FLIR Commercial Systems Inc., Taiwan Branch

TEST REPORT

REPORT NUMBER
200600282TWN-001

ISSUE DATE

Nov. 11, 2020

PAGES
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RF Exposure Evaluation Report

Applicant:	**FLIR Commercial Systems Inc., Taiwan Branch** **10F., No.57, Zhouzi St., Neihu Dist., Taipei City 11493, Taiwan**
Product:	**MSX Borescope (with approved Li ion battery and Battery Charger)**
Model No.:	**VS290**
Brand Name:	**VS290 MSX Borescope**
FCC ID:	**2AXRO-VS290**
Test Method/ Standard:	**FCC 1.1310** **KDB 447498**
Test By:	**Intertek Testing Services Taiwan Ltd.,** **Hsinchu Laboratory** **No. 11, Lane 275, Ko-Nan 1 Street, Chia-Tung Li,** **Shiang-Shan District, Hsinchu City, Taiwan**

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Revision History

Report No.	Issue Date	Revision Summary
200600282TWN-001	Nov. 11, 2020	Original report

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1. General Information

1.1 Identification of the EUT

Product:	MSX Borescope (with approved Li ion battery and Battery Charger)
Model No.:	VS290
Operating Frequency:	2412 MHz ~ 2462 MHz for 802.11b, 802.11g, 802.11n HT20
Channel Number:	11 channels for 2412 MHz ~ 2462 MHz
Frequency of Each Channel:	2412+5 k, k＝0 ~ 10 for 802.11b, 802.11g, 802.11n HT20
Access scheme:	DSSS, OFDM
Rated Power:	DC 3.65V from battery DC 5.35V from adapter
Power Cord:	N/A
Sample receiving date:	Jun. 16, 2020
Sample condition:	Workable
Test Date(s):	Jul. 08, 2020

1.2 Adapter information

The EUT will be supplied with a power supply from below list:

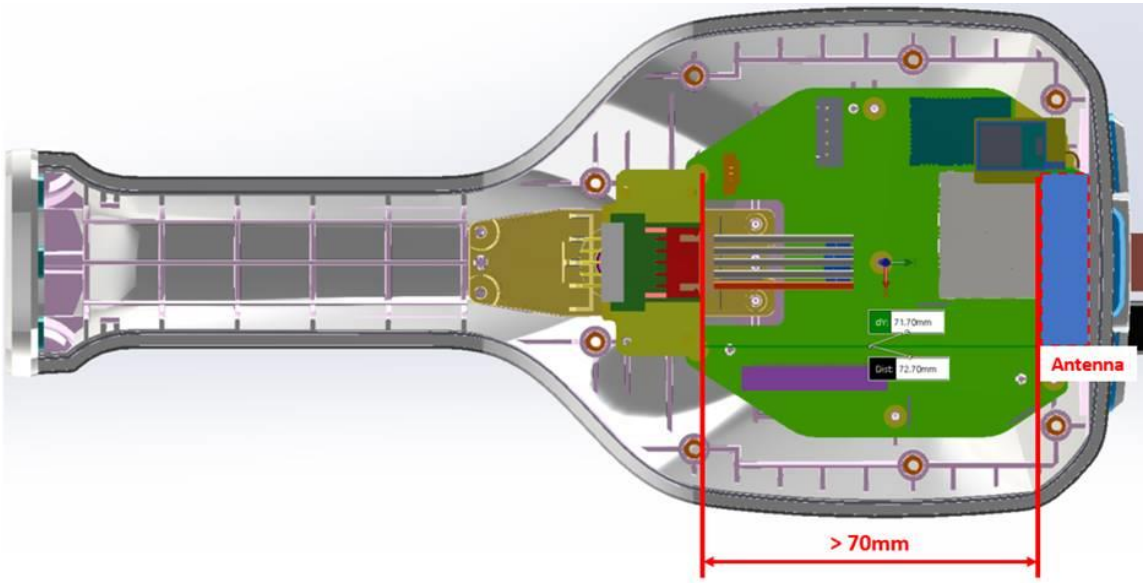
No.	Model no.	Specification
Adapter	PSAI10R-050Q	Input: 100-204Vac,0.3A, 50-60Hz Output: 5.35Vdc, 2.0A

