

## APPENDIX 5.2G WIFI RF Test Data

Product Name: Automotive AI

Test Model: DGSD201

### Environmental Conditions

|                    |           |
|--------------------|-----------|
| Temperature:       | 23.8℃     |
| Relative Humidity: | 52%       |
| ATM Pressure:      | 101.0 kPa |
| Test Engineer:     | Leon Li   |
| Supervised by:     | Baret Wu  |



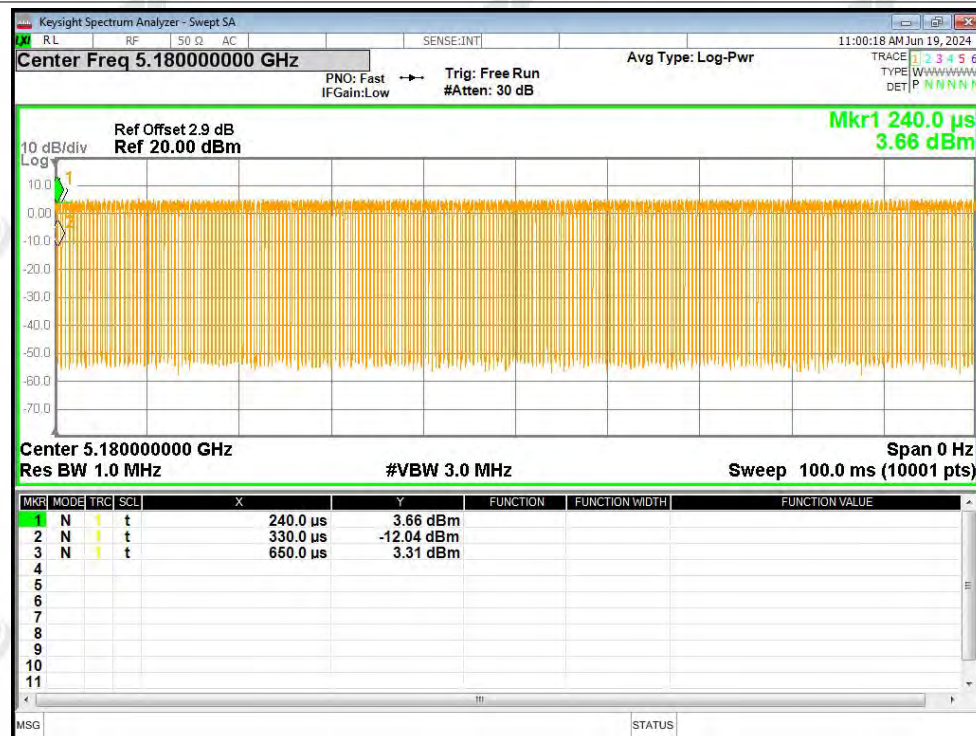
## Duty Cycle

| Condition | Mode | Frequency (MHz) | Antenna | Duty Cycle (%) | Correction Factor (dB) | 1/T (kHz) |
|-----------|------|-----------------|---------|----------------|------------------------|-----------|
| NVNT      | a    | 5180            | Ant1    | 78.05          | 1.08                   | 3.13      |
| NVNT      | a    | 5200            | Ant1    | 66.67          | 1.76                   | 3.13      |
| NVNT      | a    | 5240            | Ant1    | 0              | 0                      | 0         |
| NVNT      | n20  | 5180            | Ant1    | 94.03          | 0.27                   | 0.53      |
| NVNT      | n20  | 5200            | Ant1    | 92.65          | 0.33                   | 0.53      |
| NVNT      | n20  | 5240            | Ant1    | 90.05          | 0.46                   | 0.53      |
| NVNT      | n40  | 5190            | Ant1    | 90.29          | 0.44                   | 1.08      |
| NVNT      | n40  | 5230            | Ant1    | 93.94          | 0.27                   | 1.08      |
| NVNT      | ac20 | 5180            | Ant1    | 90.48          | 0.43                   | 0.53      |
| NVNT      | ac20 | 5200            | Ant1    | 91.79          | 0.37                   | 0.53      |
| NVNT      | ac20 | 5240            | Ant1    | 93.6           | 0.29                   | 0.53      |
| NVNT      | ac40 | 5190            | Ant1    | 93.07          | 0.31                   | 1.06      |
| NVNT      | ac40 | 5230            | Ant1    | 88.57          | 0.53                   | 1.08      |
| NVNT      | ax20 | 5180            | Ant1    | 91.82          | 0.37                   | 0.68      |
| NVNT      | ax20 | 5200            | Ant1    | 96.69          | 0.15                   | 0.68      |
| NVNT      | ax20 | 5240            | Ant1    | 90.12          | 0.45                   | 0.68      |
| NVNT      | ax40 | 5190            | Ant1    | 88.24          | 0.54                   | 1.33      |
| NVNT      | ax40 | 5230            | Ant1    | 81.32          | 0.9                    | 1.35      |

