Test Report No.10051699 001

Appendix D: Radiated and Mains Spurious Emission Data

(File: 10051699AppendixD)

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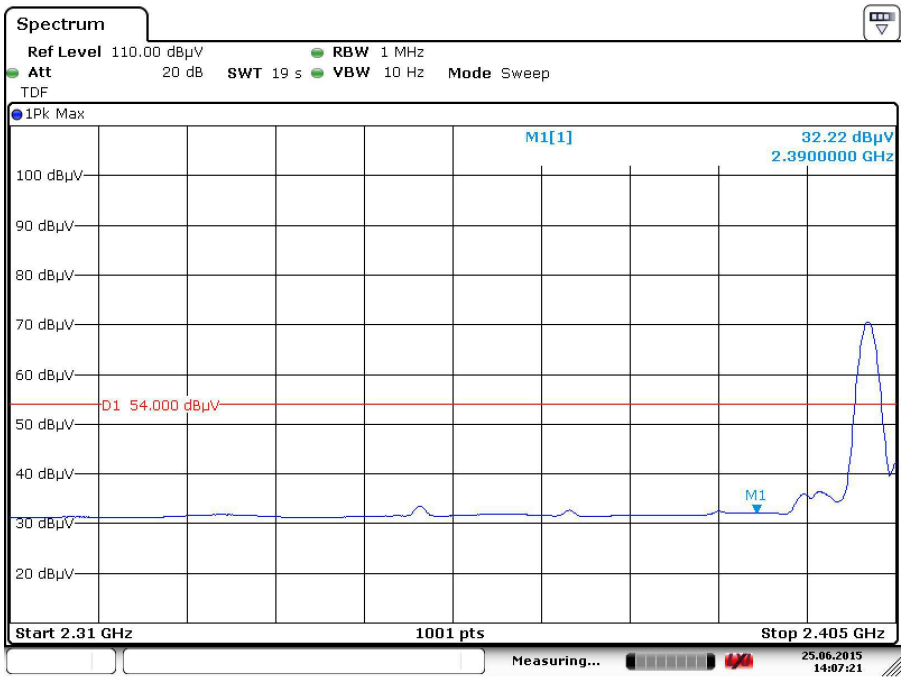
Radiated Bandedge (GFSK)

Low Channel (Hor)



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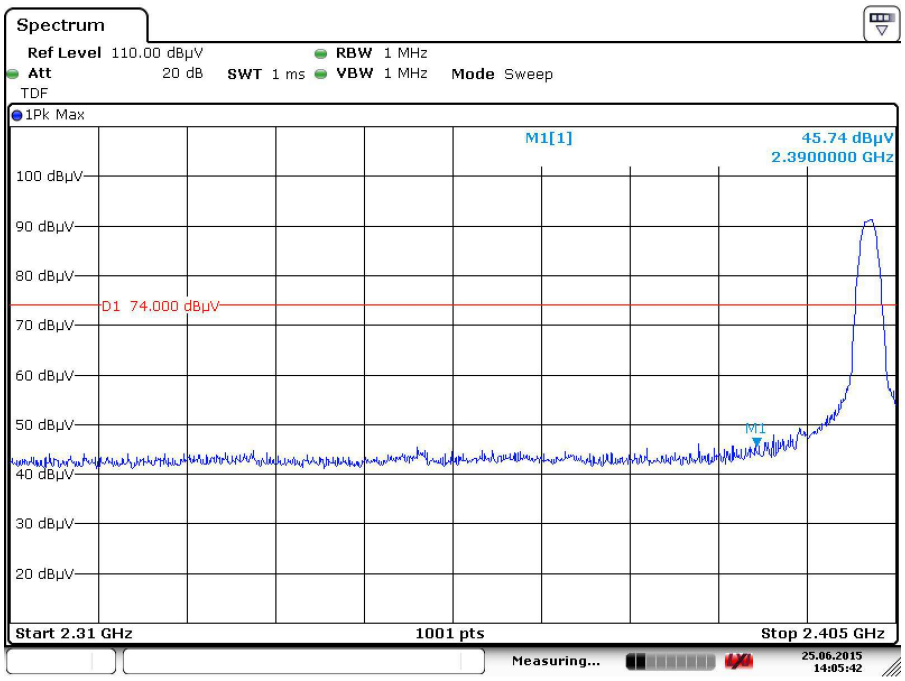

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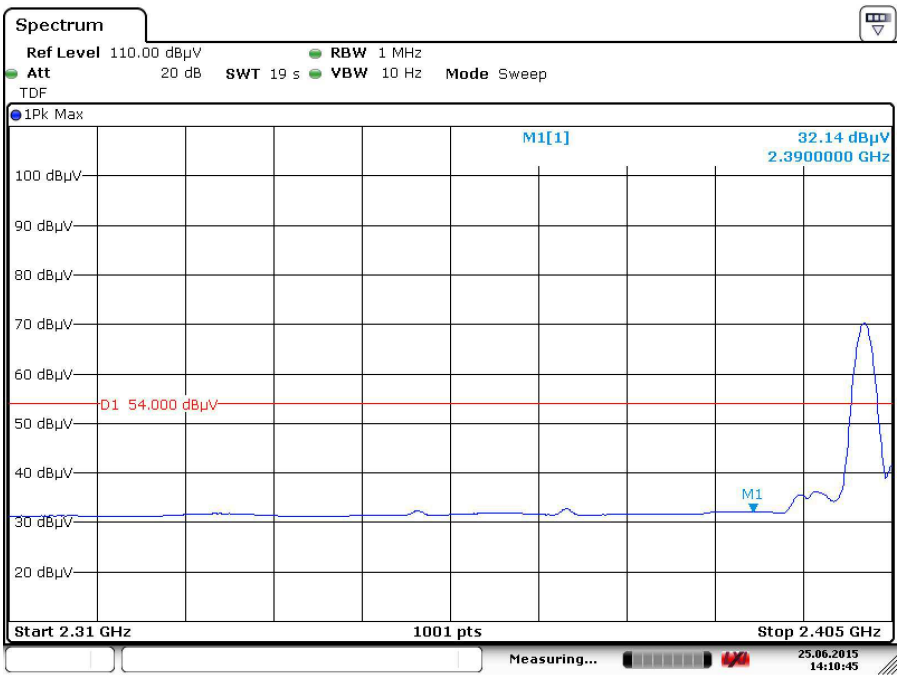
Low Channel (Ver)



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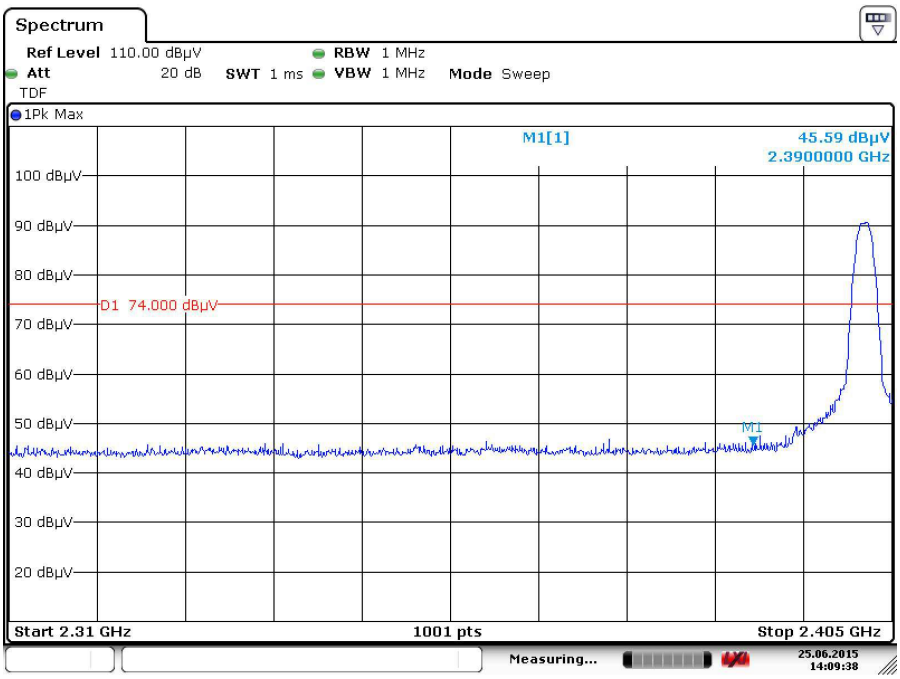

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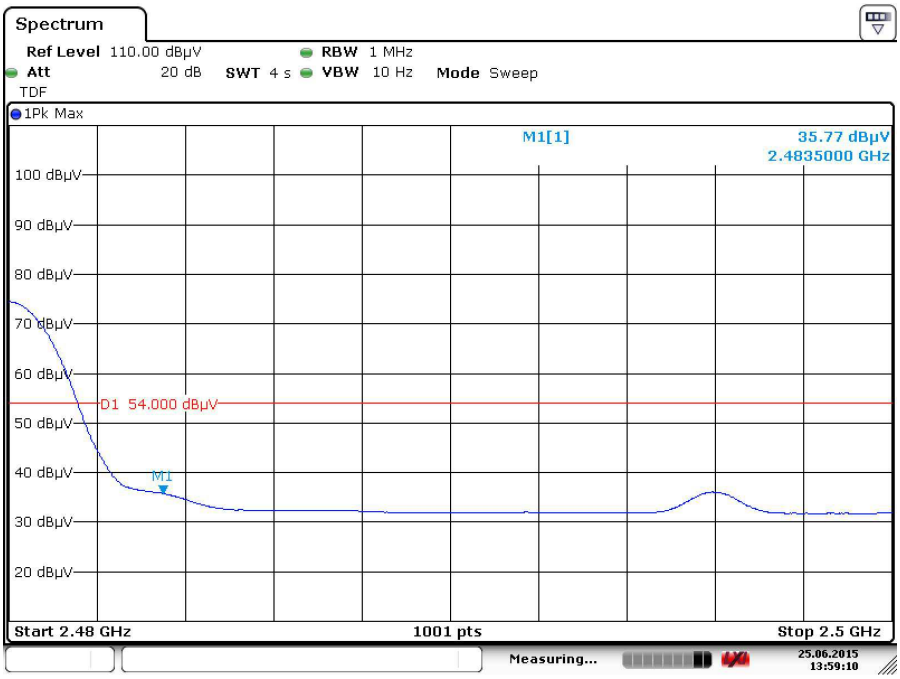
Spurious Emissions, Band Edge, 2.35-2.5G

