

APPLICATION FOR CERTIFICATION

On Behalf of

MKD Technology Inc.

USB Storage VOIP Bluetooth Dongle

Model No. : MKD8801

FCC ID : VBJ8801

Prepared for : MKD Technology Inc.

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Hsinchu, Taiwan 30078, R.O.C.

Prepared by : Audix Technology Corporation

EMC Department

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TEST REPORT CERTIFICATION

Applicant : MKD Technology Inc.
 Manufacturer : Li Neng Co., Ltd.
 EUT Description : USB Storage VOIP Bluetooth Dongle
 FCC ID : VBJ8801
 (A) MODEL NO. : MKD8801
 (B) SERIAL NO. : N/A
 (C) POWER SUPPLY : DC 5V
 (D) TEST VOLTAGE : AC 120V, 60Hz (Via Notebook)

Measurement Procedure Used:

FCC Rules and Regulations Part 15 Subpart B & Subpart C, September 2007
 ANSI C63.4/2003

FCC Public Notice DA 00-705, Mar. 2000

(FCC CFR 47 Part 15B, §15.107 and §15.109)
 (FCC CFR 47 Part 15C, §15.205, §15.207, §15.209 and §15.247)

The device described above was tested by Audix Technology Corporation to determine the maximum emission levels emanating from the device. The maximum emission levels were compared to the FCC Part 15 subpart B and subpart C limits.

The measurement results are contained in this test report and Audix Technology Corporation is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT to be technically compliant with the FCC official limits.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of Audix Technology Corporation.

Date of Test: Dec. 06 ~ 17, 2007

Prepared by: Monica Chang Jan. 23, 2008
 (Monica Chang/Administrator)

Test Engineer: Ben Cheng Jan. 23, 2008
 (Ben Cheng/Section Manager)

Approved & Authorized Signer: Leon Liu Jan. 23, 2008
 (Leon Liu/Vice President)

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

Description : USB Storage VOIP Bluetooth Dongle
 Model Number : MKD8801
 FCC ID : VBJ8801
 Applicant : MKD Technology Inc.
 R.B8, No.1 Lising 1st Rd., Hsinchu Science Park,
 Hsinchu, Taiwan 30078, R.O.C.
 Manufacturer : Li Neng Co., Ltd.
 No.36-1, Lane 482, Minghu Rd., East District,
 Hsinchu City 300, Taiwan, R.O.C.
 Bluetooth IC #1 : ISSC, IS1032
 Bluetooth IC #2 : ISSC, IS1602
 Fundamental Range : 2400MHz - 2483.5MHz
 Channel Number : 79
 Radio Technology : FHSS Modulation
 Antenna Gain : 1.5dBi (Peak)
 Date of Receipt of Sample : Nov. 19, 2007
 Date of Test : Dec. 06 ~ 17, 2007

1.2. Tested Supporting System Details

1.2.1. NOTEBOOK

Model Number : PP2130
 Serial Number : 5Y32KSQZ40ME
 BSMI ID : 3912A556
 FCC ID : FCC By DoC
 Manufacturer : LG (Brand Compaq)
 Power Adapter : COMPAQ, M/N PA-1650-02C
 DC Power Cord: Shielded, Undetachable, 1.8m
 Bonded a ferrite core
 AC Power Cord: Non-Shielded, Undetachable, 1.8m

1.2.2. PARTNER NOTEBOOK

Model Number	:	PP2170
Serial Number	:	CNU447FSK9
BSMI ID	:	R33001
FCC ID	:	FCC By DoC
Manufacturer	:	HP
Battery	:	HP, M/N PP2171S

1.3. Description of Test Facility

Name of Firm	:	Audix Technology Corporation EMC Department No. 53-11, Tin-Fu Tsun, Lin-Kou, Taipei County, Taiwan
Test Location & Facility (C2 / Semi-AC)	:	No. 2 Shielded Room No. 53-11, Tin-Fu Tsun, Lin-Kou, Taipei County, Taiwan
		Semi-Anechoic Chamber No. 53-11, Tin-Fu Tsun, Lin-Kou, Taipei County, Taiwan
		May 15, 2006 File on Federal Communication Commission Registration Number: 90993
NVLAP Lab. Code	:	200077-0 (NVLAP is a NATA accredited body under Mutual Recognition Agreement)

1.4. Measurement Uncertainty

Test Item	Frequency Range	Uncertainty (dB), (V/m)
Conduction Test	150kHz~30MHz	± 1.73dB
Radiation Test (Distance: 3m)	30MHz~300MHz	±2.91dB
	300MHz~1000MHz	±2.94dB
	Above 1GHz	± 5.02dB

Remark : Uncertainty = $ku_c(y)$

Test Item	Uncertainty
20dB Bandwidth	± 0.2kHz
Carrier Frequency Separation	± 0.2kHz
Time Of Occupancy	± 0.03sec
Maximum peak Output power	± 0.52dBm
Band Edges	± 0.13dB

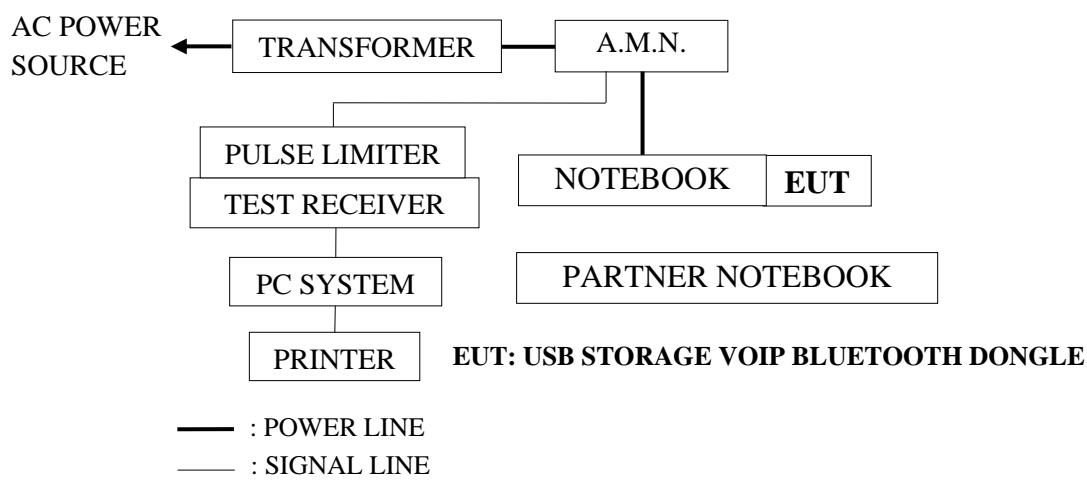
2. CONDUCTED EMISSION MEASUREMET

2.1. Test Equipment

The following test equipment was used during the conducted measurement: (No. 2 Shielded Room)

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Test Receiver	R & S	ESCS30	100265	Sep. 04, 07'	Sep. 03, 08'
2.	A.M.N.	R & S	ESH2-Z5	890485/023	Feb. 01, 07'	Jan. 31, 08'
3.	Pulse Limiter	R & S	ESH3-Z2	001	Mar. 10, 07'	Mar. 09, 08'

2.2. Block Diagram of Test Setup



2.3. Conducted Emission Limits (§15.107, Class B & §15.207)

Frequency	Maximum RF Line Voltage	
	Quasi-Peak Level	Average Level
150kHz ~ 500kHz	66 ~ 56 dB μ V	56 ~ 46 dB μ V
500kHz ~ 5MHz	56 dB μ V	46 dB μ V
5MHz ~ 30MHz	60 dB μ V	50 dB μ V

Remark1.: If the average limit is met when using a Quasi-Peak detector, the EUT shall be deemed to meet both limits and measurement with the average detector is unnecessary.

2.: The lower limit applies at the band edges.

2.4. Operating Condition of EUT

- 2.4.1. Set up the EUT and simulator as shown on 2.2.
- 2.4.2. Turn on the power of all equipment.
- 2.4.3. The EUT was connected to the notebook and set to continuously transmit frequency 2402MHz, 2441MHz or 2480MHz during the testing.
- 2.4.4. The EUT was set to continuously receive frequency 2441MHz during the testing.

2.5. Test Procedure

The EUT was put on table which was above the ground by 80cm and its USB cable was connected to the notebook, and then the Notebook's AC adapter was connected to the power mains through an Artificial Mains Network (A.M.N.). (Please refer to the block diagram of the test setup and photographs.) Both sides of A.C. line were checked for maximum conducted interference. In order to find the maximum emission, the relative positions simulators of the interface cables should be manipulated according to FCC ANSI C63.4-2003 regulation, and the measurement guideline was according to FCC Public Notice DA 00-705.

The bandwidth of the R&S Test Receiver ESCS30 was set at 9kHz.

The frequency range from 150kHz to 30MHz was checked.

All the final readings from Test Receiver were measured with the Quasi-Peak detector and Average detector. (Remark: If the Average limit is met when using a Quasi-Peak detector, the Average detector is unnecessary)

2.6. Conducted Emission Measurement Results

PASSED. (All the emissions not reported below are too low against the prescribed limits.)

[Note: Three types of modulation (GFSK, /4DPQSK, 8-DPSK) were evaluated but only the worst case (8-DPSK) was reported in this report.]

EUT : USB Storage VOIP Bluetooth Dongle

M/N : MKD8801

Test Date : Dec. 17, 2007

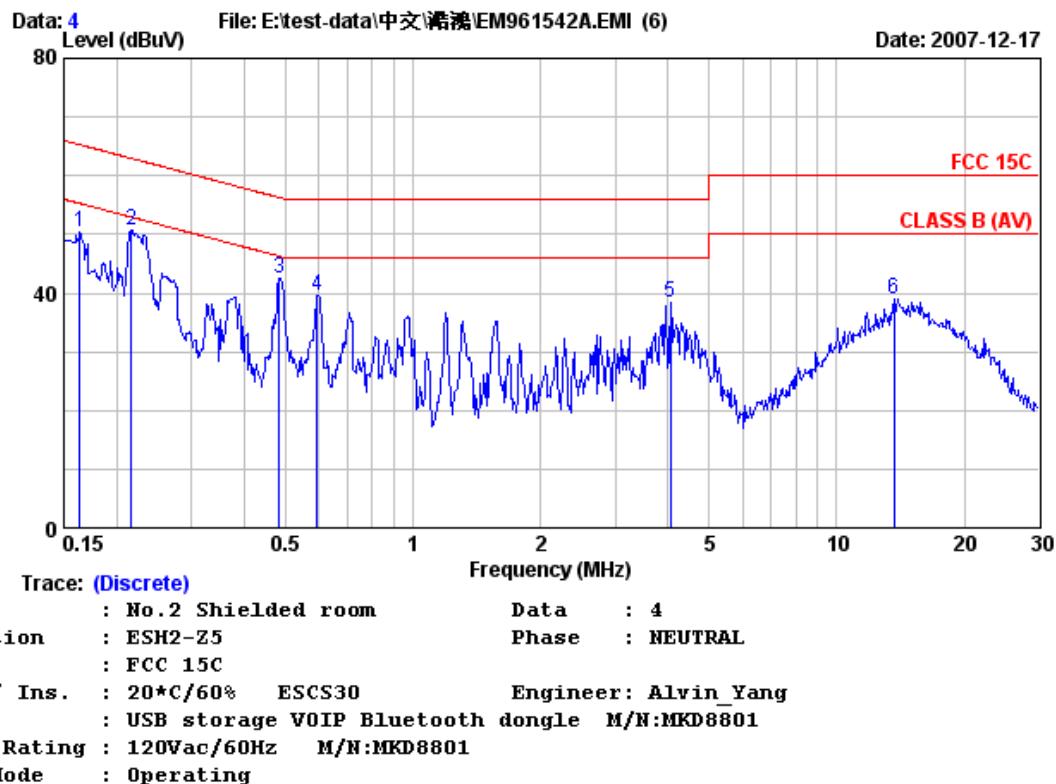
Temperature : 20

Humidity : 60%

Reference Test Data : Neutral # 4; Line # 3



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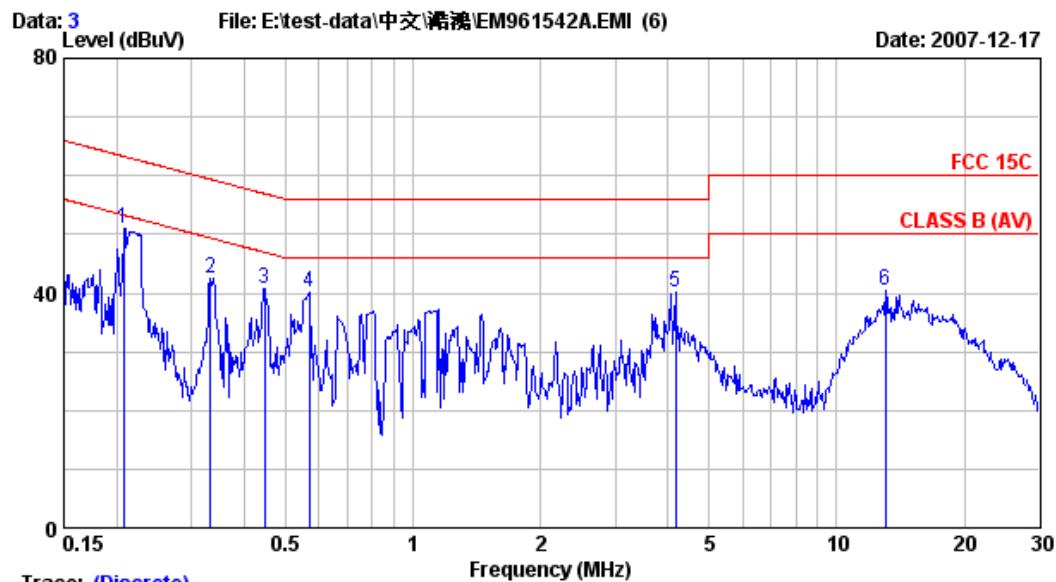


Freq. (MHz)	LISN Factor (dB)	Cable Loss (dB)	Emission				
			Reading (dB μ V)	Level (dB μ V)	Limits (dB μ V)	Margin (dB)	Remark
1 0.163	0.10	0.24	50.08	50.42	65.30	14.87	QP
2 0.216	0.10	0.27	50.47	50.84	62.96	12.13	QP
3 0.484	0.12	0.34	42.00	42.46	56.27	13.82	QP
4 0.595	0.14	0.35	39.07	39.57	56.00	16.43	QP
5 4.049	0.20	0.40	37.89	38.49	56.00	17.51	QP
6 13.623	0.38	0.70	38.03	39.11	60.00	20.89	QP

Remarks: 1. Emission Level = LISN Factor + Cable Loss + Reading.
 2. If the average limit is met when using a quasi-peak detector, the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.



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Freq. (MHz)	LISN Factor (dB)	Cable Loss (dB)	Emission				
			Reading (dB μ V)	Level (dB μ V)	Limits (dB μ V)	Margin (dB)	Remark
1 0.207	0.10	0.26	50.73	51.09	63.32	12.22	QP
2 0.332	0.10	0.30	42.06	42.46	59.40	16.93	QP
3 0.447	0.11	0.33	40.43	40.87	56.93	16.06	QP
4 0.570	0.14	0.35	39.60	40.09	56.00	15.91	QP
5 4.158	0.20	0.41	39.53	40.15	56.00	15.85	QP
6 13.057	0.36	0.70	39.42	40.49	60.00	19.52	QP

Remarks: 1. Emission Level = LISN Factor + Cable Loss + Reading.
 2. If the average limit is met when using a quasi-peak detector, the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.

3. RADIATED EMISSION MEASUREMENT

3.1. Test Equipment

The following test equipment was used during the radiated emission measurement:

3.1.1. For Frequency Range 30MHz-1000MHz (Semi-Anechoic Chamber)

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	Agilent	E7405A	MY42000134	Jun. 27, 07'	Jun. 26, 08'
2.	Test Receiver	R & S	ESCS30	100265	Sep. 04, 07'	Sep. 03, 08'
3.	Pre-Amplifier	HP	8447D	2944A06305	Mar. 03, 07'	Mar. 02, 08'
4.	Biconical Antenna	CHASE	VBA6106A	1264	Apr. 11, 07'	Apr. 10, 08'
5.	Log Periodic Antenna	Schwarzbeck	UHALP910 8-A	0139	Apr. 11, 07'	Apr. 10, 08'

3.1.2. For Frequency Range Above 1GHz (Semi-Anechoic Chamber)

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	Agilent	E7405A	MY42000134	Jun. 27, 07'	Jun. 26, 08'
2.	Pre-Amplifier	HP	8449B	3008A01284	Jun. 22, 07'	Jun. 21, 08'
3.	3.5G High Pass Filter	HP	84300-80038	005	Jan. 11, 07'	Jan. 10, 08'
4.	Horn Antenna	EMCO	3115	9112-3775	May 23, 07'	May 22, 08'
5.	Horn Antenna	EMCO	3116	2653	Oct. 04, 07'	Oct. 03, 08'

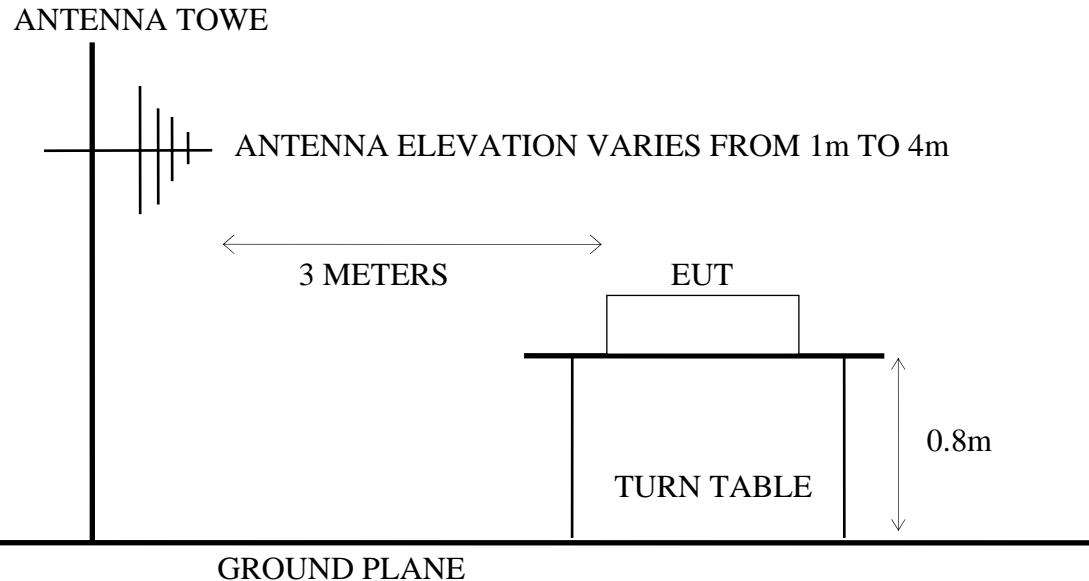
3.2. Test Setup

3.2.1. Block Diagram of connection between EUT and simulators

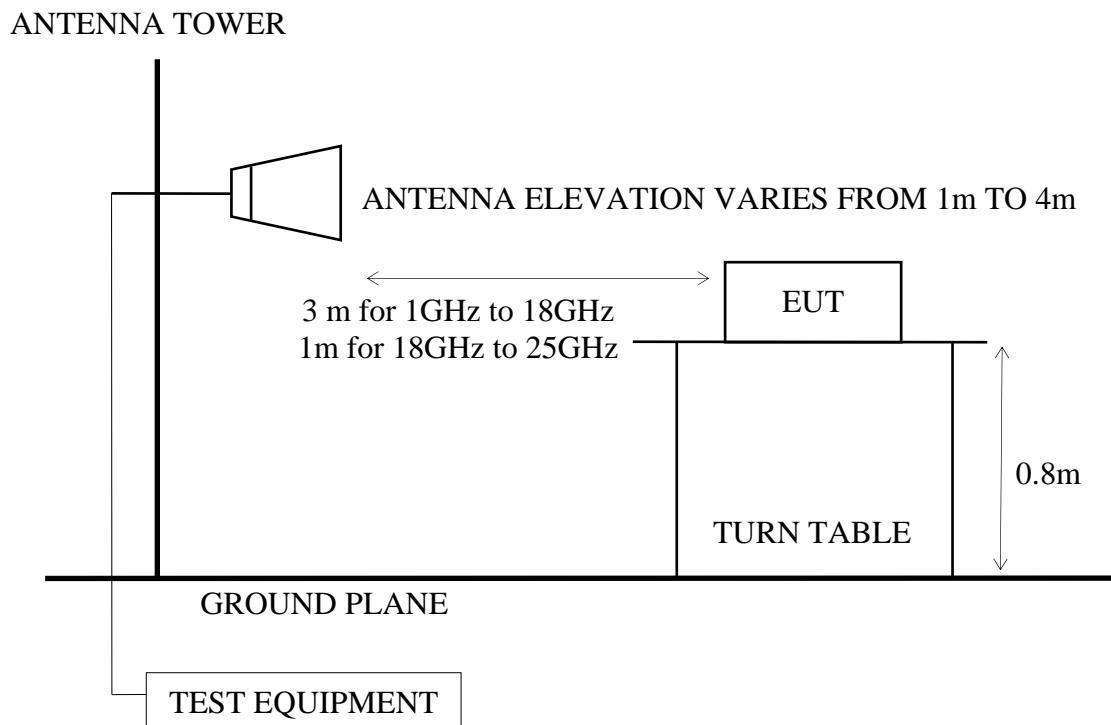


EUT: USB STORAGE VOIP BLUETOOTH DONGLE

3.2.2. Semi-Anechoic Chamber (3m) Setup Diagram for 30-1000MHz



3.2.3. Semi-Anechoic Chamber (3m or 1m) Setup Diagram for above 1GHz



3.3. Radiated Emission Limits (§15.109, Class B & §15.209)

Frequency MHz	Distance Meters	Field Strengths Limits	
		$\mu\text{V/m}$	$\text{dB}\mu\text{V/m}$
30 ~ 88	3	100	40.0
88 ~ 216	3	150	43.5
216 ~ 960	3	200	46.0
Above 960	3	500	54.0
Above 1000	3	74.0 $\text{dB}\mu\text{V/m}$ (Peak) 54.0 $\text{dB}\mu\text{V/m}$ (Average)	
Above 1000	1	83.5 $\text{dB}\mu\text{V/m}$ (Peak) 63.5 $\text{dB}\mu\text{V/m}$ (Average)	

Remark :

- (1) Emission level ($\text{dB}\mu\text{V/m}$) = $20 \log$ Emission level ($\mu\text{V/m}$)
- (2) The tighter limit applies at the edge between two frequency bands.
- (3) Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.
- (4) The limits in this table are based on CFR 47 Part 15.205(a)(b) and Part 15.209 (a).
- (5) The over 1GHz limit, FCC limit is used based on CFR 47 Part 15.35 (b) and Part 15.205(b) & Part 15.209(e) and Part 15.207(c).

3.4. Operating Condition of EUT

Same as conducted measurement which was listed in 2.5. except the test set up replaced by section 3.2.

3.5. Test Procedure

The EUT and its simulators were placed on a turn table which was 0.8 meter above the ground. The turn table rotated 360 degrees to determine the position of the maximum emission level. EUT was set 3 meters (for 18GHz to 25GHz was set 1 meter) away from the receiving antenna which was mounted on an antenna tower. The antenna moved up and down between 1 to 4 meters to find out the maximum emission level. Broadband antenna such as calibrated biconical and log-periodical antenna or horn antenna were used as a receiving antenna. Both horizontal and vertical polarization of the antenna were set on measurement. In order to find the maximum emission, all of the interface cables were manipulated according to FCC ANSI C63.4-2003 regulation, and the measurement guideline was according to FCC Public Notice DA 00-705.

The bandwidth of the R&S Test Receiver ESCS30 was set at 120kHz. (For 30MHz to 1000MHz)

The resolution bandwidth and video bandwidth of test spectrum analyzer is 1MHz for peak detection (PK) at frequency range above 1GHz.

The resolution bandwidth of test spectrum analyzer is 1MHz and the video bandwidth is 10Hz for average detection (AV) at frequency range above 1GHz.

The frequency range from 30MHz to 25GHz (Up to 10th harmonics from fundamental frequency) was checked.

3.6. Radiated Emission Measurement Results

PASSED. (All the emissions not reported below are too low against the prescribed limits.)

[Note: Three types of modulation (GFSK, $\pi/4$ DPQSK, 8-DPSK) were evaluated but only the worst case (8-DPSK) was reported in this report.]

EUT : USB Storage VOIP Bluetooth Dongle M/N : MKD8801

Test Date : Dec. 06, 2007 Temperature : 25 Humidity : 48%

For Frequency Range 30MHz-1000MHz:

The EUT with the following test modes were tested during the testing and all the test results are listed in section 3.6.1.

No.	Test Mode and Frequency	Reference Test Data No.	
		Horizontal	Vertical
1.	Transmitting	2402MHz (CH0)	# 7
2.		2441MHz (CH39)	# 8
3.		2480MHz (CH78)	# 7
4.	Receiving	2441MHz (CH39)	# 8

* Type of modulation: 8-DPSK.

* All above final readings were measured with Quasi-Peak detector.

For Frequency Range above 1GHz:

The EUT with the following test modes was measured within semi-anechoic chamber. All the graphical results are attached in Appendix and all the final readings are listed in section 3.6.2.

No.	Test Mode and Frequency	
1.	Transmitting	2402MHz (CH0)
2.		2441MHz (CH39)
3.		2480MHz (CH78)
4.	Receiving	2441MHz (CH39)

* Type of modulation: 8-DPSK.

* All above final readings were measured with Quasi-Peak detector.

For Restricted Bands:

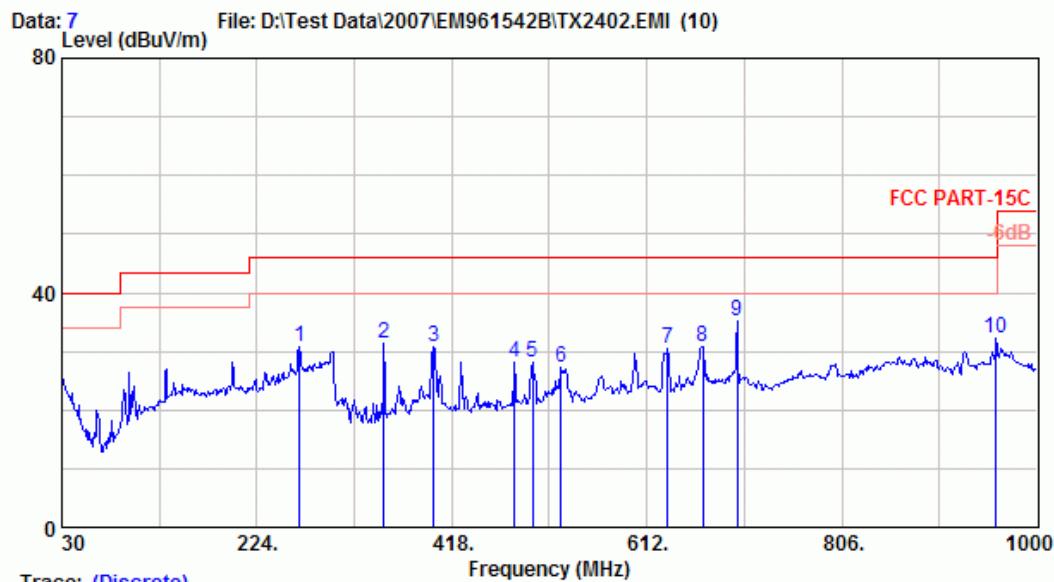
The EUT was tested in restricted bands and all the test results are listed in section 3.6.3. (The restricted bands defined in part 15.205(a))

No.	Test Mode and Frequency		Reference Test Data No.	
			Horizontal	Vertical
1.	Transmitting	2402MHz (CH0)	# 2, # 3	# 1, # 4
2.		2480MHz (CH78)	# 7, # 6	# 8, # 5

3.6.1. Frequency Range 30MHz-1000MHz Measurement Result



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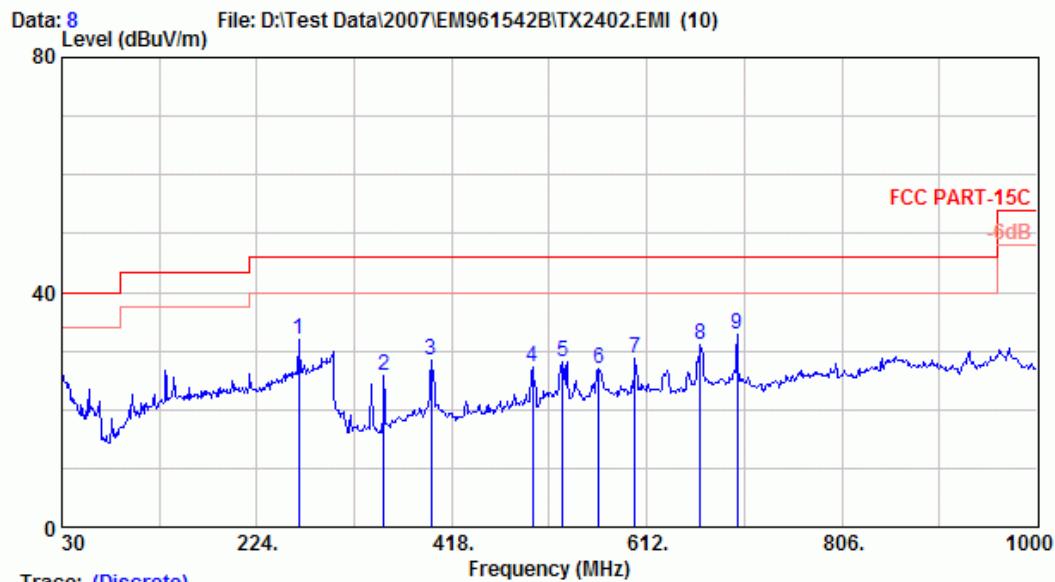
Site no. : A/C Chamber Data no. : 7
 Dis. / Ant. : 3m VBA6106A/UHALP9108A Ant. pol. : HORIZONTAL
 Limit : FCC PART-15C
 Env. / Ins. : E7405A 25°C/48% Engineer : Jarwei Wang
 EUT : USB Storage VOIP Bluetooth Dongle M/N:MKD8801
 Power Rating : 120Vac/60Hz
 Test Mode : TX2402MHz

	Ant.	Cable	Emission				
Freq.	Factor	Loss	Reading	Level	Limits	Margin	Remark
(MHz)	(dB/m)	(dB)	(dB μ V)	(dB μ V/m)	(dB μ V/m)	(dB)	
1 266.680	24.74	1.12	4.77	30.62	46.00	15.38	
2 350.100	15.44	1.28	14.57	31.28	46.00	14.72	
3 399.570	17.69	1.41	11.65	30.74	46.00	15.26	
4 480.080	18.68	1.53	7.88	28.10	46.00	17.90	
5 498.510	18.79	1.58	7.81	28.18	46.00	17.82	
6 526.640	19.67	1.67	5.86	27.20	46.00	18.80	
7 632.370	20.95	1.80	7.62	30.38	46.00	15.62	
8 667.290	22.80	1.87	6.20	30.86	46.00	15.14	
9 702.210	23.53	1.90	9.60	35.04	46.00	10.96	
10 959.260	26.38	2.34	3.42	32.14	46.00	13.86	

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.



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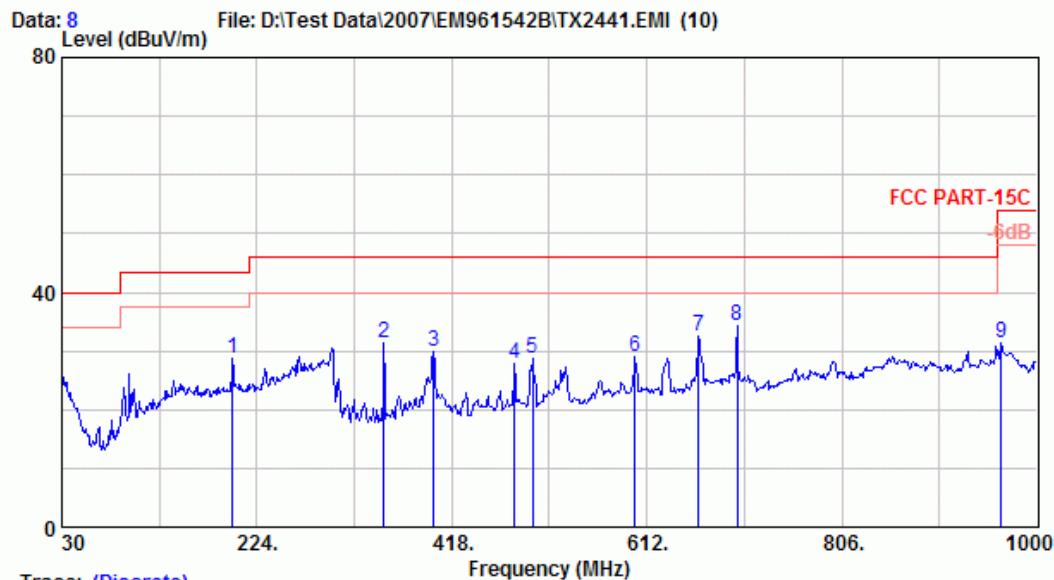
Site no. : A/C Chamber Data no. : 8
 Dis. / Ant. : 3m VBA6106A/UHALP9108A Ant. pol. : VERTICAL
 Limit : FCC PART-15C
 Env. / Ins. : E7405A 25°C/48% Engineer : Jarwei Wang
 EUT : USB Storage VOIP Bluetooth Dongle M/N:MKD8801
 Power Rating : 120Vac/60Hz
 Test Mode : TX2402MHz

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Emission			
			Reading (dB μ V)	Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)
1 265.710	24.67	1.12	6.10	31.89	46.00	14.11
2 350.100	15.44	1.28	9.21	25.92	46.00	20.08
3 397.630	17.64	1.41	9.28	28.33	46.00	17.67
4 498.510	18.79	1.58	6.81	27.18	46.00	18.82
5 528.580	19.69	1.67	6.85	28.21	46.00	17.79
6 564.470	20.42	1.65	4.96	27.03	46.00	18.97
7 600.360	21.31	1.79	5.75	28.86	46.00	17.14
8 665.350	22.65	1.86	6.66	31.18	46.00	14.82
9 702.210	23.53	1.90	7.42	32.86	46.00	13.14

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.



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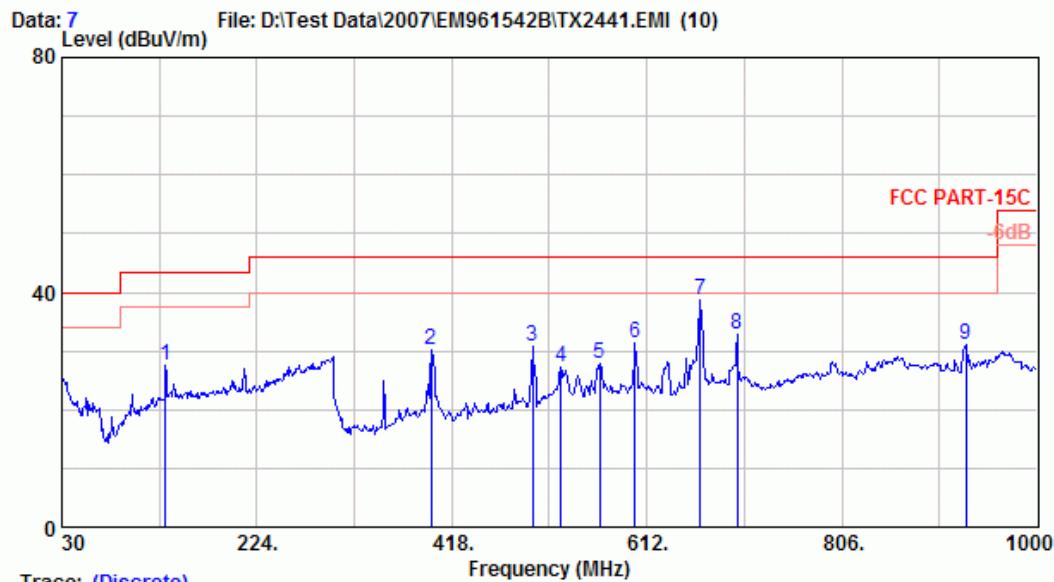


Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Emission			
			Reading (dB μ V)	Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)
1 199.750	22.09	0.97	5.77	28.83	43.50	14.67
2 350.100	15.44	1.28	14.78	31.49	46.00	14.51
3 399.570	17.69	1.41	10.79	29.89	46.00	16.11
4 480.080	18.68	1.53	7.71	27.93	46.00	18.07
5 498.510	18.79	1.58	8.40	28.77	46.00	17.23
6 600.360	21.31	1.79	6.04	29.14	46.00	16.86
7 663.410	22.52	1.86	8.23	32.61	46.00	13.39
8 702.210	23.53	1.90	8.72	34.16	46.00	11.84
9 964.110	26.80	2.34	2.10	31.23	54.00	22.77

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.



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Trace: (Discrete)

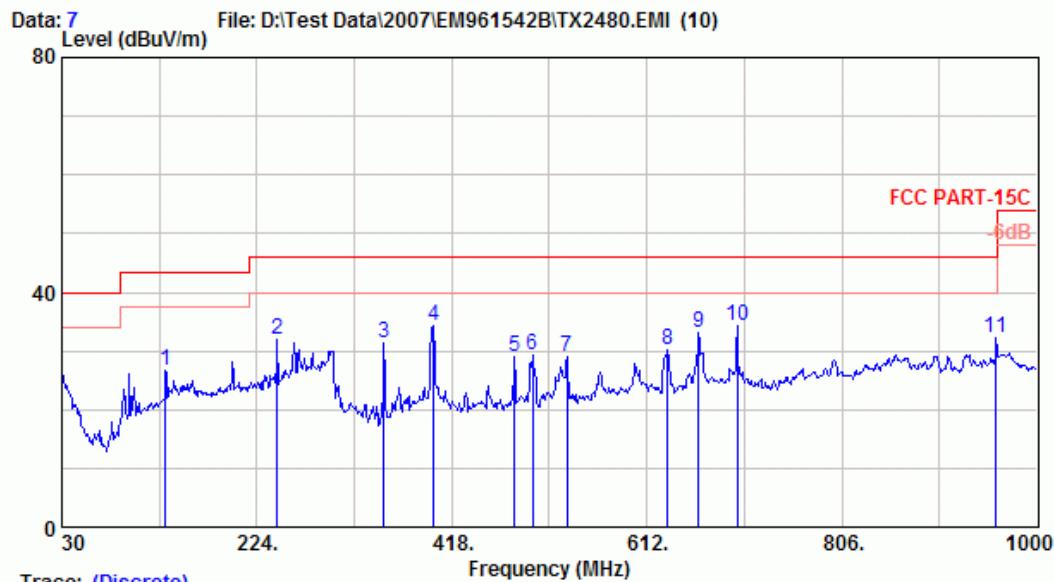
Site no. : A/C Chamber Data no. : 7
 Dis. / Ant. : 3m VBA6106A/UHALP9108A Ant. pol. : VERTICAL
 Limit : FCC PART-15C
 Env. / Ins. : E7405A 25°C/48% Engineer : Jarwei Wang
 EUT : USB Storage VOIP Bluetooth Dongle M/N:MKD8801
 Power Rating : 120Vac/60Hz
 Test Mode : TX2441MHz

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Emission			
			Reading (dB μ V)	Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)
1 132.820	19.87	0.75	6.91	27.53	43.50	15.97
2 397.630	17.64	1.41	11.04	30.09	46.00	15.91
3 498.510	18.79	1.58	10.49	30.86	46.00	15.14
4 526.640	19.67	1.67	5.86	27.20	46.00	18.80
5 565.440	20.49	1.66	5.74	27.88	46.00	18.12
6 600.360	21.31	1.79	8.17	31.27	46.00	14.73
7 665.350	22.65	1.86	14.26	38.78	46.00	7.22
8 702.210	23.53	1.90	7.26	32.69	46.00	13.31
9 929.190	24.92	2.23	3.97	31.12	46.00	14.88

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.



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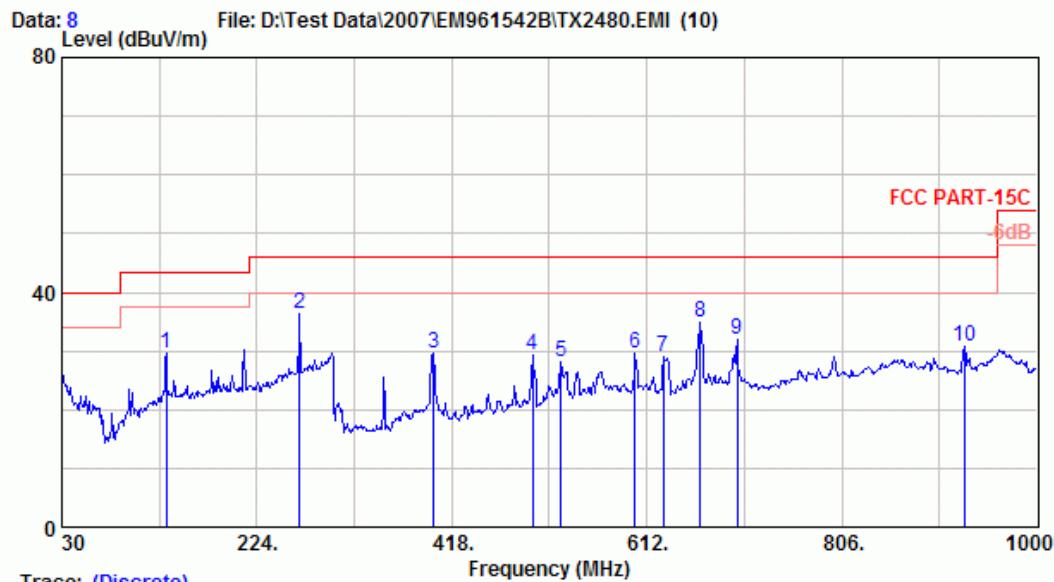
Site no. : A/C Chamber Data no. : 7
 Dis. / Ant. : 3m VBA6106A/UHALP9108A Ant. pol. : HORIZONTAL
 Limit : FCC PART-15C
 Env. / Ins. : E7405A 25°C/48% Engineer : Jarwei Wang
 EUT : USB Storage VOIP Bluetooth Dongle M/N:MKD8801
 Power Rating : 120Vac/60Hz
 Test Mode : TX2480MHz

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dB μ V)	Emission		
				Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)
1	132.820	19.87	0.75	5.99	26.61	16.89
2	244.370	23.40	1.05	7.48	31.93	14.07
3	350.100	15.44	1.28	14.78	31.50	14.50
4	399.570	17.69	1.41	15.13	34.23	11.77
5	480.080	18.68	1.53	8.69	28.91	17.09
6	498.510	18.79	1.58	8.99	29.36	16.64
7	532.460	19.64	1.67	7.75	29.06	16.94
8	632.370	20.95	1.80	7.36	30.12	15.88
9	663.410	22.52	1.86	8.88	33.25	12.75
10	702.210	23.53	1.90	8.89	34.32	11.68
11	959.260	26.38	2.34	3.38	32.10	13.90

Remarks: 1. Emission Level = Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.