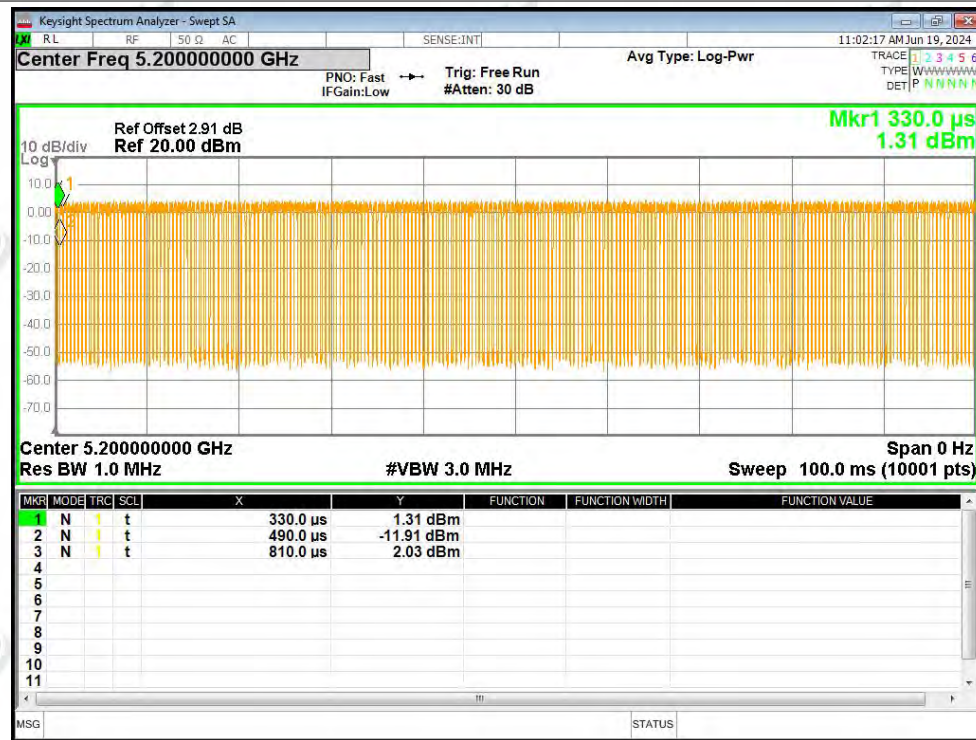


## Test Graphs

## Duty Cycle NVNT a 5180MHz Ant1

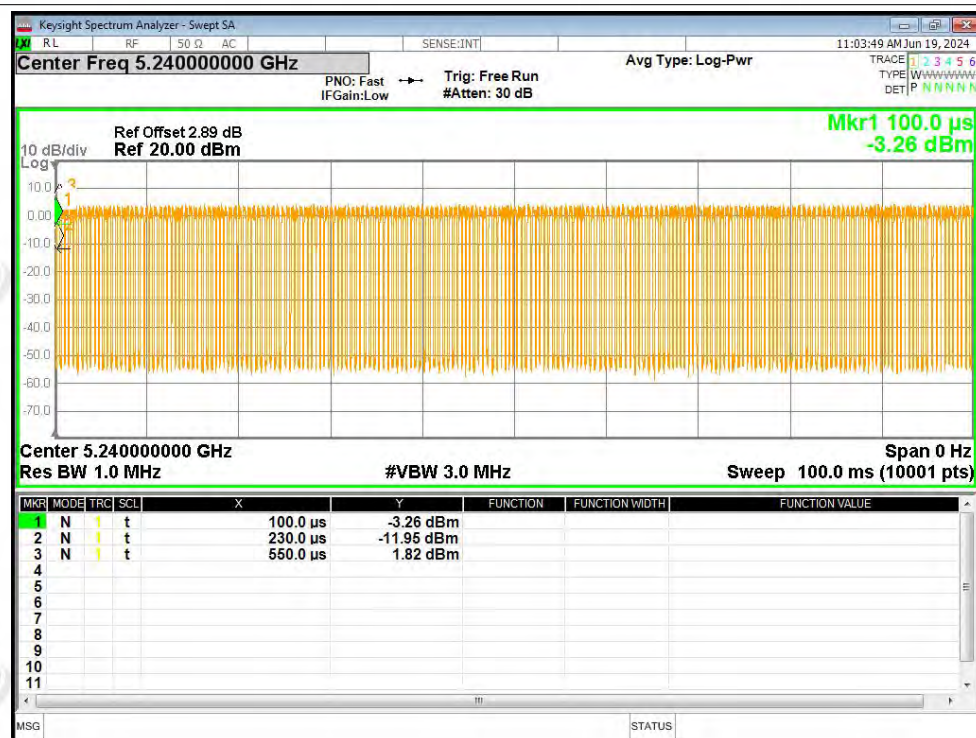


## Duty Cycle NVNT a 5200MHz Ant1

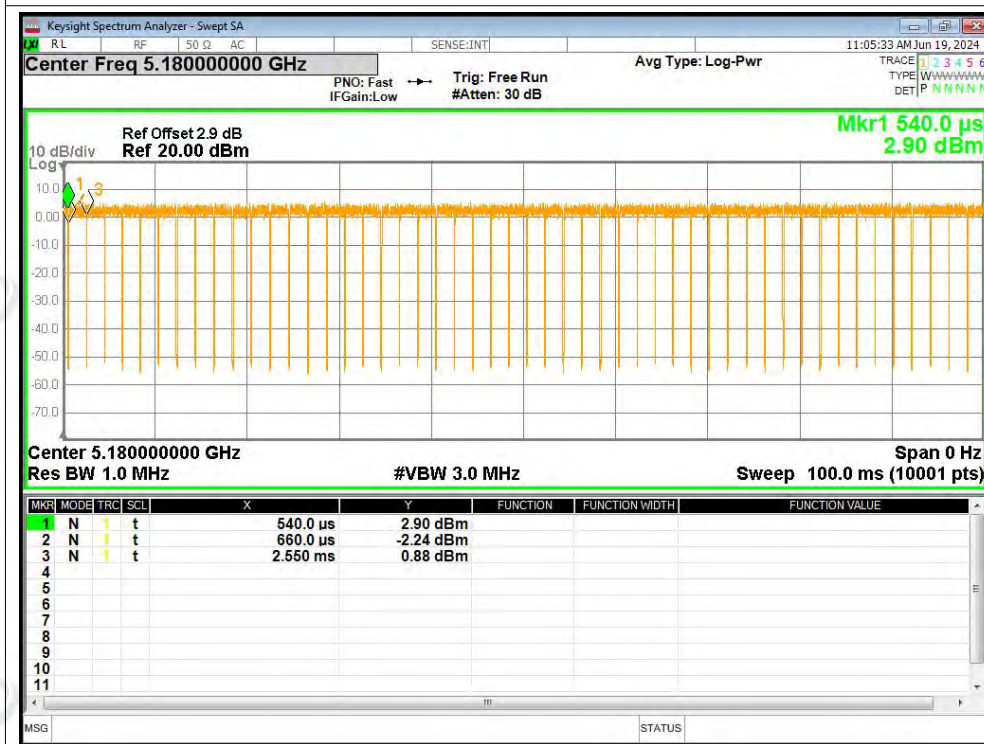




## Duty Cycle NVNT a 5240MHz Ant1

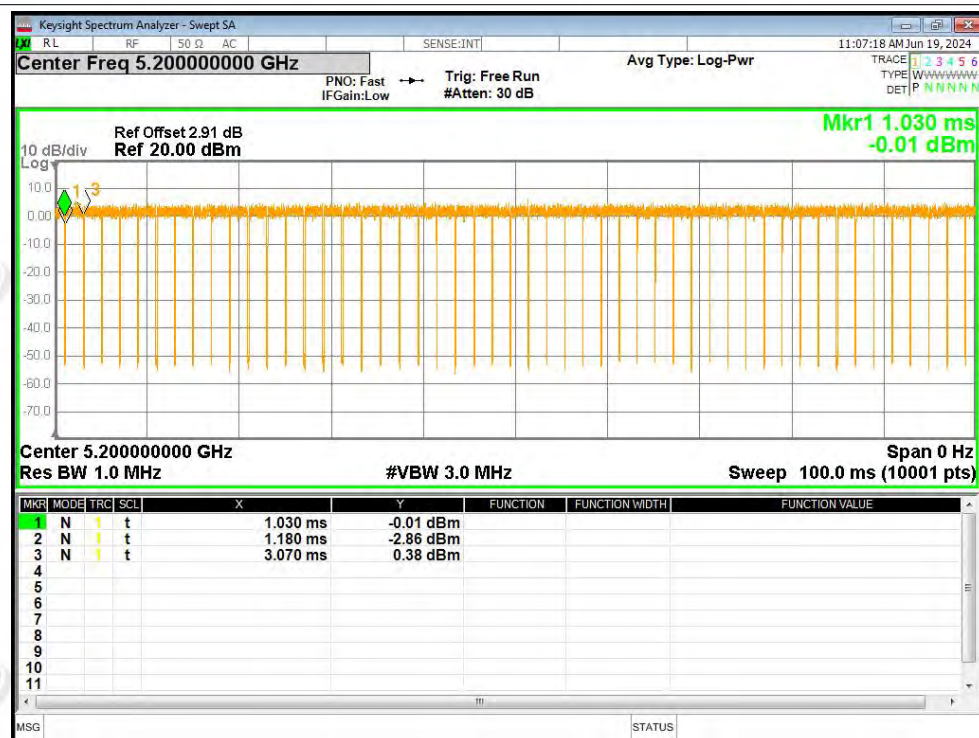


## Duty Cycle NVNT n20 5180MHz Ant1

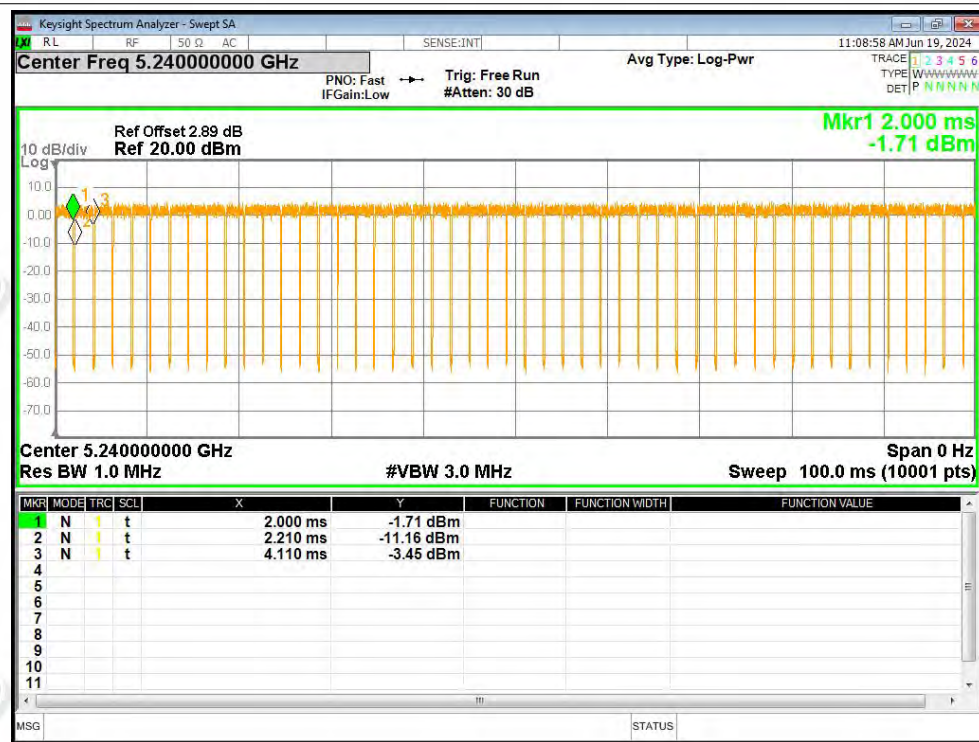




## Duty Cycle NVNT n20 5200MHz Ant1

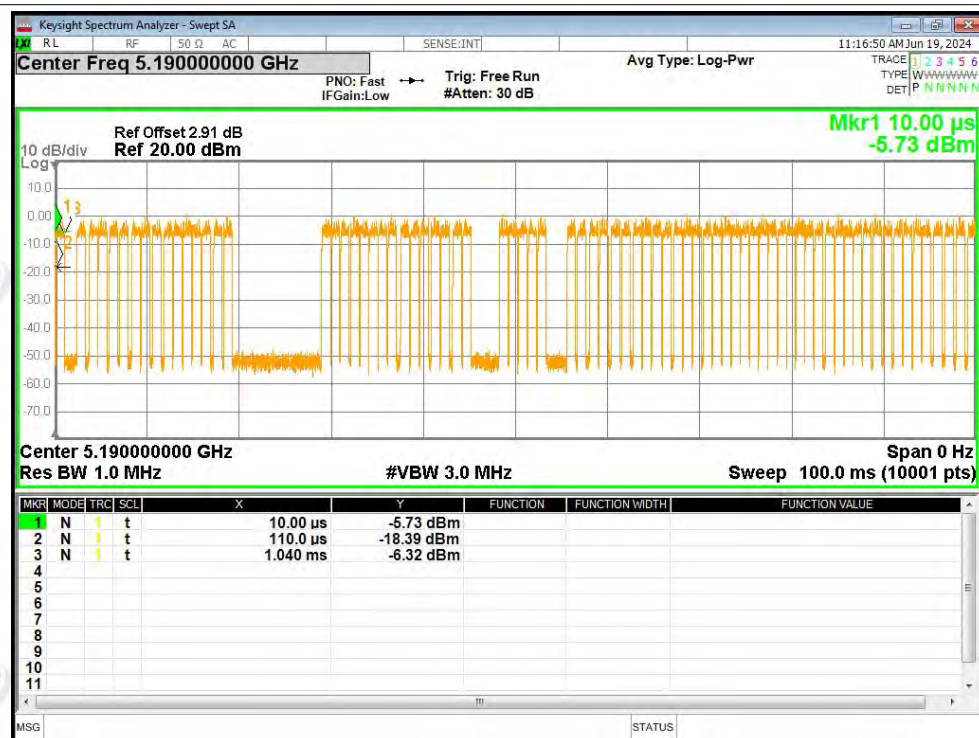


## Duty Cycle NVNT n20 5240MHz Ant1

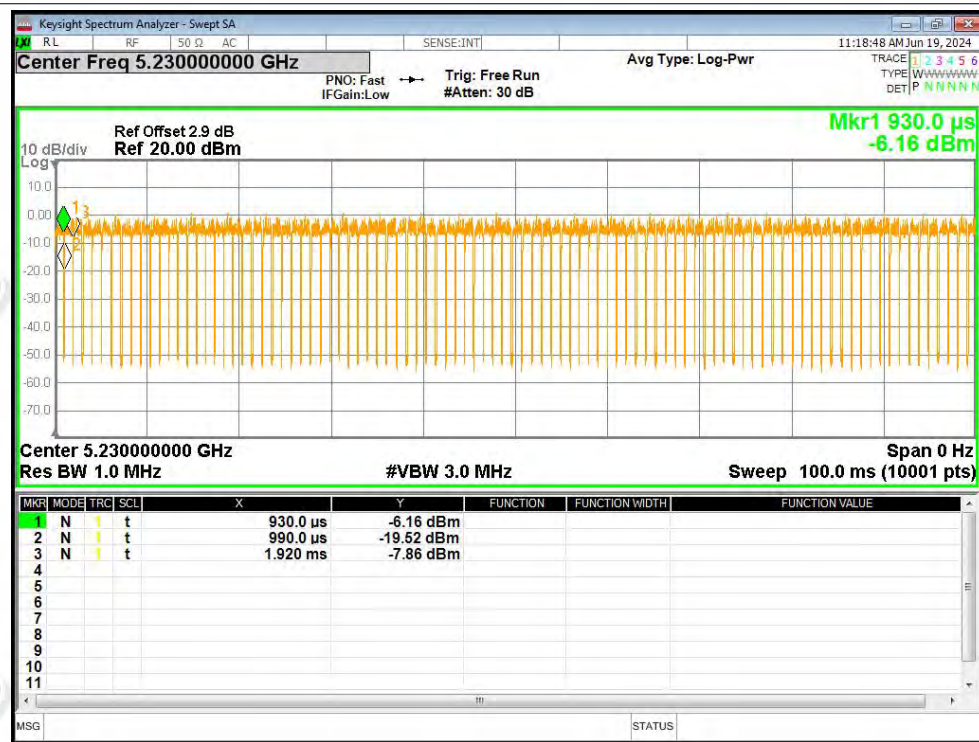




## Duty Cycle NVNT n40 5190MHz Ant1

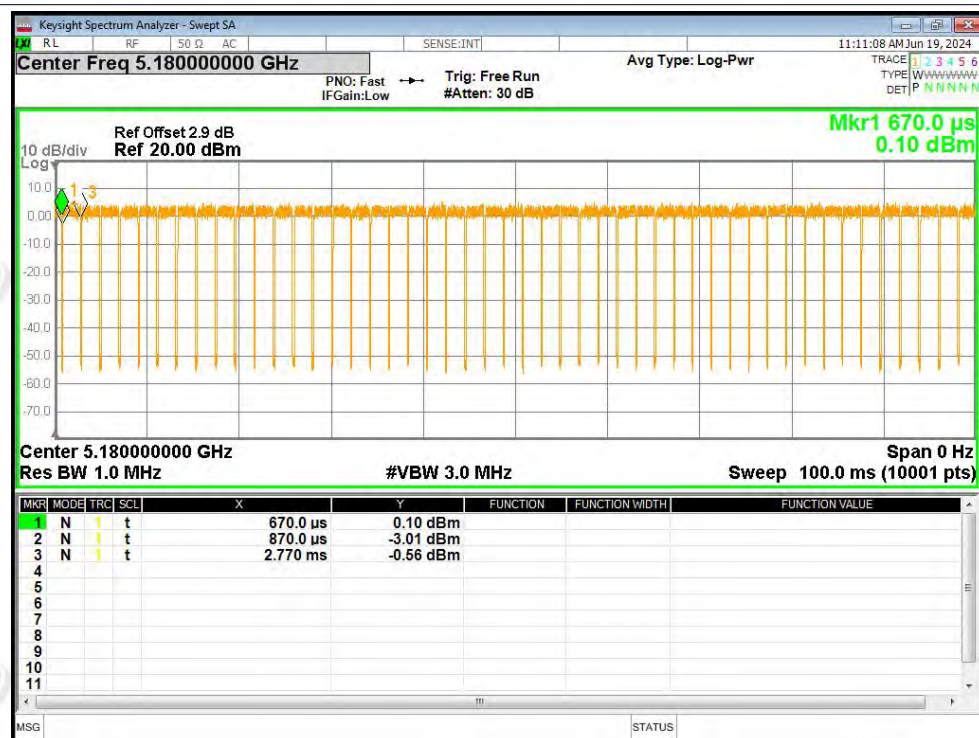


## Duty Cycle NVNT n40 5230MHz Ant1

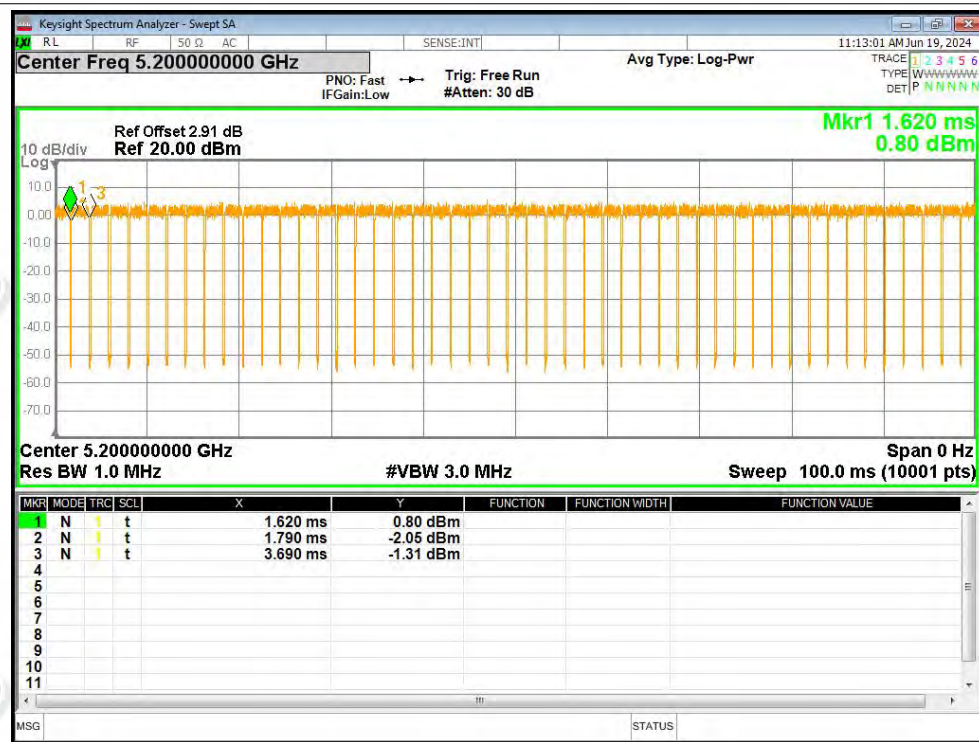




## Duty Cycle NVNT ac20 5180MHz Ant1

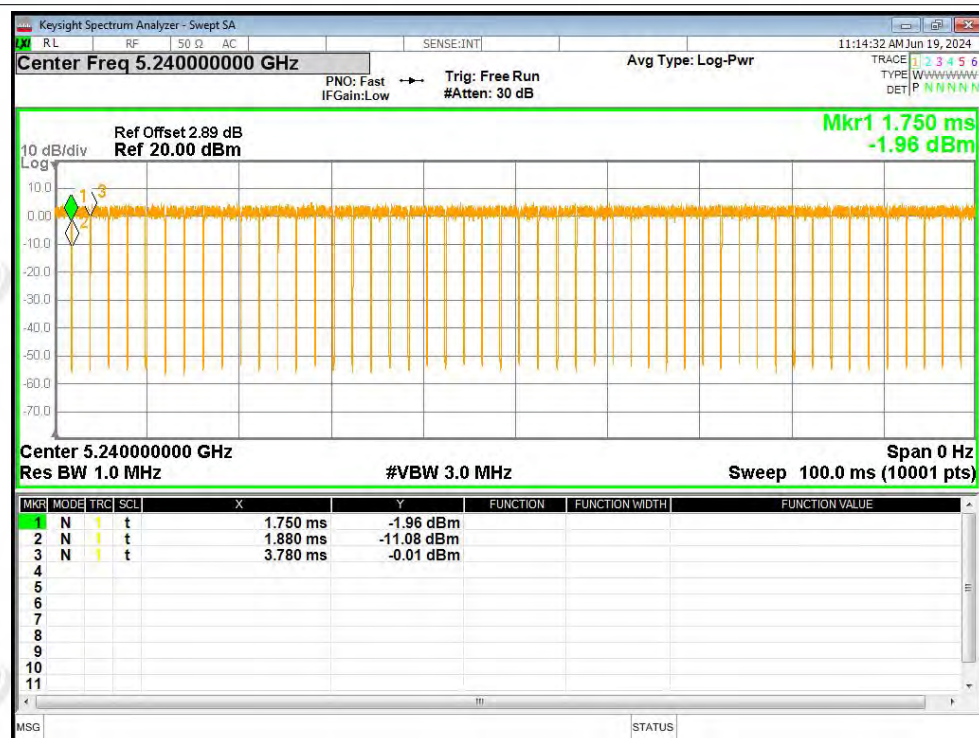


## Duty Cycle NVNT ac20 5200MHz Ant1

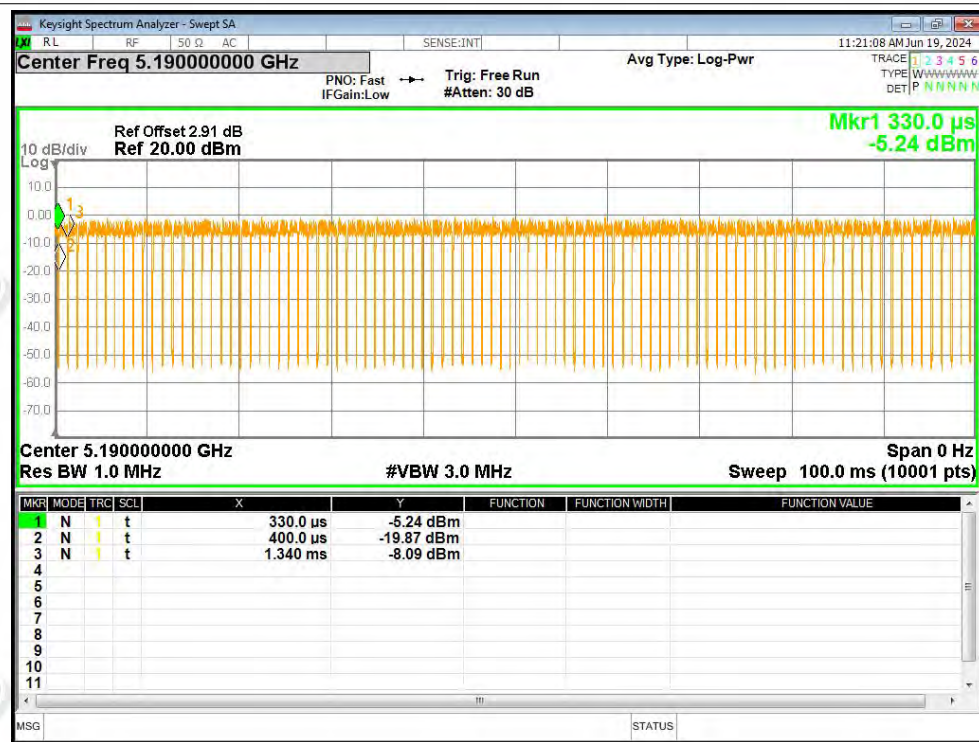




## Duty Cycle NVNT ac20 5240MHz Ant1

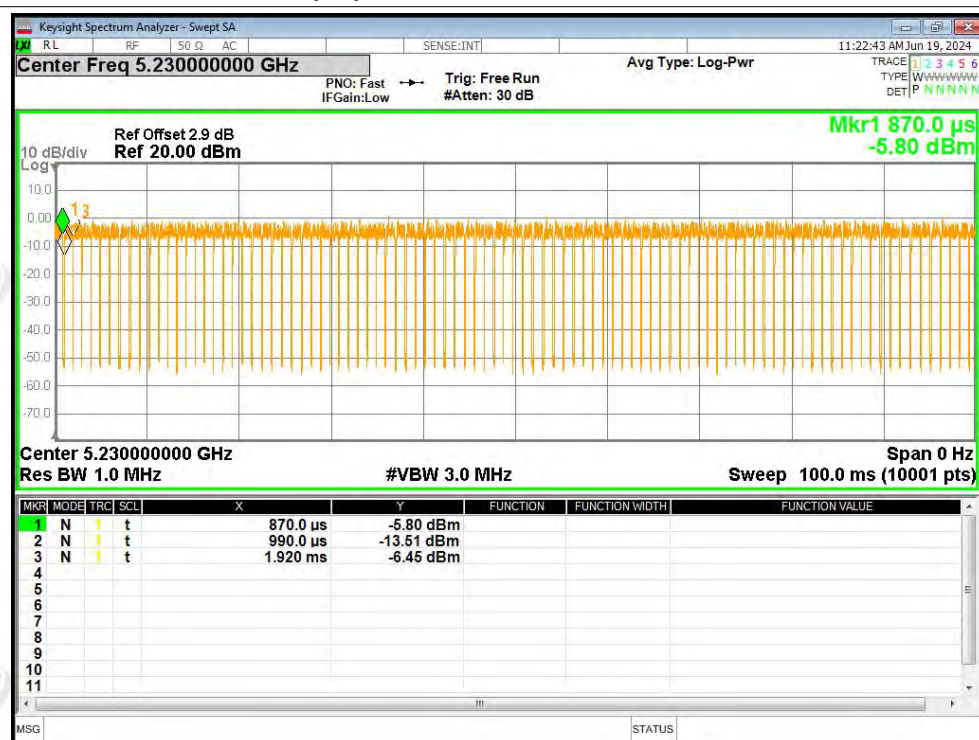


## Duty Cycle NVNT ac40 5190MHz Ant1

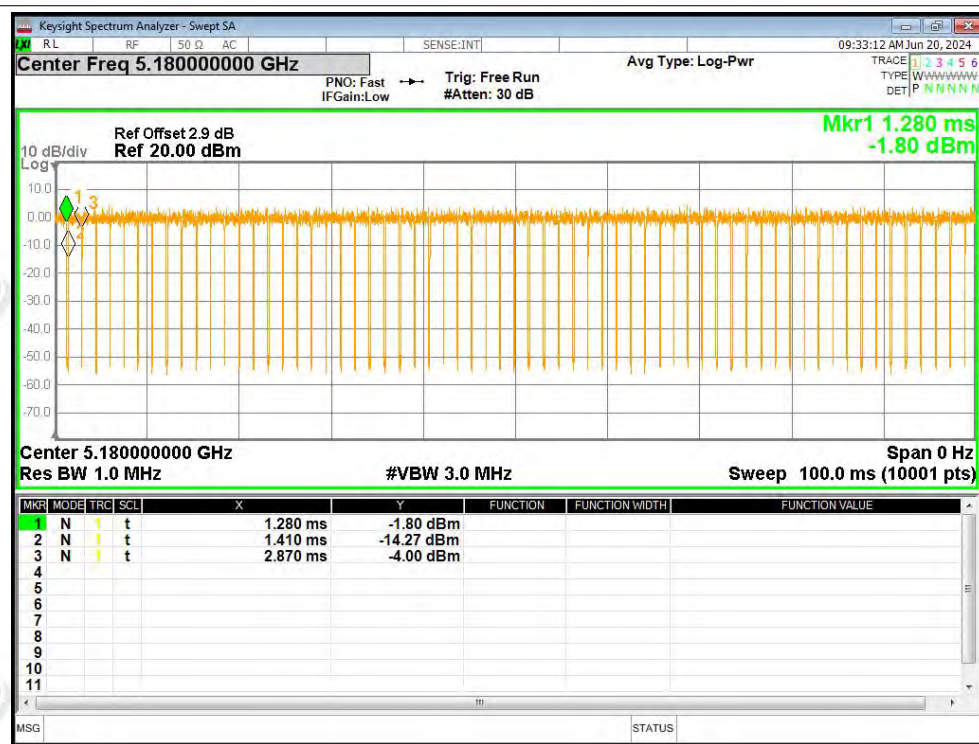




## Duty Cycle NVNT ac40 5230MHz Ant1

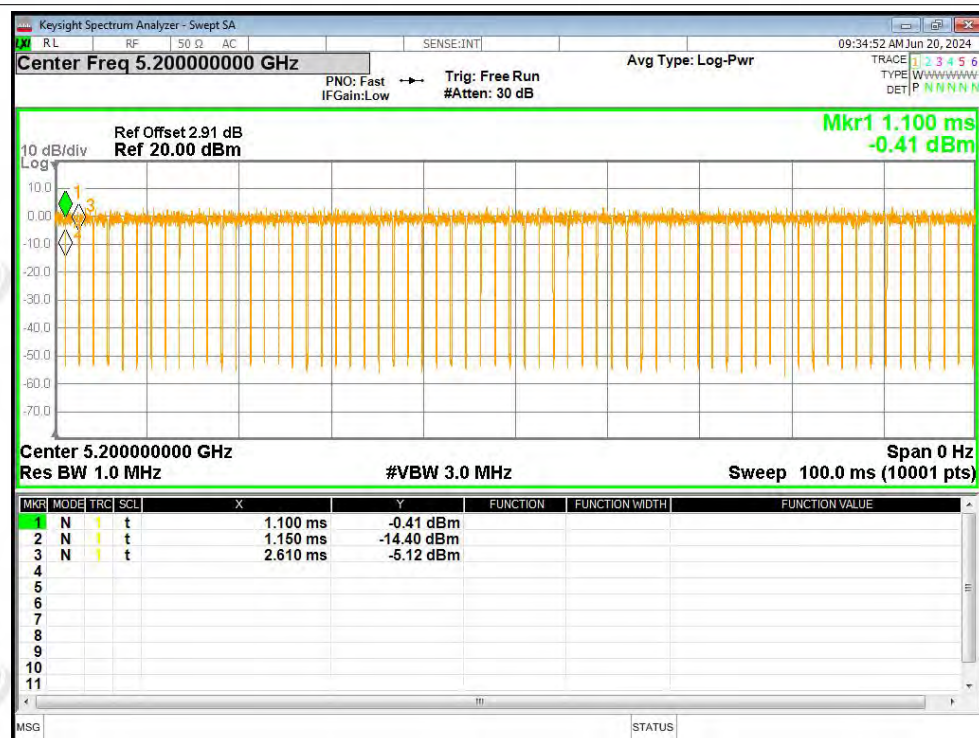


## Duty Cycle NVNT ax20 5180MHz Ant1

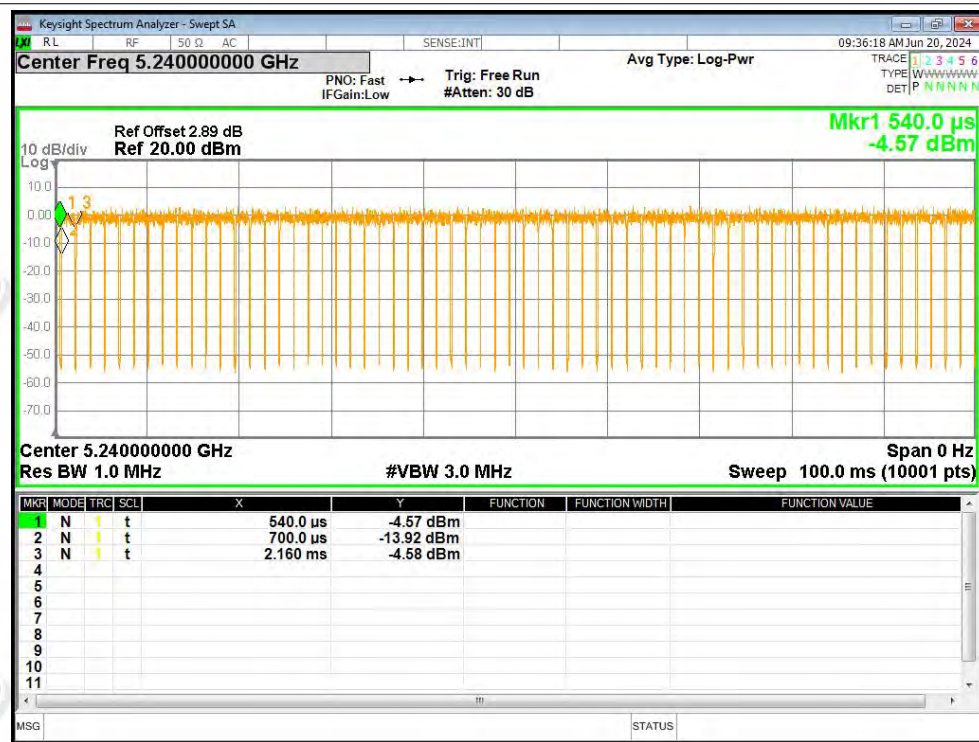




## Duty Cycle NVNT ax20 5200MHz Ant1

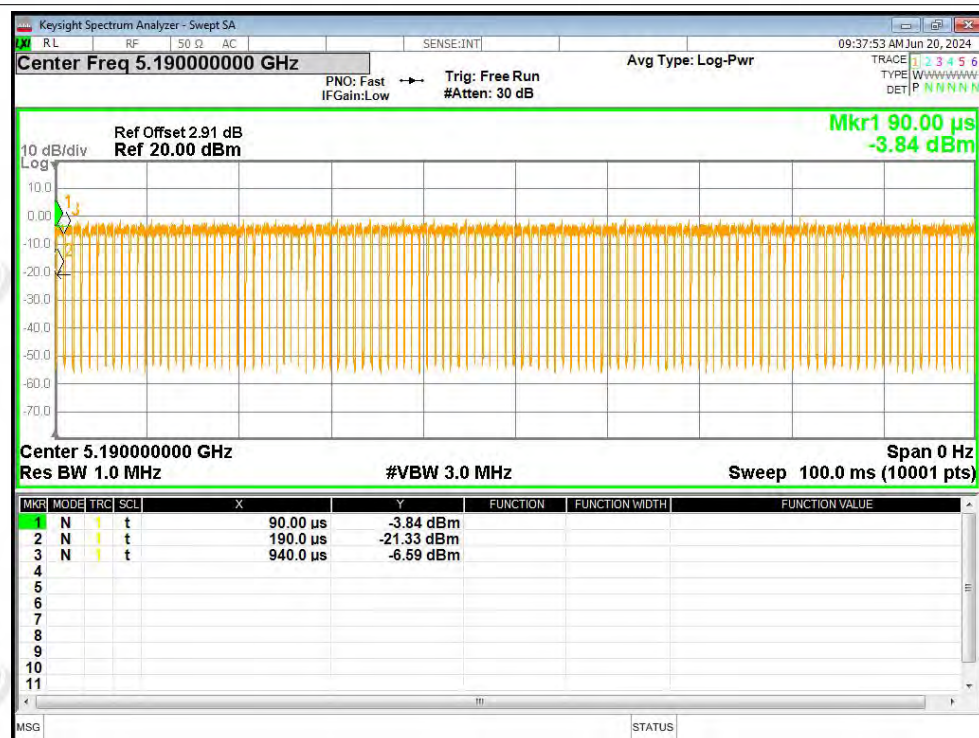


## Duty Cycle NVNT ax20 5240MHz Ant1

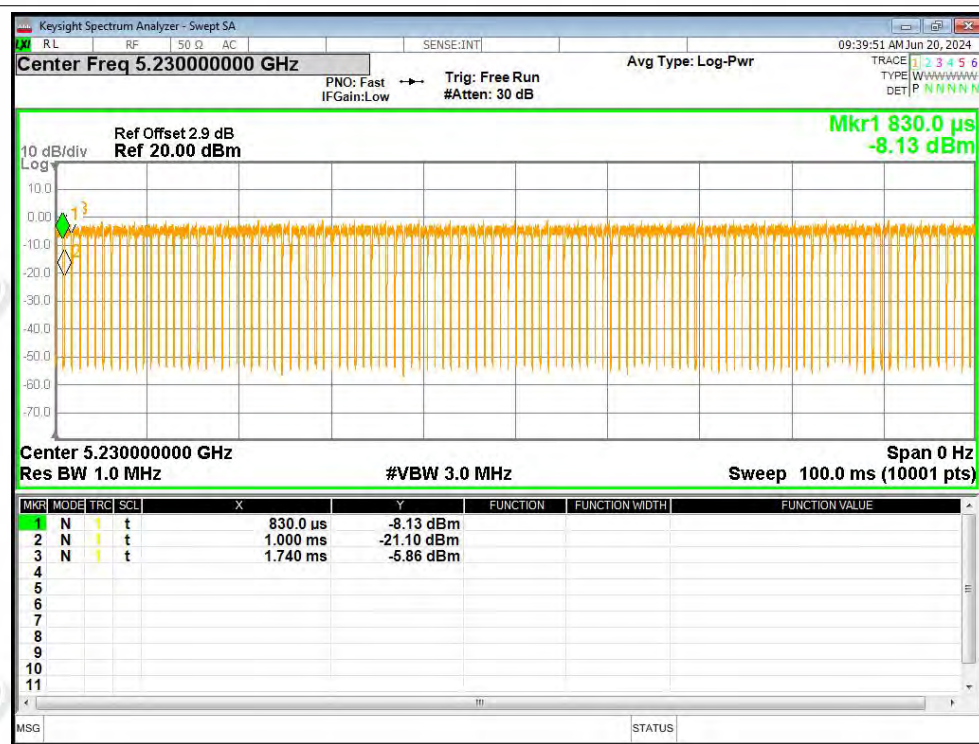




## Duty Cycle NVNT ax40 5190MHz Ant1



## Duty Cycle NVNT ax40 5230MHz Ant1



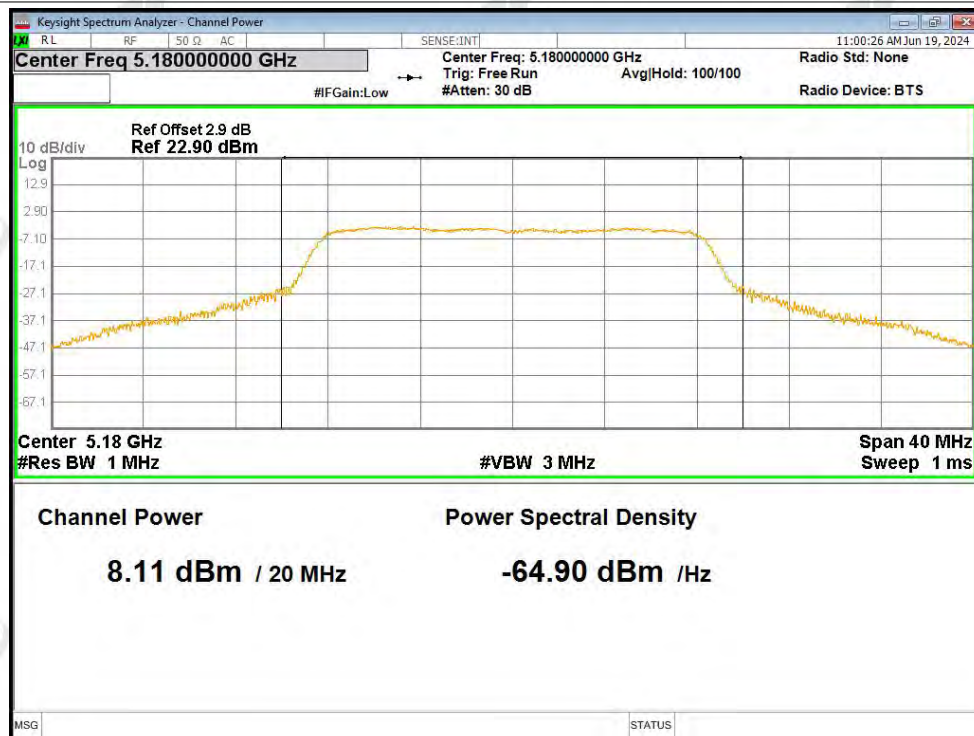
**ZHONGHAN****Maximum Conducted Output Power**

| Condition | Mode | Frequency (MHz) | Antenna | Conducted Power (dBm) | Duty Factor (dB) | Total Power (dBm) | Limit (dBm) | Verdict |
|-----------|------|-----------------|---------|-----------------------|------------------|-------------------|-------------|---------|
| NVNT      | a    | 5180            | Ant1    | 8.11                  | 1.08             | 9.19              | 24          | Pass    |
| NVNT      | a    | 5200            | Ant1    | 7.43                  | 1.76             | 9.19              | 24          | Pass    |
