



## Appendix D

### RF Test Data for 5GHz\_WIFI (Conducted Measurement)

**Product Name:** SMARTPHONE

**Trade Mark:** SIRAGON

**Test Model:** SP-7200

#### Environmental Conditions

|                    |           |
|--------------------|-----------|
| Temperature:       | 24.6° C   |
| Relative Humidity: | 52.4%     |
| ATM Pressure:      | 100.0 kPa |
| Test Engineer:     |           |
| Supervised by:     |           |



## Contents

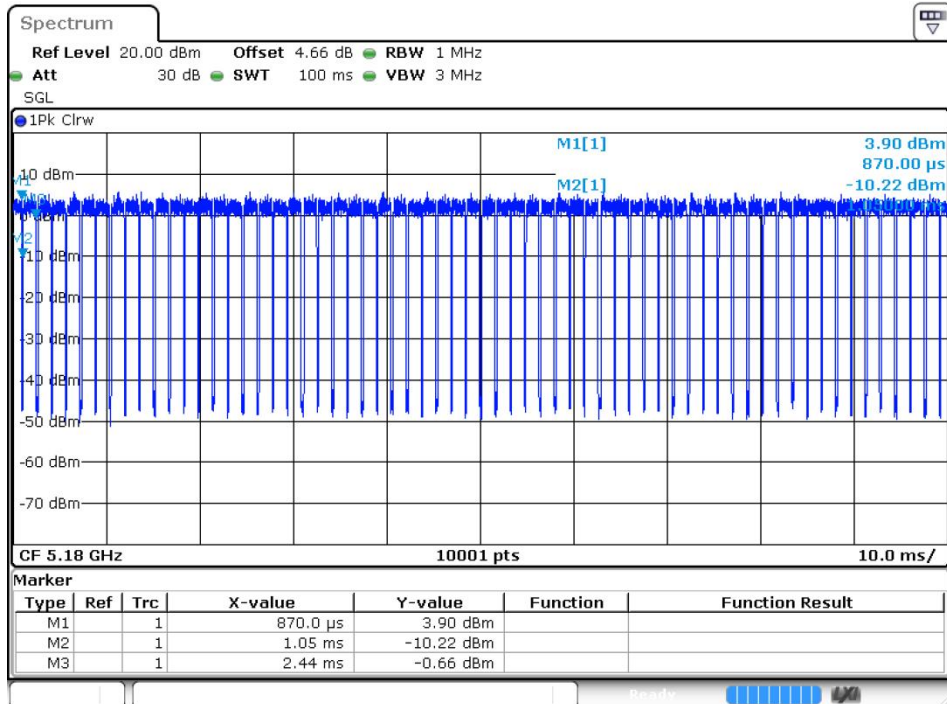
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## 1.Duty Cycle

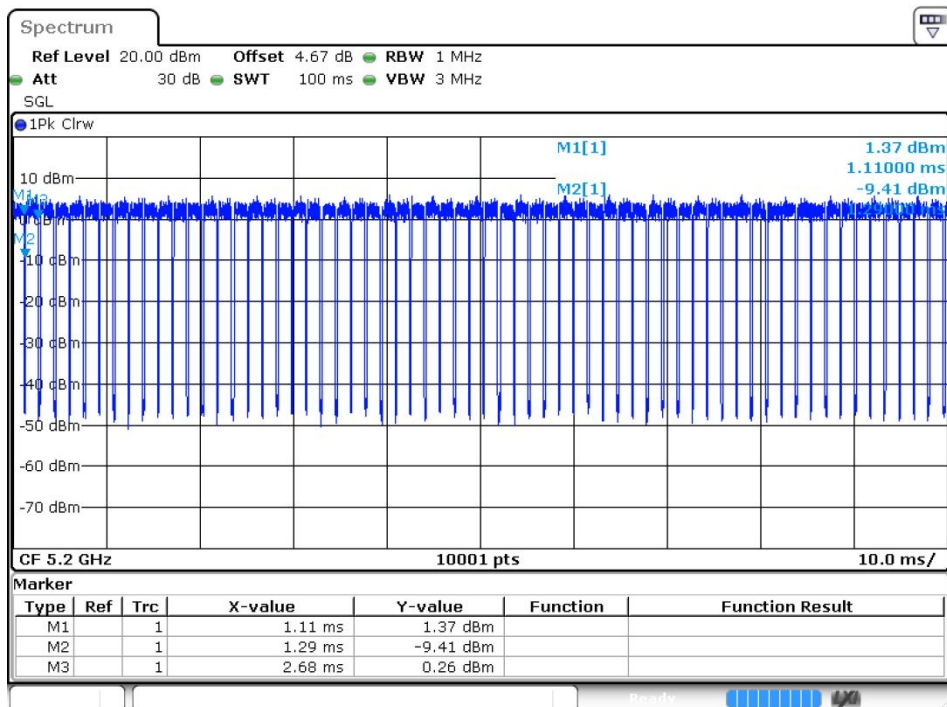
| Mode       | Frequency (MHz) | Antenna | Duty Cycle (%) | Correction Factor (dB) | 1/T (kHz) |
|------------|-----------------|---------|----------------|------------------------|-----------|
| 802.11a    | 5180            | Ant1    | 88.3           | 0.54                   | 0.72      |
| 802.11a    | 5200            | Ant1    | 88.12          | 0.55                   | 0.72      |
| 802.11a    | 5240            | Ant1    | 88.1           | 0.55                   | 0.72      |
| 802.11a    | 5260            | Ant1    | 88.05          | 0.55                   | 0.72      |
| 802.11a    | 5280            | Ant1    | 88.72          | 0.52                   | 0.72      |
| 802.11a    | 5320            | Ant1    | 88.11          | 0.55                   | 0.72      |
| 802.11n20  | 5180            | Ant1    | 86.93          | 0.61                   | 0.85      |
| 802.11n20  | 5200            | Ant1    | 86.83          | 0.61                   | 0.85      |
| 802.11n20  | 5240            | Ant1    | 87.17          | 0.6                    | 0.85      |
| 802.11n20  | 5260            | Ant1    | 87.1           | 0.6                    | 0.85      |
| 802.11n20  | 5280            | Ant1    | 86.99          | 0.61                   | 0.85      |
| 802.11n20  | 5320            | Ant1    | 87             | 0.6                    | 0.85      |
| 802.11n40  | 5190            | Ant1    | 76.88          | 1.14                   | 1.69      |
| 802.11n40  | 5230            | Ant1    | 76.81          | 1.15                   | 1.72      |
| 802.11n40  | 5270            | Ant1    | 76.76          | 1.15                   | 1.72      |
| 802.11n40  | 5310            | Ant1    | 76.7           | 1.15                   | 1.72      |
| 802.11ac20 | 5180            | Ant1    | 87.19          | 0.6                    | 0.85      |
| 802.11ac20 | 5200            | Ant1    | 86.72          | 0.62                   | 0.85      |
| 802.11ac20 | 5240            | Ant1    | 87.16          | 0.6                    | 0.85      |
| 802.11ac20 | 5260            | Ant1    | 87.29          | 0.59                   | 0.85      |
| 802.11ac20 | 5280            | Ant1    | 87.14          | 0.6                    | 0.84      |
| 802.11ac20 | 5320            | Ant1    | 87.44          | 0.58                   | 0.85      |
| 802.11ac40 | 5190            | Ant1    | 77.02          | 1.13                   | 1.69      |
| 802.11ac40 | 5230            | Ant1    | 77.06          | 1.13                   | 1.69      |
| 802.11ac40 | 5270            | Ant1    | 77.08          | 1.13                   | 1.69      |
| 802.11ac40 | 5310            | Ant1    | 77.17          | 1.13                   | 1.69      |
| 802.11ac80 | 5210            | Ant1    | 62.55          | 2.04                   | 3.66      |
| 802.11ac80 | 5290            | Ant1    | 62.93          | 2.01                   | 3.57      |

