

VCCI TEST REPORT

Report Number : ETLE191106.0835 Report Issue Date: November 18, 2019

Model / Serial No. : lubit skin massager / NONE

Multiple Model Name : -

Product Type : NIR LED Beauty device

Brand name : -

Applicant : IDEA-ON CO., LTD

Address : #703, 96, Cheongsu 14-ro, Dongnam-gu,
Cheonan-si, Chungcheongnam-do, Korea

Manufacturer : IDEA-ON CO., LTD

Address : #703, 96, Cheongsu 14-ro, Dongnam-gu,
Cheonan-si, Chungcheongnam-do, Korea

Test Standard(s) : VCCI-CISPR 32: 2016 (Class B)

Test Result : **■ Positive**

Total pages including Attachments : 44

Prepared by:

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November 18, 2019

Reviewed by:

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(Chief Engineer)



November 18, 2019

ETL Inc.

114, Gasan digital 2-ro, Geumcheon-gu, Seoul, 08506, Korea

Tel : 82-2-858-0786 Fax : 82-2-858-0788

The test report merely corresponds to the test sample(s).

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This test report is not the accredited test result by Korea Laboratory Accreditation Scheme, which signed the ILAC-MRA.

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TEST STANDARD(S)

The EMC tests were performed according to the following standards:

■ - VCCI-CISPR 32: 2016

□ - Class A

■ - Class B

Note: For undated references, the latest edition of the publication at the time of testing (including amendments) was applied.

ADDRESS OF THE TEST LABORATORY

■ Seoul EMC Laboratory

114, Gasan digital 2-ro, Geumcheon-gu, Seoul, 08506, Korea

Measurement facility registration number - Conducted Test Site (mains ports): C-12598
Conducted Test Site (telecommunication ports): T-1785
Radiated disturbance above 1 GHz Test Site: G-10487

■ Hwaseong Open Area Test Site

97-4, Gureomae-gil, Seosin-myeon, Hwaseong-si, Gyeonggi-do, 18556, Korea

Measurement facility registration number - Radiated Test Site: R-12998

ENVIRONMENTAL OF TEST

During the measurement the environmental conditions were within the listed ranges:

Temperature	:	(17.7 ± 3.9) °C
Humidity	:	(60 ± 19) % R.H.
Atmospheric Pressure	:	(101.3 ± 0.6) kPa

POWER SUPPLY SYSTEM UTILIZED

Power supply system ■ - Power supply from the AC/DC adapter (Standard Adapter)
Input: AC 100 V – 240 V; 50 Hz/60 Hz; 0.15 A
Output: DC 5.0 V; 1.0 A
- Rechargeable Battery: DC 3.7 V; 400 mAh; 1.48 Wh

SHORT DESCRIPTION OF THE EQUIPMENT UNDER TEST (EUT)

Number of received / tested samples:	1 / 1
Serial Number:	none

DEFINITIONS FOR SYMBOLS USED IN THIS TEST REPORT

- The black square indicates that the listed condition, standard or equipment is applicable for this report.
- Blank box indicates that the listed condition, standard or equipment was not applicable for this report.

Conducted Emission (AC mains power ports) Test

Conducted emissions (AC mains power ports) were measured from 150 kHz to 30 MHz with a bandwidth of 9 kHz on the AC power and return leads of the EUT according to the methods defined in VCCI / VCCI-CISPR 32.

The EUT was placed upon a non-metallic table 0.8 m above the horizontal metal reference plane and placed 0.4 m from a vertical ground plane which is connected to the horizontal metal ground plane.

☐ Test not applicable

- ☒ Test area - mesh room
- ☐ Anechoic chamber
- ☐ Full compact chamber

Environmental of test: (21.5 ± 0.2) °C, (42 ± 1) % R.H., (101.9 ± 0.0) kPa

Used test instruments and test accessories please see Attachment B.

Equipment type	Frequency Range [MHz]	Quasi-Peak limit [dB(μV)]	Average limit [dB(μV)]
<input type="checkbox"/> Class A	0.15 to 0.5	79	66
	0.5 to 30	73	60
<input checked="" type="checkbox"/> Class B	0.15 to 0.5	66 to 56	56 to 46
	0.5 to 5	56	46
	5 to 30	60	50

Uncertainty of Measurement (LISN)

Test Item	Frequency [MHz]	Uncertainty of Measurement	Remark
Conducted Emission (AC mains power ports)	0.15 to 30	1.88 dB	The reported expanded uncertainty is based on standard uncertainty multiplied by a coverage factor of $k = 2$. Providing a level of confidence of approximately 95 %.

☒ Pass

☐ Fail

Minimum limit margin 11.45 dB at 0.274 MHz

Maximum limit exceeding dB at MHz

Remarks: Please refer to the test data and graph in Attachment A.

* This test was applied only to 'Rechargeable battery charging mode'.

** This test was tested at Standard Adapter (EUT was connected USB port of the Standard Adapter).

Conducted Emission (asymmetric mode) Test

Conducted common mode (asymmetric mode) disturbance at telecommunication ports were measured from 150 kHz to 30 MHz with a bandwidth of 9 kHz of the EUT according to the methods defined in VCCI / VCCI-CISPR 32.

The EUT was placed upon a non-metallic table 0.8 m above the horizontal metal reference plane and placed 0.4 m from a vertical ground metal plane which is connected to the horizontal ground metal plane.

■ Test not applicable

- ☐ Test area - mesh room
- ☐ Anechoic chamber
- ☐ Full compact chamber

Environmental of test: -

Used test instruments and test accessories please see Attachment B.

Equipment type	Frequency Range [MHz]	Quasi-Peak Voltage limit [dB(μV)]	Average Voltage limit [dB(μV)]
<input type="checkbox"/> Class A	0.15 to 0.5	97 to 87	84 to 74
	0.5 to 30	87	74
<input type="checkbox"/> Class B	0.15 to 0.5	84 to 74	74 to 64
	0.5 to 30	74	64

Uncertainty of Measurement

Test Item	Frequency [MHz]	Uncertainty of Measurement	Remark
Conducted Emission (asymmetric mode)	0.15 to 30	ISN: 4.86 dB (Cat. 5)	The reported expanded uncertainty is based on standard uncertainty multiplied by a coverage factor of $k = 2$. Providing a level of confidence of approximately 95 %.
		ISN: 5.42 dB (Cat. 6)	
		CDN: 4.76 dB	

☐ Pass

☐ Fail

Minimum limit margin dB at MHz

Maximum limit exceeding dB at MHz

Remarks: The EUT does not have telecommunication ports.

Therefore this test was not applied.

Conducted Emission (differential voltage) Test

Interference voltage at the antenna terminal of receivers was performed in frequency range 30 MHz to 2 150 MHz with a bandwidth of 120 kHz (1 MHz for measurement above 1 GHz) and return leads of the EUT according to the methods defined in VCCI / VCCI-CISPR 32.

■ Test not applicable

- ☐ Test area - mesh room
- ☐ Anechoic chamber
- ☐ Full compact chamber

Environmental of test: -

Used test instruments and test accessories please see Attachment B.

Equipment type	Source	Frequency Range [MHz]	Quasi-Peak limit [dB(μV)] 75 Ω
<input type="checkbox"/> Television receivers (analogue or digital), video recorders and PC TV broadcast receiver tuner cards working in channels between 30 MHz and 1 GHz, and digital audio receivers	Local oscillator	30 to 950	Fundamental 46
		950 to 2 150	Fundamental 54
		30 to 950	Harmonics 46
		950 to 2 150	Harmonics 54
	Other	30 to 2 150	46
<input type="checkbox"/> Tuner units (not the LNB) for satellite signal reception	Local oscillator	950 to 2 150	Fundamental 54
	Other	950 to 2 150	Harmonics 54
		950 to 2 150	46
<input type="checkbox"/> Frequency modulation audio receivers and PC tuner cards	Local oscillator	30 to 1 000	Fundamental 54
		30 to 300	Harmonics 50
		300 to 1 000	Harmonics 52
	Other	30 to 1 000	46
<input type="checkbox"/> Frequency modulation car radios	Local oscillator	30 to 1 000	Fundamental 66
		30 to 300	Harmonics 59
		300 to 1 000	Harmonics 52
	Other	30 to 1 000	46
<input type="checkbox"/> EUTs with RF modulator output ports (for example DVD equipment, video recorders, camcorders and decoders etc.) designed to connect to TV broadcast receiver tuner ports	Wanted signal		Carrier frequencies and sidebands 76
		30 to 950	Harmonics 46
		950 to 2 150	Harmonics 54
	Other	30 to 2 150	46

Uncertainty of Measurement (ANT)

Test Item	Frequency [MHz]	Uncertainty of Measurement	Remark
Conducted Emission (differential voltage)	30 to 2 150	1.08 dB	The reported expanded uncertainty is based on standard uncertainty multiplied by a coverage factor of $k = 2$. Providing a level of confidence of approximately 95 %.

