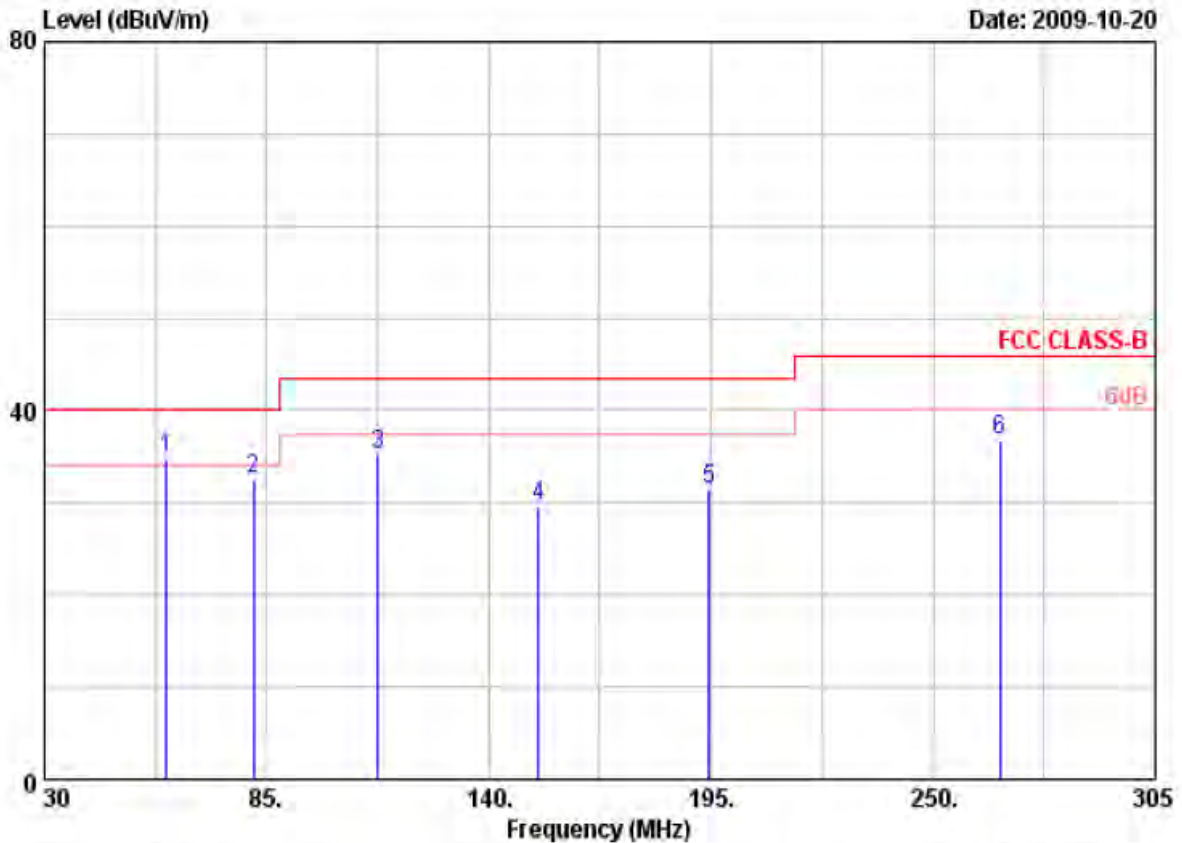




Power	: AC 120V	Pol/Phase	: VERTICAL
Test Mode	: Transmit / Receive	Temperature	: 27 °C
Operation Channel	: 0	Humidity	: 55 %
Modulation Type	: 8DPSK	Atmospheric Pressure	: 1021 hPa
Memo	:	Rate	: 3 Mbps

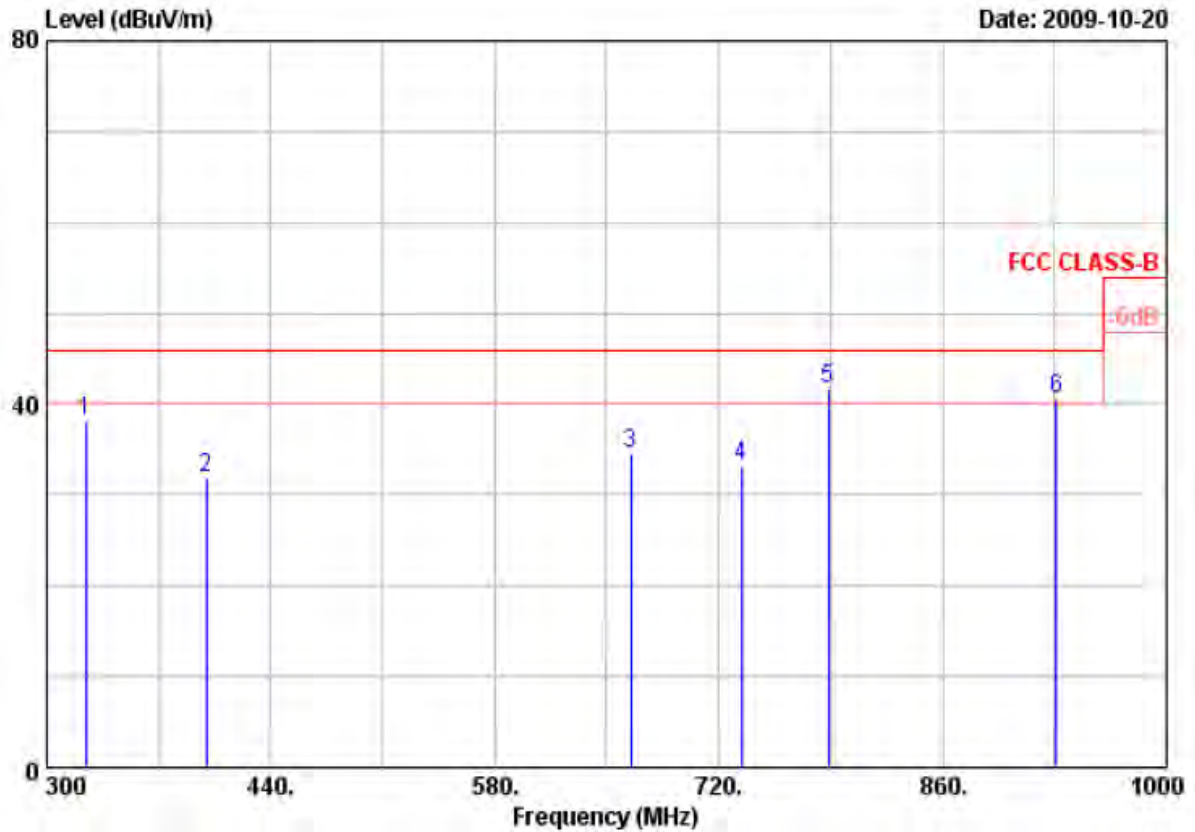


Item	Freq MHz	Read Value dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Remark	Ant Pos cm	Tab Pos Deg
1	60.25	47.65	-12.85	34.80	40.00	-5.20	QP	105	360
2	81.70	46.66	-14.07	32.59	40.00	-7.41	Peak	105	360
3	112.50	45.76	-10.65	35.11	43.50	-8.39	Peak	105	360
4	152.38	40.95	-11.39	29.56	43.50	-13.94	Peak	105	360
5	194.45	41.82	-10.36	31.46	43.50	-12.04	Peak	105	360
6	266.50	49.38	-12.51	36.87	46.00	-9.13	Peak	105	360

- Remarks:
1. Result = Read Value + Factor
 2. Factor = Antenna Factor + Cable Loss - Amplifier
 3. According to technical experiences, all spurious emission of FM mode at channel 0,39,78 are almost the same below 1GHz, so that the channel 0 was chosen as representative in final test.
 4. The data is worst case.



Power	: AC 120V	Pol/Phase	: VERTICAL
Test Mode	: Transmit / Receive	Temperature	: 27 °C
Operation Channel	: 0	Humidity	: 55 %
Modulation Type	: 8DPSK	Atmospheric Pressure	: 1021 hPa
Memo	:	Rate	: 3 Mbps

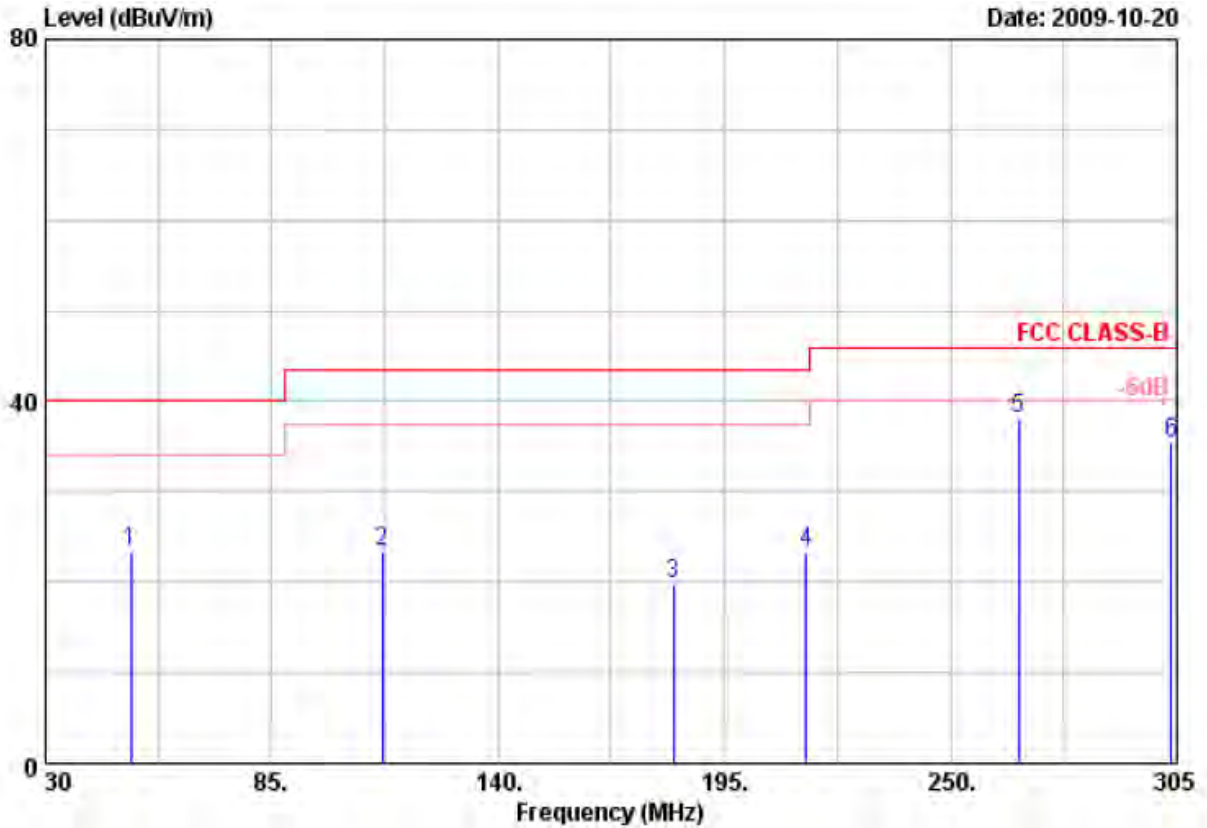


Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	324.50	47.86	-9.78	38.08	46.00	-7.92	Peak	105	0
2	399.40	38.83	-6.97	31.86	46.00	-14.14	Peak	105	0
3	665.40	38.79	-4.22	34.57	46.00	-11.43	Peak	105	0
4	734.00	34.10	-0.84	33.26	46.00	-12.74	Peak	105	0
5	788.60	43.65	-1.97	41.68	46.00	-4.32	QP	105	0
6	931.40	35.77	4.75	40.52	46.00	-5.48	QP	105	0

- Remarks:
1. Result = Read Value + Factor
 2. Factor = Antenna Factor + Cable Loss - Amplifier
 3. According to technical experiences, all spurious emission of FM mode at channel 0,39,78 are almost the same below 1GHz, so that the channel 0 was chosen as representative in final test.
 4. The data is worst case.



Power	: AC 120V	Pol/Phase	: HORIZONTAL
Test Mode	: Transmit / Receive	Temperature	: 27 °C
Operation Channel	: 0	Humidity	: 55 %
Modulation Type	: 8DPSK	Atmospheric Pressure	: 1021 hPa
Memo	:	Rate	: 3 Mbps

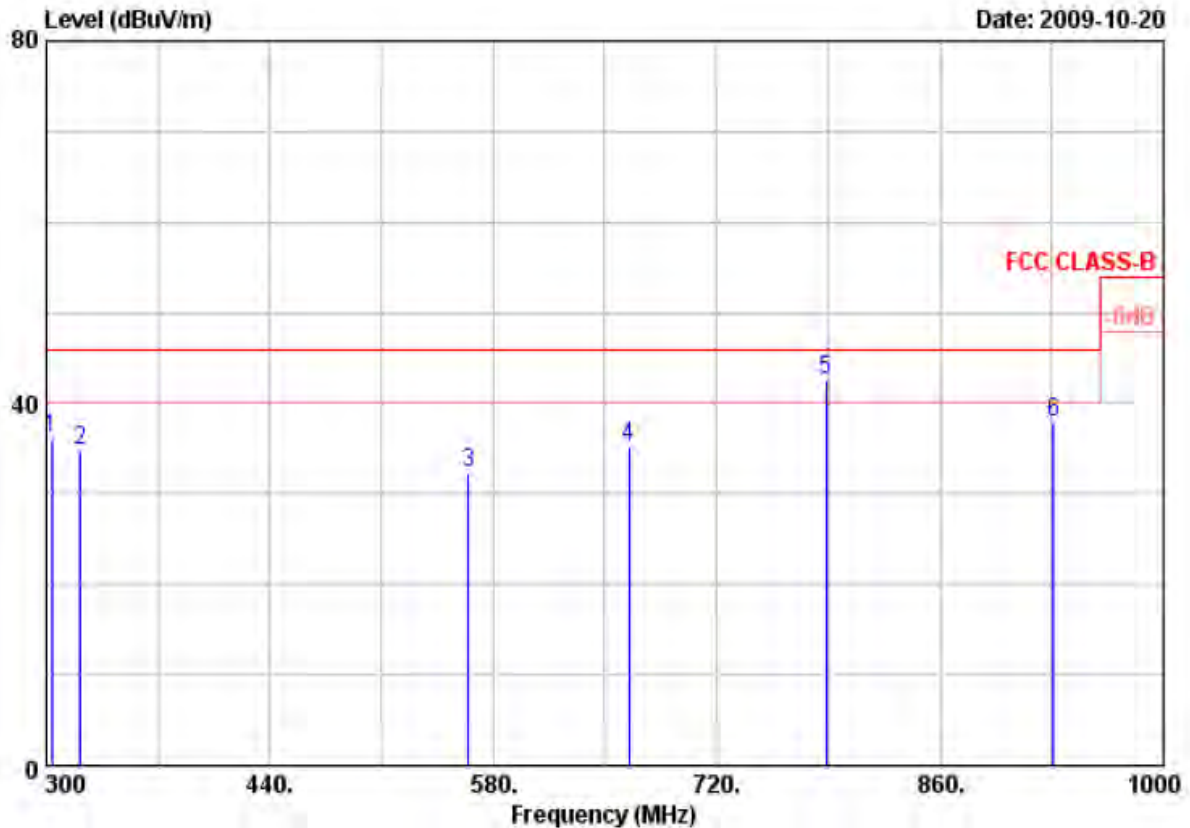


Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant. Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	50.63	38.04	-14.64	23.40	40.00	-16.60	Peak	105	360
2	111.95	41.19	-17.72	23.47	43.50	-20.03	Peak	105	360
3	182.63	37.24	-17.30	19.94	43.50	-23.56	Peak	105	360
4	214.80	40.06	-16.59	23.47	43.50	-20.03	Peak	105	360
5	266.50	51.62	-13.58	38.04	46.00	-7.96	Peak	105	360
6	303.63	47.89	-12.37	35.52	46.00	-10.48	Peak	105	360

- Remarks:
1. Result = Read Value + Factor
 2. Factor = Antenna Factor + Cable Loss - Amplifier
 3. According to technical experiences, all spurious emission of FM mode at channel 0,39,78 are almost the same below 1GHz, so that the channel 0 was chosen as representative in final test.
 4. The data is worst case.



Power	: AC 120V	Pol/Phase	: HORIZONTAL
Test Mode	: Transmit / Receive	Temperature	: 27 °C
Operation Channel	: 0	Humidity	: 55 %
Modulation Type	: 8DPSK	Atmospheric Pressure	: 1021 hPa
Memo	:	Rate	: 3 Mbps

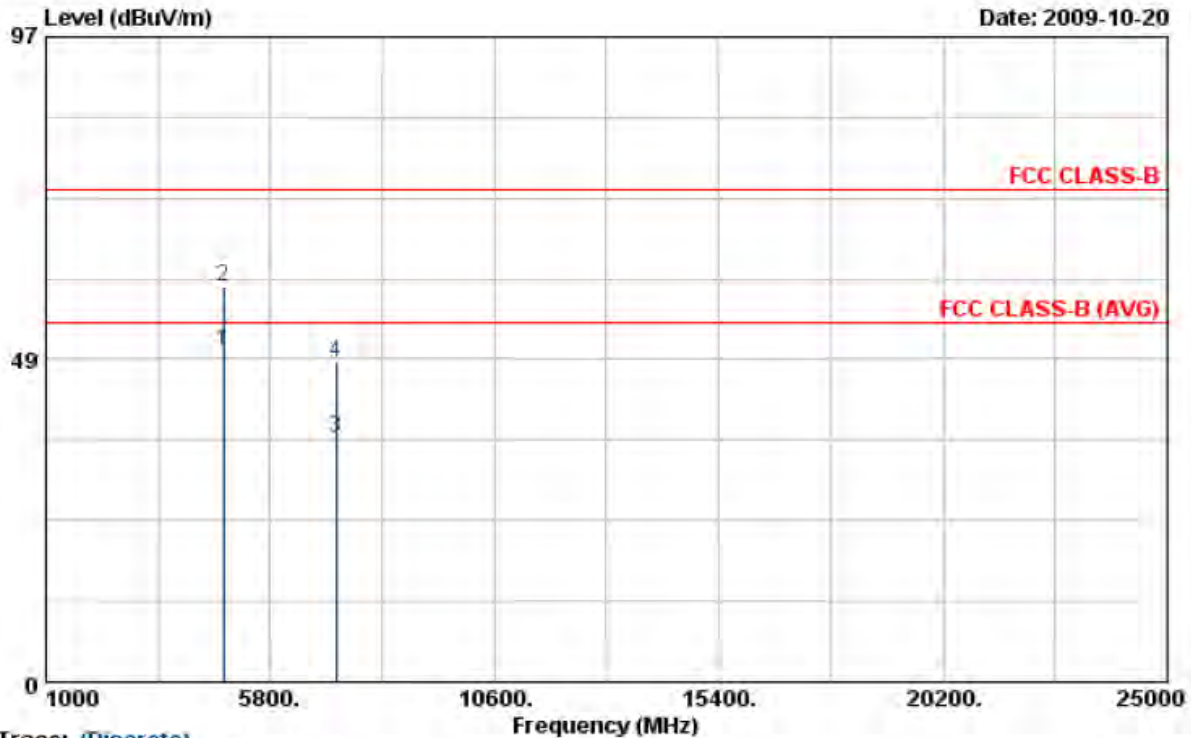


Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	303.50	48.47	-12.39	36.08	46.00	-9.92	Peak	105	0
2	321.00	46.58	-11.82	34.76	46.00	-11.24	Peak	105	0
3	564.60	33.94	-1.64	32.30	46.00	-13.70	Peak	105	0
4	665.40	39.06	-3.89	35.17	46.00	-10.83	Peak	105	0
5	788.60	42.87	-0.29	42.58	46.00	-3.42	QP	105	0
6	931.40	35.58	2.41	37.99	46.00	-8.01	Peak	105	0

- Remarks:
1. Result = Read Value + Factor
 2. Factor = Antenna Factor + Cable Loss - Amplifier
 3. According to technical experiences, all spurious emission of FM mode at channel 0,39,78 are almost the same below 1GHz, so that the channel 0 was chosen as representative in final test.
 4. The data is worst case.



Power	: AC 120V	Pol/Phase	: VERTICAL
Test Mode	: Transmit / Receive	Temperature	: 26 °C
Operation Channel	: 0	Humidity	: 60 %
Modulation Type	: 8DPSK	Atmospheric Pressure	: 1007 hPa
Memo	:	Rate	: 3 Mbps



Trace: (Discrete)

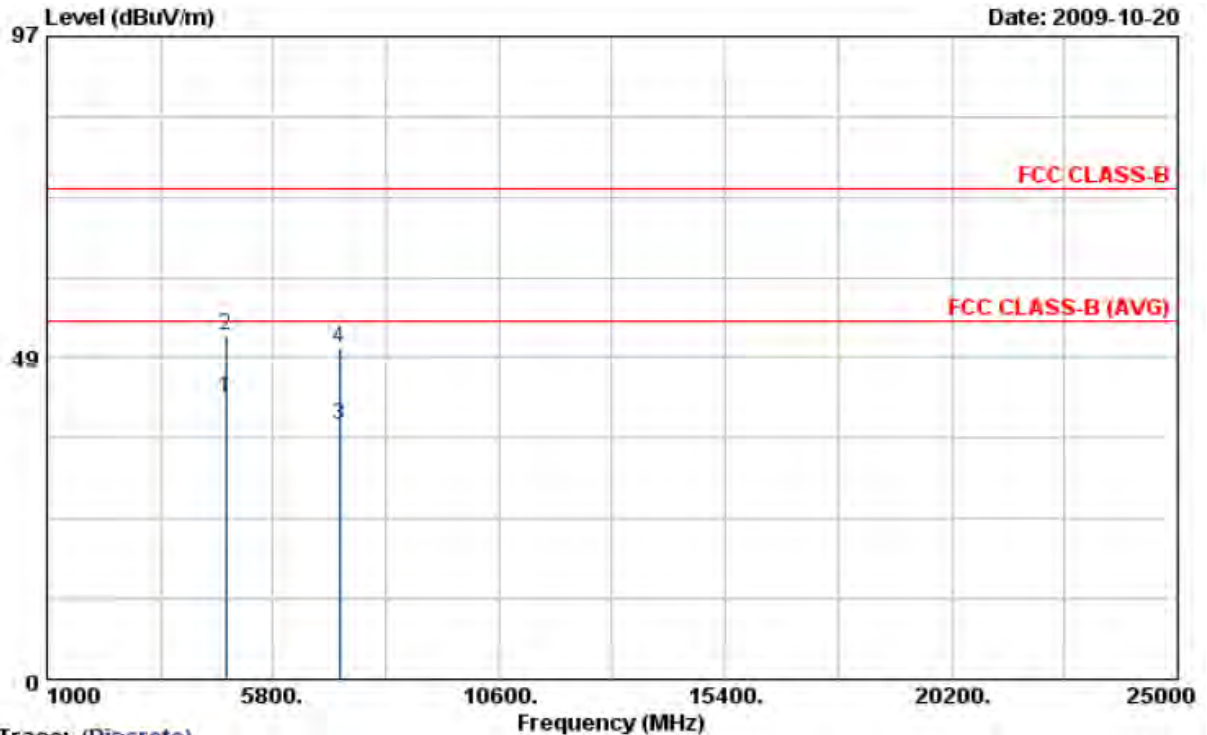
Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	4804.00	46.95	2.67	49.62	54.00	-4.38	Average	119	240
2	4804.00	56.67	2.67	59.34	74.00	-14.66	Peak	119	240
3	7206.15	29.71	7.07	36.78	54.00	-17.22	Average	119	240
4	7206.15	41.14	7.07	48.21	74.00	-25.79	Peak	119	240

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300KHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.
7. The data is worse case.