| NVNT      | a    | 5240            | Ant1    | 7.35                  | 0                | 7.35              | 24          | Pass    |
| NVNT      | n20  | 5180            | Ant1    | 9.39                  | 0.27             | 9.66              | 24          | Pass    |
| NVNT      | n20  | 5200            | Ant1    | 8.78                  | 0.33             | 9.11              | 24          | Pass    |
| NVNT      | n20  | 5240            | Ant1    | 8.75                  | 0.46             | 9.21              | 24          | Pass    |
| NVNT      | n40  | 5190            | Ant1    | 8.18                  | 0.44             | 8.62              | 24          | Pass    |
| NVNT      | n40  | 5230            | Ant1    | 8.6                   | 0.27             | 8.87              | 24          | Pass    |
| NVNT      | ac20 | 5180            | Ant1    | 8.69                  | 0.43             | 9.12              | 24          | Pass    |
| NVNT      | ac20 | 5200            | Ant1    | 8.56                  | 0.37             | 8.93              | 24          | Pass    |
| NVNT      | ac20 | 5240            | Ant1    | 8.51                  | 0.29             | 8.8               | 24          | Pass    |
| NVNT      | ac40 | 5190            | Ant1    | 8.34                  | 0.31             | 8.65              | 24          | Pass    |
| NVNT      | ac40 | 5230            | Ant1    | 8.42                  | 0.53             | 8.95              | 24          | Pass    |
| NVNT      | ax20 | 5180            | Ant1    | 6.48                  | 0.37             | 6.85              | 24          | Pass    |
| NVNT      | ax20 | 5200            | Ant1    | 5.73                  | 0.15             | 5.88              | 24          | Pass    |
| NVNT      | ax20 | 5240            | Ant1    | 5.77                  | 0.45             | 6.22              | 24          | Pass    |
| NVNT      | ax40 | 5190            | Ant1    | 5.62                  | 0.54             | 6.16              | 24          | Pass    |
| NVNT      | ax40 | 5230            | Ant1    | 5.72                  | 0.9              | 6.62              | 24          | Pass    |