Radiated Bandedge (GFSK)

High Channel (Hor)



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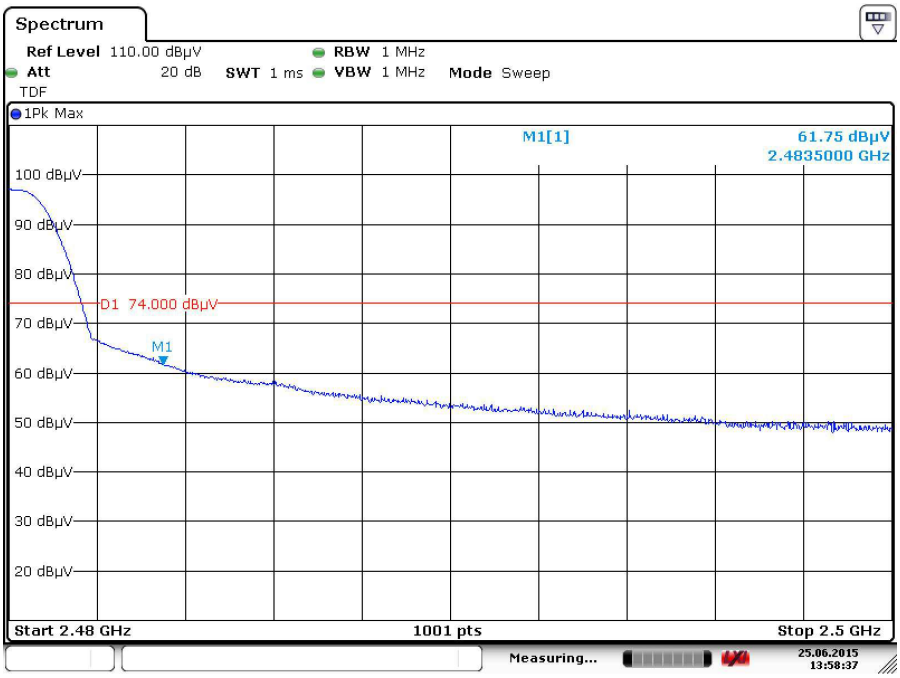

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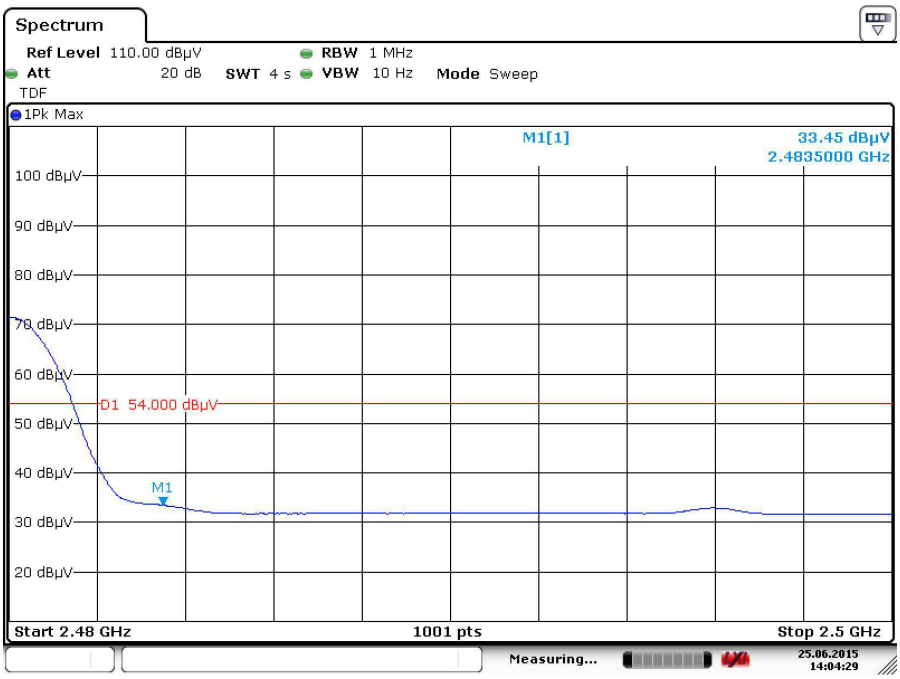
High Channel (Ver)



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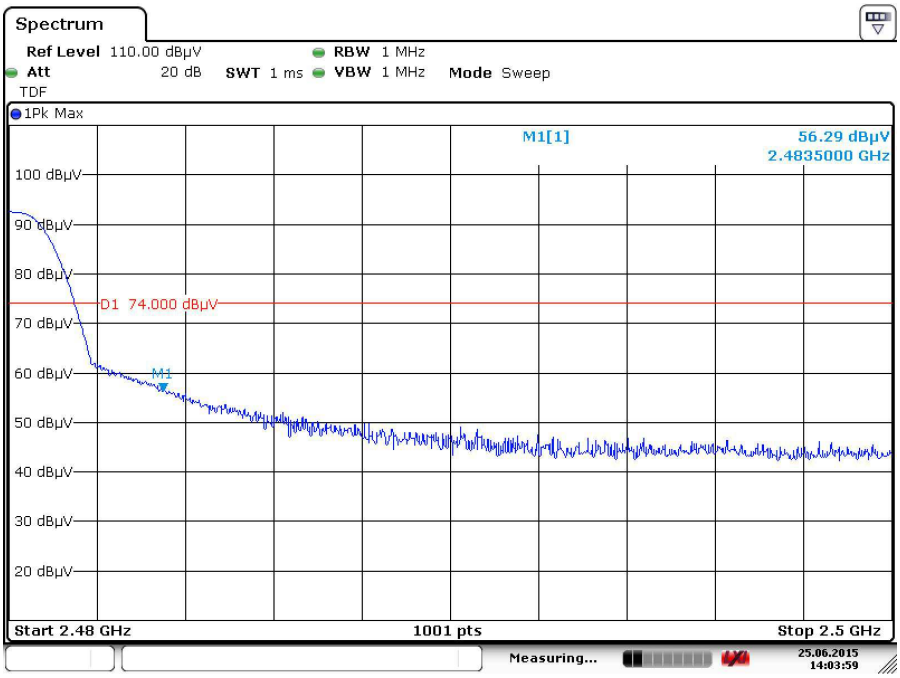

Date: 25.JUN.2015 14:04:00

Spurious Emissions, Band Edge, 2.35-2.5G

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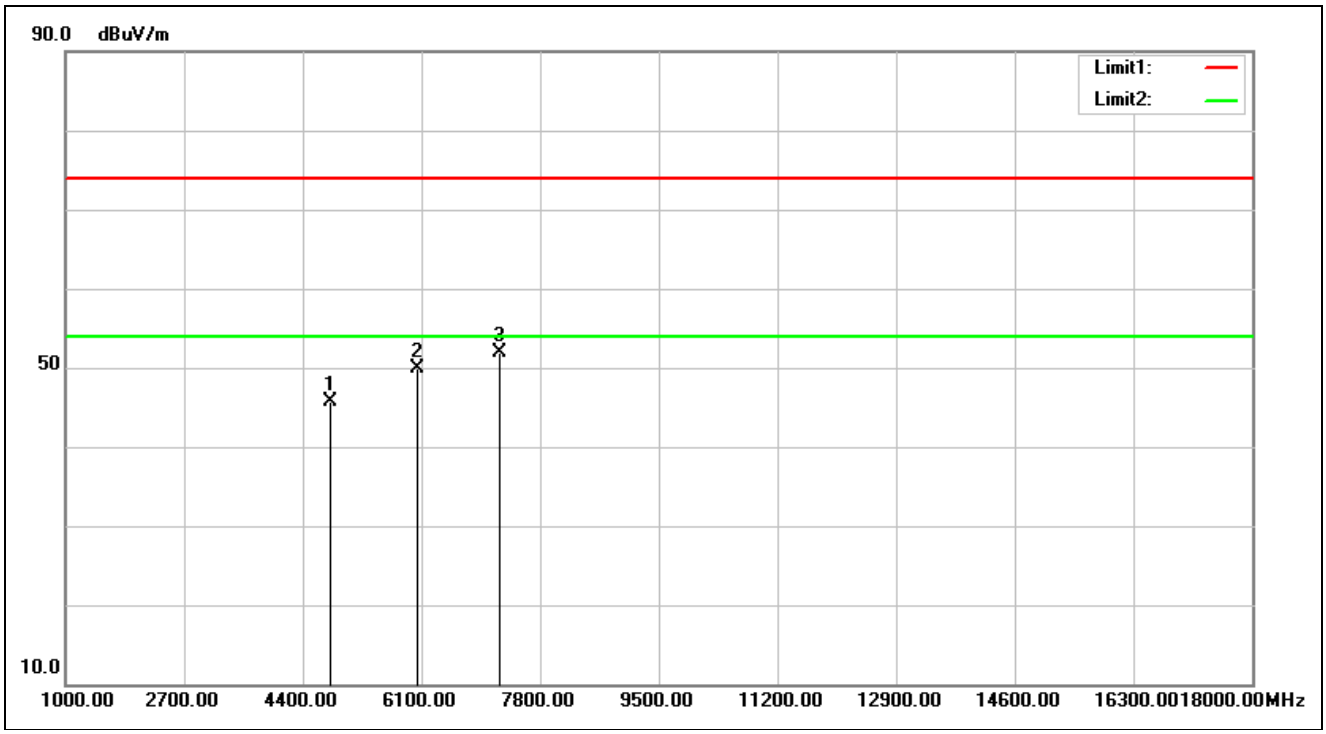

