20dB BW Bandwidth Measurement Results					
Mode	Channel Number	Channel Frequency (MHz)	Modulation	Bit Rate (Mbps)	Measured 20dB Bandwidth (MHz)
BT BR	2	2402	GFSK	-	1.07
BT BR	41	2441	GFSK	-	1.06
BT BR	80	2480	GFSK	-	0.987
BLE 1	2	2402	GMSK	1	1.22
BLE 1	41	2441	GMSK	1	1.23
BLE 1	80	2480	GMSK	1	1.22
BLE 2	2	2402	GMSK	2	2.14
BLE 2	41	2441	GMSK	2	2.14
BLE 2	80	2480	GMSK	2	2.14
ANT	2	2402	GFSK	-	1.13
ANT	41	2441	GFSK	-	1.04
ANT	80	2480	GFSK	-	0.996
Result:					Complies

Compliance to §15.215(c):

Largest Measured 20dB BW < 2.2MHz, 50% BW < 1.1MHz

LBE = 2402MHz - 1.1MHz = 2400.9MHz > 2400MHz
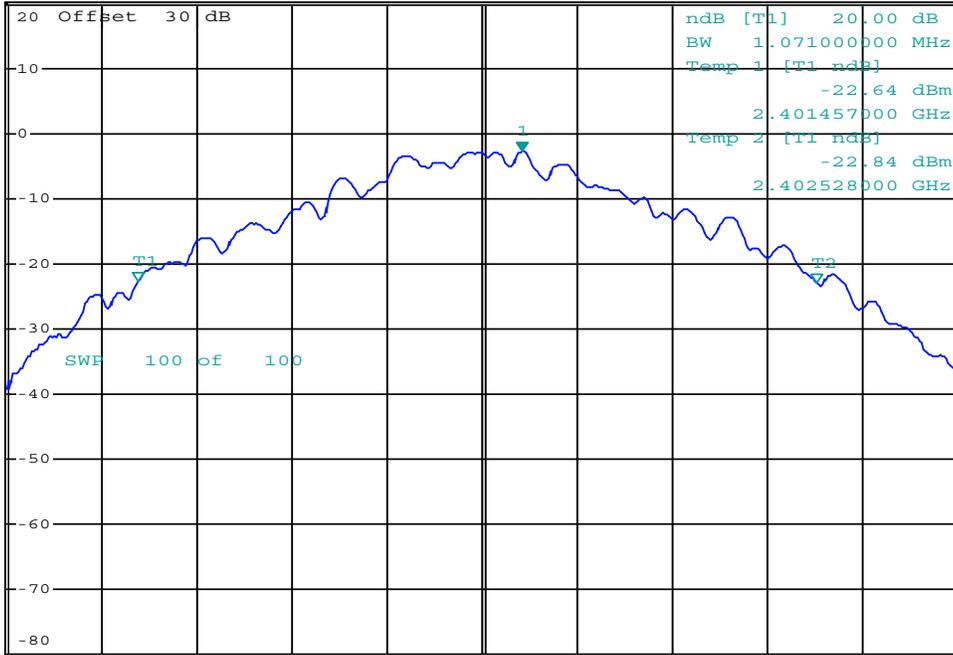
UBE = 2480MHz + 1.1MHz = 2481.1MHz < 2483.5MHz

20dB Bandwidth: BlueTooth BR

Ref 20 dBm	*Att 10 dB	*SWT 20 ms

*RBW 30 kHz   Marker 1 [T1]
VBW 100 kHz   -2.73 dBm
2.402063000 GHz


```
20 Offset  30 dB                    ndB [T1]    20.00 dB
                                    BW   1.071000000 MHz      A
                                    Temp 1 [T1 ndB]
                                            -22.64 dBm       LVL
                                          2.401457000 GHz
                                    Temp 2 [T1 ndB]
                                            -22.84 dBm
                                          2.402528000 GHz    3DB

1 PK
VIEW

SWP   100 of   100

Center 2.402 GHz         150 kHz/          Span 1.5 MHz
```