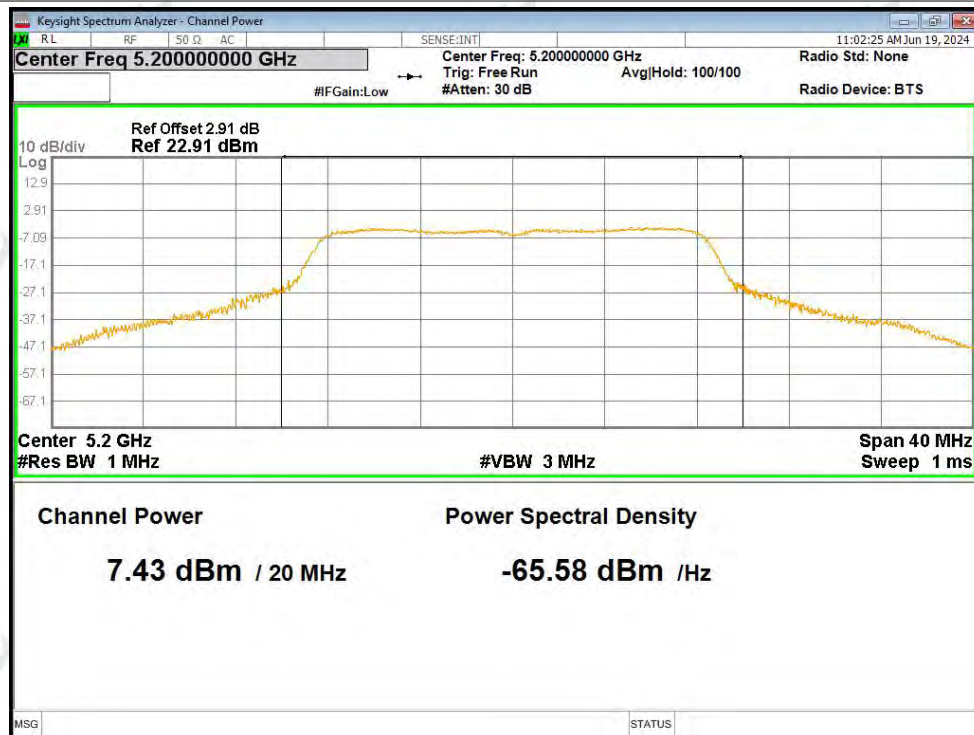


## Test Graphs

## Power NVNT a 5180MHz Ant1

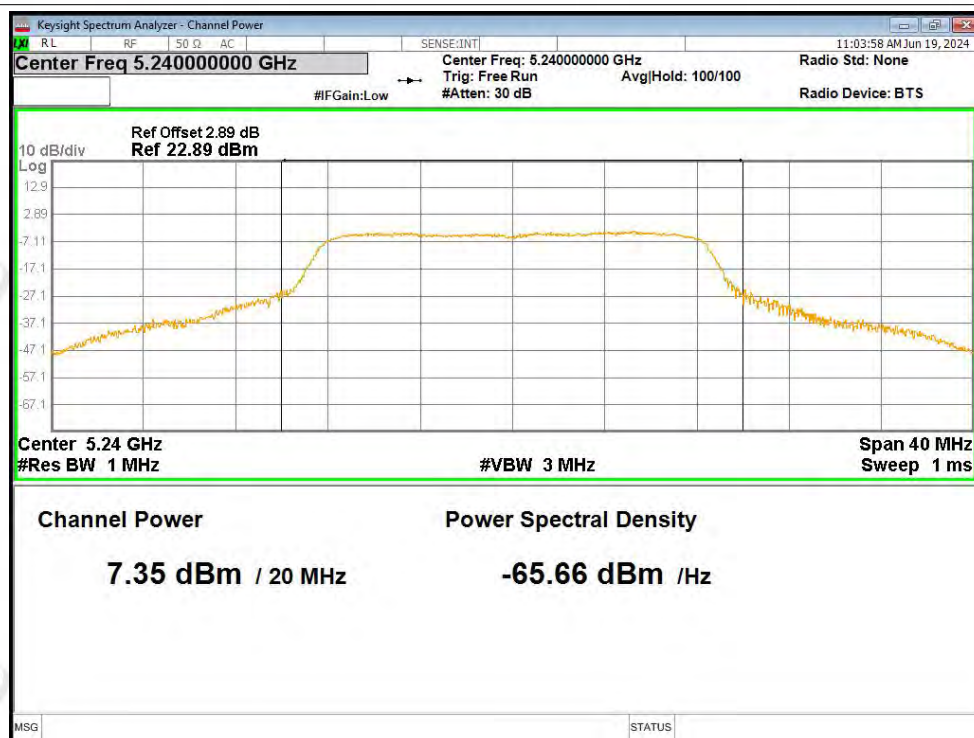


## Power NVNT a 5200MHz Ant1

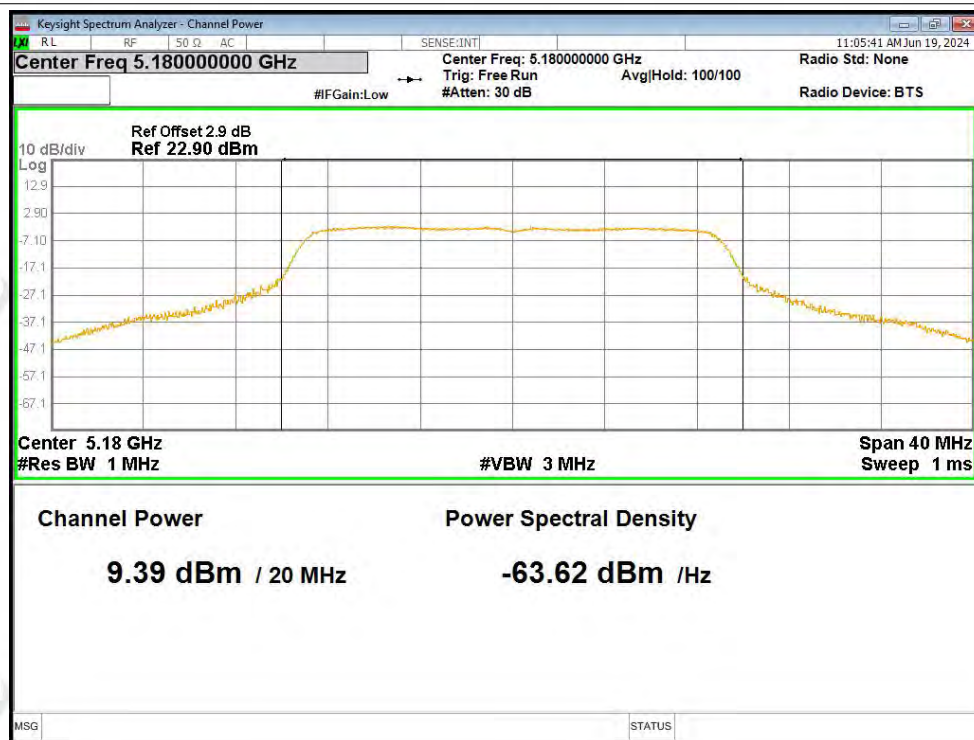




## Power NVNT a 5240MHz Ant1

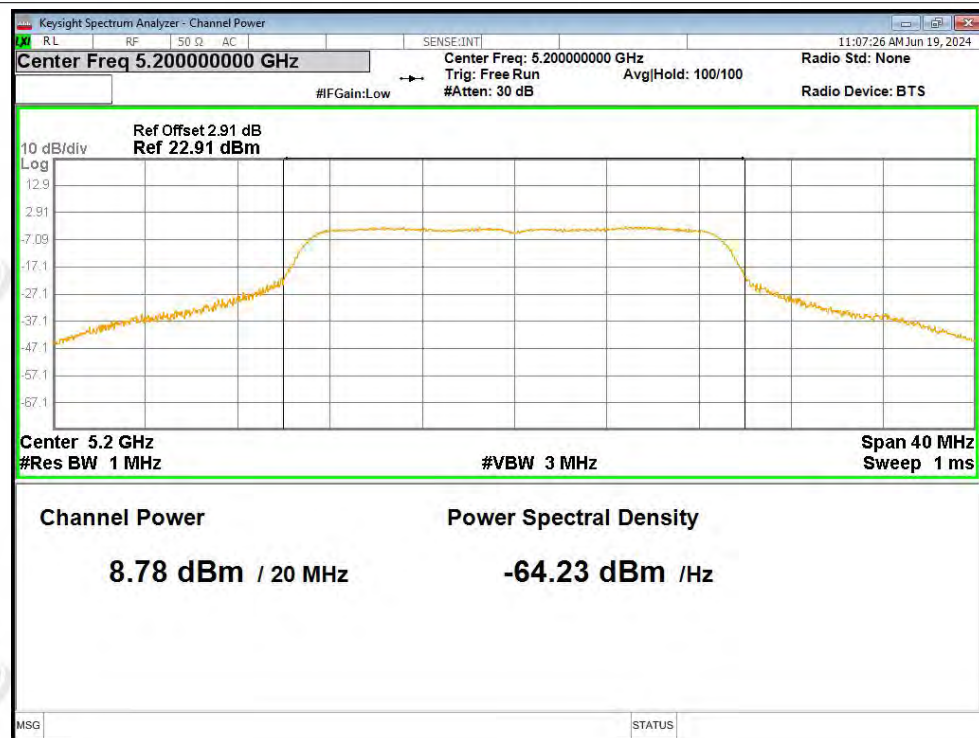


## Power NVNT n20 5180MHz Ant1

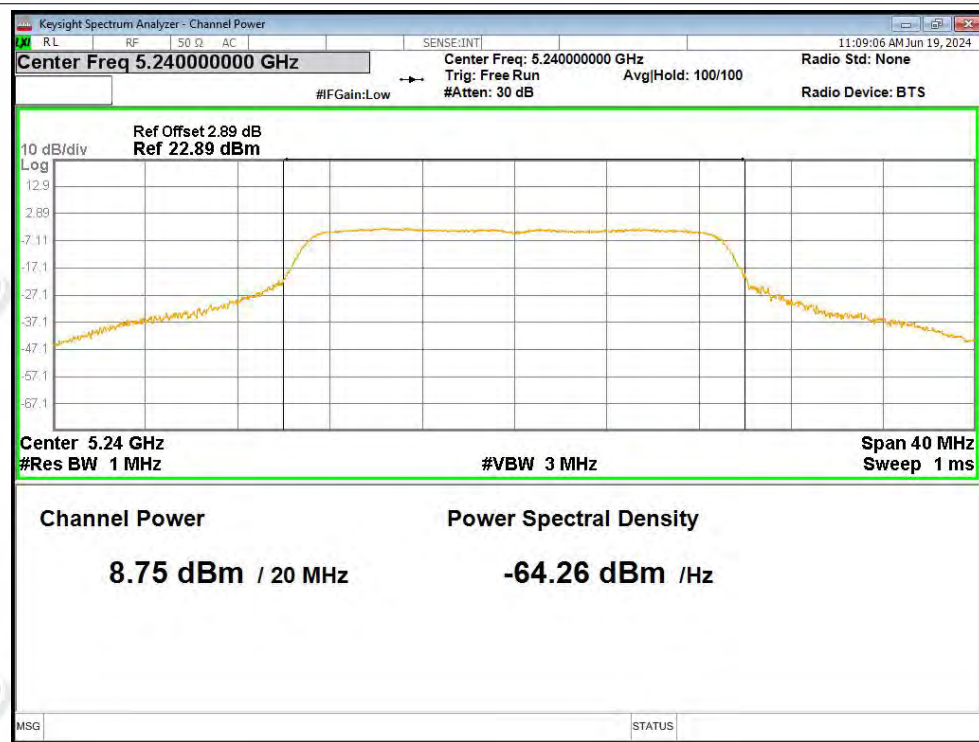




## Power NVNT n20 5200MHz Ant1



## Power NVNT n20 5240MHz Ant1

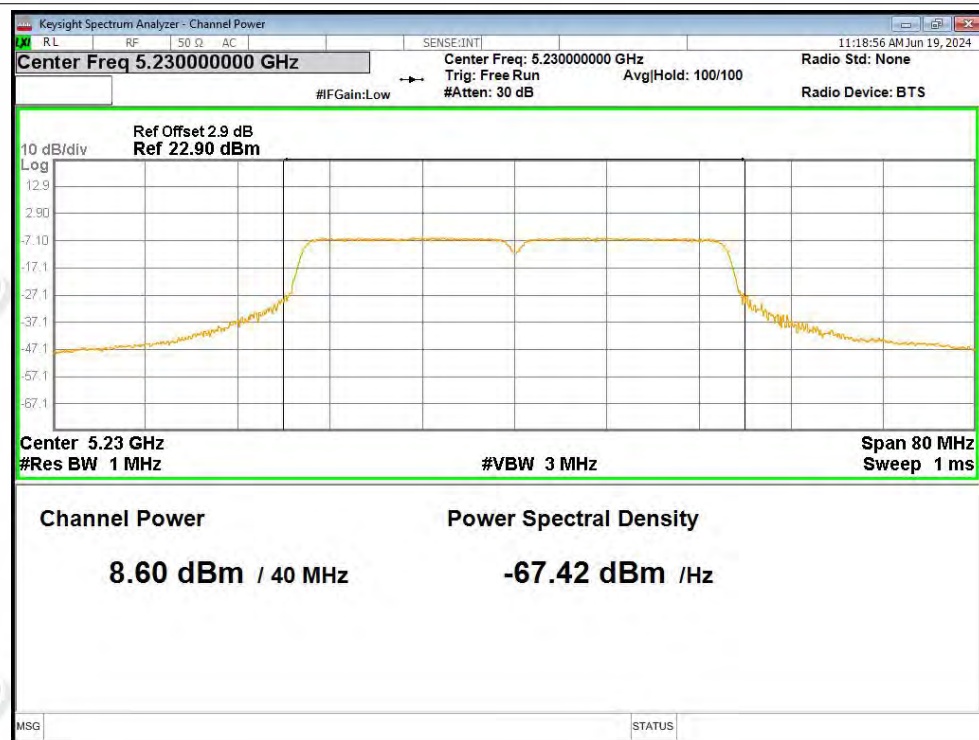




## Power NVNT n40 5190MHz Ant1

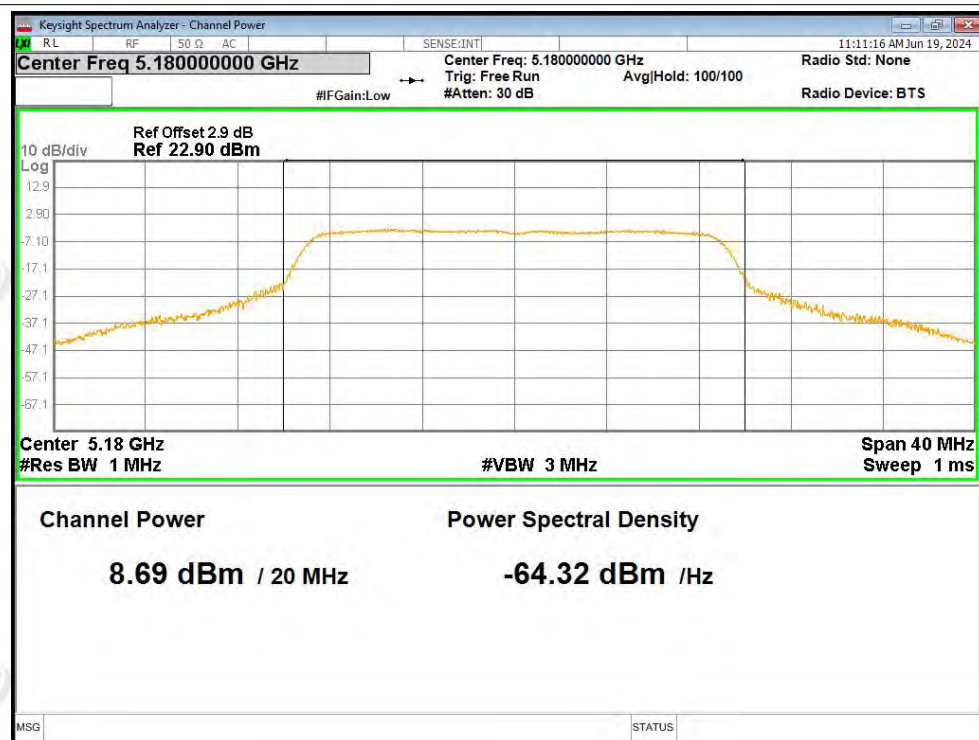


## Power NVNT n40 5230MHz Ant1





## Power NVNT ac20 5180MHz Ant1

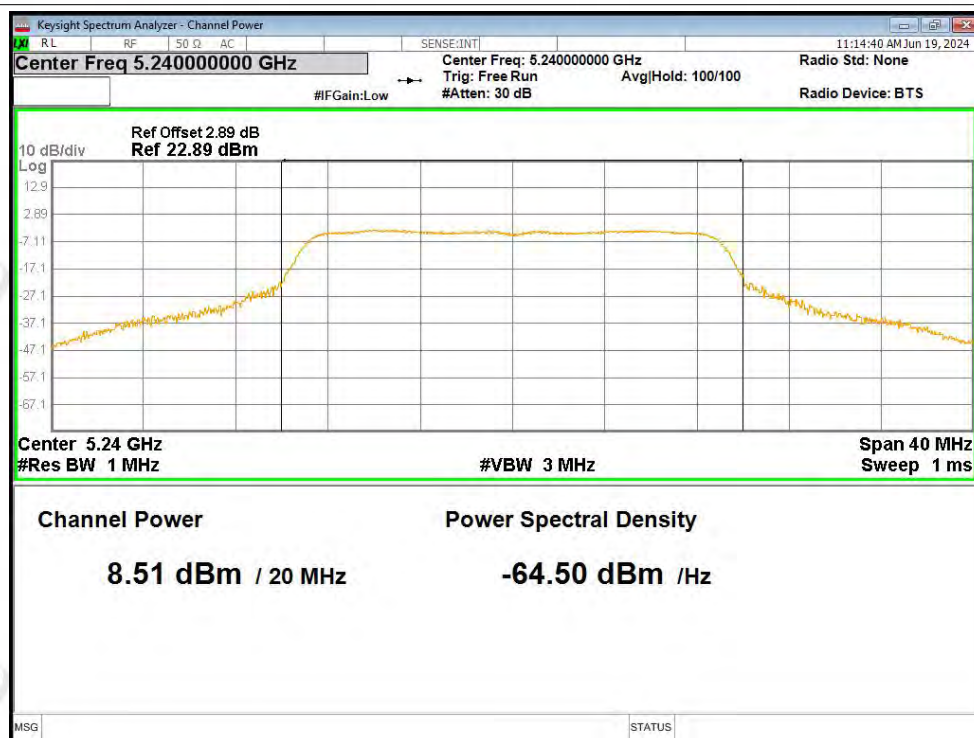


## Power NVNT ac20 5200MHz Ant1

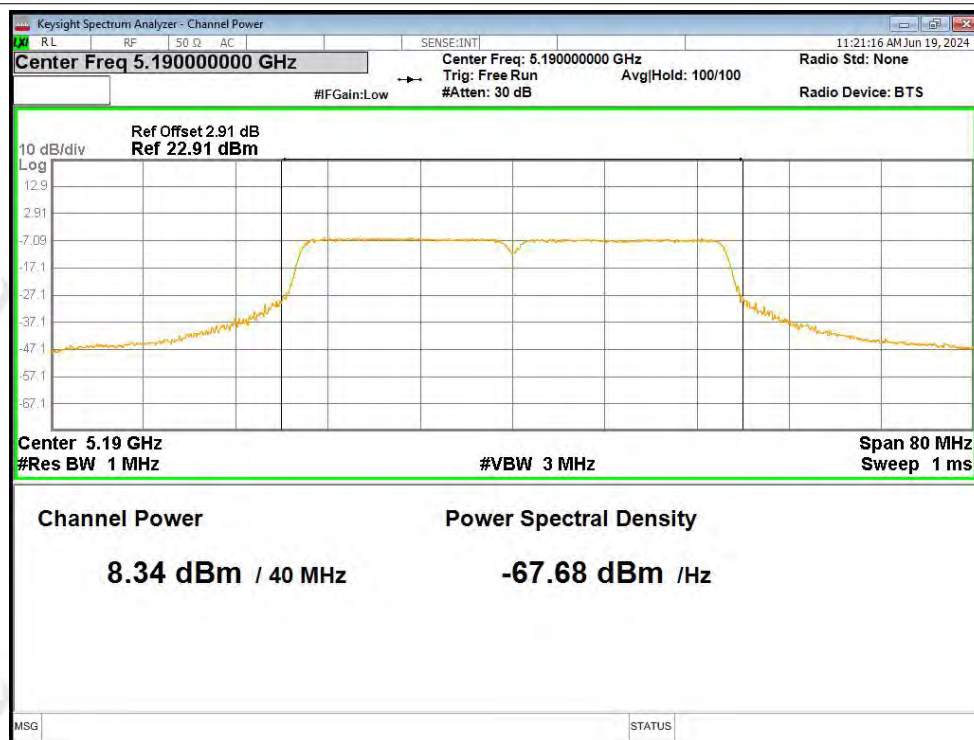




## Power NVNT ac20 5240MHz Ant1

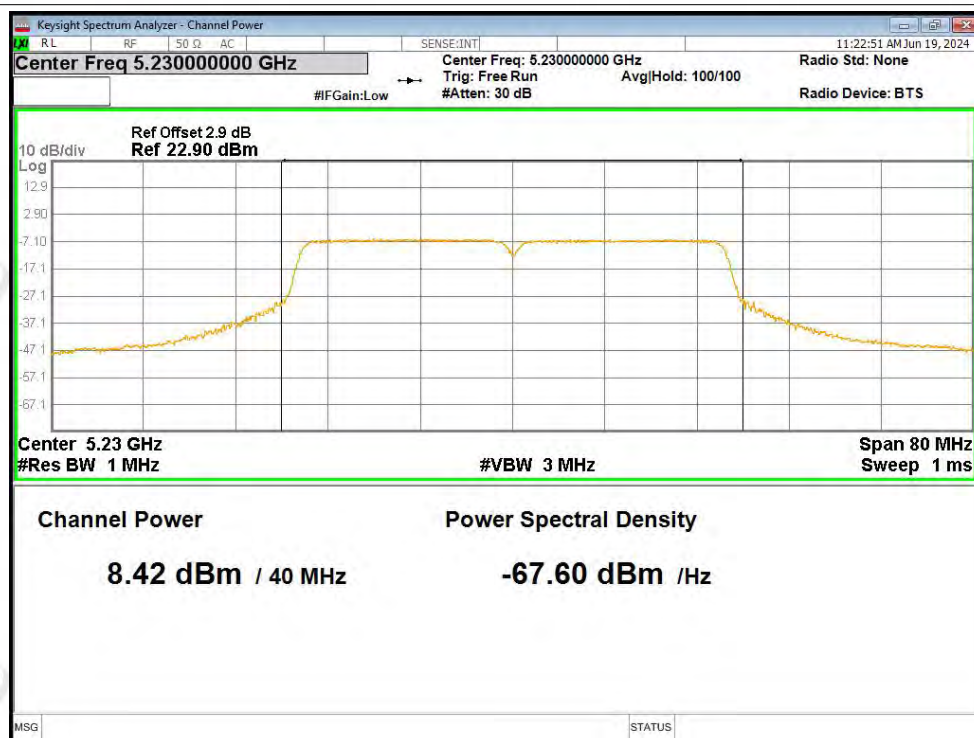


## Power NVNT ac40 5190MHz Ant1

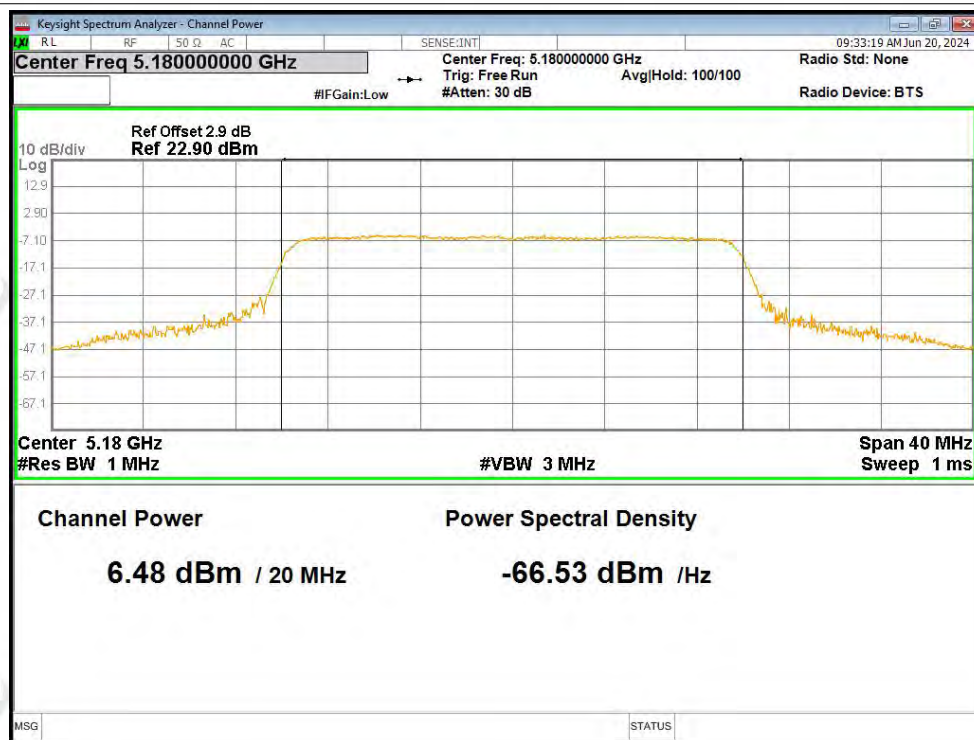




## Power NVNT ac40 5230MHz Ant1

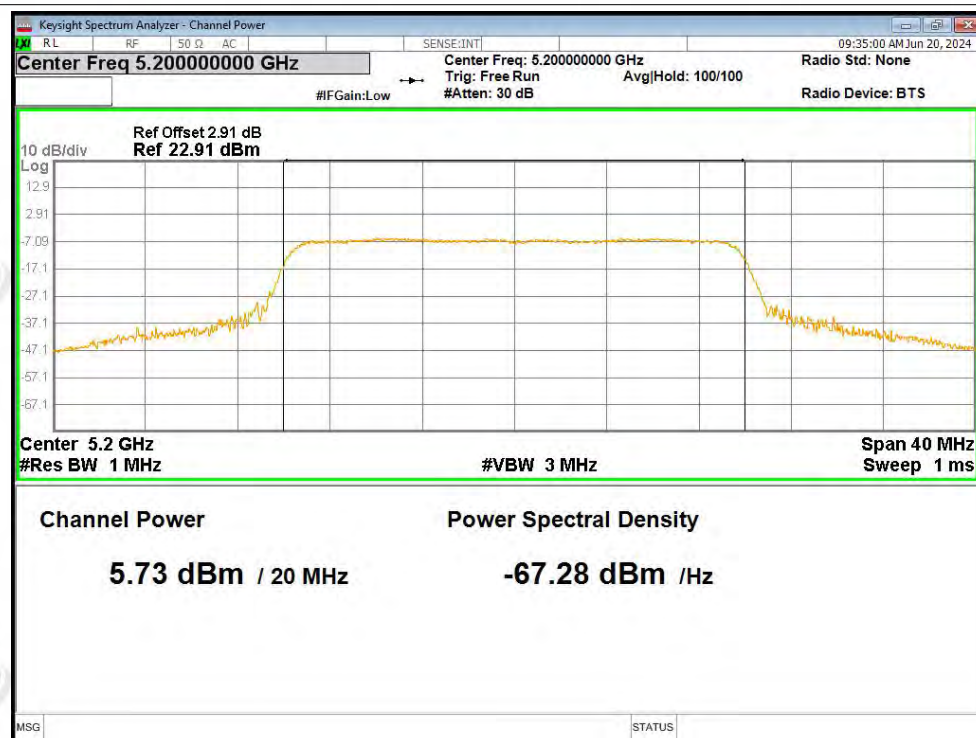


## Power NVNT ax20 5180MHz Ant1

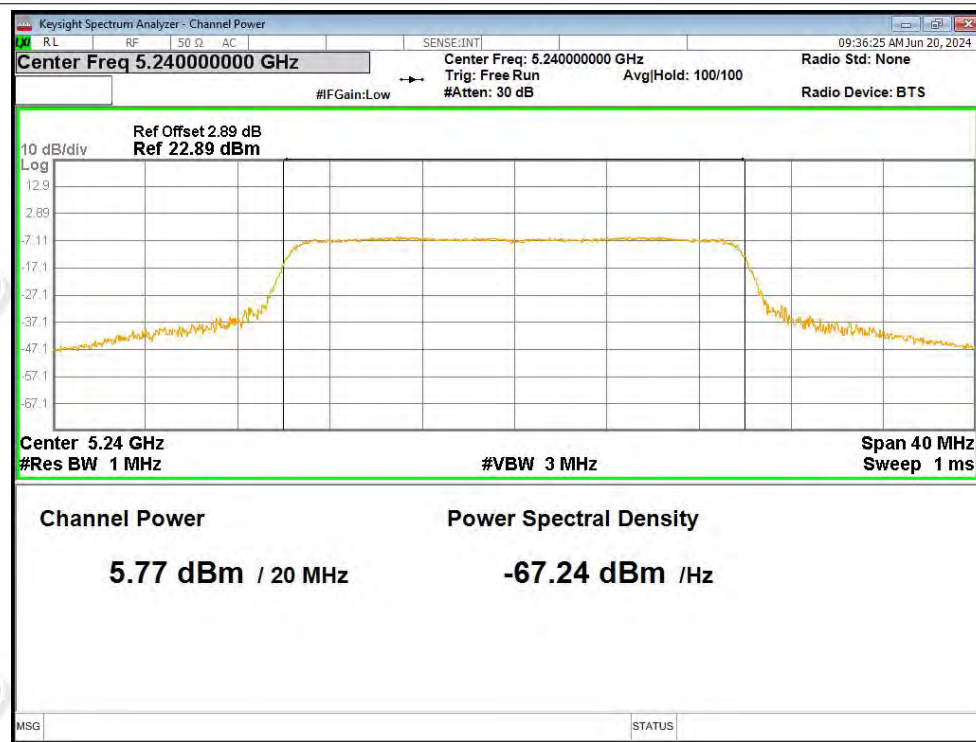




## Power NVNT ax20 5200MHz Ant1

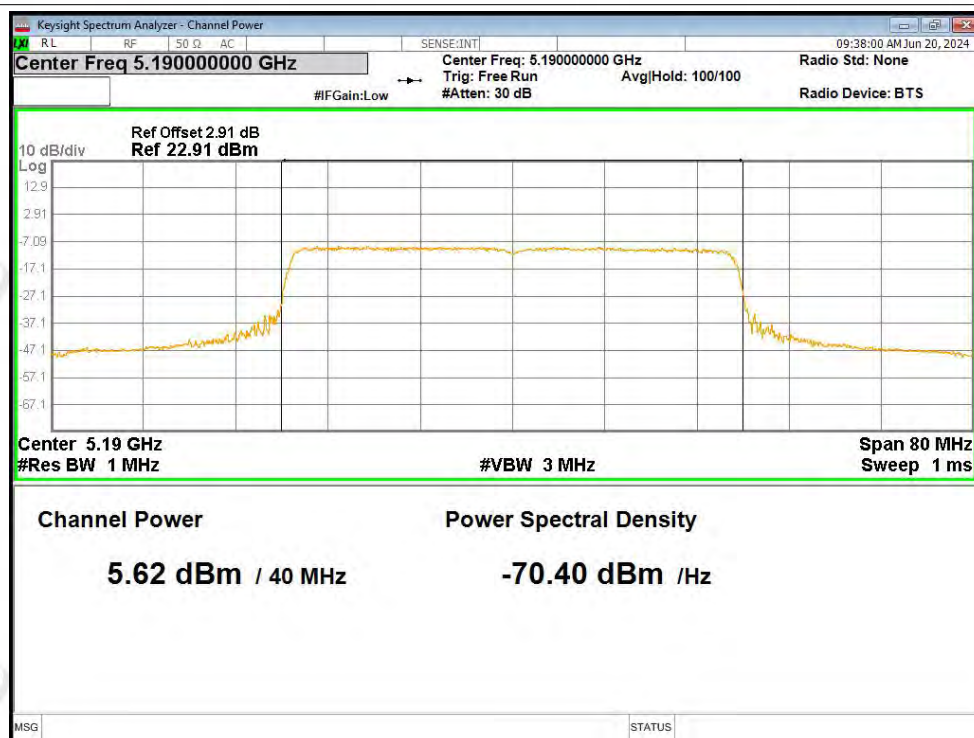


## Power NVNT ax20 5240MHz Ant1

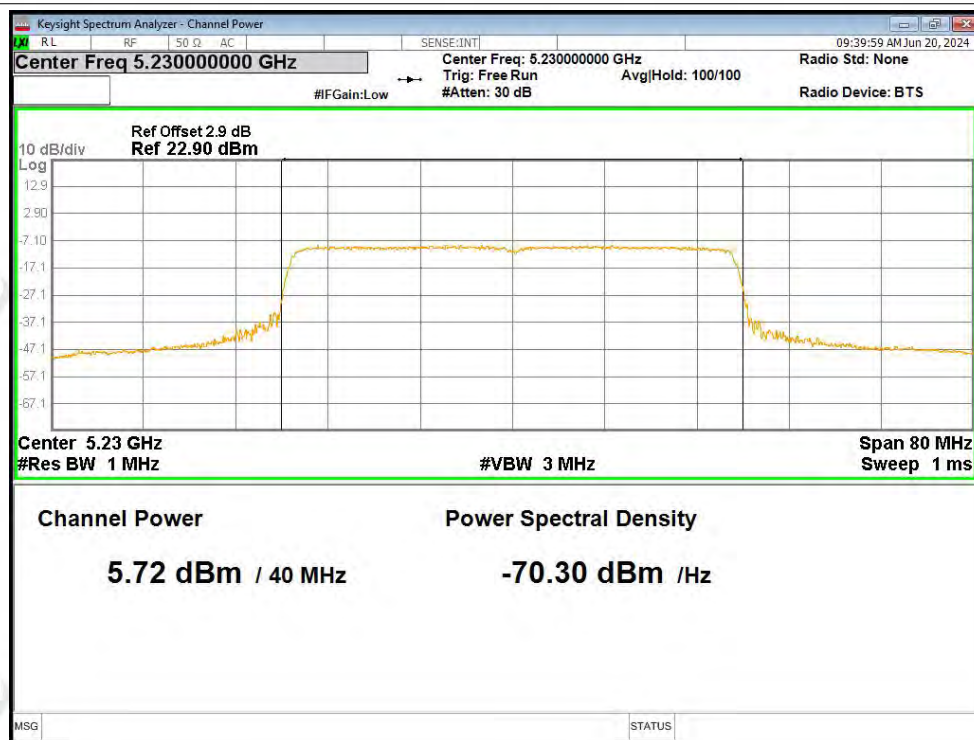




## Power NVNT ax40 5190MHz Ant1



## Power NVNT ax40 5230MHz Ant1



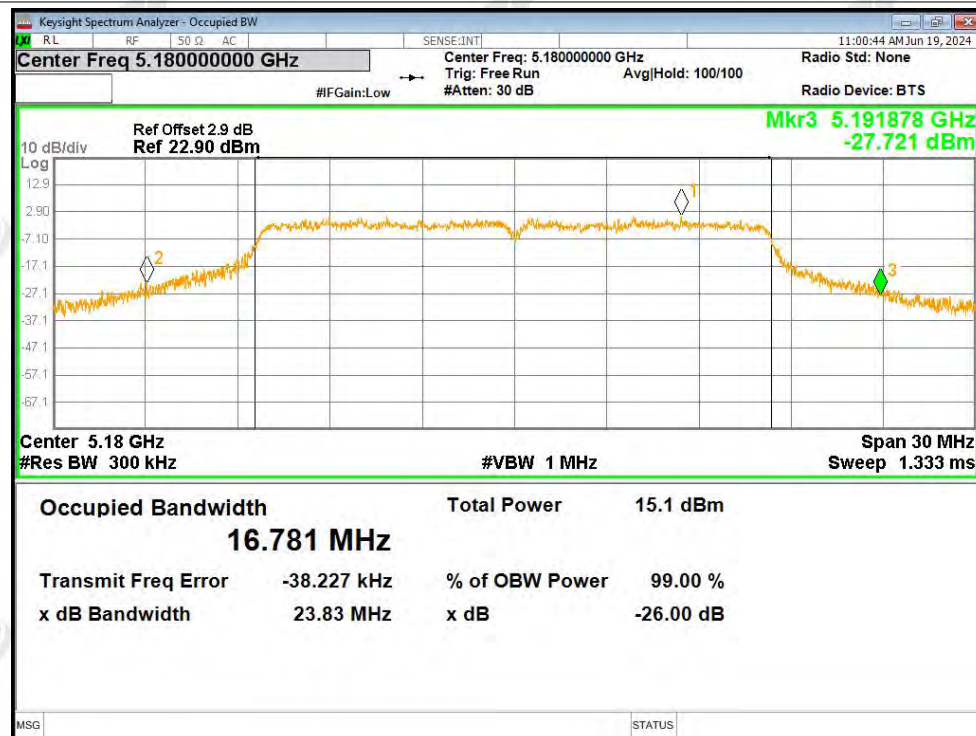
**ZHONGHAN****-26dB Bandwidth**

| Condition | Mode | Frequency (MHz) | Antenna | -26 dB Bandwidth (MHz) | Verdict |
|-----------|------|-----------------|---------|------------------------|---------|
| NVNT      | a    | 5180            | Ant1    | 23.833                 | Pass    |
| NVNT      | a    | 5200            | Ant1    | 23.783                 | Pass    |
| NVNT      | a    | 5240            | Ant1    | 23.832                 | Pass    |
| NVNT      | n20  | 5180            | Ant1    | 27.056                 | Pass    |
| NVNT      | n20  | 5200            | Ant1    | 26.465                 | Pass    |
| NVNT      | n20  | 5240            | Ant1    | 28.137                 | Pass    |
| NVNT      | n40  | 5190            | Ant1    | 46.775                 | Pass    |
| NVNT      | n40  | 5230            | Ant1    | 47.286                 | Pass    |
| NVNT      | ac20 | 5180            | Ant1    | 25.837                 | Pass    |
| NVNT      | ac20 | 5200            | Ant1    | 26.853                 | Pass    |
| NVNT      | ac20 | 5240            | Ant1    | 27.145                 | Pass    |
| NVNT      | ac40 | 5190            | Ant1    | 47.151                 | Pass    |
| NVNT      | ac40 | 5230            | Ant1    | 47.141                 | Pass    |
| NVNT      | ax20 | 5180            | Ant1    | 25.534                 | Pass    |
| NVNT      | ax20 | 5200            | Ant1    | 26.017                 | Pass    |
| NVNT      | ax20 | 5240            | Ant1    | 25.699                 | Pass    |
| NVNT      | ax40 | 5190            | Ant1    | 43.736                 | Pass    |
| NVNT      | ax40 | 5230            | Ant1    | 44.152                 | Pass    |

