

# Test Report No.10053161 001

## Appendix D: Radiated and Mains Spurious Emission Data

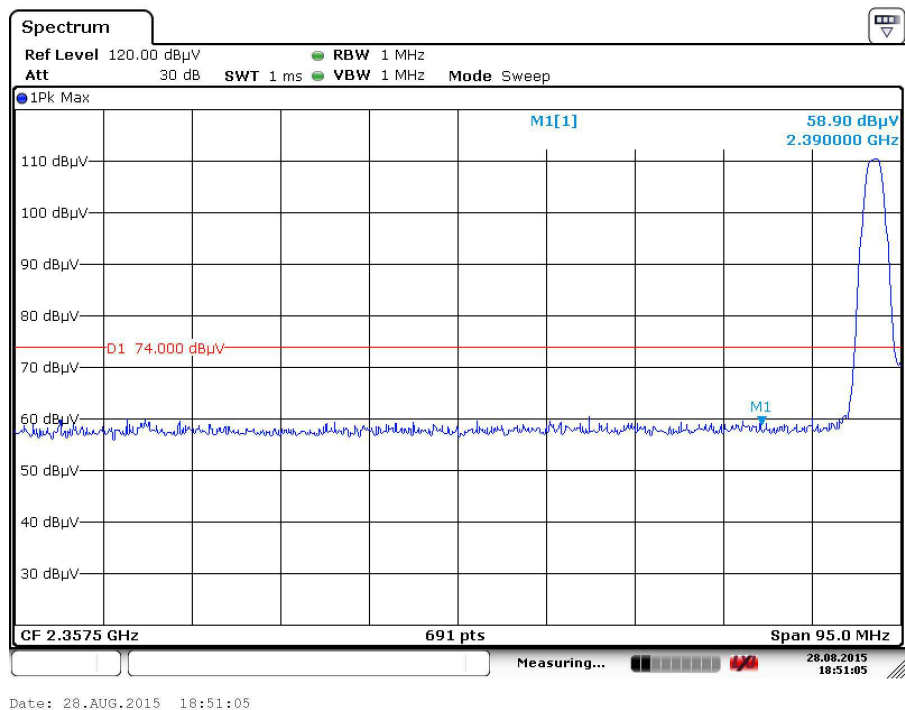
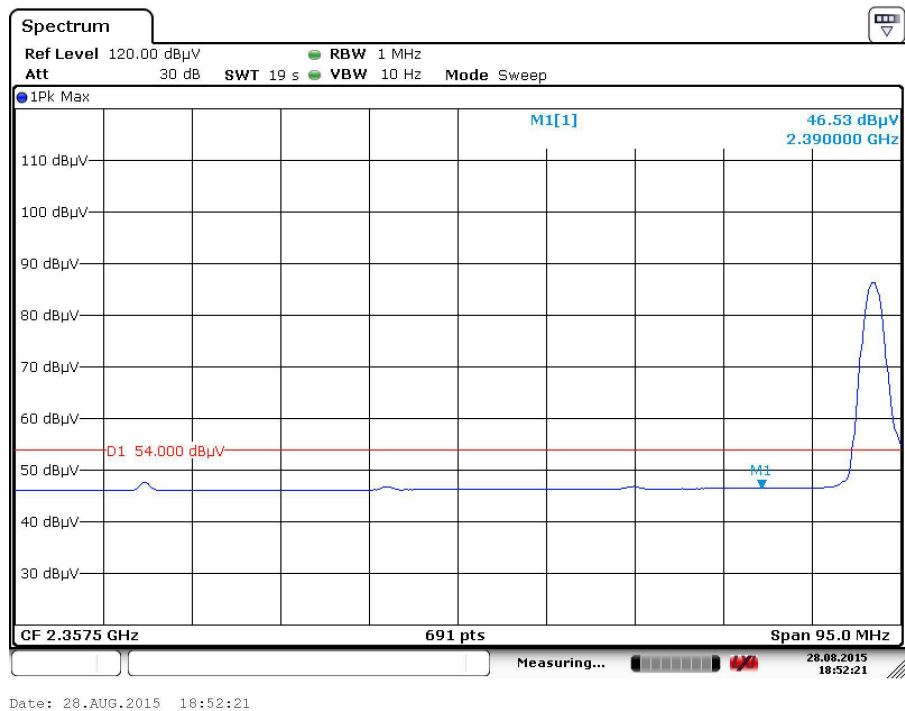
(File: 10053161AppendixD)

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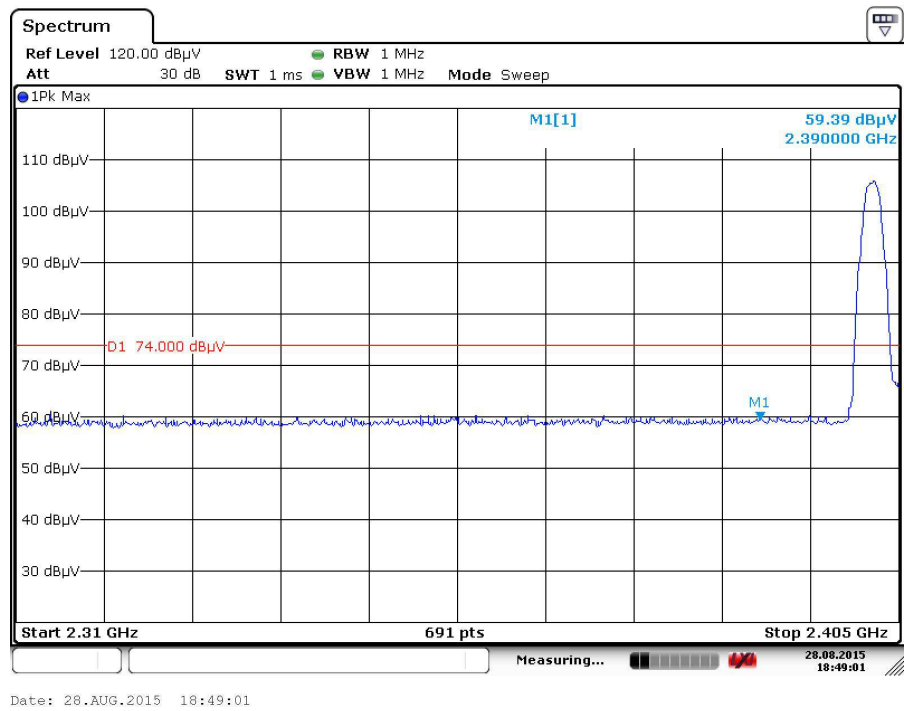
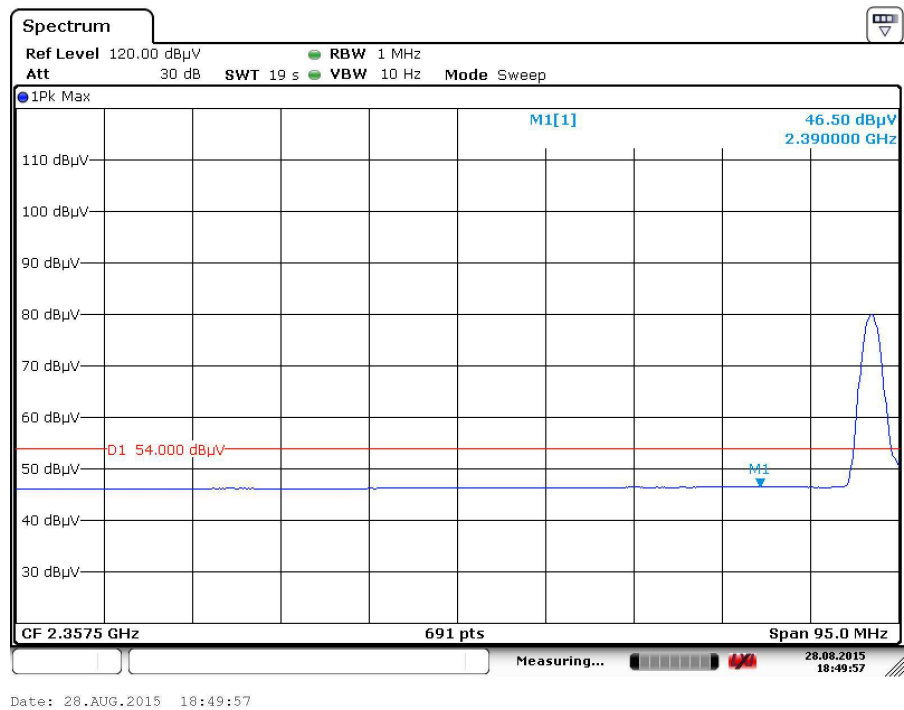
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# Radiated Bandedge (GFSK)

Low Channel (Hor)