Power	: AC 120V	Pol/Phase	: HORIZONTAL
Test Mode	: Transmit / Receive	Temperature	: 26 °C
Operation Channel	: 0	Humidity	: 60 %
Modulation Type	: 8DPSK	Atmospheric Pressure	: 1007 hPa
Memo	:	Rate	: 3 Mbps



Trace: (Discrete)

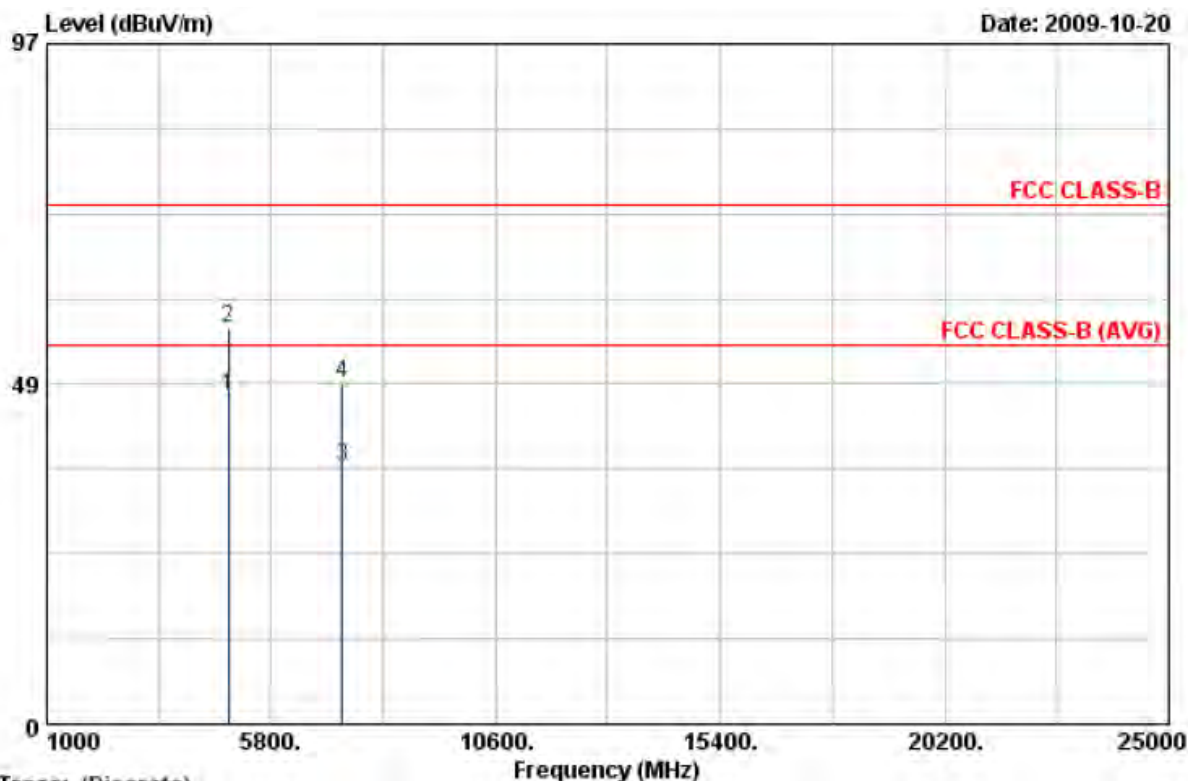
Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	4604.00	39.64	2.67	42.31	54.00	-11.69	Average	150	250
2	4604.00	49.09	2.67	51.76	74.00	-22.24	Peak	150	250
3	7205.83	31.32	7.07	38.39	54.00	-15.61	Average	150	250
4	7205.83	42.91	7.07	49.98	74.00	-24.02	Peak	150	250

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.
7. The data is worse case.



Power	: AC 120V	Pol/Phase	: VERTICAL
Test Mode	: Transmit / Receive	Temperature	: 26 °C
Operation Channel	: 39	Humidity	: 60 %
Modulation Type	: 8DPSK	Atmospheric Pressure	: 1007 hPa
Memo	:	Rate	: 3 Mbps



Trace: (Discrete)

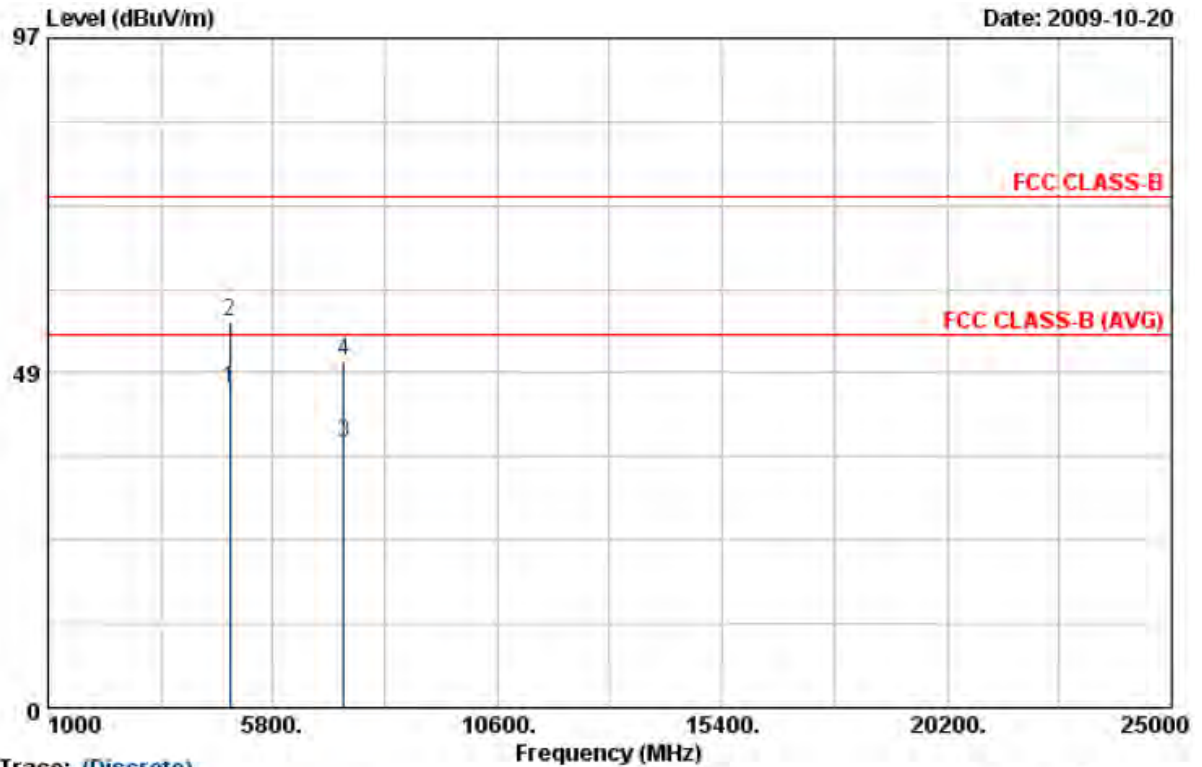
Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant. Pos	Tab. Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	4881.98	43.88	2.89	46.77	54.00	-7.23	Average	119	240
2	4881.98	53.70	2.89	56.59	74.00	-17.41	Peak	119	240
3	7322.98	29.28	7.43	36.71	54.00	-17.29	Average	119	240
4	7322.98	41.09	7.43	48.52	74.00	-25.48	Peak	119	240

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.
7. The data is worse case.



Power	: AC 120V	Pol/Phase	: HORIZONTAL
Test Mode	: Transmit / Receive	Temperature	: 26 °C
Operation Channel	: 39	Humidity	: 60 %
Modulation Type	: 8DPSK	Atmospheric Pressure	: 1007 hPa
Memo	:	Rate	: 3 Mbps



Trace: (Discrete)

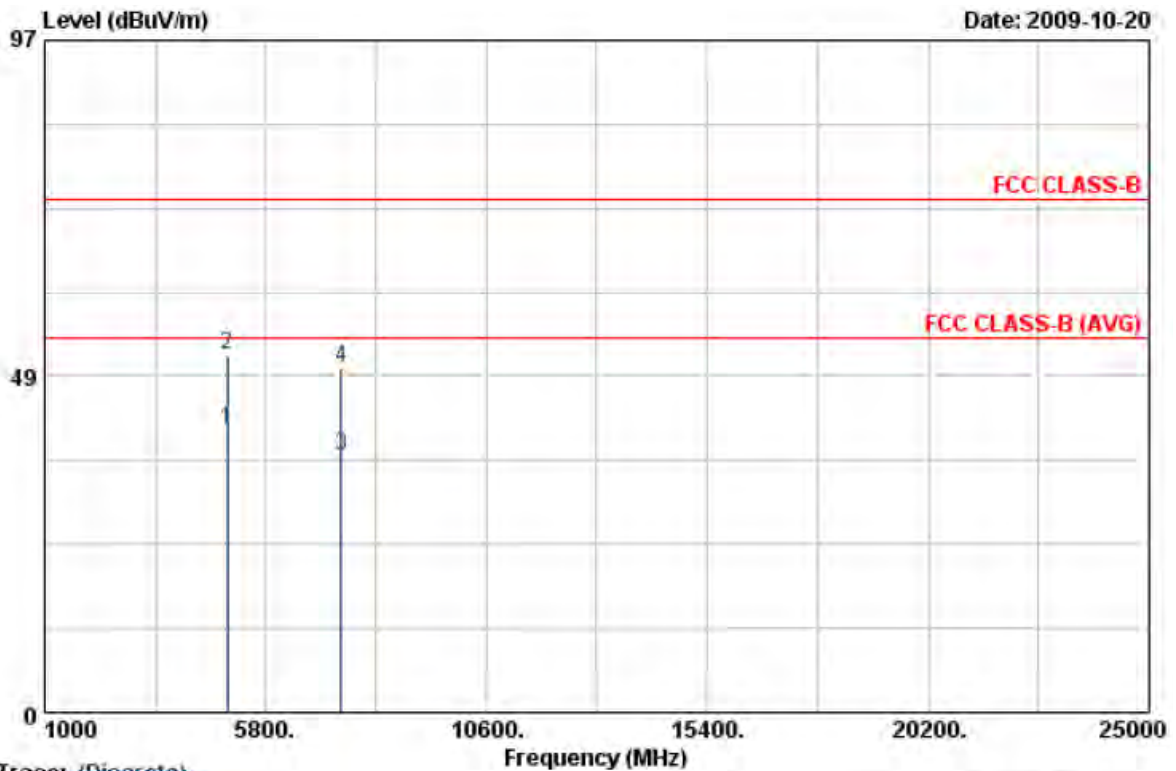
Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	4882.00	43.19	2.89	46.08	54.00	-7.92	Average	150	250
2	4882.00	53.02	2.89	55.91	74.00	-18.09	Peak	150	250
3	7322.95	30.84	7.43	38.27	54.00	-15.73	Average	150	250
4	7322.95	42.81	7.43	50.24	74.00	-23.76	Peak	150	250

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120kHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.
7. The data is worse case.



Power	: AC 120V	Pol/Phase	: VERTICAL
Test Mode	: Transmit / Receive	Temperature	: 26 °C
Operation Channel	: 78	Humidity	: 60 %
Modulation Type	: 8DPSK	Atmospheric Pressure	: 1007 hPa
Memo	:	Rate	: 3 Mbps



Trace: (Discrete)

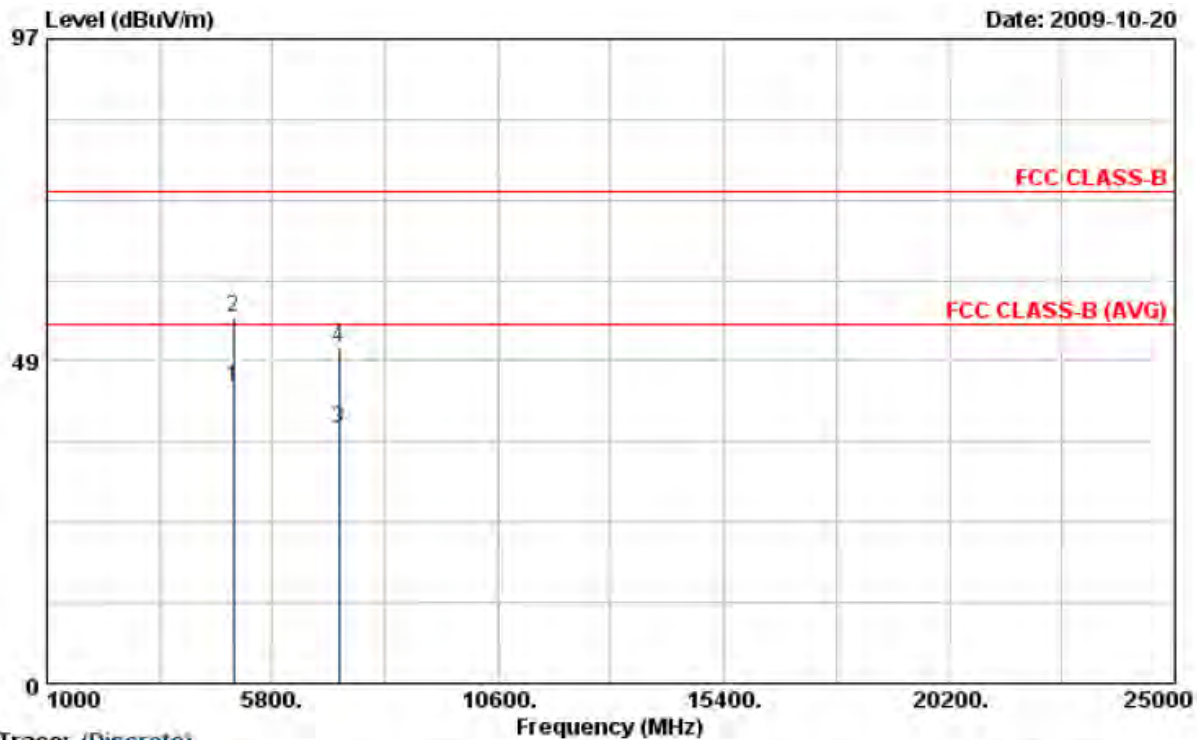
Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	4960.00	37.56	3.11	40.67	54.00	-13.33	Average	119	240
2	4960.00	48.45	3.11	51.56	74.00	-22.44	Peak	119	240
3	7436.40	29.29	7.77	37.06	54.00	-16.94	Average	119	240
4	7436.40	41.89	7.77	49.66	74.00	-24.34	Peak	119	240

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300KHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.
7. The data is worse case.



Power	: AC 120V	Pol/Phase	: HORIZONTAL
Test Mode	: Transmit / Receive	Temperature	: 26 °C
Operation Channel	: 78	Humidity	: 60 %
Modulation Type	: 8DPSK	Atmospheric Pressure	: 1007 hPa
Memo	:	Rate	: 3 Mbps



Trace: (Discrete)

Item	Freq	Read Value	Factor	Result	Limit	Margin	Remark	Ant Pos	Tab Pos
	MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	Deg
1	4960.03	41.56	3.11	44.67	54.00	-9.33	Average	150	250
2	4960.03	52.10	3.11	55.21	74.00	-18.79	Peak	150	250
3	7201.28	31.22	7.05	38.27	54.00	-15.73	Average	150	250
4	7201.28	43.48	7.05	50.53	74.00	-23.47	Peak	150	250

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.
7. The data is worse case.

Test engineer: Ben



6. 20dB Bandwidth Measurement Data

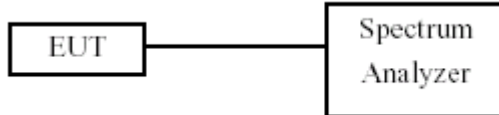
6.1 Test Limit

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400–2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW.

6.2 Test Procedures

- The transmitter output was connected to the spectrum analyzer.
- Set RBW of spectrum analyzer to 30 KHz and VBW to 100 KHz.
- The 20 dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 20 dB.

6.3 Test Setup Layout



6.4 Measurement equipment

Instrument/Ancillary	Model No.	Manufacturer	Serial No.	Calibration Date	Valid Date
Spectrum Analyzer	FSP40	R&S	10047	2009/03/26	2010/03/25



6.5 Test Result and Data

Modulation Standard: GFSK (1Mbps)

Test Date: Oct. 22, 2009

Temperature: 26°C

Atmospheric pressure: 1012 hPa

Humidity: 57%

Channel	Frequency (MHz)	20dB Bandwidth (KHz)
00	2402	698.00
39	2441	702.00
78	2480	696.00

Modulation Standard: $\pi/4$ -DQPSK (2Mbps)

Test Date: Oct. 22, 2009

Temperature: 26°C

Atmospheric pressure: 1012 hPa

Humidity: 57%

Channel	Frequency (MHz)	20dB Bandwidth (KHz)
00	2402	628.00
39	2441	628.00
78	2480	626.00

Modulation Standard: 8DPSK (3Mbps)

Test Date: Oct. 22, 2009

Temperature: 26°C

Atmospheric pressure: 1012 hPa

Humidity: 57%

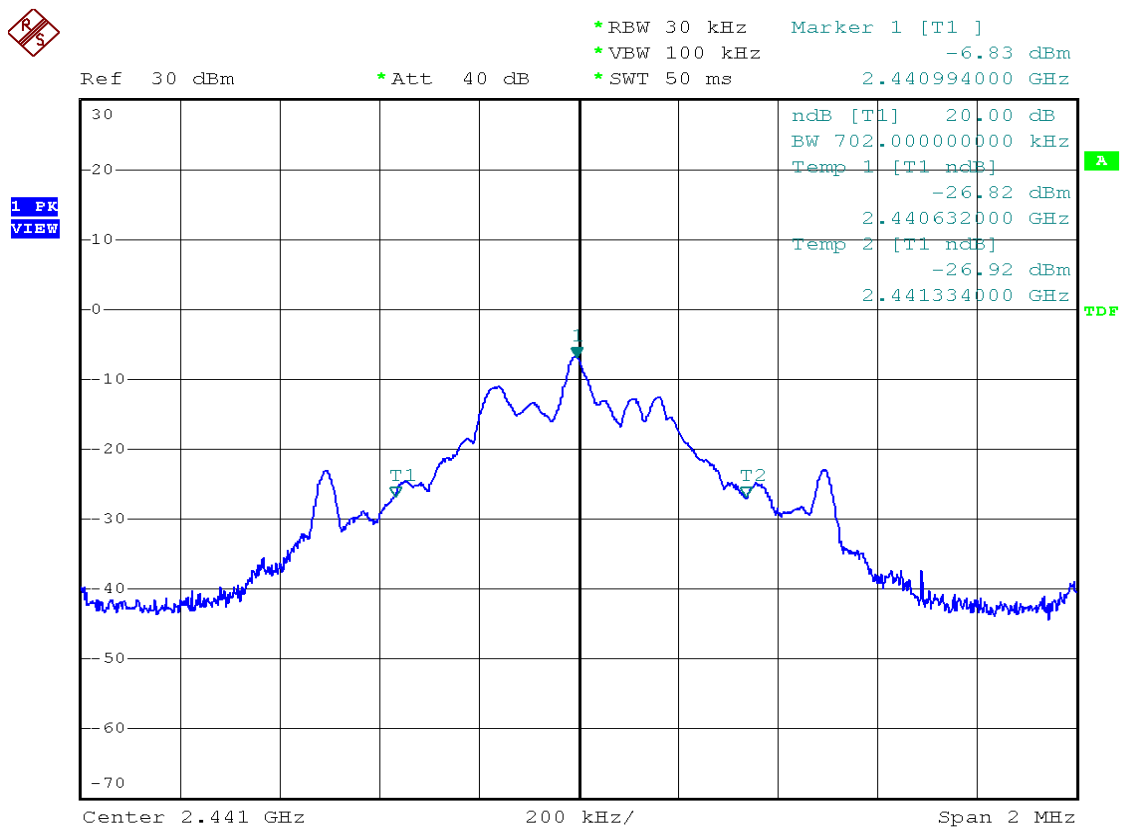
Channel	Frequency (MHz)	20dB Bandwidth (KHz)
00	2402	638.00
39	2441	638.00
78	2480	636.00