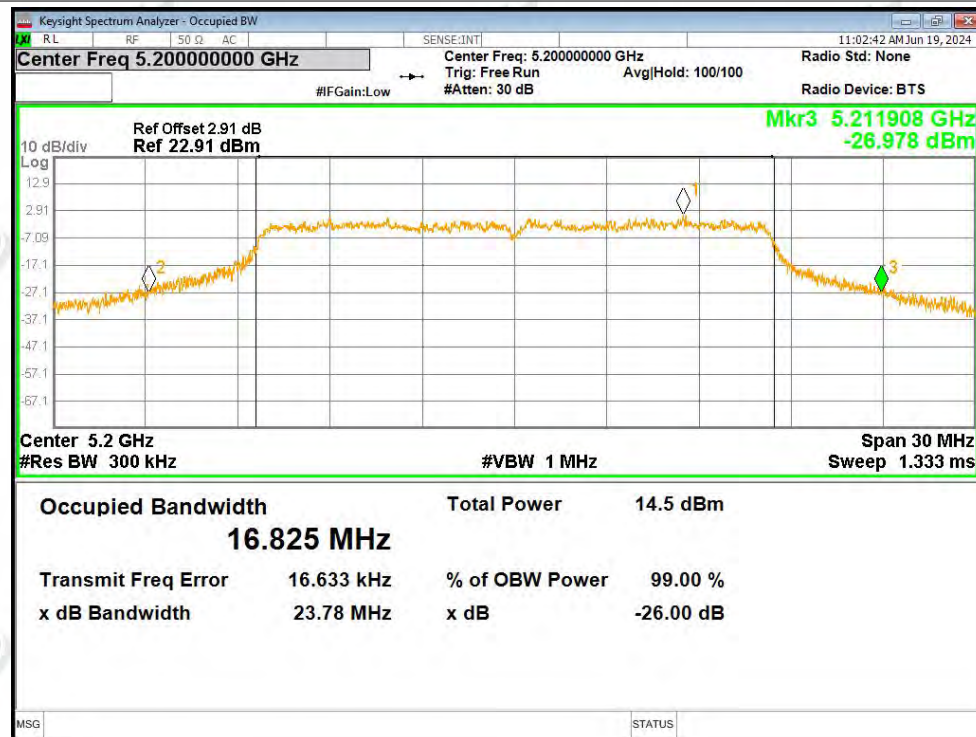


## Test Graphs

## -26dB Bandwidth NVNT a 5180MHz Ant1

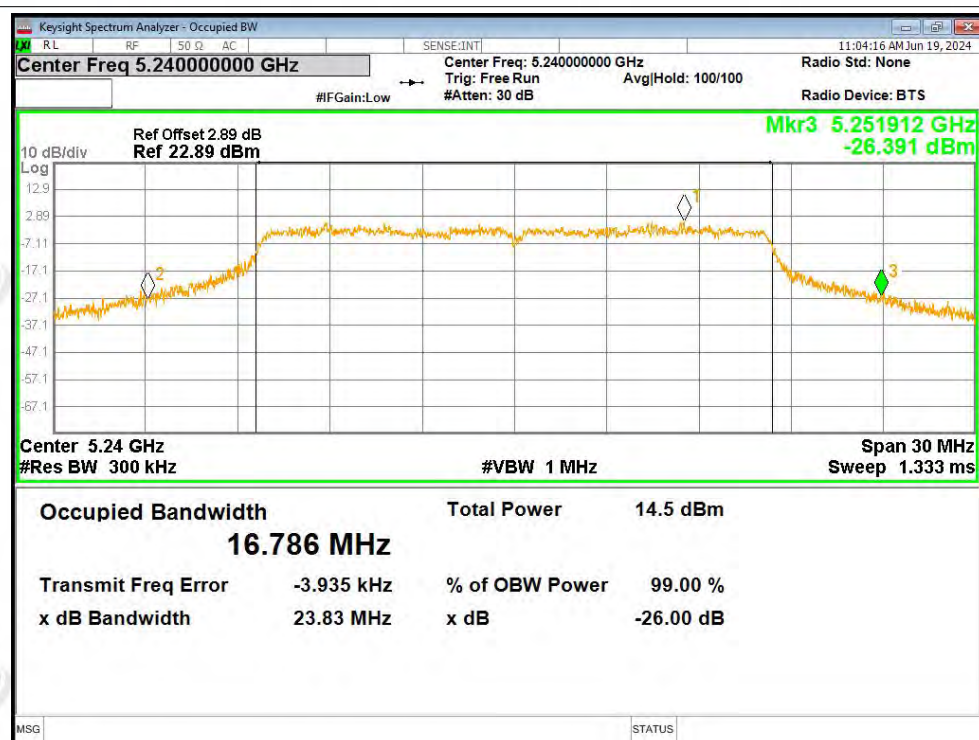


## -26dB Bandwidth NVNT a 5200MHz Ant1

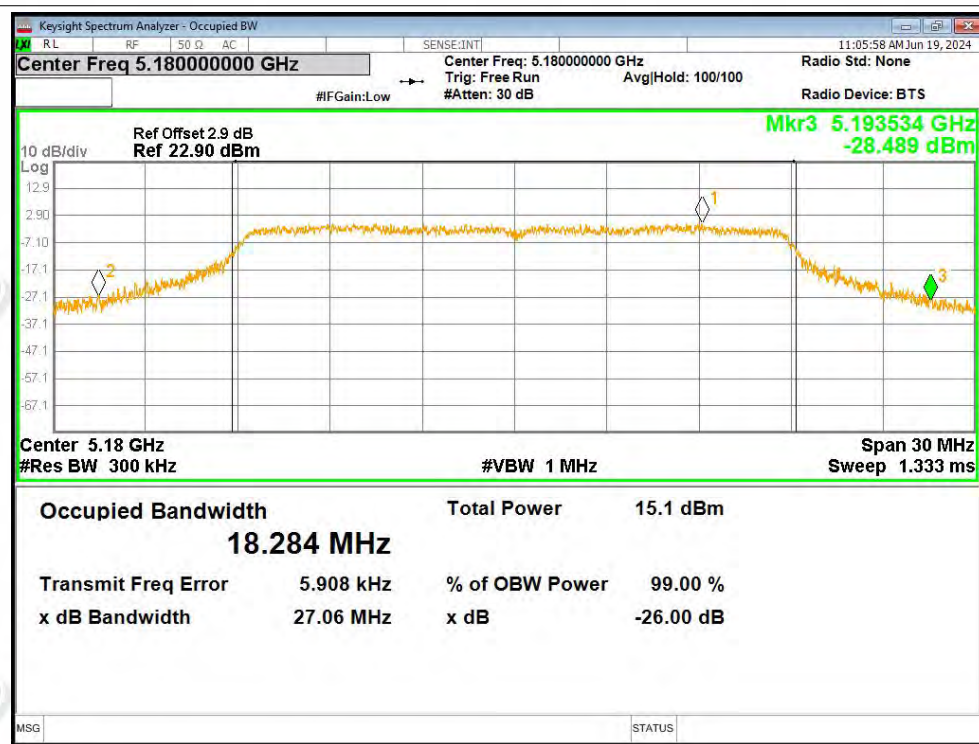




## -26dB Bandwidth NVNT a 5240MHz Ant1

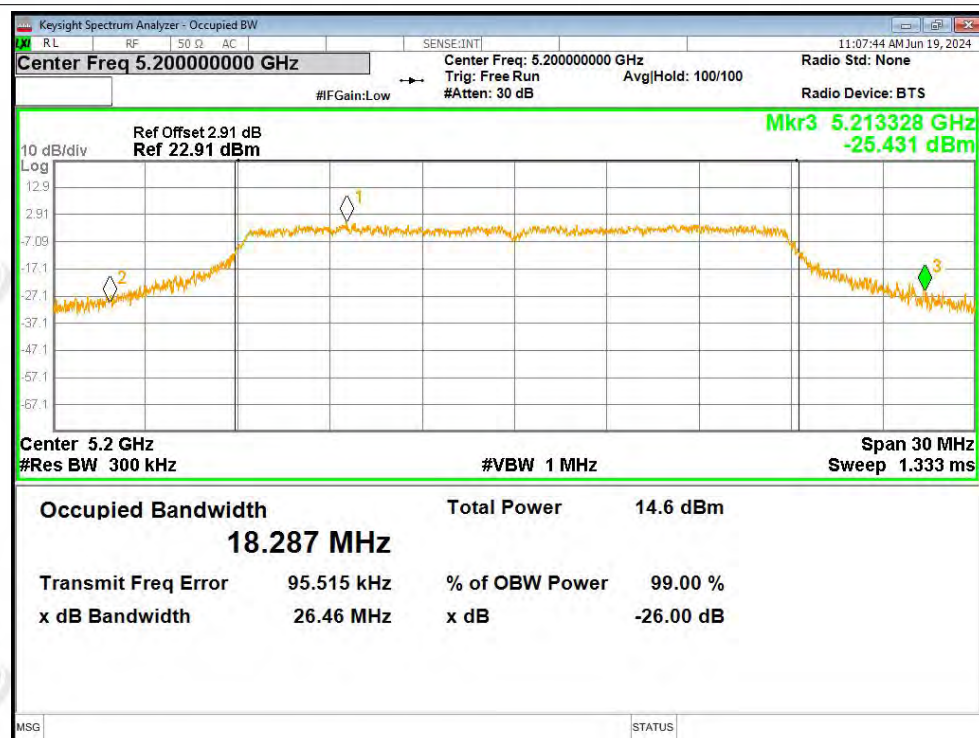


## -26dB Bandwidth NVNT n20 5180MHz Ant1

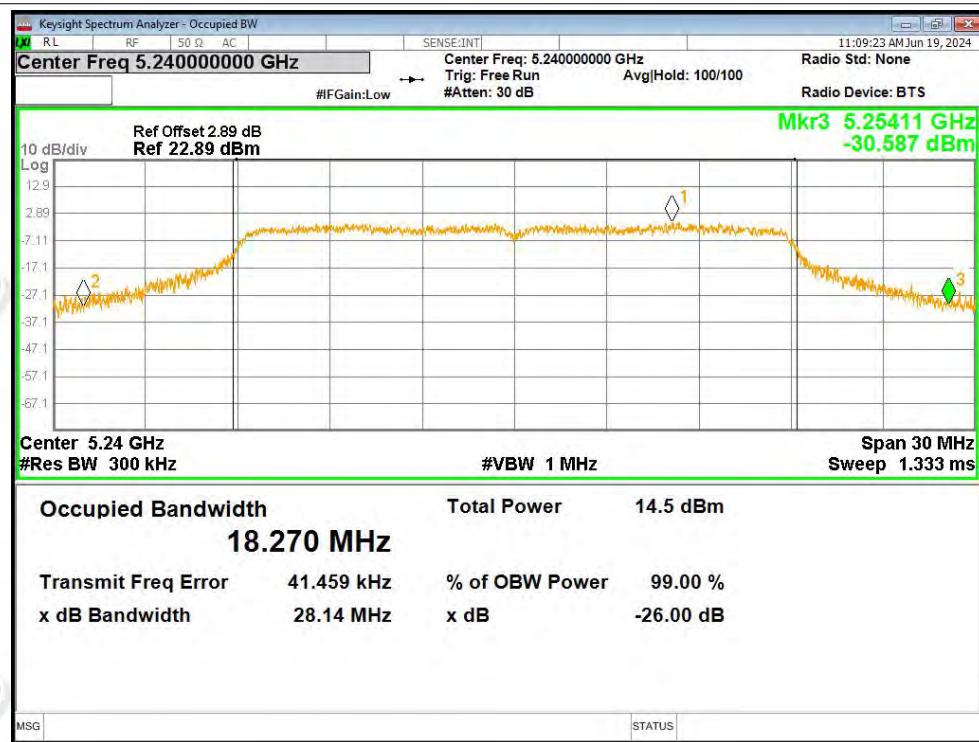




## -26dB Bandwidth NVNT n20 5200MHz Ant1

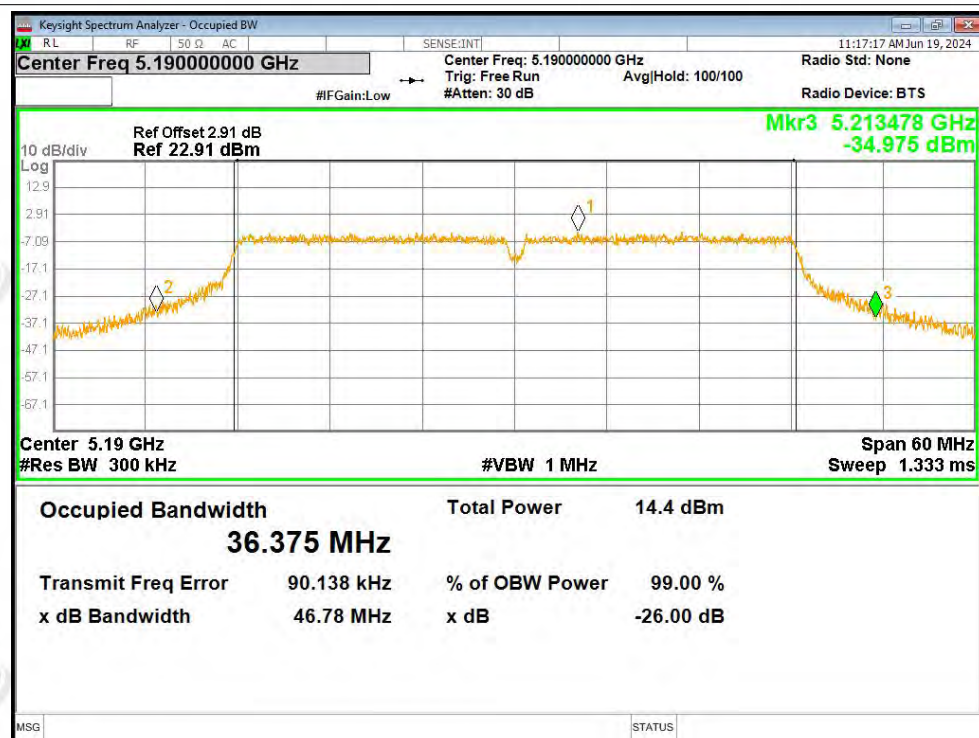


## -26dB Bandwidth NVNT n20 5240MHz Ant1

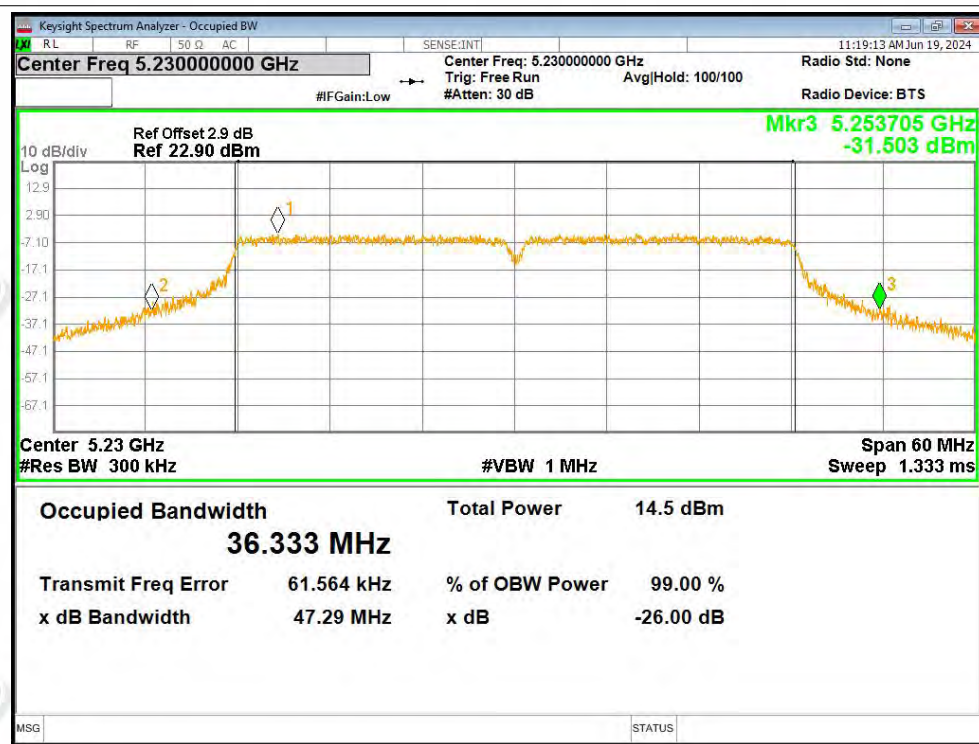




## -26dB Bandwidth NVNT n40 5190MHz Ant1

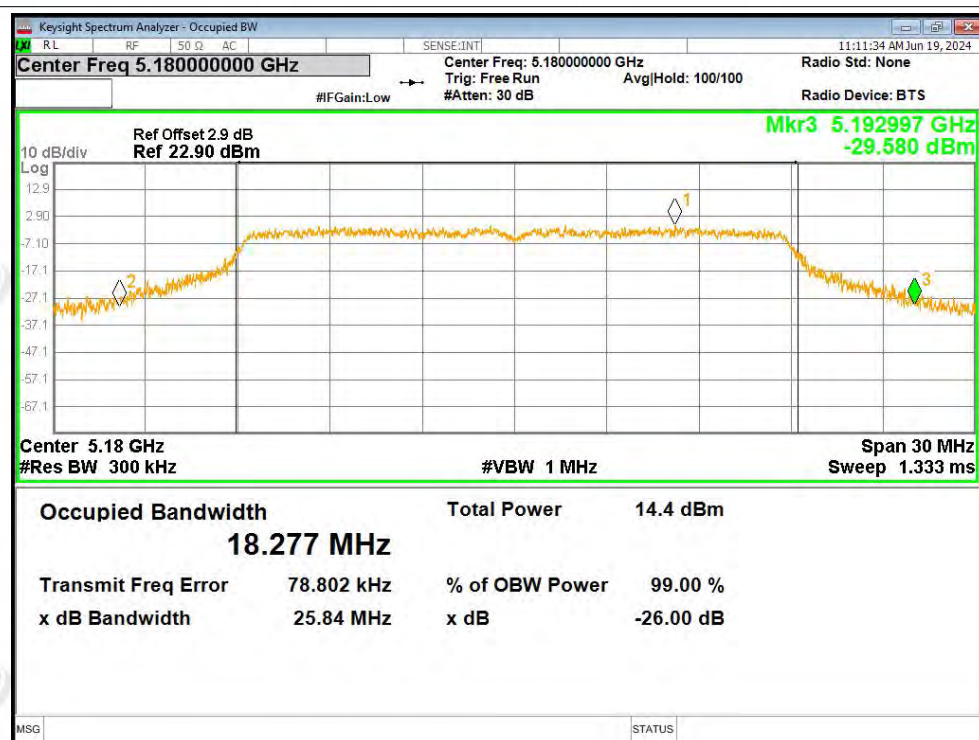


## -26dB Bandwidth NVNT n40 5230MHz Ant1

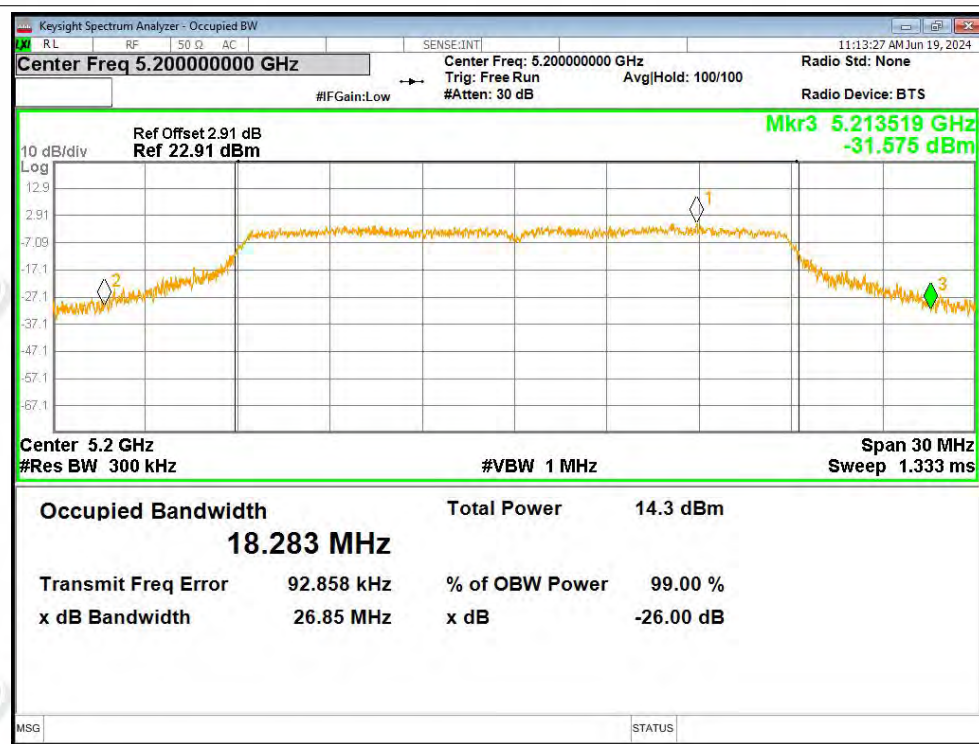




## -26dB Bandwidth NVNT ac20 5180MHz Ant1

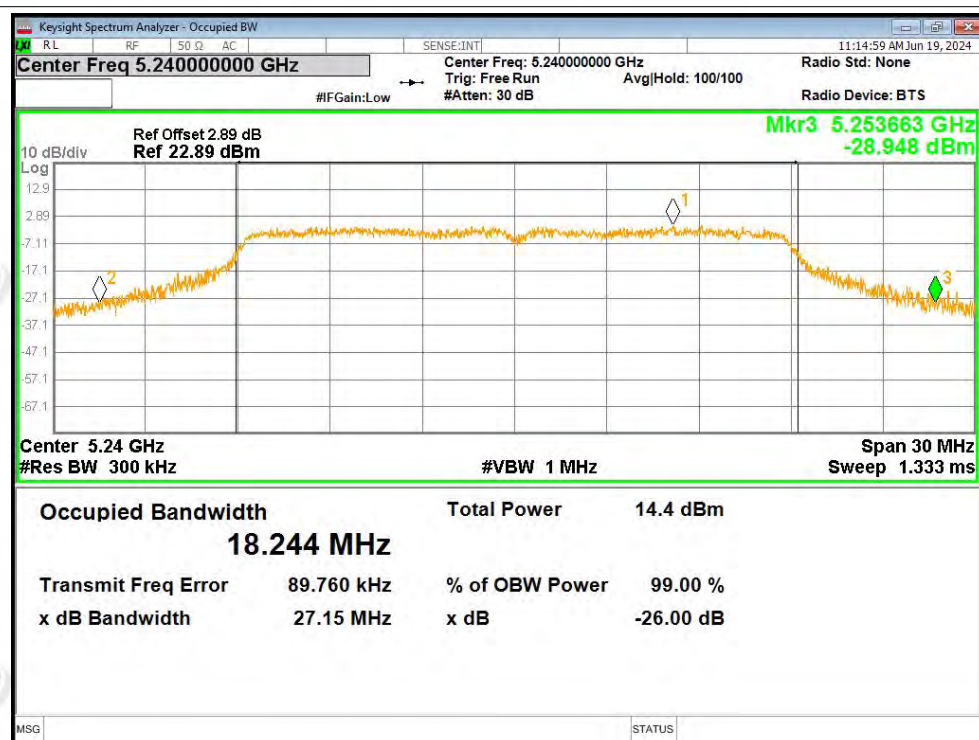


## -26dB Bandwidth NVNT ac20 5200MHz Ant1

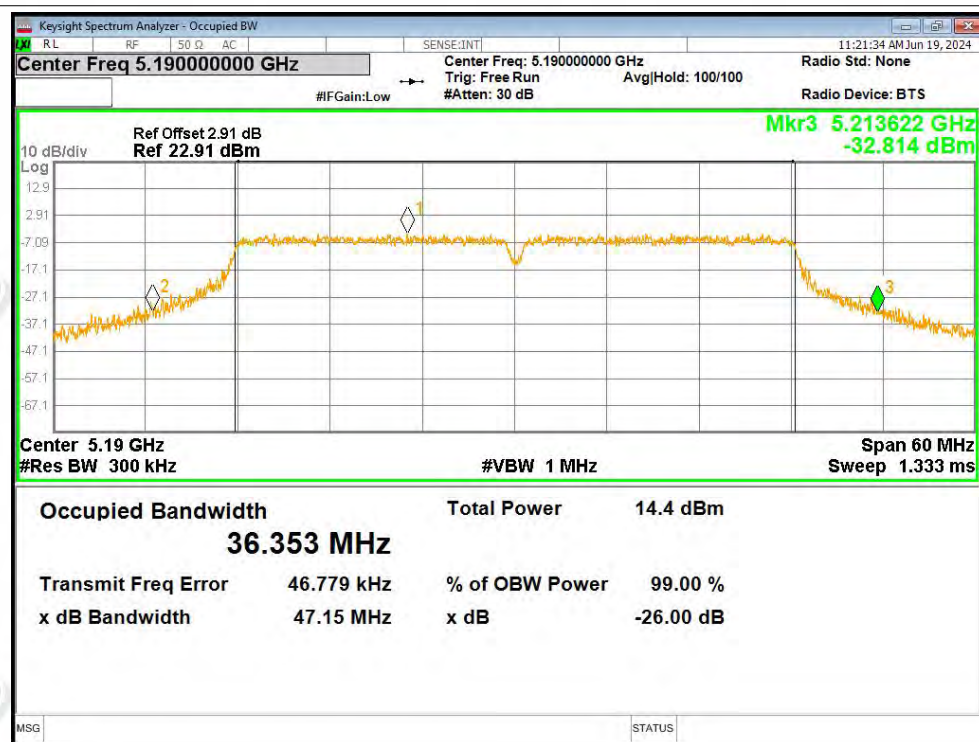




## -26dB Bandwidth NVNT ac20 5240MHz Ant1

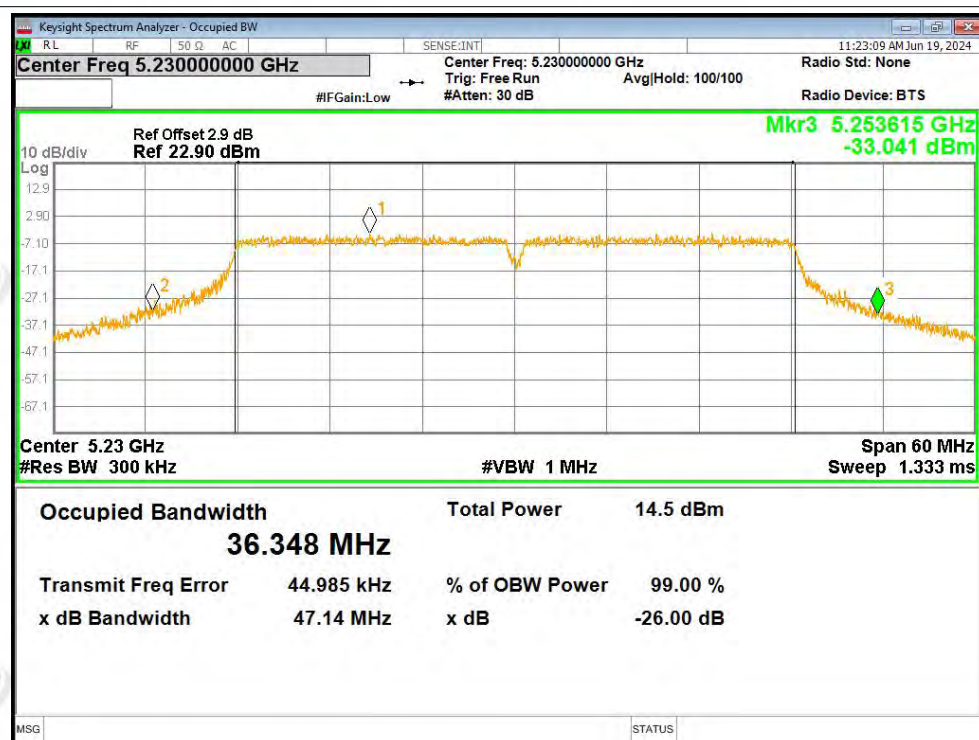


## -26dB Bandwidth NVNT ac40 5190MHz Ant1

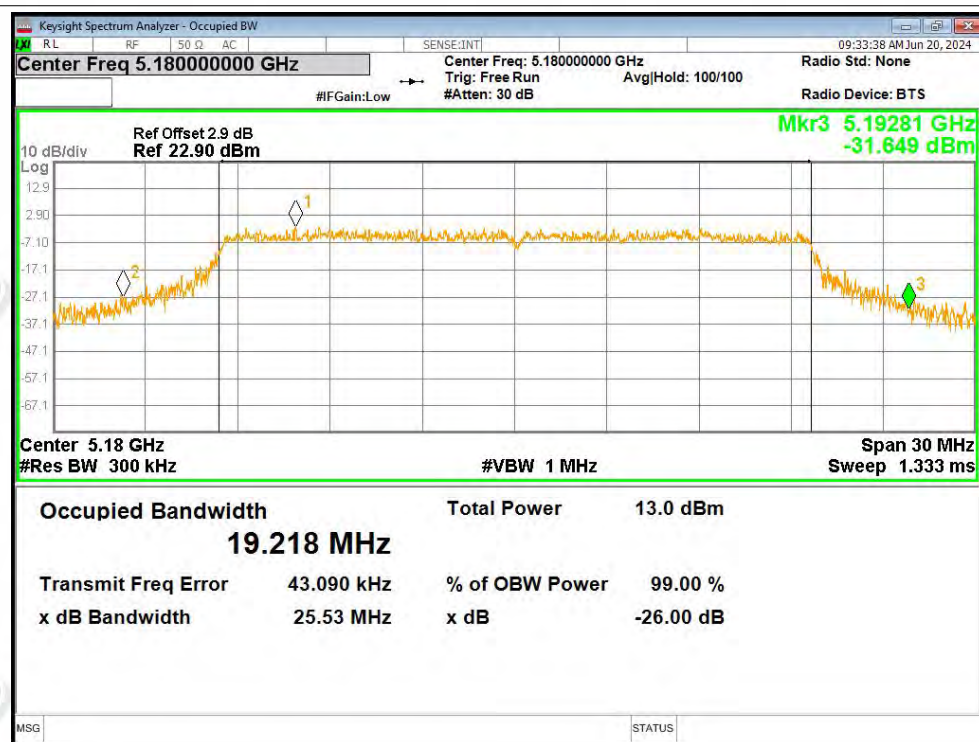




## -26dB Bandwidth NVNT ac40 5230MHz Ant1

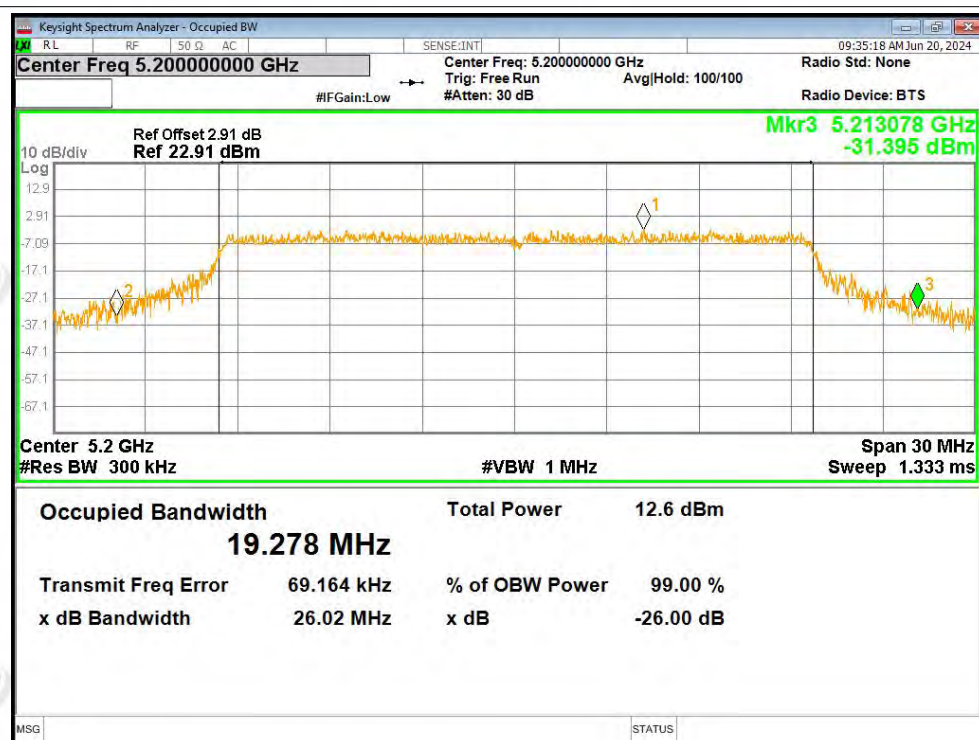


## -26dB Bandwidth NVNT ax20 5180MHz Ant1

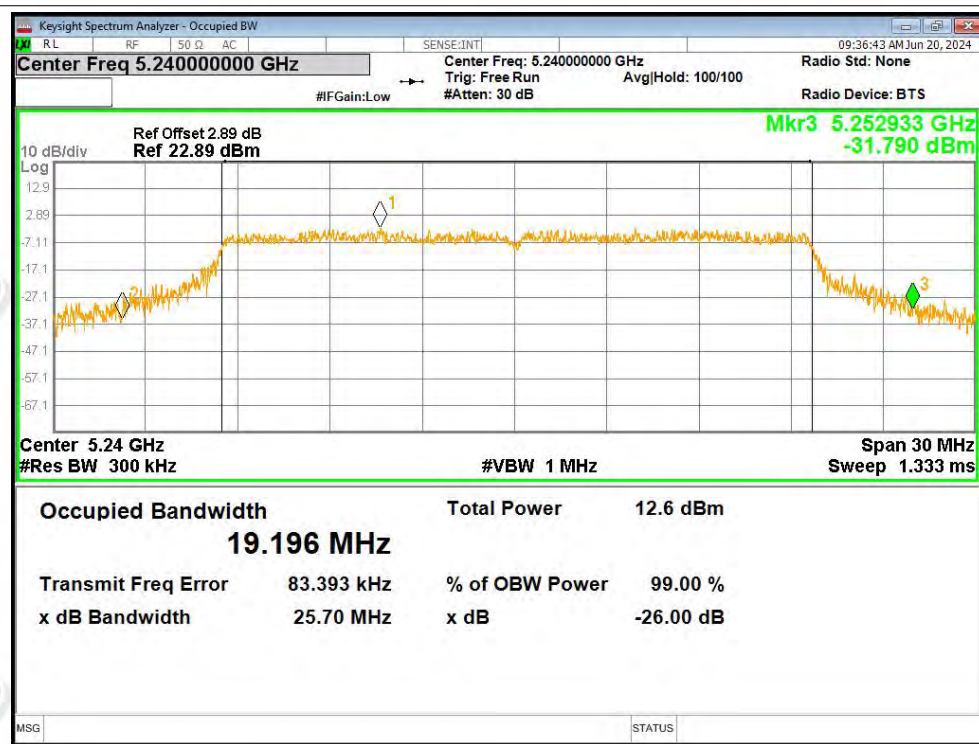




## -26dB Bandwidth NVNT ax20 5200MHz Ant1

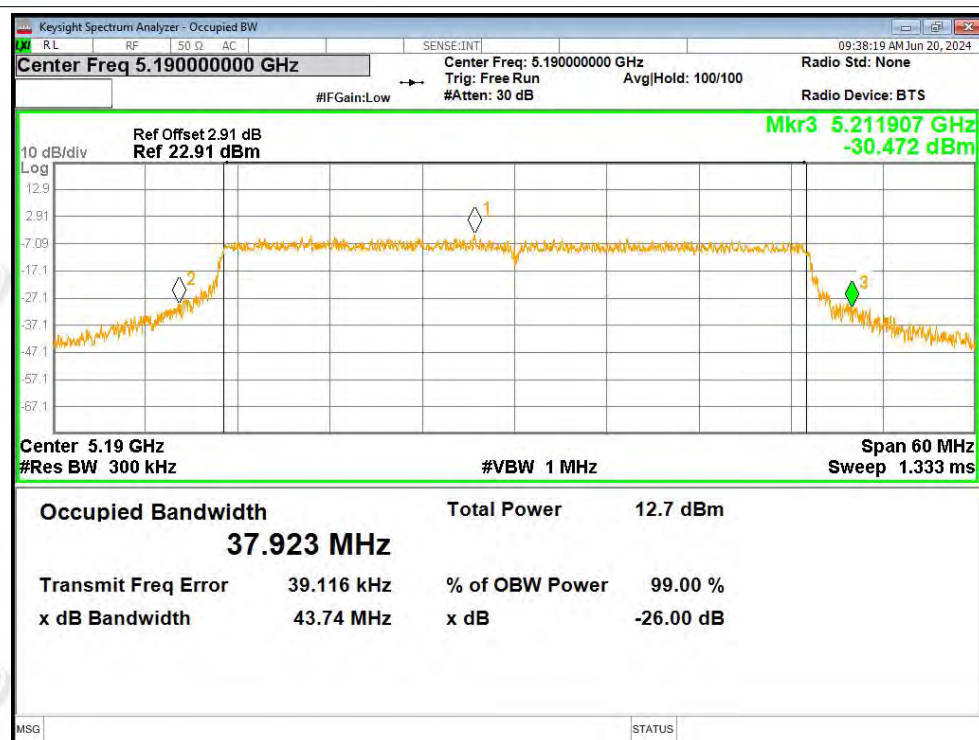


## -26dB Bandwidth NVNT ax20 5240MHz Ant1

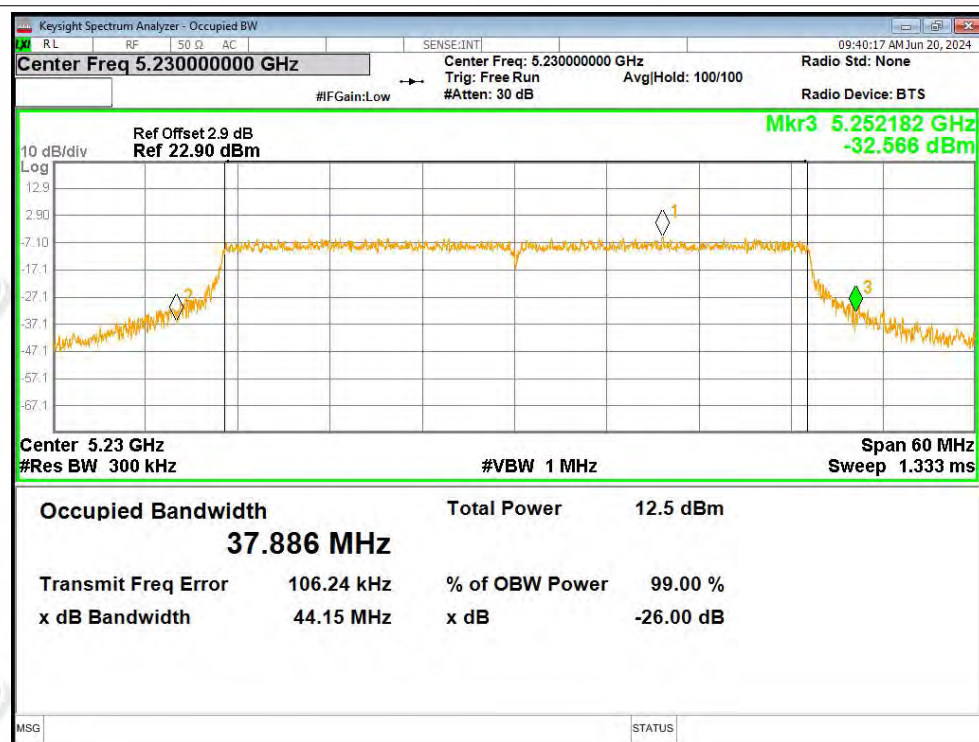




