

Appendix D: Test Results of Radiated

APPENDIX D: TEST RESULTS OF RADIATED	1
APPENDIX D.1: TEST RESULTS OF RADIATED SPURIOUS EMISSIONS	ERROR! BOOKMARK NOT DEFINED.
DTSS#1(BLE)	2
30 MHz to 1GHz	2
1GHz to 18GHz	6
Band Edge, Low Channel	12
Band Edge, High Channel	14
DTSS#2 (BANDWIDTH: 500KHz)	16
30 MHz to 1GHz	16
1GHz to 18GHz	20
FHSS#1 (BANDWIDTH: 125KHz)	26
30 MHz to 1GHz	26
1GHz to 18GHz	30
FHSS#2 (DATARATE: 50KBps)	36
30 MHz to 1GHz	36
1GHz to 18GHz	40
FHSS#3 (DATARATE: 150KBps)	46
30 MHz to 1GHz	46
1GHz to 18GHz	50
FHSS#4 (DATARATE: 250KBps)	56
30 MHz to 1GHz	56
1GHz to 18GHz	60

DTSS#1(BLE)

Note: Testing was carried out within frequency range 9kHz to the tenth harmonics. The measurement results below 30MHz and above 18GHz were greater than 20dB below the limit, so only the radiated spurious emissions from 30MHz to 18GHz were reported.

30 MHz to 1GHz

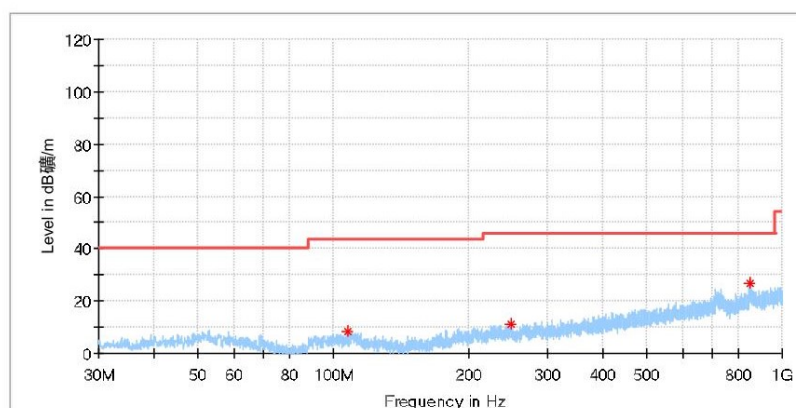
Test

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Test Report

EUT Information

EUT Name:	Pathlight
Model:	5LP1Y8
TestMode:	BLE_TX_Low CH
Test Voltage::	Fully charged battery
Remark:	Temp 24 Humi:45%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
107.891000	8.43	---	43.50	35.07	100.0	H	38.0	-19.3
248.880500	11.12	---	46.00	34.88	100.0	H	298.0	-17.7
845.236500	26.56	---	46.00	19.44	100.0	H	150.0	-6.0

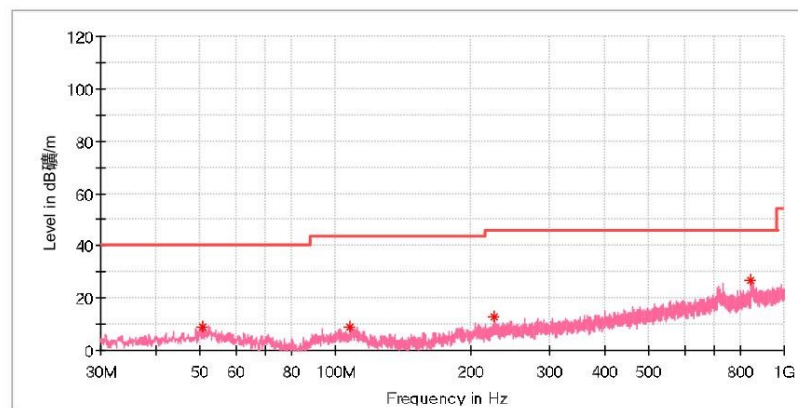
Test

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Test Report

EUT Information

EUT Name:	Pathlight
Model:	5LP1Y8
Test Mode:	TX H-Feild
Test Voltage:	Fully charged battery
Remark:	Temp 24 Humi:45%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical Freqs