## Test Graphs

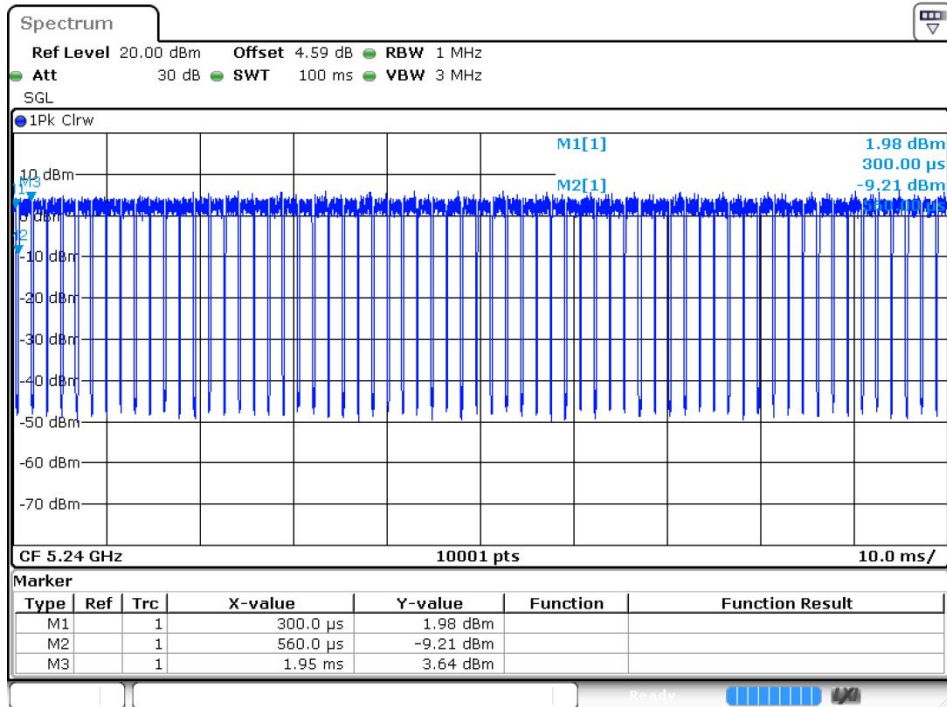
## Duty Cycle NVNT a 5180MHz Ant1



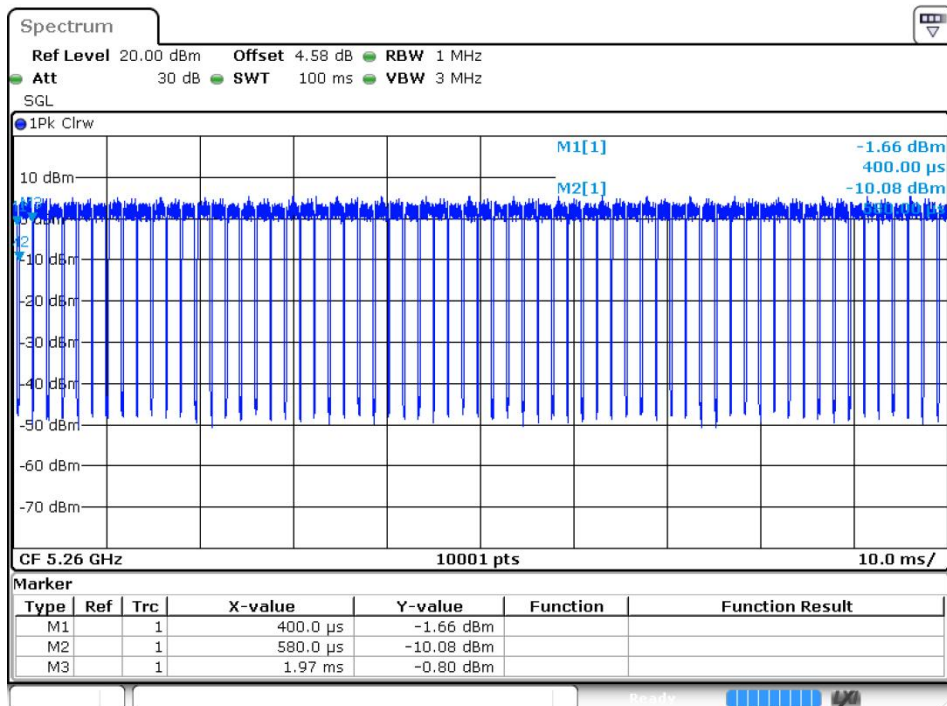
## Duty Cycle NVNT a 5200MHz Ant1



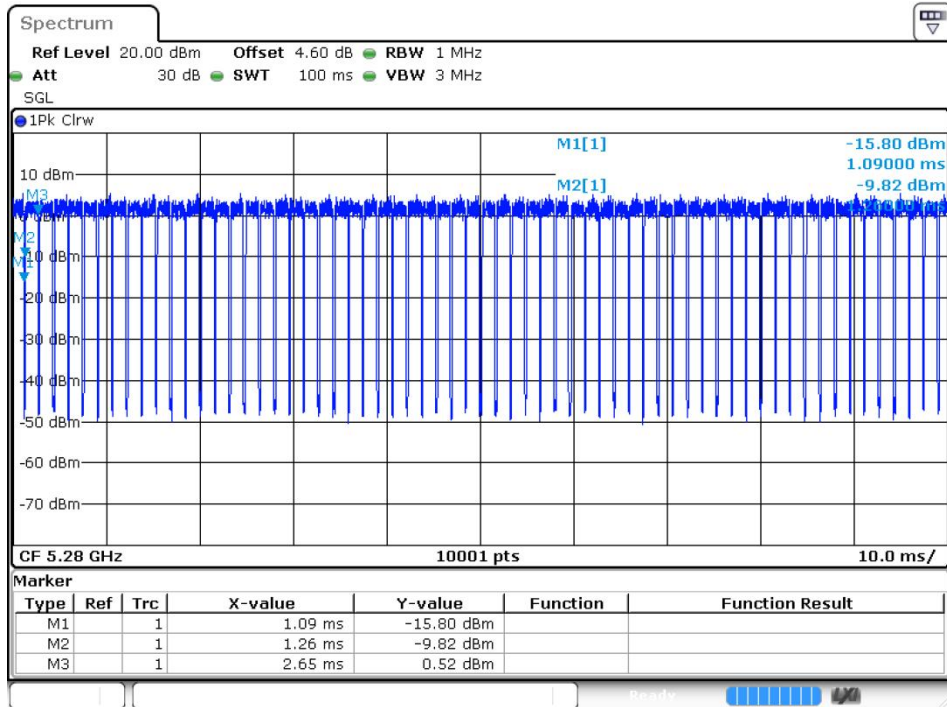
## Duty Cycle NVNT a 5240MHz Ant1



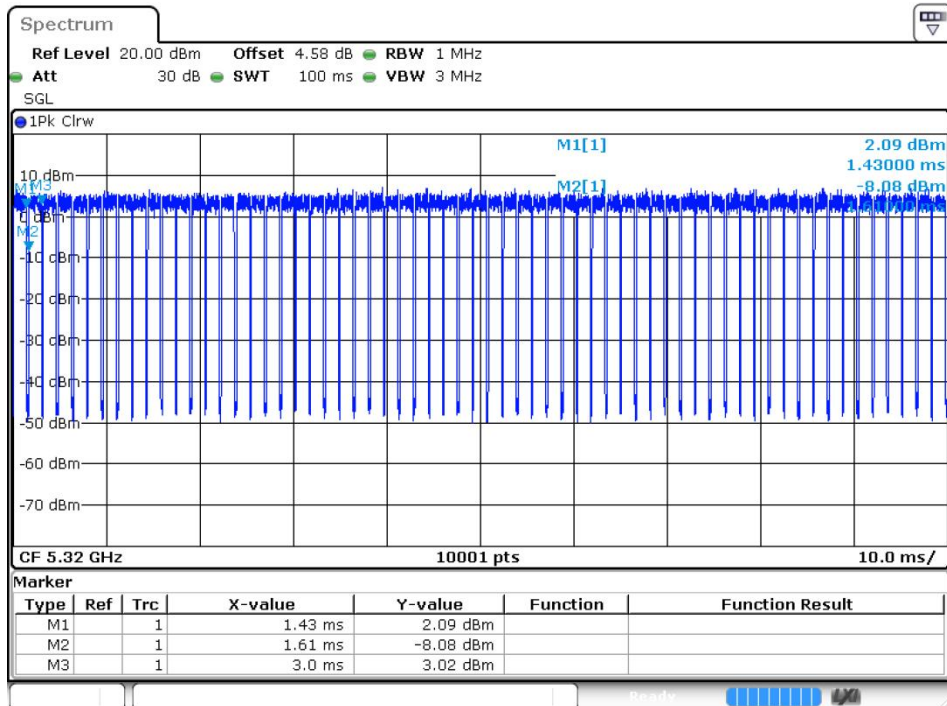
## Duty Cycle NVNT a 5260MHz Ant1



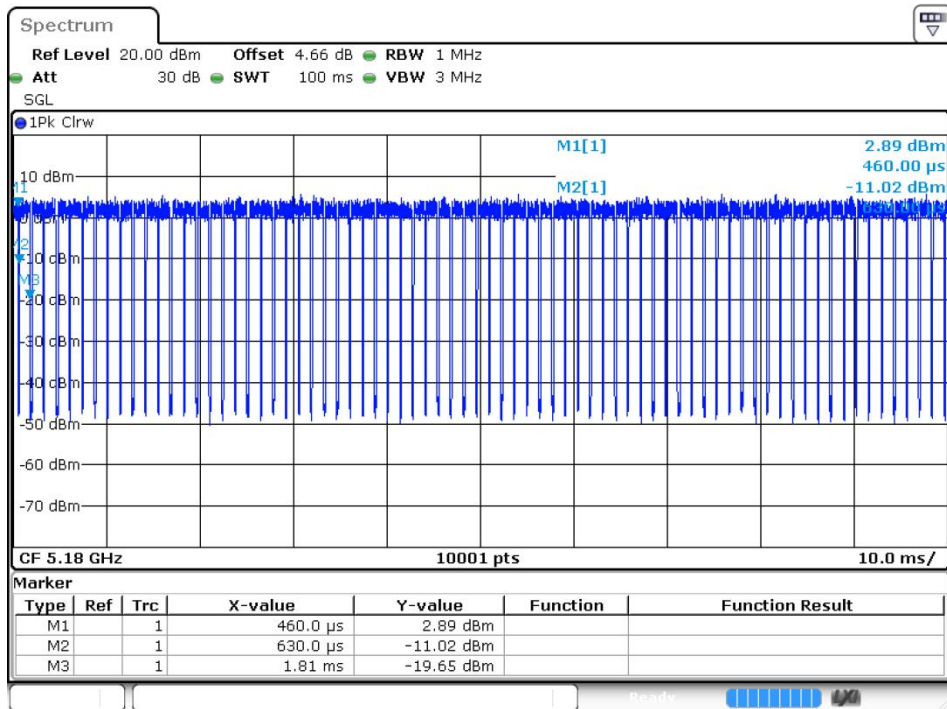
## Duty Cycle NVNT a 5280MHz Ant1



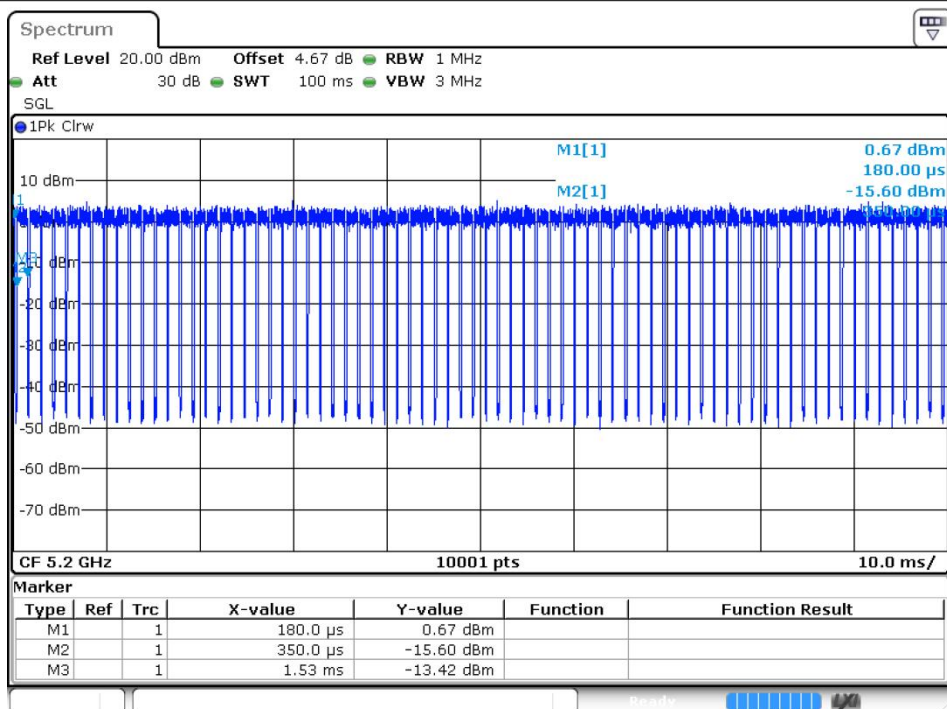
## Duty Cycle NVNT a 5320MHz Ant1



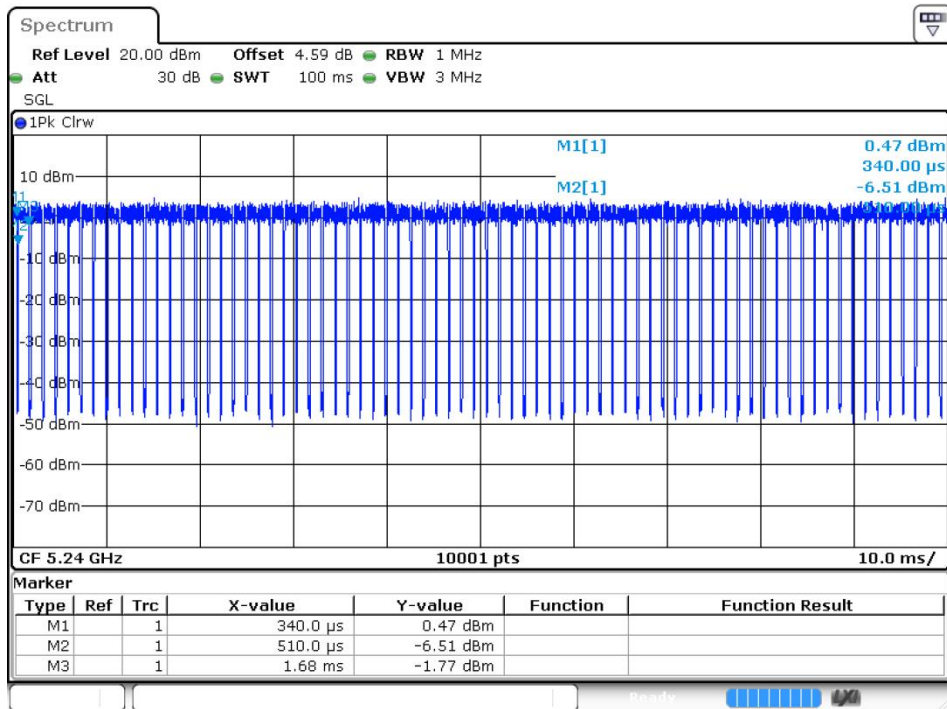
## Duty Cycle NVNT n20 5180MHz Ant1



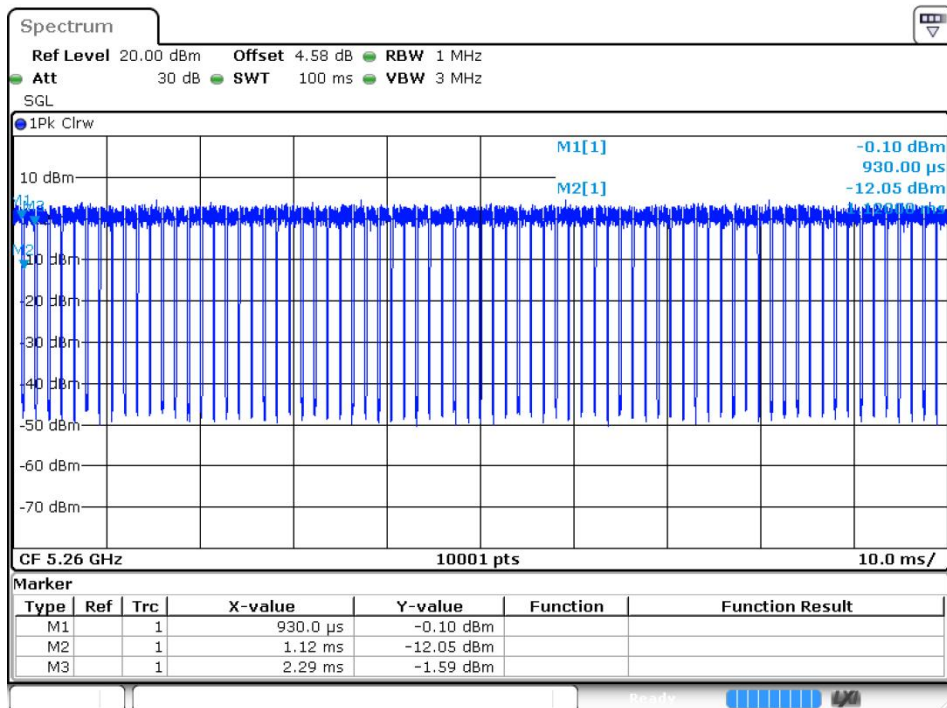
## Duty Cycle NVNT n20 5200MHz Ant1



## Duty Cycle NVNT n20 5240MHz Ant1

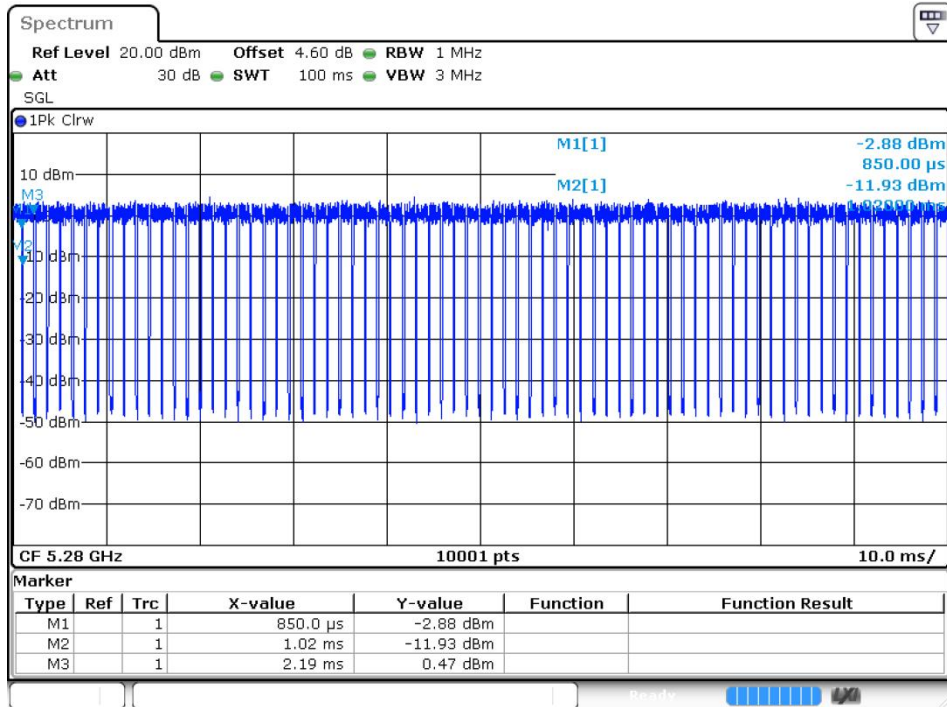


## Duty Cycle NVNT n20 5260MHz Ant1

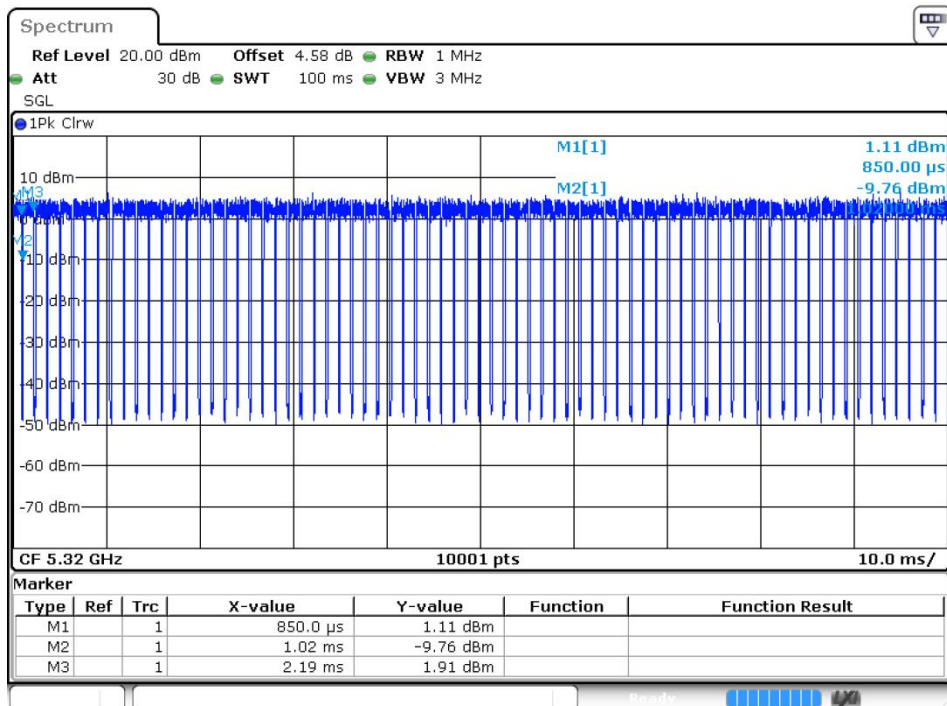




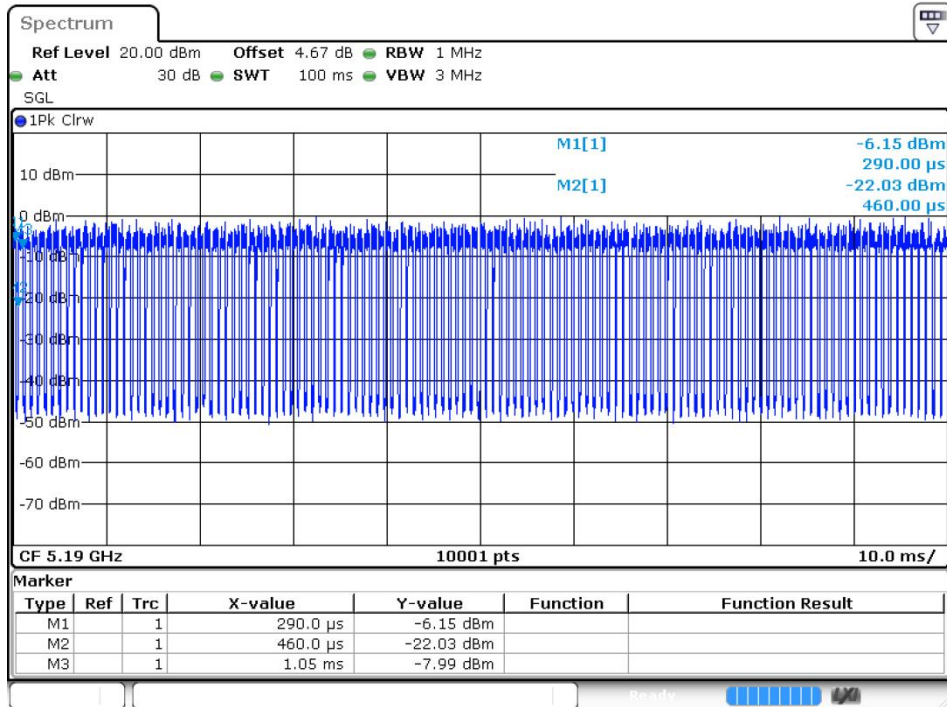
## Duty Cycle NVNT n20 5280MHz Ant1



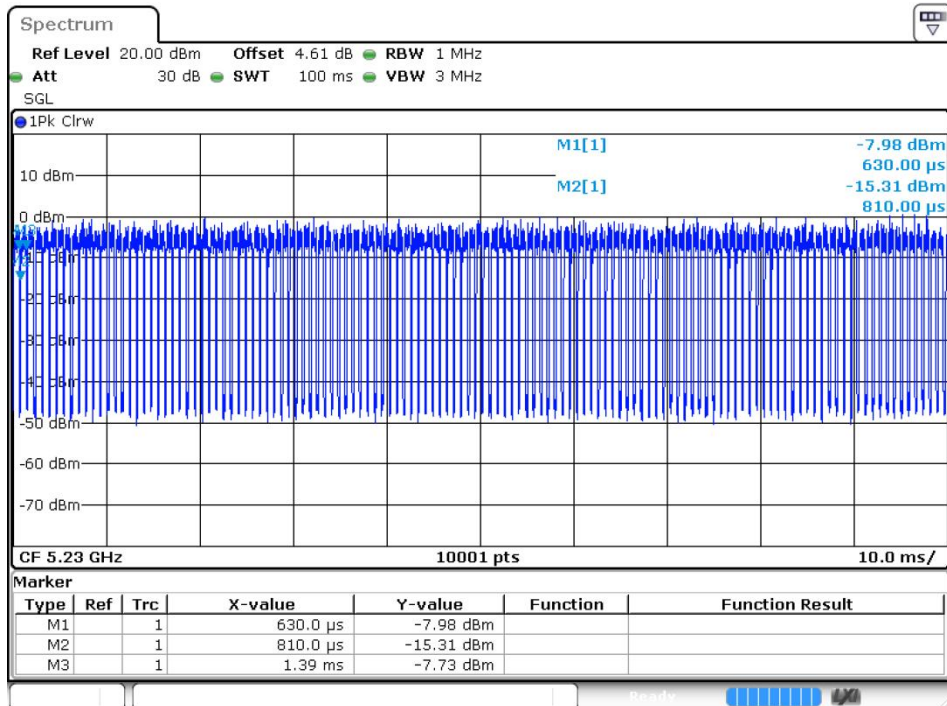
## Duty Cycle NVNT n20 5320MHz Ant1



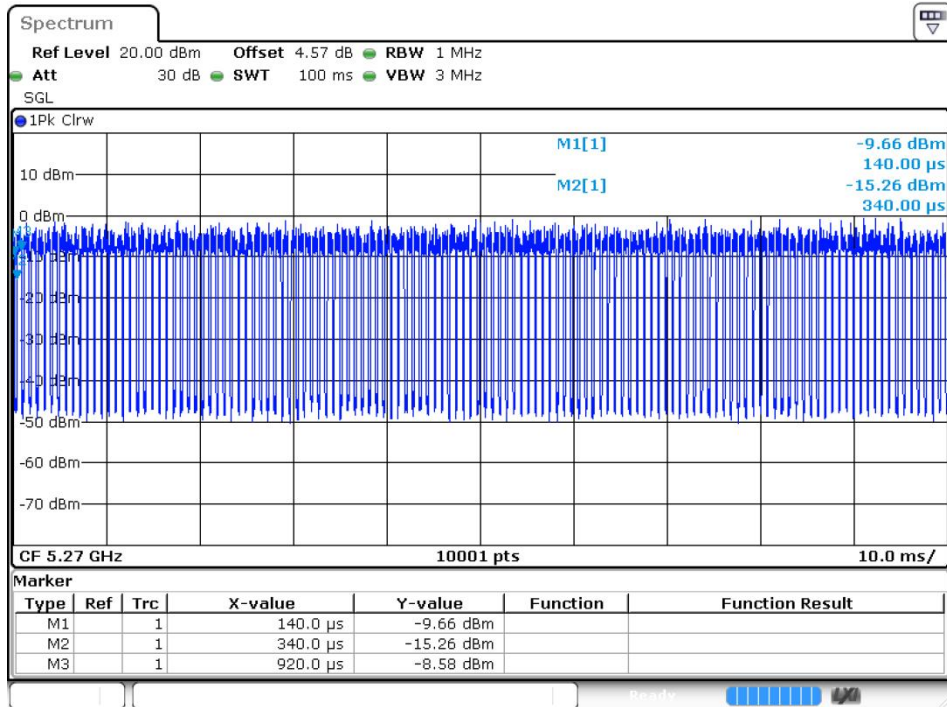
## Duty Cycle NVNT n40 5190MHz Ant1



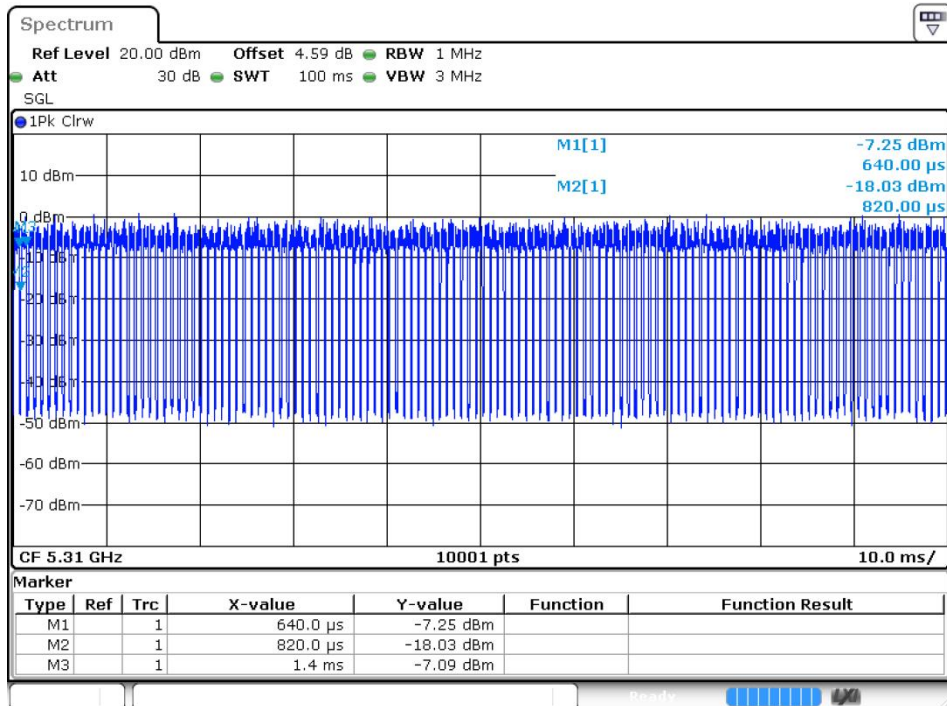
## Duty Cycle NVNT n40 5230MHz Ant1



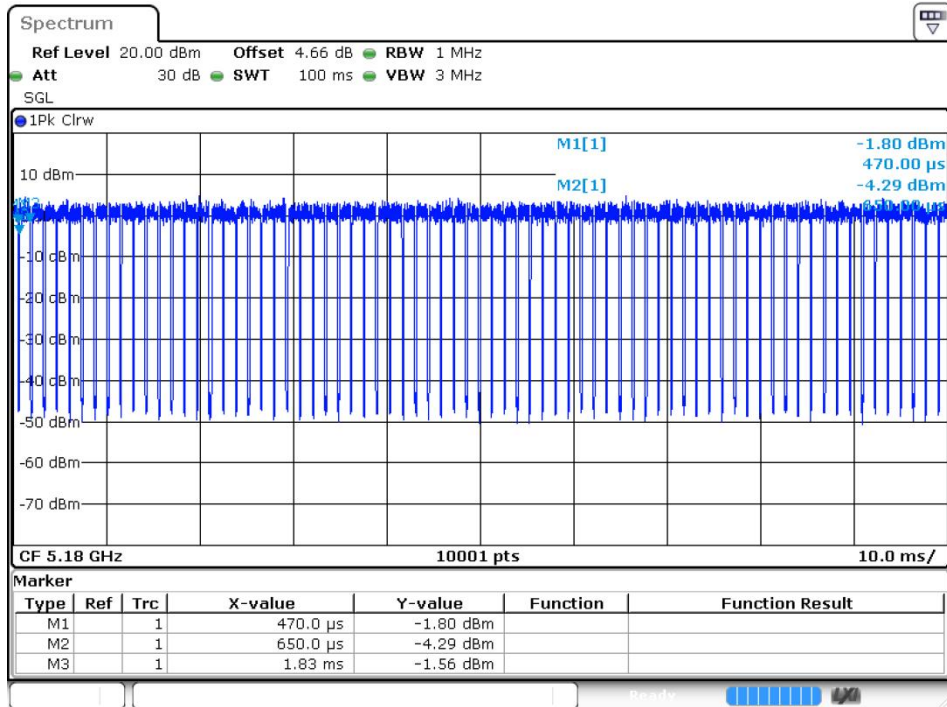
## Duty Cycle NVNT n40 5270MHz Ant1



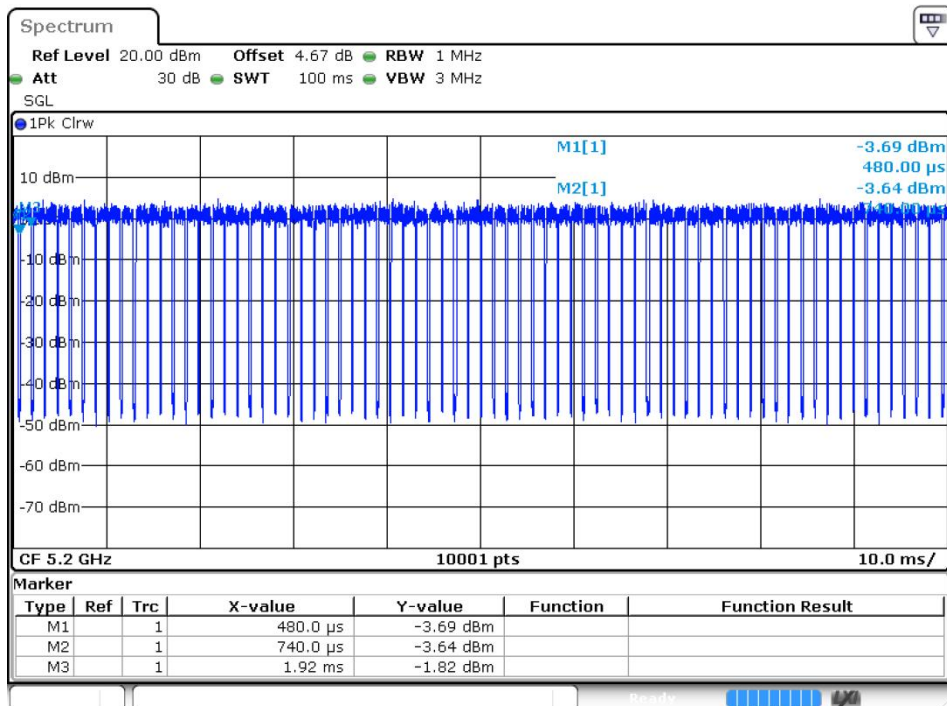