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Trace: (Discrete)

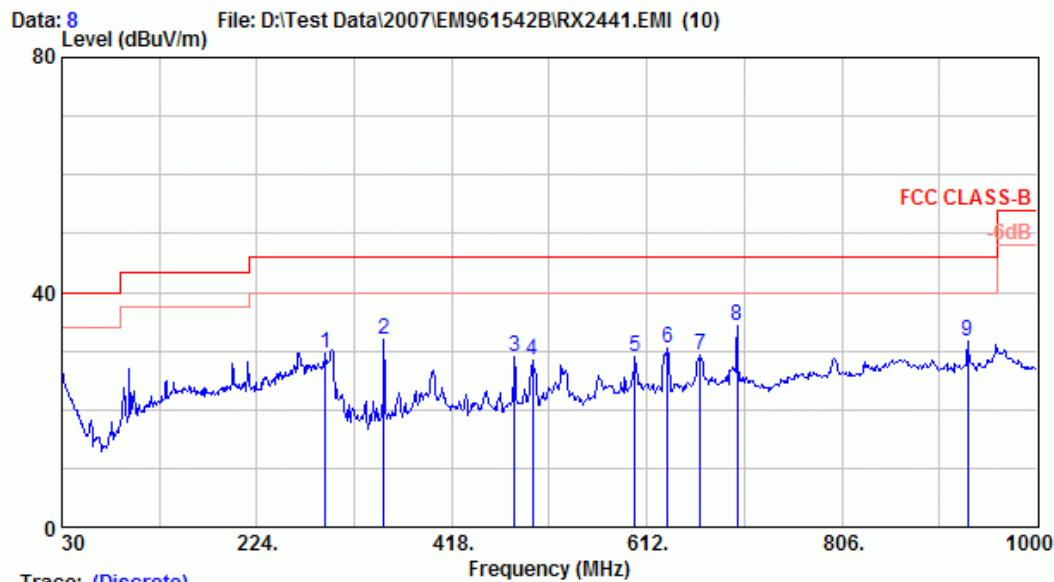
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 Dis. / Ant. : 3m VBA6106A/UHALP9108A Ant. pol. : VERTICAL
 Limit : FCC PART-15C
 Env. / Ins. : E7405A 25°C/48% Engineer : Jarwei Wang
 EUT : USB Storage VOIP Bluetooth Dongle M/N:MKD8801
 Power Rating : 120Vac/60Hz
 Test Mode : TX2480MHz

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dB μ V)	Emission			Remark
				Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)	
1 133.790	19.89	0.75	8.98	29.62	43.50	13.88	
2 266.680	24.74	1.12	10.59	36.45	46.00	9.55	
3 399.570	17.69	1.41	10.41	29.51	46.00	16.49	
4 498.510	18.79	1.58	8.95	29.31	46.00	16.69	
5 526.640	19.67	1.67	6.90	28.24	46.00	17.76	
6 600.360	21.31	1.79	6.63	29.74	46.00	16.26	
7 628.490	21.06	1.80	6.12	28.98	46.00	17.02	
8 665.350	22.65	1.86	10.43	34.95	46.00	11.05	
9 702.210	23.53	1.90	6.61	32.05	46.00	13.95	
10 928.220	24.80	2.23	3.85	30.88	46.00	15.12	

Remarks: 1. Emission Level = Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.



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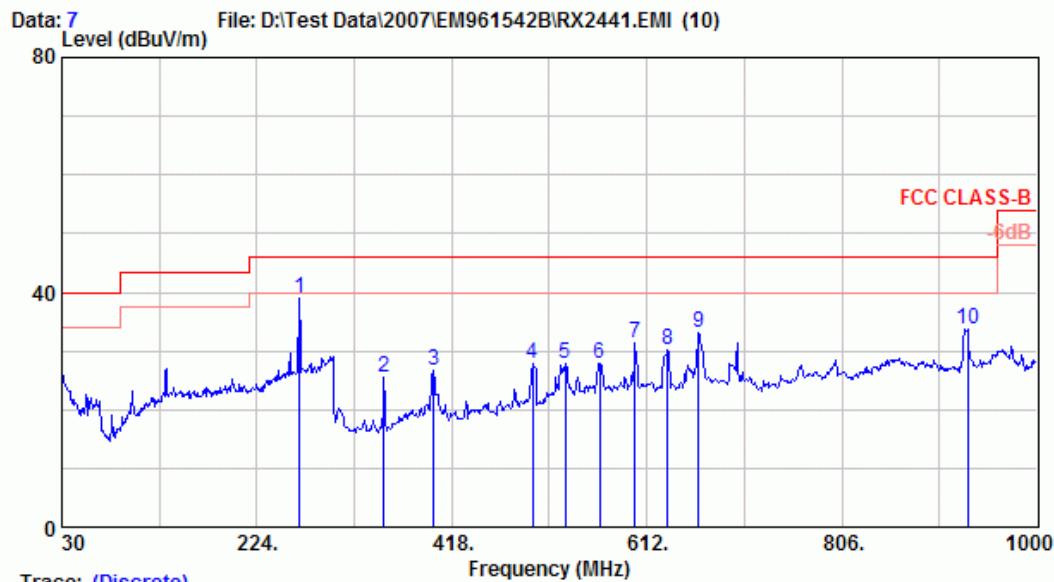


Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Emission			
			Reading (dB μ V)	Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)
1 291.900	26.17	1.16	2.41	29.74	46.00	16.26
2 350.100	15.44	1.28	15.14	31.85	46.00	14.15
3 480.080	18.68	1.53	8.77	28.99	46.00	17.01
4 498.510	18.79	1.58	8.00	28.37	46.00	17.63
5 600.360	21.31	1.79	5.86	28.97	46.00	17.03
6 632.370	20.95	1.80	7.82	30.58	46.00	15.42
7 665.350	22.65	1.86	4.72	29.24	46.00	16.76
8 702.210	23.53	1.90	8.72	34.16	46.00	11.84
9 931.130	25.11	2.24	4.34	31.69	46.00	14.31

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.



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Site no. : A/C Chamber Data no. : 7
 Dis. / Ant. : 3m VBA6106A/UHALP9108A Ant. pol. : VERTICAL
 Limit : FCC CLASS-B
 Env. / Ins. : E7405A 25°C/48% Engineer : Jarwei Wang
 EUT : USB Storage VOIP Bluetooth Dongle M/N:MKD8801
 Power Rating : 120Vac/60Hz
 Test Mode : RX2441MHz

Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Emission			
			Reading (dB μ V)	Level (dB μ V/m)	Limits (dB μ V/m)	Margin (dB)
1 266.680	24.74	1.12	13.22	39.08	46.00	6.92
2 350.100	15.44	1.28	8.82	25.54	46.00	20.46
3 399.570	17.69	1.41	7.48	26.58	46.00	19.42
4 498.510	18.79	1.58	7.53	27.90	46.00	18.10
5 530.520	19.70	1.67	6.61	27.98	46.00	18.02
6 565.440	20.49	1.66	5.74	27.89	46.00	18.11
7 600.360	21.31	1.79	8.30	31.41	46.00	14.59
8 632.370	20.95	1.80	7.53	30.29	46.00	15.71
9 663.410	22.52	1.86	8.69	33.06	46.00	12.94
10 931.130	25.11	2.24	6.24	33.59	46.00	12.41

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
 2. The emission levels that are 20dB below the official limit are not reported.

3.6.2. Frequency Range Above 1GHz Measurement Results

Date of Test : Dec. 06, 2007 Temperature : 25

EUT : USB Storage VOIP Bluetooth Dongle Humidity : 48%

Test Mode : Transmitting Mode, Frequency: 2402MHz (CH0)

	Emission Frequency MHz	Antenna Factor dB/m	Cable Meter Reading Emission Level				Limits dB μ V/m	Margin dB
			Loss dB	Horizontal dB μ V	Horizontal dB μ V/m			
Peak	1199.920	25.29	4.59	10.64	40.52	74.00	33.48	
Average	1199.920	25.29	4.59	4.64	34.52	54.00	19.48	
	Emission Frequency MHz	Antenna Factor dB/m	Cable Loss dB	Meter Reading Vertical dB μ V	Emission Level Vertical dB μ V/m		Limits dB μ V/m	Margin dB
Peak	1065.520	25.23	4.32	16.66	46.20	74.00	27.80	
	1191.520	25.29	4.56	15.04	44.89	74.00	29.11	
	1325.920	25.34	4.91	12.80	43.06	74.00	30.94	
	1465.360	25.39	5.33	14.30	45.02	74.00	28.98	
Average	1065.520	25.23	4.32	10.81	40.36	54.00	13.64	
	1191.520	25.29	4.56	9.32	39.17	54.00	14.83	
	1325.920	25.34	4.91	8.16	38.41	54.00	15.59	
	1465.360	25.39	5.33	9.35	40.07	54.00	13.93	

Remark : 1. Emission Level = Antenna Factor + Cable Loss + Meter Reading.
 2. Measurement was up to 25GHz, but the emissions level were too low against the official limit and not report.

Date of Test : Dec. 06, 2007 Temperature : 25
 EUT : USB Storage VOIP Bluetooth Dongle Humidity : 48%
 Test Mode : Transmitting Mode, Frequency: 2441MHz (CH39)

	Emission Frequency MHz	Antenna Factor dB/m	Cable Meter Reading			Emission Level Limits dB μ V/m	Margin dB
			Loss dB	Horizontal dB μ V	Horizontal dB μ V/m		
Peak	<u>1062.160</u>	<u>25.23</u>	<u>4.31</u>	<u>11.74</u>	<u>41.28</u>	<u>74.00</u>	<u>32.72</u>
	<u>1196.560</u>	<u>25.29</u>	<u>4.58</u>	<u>10.51</u>	<u>40.38</u>	<u>74.00</u>	<u>33.62</u>
Average	<u>1062.160</u>	<u>25.23</u>	<u>4.31</u>	<u>6.56</u>	<u>36.10</u>	<u>54.00</u>	<u>17.90</u>
	<u>1196.560</u>	<u>25.29</u>	<u>4.58</u>	<u>5.13</u>	<u>35.00</u>	<u>54.00</u>	<u>19.00</u>
	Emission Frequency MHz	Antenna Factor dB/m	Cable Meter Reading			Emission Level Limits dB μ V/m	Margin dB
			Loss dB	Vertical dB μ V	Vertical dB μ V/m		
Peak	<u>1062.160</u>	<u>25.23</u>	<u>4.31</u>	<u>16.87</u>	<u>46.41</u>	<u>74.00</u>	<u>27.59</u>
	<u>1196.560</u>	<u>25.29</u>	<u>4.58</u>	<u>18.37</u>	<u>48.24</u>	<u>74.00</u>	<u>25.76</u>
	<u>1325.920</u>	<u>25.34</u>	<u>4.91</u>	<u>11.96</u>	<u>42.21</u>	<u>74.00</u>	<u>31.79</u>
Average	<u>1062.160</u>	<u>25.23</u>	<u>4.31</u>	<u>11.69</u>	<u>41.23</u>	<u>54.00</u>	<u>12.77</u>
	<u>1196.560</u>	<u>25.29</u>	<u>4.58</u>	<u>14.05</u>	<u>43.92</u>	<u>54.00</u>	<u>10.08</u>
	<u>1325.920</u>	<u>25.34</u>	<u>4.91</u>	<u>7.85</u>	<u>38.10</u>	<u>54.00</u>	<u>15.90</u>

Remark : 1. Emission Level = Antenna Factor + Cable Loss + Meter Reading.
 2. Measurement was up to 25GHz, but the emissions level were too low against the official limit and not report.

Date of Test : Dec. 06, 2007 Temperature : 25
 EUT : USB Storage VOIP Bluetooth Dongle Humidity : 48%
 Test Mode : Transmitting Mode, Frequency: 2480MHz (CH78)

	Emission Frequency MHz	Antenna Factor dB/m	Cable Loss dB	Meter Reading dB μ V	Emission Level dB μ V/m	Limits dB μ V/m	Margin dB
Peak	<u>1196.560</u>	<u>25.29</u>	<u>4.58</u>	<u>10.58</u>	<u>40.45</u>	<u>74.00</u>	<u>33.55</u>
Average	<u>1196.560</u>	<u>25.29</u>	<u>4.58</u>	<u>10.58</u>	<u>40.45</u>	<u>54.00</u>	<u>13.55</u>
	Emission Frequency MHz	Antenna Factor dB/m	Cable Loss dB	Meter Reading dB μ V	Emission Level dB μ V/m	Limits dB μ V/m	Margin dB
Peak	<u>1065.520</u>	<u>25.23</u>	<u>4.32</u>	<u>13.65</u>	<u>43.20</u>	<u>74.00</u>	<u>30.80</u>
	<u>1196.560</u>	<u>25.29</u>	<u>4.58</u>	<u>15.47</u>	<u>45.34</u>	<u>74.00</u>	<u>28.66</u>
Average	<u>1065.520</u>	<u>25.23</u>	<u>4.32</u>	<u>8.11</u>	<u>37.66</u>	<u>54.00</u>	<u>16.34</u>
	<u>1196.560</u>	<u>25.29</u>	<u>4.58</u>	<u>15.47</u>	<u>45.34</u>	<u>54.00</u>	<u>8.66</u>

Remark : 1. Emission Level = Antenna Factor + Cable Loss + Meter Reading.
 2. Measurement was up to 25GHz, but the emissions level were too low against the official limit and not report.

Date of Test : Dec. 06, 2007 Temperature : 25EUT : USB Storage VOIP Bluetooth Dongle Humidity : 48%Test Mode : Receiving Mode, Frequency: 2441MHz (CH39)

	Emission Frequency MHz	Antenna Factor dB/m	Cable Meter Reading			Emission Level Limits dB μ V/m	Margin dB
			Loss dB	Horizontal dB μ V	Horizontal dB μ V/m		
Peak	1065.520	25.23	4.32	11.76	41.30	74.00	32.70
	1460.320	25.39	5.31	11.66	42.36	74.00	31.64
Average	1065.520	25.23	4.32	5.77	35.32	54.00	18.68
	1460.320	25.39	5.31	6.54	37.24	54.00	16.76
	Emission Frequency MHz	Antenna Factor dB/m	Cable Meter Reading			Emission Level Limits dB μ V/m	Margin dB
			Loss dB	Vertical dB μ V	Vertical dB μ V/m		
Peak	1065.520	25.23	4.32	16.79	46.33	74.00	27.67
	1191.520	25.29	4.56	15.09	44.95	74.00	29.05
	1325.920	25.34	4.91	11.52	41.77	74.00	32.23
Average	1065.520	25.23	4.32	11.56	41.11	54.00	12.89
	1191.520	25.29	4.56	9.60	39.45	54.00	14.55
	1325.920	25.34	4.91	6.20	36.45	54.00	17.55

Remark : 1. Emission Level = Antenna Factor + Cable Loss + Meter Reading.
 2. Measurement was up to 25GHz, but the emissions level were too low against the official limit and not report.

3.6.3. Restricted Bands Measurement Results

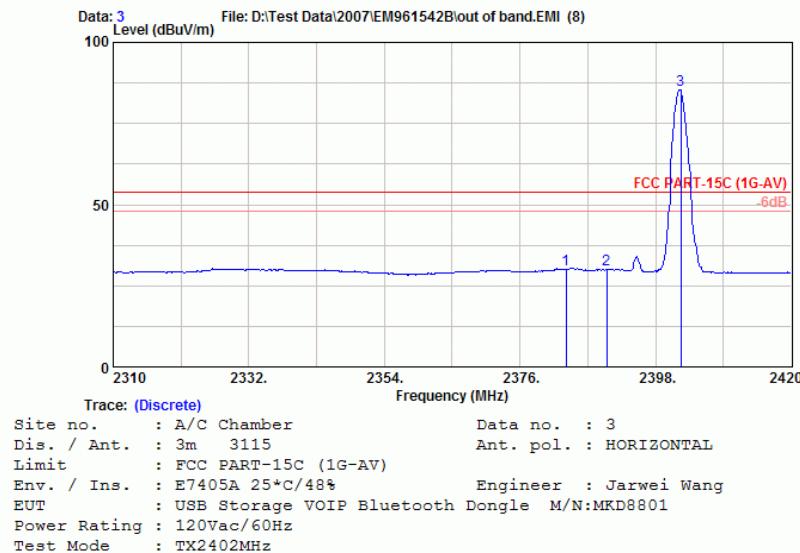
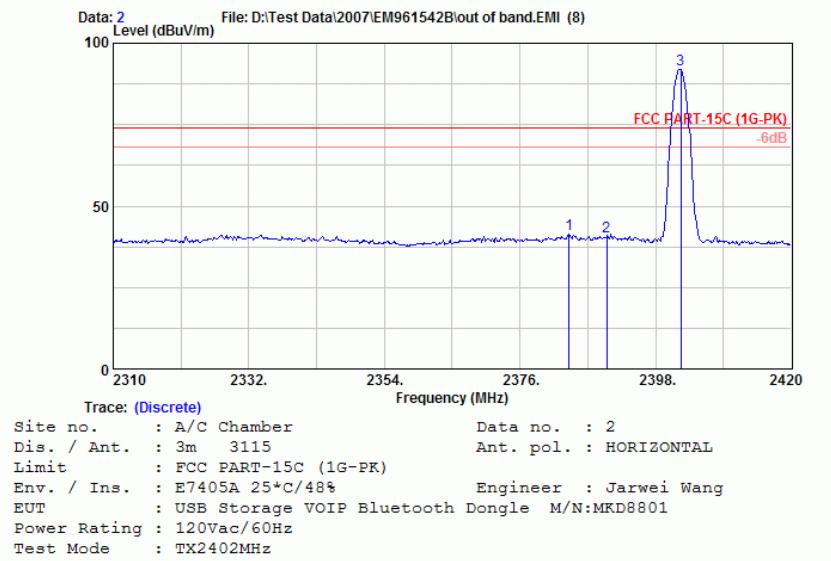
Date of Test : Dec. 06, 2007 Temperature : 25

EUT : USB Storage VOIP Bluetooth Dongle Humidity : 48%

Test Mode : Transmitting Mode, Frequency: 2402MHz (CH0)

	Emission Frequency MHz	Antenna Factor dB/m	Cable Loss dB	Meter Reading dB μ V	Emission Level dB μ V/m	Emission Level Limits dB μ V/m	Margin dB
Peak *	2383.920	28.59	6.33	6.35	41.27	74.00	32.73
Average *	2383.480	28.59	6.33	-4.74	30.18	54.00	23.82

Remark : 1. Emission Level = Antenna Factor + Cable Loss + Meter Reading.
 2. Low frequency section (spurious in the restricted band 2310-2390MHz).
 3. '*' The field strength of emission appearing within Part 15.205(a) shall not exceed the limits shown in section 15.209.



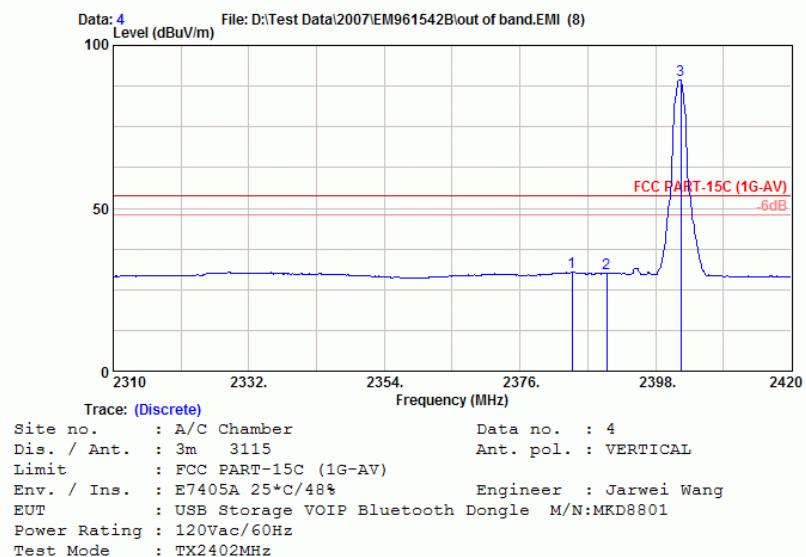
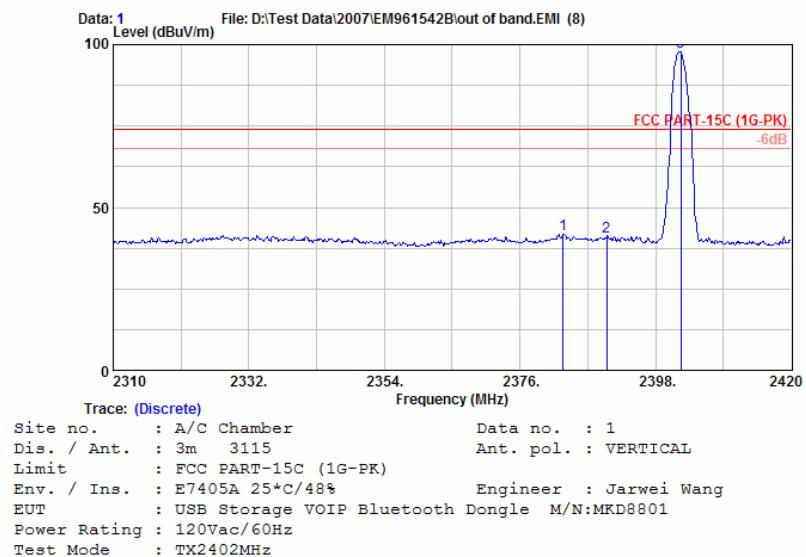
Date of Test : Dec. 06, 2007 Temperature : 25

EUT : USB Storage VOIP Bluetooth Dongle Humidity : 48%

Test Mode : Transmitting Mode, Frequency: 2402MHz (CH0)

	Emission Frequency	Antenna Factor	Cable Loss	Meter Reading	Emission Level	Limits	Margin
	MHz	dB/m	dB	dB μ V	dB μ V/m	dB μ V/m	dB
Peak *	2483.040	28.58	6.33	6.98	41.89	74.00	32.11
Average *	2384.470	28.59	6.33	-4.53	30.39	54.00	23.61

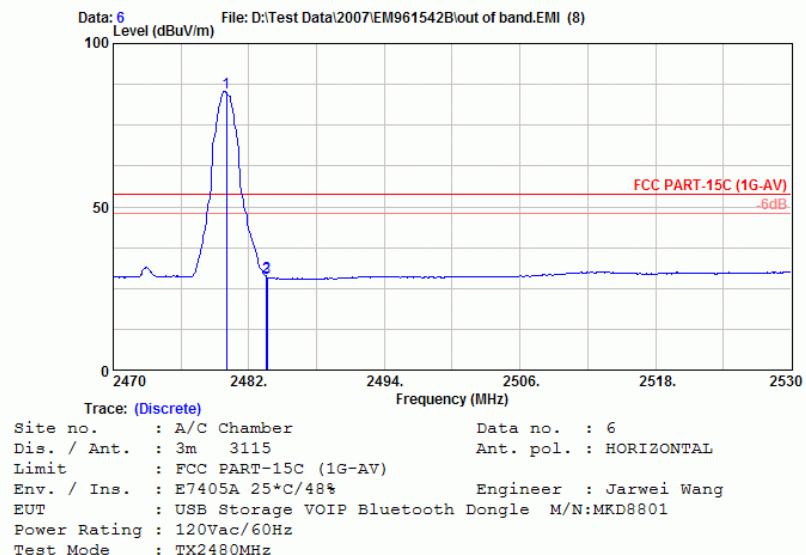
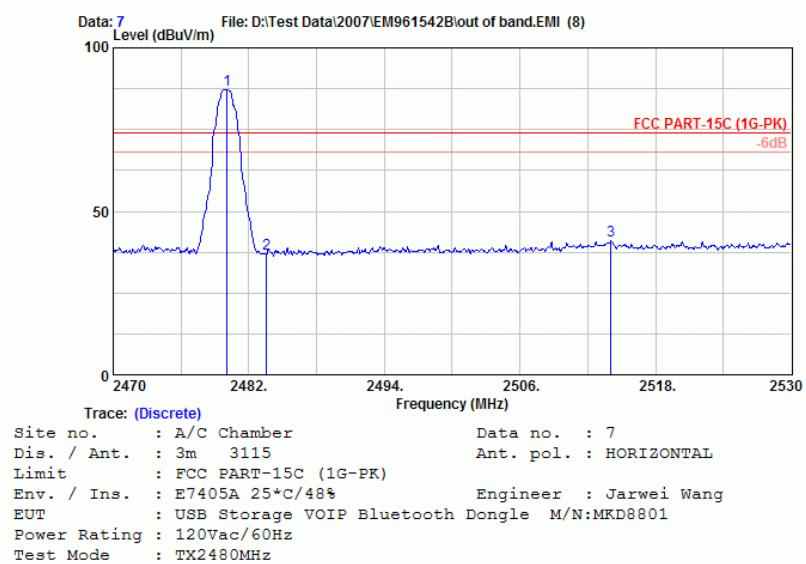
Remark : 1. Emission Level = Antenna Factor + Cable Loss + Meter Reading.
 2. Low frequency section (spurious in the restricted band 2310-2390MHz).
 3. '*' The field strength of emission appearing within Part 15.205(a) shall not exceed the limits shown in section 15.209.



Date of Test : Dec. 06, 2007 Temperature : 25
 EUT : USB Storage VOIP Bluetooth Dongle Humidity : 48%
 Test Mode : Transmitting Mode, Frequency: 2480MHz (CH78)

	Emission Frequency	Antenna Factor	Cable Loss	Meter Reading	Emission Level	Limits	Margin
	MHz	dB/m	dB	dB μ V	dB μ V/m	dB μ V/m	dB
Peak *	2483.500	28.77	6.45	1.74	36.96	74.00	37.04
Average *	2483.500	28.77	6.45	-6.67	28.55	54.00	25.45

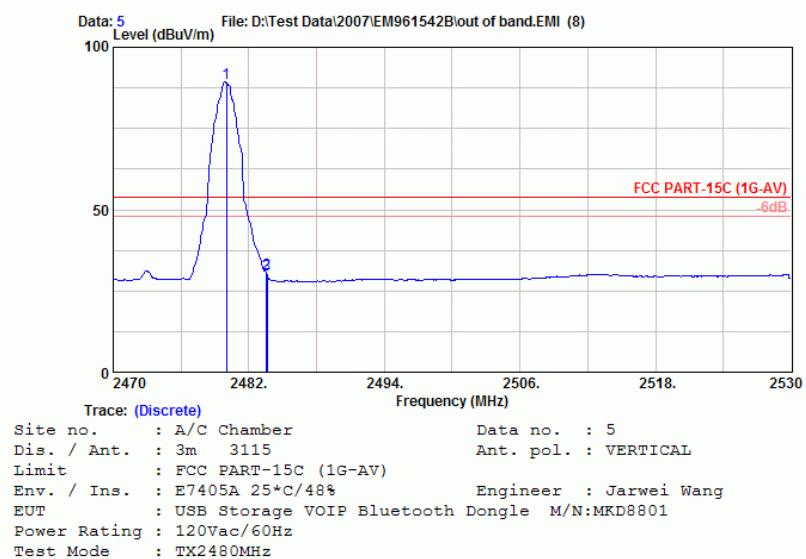
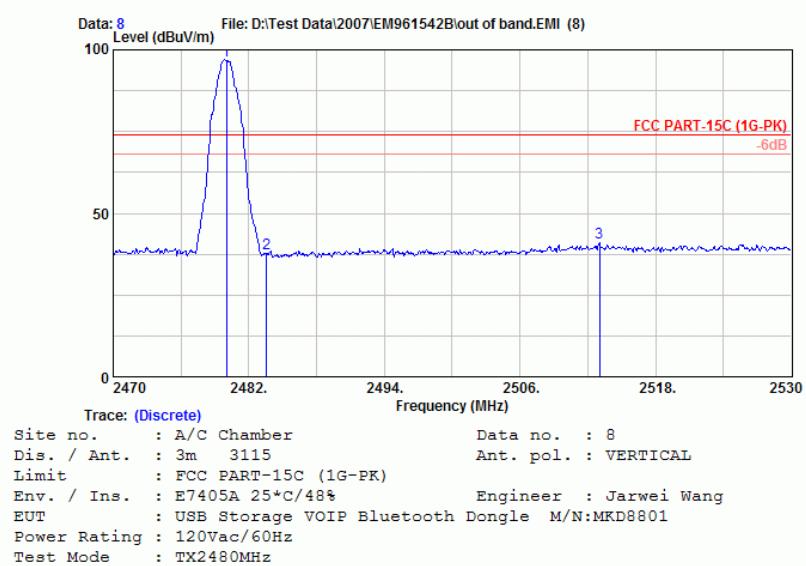
Remark : 1. Emission Level = Antenna Factor + Cable Loss + Meter Reading.
 2. Low frequency section (spurious in the restricted band 2483.5-2500MHz).
 3. '*' The field strength of emission appearing within Part 15.205(a) shall not exceed the limits shown in section 15.209.



Date of Test : Dec. 06, 2007 Temperature : 25
 EUT : USB Storage VOIP Bluetooth Dongle Humidity : 48%
 Test Mode : Transmitting Mode, Frequency: 2480MHz (CH78)

	Emission Frequency	Antenna Factor	Cable Loss	Meter Reading	Emission Level	Limits	Margin
	MHz	dB/m	dB	dB μ V	dB μ V/m	dB μ V/m	dB
Peak *	2483.500	28.77	6.45	2.45	37.67	74.00	36.33
Average *	2483.500	28.77	6.45	-4.92	30.30	54.00	23.70

Remark : 1. Emission Level = Antenna Factor + Cable Loss + Meter Reading.
 2. Low frequency section (spurious in the restricted band 2483.5-2500MHz).
 3. '*' The field strength of emission appearing within Part 15.205(a) shall not exceed the limits shown in section 15.209.



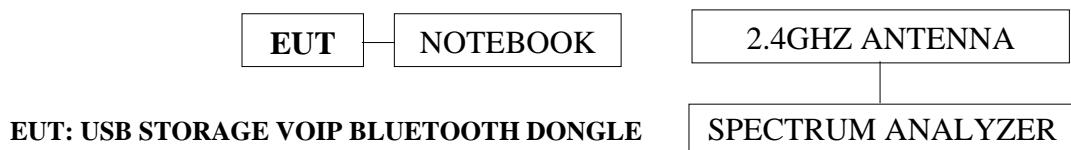
4. 20dB BANDWIDTH MEASUREMENT

4.1. Test Equipment

The following test equipment was used during the 20dB bandwidth measurement:

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Monitor	Agilent	E4446A	US44300366	Aug. 13, 07'	Aug. 12, 08'
2.	2.4GHz Antenna	N/A	RS-1500	N/A	N/A	N/A

4.2. Block Diagram of Test Setup



4.3. Specification Limits (§15.247(a)(1))

Alternatively, frequency hopping systems operating in the 2400-2483.5MHz band may have hopping channel carrier frequencies that are separated by 25kHz or two-thirds of the 20dB bandwidth of the hopping channel, whichever is greater.

4.4. Operating Condition of EUT

- 4.4.1. Setup the EUT and simulator as shown on 4.2.
- 4.4.2. Turn on the power of all equipment.
- 4.4.3. The EUT (USB Storage VOIP Bluetooth Dongle) was set on transmitting frequency function during the testing.

4.5. Test Procedure

The EUT was connected to the notebook. The bandwidth of the fundamental frequency was measured by spectrum analyzer with 100kHz RBW and 100kHz VBW. The 20dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 20dB.

The measurement guideline was according to FCC Public Notice DA 00-705.

4.6. Test Results

PASSED. All the test results are attached in next pages.

[Note: Three types of modulation (GFSK, 1/4DPQSK, 8-DPSK) were evaluated but only two types of modulation (GFSK and 8-DPSK) were reported in this report.]

EUT : USB Storage VOIP Bluetooth Dongle

M/N : MKD8801

Test Date : Dec. 06, 2007 Temperature : 23

Humidity : 55 %

4.6.1. Type of Modulation: GFSK

No.	Channel	Test Frequency	20dB Bandwidth	2/3 (20dB Bandwidth)
1.	0	2402MHz	1.080MHz	0.720MHz
2.	39	2441MHz	1.080MHz	0.720MHz
3.	78	2480MHz	1.060MHz	0.706MHz

The maximum two-thirds of the 20dB bandwidth shall be at maximum 0.720MHz.

4.6.2. Type of Modulation: 8-DPSK

No.	Channel	Test Frequency	20dB Bandwidth	2/3 (20dB Bandwidth)
1.	0	2402MHz	1.285MHz	0.856MHz
2.	39	2441MHz	1.310MHz	0.873MHz
3.	78	2480MHz	1.310MHz	0.873MHz

The maximum two-thirds of the 20dB bandwidth shall be at maximum 0.873MHz.