## -26dB Bandwidth NVNT ax40 5190MHz Ant1



## -26dB Bandwidth NVNT ax40 5230MHz Ant1



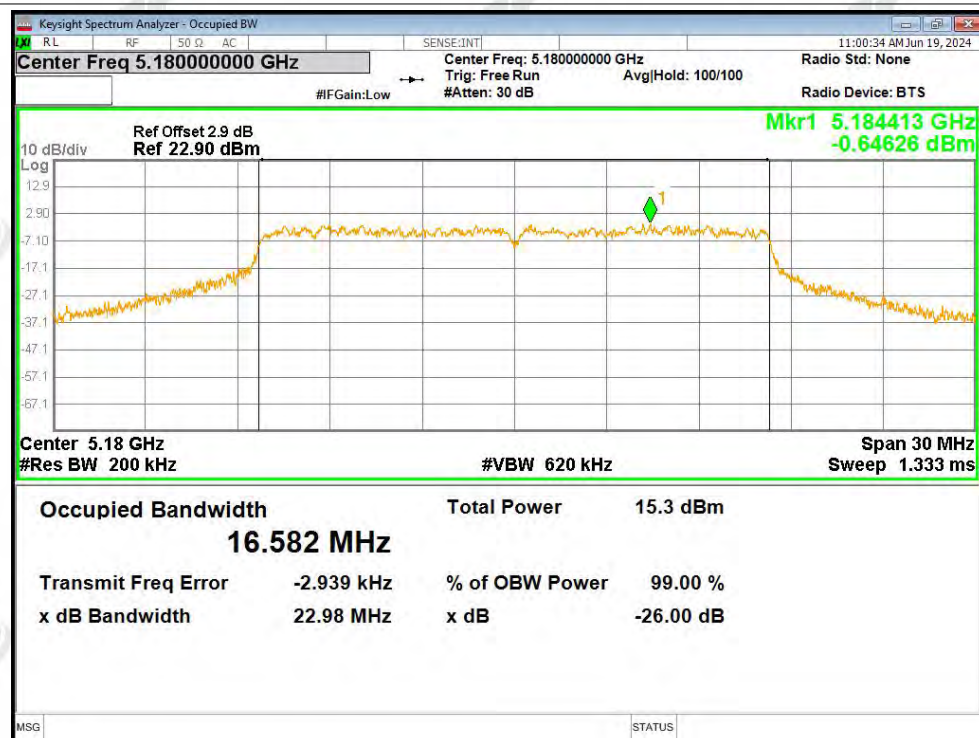
**ZHONGHAN****Occupied Channel Bandwidth**

| Condition | Mode | Frequency (MHz) | Antenna | 99% OBW (MHz) |
|-----------|------|-----------------|---------|---------------|
| NVNT      | a    | 5180            | Ant1    | 16.582        |
| NVNT      | a    | 5200            | Ant1    | 16.554        |
| NVNT      | a    | 5240            | Ant1    | 16.561        |
| NVNT      | n20  | 5180            | Ant1    | 17.953        |
| NVNT      | n20  | 5200            | Ant1    | 17.98         |
| NVNT      | n20  | 5240            | Ant1    | 17.972        |
| NVNT      | n40  | 5190            | Ant1    | 36.565        |
| NVNT      | n40  | 5230            | Ant1    | 36.556        |
| NVNT      | ac20 | 5180            | Ant1    | 17.948        |
| NVNT      | ac20 | 5200            | Ant1    | 17.992        |
| NVNT      | ac20 | 5240            | Ant1    | 17.983        |
| NVNT      | ac40 | 5190            | Ant1    | 36.509        |
| NVNT      | ac40 | 5230            | Ant1    | 36.476        |
| NVNT      | ax20 | 5180            | Ant1    | 19.138        |
| NVNT      | ax20 | 5200            | Ant1    | 19.155        |
| NVNT      | ax20 | 5240            | Ant1    | 19.19         |
| NVNT      | ax40 | 5190            | Ant1    | 37.964        |
| NVNT      | ax40 | 5230            | Ant1    | 37.968        |