☐ Pass

☐ Fail

Minimum limit margin dB at MHz

Maximum limit exceeding dB at MHz

Remarks:

Radiated Emission (Electric Field) Test (Below 1 GHz)

Radiated emissions from 30 MHz to 1 000 MHz were measured with a bandwidth of 120 kHz according to the methods defined in VCCI / VCCI-CISPR 32. The EUT was placed on a non-metallic stand in the open-field site, 0.8 m above the ground plane. The interface cables and equipment positions were varied within limits of reasonable applications to determine the positions producing maximum radiated emissions.

☐ Test not applicable

■ Test area - open site.

Testing was performed at a test distance of:

■ 10 m

Environmental of test: (16.3 ± 2.5) °C, (68 ± 10) % R.H., (100.8 ± 0.1) kPa

Used test instruments and test accessories please see Attachment B.

Equipment type	Frequency Range [MHz]	Quasi-Peak limit [dB(μV/m)]
<input type="checkbox"/> Class A	30 to 230	40
	230 to 1 000	47
■ Class B	30 to 230	30
	230 to 1 000	37

Uncertainty of Measurement

Test Item	Frequency [MHz]	Polarization	@ m	Uncertainty of Measurement	Remark
Radiated Emission (Below 1 GHz)	30 to 200	H	10	4.96 dB	The reported expanded uncertainty is based on standard uncertainty multiplied by a coverage factor of $k = 2$. Providing a level of confidence of approximately 95 %.
	30 to 200	V	10	4.96 dB	
	200 to 1 000	H	10	4.90 dB	
	200 to 1 000	V	10	4.92 dB	

■ Pass

☐ Fail

Minimum limit margin 8.91 dB at 51.69 MHz
Maximum limit exceeding dB at MHz

Remarks: Please refer to the test data and graph in Attachment A.

* This test was applied to two types of operating mode ('Normal operating mode', and 'Rechargeable battery charging mode').

And the worst result were investigated and reported.

Radiated Emission (Electric Field) Test (Above 1 GHz)

Radiated emissions from 1 000 MHz to 6 000 MHz were measured with a bandwidth of 1 MHz according to the methods defines in VCCI / VCCI-CISPR 32. The EUT was placed on a non-metallic stand in the ETL SVSWR Chamber, 0.8 m above the ground plane. The interface cables and equipment positions were varied within limits of reasonable applications to determine the positions producing maximum radiated emissions.

■ Test not applicable

□ Test area - ETL SVSWR Chamber

Testing was performed at a test distance of:

□ 3 m

Environmental of test:

Used test instruments and test accessories please see Attachment B.

Equipment type	Frequency Range [MHz]	Peak limit [dB(µV/m)]	Average limit [dB(µV/m)]
□ Class A	1 000 to 3 000	76	56
	3 000 to 6 000	80	60
□ Class B	1 000 to 3 000	70	50
	3 000 to 6 000	74	54

NOTE: The lower limit applies at the transition frequency.

Uncertainty of Measurement

Test Item	Frequency [MHz]	@ m	Uncertainty of Measurement	Remark
Radiated Emission (Above 1 GHz)	1 000 to 6 000	3	6.60 dB	The reported expanded uncertainty is based on standard uncertainty multiplied by a coverage factor of $k = 2$. Providing a level of confidence of approximately 95 %.

☐ Pass

☐ Fail

Minimum limit margin	dB	at	MHz
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Maximum limit exceeding	dB	at	MHz
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Remarks: This test was not applied. Because, The highest frequency of the internal sources of the EUT is less than 108 MHz.

This test was measurement made up to 1 GHz according to the conditional testing procedure.

Equipment Under Test (EUT) Test Operation Mode:

The EUT was operated under the following conditions during testing:

- Normal operating mode: Rechargeable battery discharging mode
- Rechargeable battery charging mode: Internal rechargeable battery charge mode through Standard Adapter.

The EUT was power specification operated under the following conditions during testing:

Operating Spec.
- AC 100 V, 50 Hz
- AC 100 V, 60 Hz

Configuration of the equipment under test:

- See constructional data form in Attachment D - Page D2
- See product information form(s) in Attachment D - Page D3

The following Peripheral devices and interface cables were connected during the testing:

Peripheral devices

	Type	Model	Serial No.	Manufacturer
■	Standard Adapter	A1487	NONE	Flextronics Sales & Marketing (A-P) Ltd.

Type of Cables Used

- Normal operating mode

No	Device from	Device to	Type of Cable (Port)	Length [m]	Type of shield	Used ferrite core
1	-	-	-	-	-	-

- Rechargeable battery charging mode

No	Device from	Device to	Type of Cable (Port)	Length [m]	Type of shield	Used ferrite core
1	EUT	Standard Adapter	USB	1.0	Shielded	X
2	Standard Adapter	Power socket	AC Input	-	-	-

GENERAL REMARKS:

SUMMARY:

All tests according to the regulations cited on page 3 were

- ☒ Performed
☐ Not Performed

The Equipment Under Test

- ☒ - **Fulfills** the general approval requirements cited on page 3.
☐ - **Does not** fulfill the general approval requirements cited on page 3.

Date of receipt of test sample	:	November 06, 2019
Test start date	:	November 11, 2019
Test end date	:	November 12, 2019

Photograph of test setup: Conducted Emissions (AC mains power ports) 150 kHz - 30 MHz

- Rechargeable battery charging mode



Photograph of test setup: Radiated Emissions 30 MHz - 1 000 MHz

- Normal operating mode



Photograph of test setup: Radiated Emissions 30 MHz - 1 000 MHz

- Rechargeable battery charging mode



Attachment A

Test Data
and
Test Setup Drawing(s)

Conducted Emissions (AC mains power ports) Measurement

EUT	NIR LED Beauty device / lubit skin massager (S/N: N/A)
Limit apply to	VCCI-CISPR 32: 2016 (Class B)
Test Date	November 12, 2019
Environmental of test	(21.5 ± 0.1) °C, (41 ± 0) % R.H., (101.9 ± 0.0) kPa
Operating Condition	Rechargeable battery charging mode
Operating Spec.	AC 100 V, 50 Hz
Result	Passed by 11.97 dB

Conducted Emission (AC mains power ports) Test Data

The following data and graph shows the highest levels of conducted emissions on both polarizations of hot and neutral line.

Detector mode: CISPR Quasi-Peak mode (6 dB Bandwidth: 9 kHz)

NOTES:

1. Please see the measured data and graph in next page.
2. The Level (Result) value was included the reading, LISN factor and cable loss.
3. Delta (Margin) value = Limit - Level (Result)
4. All conditions were investigated and the worst-case emissions are reported.
5. If the Quasi-Peak limit is met when using a Peak detector receiver, the EUT shall be deemed to meet both limits and measurement with the Quasi-Peak detector receiver is unnecessary.
6. If the average limit is met when using a Quasi-peak detector receiver, the EUT shall be deemed to meet both limits and measurement with the average detector receiver is unnecessary.