Date: 29.MAY.2021 13:21:16

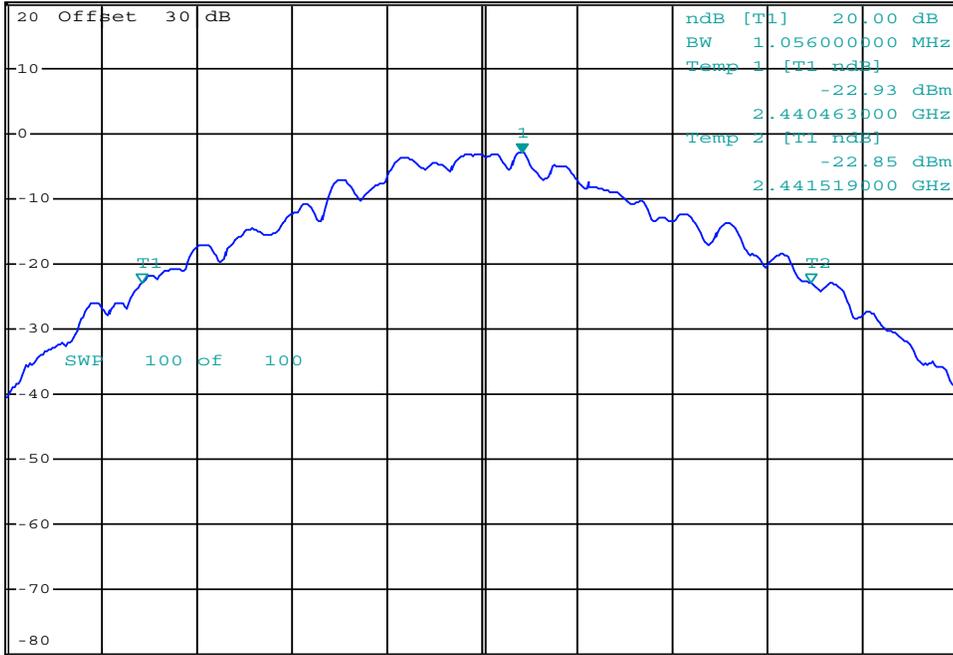|					
Channel Number:	**2**	Channel Frequency (MHz):	**2402**	20dB Bandwidth (MHz):	**1.071**
Modulation:	**GFSK**	Bit Rate (Mbps):	**-**		

20dB Bandwidth: BlueTooth

```
                                    * RBW  30 kHz      Marker 1 [T1 ]
                                      VBW  100 kHz              -2.89 dBm
        Ref  20 dBm           * Att  10 dB    * SWT 20 ms        2.441063000 GHz

         20  Offset  30  dB                    ndB  [T1]     20.00 dB
                                               BW    1.056000000 MHz
         -10                                   Temp 1  [T1 ndB]
                                                              -22.93 dBm
         0                                                     2.440463000 GHz
                                               Temp 2  [T1 ndB]
                                                              -22.85 dBm
         -10                                                   2.441519000 GHz

         -20

         -30
                   SWP    100  of   100

         -40

         -50

         -60

         -70

         -80
        Center 2.441 GHz            150 kHz/            Span 1.5 MHz
```

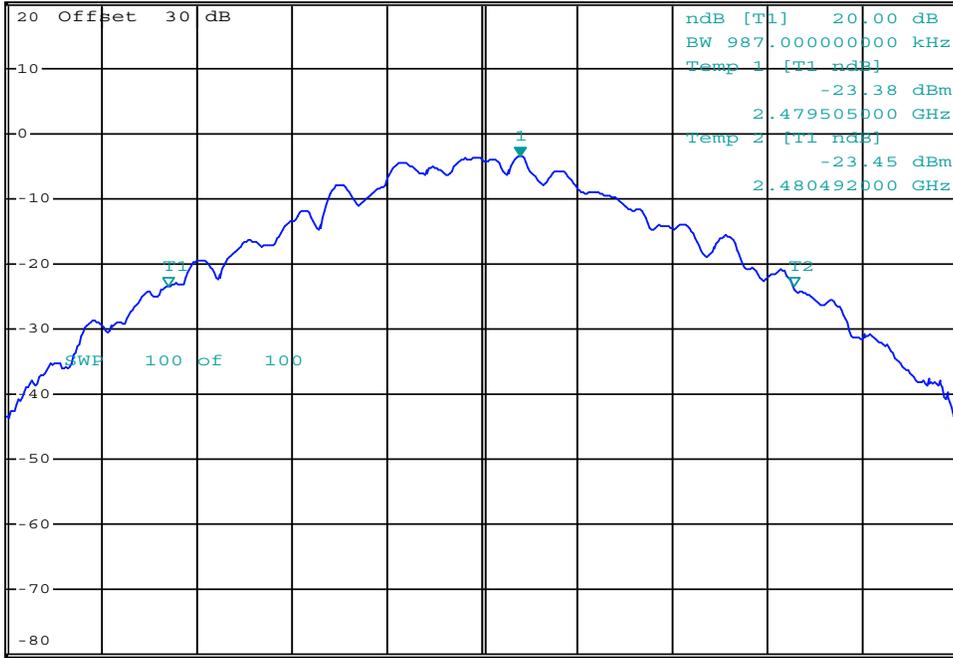|				
Channel Number:	**41**	Channel Frequency (MHz):	**2441**	20dB Bandwidth (MHz): **1.056**
Modulation:	**GFSK**	Bit Rate (Mbps):	**-**	