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
50.709500	9.15	---	40.00	30.85	100.0	V	308.0	-18.6
107.939500	8.97	---	43.50	34.53	100.0	V	0.0	-19.3
226.619000	12.62	---	46.00	33.38	100.0	V	284.0	-18.6
845.139500	26.61	---	46.00	19.39	100.0	V	226.0	-6.0

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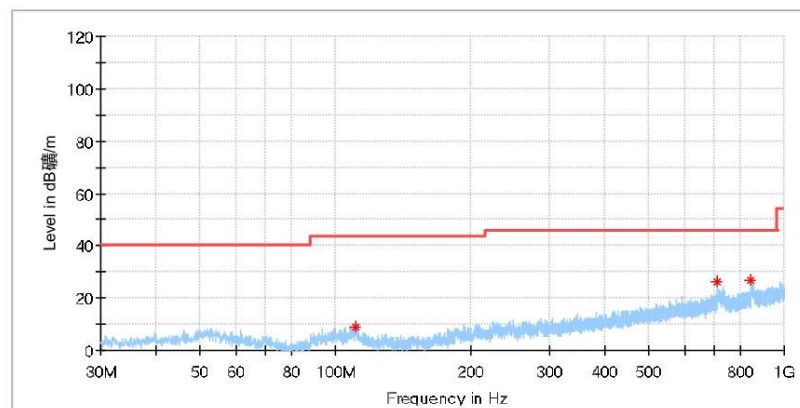
Test

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Test Report

EUT Information

EUT Name:	Pathlight
Model:	5LP1Y8
Test Mode:	BLE_TX_High CH
Test Voltage:	Fully charged battery
Remark:	Temp 24 Humi:45%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
110.655500	8.96	---	43.50	34.54	100.0	H	119.0	-19.5
709.533500	26.35	---	46.00	19.65	100.0	H	259.0	-8.3
844.897000	26.59	---	46.00	19.41	100.0	H	20.0	-6.0

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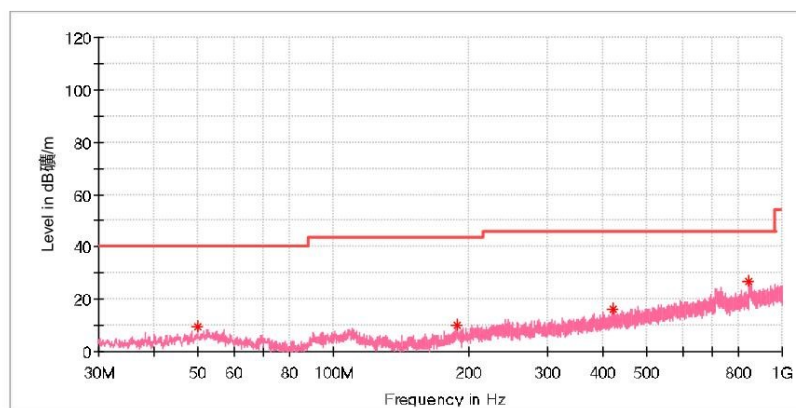
Test

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Test Report

EUT Information

EUT Name:	Pathlight
Model:	5LP1Y8
Test Mode:	BLE_TX_High CH
Test Voltage:	Fully charged battery
Remark:	Temp 24 Humi:45%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
49.885000	9.24	---	40.00	30.76	100.0	V	143.0	-18.6
188.207000	10.22	---	43.50	33.28	100.0	V	29.0	-20.0
418.873000	15.96	---	46.00	30.04	100.0	V	0.0	-13.8
844.945500	26.70	---	46.00	19.30	100.0	V	176.0	-6.0

