

Test Report

UNINTENTIONAL RADIATOR TESTS ACCORDING TO FCC PART 15 B

Equipment Under Test: USB IR-Dongle for dosimeter

Type/ Model: USB IR-Dongle

Manufacturer: Mirion Technologies (RADOS) Oy
Mustionkatu 2
FI-20101 Turku
FINLAND

Customer: Mirion Technologies (RADOS) Oy
Mustionkatu 2
FI-20101 Turku
FINLAND

FCC Rule Part: 15.107: 2015, 15.109: 2015

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Issued by:



Rauno Repo
EMC/RF Specialist

11 March 2016



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Equipment Under Test (EUT)

USB IR-Dongle for dosimeter

FCC ID: 2AH18-MBD-IRLINK-1

The EUT is an USB IR-Dongle connected to a laptop PC.

Modifications Incorporated in the EUT

No modifications were applied to the EUT during testing

Power Supply

The EUT is powered from USB-port.

Peripherals

- HP Latitude PC (supplied by the customer)
- Power supply for the PC (supplied by the customer)
- Head phones
- Mouse (USB)

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SUMMARY OF TESTING

Test Specification	Description of Test	Result
§15.107	Conducted Emissions on Power Supply Lines	PASS
§15.109	Radiated Emissions	PASS

EUT Test Conditions during Testing

The EUT was connected to the USB port of the test PC as well as the headphones and the USB mouse. Tests were performed with 115V / 60 Hz.

Test Facility

<input type="checkbox"/> Testing Location / address: FCC registration number: 90598	SGS Fimko Ltd Särkiniementie 3 FI-00210, HELSINKI FINLAND
<input checked="" type="checkbox"/> Testing Location / address: FCC registration number: 178986 Industry Canada registration number: 8708A-2	SGS Fimko Ltd Karakaarenkuja 4 FI-02610, ESPOO FINLAND

Conducted Emissions on Power Supply Lines

Standard: ANSI C63.4 (2014)
Tested by: RRE
Date: 10 March 2016
Temperature: 22 ± 3 °C
Humidity: 30 - 60 % RH
Measurement uncertainty ± 2.9 dB Level of confidence 95 % (k = 2)

FCC Rule: 15.107

Conducted emissions were measured from PC mains port.