Date: 29.MAY.2021 13:20:37

20dB Bandwidth: BlueTooth

```
                              * RBW 30 kHz     Marker 1 [T1 ]
                                VBW 100 kHz              -3.43 dBm
         Ref  20 dBm           * Att  10 dB    * SWT 20 ms         2.480060000 GHz

         20  Offset   30 dB                    ndB [T1]    20.00 dB
                                               BW 987.000000000 kHz        A
          -10                                  Temp 1 [T1 ndB]
                                                            -23.38 dBm
          -0                                               2.479505000 GHz   LVL
                                1                Temp 2 [T1 ndB]
          --10                                              -23.45 dBm
                                                           2.480492000 GHz
          --20     T1                                  T2
          --30
          --40   SWP   100 of   100                                         3DB
          --50
          --60
          --70
          -80
         Center 2.48 GHz           150 kHz/              Span 1.5 MHz
```

Date: 29.MAY.2021 13:22:08

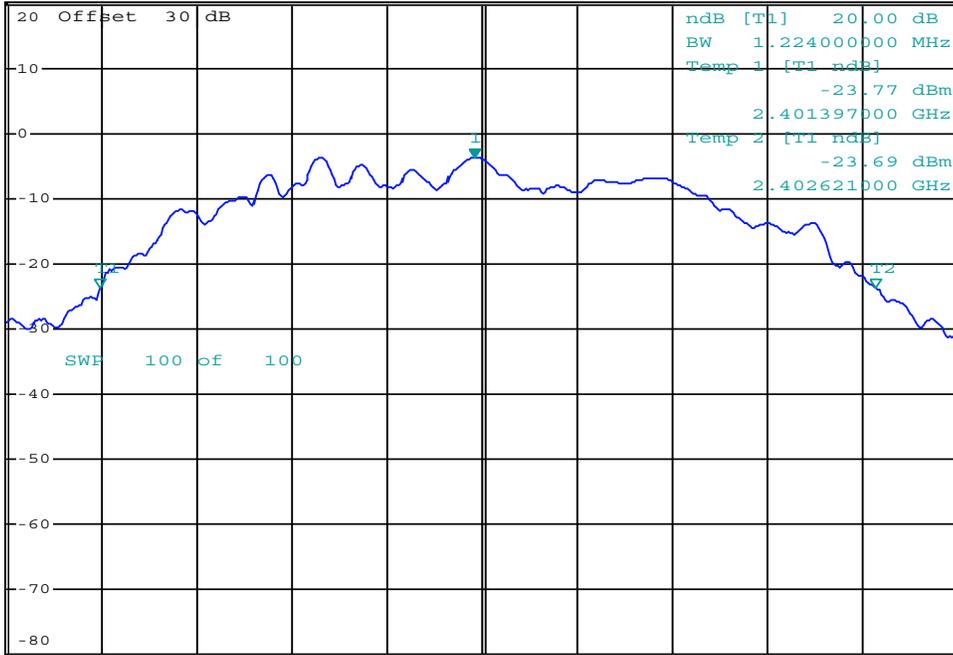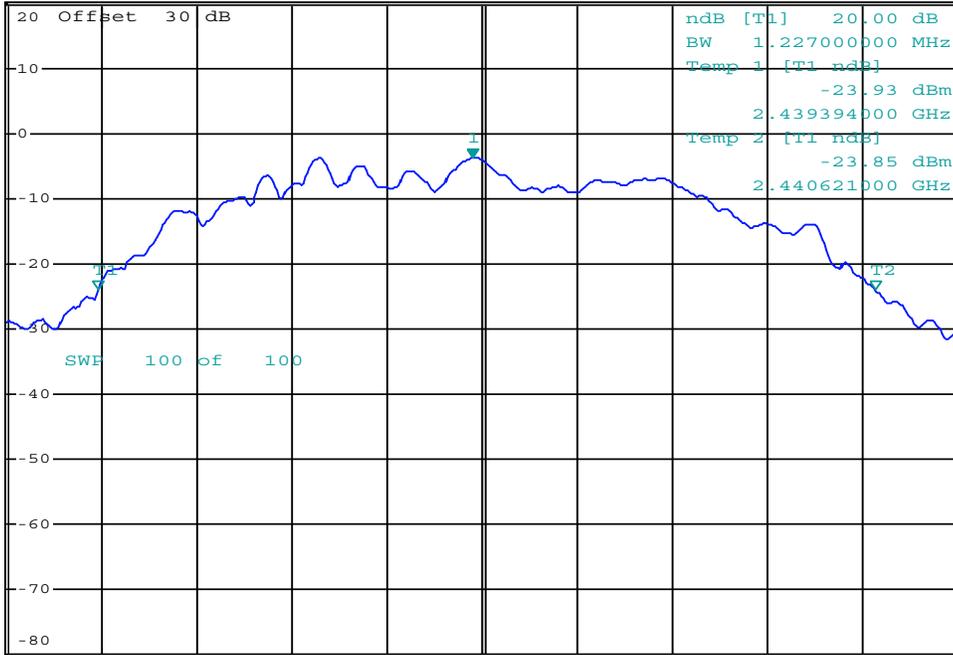| Channel Number:	80	Channel Frequency (MHz):	2480	20dB Bandwidth (MHz):	0.987
Modulation:	GFSK	Bit Rate (Mbps):	-		