Modulation Standard: GFSK (1Mbps)
Channel: 00



Modulation Standard: GFSK (1Mbps)
Channel: 39

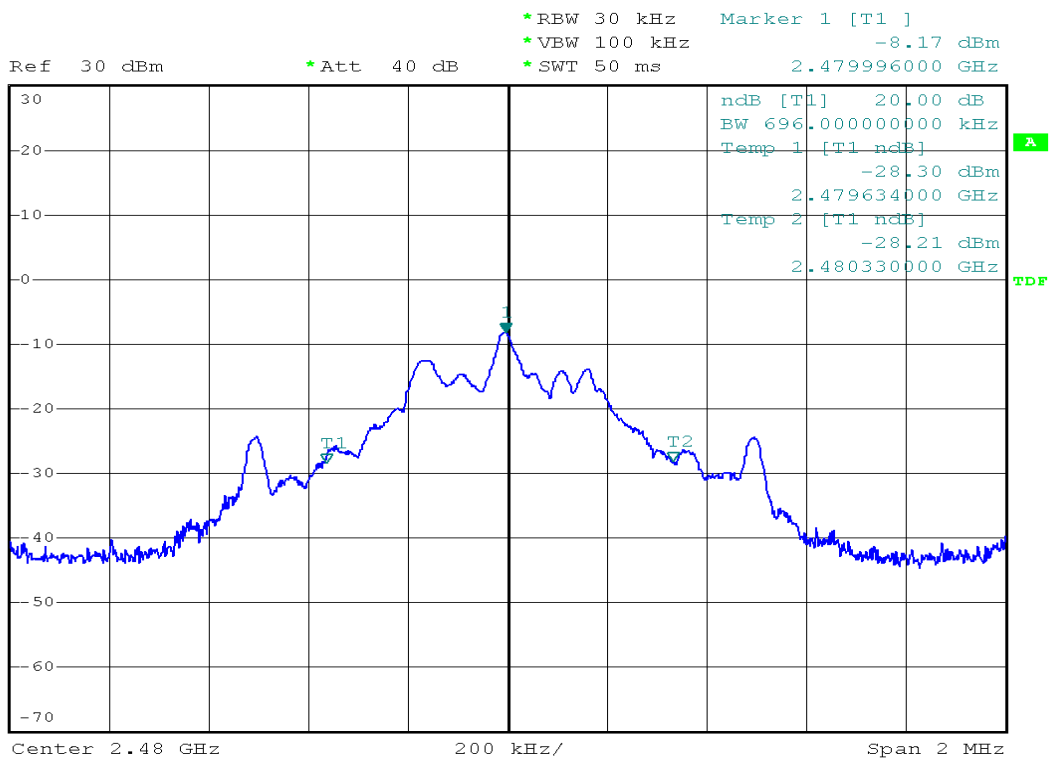




Modulation Standard: GFSK (1Mbps)
Channel: 78



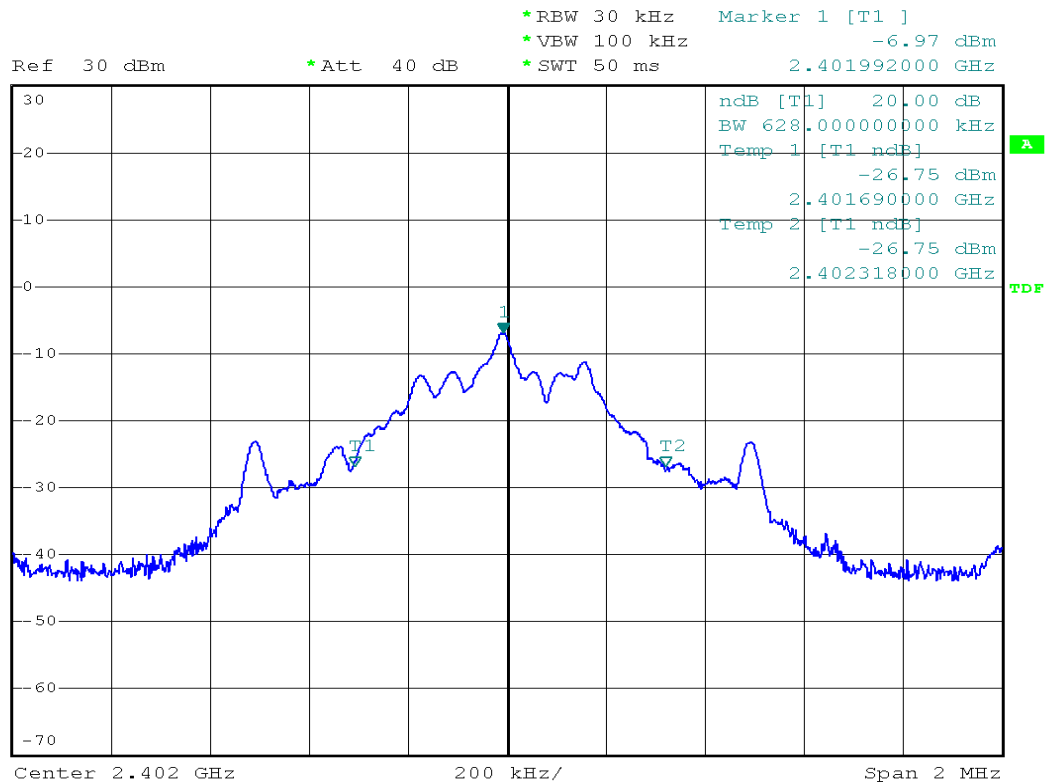
1 PK
VIEW



Modulation Standard: $\pi/4$ -DQPSK (2Mbps)
Channel: 00

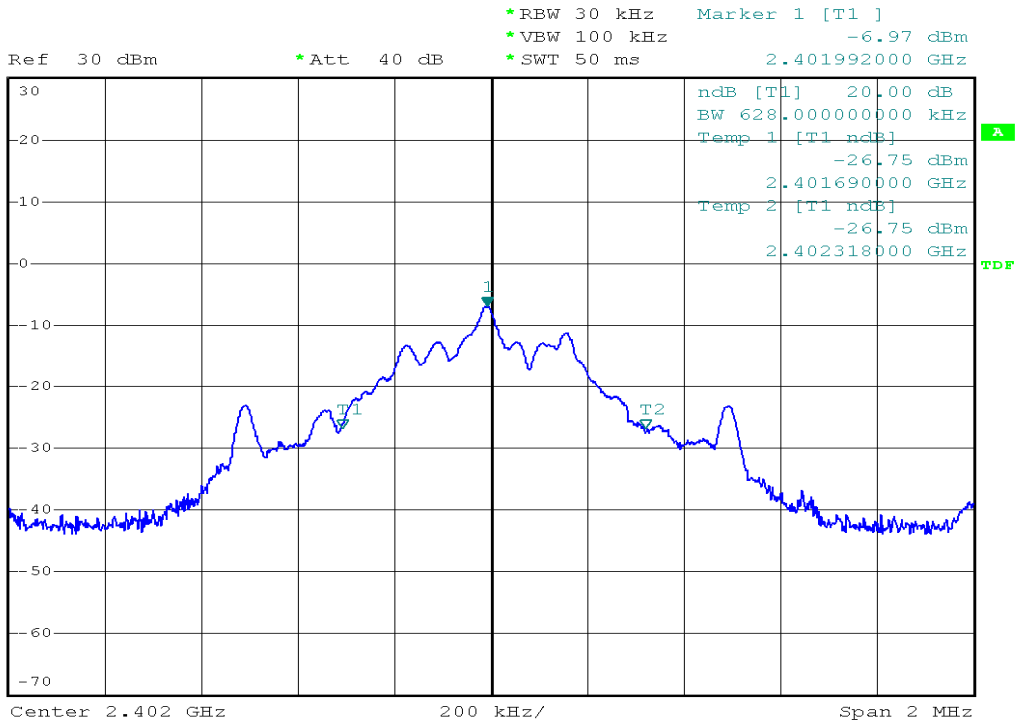


1 PK
VIEW

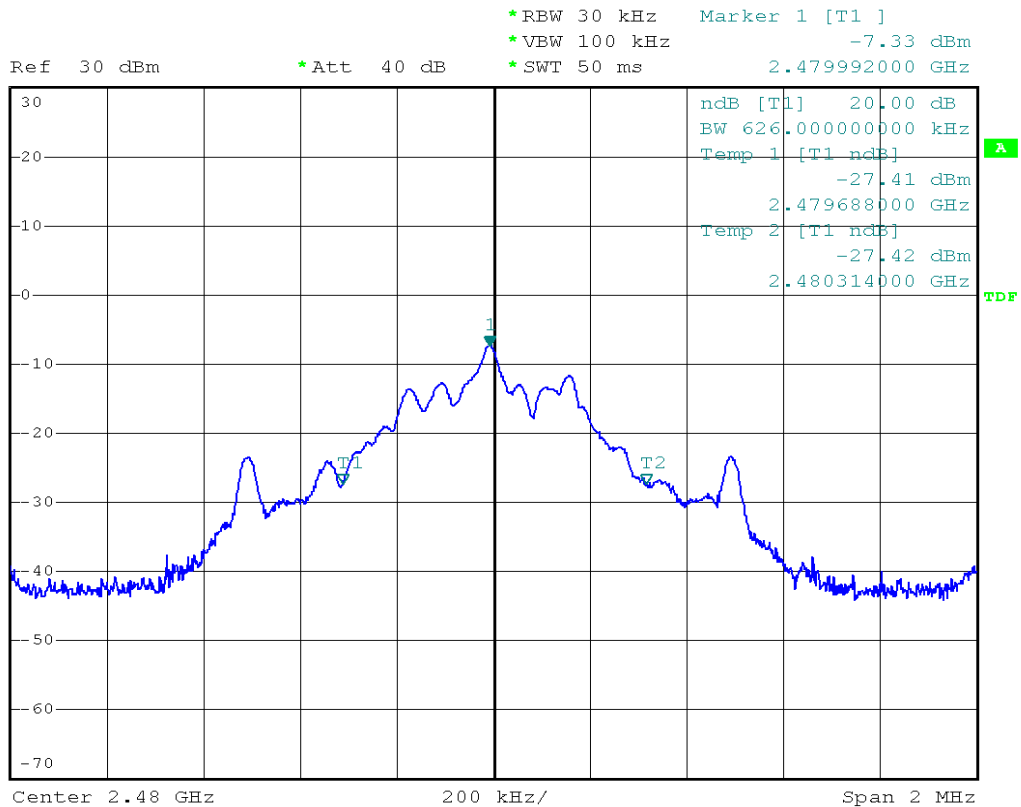




Modulation Standard: $\pi/4$ -DQPSK (2Mbps)
Channel: 39



Modulation Standard: $\pi/4$ -DQPSK (2Mbps)
Channel: 78

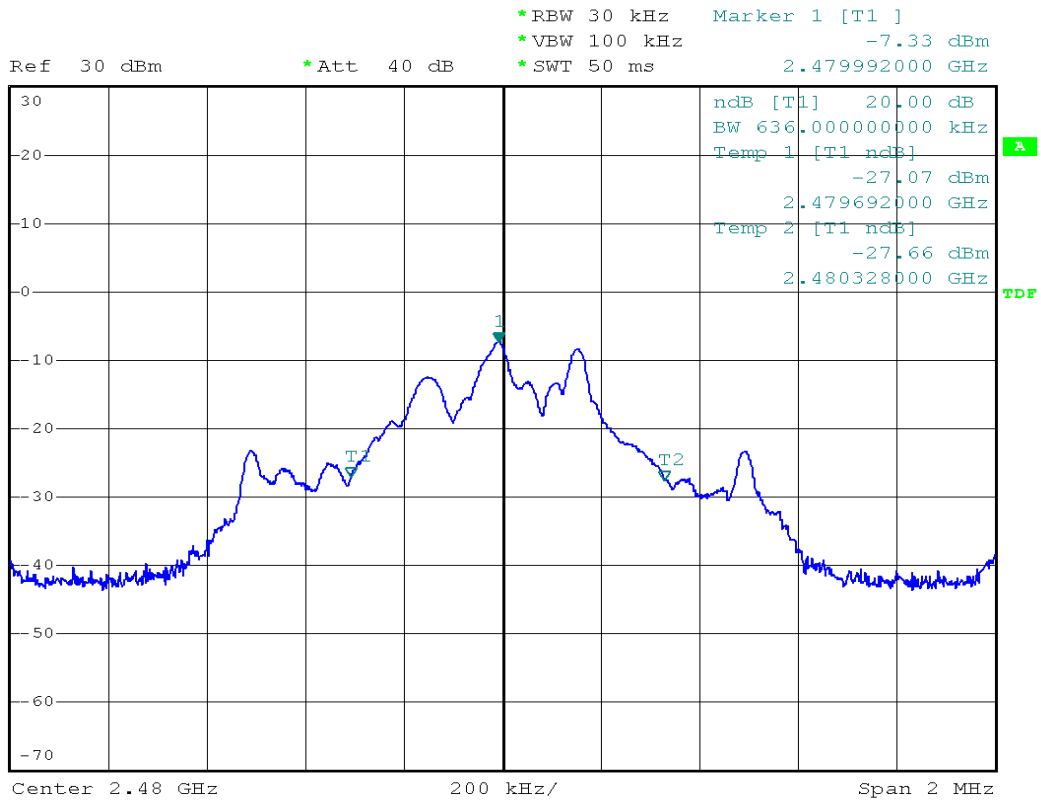




Modulation Standard: 8DPSK (3Mbps)
Channel: 78



1 PK
VIEW





7. Frequencies Separation

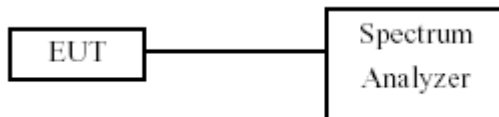
7.1 Test Limit

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.

7.2 Test Procedures

- a. The transmitter output was connected to the spectrum analyzer.
- b. Set RBW of spectrum analyzer to 100 KHz and VBW to 100 KHz.
- c. By using the MaxHold function record the separation of two adjacent channels.
- d. Measure the frequency difference of these two adjacent channels.

7.3 Test Setup Layout



7.4 Measurement equipment

Instrument/Ancillary	Model No.	Manufacturer	Serial No.	Calibration Date	Valid Date
Spectrum Analyzer	FSP40	R&S	10047	2009/03/26	2010/03/25



7.5 Test Result and Data

Modulation Standard: GFSK (1Mbps)

Test Date: Oct. 22, 2009

Temperature: 26°C

Atmospheric pressure: 1012 hPa

Humidity: 57%

Channel	Frequency (MHz)	Channel Separation (MHz)
00	2402	1.000
39	2441	1.000
78	2480	1.004

Modulation Standard: $\pi/4$ -DQPSK (2Mbps)

Test Date: Oct. 22, 2009

Temperature: 26°C

Atmospheric pressure: 1012 hPa

Humidity: 57%

Channel	Frequency (MHz)	Channel Separation (MHz)
00	2402	1.000
39	2441	1.040
78	2480	1.040

Modulation Standard: 8DPSK (3Mbps)

Test Date: Oct. 22, 2009

Temperature: 26°C

Atmospheric pressure: 1012 hPa

Humidity: 57%

Channel	Frequency (MHz)	Channel Separation (MHz)
00	2402	1.040
39	2441	1.000
78	2480	1.000

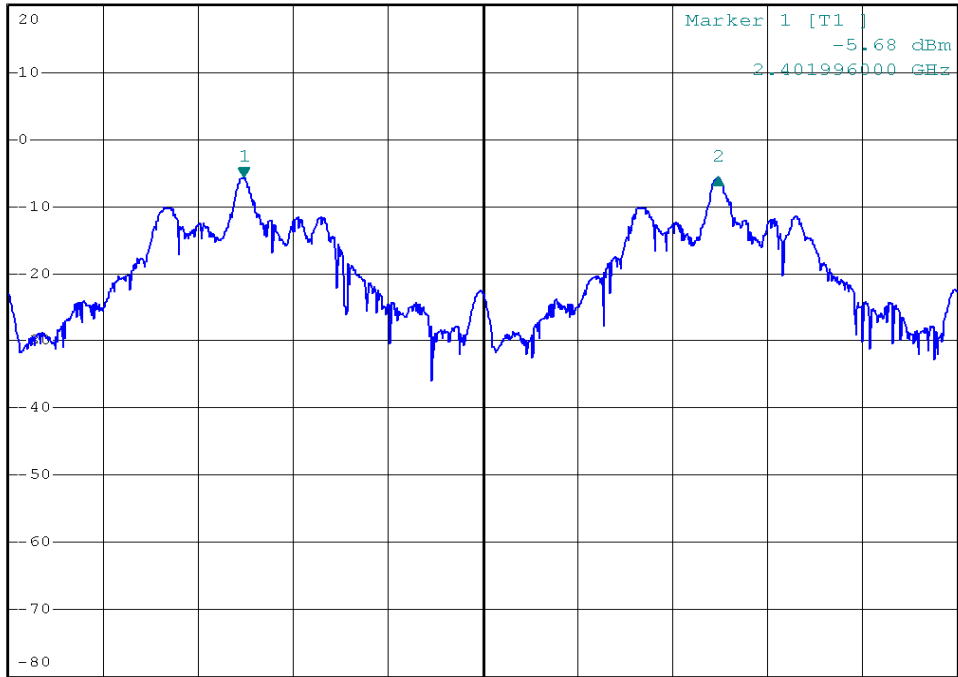


Modulation Standard: GFSK (1Mbps)
Channel: 00



1 PK
VIEW

Ref 20 dBm *Att 30 dB
*RBW 30 kHz Delta 2 [T1] -0.02 dB
*VBW 100 kHz
*SWT 50 ms 1.000000000 MHz



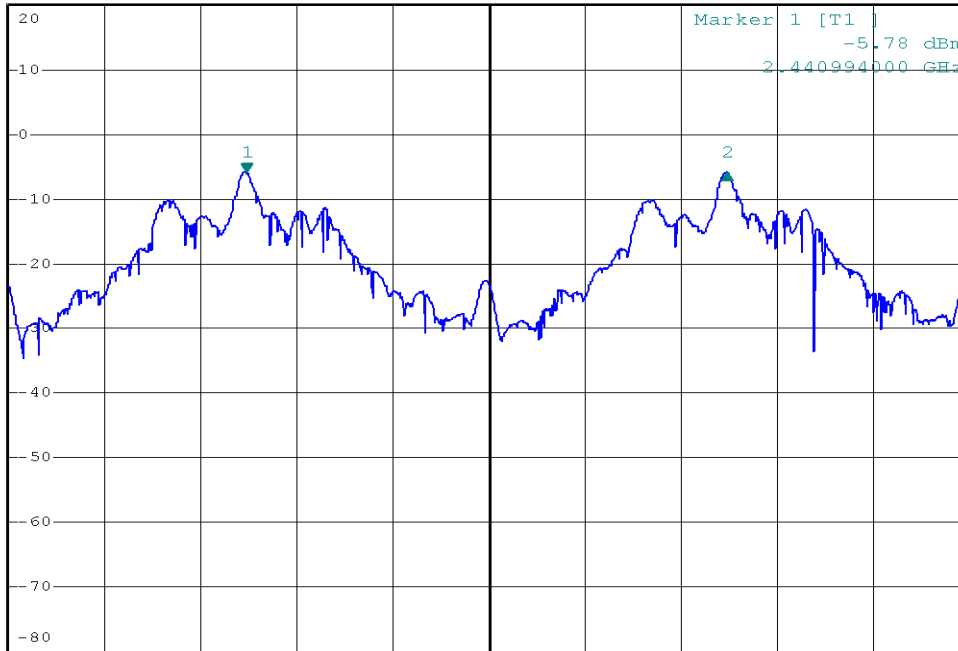
Center 2.4025 GHz 200 kHz/ Span 2 MHz

Modulation Standard: GFSK (1Mbps)
Channel: 39



1 PK
MAXH

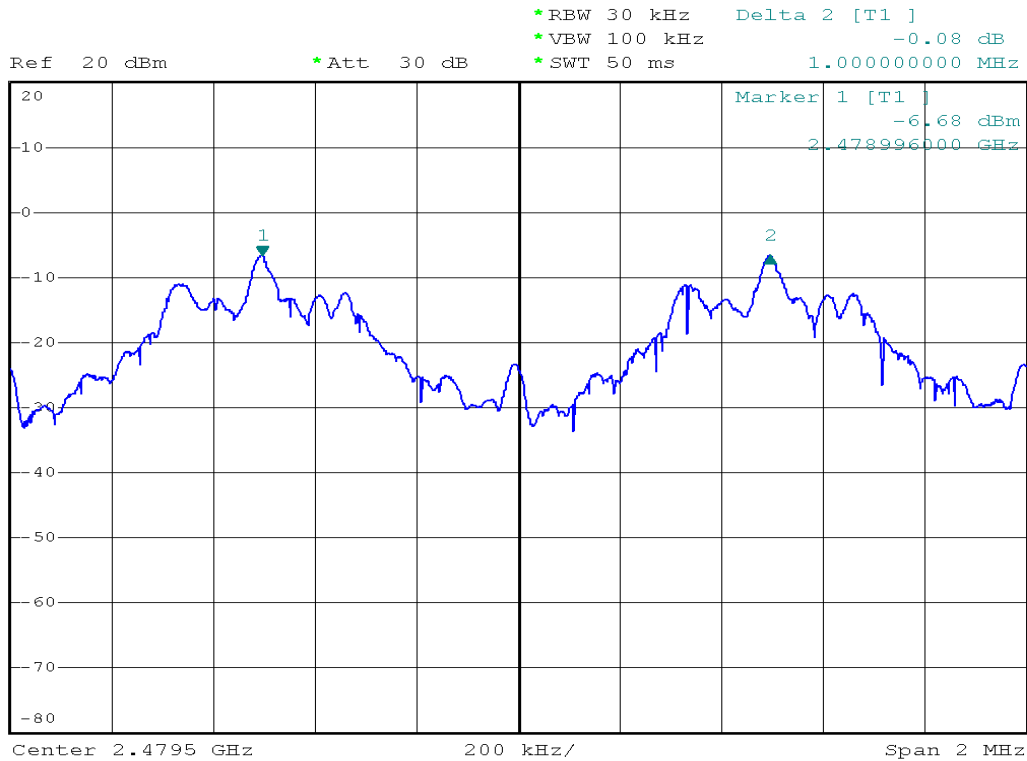
Ref 20 dBm *Att 30 dB
*RBW 30 kHz Delta 2 [T1] -0.09 dB
*VBW 100 kHz
*SWT 50 ms 1.000000000 MHz



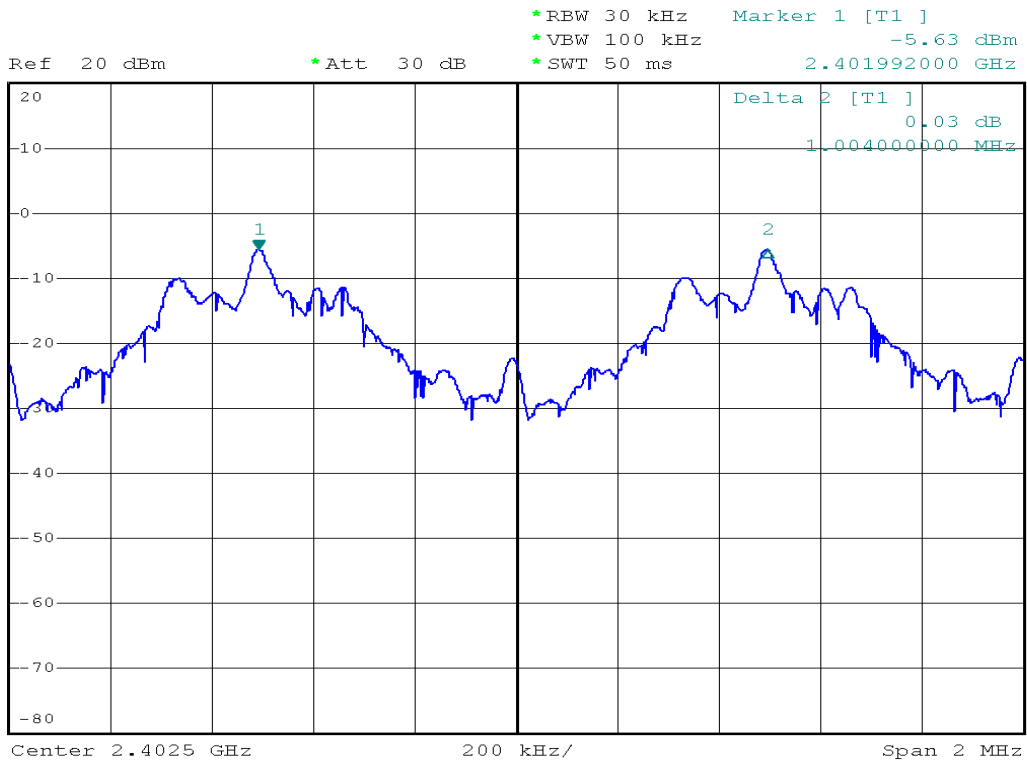
Center 2.4415 GHz 200 kHz/ Span 2 MHz



Modulation Standard: GFSK (1Mbps)
Channel: 78



Modulation Standard: $\pi/4$ -DQPSK (2Mbps)
Channel: 00

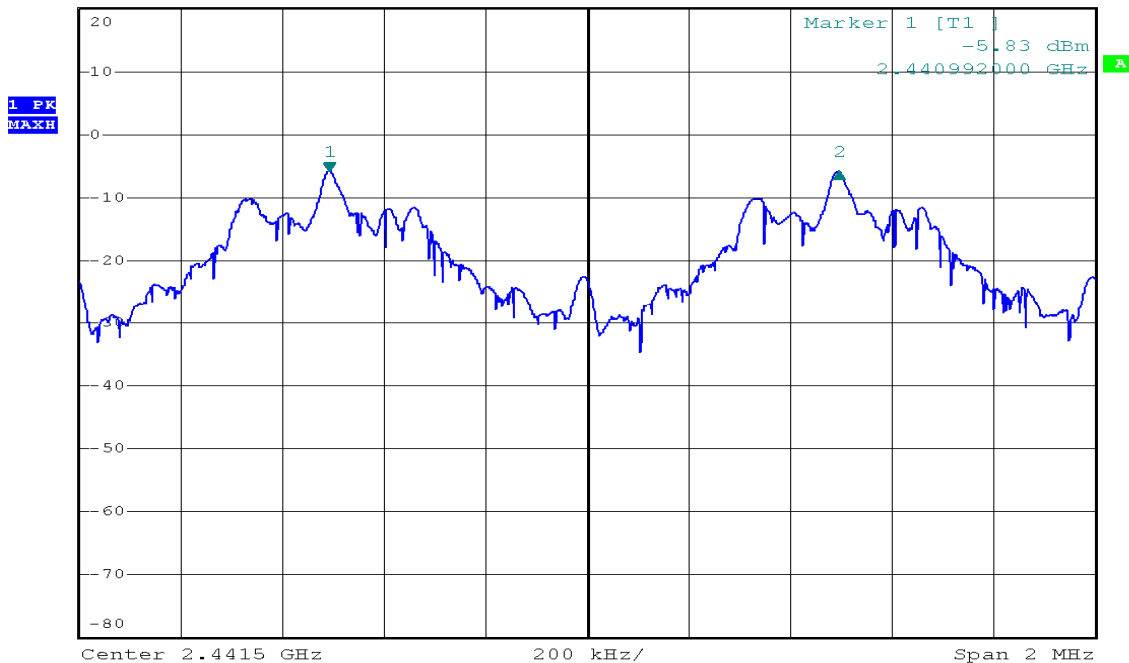




Modulation Standard: $\pi/4$ -DQPSK (2Mbps)
Channel: 39



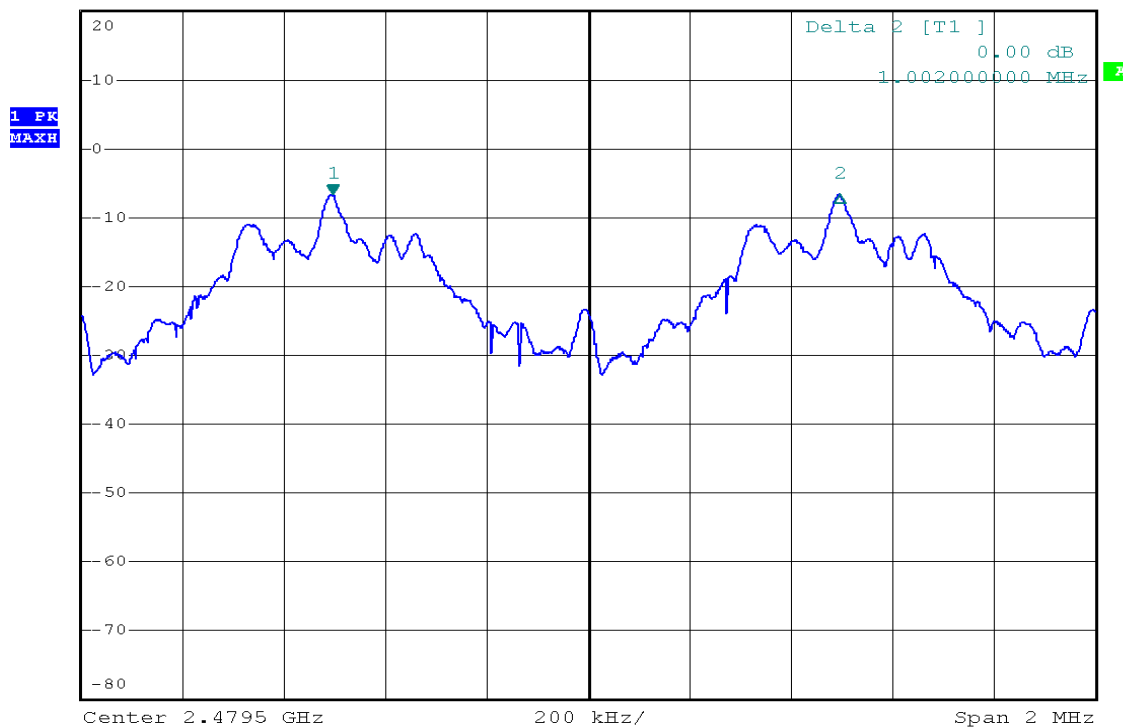
Ref 20 dBm *Att 30 dB
*RBW 30 kHz Delta 2 [T1] -0.02 dB
*VBW 100 kHz
*SWT 50 ms 1.004000000 MHz