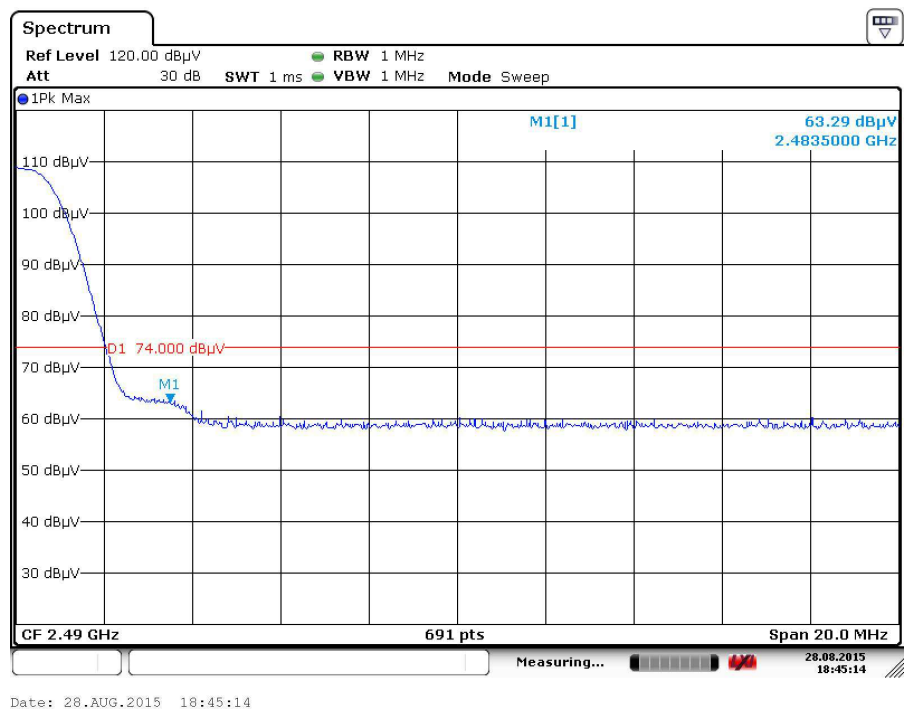
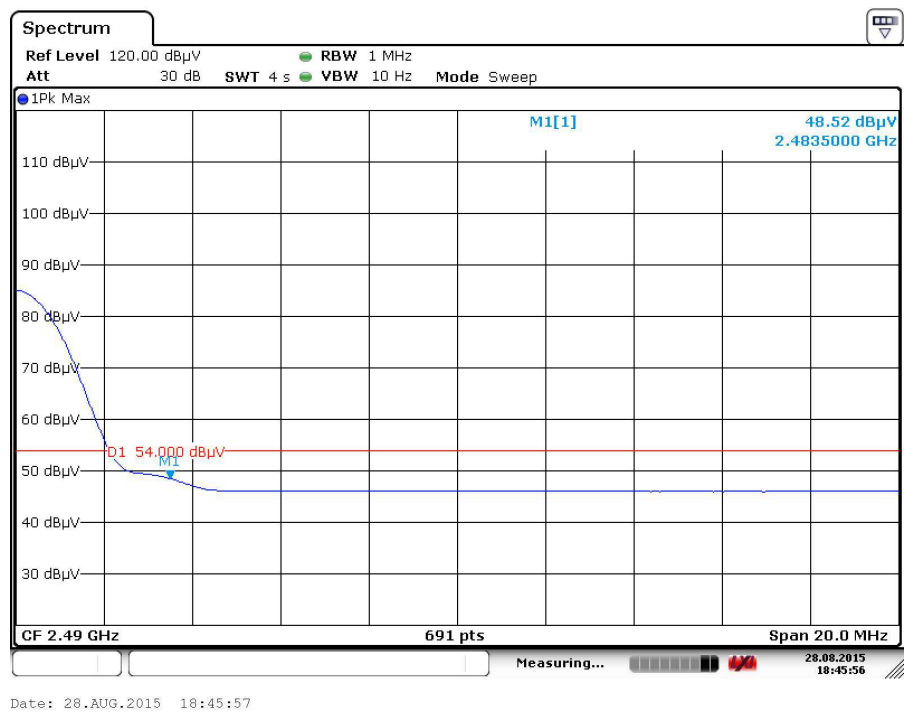
Low Channel (Ver)



Spurious Emissions, Band Edge, 2.35-2.5G

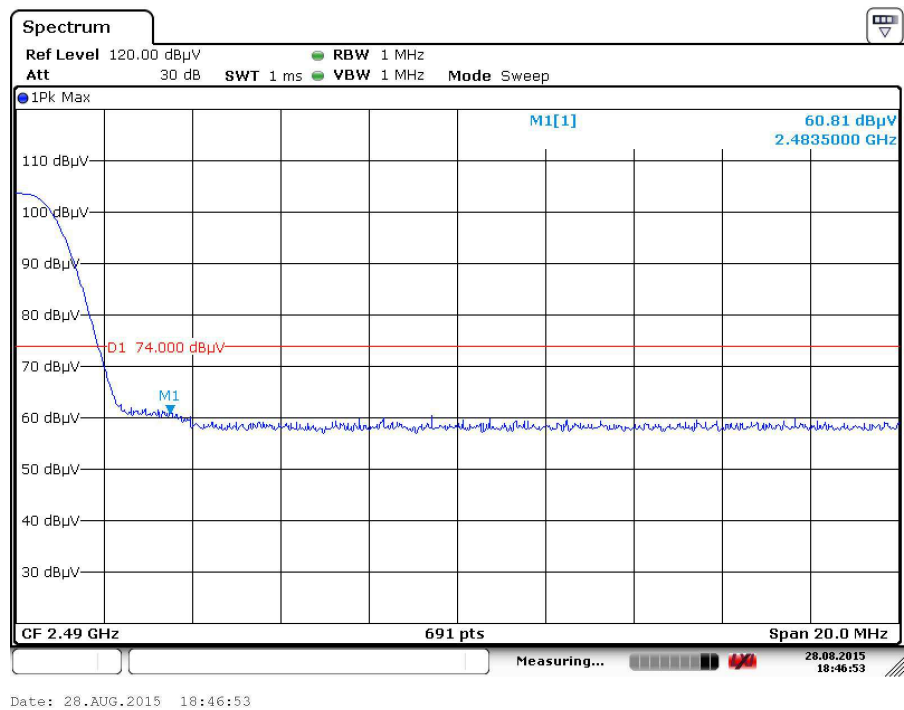
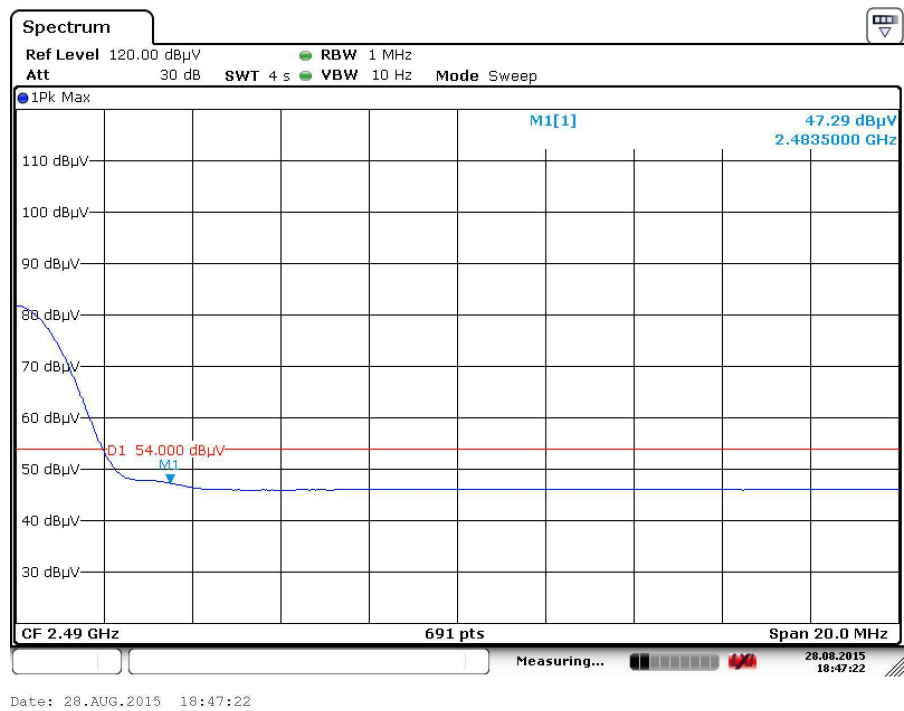
# Radiated Bandedge (GFSK)

## High Channel (Hor)



## Spurious Emissions, Band Edge, 2.35-2.5G

High Channel (Ver)



