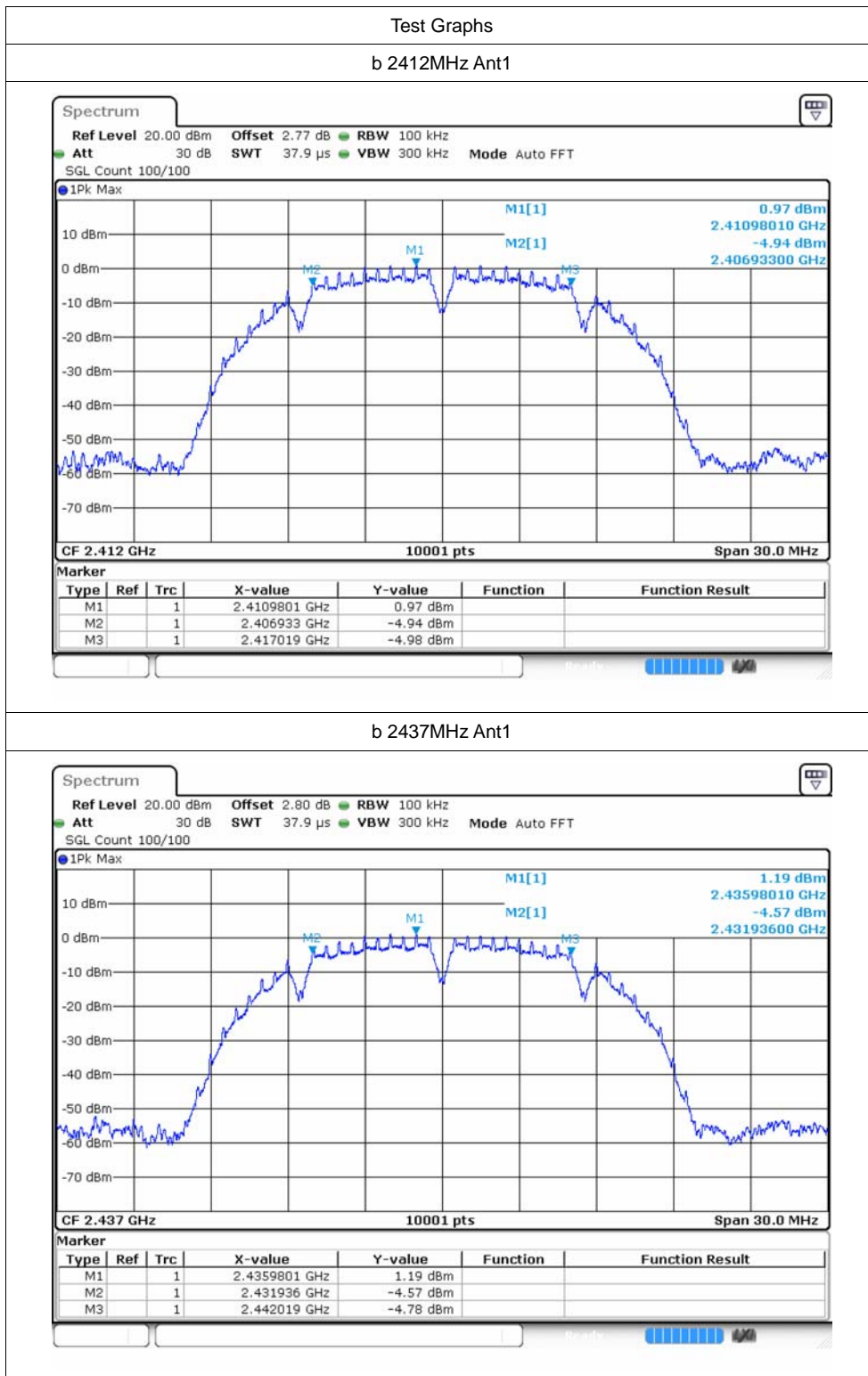


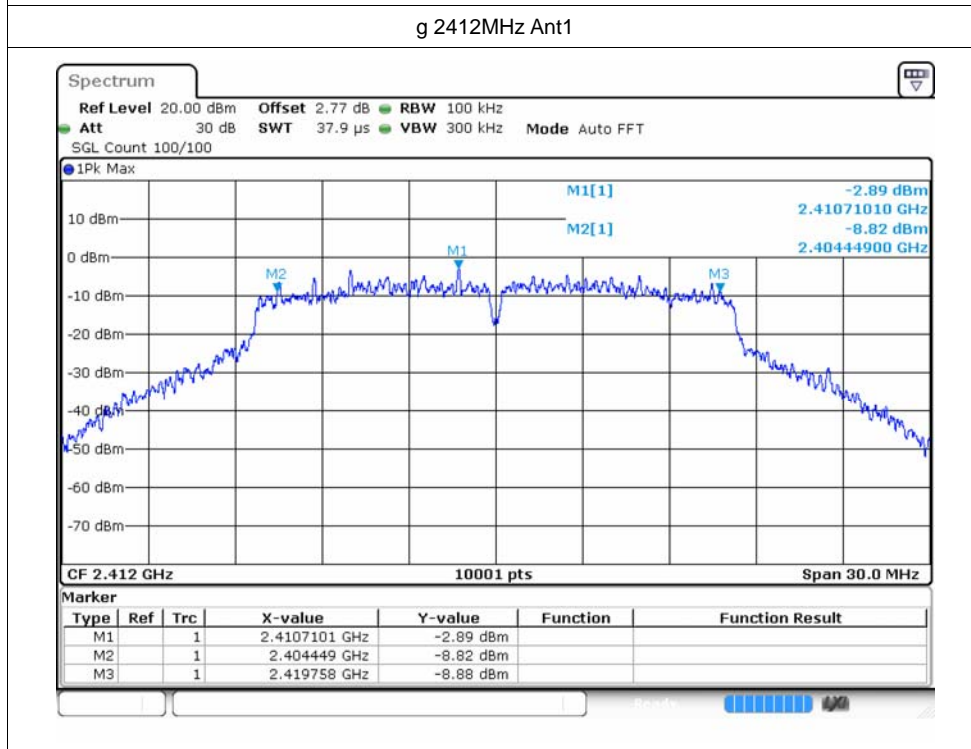
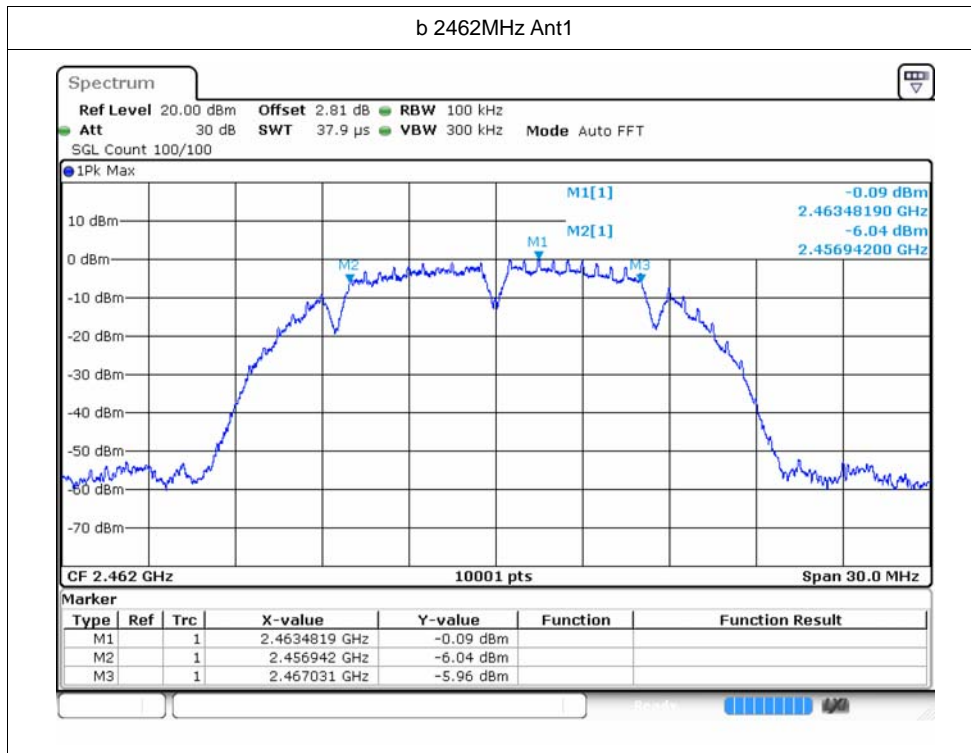
3 -6dB Bandwidth

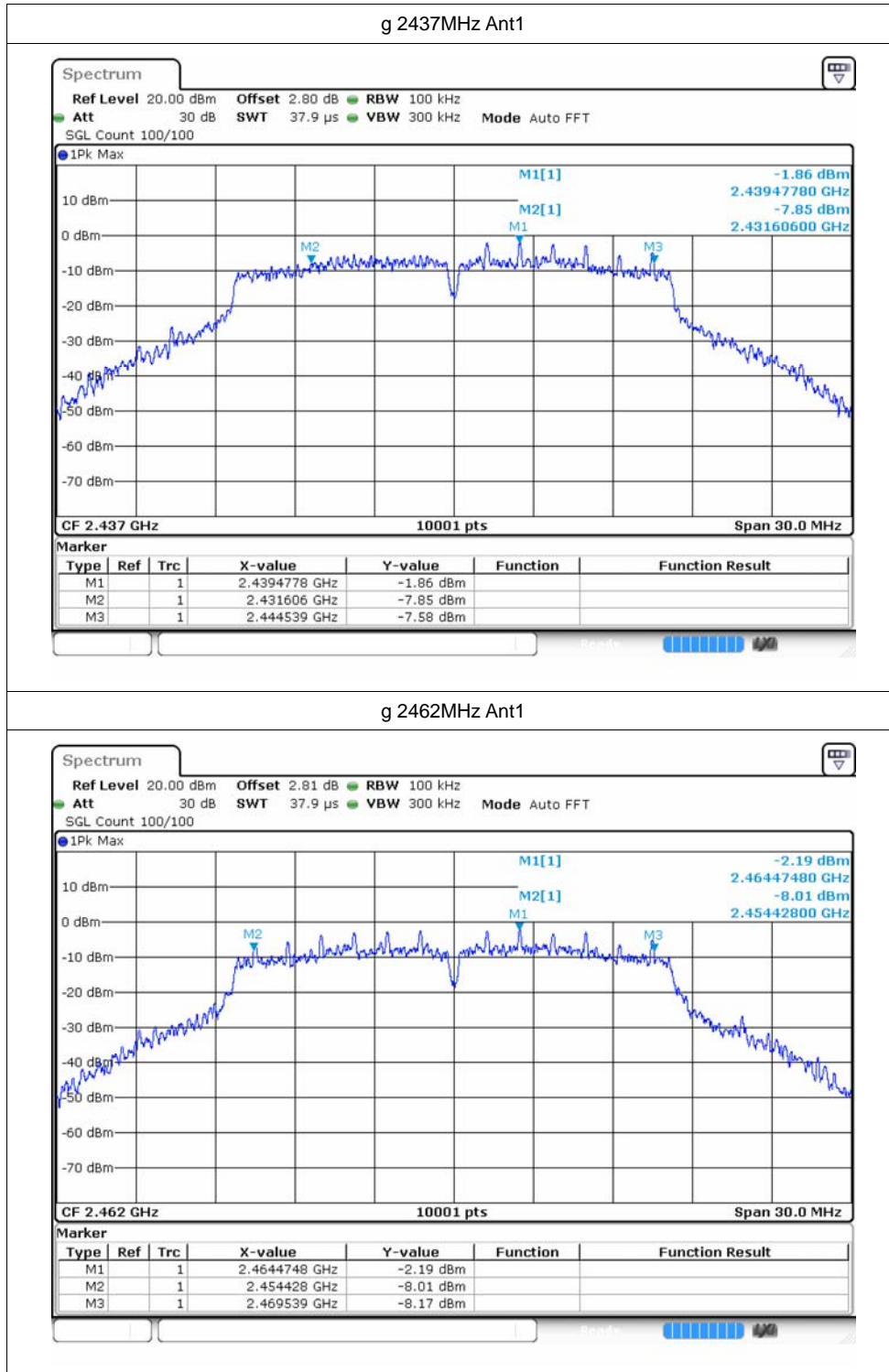
3.1 Test Result

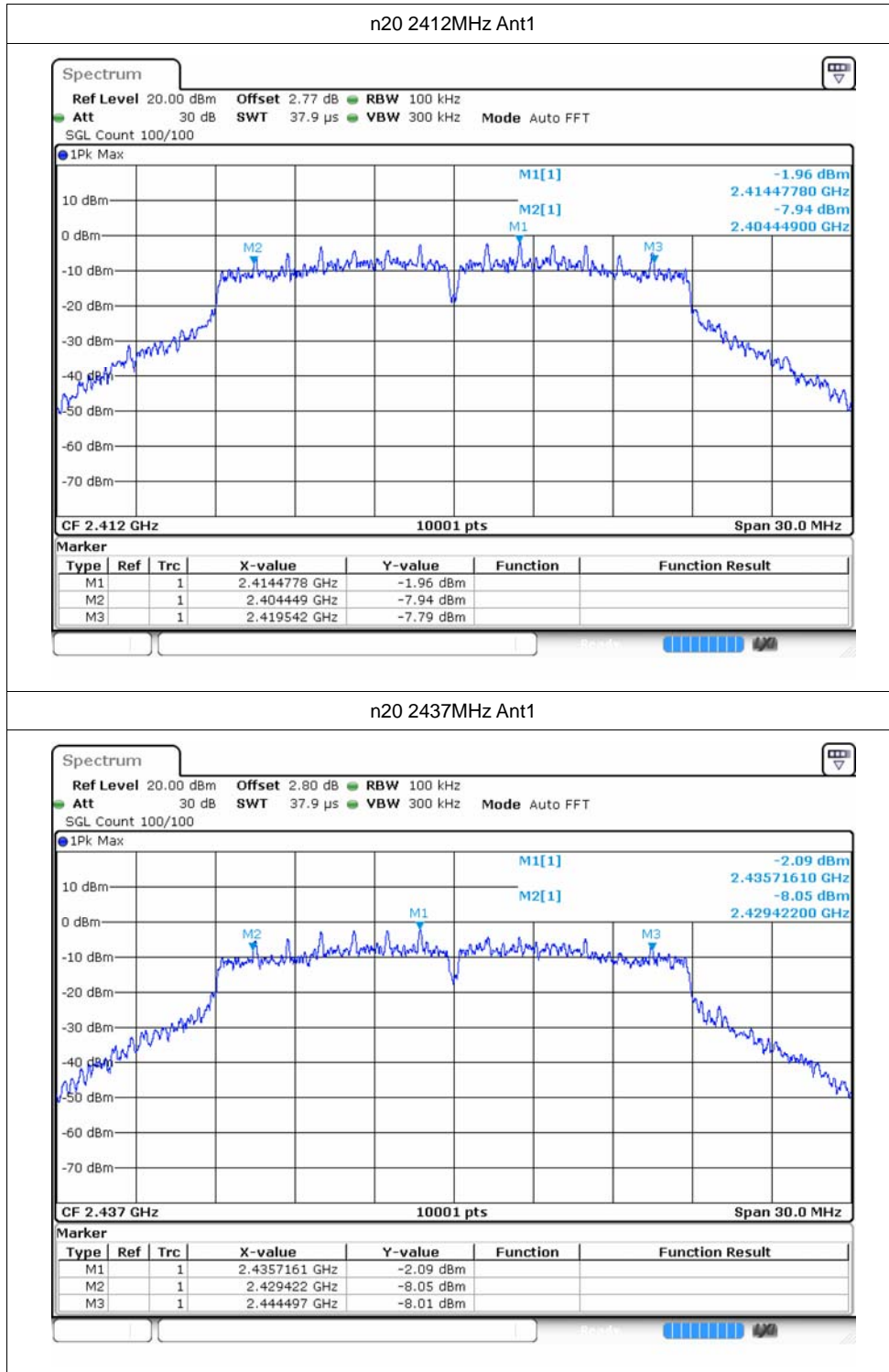
| Mode | Frequency (MHz) | Antenna | -6 dB Bandwidth (MHz) | Limit -6 dB Bandwidth (MHz) | Verdict |
|------|-----------------|---------|-----------------------|-----------------------------|---------|
| b | 2412 | Ant1 | 10.086 | 0.5 | Pass |
| b | 2437 | Ant1 | 10.083 | 0.5 | Pass |
| b | 2462 | Ant1 | 10.089 | 0.5 | Pass |
| g | 2412 | Ant1 | 15.309 | 0.5 | Pass |
| g | 2437 | Ant1 | 12.933 | 0.5 | Pass |
| g | 2462 | Ant1 | 15.111 | 0.5 | Pass |
| n20 | 2412 | Ant1 | 15.093 | 0.5 | Pass |
| n20 | 2437 | Ant1 | 15.075 | 0.5 | Pass |
| n20 | 2462 | Ant1 | 15.123 | 0.5 | Pass |
| n40 | 2422 | Ant1 | 35.016 | 0.5 | Pass |
| n40 | 2437 | Ant1 | 35.07 | 0.5 | Pass |
| n40 | 2452 | Ant1 | 31.338 | 0.5 | Pass |