Modulation Standard: $\pi/4$ -DQPSK (2Mbps)
Channel: 78



Ref 20 dBm *Att 30 dB
*RBW 30 kHz Marker 1 [T1] -6.76 dBm
*VBW 100 kHz
*SWT 50 ms 2.478994000 GHz





Modulation Standard: 8DQPSK (3Mbps)
Channel: 78

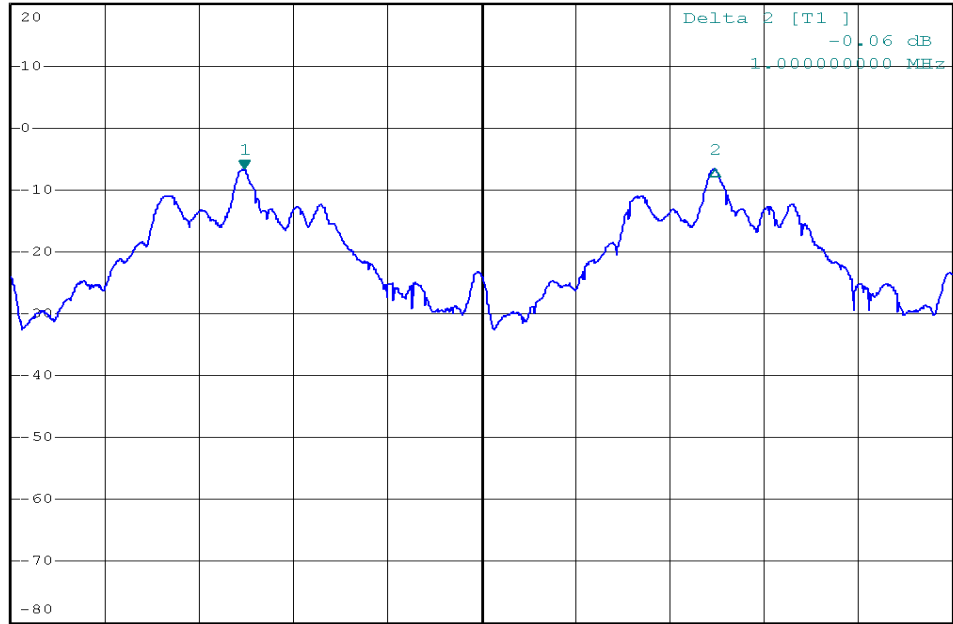


*RBW 30 kHz Marker 1 [T1]
*VBW 100 kHz -6.67 dBm
*SWT 50 ms 2.478996000 GHz

Ref 20 dBm

*Att 30 dB

1 PK
MAXH



Center 2.4795 GHz

200 kHz/

Span 2 MHz



8. Dwell Time on each channel

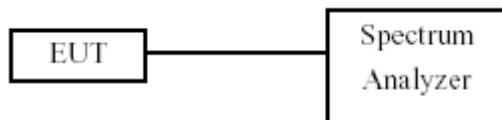
8.1 Test Limit

The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.

8.2 Test Procedures

1. The transmitter output was connected to the spectrum analyzer.
2. Adjust the center frequency to measure frequency, then set zero span mode.
2. Set RBW of spectrum analyzer to 100 KHz and VBW to 100 KHz.
4. Measure the time duration of one transmission on the measured frequency.

8.3 Test Setup Layout



8.4 Measurement equipment

Instrument/Ancillary	Model No.	Manufacturer	Serial No.	Calibration Date	Valid Date
Spectrum Analyzer	FSP40	R&S	10047	2009/03/26	2010/03/25



8.5 Test Result and Data

Modulation Standard: GFSK (1Mbps)

Test Date: Oct. 22, 2009

Temperature: 26°C

Atmospheric pressure: 1012 hPa

Humidity: 57%

a) 2402 MHz Dwell Time is	=	131.44 ms
b) 2441 MHz Dwell Time is	=	135.68 ms
c) 2480 MHz Dwell Time is	=	136.32 ms

Modulation Standard: $\pi/4$ -DQPSK (2Mbps)

Test Date: Oct. 22, 2009

Temperature: 26°C

Atmospheric pressure: 1012 hPa

Humidity: 57%

a) 2402 MHz Dwell Time is	=	286.11 ms
b) 2441 MHz Dwell Time is	=	235.20 ms
c) 2480 MHz Dwell Time is	=	252.90 ms

Modulation Standard: 8DPSK (3Mbps)

Test Date: Oct. 22, 2009

Temperature: 26°C

Atmospheric pressure: 1012 hPa

Humidity: 57%

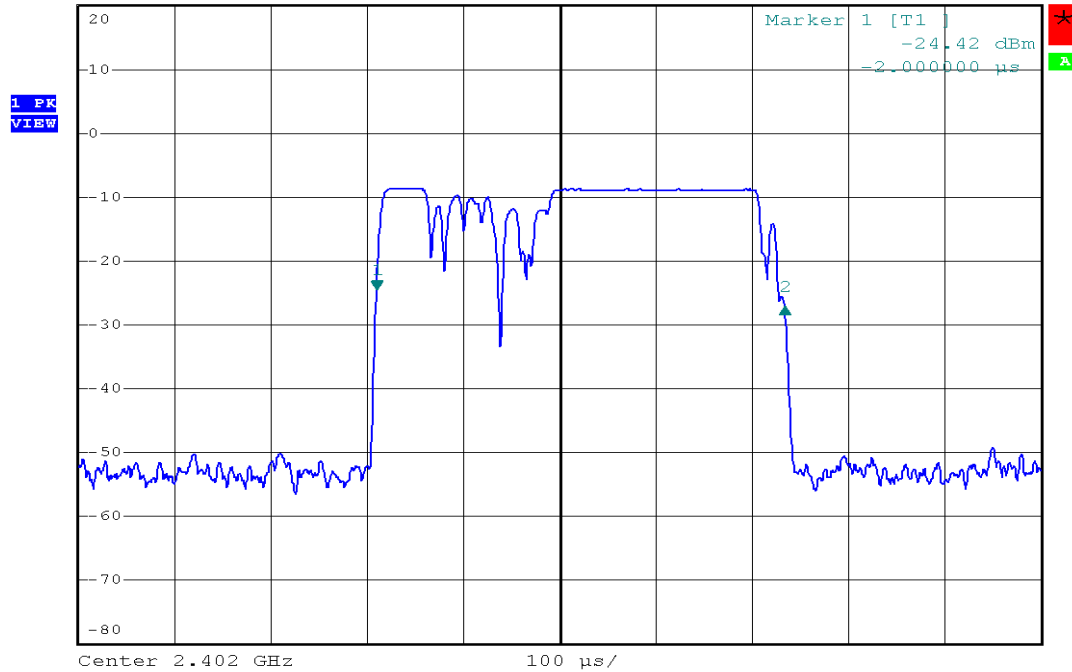
a) 2402 MHz Dwell Time is	=	383.50 ms
b) 2441 MHz Dwell Time is	=	354.00 ms
c) 2480 MHz Dwell Time is	=	295.00 ms



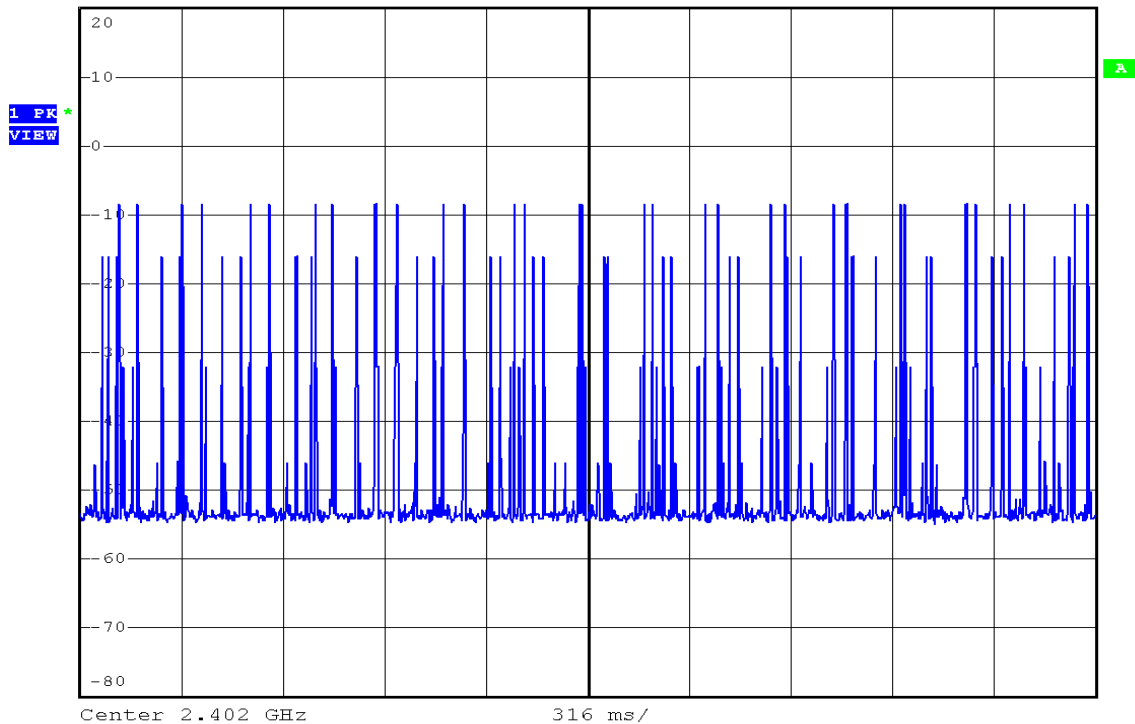
Modulation Standard: GFSK (1Mbps)
Channel: 00



Ref 20 dBm *Att 30 dB RBW 100 kHz Delta 2 [T1]
*VBW 100 kHz -2.72 dB
SWT 1 ms 424.000000 μ s

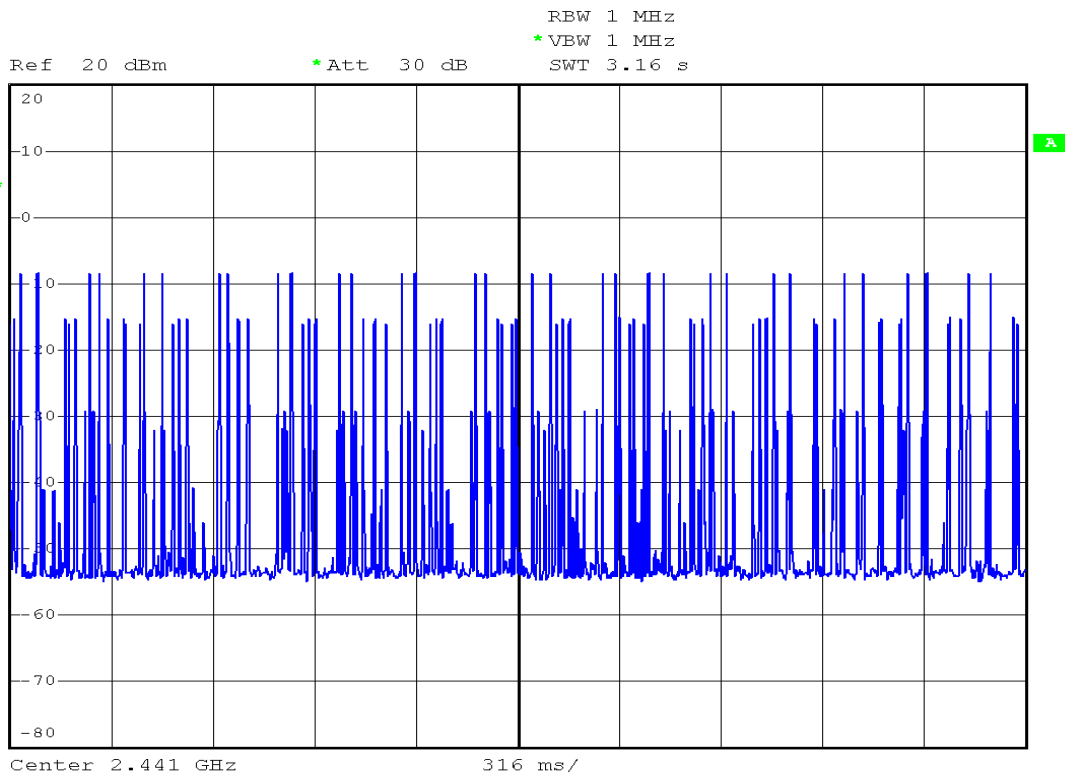
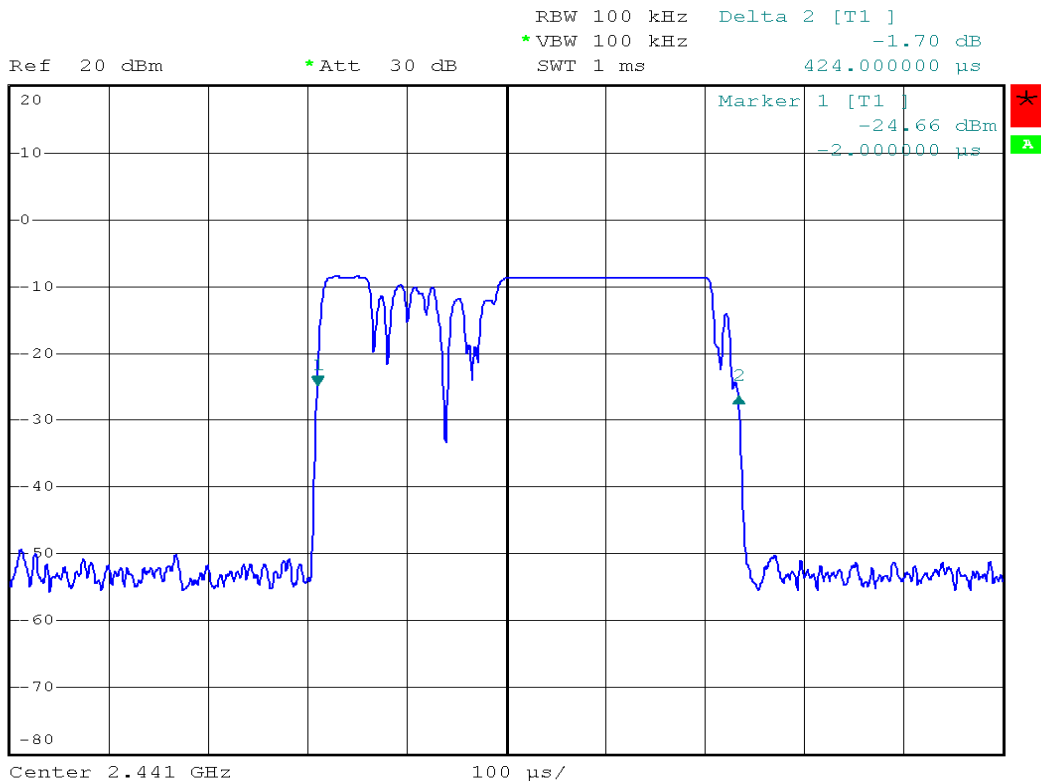


Ref 20 dBm *Att 30 dB RBW 1 MHz
*VBW 1 MHz
SWT 3.16 s





Modulation Standard: GFSK (1Mbps)
Channel: 39



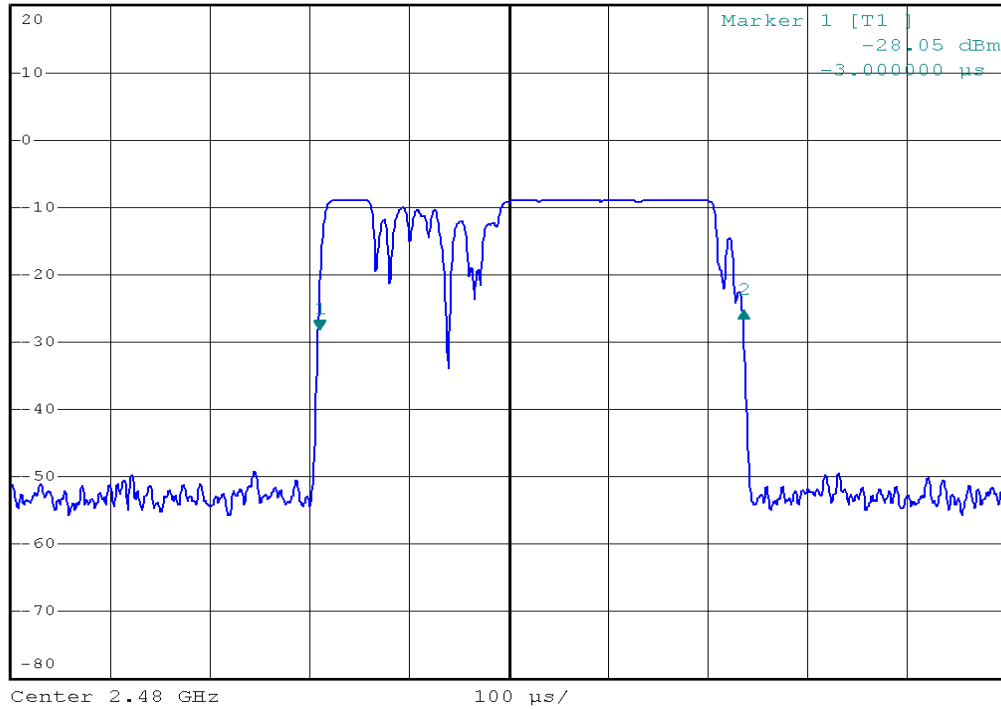


Modulation Standard: GFSK (1Mbps)
Channel: 78



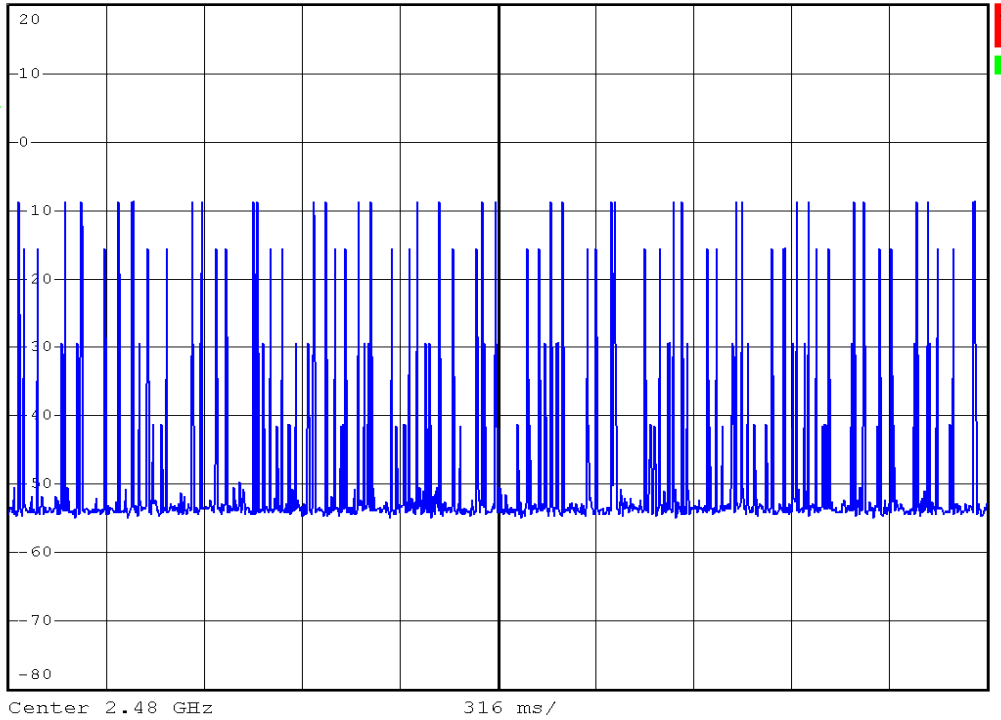
Ref 20 dBm *Att 30 dB RBW 100 kHz Delta 2 [T1]
*VBW 100 kHz 2.81 dB
SWT 1 ms 426.000000 μ s