Figure 1: GFSK, Channel 0, Frequency: 2402MHz

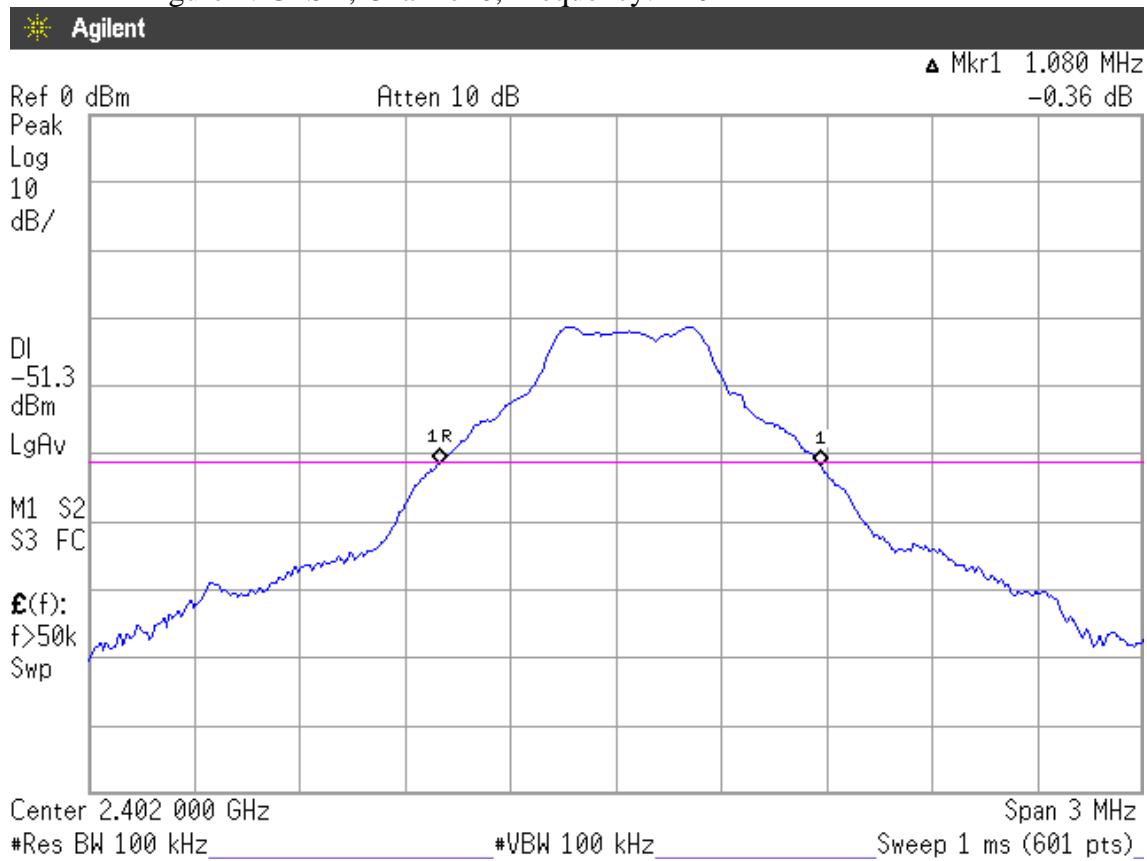


Figure 2: GFSK, Channel 39, Frequency: 2441MHz

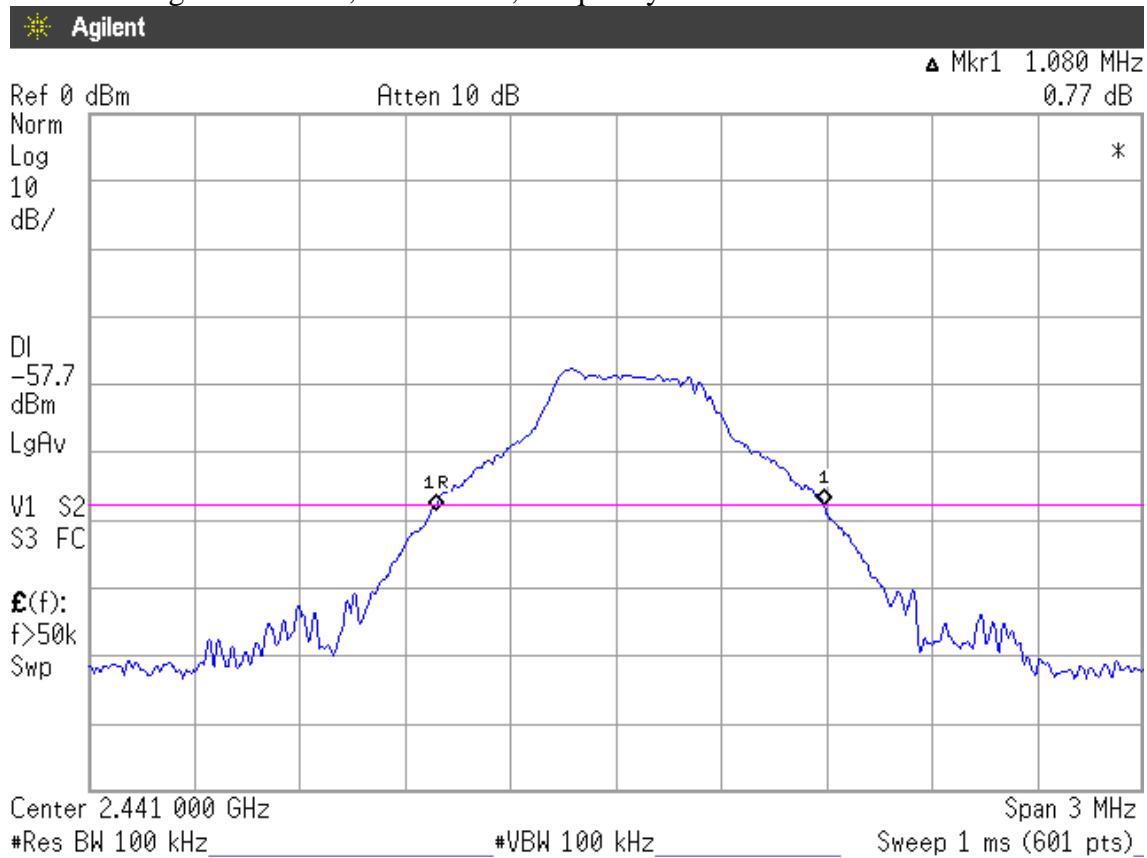


Figure 3: GFSK, Channel 78, Frequency: 2480MHz

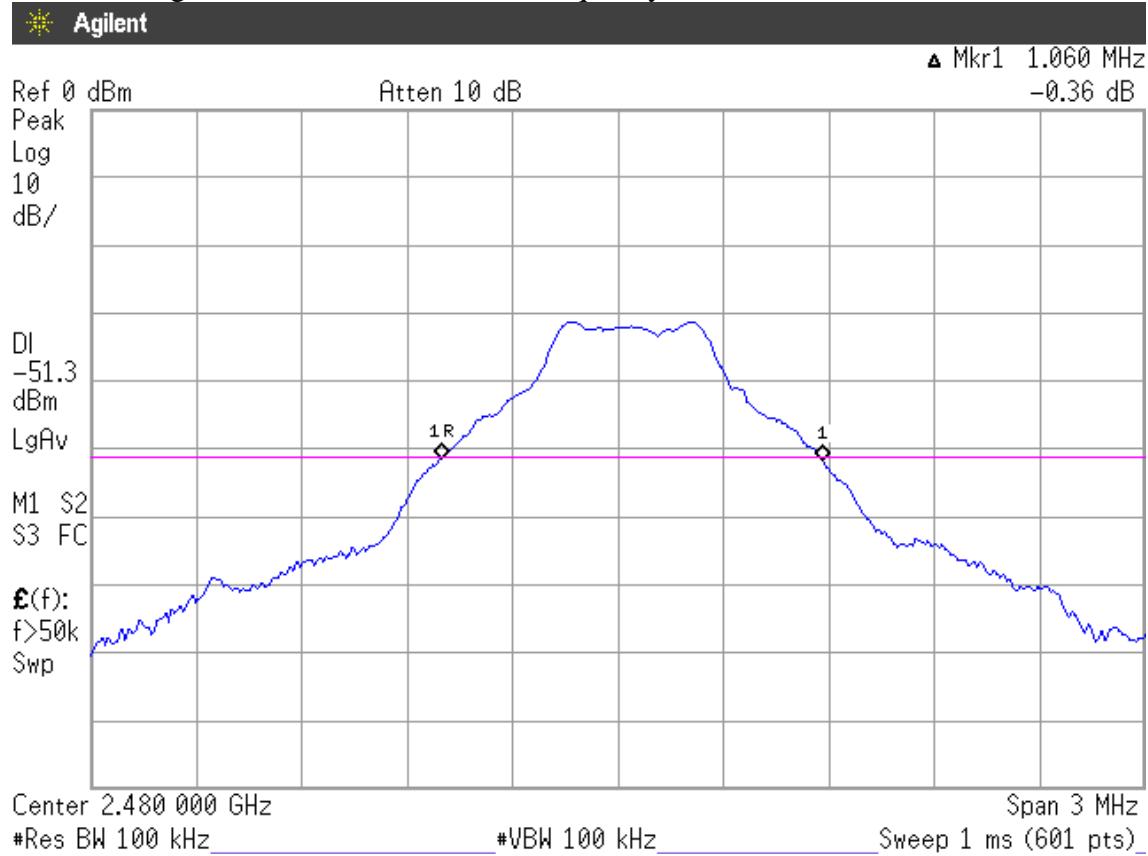


Figure 4: 8-DPSK, Channel 0, Frequency: 2402MHz

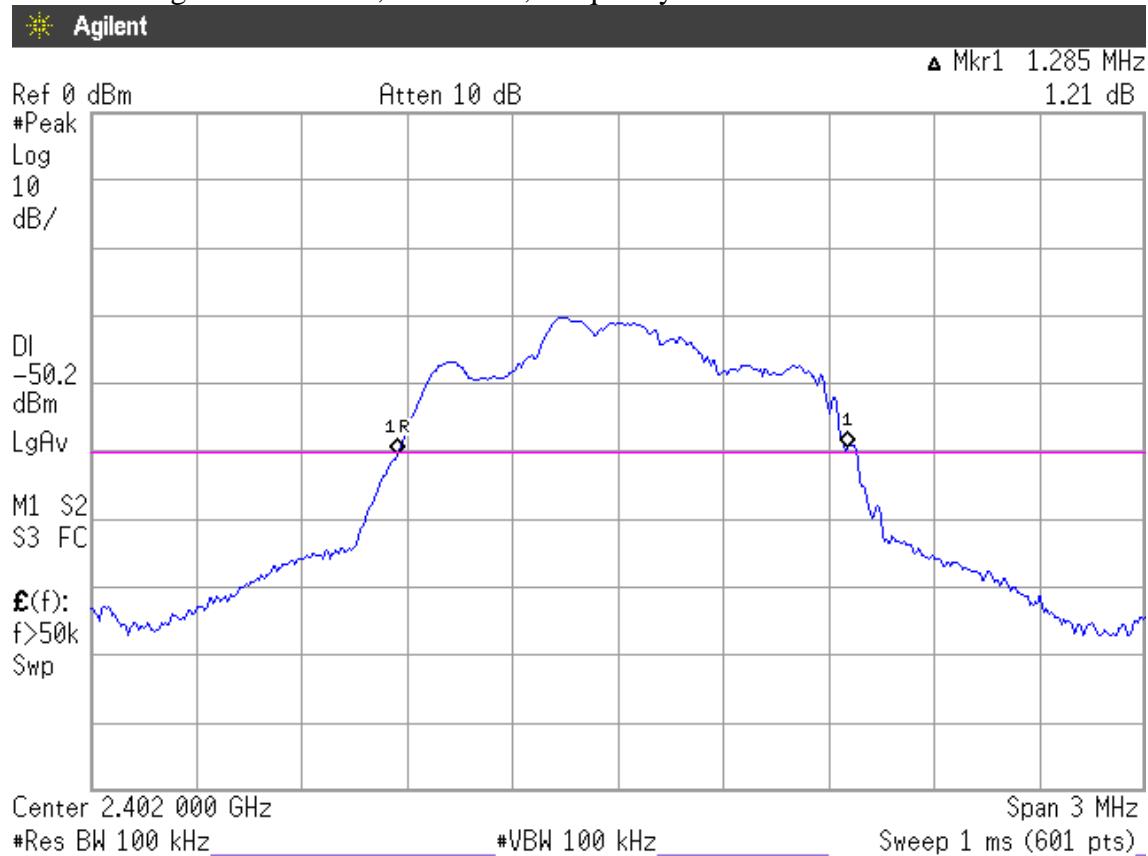


Figure 5: 8-DPSK, Channel 39, Frequency: 2441MHz

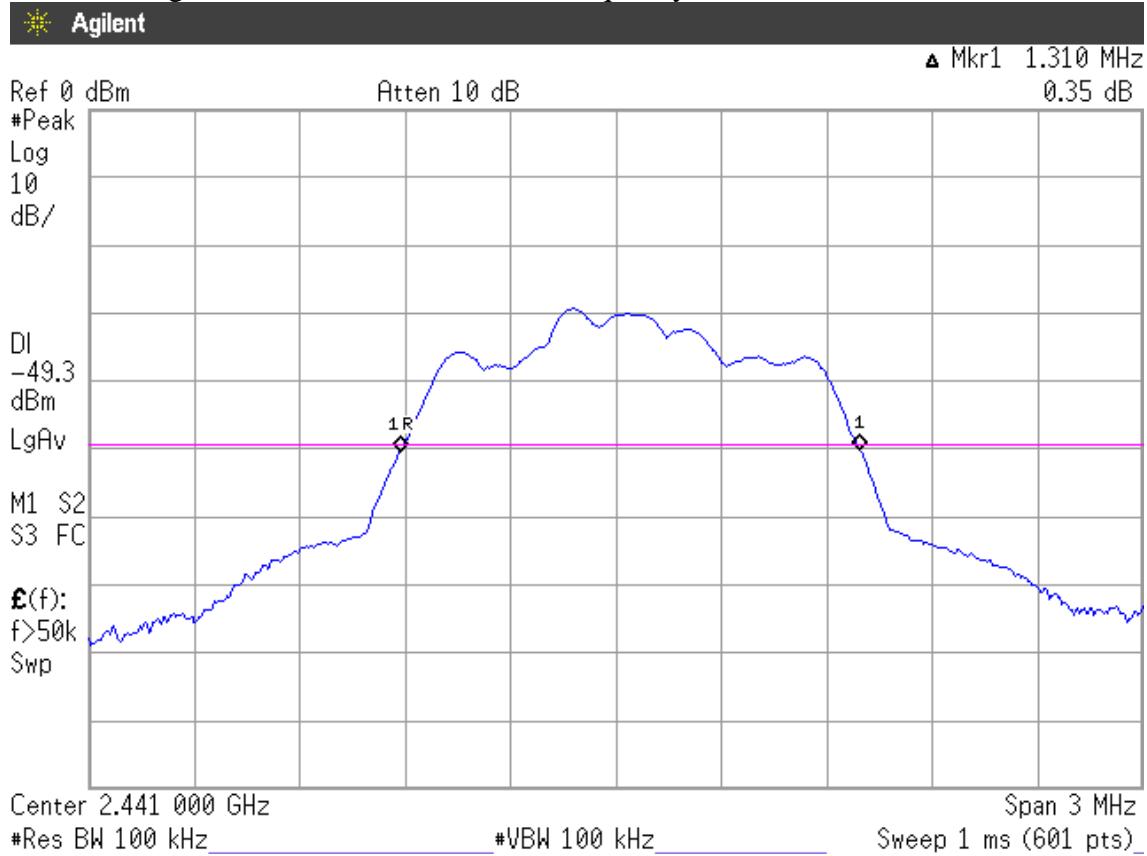
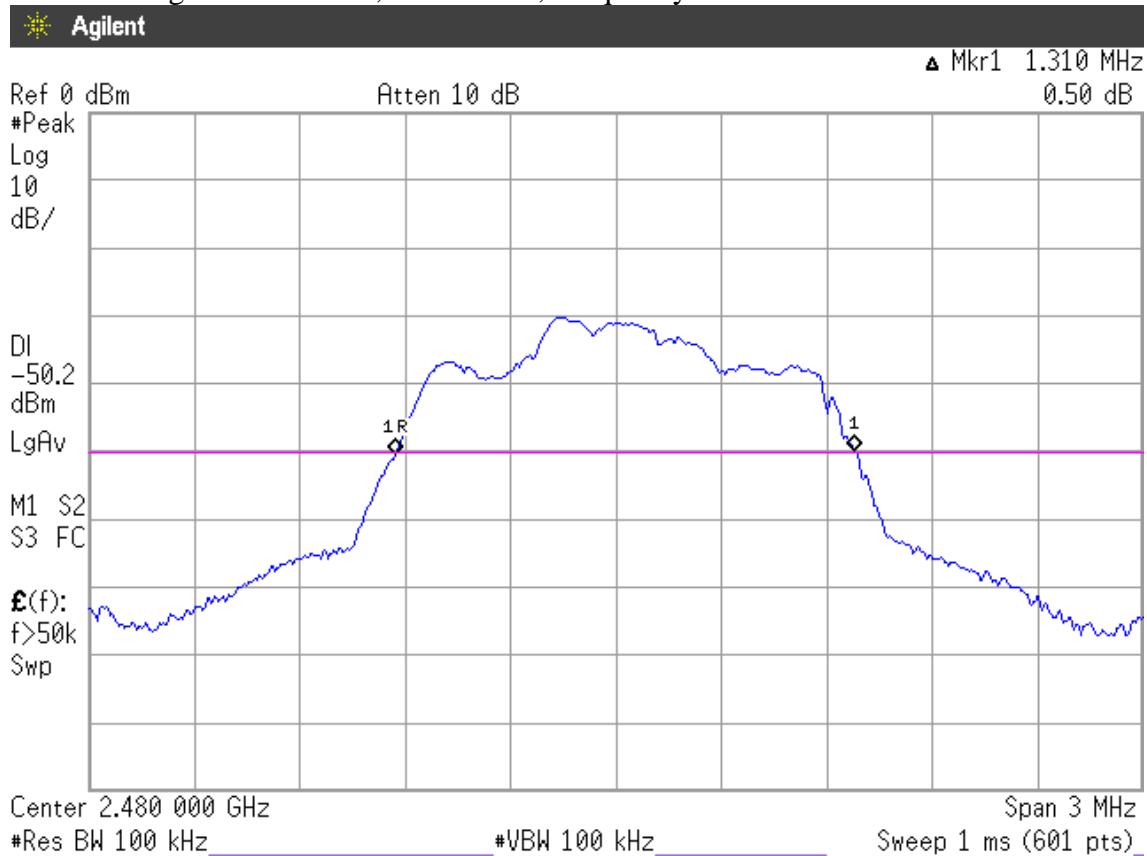


Figure 6: 8-DPSK, Channel 78, Frequency: 2480MHz



5. CARRIER FREQUENCY SEPARATION MEASUREMENT

5.1. Test Equipment

The following test equipment was used during the carrier frequency separation measurement:

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Monitor	Agilent	E4446A	US44300366	Aug. 13, 07'	Aug. 12, 08'
2.	2.4GHz Antenna	N/A	RS-1500	N/A	N/A	N/A

5.2. Block Diagram of Test Setup

The same as section 4.2.

5.3. Specification Limits (§15.247(a)(1))

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

5.4. Operating Condition of EUT

Same as carrier frequency separation measurement which was listed in section 4.4.

5.5. Test Procedure

The EUT was connected to the notebook. The channel separation was measured by spectrum analyzer with 100kHz RBW and 100kHz VBW. The video bandwidth not to be smaller than resolution bandwidth, the peak was marked on adjacent bandwidth, the between of peak is carrier frequency separation.

The measurement guideline was according to FCC Public Notice DA 00-705.

5.6. Test Results

PASSED. All the test results are attached in next pages.

[Note: Three types of modulation (GFSK, /4DPQSK, 8-DPSK) were evaluated but only one type of modulation (8-DPSK) was reported in this report.]

EUT : USB Storage VOIP Bluetooth Dongle M/N : MKD8801

Test Date : Dec. 06, 2007 Temperature : 23 Humidity : 55 %

1. 2402MHz adjacent channel of carrier frequency separation: 1.010MHz.
2. 2441MHz adjacent channel of right carrier frequency separation: 1.000MHz.
3. 2441MHz adjacent channel of left carrier frequency separation: 1.000MHz.
4. 2480MHz adjacent channel of carrier frequency separation: 1.000MHz.

[Above values have met the requirement as specified in section 4.3: 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.]

Figure 1: 2402MHz adjacent channel of carrier frequency separation (8-DPSK)

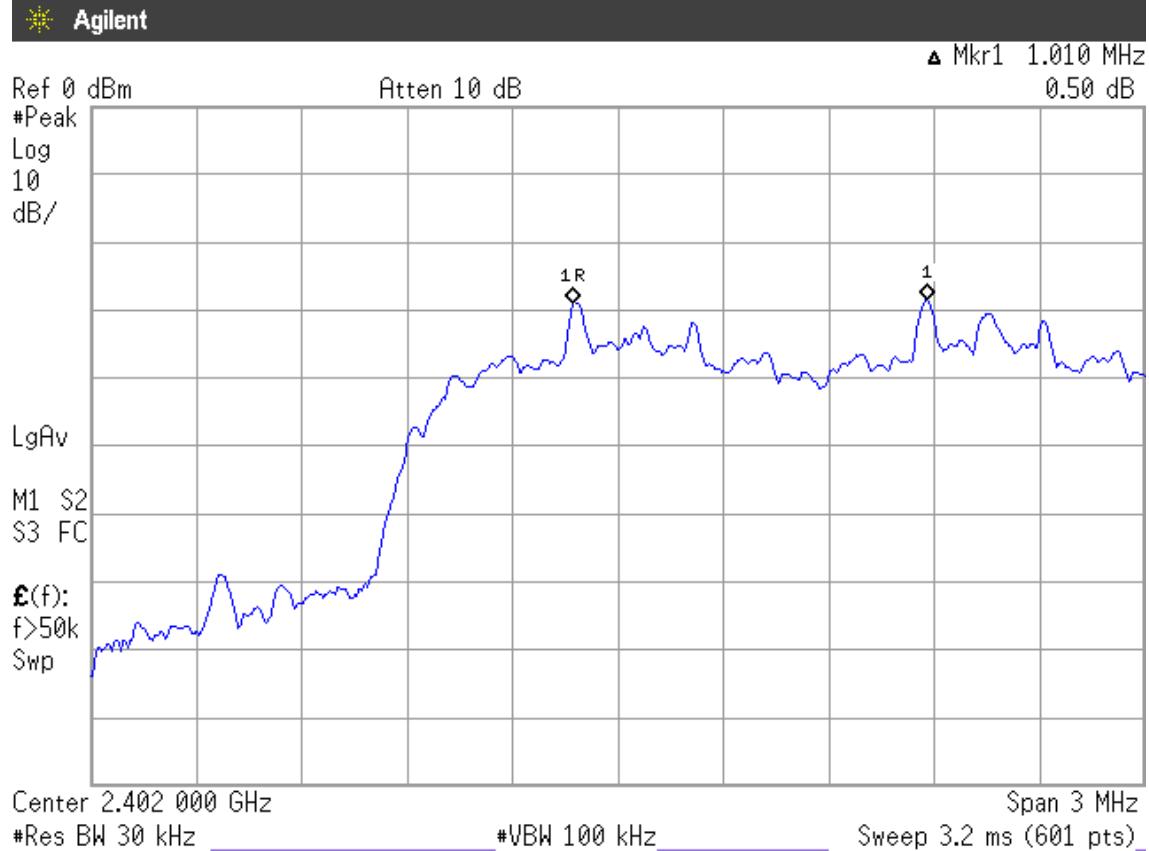


Figure 2: 2441MHz adjacent channel of right carrier frequency separation (8-DPSK)

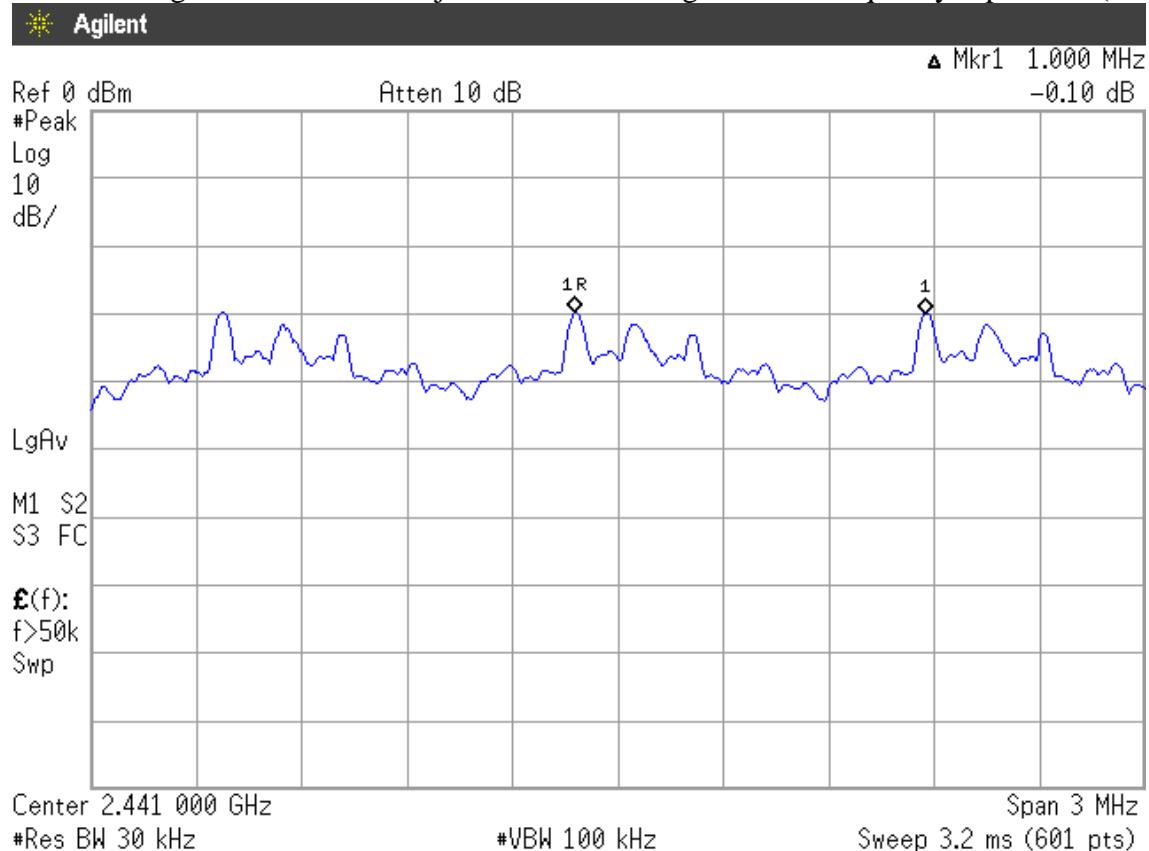


Figure 3: 2441MHz adjacent channel of left carrier frequency separation (8-DPSK)

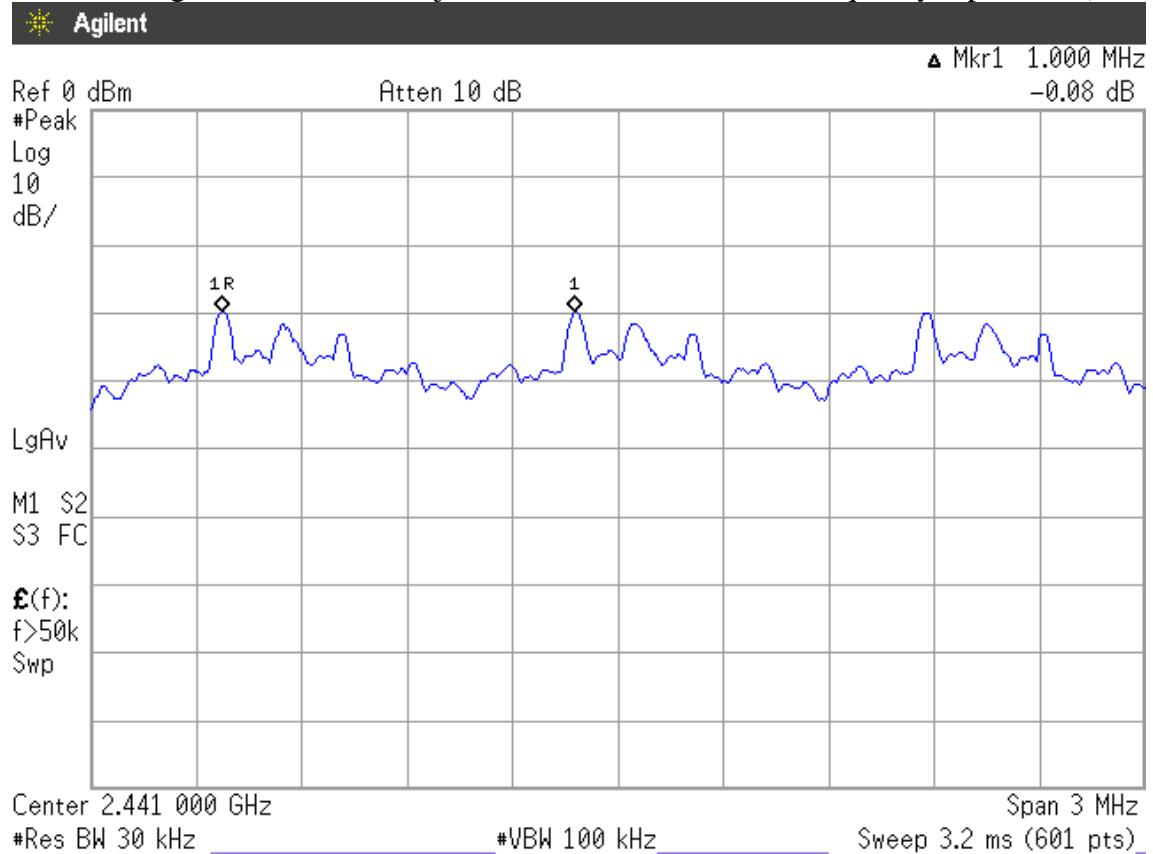
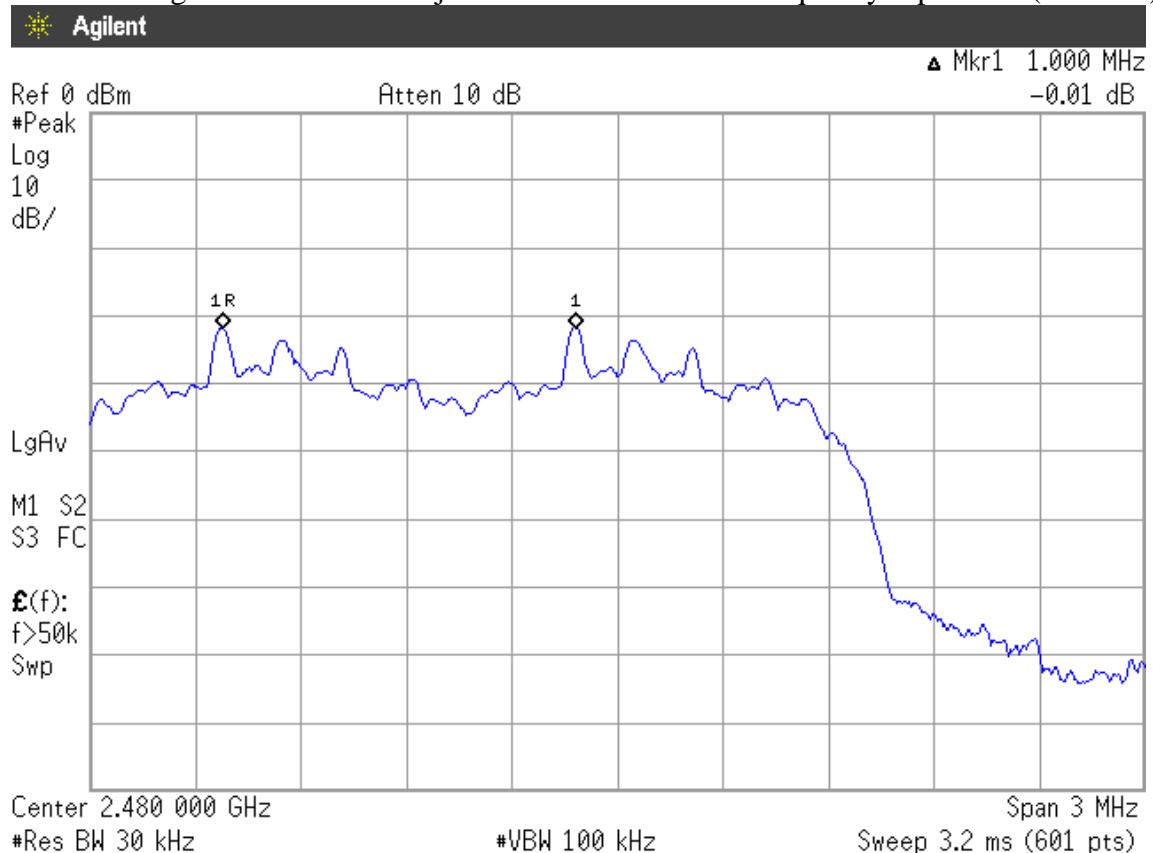


Figure 4: 2480MHz adjacent channel of carrier frequency separation (8-DPSK)



6. TIME OF OCCUPANCY MEASUREMENT

6.1. Test Equipment

The following test equipment was used during the time of occupancy measurement:

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Monitor	Agilent	E4446A	US44300366	Aug. 13, 07'	Aug. 12, 08'
2.	2.4GHz Antenna	N/A	RS-1500	N/A	N/A	N/A

6.2. Block Diagram of Test Setup

The same as section 4.2.

6.3. Specification Limits (§15.247(a)(1)(iii))

Frequency hopping systems in the 2400-2483.5MHz shall use at least 15 non-overlapping channels. 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 number of hopping channels employed.

6.4. Operating Condition of EUT

Same as carrier frequency separation measurement which was listed in section 4.4.

6.5. Test Procedure

The EUT was connected to the notebook. The bandwidth of the fundamental frequency was measured by spectrum analyzer with 1MHz RBW and 1MHz VBW. $VBW \geq RBW$; Span=zero span.

Centred on a hopping channel sweep=as necessary to capture the entire dwell time per hopping channel; Detector function=peak; Trace=Max hold

The measurement guideline was according to FCC Public Notice DA 00-705.

6.6. Test Results

PASSED. All the test results are attached in next pages.

[Note: Three types of modulation (GFSK, /4DPQSK, 8-DPSK) were evaluated but only two types of modulation (GFSK and 8-DPSK) were reported in this report.]

EUT : USB Storage VOIP Bluetooth Dongle M/N : MKD8801

Test Date : Dec. 06, 2007 Temperature : 23 Humidity : 55 %

6.6.1. Type of Modulation : GFSK, Test Frequency : 2402MHz

Duty cycle: $79\text{channels} \times 0.4\text{ seconds} = 31.6\text{ seconds}$

DH1 : A The system makes worst case 1600 hops per second or 1 time slot has a length of 625us with 79 channels. A DH1 packet need 1 time slot for transmitting and 1 time slot for receiving. Then the system makes worst case 800 hops per second with 79 channels. So you have each channel 10.13 time per second and so for 31.6 seconds you have 320 time of appearance.
Each Tx-time per appearance is 383.3us.
 $10.13\text{ time} \times 31.6\text{ seconds} \times 0.3833\text{ms} = 122.697\text{ms} (<400\text{ms})$

B. For each 5 seconds of 51 channels appearance, the longest time of occupancy for each of 31.6 seconds is:
 $51\text{ channels} \times 31.6\text{ seconds} / 5 \times 0.3833\text{ms} = 123.545\text{ms} (<400\text{ms})$

DH3 : A The system makes worst case 1600 hops per second or 1 time slot has a length of 625us with 79 channels. A DH3 packet need 3 time slot for transmitting and 1 time slot for receiving. Then the system makes worst case 400 hops per second with 79 channels. So you have each channel 5.1 time per second and so for 31.6 seconds you have 161 time of appearance.
Each Tx-time per appearance is 1633us.
 $5.1\text{ time} \times 31.6\text{ seconds} \times 1.633\text{ms} = 263.174\text{ms} (<400\text{ms})$

B. For each 5 seconds of 26 channels appearance, the longest time of occupancy for each of 31.6 seconds is:
 $26\text{ channels} \times 31.6\text{ seconds} / 5 \times 1.633\text{ms} = 268.334\text{ms} (<400\text{ms})$

DH5 : A The system makes worst case 1600 hops per second or 1 time slot has a length of 625us with 79 channels. A DH5 packet need 1 time slot for transmitting and 1 time slot for receiving. Then the system makes worst case 266.7 hops per second with 79 channels. So you have each channel 3.37 time per second and so for 31.6 seconds you have 106 time of appearance.
Each Tx-time per appearance is 2900us.
 $3.37\text{ time} \times 31.6\text{ seconds} \times 2.900\text{ms} = 308.826\text{ms} (<400\text{ms})$

B. For each 5 seconds of 17 channels appearance, the longest time of occupancy for each of 31.6 seconds is:
 $17\text{ channels} \times 31.6\text{ seconds} / 5 \times 2.900\text{ms} = 311.576\text{ms} (<400\text{ms})$

Figure 1: GFSK, 2402MHz, DH1

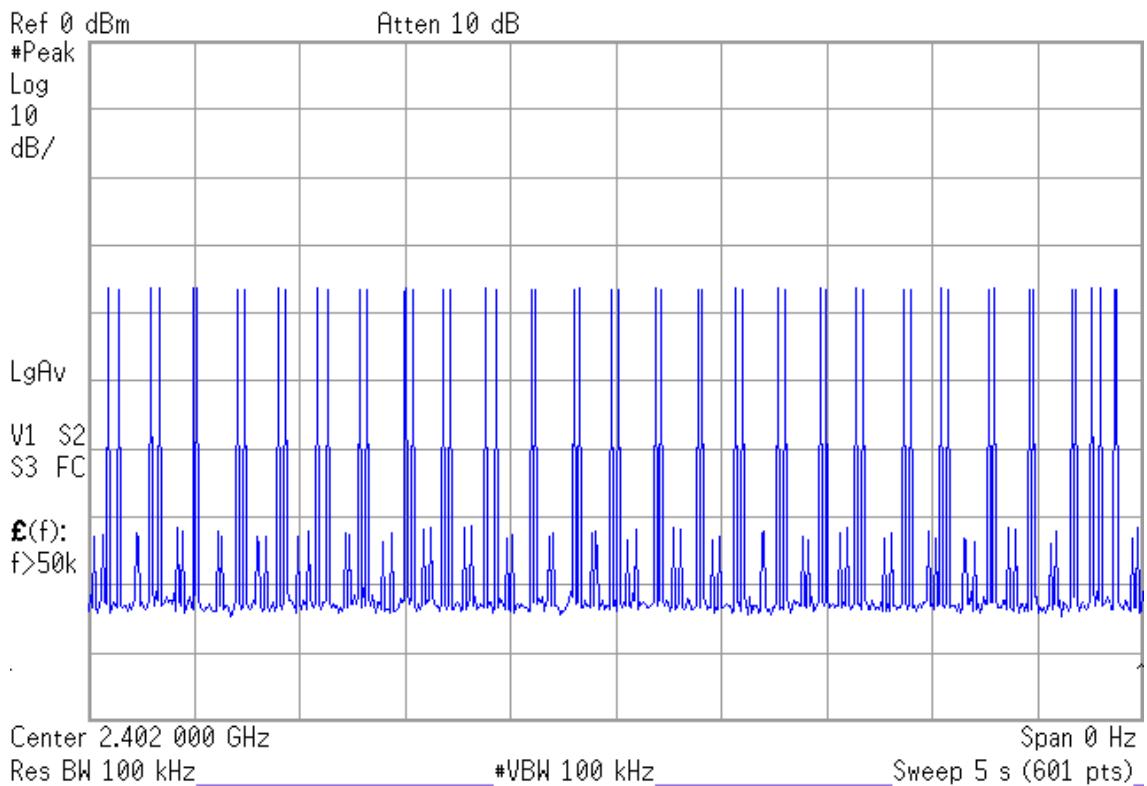
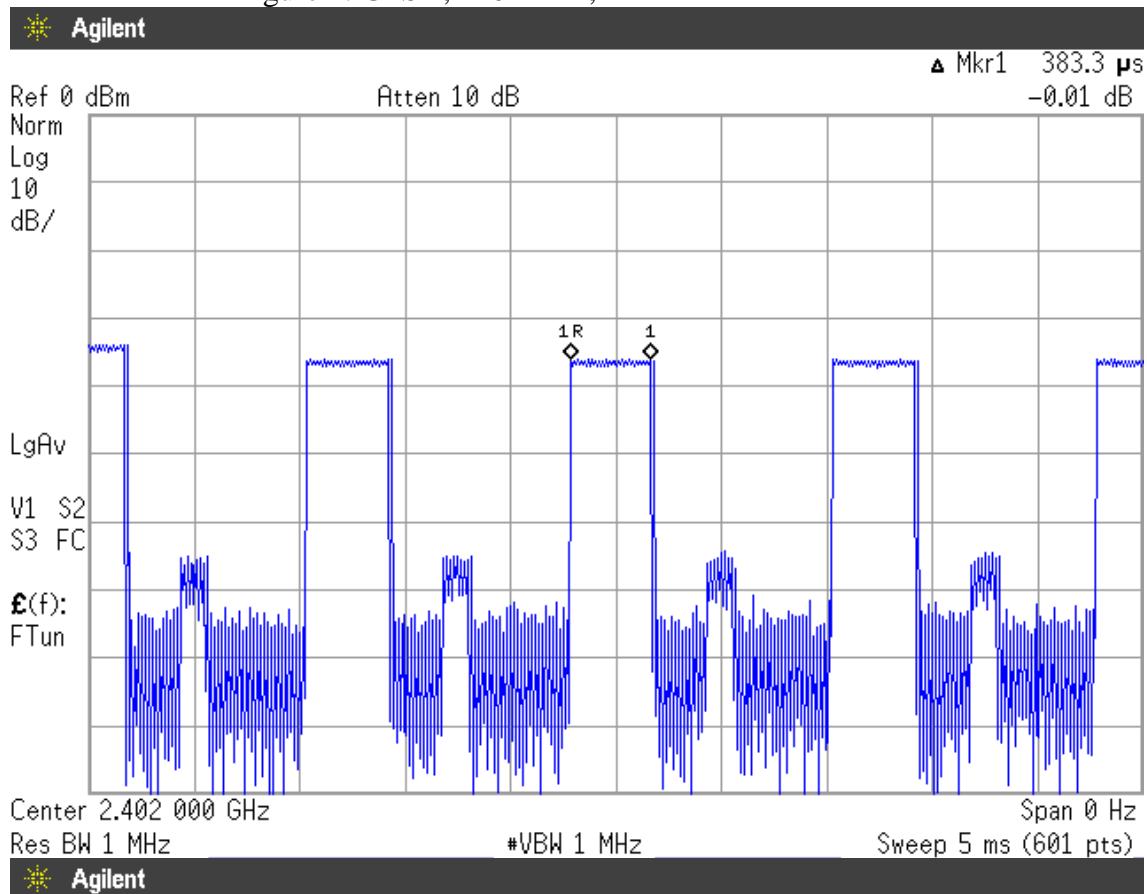


Figure 2: GFSK, 2402MHz, DH3

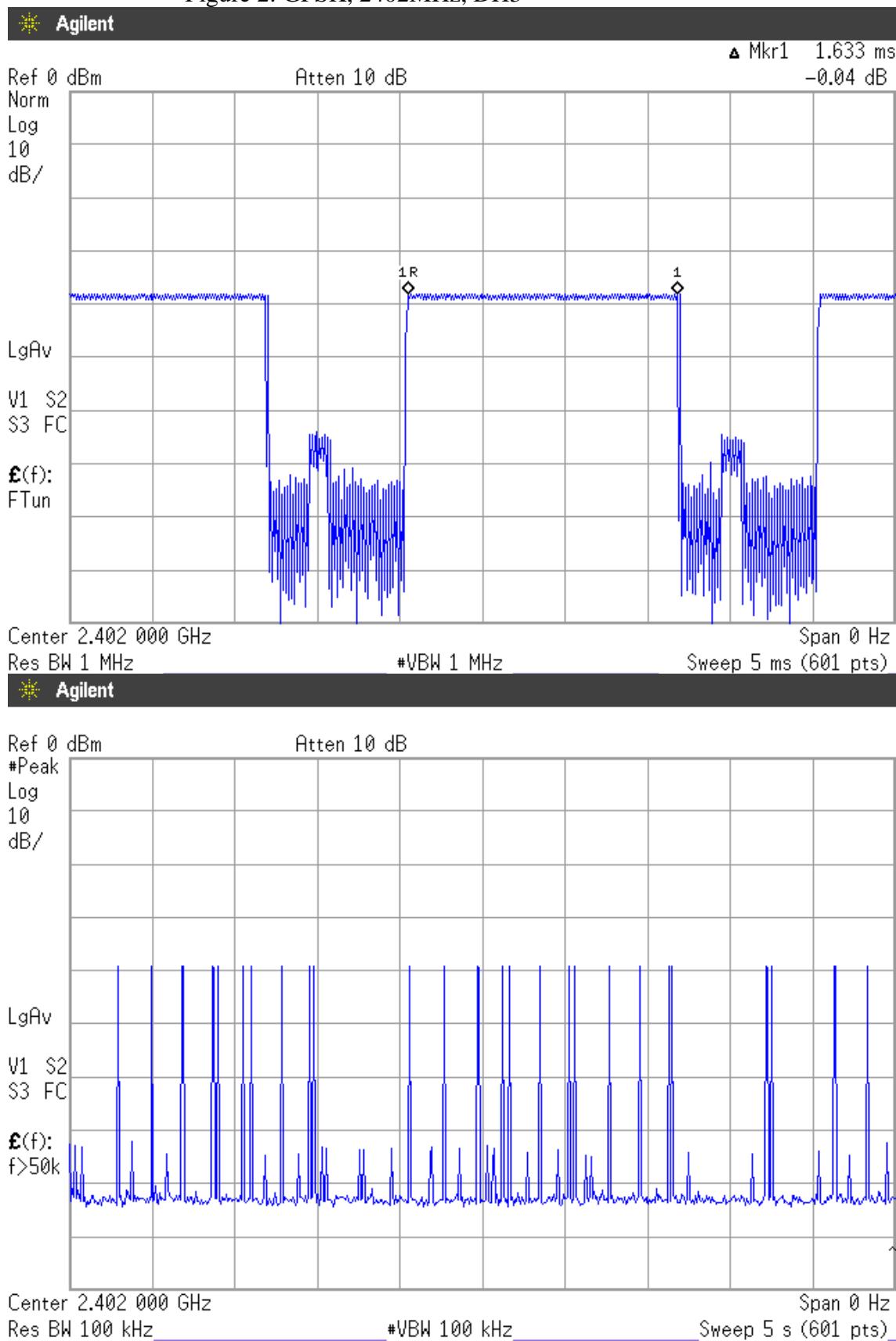
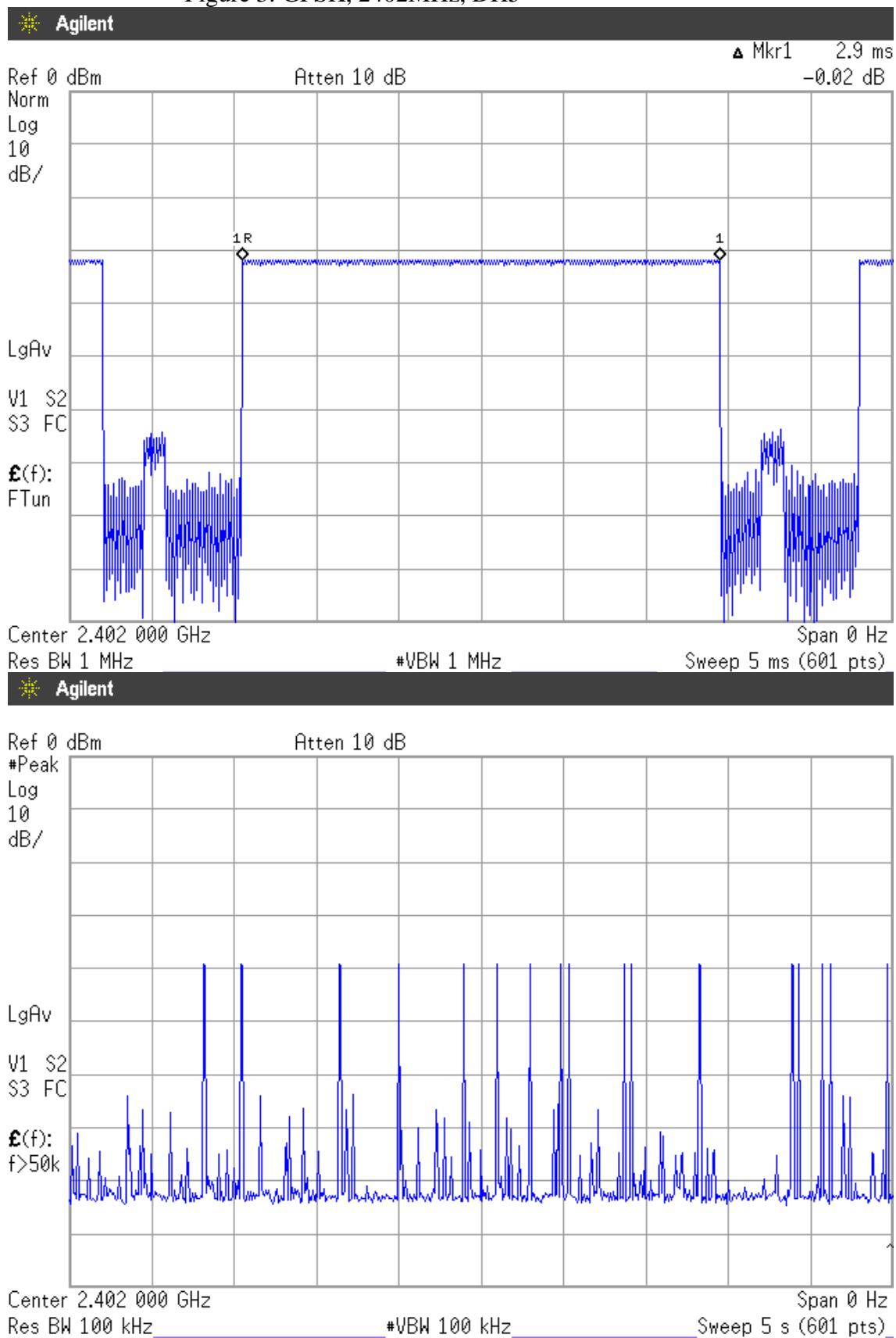


Figure 3: GFSK, 2402MHz, DH5



6.6.2. Type of Modulation : GFSK, Test Frequency : 2441MHz

Duty cycle: 79channels*0.4 seconds = 31.6 seconds

DH1 : A The system makes worst case 1600 hops per second or 1 time slot has a length of 625us with 79 channels. A DH1 packet need 1 time slot for transmitting and 1 time slot for receiving. Then the system makes worst case 800 hops per second with 79 channels. So you have each channel 10.13 time per second and so for 31.6 seconds you have 320 time of appearance.