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1GHz to 18GHz

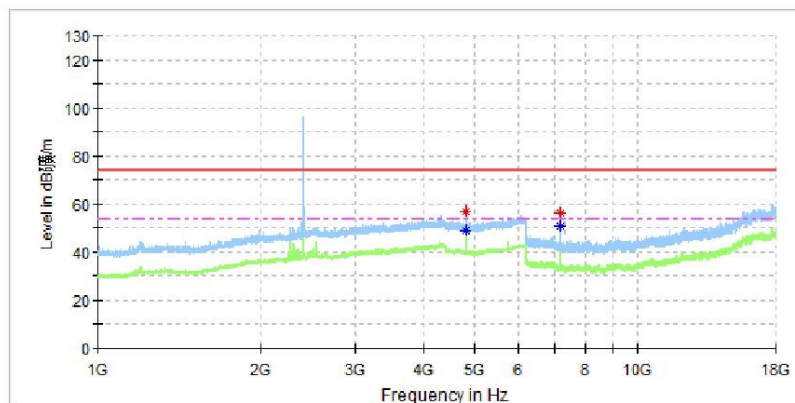
Test

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Test Report

EUT Information

EUT Name:	Pathlight
Model:	5LP1Y8
Test Mode:	BLE_TX_Low CH
Test Voltage:	Fully charged battery
Remark:	Temp 24 Humi:45%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4804.000000	---	48.71	54.00	5.29	100.0	H	116.0	13.6
4804.000000	56.62	---	74.00	17.38	100.0	H	116.0	13.6
7205.458333	---	50.73	54.00	3.23	100.0	H	4.0	8.8
7205.950000	56.27	---	74.00	17.73	100.0	H	106.0	8.8

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Note: The highest waveform in the figure is Bluetooth Fundamental.

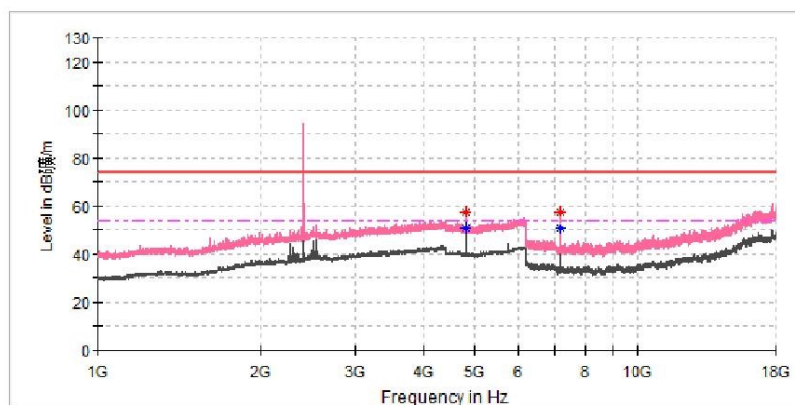
Test

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Test Report

EUT Information

EUT Name: Pathlight
Model: 5LP1Y8
Test Mode: BLE_TX_Low CH
Test Voltage: Fully charged battery
Remark: Temp 24 Humi:45%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin



Critical Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4803.000000	57.71	---	74.00	16.29	100.0	V	207.0	13.6
4803.500000	---	50.97	54.00	3.03	100.0	V	250.0	13.6
7204.966667	57.72	---	74.00	16.28	100.0	V	294.0	8.8
7205.458333	---	50.82	54.00	3.18	100.0	V	294.0	8.8

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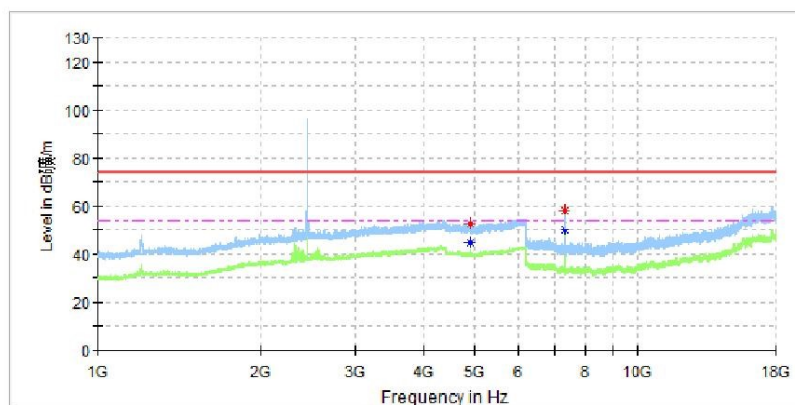
Test

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Test Report

EUT Information

EUT Name: Pathlight
Model: 5LP1Y8
Test Mode: BLE_TX_Mid CH
Test Voltage: Fully charged battery
Remark: Temp 24 Humi:45%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin



Critical Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4879.500000	---	44.83	54.00	9.17	100.0	H	325.0	13.4
4880.000000	52.46	---	74.00	21.54	100.0	H	317.0	13.4
7320.016667	---	50.73	54.00	3.27	100.0	H	356.0	8.2
7320.508333	58.00	---	74.00	16.00	100.0	H	356.0	8.2