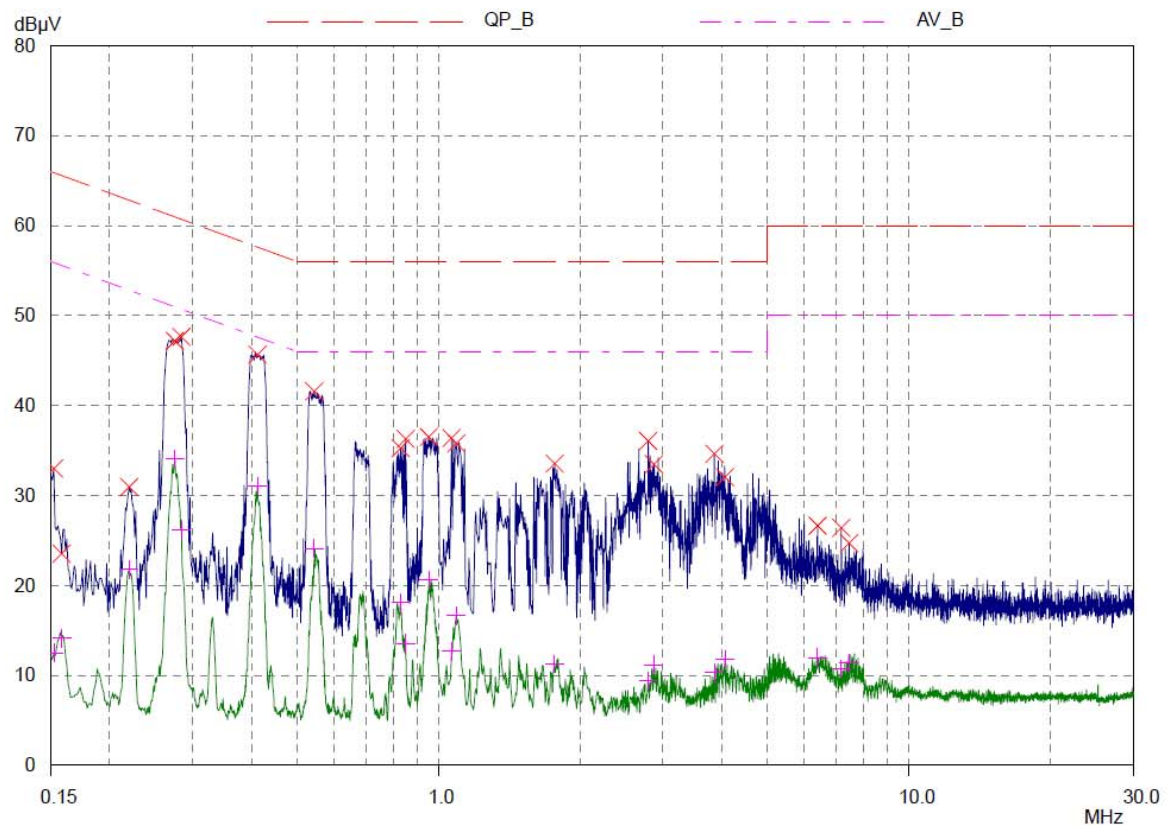
Line Polarity : Hot

ETL EMC Laboratory

Conducted Emission Test Result

EUT: ETLE191106.0835
Manuf:
Op Cond:
Operator: 100 V, 50 Hz
Test Spec:
Comment: HOT

Prescan Measurement: Detectors: X PK / + AV
Meas Time: see scan settings
Peaks: 16
Acc Margin: 10 dB



ETL EMC Laboratory

Conducted Emission Test Result

EUT: ETLE191106.0835
 Manuf:
 Op Cond:
 Operator: 100 V, 50 Hz
 Test Spec:
 Comment: HOT

Prescan Measurement: Detectors: X PK / + AV
 Meas Time: see scan settings
 Peaks: 16
 Acc Margin: 10 dB

Peak Search Results

Frequency MHz	PK Level dBμV	PK Limit dBμV	PK Delta dB
0.152	32.99	65.89	32.90
0.158	23.52	65.57	42.05
0.22	30.94	62.82	31.88
0.275	47.17	60.97	13.80
0.284	47.64	60.70	13.06
0.412	45.64	57.61	11.97
0.544	41.58	56.00	14.42
0.831	35.24	56.00	20.76
0.851	36.28	56.00	19.72
0.953	36.50	56.00	19.50
1.065	36.36	56.00	19.64
1.09	35.78	56.00	20.22
1.765	33.54	56.00	22.46
2.79	36.05	56.00	19.95
2.87	33.47	56.00	22.53
3.855	34.63	56.00	21.37
4.06	32.04	56.00	23.96
6.39	26.63	60.00	33.37
7.175	26.39	60.00	33.61
7.46	24.70	60.00	35.30

Frequency MHz	AV Level dBμV	AV Limit dBμV	AV Delta dB
0.152	12.46	55.89	43.43
0.158	14.13	55.57	41.44
0.22	21.81	52.82	31.01
0.275	34.08	50.97	16.89
0.284	26.19	50.70	24.51
0.412	31.05	47.61	16.56
0.544	24.12	46.00	21.88
0.831	18.09	46.00	27.91

* limit exceeded

Peak Search Results (continued)

Frequency MHz	AV Level dBμV	AV Limit dBμV	AV Delta dB
0.851	13.55	46.00	32.45
0.953	20.62	46.00	25.38
1.065	12.69	46.00	33.31
1.09	16.65	46.00	29.35
1.765	11.27	46.00	34.73
2.79	9.43	46.00	36.57
2.87	11.18	46.00	34.82
3.855	10.29	46.00	35.71
4.06	11.79	46.00	34.21
6.39	11.97	50.00	38.03
7.175	10.73	50.00	39.27
7.46	11.34	50.00	38.66

* limit exceeded

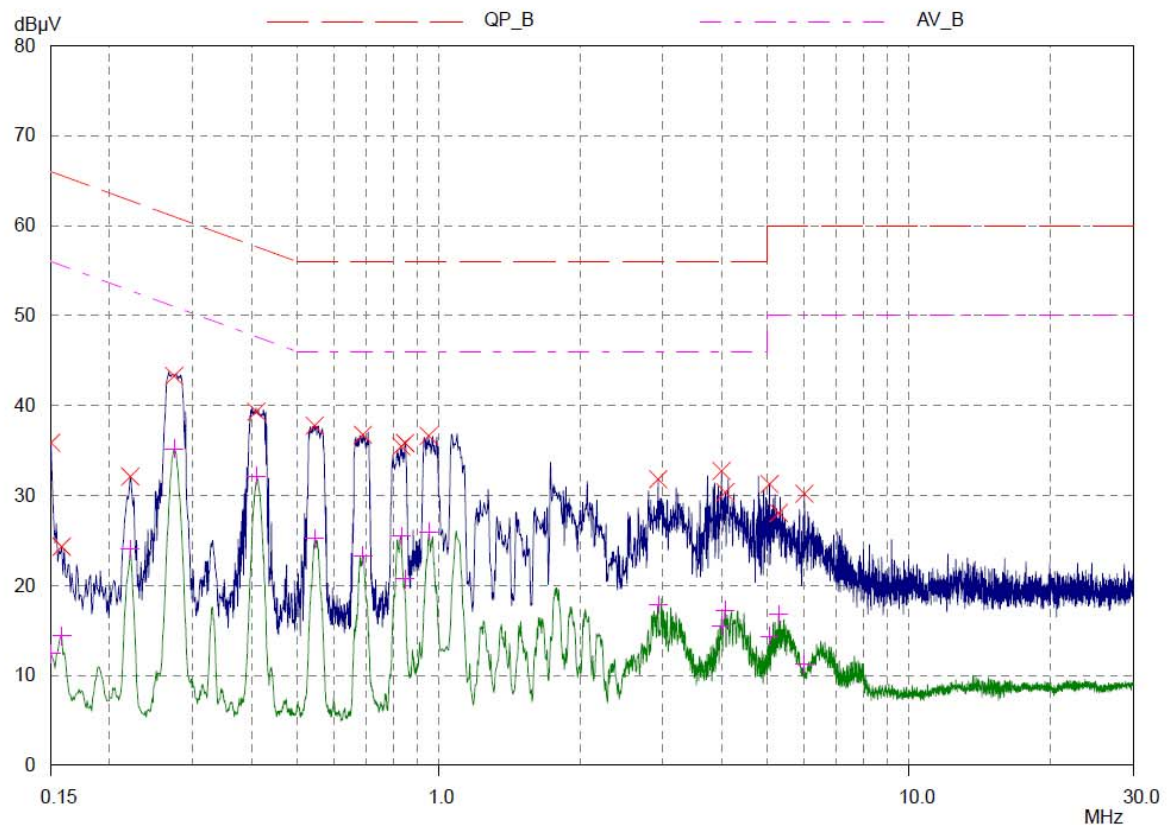
Line Polarity : Neutral

ETL EMC Laboratory

Conducted Emission Test Result

EUT: ETLE191106.0835
Manuf:
Op Cond:
Operator: 100 V, 50 Hz
Test Spec:
Comment: N