Each Tx-time per appearance is 383.3us.

$$10.13 \text{ time} * 31.6 \text{ seconds} * 0.3833\text{ms} = 122.697\text{ms} (<400\text{ms})$$

B. For each 5 seconds of 51 channels appearance, the longest time of occupancy for each of 31.6 seconds is:

$$51 \text{ channels} * 31.6 \text{ seconds} / 5 * 0.3833\text{ms} = 123.545\text{ms} (<400\text{ms})$$

DH3 : A The system makes worst case 1600 hops per second or 1 time slot has a length of 625us with 79 channels. A DH3 packet need 3 time slot for transmitting and 1 time slot for receiving. Then the system makes worst case 400 hops per second with 79 channels. So you have each channel 5.1 time per second and so for 31.6 seconds you have 161 time of appearance.

Each Tx-time per appearance is 1650us.

$$5.1 \text{ time} * 31.6 \text{ seconds} * 1.650\text{ms} = 265.914\text{ms} (<400\text{ms})$$

B. For each 5 seconds of 26 channels appearance, the longest time of occupancy for each of 31.6 seconds is:

$$26 \text{ channels} * 31.6 \text{ seconds} / 5 * 1.650\text{ms} = 271.128\text{ms} (<400\text{ms})$$

DH5 : A The system makes worst case 1600 hops per second or 1 time slot has a length of 625us with 79 channels. A DH5 packet need 1 time slot for transmitting and 1 time slot for receiving. Then the system makes worst case 266.7 hops per second with 79 channels. So you have each channel 3.37 time per second and so for 31.6 seconds you have 106 time of appearance.

Each Tx-time per appearance is 2900us.

$$3.37 \text{ time} * 31.6 \text{ seconds} * 2.900\text{ms} = 308.826\text{ms} (<400\text{ms})$$

B. For each 5 seconds of 17 channels appearance, the longest time of occupancy for each of 31.6 seconds is:

$$17 \text{ channels} * 31.6 \text{ seconds} / 5 * 2.900\text{ms} = 311.576\text{ms} (<400\text{ms})$$

Figure 1: GFSK, 2441MHz, DH1

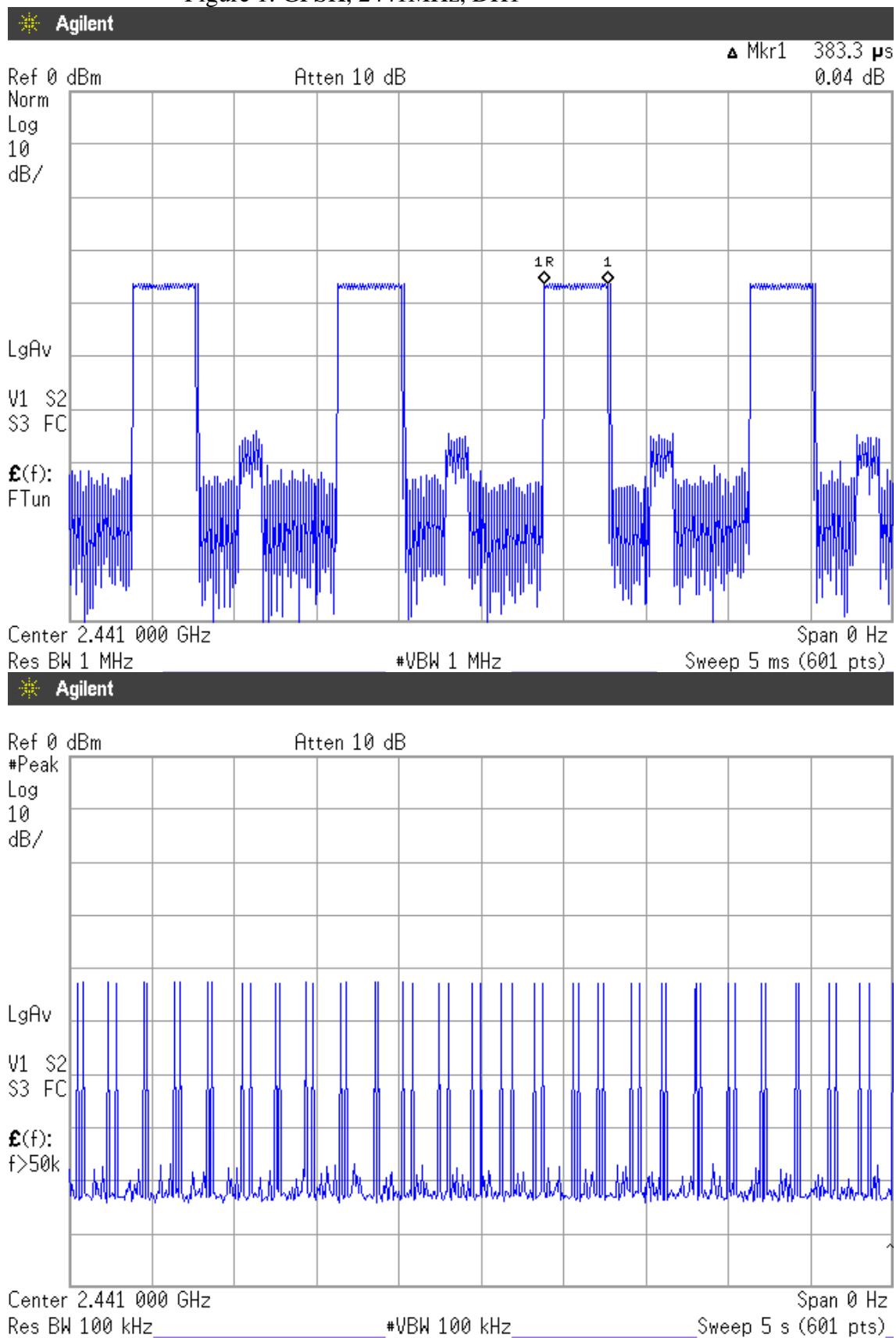


Figure 2: GFSK, 2441MHz, DH3

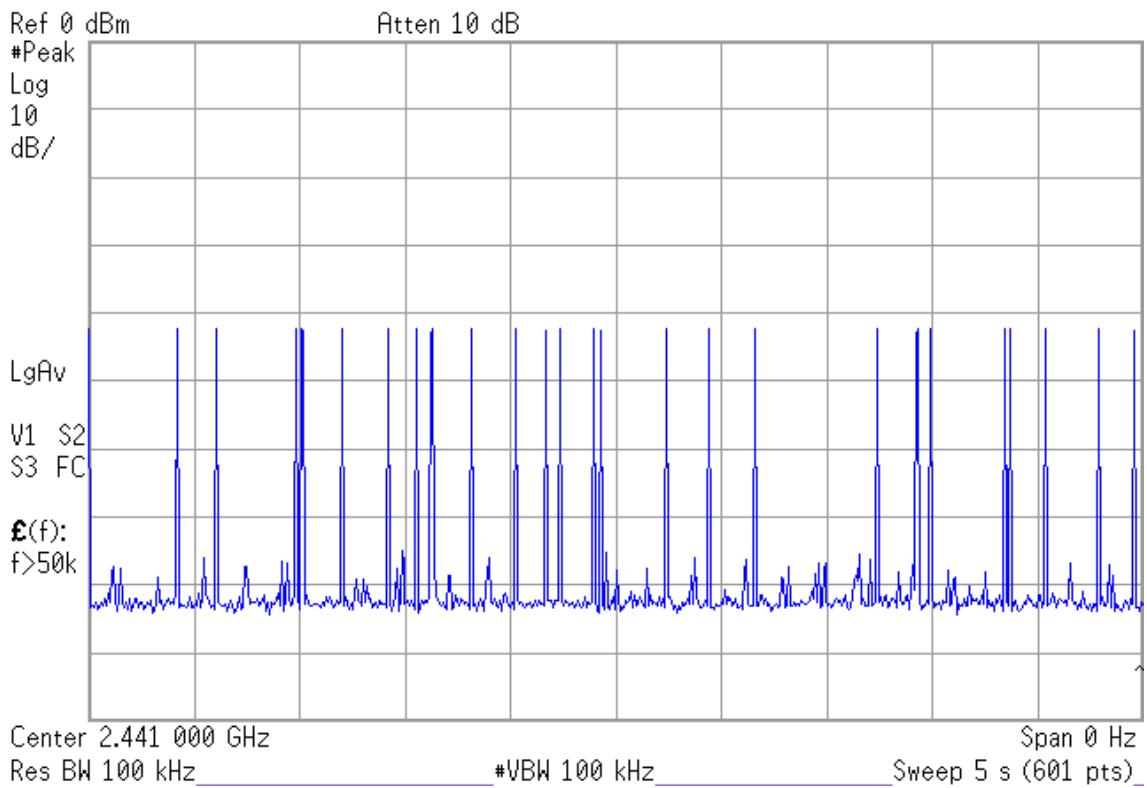
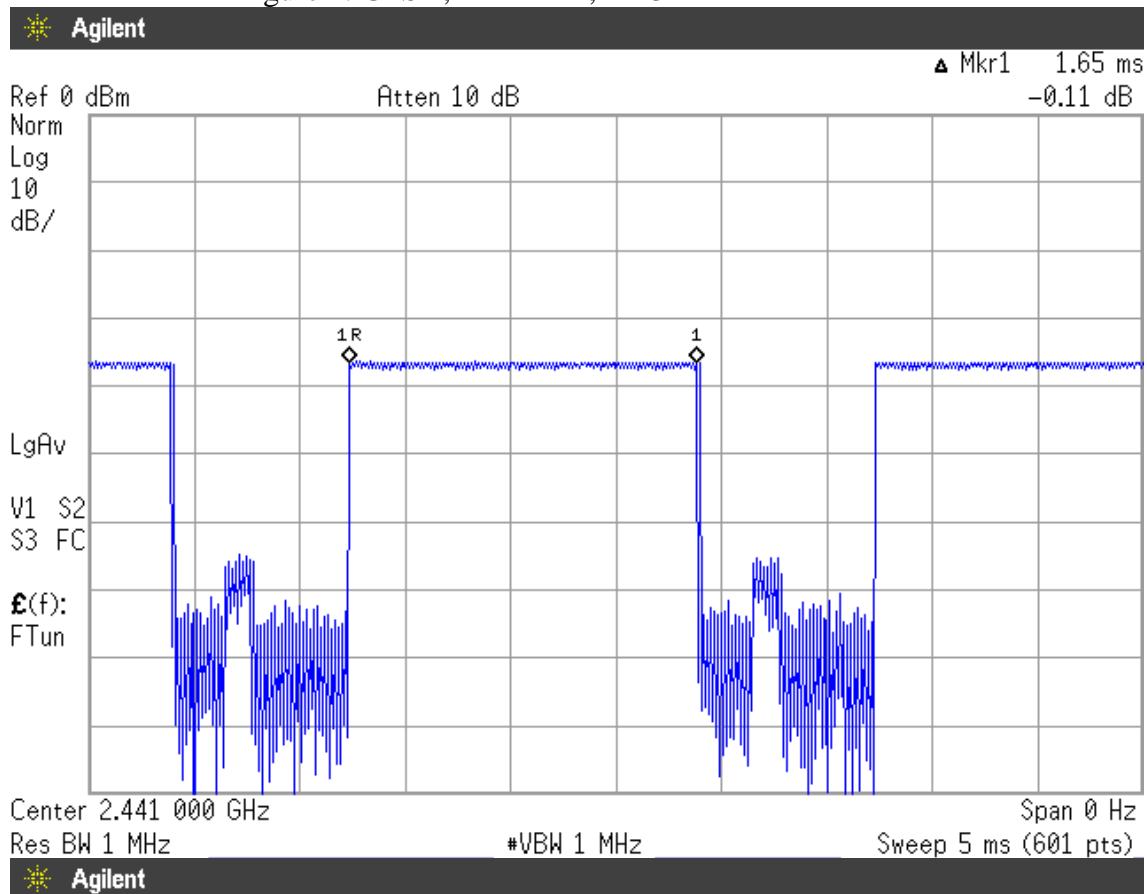
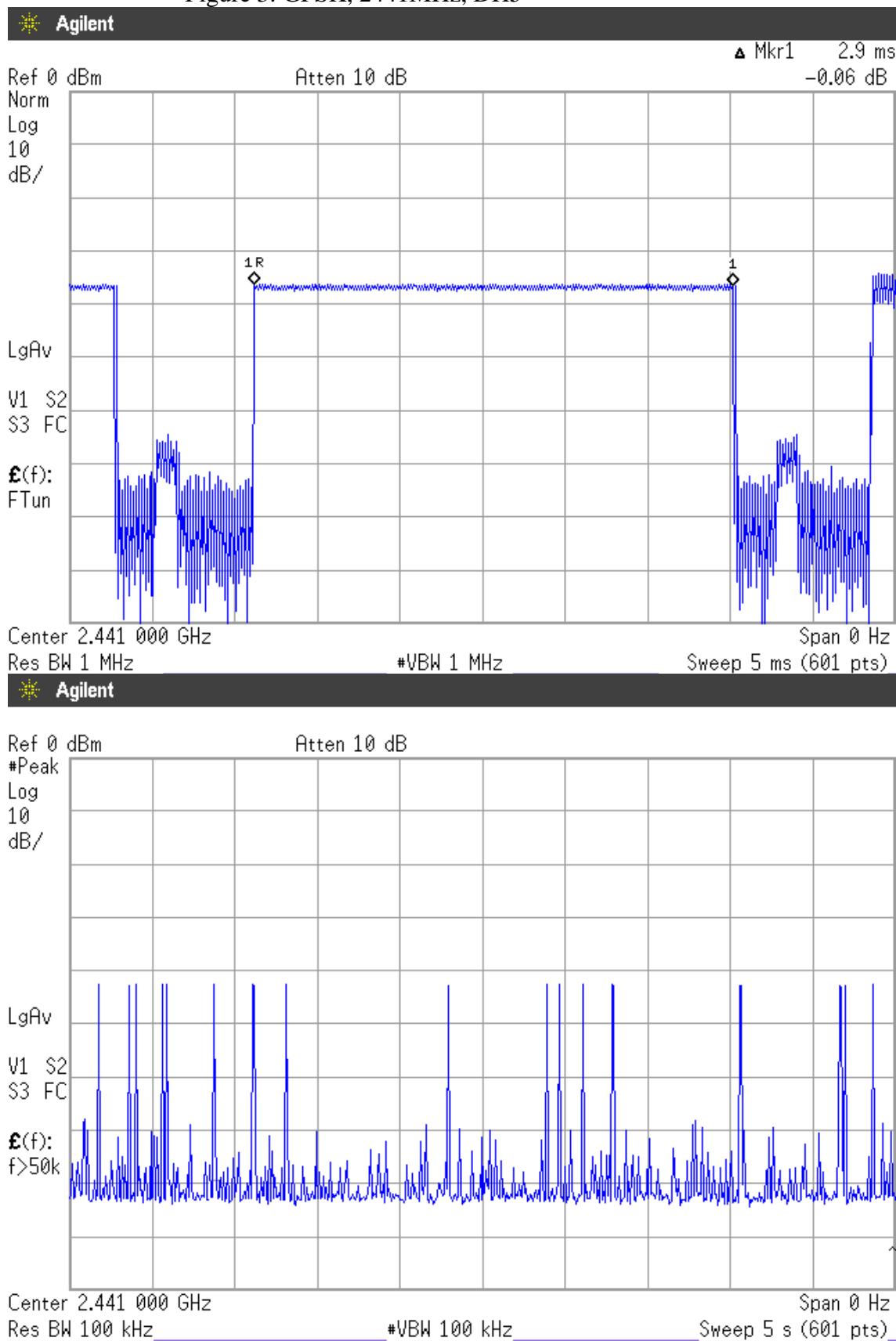


Figure 3: GFSK, 2441MHz, DH5



6.6.3. Type of Modulation : GFSK, Test Frequency : 2480MHz

Duty cycle: 79channels*0.4 seconds = 31.6 seconds

DH1 : A The system makes worst case 1600 hops per second or 1 time slot has a length of 625us with 79 channels. A DH1 packet need 1 time slot for transmitting and 1 time slot for receiving. Then the system makes worst case 800 hops per second with 79 channels. So you have each channel 10.13 time per second and so for 31.6 seconds you have 320 time of appearance.

Each Tx-time per appearance is 391.7us.

$$10.13 \text{ time} * 31.6 \text{ seconds} * 0.3917\text{ms} = 125.386\text{ms} (<400\text{ms})$$

B. For each 5 seconds of 51 channels appearance, the longest time of occupancy for each of 31.6 seconds is:

$$51 \text{ channels} * 31.6 \text{ seconds} / 5 * 0.3917\text{ms} = 126.252\text{ms} (<400\text{ms})$$

DH3 : A The system makes worst case 1600 hops per second or 1 time slot has a length of 625us with 79 channels. A DH3 packet need 3 time slot for transmitting and 1 time slot for receiving. Then the system makes worst case 400 hops per second with 79 channels. So you have each channel 5.1 time per second and so for 31.6 seconds you have 161 time of appearance.

Each Tx-time per appearance is 1633us.

$$5.1 \text{ time} * 31.6 \text{ seconds} * 1.633\text{ms} = 263.174\text{ms} (<400\text{ms})$$

B. For each 5 seconds of 26 channels appearance, the longest time of occupancy for each of 31.6 seconds is:

$$26 \text{ channels} * 31.6 \text{ seconds} / 5 * 1.633\text{ms} = 268.334\text{ms} (<400\text{ms})$$

DH5 : A The system makes worst case 1600 hops per second or 1 time slot has a length of 625us with 79 channels. A DH5 packet need 1 time slot for transmitting and 1 time slot for receiving. Then the system makes worst case 266.7 hops per second with 79 channels. So you have each channel 3.37 time per second and so for 31.6 seconds you have 106 time of appearance.

Each Tx-time per appearance is 2883us.

$$3.37 \text{ time} * 31.6 \text{ seconds} * 2.883\text{ms} = 307.016\text{ms} (<400\text{ms})$$

B. For each 5 seconds of 17 channels appearance, the longest time of occupancy for each of 31.6 seconds is:

$$17 \text{ channels} * 31.6 \text{ seconds} / 5 * 2.883\text{ms} = 309.749\text{ms} (<400\text{ms})$$

Figure 1: GFSK, 2480MHz, DH1

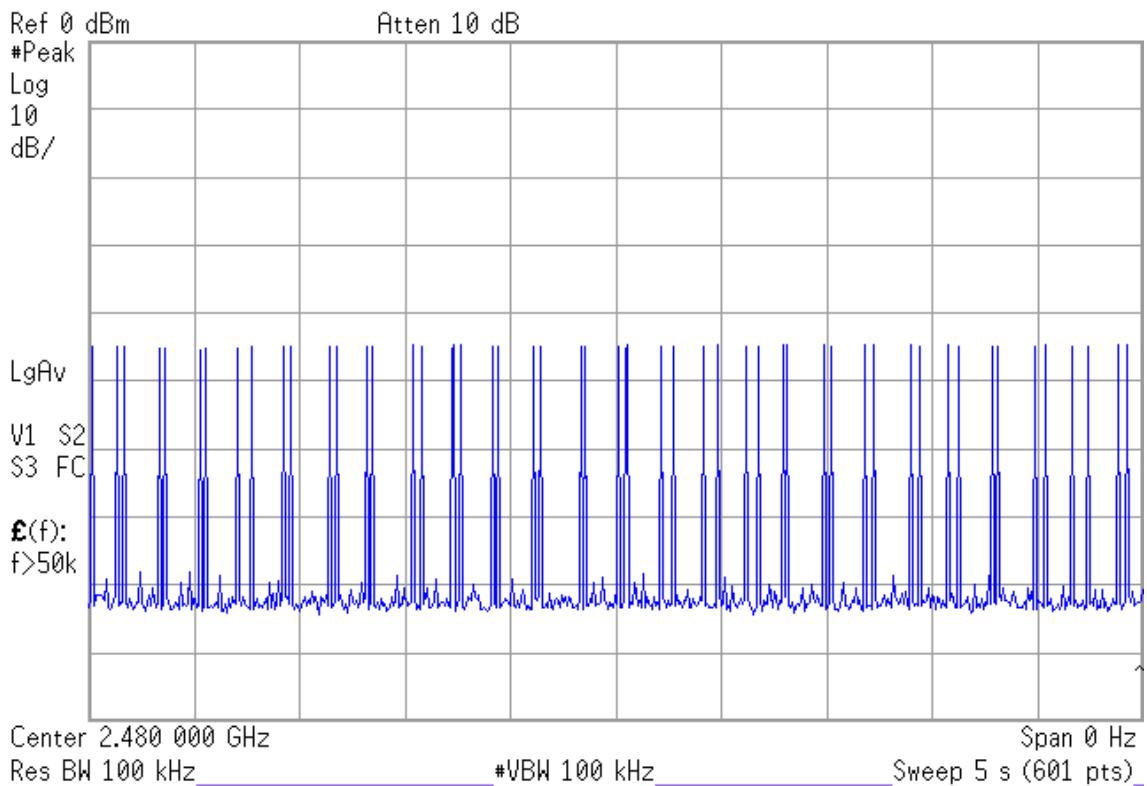
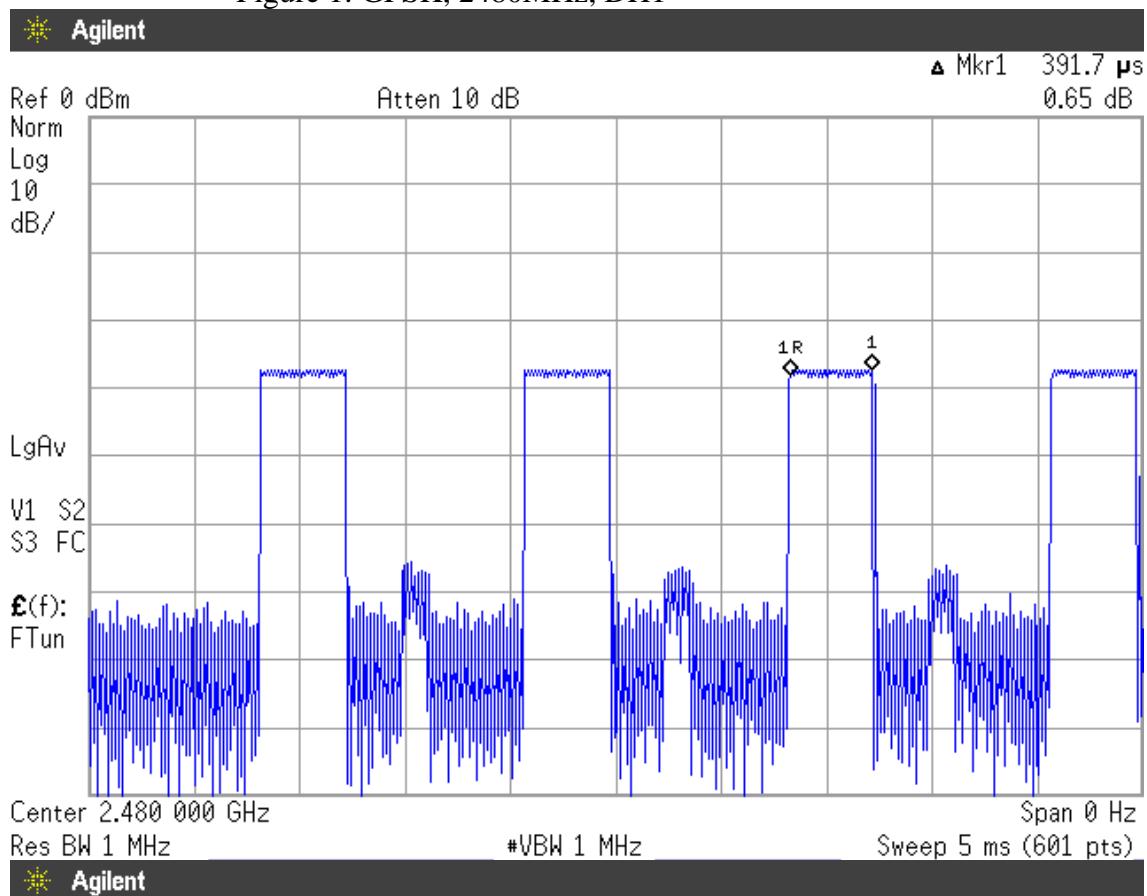


Figure 2: GFSK, 2480MHz, DH3

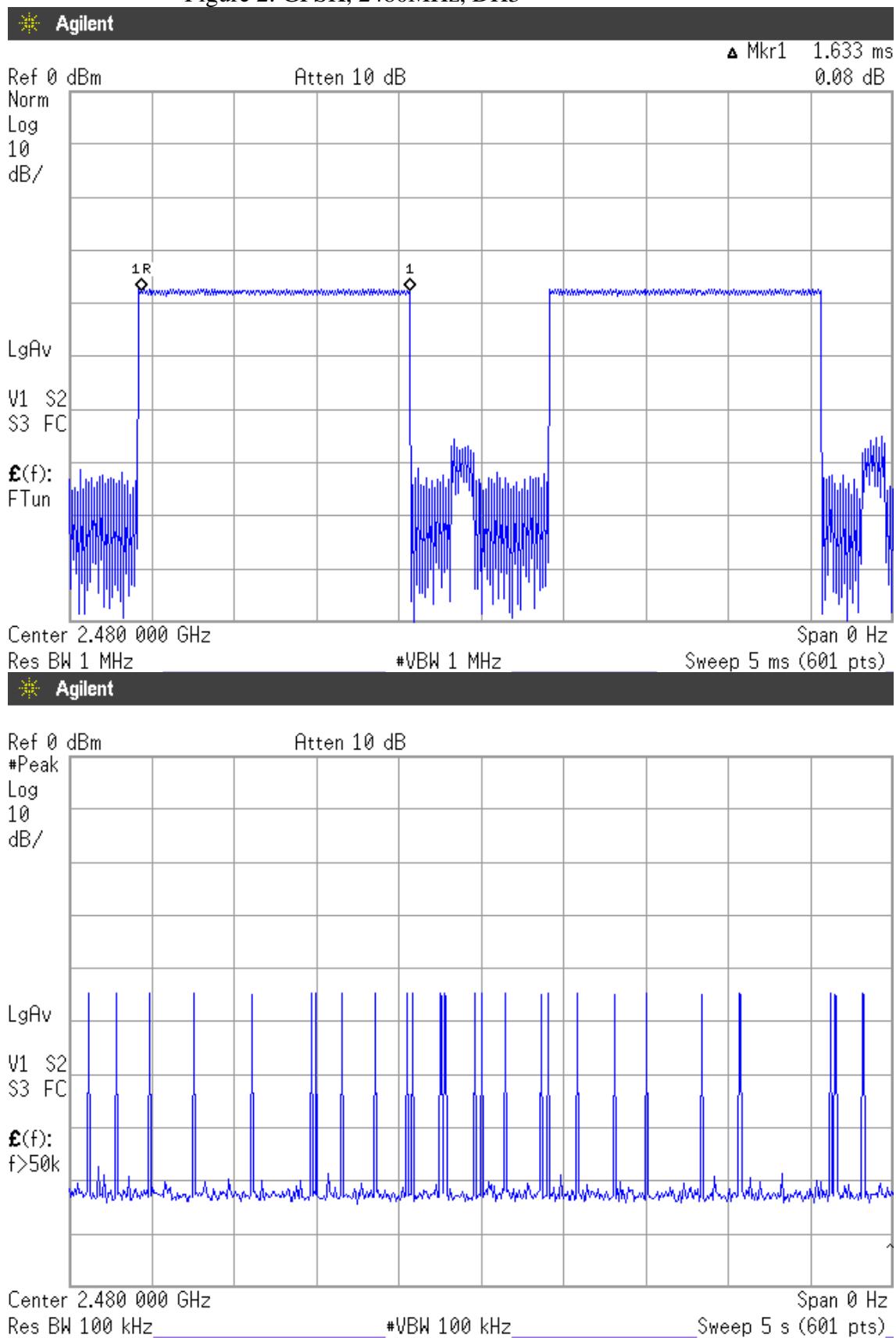
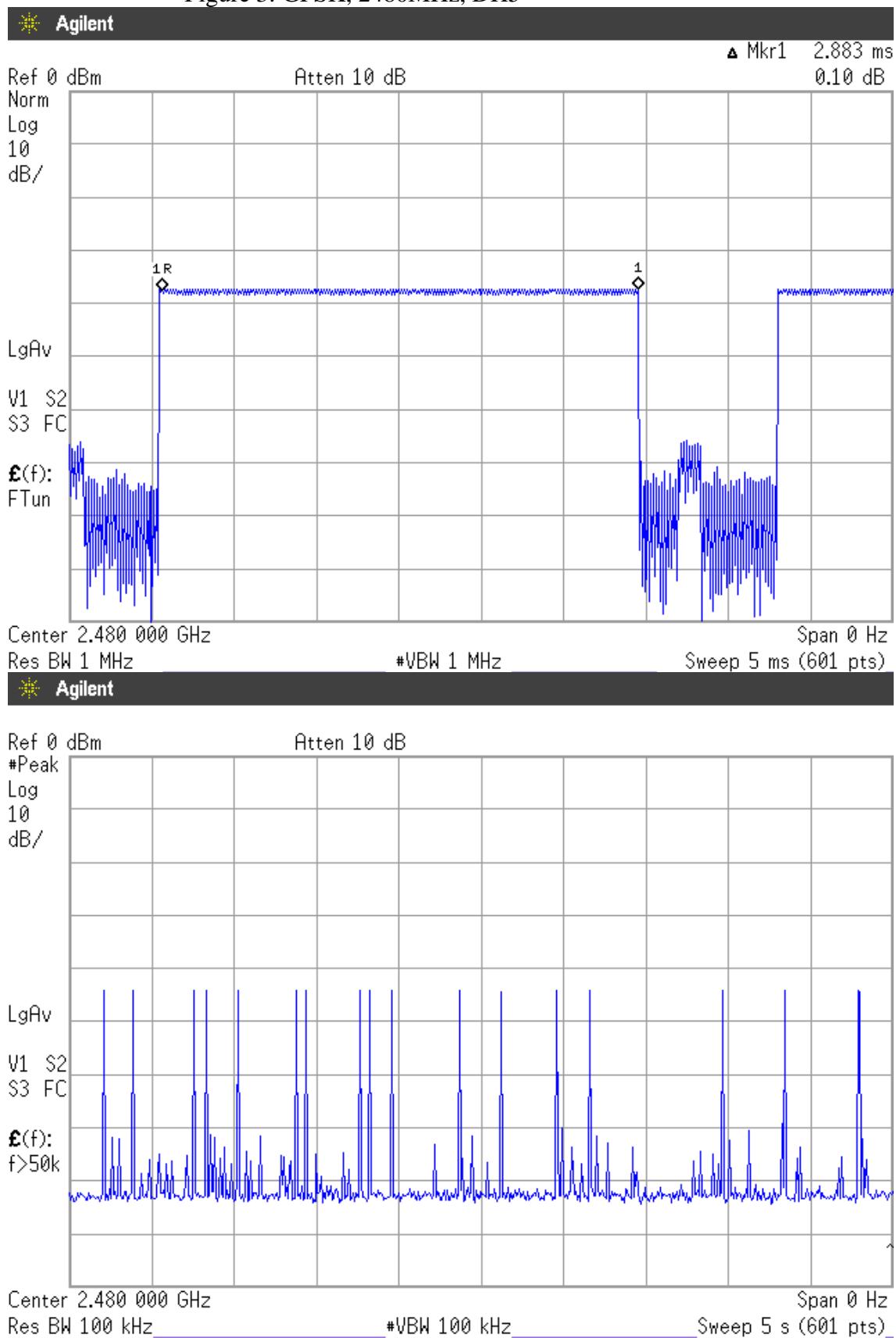


Figure 3: GFSK, 2480MHz, DH5



6.6.4. Type of Modulation : 8-DPSK, Test Frequency : 2402MHz

Duty cycle: 79channels*0.4 seconds = 31.6 seconds

DH1 : A The system makes worst case 1600 hops per second or 1 time slot has a length of 625us with 79 channels. A DH1 packet need 1 time slot for transmitting and 1 time slot for receiving. Then the system makes worst case 800 hops per second with 79 channels. So you have each channel 10.13 time per second and so for 31.6 seconds you have 320 time of appearance.

Each Tx-time per appearance is 216.7us.

$$10.13 \text{ time} * 31.6 \text{ seconds} * 0.2167\text{ms} = 69.367\text{ms} (<400\text{ms})$$

B. For each 5 seconds of 51 channels appearance, the longest time of occupancy for each of 31.6 seconds is:

$$51 \text{ channels} * 31.6 \text{ seconds} / 5 * 0.2167\text{ms} = 69.846\text{ms} (<400\text{ms})$$

DH3 : A The system makes worst case 1600 hops per second or 1 time slot has a length of 625us with 79 channels. A DH3 packet need 3 time slot for transmitting and 1 time slot for receiving. Then the system makes worst case 400 hops per second with 79 channels. So you have each channel 5.1 time per second and so for 31.6 seconds you have 161 time of appearance.

Each Tx-time per appearance is 1670us.

$$5.1 \text{ time} * 31.6 \text{ seconds} * 1.617\text{ms} = 260.595\text{ms} (<400\text{ms})$$

B. For each 5 seconds of 26 channels appearance, the longest time of occupancy for each of 31.6 seconds is:

$$26 \text{ channels} * 31.6 \text{ seconds} / 5 * 1.617\text{ms} = 265.705\text{ms} (<400\text{ms})$$

DH5 : A The system makes worst case 1600 hops per second or 1 time slot has a length of 625us with 79 channels. A DH5 packet need 1 time slot for transmitting and 1 time slot for receiving. Then the system makes worst case 266.7 hops per second with 79 channels. So you have each channel 3.37 time per second and so for 31.6 seconds you have 106 time of appearance.

Each Tx-time per appearance is 2825us.

$$3.37 \text{ time} * 31.6 \text{ seconds} * 2.825\text{ms} = 300.839\text{ms} (<400\text{ms})$$

B. For each 5 seconds of 17 channels appearance, the longest time of occupancy for each of 31.6 seconds is:

$$17 \text{ channels} * 31.6 \text{ seconds} / 5 * 2.825\text{ms} = 303.518\text{ms} (<400\text{ms})$$

Figure 1: 8-DPSK, 2402MHz, DH1

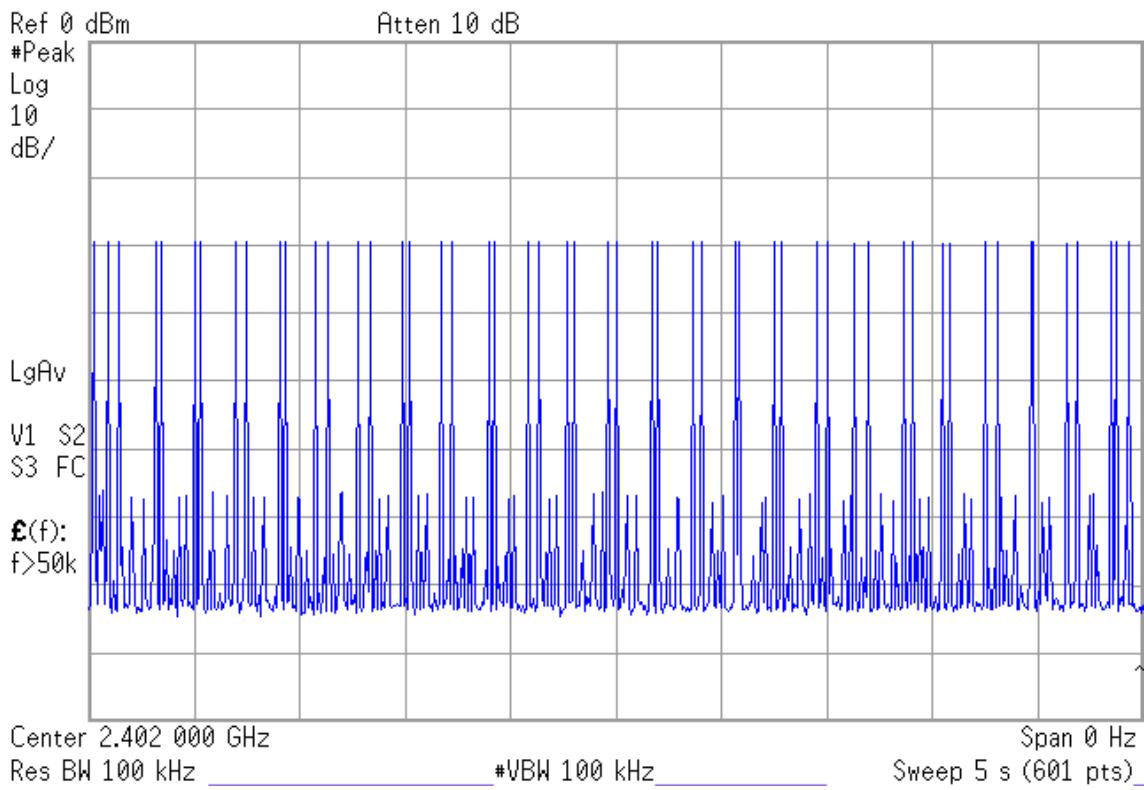
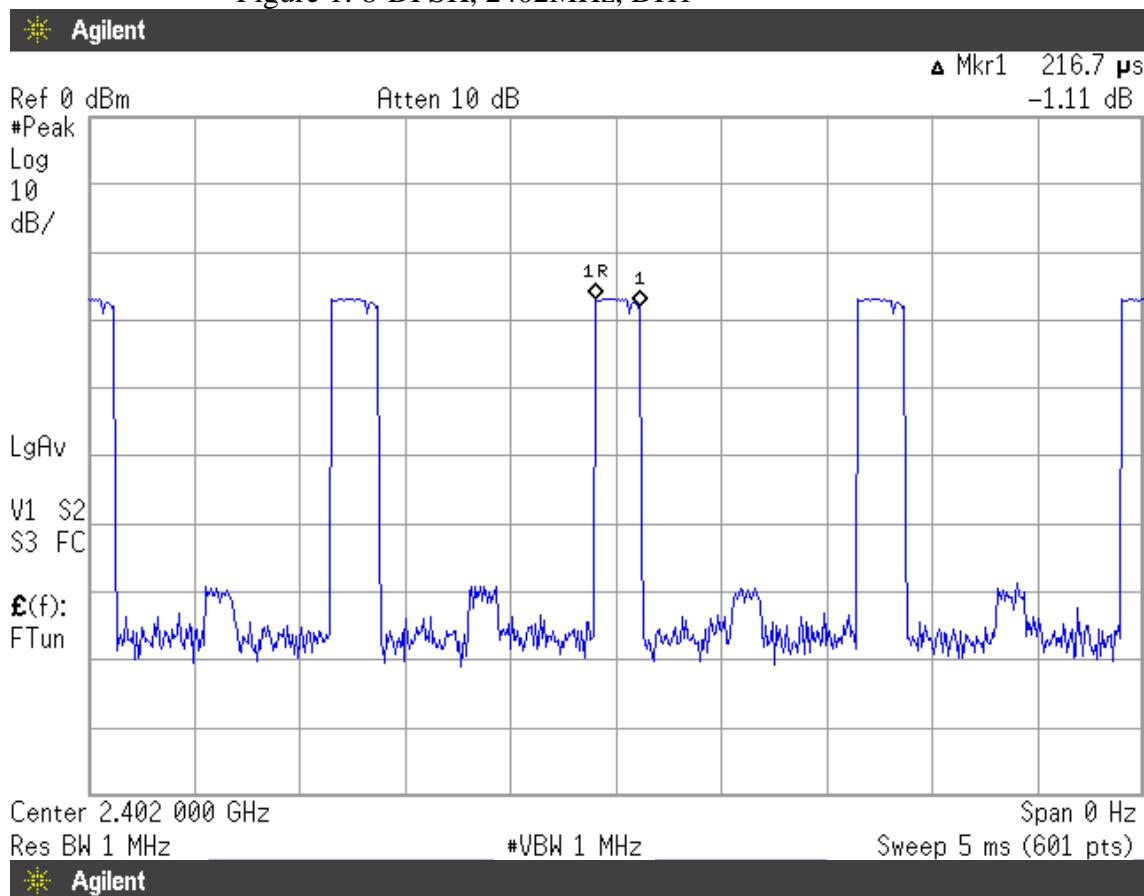