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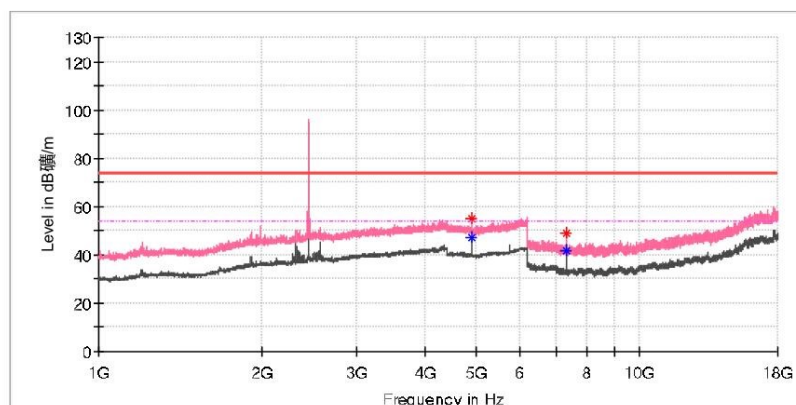
Test

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Test Report

EUT Information

EUT Name:	Pathlight
Model:	5LP1Y8
Test Mode:	BLE_TX_Mid CH
Test Voltage:	Fully charged battery
Remark:	Temp 24 Humi:45%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4880.000000	—	47.24	54.00	6.76	100.0	V	239.0	13.4
4880.000000	54.90	—	74.00	19.10	100.0	V	239.0	13.4
7318.050000	48.79	—	74.00	25.21	100.0	V	128.0	8.2
7319.525000	—	41.82	54.00	12.18	100.0	V	248.0	8.2

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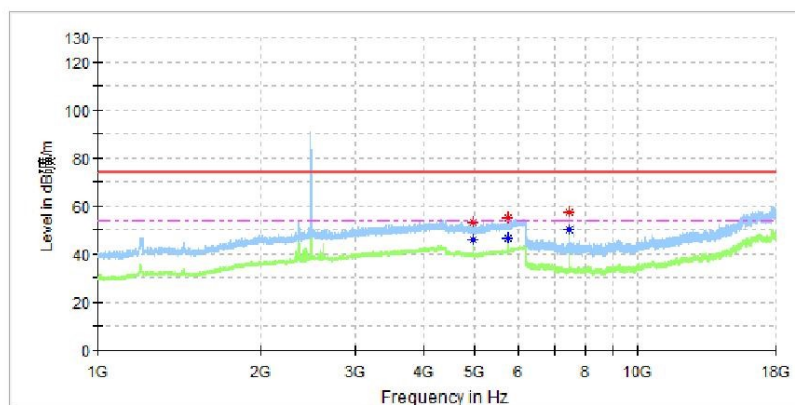
Test

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Test Report

EUT Information

EUT Name: Pathlight
Model: 5LP1Y8
Test Mode: BLE_TX_High CH
Test Voltage: Fully charged battery
Remark: Temp 24 Humi:45%
Test Standard: FCC 15.247
Tested By: Kei Zhang
Reviewed By: Terry Yin



Critical Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4959.500000	---	45.82	54.00	8.18	100.0	H	314.0	13.2
4959.500000	53.15	---	74.00	20.85	100.0	H	314.0	13.2
5760.500000	---	46.83	54.00	7.17	100.0	H	114.0	14.6
5760.500000	55.14	---	74.00	18.86	100.0	H	114.0	14.6
7439.491667	---	50.72	54.00	3.28	100.0	H	5.0	8.4
7440.475000	57.49	---	74.00	16.51	100.0	H	0.0	8.4

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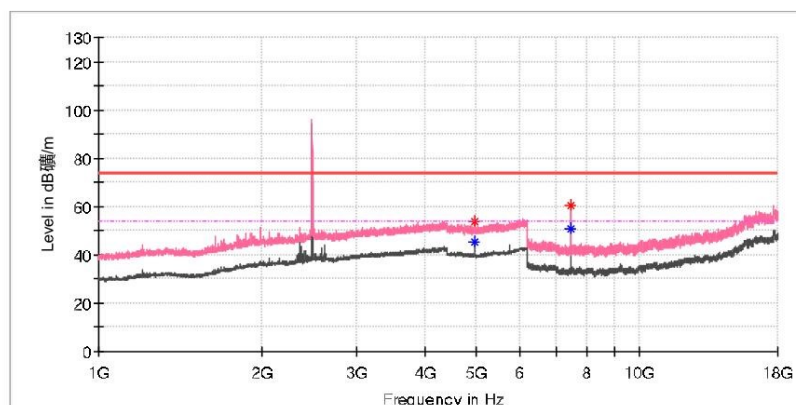
Test