1 PK
VIEW



Ref 20 dBm *Att 30 dB RBW 1 MHz
*VBW 1 MHz SWT 3.16 s

1 PK
VIEW



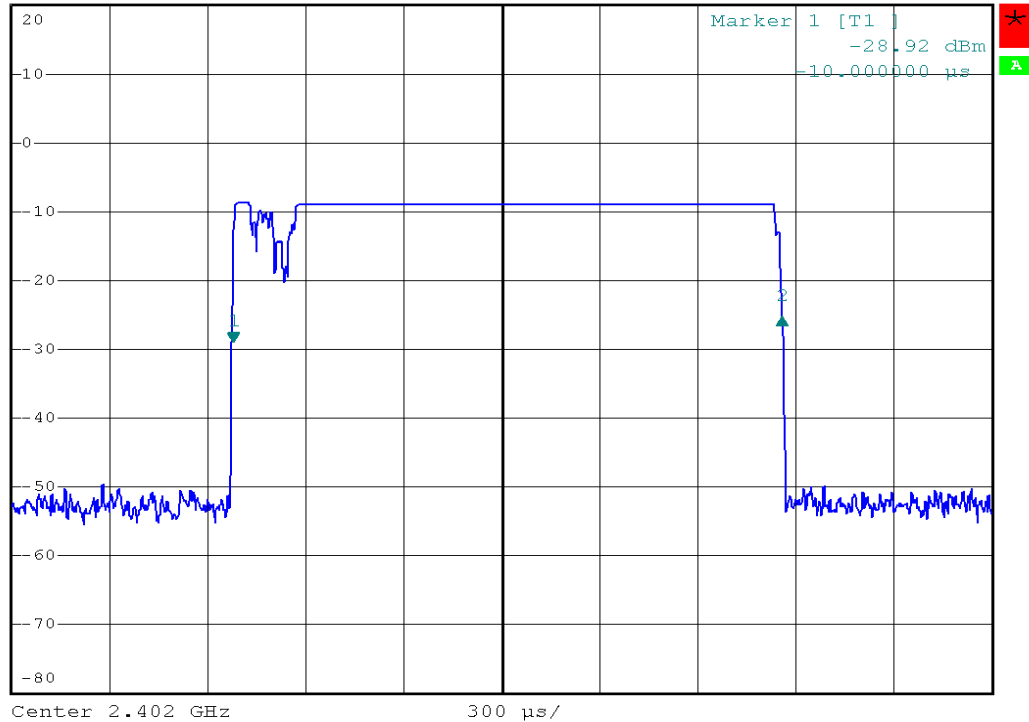


Modulation Standard: $\pi/4$ -DQPSK (2Mbps)
Channel: 00



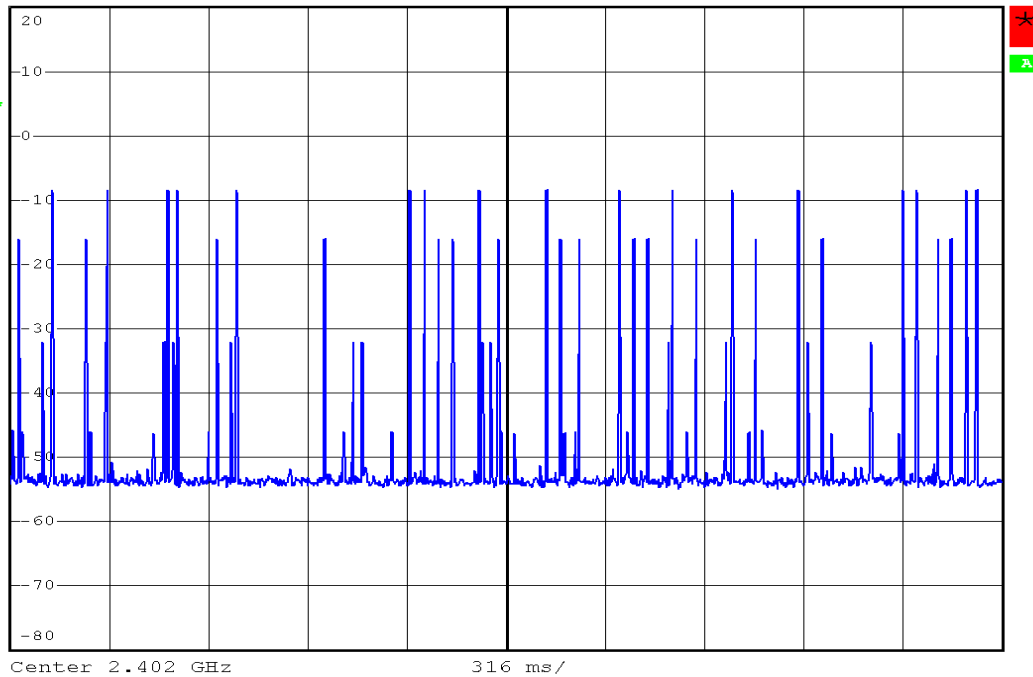
Ref 20 dBm *Att 30 dB RBW 100 kHz Delta 2 [T1]
*VBW 100 kHz 3.65 dB
SWT 3 ms 1.683000 ms

1 PK
VIEW



Ref 20 dBm *Att 30 dB RBW 1 MHz
*VBW 1 MHz
SWT 3.16 s

1 PK
VIEW



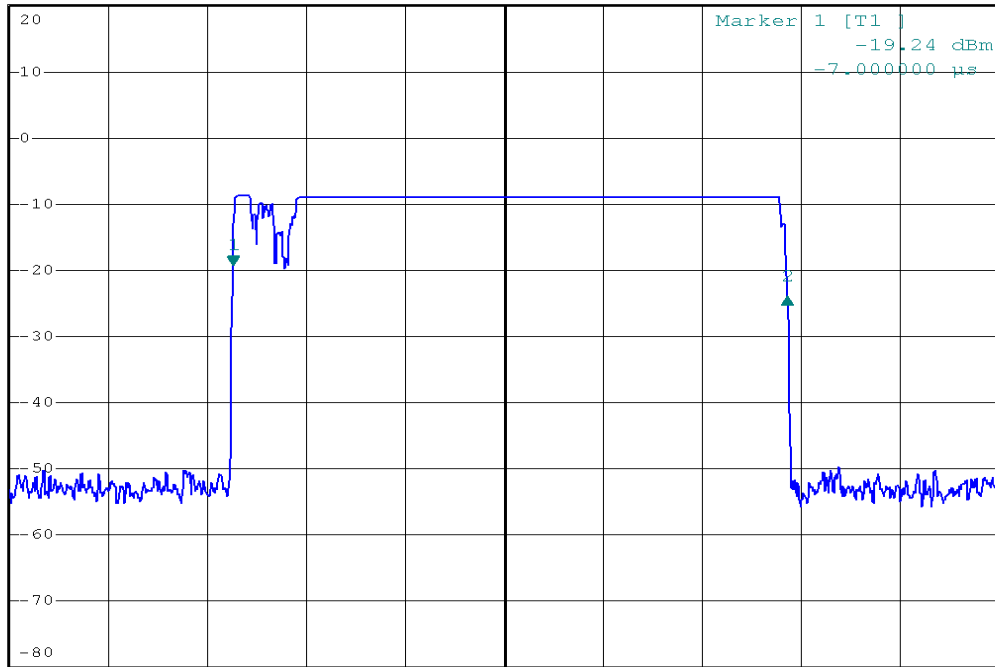


Modulation Standard: $\pi/4$ -DQPSK (2Mbps)
Channel: 39



Ref 20 dBm *Att 30 dB RBW 100 kHz Delta 2 [T1]
*VBW 100 kHz -4.70 dB
SWT 3 ms 1.680000 ms

PK
VIEW

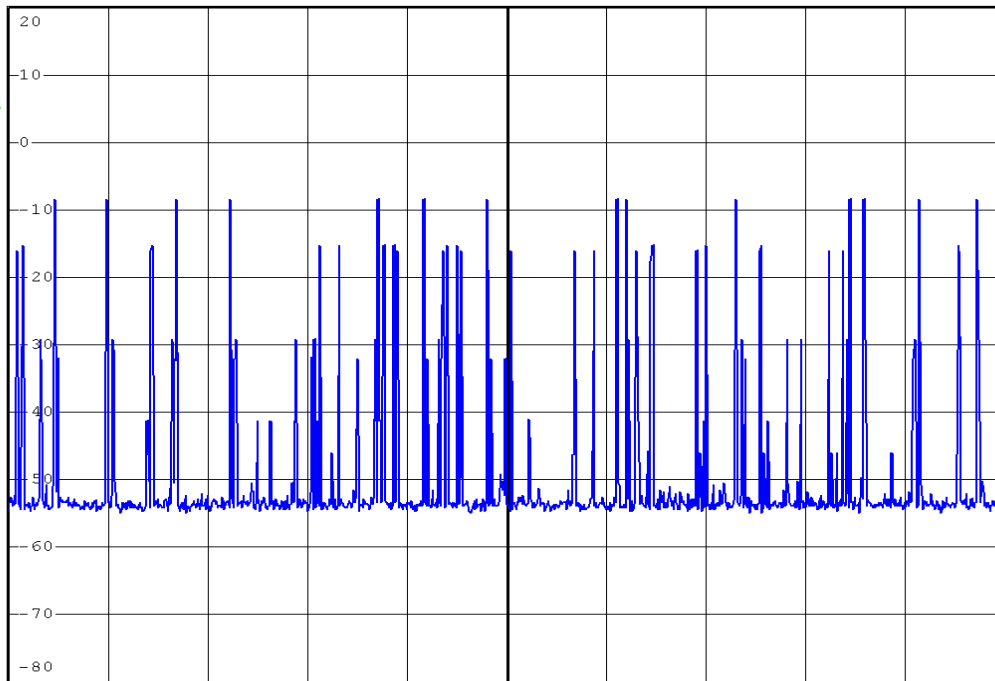


Center 2.441 GHz 300 μ s/



Ref 20 dBm *Att 30 dB RBW 1 MHz
*VBW 1 MHz SWT 3.16 s

PK
VIEW



Center 2.441 GHz 316 ms/

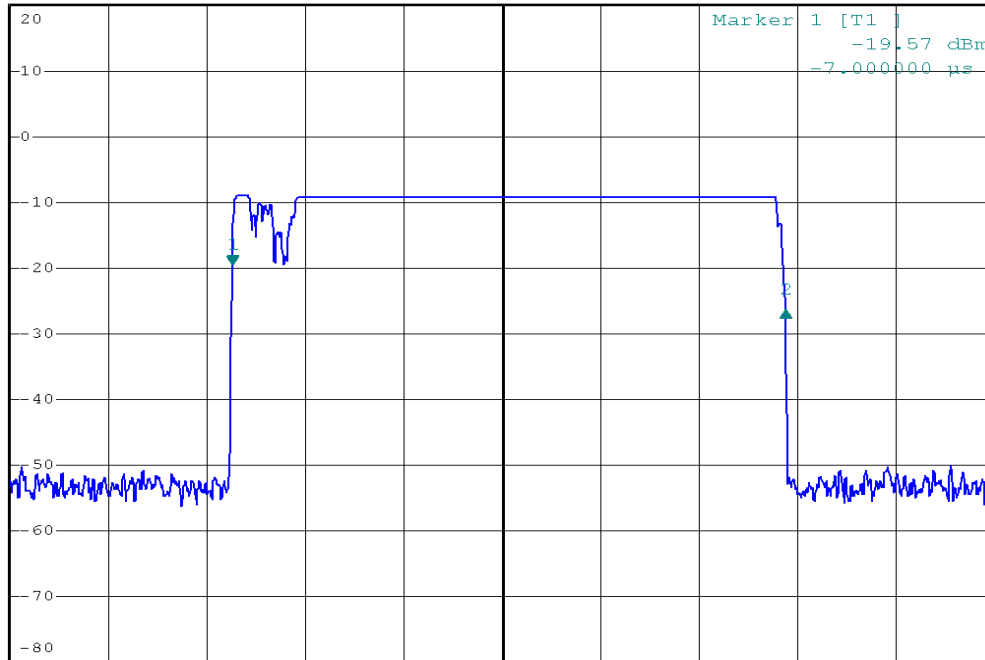


Modulation Standard: $\pi/4$ -DQPSK (2Mbps)
Channel: 78



Ref 20 dBm *Att 30 dB RBW 100 kHz Delta 2 [T1]
*VBW 100 kHz -6.67 dB
SWT 3 ms 1.686000 ms

PK
VIEW

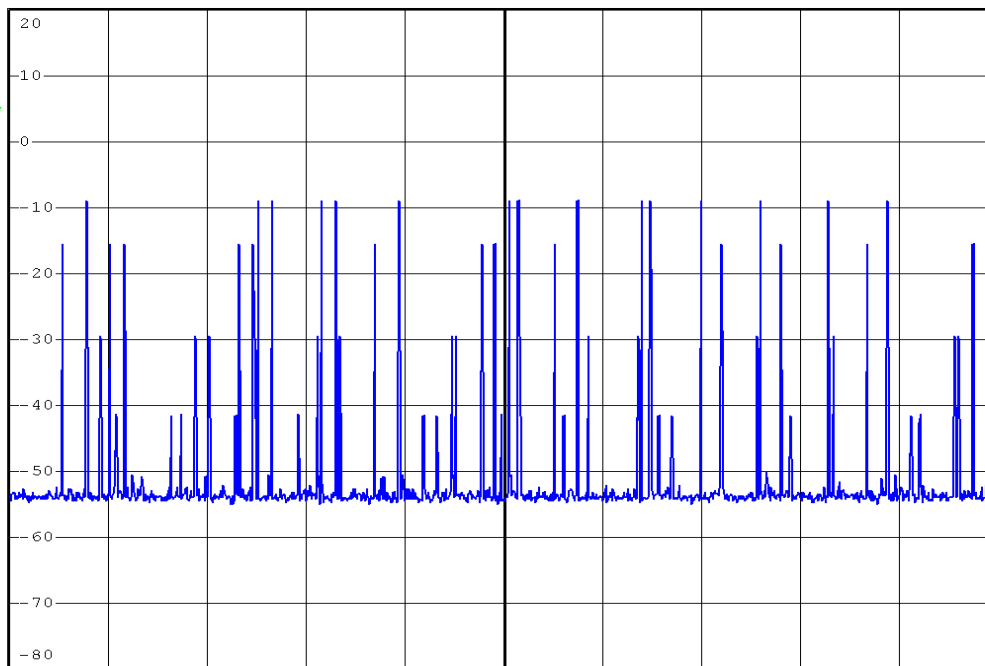


Center 2.48 GHz 300 μ s/



Ref 20 dBm *Att 30 dB RBW 1 MHz
*VBW 1 MHz SWT 3.16 s

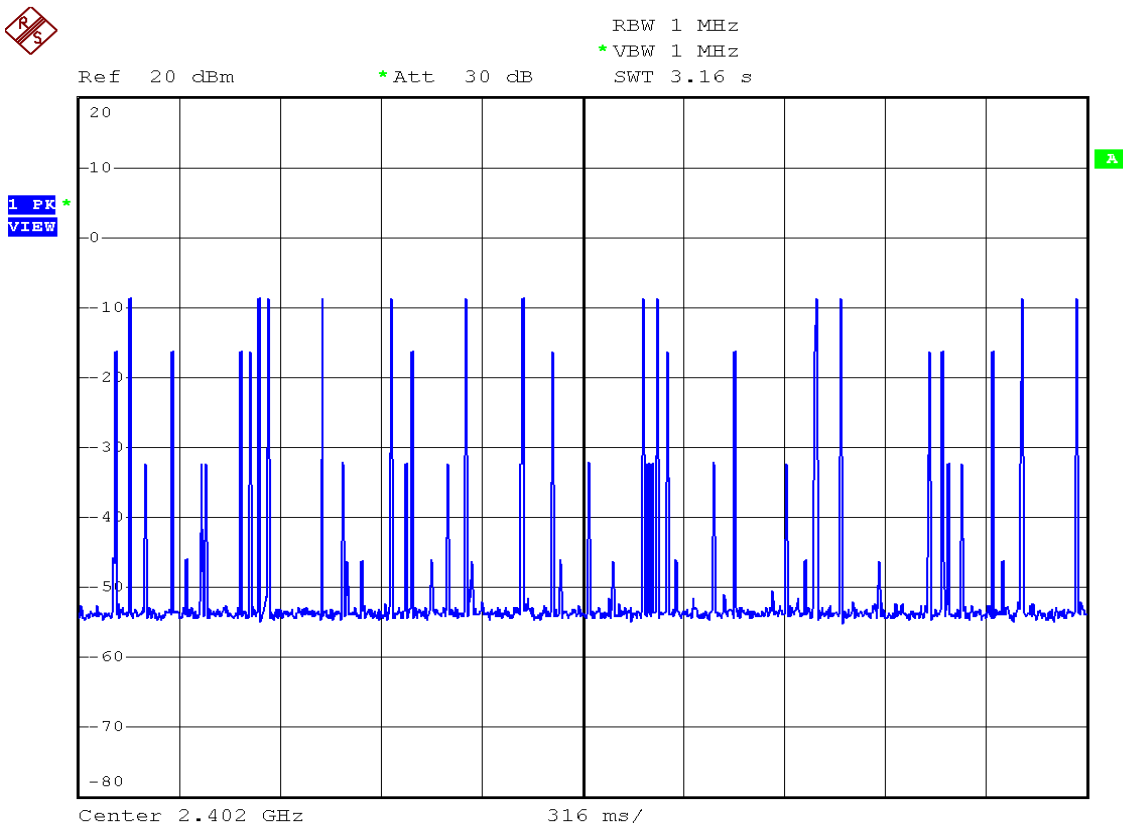
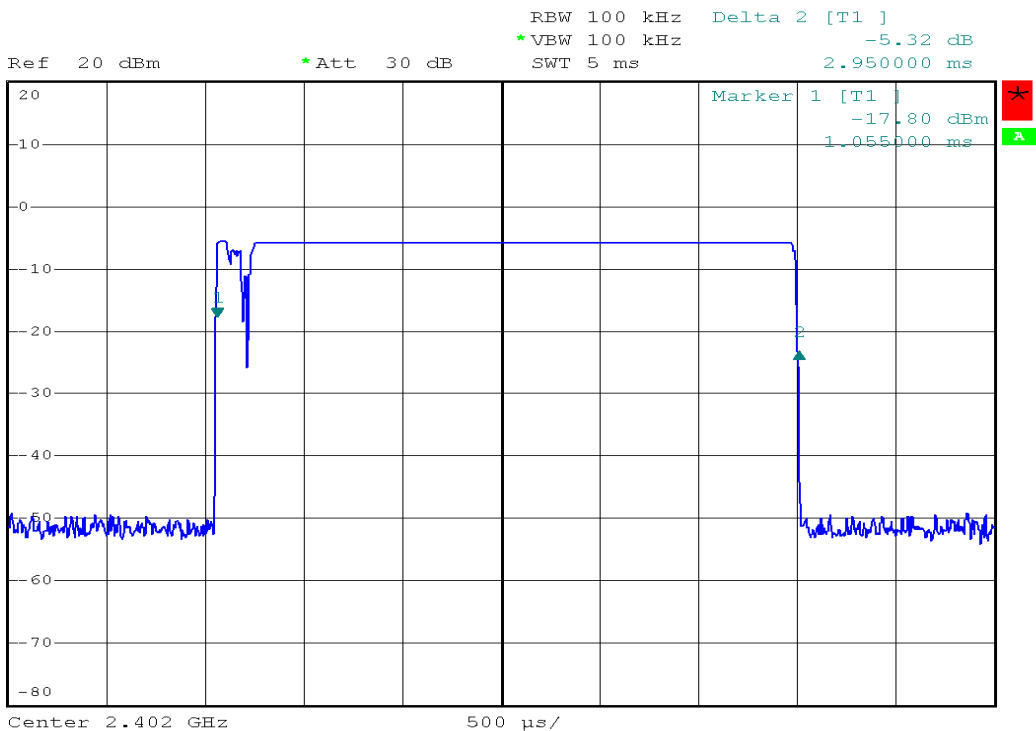
PK
VIEW



Center 2.48 GHz 316 ms/



Modulation Standard: 8DPSK (3Mbps)
Channel: 00



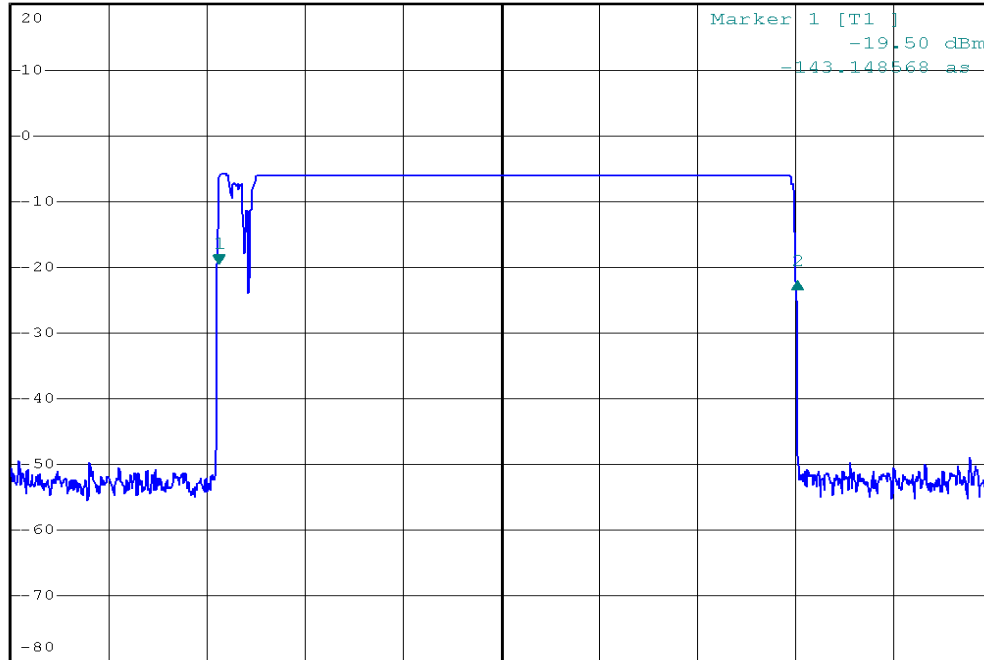


Modulation Standard: 8DPSK (3Mbps)
Channel: 39



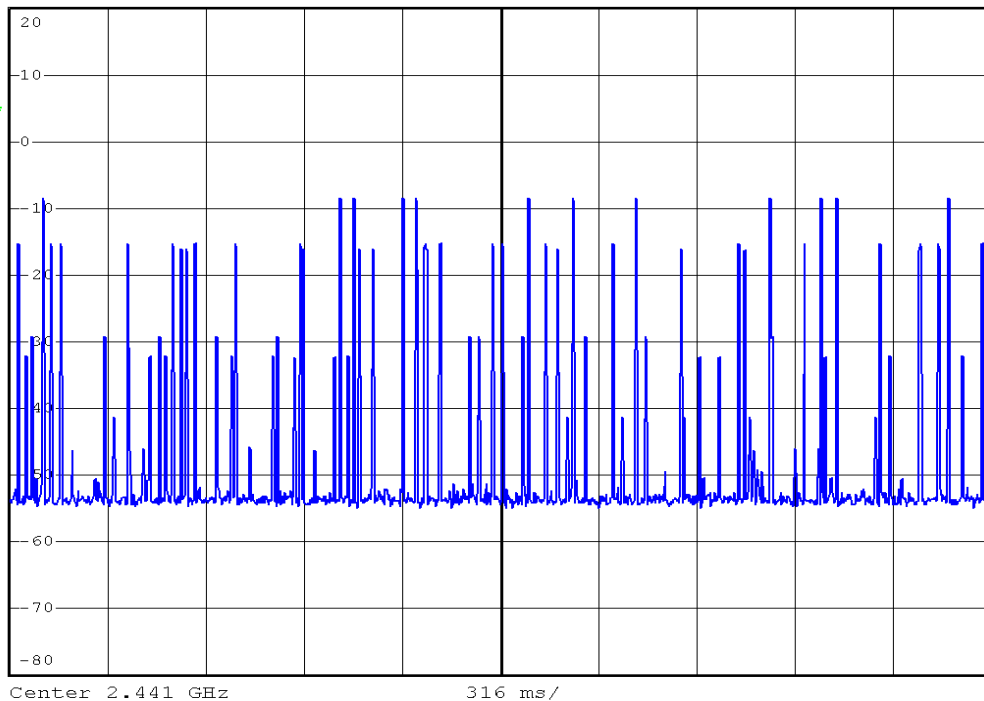
Ref 20 dBm *Att 30 dB RBW 100 kHz Delta 2 [T1]
*VBW 100 kHz -2.73 dB
SWT 5 ms 2.950000 ms