Figure 2: 8-DPSK, 2402MHz, DH3

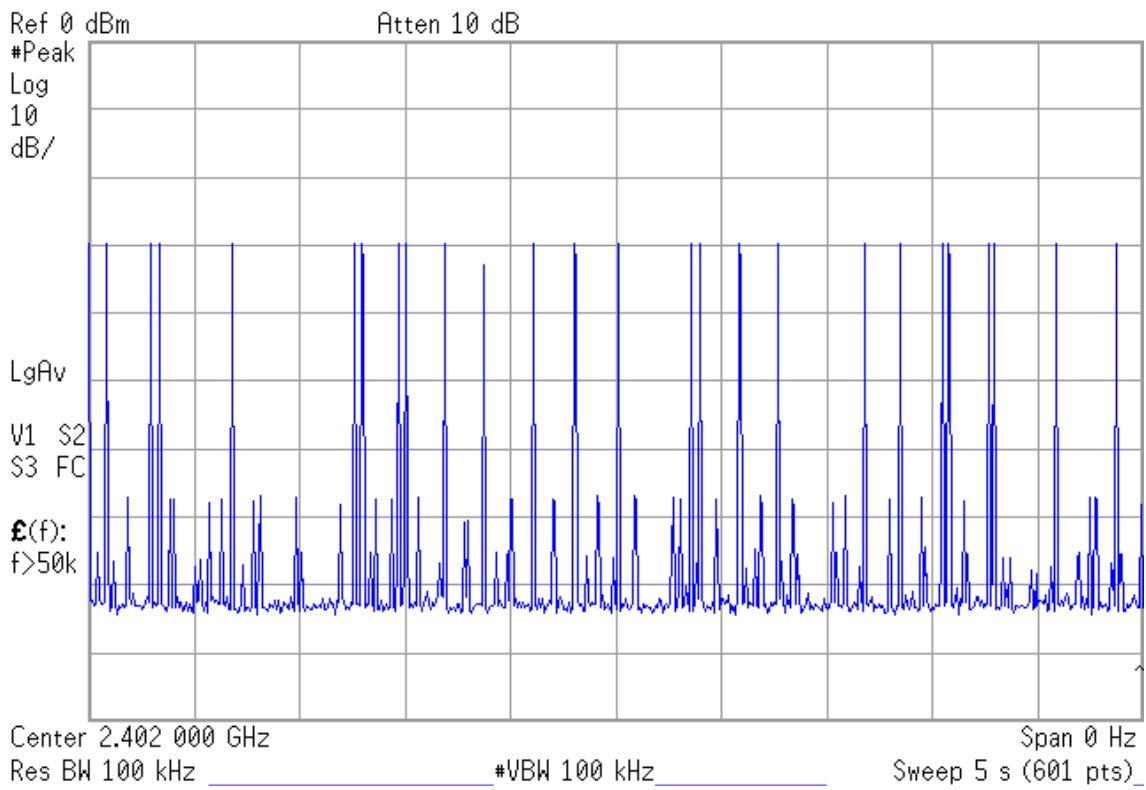
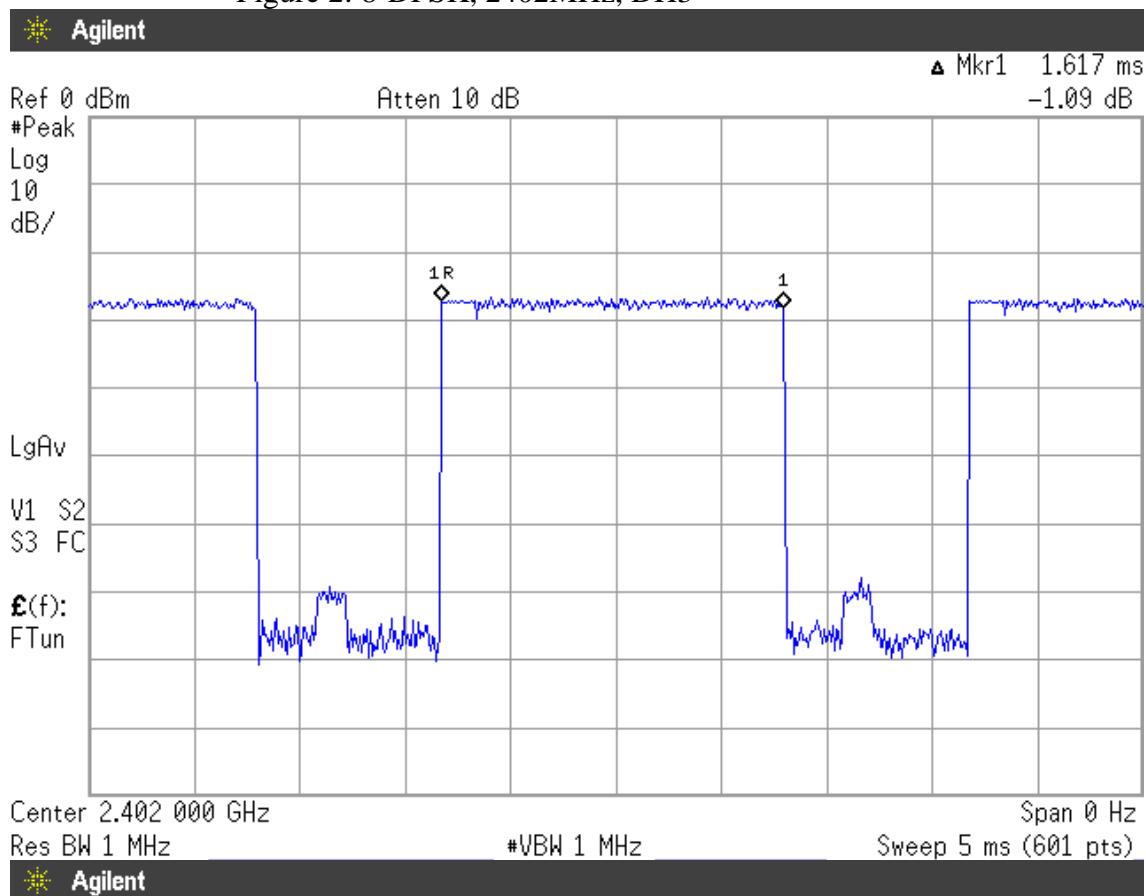
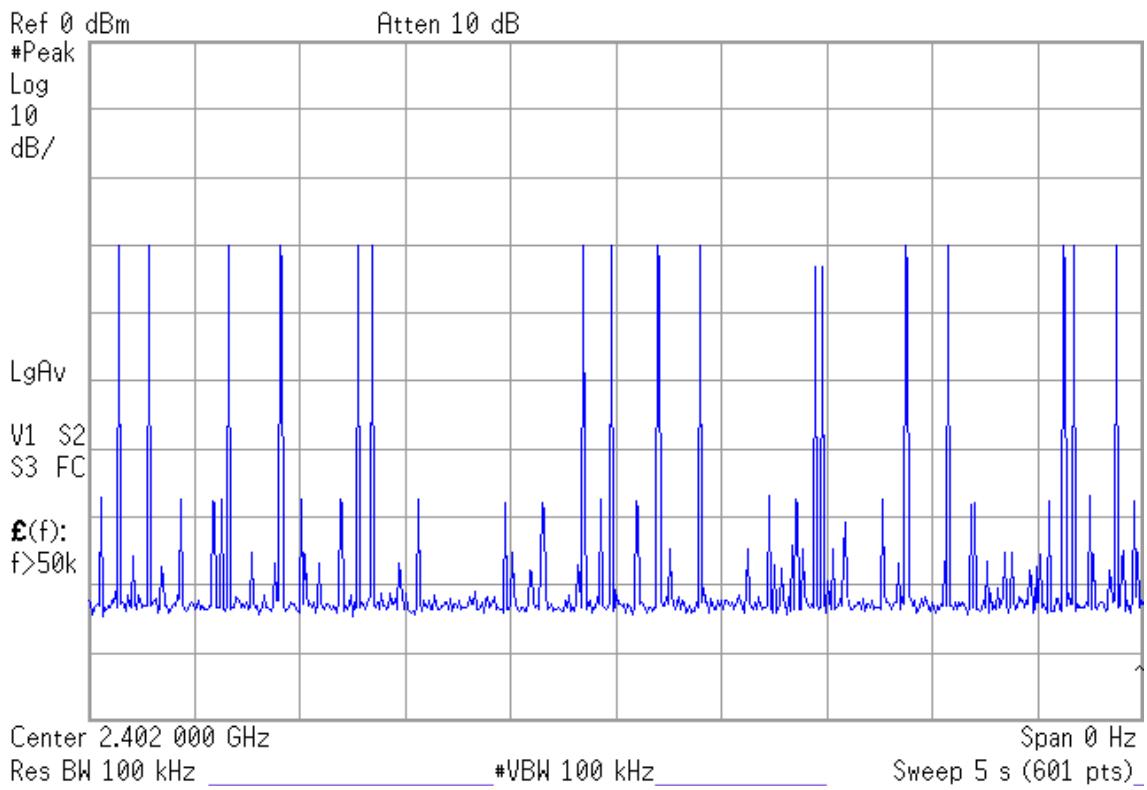
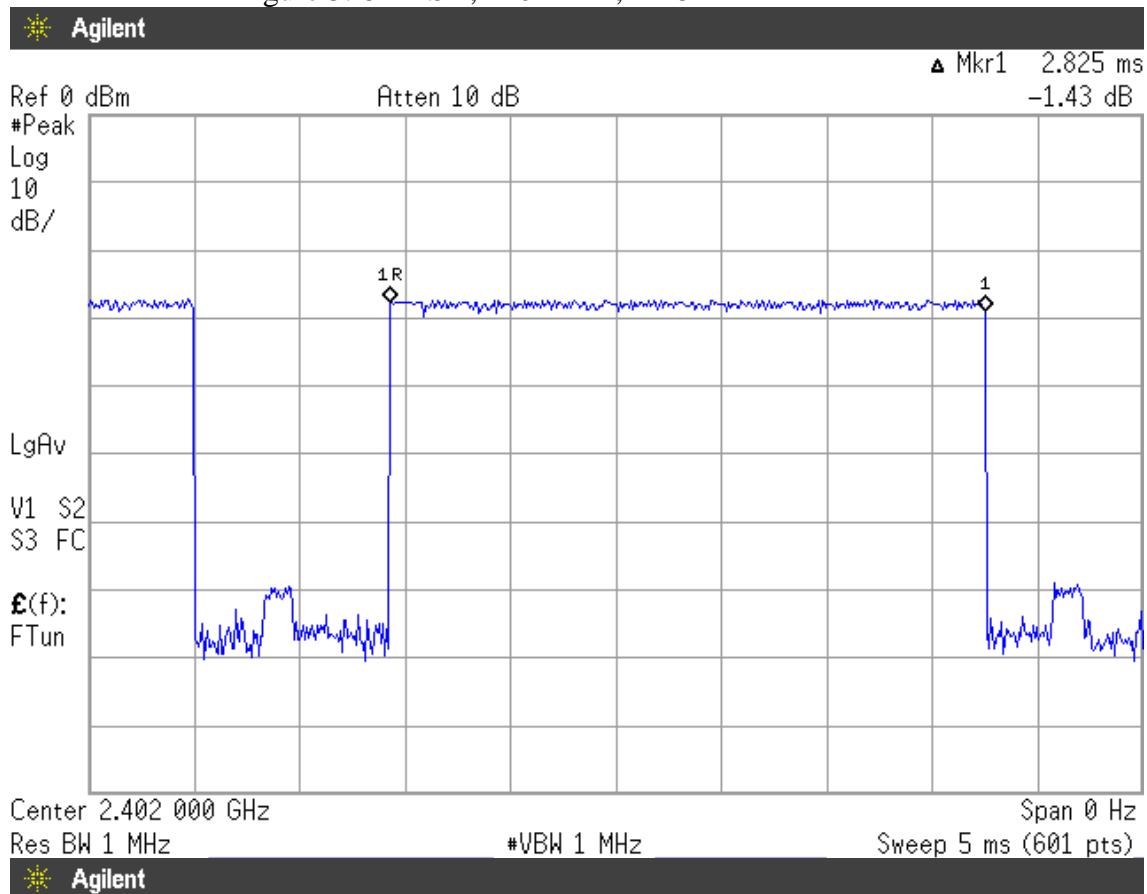


Figure 3: 8-DPSK, 2402MHz, DH5



6.6.5. Type of Modulation : 8-DPSK, Test Frequency : 2441MHz

Duty cycle: 79channels*0.4 seconds = 31.6 seconds

DH1 : A The system makes worst case 1600 hops per second or 1 time slot has a length of 625us with 79 channels. A DH1 packet need 1 time slot for transmitting and 1 time slot for receiving. Then the system makes worst case 800 hops per second with 79 channels. So you have each channel 10.13 time per second and so for 31.6 seconds you have 320 time of appearance.

Each Tx-time per appearance is 216.7us.

$$10.13 \text{ time} * 31.6 \text{ seconds} * 0.2167\text{ms} = 69.367\text{ms} (<400\text{ms})$$

B. For each 5 seconds of 51 channels appearance, the longest time of occupancy for each of 31.6 seconds is:

$$51 \text{ channels} * 31.6 \text{ seconds} / 5 * 0.2167\text{ms} = 69.846\text{ms} (<400\text{ms})$$

DH3 : A The system makes worst case 1600 hops per second or 1 time slot has a length of 625us with 79 channels. A DH3 packet need 3 time slot for transmitting and 1 time slot for receiving. Then the system makes worst case 400 hops per second with 79 channels. So you have each channel 5.1 time per second and so for 31.6 seconds you have 161 time of appearance.

Each Tx-time per appearance is 1617us.

$$5.1 \text{ time} * 31.6 \text{ seconds} * 1.617\text{ms} = 260.595\text{ms} (<400\text{ms})$$

B. For each 5 seconds of 26 channels appearance, the longest time of occupancy for each of 31.6 seconds is:

$$26 \text{ channels} * 31.6 \text{ seconds} / 5 * 1.617\text{ms} = 265.705\text{ms} (<400\text{ms})$$

DH5 : A The system makes worst case 1600 hops per second or 1 time slot has a length of 625us with 79 channels. A DH5 packet need 1 time slot for transmitting and 1 time slot for receiving. Then the system makes worst case 266.7 hops per second with 79 channels. So you have each channel 3.37 time per second and so for 31.6 seconds you have 106 time of appearance.

Each Tx-time per appearance is 2817us.

$$3.37 \text{ time} * 31.6 \text{ seconds} * 2.817\text{ms} = 299.987\text{ms} (<400\text{ms})$$

B. For each 5 seconds of 17 channels appearance, the longest time of occupancy for each of 31.6 seconds is:

$$17 \text{ channels} * 31.6 \text{ seconds} / 5 * 2.817\text{ms} = 302.658\text{ms} (<400\text{ms})$$

Figure 1: 8-DPSK, 2441MHz, DH1

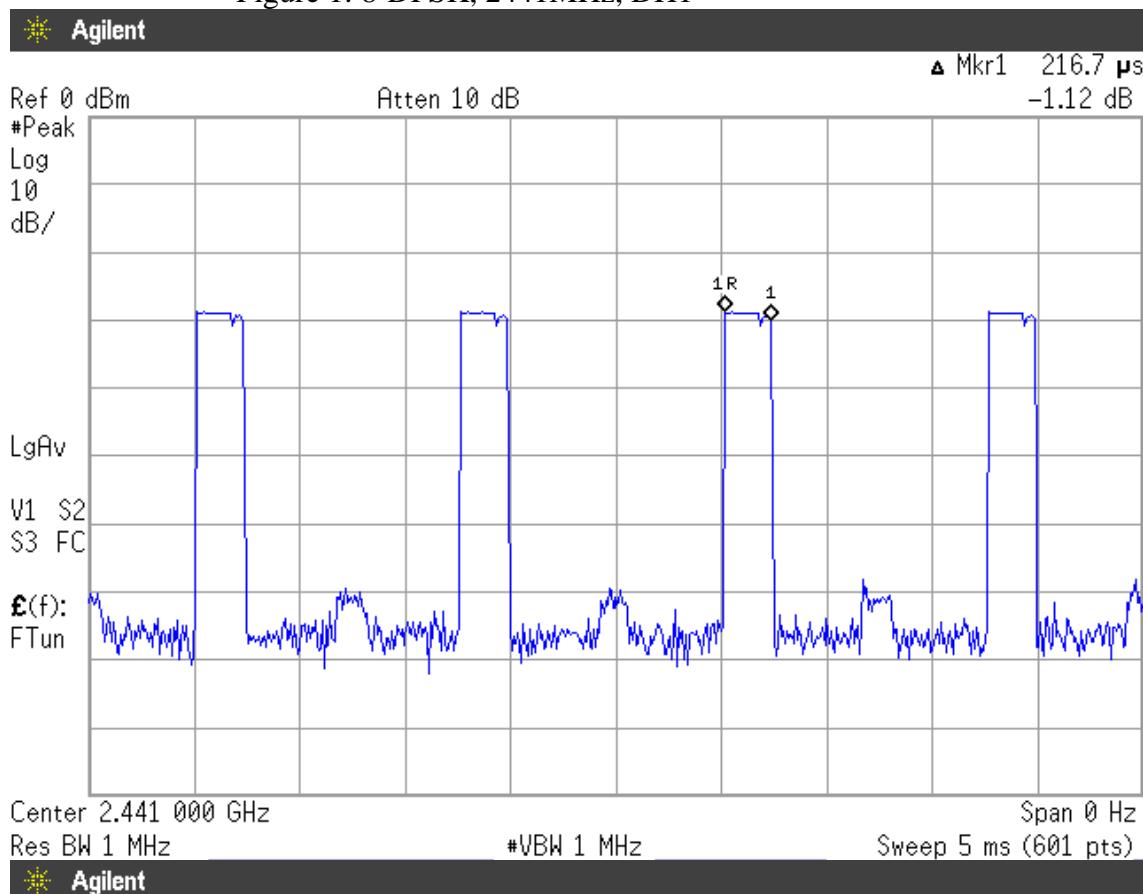


Figure 2: 8-DPSK, 2441MHz, DH3

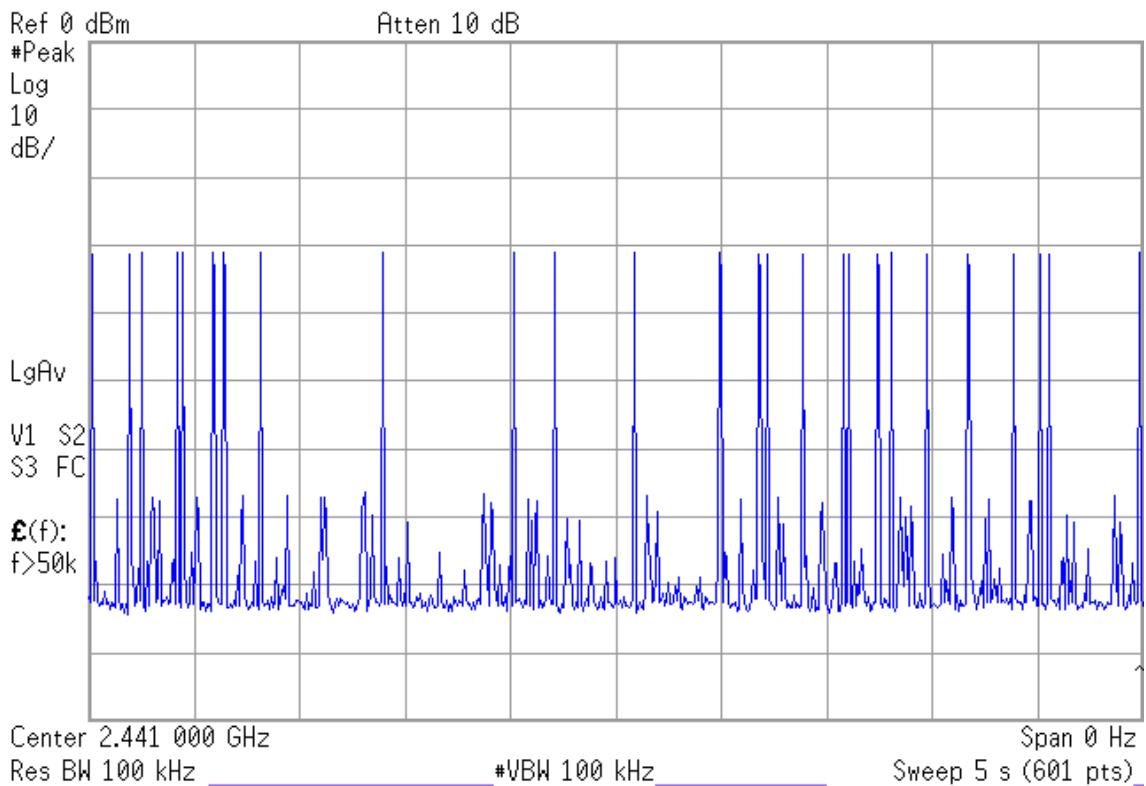
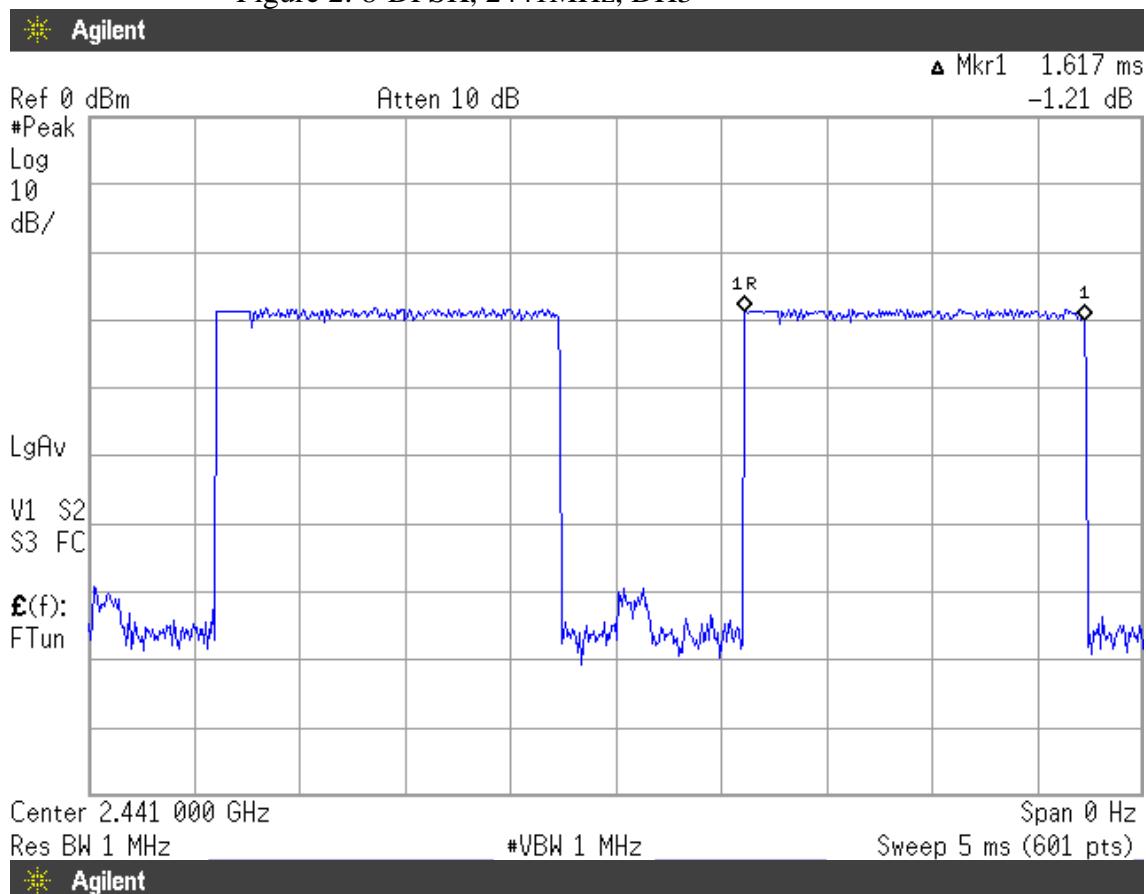
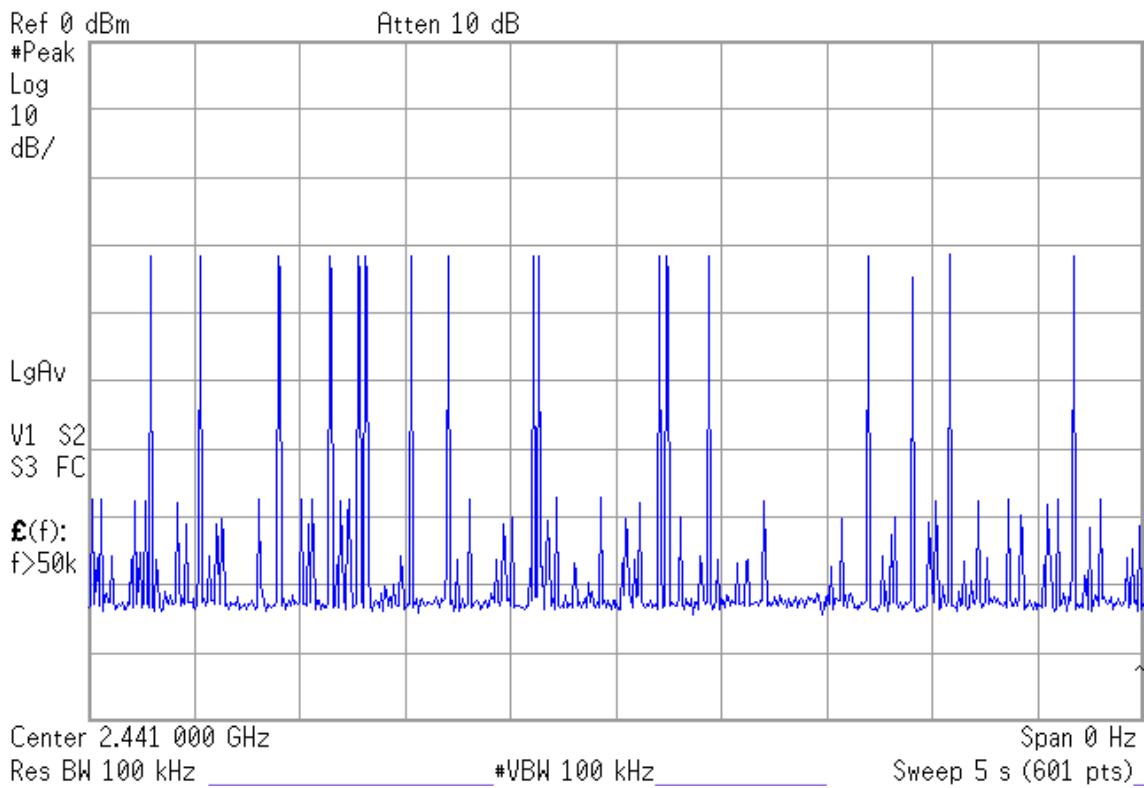
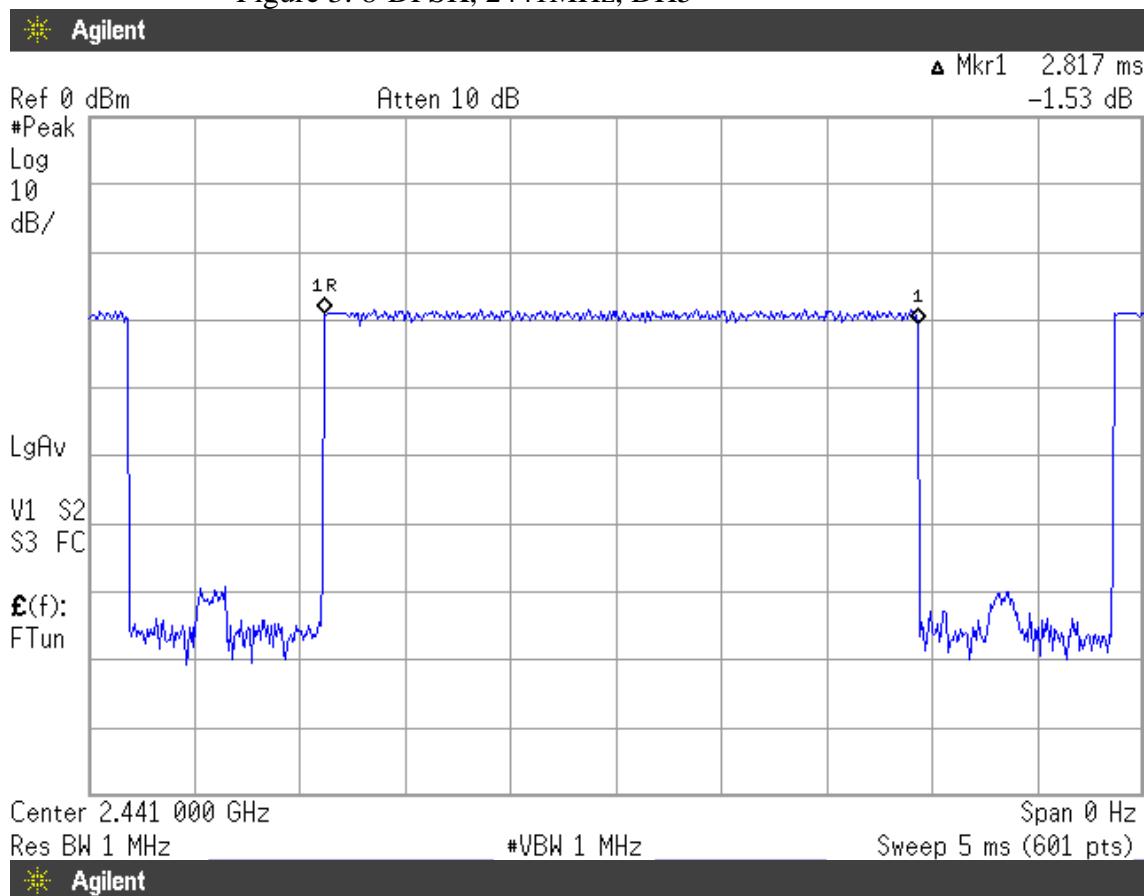


Figure 3: 8-DPSK, 2441MHz, DH5



6.6.6. Type of Modulation : 8-DPSK, Test Frequency : 2480MHz

Duty cycle: 79channels*0.4 seconds = 31.6 seconds

DH1 : A The system makes worst case 1600 hops per second or 1 time slot has a length of 625us with 79 channels. A DH1 packet need 1 time slot for transmitting and 1 time slot for receiving. Then the system makes worst case 800 hops per second with 79 channels. So you have each channel 10.13 time per second and so for 31.6 seconds you have 320 time of appearance.

Each Tx-time per appearance is 216.7us.

$$10.13 \text{ time} * 31.6 \text{ seconds} * 0.2167\text{ms} = 69.367\text{ms} (<400\text{ms})$$

B. For each 5 seconds of 50 channels appearance, the longest time of occupancy for each of 31.6 seconds is:

$$50 \text{ channels} * 31.6 \text{ seconds} / 5 * 0.2167\text{ms} = 68.477\text{ms} (<400\text{ms})$$

DH3 : A The system makes worst case 1600 hops per second or 1 time slot has a length of 625us with 79 channels. A DH3 packet need 3 time slot for transmitting and 1 time slot for receiving. Then the system makes worst case 400 hops per second with 79 channels. So you have each channel 5.1 time per second and so for 31.6 seconds you have 161 time of appearance.

Each Tx-time per appearance is 1617us.

$$5.1 \text{ time} * 31.6 \text{ seconds} * 1.617\text{ms} = 260.595\text{ms} (<400\text{ms})$$

B. For each 5 seconds of 26 channels appearance, the longest time of occupancy for each of 31.6 seconds is:

$$26 \text{ channels} * 31.6 \text{ seconds} / 5 * 1.617\text{ms} = 265.705\text{ms} (<400\text{ms})$$

DH5 : A The system makes worst case 1600 hops per second or 1 time slot has a length of 625us with 79 channels. A DH5 packet need 1 time slot for transmitting and 1 time slot for receiving. Then the system makes worst case 266.7 hops per second with 79 channels. So you have each channel 3.37 time per second and so for 31.6 seconds you have 106 time of appearance.

Each Tx-time per appearance is 2817us.

$$3.37 \text{ time} * 31.6 \text{ seconds} * 2.817\text{ms} = 299.987\text{ms} (<400\text{ms})$$

B. For each 5 seconds of 16 channels appearance, the longest time of occupancy for each of 31.6 seconds is:

$$16 \text{ channels} * 31.6 \text{ seconds} / 5 * 2.817\text{ms} = 284.855\text{ms} (<400\text{ms})$$

Figure 1: 8-DPSK, 2480MHz, DH1

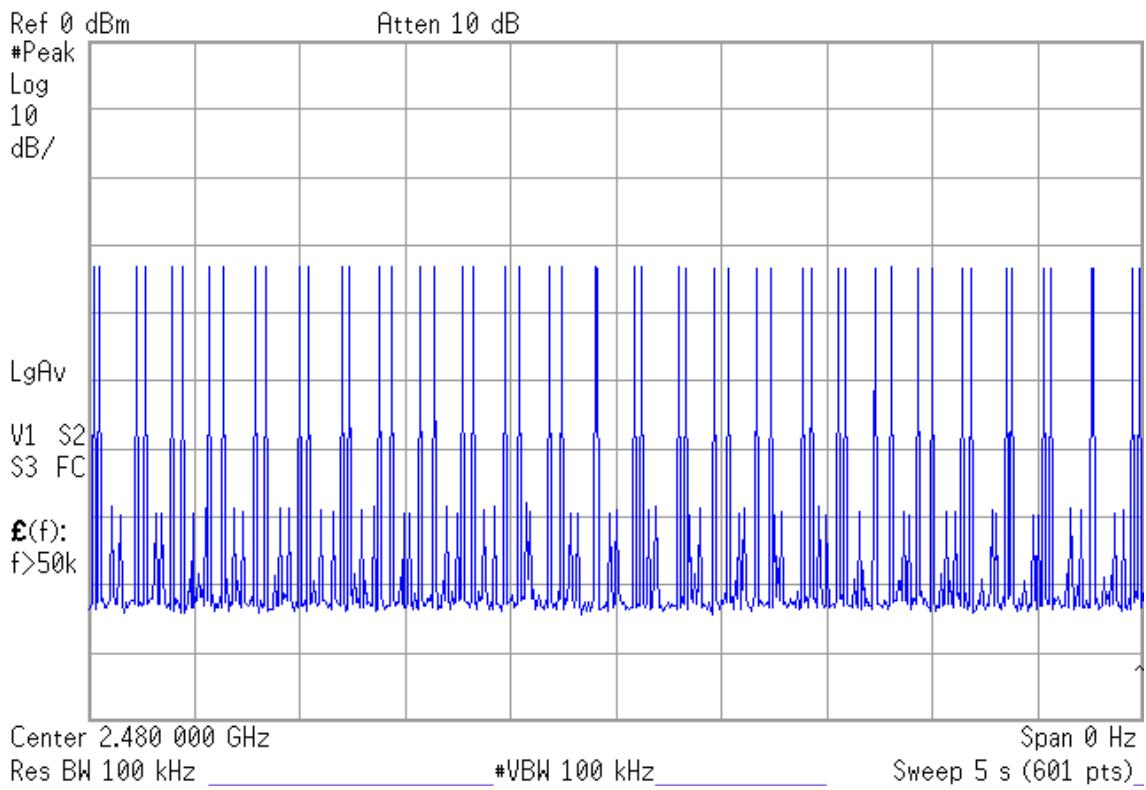


Figure 2: 8-DPSK, 2480MHz, DH3

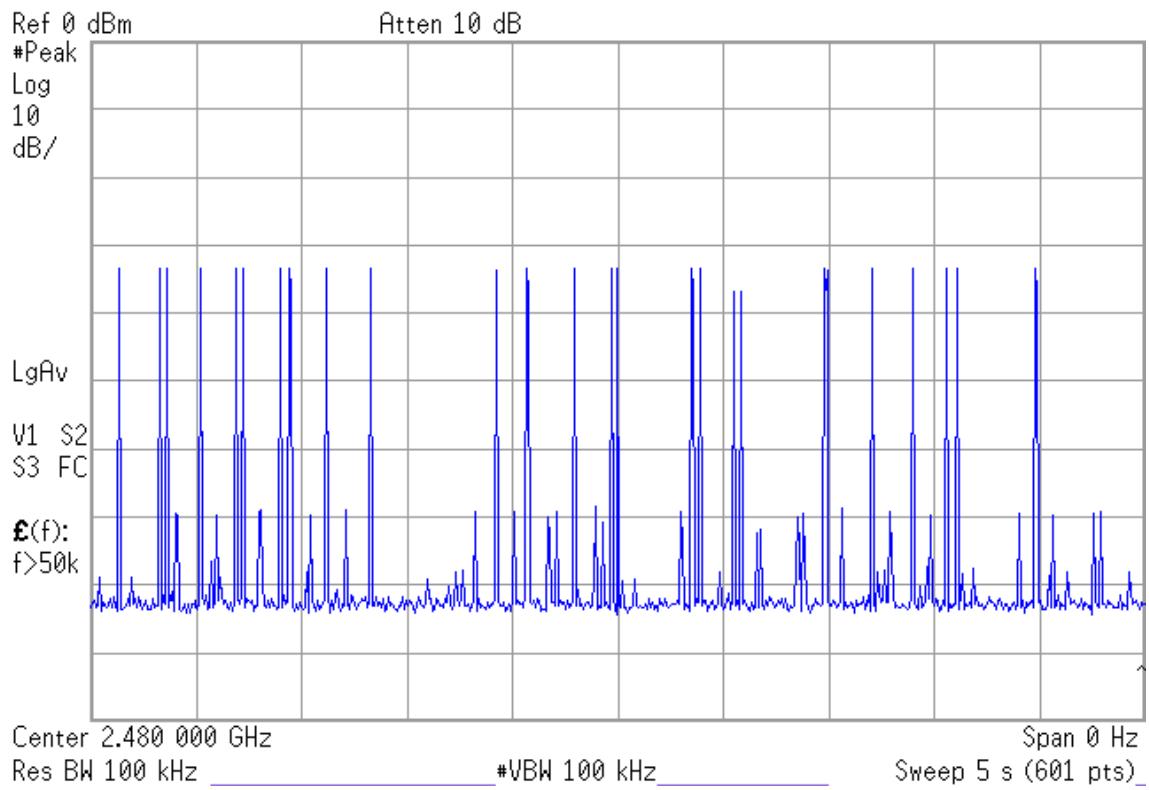
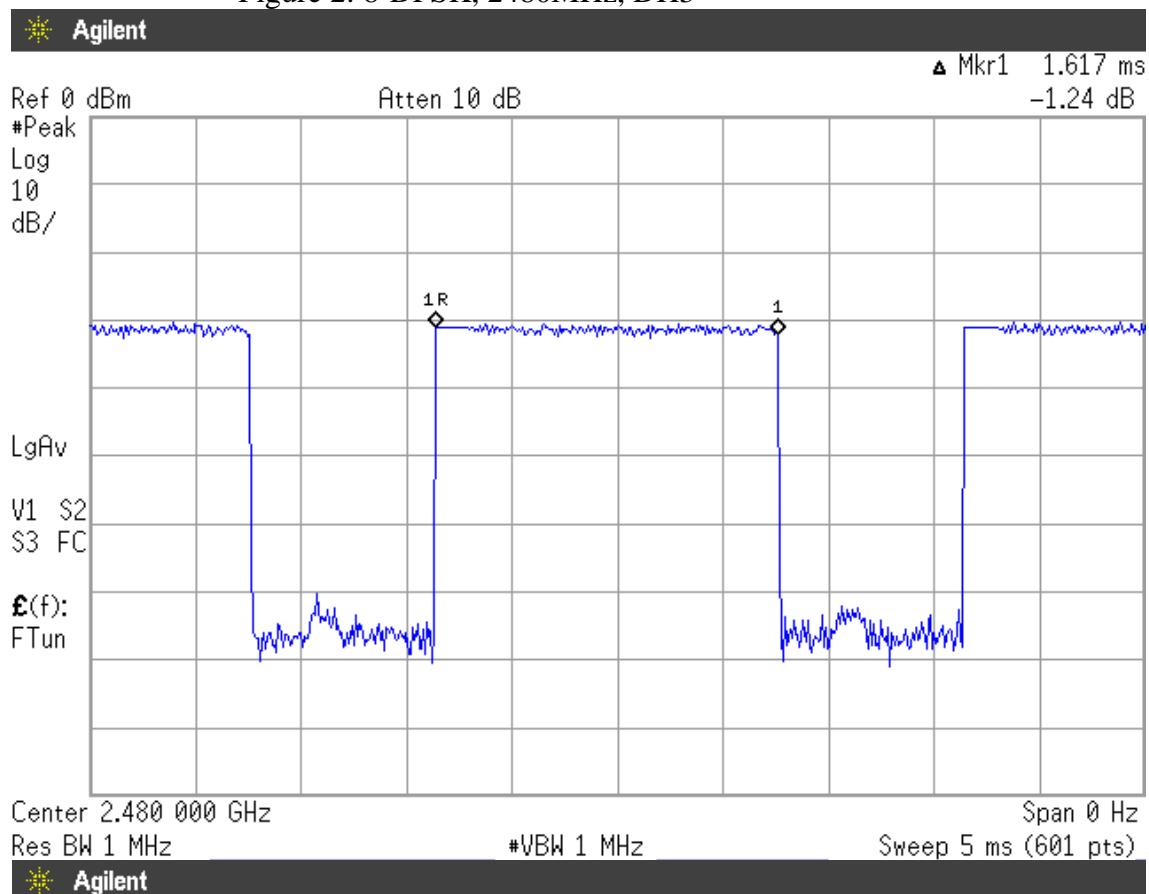
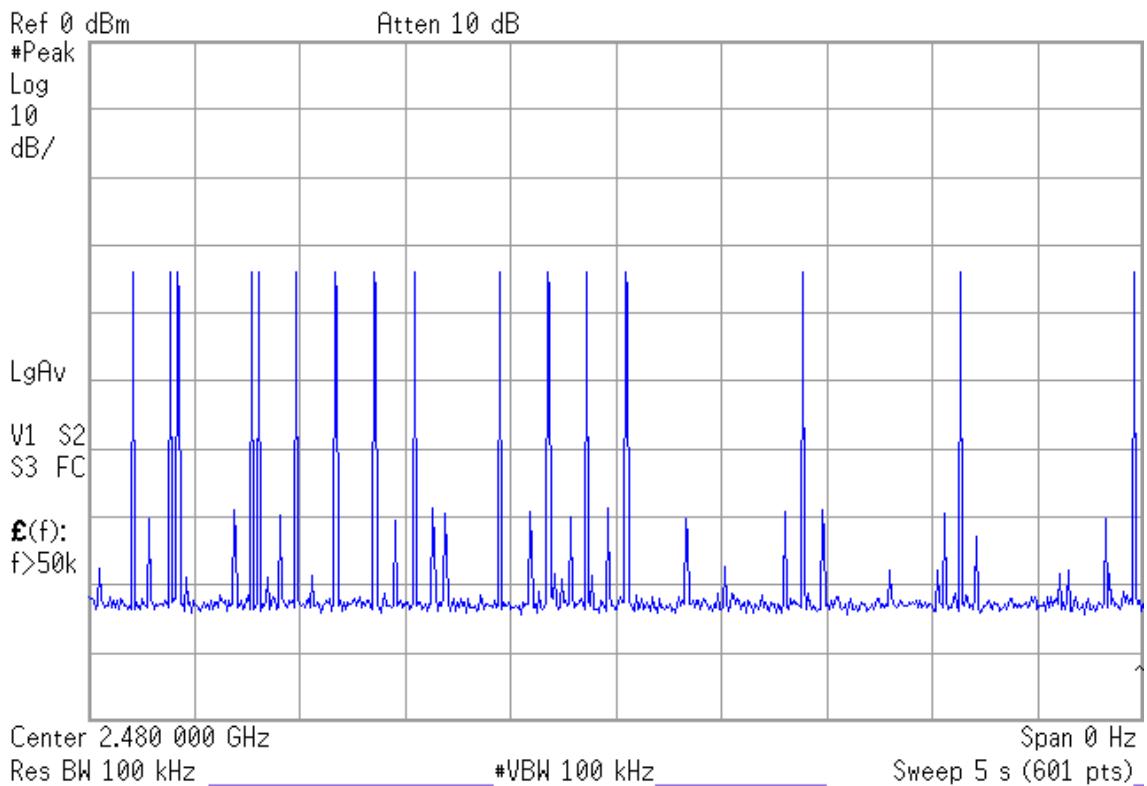
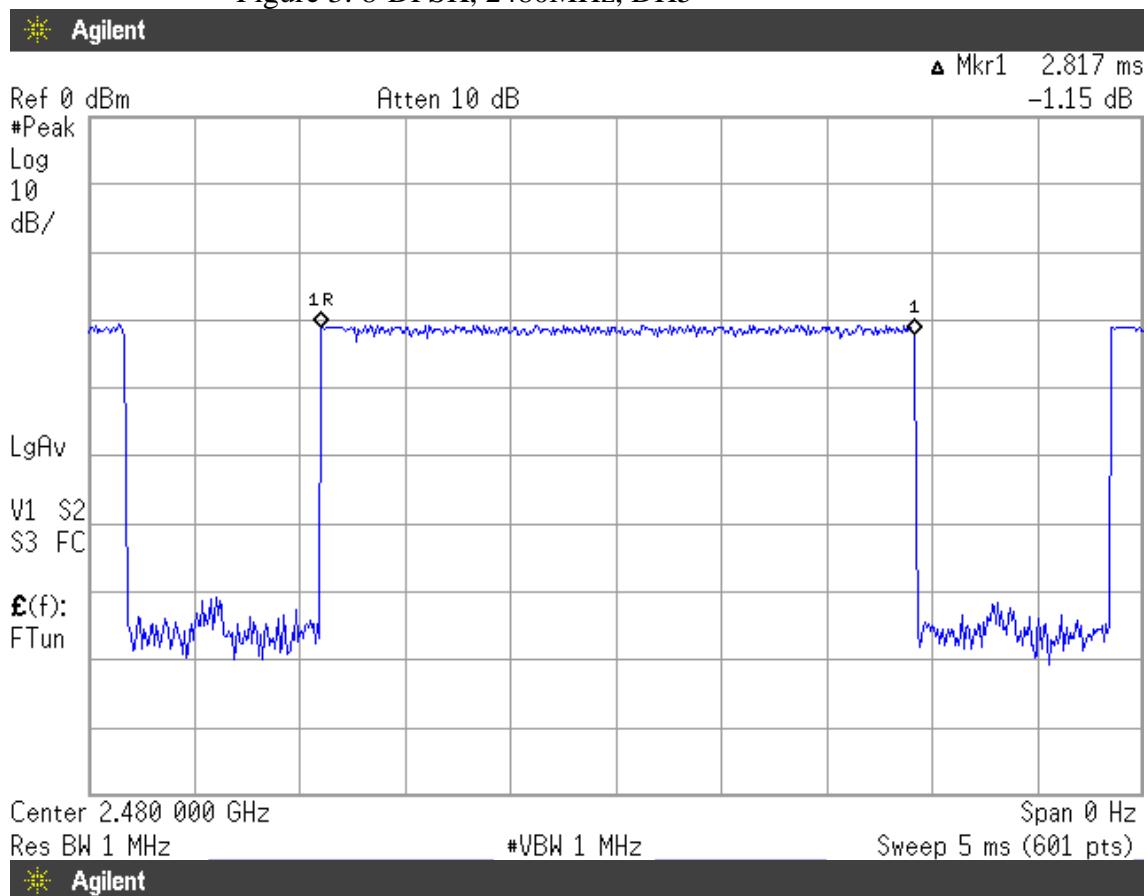


Figure 3: 8-DPSK, 2480MHz, DH5



7. NUMBER OF HOPPING CHANNELS MEASUREMENT

7.1. Test Equipment

The following test equipment was used during the number of hopping channels measurement:

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Monitor	Agilent	E4446A	US44300366	Aug. 13, 07'	Aug. 12, 08'
2.	2.4GHz Antenna	N/A	RS-1500	N/A	N/A	N/A

7.2. Block Diagram of Test Setup

The same as section 4.2.