Service No.:	**114036784-FCC**	**Test Distance:**	**3m**
Test Standard:	**FCC Above 1G PEAK**	**Ant. Polarization:**	**Horizontal**
Test item:	**Radiation Emission**	**Test Time:**	**2015/6/25 13:43:30**
Applicant:	**Vencer**	**Test Rating:**	**DC 5V**
Product:	**Bluetooth V4.1 BLE Beacon**	**Temp.(℃)/Hum.(%):**	**22.2(℃)/58%**
Model No.:	**VR-3000**	**Test Engineer:**	**Hugo Chang**
Test Mode:	**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	4804.000	-2.35	48.12	45.77	74.00	-28.23	peak		0	
2	6032.000	4.21	45.68	49.89	74.00	-24.11	peak	100	0	
3	7206.000	5.78	46.17	51.95	74.00	-22.05	peak		0	

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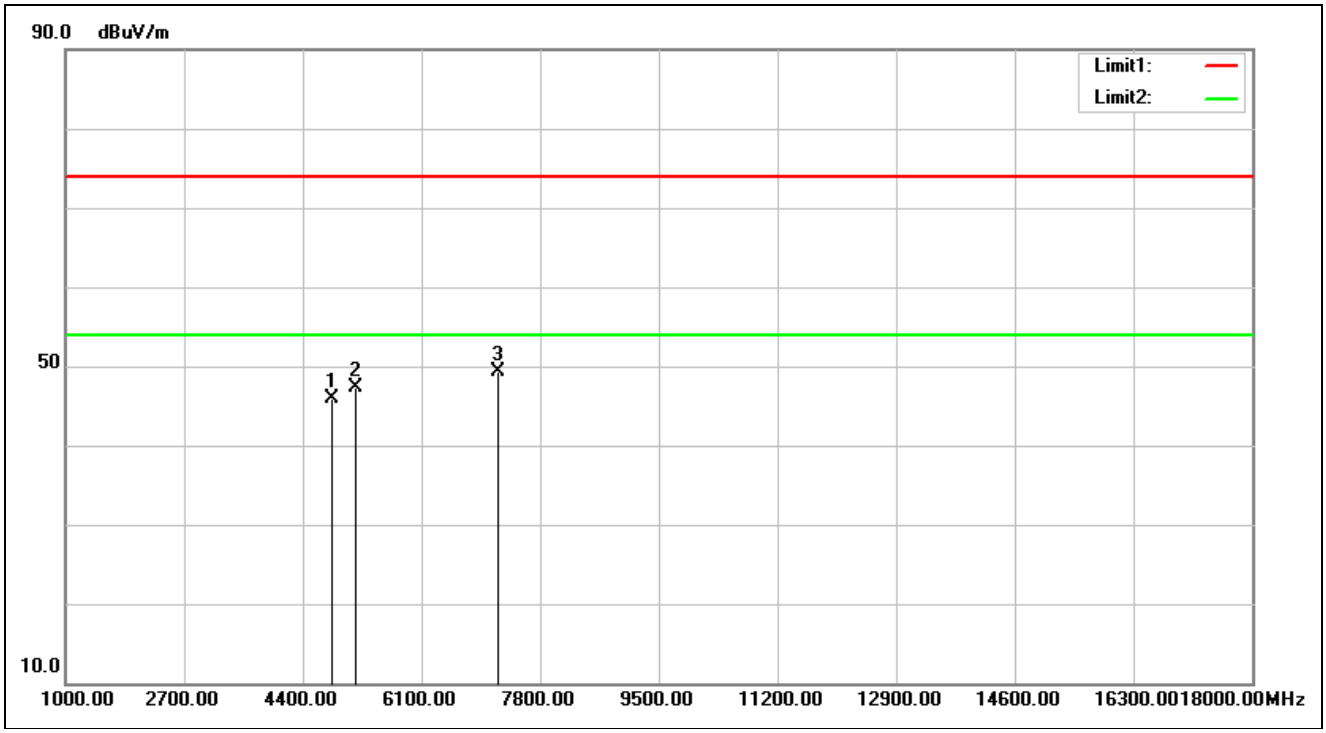

Service No.:	**114036784-FCC**	**Test Distance:**	**3m**
Test Standard:	**FCC Above 1G PEAK**	**Ant. Polarization:**	**Vertical**
Test item:	**Radiation Emission**	**Test Time:**	**2015/6/25 13:44:32**
Applicant:	**Vencer**	**Test Rating:**	**DC 5V**
Product:	**Bluetooth V4.1 BLE Beacon**	**Temp.(℃)/Hum.(%):**	**22.2(℃)/58%**
Model No.:	**VR-3000**	**Test Engineer:**	**Hugo Chang**
Test Mode:	**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	4804.000	-2.35	48.18	45.83	74.00	-28.17	peak			
2	5165.000	-0.98	48.36	47.38	74.00	-26.62	peak	100	183	
3	7206.000	5.78	43.56	49.34	74.00	-24.66	peak			

Spurious Emissions, TX Mode, 1-18G

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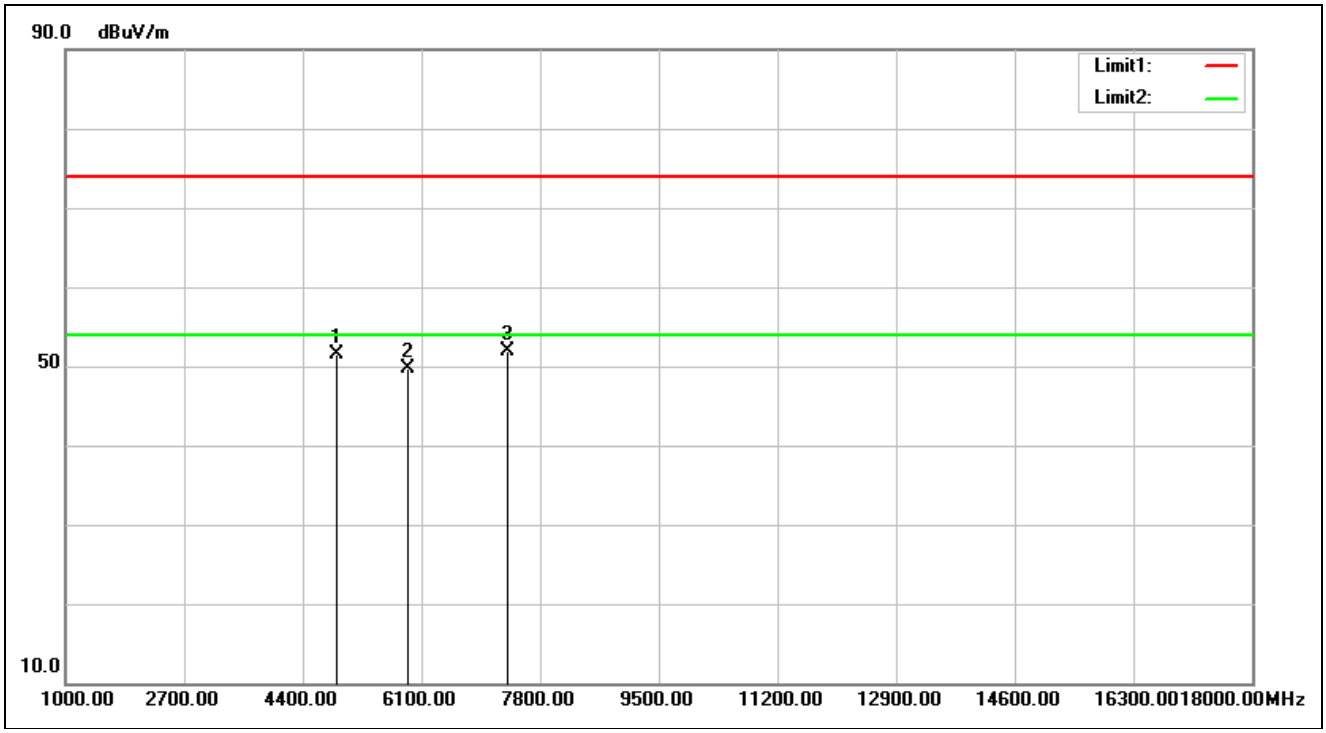

Service No.:	**114036784-FCC**	**Test Distance:**	**3m**
Test Standard:	**FCC Above 1G PEAK**	**Ant. Polarization:**	**Horizontal**
Test item:	**Radiation Emission**	**Test Time:**	**2015/6/25 13:46:54**
Applicant:	**Vencer**	**Test Rating:**	**DC 5V**
Product:	**Bluetooth V4.1 BLE Beacon**	**Temp.(℃)/Hum.(%):**	**22.2(℃)/58%**
Model No.:	**VR-3000**	**Test Engineer:**	**Hugo Chang**
Test Mode:	**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	53.57	51.42	74.00	-22.58	peak	100	332	
2	5896.000	3.40	46.21	49.61	74.00	-24.39	peak	100	252	
3	7326.000	6.14	45.79	51.93	74.00	-22.07	peak	100	360	