Spurious Emissions, Band Edge, 2.35-2.5G

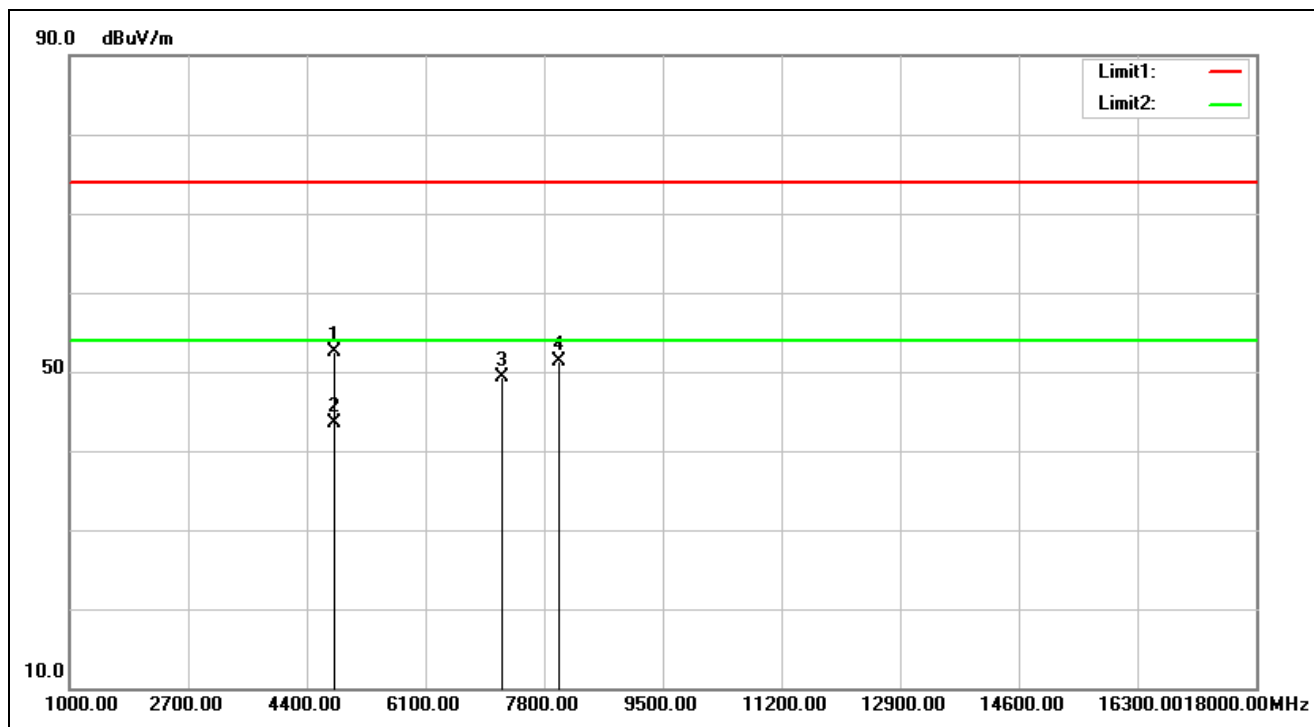
# Spurious Emissions, TX Mode, 1-18G



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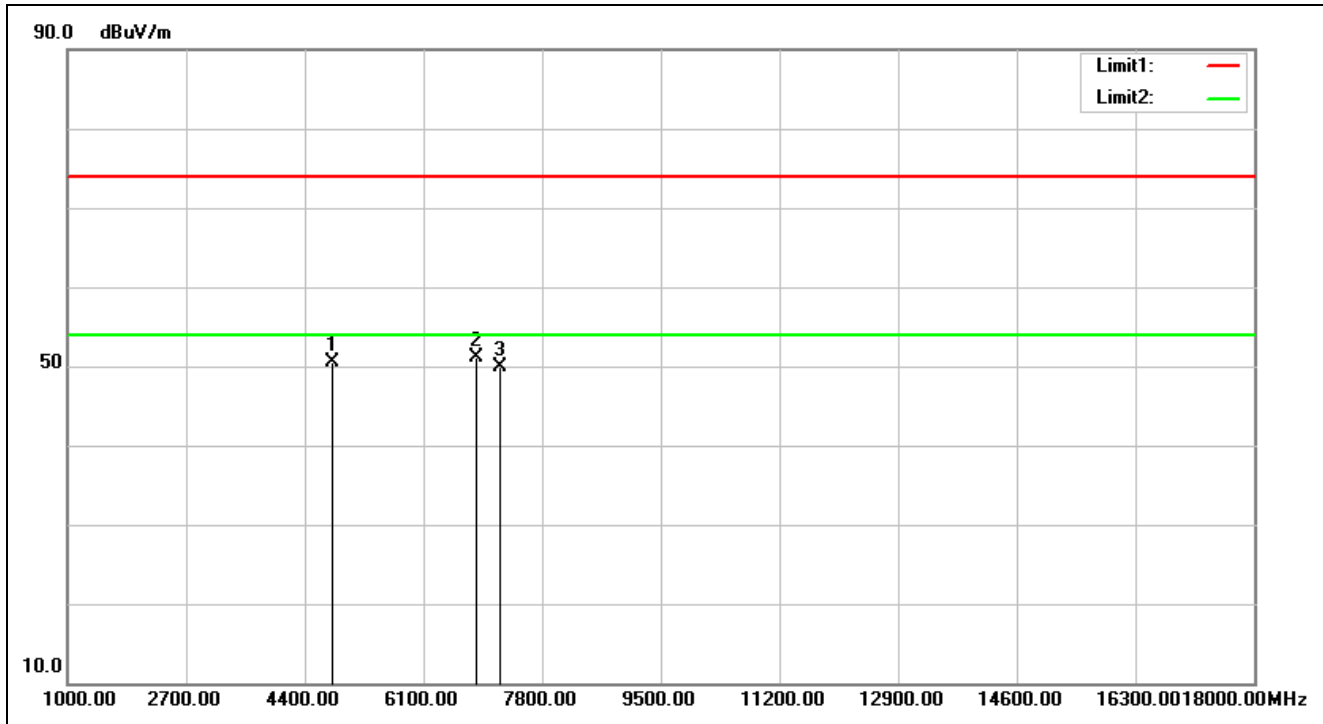
11F., No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105

Tel:+886-2172-7000 fax:+886-2528-0018



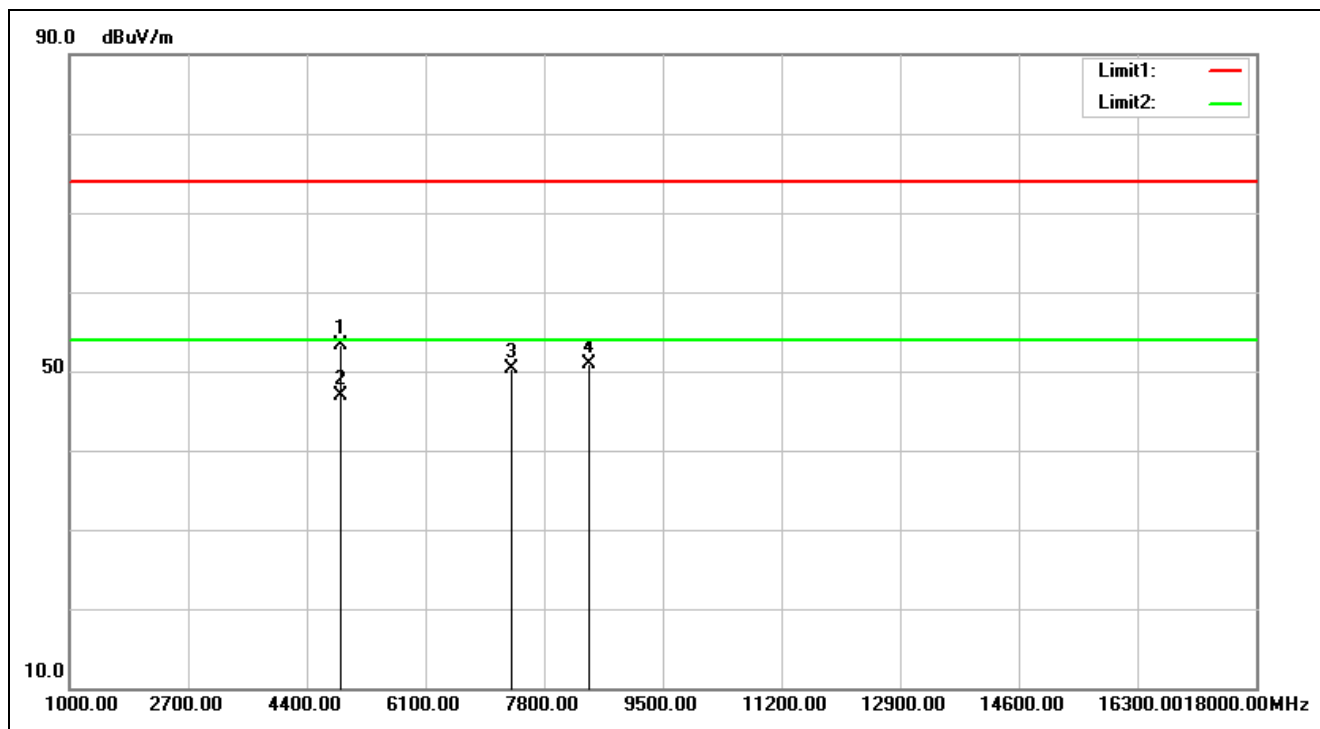
<b>Service No.:</b>	<b>114036792-FCC</b>	<b>Test Distance:</b>	<b>3m</b>
<b>Test Standard:</b>	<b>FCC Above 1G PEAK</b>	<b>Ant. Polarization:</b>	<b>Horizontal</b>
<b>Test item:</b>	<b>Radiation Emission</b>	<b>Test Time:</b>	<b>2015/9/22 15:00:10</b>
<b>Applicant:</b>	<b>Vencer</b>	<b>Test Rating:</b>	<b>DC 5V</b>
<b>Product:</b>	<b>Bluetooth 4.0 classI USB Dongle</b>	<b>Temp.(°C)/Hum.(%):</b>	<b>23.1(°C)/59%</b>
<b>Model No.:</b>	<b>VD-2104</b>	<b>Test Engineer:</b>	<b>George Yang</b>
<b>Test Mode:</b>	<b>LE-2402-TX</b>		
<b>Remark:</b>			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth ( ° )	Remark
1	4804.000	-2.35	54.78	52.43	74.00	-21.57	peak	100	227	
2	4804.000	-2.35	45.88	43.53	54.00	-10.47	AVG	100	227	
3	7206.000	5.78	43.49	49.27	74.00	-24.73	peak		0	
4	8004.000	6.56	44.70	51.26	74.00	-22.74	peak		0	



<b>Service No.:</b>	<b>114036792-FCC</b>	<b>Test Distance:</b>	<b>3m</b>
<b>Test Standard:</b>	<b>FCC Above 1G PEAK</b>	<b>Ant. Polarization:</b>	<b>Vertical</b>
<b>Test item:</b>	<b>Radiation Emission</b>	<b>Test Time:</b>	<b>2015/8/28 18:19:14</b>
<b>Applicant:</b>	<b>Vencer</b>	<b>Test Rating:</b>	<b>DC 5V</b>
<b>Product:</b>	<b>Bluetooth 4.0 classI USB Dongle</b>	<b>Temp.(°C)/Hum.(%):</b>	<b>23.1(°C)/59%</b>
<b>Model No.:</b>	<b>VD-2104</b>	<b>Test Engineer:</b>	<b>George Yang</b>
<b>Test Mode:</b>	<b>LE-2402-TX</b>		
<b>Remark:</b>			