Prescan Measurement: Detectors: X PK / + AV
Meas Time: see scan settings
Peaks: 16
Acc Margin: 10 dB



ETL EMC Laboratory

Conducted Emission Test Result

EUT: ETLE191106.0835
 Manuf:
 Op Cond:
 Operator: 100 V, 50 Hz
 Test Spec:
 Comment: N

Prescan Measurement: Detectors: X PK / + AV
 Meas Time: see scan settings
 Peaks: 16
 Acc Margin: 10 dB

Peak Search Results

Frequency MHz	PK Level dBμV	PK Limit dBμV	PK Delta dB
0.15	35.85	66.00	30.15
0.158	24.30	65.57	41.27
0.221	32.11	62.78	30.67
0.274	43.29	61.00	17.71
0.41	39.31	57.65	18.34
0.545	37.76	56.00	18.24
0.69	36.75	56.00	19.25
0.833	35.44	56.00	20.56
0.849	35.82	56.00	20.18
0.952	36.62	56.00	19.38
2.93	31.80	56.00	24.20
3.995	32.72	56.00	23.28
4.07	30.36	56.00	25.64
5.05	31.25	60.00	28.75
5.285	28.05	60.00	31.95
5.99	30.18	60.00	29.82

Frequency MHz	AV Level dBμV	AV Limit dBμV	AV Delta dB
0.15	12.40	56.00	43.60
0.158	14.36	55.57	41.21
0.221	24.05	52.78	28.73
0.274	35.19	51.00	15.81
0.41	32.15	47.65	15.50
0.545	25.19	46.00	20.81
0.69	23.31	46.00	22.69
0.833	25.46	46.00	20.54
0.849	20.75	46.00	25.25
0.952	25.95	46.00	20.05
2.93	17.85	46.00	28.15
3.995	15.50	46.00	30.50

* limit exceeded

Peak Search Results (continued)

Frequency MHz	AV Level dBμV	AV Limit dBμV	AV Delta dB
4.07	17.25	46.00	28.75
5.05	14.34	50.00	35.66
5.285	16.76	50.00	33.24
5.99	11.22	50.00	38.78

* limit exceeded

Conducted Emissions (AC mains power ports) Measurement

EUT	NIR LED Beauty device / lubit skin massager (S/N: N/A)
Limit apply to	VCCI-CISPR 32: 2016 (Class B)
Test Date	November 12, 2019
Environmental of test	(21.3 ± 0.0) °C, (42 ± 0) % R.H., (101.9 ± 0.0) kPa
Operating Condition	Rechargeable battery charging mode
Operating Spec.	AC 100 V, 60 Hz
Result	Passed by 11.45 dB

Conducted Emission (AC mains power ports) Test Data

The following data and graph shows the highest levels of conducted emissions on both polarizations of hot and neutral line.

Detector mode: CISPR Quasi-Peak mode (6 dB Bandwidth: 9 kHz)

NOTES:

1. Please see the measured data and graph in next page.
2. The Level (Result) value was included the reading, LISN factor and cable loss.
3. Delta (Margin) value = Limit - Level (Result)
4. All conditions were investigated and the worst-case emissions are reported.
5. If the Quasi-Peak limit is met when using a Peak detector receiver, the EUT shall be deemed to meet both limits and measurement with the Quasi-Peak detector receiver is unnecessary.
6. If the average limit is met when using a Quasi-peak detector receiver, the EUT shall be deemed to meet both limits and measurement with the average detector receiver is unnecessary.

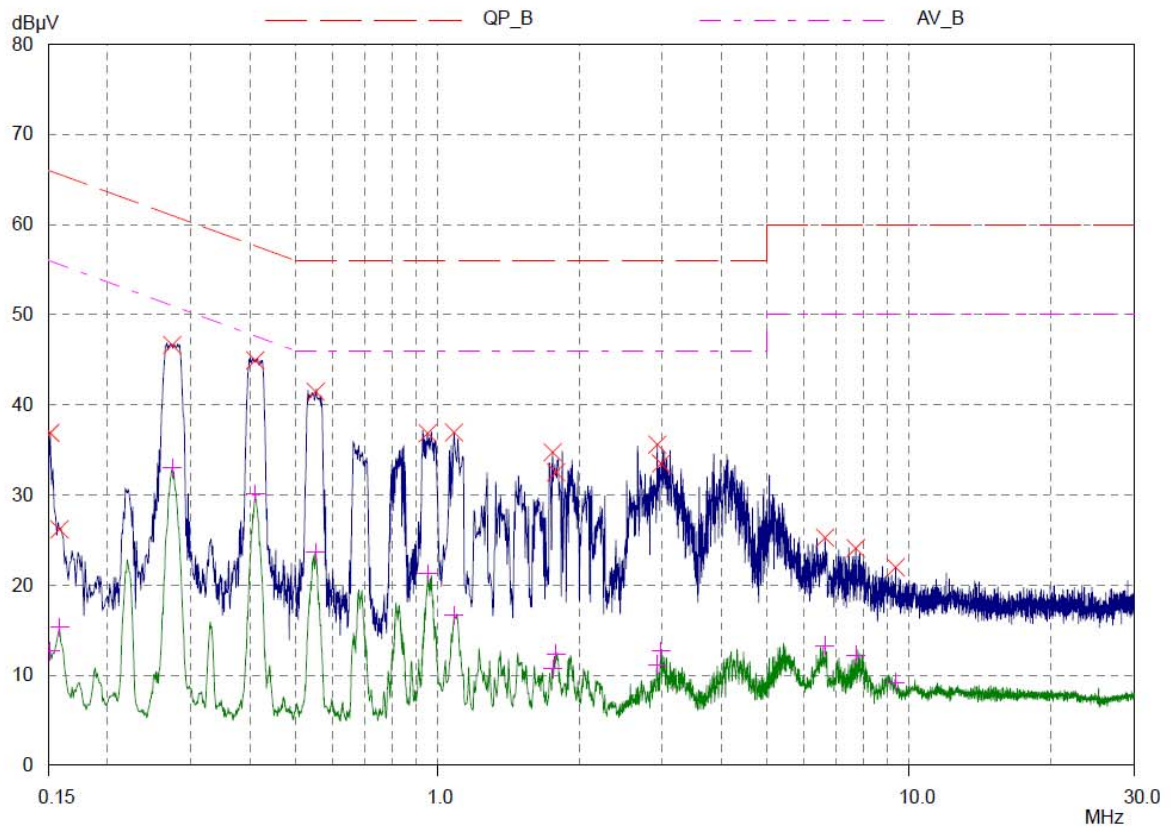
Line Polarity : Hot

ETL EMC Laboratory

Conducted Emission Test Result

EUT: ETLE191106.0835
Manuf:
Op Cond:
Operator: 100 V, 60 Hz
Test Spec:
Comment: HOT

Prescan Measurement:	Detectors:	X PK / + AV
	Meas Time:	see scan settings
	Peaks:	16
	Acc Margin:	10 dB