Spurious Emissions, TX Mode, 1-18G

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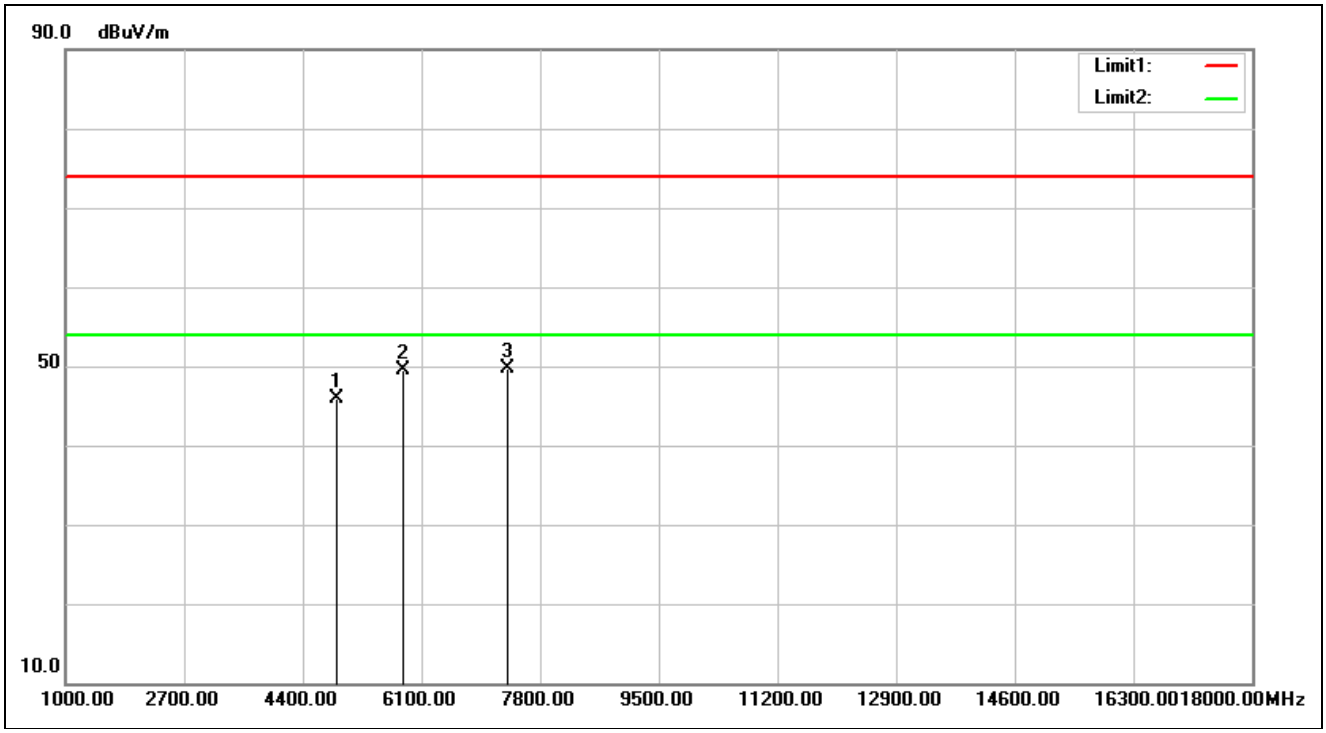

Service No.:	**114036784-FCC**	**Test Distance:**	**3m**
Test Standard:	**FCC Above 1G PEAK**	**Ant. Polarization:**	**Vertical**
Test item:	**Radiation Emission**	**Test Time:**	**2015/6/25 13:47:56**
Applicant:	**Vencer**	**Test Rating:**	**DC 5V**
Product:	**Bluetooth V4.1 BLE Beacon**	**Temp.(℃)/Hum.(%):**	**22.2(℃)/58%**
Model No.:	**VR-3000**	**Test Engineer:**	**Hugo Chang**
Test Mode:	**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	48.06	45.91	74.00	-28.09	peak			
2	5845.000	3.07	46.49	49.56	74.00	-24.44	peak	100	19	
3	7326.000	6.14	43.48	49.62	74.00	-24.38	peak			

Spurious Emissions, TX Mode, 1-18G

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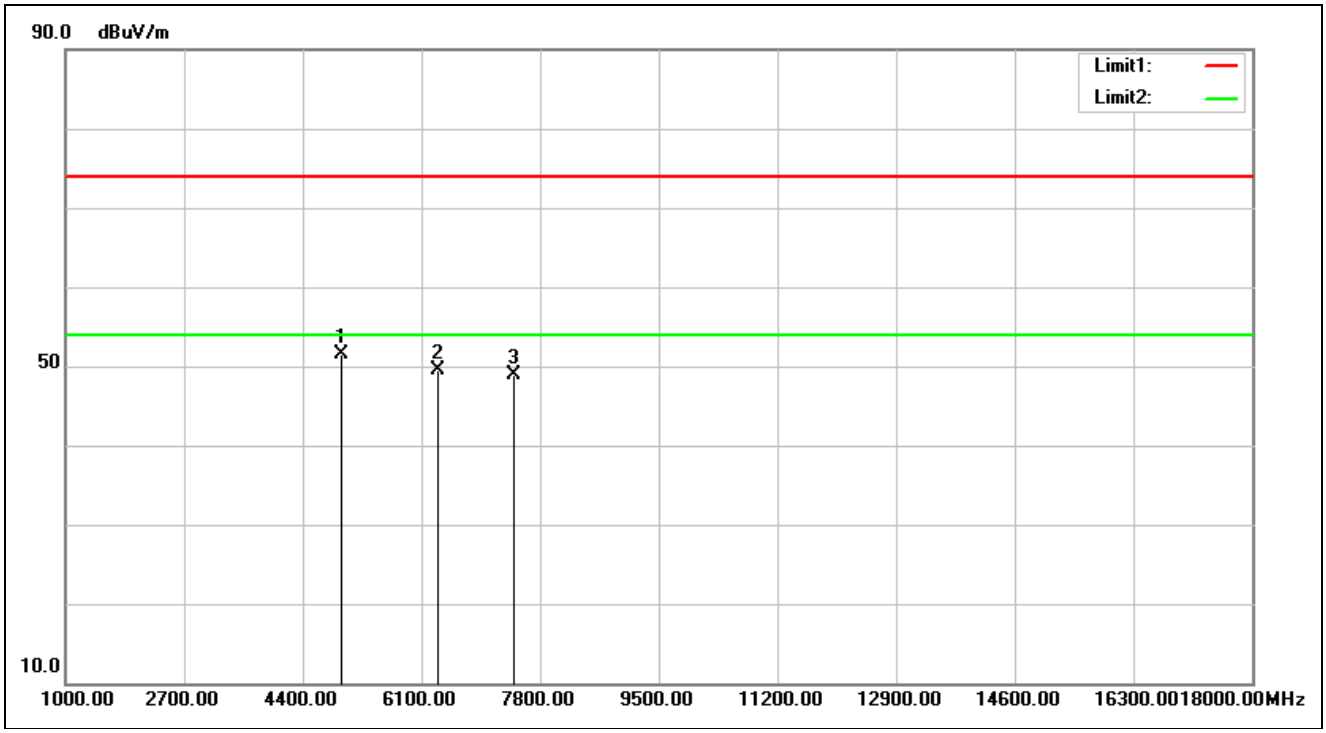

Service No.:	**114036784-FCC**	**Test Distance:**	**3m**
Test Standard:	**FCC Above 1G PEAK**	**Ant. Polarization:**	**Horizontal**
Test item:	**Radiation Emission**	**Test Time:**	**2015/6/25 13:50:36**
Applicant:	**Vencer**	**Test Rating:**	**DC 5V**
Product:	**Bluetooth V4.1 BLE Beacon**	**Temp.(℃)/Hum.(%):**	**22.2(℃)/58%**
Model No.:	**VR-3000**	**Test Engineer:**	**Hugo Chang**
Test Mode:	**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	53.56	51.59	74.00	-22.41	peak			
2	6338.000	5.41	44.14	49.55	74.00	-24.45	peak	100	193	
3	7440.000	6.47	42.41	48.88	74.00	-25.12	peak			

Spurious Emissions, TX Mode, 1-18G

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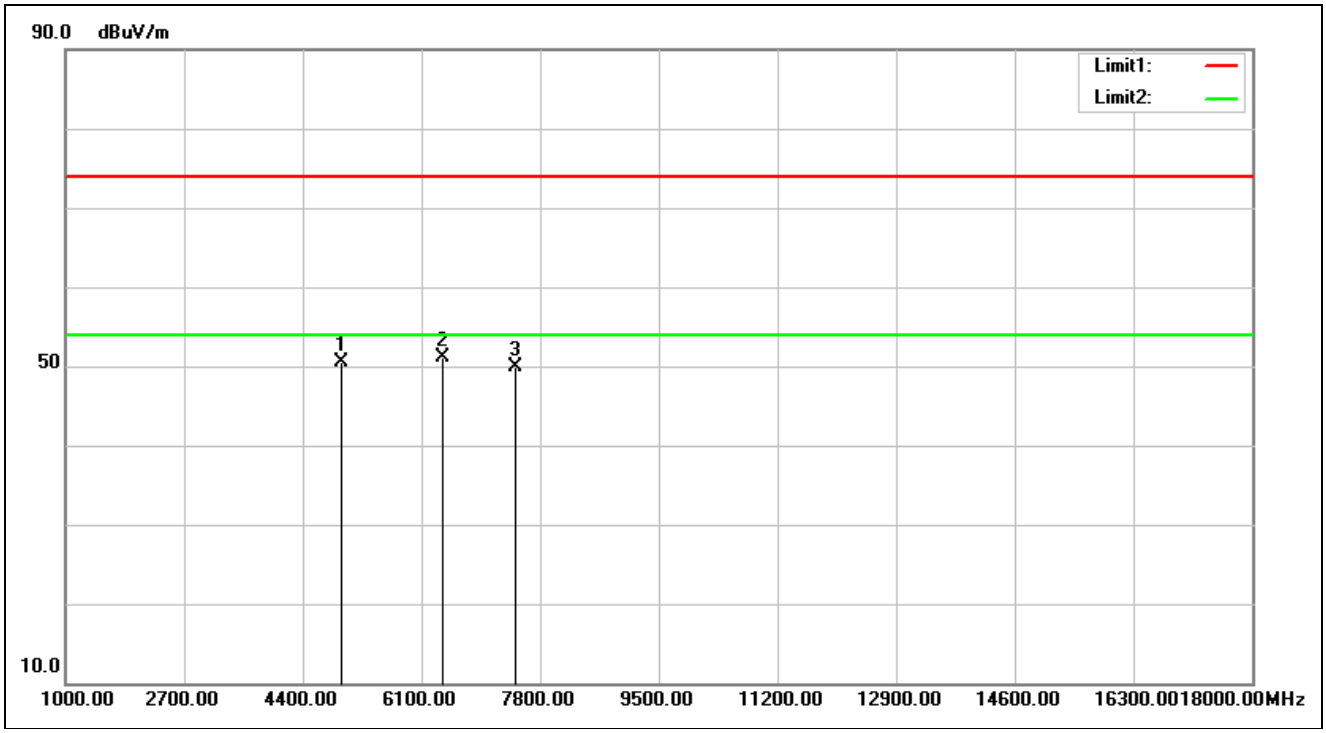