1 PK
VIEW



Ref 20 dBm *Att 30 dB RBW 1 MHz
*VBW 1 MHz SWT 3.16 s

1 PK
VIEW

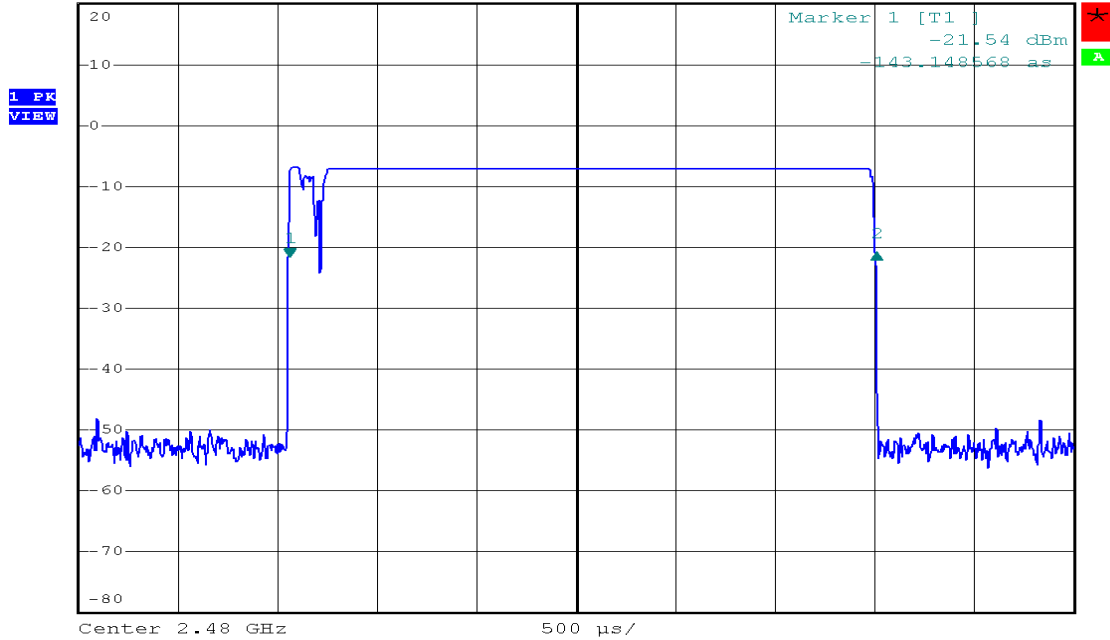




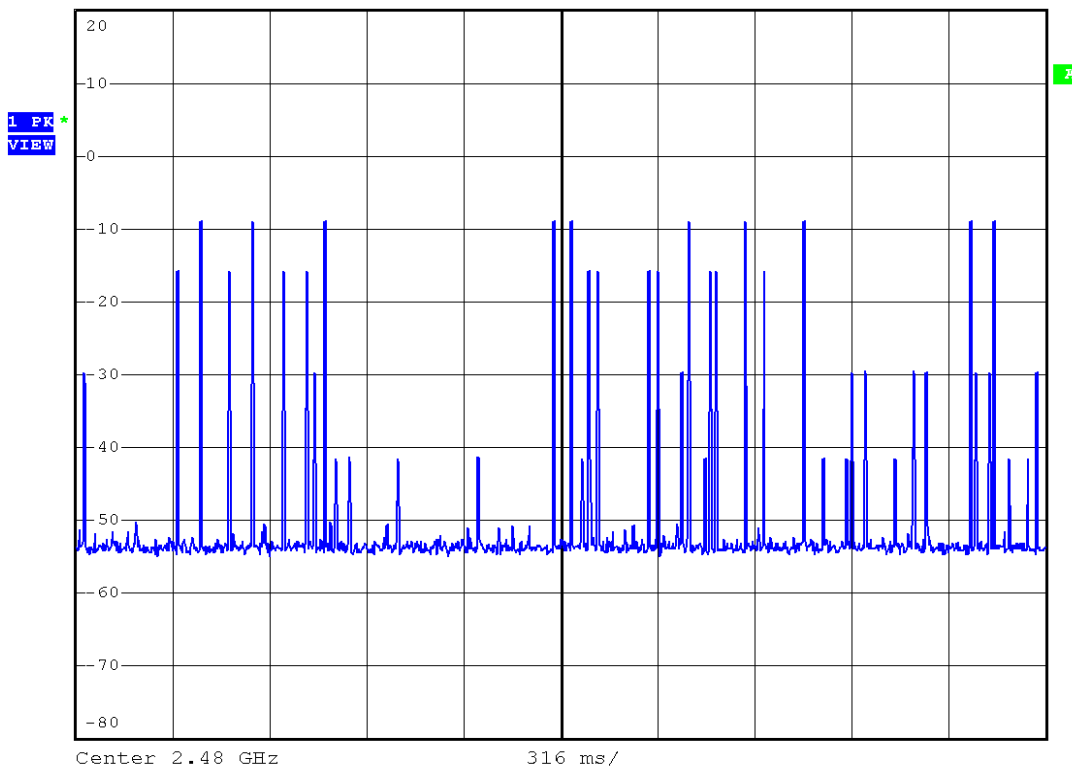
Modulation Standard: 8DPSK (3Mbps)
Channel: 78



Ref 20 dBm *Att 30 dB RBW 100 kHz Delta 2 [T1]
*VBW 100 kHz 0.77 dB
SWT 5 ms 2.950000 ms



Ref 20 dBm *Att 30 dB RBW 1 MHz
*VBW 1 MHz
SWT 3.16 s





9. Number of Hopping Channels

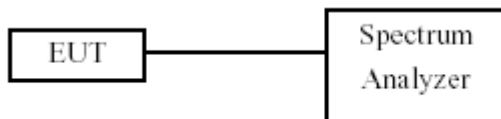
9.1 Test Limit

Frequency hopping systems in the 2400 ~ 2483.5 MHz band shall use at least 15 channels.

9.2 Test Procedures

- a. The transmitter output was connected to the spectrum analyzer.
- b. 2. Set RBW of spectrum analyzer to 100 KHz and VBW to 100 KHz.
- c. 3. Set the MaxHold function, and then keep the EUT in hopping mode. Record all the signals from each channel until each one has been record.

9.3 Test Setup Layout



9.4 Measurement equipment

Instrument/Ancillary	Model No.	Manufacturer	Serial No.	Calibration Date	Valid Date
Spectrum Analyzer	FSP40	R&S	10047	2009/03/26	2010/03/25

9.5 Test Result and Data

Modulation Standard: GFSK (1Mbps)

Test Date: Oct. 22, 2009

Temperature: 26°C

Atmospheric pressure: 1012 hPa

Humidity: 57%

Number of hopping channels:	79	Channels
-----------------------------	----	----------

Modulation Standard: $\pi/4$ -DQPSK (2Mbps)

Test Date: Oct. 22, 2009

Temperature: 26°C

Atmospheric pressure: 1012 hPa

Humidity: 57%

Number of hopping channels:	79	Channels
-----------------------------	----	----------

Modulation Standard: 8DPSK (3Mbps)

Test Date: Oct. 22, 2009

Temperature: 26°C

Atmospheric pressure: 1012 hPa

Humidity: 57%

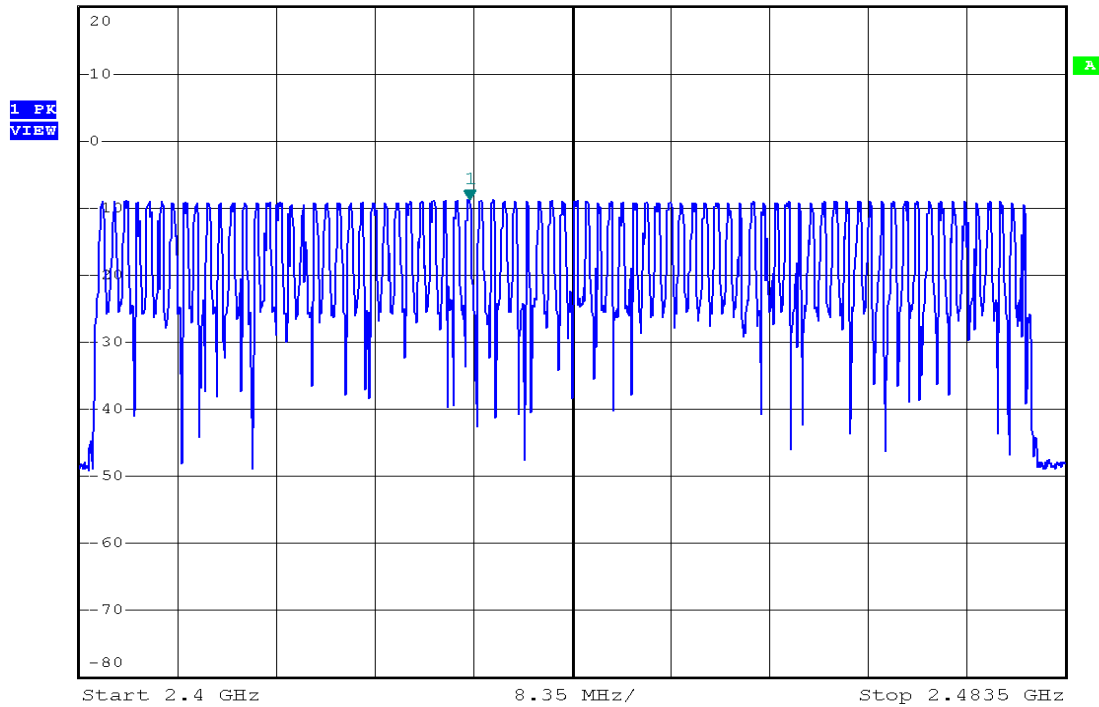
Number of hopping channels:	79	Channels
-----------------------------	----	----------



Modulation Standard: GFSK (1Mbps)



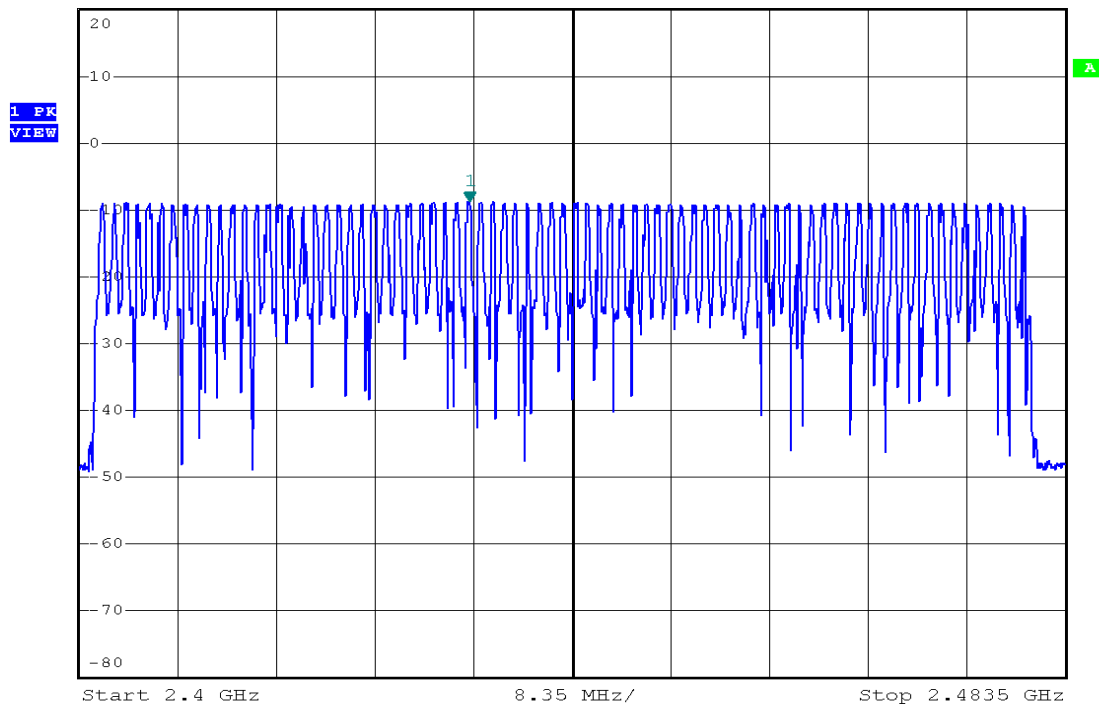
Ref 20 dBm * Att 30 dB * RBW 100 kHz Marker 1 [T1]
* VBW 300 kHz -8.85 dBm
* SWT 50 ms 2.433066000 GHz



Modulation Standard: $\pi/4$ -DQPSK (2Mbps)

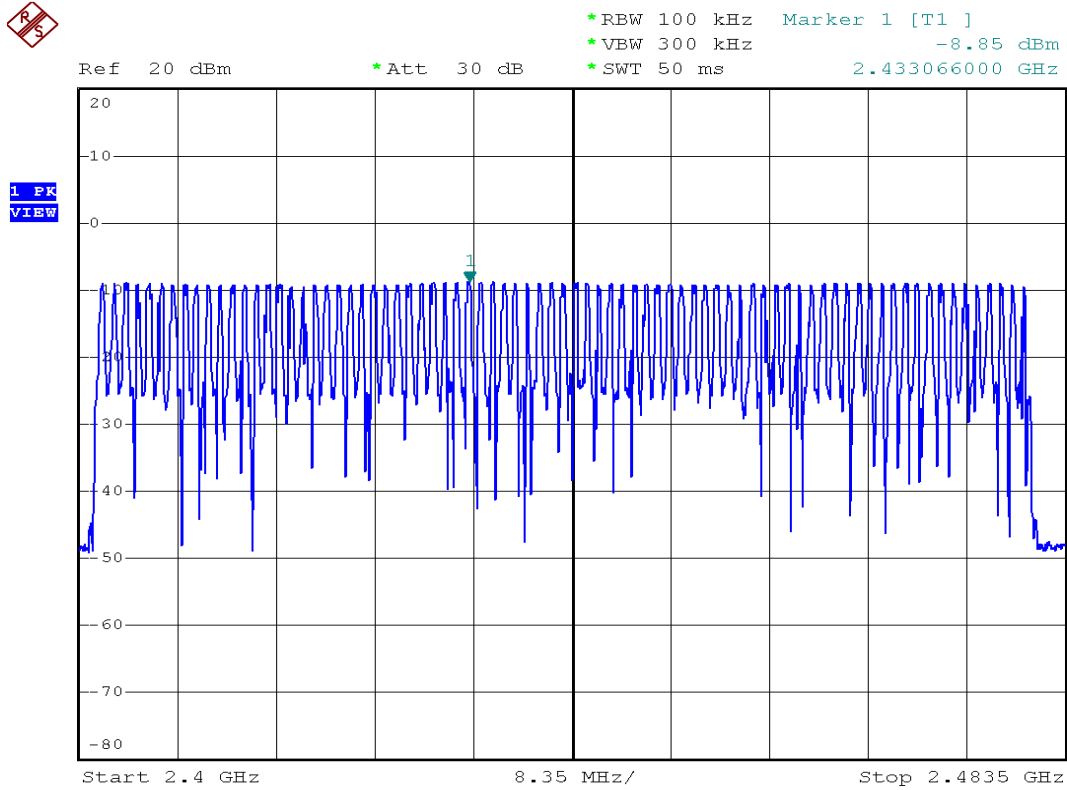


Ref 20 dBm * Att 30 dB * RBW 100 kHz Marker 1 [T1]
* VBW 300 kHz -8.85 dBm
* SWT 50 ms 2.433066000 GHz





Modulation Standard: 8DPSK (3Mbps)





10. Maximum Peak Output Power

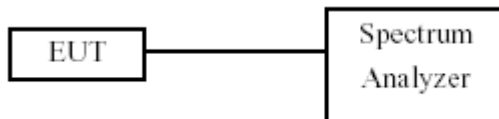
10.1 Test Limit

The Maximum Peak Output Power Measurement is 30dBm.

10.2 Test Procedures

The antenna port(RF output)of the EUT was connected to the input(RF input)of a power meter. Power was read directly from the meter and cable loss connection was added to the reading to obtain power at the EUT antenna terminal. The EUT Output Power was set to maximum to produce the worse case test result.

10.3 Test Setup Layout



10.4 Measurement equipment

Instrument/Ancillary	Model No.	Manufacturer	Serial No.	Calibration Date	Valid Date
Spectrum Analyzer	FSP40	R&S	10047	2009/03/26	2010/03/25



10.5 Test Result and Data

Modulation Standard: GFSK (1Mbps)

Test Date: Oct. 22, 2009

Temperature: 26°C

Atmospheric pressure: 1012 hPa

Humidity: 57%

Channel	Frequency (MHz)	Peak Power Output (dBm)	Peak Power Output (mW)
00	2402	-5.06	0.3
39	2441	-4.57	0.4
78	2478	-4.99	0.4

Modulation Standard: $\pi/4$ -DQPSK (2Mbps)

Test Date: Oct. 22, 2009

Temperature: 26°C

Atmospheric pressure: 1012 hPa

Humidity: 57%

Channel	Frequency (MHz)	Peak Power Output (dBm)	Peak Power Output (mW)
00	2402	-5.05	0.3
39	2441	-4.91	0.4
78	2478	-5.30	0.3

Modulation Standard: 8DPSK (3Mbps)

Test Date: Oct. 22, 2009

Temperature: 26°C

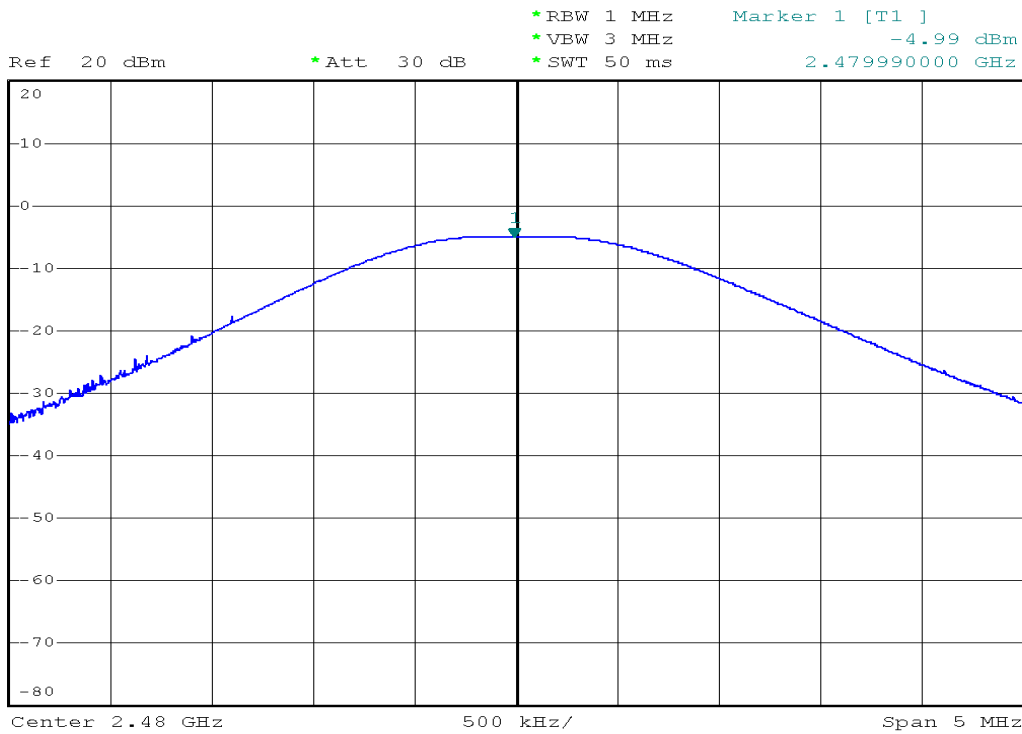
Atmospheric pressure: 1012 hPa

Humidity: 57%

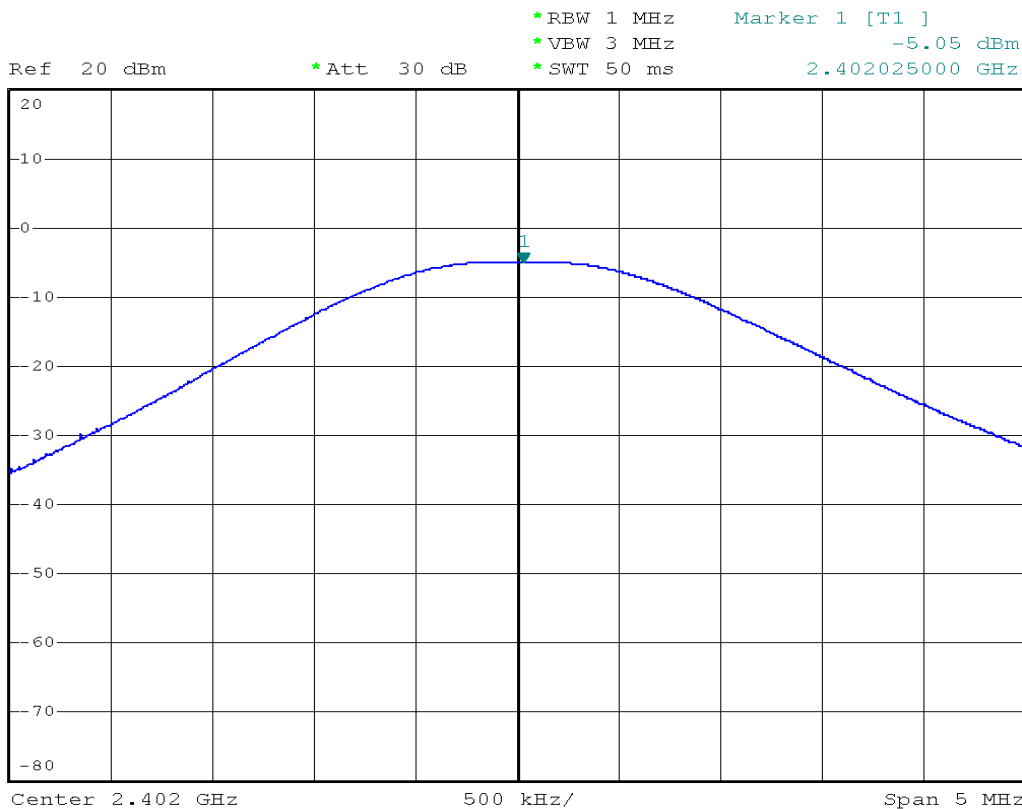
Channel	Frequency (MHz)	Peak Power Output (dBm)	Peak Power Output (mW)
00	2402	-5.05	0.3
39	2441	-4.93	0.4
78	2478	-5.36	0.3