ETL EMC Laboratory

Conducted Emission Test Result

EUT: ETLE191106.0835
 Manuf:
 Op Cond:
 Operator: 100 V, 60 Hz
 Test Spec:
 Comment: HOT

Prescan Measurement: Detectors: X PK / + AV
 Meas Time: see scan settings
 Peaks: 16
 Acc Margin: 10 dB

Peak Search Results

Frequency MHz	PK Level dBμV	PK Limit dBμV	PK Delta dB
0.151	36.87	65.94	29.07
0.158	26.17	65.57	39.40
0.274	46.61	61.00	14.39
0.411	44.91	57.63	12.72
0.552	41.44	56.00	14.56
0.953	36.84	56.00	19.16
1.085	36.92	56.00	19.08
1.755	34.72	56.00	21.28
1.785	32.50	56.00	23.50
2.925	35.58	56.00	20.42
2.98	33.49	56.00	22.51
6.635	25.24	60.00	34.76
7.705	24.07	60.00	35.93
9.36	21.97	60.00	38.03

Frequency MHz	AV Level dBμV	AV Limit dBμV	AV Delta dB
0.151	12.67	55.94	43.27
0.158	15.30	55.57	40.27
0.274	32.98	51.00	18.02
0.411	30.13	47.63	17.50
0.552	23.61	46.00	22.39
0.953	21.29	46.00	24.71
1.085	16.65	46.00	29.35
1.755	10.72	46.00	35.28
1.785	12.35	46.00	33.65
2.925	11.19	46.00	34.81
2.98	12.72	46.00	33.28
6.635	13.30	50.00	36.70
7.705	12.20	50.00	37.80
9.36	9.20	50.00	40.80

* limit exceeded

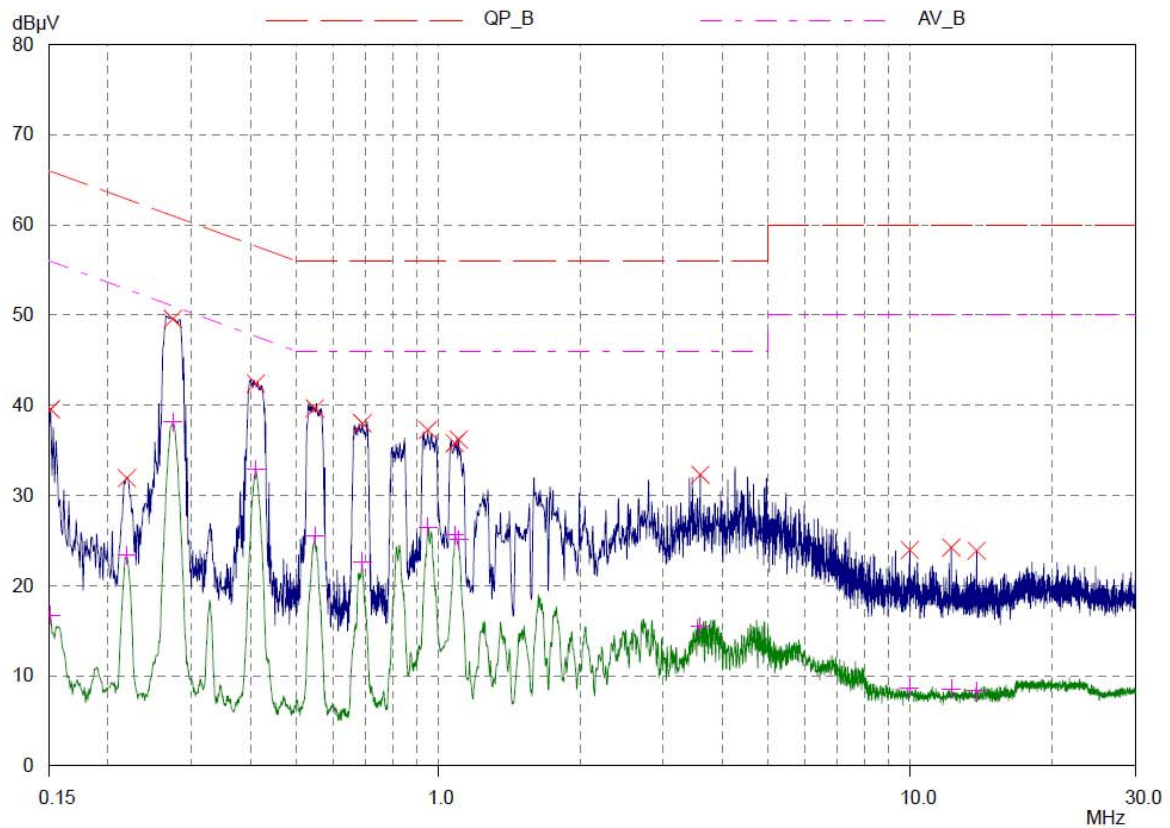
Line Polarity : Neutral

ETL EMC Laboratory

Conducted Emission Test Result

EUT: ETLE191106.0835
Manuf:
Op Cond:
Operator: 100 V, 60 Hz
Test Spec:
Comment: N

Prescan Measurement:	Detectors:	X PK / + AV
	Meas Time:	see scan settings
	Peaks:	16
	Acc Margin:	10 dB



ETL EMC Laboratory

Conducted Emission Test Result

EUT: ETLE191106.0835
 Manuf:
 Op Cond:
 Operator: 100 V, 60 Hz
 Test Spec:
 Comment: N

Prescan Measurement: Detectors: X PK / + AV
 Meas Time: see scan settings
 Peaks: 16
 Acc Margin: 10 dB

Peak Search Results

Frequency MHz	PK Level dBμV	PK Limit dBμV	PK Delta dB
0.151	39.54	65.94	26.40
0.219	31.92	62.86	30.94
0.274	49.55	61.00	11.45
0.411	42.40	57.63	15.23
0.548	39.65	56.00	16.35
0.691	37.99	56.00	18.01
0.951	37.26	56.00	18.74
1.085	35.78	56.00	20.22
1.105	36.20	56.00	19.80
3.59	32.27	56.00	23.73
9.98	23.94	60.00	36.06
12.21	24.21	60.00	35.79
13.83	23.85	60.00	36.15

Frequency MHz	AV Level dBμV	AV Limit dBμV	AV Delta dB
0.151	16.70	55.94	39.24
0.219	23.38	52.86	29.48
0.274	38.14	51.00	12.86
0.411	32.88	47.63	14.75
0.548	25.44	46.00	20.56
0.691	22.66	46.00	23.34
0.951	26.46	46.00	19.54
1.085	25.60	46.00	20.40
1.105	25.04	46.00	20.96
3.59	15.48	46.00	30.52
9.98	8.69	50.00	41.31
12.21	8.54	50.00	41.46
13.83	8.30	50.00	41.70

* limit exceeded

Radiated Emissions Measurement

- Below 1 GHz

EUT	NIR LED Beauty device / lubit skin massager (S/N: N/A)
Limit apply to	VCCI-CISPR 32: 2016 (Class B)
Test Date	November 11, 2019
Environmental of test	(15.5 ± 1.7) °C, (73 ± 5) % R.H., (100.7 ± 0.0) kPa
Operating Condition	Normal operating mode
Result	Passed

Radiated Emission Test Data

The following table shows the highest levels of radiated emissions on both polarizations of horizontal and vertical.
Detector mode: CISPR Quasi-Peak mode (6 dB Bandwidth: 120 kHz)

Frequency [MHz]	Reading [dB(μV)]	Polarization (*H/**V)	Ant. Factor [dB/m]	Cable Loss [dB]	Height [cm]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]
	All emissions not reported were more than 20 dB below the permitted limit.							

NOTES:

1. * H : Horizontal polarity , ** V : Vertical polarity
2. The cable loss value was included the Amp. Gain.
3. Result Level = Reading + Antenna factor + Cable loss
4. Margin value = Limit – Result
5. The highest frequency of the internal sources of the EUT is less than 108 MHz. This test was measurement made up to 1 GHz according to the conditional testing procedure.