Service No.:	**114036784-FCC**	**Test Distance:**	**3m**
Test Standard:	**FCC Above 1G PEAK**	**Ant. Polarization:**	**Vertical**
Test item:	**Radiation Emission**	**Test Time:**	**2015/6/25 13:51:38**
Applicant:	**Vencer**	**Test Rating:**	**DC 5V**
Product:	**Bluetooth V4.1 BLE Beacon**	**Temp.(℃)/Hum.(%):**	**22.2(℃)/58%**
Model No.:	**VR-3000**	**Test Engineer:**	**Hugo Chang**
Test Mode:	**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	52.42	50.45	74.00	-23.55	peak			
2	6406.000	5.67	45.42	51.09	74.00	-22.91	peak	100	222	
3	7440.000	6.47	43.44	49.91	74.00	-24.09	peak			

Spurious Emissions, TX Mode, 1-18G

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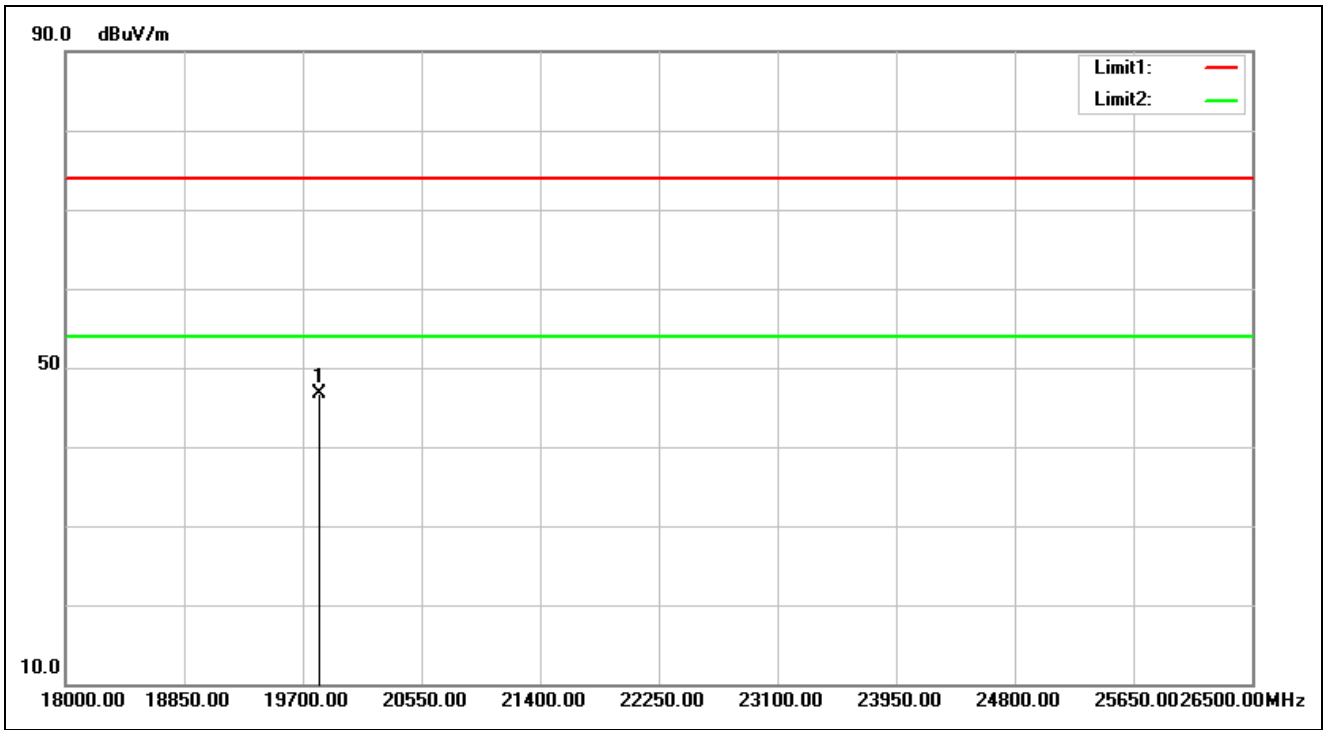

Service No.:	**114036784-FCC**	**Test Distance:**	**3m**
Test Standard:	**FCC Above 1G PEAK**	**Ant. Polarization:**	**Horizontal**
Test item:	**Radiation Emission**	**Test Time:**	**2015/6/25 14:16:32**
Applicant:	**Vencer**	**Test Rating:**	**DC 5V**
Product:	**Bluetooth V4.1 BLE Beacon**	**Temp.(℃)/Hum.(%):**	**22.2(℃)/58%**
Model No.:	**VR-3000**	**Test Engineer:**	**Hugo Chang**
Test Mode:	**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	19819.000	28.93	17.69	46.62	74.00	-27.38	peak	100	172	

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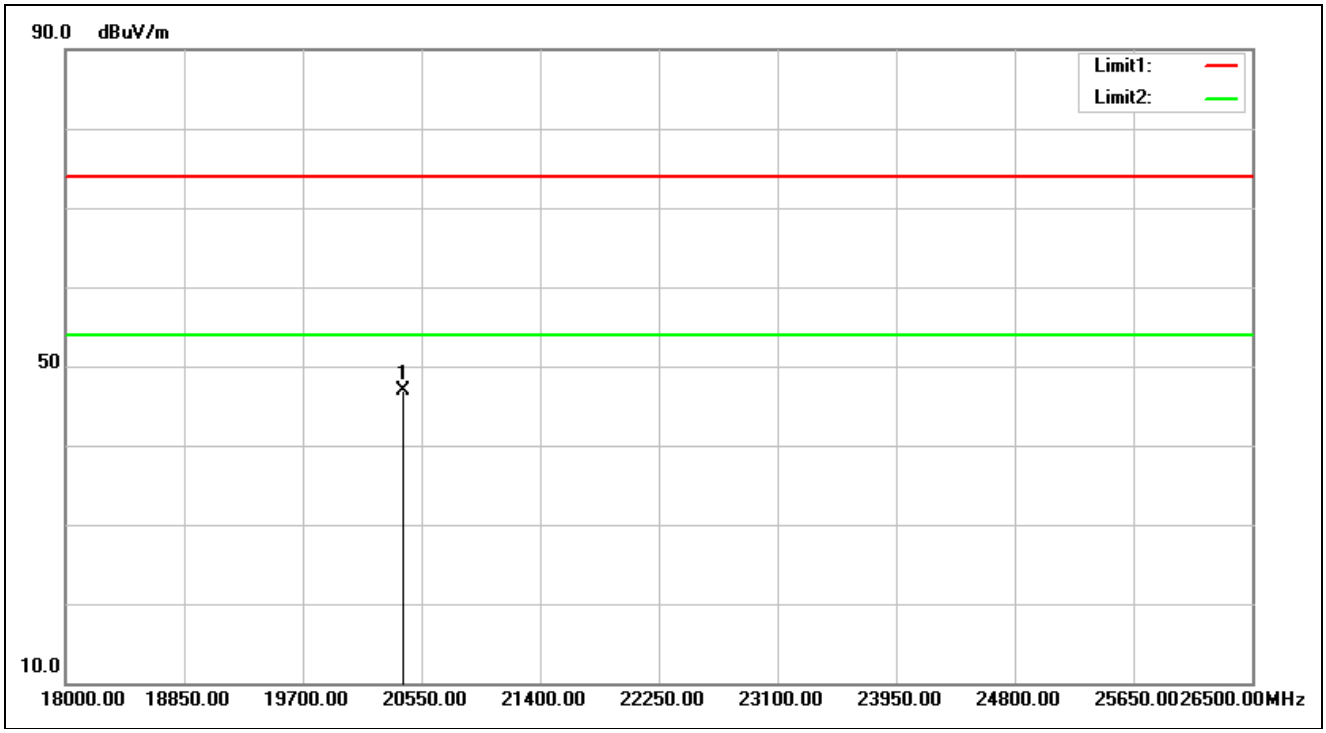

Service No.:	**114036784-FCC**	**Test Distance:**	**3m**
Test Standard:	**FCC Above 1G PEAK**	**Ant. Polarization:**	**Vertical**
Test item:	**Radiation Emission**	**Test Time:**	**2015/6/25 14:16:41**
Applicant:	**Vencer**	**Test Rating:**	**DC 5V**
Product:	**Bluetooth V4.1 BLE Beacon**	**Temp.(℃)/Hum.(%):**	**22.2(℃)/58%**
Model No.:	**VR-3000**	**Test Engineer:**	**Hugo Chang**
Test Mode:	**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	20414.000	29.18	17.74	46.92	74.00	-27.08	peak	100	286	

Spurious Emissions, TX Mode, 18-26G

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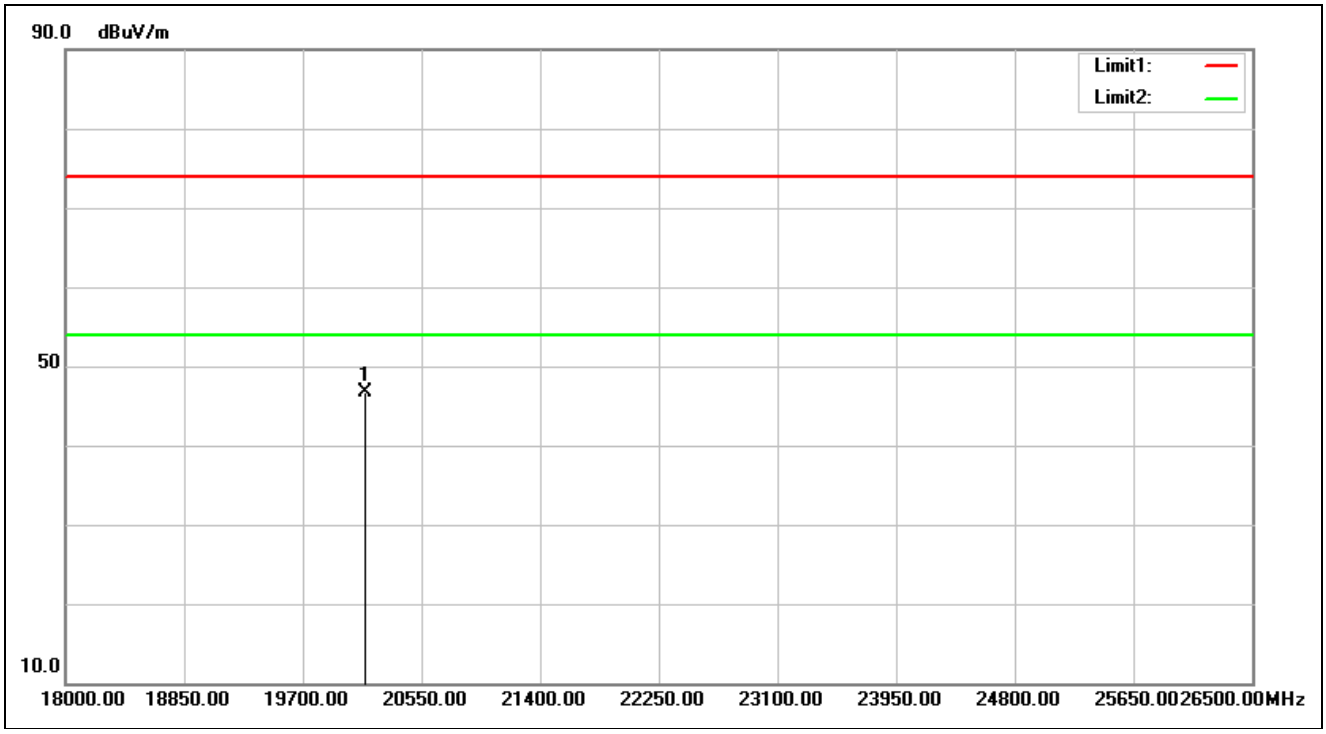