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Test Report

EUT Information

EUT Name:	Pathlight
Model:	5LP1Y8
Test Mode:	BLE_TX_High CH
Test Voltage:	Fully charged battery
Remark:	Temp 24 Humi:45%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
4959.500000	—	45.49	54.00	8.51	100.0	V	236.0	13.2
4959.500000	54.10	—	74.00	19.90	100.0	V	236.0	13.2
7439.000000	60.29	—	74.00	13.71	100.0	V	86.0	8.4
7440.475000	—	50.94	54.00	3.06	100.0	V	106.0	8.4

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Band Edge, Low Channel

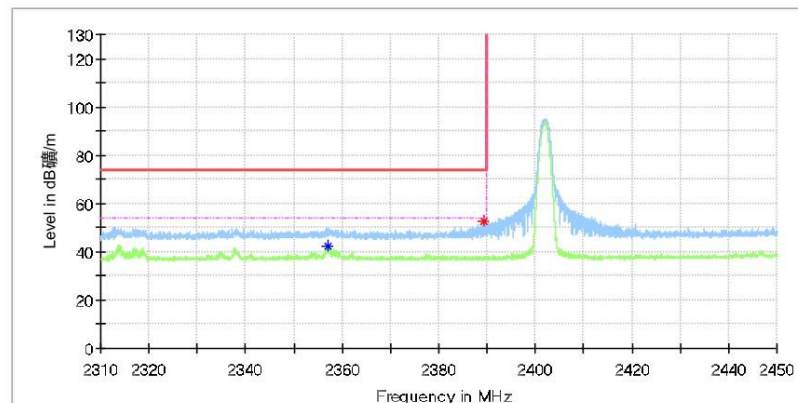
Test

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Test Report

EUT Information

EUT Name:	Pathlight
Model:	5LP1Y8
Test Mode:	BLE_TX_Low CH
Test Voltage::	Fully charged battery
Remark:	Temp 24 Humi:45%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical_Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2357.147059	---	42.59	54.00	11.41	100.0	H	134.0	6.9
2389.264706	52.37	---	74.00	21.63	100.0	H	15.0	7.0

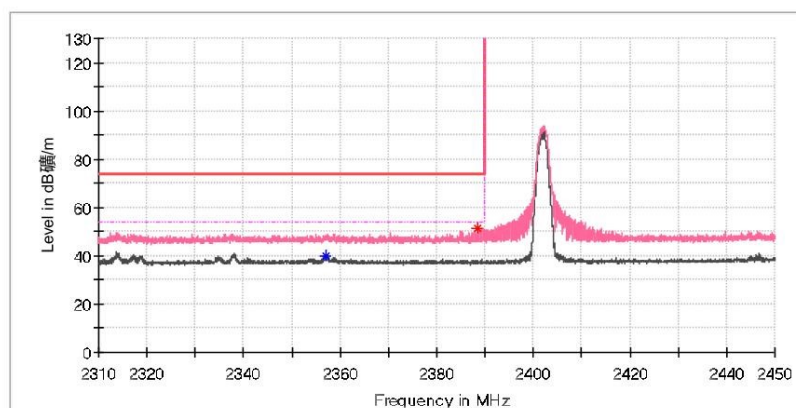
Test

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Test Report

EUT Information

EUT Name:	Pathlight
Model:	5LP1Y8
Test Mode:	BLE_TX_Low CH
Test Voltage:	Fully charged battery
Remark:	Temp 24 Humi:45%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2357.126471	—	40.17	54.00	13.83	100.0	V	0.0	6.9
2388.461765	51.13	—	74.00	22.87	100.0	V	324.0	7.0