Radiated Emissions Measurement

- Below 1 GHz

EUT	NIR LED Beauty device / lubit skin massager (S/N: N/A)
Limit apply to	VCCI-CISPR 32: 2016 (Class B)
Test Date	November 11, 2019
Environmental of test	(16.4 ± 1.8) °C, (65 ± 7) % R.H., (100.8 ± 0.0) kPa
Operating Condition	Rechargeable battery charging mode
Operating Spec.	AC 100 V, 50 Hz
Result	Passed by 9.18 dB

Radiated Emission Test Data

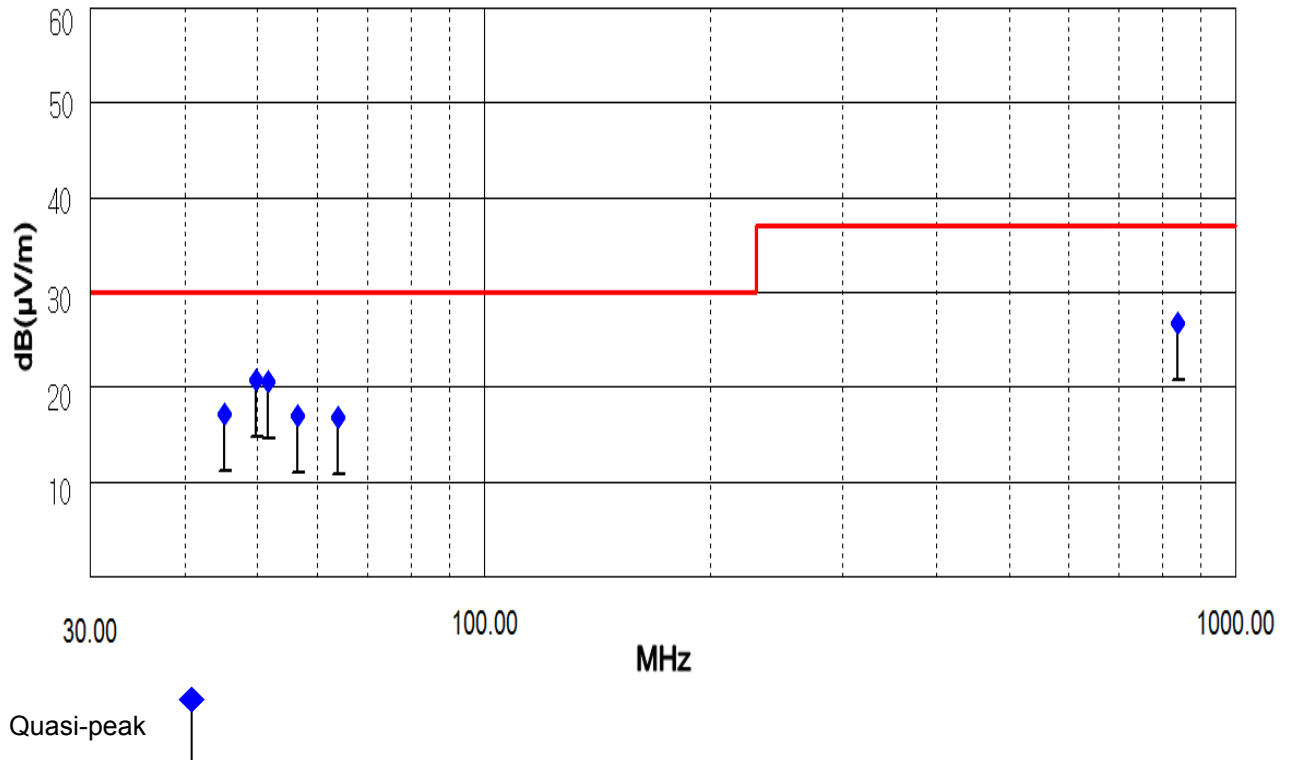
The following table shows the highest levels of radiated emissions on both polarizations of horizontal and vertical.
Detector mode: CISPR Quasi-Peak mode (6 dB Bandwidth: 120 kHz)

Frequency [MHz]	Reading [dB(μV)]	Polarization (*H/**V)	Ant. Factor [dB/m]	Cable Loss [dB]	Height [cm]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]
45.21	36.50	V	12.42	-31.77	103	17.15	30.00	12.85
49.85	39.70	V	12.70	-31.58	105	20.82	30.00	9.18
51.63	39.60	V	12.61	-31.62	105	20.59	30.00	9.41
56.47	36.40	V	12.26	-31.64	106	17.02	30.00	12.98
63.95	37.10	V	11.28	-31.61	107	16.77	30.00	13.23
837.01	27.80	H	22.72	-23.84	263	26.68	37.00	10.32

NOTES:

- * H : Horizontal polarity , ** V : Vertical polarity
- The cable loss value was included the Amp. Gain.
- Result Level = Reading + Antenna factor + Cable loss
- Margin value = Limit – Result
- The highest frequency of the internal sources of the EUT is less than 108 MHz. This test was measurement made up to 1 GHz according to the conditional testing procedure.

— : Limit



Radiated Emissions Measurement

- Below 1 GHz

EUT	NIR LED Beauty device / lubit skin massager (S/N: N/A)
Limit apply to	VCCI-CISPR 32: 2016 (Class B)
Test Date	November 11, 2019
Environmental of test	(16.3 ± 2.5) °C, (65 ± 7) % R.H., (100.8 ± 0.0) kPa
Operating Condition	Rechargeable battery charging mode
Operating Spec.	AC 100 V, 60 Hz
Result	Passed by 8.91 dB

Radiated Emission Test Data

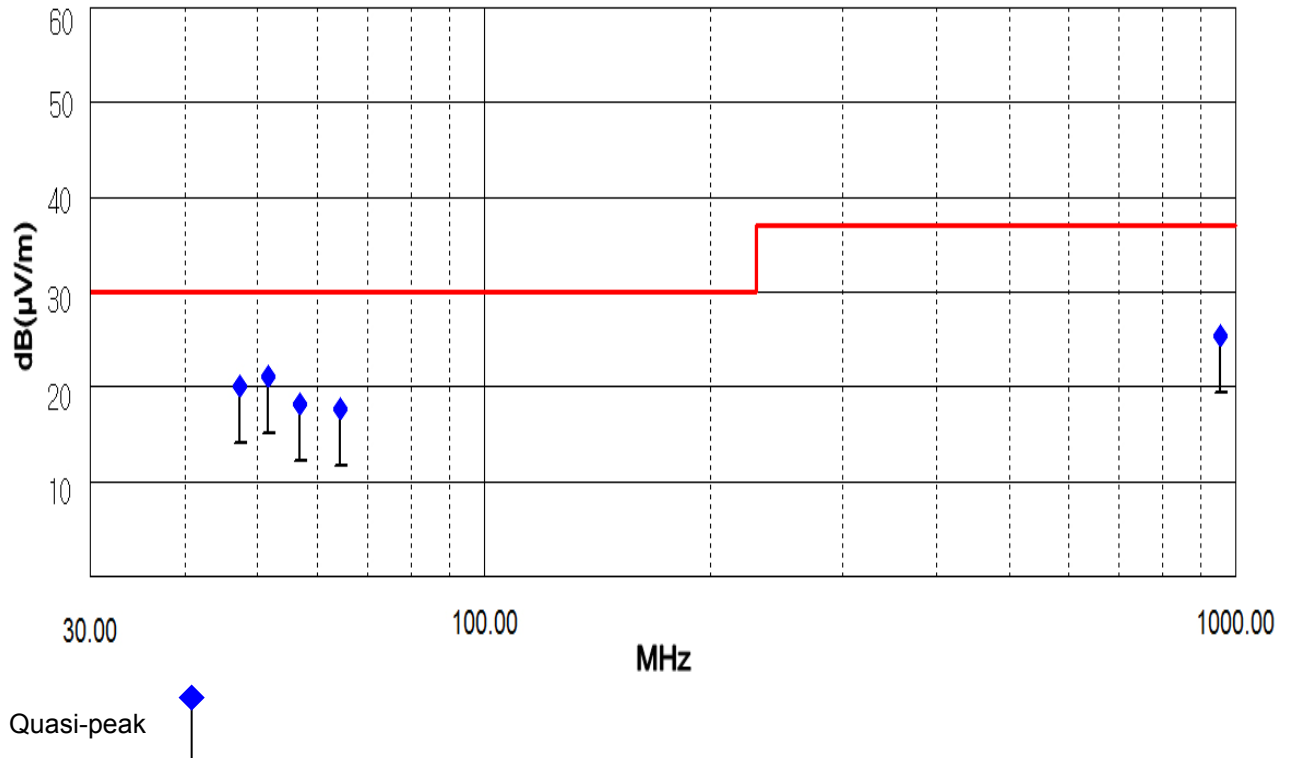
The following table shows the highest levels of radiated emissions on both polarizations of horizontal and vertical.
Detector mode: CISPR Quasi-Peak mode (6 dB Bandwidth: 120 kHz)