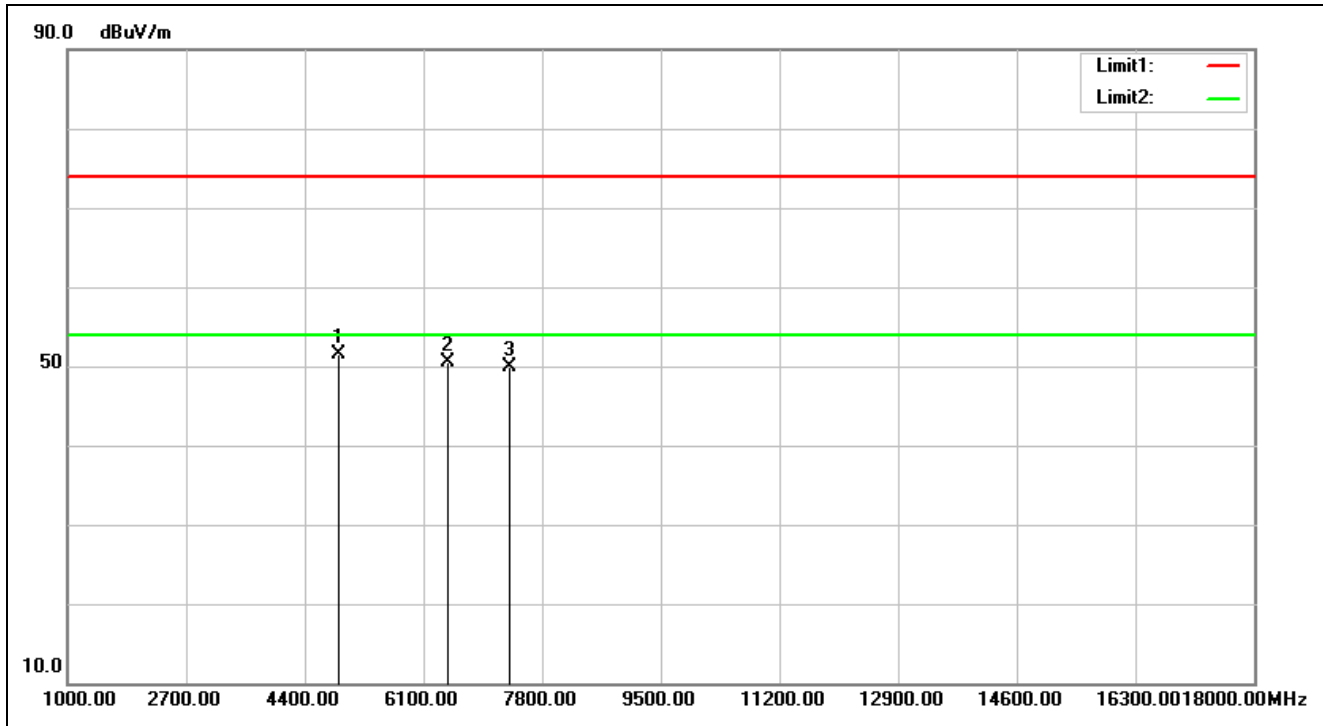
No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4804.000	-2.35	52.94	50.59	74.00	-23.41	peak	100	108	
2	6865.000	5.39	45.79	51.18	74.00	-22.82	peak	100	138	
3	7206.000	5.78	44.09	49.87	74.00	-24.13	peak			



Service No.:	114036792-FCC	Test Distance:	3m
Test Standard:	FCC Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2015/9/22 15:13:27
Applicant:	Vencer	Test Rating:	DC 5V
Product:	Bluetooth 4.0 classI USB Dongle	Temp.(°C)/Hum.(%)	23.1(°C)/59%
Model No.:	VD-2104	Test Engineer:	George Yang
Test Mode:	LE-2442-TX		
Remark:			

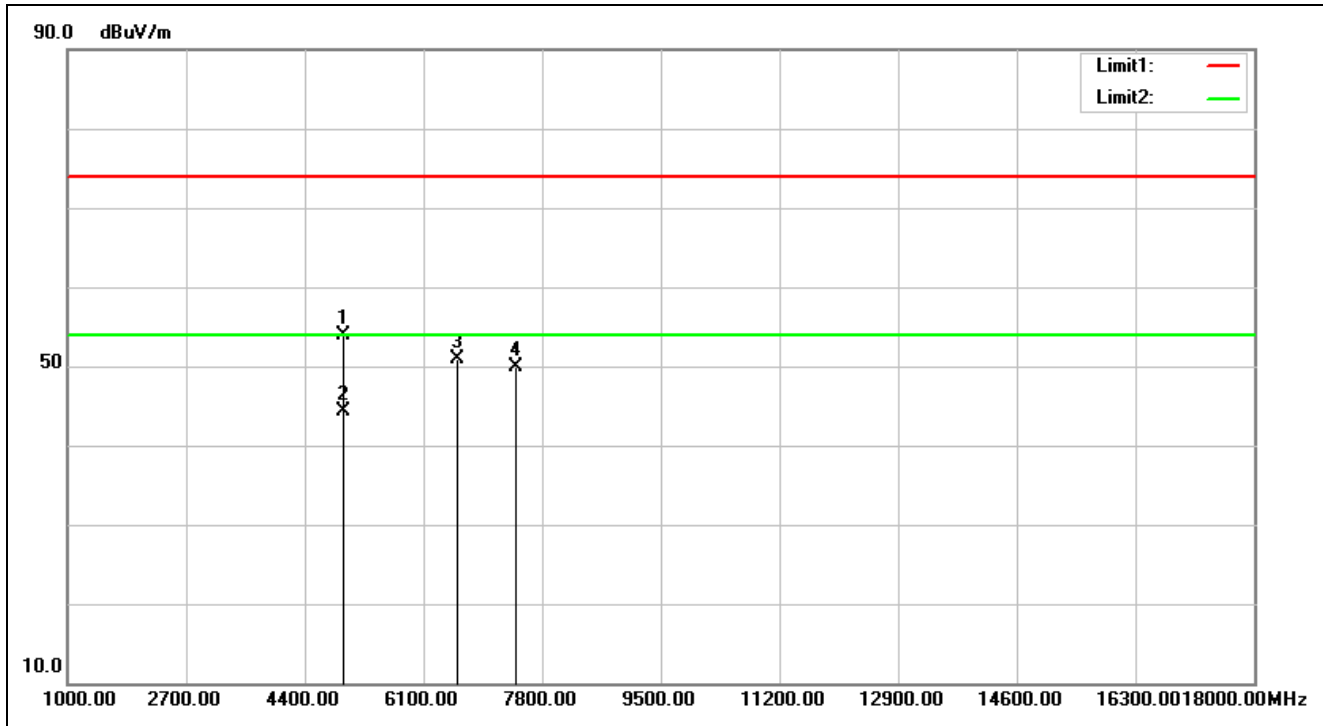
No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4884.000	-2.15	55.37	53.22	74.00	-20.78	peak	100	225	
2	4884.000	-2.15	49.10	46.95	54.00	-7.05	AVG	100	225	
3	7326.000	6.14	44.19	50.33	74.00	-23.67	peak			
4	8446.000	6.69	44.27	50.96	74.00	-23.04	peak	100	131	





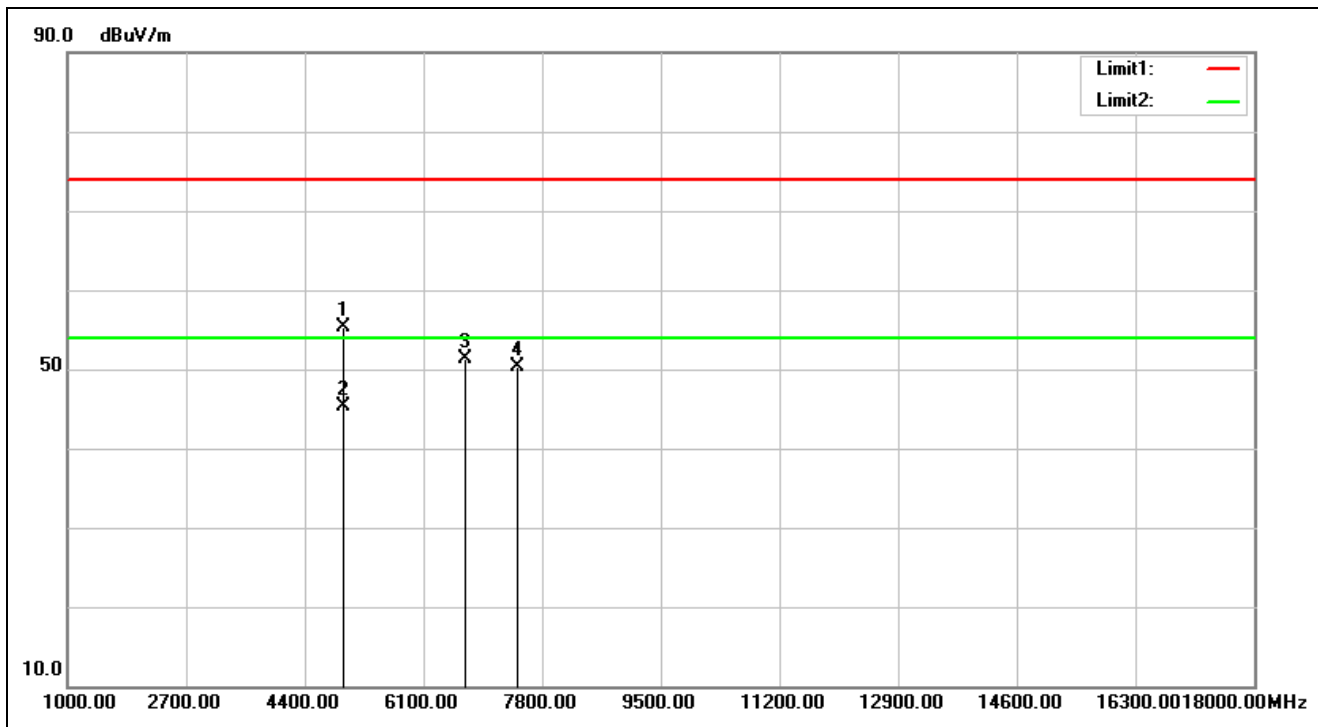
Service No.:	114036792-FCC	Test Distance:	3m
Test Standard:	FCC Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2015/8/28 18:23:51
Applicant:	Vencer	Test Rating:	DC 5V
Product:	Bluetooth 4.0 classI USB Dongle	Temp.(°C)/Hum.(%)	23.1(°C)/59%
Model No.:	VD-2104	Test Engineer:	George Yang
Test Mode:	LE-2442-TX		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4884.000	-2.15	53.68	51.53	74.00	-22.47	peak	100	277	
2	6457.000	5.87	44.66	50.53	74.00	-23.47	peak	100	360	
3	7326.000	6.14	43.76	49.90	74.00	-24.10	peak			