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Band Edge, High Channel

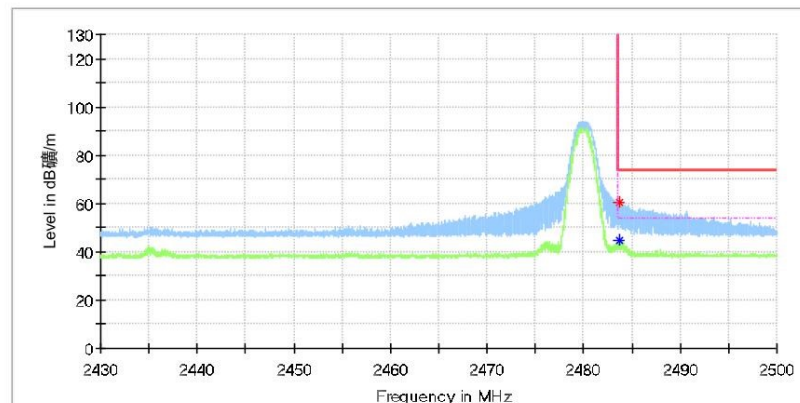
Test

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Test Report

EUT Information

EUT Name:	Pathlight
Model:	5LP1Y8
Test Mode:	BLE_TX_High CH
Test Voltage::	Fully charged battery
Remark:	Temp 24 Humi:45%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2483.745588	60.54	---	74.00	13.46	100.0	H	287.0	7.4
2483.755882	---	44.63	54.00	9.37	100.0	H	280.0	7.4

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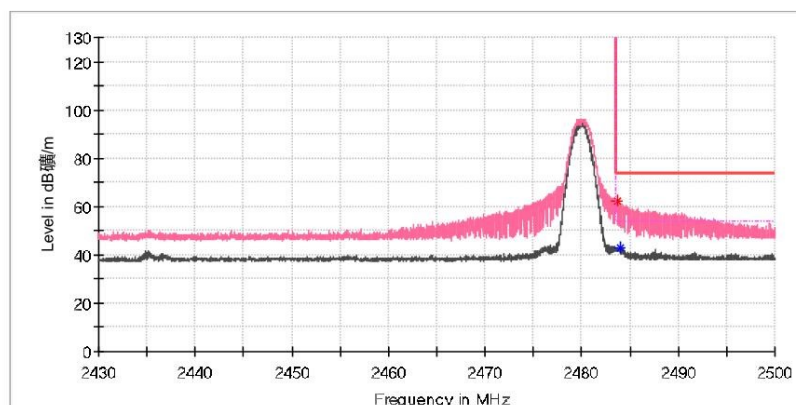
Test

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Test Report

EUT Information

EUT Name:	Pathlight
Model:	5LP1Y8
Test Mode:	BLE_TX_High CH
Test Voltage:	Fully charged battery
Remark:	Temp 24 Humi:45%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
2483.632353	62.11	—	74.00	11.89	100.0	V	171.0	7.4
2483.972059	—	43.07	54.00	10.93	100.0	V	206.0	7.4

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DTSS#2 (Bandwidth: 500KHz)
30 MHz to 1GHz

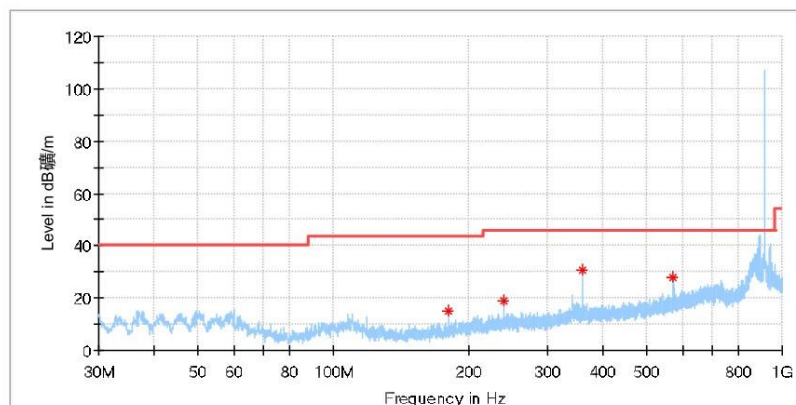
Test

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Test Report

EUT Information

EUT Name:	Pathlight
Model:	5LP1Y8
Test Mode:	Lora DTS 500K Low CH_902.5MHz
Test Voltage::	Fully charged battery
Remark:	Temp 24 Humi:45%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical_Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
179.962000	15.00	---	43.50	28.50	100.0	H	200.0	-20.8
239.956500	19.24	---	46.00	26.76	100.0	H	175.0	-18.0
359.945500	30.91	---	46.00	15.09	100.0	H	314.0	-15.0
572.860500	27.74	---	46.00	18.26	100.0	H	356.0	-10.7