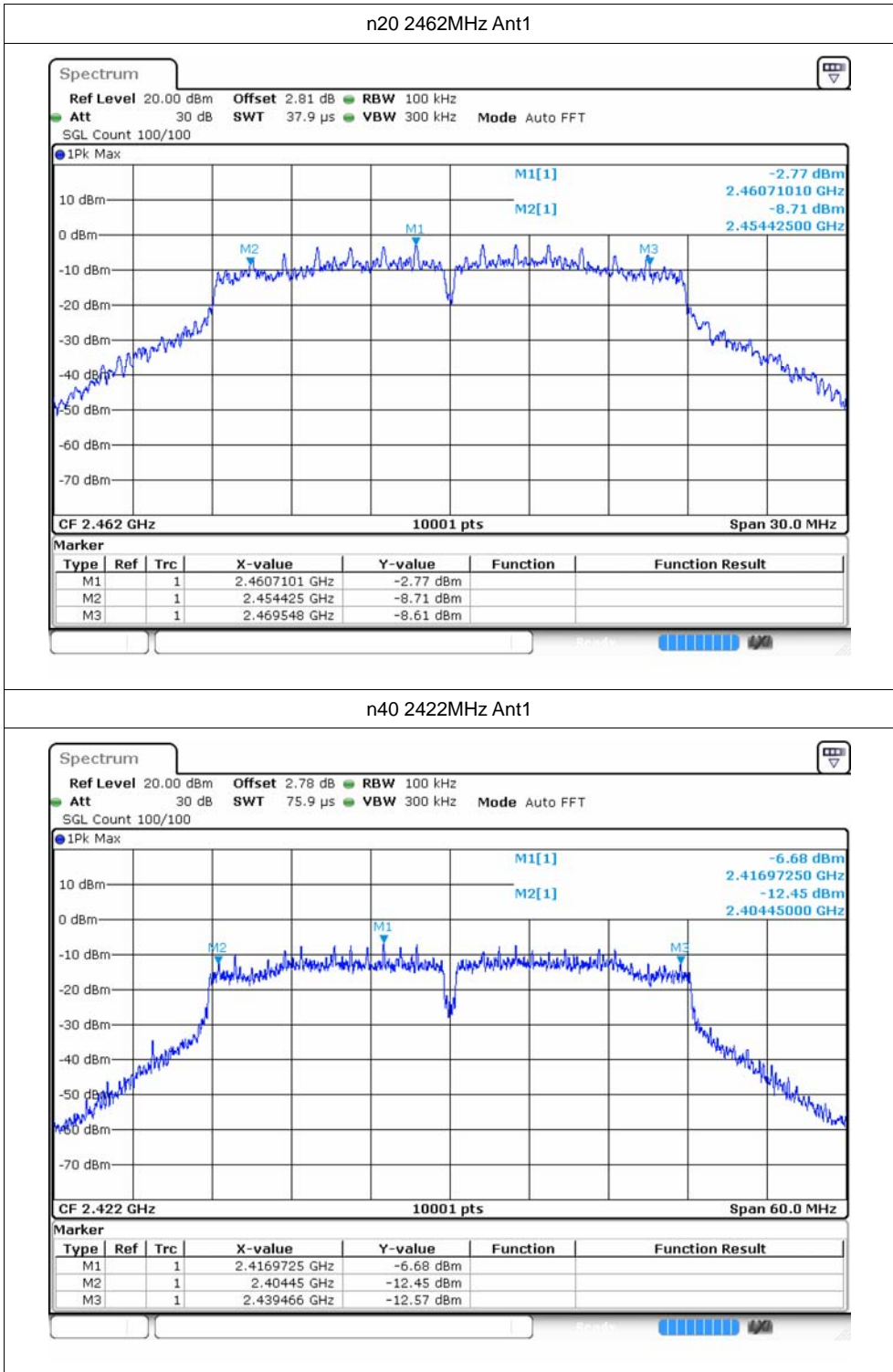
3.2 Test Graphs

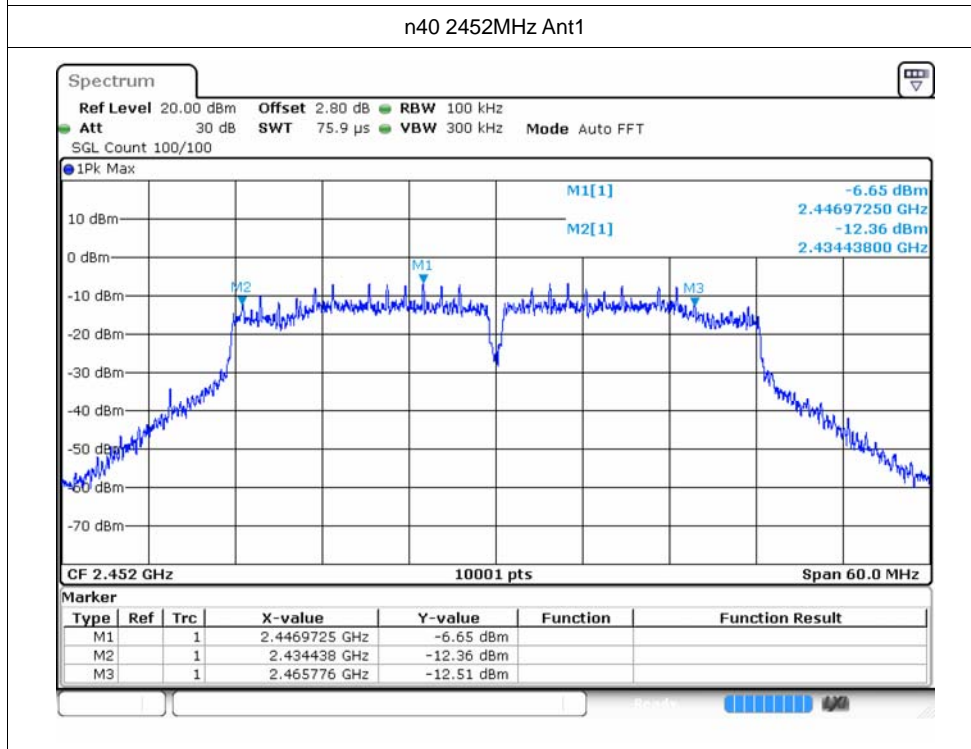
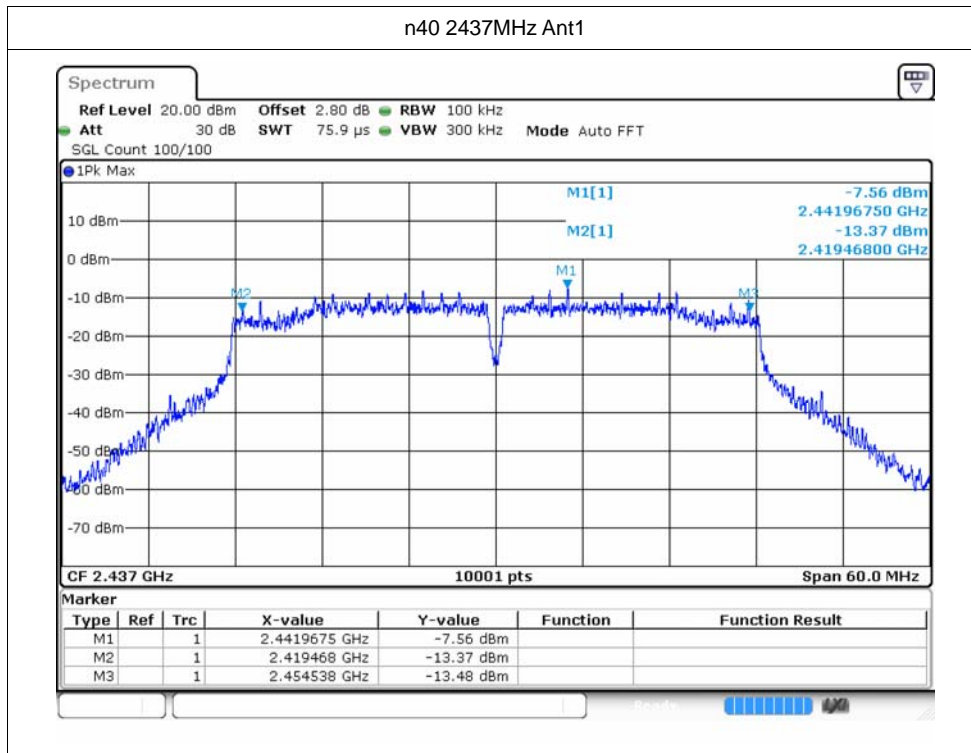












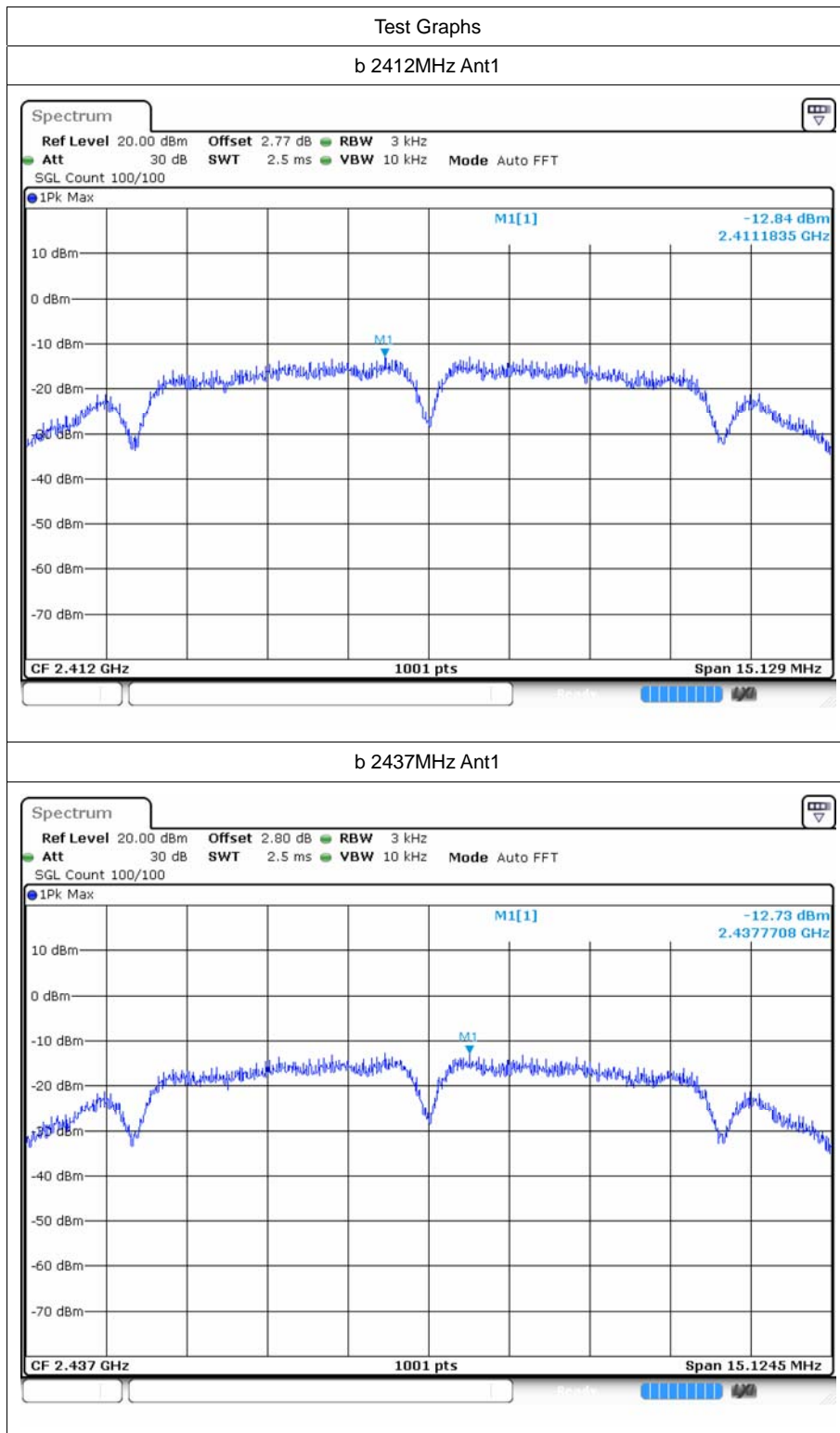


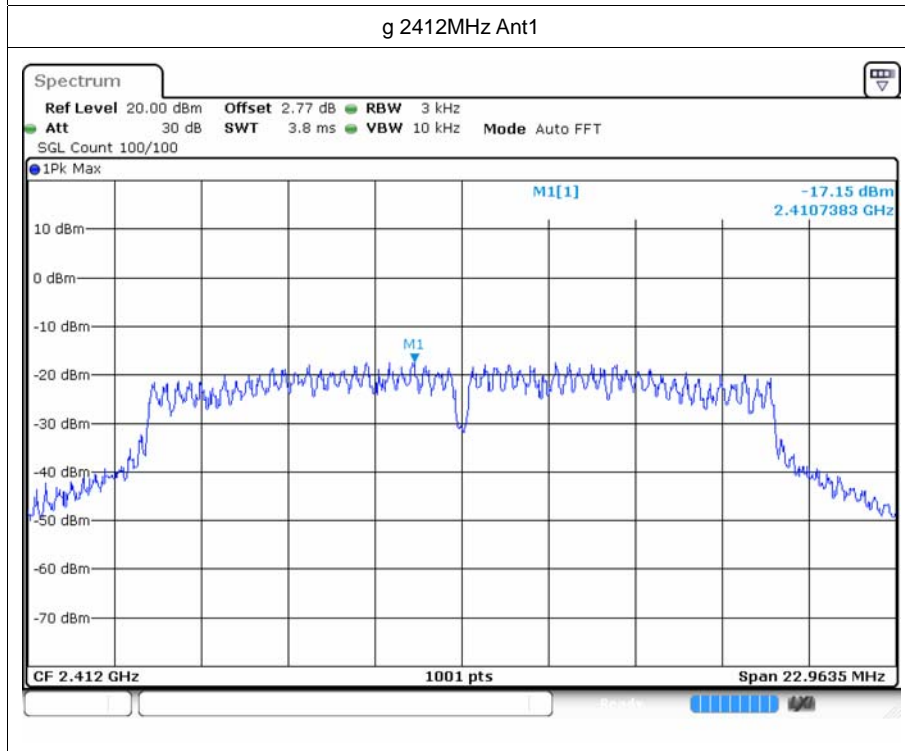
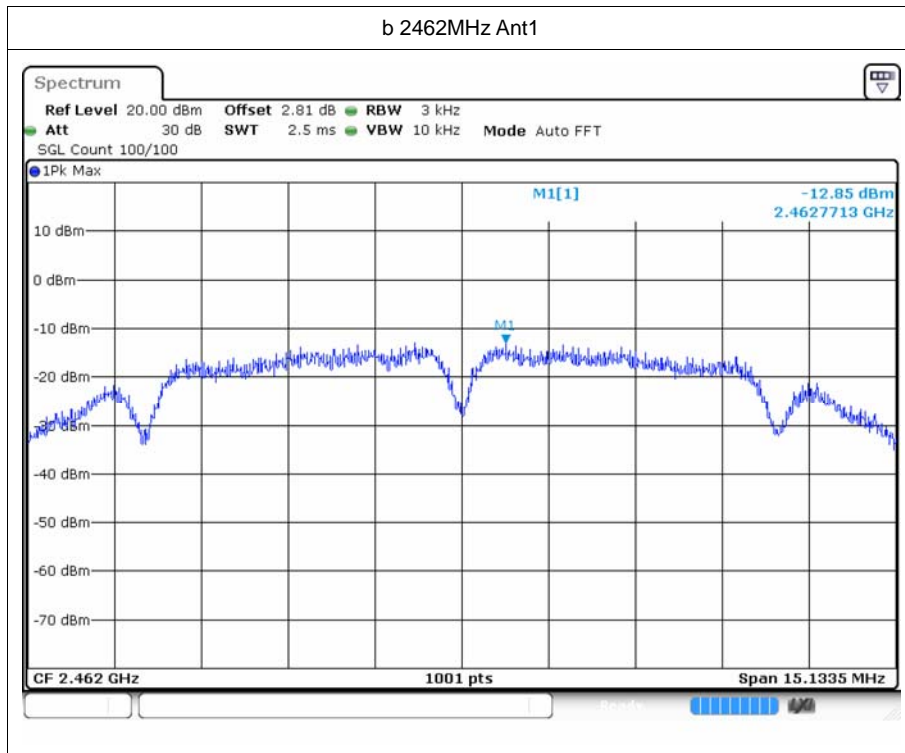
4 Maximum Power Spectral Density Level

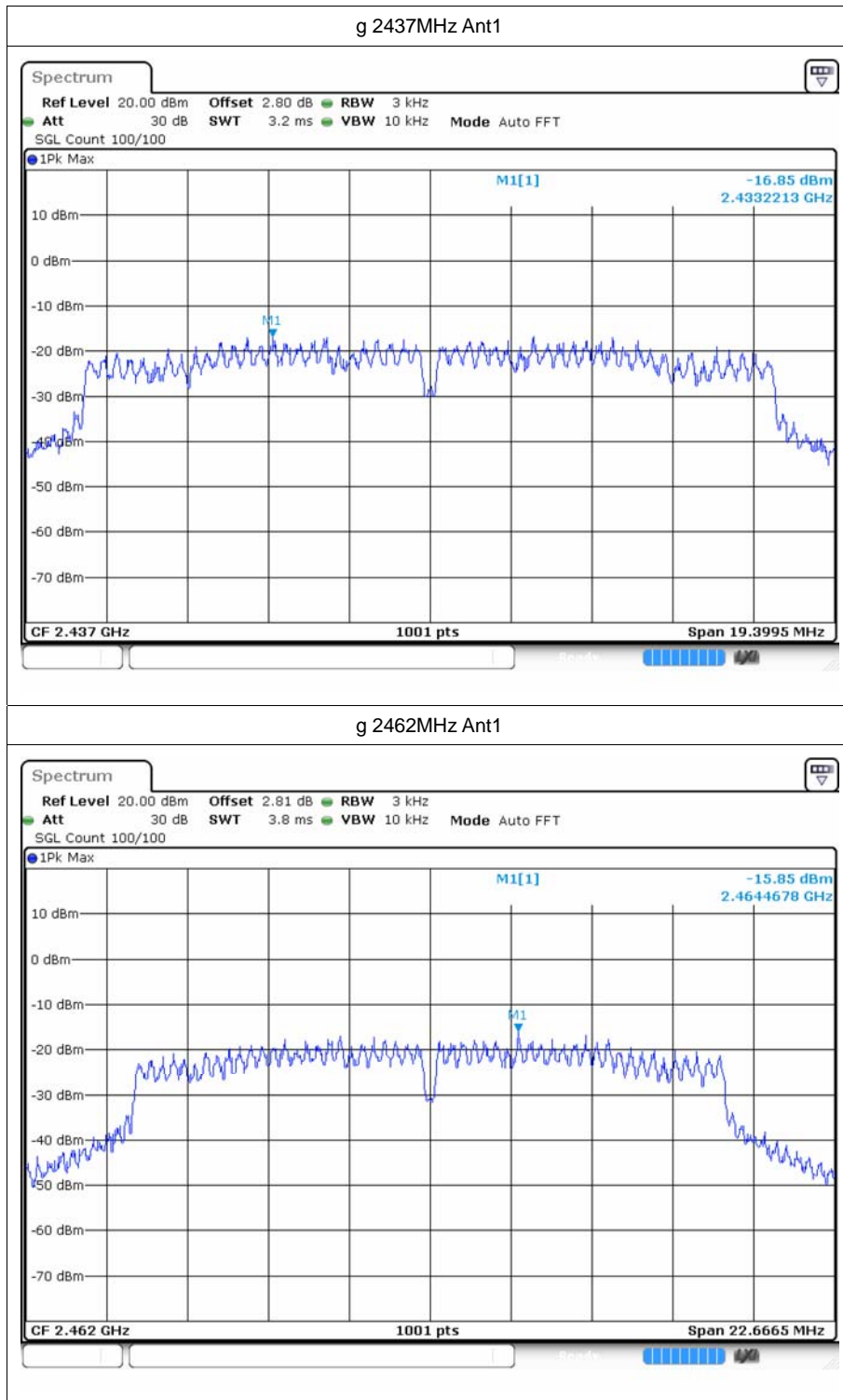
4.1 Test Result

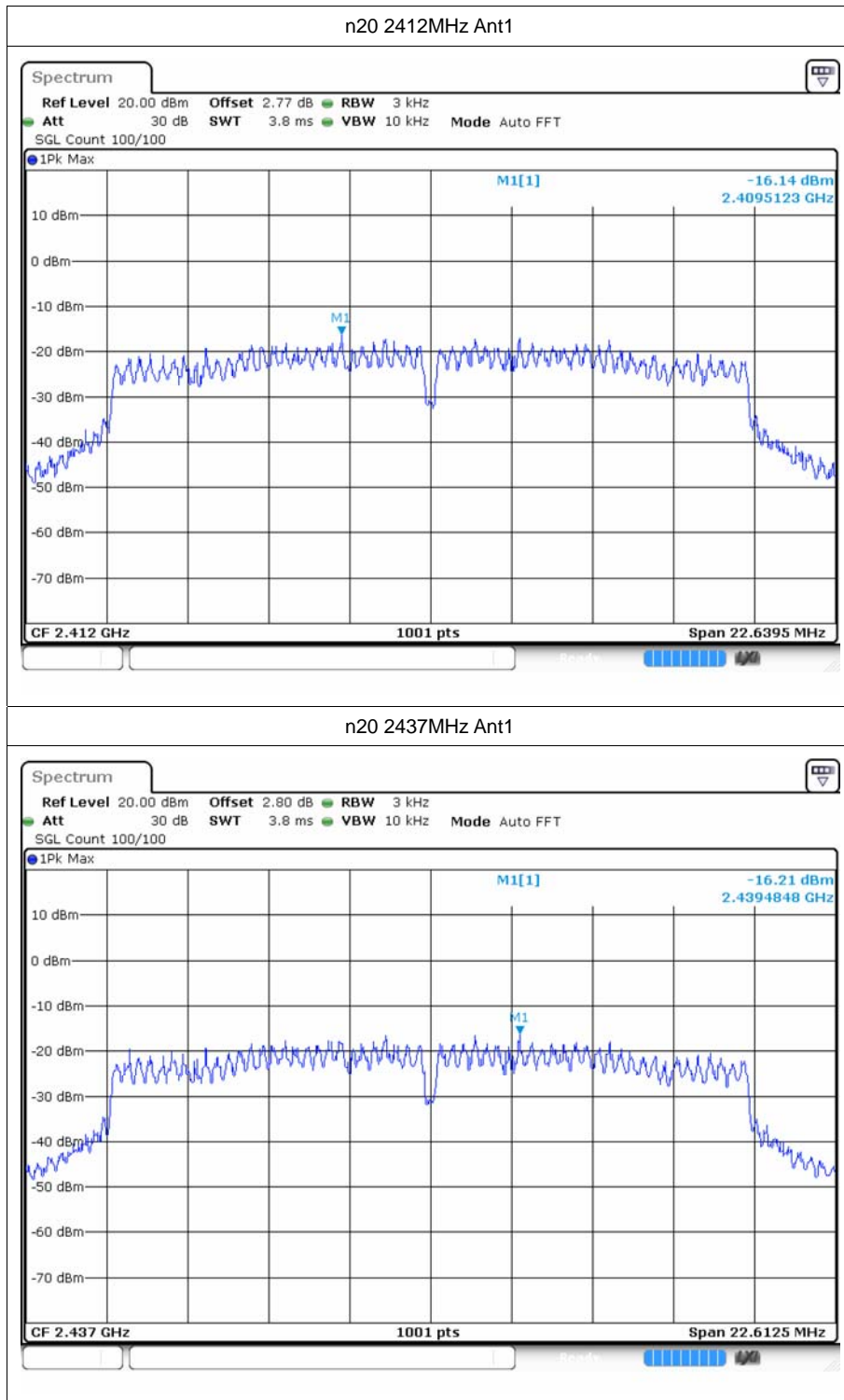
| Mode | Frequency (MHz) | Antenna | Conducted PSD (dBm/3-100kHz) | Limit (dBm/3kHz) | Verdict |
|------|-----------------|---------|------------------------------|------------------|---------|
| b | 2412 | Ant1 | -12.84 | ≤8 | Pass |
| b | 2437 | Ant1 | -12.73 | ≤8 | Pass |
| b | 2462 | Ant1 | -12.85 | ≤8 | Pass |
| g | 2412 | Ant1 | -17.15 | ≤8 | Pass |
| g | 2437 | Ant1 | -16.85 | ≤8 | Pass |
| g | 2462 | Ant1 | -15.85 | ≤8 | Pass |
| n20 | 2412 | Ant1 | -16.14 | ≤8 | Pass |
| n20 | 2437 | Ant1 | -16.21 | ≤8 | Pass |
| n20 | 2462 | Ant1 | -15.52 | ≤8 | Pass |
| n40 | 2422 | Ant1 | -19.99 | ≤8 | Pass |
| n40 | 2437 | Ant1 | -20.99 | ≤8 | Pass |
| n40 | 2452 | Ant1 | -20.17 | ≤8 | Pass |