Service No.:	**114036784-FCC**	**Test Distance:**	**3m**
Test Standard:	**FCC Above 1G PEAK**	**Ant. Polarization:**	**Horizontal**
Test item:	**Radiation Emission**	**Test Time:**	**2015/6/25 14:16:53**
Applicant:	**Vencer**	**Test Rating:**	**DC 5V**
Product:	**Bluetooth V4.1 BLE Beacon**	**Temp.(℃)/Hum.(%):**	**22.2(℃)/58%**
Model No.:	**VR-3000**	**Test Engineer:**	**Hugo Chang**
Test Mode:	**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	20142.000	29.01	17.68	46.69	74.00	-27.31	peak	100	98	

Spurious Emissions, TX Mode, 18-26G

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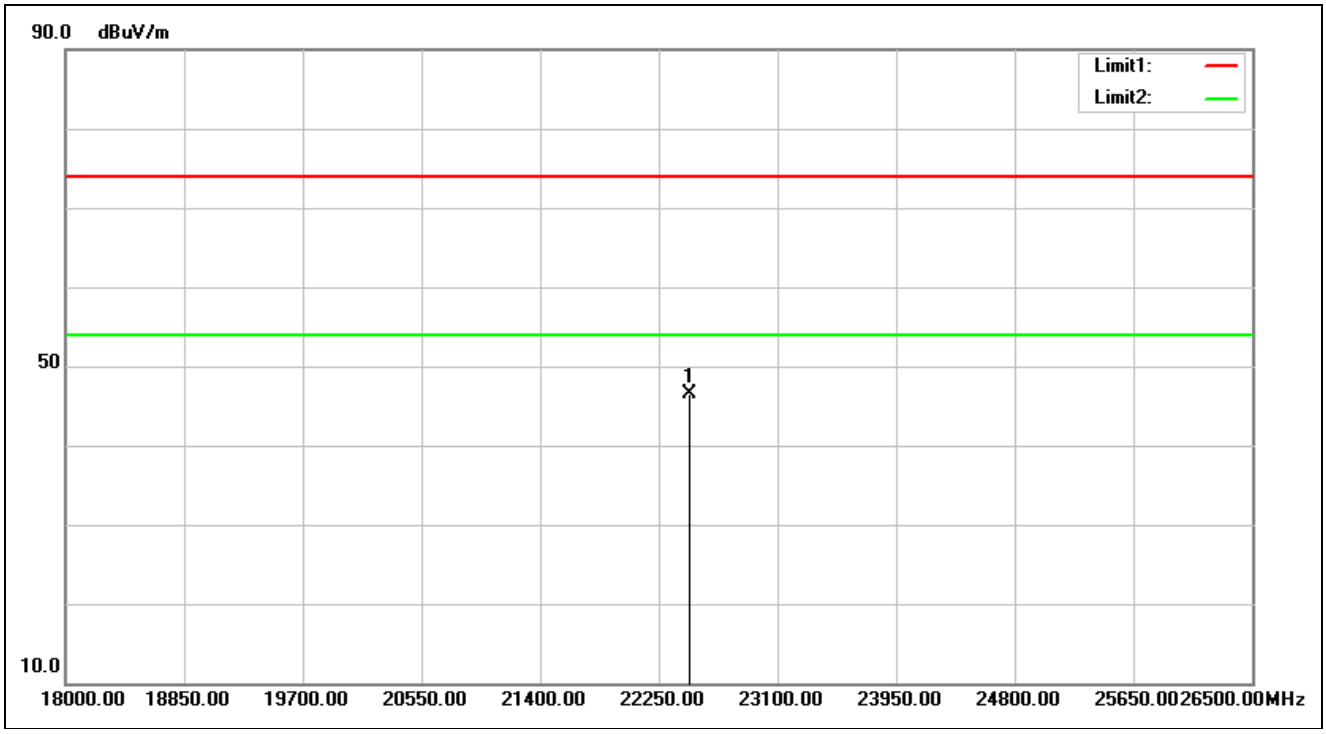

Service No.:	**114036784-FCC**	**Test Distance:**	**3m**
Test Standard:	**FCC Above 1G PEAK**	**Ant. Polarization:**	**Vertical**
Test item:	**Radiation Emission**	**Test Time:**	**2015/6/25 14:17:03**
Applicant:	**Vencer**	**Test Rating:**	**DC 5V**
Product:	**Bluetooth V4.1 BLE Beacon**	**Temp.(℃)/Hum.(%):**	**22.2(℃)/58%**
Model No.:	**VR-3000**	**Test Engineer:**	**Hugo Chang**
Test Mode:	**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	22471.000	29.20	17.22	46.42	74.00	-27.58	peak	100	227	

Spurious Emissions, TX Mode, 18-26G

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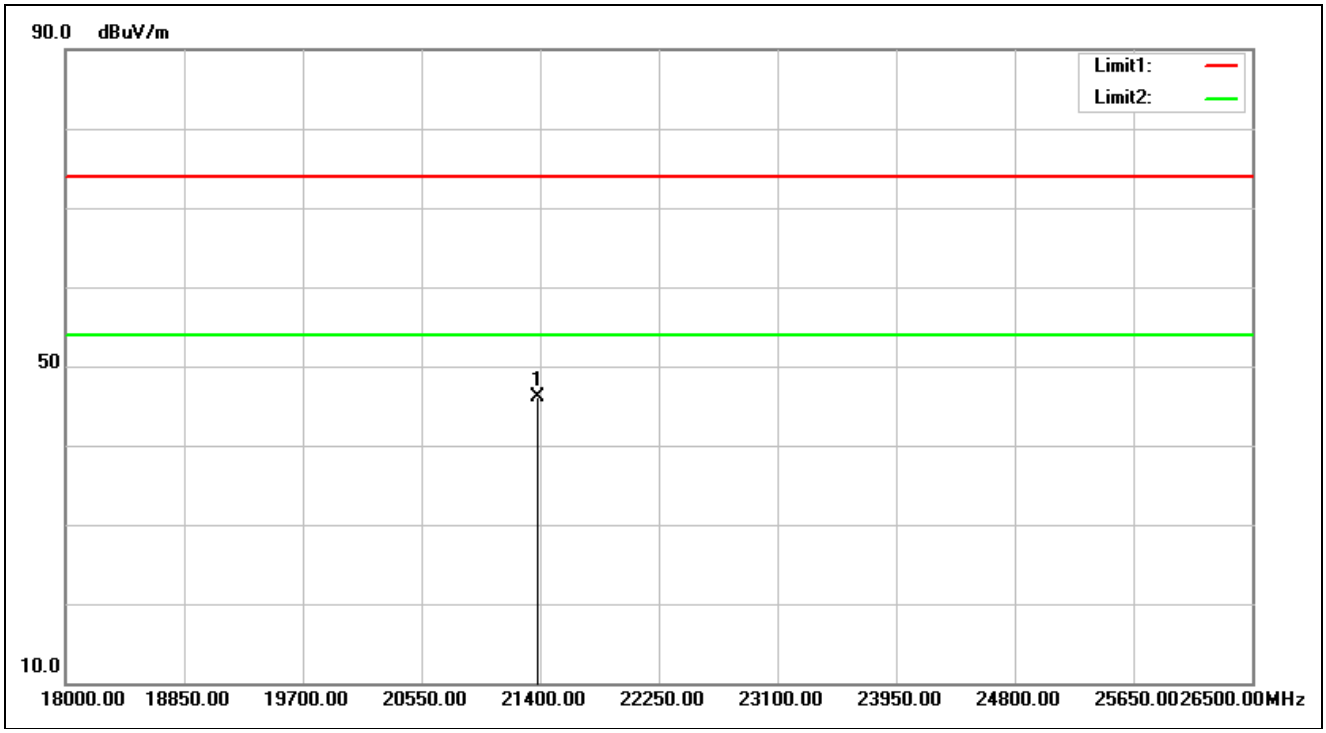

Service No.:	**114036784-FCC**	**Test Distance:**	**3m**
Test Standard:	**FCC Above 1G PEAK**	**Ant. Polarization:**	**Horizontal**
Test item:	**Radiation Emission**	**Test Time:**	**2015/6/25 14:17:15**
Applicant:	**Vencer**	**Test Rating:**	**DC 5V**
Product:	**Bluetooth V4.1 BLE Beacon**	**Temp.(℃)/Hum.(%):**	**22.2(℃)/58%**
Model No.:	**VR-3000**	**Test Engineer:**	**Hugo Chang**
Test Mode:	**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	21383.000	29.03	17.03	46.06	74.00	-27.94	peak	100	48	