Service No.:	114036792-FCC	Test Distance:	3m
Test Standard:	FCC Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2015/8/28 18:27:41
Applicant:	Vencer	Test Rating:	DC 5V
Product:	Bluetooth 4.0 classI USB Dongle	Temp.(°C)/Hum.(%)	23.1(°C)/59%
Model No.:	VD-2104	Test Engineer:	George Yang
Test Mode:	LE-2480-TX		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4960.000	-1.97	55.94	53.97	74.00	-20.03	peak	100	222	
2	4960.000	-1.97	46.23	44.26	54.00	-9.74	AVG	100	222	
3	6576.000	5.91	44.94	50.85	74.00	-23.15	peak	100	161	
4	7440.000	6.47	43.53	50.00	74.00	-24.00	peak		0	



<b>Service No.:</b>	<b>114036792-FCC</b>	<b>Test Distance:</b>	<b>3m</b>
<b>Test Standard:</b>	<b>FCC Above 1G PEAK</b>	<b>Ant. Polarization:</b>	<b>Vertical</b>
<b>Test item:</b>	<b>Radiation Emission</b>	<b>Test Time:</b>	<b>2015/8/28 18:28:44</b>
<b>Applicant:</b>	<b>Vencer</b>	<b>Test Rating:</b>	<b>DC 5V</b>
<b>Product:</b>	<b>Bluetooth 4.0 classI USB Dongle</b>	<b>Temp.(°C)/Hum.(%):</b>	<b>23.1(°C)/59%</b>
<b>Model No.:</b>	<b>VD-2104</b>	<b>Test Engineer:</b>	<b>George Yang</b>
<b>Test Mode:</b>	<b>LE-2480-TX</b>		
<b>Remark:</b>			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	4960.000	-1.97	57.36	55.39	74.00	-18.61	peak	100	266	
2	4960.000	-1.97	47.19	45.22	54.00	-8.78	AVG	100	266	
3	6695.000	5.70	45.64	51.34	74.00	-22.66	peak	100	103	
4	7440.000	6.47	43.77	50.24	74.00	-23.76	peak			

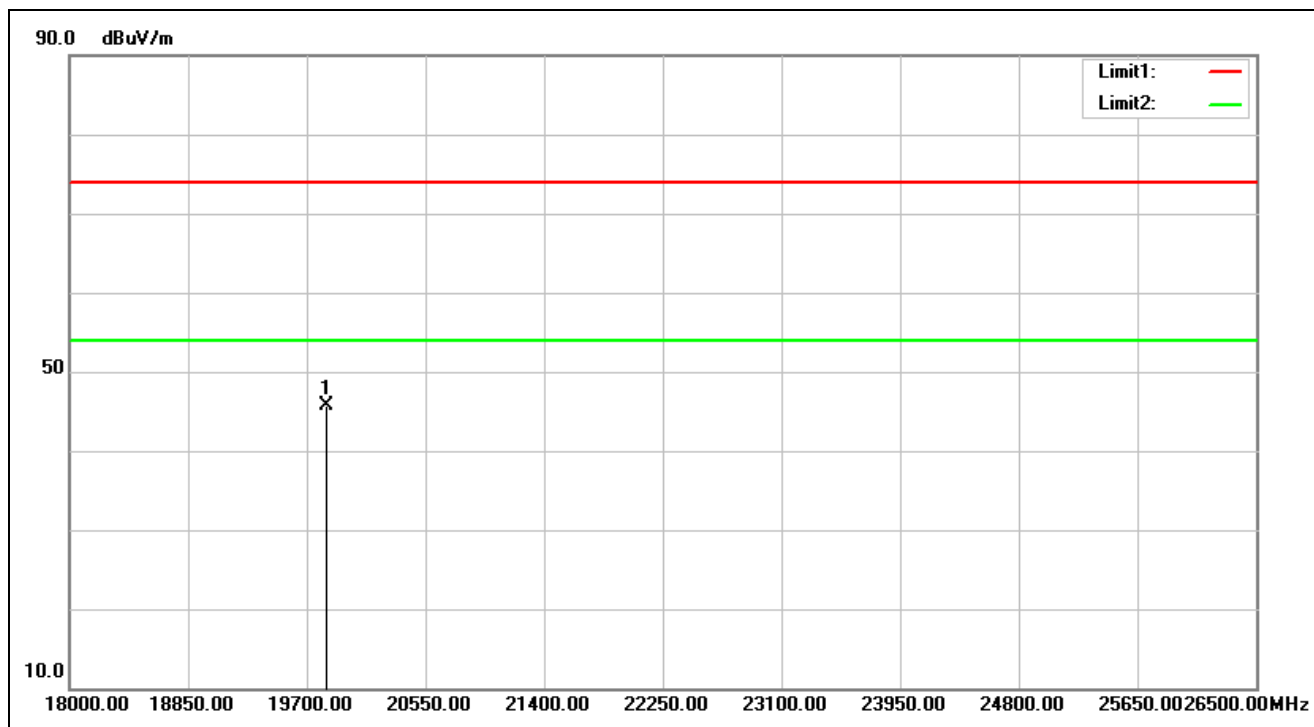
# Spurious Emissions, TX Mode, 18-26G



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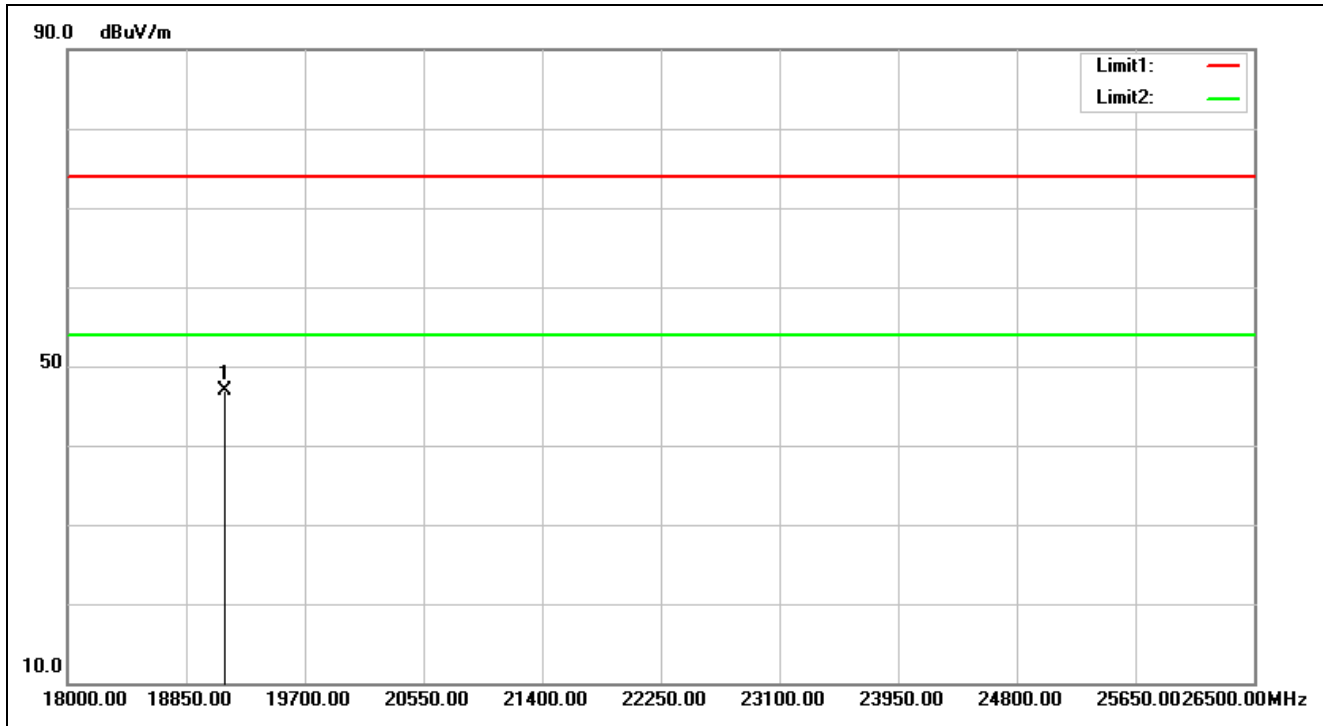
11F., No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105

Tel: +886-2172-7000 fax: +886-2528-0018



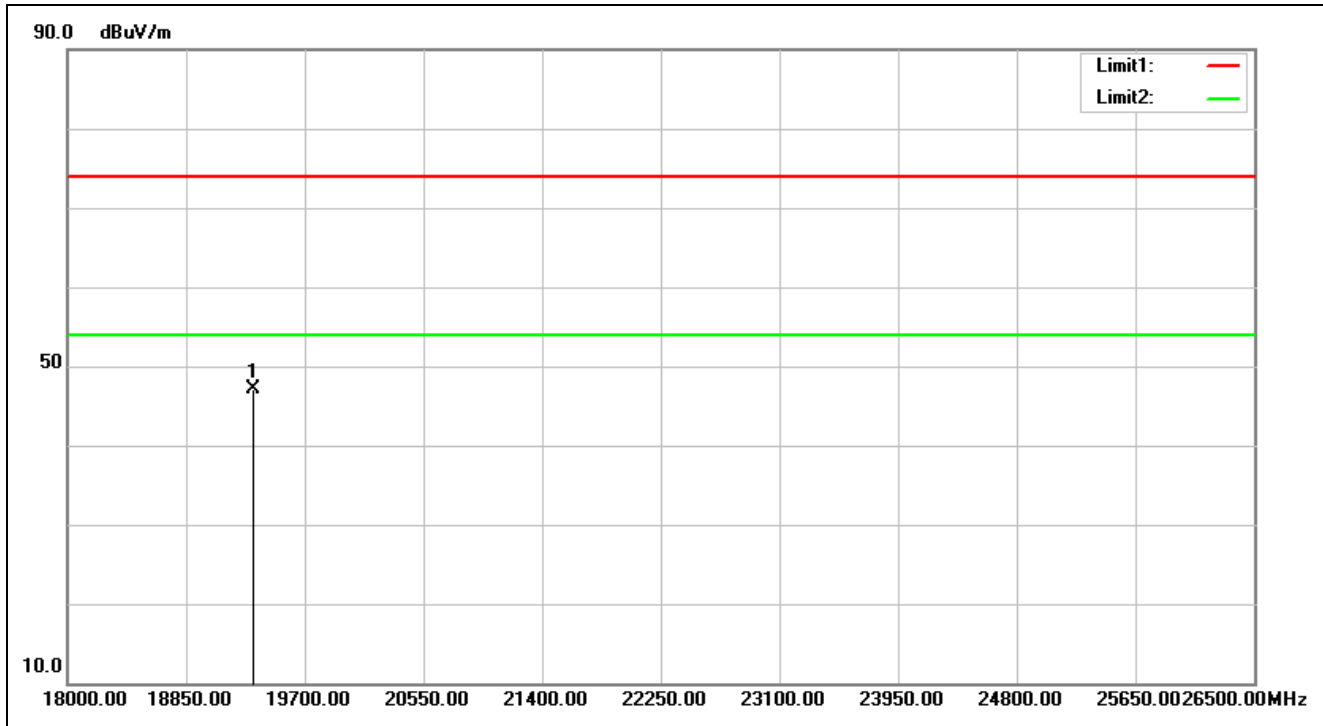
Service No.:	114036792-FCC	Test Distance:	3m
Test Standard:	FCC Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2015/9/3 17:52:05
Applicant:	Vencer	Test Rating:	DC 5V
Product:	Bluetooth 4.0 classI USB Dongle	Temp.(°C)/Hum.(%)	23.1(°C)/59%
Model No.:	VD-2104	Test Engineer:	George Yang
Test Mode:	LE-2402-TX		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth ( ° )	Remark
1	19836.000	28.94	16.84	45.78	74.00	-28.22	peak		0	



