

Test report No: 6256312.56

ASSESSMENT REPORT

RF Exposure Evaluation

Identification of item tested	Auto-align multi-line laser
Trademark	HILTI
Model and /or type reference	PM 50-22 AUTO 01
Features	DC: 21.6 V with Li-on Battery Packs
FCC ID	SDL-PM50A
ISED Number	5228A-PM50A
Applicant's name / address	Hilti Corporation. Feldkircherstrasse 100, 9494 Schaan ,Liechtenstein
Test method requested, standard	FCC CFR Title 47 Part 2 Subpart J Section 2.1091 RSS-102 Issue 6 IEEE Std C95.3:2002 KDB 447498 D04 Interim General RF Exposure Guidance v01
Verdict Summary	IN COMPLIANCE
Prepared by (name / position & signature)	Kaiyuan DAI Test engineer 
Approved by (name / position & signature)	Wency YANG Manager 
Date of issue	2026-06-16
Report template No	TRF_MPE_RF01 V1.1

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COMPETENCES AND GUARANTEES

DEKRA is a testing laboratory competent to carry out the tests described in this report.

In order to assure the traceability to other national and international laboratories, DEKRA has a calibration and maintenance program for its measurement equipment.

DEKRA guarantees the reliability of the data presented in this report, which is the result of the measurements and the tests performed to the item under test on the date and under the conditions stated in the report and it is based on the knowledge and technical facilities available at DEKRA at the time of performance of the test.

DEKRA is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.

The results presented in this Test Report apply only to the particular item under test established in this document.

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GENERAL CONDITIONS

1. This report is only referred to the item that has undergone the test.
2. This report does not constitute or imply on its own an approval of the product by the Certification Bodies or Competent Authorities.
3. This document is only valid if complete; no partial reproduction can be made without previous written permission of DEKRA.
4. This test report cannot be used partially or in full for publicity and/or promotional purposes without previous written permission of DEKRA.
5. The information provided by the customer in this report may affect the validity of the results, the test lab is not responsible for it.
6. This report will not be used for social proof function in China market.

ENVIRONMENTAL CONDITIONS

The climatic conditions during the tests are within the limits specified by the manufacturer for the operation of the EUT and the test equipment. The climatic conditions during the tests were within the following limits:

Ambient temperature	15 °C – 35 °C
Relative Humidity air	30% - 60%
Atmospheric pressure	86 kPa – 106 kPa

If explicitly required in the basic standard or applied product / product family standard the climatic values are recorded and documented separately in this test report.

POSSIBLE TEST CASE VERDICTS

Test case does not apply to test object	N/A
Test object does meet requirement	P (Pass) / PASS
Test object does not meet requirement	F (Fail) / FAIL
Not measured	N/M

DEFINITION OF SYMBOLS USED IN THIS TEST REPORT

☒ Indicates that the listed condition, standard or equipment is applicable for this report/test/EUT.			
☐ Indicates that the listed condition, standard or equipment is not applicable for this report/test/EUT.			
Decimal separator used in this report	☒	Comma (,)	☐ Point (.)

ABBREVIATIONS

For the purposes of the present document, the following abbreviations apply:

EUT	: Equipment Under Test
QP	: Quasi-Peak
CAV	: CISPR Average
AV	: Average
CDN	: Coupling Decoupling Network
SAC	: Semi-Anechoic Chamber
OATS	: Open Area Test Site
BW	: Bandwidth
AM	: Amplitude Modulation
PM	: Pulse Modulation
HCP	: Horizontal Coupling Plane
VCP	: Vertical Coupling Plane
U_N	: Nominal voltage
Tx	: Transmitter
Rx	: Receiver
N/A	: Not Applicable
N/M	: Not Measured

DOCUMENT HISTORY

Report nr.	Date	Description
6256312.56	2026-06-16	First release.

REMARKS AND COMMENTS

The equipment under test (EUT) does meet the essential requirements of the stated standard(s)/test(s).

The test results relate only to the samples tested.

