

FCC Test Report

E4064219901KY

Type / Model Name: SD-004T-CH

Product Description: Watch type transmitter

Applicant: Capital Prospect Ltd.

FCC ID: KUTSD004T

FCC --- TEST REPORT

Test Report No. : E4064219901KY	May 11, 2011 <hr style="border: 0; border-top: 1px solid black;"/> Date of issue
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Type / Model Name: SD-004T-CH

Product Description : Watch type transmitter

Applicant : Capital Prospect Ltd.

Address : Room 03, 13/F., Block B,
 Veristrong Ind. Centre, 34-36 Au Pui Wan Street,
 Fo Tan, N.T.,
 Hong Kong

Test Result according to the standards listed in clause 1 test standards:	POSITIVE
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The test report merely corresponds to the test sample.
 It is not permitted to copy extracts of these test results without the written permission of the test laboratory.

File No. **E4064219901KY**

Contents

1	<u>TEST STANDARDS</u>	4
2	<u>SUMMARY</u>	5
3	<u>EQUIPMENT UNDER TEST</u>	6
3.1	PHOTO DOCUMENTATION OF THE EUT	6
3.2	POWER SUPPLY SYSTEM UTILISED	7
3.3	SHORT DESCRIPTION OF THE EQUIPMENT UNDER TEST (EUT)	7
4	<u>TEST ENVIRONMENT</u>	8
4.1	ADDRESS OF THE TEST LABORATORY	8
4.2	ENVIRONMENTAL CONDITIONS	8
4.3	STATEMENT OF THE MEASUREMENT UNCERTAINTY	8
5	<u>TEST CONDITIONS AND RESULTS</u>	9
5.1	ANTENNA REQUIREMENT	9
5.2	AVERAGE FACTOR	10
5.3	RADIATED EMISSION	13
5.4	BANDWIDTH	15
5.5	PROVISION OF MOMENTARY OPERATION	16
6	<u>USED TEST EQUIPMENT AND ACCESSORIES</u>	17

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4_F510_25_Rev2_0 / Date of release: 05-01-2009 / Author: Kidd Yang

Page 3 of 17

1 TEST STANDARDS

The tests were performed according to following standards:

FCC Part 15:2009-10-01

Federal Communications Commission, Part 15 – Radio Frequency Device

ANSI C63.4:2003

Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz

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Page 4 of 17

2 SUMMARY

GENERAL REMARKS:

N/A

FINAL ASSESSMENT:

The equipment under test fulfils the FCC requirements cited in test standard listed in section 1.

Date of receipt of test sample : April 21, 2011

Testing commenced on : April 21, 2011

Testing concluded on : May 11, 2011

Checked by:

Tested by:

Ivan Toa
Technical Manager

Kidd Yang
Engineer

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Page 5 of 17

3 EQUIPMENT UNDER TEST

3.1 Photo documentation of the EuT



Top View



Bottom View

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3.2 Power supply system utilised

Power supply voltage: DC 3V(1×CR2032 button cell)

3.3 Short description of the Equipment under Test (EuT)

The Equipment under test (EUT) is a 433.92MHz transmitter. When the buttons are pressed, the EuT will transmit the signal by on-off keying Modulation to corresponding receiver to change the status of the receiver.

Tested samples: One Set (model: SD-004T-CH)

Serial number: Not Labelled

Dimensions: L: 24.5 cm W: 3.5 cm H: 1.6 cm

EuT operation mode:

The equipment under test was operated during the measurement under the following conditions:

- Operation mode 1: Transmitting mode

-

-

EuT configuration:

The following interface cables and peripheral devices were connected during the measurements:

Interface cables:

Interface cable	Length [m]	Type	Line		Line termination
			shielded	unshielded	
N/A					

Peripheral devices:

Kind of equipment	Model and/or Manufacturer
N/A	

File No. **E4064219901KY**

4 TEST ENVIRONMENT

4.1 Address of the test laboratory

emitel (Shenzhen) Limited
Building 2, 171 Meihua Road,
Futian District, Shenzhen,
P.R. China

Laboratory registration numbers:

FCC Registration number: 746887

4.2 Environmental conditions

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

Temperature: 15-35 ° C

Humidity: 30-60 %

Atmospheric pressure: 860-1060 mbar

4.3 Statement of the measurement uncertainty

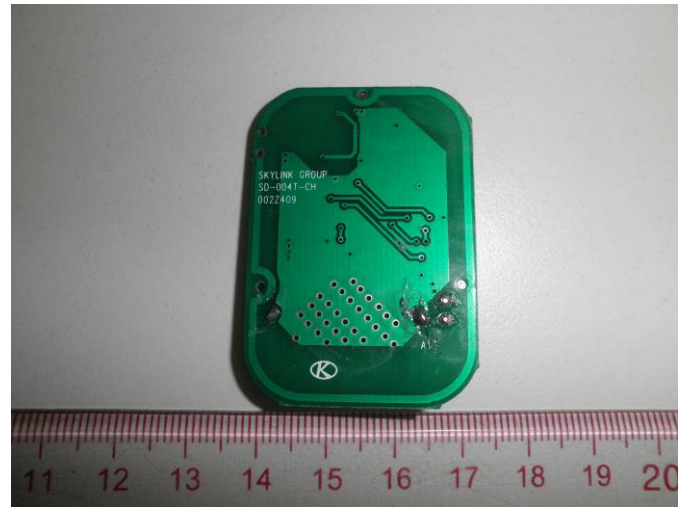
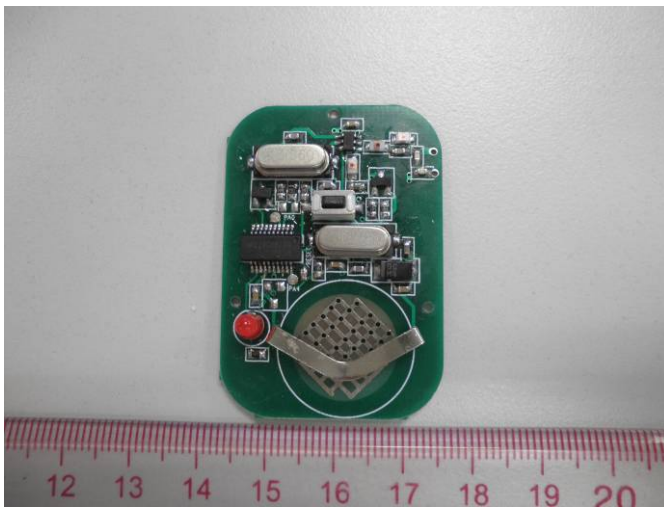
The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to CISPR 16-4-2 /11.2003 "Uncertainties, statistics and limit modelling – Uncertainty in EMC measurements" and is documented in the quality system acc. to ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer does have the sole responsibility for the continued compliance of the device.

5 TEST CONDITIONS AND RESULTS

5.1 Antenna Requirement

According to §15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

The EuT has component antenna, which accordance to the above sections, is considered sufficient to comply with the provisions of these sections. Please see EuT photos for details.



The requirements of section 15.203 are **FULFILLED**.