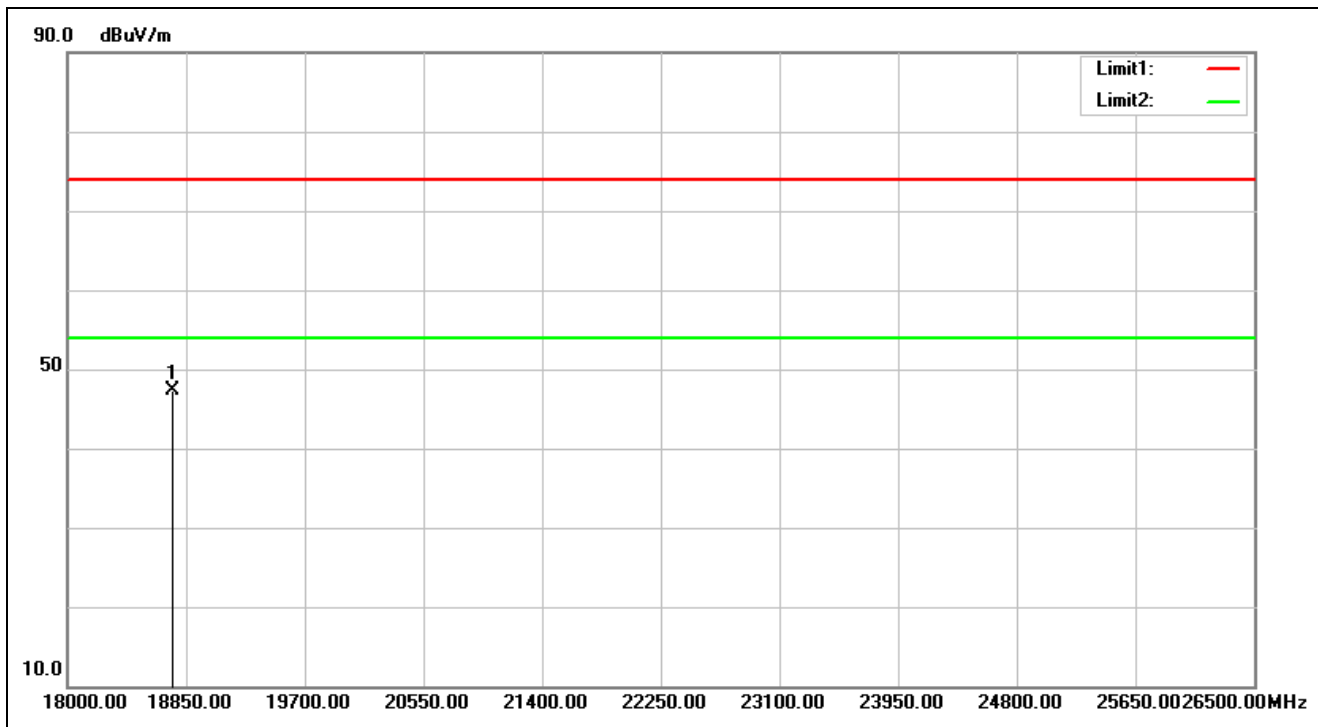
Service No.:	114036792-FCC	Test Distance:	3m
Test Standard:	FCC Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2015/9/3 17:53:03
Applicant:	Vencer	Test Rating:	DC 5V
Product:	Bluetooth 4.0 classI USB Dongle	Temp.(°C)/Hum.(%):	23.1(°C)/59%
Model No.:	VD-2104	Test Engineer:	George Yang
Test Mode:	LE-2402-TX		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	19130.500	28.91	17.99	46.90	74.00	-27.10	peak			



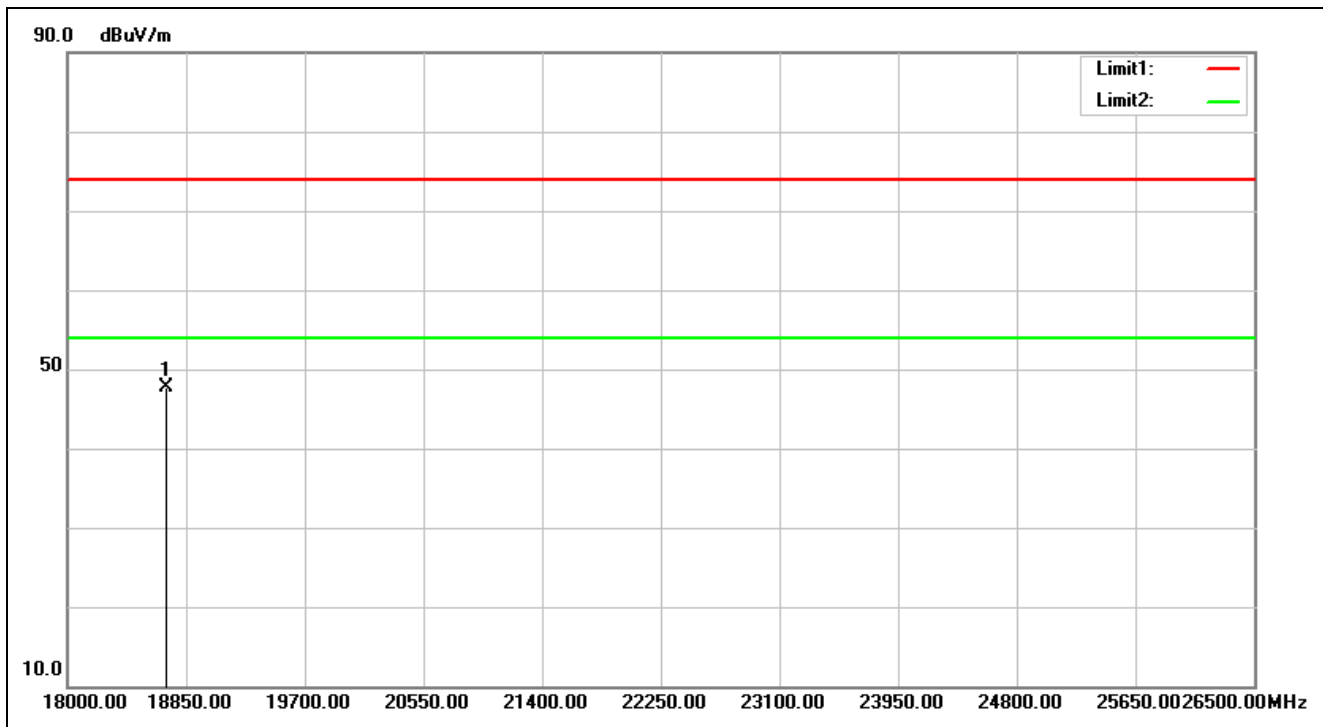
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Test Standard:	FCC Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2015/9/3 17:54:24
Applicant:	Vencer	Test Rating:	DC 5V
Product:	Bluetooth 4.0 classI USB Dongle	Temp.(°C)/Hum.(%):	23.1(°C)/59%
Model No.:	VD-2104	Test Engineer:	George Yang
Test Mode:	LE-2442-TX		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	19326.000	28.94	18.19	47.13	74.00	-26.87	peak			



Service No.:	114036792-FCC	Test Distance:	3m
Test Standard:	FCC Above 1G PEAK	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2015/9/3 17:54:40
Applicant:	Vencer	Test Rating:	DC 5V
Product:	Bluetooth 4.0 classI USB Dongle	Temp.(°C)/Hum.(%):	23.1(°C)/59%
Model No.:	VD-2104	Test Engineer:	George Yang
Test Mode:	LE-2442-TX		
Remark:			