## Duty Cycle NVNT n40 5310MHz Ant1



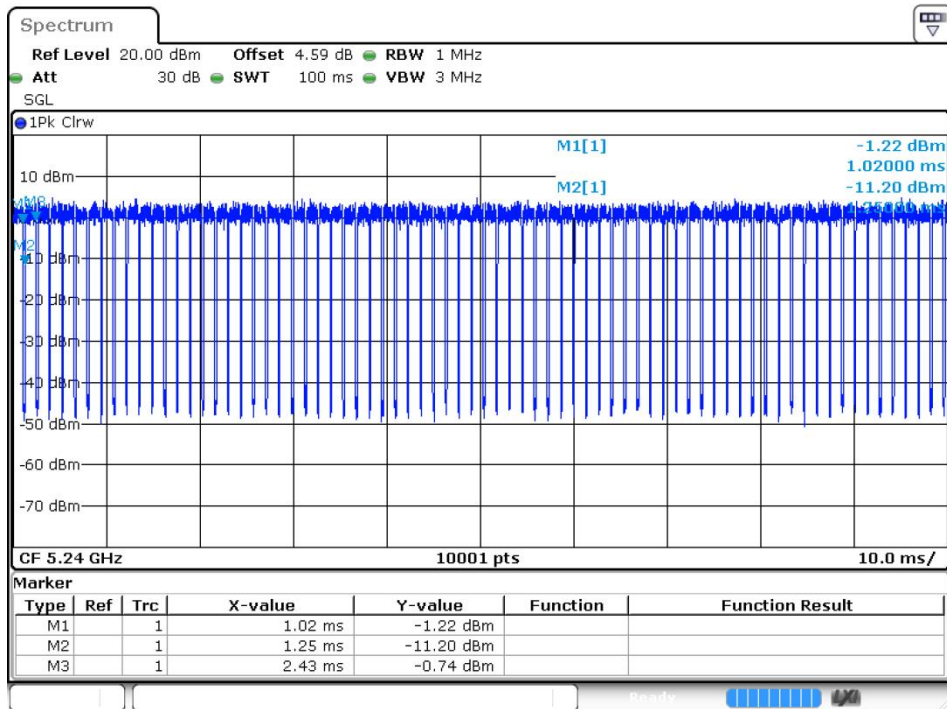
## Duty Cycle NVNT ac20 5180MHz Ant1



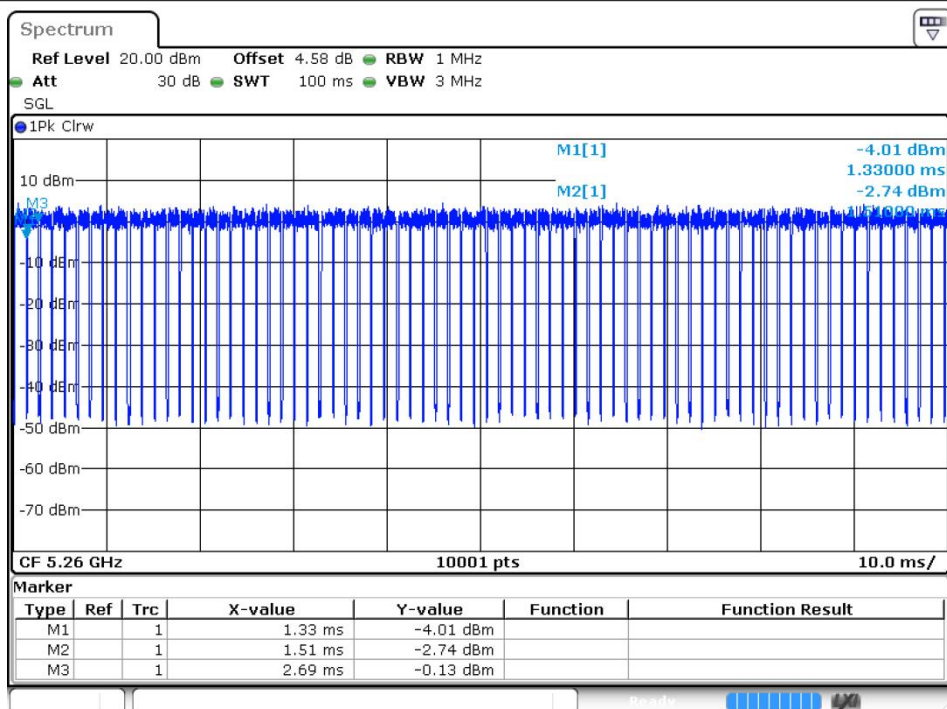
## Duty Cycle NVNT ac20 5200MHz Ant1



## Duty Cycle NVNT ac20 5240MHz Ant1

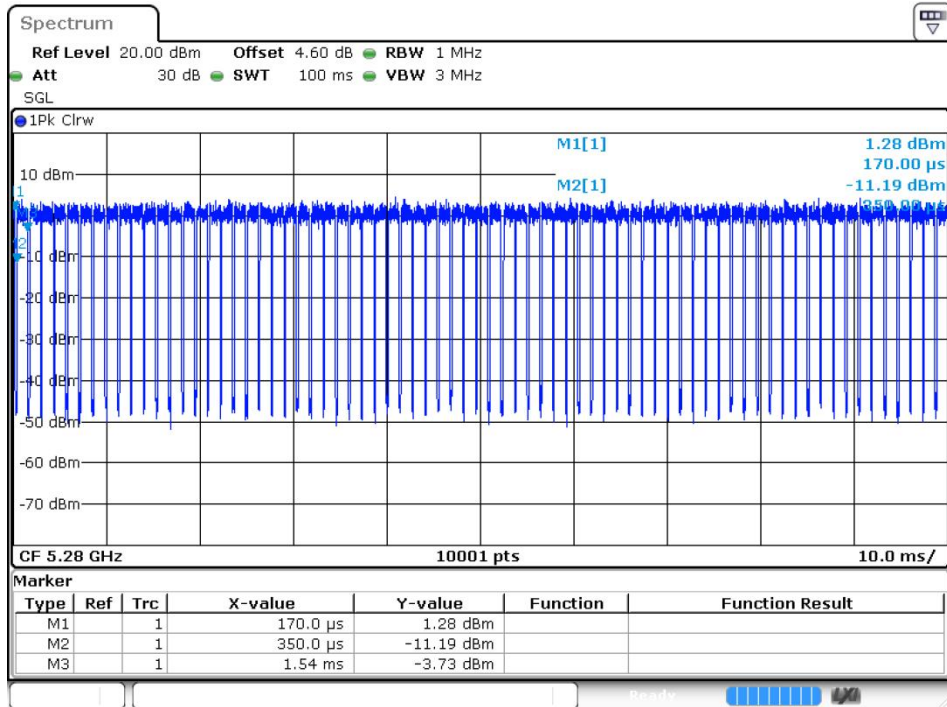


## Duty Cycle NVNT ac20 5260MHz Ant1

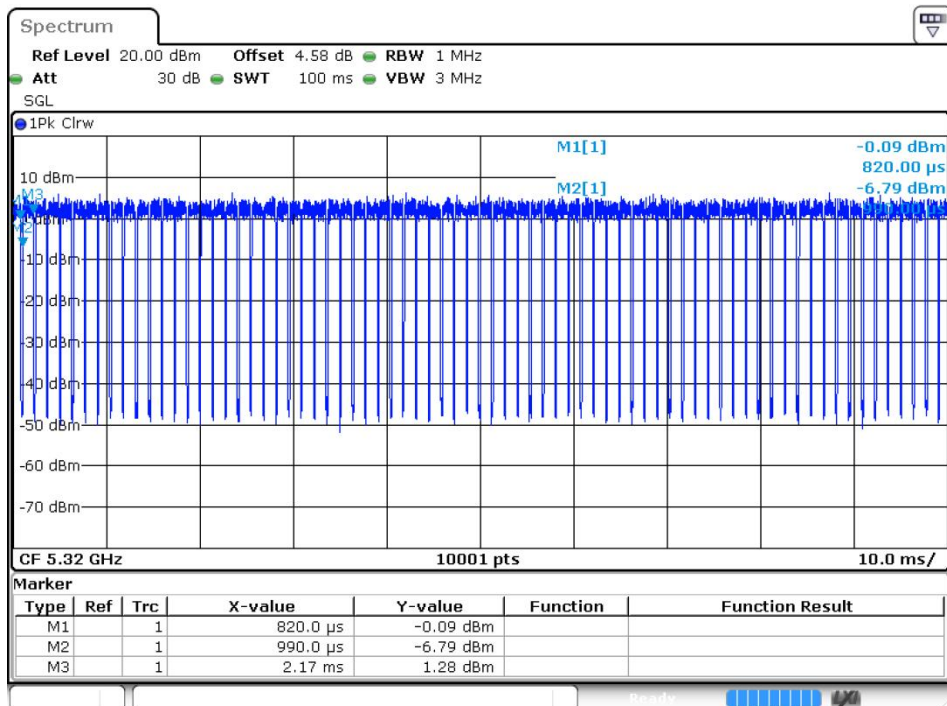




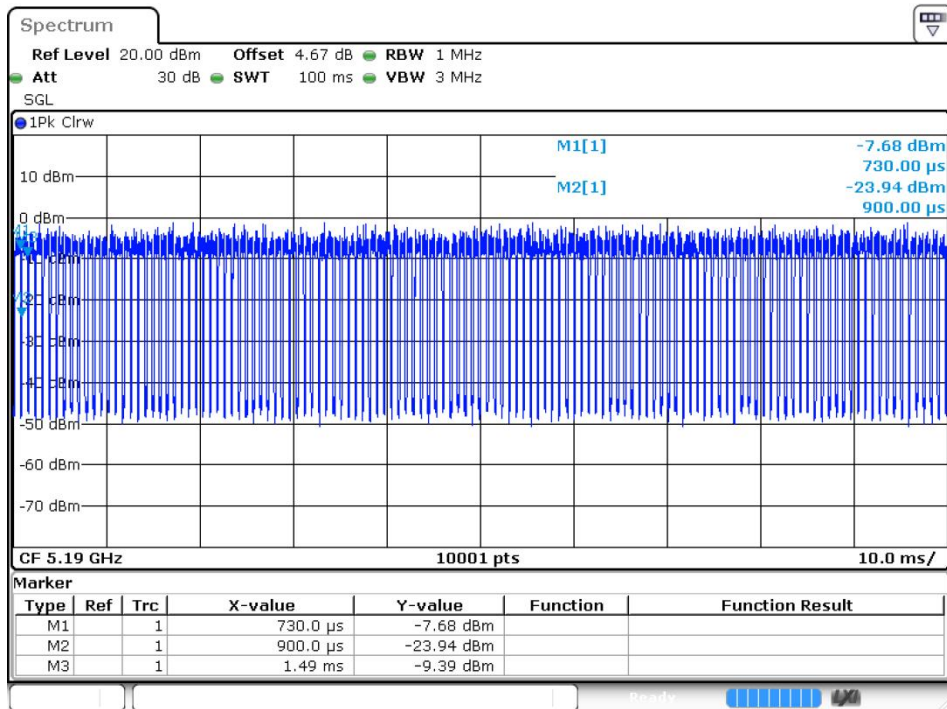
## Duty Cycle NVNT ac20 5280MHz Ant1



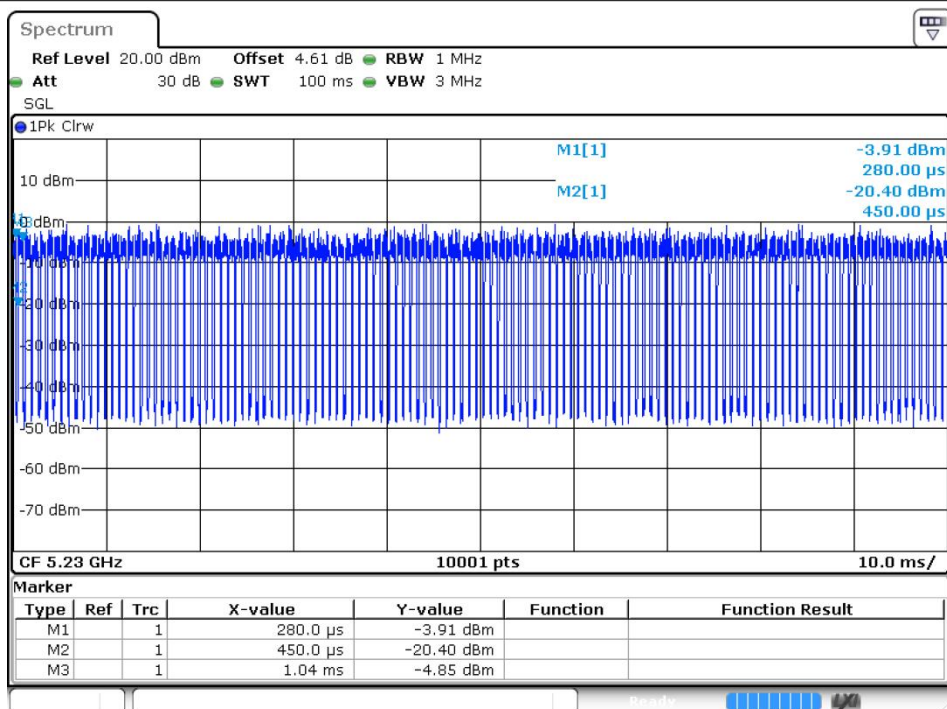
## Duty Cycle NVNT ac20 5320MHz Ant1



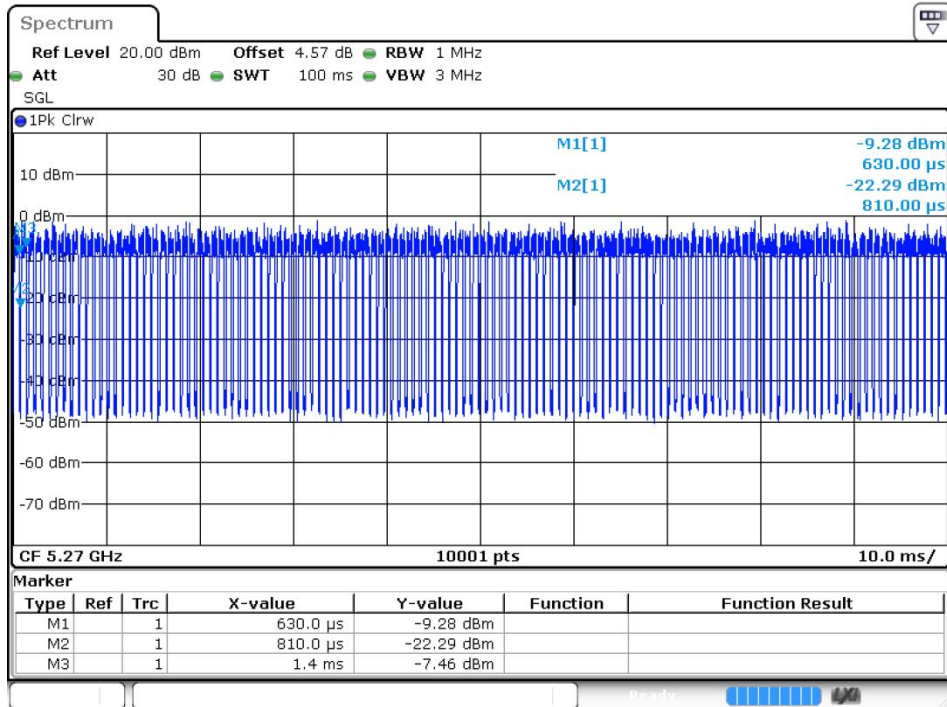
## Duty Cycle NVNT ac40 5190MHz Ant1



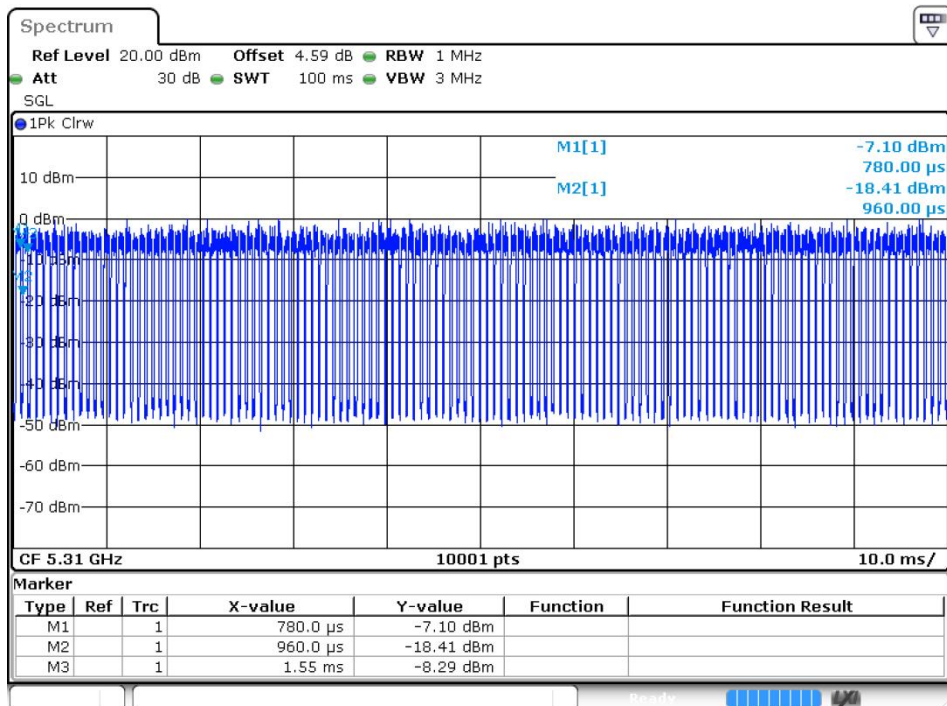
## Duty Cycle NVNT ac40 5230MHz Ant1



## Duty Cycle NVNT ac40 5270MHz Ant1

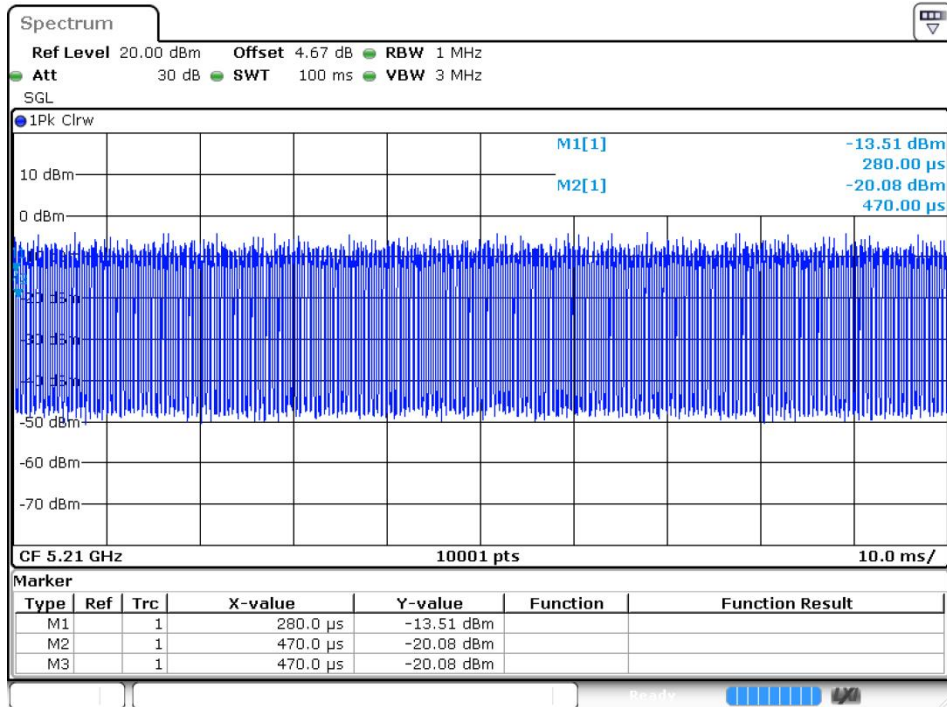


## Duty Cycle NVNT ac40 5310MHz Ant1

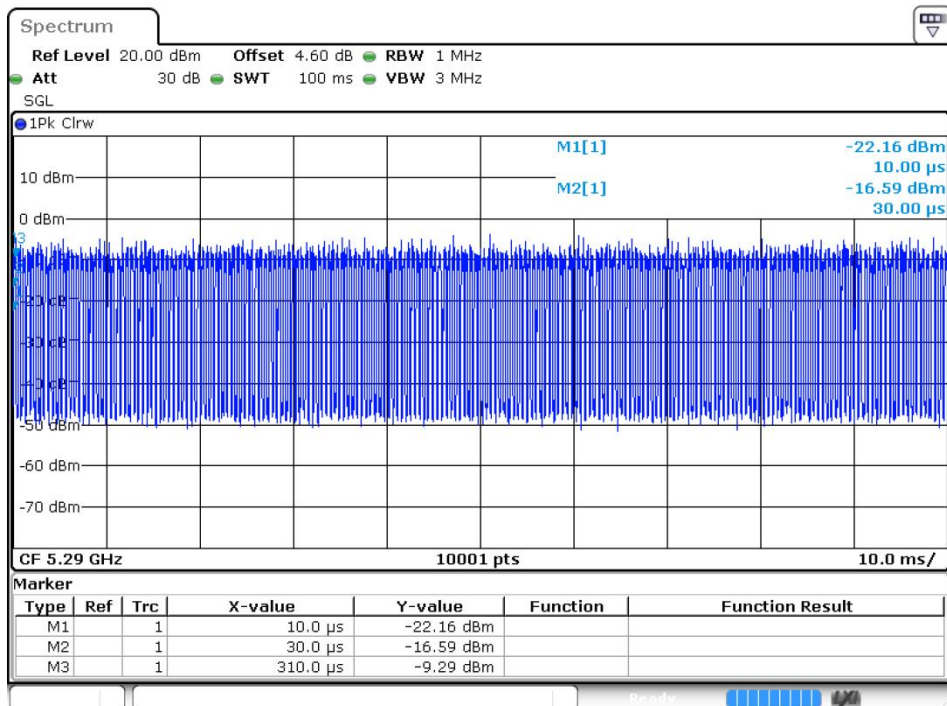




## Duty Cycle NVNT ac80 5210MHz Ant1



## Duty Cycle NVNT ac80 5290MHz Ant1



## 2.Maximum Conducted Output Power

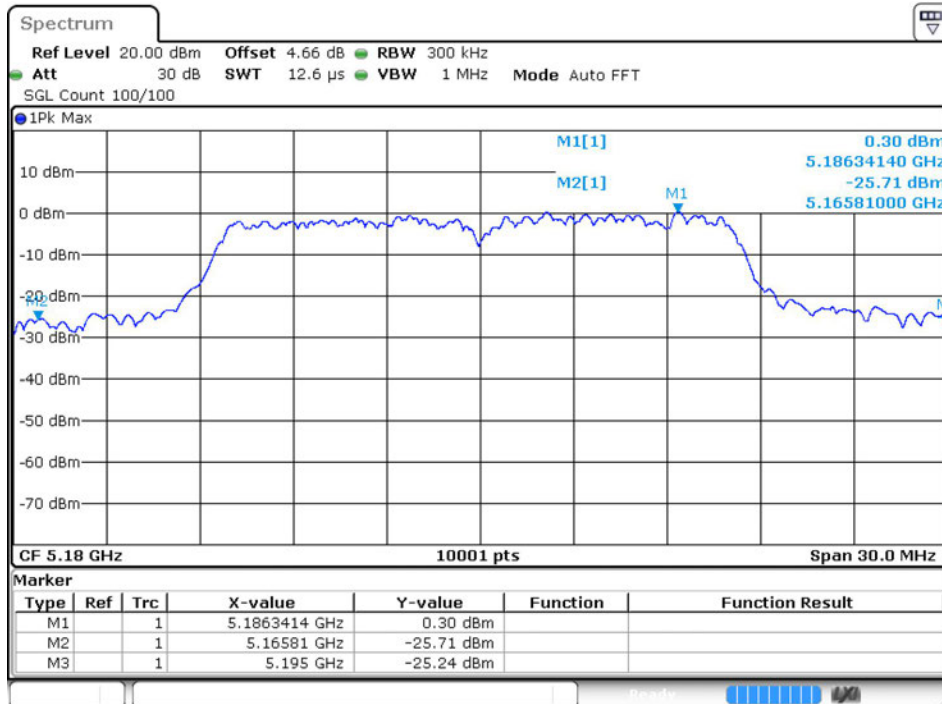
| Mode       | Frequency (MHz) | Antenna | Conducted Power (dBm) | Duty Factor (dB) | Total Power (dBm) | Limit (dBm) | Verdict |
|------------|-----------------|---------|-----------------------|------------------|-------------------|-------------|---------|