Spurious Emissions, TX Mode, 18-26G

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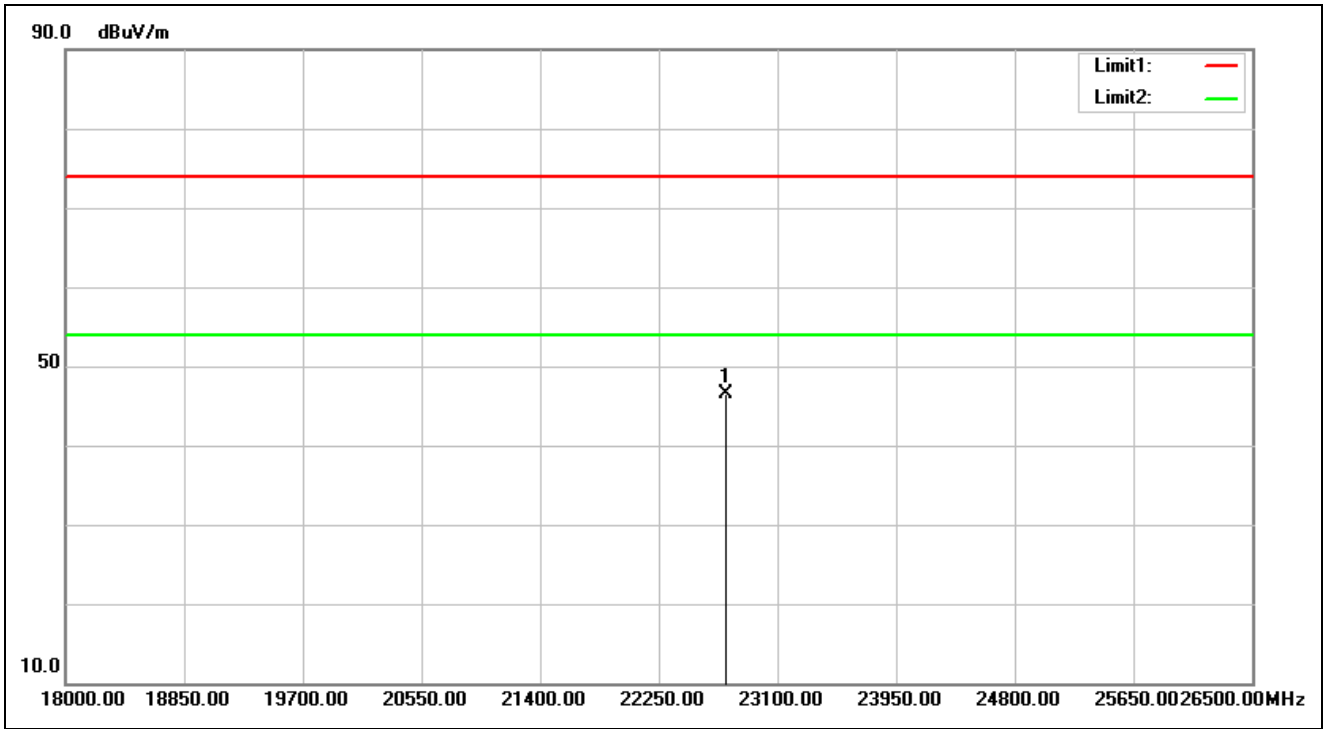

Service No.:	**114036784-FCC**	**Test Distance:**	**3m**
Test Standard:	**FCC Above 1G PEAK**	**Ant. Polarization:**	**Vertical**
Test item:	**Radiation Emission**	**Test Time:**	**2015/6/25 14:17:25**
Applicant:	**Vencer**	**Test Rating:**	**DC 5V**
Product:	**Bluetooth V4.1 BLE Beacon**	**Temp.(℃)/Hum.(%):**	**22.2(℃)/58%**
Model No.:	**VR-3000**	**Test Engineer:**	**Hugo Chang**
Test Mode:	**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	22734.500	29.55	16.95	46.50	74.00	-27.50	peak	100	1	

Spurious Emissions, TX Mode, 18-26G

Spurious Emissions, TX Mode, 30M-1G

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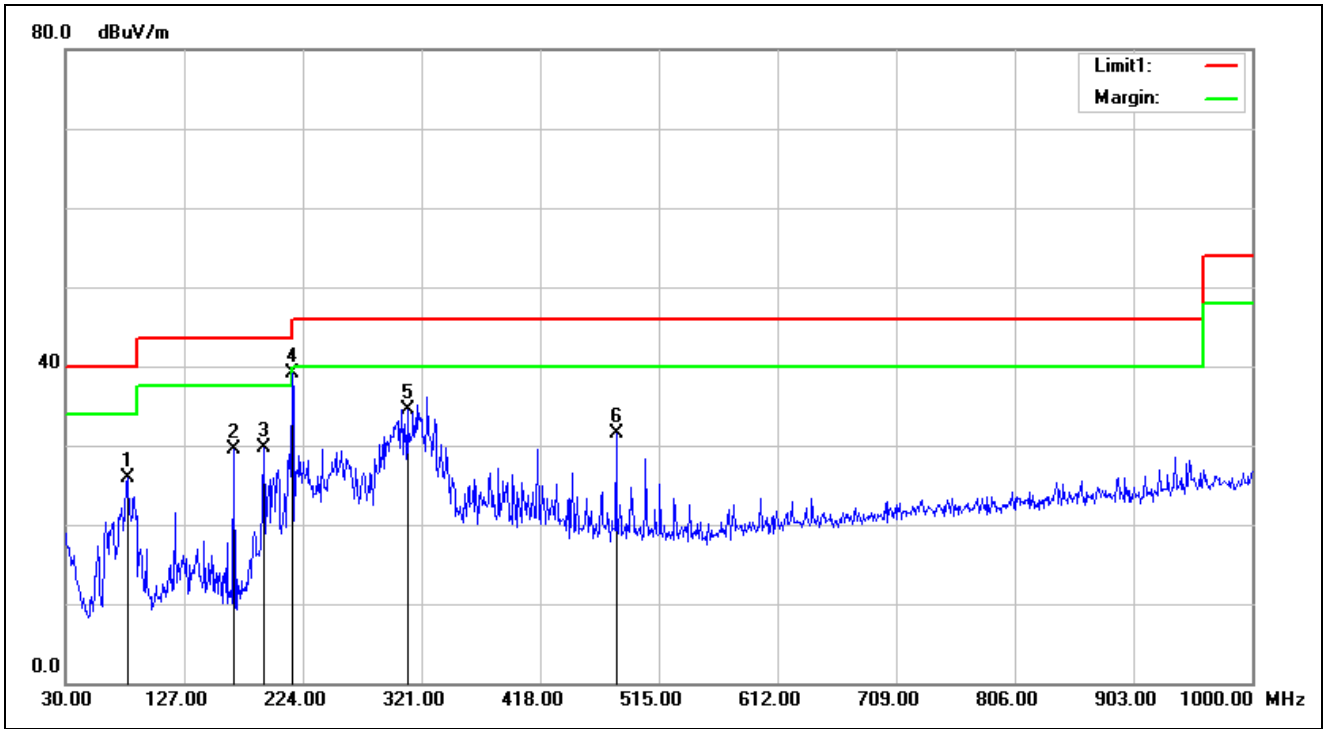
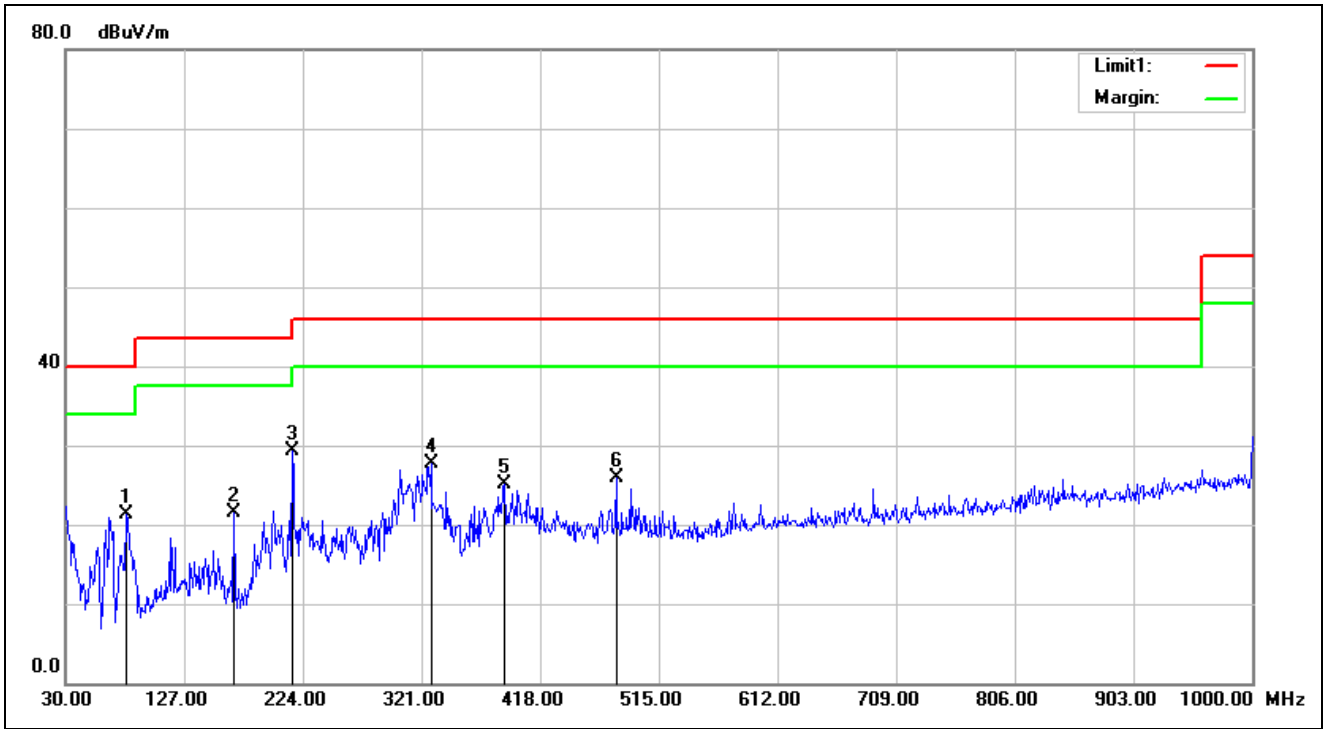