20dB Bandwidth: BlueTooth BLE 1

```
                              * RBW 30 kHz      Marker 1 [T1 ]
                                VBW 100 kHz                -3.73 dBm
        Ref  20 dBm           * Att  10 dB    * SWT 20 ms      2.401988000 GHz

        20  Offset  30 dB                      ndB [T1]    20.00 dB
                                               BW   1.224000000 MHz
        -10                                    Temp 1 [T1 ndB]            A
                                                          -23.77 dBm
 1 PK   -0                                                2.401397000 GHz  LVL
 VIEW                                                 Temp 2 [T1 ndB]
        -10                                               -23.69 dBm
                                                         2.402621000 GHz
        -20                                                               3DB
        -30          SWP   100 of   100
        -40
        -50
        -60
        -70
        -80
        Center 2.402 GHz              150 kHz/              Span 1.5 MHz
```

Date: 29.MAY.2021 13:24:33

Channel Number:	2	Channel Frequency (MHz):	2402	20dB Bandwidth (MHz):	1.224
Modulation:	GMSK	Bit Rate (Mbps):	1		

```
                              * RBW 30 kHz      Marker 1 [T1 ]
                                VBW 100 kHz               -3.80 dBm
   Ref  20 dBm          * Att  10 dB   * SWT 20 ms       2.439985000 GHz

   20 Offset  30 dB                            ndB [T1]    20.00 dB
                                               BW    1.227000000 MHz
  -10                                          Temp 1 [T1 ndB]          A
                                                          -23.93 dBm
1 PK  0                                                   2.439394000 GHz   LVL
VIEW                                           Temp 2 [T1 ndB]
  -10                                                     -23.85 dBm
                                                          2.440621000 GHz
  -20        T1                                       T2
  -30                                                                   3DB
         SWP    100 of    100
  -40
  -50
  -60
  -70
  -80
   Center 2.44 GHz            150 kHz/              Span 1.5 MHz
```

Date: 29.MAY.2021 13:25:57

Channel Number:	41	Channel Frequency (MHz):	2441	20dB Bandwidth (MHz):	1.227
Modulation:	GMSK	Bit Rate (Mbps):	1		

	* RBW 30 kHz	Marker 1 [T1]	
	VBW 100 kHz		-4.92 dBm
Ref 20 dBm	* Att 10 dB	* SWT 20 ms	2.479985000 GHz

20 Offset 30 dB

ndB [T1] 20.00 dB
BW 1.224000000 MHz
Temp 1 [T1 ndB]
-24.53 dBm
2.479394000 GHz
Temp 2 [T1 ndB]
-24.95 dBm
2.480618000 GHz

1 PK VIEW

SWP 100 of 100

A
LVL
3DB
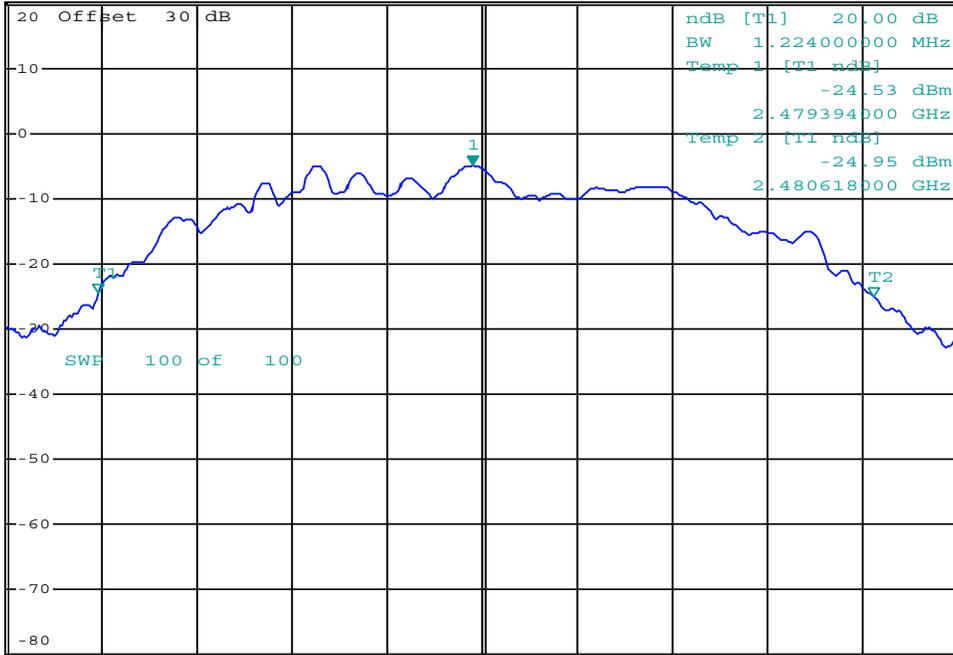
Center 2.48 GHz   150 kHz/   Span 1.5 MHz