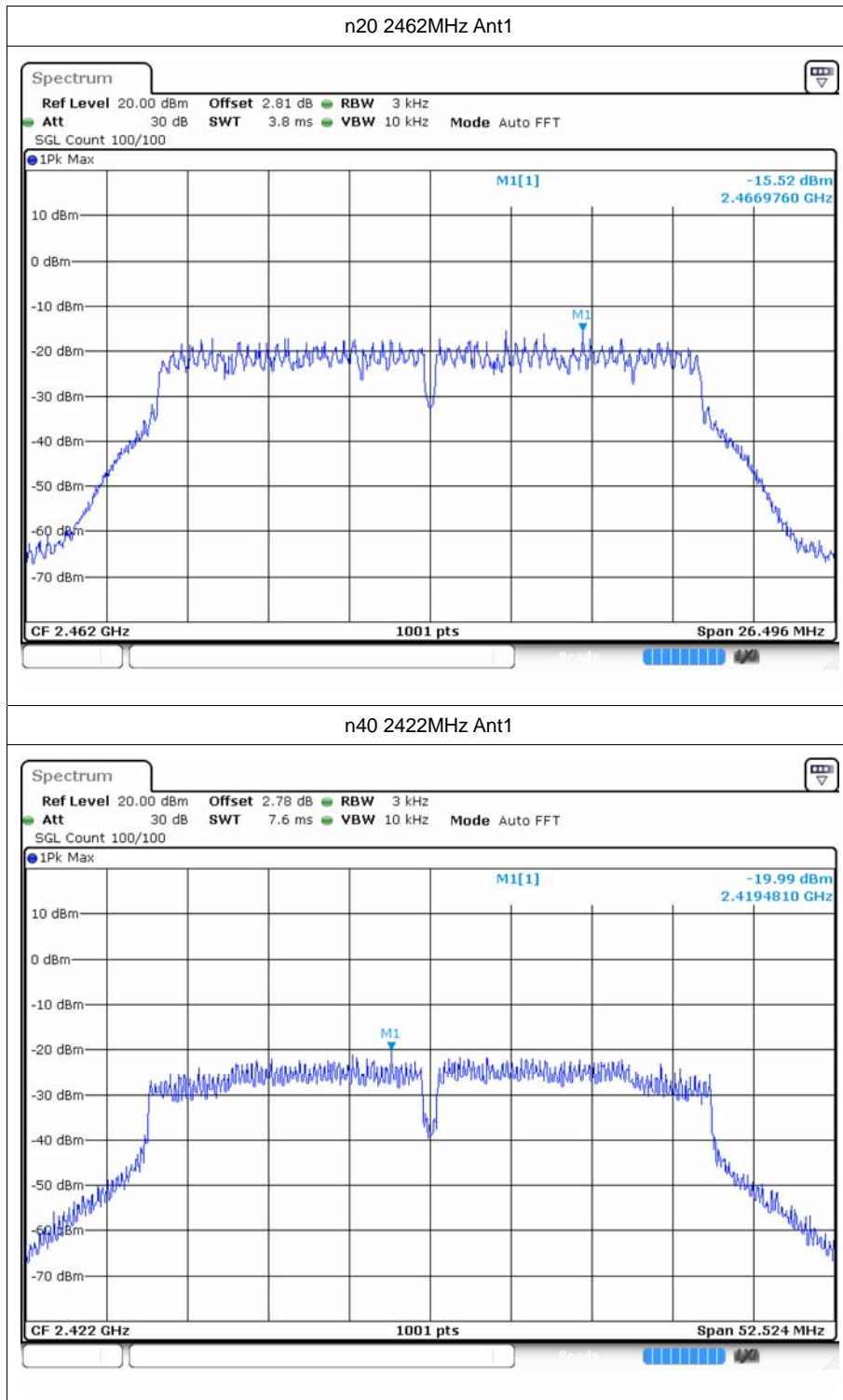
4.2 Test Graphs

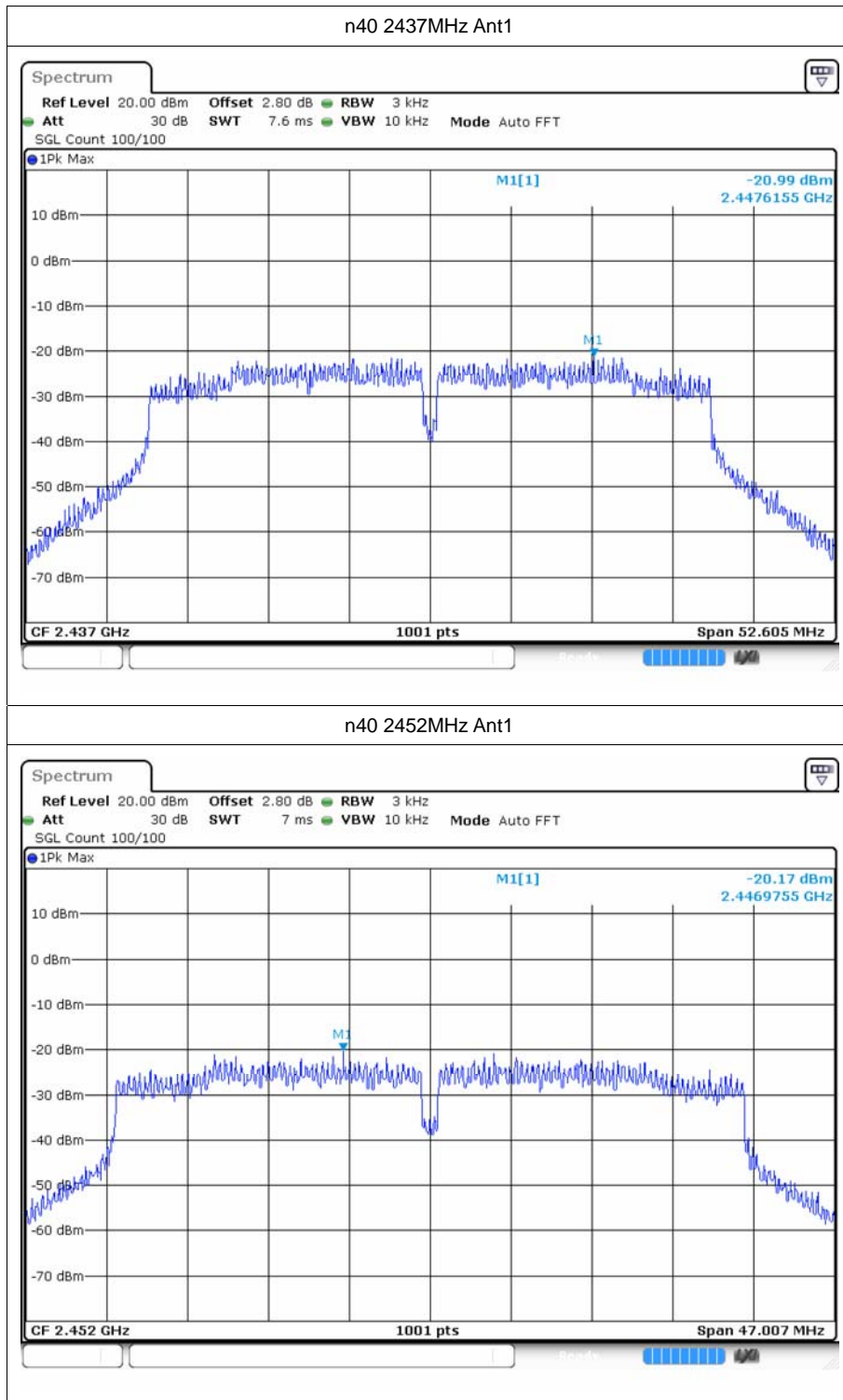












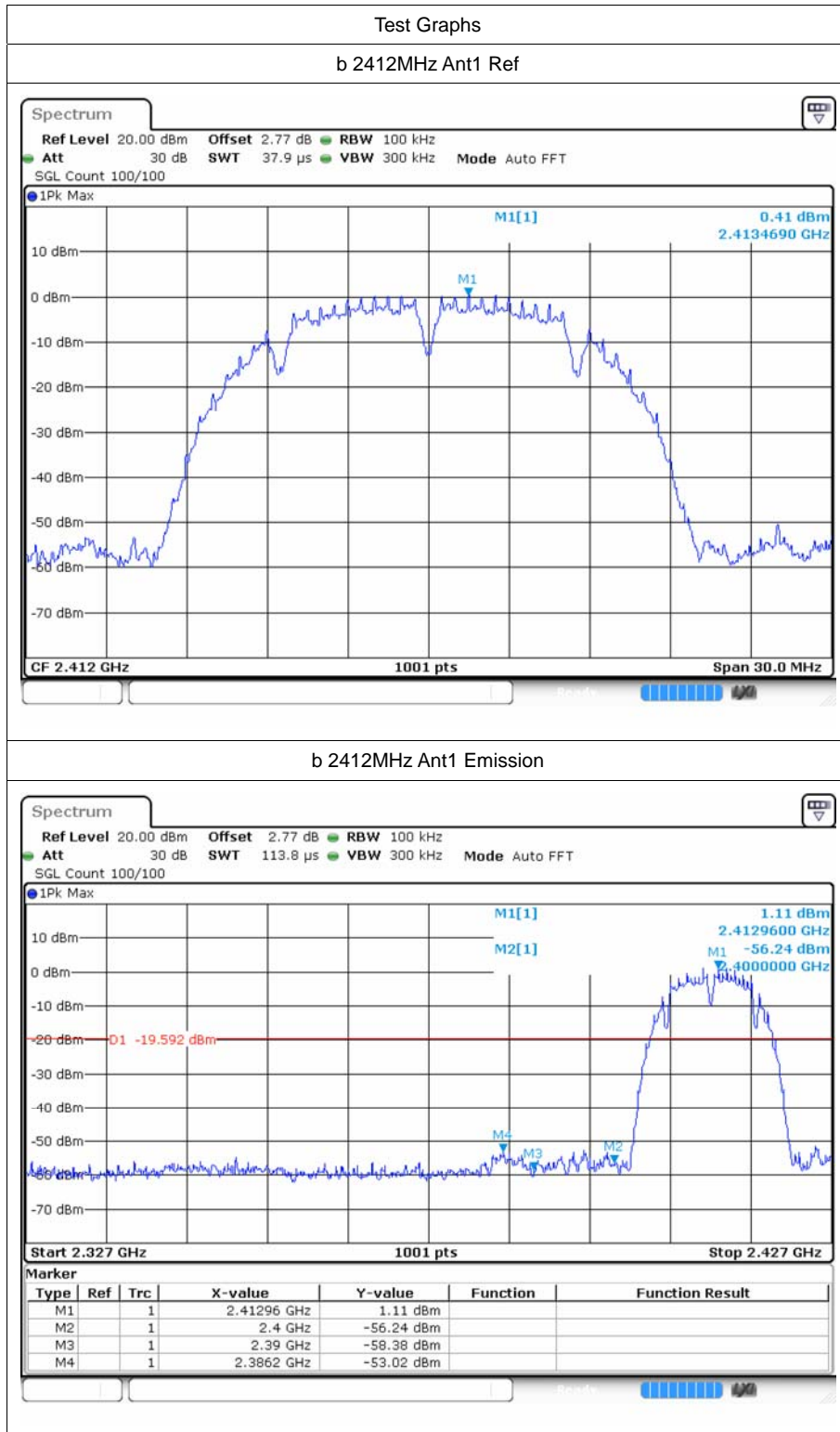


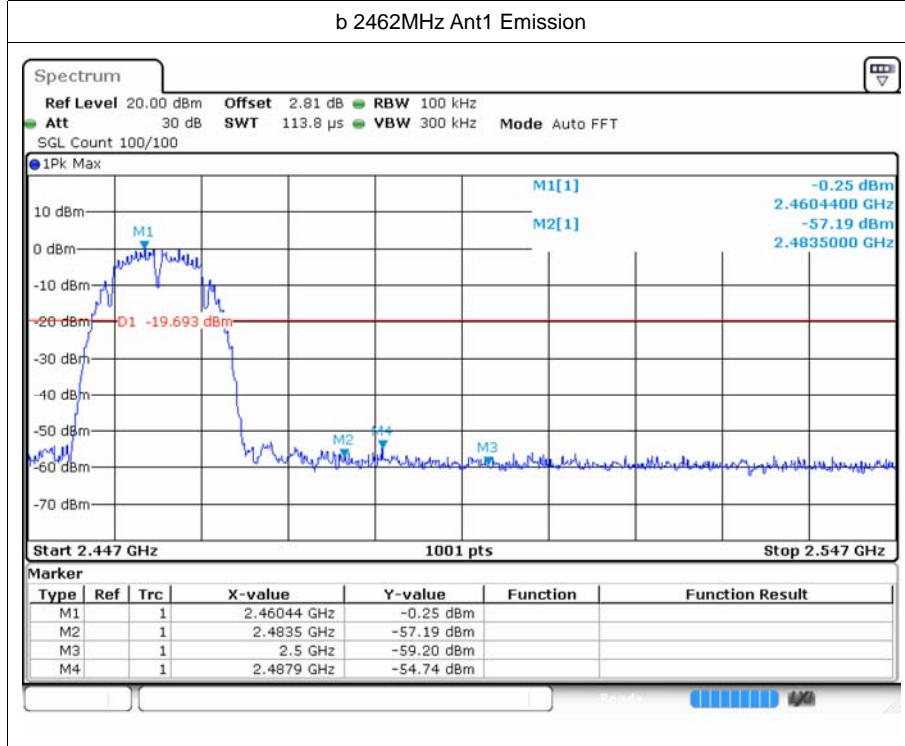
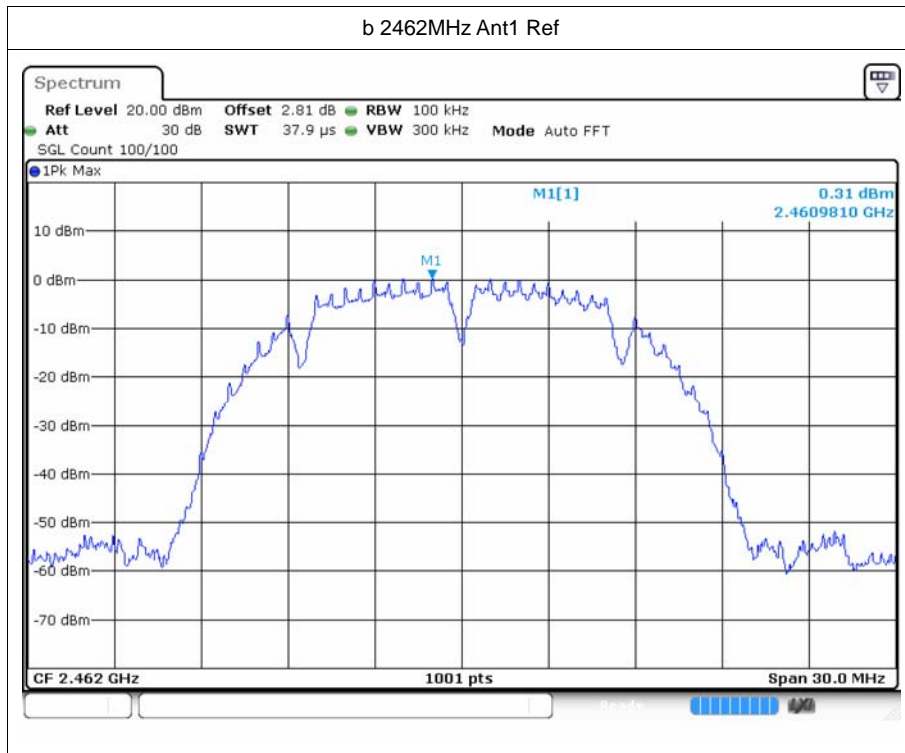
5 Band Edge

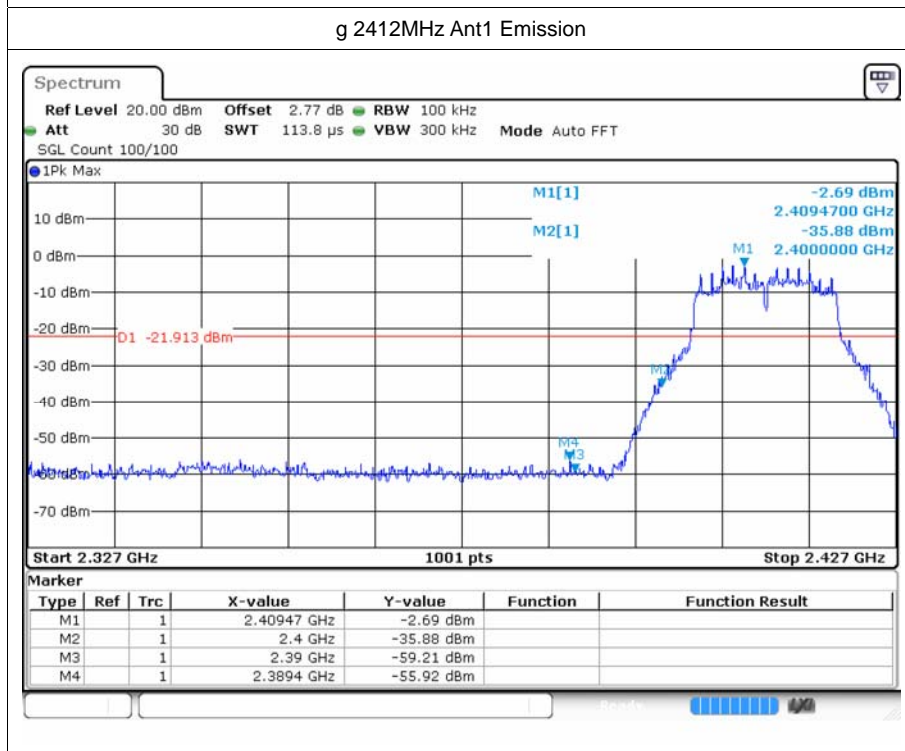
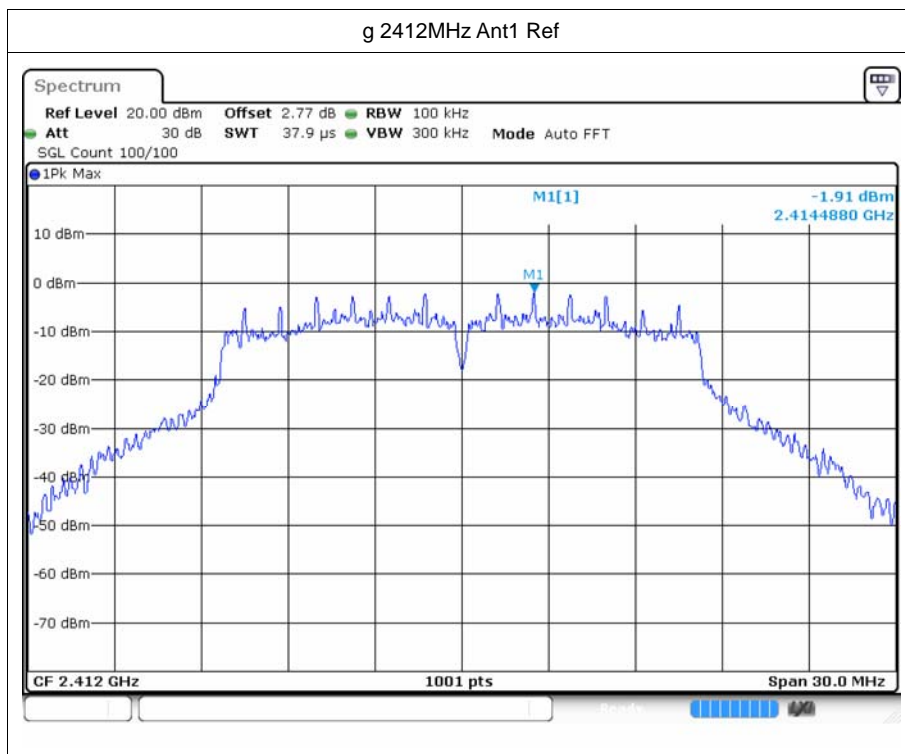
5.1 Test Result

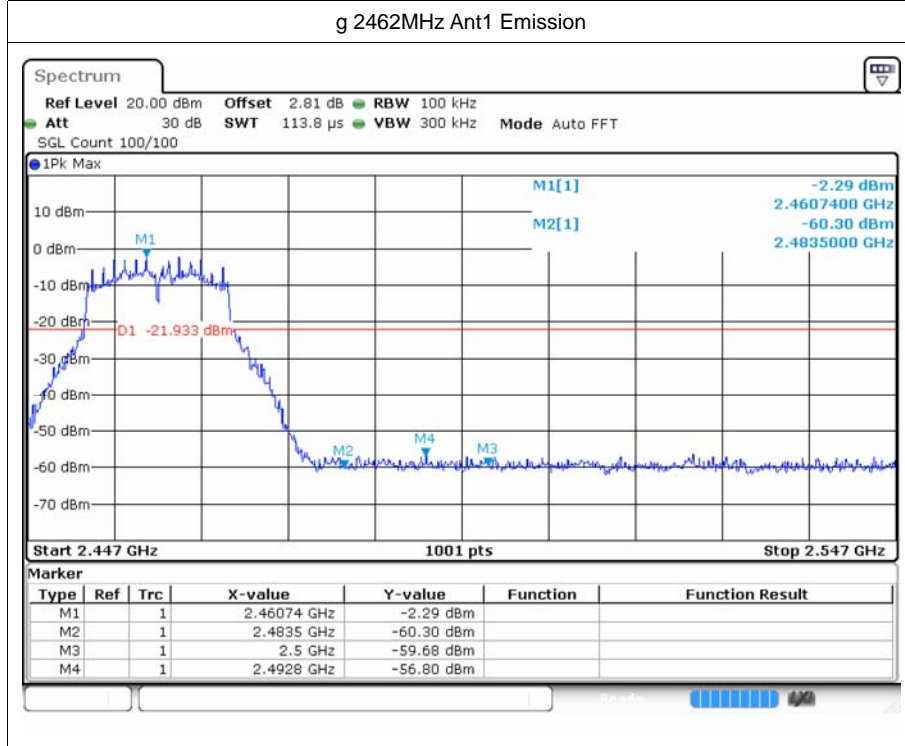
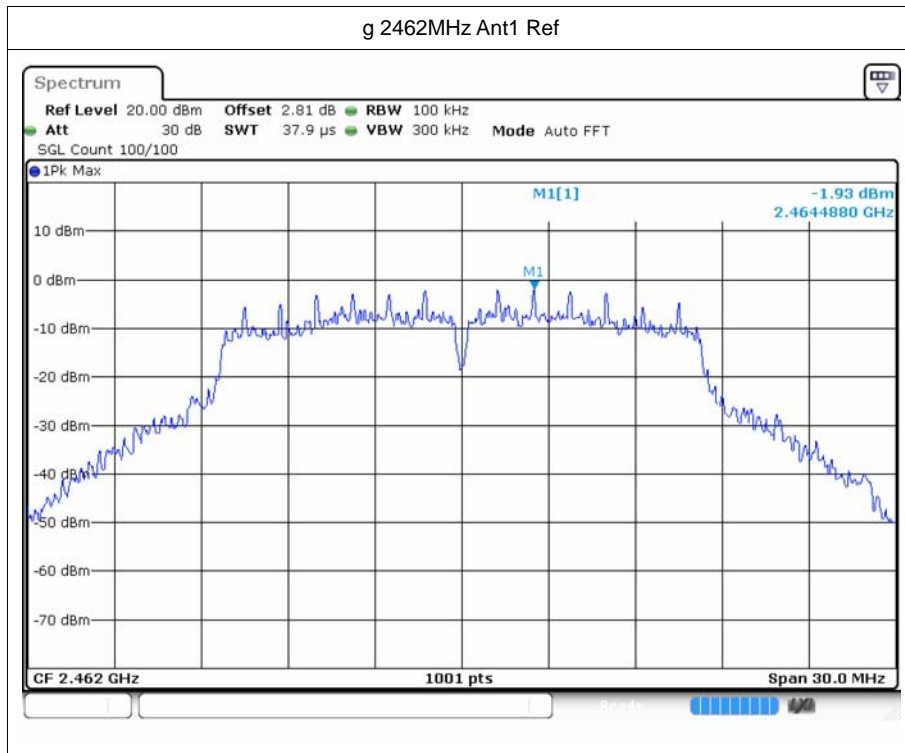
| Mode | Frequency (MHz) | Antenna | Max Value (dBc) | Limit (dBc) | Verdict |
|------|-----------------|---------|-----------------|-------------|---------|
| b | 2412 | Ant1 | -53.42 | -20 | -53.42 |
| b | 2462 | Ant1 | -55.04 | -20 | Pass |
| g | 2412 | Ant1 | -54 | -20 | Pass |
| g | 2462 | Ant1 | -54.86 | -20 | Pass |
| n20 | 2412 | Ant1 | -52.29 | -20 | Pass |
| n20 | 2462 | Ant1 | -54.13 | -20 | Pass |
| n40 | 2422 | Ant1 | -50.18 | -20 | Pass |
| n40 | 2452 | Ant1 | -46.59 | -20 | Pass |