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1 GENERAL INFORMATION

1.1 General Description of the Item(s)

Description of the item	Auto-align multi-line laser
Model / Type number	PM 50-22 AUTO 01
Trademark.....	HILTI
FCC ID	SDL-PM50A
ISED Number	5228A-PM50A
Test Sample Number	6256312-3
Manufacturer.....	Hilti Corporation. Feldkircherstrasse 100, 9494 Schaan ,Liechtenstein
Factory 1	HUADA VIETNAM CO.,LTD 1st floor-Factory 2 rented from Greatstar Industrial Viet Nam CO.,LTD , Lot CN8, Nam Cau Kien Industrial Park, Thien Huong ward, Hai Phong City, Vietnam
Factory 2	CHANGZHOU HUADA KEJIE OPTO-ELECTRO INSTRUMENT CO.,LTD No.16 Meihua Road, Zhonglou Economic Development District, 213023 Changzhou Jiangsu China

Mode of Operation	Bluetooth BLE
Operating frequency range(s) – Tx.:	2402~2480 MHz
Operating frequency range(s) – Rx :	2402~2480 MHz
Type of Modulation	GFSK
PHYs	☒ LE 1M ☒ LE 2M ☐ LE Coded S=2/8
Data Rate	☒ 1 Mbps ☒ 2 Mbps ☐ 500/125 Kbps
Antenna type.....	FPC Antenna
Antenna gain.....	5.46 dBi
Number of channel	40
Operating Temperature Range.....	-10~40 °C

Note: Antenna information was provided from applicant.

Rated power supply	Voltage and Frequency	Reference poles				
		L1	L2	L3	N	PE
	☐ AC: 100 – 240 V, 50/60 Hz	☐	☐	☐	☐	☐
	☐ DC:					
	☒ Battery: 21.6 Vdc.					
Mounting position.....	☒ Table top equipment					
	☐ Wall/Ceiling mounted equipment					
	☐ Floor standing equipment					
	☐ Hand-held equipment					
	☐ Other:					

Intended use of the Equipment Under Test (EUT)
The product is Auto-align multi-line laser which supports BLE function.

1.2 Test date

Test Location	DEKRA Testing and Certification (Shanghai) Ltd. No. 1050, Xingxian Road, Jiading District, Shanghai, China.
Date of receipt of test item	2026-01-19
Date (s) of performance of tests	2026-02-02~2026-04-21

1.3 Test Facility

FCC Designation Number	:	CN1358
ISED CAB identifier Number	:	CN0155

2 Maximum Permissible Exposure (MPE)

2.1 Limit

According to FCC Part 1.1310(e), The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) radiation.

Table 1 – Limits for Maximum Permissible Exposure (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	*900/f ²	6
30-300	61.4	0.163	1.0	6
300-1,500			f/300	6
1,500-100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*100	30
1.34-30	824/f	2.19/f	*180/f ²	30
30-300	27.5	0.073	0.2	30
300-1,500			f/1500	30
1,500-100,000			1.0	30

f = frequency in MHz * = Plane-wave equivalent power density

According to RSS-102 Issue 6 clause 6.6, Field reference level exposure exemption limits as below:

Field reference level (FRL) exposure evaluation is required if the separation distance between the user and/or bystander and the device's radiating element is greater than 20 cm (i.e. mobile devices), except when the device operates as follows:

- below 20 MHz and the source-based, time-averaged maximum EIRP of the device is equal to or less than 1 W (adjusted for tune-up tolerance)
- at or above 20 MHz and below 48 MHz and the source-based, time-averaged maximum EIRP of the device is equal to or less than $4.49/f^{0.5}$ W (adjusted for tune-up tolerance), where f is in MHz
- at or above 48 MHz and below 300 MHz and the source-based, time-averaged maximum EIRP of the device is equal to or less than 0.6 W (adjusted for tune-up tolerance)
- at or above 300 MHz and below 6 GHz and the source-based, time-averaged maximum EIRP of the device is equal to or less than $1.31 \times 10^{-2} f^{0.6834}$ W (adjusted for tune-up tolerance), where f is in MHz
- at or above 6 GHz and the source-based, time-averaged maximum EIRP of the device is equal to or less than 5 W (adjusted for tune-up tolerance)

2.2 MPE Calculation Method

Calculation Formula from FCC OET 65:

$$S = \frac{P * G}{4 * \pi * R^2}$$

Where:

S = Power Density (mW/cm²)

P = onput power of the antenna (mW)

G = antenna gain relative to an isotropic antenna

R = distance from the antenna to the point of investigation (cm)

2.3 Result of MPE for standalone

Standalone mode

Mode	Frequency Range (MHz)	Max Tune-up Power (dBm)	Antenna Gain (dBi)	Power Density at R = 20 cm (mW/cm ²)	FCC Limit (mW/cm ²)	IC Limit (mW/cm ²)
BLE	2402 ~ 2480	-0.11	5.46	0.00054	1	1

For Exemption Limits for Routine Evaluation – RF Exposure Evaluation

Mode	Frequency Range (MHz)	Max Tune-up E.I.R.P (dBm)	Max Tune-up E.I.R.P (W)	Exemption Limit (W)
BLE	2402 ~ 2480	5.35	0.003428	2.676

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