Date: 29.MAY.2021 13:23:47

Channel Number:	**80**	Channel Frequency (MHz):	**2480**		
Modulation:	**GMSK**	Bit Rate (Mbps):	**1**	20dB Bandwidth (MHz):	**1.224**

20dB Bandwidth: BlueTooth BLE 2

```
                                    * RBW 30 kHz     Marker 1 [T1 ]
                                      VBW 100 kHz              -2.82 dBm
    Ref  20 dBm          * Att  10 dB * SWT 20 ms      2.401982000 GHz

    20  Offset  30 dB                  ndB [T1]    20.00 dB
                                       BW    2.136000000 MHz          A
                                       Temp 1 [T1 ndB]
                                                   -23.40 dBm
                                                 2.400956000 GHz
                                       Temp 2 [T1 ndB]        LVL
                                                   -22.31 dBm
                                                 2.403092000 GHz

                                                                3DB
```
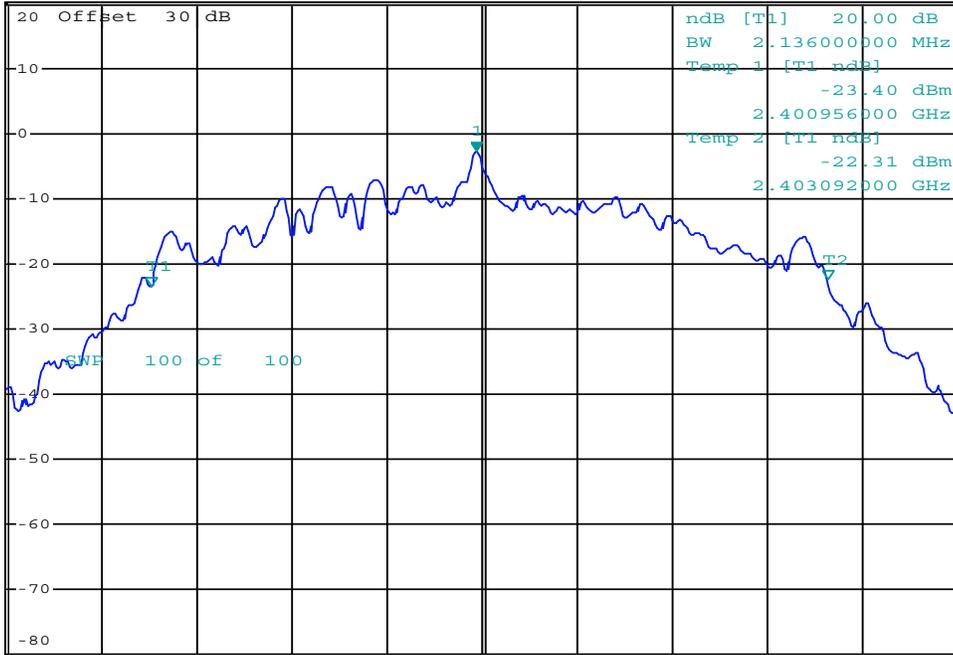
Center 2.402 GHz   300 kHz/   Span 3 MHz

Date: 29.MAY.2021 13:33:00

Channel Number:	2	Channel Frequency (MHz):	2402	20dB Bandwidth (MHz):	2.136
Modulation:	GMSK	Bit Rate (Mbps):	2		

20dB Bandwidth: BlueTooth BLE 2

```
                                    * RBW  30 kHz     Marker 1 [T1 ]
                                      VBW 100 kHz                 -2.89 dBm
Ref  20 dBm           * Att  10 dB   * SWT 20 ms        2.439982000 GHz
```

20 Offset 30 dB

ndB [T1]   20.00 dB
BW   2.136000000 MHz
Temp 1 [T1 ndB]
              -23.15 dBm
       2.438956000 GHz
Temp 2 [T1 ndB]
              -22.95 dBm
       2.441092000 GHz