Results

Conducted Emission Mains FCC Part 15 Class B with ENV216

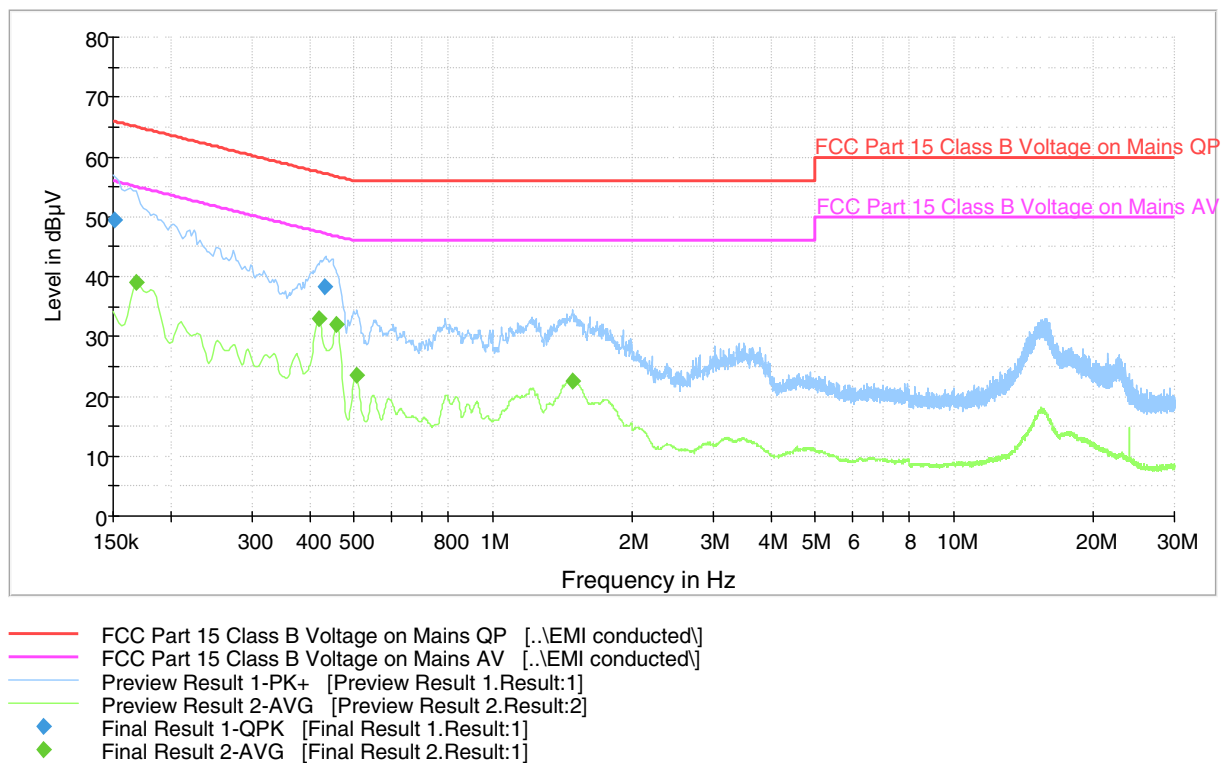


Figure 1. Conducted emission from AC power port.

Table 1. Final Quasi-Peak results

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time 15x(ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)	Comment
0.151000	49.3	1000.0	9.000	N	10.1	16.6	65.9	-
0.431000	38.2	1000.0	9.000	N	10.3	19.0	57.2	-

Table 2. Final Average results

Frequency (MHz)	Average (dB μ V)	Meas. Time 15x(ms)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)	Comment
0.169000	39.2	1000.0	9.000	N	10.1	15.9	55.0	-
0.418250	33.0	1000.0	9.000	N	10.2	14.5	47.5	-
0.458250	32.0	1000.0	9.000	N	10.3	14.7	46.7	-
0.504250	23.5	1000.0	9.000	N	10.3	22.5	46.0	-
1.488500	22.5	1000.0	9.000	N	10.3	23.5	46.0	-

Radiated Emissions 30 MHz to 1000 MHz

Standard: ANSI C63.4 (2014)
Tested by: RRE, PKA
Date: 8 March 2016
Temperature: 22 ± 3 °C
Humidity: 30 - 60 % RH
Measurement uncertainty ± 4.51 dB Level of confidence 95 % (k = 2)

FCC Rule: 15.109

The correction factor in the final result table contains the sum of the transducers (antenna + amplifier + cables). The result value is the measured value corrected with the correction factor.