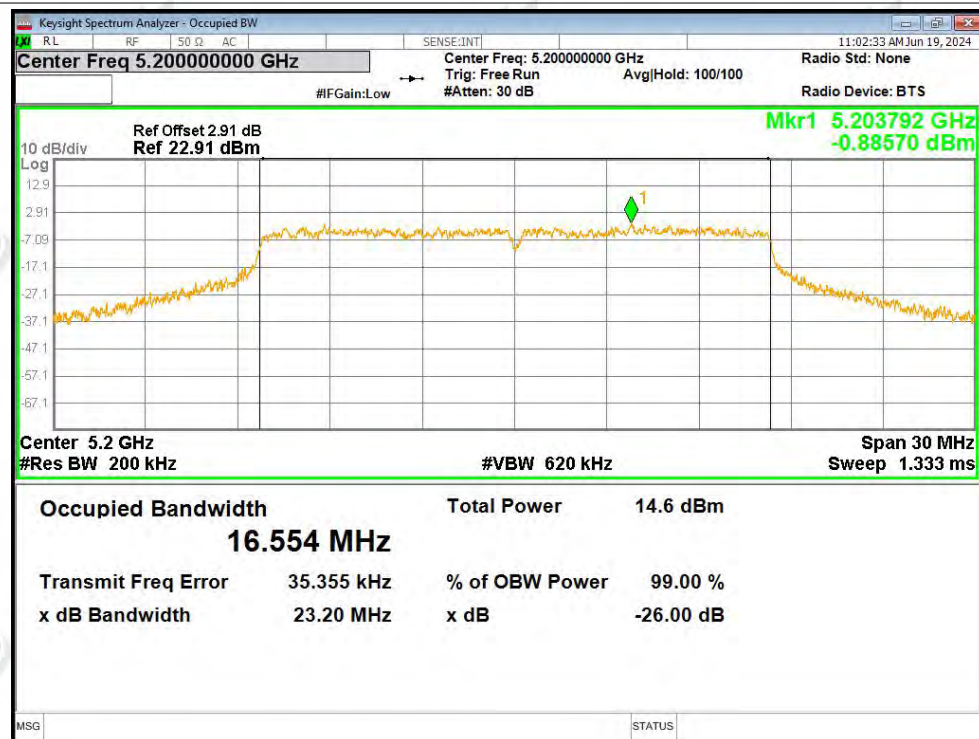


## Test Graphs

## OBW NVNT a 5180MHz Ant1

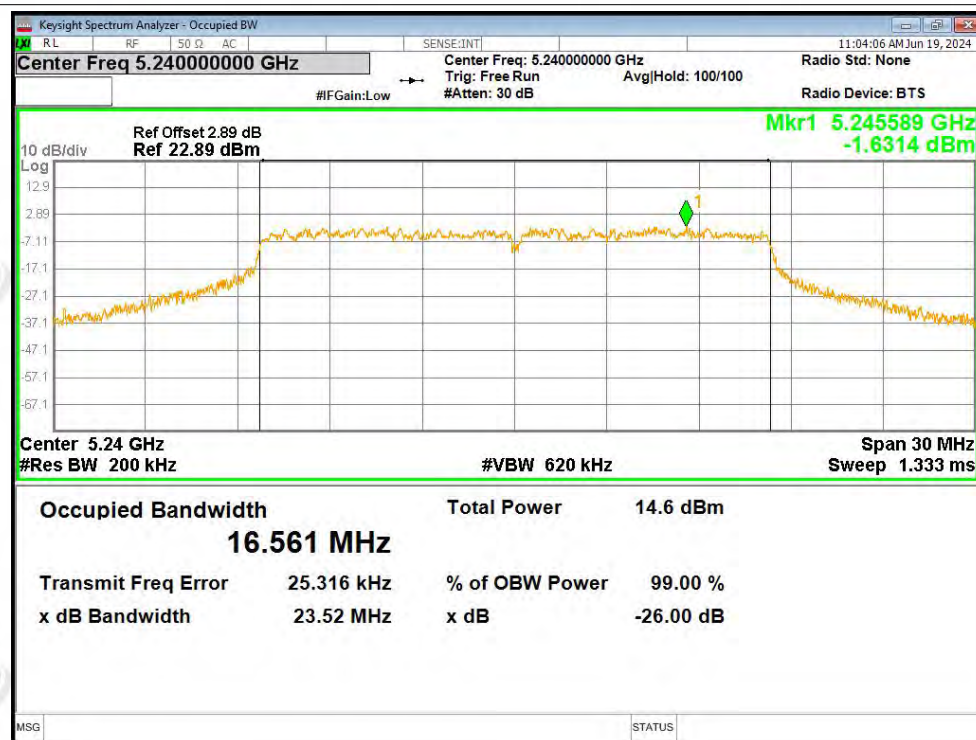


## OBW NVNT a 5200MHz Ant1

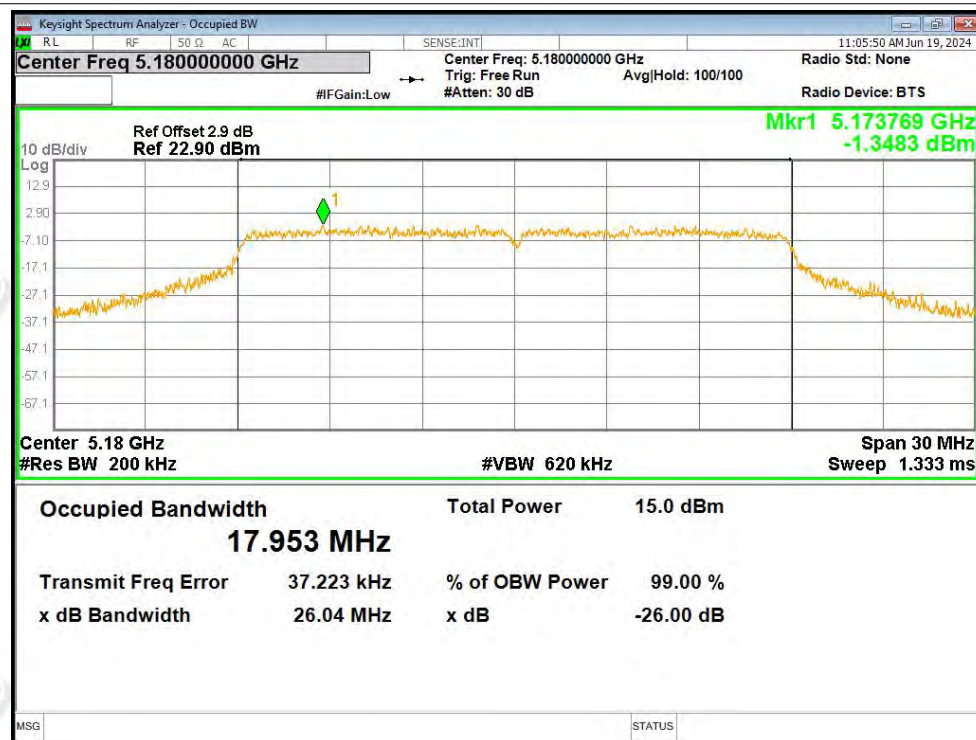




## OBW NVNT a 5240MHz Ant1

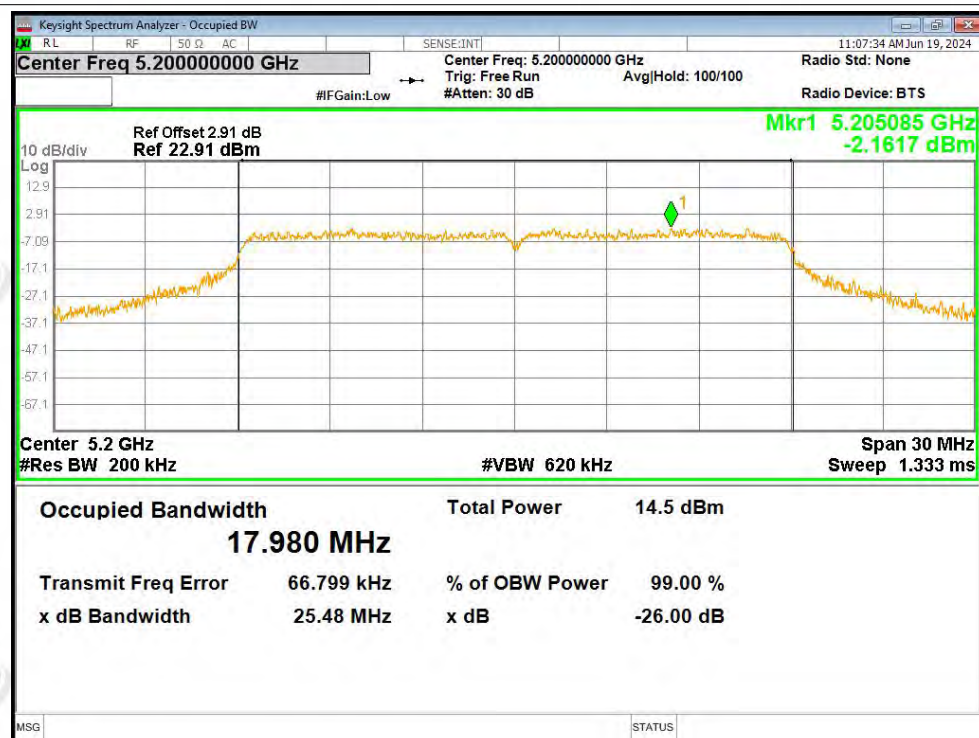


## OBW NVNT n20 5180MHz Ant1

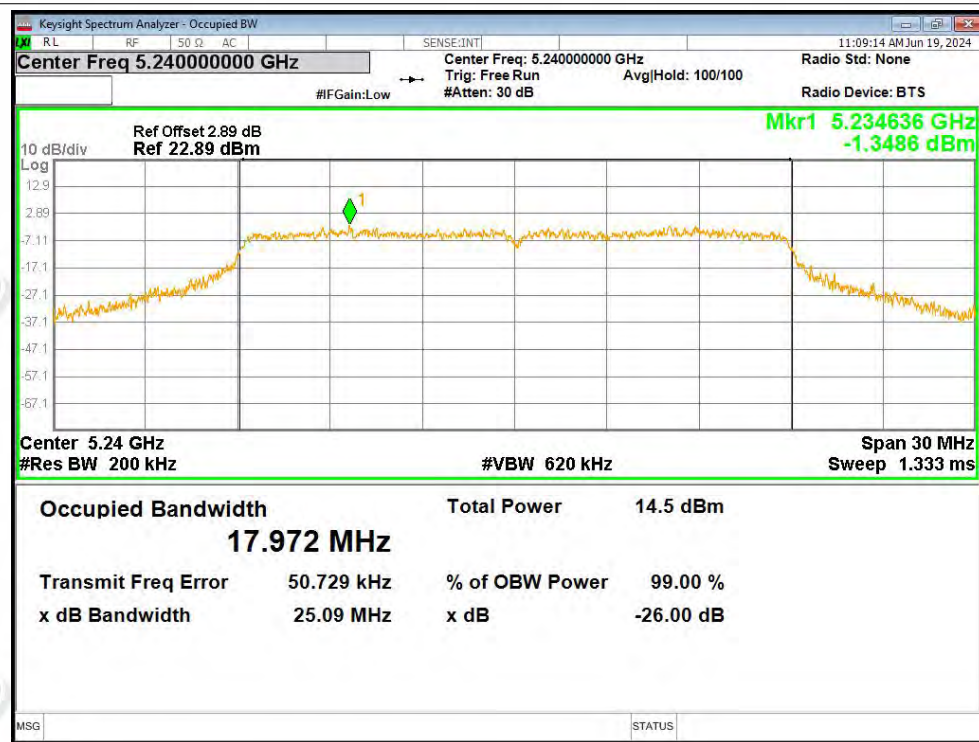




## OBW NVNT n20 5200MHz Ant1

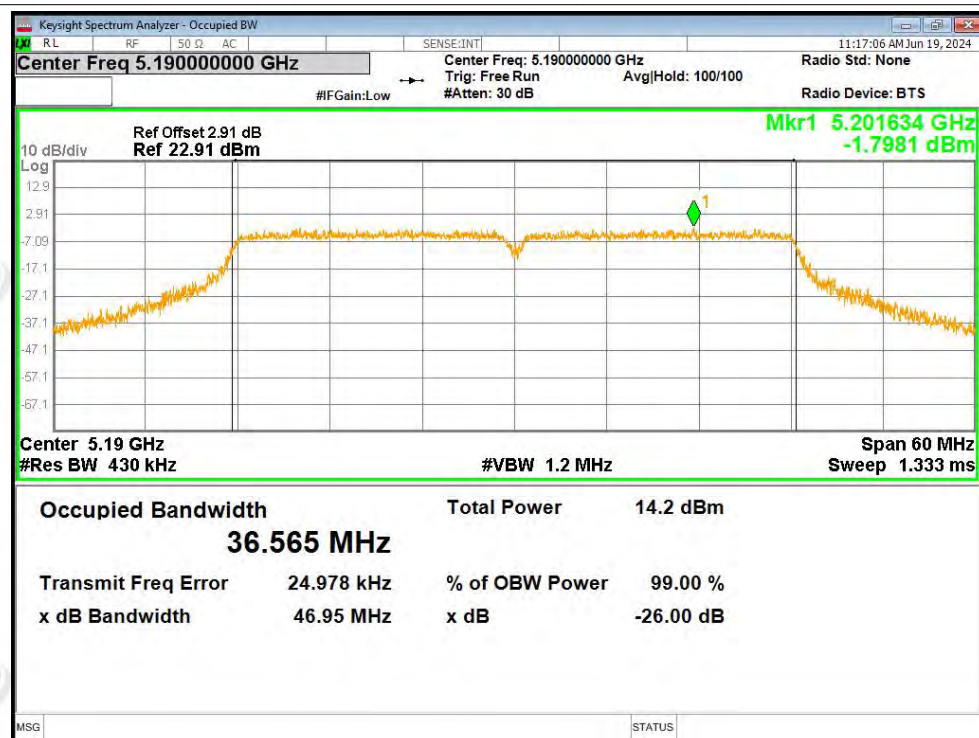


## OBW NVNT n20 5240MHz Ant1

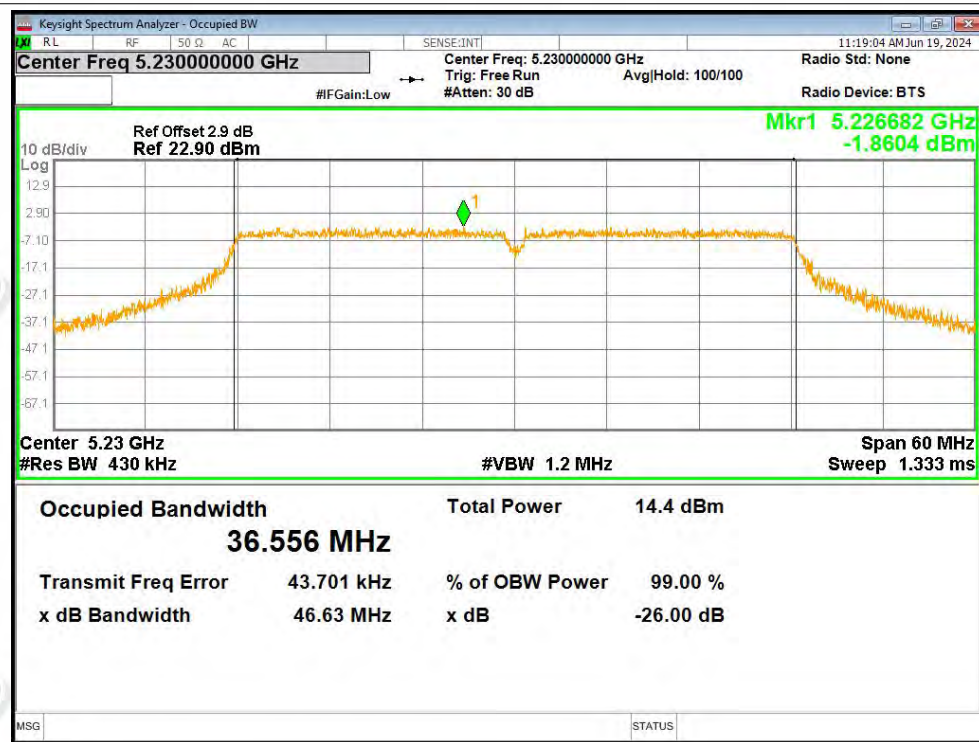




## OBW NVNT n40 5190MHz Ant1

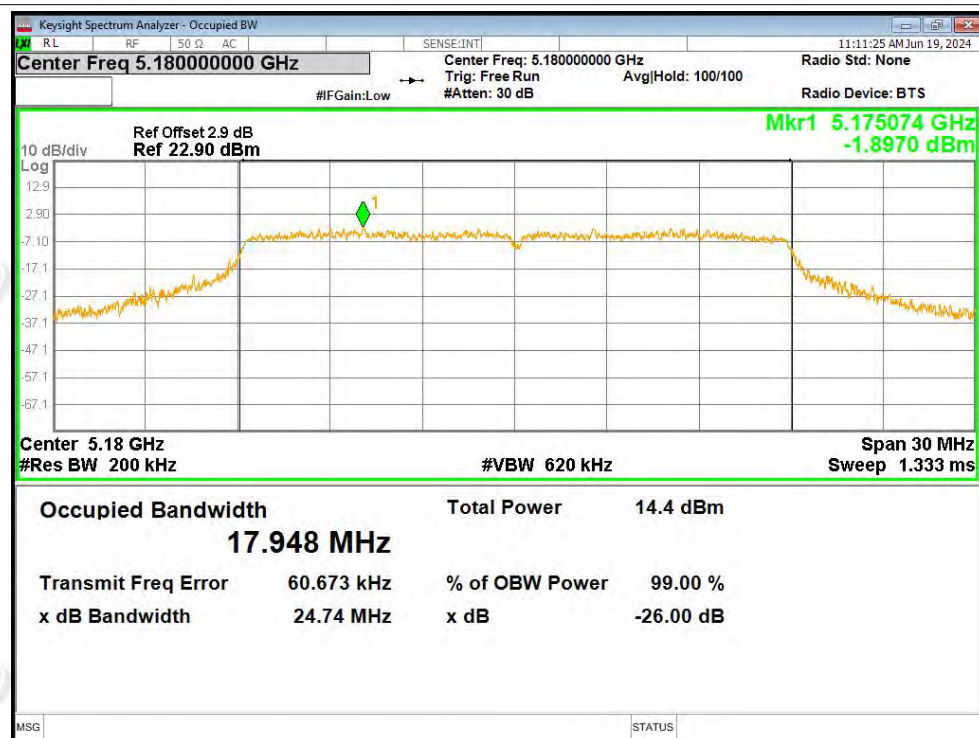


## OBW NVNT n40 5230MHz Ant1

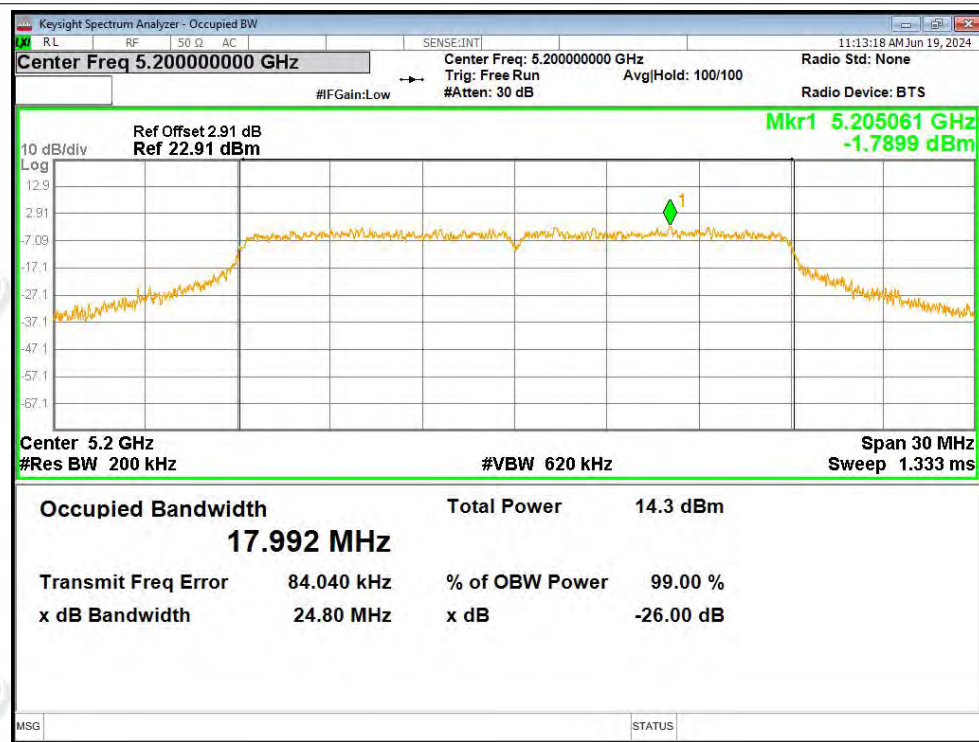




## OBW NVNT ac20 5180MHz Ant1

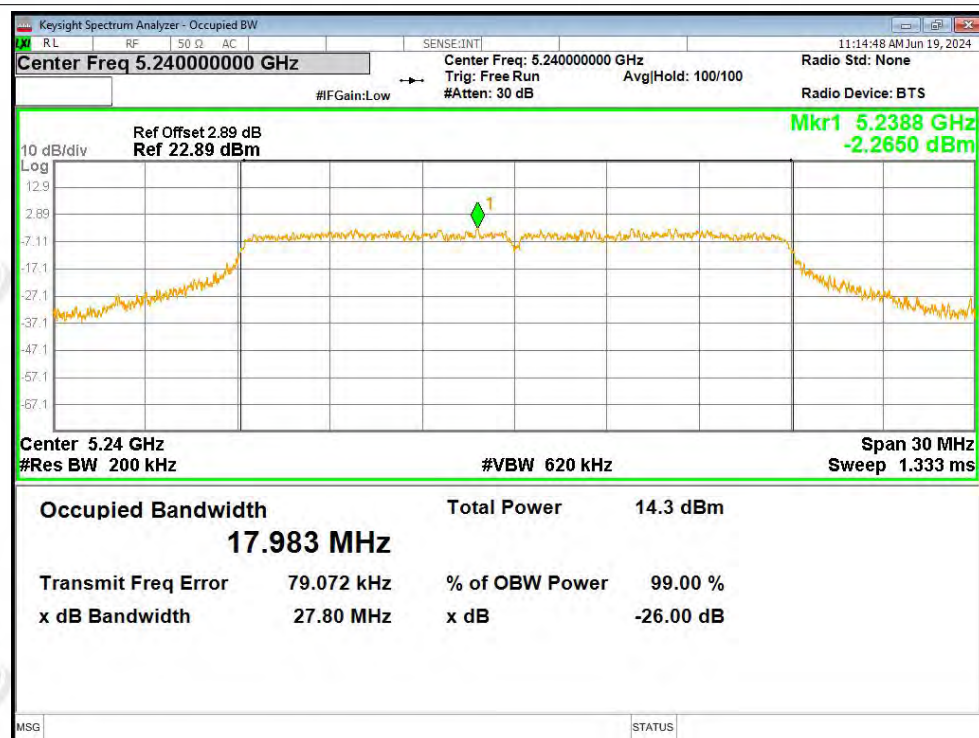


## OBW NVNT ac20 5200MHz Ant1

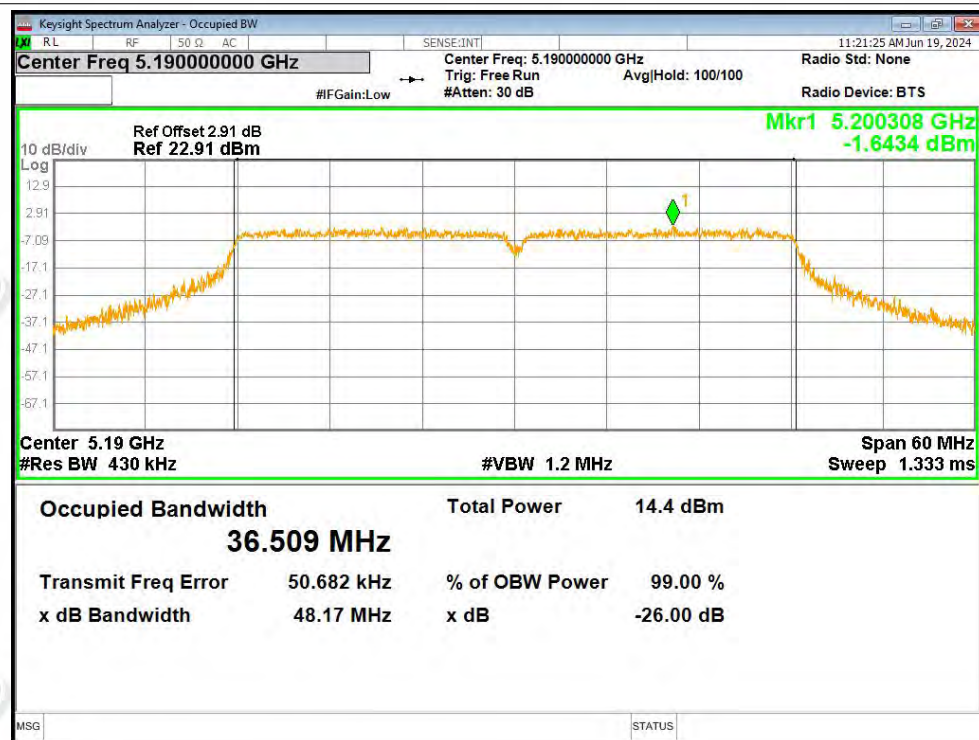




## OBW NVNT ac20 5240MHz Ant1

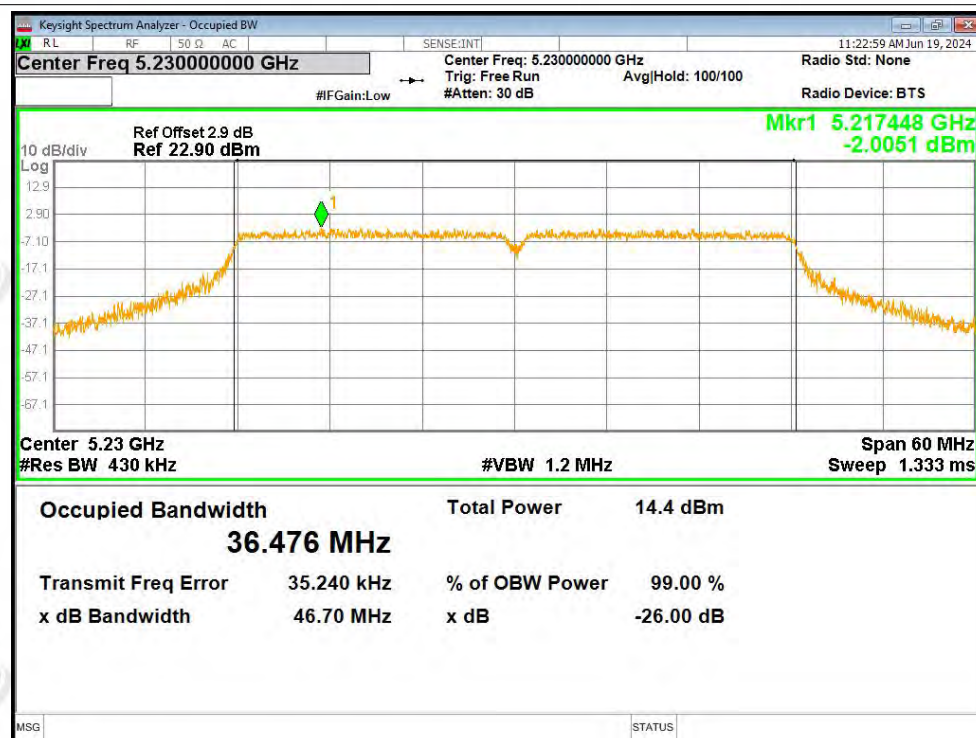


## OBW NVNT ac40 5190MHz Ant1

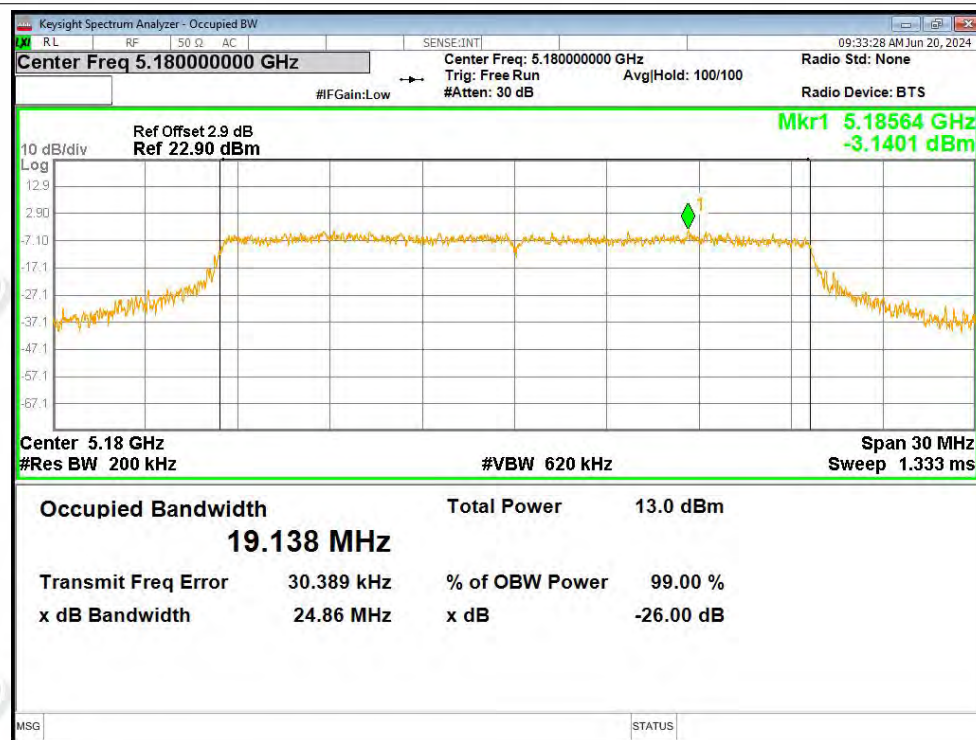




## OBW NVNT ac40 5230MHz Ant1

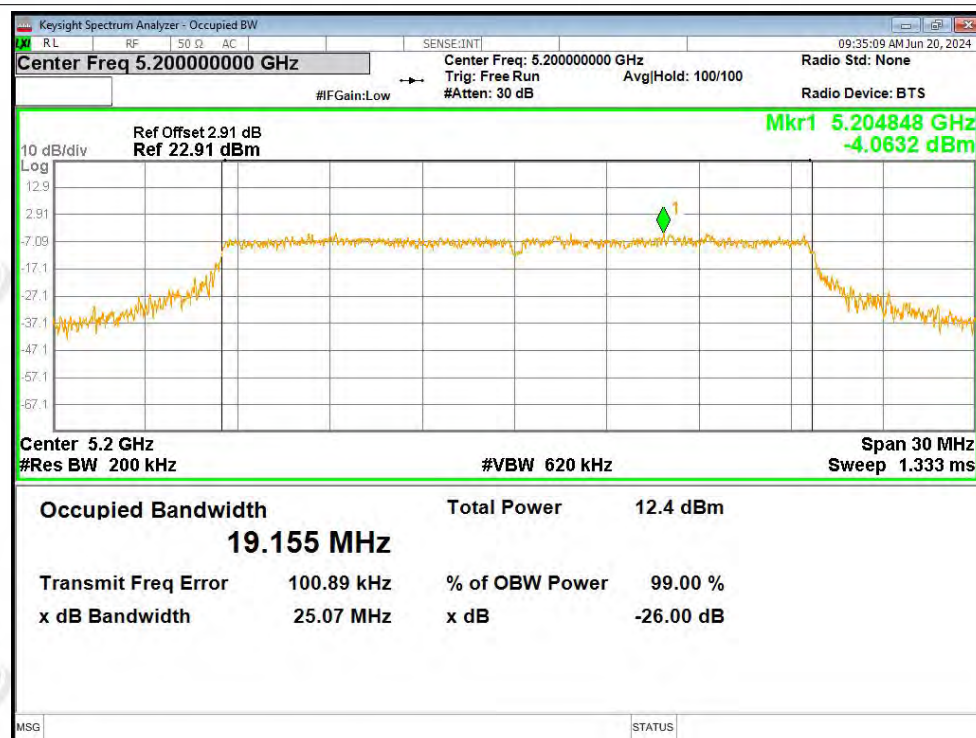


## OBW NVNT ax20 5180MHz Ant1

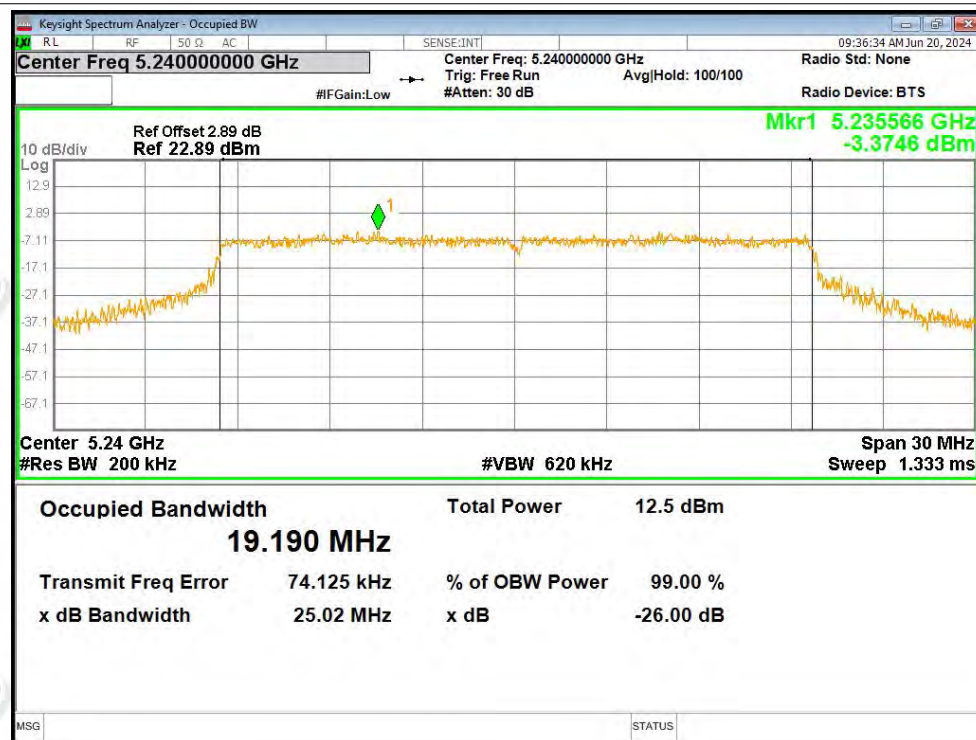




## OBW NVNT ax20 5200MHz Ant1

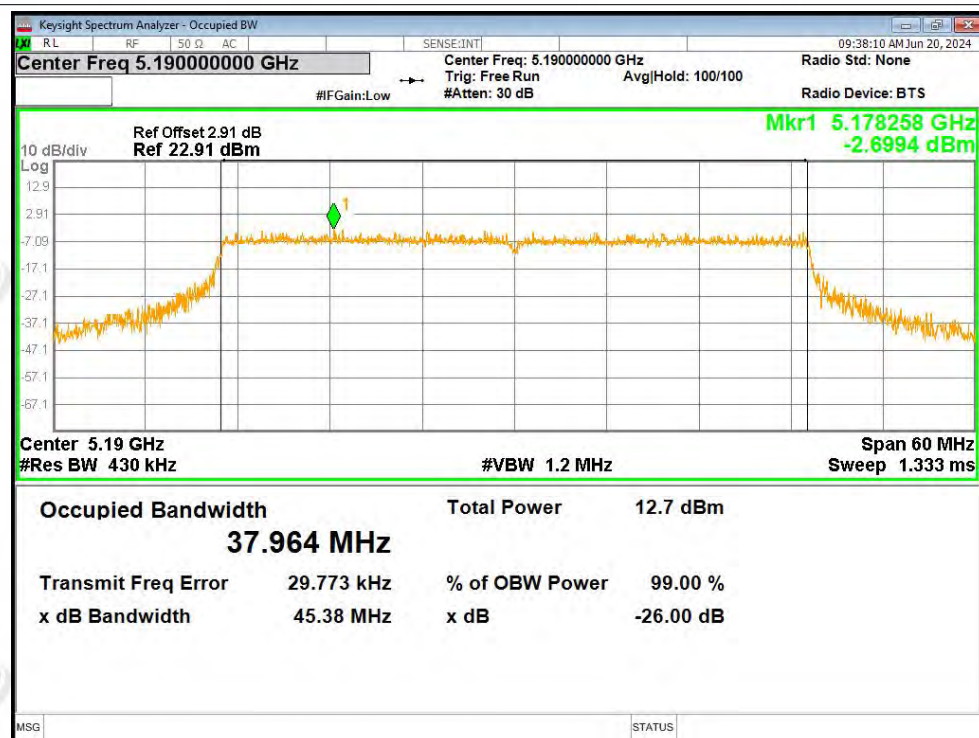


## OBW NVNT ax20 5240MHz Ant1

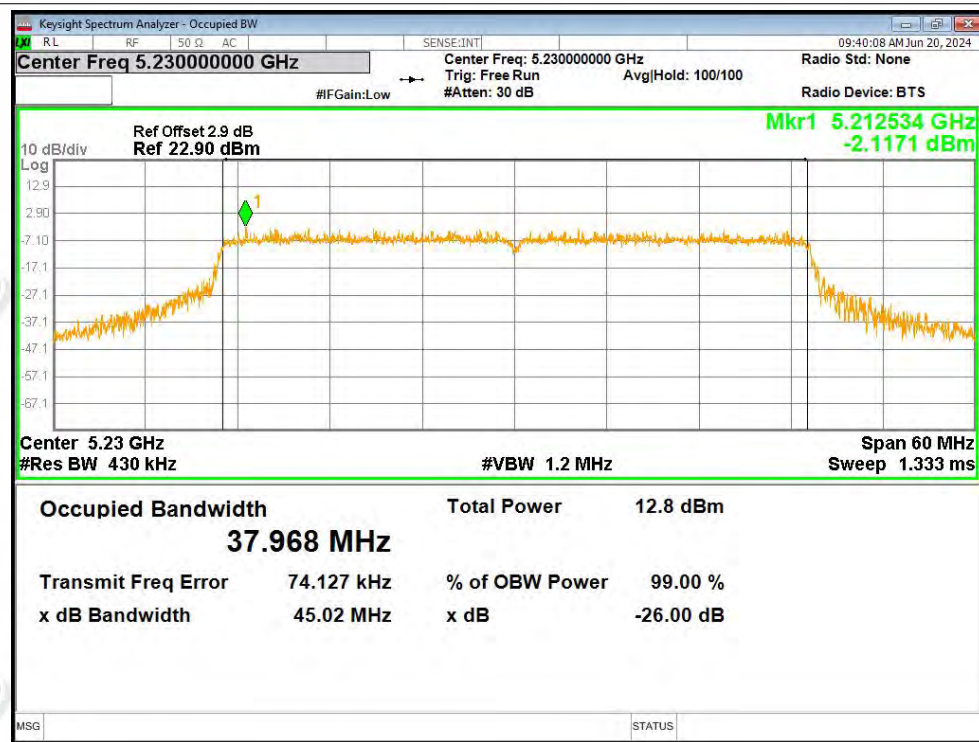




## OBW NVNT ax40 5190MHz Ant1



## OBW NVNT ax40 5230MHz Ant1



**ZHONGHAN****Maximum Power Spectral Density Level**

| Condition | Mode | Frequency (MHz) | Antenna | Conducted PSD (dBm) | Duty Factor (dB) | Total PSD (dBm) | Limit (dBm) | Verdict |
|-----------|------|-----------------|---------|---------------------|------------------|-----------------|-------------|---------|
| NVNT      | a    | 5180            | Ant1    | -16.91              | 1.08             | -15.83          | 11          | Pass    |
| NVNT      | a    | 5200            | Ant1    | -14.01              | 1.76             | -12.25          | 11          | Pass    |
| NVNT      | a    | 5240            | Ant1    | -16.01              | 0                | -16.01          | 11          | Pass    |
| NVNT      | n20  | 5180            | Ant1    | -5.7                | 0.27             | -5.43           | 11          | Pass    |
| NVNT      | n20  | 5200            | Ant1    | -4.76               | 0.33             | -4.43           | 11          | Pass    |
| NVNT      | n20  | 5240            | Ant1    | -5.96               | 0.46             | -5.5            | 11          | Pass    |
| NVNT      | n40  | 5190            | Ant1    | -10.4               | 0.44             | -9.96           | 11          | Pass    |
| NVNT      | n40  | 5230            | Ant1    | -11.18              | 0.27             | -10.91          | 11          | Pass    |
| NVNT      | ac20 | 5180            | Ant1    | -5.62               | 0.43             | -5.19           | 11          | Pass    |
| NVNT      | ac20 | 5200            | Ant1    | -8.28               | 0.37             | -7.91           | 11          | Pass    |
| NVNT      | ac20 | 5240            | Ant1    | -5.41               | 0.29             | -5.12           | 11          | Pass    |
| NVNT      | ac40 | 5190            | Ant1    | -8.7                | 0.31             | -8.39           | 11          | Pass    |