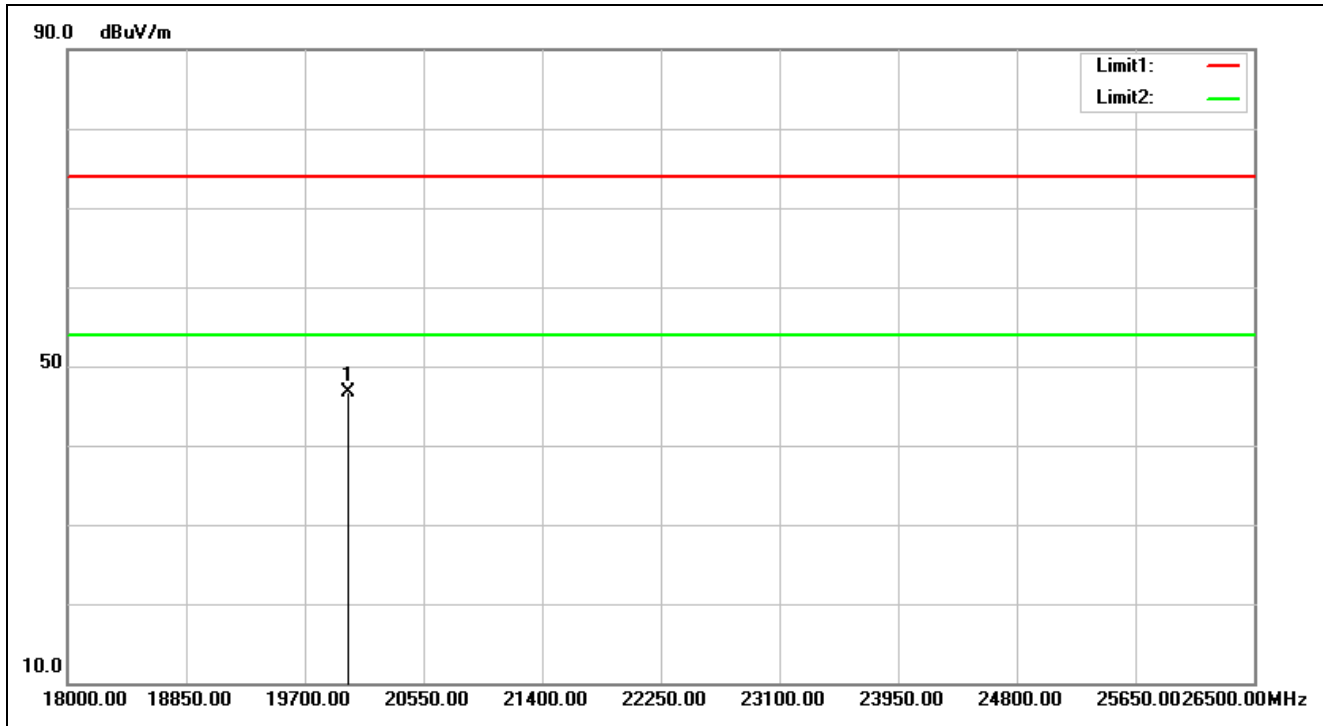
No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	18756.500	28.62	18.74	47.36	74.00	-26.64	peak			



Service No.:	114036792-FCC	Test Distance:	3m
Test Standard:	FCC Above 1G PEAK	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2015/9/3 17:55:09
Applicant:	Vencer	Test Rating:	DC 5V
Product:	Bluetooth 4.0 classI USB Dongle	Temp.(°C)/Hum.(%):	23.1(°C)/59%
Model No.:	VD-2104	Test Engineer:	George Yang
Test Mode:	LE-2480-TX		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	18705.500	28.57	19.16	47.73	74.00	-26.27	peak			





<b>Service No.:</b>	<b>114036792-FCC</b>	<b>Test Distance:</b>	<b>3m</b>
<b>Test Standard:</b>	<b>FCC Above 1G PEAK</b>	<b>Ant. Polarization:</b>	<b>Vertical</b>
<b>Test item:</b>	<b>Radiation Emission</b>	<b>Test Time:</b>	<b>2015/9/3 17:55:23</b>
<b>Applicant:</b>	<b>Vencer</b>	<b>Test Rating:</b>	<b>DC 5V</b>
<b>Product:</b>	<b>Bluetooth 4.0 classI USB Dongle</b>	<b>Temp.(°C)/Hum.(%):</b>	<b>23.1(°C)/59%</b>
<b>Model No.:</b>	<b>VD-2104</b>	<b>Test Engineer:</b>	<b>George Yang</b>
<b>Test Mode:</b>	<b>LE-2480-TX</b>		
<b>Remark:</b>			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	20014.500	28.93	17.69	46.62	74.00	-27.38	peak			

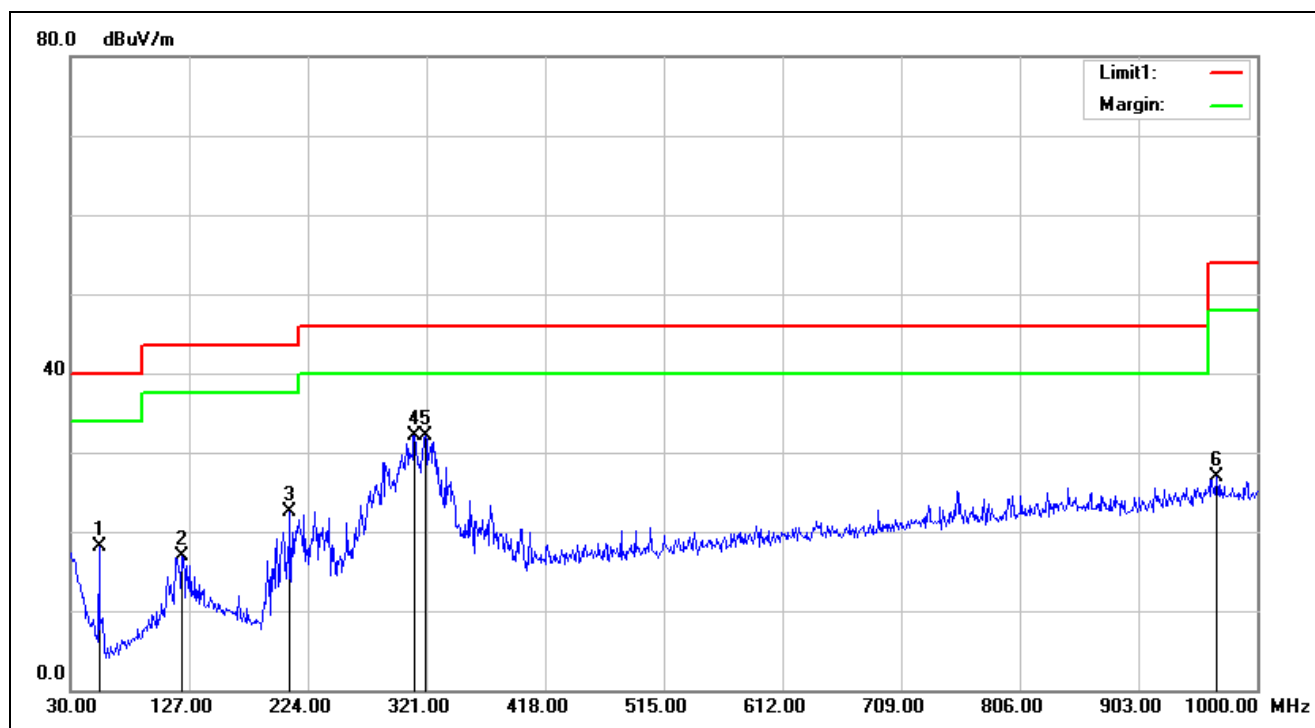
# Spurious Emissions, TX Mode, 30M-1G



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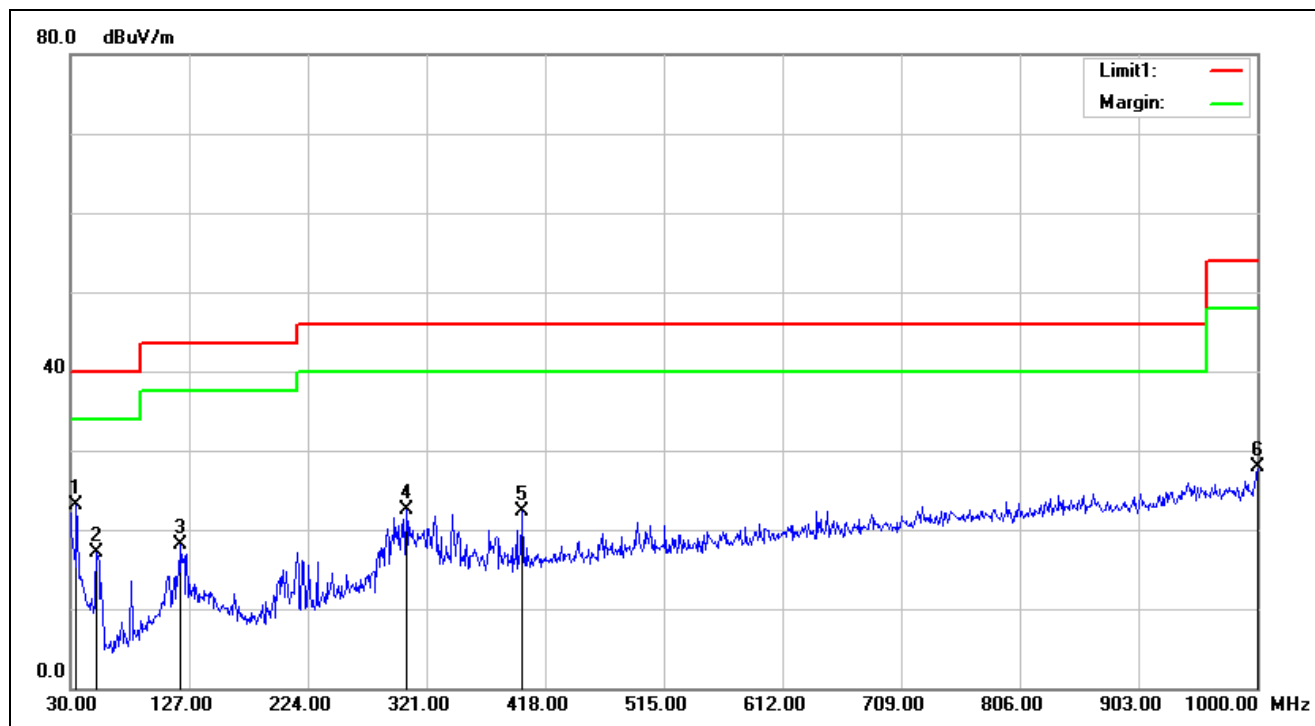
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Service No.:	114036792-FCC	Test Distance:	3m
Test Standard:	FCC Class B 3M Radiation	Ant. Polarization:	Horizontal
Test item:	Radiation Emission	Test Time:	2015/8/28 15:10:56
Applicant:	Vencer	Test Rating:	DC 5V
Product:	Bluetooth 4.0 classI USB Dongle	Temp.(°C)/Hum.(%)	23.1(°C)/59%
Model No.:	VD-2104	Test Engineer:	George Yang
Test Mode:	LE-2442-TX		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	53.2800	-19.48	37.52	18.04	40.00	-21.96	QP	100	176	
2	121.1800	-14.62	31.46	16.84	43.50	-26.66	QP	100	168	
3	209.4499	-16.21	38.66	22.45	43.50	-21.05	QP	100	195	
4	311.3000	-11.76	43.94	32.18	46.00	-13.82	QP	100	182	
5	320.0299	-11.56	43.75	32.19	46.00	-13.81	QP	100	301	
6	967.0199	-1.20	28.08	26.88	54.00	-27.12	QP	100	192	