Frequency [MHz]	Reading [dB(μV)]	Polarization (*H/**V)	Ant. Factor [dB/m]	Cable Loss [dB]	Height [cm]	Result [dB(μV/m)]	Limit [dB(μV/m)]	Margin [dB]
47.36	39.20	V	12.55	-31.68	103	20.07	30.00	9.93
51.69	40.10	V	12.61	-31.62	105	21.09	30.00	8.91
56.84	37.60	V	12.23	-31.62	106	18.21	30.00	11.79
64.32	38.10	V	11.22	-31.62	106	17.70	30.00	12.30
954.66	25.50	H	23.99	-24.13	158	25.36	37.00	11.64

NOTES:

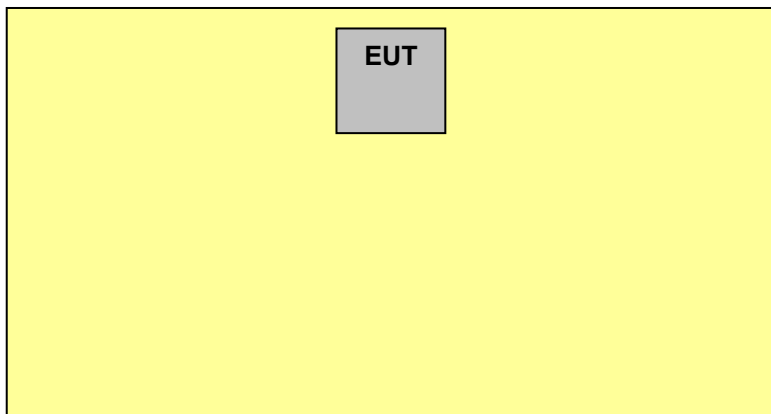
- * H : Horizontal polarity , ** V : Vertical polarity
- The cable loss value was included the Amp. Gain.
- Result Level = Reading + Antenna factor + Cable loss
- Margin value = Limit – Result
- The highest frequency of the internal sources of the EUT is less than 108 MHz. This test was measurement made up to 1 GHz according to the conditional testing procedure.

— : Limit

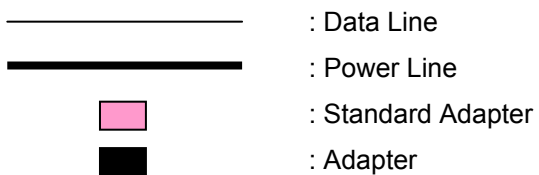
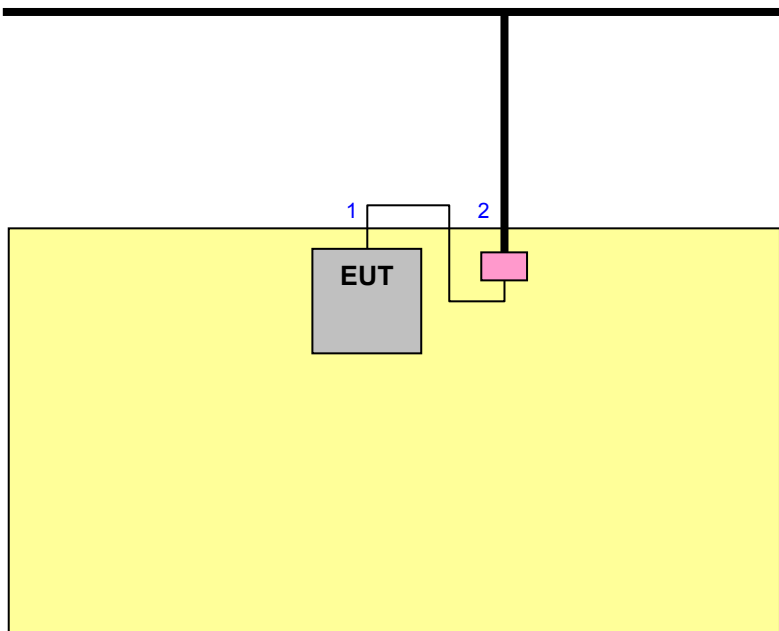


The setup drawing(s)

- Normal operating mode



- Rechargeable battery charging mode



Attachment B

List of Test Equipment

TEST REPORT

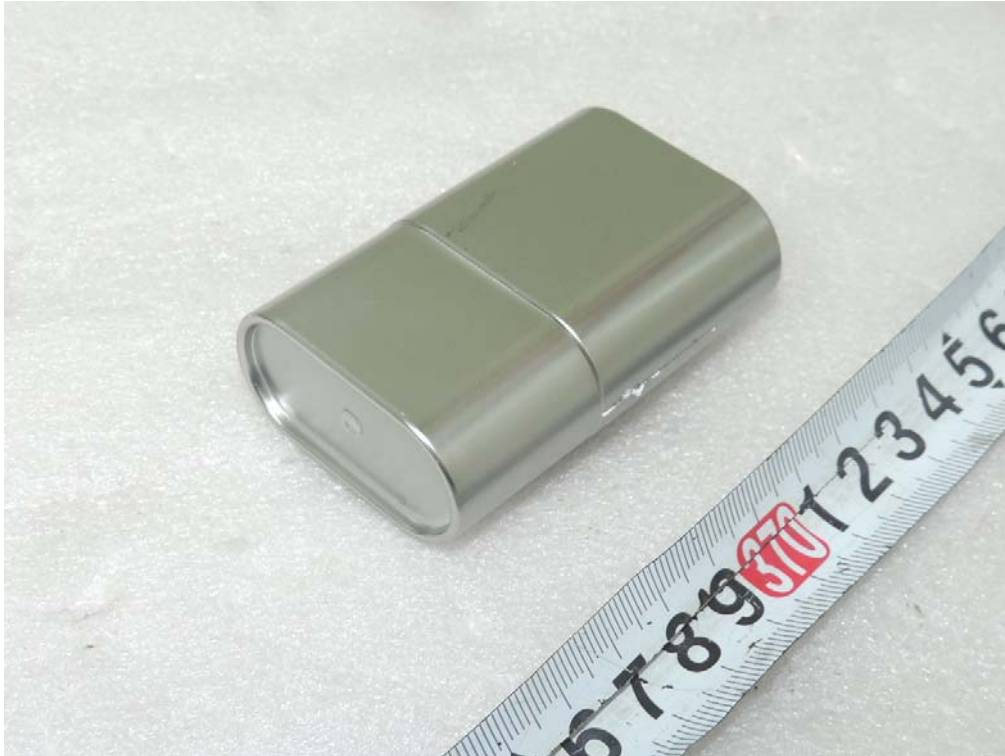
Test Equipments

	Description	Model Number	Manufacturer	Serial Number	Cal. Date	Cal. Due Date
■	EMI Test Receiver	ESVS 10	R&S	835165/001	19.03.13	20.03.13
■	EMI Test Receiver	ESCS30	R&S	100087	19.03.12	20.03.12
■	Two-Line V-Network	ENV216	R&S	102055	19.03.12	20.03.12
■	Amplifier	BLWA 0310-1	BONN Elektronik	045672	19.08.30	20.08.30
■	Bi-Log Antenna	VULB9160	Schwarzbeck	3164	19.07.01	21.07.01
■	Turn-Table	TT 1.35 SI	SES	-	N/A	N/A
■	Antenna Master	AM 4.5	SES	-	N/A	N/A