Remarks: _____

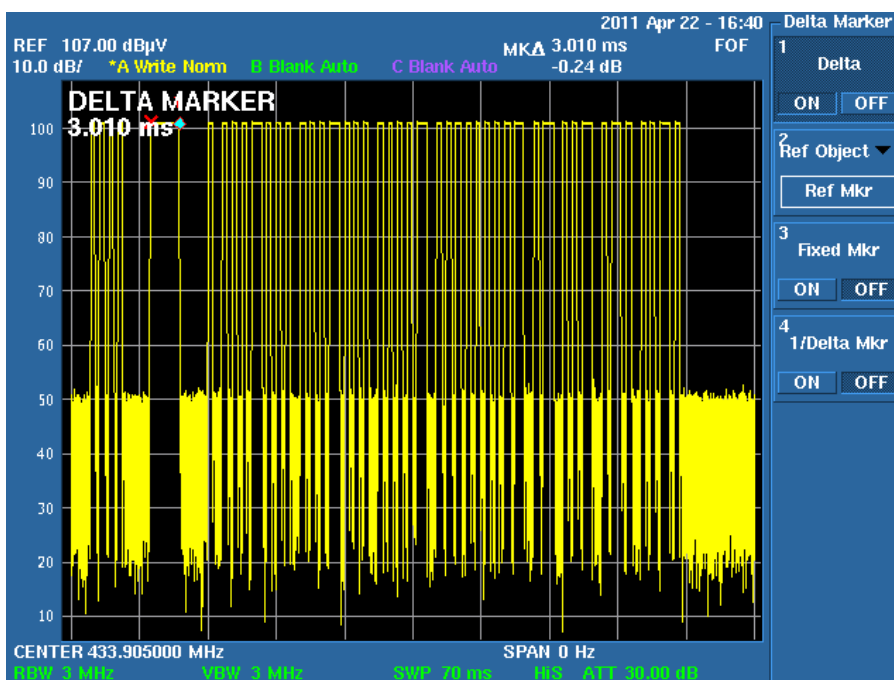
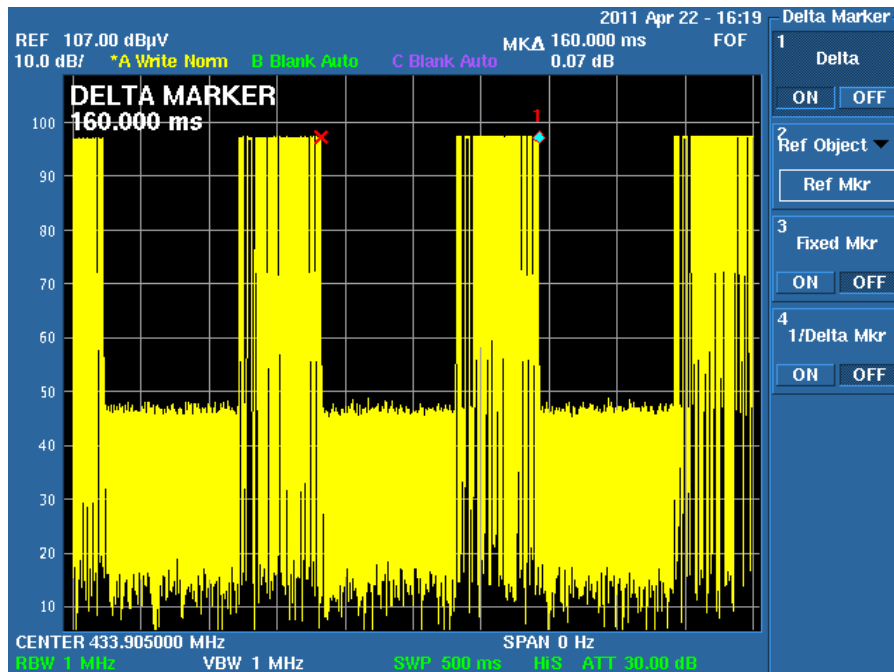
5.2 Average Factor

For test instruments and accessories used see section 6.