Test results

FCC Part 15 Class B Spurious Emission 30-1000MHz 3m

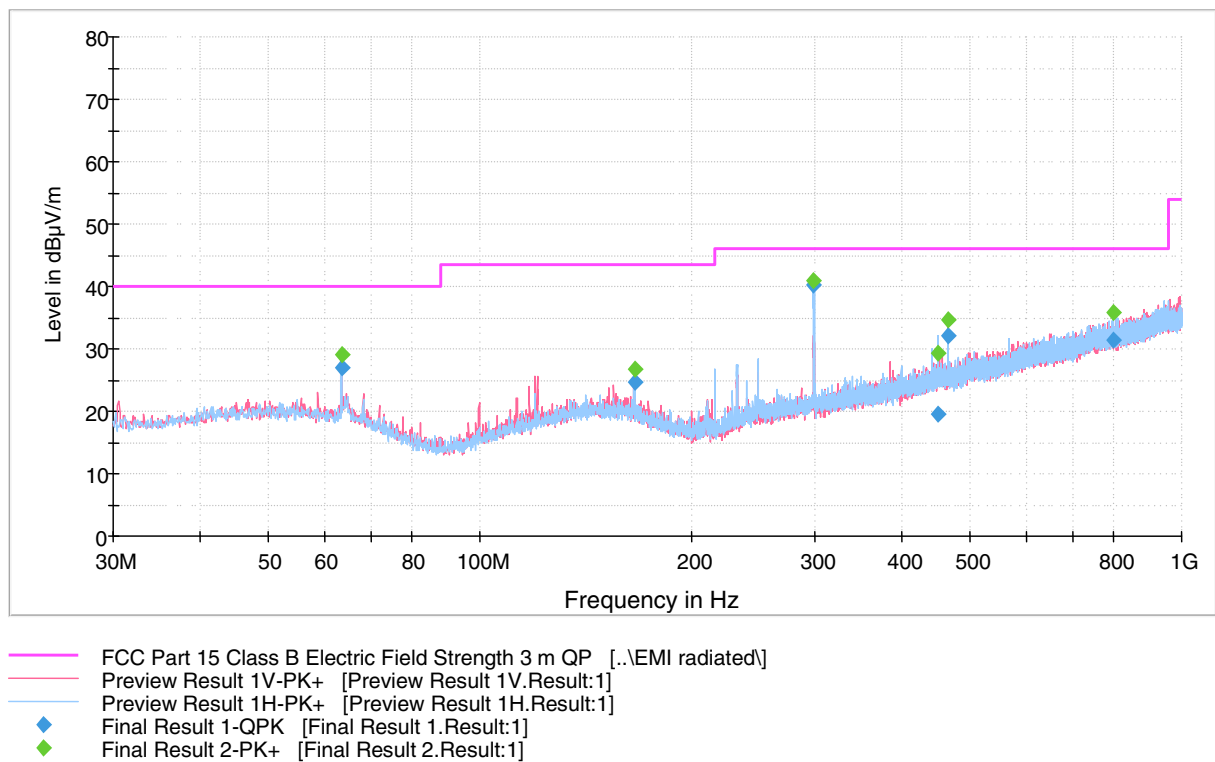


Figure 2. Measured curve with peak detector.

Table 3. Final Quasi-Peak results

Frequency (MHz)	QuasiPeak (dBµV/m)	Meas. Time 15x(ms)	BW (kHz)	Height (cm)	Pol.	Azimuth (deg)	Corr. (dB)	Margin (dB)	Limit (dBµV/m)	Comment
63.505000	27.0	1000.0	120.000	100.0	V	62.0	13.4	13.0	40.0	-
166.274000	24.7	1000.0	120.000	100.0	V	0.0	14.3	18.8	43.5	-
298.750000	40.2	1000.0	120.000	100.0	H	25.0	15.3	5.8	46.0	-
449.306000	19.6	1000.0	120.000	249.0	H	110.0	19.2	26.4	46.0	-
465.627000	32.2	1000.0	120.000	100.0	V	197.0	19.5	13.8	46.0	-
798.200000	31.4	1000.0	120.000	100.0	H	274.0	25.5	14.6	46.0	-

List of Test Equipment
LIST OF TEST EQUIPMENT

Equipment	Manufacturer	Type	Serial no	Inv.no	Cal. due (yyyy-mm-dd)
TEST RECEIVER	ROHDE & SCHWARZ	ESU 26	100185	8453	2016-07-01
TEST SOFTWARE	ROHDE & SCHWARZ	EMC-32	-	-	-
ANTENNA (30-1000 MHz)	SCHWARZBECK	VULB 9168	8168-503	8911	2016-05-04
ANTENNA MAST	DEISEL	MA240	240/455	5017	-
TURNTABLE	DEISEL	DS430	-	5015	-
CONTROLLER	COMTEST	HD100	100/457	5018	-
ANTENNA (1-18 GHz)	EMCO	3117	00086191	9569	2017-03-03
ANTENNA (18-26.5 GHz)	EMCO	3160- 09	030232-022	7294	-
PREAMPLIFIER (0.5-26GHz)	HP	83017A	3950M00102	5226	2017-02-03
HIGH PASS FILTER	WAINWRIGHT	WHKX4.0/18G-10SS	10	-	2017-01-17
LISN	ROHDE & SCHWARZ	ENV216	101466	9611	2017-02-24