| 802.11a    | 5180            | Ant1    | 12.88                 | 0.54             | 13.42             | 24          | Pass    |
| 802.11a    | 5200            | Ant1    | 12.96                 | 0.55             | 13.51             | 24          | Pass    |
| 802.11a    | 5240            | Ant1    | 13.15                 | 0.55             | 13.7              | 24          | Pass    |
| 802.11a    | 5260            | Ant1    | 12.72                 | 0.55             | 13.27             | 24          | Pass    |
| 802.11a    | 5280            | Ant1    | 12.6                  | 0.52             | 13.12             | 24          | Pass    |
| 802.11a    | 5320            | Ant1    | 14.29                 | 0.55             | 14.84             | 24          | Pass    |
| 802.11n20  | 5180            | Ant1    | 13.04                 | 0.61             | 13.65             | 24          | Pass    |
| 802.11n20  | 5200            | Ant1    | 12.14                 | 0.61             | 12.75             | 24          | Pass    |
| 802.11n20  | 5240            | Ant1    | 12.41                 | 0.6              | 13.01             | 24          | Pass    |
| 802.11n20  | 5260            | Ant1    | 11.92                 | 0.6              | 12.52             | 24          | Pass    |
| 802.11n20  | 5280            | Ant1    | 11.91                 | 0.61             | 12.52             | 24          | Pass    |
| 802.11n20  | 5320            | Ant1    | 13.55                 | 0.6              | 14.15             | 24          | Pass    |
| 802.11n40  | 5190            | Ant1    | 11.47                 | 1.14             | 12.61             | 24          | Pass    |
| 802.11n40  | 5230            | Ant1    | 11.82                 | 1.15             | 12.97             | 24          | Pass    |
| 802.11n40  | 5270            | Ant1    | 11.24                 | 1.15             | 12.39             | 24          | Pass    |
| 802.11n40  | 5310            | Ant1    | 12.39                 | 1.15             | 13.54             | 24          | Pass    |
| 802.11ac20 | 5180            | Ant1    | 11.92                 | 0.6              | 12.52             | 24          | Pass    |
| 802.11ac20 | 5200            | Ant1    | 12.12                 | 0.62             | 12.74             | 24          | Pass    |
| 802.11ac20 | 5240            | Ant1    | 12.28                 | 0.6              | 12.88             | 24          | Pass    |
| 802.11ac20 | 5260            | Ant1    | 11.79                 | 0.59             | 12.38             | 24          | Pass    |
| 802.11ac20 | 5280            | Ant1    | 11.87                 | 0.6              | 12.47             | 24          | Pass    |
| 802.11ac20 | 5320            | Ant1    | 13.43                 | 0.58             | 14.01             | 24          | Pass    |
| 802.11ac40 | 5190            | Ant1    | 10.71                 | 1.13             | 11.84             | 24          | Pass    |
| 802.11ac40 | 5230            | Ant1    | 11.27                 | 1.13             | 12.4              | 24          | Pass    |
| 802.11ac40 | 5270            | Ant1    | 10.67                 | 1.13             | 11.8              | 24          | Pass    |
| 802.11ac40 | 5310            | Ant1    | 11.91                 | 1.13             | 13.04             | 24          | Pass    |
| 802.11ac80 | 5210            | Ant1    | 10.76                 | 2.04             | 12.8              | 24          | Pass    |
| 802.11ac80 | 5290            | Ant1    | 11.08                 | 2.01             | 13.09             | 24          | Pass    |