Modulation Standard: GFSK (1Mbps)
Channel: 78



Modulation Standard: $\pi/4$ -DQPSK (2Mbps)
Channel: 00

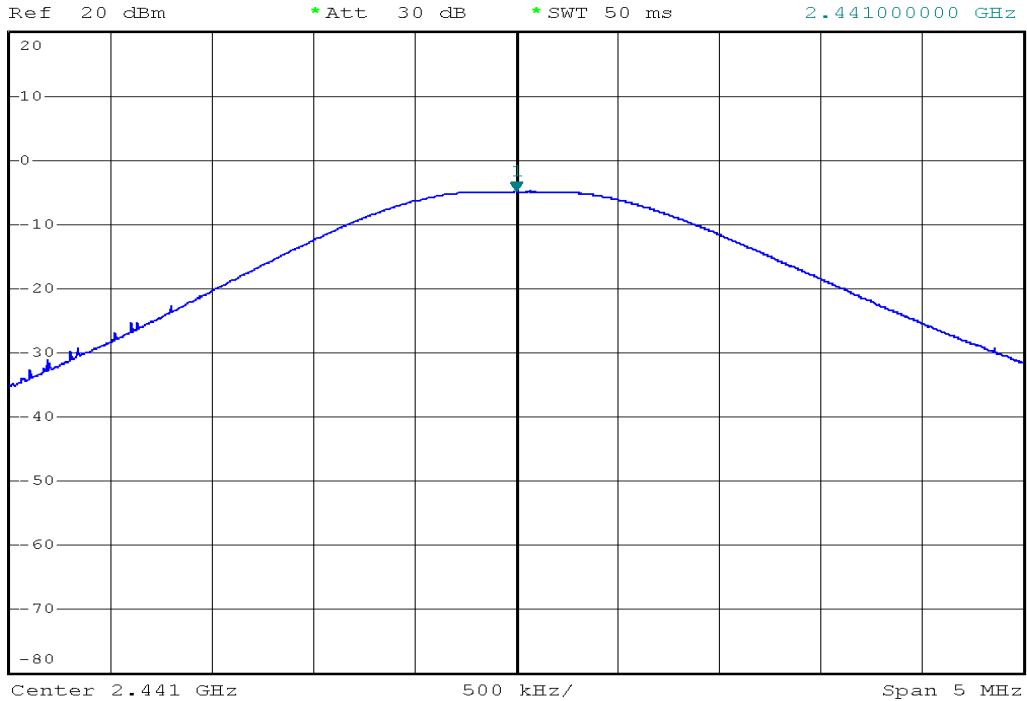




Modulation Standard: $\pi/4$ -DQPSK (2Mbps)
Channel: 39



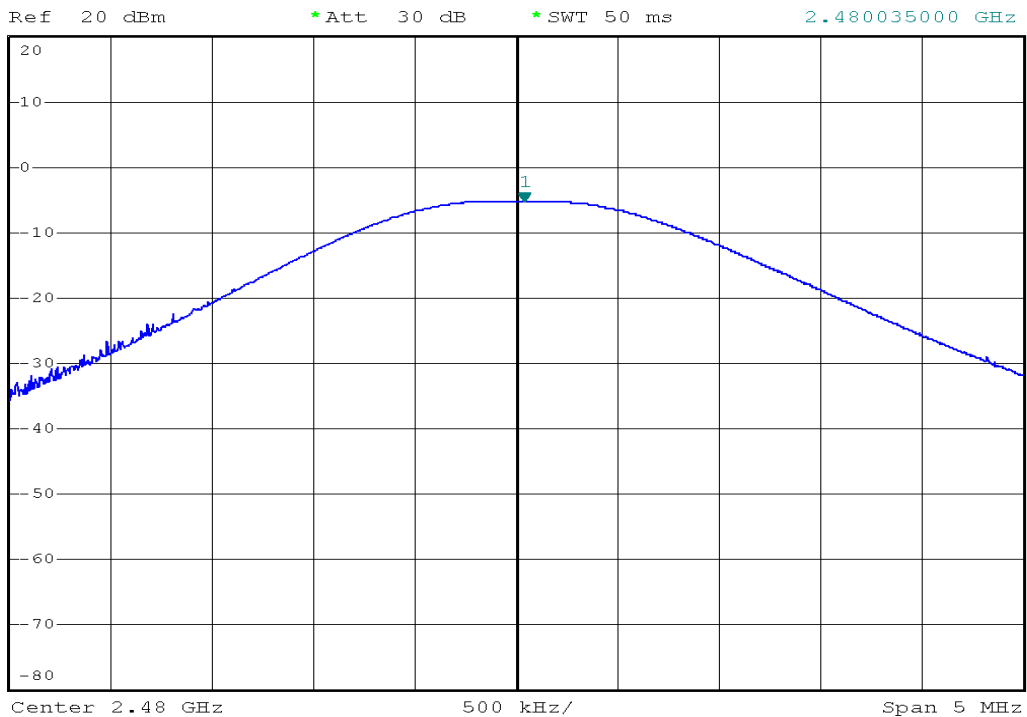
*RBW 1 MHz Marker 1 [T1]
*VBW 3 MHz -4.91 dBm
*SWT 50 ms 2.441000000 GHz



Modulation Standard: $\pi/4$ -DQPSK (2Mbps)
Channel: 78



*RBW 1 MHz Marker 1 [T1]
*VBW 3 MHz -5.30 dBm
*SWT 50 ms 2.480035000 GHz



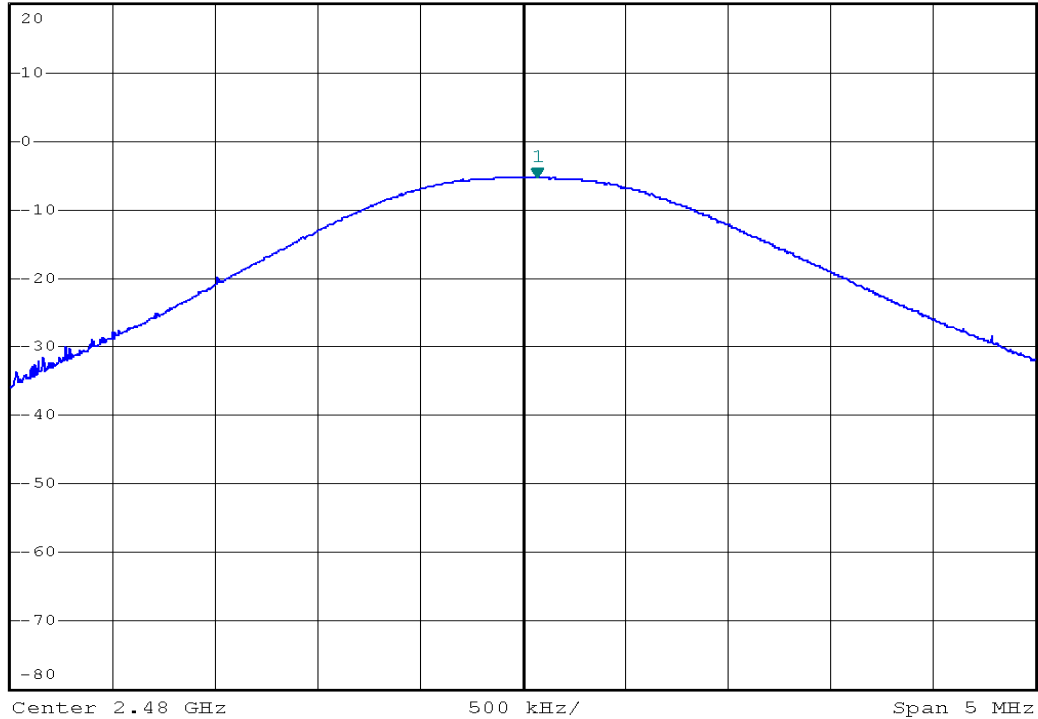


Modulation Standard: 8DPSK (3Mbps)
Channel: 78



Ref 20 dBm *Att 30 dB *RBW 1 MHz Marker 1 [T1] -5.36 dBm
*VW 3 MHz 2.480065000 GHz
*SWT 50 ms

1 PK
VIEW





11. Band Edges Measurement

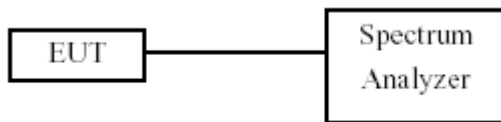
11.1 Test Limit

Below -20dB of the highest emission level of operating band (in 100kHz Resolution Bandwidth).

11.2 Test Procedure :

- a. The transmitter output was connected to the spectrum analyzer via a low lose cable.
- b. Set both RBW and VBW of spectrum analyzer to 100 KHz with convenient frequency span including 100 KHz bandwidth from band edge.
- c. The band edges was measured and recorded.

11.3 Test Setup Layout



11.4 List of Measuring Equipment Used

Instrument/Ancillary	Model No.	Manufacturer	Serial No.	Calibration Date	Valid Date
Spectrum Analyzer	FSP40	R&S	10047	2009/03/26	2010/03/25



11.5 Test Result and Data

Modulation Standard: GFSK (1Mbps)

Test Date: Oct. 22, 2009

Temperature: 26°C

Atmospheric pressure: 1012 hPa

Humidity: 57%

Channel	Frequency	maximum value in frequency (MHz)	maximum value is (dBm)
00	2402	2395.60	-51.52
78	2480	2486.46	-53.14

Modulation Standard: $\pi/4$ -DQPSK (2Mbps)

Test Date: Oct. 22, 2009

Temperature: 26°C

Atmospheric pressure: 1012 hPa

Humidity: 57%

Channel	Frequency	maximum value in frequency (MHz)	maximum value is (dBm)
00	2402	2395.68	-52.89
78	2480	2486.30	-53.89

Modulation Standard: 8DPSK (3Mbps)

Test Date: Oct. 22, 2009

Temperature: 26°C

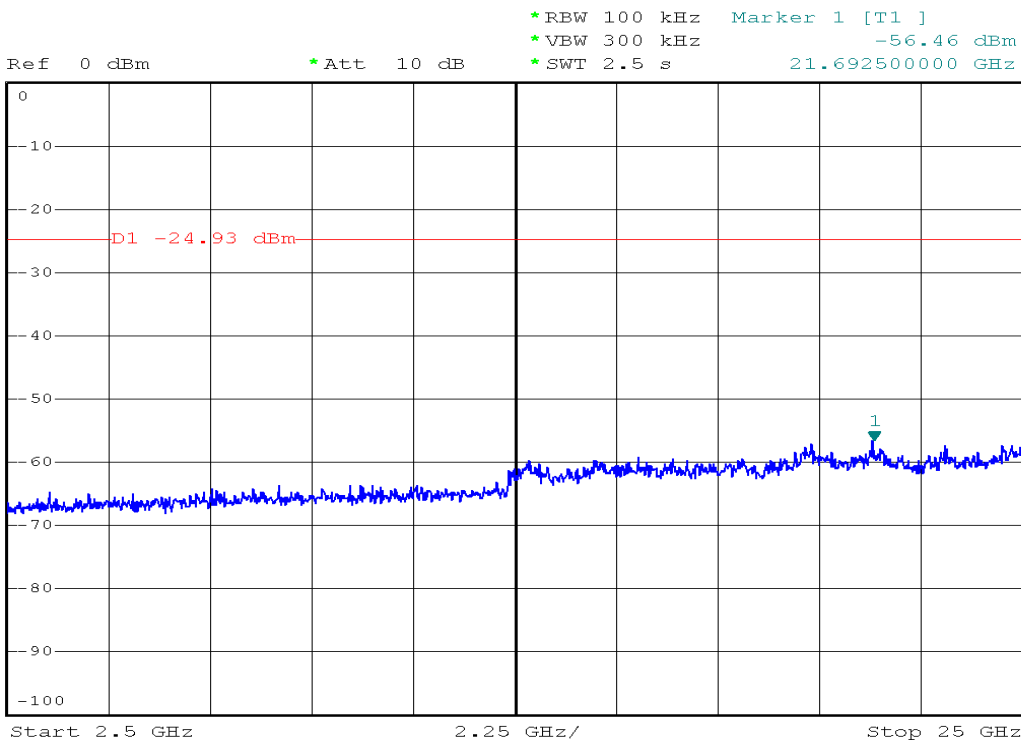
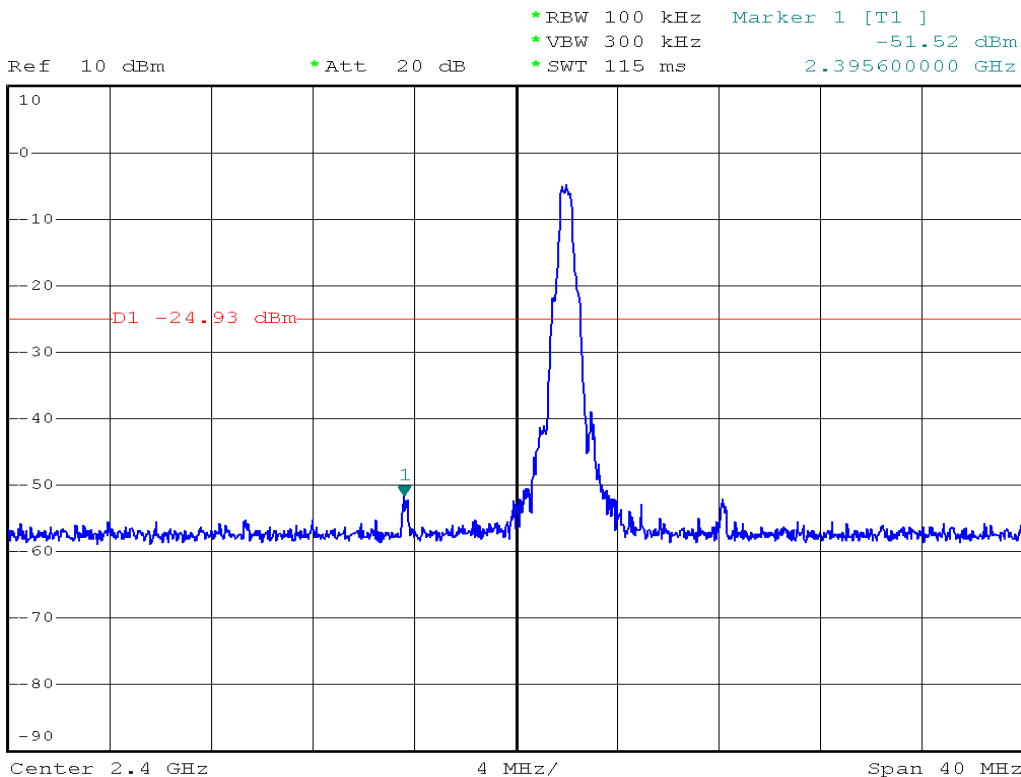
Atmospheric pressure: 1012 hPa

Humidity: 57%

Channel	Frequency	maximum value in frequency (MHz)	maximum value is (dBm)
00	2402	2395.60	-54.23
78	2480	2486.46	-52.03



Modulation Standard: GFSK (1Mbps)
Channel: 00

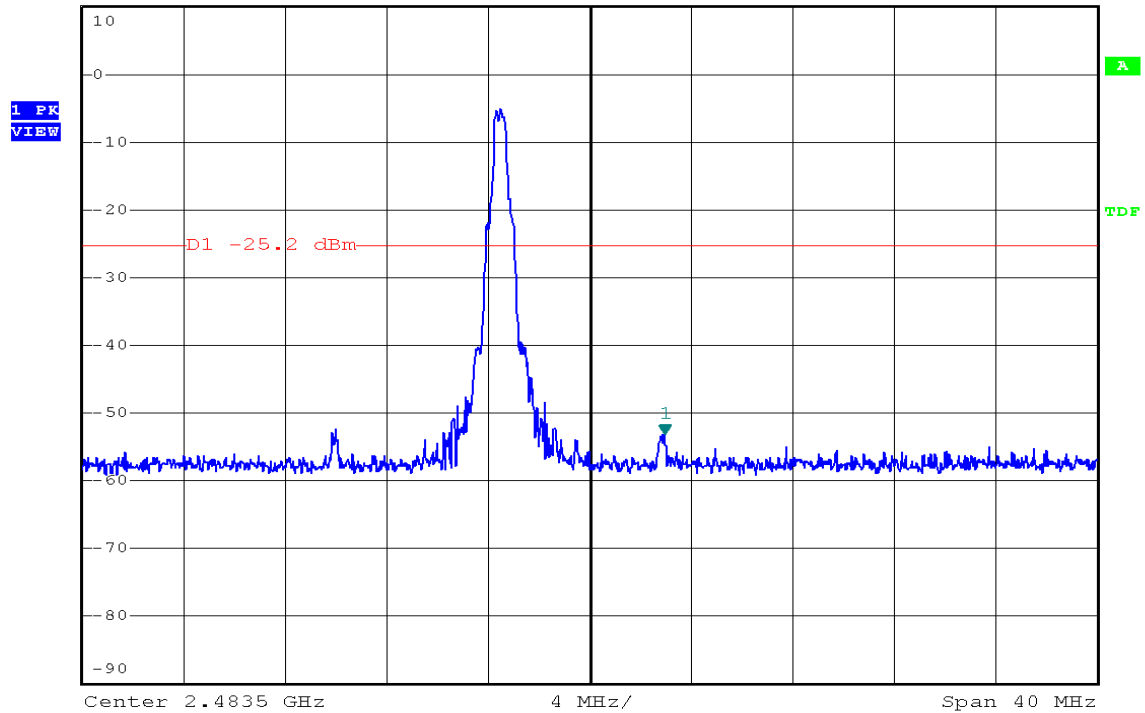




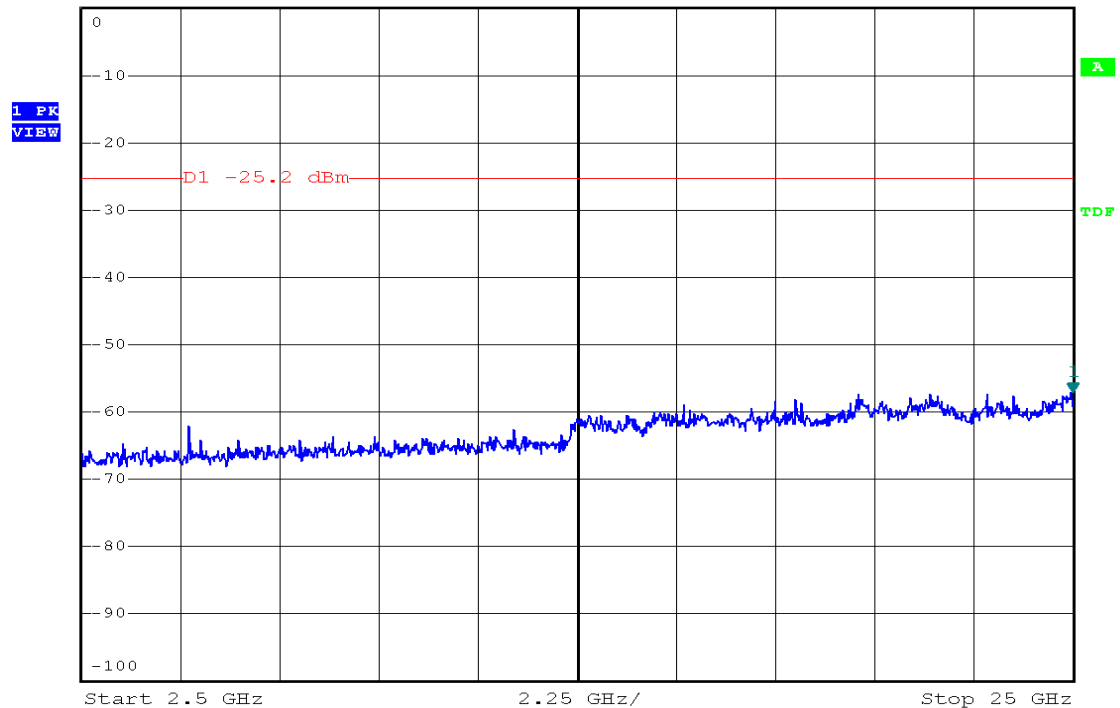
Modulation Standard: GFSK (1Mbps)
Channel: 78



Ref 10 dBm *Att 20 dB
*RBW 100 kHz Marker 1 [T1] -53.14 dBm
*VBW 300 kHz
*SWT 115 ms 2.486460000 GHz



Ref 0 dBm *Att 10 dB
*RBW 100 kHz Marker 1 [T1] -57.20 dBm
*VBW 300 kHz
*SWT 2.5 s 24.977500000 GHz

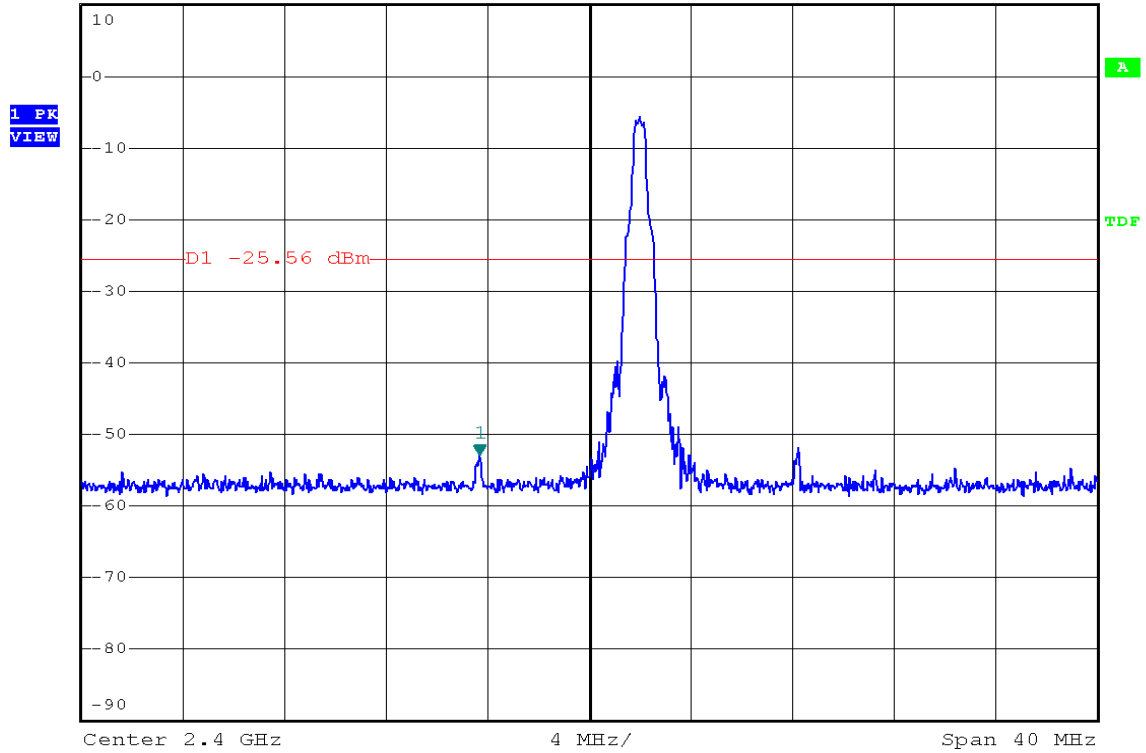




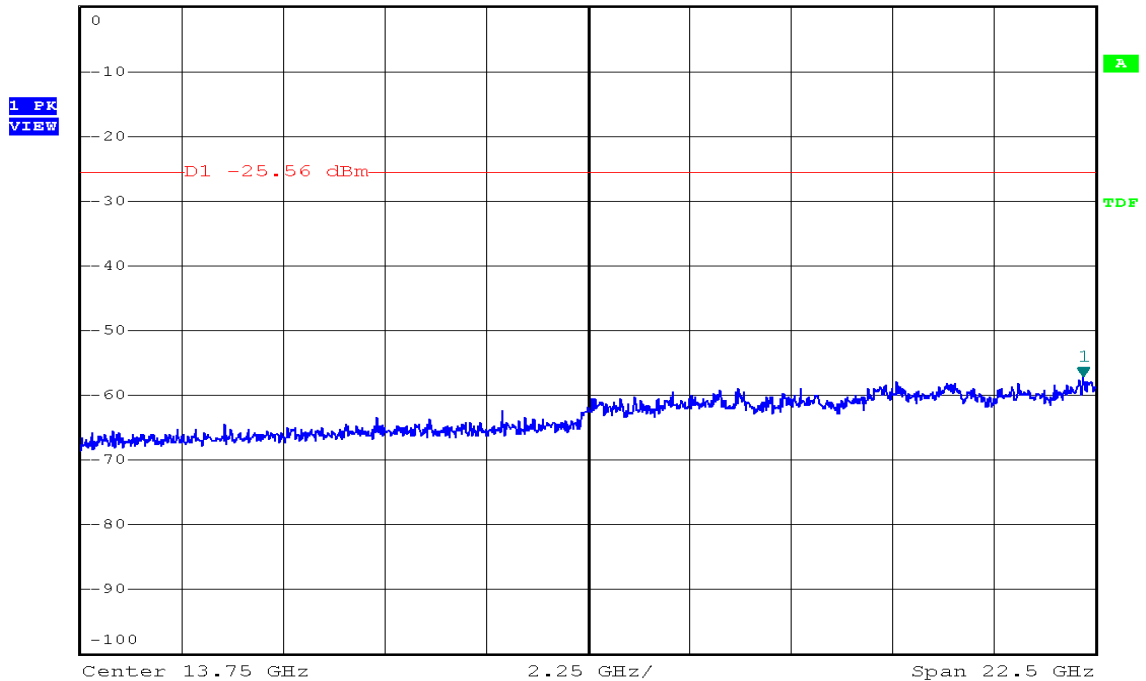
Modulation Standard: $\pi/4$ -DQPSK (2Mbps)
Channel: 00