7.3. Specification Limits (§15.247(a)(1)(iii))

Frequency hopping systems which use fewer than 20 hopping frequencies may employ intelligent hopping techniques to avoid interference to other transmissions. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 non-overlapping channels.

7.4. Operating Condition of EUT

Same as carrier frequency separation measurement which was listed in section 4.4.

7.5. Test Procedure

The EUT was connected to the notebook. The bandwidth of the fundamental frequency was measured by spectrum analyzer with 100kHz RBW and 100kHz VBW. Sweep=Auto ; Detector function=peak ; Trace=Max hold
The measurement guideline was according to FCC Public Notice DA 00-705.

7.6. Test Results

PASSED. All the test results are attached in next page.

[Note: Three types of modulation (GFSK, /4DPQSK, 8-DPSK) were evaluated but only one type of modulation (8-DPSK) was reported in this report.]

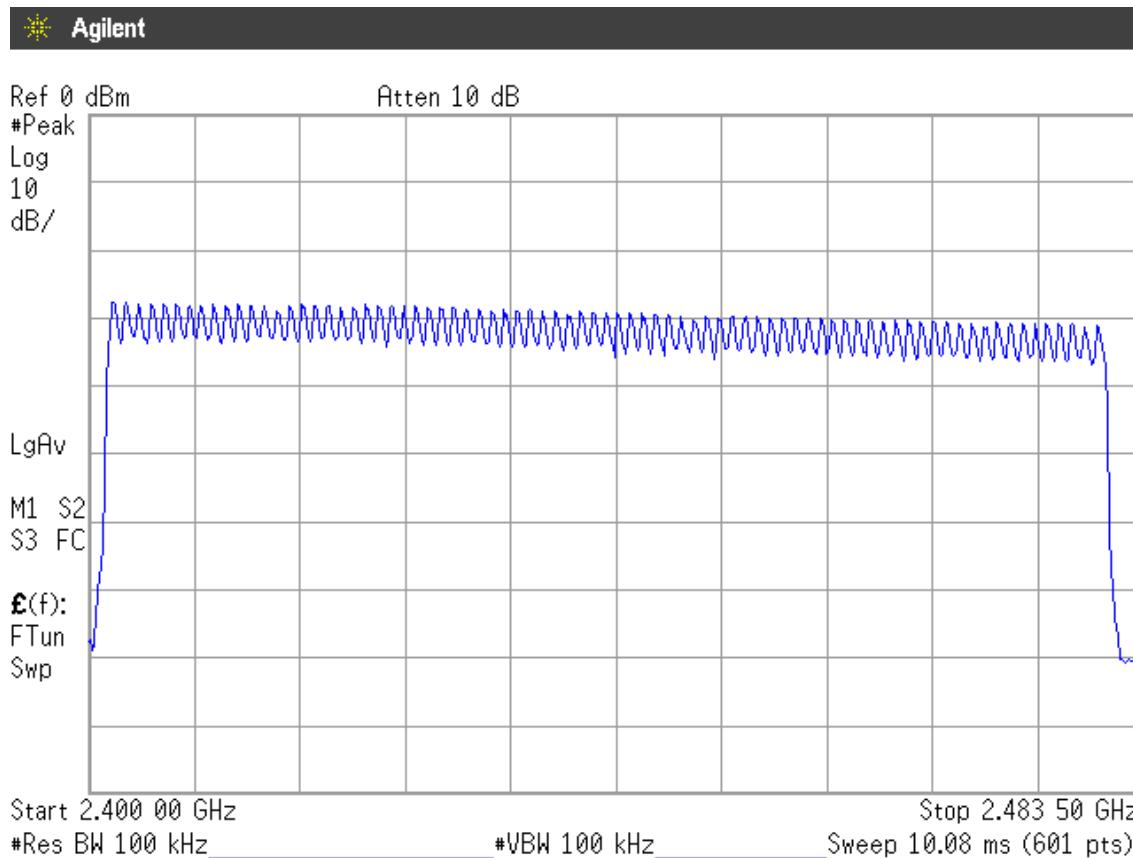
EUT : USB Storage VOIP Bluetooth Dongle

M/N : MKD8801

Test Date : Dec. 06, 2007 Temperature : 23

Humidity : 55 %

The number hopping channel is 79.



8. MAXIMUM PEAK OUTPUT POWER MEASUREMENT

8.1. Test Equipment

The following test equipment was used during the maximum peak output power measurement:

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	Agilent	E7405A	MY42000134	Jun. 27, 07'	Jun. 26, 08'
2.	Test Receiver	R & S	ESCS30	100265	Sep. 04, 07'	Sep. 03, 08'
3.	Pre-Amplifier	HP	8449B	3008A01284	Jun. 22, 07'	Jun. 21, 08'
4.	3.5G High Pass Filter	HP	84300-80038	005	Jan. 11, 07'	Jan. 10, 08'
5.	Horn Antenna	EMCO	3115	9112-3775	May 23, 07'	May 21, 08'
6.	Horn Antenna	EMCO	3116	2653	Oct. 04, 07'	Oct. 03, 08'

8.2. Block Diagram of Test Setup



EUT: USB STORAGE VOIP BLUETOOTH DONGLE

8.3. Specification Limits (§15.247(b)-(1))

The Limits of maximum Peak Output Power for frequency hopping systems in 2400-2483.5MHz is: 0.125Watt. (21dBm)

8.4. Operating Condition of EUT

Same as carrier frequency separation measurement which was listed in 4.4 except the test set up replaced by section 8.2.

8.5. Test Procedure

The EUT and its simulators were placed on a turn table which was 0.8 meter above the ground. The turn table rotated 360 degrees to determine the position of the maximum emission level. EUT was set 3 meters away from the receiving antenna which was mounted on a antenna tower. The antenna moved up and down between 1 to 4 meters to find out the maximum emission level. Horn antenna was used as a receiving antenna. Both horizontal and vertical polarization of the antenna were set on measurement. In order to find the maximum emission, all of the interface cables were manipulated according to FCC ANSI C63.4-2003 regulation and the measurement guideline was according to FCC Public Notice DA 00-705.

8.6. Test Results

PASSED. All the test results are listed below.

[Note: Three types of modulation (GFSK, 1/4DPQSK, 8-DPSK) were evaluated but only one type of modulation (8-DPSK) was reported in this report.]

EUT : USB Storage VOIP Bluetooth Dongle

M/N : MKD8801

Test Date : Dec. 06, 2007 Temperature : 23

Humidity : 55 %

No.	Channel	Test Frequency	Peak Output Power	Limit
1.	0	2402MHz	1.46dBm	21dBm
2.	39	2441MHz	1.34dBm	21dBm
3.	78	2480MHz	1.19dBm	21dBm

9. BAND EDGES MEASUREMENT

9.1. Test Equipment

The following test equipment was used during the band edges measurement:

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Monitor	Agilent	E4446A	US44300366	Aug. 13, 07'	Aug. 12, 08'
2.	2.4GHz Antenna	N/A	RS-1500	N/A	N/A	N/A

9.2. Block Diagram of Test Setup

The same as section 4.2.

9.3. Specification Limits (§15.247(c))

In any 100kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (See Section 15.205(c)). (This test result attaching to §3.6.3)

9.4. Operating Condition of EUT

Same as carrier frequency separation measurement which was listed in section 4.4.

9.5. Test Procedure

The EUT was connected to the notebook. Set both RBW and VBW of spectrum analyzer to 100kHz with suitable frequency span including 100kHz bandwidth from band edge.

The measurement guideline was according to FCC Public Notice DA 00-705.

9.6. Test Results

PASSED. The testing data was attached in the next pages.

[Note: Three types of modulation (GFSK, /4DPQSK, 8-DPSK) were evaluated but only two types of modulation (GFSK and 8-DPSK) were reported in this report.]

EUT : USB Storage VOIP Bluetooth Dongle M/N : MKD8801

Test Date : Dec. 06, 2007 Temperature : 23 Humidity : 55 %

9.6.1. Type of Modulation: GFSK

1. Upper Band edge : The highest emission level is -76.96dBm on 2.39992GHz.
2. Below Band edge: The highest emission level is -81.94dBm on 2.48358GHz.

9.6.2. Type of Modulation: 8-DPSK

3. Upper Band edge : The highest emission level is -78.91dBm on 2.39992GHz.
4. Below Band edge: The highest emission level is -81.65dBm on 2.48358GHz.

Figure 1: GFSK, Upper Band edge

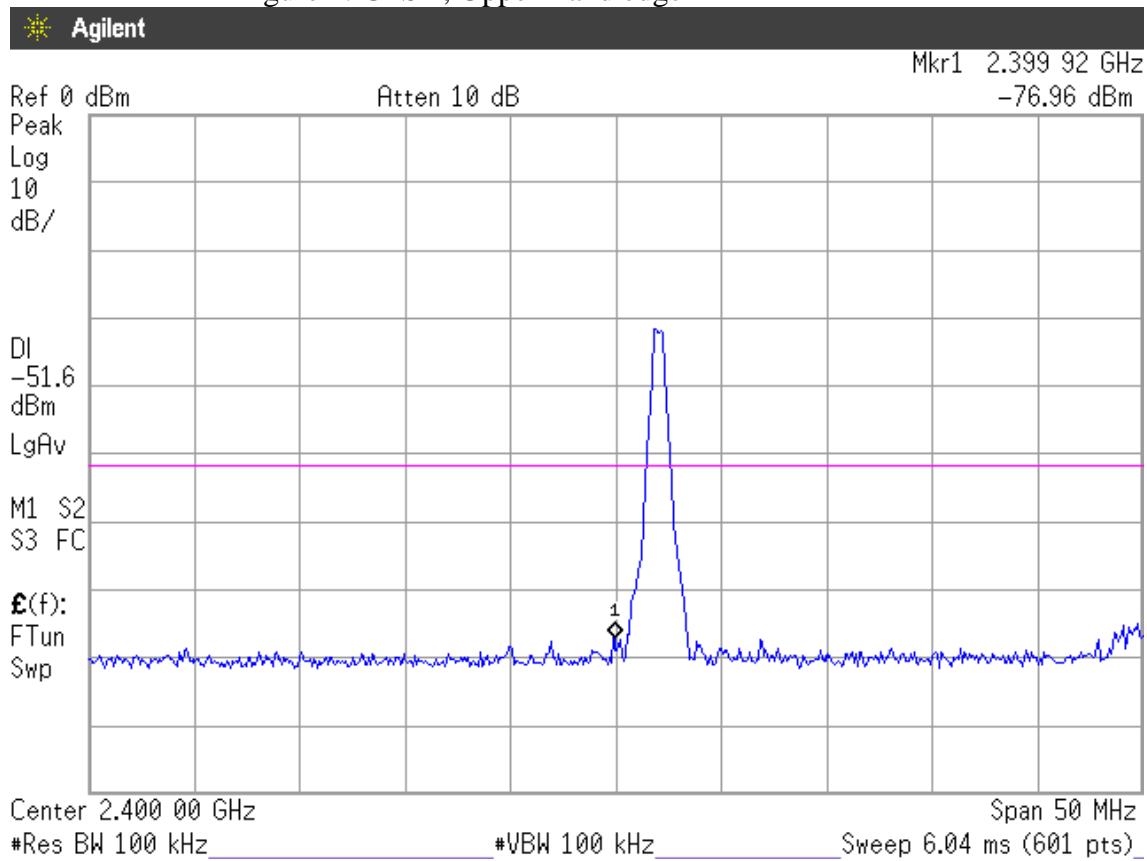


Figure 2: GFSK, Below Band edge

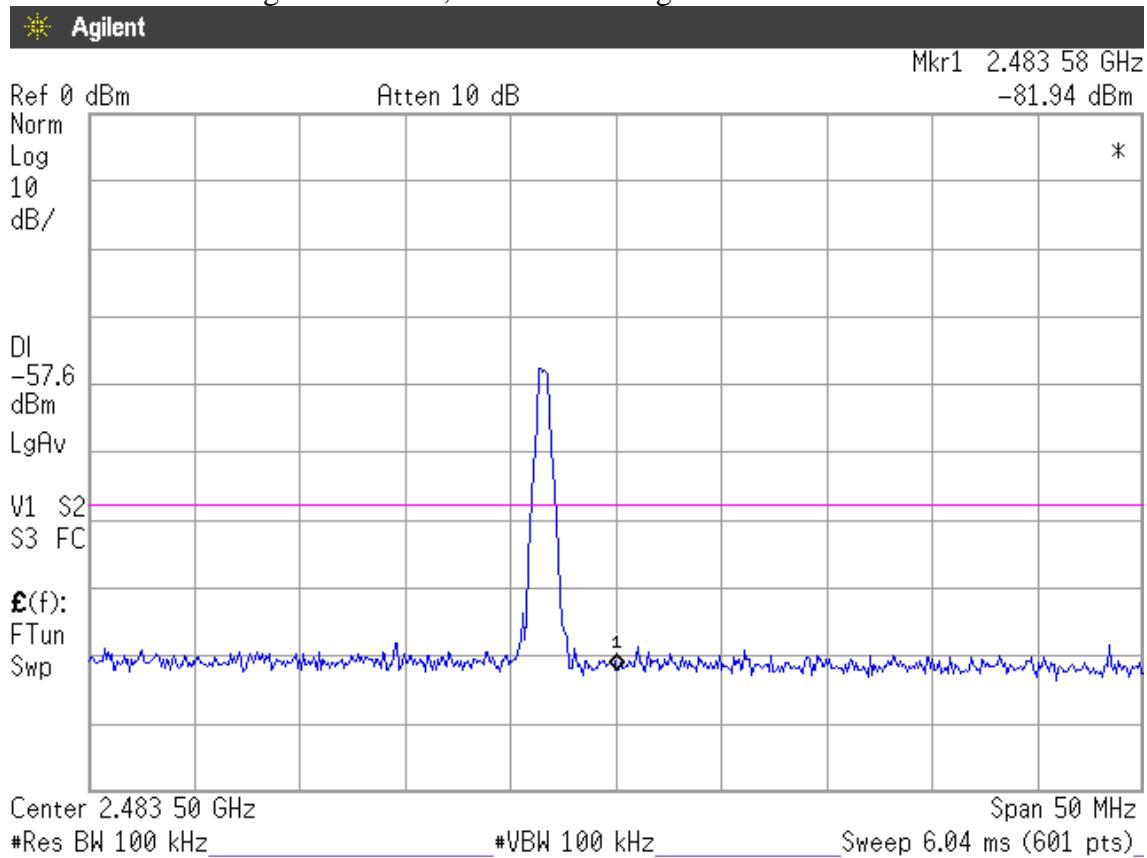


Figure 3: 8-DPSK, Upper Band edge

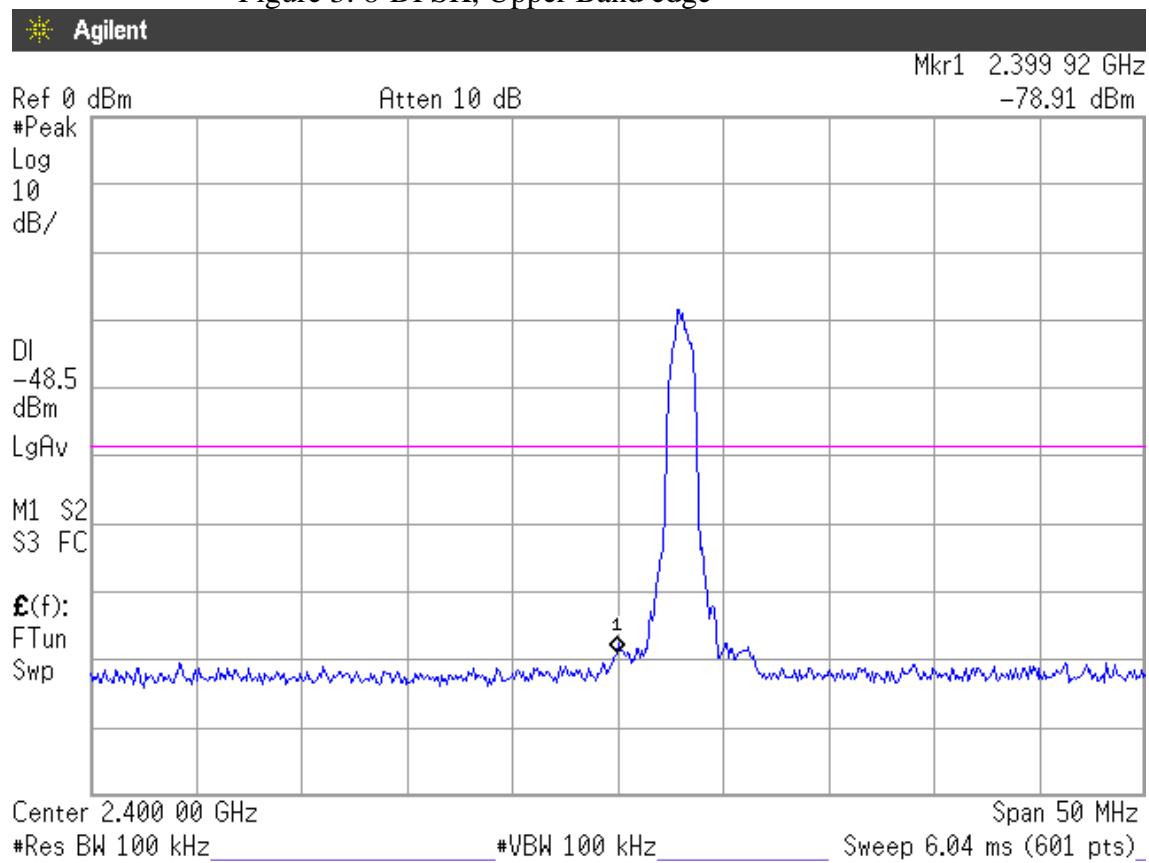
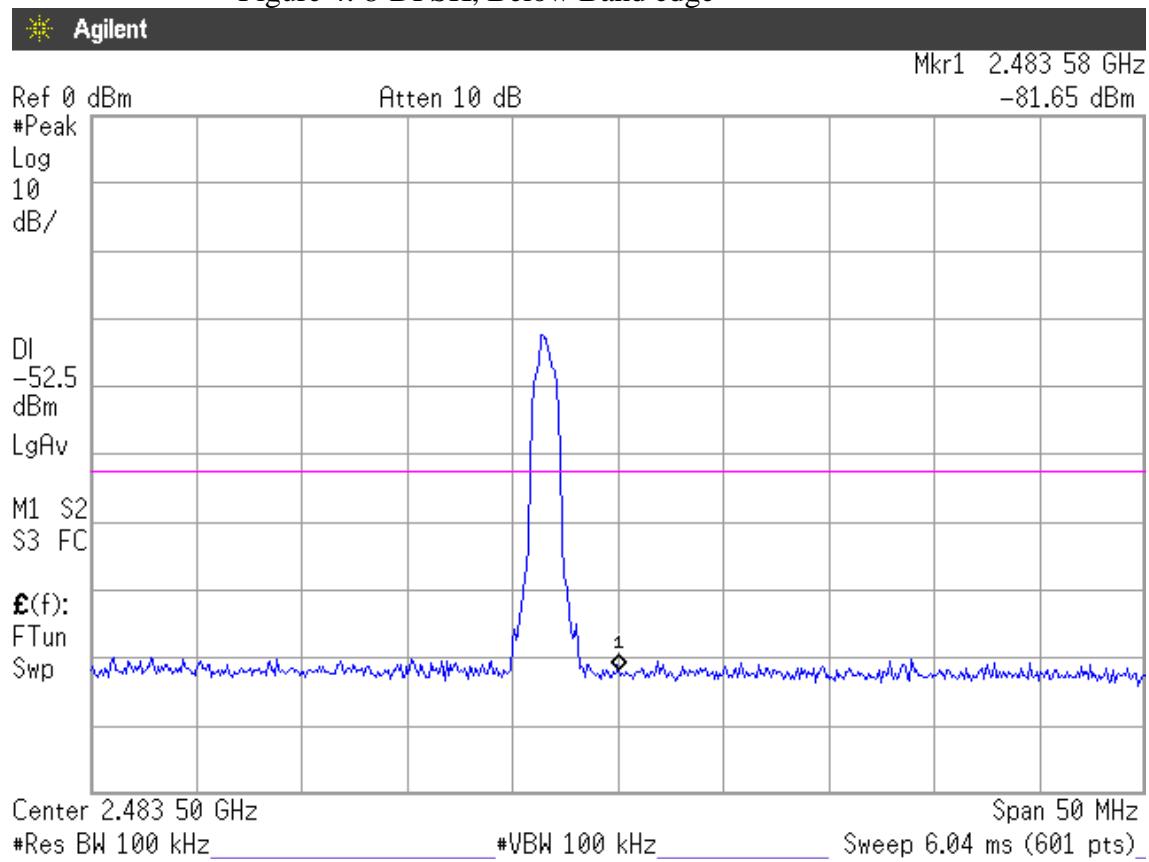


Figure 4: 8-DPSK, Below Band edge



10. DEVIATION TO TEST SPECIFICATIONS

【NONE】

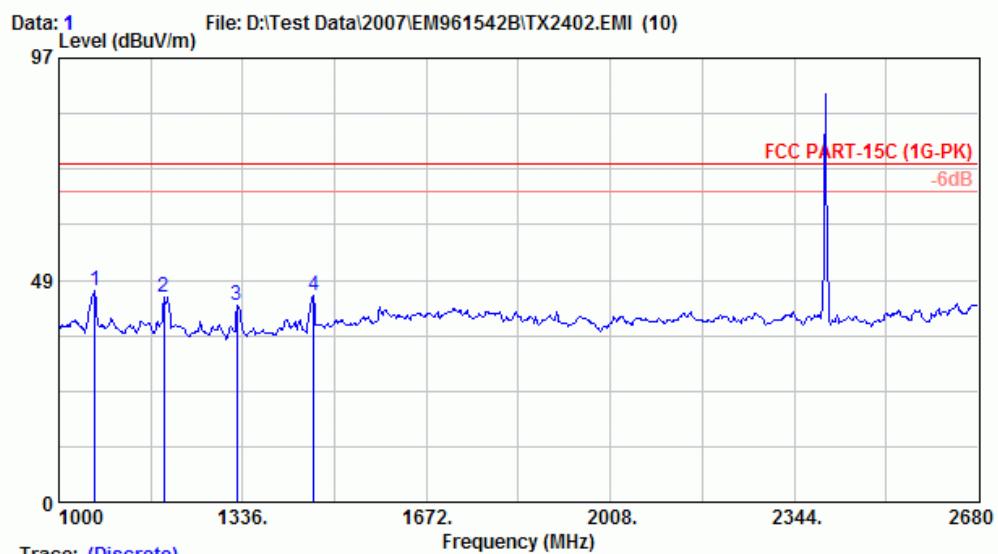
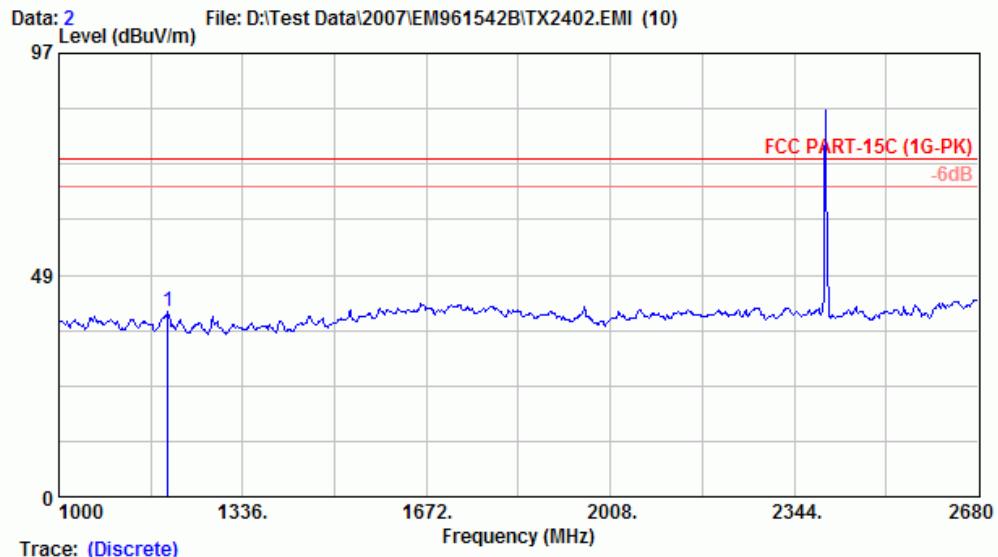
APPENDIX

(Radiated Test Data for frequency rang above
1GHz at Semi-Anechoic Chamber)

Total Pages: 28 Pages



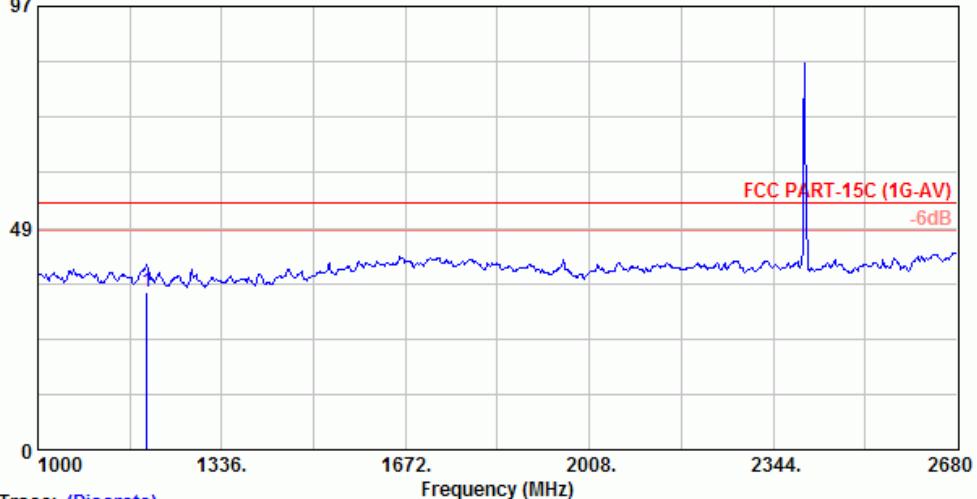
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 Tel:+886-2-26092133 Fax:+886-2-26099303
 Email:tttemc@tttemc.com





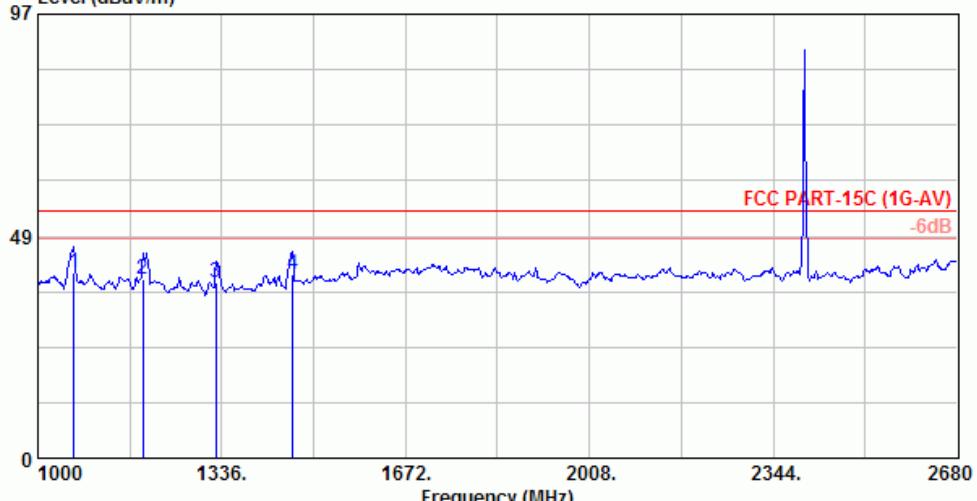
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 Level (dBuV/m)



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 Limit : FCC PART-15C (1G-AV)
 Env. / Ins. : E7405A 25°C/48% Engineer : Jarwei Wang
 EUT : USB Storage VOIP Bluetooth Dongle M/N:MKD8801
 Power Rating : 120Vac/60Hz
 Test Mode : TX2402MHz

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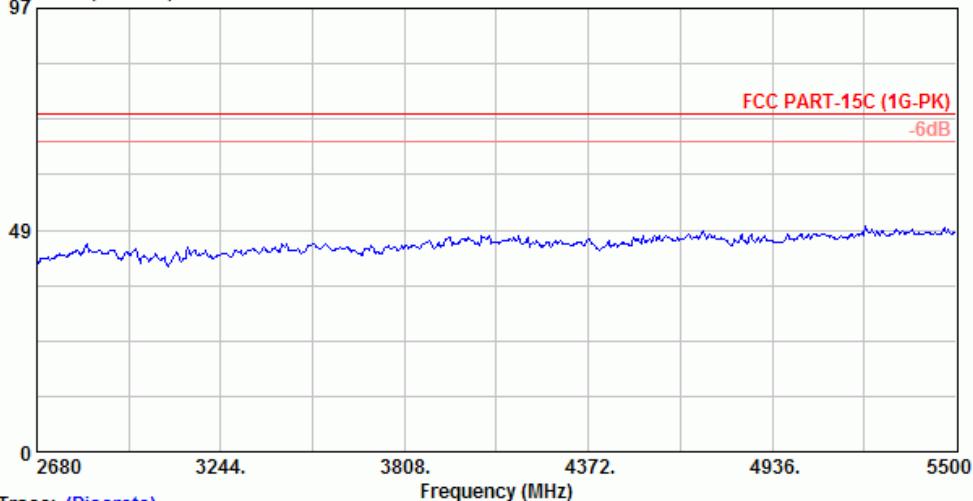


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 Limit : FCC PART-15C (1G-AV)
 Env. / Ins. : E7405A 25°C/48% Engineer : Jarwei Wang
 EUT : USB Storage VOIP Bluetooth Dongle M/N:MKD8801
 Power Rating : 120Vac/60Hz
 Test Mode : TX2402MHz



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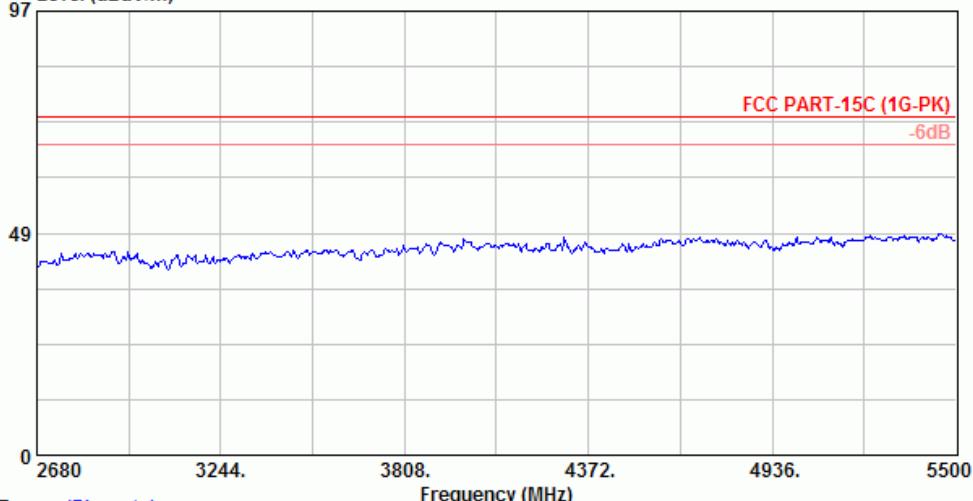
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 Level (dBuV/m)



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 Limit : FCC PART-15C (1G-PK)
 Env. / Ins. : E7405A 25°C/48% Engineer : Jarwei Wang
 EUT : USB Storage VOIP Bluetooth Dongle M/N:MKD8801
 Power Rating : 120Vac/60Hz
 Test Mode : TX2402MHz

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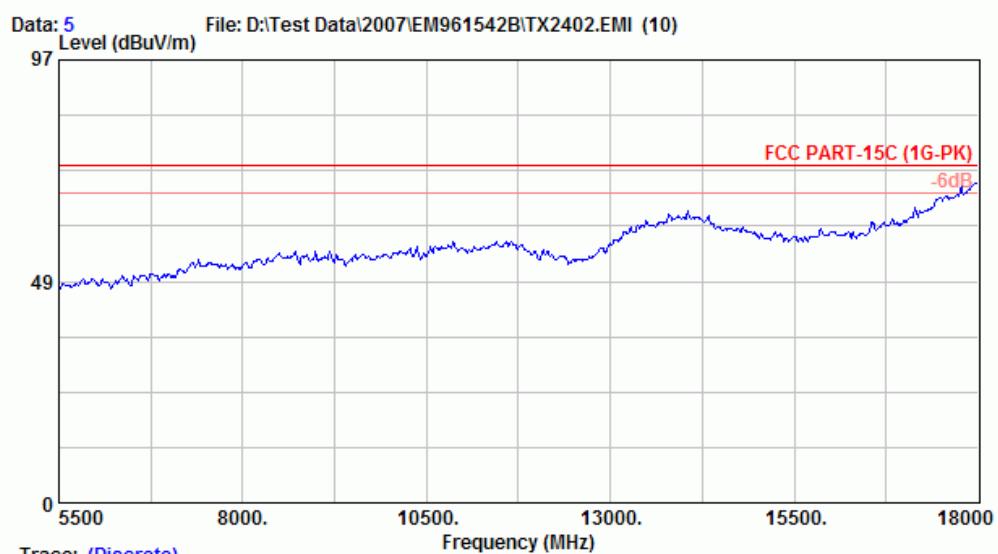
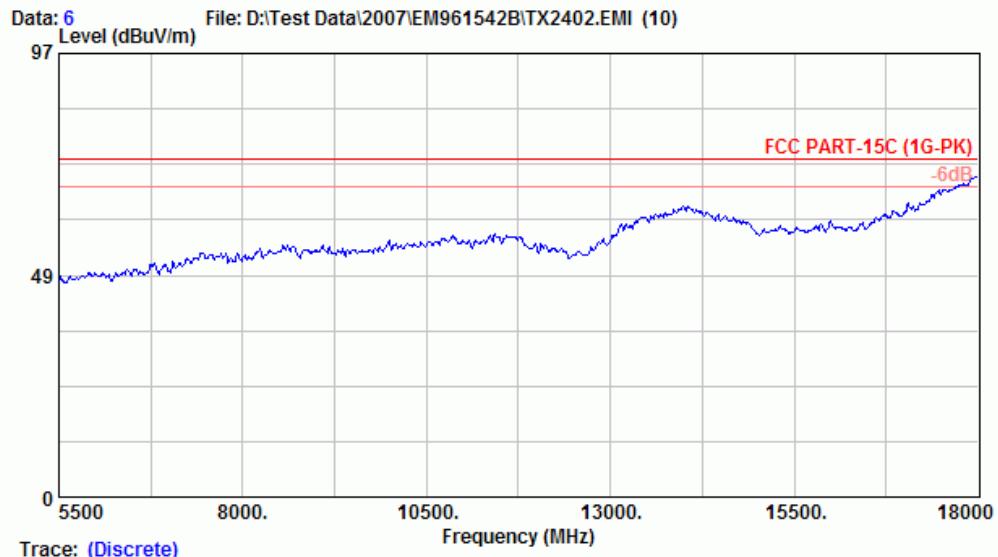


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 EUT : USB Storage VOIP Bluetooth Dongle M/N:MKD8801
 Power Rating : 120Vac/60Hz
 Test Mode : TX2402MHz



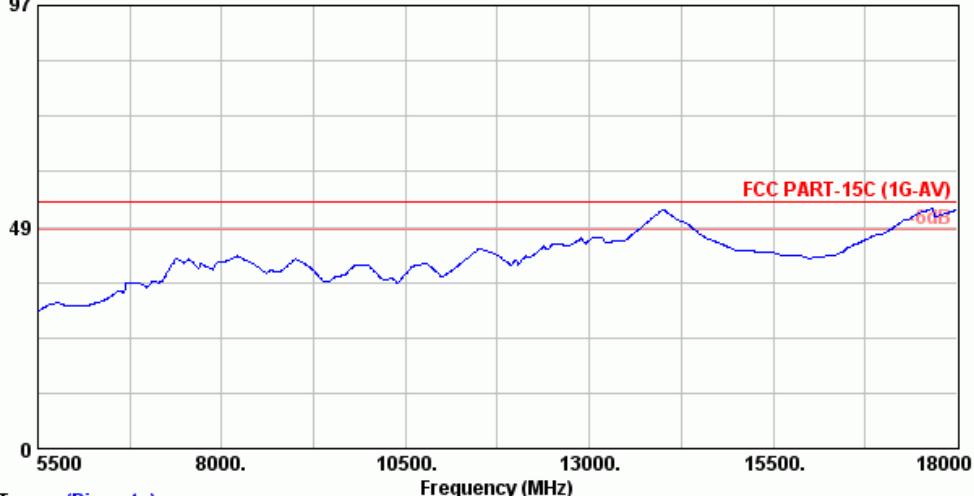
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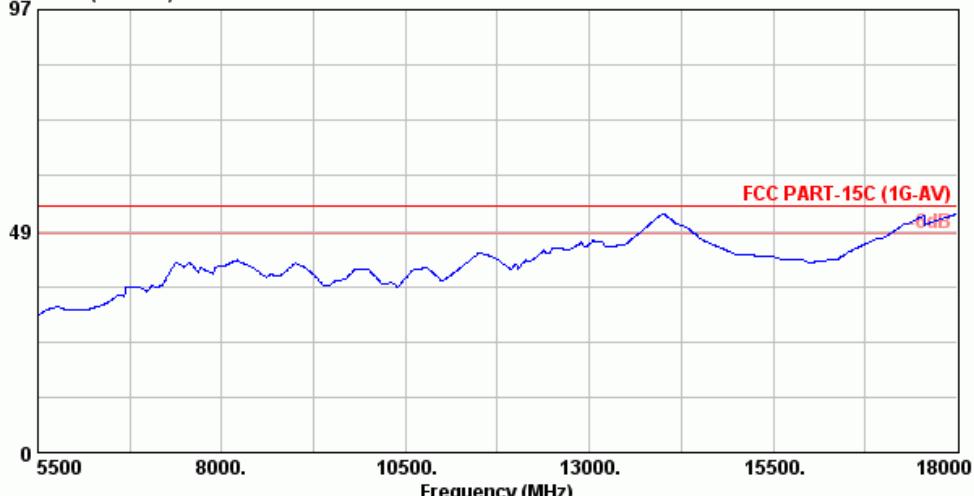
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 Env. / Ins. : E7405A 25°C/48% Engineer: Jarwei Wang
 EUT : USB Storage VOIP Bluetooth Dongle M/N:MKD8801
 Power Rating : 120V AC / 60Hz
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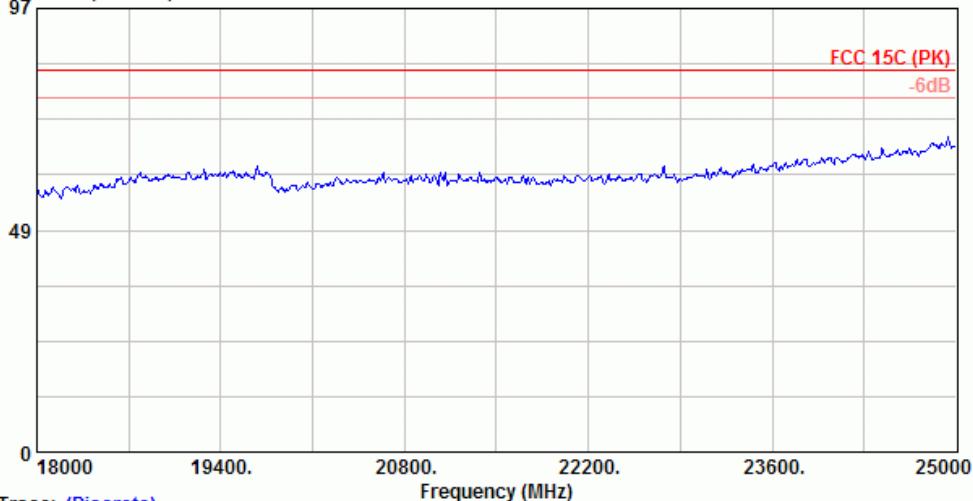
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 EUT : USB Storage VOIP Bluetooth Dongle M/N:MKD8801
 Power Rating : 120V AC / 60Hz
 Test Mode : TX2402MHz