### 3.-26dB Bandwidth

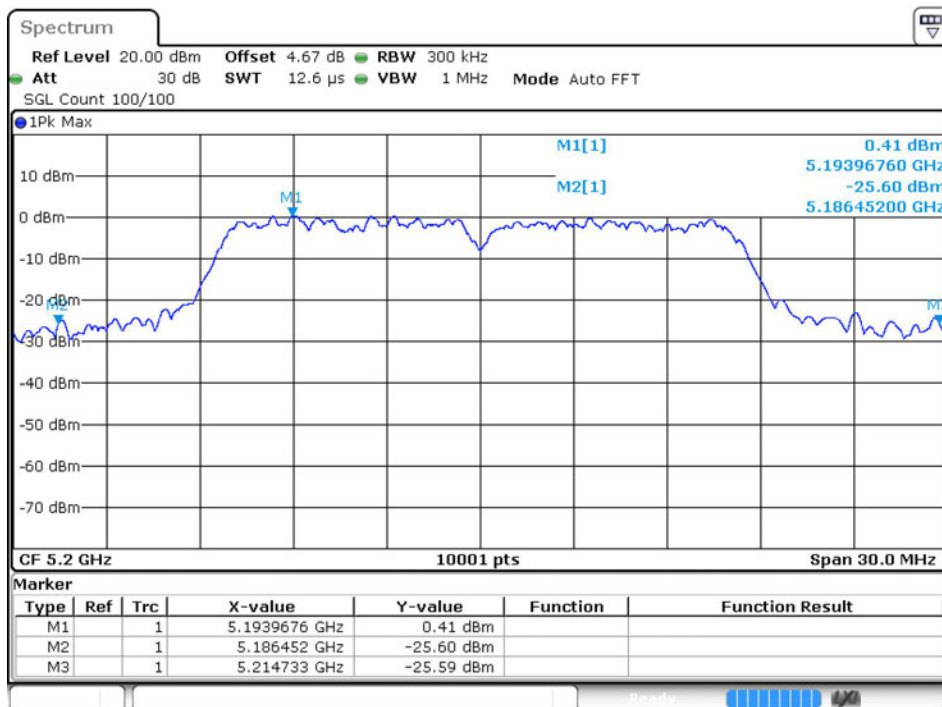
| Mode       | Frequency (MHz) | Antenna | -26 dB Bandwidth (MHz) | Limit -26 dB Bandwidth (MHz) | Verdict |
|------------|-----------------|---------|------------------------|------------------------------|---------|
| 802.11a    | 5180            | Ant1    | 29.19                  | 0.5                          | Pass    |
| 802.11a    | 5200            | Ant1    | 28.281                 | 0.5                          | Pass    |
| 802.11a    | 5240            | Ant1    | 28.305                 | 0.5                          | Pass    |
| 802.11a    | 5260            | Ant1    | 30                     | 0.5                          | Pass    |
| 802.11a    | 5280            | Ant1    | 29.649                 | 0.5                          | Pass    |
| 802.11a    | 5320            | Ant1    | 30                     | 0.5                          | Pass    |
| 802.11n20  | 5180            | Ant1    | 28.164                 | 0.5                          | Pass    |
| 802.11n20  | 5200            | Ant1    | 22.266                 | 0.5                          | Pass    |
| 802.11n20  | 5240            | Ant1    | 25.068                 | 0.5                          | Pass    |
| 802.11n20  | 5260            | Ant1    | 22.818                 | 0.5                          | Pass    |
| 802.11n20  | 5280            | Ant1    | 20.007                 | 0.5                          | Pass    |
| 802.11n20  | 5320            | Ant1    | 20.574                 | 0.5                          | Pass    |
| 802.11n40  | 5190            | Ant1    | 40.188                 | 0.5                          | Pass    |
| 802.11n40  | 5230            | Ant1    | 42.648                 | 0.5                          | Pass    |
| 802.11n40  | 5270            | Ant1    | 39.684                 | 0.5                          | Pass    |
| 802.11n40  | 5310            | Ant1    | 40.026                 | 0.5                          | Pass    |
| 802.11ac20 | 5180            | Ant1    | 20.814                 | 0.5                          | Pass    |
| 802.11ac20 | 5200            | Ant1    | 23.85                  | 0.5                          | Pass    |
| 802.11ac20 | 5240            | Ant1    | 20.133                 | 0.5                          | Pass    |
| 802.11ac20 | 5260            | Ant1    | 24.219                 | 0.5                          | Pass    |
| 802.11ac20 | 5280            | Ant1    | 20.805                 | 0.5                          | Pass    |
| 802.11ac20 | 5320            | Ant1    | 20.238                 | 0.5                          | Pass    |
| 802.11ac40 | 5190            | Ant1    | 46.728                 | 0.5                          | Pass    |
| 802.11ac40 | 5230            | Ant1    | 45.972                 | 0.5                          | Pass    |
| 802.11ac40 | 5270            | Ant1    | 42.48                  | 0.5                          | Pass    |
| 802.11ac40 | 5310            | Ant1    | 39.216                 | 0.5                          | Pass    |
| 802.11ac80 | 5210            | Ant1    | 77.952                 | 0.5                          | Pass    |
| 802.11ac80 | 5290            | Ant1    | 78.78                  | 0.5                          | Pass    |