1 PK VIEW

A

LVL

3DB

SWP   100 of   100

Center 2.44 GHz   300 kHz/   Span 3 MHz
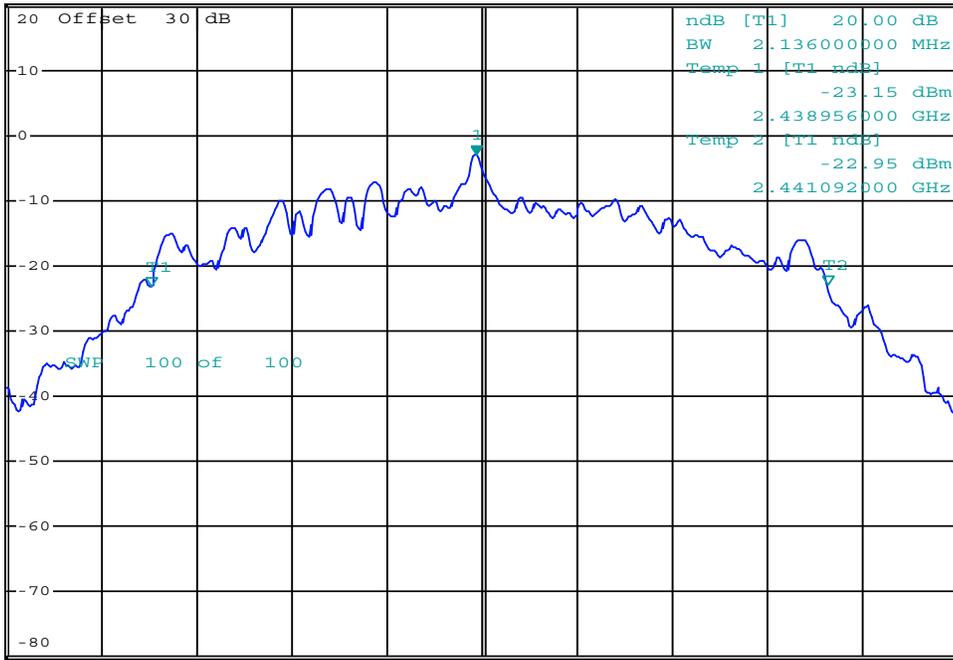
Date: 29.MAY.2021 13:32:10

Channel Number:	**41**	Channel Frequency (MHz):	**2441**	
Modulation:	**GMSK**	Bit Rate (Mbps):	**2**	20dB Bandwidth (MHz): **2.136**

20dB Bandwidth: BlueTooth BLE 2

```
                              * RBW 30 kHz     Marker 1 [T1 ]
                                VBW 100 kHz              -4.04 dBm
         Ref  20 dBm           * Att  10 dB   * SWT 20 ms      2.479976000 GHz
```
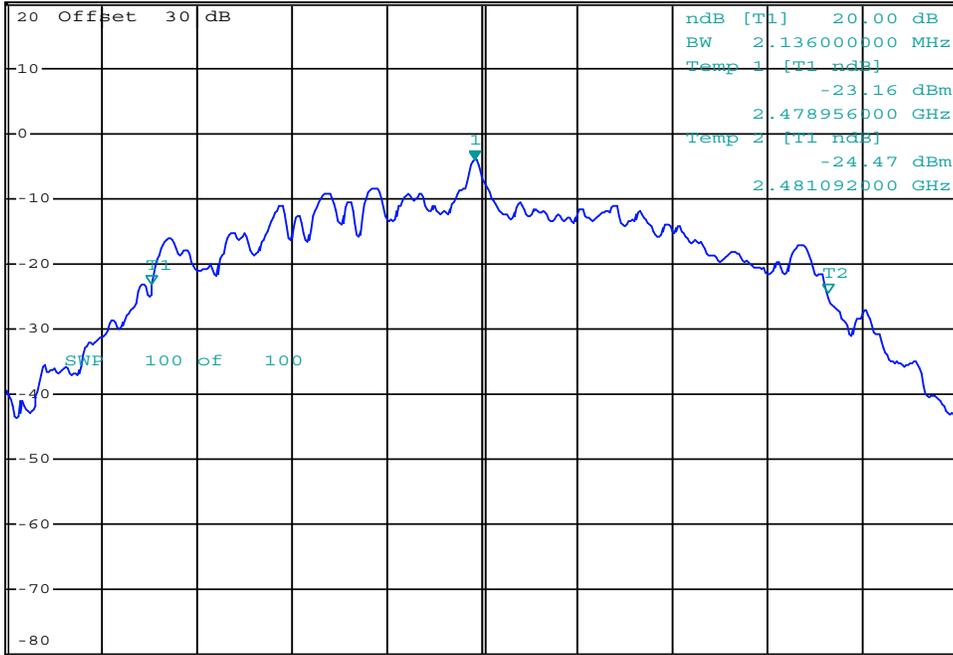


```
        20  Offset  30 dB              ndB [T1]    20.00 dB
                                       BW   2.136000000 MHz          A
      -10                              Temp 1 [T1 ndB]
                                                  -23.16 dBm
       0                                   2.478956000 GHz          LVL
                                       Temp 2 [T1 ndB]
      -10                                         -24.47 dBm
                                           2.481092000 GHz
      -20     T1                                   T2
                                                                    3DB
      -30
                 SWP   100 of   100
      -40
      -50
      -60
      -70
      -80
         Center 2.48 GHz           300 kHz/            Span 3 MHz
```