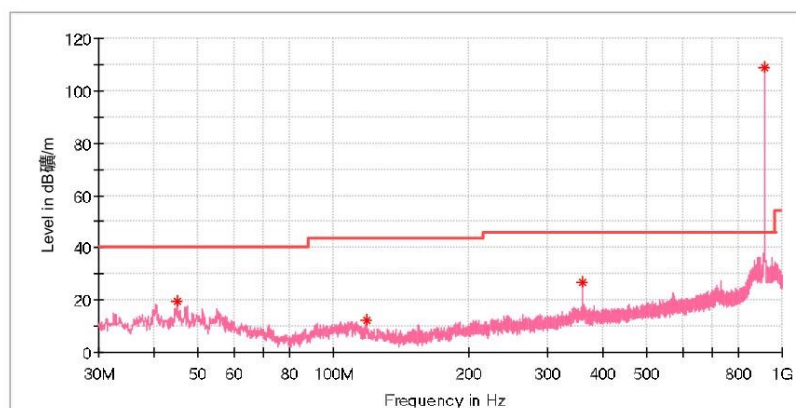
Test

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Test Report

EUT Information

EUT Name:	Pathlight
Model:	5LP1Y8
Test Mode:	Lora DTS 500K Low CH_902.5MHz
Test Voltage:	Fully charged battery
Remark:	Temp 24 Humi:45%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
44.889500	19.32	---	40.00	20.68	100.0	V	282.0	-19.2
118.755000	12.50	---	43.50	31.00	100.0	V	61.0	-20.8
359.945500	27.02	---	46.00	18.98	100.0	V	307.0	-15.0
914.543000	108.58	---	46.00	-62.58	100.0	V	282.0	-5.3

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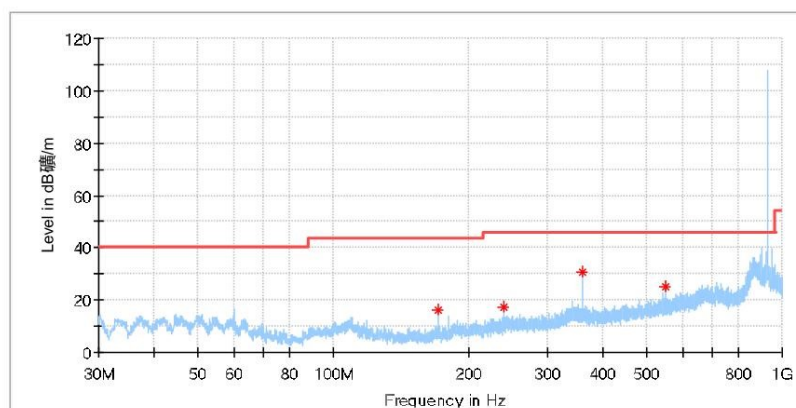
Test

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Test Report

EUT Information

EUT Name:	Pathlight
Model:	5LP1Y8
Test Mode:	Lora DTS 500K High CH_926.5MHz
Test Voltage:	Fully charged battery
Remark:	Temp 24 Humi:45%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
170.989500	16.23	---	43.50	27.27	100.0	H	168.0	-21.5
239.956500	17.52	---	46.00	28.48	100.0	H	160.0	-18.0
359.945500	30.69	---	46.00	15.31	100.0	H	324.0	-15.0
548.901500	25.05	---	46.00	20.95	100.0	H	349.0	-11.2

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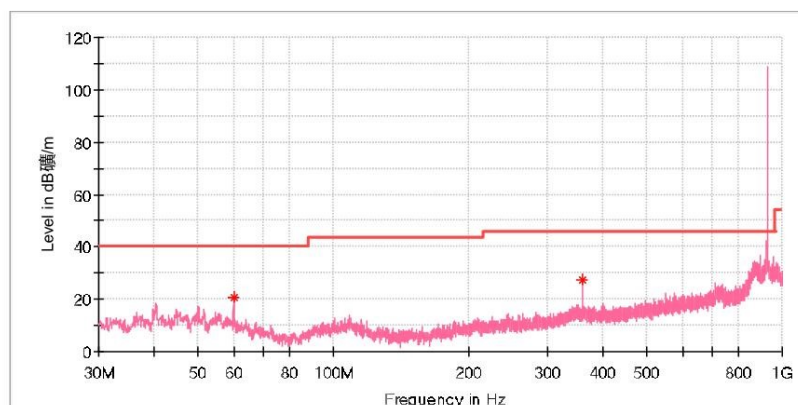
Test