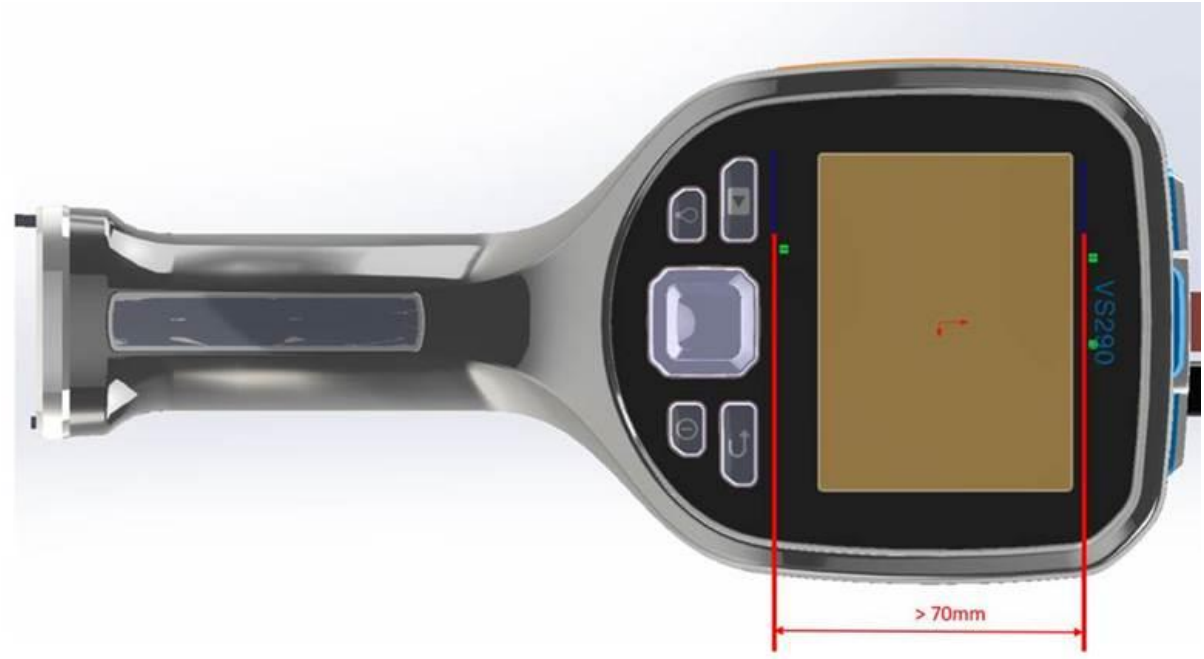
1.3 Antenna description

Antenna Gain : 2.5 dBi
Antenna Type : PIFA antenna
Connector Type : I-Pex

1.4 Statement of compliance

Comply with FCC RF exposure compliance requirements, a separation distance of at least 70 mm must be maintained between the antenna of this device and all persons.





2. Test specifications

2.1 RF Exposure calculations

According to KDB 447498 D01 , Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies v06.

Clause 4.3: General SAR test reduction and exclusion guidance Sub , clause 4.3.1: Standalone SAR test exclusion considerations

a) For 100 MHz to 6 GHz and test separation distances > 50 mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following (also illustrated in Appendix B): [32]

1) {[Power allowed at numeric threshold for 50 mm in step a)] + [(test separation distance – 50 mm)·(f(MHz)/150)]} mW, for 100 MHz to 1500 MHz
2) {[Power allowed at numeric threshold for 50 mm in step a)] + [(test separation distance – 50 mm)·10]} mW, for > 1500 MHz and ≤ 6 GHz

2.2 Operation mode

EUT use TTL to USB cable connected to Notebook PC, executing “MCHPRT2 ver1.0” and select different frequency and modulation.

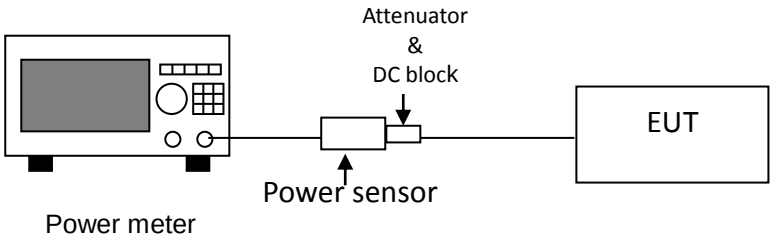
2.3 Peripherals equipment

Peripherals	Brand	Model No.	Serial No.	Data cable
Notebook PC	DELL	Latitude E5420	HXYJBT1	TTL to USB Cable 0.3 meter

2.4 Test equipment

Equipment	Brand	Model No.	Serial No.	Calibration Date	Next Calibration Date
Power Meter	Anritsu	ML2495A	0844001	2019/10/23	2020/10/21
Power Sensor	Anritsu	MA2411B	0738452	2019/10/23	2020/10/21
RF Cable	SUHNER	SUCOFLEX 102	CB0006	2020/04/30	2021/04/29

2.5 Test Set-up



Remark: Cable loss = 1.5 dB

3. Test results

Mode	Frequency (MHz)	Output power (dBm)	Output power (mW)	Tune-up Power Tolerance (dB)	Max Tune-up Power (dBm)	Max Tune-up Power (mW)	Limit of SAR Exclusion (mW)	Distance (mm)	Exempt from Test?
802.11b	2412	16.04	40.18	2.00	18.04	63.68	296.90	70	Yes
	2437	18.45	69.98	2.00	20.45	110.92	296.31	70	Yes
	2462	18.52	71.12	2.00	20.52	112.72	295.81	70	Yes
802.11g	2412	10.37	10.89	2.00	12.37	17.26	296.90	70	Yes
	2437	14.51	28.25	2.00	16.51	44.77	296.31	70	Yes
	2462	11.43	13.90	2.00	13.43	22.03	295.81	70	Yes
802.11n (HT20)	2412	8.13	6.50	2.00	10.13	10.30	296.90	70	Yes
	2437	14.38	27.42	2.00	16.38	43.45	296.31	70	Yes
	2462	11.27	13.40	2.00	13.27	21.23	295.81	70	Yes

The Notice in Installation Manual has been stated as below:
While installing and operating this transmitter, the radio frequency exposure limit of 1 mW/ (cm^2) may be exceeded at distances close to the transmitter. Therefore, the user must maintain a minimum distance of 70 mm from the device at all time.