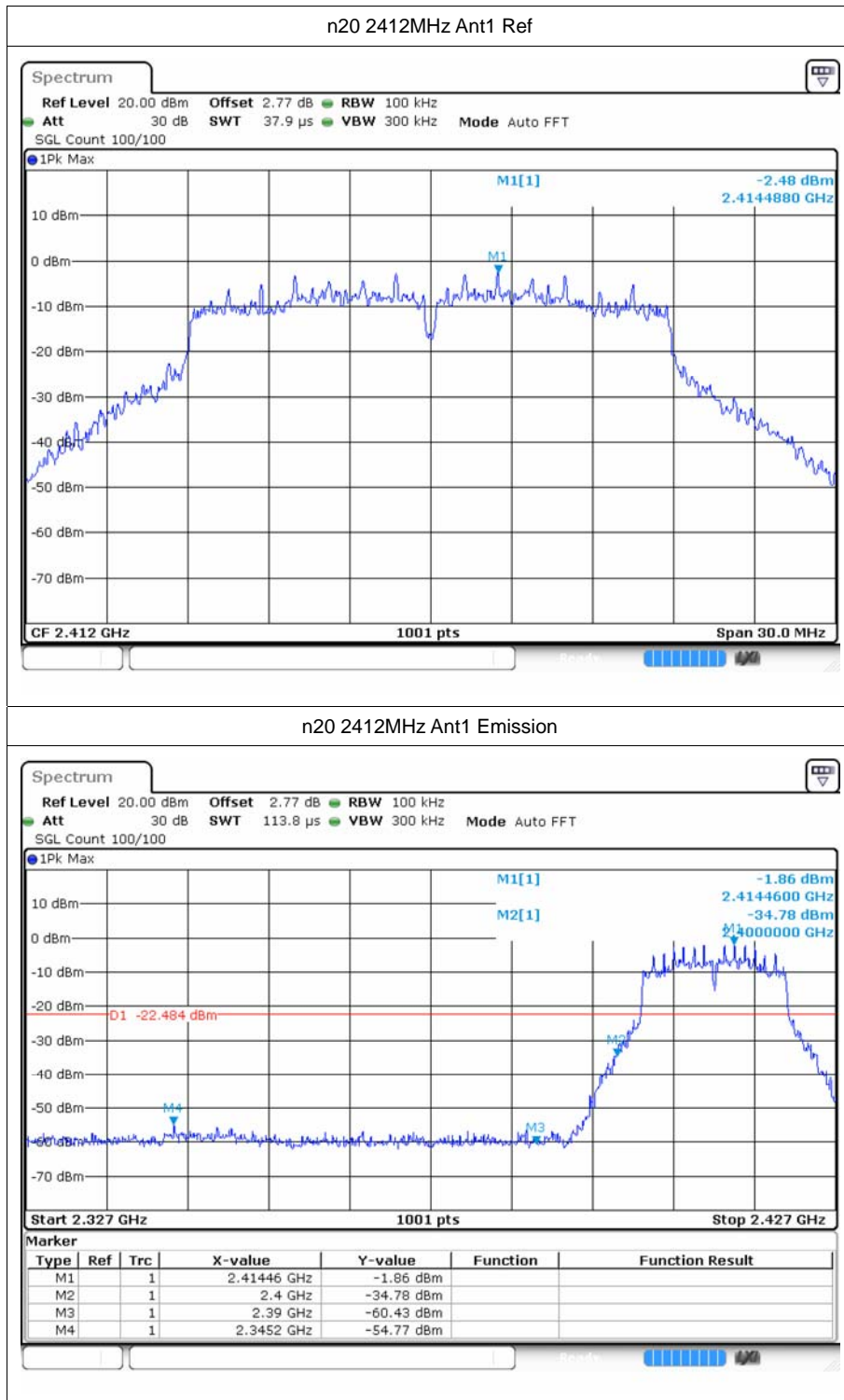
5.2 Test Graphs

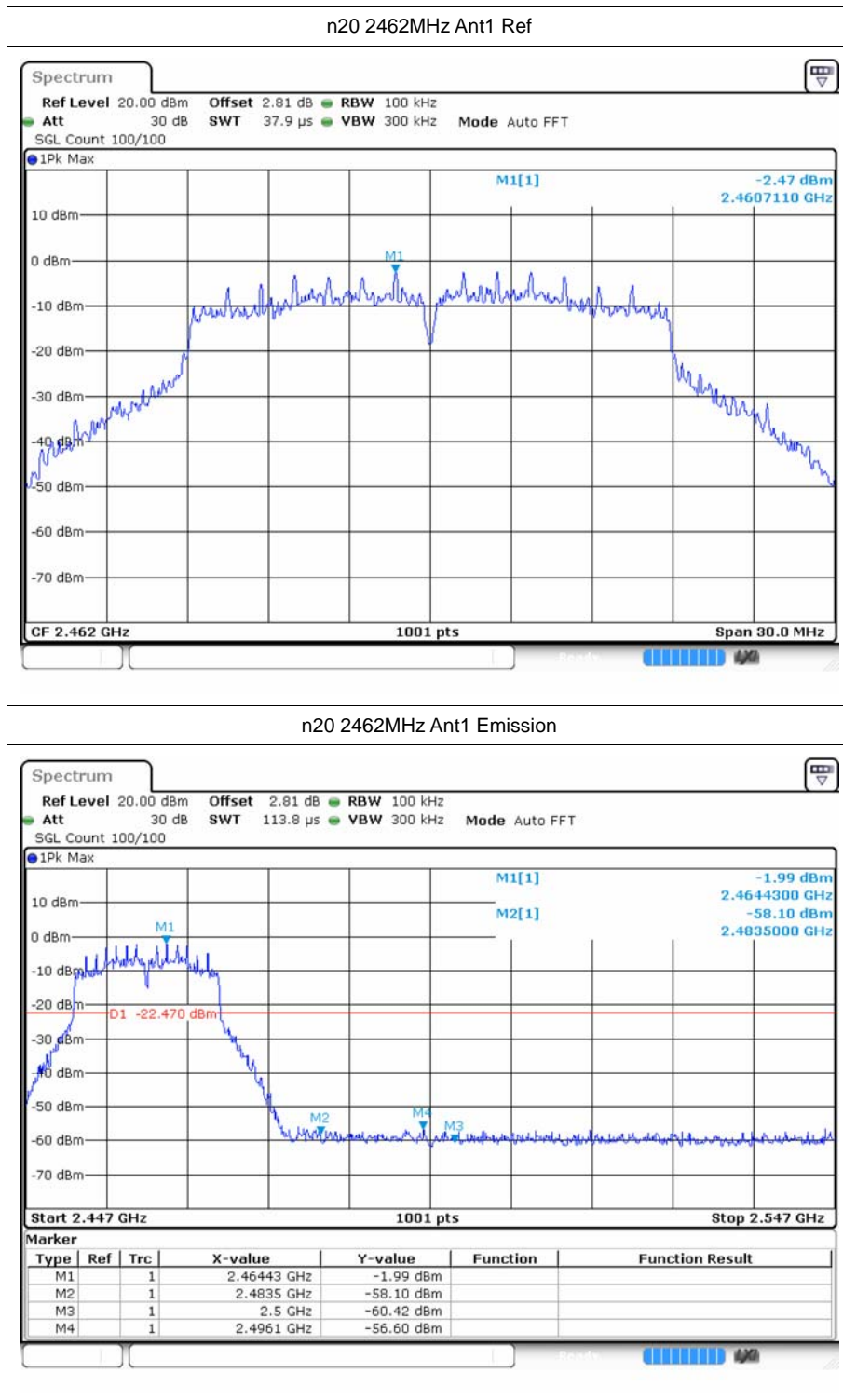


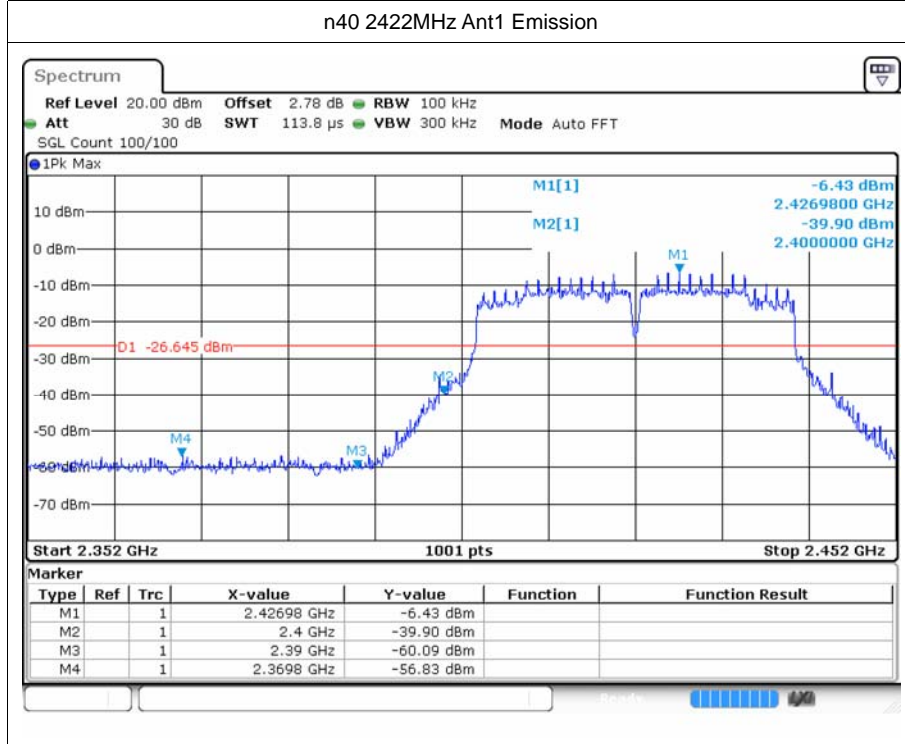
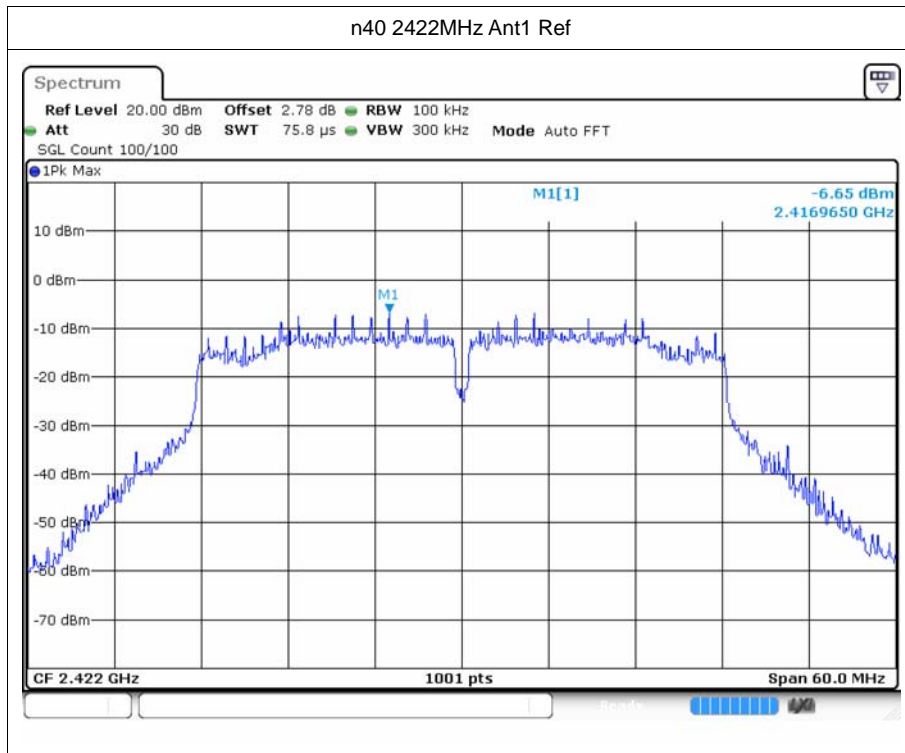