Date: 29.MAY.2021 13:33:46

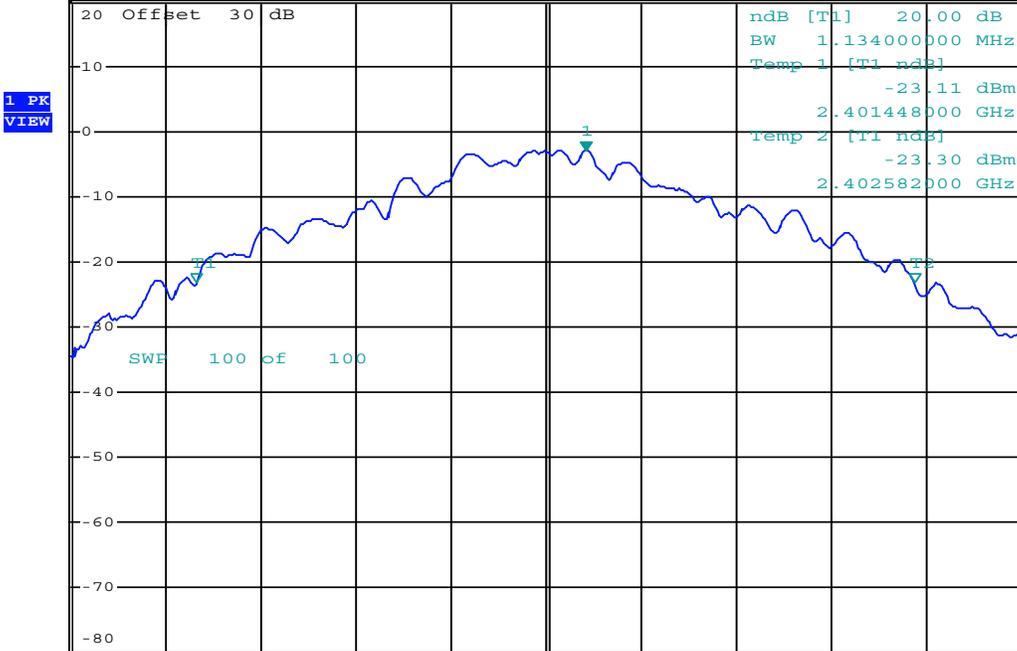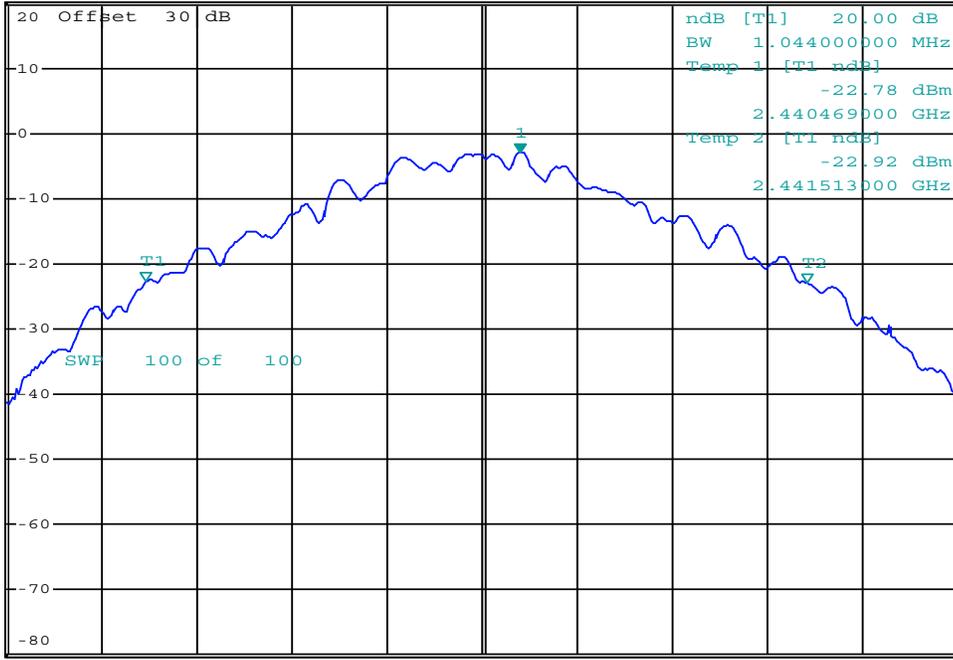| Channel Number:	**80**	Channel Frequency (MHz):	**2480**	20dB Bandwidth (MHz):	**2.136**
Modulation:	**GMSK**	Bit Rate (Mbps):	**2**		