## Test Graphs

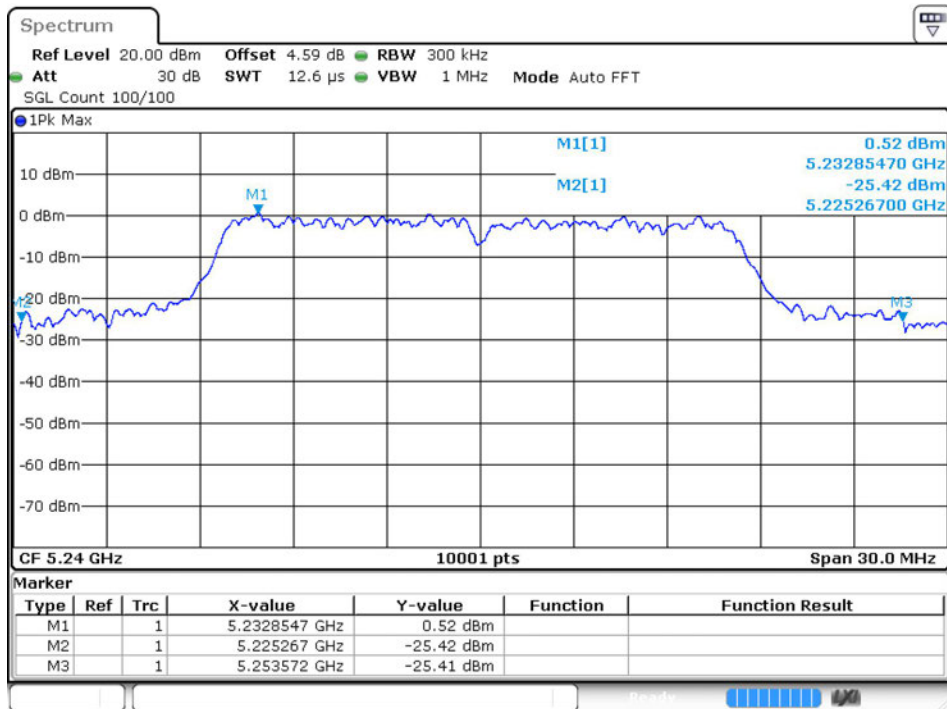
## -26dB Bandwidth NVNT a 5180MHz Ant1



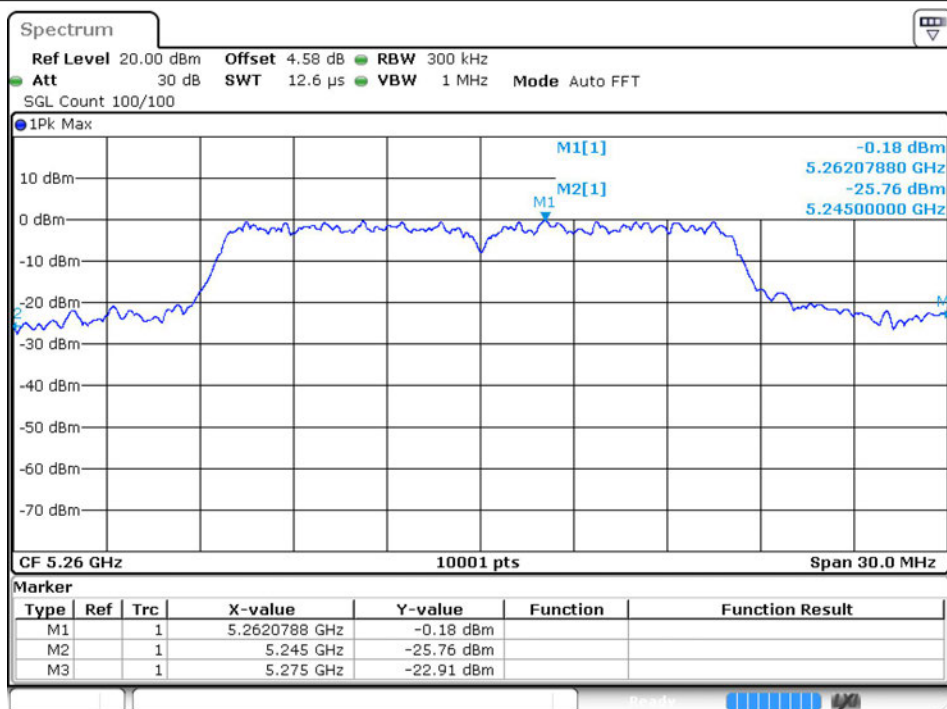
## -26dB Bandwidth NVNT a 5200MHz Ant1



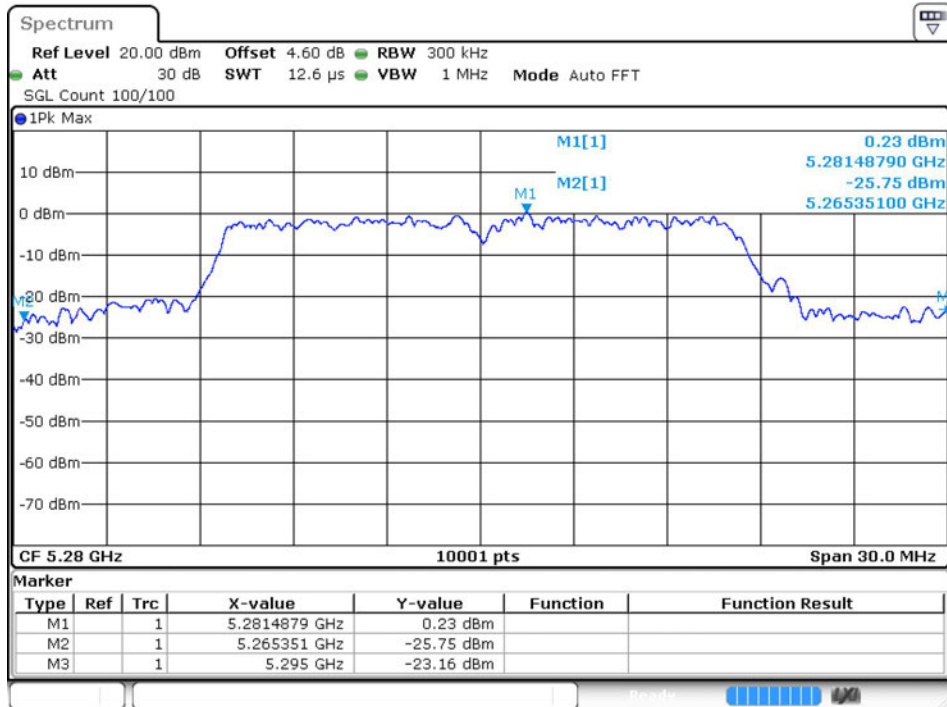
## -26dB Bandwidth NVNT a 5240MHz Ant1



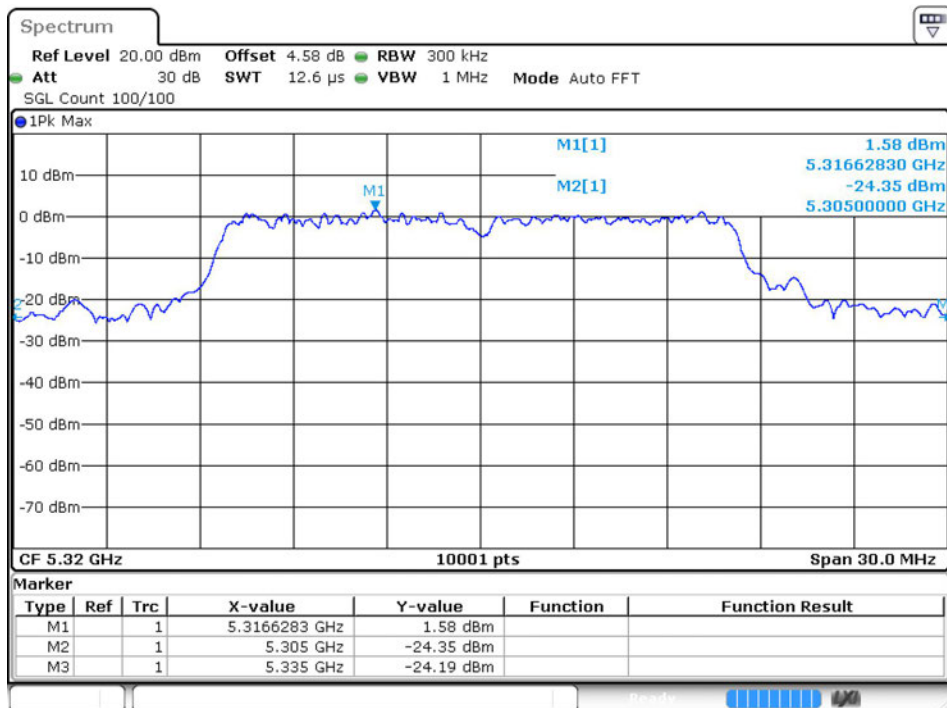
## -26dB Bandwidth NVNT a 5260MHz Ant1



## -26dB Bandwidth NVNT a 5280MHz Ant1

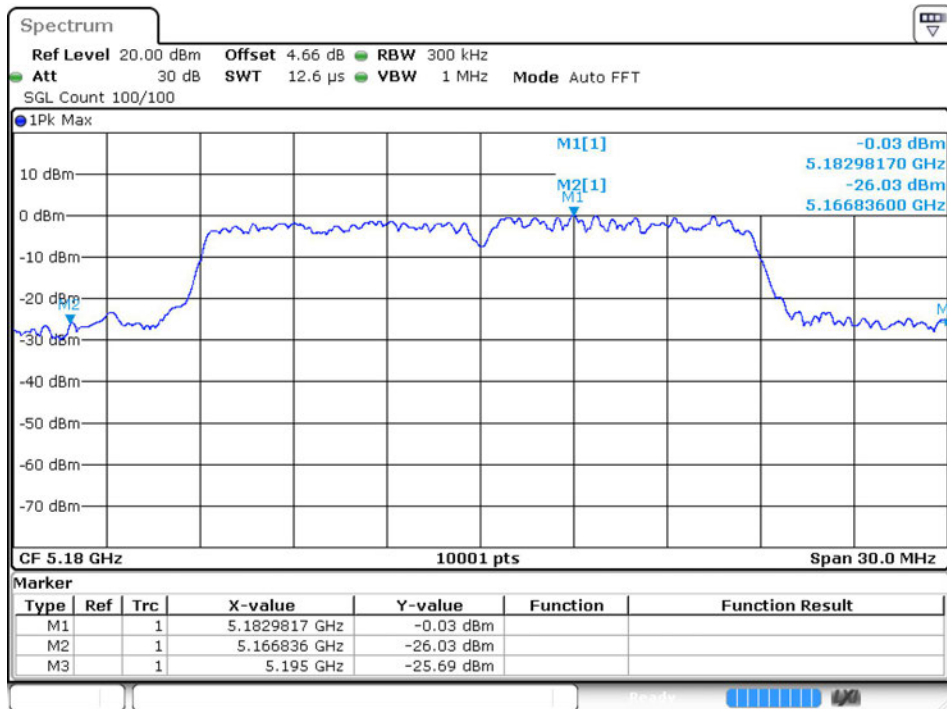


## -26dB Bandwidth NVNT a 5320MHz Ant1

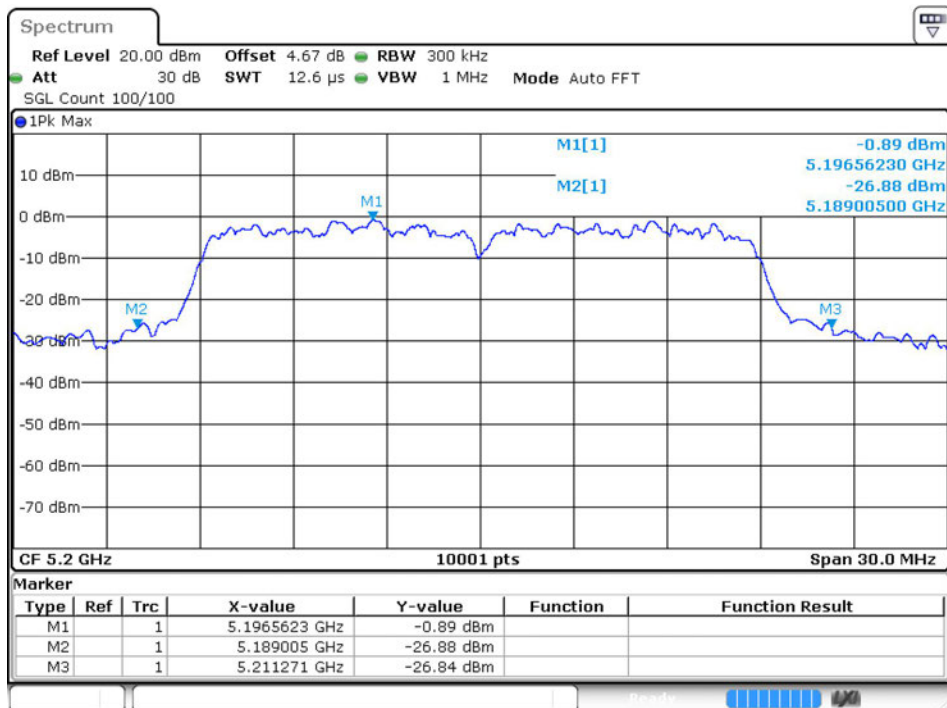




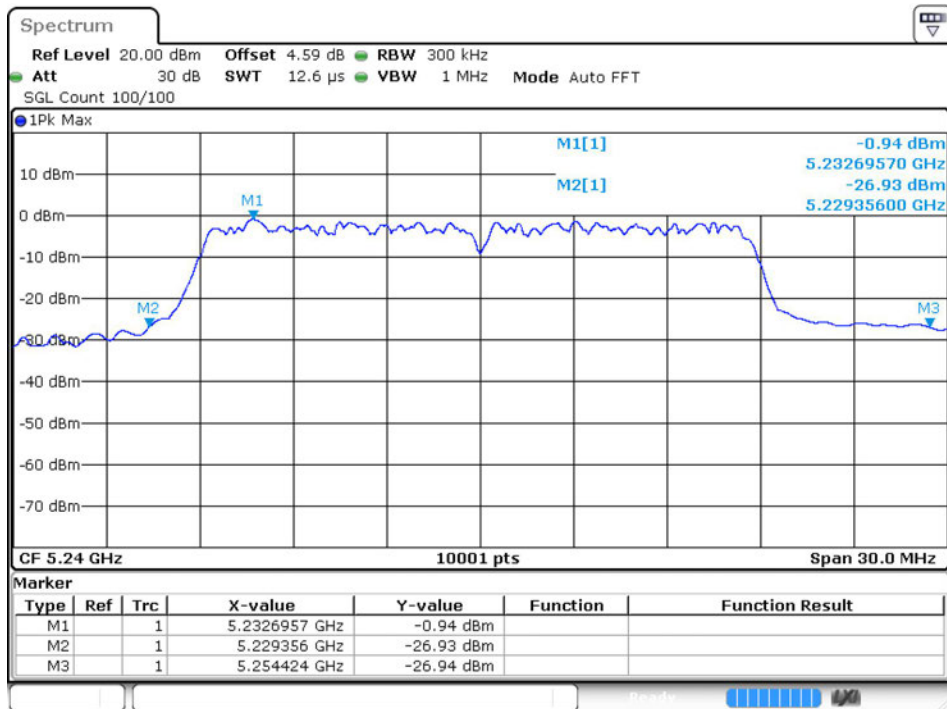
## -26dB Bandwidth NVNT n20 5180MHz Ant1



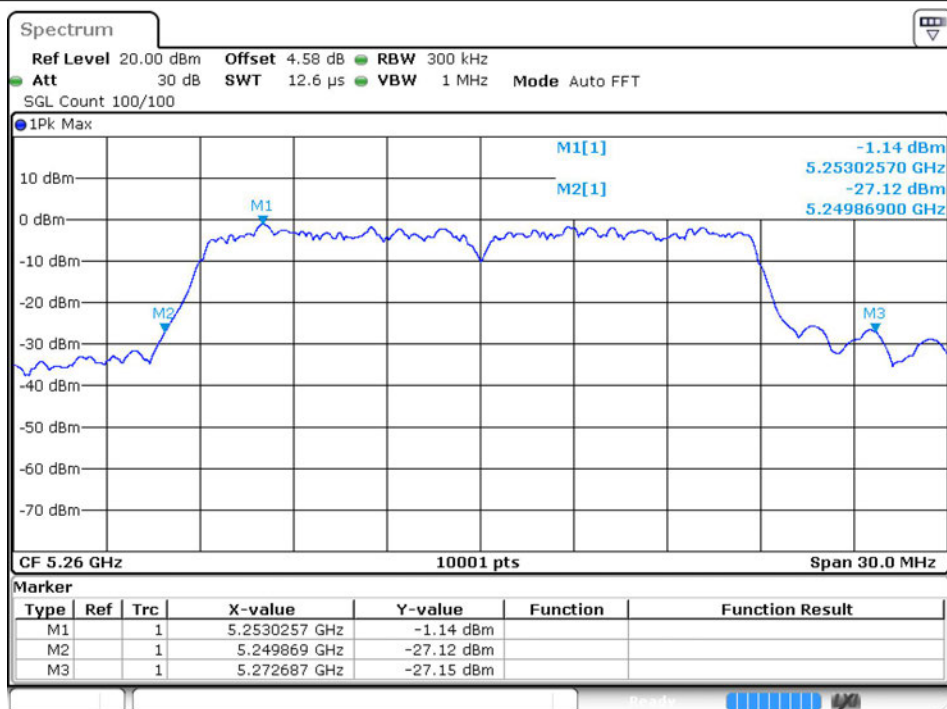
## -26dB Bandwidth NVNT n20 5200MHz Ant1



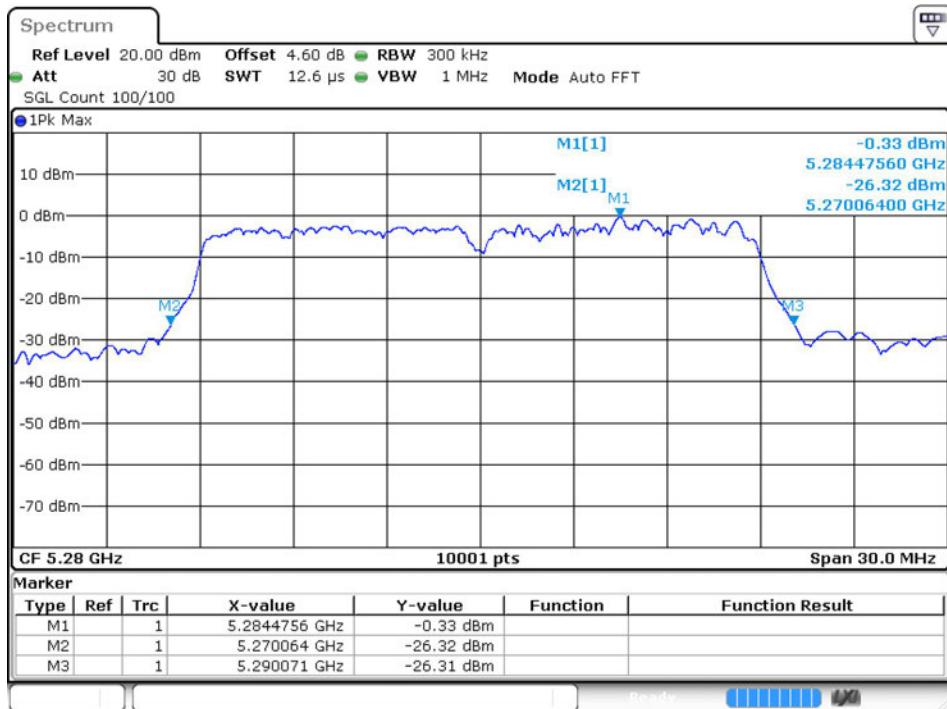
## -26dB Bandwidth NVNT n20 5240MHz Ant1



## -26dB Bandwidth NVNT n20 5260MHz Ant1



## -26dB Bandwidth NVNT n20 5280MHz Ant1



## -26dB Bandwidth NVNT n20 5320MHz Ant1