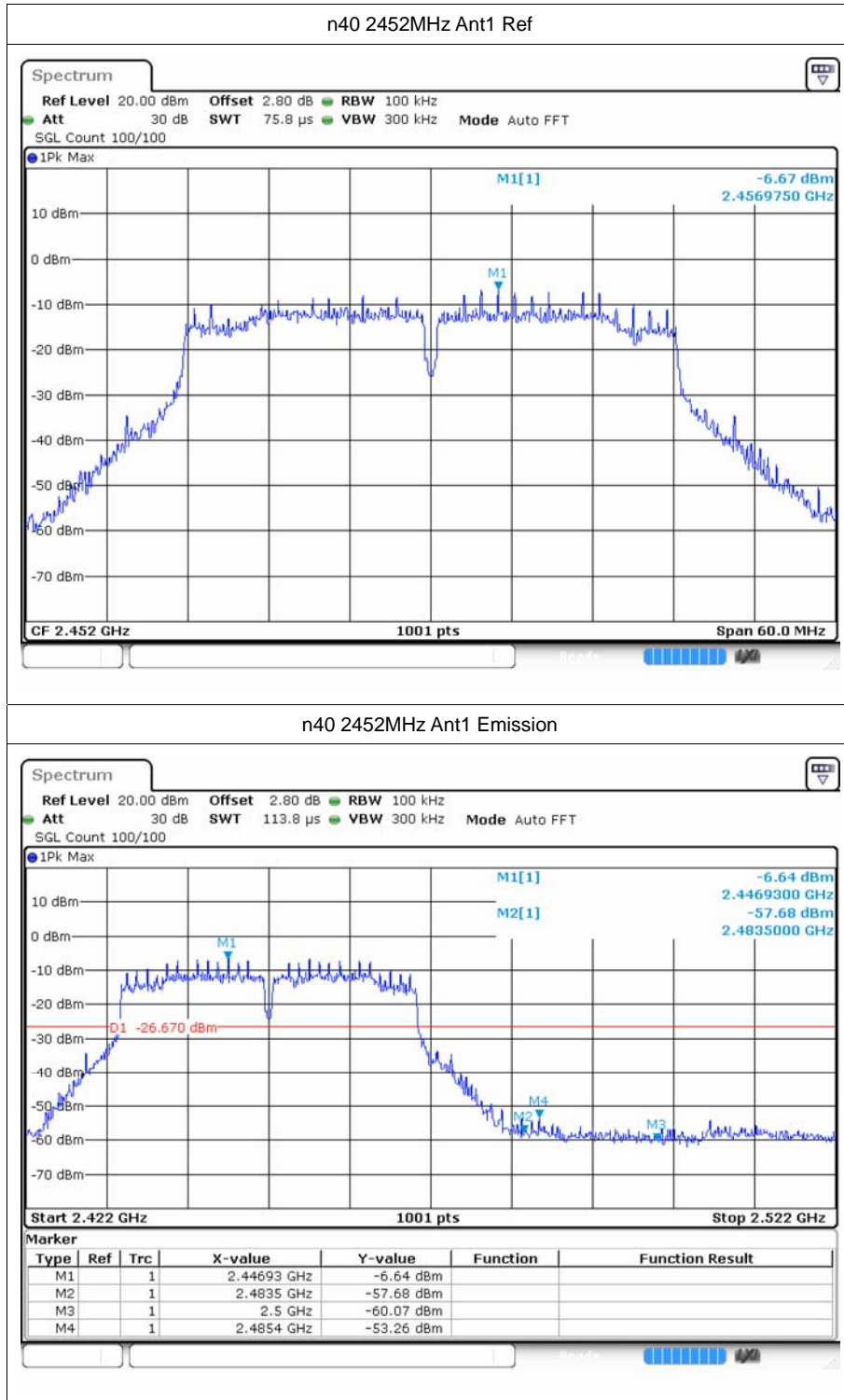












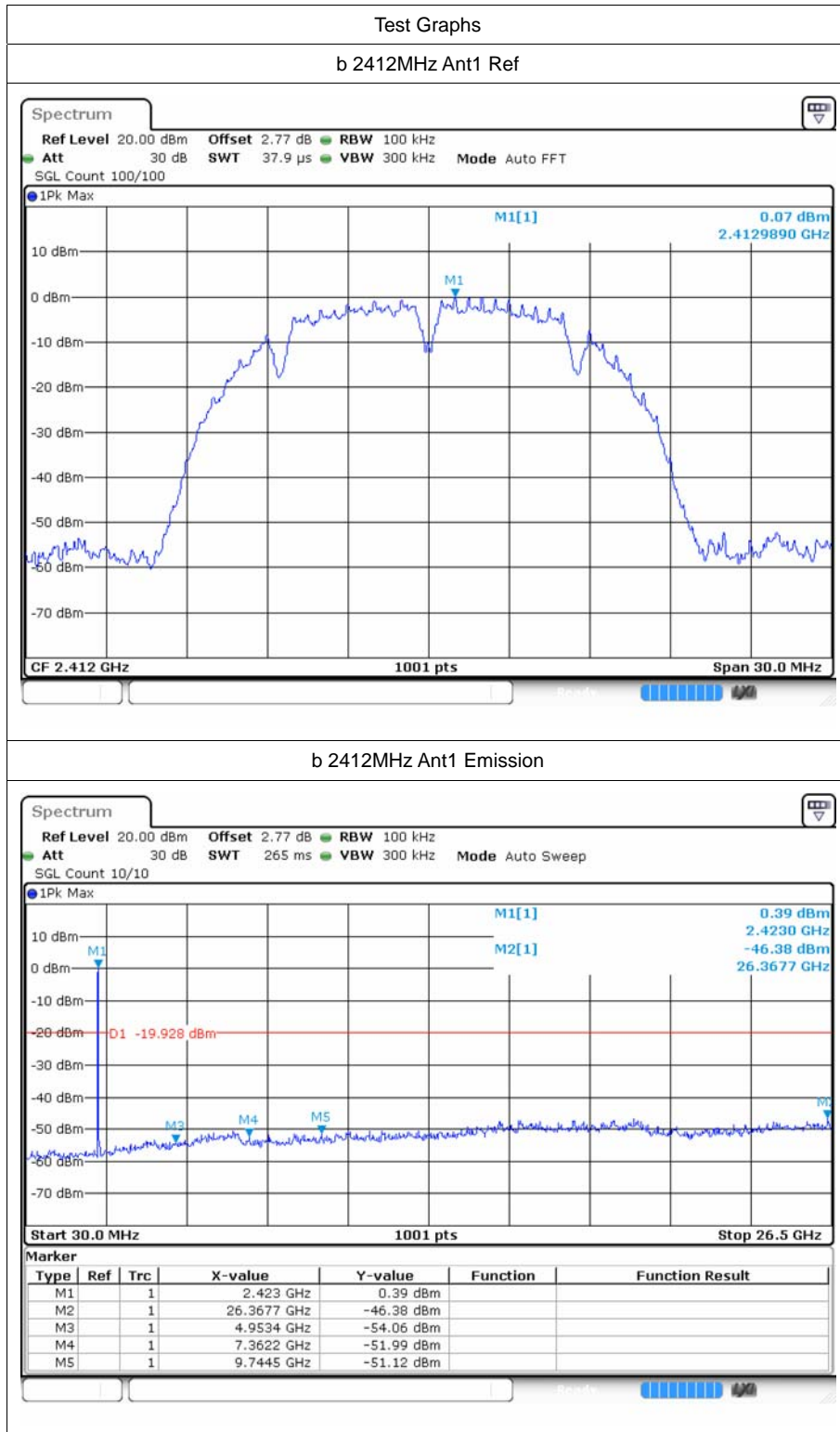


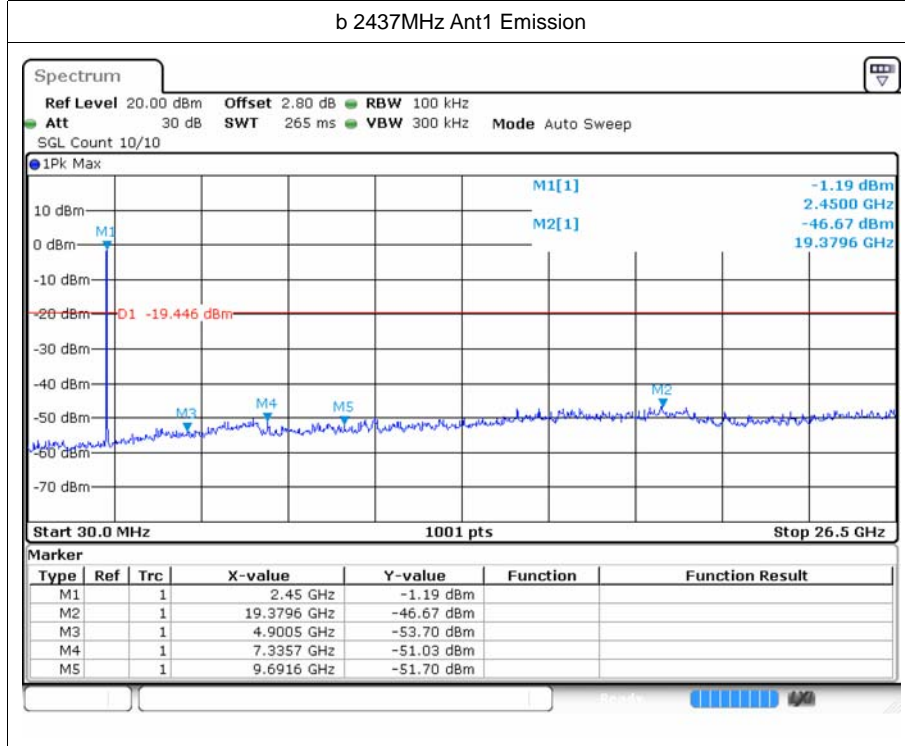
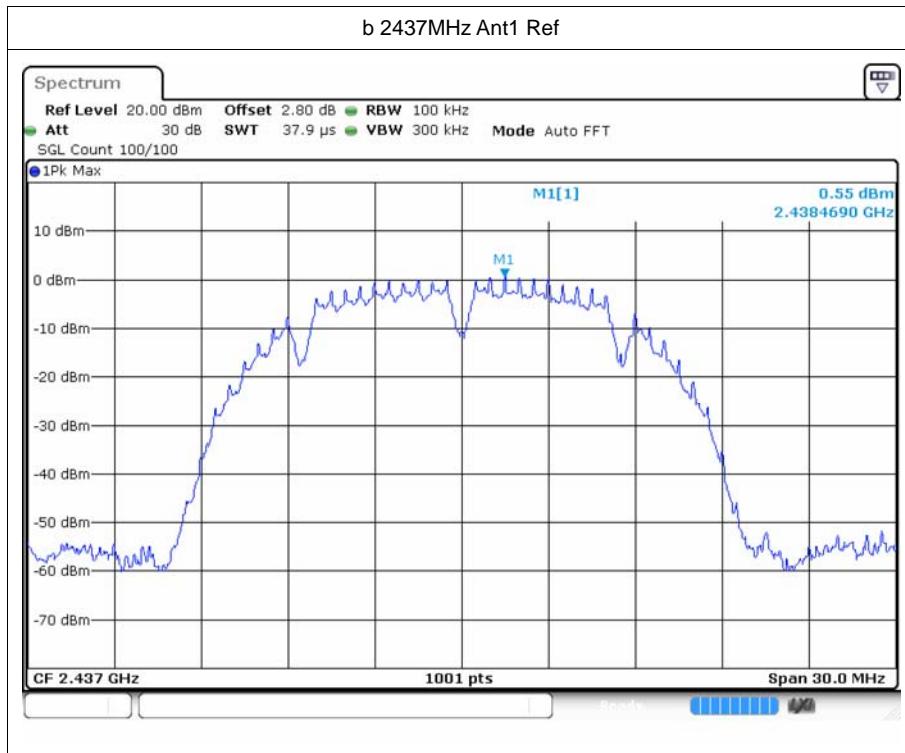
6 Conducted RF Spurious Emission

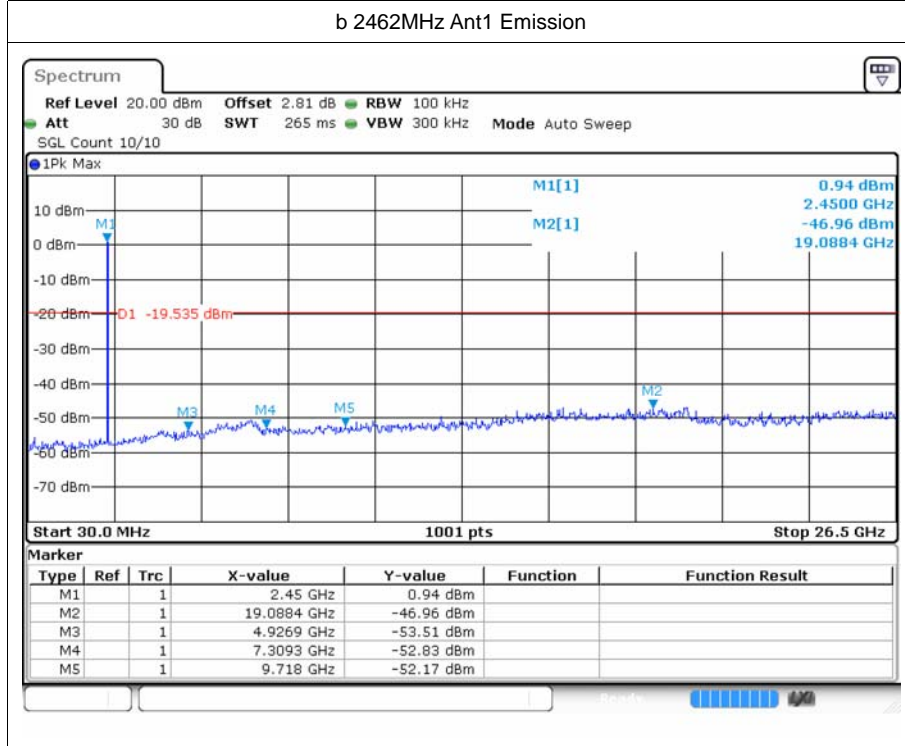
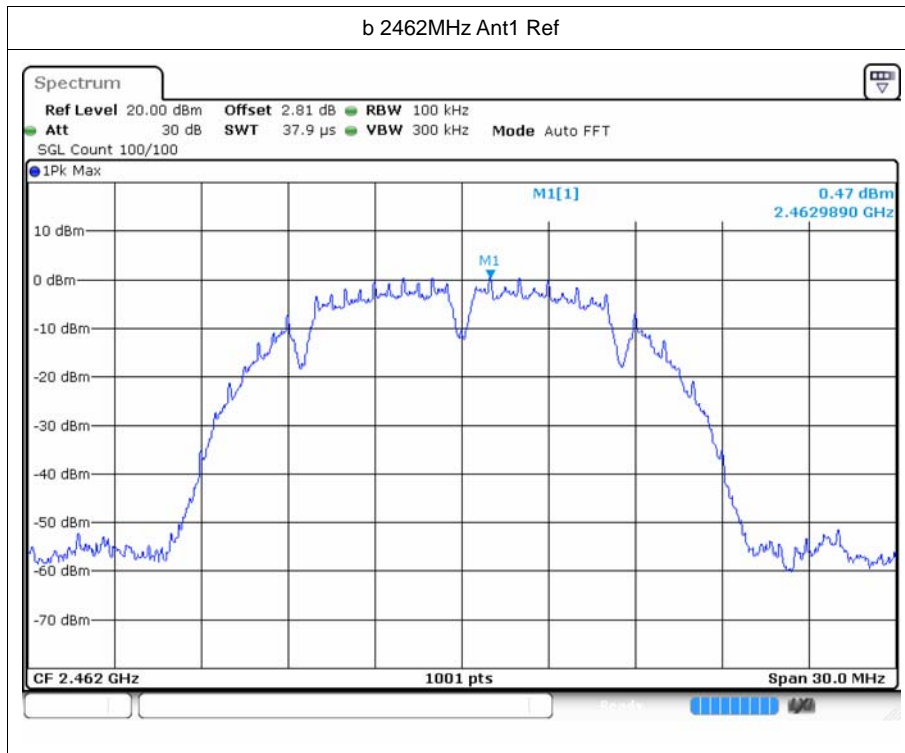
6.1 Test Result

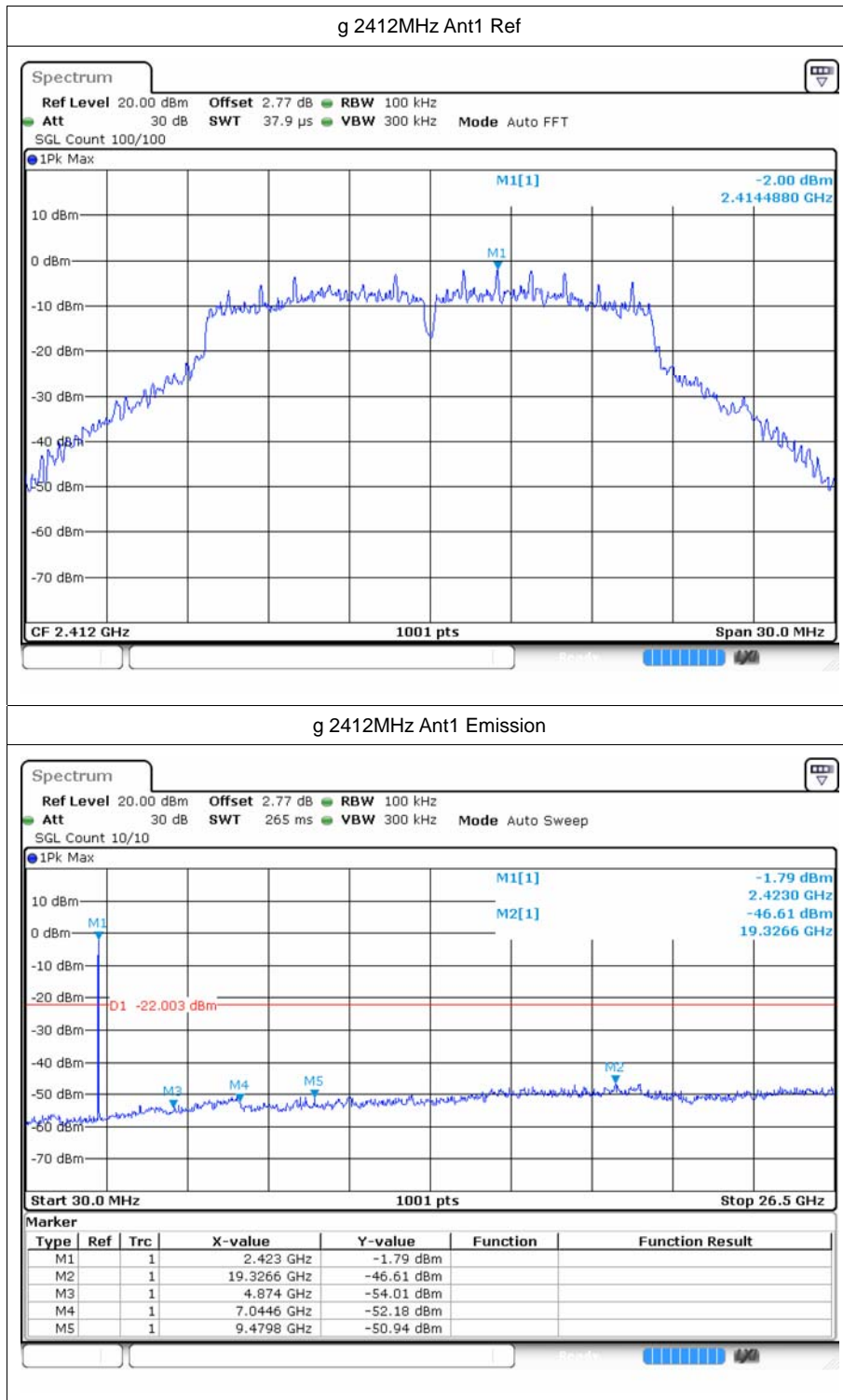
| Mode | Frequency (MHz) | Antenna | Max Value (dBc) | Limit (dBc) | Verdict |
|------|-----------------|---------|-----------------|-------------|---------|
| b | 2412 | Ant1 | -46.44 | -20 | Pass |
| b | 2437 | Ant1 | -47.21 | -20 | Pass |
| b | 2462 | Ant1 | -47.42 | -20 | Pass |
| g | 2412 | Ant1 | -44.61 | -20 | Pass |
| g | 2437 | Ant1 | -44.87 | -20 | Pass |
| g | 2462 | Ant1 | -43.73 | -20 | Pass |
| n20 | 2412 | Ant1 | -43.92 | -20 | Pass |
| n20 | 2437 | Ant1 | -44.81 | -20 | Pass |
| n20 | 2462 | Ant1 | -44.6 | -20 | Pass |
| n40 | 2422 | Ant1 | -40.27 | -20 | Pass |
| n40 | 2437 | Ant1 | -40.17 | -20 | Pass |
| n40 | 2452 | Ant1 | -39.73 | -20 | Pass |

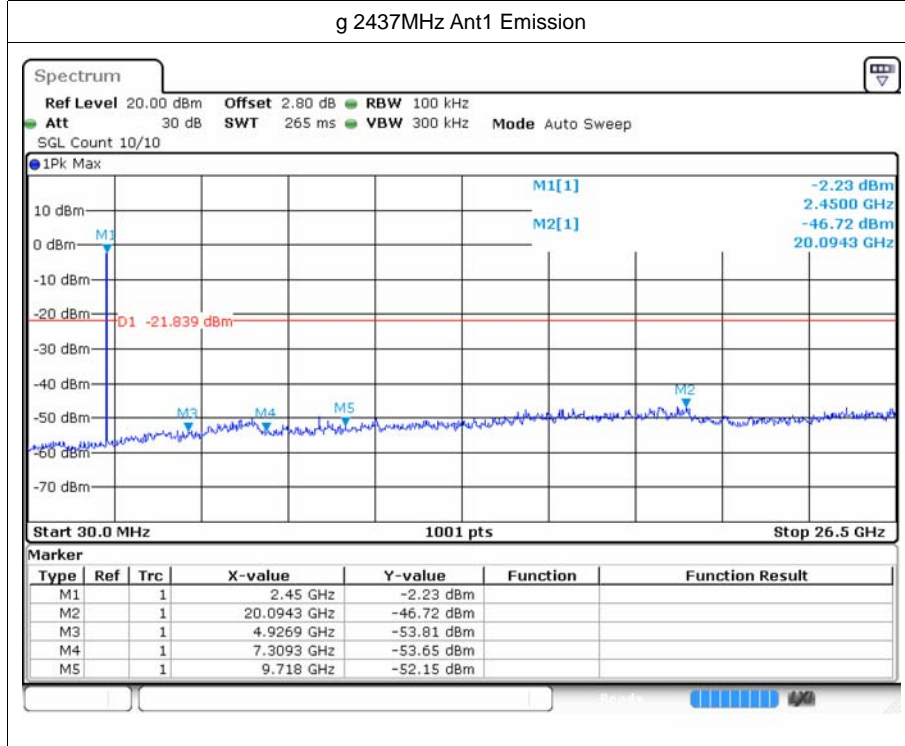
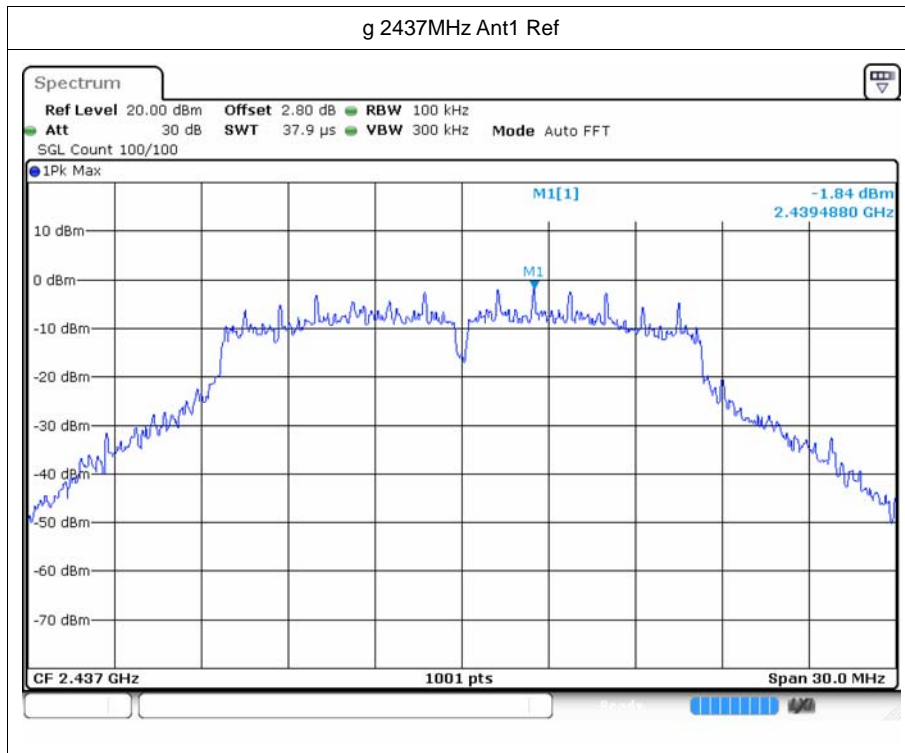
6.2 Test Graphs