Ref 10 dBm *Att 20 dB *RBW 100 kHz Marker 1 [T1] -52.89 dBm
*VBW 300 kHz 2.395680000 GHz
*SWT 125 ms



Ref 0 dBm *Att 10 dB *RBW 100 kHz Marker 1 [T1] -57.15 dBm
*VBW 300 kHz 24.730000000 GHz
*SWT 2.5 s

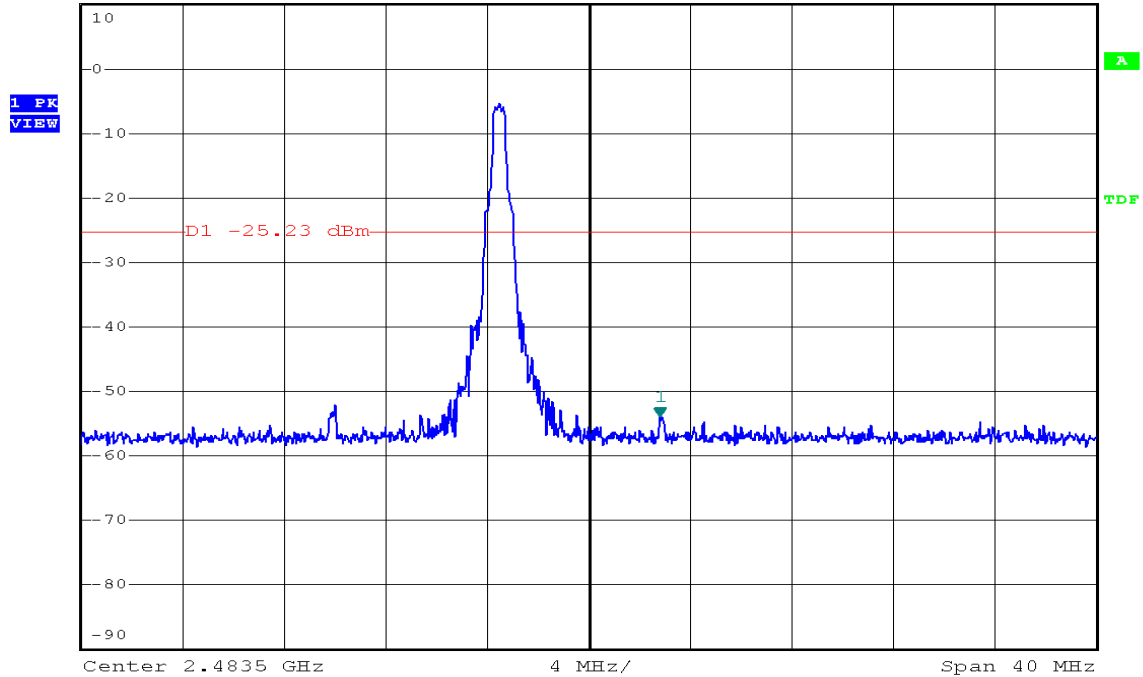




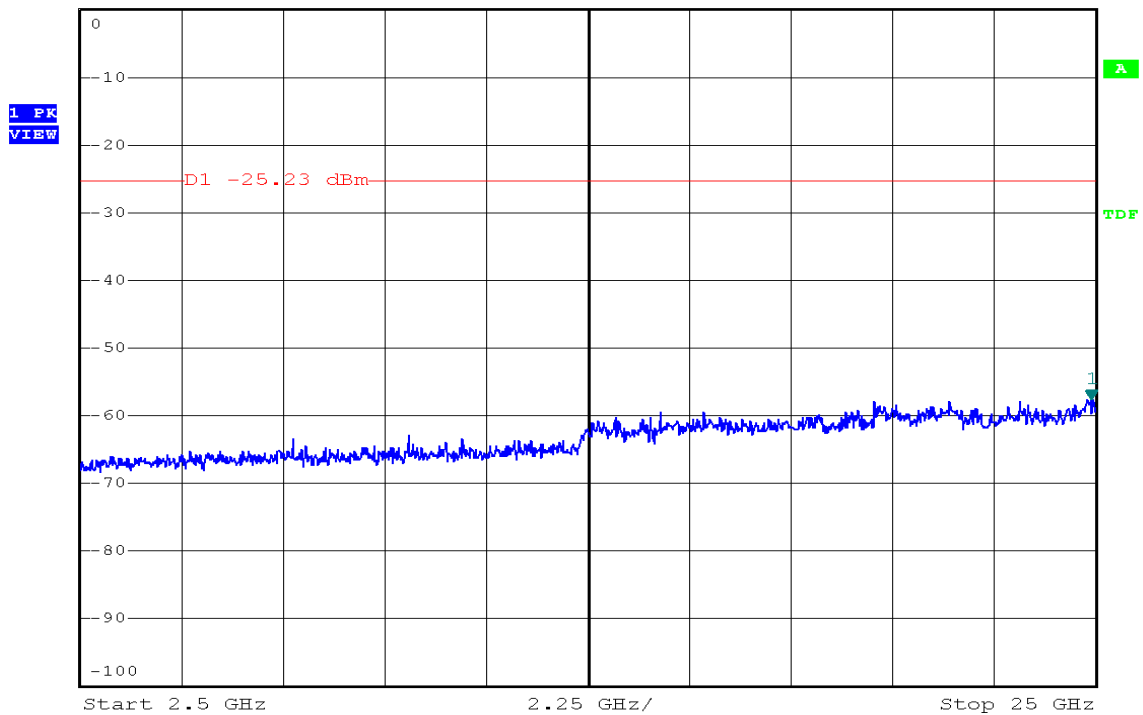
Modulation Standard: $\pi/4$ -DQPSK (2Mbps)
Channel: 78



Ref 10 dBm *Att 20 dB *RBW 100 kHz Marker 1 [T1]
*VBW 300 kHz -53.89 dBm
*SWT 125 ms 2.486300000 GHz

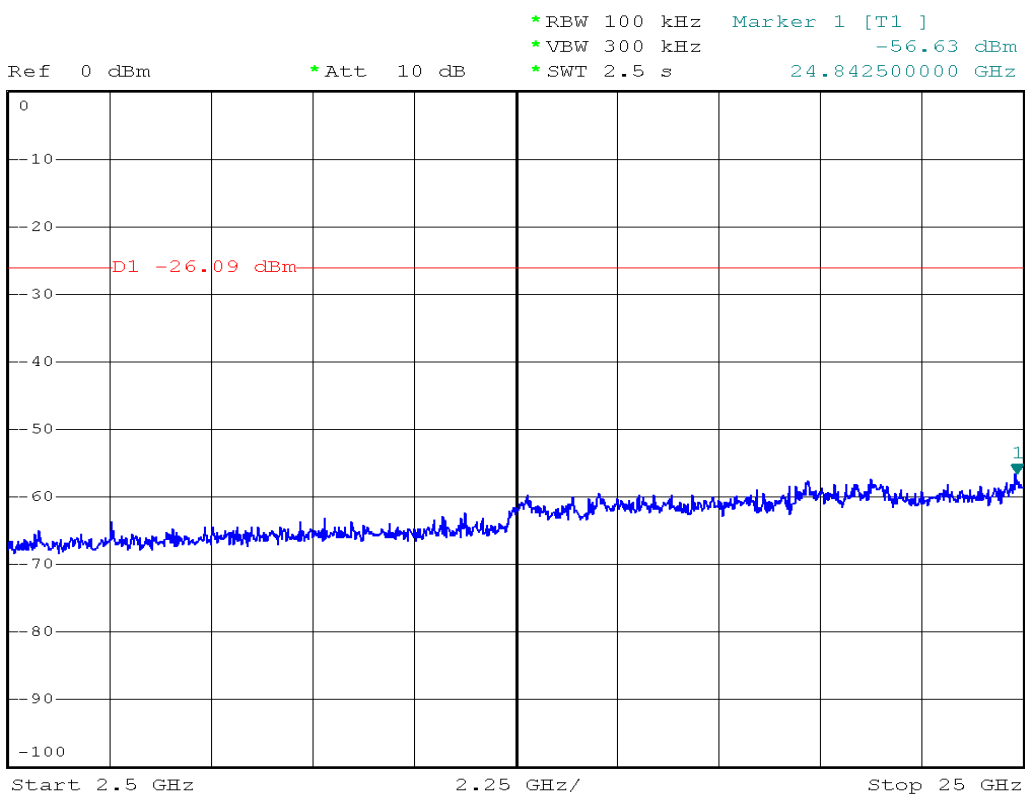
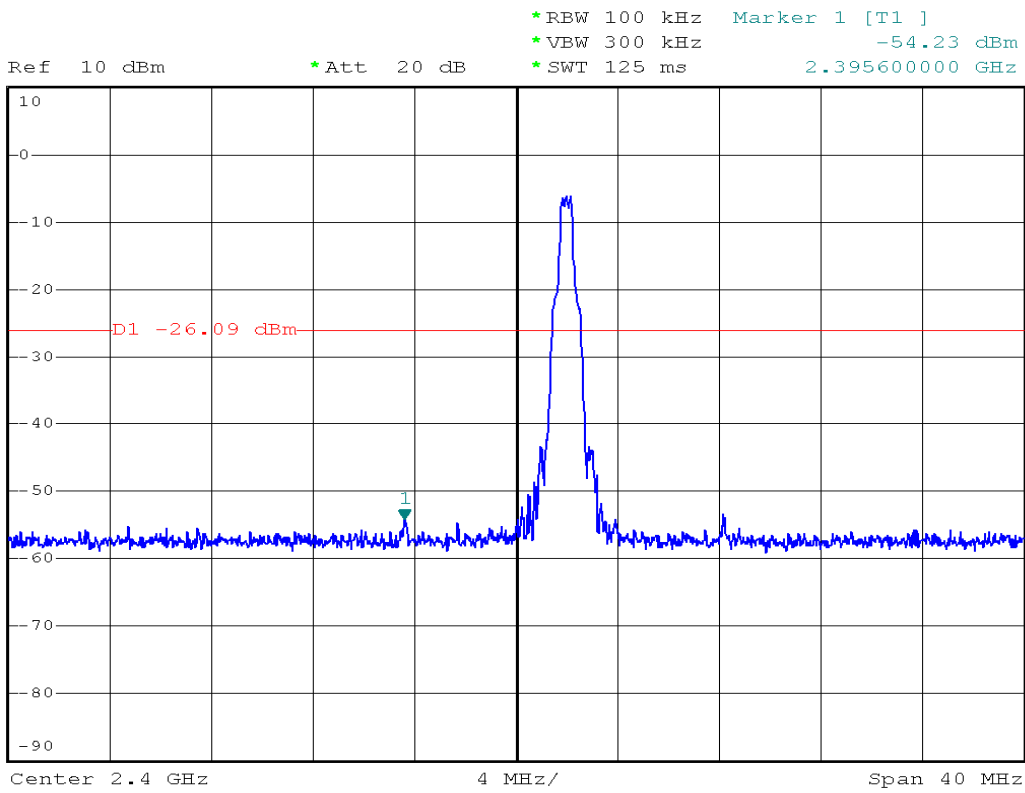


Ref 0 dBm *Att 10 dB *RBW 100 kHz Marker 1 [T1]
*VBW 300 kHz -57.59 dBm
*SWT 2.5 s 24.910000000 GHz



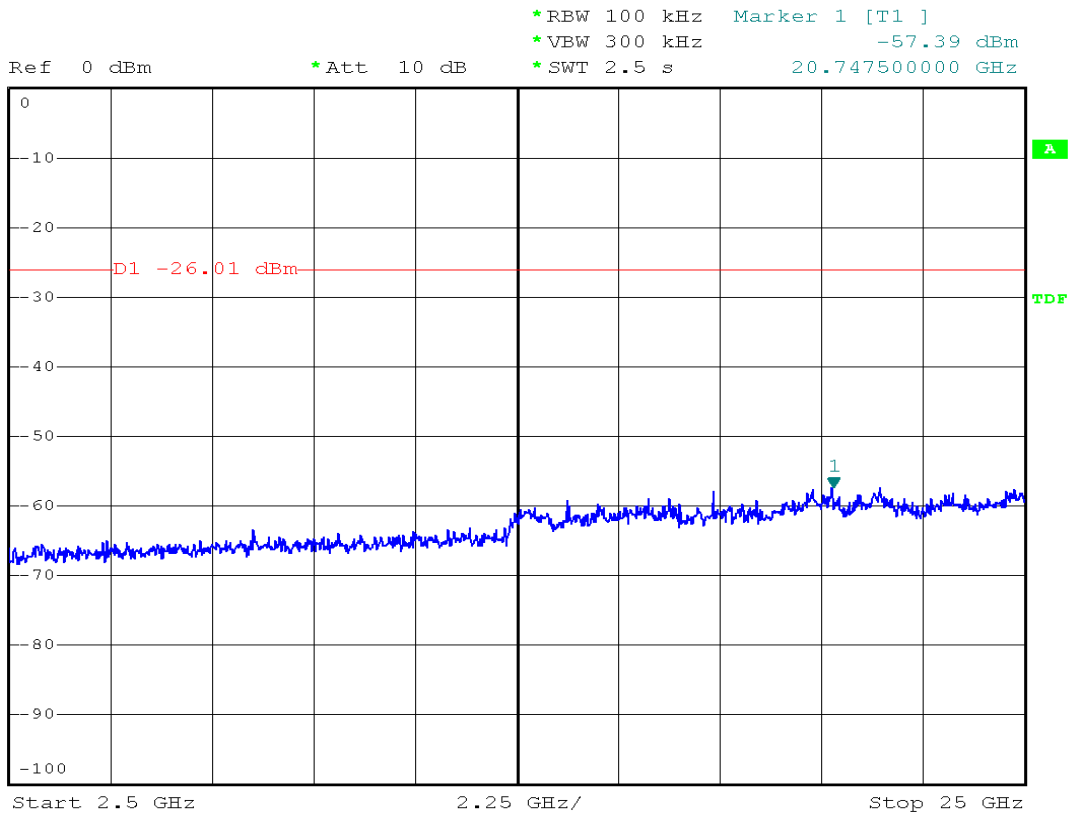
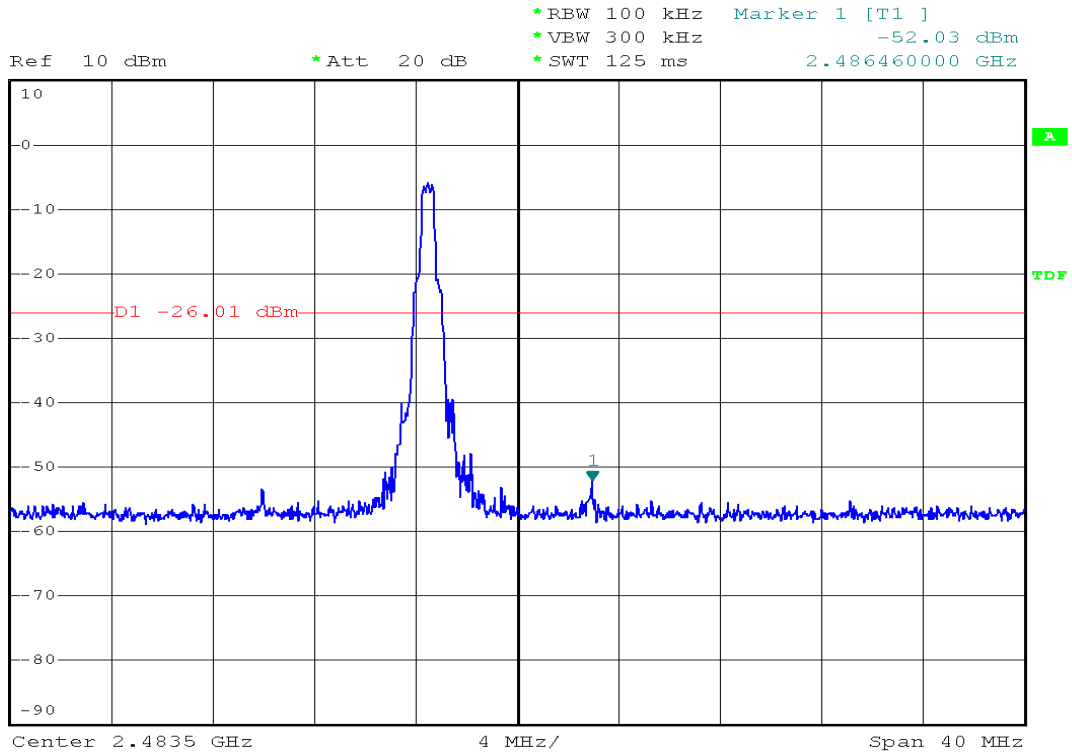


Modulation Standard: 8DPSK (3Mbps)
Channel: 00





Modulation Standard: 8DPSK (3Mbps)
Channel: 78



**11.6 Restrict band emission Measurement Data**

Test Date : Oct. 20, 2009
 Temperature : 26°C
 Humidity : 60%
 Atmospheric Pressure : 1007 hPa
 Modulation Standard : GFSK (1Mbps)

Channel 0						Fundamental Frequency: 2402 MHz				
Frequency (MHz)	Ant-Pol H/V	Meter Reading	Corrected Factor	Result (dBuV/m)	Remark	Limit@3m (dBuV/m)		Margin (dB)	Table (Deg.)	Ant High (m)
						Peak	Ave.			
2385.89	H	53.98	-4.93	49.05	Peak	74	54	-24.95	176	1.0
2385.89	H	40.62	-4.93	35.69	Ave	74	54	-18.31	176	1.0
2385.89	V	51.64	-4.93	46.71	Peak	74	54	-27.29	206	1.5
2385.89	V	39.62	-4.93	34.69	Ave	74	54	-19.31	206	1.5
Channel 78						Fundamental Frequency: 2480 MHz				
2483.51	H	56.00	-4.59	51.41	Peak	74	54	-22.59	170	1.21
2483.51	H	40.61	-4.59	36.02	Ave	74	54	-17.98	170	1.21
2483.51	V	53.31	-4.59	48.72	Peak	74	54	-25.28	176	1.5
2483.51	V	39.45	-4.59	34.86	Ave	74	54	-19.14	176	1.5

Test Date : Oct. 20, 2009
 Temperature : 26°C
 Humidity : 60%
 Atmospheric Pressure : 1007 hPa
 Modulation Standard : $\pi/4$ -DQPSK (2Mbps)

Channel 0						Fundamental Frequency: 2402 MHz				
Frequency (MHz)	Ant-Pol H/V	Meter Reading	Corrected Factor	Result (dBuV/m)	Remark	Limit@3m (dBuV/m)		Margin (dB)	Table (Deg.)	Ant High (m)
						Peak	Ave.			
2385.89	H	52.67	-4.93	47.74	Peak	74	54	-26.26	176	1.0
2385.89	H	45.62	-4.93	40.69	Ave	74	54	-13.31	176	1.0
2385.89	V	51.34	-4.93	46.41	Peak	74	54	-27.59	208	1.5
2385.89	V	43.28	-4.93	38.35	Ave	74	54	-15.65	208	1.5
Channel 78						Fundamental Frequency: 2480 MHz				
2483.51	H	55.02	-4.59	50.43	Peak	74	54	-23.57	170	1.21
2483.93	H	46.09	-4.58	41.51	Ave	74	54	-12.49	170	1.21
2483.93	V	52.65	-4.58	48.07	Peak	74	54	-25.93	176	1.5
2483.93	V	43.31	-4.58	38.73	Ave	74	54	-15.27	176	1.5



Test Date : Oct. 20, 2009
 Temperature : 26°C
 Humidity : 60%
 Atmospheric Pressure : 1007 hPa
 Modulation Standard : 8DPSK (3Mbps)

Channel 0						Fundamental Frequency: 2402 MHz				
Frequency (MHz)	Ant-Pol H/V	Meter Reading	Corrected Factor	Result (dBuV/m)	Remark	Limit@3m (dBuV/m)		Margin (dB)	Table (Deg.)	Ant High (m)
						Peak	Ave.			
2385.89	H	52.34	-4.93	47.41	Peak	74	54	-26.59	176	1.0
2385.89	H	45.70	-4.93	40.77	Ave	74	54	-13.23	176	1.0
2385.89	V	51.98	-4.93	47.05	Peak	74	54	-26.95	207	1.5
2485.89	V	43.87	-4.93	38.94	Ave	74	54	-15.06	207	1.5
Channel 78						Fundamental Frequency: 2480 MHz				
2483.81	H	55.91	-4.58	51.33	Peak	74	54	-22.67	170	1.21
2483.93	H	48.37	-4.58	43.79	Ave	74	54	-10.21	170	1.21
2484.00	V	53.50	-4.58	48.92	Peak	74	54	-25.08	176	1.5
2483.93	V	45.71	-4.58	41.13	Ave	74	54	-12.87	176	1.5

Notes:

1. Result = Meter Reading + Factor
2. Factor = Antenna Factor + Cable Loss – Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and video bandwidth is 3 MHz for Peak detection at frequency above 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average detection at frequency above 1GHz



12. Restricted Bands of Operation

Only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.09000 – 0.11000	16.42000 – 16.42300	399.9 – 410.0	4.500 – 5.250
0.49500 – 0.505**	16.69475 – 16.69525	608.0 – 614.0	5.350 – 5.460
2.17350 – 2.19050	16.80425 – 16.80475	960.0 – 1240.0	7.250 – 7.750
4.12500 – 4.12800	25.50000 – 25.67000	1300.0 – 1427.0	8.025 – 8.500
4.17725 – 4.17775	37.50000 – 38.25000	1435.0 – 1626.5	9.000 – 9.200
4.20725 – 4.20775	73.00000 – 74.60000	1645.5 – 1646.5	9.300 – 9.500
6.21500 – 6.21800	74.80000 – 75.20000	1660.0 – 1710.0	10.600 – 12.700
6.26775 – 6.26825	108.00000 – 121.94000	1718.8 – 1722.2	13.250 – 13.400
6.31175 – 6.31225	123.00000 – 138.00000	2200.0 – 2300.0	14.470 – 14.500
8.29100 – 8.29400	149.90000 – 150.05000	2310.0 – 2390.0	15.350 – 16.200
8.36200 – 8.36600	156.52475 – 156.52525	2483.5 – 2500.0	17.700 – 21.400
8.37625 – 8.38675	156.70000 – 156.90000	2655.0 – 2900.0	22.010 – 23.120
8.41425 – 8.41475	162.01250 – 167.17000	3260.0 – 3267.0	23.600 – 24.000
12.29000 – 12.29300	167.72000 – 173.20000	3332.0 – 3339.0	31.200 – 31.800
12.51975 – 12.52025	240.00000 – 285.00000	3345.8 – 3358.0	36.430 – 36.500
12.57675 – 12.57725	322.00000 – 335.40000	3600.0 – 4400.0	Above 38.6
13.36000 – 13.41000			

** : Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz

12.1 Labeling Requirement

The device shall bear the following statement in a conspicuous location on the device:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.