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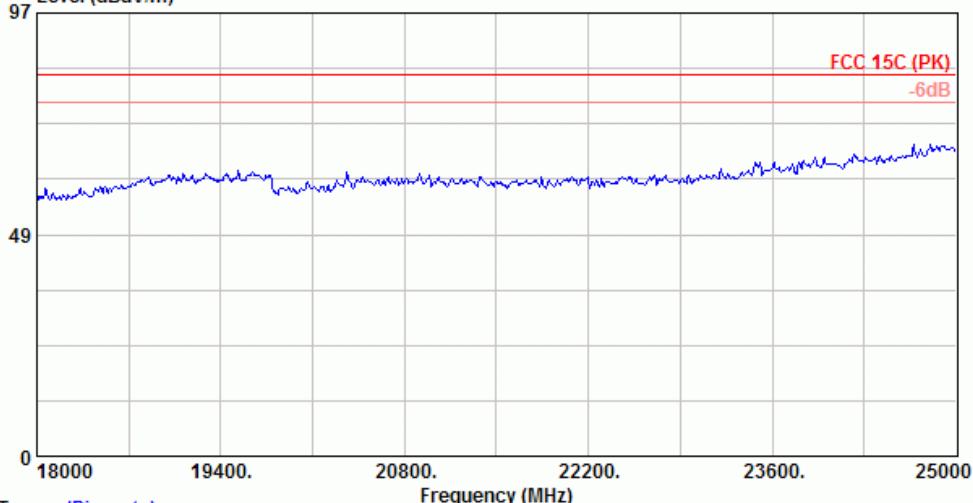
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 EUT : USB Storage VOIP Bluetooth Dongle M/N:MKD8801
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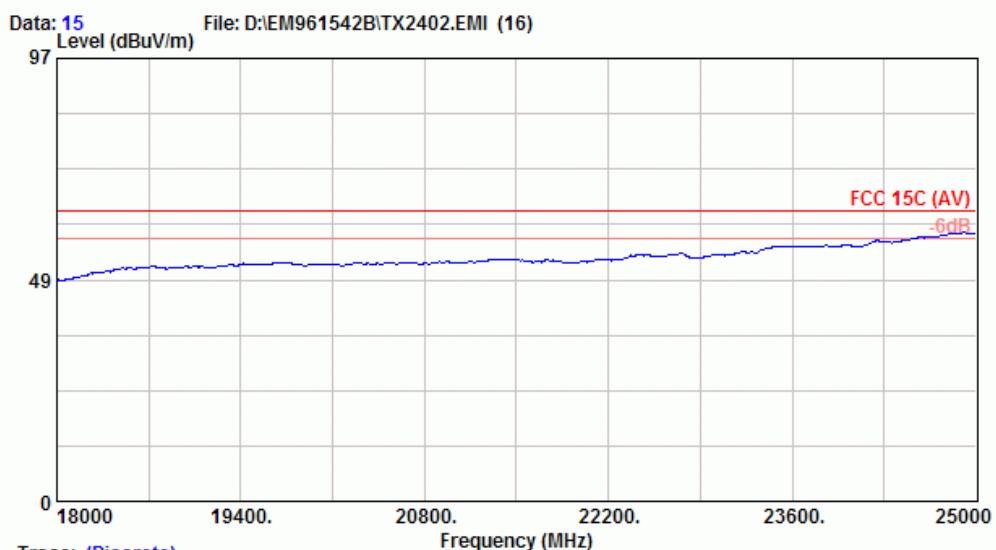
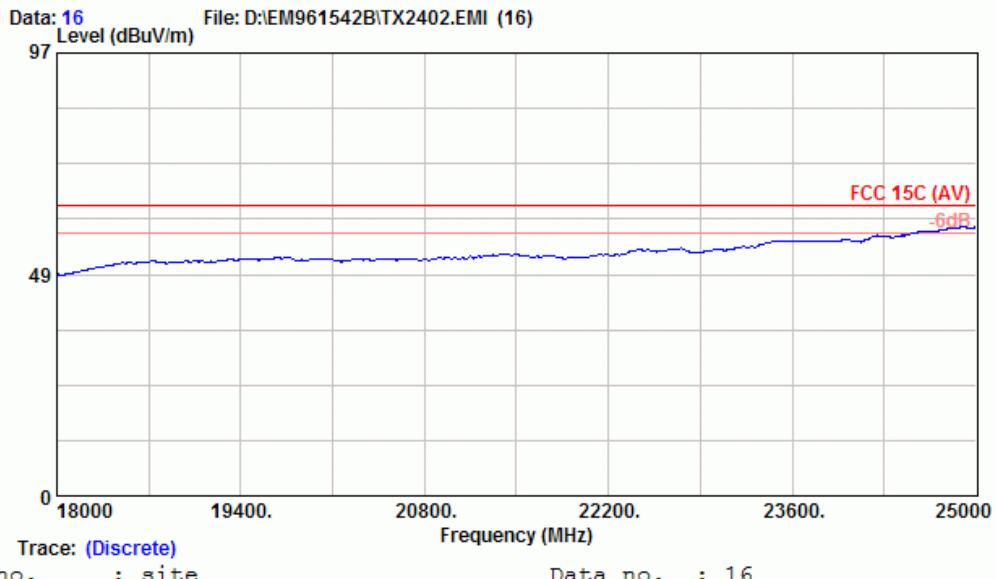


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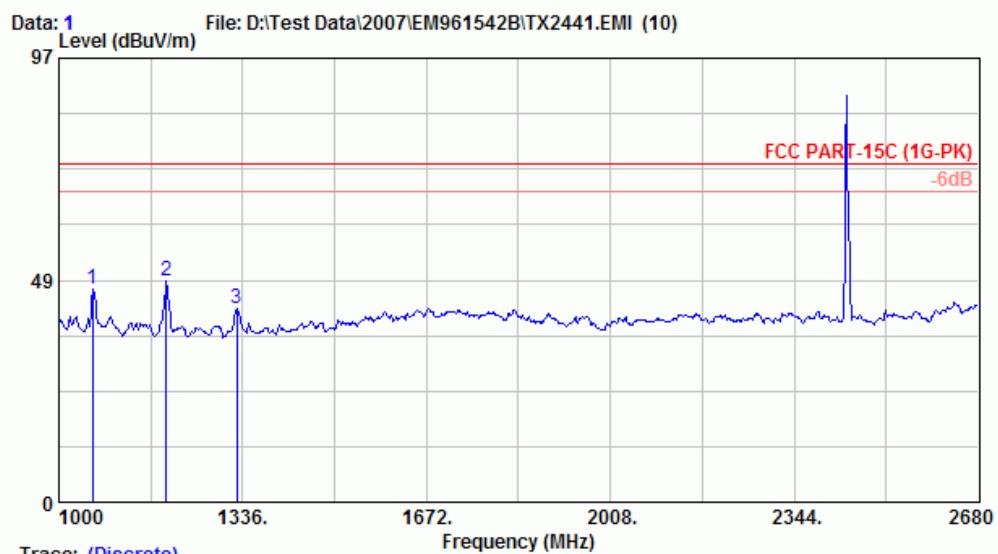
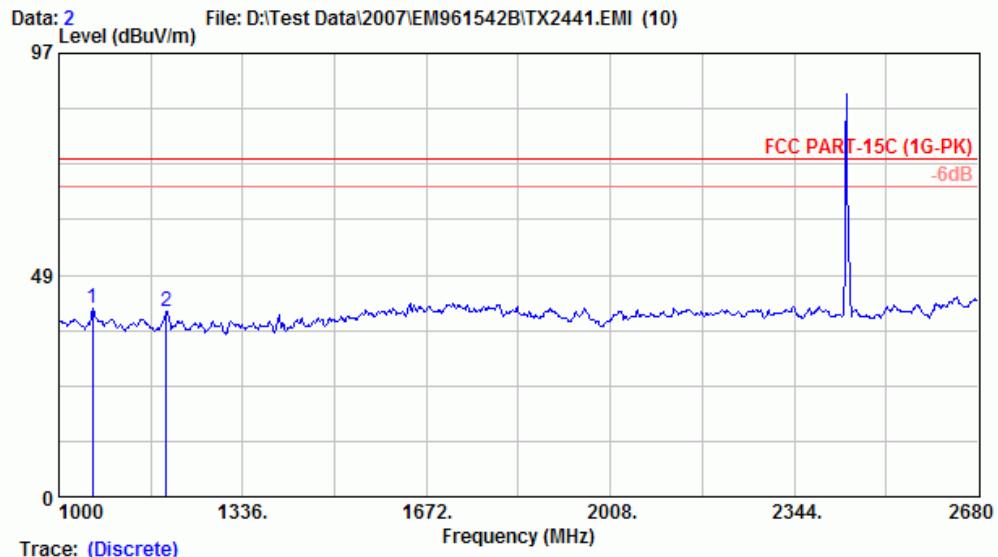


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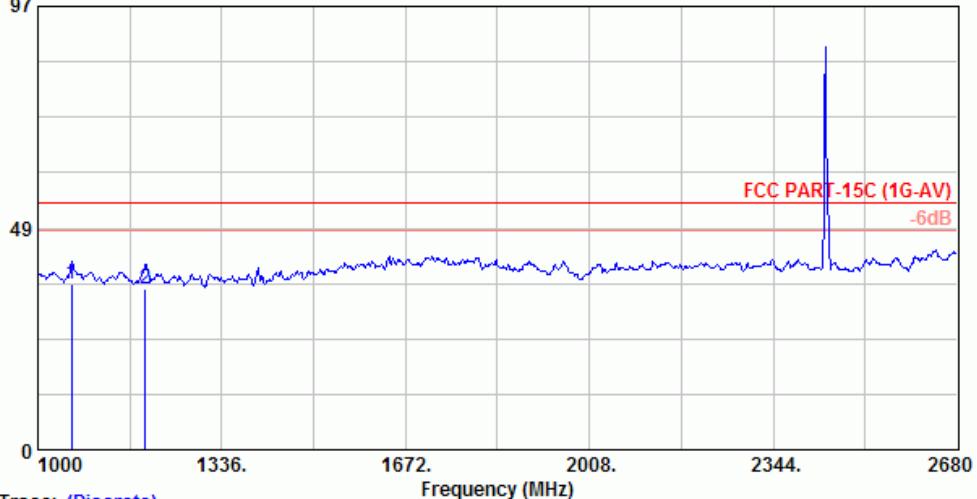
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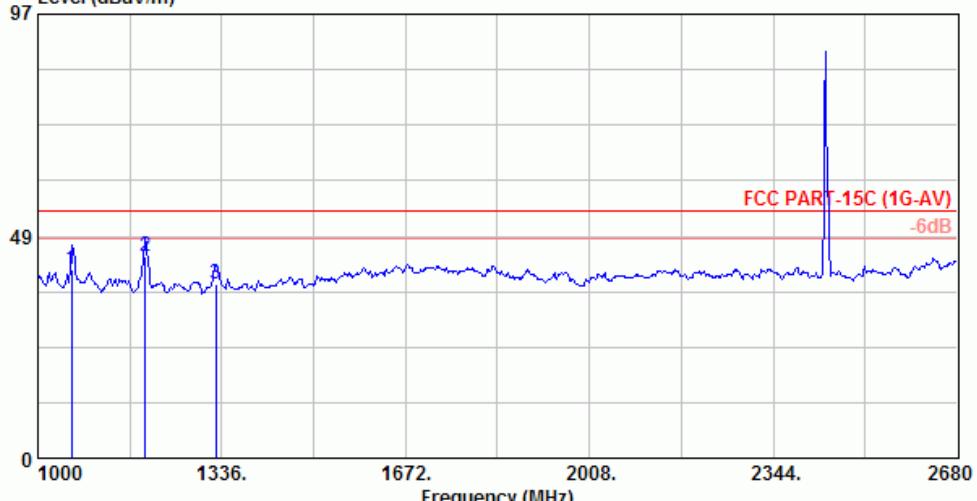
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 Level (dBuV/m)



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 Test Mode : TX2441MHz

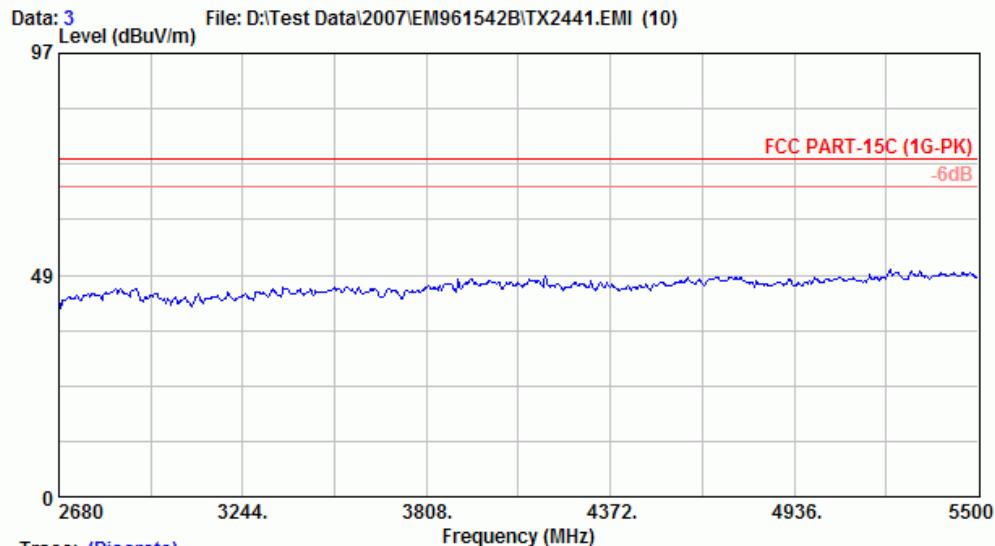
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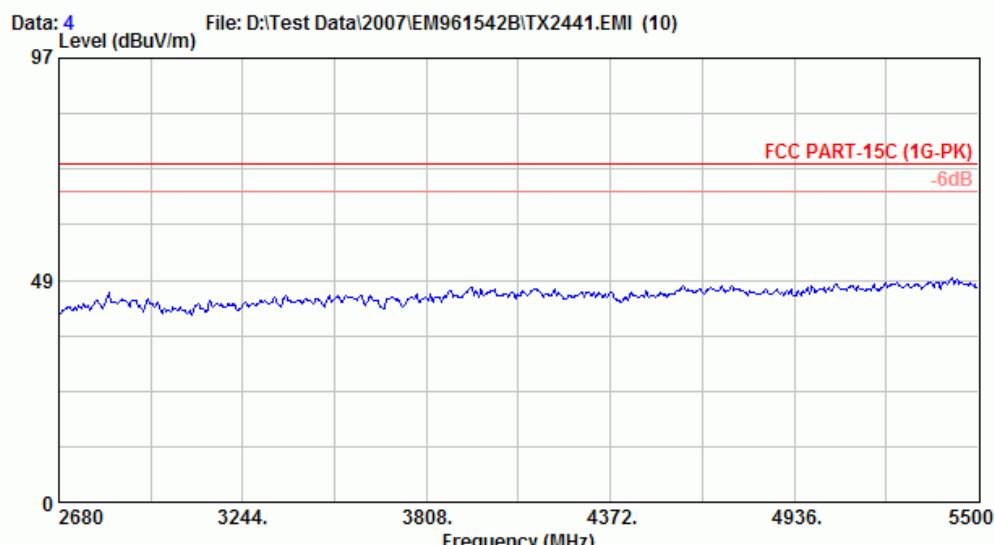
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 Limit : FCC PART-15C (1G-AV)
 Env. / Ins. : E7405A 25°C/48% Engineer : Jarwei Wang
 EUT : USB Storage VOIP Bluetooth Dongle M/N:MKD8801
 Power Rating : 120Vac/60Hz
 Test Mode : TX2441MHz



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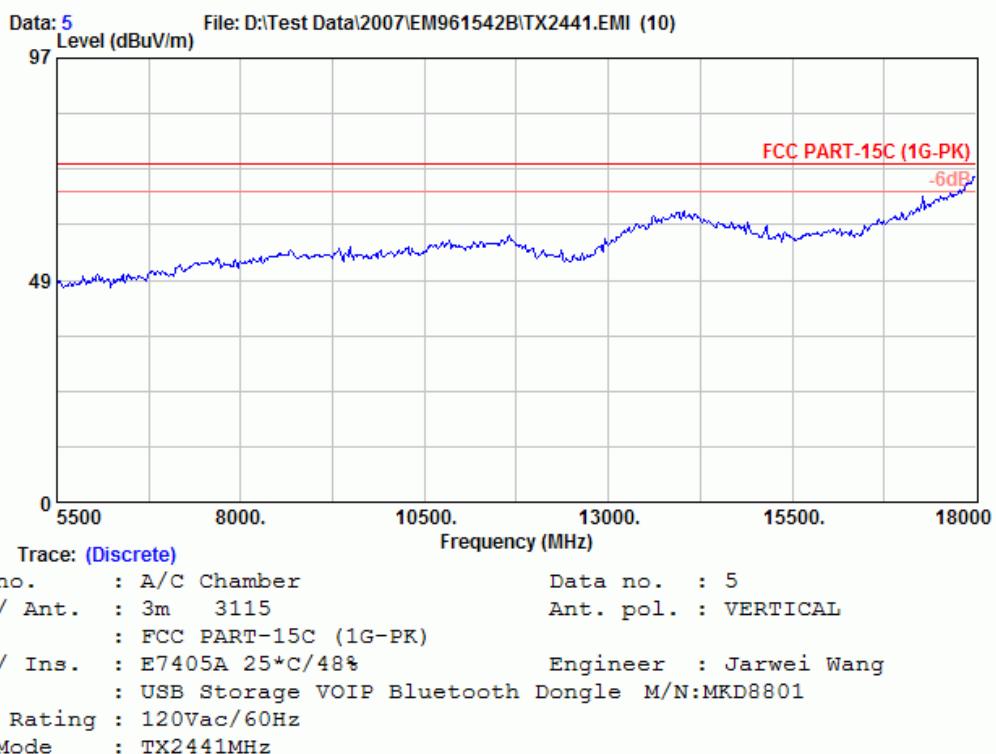
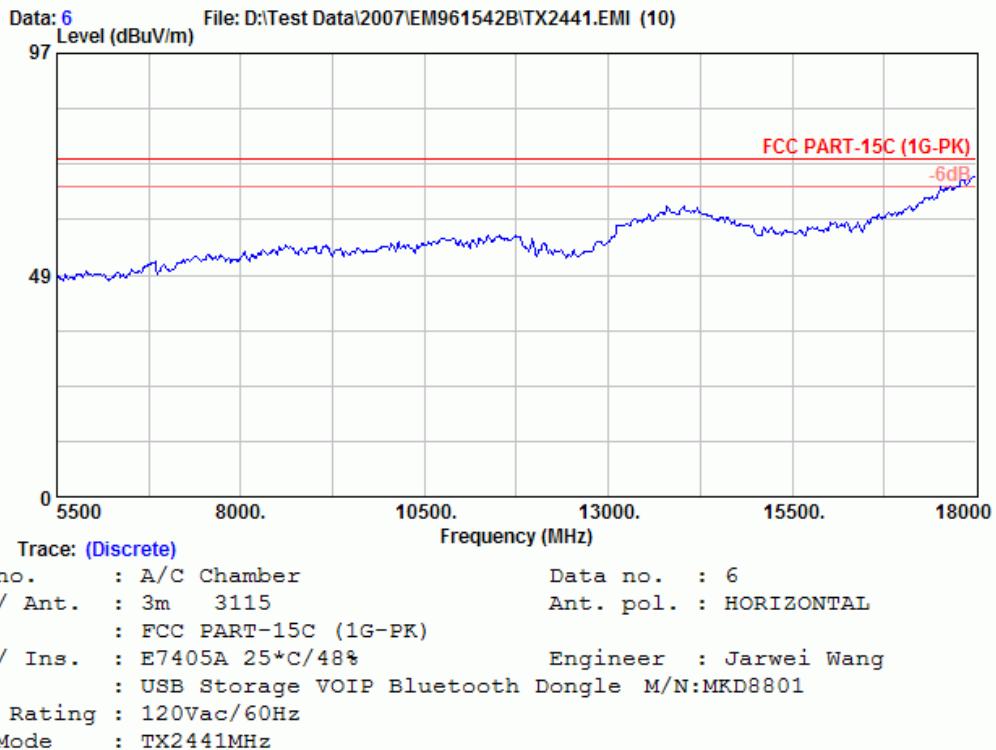
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Site no. : A/C Chamber Data no. : 3
Dis. / Ant. : 3m 3115 Ant. pol. : HORIZONTAL
Limit : FCC PART-15C (1G-PK)
Env. / Ins. : E7405A 25*C/48% Engineer : Jarwei Wang
EUT : USB Storage VOIP Bluetooth Dongle M/N:MKD8801
Power Rating : 120Vac/60Hz
Test Mode : TX2441MHz



Trace: (Discrete) Frequency (MHz)
Site no. : A/C Chamber Data no. : 4
Dis. / Ant. : 3m 3115 Ant. pol. : VERTICAL
Limit : FCC PART-15C (1G-PK)
Env. / Ins. : E7405A 25°C/48% Engineer : Jarwei Wang
EUT : USB Storage VOIP Bluetooth Dongle M/N:MKD8801
Power Rating : 120Vac/60Hz
Test Mode : TX2441MHz

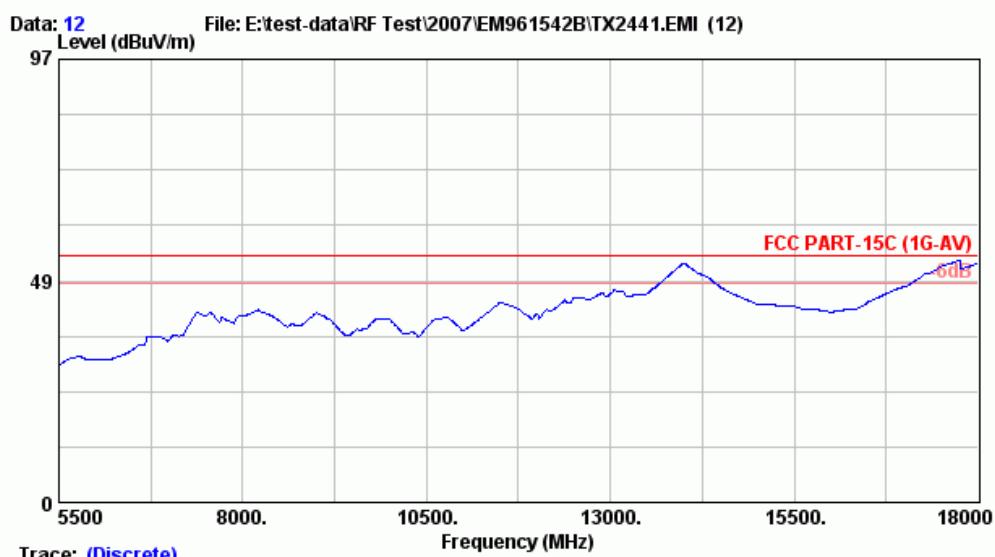


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 Email:ttemc@ttemc.com





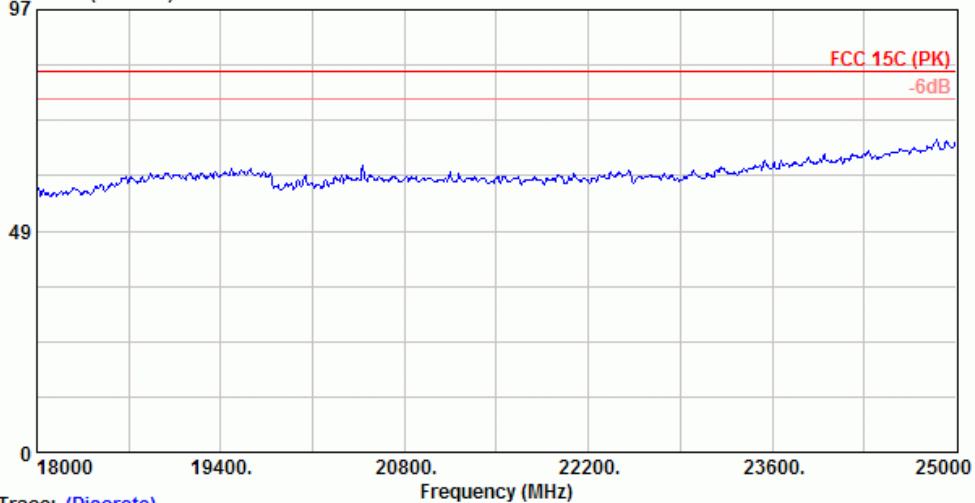
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 Email:ttmc@ttmc.com.tw



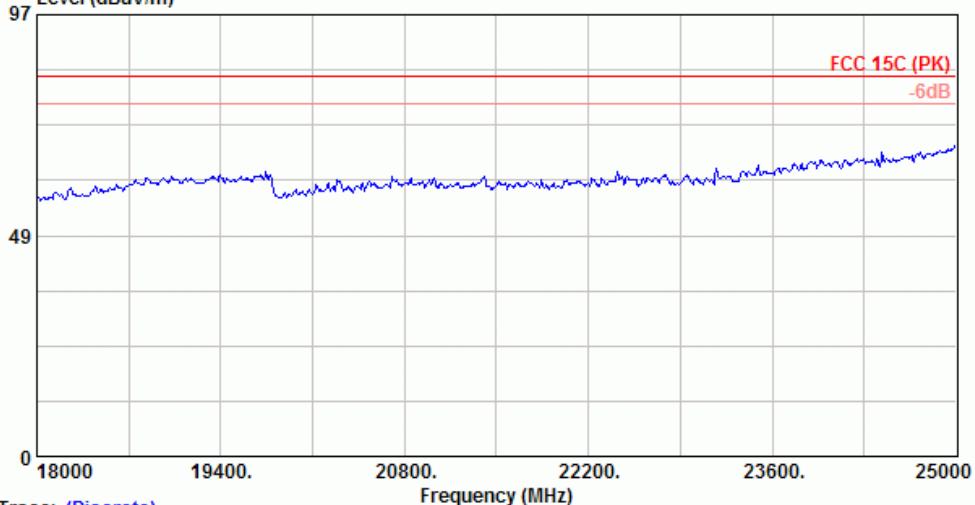


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Data: 14 File: D:\EM961542B\TX2441.EMI (16)
 Level (dBuV/m)



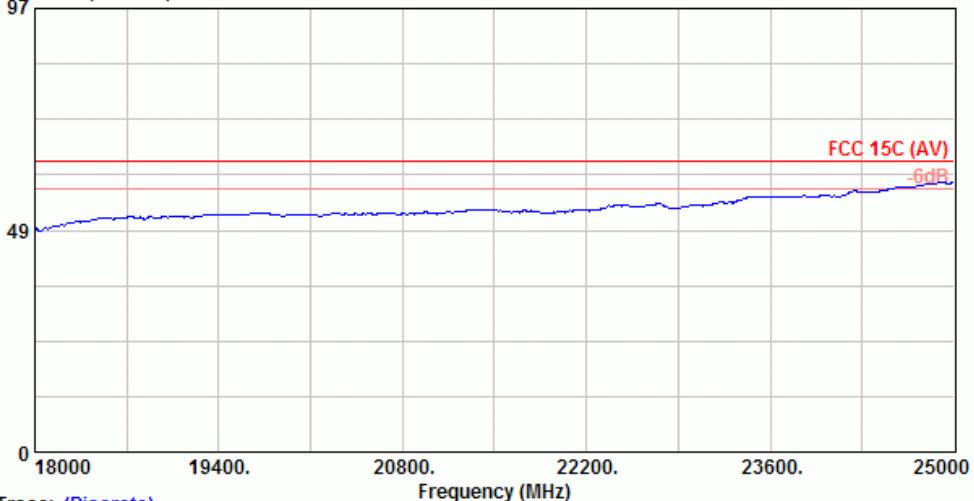
Data: 13 File: D:\EM961542B\TX2441.EMI (16)
 Level (dBuV/m)





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 Email:ttemc@ttemc.com

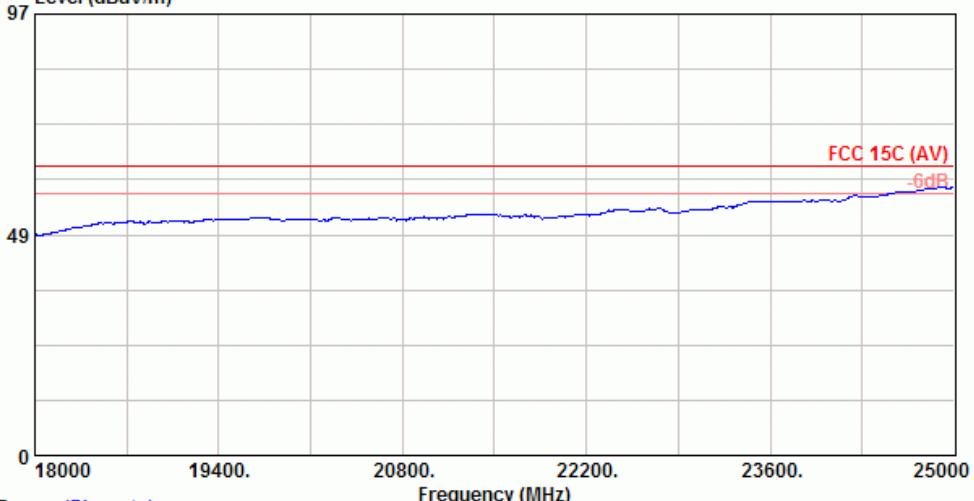
Data: 15 File: D:\EM961542B\TX2441.EMI (16)
 Level (dBuV/m)



Trace: (Discrete)

Site no. : site Data no. : 15
 Dis. / Ant. : 1m 3116 Ant. pol. : HORIZONTAL
 Limit : FCC 15C (AV)
 Env. / Ins. : E7405A 25°C/48% Engineer : Jarwei Wang
 EUT : USB Storage VOIP Bluetooth Dongle M/N:MKD8801
 Power Rating : 120Vac/60Hz
 Test Mode : TX2441MHz

Data: 16 File: D:\EM961542B\TX2441.EMI (16)
 Level (dBuV/m)



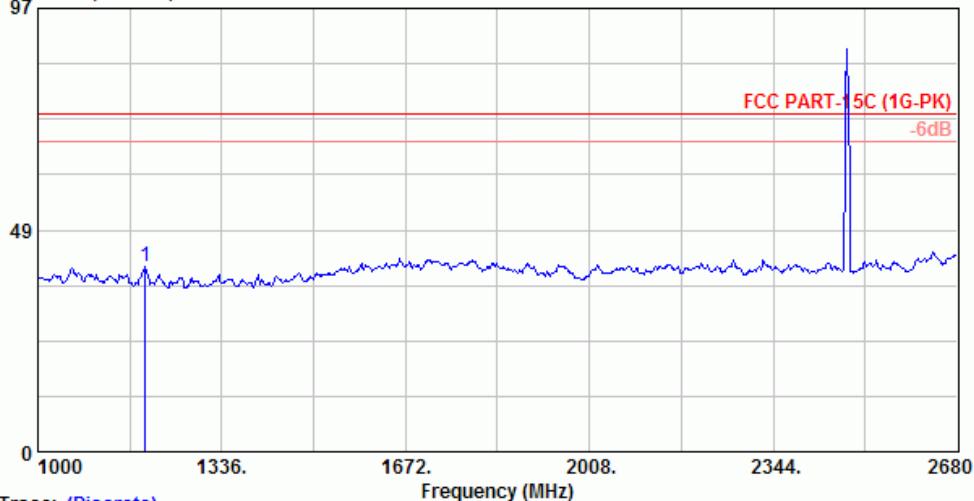
Trace: (Discrete)

Site no. : site Data no. : 16
 Dis. / Ant. : 1m 3116 Ant. pol. : VERTICAL
 Limit : FCC 15C (AV)
 Env. / Ins. : E7405A 25°C/48% Engineer : Jarwei Wang
 EUT : USB Storage VOIP Bluetooth Dongle M/N:MKD8801
 Power Rating : 120Vac/60Hz
 Test Mode : TX2441MHz



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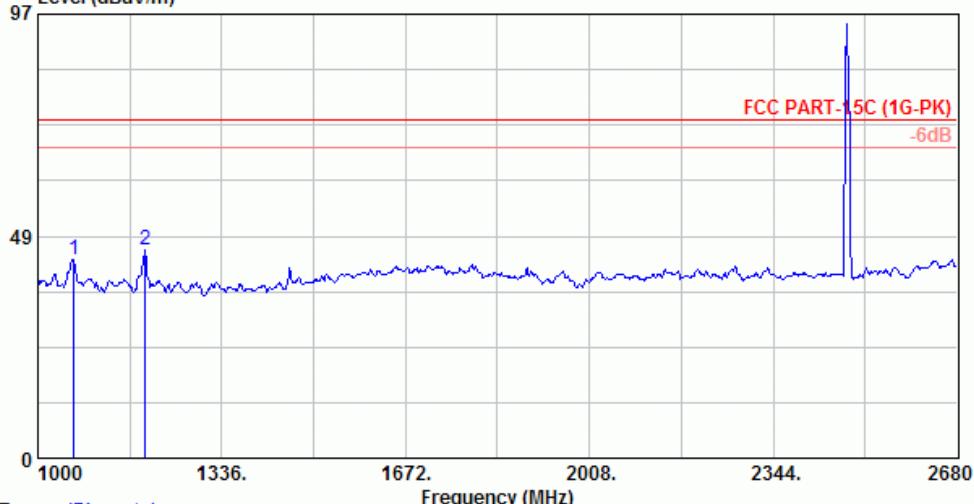
Data: 1 File: D:\Test Data\2007\EM961542B\TX2480.EMI (10)
 Level (dBuV/m)



Trace: (Discrete)

Site no. : A/C Chamber Data no. : 1
 Dis. / Ant. : 3m 3115 Ant. pol. : HORIZONTAL
 Limit : FCC PART-15C (1G-PK)
 Env. / Ins. : E7405A 25°C/48% Engineer : Jarwei Wang
 EUT : USB Storage VOIP Bluetooth Dongle M/N:MKD8801
 Power Rating : 120Vac/60Hz
 Test Mode : TX2480MHz

Data: 2 File: D:\Test Data\2007\EM961542B\TX2480.EMI (10)
 Level (dBuV/m)



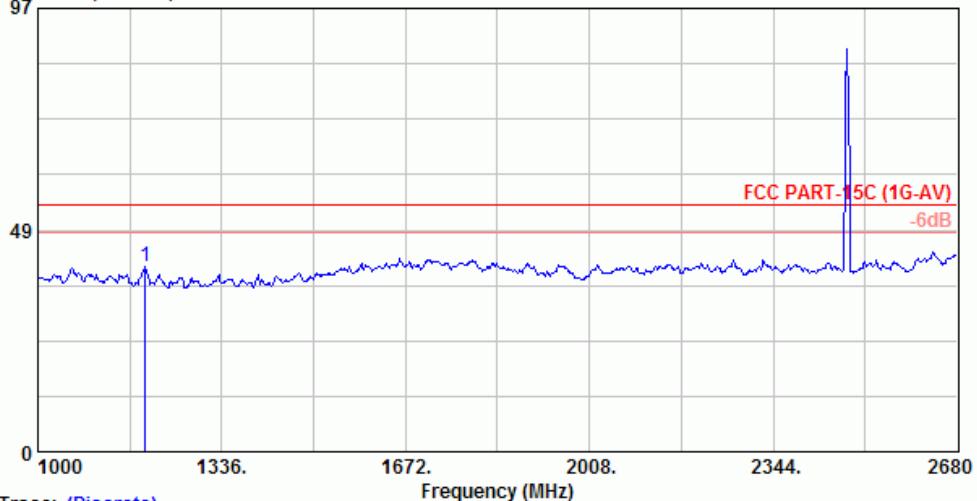
Trace: (Discrete)

Site no. : A/C Chamber Data no. : 2
 Dis. / Ant. : 3m 3115 Ant. pol. : VERTICAL
 Limit : FCC PART-15C (1G-PK)
 Env. / Ins. : E7405A 25°C/48% Engineer : Jarwei Wang
 EUT : USB Storage VOIP Bluetooth Dongle M/N:MKD8801
 Power Rating : 120Vac/60Hz
 Test Mode : TX2480MHz



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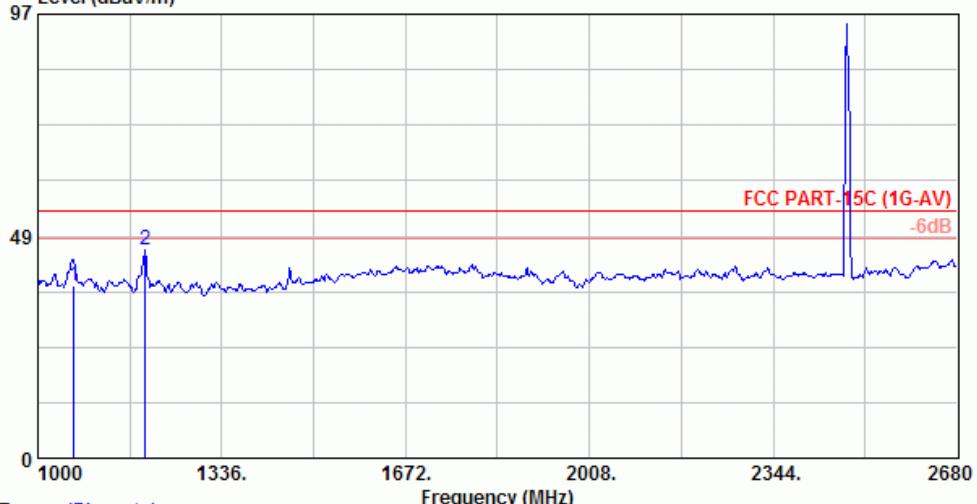
Data: 9 File: D:\Test Data\2007\EM961542B\TX2480.EMI (10)
 Level (dBuV/m)



Trace: (Discrete)

Site no. : A/C Chamber Data no. : 9
 Dis. / Ant. : 3m 3115 Ant. pol. : HORIZONTAL
 Limit : FCC PART-15C (1G-AV)
 Env. / Ins. : E7405A 25°C/48% Engineer : Jarwei Wang
 EUT : USB Storage VOIP Bluetooth Dongle M/N:MKD8801
 Power Rating : 120Vac/60Hz
 Test Mode : TX2480MHz

Data: 10 File: D:\Test Data\2007\EM961542B\TX2480.EMI (10)
 Level (dBuV/m)



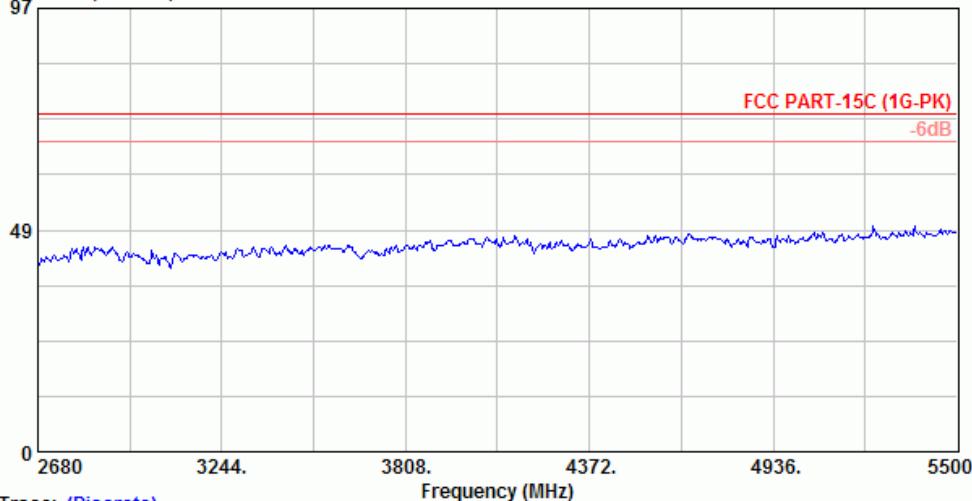
Trace: (Discrete)

Site no. : A/C Chamber Data no. : 10
 Dis. / Ant. : 3m 3115 Ant. pol. : VERTICAL
 Limit : FCC PART-15C (1G-AV)
 Env. / Ins. : E7405A 25°C/48% Engineer : Jarwei Wang
 EUT : USB Storage VOIP Bluetooth Dongle M/N:MKD8801
 Power Rating : 120Vac/60Hz
 Test Mode : TX2480MHz



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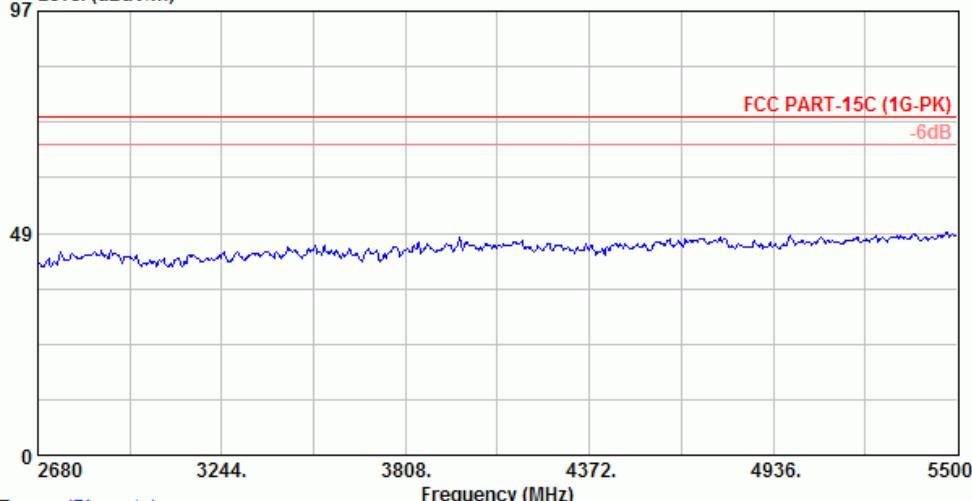
Data: 4 File: D:\Test Data\2007\EM961542B\TX2480.EMI (10)
 Level (dBuV/m)