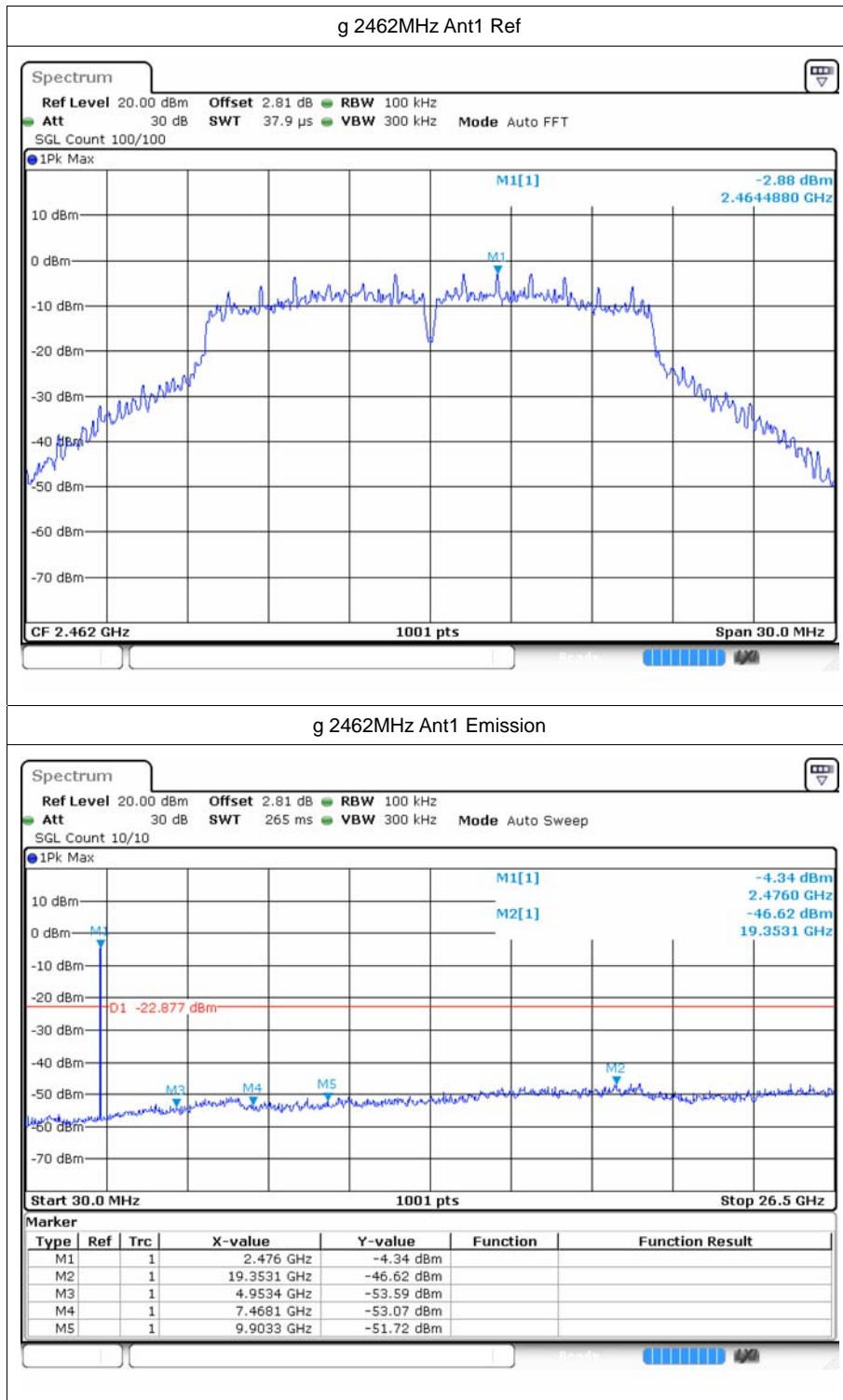


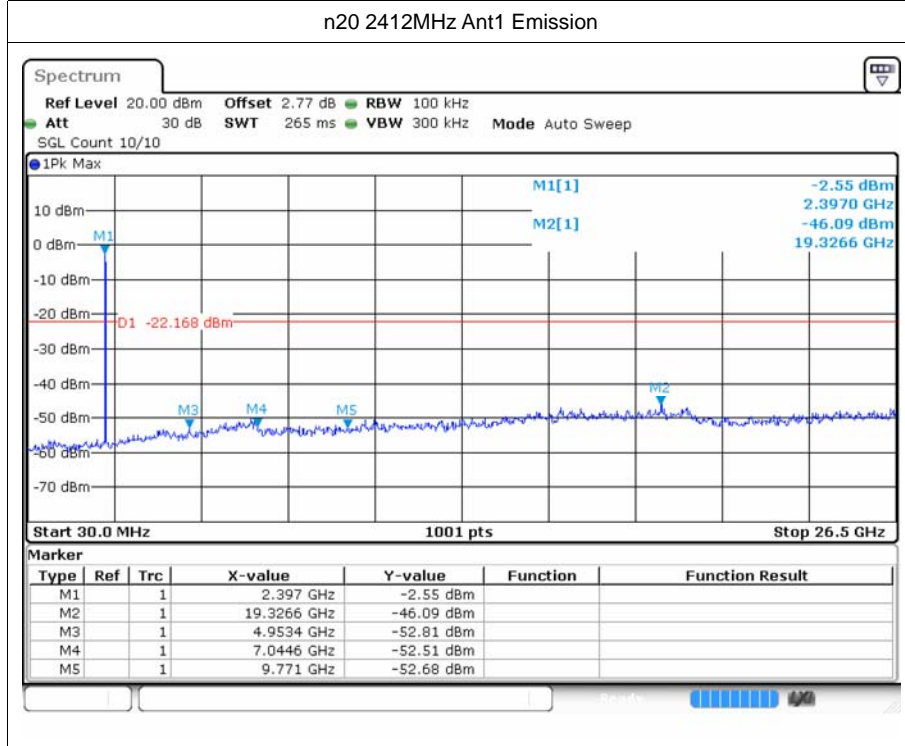
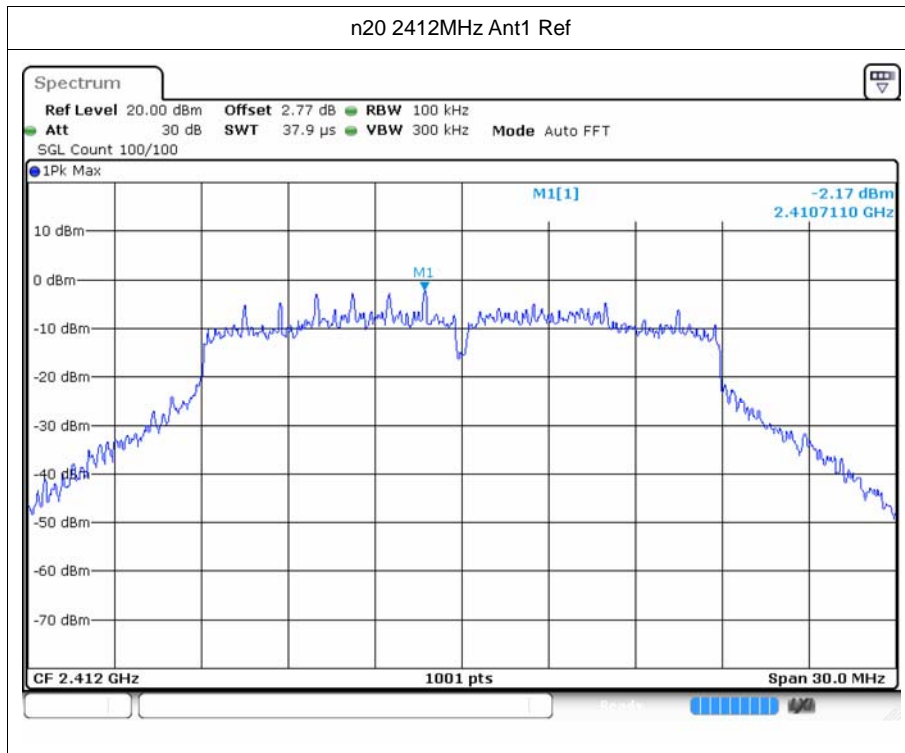


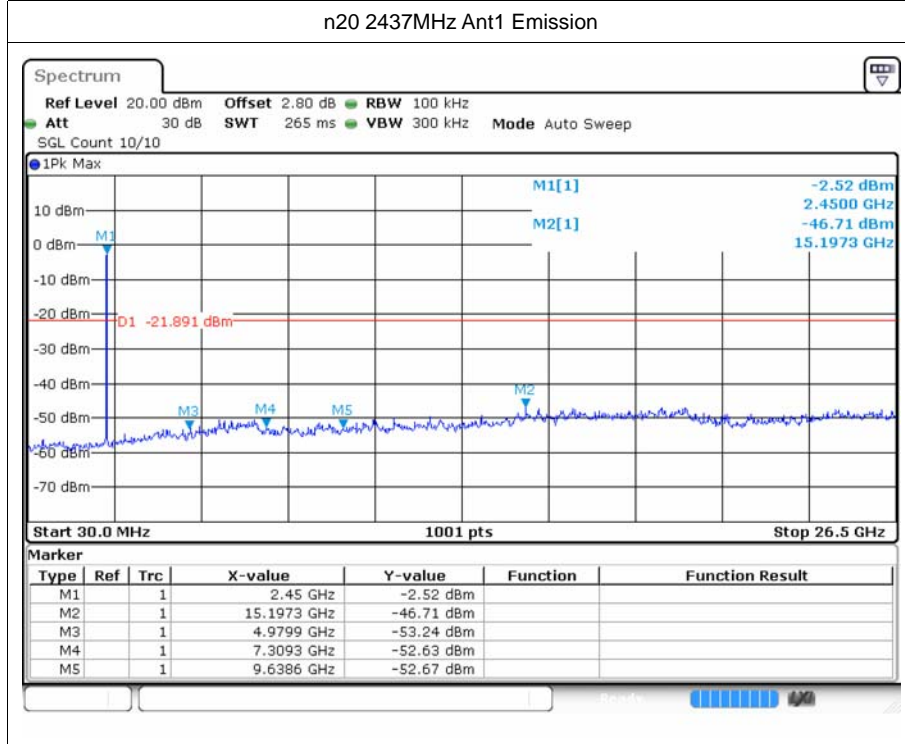
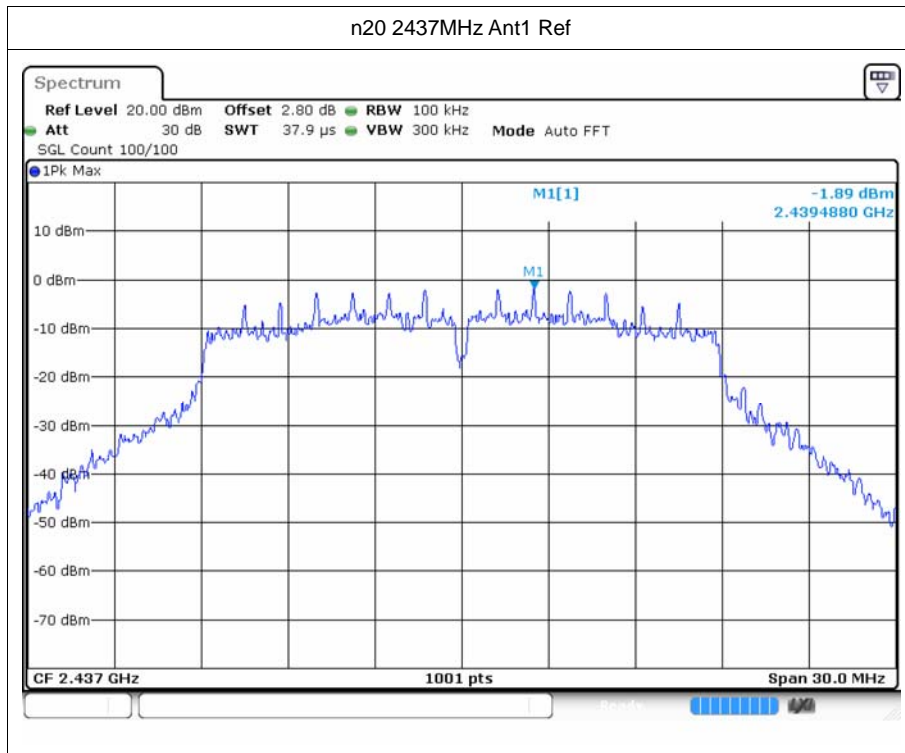


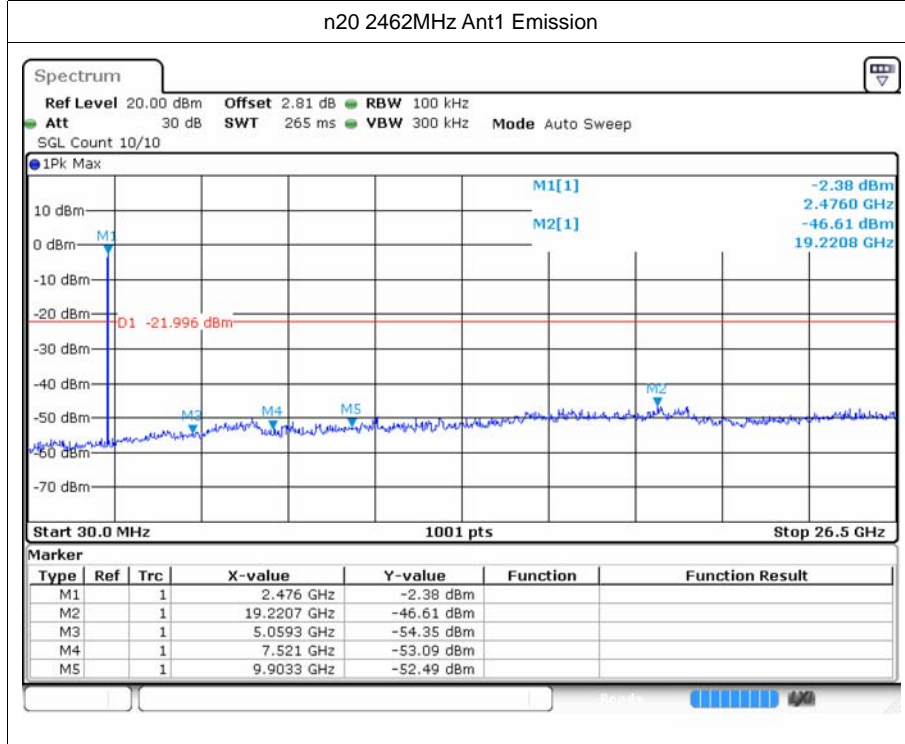
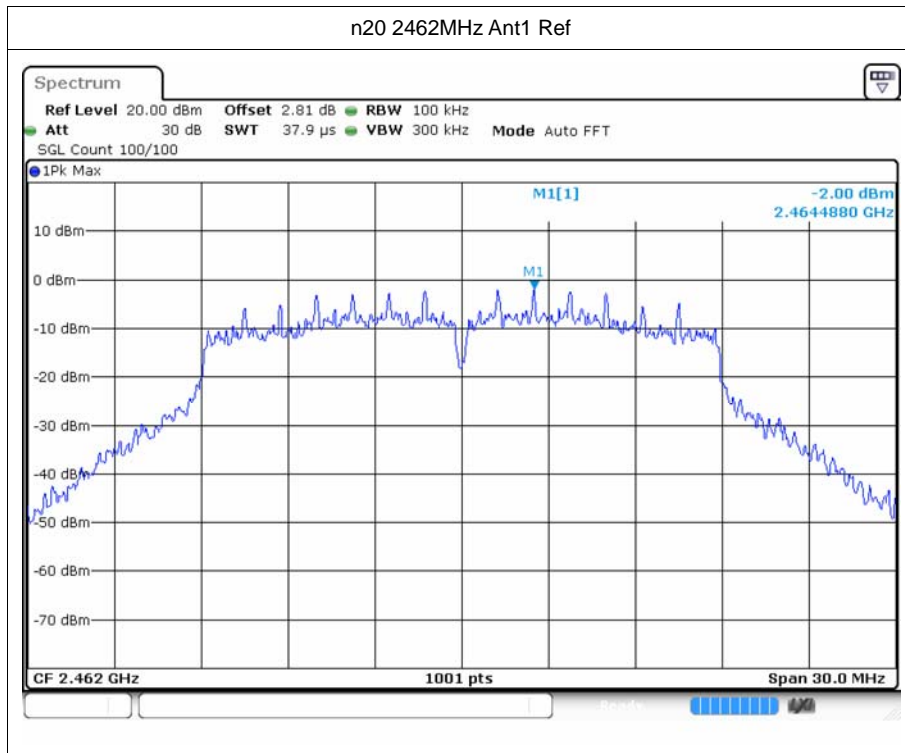


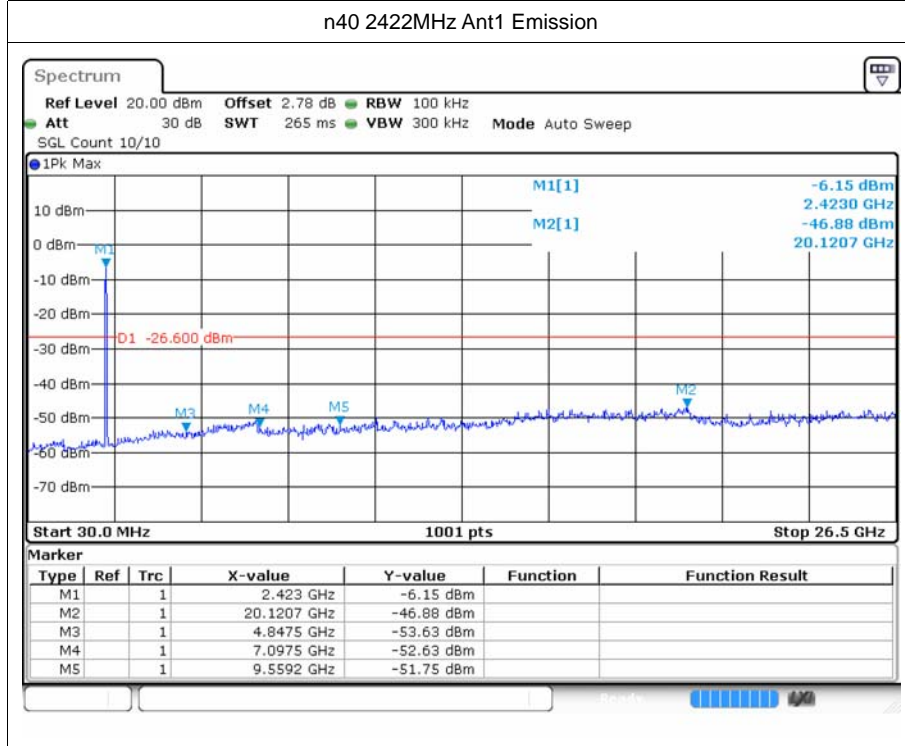
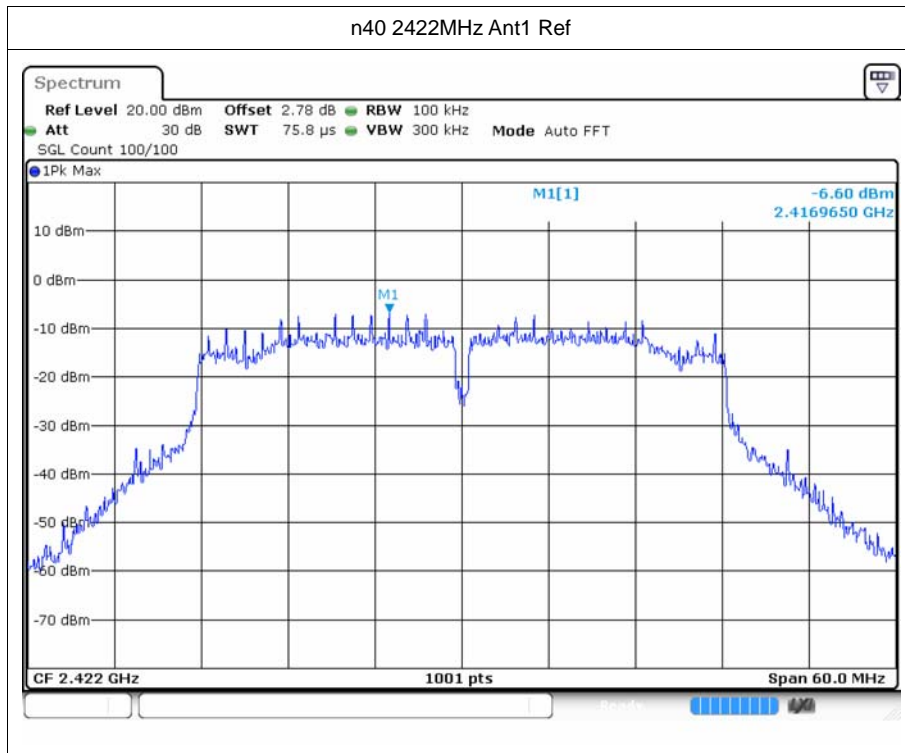


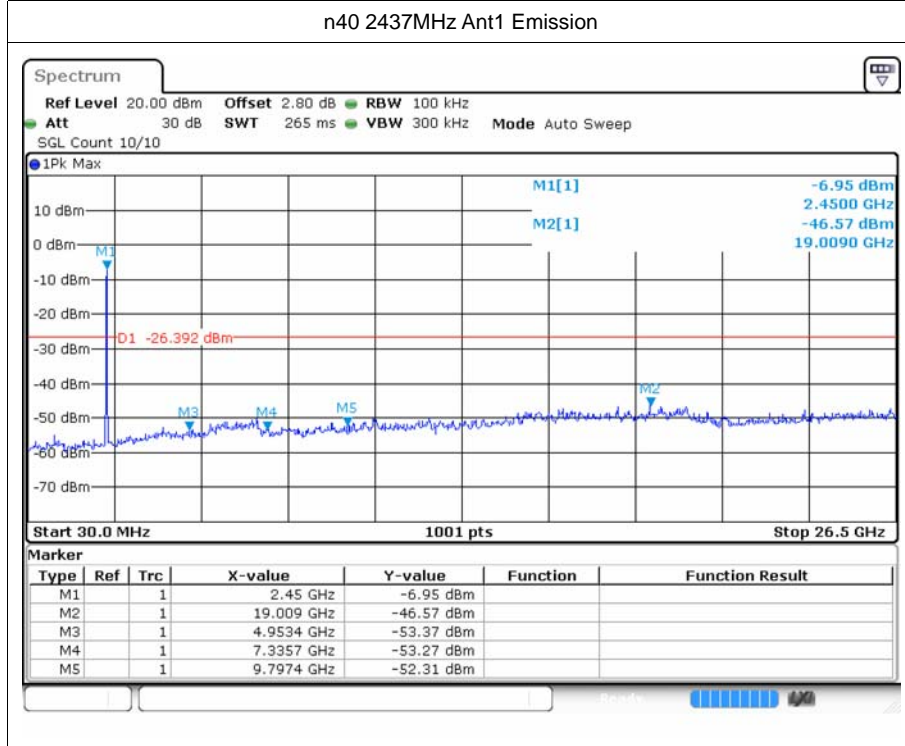
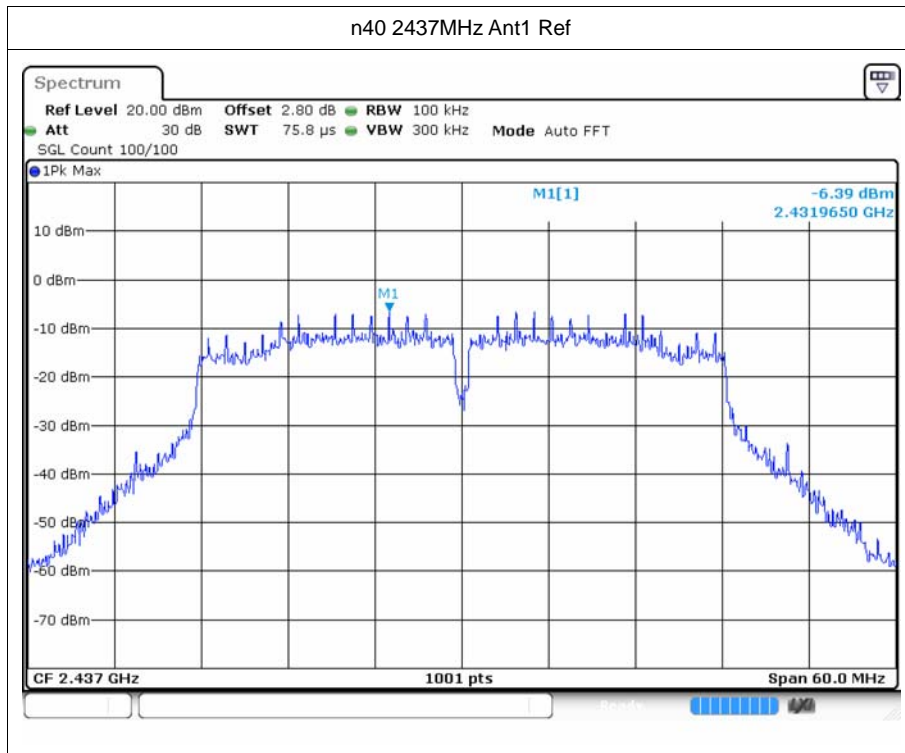