Service No.:	**114036784-FCC**	**Test Distance:**	**3m**
Test Standard:	**FCC Class B 3M Radiation**	**Ant. Polarization:**	**Horizontal**
Test item:	**Radiation Emission**	**Test Time:**	**2015/6/25 15:12:39**
Applicant:	**Vencer**	**Test Rating:**	**DC 5V**
Product:	**Bluetooth V4.1 BLE Beacon**	**Temp.(℃)/Hum.(%):**	**22.2(℃)/58%**
Model No.:	**VR-3000**	**Test Engineer:**	**Hugo Chang**
Test Mode:	**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	80.4399	-17.65	43.64	25.99	40.00	-14.01	QP	100	173	
2	167.7400	-14.55	44.00	29.45	43.50	-14.05	QP	100	197	
3	191.9900	-15.21	44.83	29.62	43.50	-13.88	QP	100	213	
4	215.2700	-14.29	53.45	39.16	43.50	-4.34	QP	100	190	
5	309.3599	-10.28	44.79	34.51	46.00	-11.49	QP	100	328	
6	480.0799	-7.55	39.06	31.51	46.00	-14.49	QP	100	72	

Spurious Emissions, Mains, 150kHz - 30MHz

TUV Taiwan
11F., No.758, Sec.4 Bade Road. Songshan Dist, Taipei City 105
Tel:+886-2172-7000 fax:+886-2528-0018



Service No.:	**114036784-FCC**	**Test Distance:**	**3m**
Test Standard:	**FCC Class B 3M Radiation**	**Ant. Polarization:**	**Vertical**
Test item:	**Radiation Emission**	**Test Time:**	**2015/6/25 15:13:43**
Applicant:	**Vencer**	**Test Rating:**	**DC 5V**
Product:	**Bluetooth V4.1 BLE Beacon**	**Temp.(℃)/Hum.(%):**	**22.2(℃)/58%**
Model No.:	**VR-3000**	**Test Engineer:**	**Hugo Chang**
Test Mode:	**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	79.4700	-17.76	39.11	21.35	40.00	-18.65	QP	100	261	
2	167.7400	-14.55	35.96	21.41	43.50	-22.09	QP	100	173	
3	215.2700	-14.29	43.55	29.26	43.50	-14.24	QP	100	173	
4	328.7600	-9.85	37.61	27.76	46.00	-18.24	QP	100	178	
5	388.9000	-8.81	33.90	25.09	46.00	-20.91	QP	100	163	
6	480.0800	-7.55	33.54	25.99	46.00	-20.01	QP	100	242	

Spurious Emissions, Mains, 150kHz - 30MHz

Mains Spurious Emissions

TUV Rheinland Taiwan
11F.,No.758,Sec. 4,Bade Rd.,Songshan Dist.,Taipei 105,Taiwan
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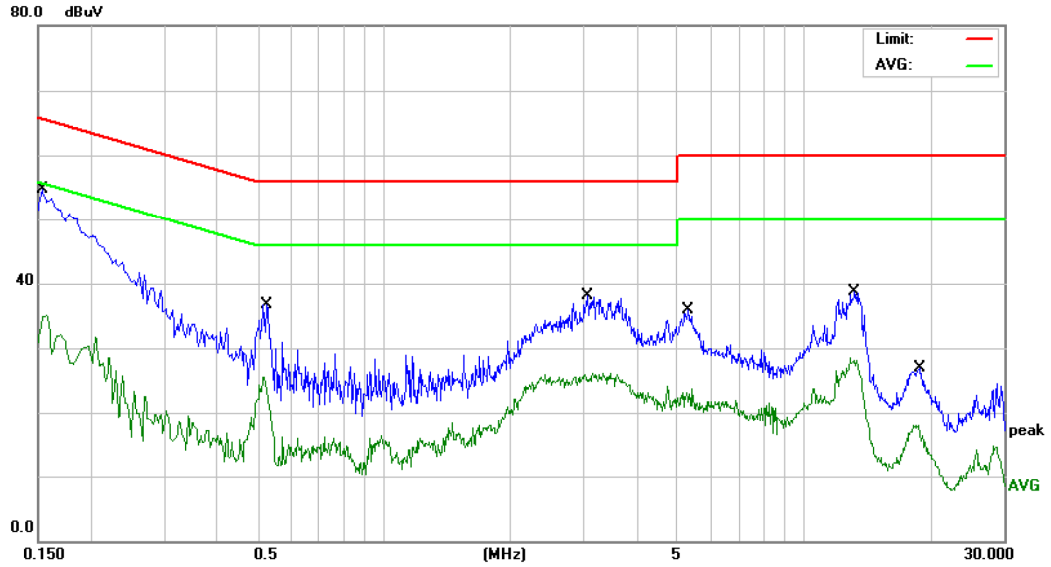
Site: Conduction

Test Time: 2015/6/24 10:39:41



Service No.: 114036784
Test Standard: FCC Class B Conduction(QP)
Test item: Conducted Emission
Phase: L1
Applicant: Vencer
Temp.(℃)/Hum.(%): 24(℃) / 45 %
Product: Bluetooth V4.1 BLE Beacon
Power Rating: AC 120V/60Hz
Model No.: VR-3000
Test Engineer: Hugo Chang

Test Mode: Normal operation
Remark:

No.	Frequency (MHz)	Factor ()	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.1539	9.65	41.67	51.32	65.78	-14.46	QP	P	
2	0.1539	9.65	22.48	32.13	55.78	-23.65	AVG	P	
3	0.5260	9.63	20.66	30.29	56.00	-25.71	QP	P	
4	0.5260	9.63	12.95	22.58	46.00	-23.42	AVG	P	
5	3.0579	9.67	19.35	29.02	56.00	-26.98	QP	P	
6	3.0579	9.67	13.53	23.20	46.00	-22.80	AVG	P	
7	5.3220	9.68	22.00	31.68	60.00	-28.32	QP	P	
8	5.3220	9.68	13.70	23.38	50.00	-26.62	AVG	P	
9	13.2300	9.81	22.53	32.34	60.00	-27.66	QP	P	
10	13.2300	9.81	15.70	25.51	50.00	-24.49	AVG	P	
11	18.8540	9.83	9.47	19.30	60.00	-40.70	QP	P	
12	18.8540	9.83	3.90	13.73	50.00	-36.27	AVG	P	

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Spurious Emissions, Mains, 150kHz - 30MHz

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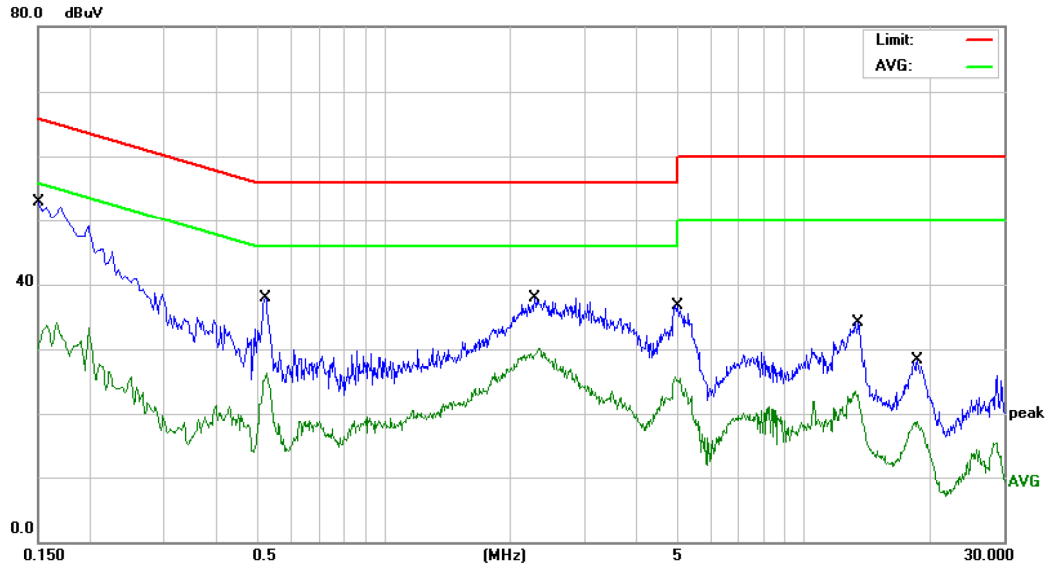
11F.,No.758,Sec. 4,Bade Rd.,Songshan Dist.,Taipei 105,Taiwan
Tel:+886-2-2172-7000 Fax:+886-2-2528-0018

Site: Conduction

Test Time: 2015/6/24 10:46:20



Service No.: 114036784

Test Standard: FCC Class B Conduction(QP)

Test item: Conducted Emission

Phase: N

Applicant: Vencer

Temp.(℃)/Hum.(%): 24(℃) / 45 %

Product: Bluetooth V4.1 BLE Beacon

Power Rating: AC 120V/60Hz

Model No.: VR-3000

Test Engineer: Hugo Chang

Test Mode: Normal operation

Remark:

No.	Frequency (MHz)	Factor ()	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.1500	9.66	40.76	50.42	65.99	-15.57	QP	P	
2	0.1500	9.66	21.26	30.92	55.99	-25.07	AVG	P	
3	0.5220	9.64	23.29	32.93	56.00	-23.07	QP	P	
4	0.5220	9.64	15.19	24.83	46.00	-21.17	AVG	P	
5	2.2860	9.67	22.80	32.47	56.00	-23.53	QP	P	
6	2.2860	9.67	18.10	27.77	46.00	-18.23	AVG	P	
7	5.0180	9.71	19.12	28.83	60.00	-31.17	QP	P	
8	5.0180	9.71	11.61	21.32	50.00	-28.68	AVG	P	
9	13.5220	9.85	16.15	26.00	60.00	-34.00	QP	P	
10	13.5220	9.85	8.51	18.36	50.00	-31.64	AVG	P	
11	18.6860	9.90	12.17	22.07	60.00	-37.93	QP	P	
12	18.6860	9.90	6.55	16.45	50.00	-33.55	AVG	P	

File:114036784\ #2 *Page: 1*

Spurious Emissions, Mains, 150kHz - 30MHz