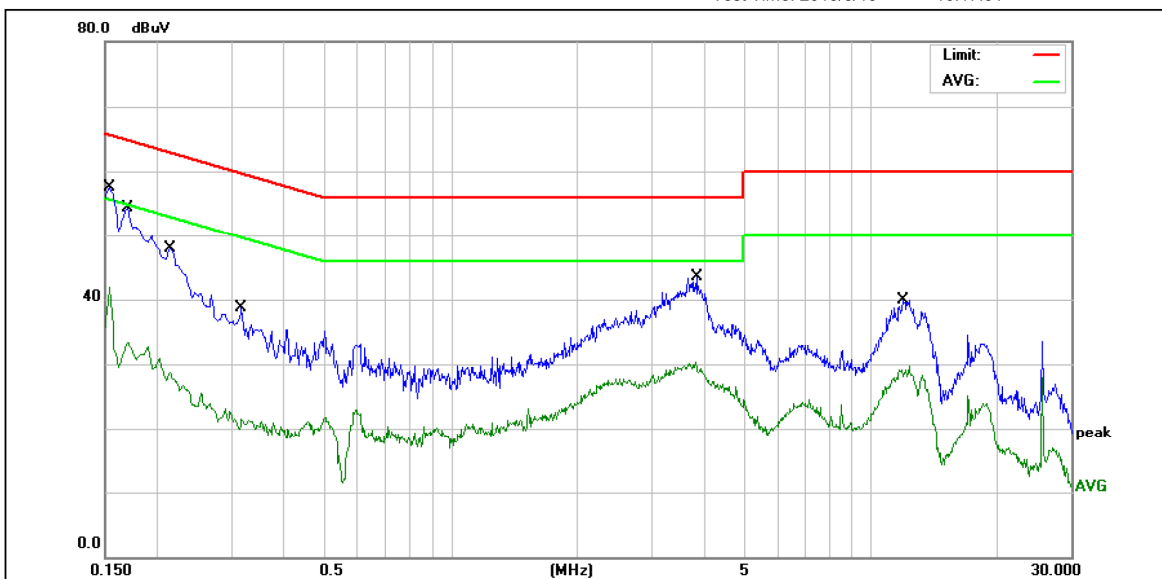
## Spurious Emissions, Mains, 150kHz - 30MHz



Service No.:	114036792-FCC	Test Distance:	3m
Test Standard:	FCC Class B 3M Radiation	Ant. Polarization:	Vertical
Test item:	Radiation Emission	Test Time:	2015/8/28 15:11:59
Applicant:	Vencer	Test Rating:	DC 5V
Product:	Bluetooth 4.0 classI USB Dongle	Temp.(°C)/Hum.(%)	23.1(°C)/59%
Model No.:	VD-2104	Test Engineer:	George Yang
Test Mode:	LE-2442-TX		
Remark:			

No.	Frequency (MHz)	Factor (dB/m)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Det.	Height (cm)	Azimuth (°)	Remark
1	34.8500	-10.41	33.45	23.04	40.00	-16.96	QP	100	248	
2	51.3400	-19.03	36.10	17.07	40.00	-22.93	QP	100	296	
3	119.2400	-14.71	32.89	18.18	43.50	-25.32	QP	100	224	
4	304.5100	-11.92	34.40	22.48	46.00	-23.52	QP	100	83	
5	399.5700	-10.07	32.31	22.24	46.00	-23.76	QP	100	213	
6	1000.0000	-1.24	29.17	27.93	54.00	-26.07	QP	100	194	

# Mains Spurious Emissions



Service No.: 114036792-EMC

Test Standard: FCC Class B Conduction(QP)

Test item: Conducted Emission

Phase: L1

Applicant: Vencer

Temp.(°C)/Hum.(%): 25.4(°C) / 45 %

Product: Bluetooth 4.0 Class I USB Dongle

Power Rating: DC 5V

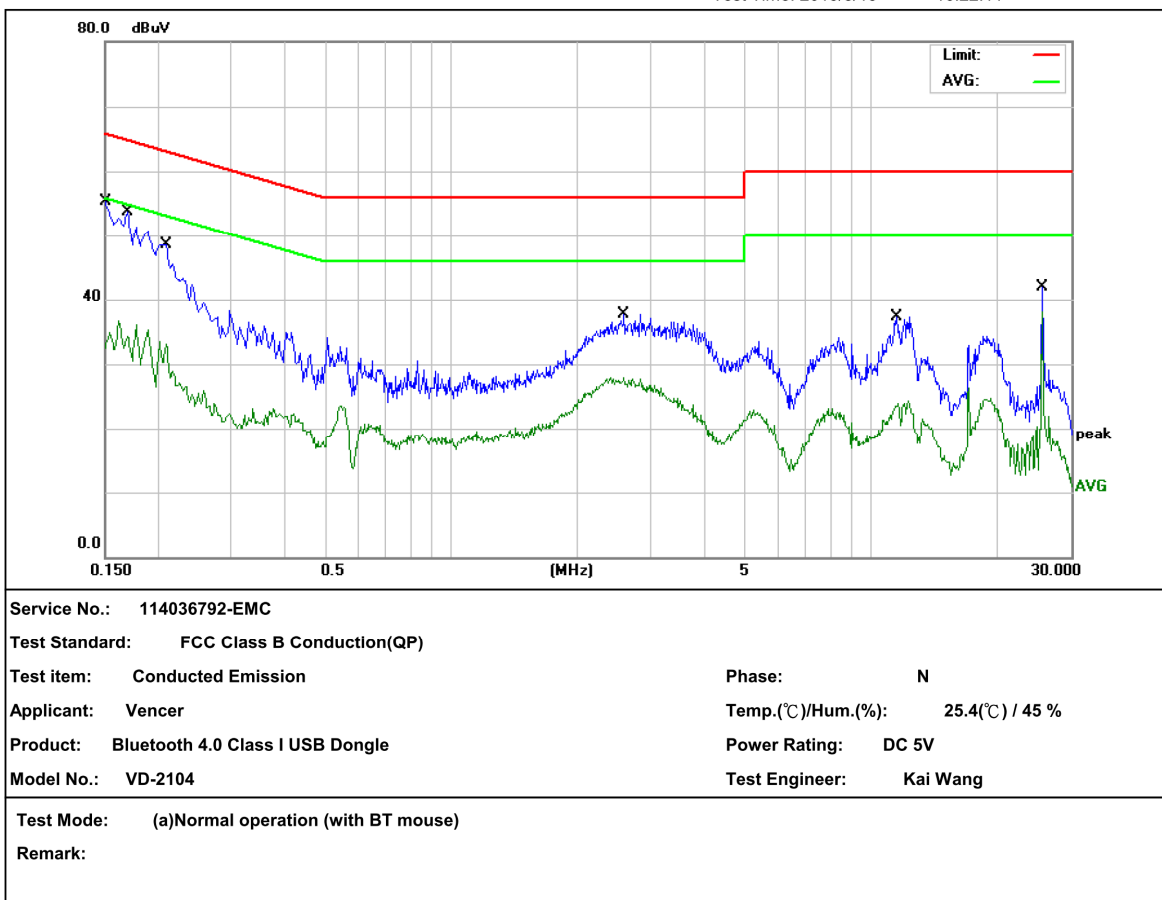
Model No.: VD-2104

Test Engineer: Kai Wang

Test Mode: (a)Normal operation (with BT mouse)

Remark:

No.	Frequency (MHz)	Factor ( )	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.1539	9.65	40.70	50.35	65.78	-15.43	QP	P	
2	0.1539	9.65	21.99	31.64	55.78	-24.14	AVG	P	
3	0.1700	9.65	38.46	48.11	64.96	-16.85	QP	P	
4	0.1700	9.65	22.26	31.91	54.96	-23.05	AVG	P	
5	0.2140	9.63	31.45	41.08	63.04	-21.96	QP	P	
6	0.2140	9.63	16.10	25.73	53.04	-27.31	AVG	P	
7	0.3180	9.63	20.71	30.34	59.76	-29.42	QP	P	
8	0.3180	9.63	10.36	19.99	49.76	-29.77	AVG	P	
9	3.8420	9.66	27.32	36.98	56.00	-19.02	QP	P	
10	3.8420	9.66	18.20	27.86	46.00	-18.14	AVG	P	
11	11.9740	9.78	22.09	31.87	60.00	-28.13	QP	P	
12	11.9740	9.78	16.23	26.01	50.00	-23.99	AVG	P	



No.	Frequency (MHz)	Factor ( )	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.1500	9.66	44.34	54.00	65.99	-11.99	QP	P	
2	0.1500	9.66	25.06	34.72	55.99	-21.27	AVG	P	
3	0.1700	9.66	39.39	49.05	64.96	-15.91	QP	P	
4	0.1700	9.66	19.87	29.53	54.96	-25.43	AVG	P	
5	0.2100	9.65	34.93	44.58	63.20	-18.62	QP	P	
6	0.2100	9.65	18.29	27.94	53.20	-25.26	AVG	P	
7	2.5860	9.67	23.80	33.47	56.00	-22.53	QP	P	
8	2.5860	9.67	18.17	27.84	46.00	-18.16	AVG	P	
9	11.5579	9.82	17.79	27.61	60.00	-32.39	QP	P	
10	11.5579	9.82	10.06	19.88	50.00	-30.12	AVG	P	
11	25.6700	10.05	30.94	40.99	60.00	-19.01	QP	P	
12	25.6700	10.05	26.80	36.85	50.00	-13.15	AVG	P	