20dB Bandwidth: BlueTooth ANT

```
                                    * RBW 30 kHz     Marker 1 [T1 ]
                                      VBW 100 kHz              -2.99 dBm
        Ref  20 dBm          * Att  10 dB   * SWT 20 ms        2.402063000 GHz

        20 Offset  30 dB                          ndB [T1]    20.00 dB
                                                  BW   1.134000000 MHz
     -10                                          Temp 1 [T1 ndB]
                                                             -23.11 dBm
  1 PK                                                        2.401448000 GHz
  VIEW   0                                        Temp 2 [T1 ndB]
                                                             -23.30 dBm
                                                             2.402582000 GHz
    -10

    -20

    -30
        SWP    100 of    100
    -40

    -50

    -60

    -70

    -80
        Center 2.402 GHz              150 kHz/            Span 1.5 MHz
```

Date: 29.MAY.2021 13:35:54

Channel Number:	2	Channel Frequency (MHz):	2402	20dB Bandwidth (MHz):	1.134
Modulation:	GFSK	Bit Rate (Mbps):	-		

Channel Number:	**41**	
Modulation:	**GFSK**	
Channel Frequency (MHz):	**2441**	
Bit Rate (Mbps):	**-**	
20dB Bandwidth (MHz):	**1.044**	

Within the plot:

* RBW 30 kHz   Marker 1 [T1]
VBW 100 kHz   -2.89 dBm
Ref 20 dBm   * Att 10 dB   * SWT 20 ms   2.441060000 GHz

20 Offset 30 dB

ndB [T1]   20.00 dB
BW   1.044000000 MHz
Temp 1 [T1 ndB]
              -22.78 dBm
              2.440469000 GHz
Temp 2 [T1 ndB]
              -22.92 dBm
              2.441513000 GHz

SWP   100 of   100

Center 2.441 GHz   150 kHz/   Span 1.5 MHz

Date: 29.MAY.2021 13:37:15

20dB Bandwidth: BlueTooth ANT

```
                              * RBW  30 kHz      Marker 1 [T1 ]
                                VBW  100 kHz              -3.50 dBm
      Ref   20 dBm          * Att  10 dB    * SWT 20 ms    2.480060000 GHz
```



```
Center 2.48 GHz              150 kHz/              Span 1.5 MHz
```
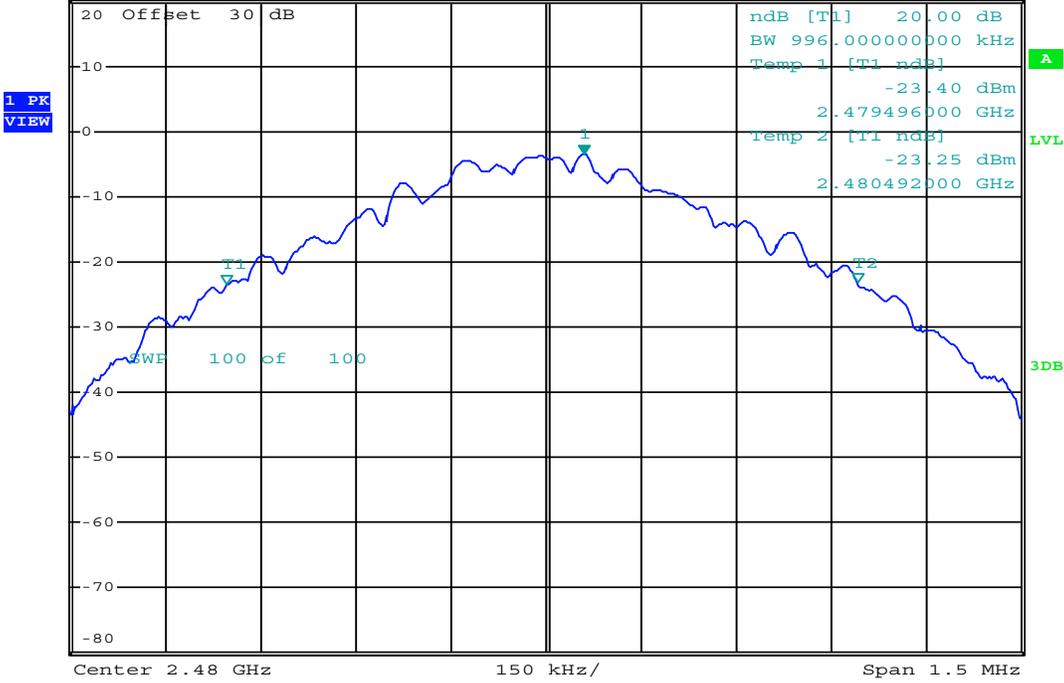
Date: 29.MAY.2021 13:34:51

Channel Number:	**80**	Channel Frequency (MHz):	**2480**	20dB Bandwidth (MHz):	**0.996**
Modulation:	**GFSK**	Bit Rate (Mbps):	**-**		