| NVNT      | ac40 | 5230            | Ant1    | -10.26              | 0.53             | -9.73           | 11          | Pass    |
| NVNT      | ax20 | 5180            | Ant1    | -7.55               | 0.37             | -7.18           | 11          | Pass    |
| NVNT      | ax20 | 5200            | Ant1    | -9.26               | 0.15             | -9.11           | 11          | Pass    |
| NVNT      | ax20 | 5240            | Ant1    | -9.92               | 0.45             | -9.47           | 11          | Pass    |
| NVNT      | ax40 | 5190            | Ant1    | -14.38              | 0.54             | -13.84          | 11          | Pass    |
| NVNT      | ax40 | 5230            | Ant1    | -14.07              | 0.9              | -13.17          | 11          | Pass    |



## Test Graphs

## PSD NVNT a 5180MHz Ant1



## PSD NVNT a 5200MHz Ant1





PSD NVNT a 5240MHz Ant1



PSD NVNT n20 5180MHz Ant1

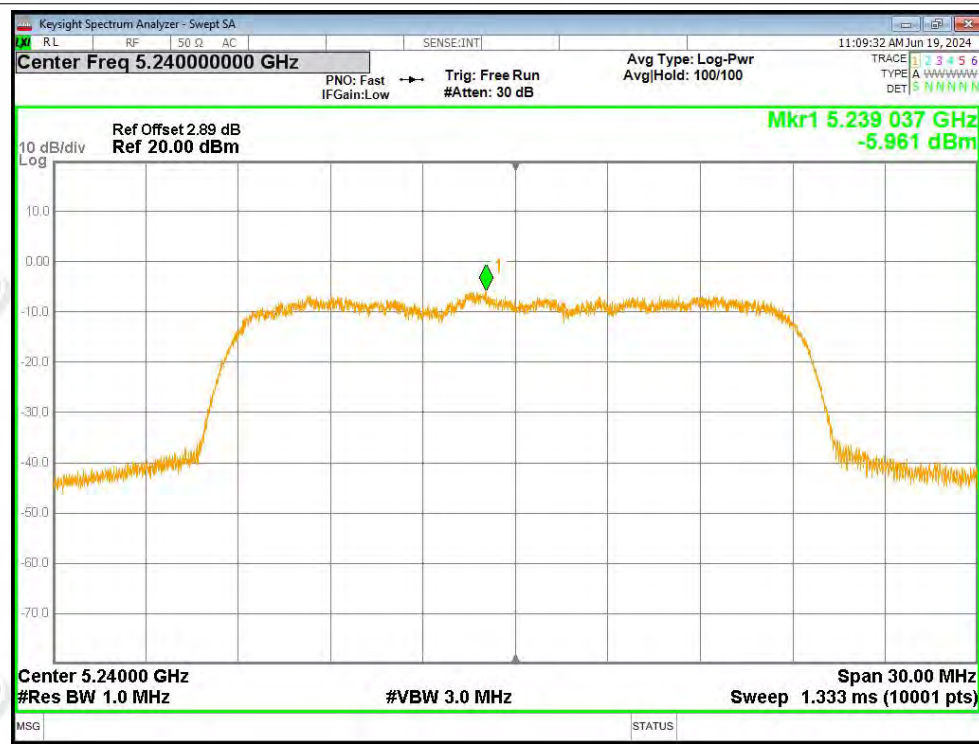




PSD NVNT n20 5200MHz Ant1



PSD NVNT n20 5240MHz Ant1

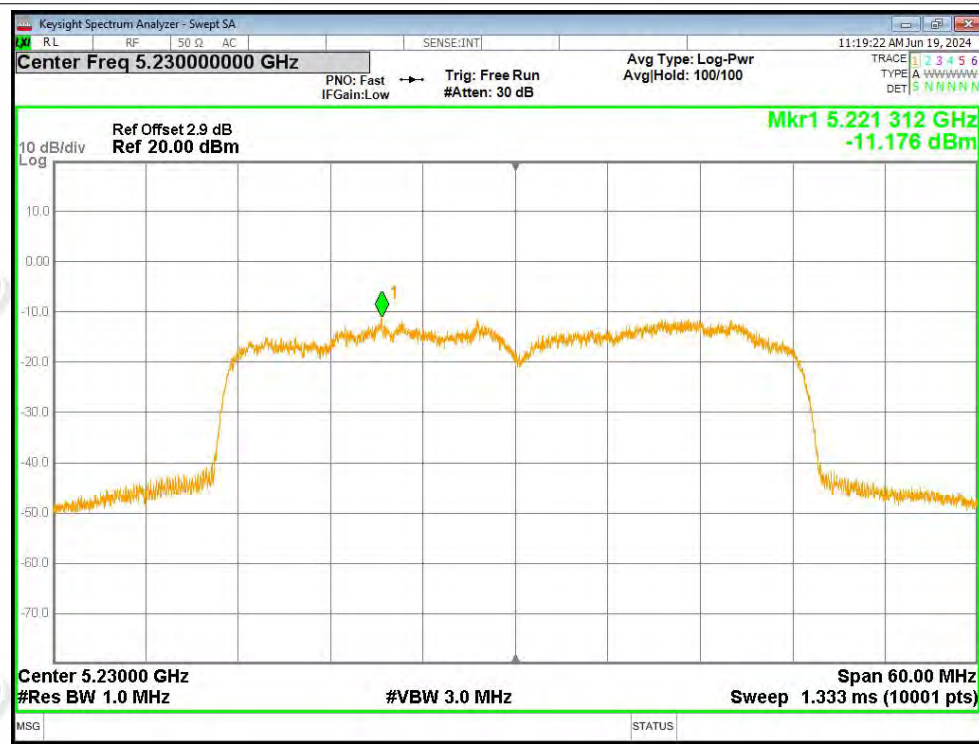




PSD NVNT n40 5190MHz Ant1



PSD NVNT n40 5230MHz Ant1

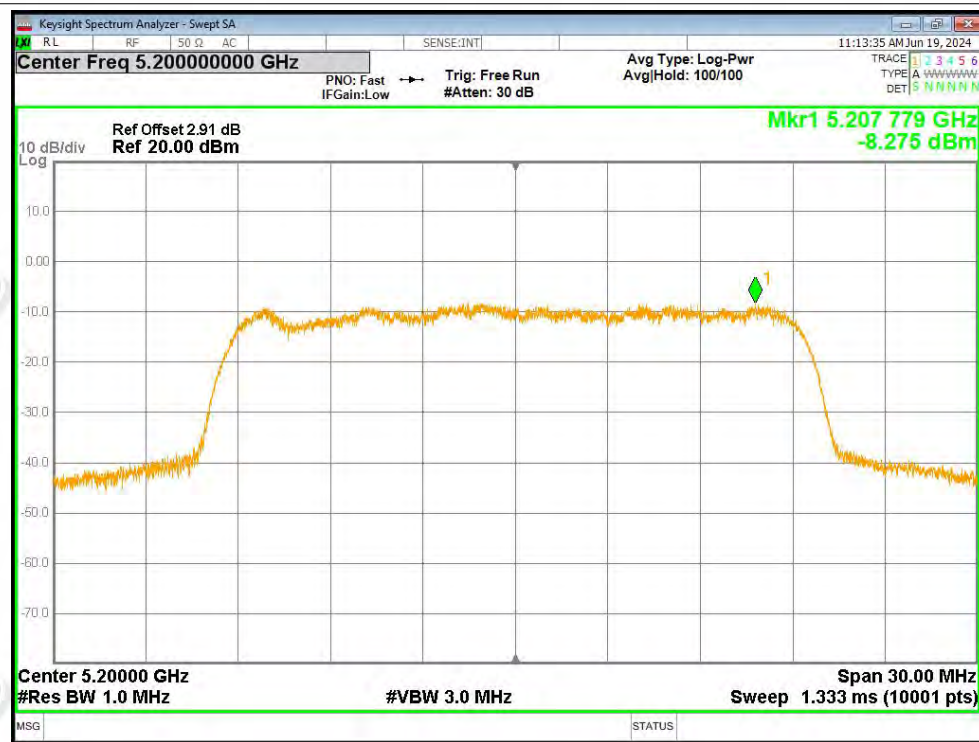




PSD NVNT ac20 5180MHz Ant1



PSD NVNT ac20 5200MHz Ant1

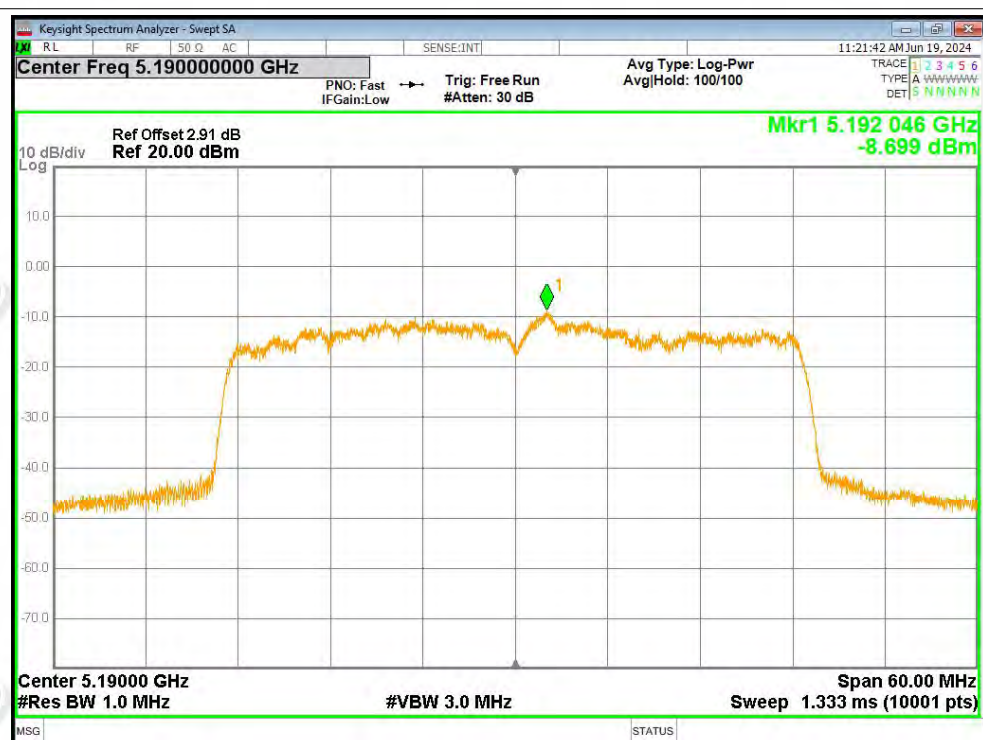




PSD NVNT ac20 5240MHz Ant1



PSD NVNT ac40 5190MHz Ant1





PSD NVNT ac40 5230MHz Ant1

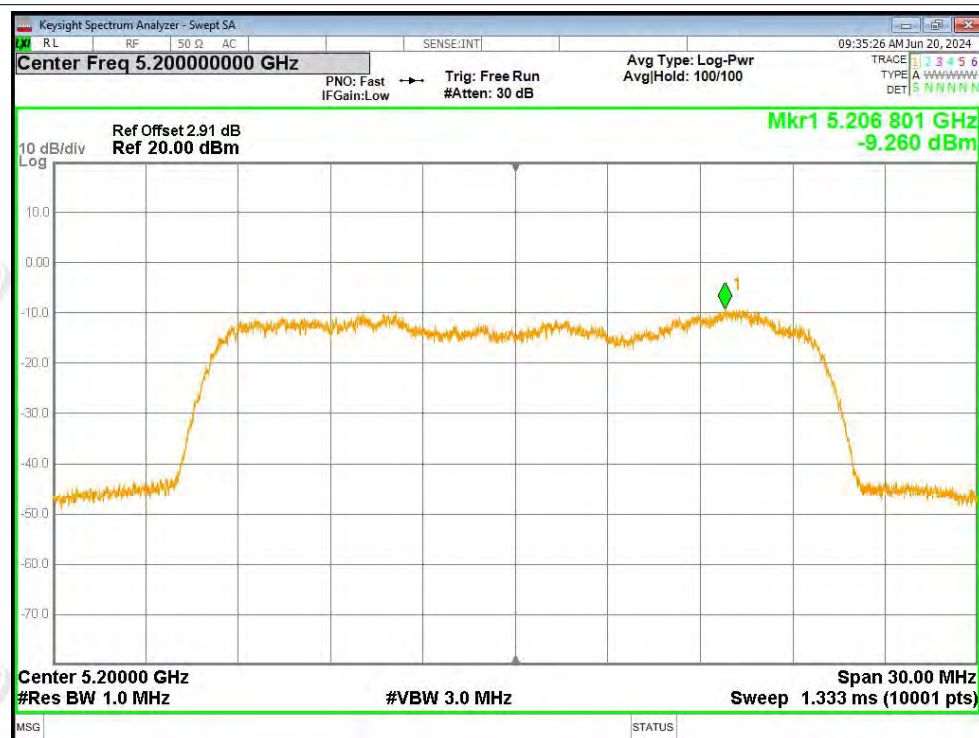


PSD NVNT ax20 5180MHz Ant1

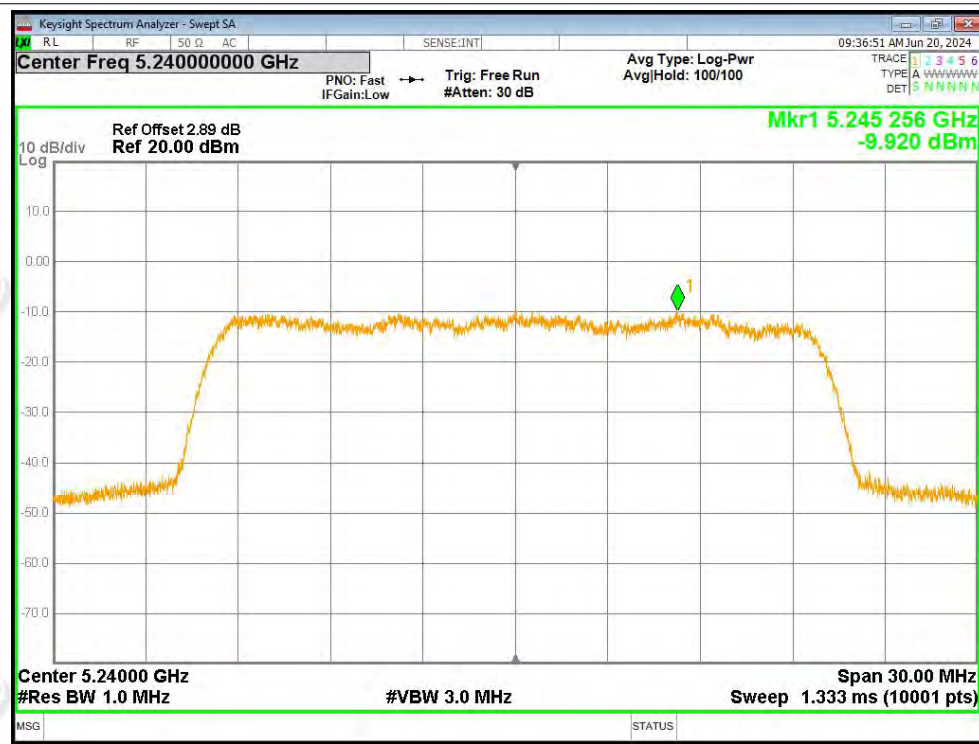




PSD NVNT ax20 5200MHz Ant1



PSD NVNT ax20 5240MHz Ant1

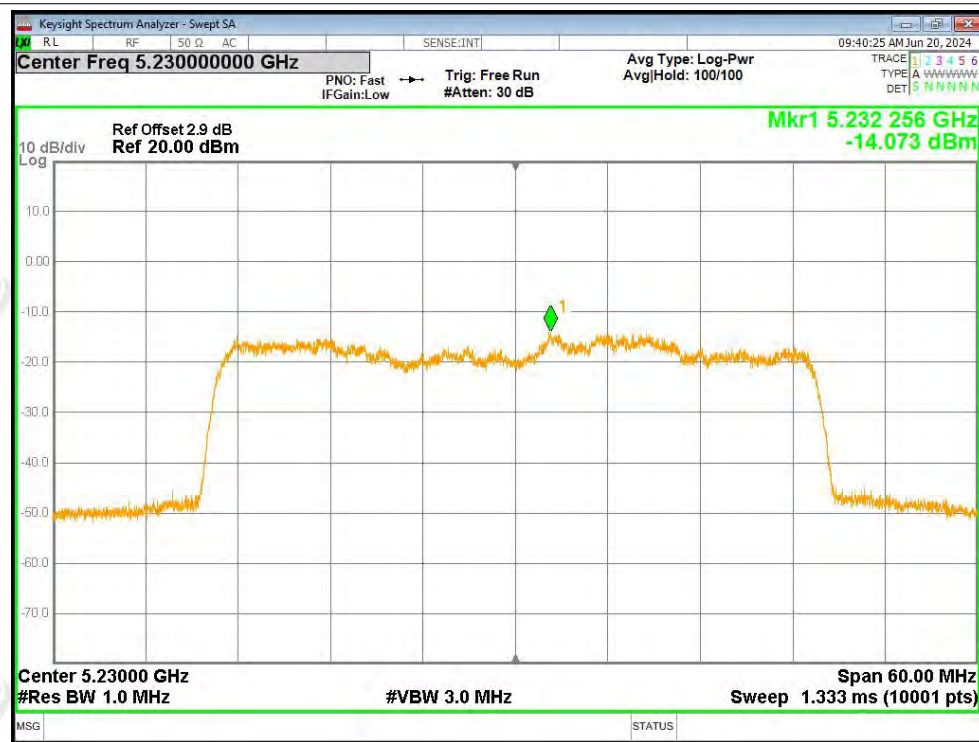




PSD NVNT ax40 5190MHz Ant1



PSD NVNT ax40 5230MHz Ant1



**ZHONGHAN**  
**Band Edge**

| Condition | Mode | Frequency (MHz) | Antenna | Max Value (dBc) | Limit (dBc) | Verdict |
|-----------|------|-----------------|---------|-----------------|-------------|---------|
| NVNT      | a    | 5180            | Ant1    | -40.38          | -27         | Pass    |
| NVNT      | a    | 5240            | Ant1    | -44.78          | -27         | Pass    |
| NVNT      | n20  | 5180            | Ant1    | -35.07          | -27         | Pass    |
| NVNT      | n20  | 5240            | Ant1    | -44.38          | -27         | Pass    |
| NVNT      | n40  | 5190            | Ant1    | -34.89          | -27         | Pass    |
| NVNT      | n40  | 5230            | Ant1    | -44.53          | -27         | Pass    |
| NVNT      | ac20 | 5180            | Ant1    | -40.43          | -27         | Pass    |
| NVNT      | ac20 | 5240            | Ant1    | -44.06          | -27         | Pass    |
| NVNT      | ac40 | 5190            | Ant1    | -35.28          | -27         | Pass    |
| NVNT      | ac40 | 5230            | Ant1    | -44.24          | -27         | Pass    |
| NVNT      | ax20 | 5180            | Ant1    | -39.72          | -27         | Pass    |
| NVNT      | ax20 | 5240            | Ant1    | -43.27          | -27         | Pass    |
| NVNT      | ax40 | 5190            | Ant1    | -37.57          | -27         | Pass    |
| NVNT      | ax40 | 5230            | Ant1    | -43.5           | -27         | Pass    |