Attachment C

Constructional Photographs
of
Equipment Under Test (EUT)

View of front



View of front (cap open)



View of rear



View of rear (cap open)



View of port



VCCI Marking Information



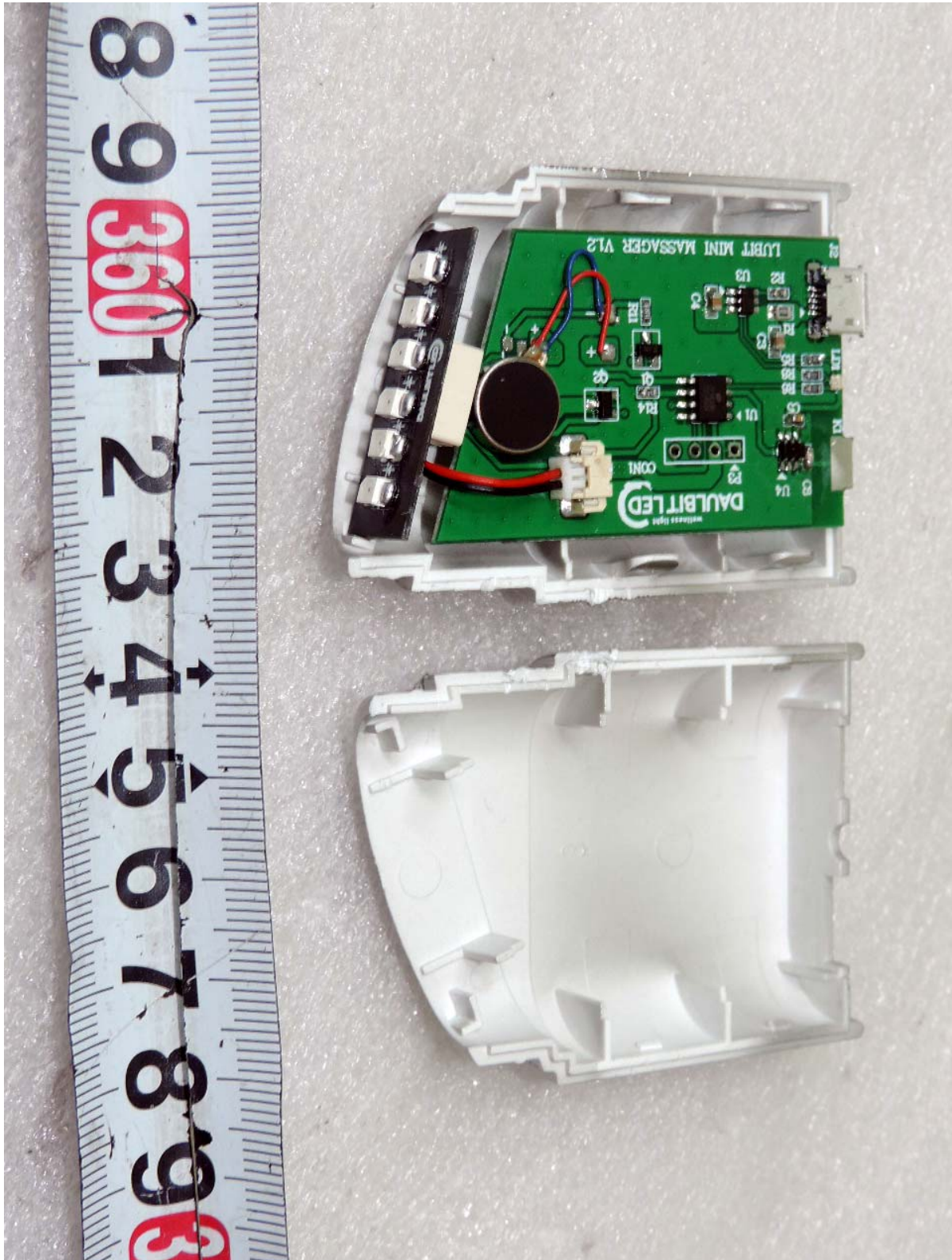
この装置は、クラスB機器です。この装置は、住宅環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。

取扱説明書に従って正しい取り扱いをして下さい。

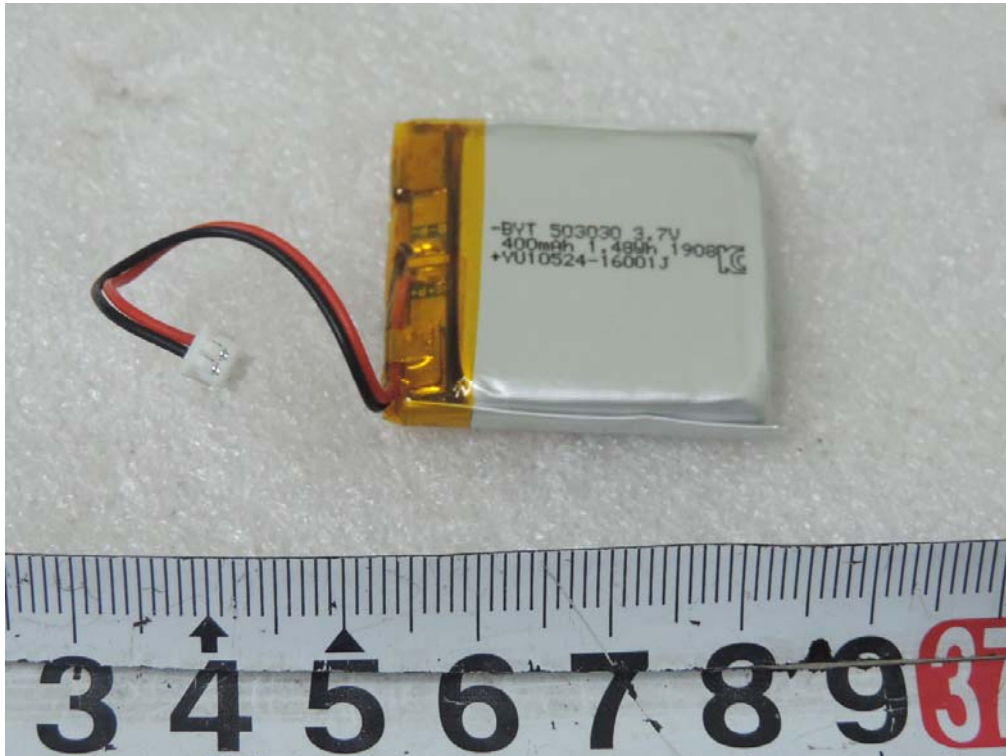
VCCI - B



View of inside



View of Rechargeable battery



Attachment D

Constructional Data Form

and

Product Information Form(s)

CONSTRUCTION DATAFORM FOR EMC – TESTING

Applicant : IDEA-ON CO., LTD

Address : #703, 96, Cheongsu 14-ro, Dongnam-gu, Cheonan-si, Chungcheongnam-do, Korea

Factory : IDEA-ON CO., LTD

Address : #703, 96, Cheongsu 14-ro, Dongnam-gu, Cheonan-si, Chungcheongnam-do, Korea

Product Type	: NIR LED Beauty device	Rated voltage input	: - DC 5 V from USB port of
Model	: lubit skin massager		Standard Adapter
Serial No.	: NONE		- Rechargeable Battery:
Protection type	:		DC 3.7 V; 400 mAh; 1.48 Wh
Protection class	:	Rated input power	:

Configuration of equipment:

_____	Rev.	:	_____
_____	Rev.	:	_____

Source of interference :

High internal frequency : 5 MHz

Noise suppression components :

Measures for electromagnetic shielding :

Place of issue

date

Seal and signature of applicant

If applicable, if necessary complete overleaf

End of test report