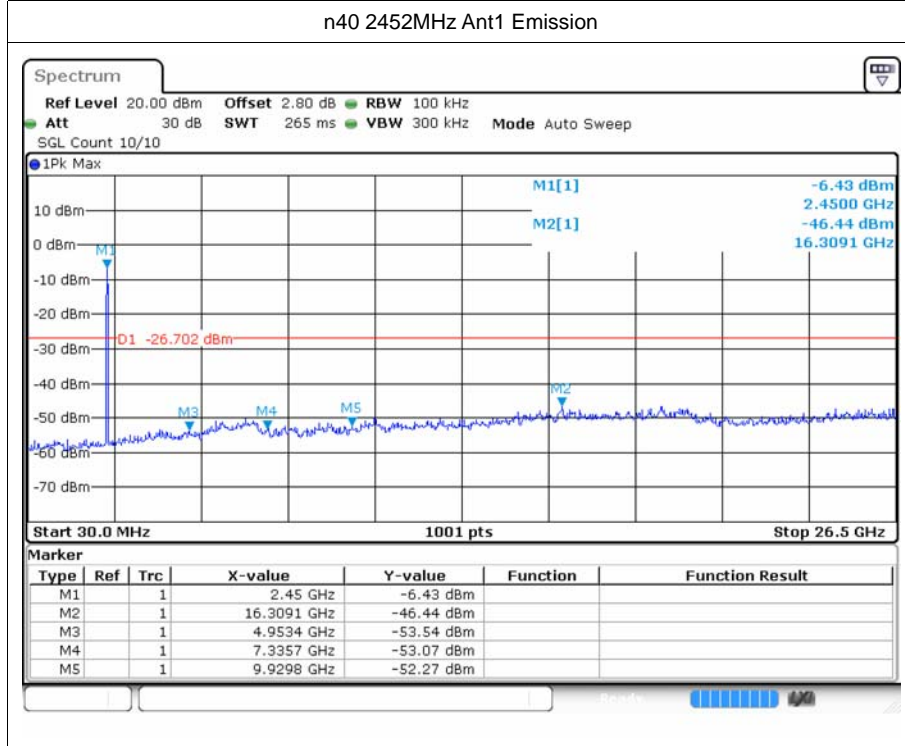
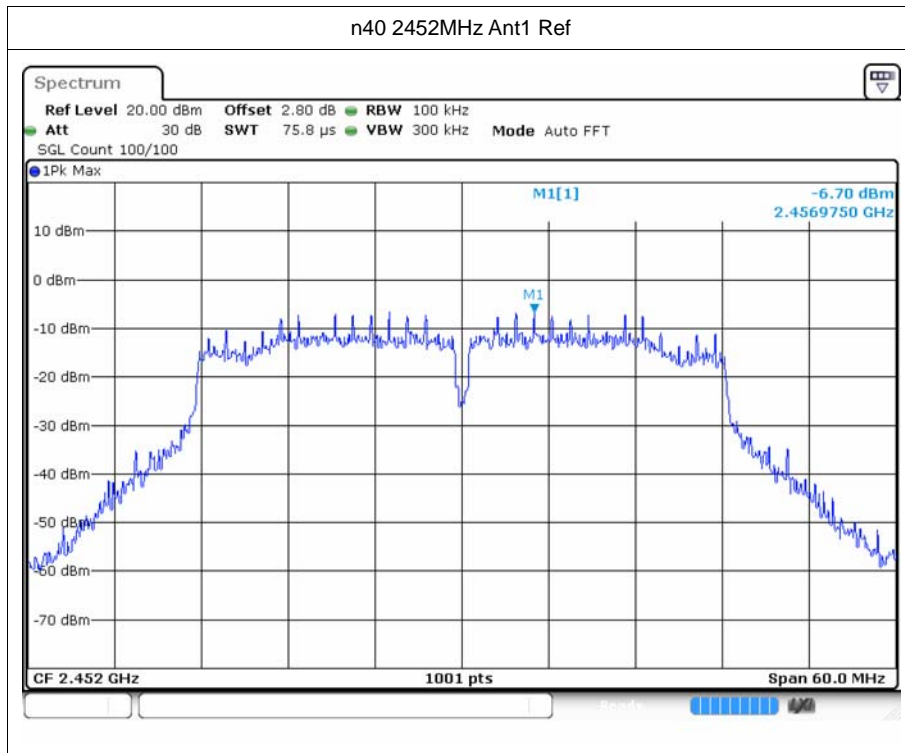














7 Restrict Band

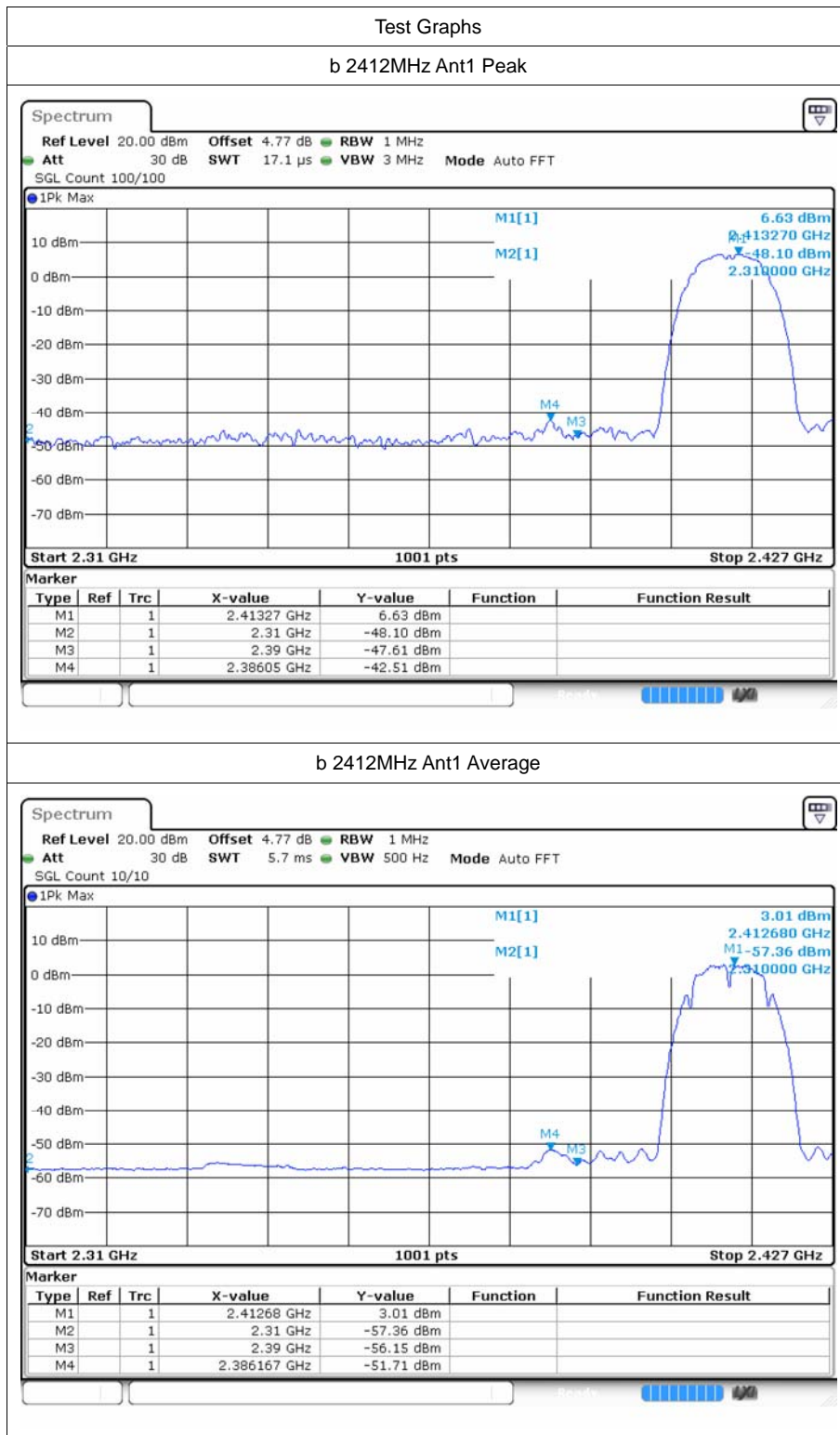
7.1 Test Result

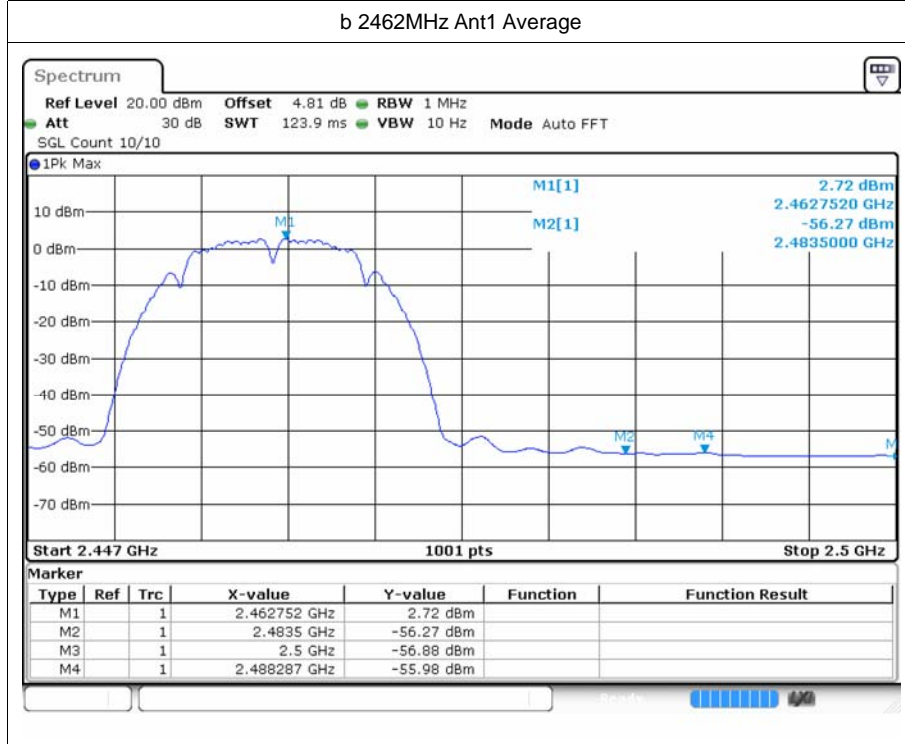
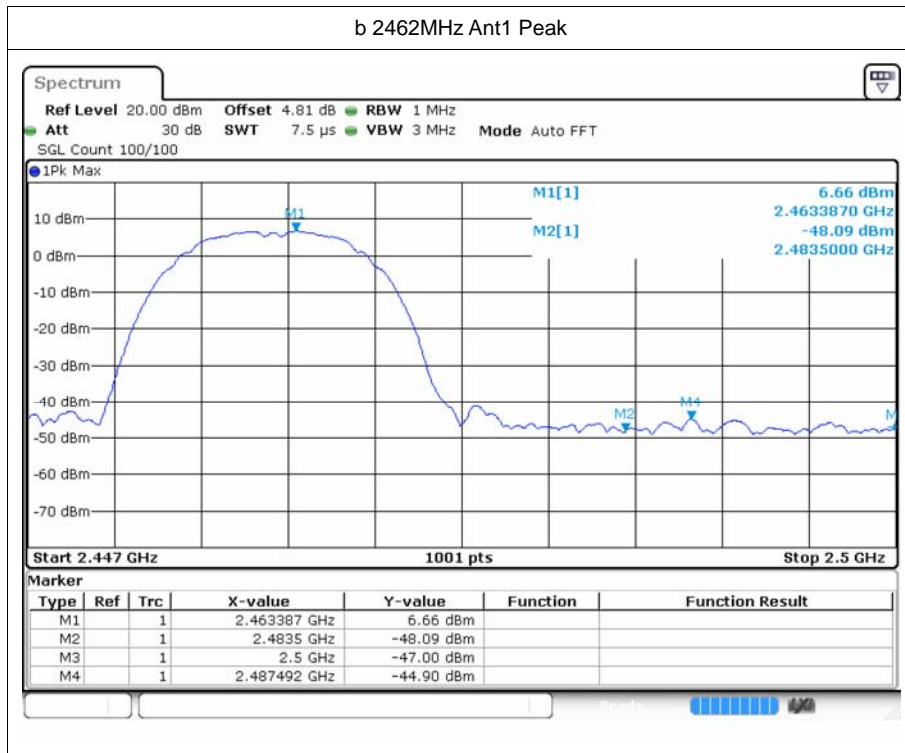
| Mode | Frequency (MHz) | Antenna | Spur Freq (MHz) | Power (dBm) | Gain (dBi) | E (dBuV/m) | Detector | Limit (dBuV/m) | Verdict |
|------|-----------------|---------|-----------------|-------------|------------|------------|----------|----------------|---------|
| b | 2412 | Ant1 | 2310 | -48.09 | 2 | 49.17 | Peak | 74 | Pass |
| b | 2412 | Ant1 | 2310 | -57.35 | 2 | 39.91 | Average | 54 | Pass |
| b | 2412 | Ant1 | 2386.05 | -42.5 | 2 | 54.76 | Peak | 74 | Pass |
| b | 2412 | Ant1 | 2386.167 | -51.7 | 2 | 45.56 | Average | 54 | Pass |
| b | 2412 | Ant1 | 2390 | -47.61 | 2 | 49.65 | Peak | 74 | Pass |
| b | 2412 | Ant1 | 2390 | -56.14 | 2 | 41.12 | Average | 54 | Pass |
| b | 2462 | Ant1 | 2483.5 | -48.09 | 2 | 49.17 | Peak | 74 | 49.17 |
| b | 2462 | Ant1 | 2483.5 | -56.26 | 2 | 41 | Average | 54 | Pass |
| b | 2462 | Ant1 | 2487.492 | -44.89 | 2 | 52.37 | Peak | 74 | Pass |
| b | 2462 | Ant1 | 2488.287 | -55.98 | 2 | 41.28 | Average | 54 | Pass |
| b | 2462 | Ant1 | 2500 | -47 | 2 | 50.26 | Peak | 74 | Pass |
| b | 2462 | Ant1 | 2500 | -56.88 | 2 | 40.38 | Average | 54 | Pass |
| g | 2412 | Ant1 | 2310 | -49.22 | 2 | 48.04 | Peak | 74 | Pass |
| g | 2412 | Ant1 | 2310 | -56.3 | 2 | 40.96 | Average | 54 | Pass |
| g | 2412 | Ant1 | 2337.846 | -45 | 2 | 52.26 | Peak | 74 | Pass |
| g | 2412 | Ant1 | 2338.197 | -54.16 | 2 | 43.1 | Average | 54 | Pass |
| g | 2412 | Ant1 | 2390 | -48.48 | 2 | 49.65 | Peak | 74 | Pass |
| g | 2412 | Ant1 | 2390 | -56.41 | 2 | 40.85 | Average | 54 | Pass |
| g | 2462 | Ant1 | 2483.5 | -47.34 | 2 | 49.92 | Peak | 74 | Pass |
| g | 2462 | Ant1 | 2483.5 | -55.26 | 2 | 42 | Average | 54 | Pass |
| g | 2462 | Ant1 | 2487.492 | -45.61 | 2 | 51.65 | Peak | 74 | Pass |
| g | 2462 | Ant1 | 2485.531 | -55.07 | 2 | 42.19 | Average | 54 | Pass |
| g | 2462 | Ant1 | 2500 | -45.78 | 2 | 50.26 | Peak | 74 | Pass |
| g | 2462 | Ant1 | 2500 | -55.7 | 2 | 41.56 | Average | 54 | Pass |
| n20 | 2412 | Ant1 | 2310 | -49.85 | 2 | 47.41 | Peak | 74 | Pass |
| n20 | 2412 | Ant1 | 2310 | -56.3 | 2 | 40.96 | Average | 54 | Pass |
| n20 | 2412 | Ant1 | 2388.624 | -44.25 | 2 | 53.01 | Peak | 74 | Pass |
| n20 | 2412 | Ant1 | 2338.08 | -54.13 | 2 | 43.13 | Average | 54 | Pass |
| n20 | 2412 | Ant1 | 2390 | -47.98 | 2 | 49.28 | Peak | 74 | Pass |
| n20 | 2412 | Ant1 | 2390 | -56.11 | 2 | 41.15 | Average | 54 | Pass |
| n20 | 2462 | Ant1 | 2483.5 | -47.35 | 2 | 49.91 | Peak | 74 | Pass |
| n20 | 2462 | Ant1 | 2483.5 | -55.56 | 2 | 41.7 | Average | 54 | Pass |
| n20 | 2462 | Ant1 | 2494.965 | -44.25 | 2 | 53.01 | Peak | 74 | Pass |
| n20 | 2462 | Ant1 | 2484.524 | -55.11 | 2 | 42.15 | Average | 54 | Pass |

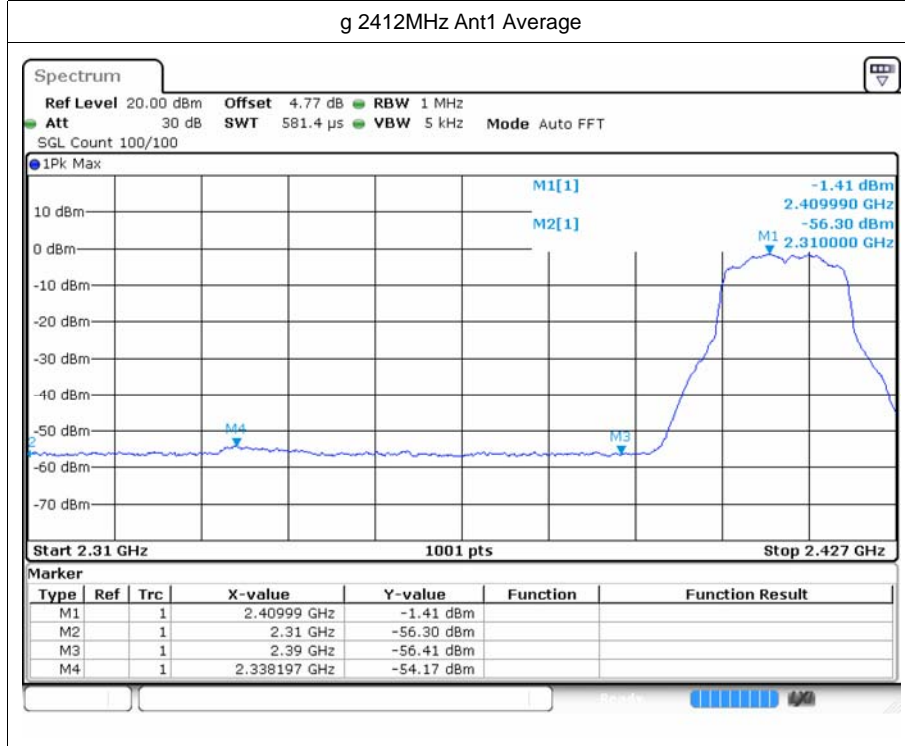
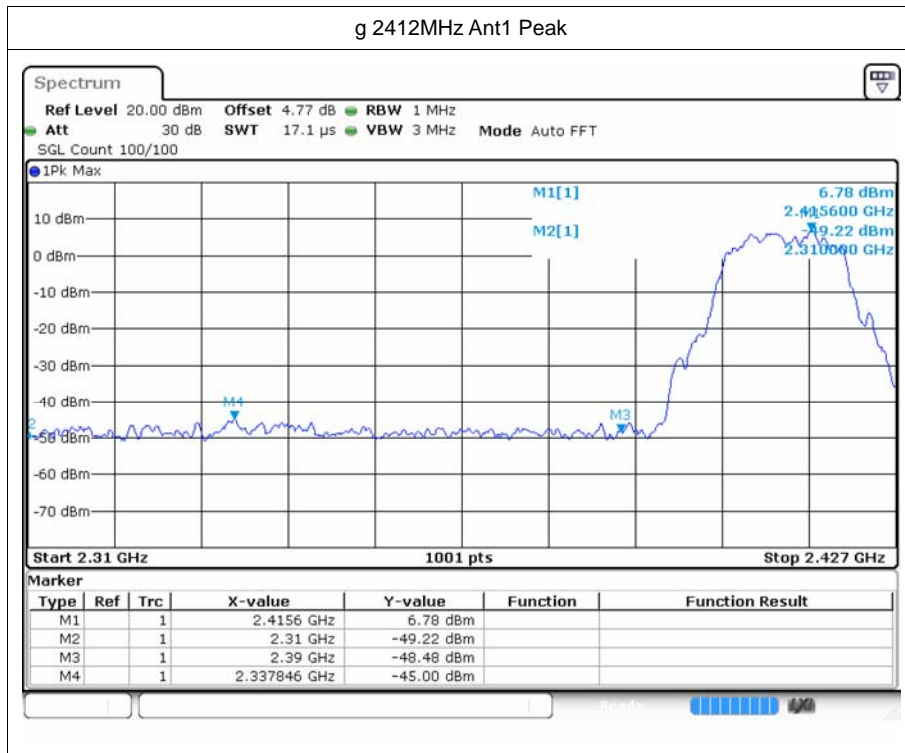