Trace: (Discrete)

Site no. : A/C Chamber Data no. : 4
 Dis. / Ant. : 3m 3115 Ant. pol. : HORIZONTAL
 Limit : FCC PART-15C (1G-PK)
 Env. / Ins. : E7405A 25°C/48% Engineer : Jarwei Wang
 EUT : USB Storage VOIP Bluetooth Dongle M/N:MKD8801
 Power Rating : 120Vac/60Hz
 Test Mode : TX2480MHz

Data: 3 File: D:\Test Data\2007\EM961542B\TX2480.EMI (10)
 Level (dBuV/m)

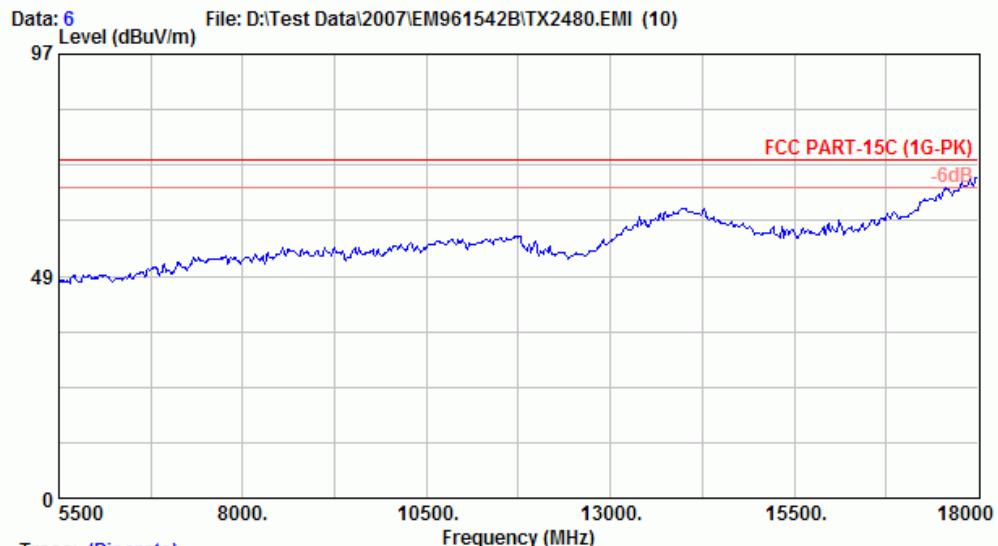
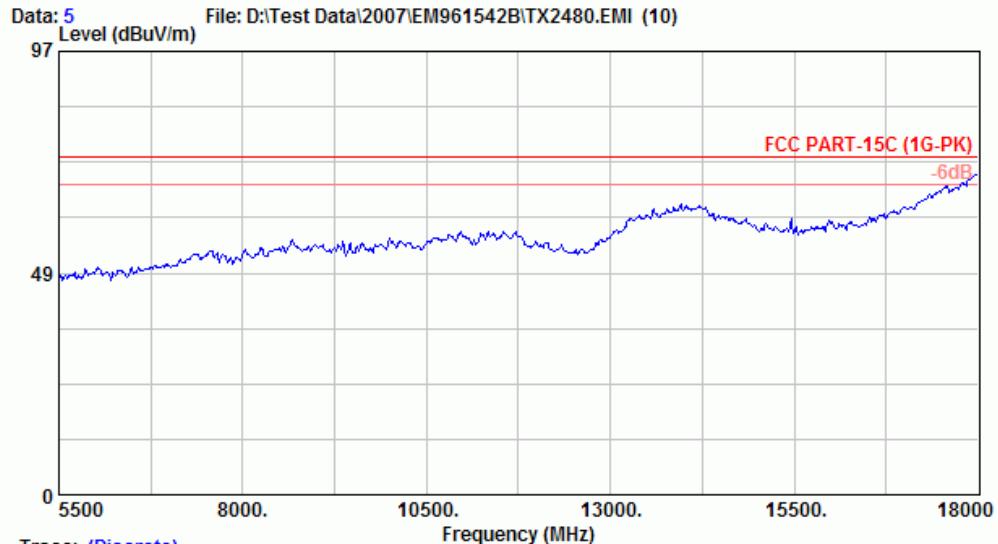


Trace: (Discrete)

Site no. : A/C Chamber Data no. : 3
 Dis. / Ant. : 3m 3115 Ant. pol. : VERTICAL
 Limit : FCC PART-15C (1G-PK)
 Env. / Ins. : E7405A 25°C/48% Engineer : Jarwei Wang
 EUT : USB Storage VOIP Bluetooth Dongle M/N:MKD8801
 Power Rating : 120Vac/60Hz
 Test Mode : TX2480MHz

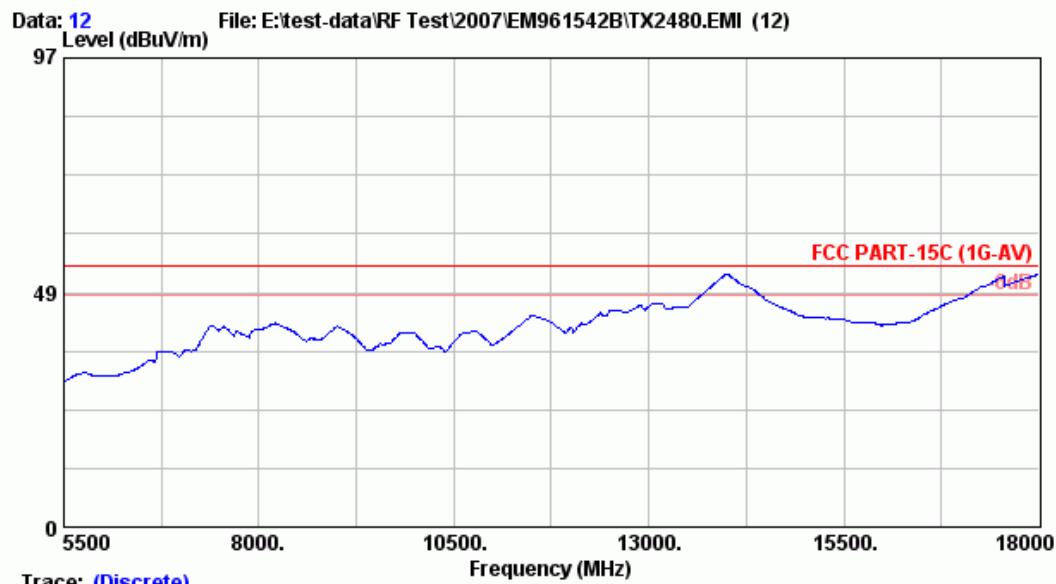


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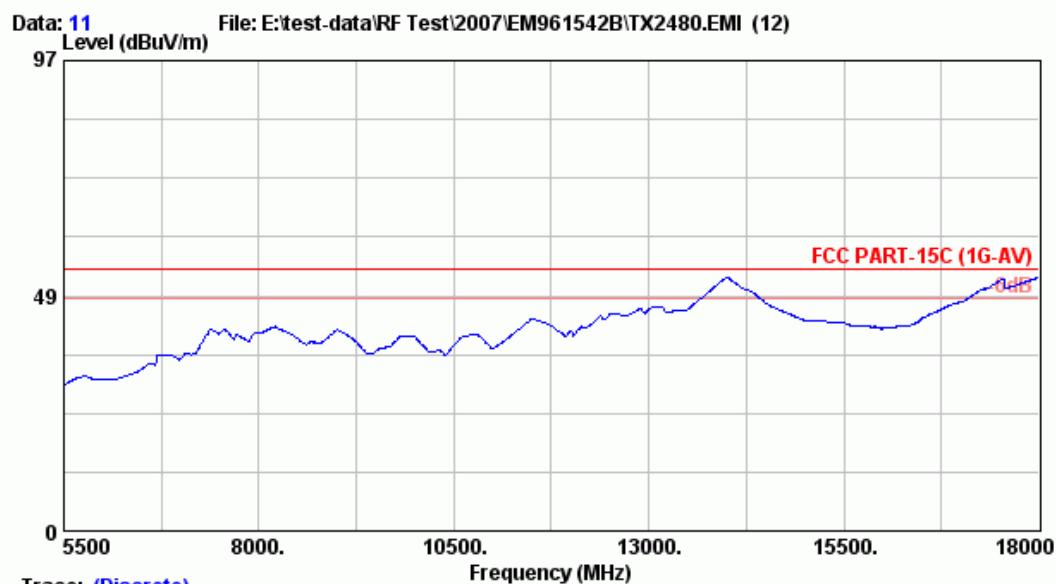




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Email:ttmc@ttmc.com.tw



Trace: (Discrete)
Site : A/C Chamber Data no. : 12
Dis. / Ins : 3115 Ant. pol : HORIZONTAL
Limit : FCC PART-15C (1G-AV)
Env. / Ins. : E7405A 25°C/48% Engineer: Jarwei Wang
EUT : USB Storage VOIP Bluetooth Dongle M/N:MKD8801
Power Rating : 120W AC / 60Hz
Test Mode : TX2480MHz

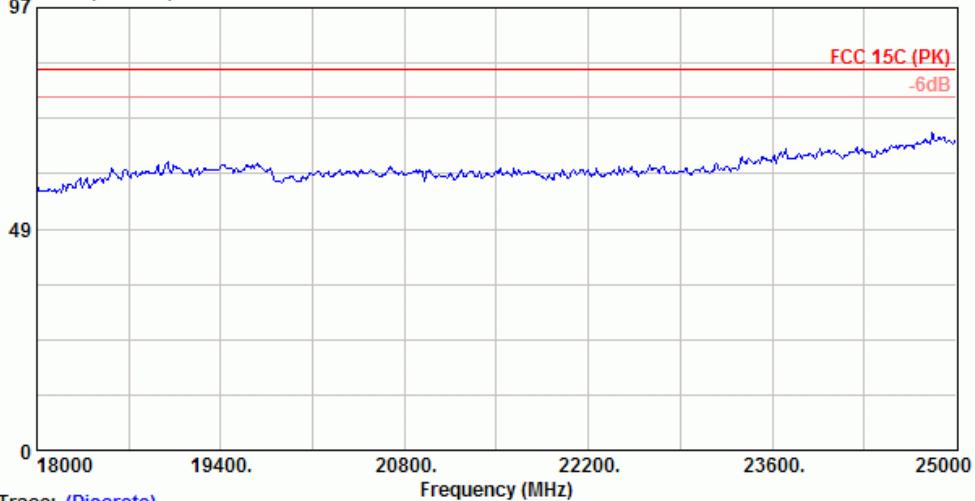


Trace: (Discrete)
Site : A/C Chamber Data no. : 11
Dis. / Ins : 3115 Ant. pol : VERTICAL
Limit : FCC PART-15C (1G-AV)
Env. / Ins. : E7405A 25*C/48% Engineer: Jarwei Wang
EUT : USB Storage VOIP Bluetooth Dongle M/N:MKD8801
Power Rating : 120W AC / 60Hz
Test Mode : TX2480MHz



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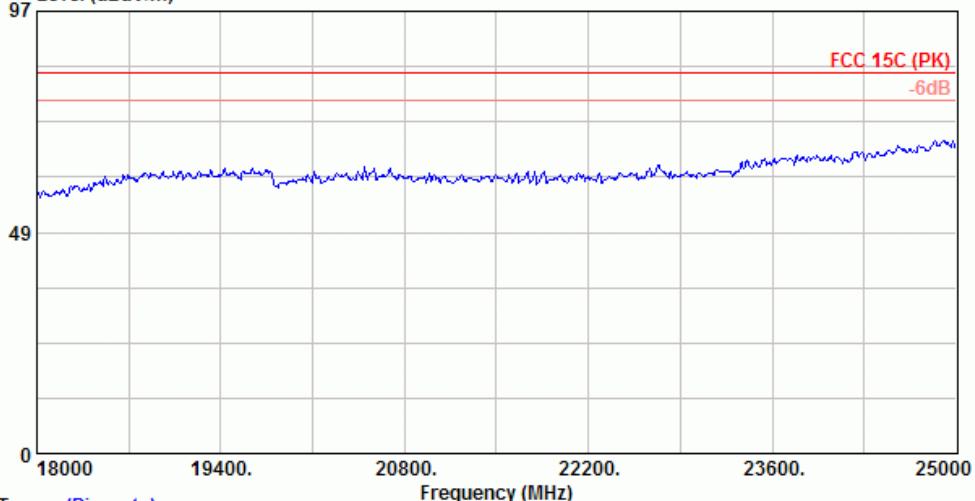
Data: 13 File: D:\EM961542B\TX2480.EMI (16)
 Level (dBuV/m)



Trace: (Discrete)

Site no. : site Data no. : 13
 Dis. / Ant. : 1m 3116 Ant. pol. : HORIZONTAL
 Limit : FCC 15C (PK)
 Env. / Ins. : E7405A 25*C/48% Engineer : Jarwei Wang
 EUT : USB Storage VOIP Bluetooth Dongle M/N:MKD8801
 Power Rating : 120Vac/60Hz
 Test Mode : TX2480MHz

Data: 14 File: D:\EM961542B\TX2480.EMI (16)
 Level (dBuV/m)

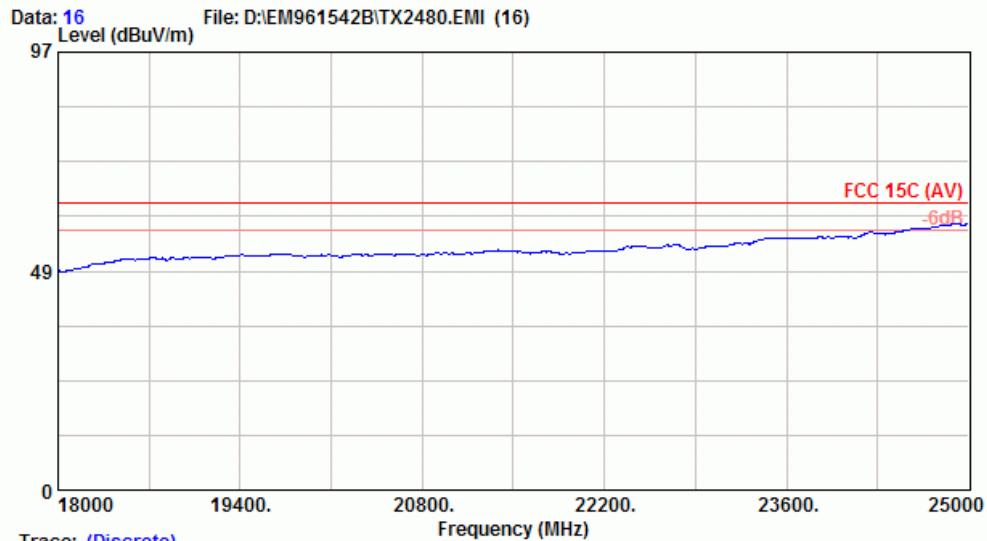


Trace: (Discrete)

Site no. : site Data no. : 14
 Dis. / Ant. : 1m 3116 Ant. pol. : VERTICAL
 Limit : FCC 15C (PK)
 Env. / Ins. : E7405A 25*C/48% Engineer : Jarwei Wang
 EUT : USB Storage VOIP Bluetooth Dongle M/N:MKD8801
 Power Rating : 120Vac/60Hz
 Test Mode : TX2480MHz

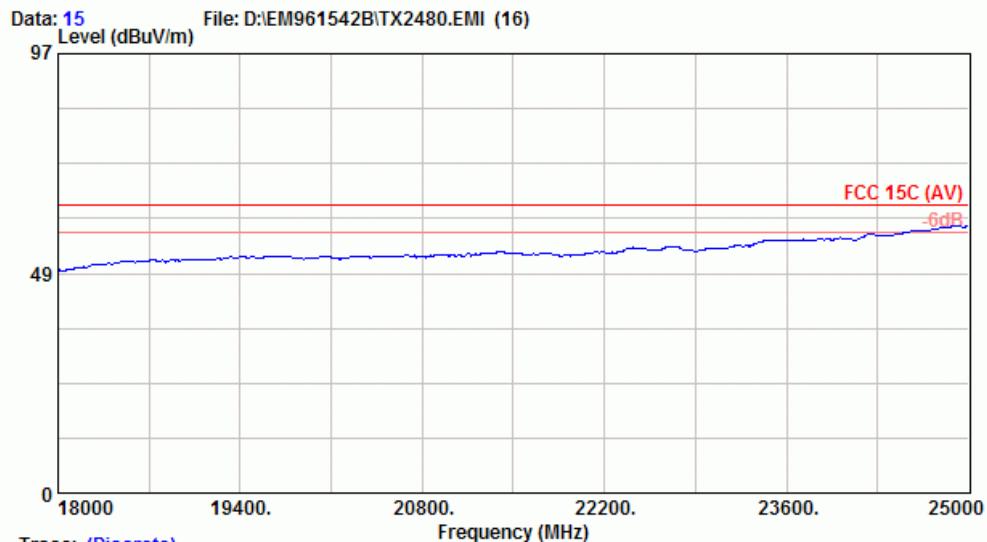


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 Email:tttmc@ttmc.com



Trace: (Discrete)

Site no. : site Data no. : 16
 Dis. / Ant. : 1m 3116 Ant. pol. : HORIZONTAL
 Limit : FCC 15C (AV)
 Env. / Ins. : E7405A 25°C/48% Engineer : Jarwei Wang
 EUT : USB Storage VOIP Bluetooth Dongle M/N:MKD8801
 Power Rating : 120Vac/60Hz
 Test Mode : TX2480MHz



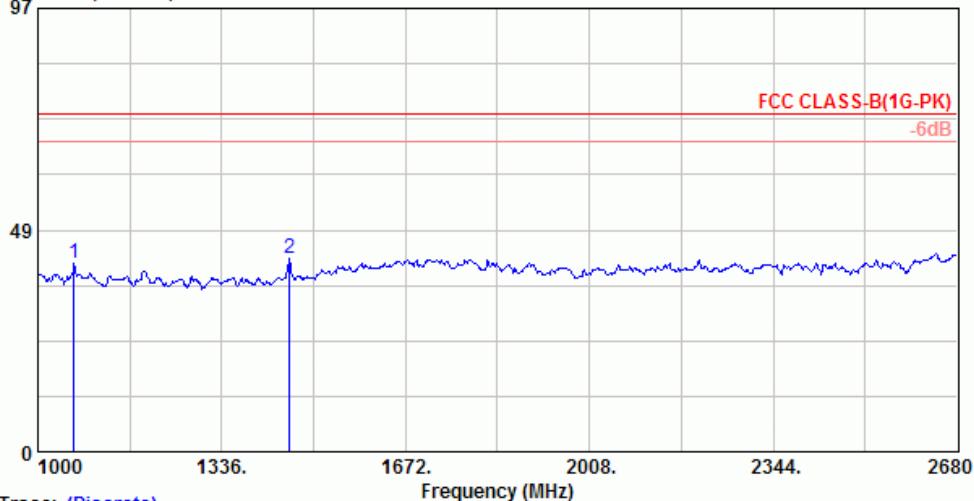
Trace: (Discrete)

Site no. : site Data no. : 15
 Dis. / Ant. : 1m 3116 Ant. pol. : VERTICAL
 Limit : FCC 15C (AV)
 Env. / Ins. : E7405A 25°C/48% Engineer : Jarwei Wang
 EUT : USB Storage VOIP Bluetooth Dongle M/N:MKD8801
 Power Rating : 120Vac/60Hz
 Test Mode : TX2480MHz



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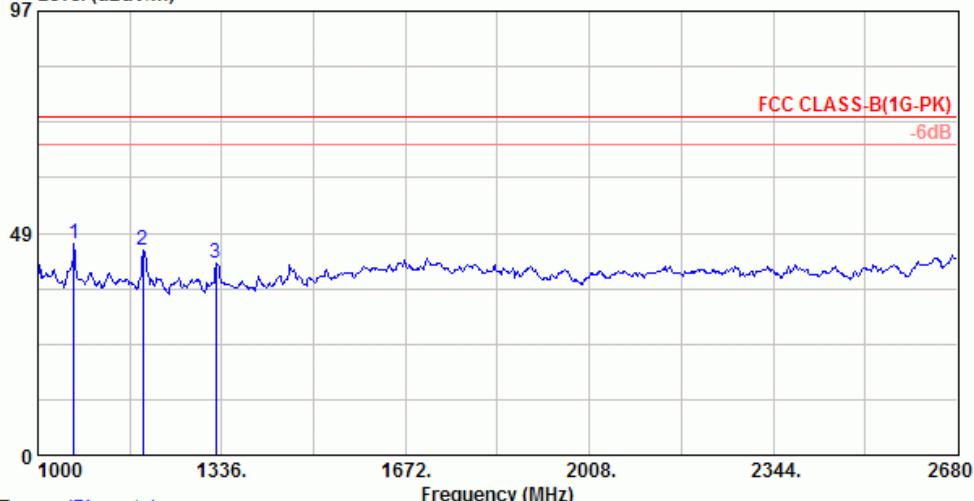
Data: 1 File: D:\Test Data\2007\EM961542B\RX2441.EMI (10)
 Level (dBuV/m)



Trace: (Discrete)

Site no. : A/C Chamber Data no. : 1
 Dis. / Ant. : 3m 3115 Ant. pol. : HORIZONTAL
 Limit : FCC CLASS-B (1G-PK)
 Env. / Ins. : E7405A 25°C/48% Engineer : Jarwei Wang
 EUT : USB Storage VOIP Bluetooth Dongle M/N:MKD8801
 Power Rating : 120Vac/60Hz
 Test Mode : RX2441MHz

Data: 2 File: D:\Test Data\2007\EM961542B\RX2441.EMI (10)
 Level (dBuV/m)



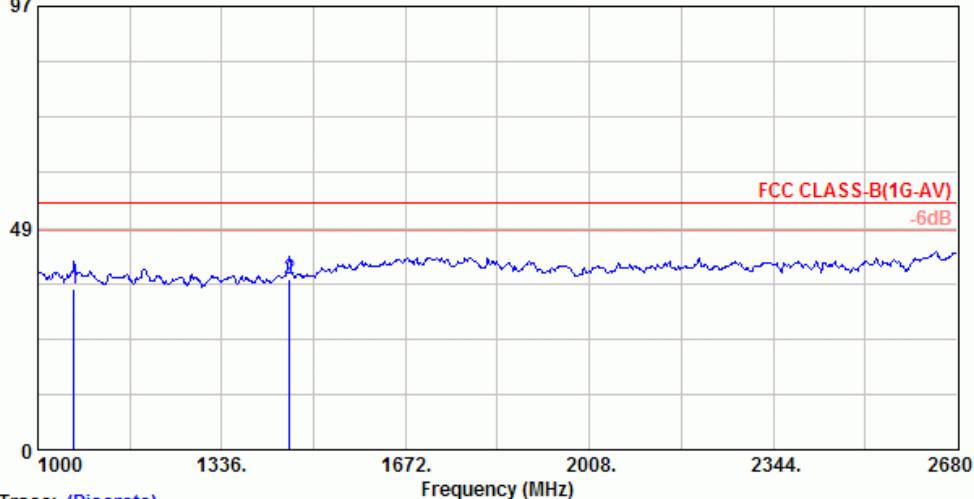
Trace: (Discrete)

Site no. : A/C Chamber Data no. : 2
 Dis. / Ant. : 3m 3115 Ant. pol. : VERTICAL
 Limit : FCC CLASS-B (1G-PK)
 Env. / Ins. : E7405A 25°C/48% Engineer : Jarwei Wang
 EUT : USB Storage VOIP Bluetooth Dongle M/N:MKD8801
 Power Rating : 120Vac/60Hz
 Test Mode : RX2441MHz



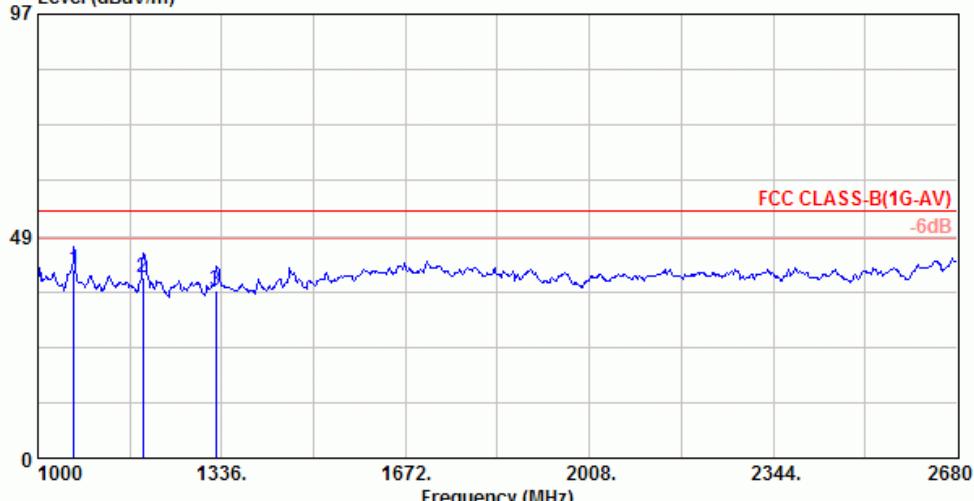
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Data: 10 File: D:\Test Data\2007\EM961542B\RX2441.EMI (10)
 Level (dBuV/m)



Site no. : A/C Chamber Data no. : 10
 Dis. / Ant. : 3m 3115 Ant. pol. : HORIZONTAL
 Limit : FCC CLASS-B (1G-AV)
 Env. / Ins. : E7405A 25°C/48% Engineer : Jarwei Wang
 EUT : USB Storage VOIP Bluetooth Dongle M/N:MKD8801
 Power Rating : 120Vac/60Hz
 Test Mode : RX2441MHz

Data: 9 File: D:\Test Data\2007\EM961542B\RX2441.EMI (10)
 Level (dBuV/m)

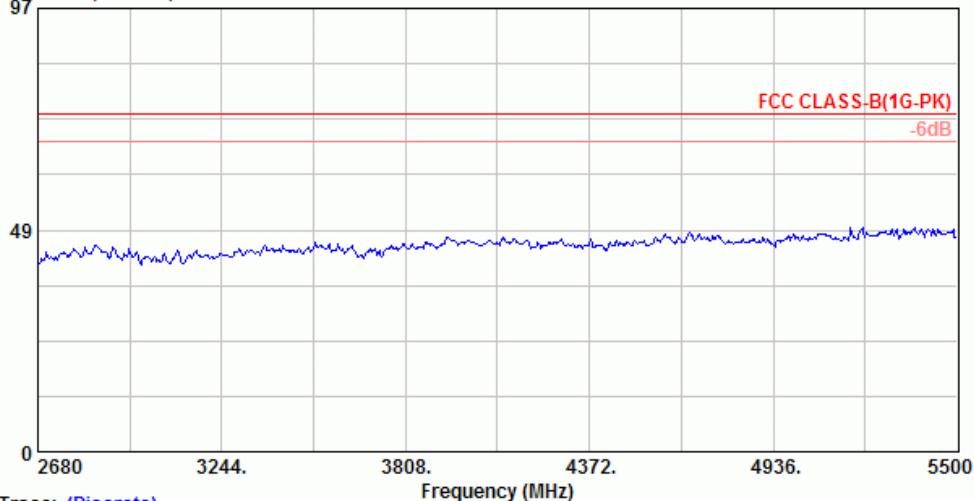


Site no. : A/C Chamber Data no. : 9
 Dis. / Ant. : 3m 3115 Ant. pol. : VERTICAL
 Limit : FCC CLASS-B (1G-AV)
 Env. / Ins. : E7405A 25°C/48% Engineer : Jarwei Wang
 EUT : USB Storage VOIP Bluetooth Dongle M/N:MKD8801
 Power Rating : 120Vac/60Hz
 Test Mode : RX2441MHz



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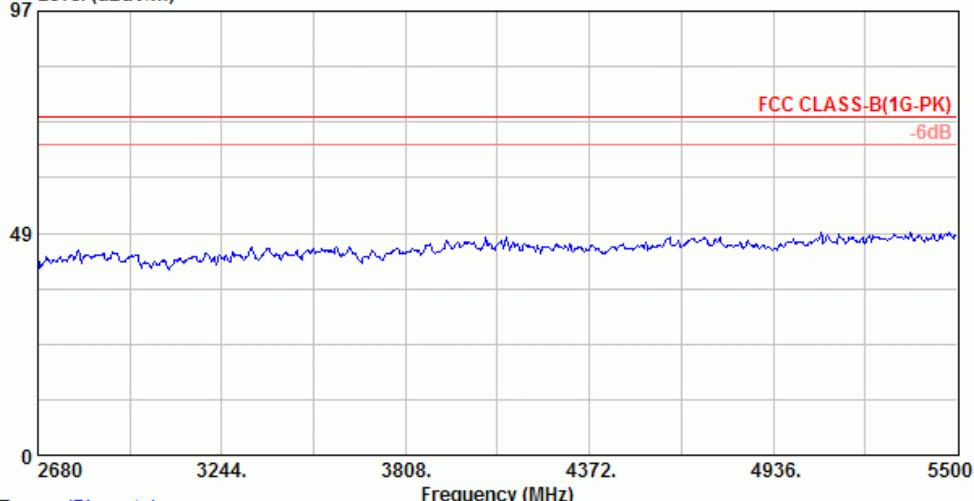
Data: 4 File: D:\Test Data\2007\EM961542B\RX2441.EMI (10)
 Level (dBuV/m)



Trace: (Discrete)

Site no. : A/C Chamber Data no. : 4
 Dis. / Ant. : 3m 3115 Ant. pol. : HORIZONTAL
 Limit : FCC CLASS-B (1G-PK)
 Env. / Ins. : E7405A 25*C/48% Engineer : Jarwei Wang
 EUT : USB Storage VOIP Bluetooth Dongle M/N:MKD8801
 Power Rating : 120Vac/60Hz
 Test Mode : RX2441MHz

Data: 3 File: D:\Test Data\2007\EM961542B\RX2441.EMI (10)
 Level (dBuV/m)

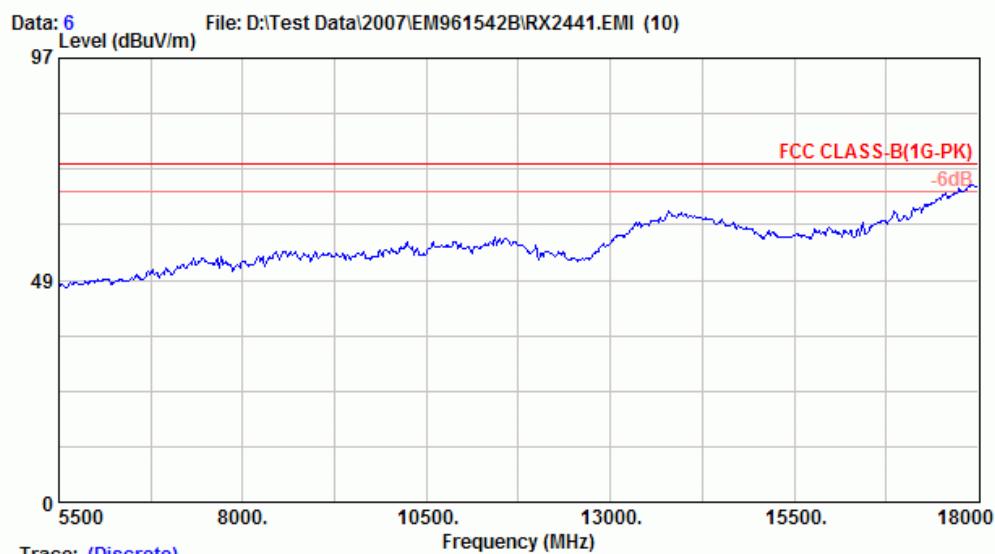
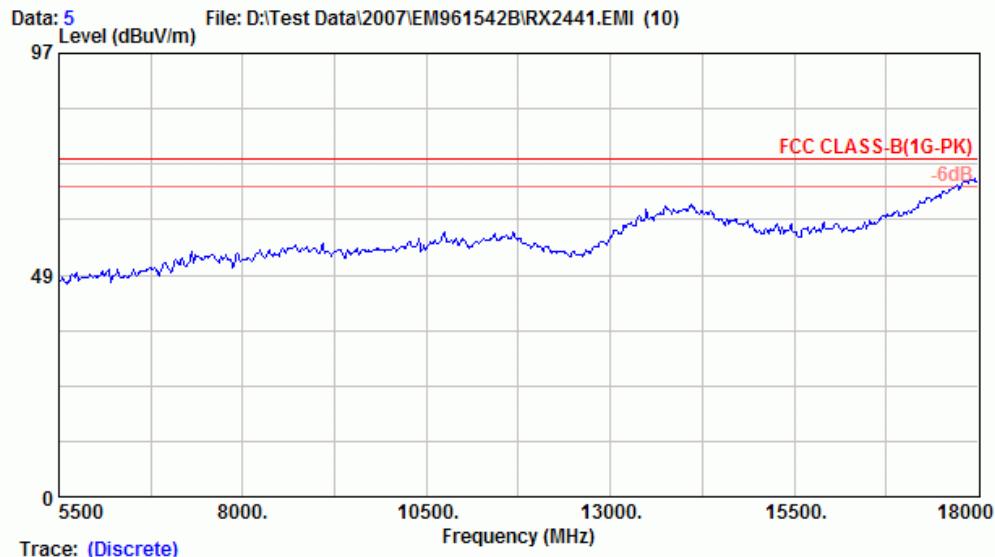


Trace: (Discrete)

Site no. : A/C Chamber Data no. : 3
 Dis. / Ant. : 3m 3115 Ant. pol. : VERTICAL
 Limit : FCC CLASS-B (1G-PK)
 Env. / Ins. : E7405A 25*C/48% Engineer : Jarwei Wang
 EUT : USB Storage VOIP Bluetooth Dongle M/N:MKD8801
 Power Rating : 120Vac/60Hz
 Test Mode : RX2441MHz



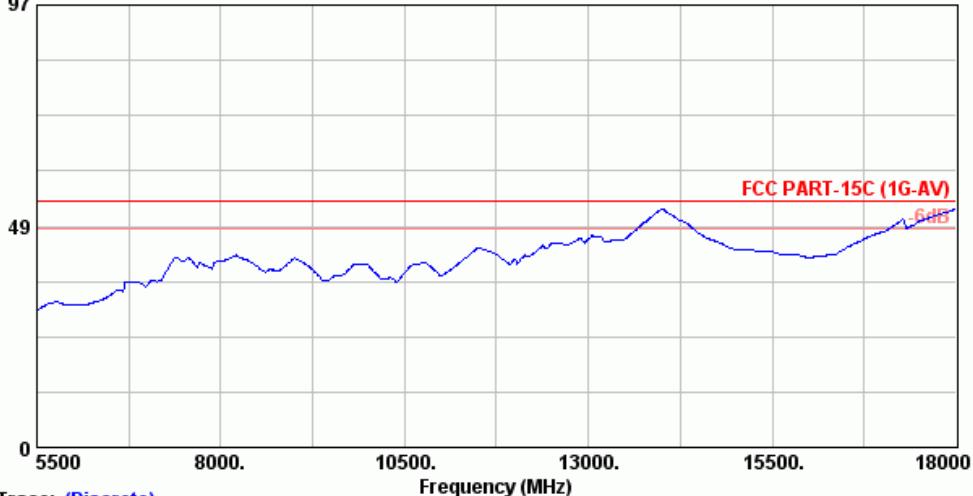
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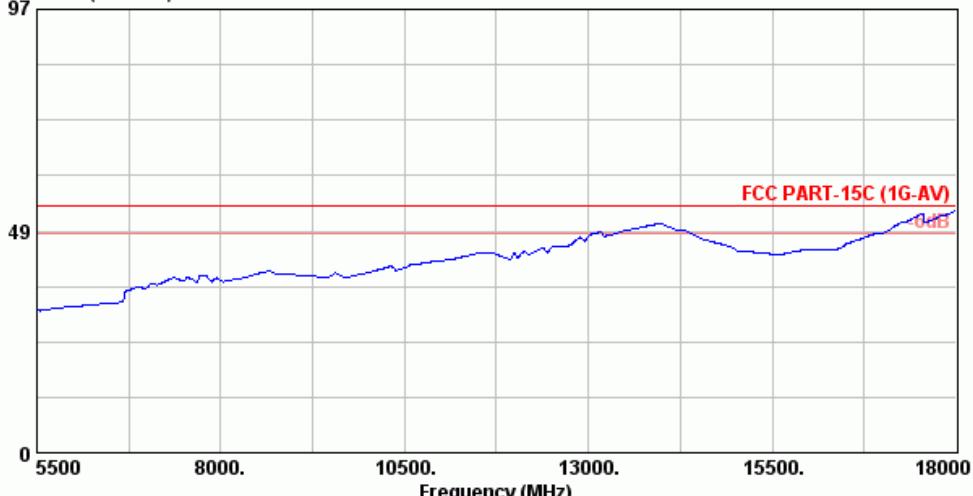
Data: 11 File: E:\test-data\RF Test\2007\EM961542B\RX2441.EMI (12)
 Level (dBuV/m)



Trace: (Discrete)

Site : A/C Chamber Data no. : 11
 Dis. / Ins : 3115 Ant. pol : HORIZONTAL
 Limit : FCC PART-15C (1G-AV)
 Env. / Ins. : E7405A 25°C/48% Engineer: Jarwei Wang
 EUT : USB Storage VOIP Bluetooth Dongle M/N:MKD8801
 Power Rating : 120V AC / 60Hz
 Test Mode : RX2441MHz

Data: 12 File: E:\test-data\RF Test\2007\EM961542B\RX2441.EMI (12)
 Level (dBuV/m)



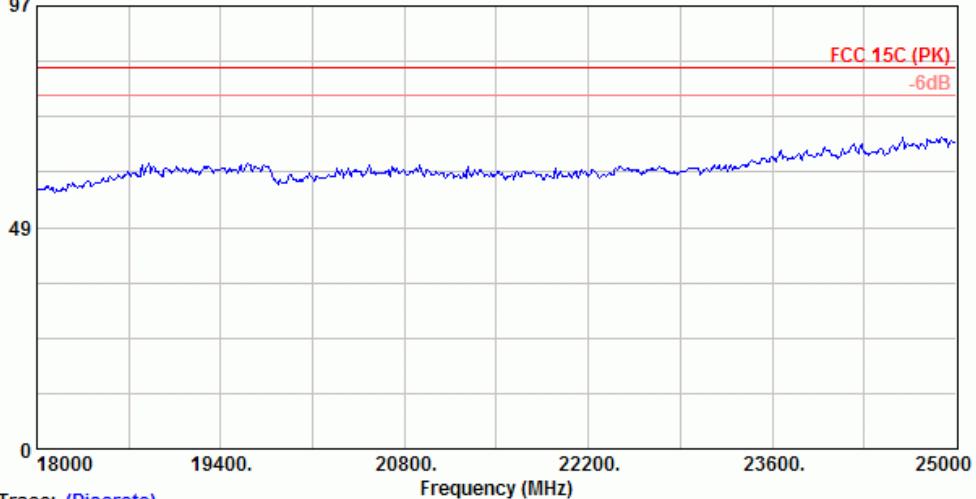
Trace: (Discrete)

Site : A/C Chamber Data no. : 12
 Dis. / Ins : 3115 Ant. pol : VERTICAL
 Limit : FCC PART-15C (1G-AV)
 Env. / Ins. : E7405A 25°C/48% Engineer: Jarwei Wang
 EUT : USB Storage VOIP Bluetooth Dongle M/N:MKD8801
 Power Rating : 120V AC / 60Hz
 Test Mode : RX2441MHz



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 Email:tttemc@tttemc.com

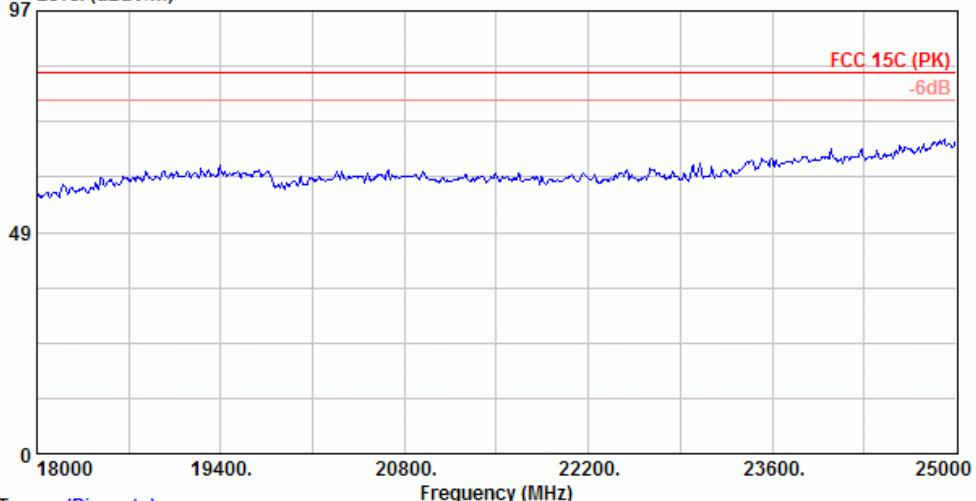
Data: 13 File: D:\EM961542B\RX2441.EMI (16)
 Level (dBuV/m)



Trace: (Discrete)

Site no. : site Data no. : 13
 Dis. / Ant. : 1m 3116 Ant. pol. : HORIZONTAL
 Limit : FCC 15C (PK)
 Env. / Ins. : E7405A 25°C/48% Engineer : Jarwei Wang
 EUT : USB Storage VOIP Bluetooth Dongle M/N:MKD8801
 Power Rating : 120Vac/60Hz
 Test Mode : RX2441MHz

Data: 14 File: D:\EM961542B\RX2441.EMI (16)
 Level (dBuV/m)



Trace: (Discrete)

Site no. : site Data no. : 14
 Dis. / Ant. : 1m 3116 Ant. pol. : VERTICAL
 Limit : FCC 15C (PK)
 Env. / Ins. : E7405A 25°C/48% Engineer : Jarwei Wang
 EUT : USB Storage VOIP Bluetooth Dongle M/N:MKD8801
 Power Rating : 120Vac/60Hz
 Test Mode : RX2441MHz



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