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Test Report

EUT Information

EUT Name:	Pathlight
Model:	5LP1Y8
Test Mode:	Lora DTS 500K High CH_926.5MHz
Test Voltage::	Fully charged battery
Remark:	Temp 24 Humi:45%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
59.973000	20.92	—	40.00	19.08	100.0	V	287.0	-19.3
359.945500	27.44	—	46.00	18.56	100.0	V	304.0	-15.0

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1GHz to 18GHz

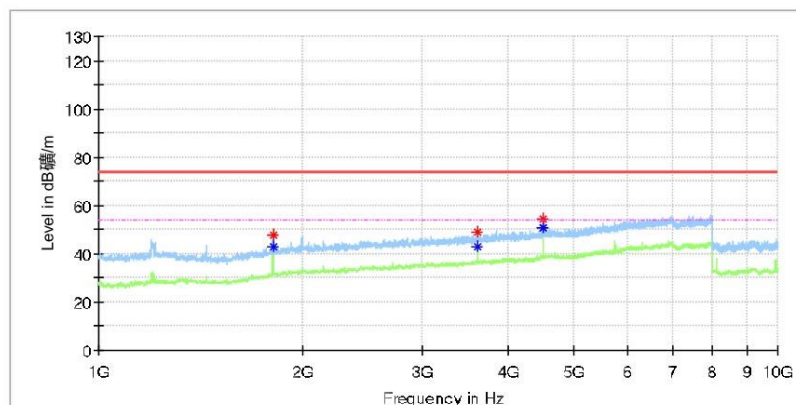
Test

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Test Report

EUT Information

EUT Name:	Pathlight
Model:	5LP1Y8
Test Mode:	Lora DTS 500K Low CH_902.5MHz
Test Voltage::	Fully charged battery
Remark:	Temp 24 Humi:45%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1805.012500	---	42.93	54.00	11.07	100.0	H	70.0	4.8
1805.012500	47.47	---	74.00	26.53	100.0	H	70.0	4.8
3609.825000	---	42.91	54.00	11.09	100.0	H	51.0	9.4
3609.825000	48.72	---	74.00	25.28	100.0	H	51.0	9.4
4511.812500	---	50.98	54.00	3.02	100.0	H	0.0	11.6
4512.650000	54.67	---	74.00	19.33	100.0	H	352.0	11.6

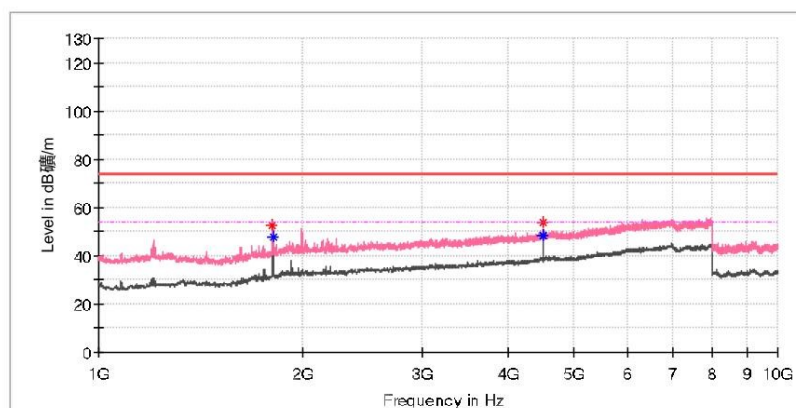
Test

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Test Report

EUT Information

EUT Name:	Pathlight
Model:	5LP1Y8
Test Mode:	Lora DTS 500K Low CH_902.5MHz
Test Voltage:	Fully charged battery
Remark:	Temp 24 Humi:45%
Test Standard:	FCC 15.247
Tested By:	Kei Zhang
Reviewed By:	Terry Yin



Critical Freqs

Frequency (MHz)	MaxPeak (dBμV/m)	Average (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1804.175000	52.68	---	74.00	21.32	100.0	V	121.0	4.7
1805.012500	---	47.90	54.00	6.10	100.0	V	140.0	4.8
4510.975000	53.55	---	74.00	20.45	100.0	V	206.0	11.6
4511.812500	---	48.60	54.00	5.40	100.0	V	206.0	11.6

4/3/2020

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