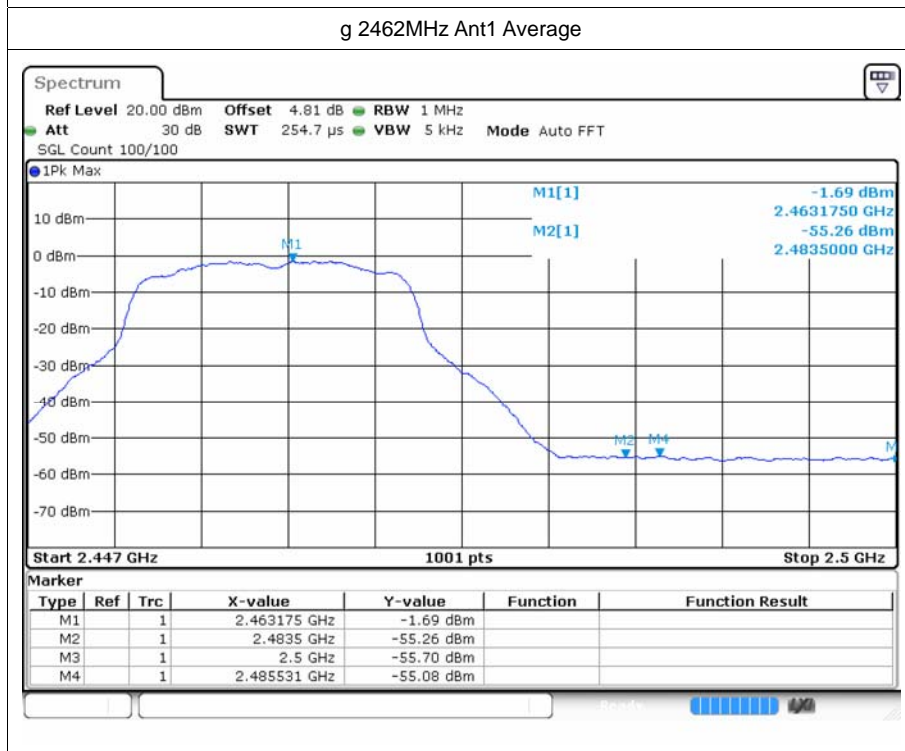
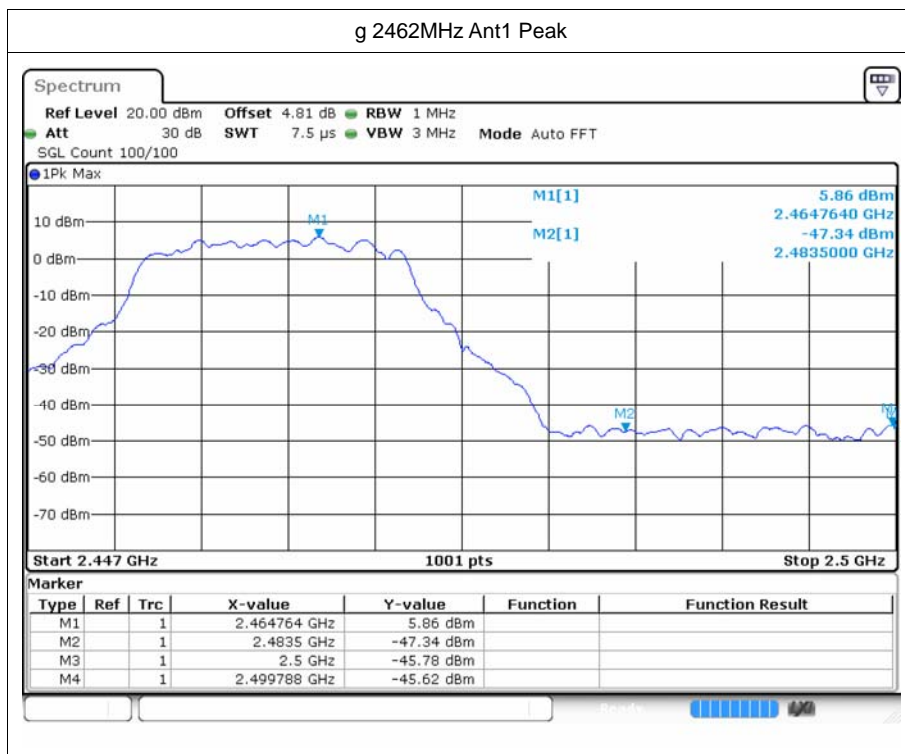
| | | | | | | | | | |
|-----|------|------|----------|--------|---|-------|---------|----|------|
| n20 | 2462 | Ant1 | 2500 | -47.89 | 2 | 49.37 | Peak | 74 | Pass |
| n20 | 2462 | Ant1 | 2500 | -55.99 | 2 | 41.27 | Average | 54 | Pass |
| n40 | 2422 | Ant1 | 2310 | -49.22 | 2 | 48.04 | Peak | 74 | Pass |
| n40 | 2422 | Ant1 | 2310 | -55.97 | 2 | 41.29 | Average | 54 | Pass |
| n40 | 2422 | Ant1 | 2345.074 | -44.84 | 2 | 52.42 | Peak | 74 | Pass |
| n40 | 2422 | Ant1 | 2341.382 | -53.96 | 2 | 43.3 | Average | 54 | Pass |
| n40 | 2422 | Ant1 | 2390 | -47.06 | 2 | 50.2 | Peak | 74 | Pass |
| n40 | 2422 | Ant1 | 2390 | -56.17 | 2 | 41.09 | Average | 54 | Pass |
| n40 | 2452 | Ant1 | 2483.5 | -46.57 | 2 | 50.69 | Peak | 74 | Pass |
| n40 | 2452 | Ant1 | 2483.5 | -53.83 | 2 | 43.43 | Average | 54 | Pass |
| n40 | 2452 | Ant1 | 2484.166 | -44.85 | 2 | 52.41 | Peak | 74 | Pass |
| n40 | 2452 | Ant1 | 2484.478 | -53.73 | 2 | 43.53 | Average | 54 | Pass |
| n40 | 2452 | Ant1 | 2500 | -46.08 | 2 | 51.18 | Peak | 74 | Pass |
| n40 | 2452 | Ant1 | 2500 | -55.29 | 2 | 41.97 | Average | 54 | Pass |

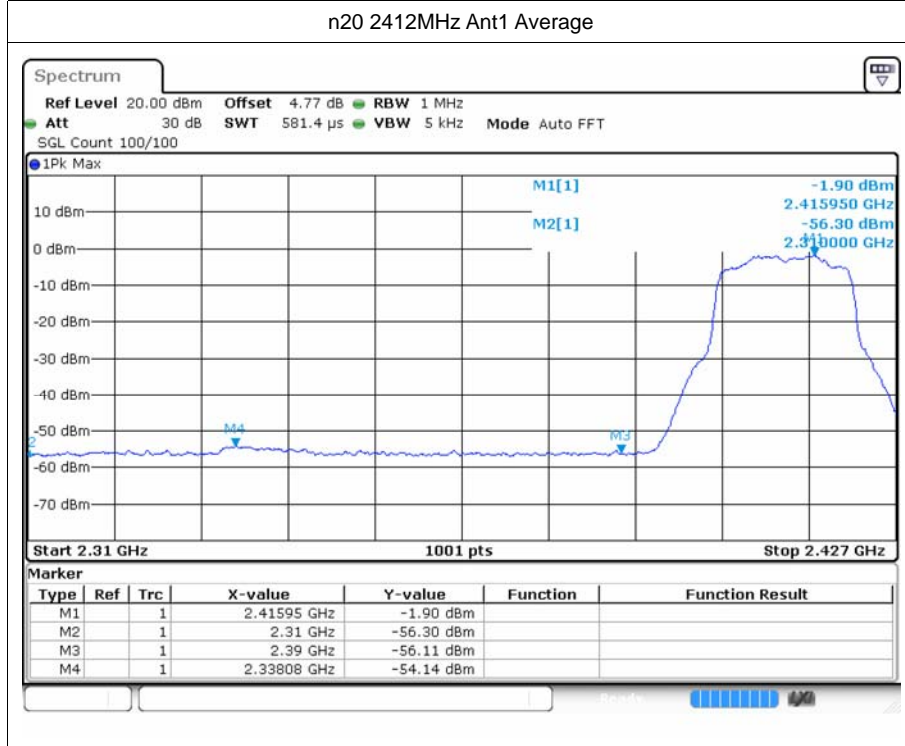
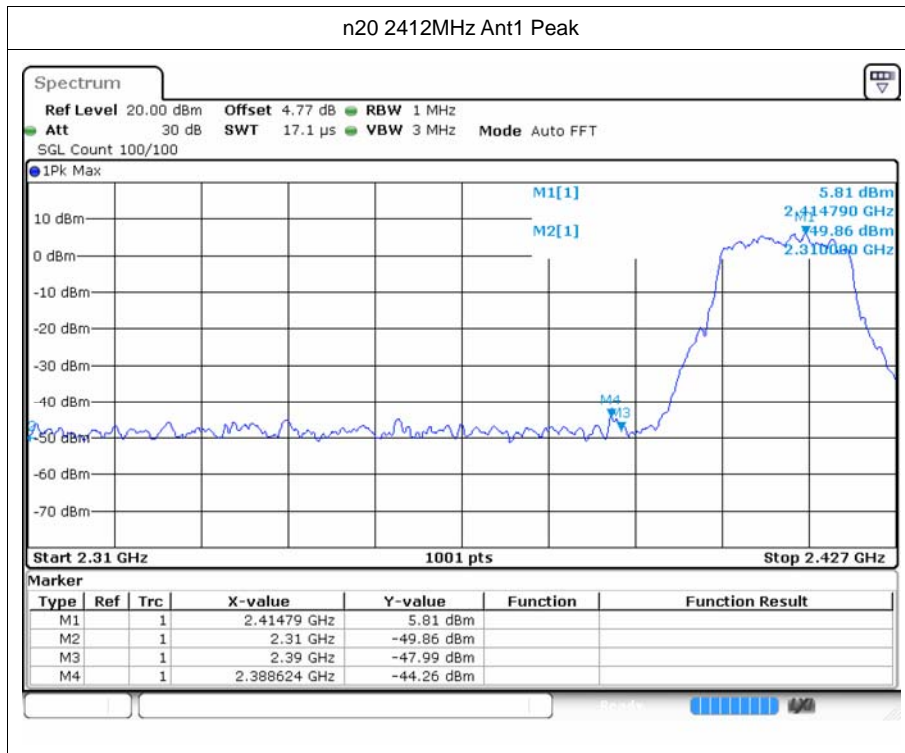
7.2 Test Graphs

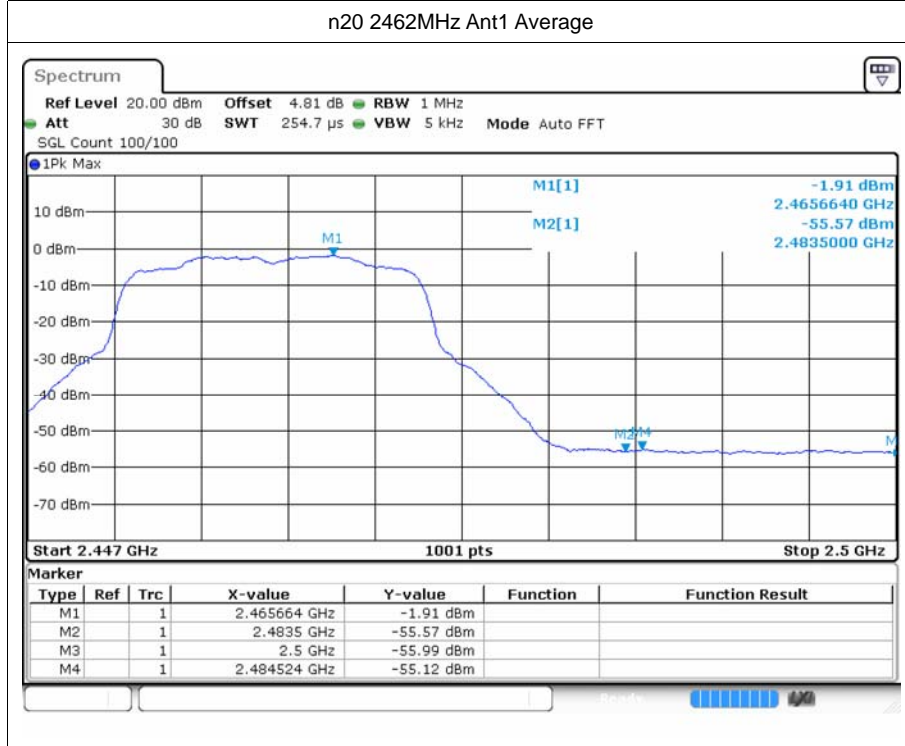
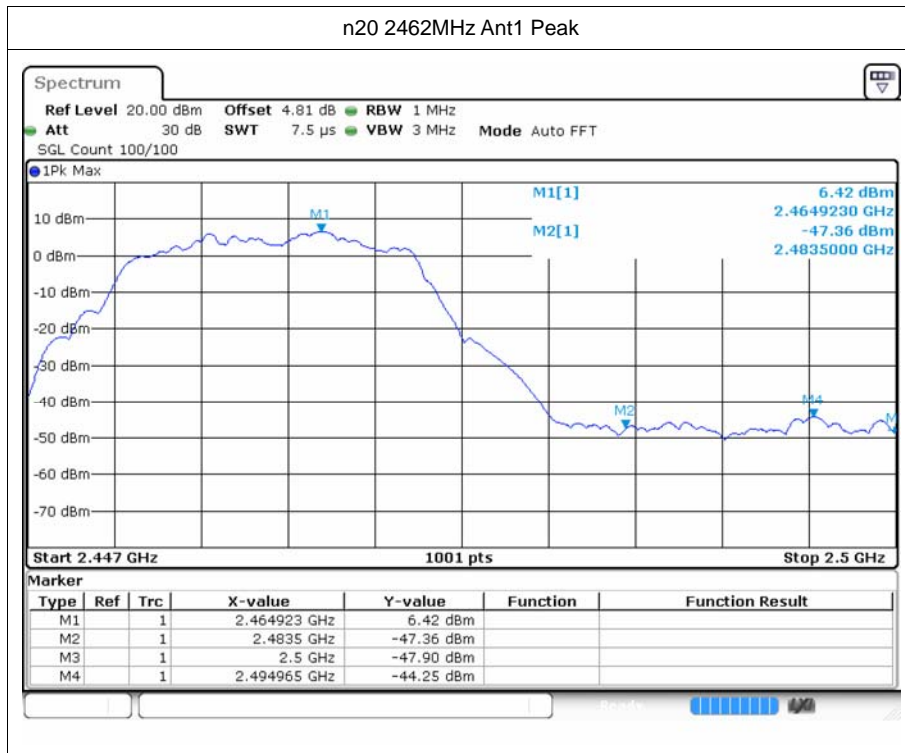


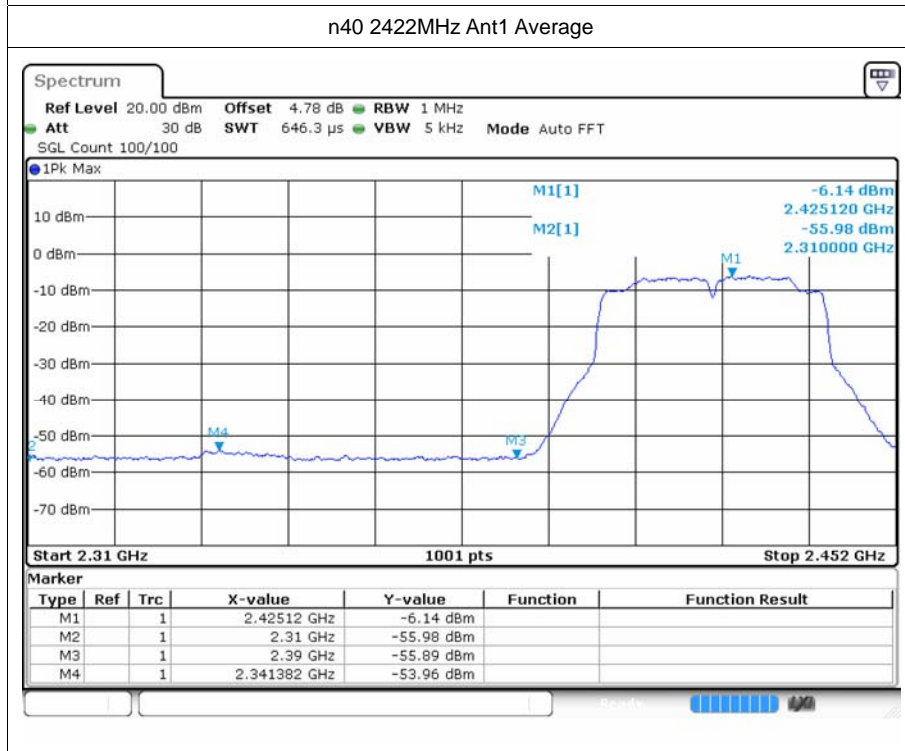
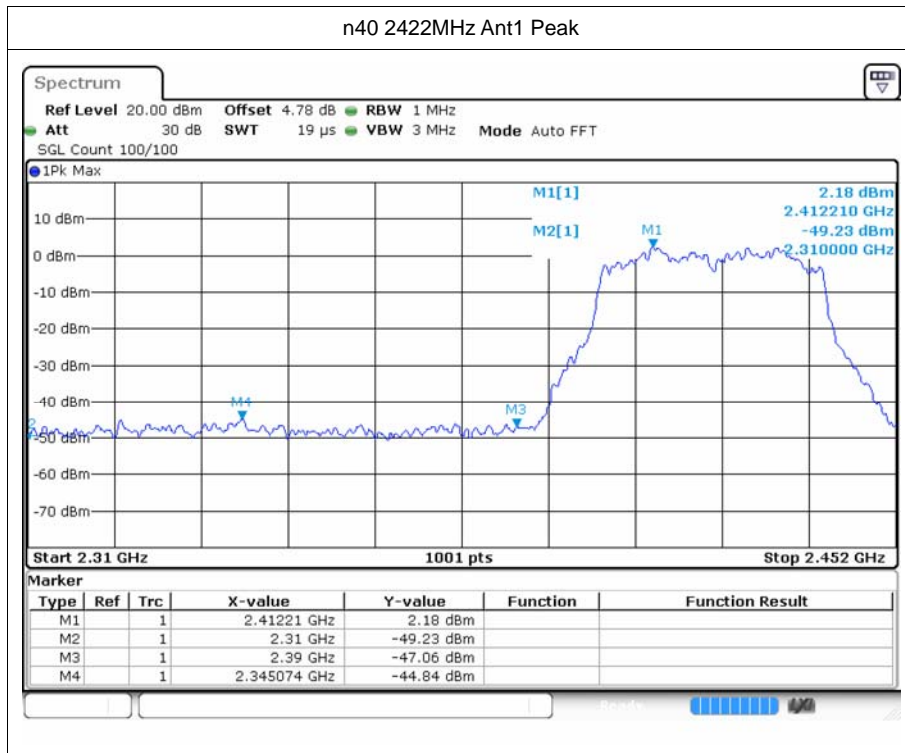


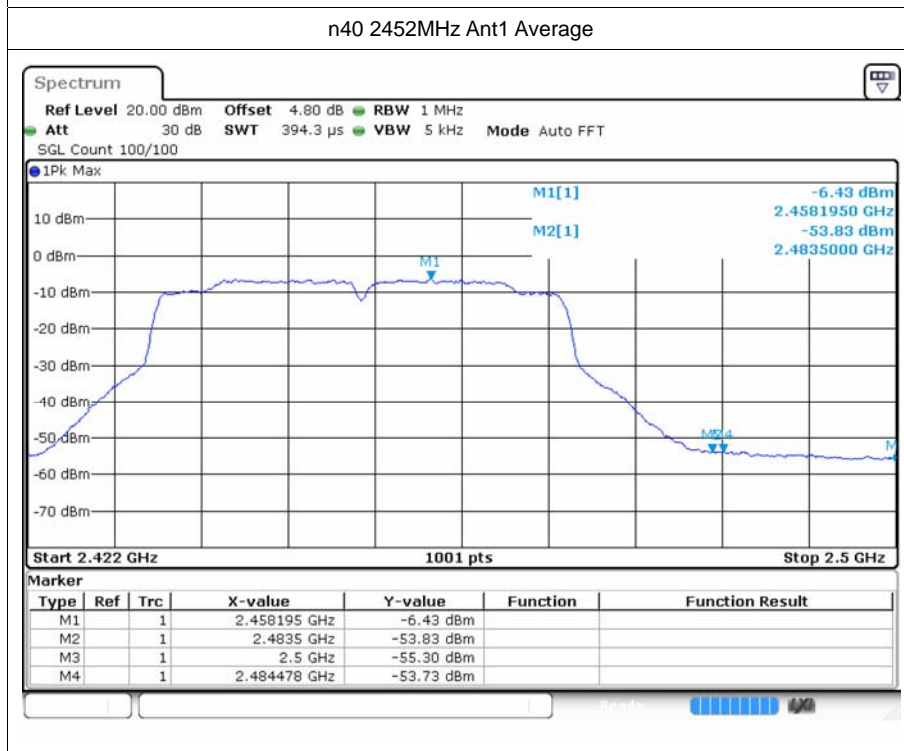
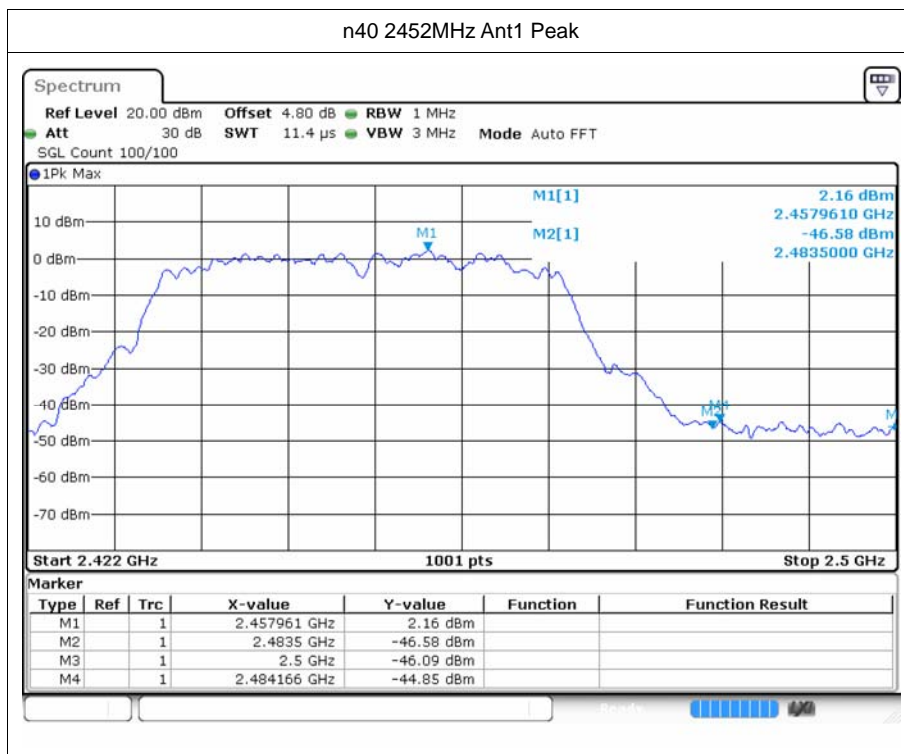












---The End---