5.2.1 Description of the test location

Test location: Shield room

5.2.2 Photo documentation of test

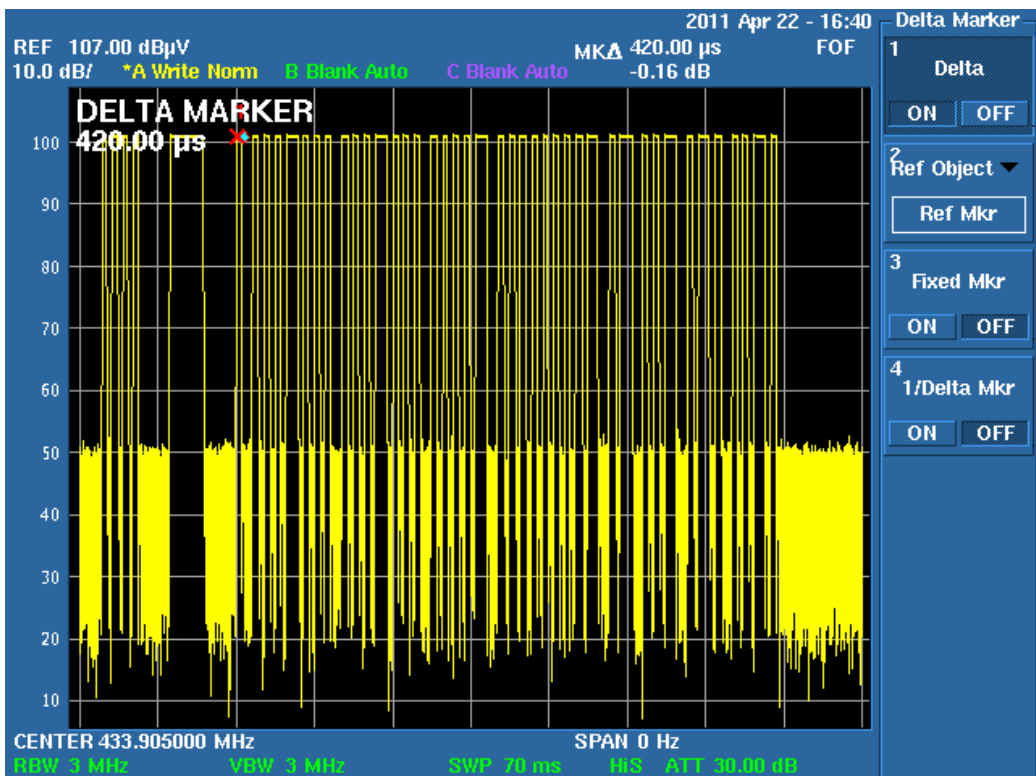
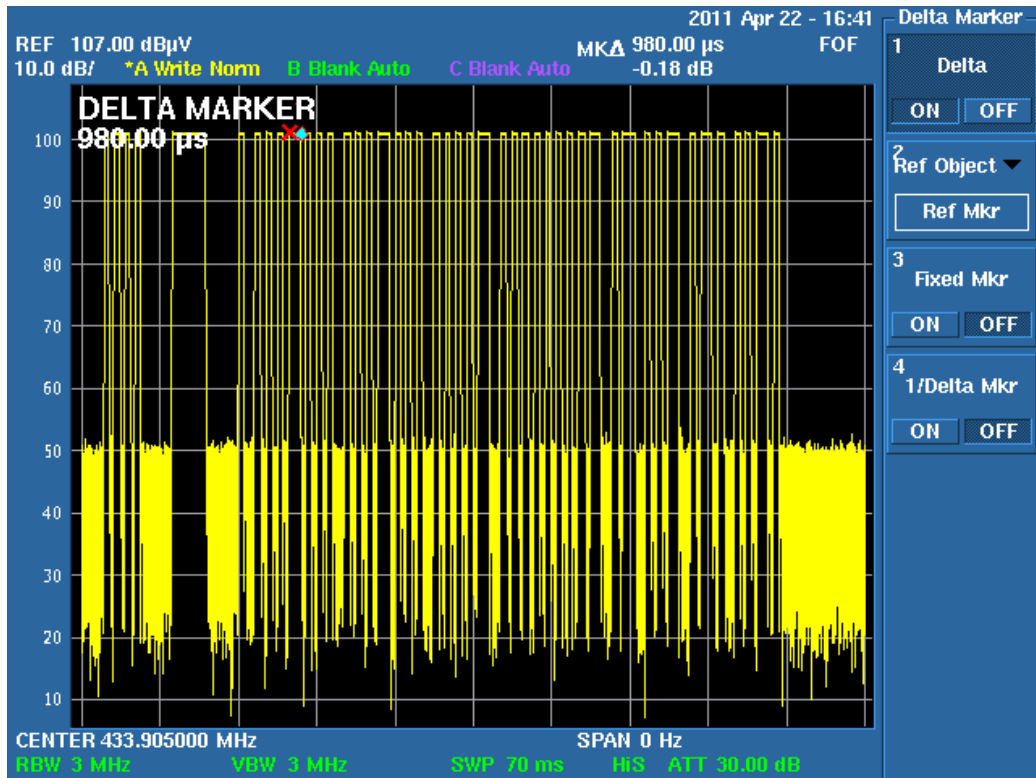


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5.2.3 Test result

whole period=160.0ms>100ms
Pulse 1= 3.01ms
Pulse 2= 0.98 ms
Pulse 3= 0.42ms
$T_{on}=(3.01*1+0.98 *8+0.42*37)ms=26.39ms$
Average factor= $20 \log(26.39ms/100ms)=20 \log(0.2639)=-11.6 \text{ dB}$

Remarks:

5.3 Radiated Emission

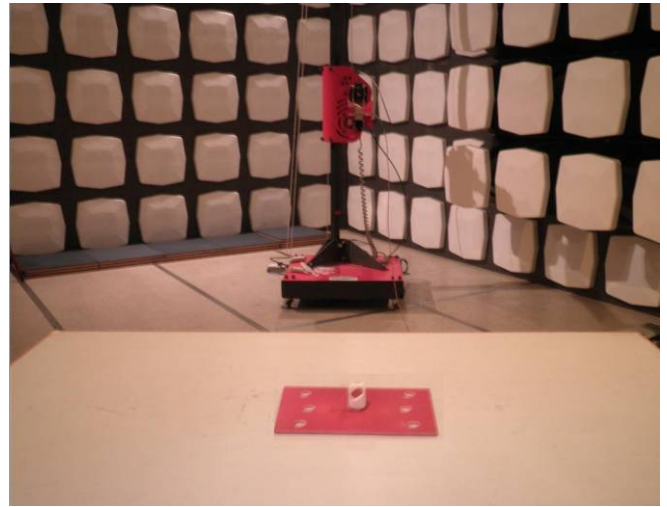
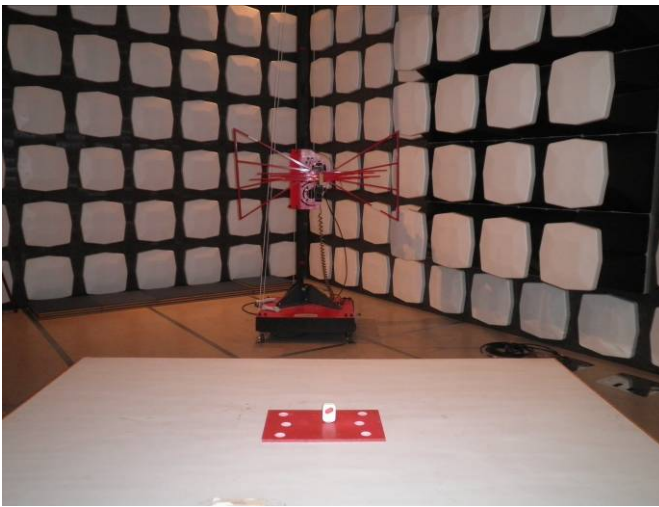
For test instruments and accessories used see section 6.

5.3.1 Description of the test location

Test location: Semi-anechoic Chamber

Test distance: 3m

5.3.2 Photo documentation of test



5.3.3 Test result

Frequency range: 30MHz to 4340MHz

Min. limit margin: -11.6dB

The requirements of section 15.231(b) are **FULFILLED**.

- Remarks:**
- 1) The emissions lower than 20dB below the limit are not measured.
 - 2) Testing is include the rotation of the EUT through three orthogonal axes to determine the maximum emission.

5.3.4 Test protocol

Product Description: Watch type transmitter Result: PASS
 Worst Case Operation mode: Transmitting mode
 Date: May 09, 2011
 Tested by: Kidd Yang

Start frequency [MHZ]	Stop frequency [MHZ]	Resolution bandwidth	Video bandwidth	step size	Measurement time	Detector
30	1000	120 KHz	1 MHz	40 KHz	100ms	Peak
1000	4340	1 MHz	3 MHz	400 KHz	100ms	Peak

Polarization	Frequency (MHz)	Read Value (dBuV/m)	Antenna Factor(dB)	Cable Loss(dB)	Measured Result (dBuV/m)	PK limit (dBuV/m)	margin (dB)
V	433.92	62.9	16.3	1.6	80.8	100.8	-20.0
H	433.92	59.6	16.6	1.6	77.8	100.8	-23.0
V	867.84	30.3	22.8	2.3	55.4	80.8	-25.4
H	867.84	29.2	22.7	2.3	54.2	80.8	-26.6
V	1301.76	21.1	25.0	2.8	48.9	74.0	-25.1
V	1735.68	21.2	27.3	3.6	52.1	80.8	-28.7
V	2169.62	22.7	30.0	4.3	57.0	80.8	-23.8
V	2603.45	17.1	33.3	4.0	54.4	80.8	-26.4

Polarization	Frequency (MHz)	Detector	Measured Result (dBuV/m)	Average Factor (dB)	Calculated Average Value (dBuV/m)	AV limit (dBuV/m)	margin (dB)
V	433.92	Peak	80.8	-11.6	69.2	80.8	-11.6
H	433.92	Peak	77.8	-11.6	66.2	80.8	-14.6
V	867.84	Peak	55.4	-11.6	43.8	60.8	-17.0
H	867.84	Peak	54.2	-11.6	42.6	60.8	-18.2
V	1301.77	Peak	48.9	-11.6	37.3	54.0	-16.7
V	1301.77	Peak	52.1	-11.6	40.5	60.8	-20.3
V	1735.70	Peak	57.0	-11.6	45.4	60.8	-15.4
V	2169.62	Peak	54.4	-11.6	42.8	60.8	-18.0

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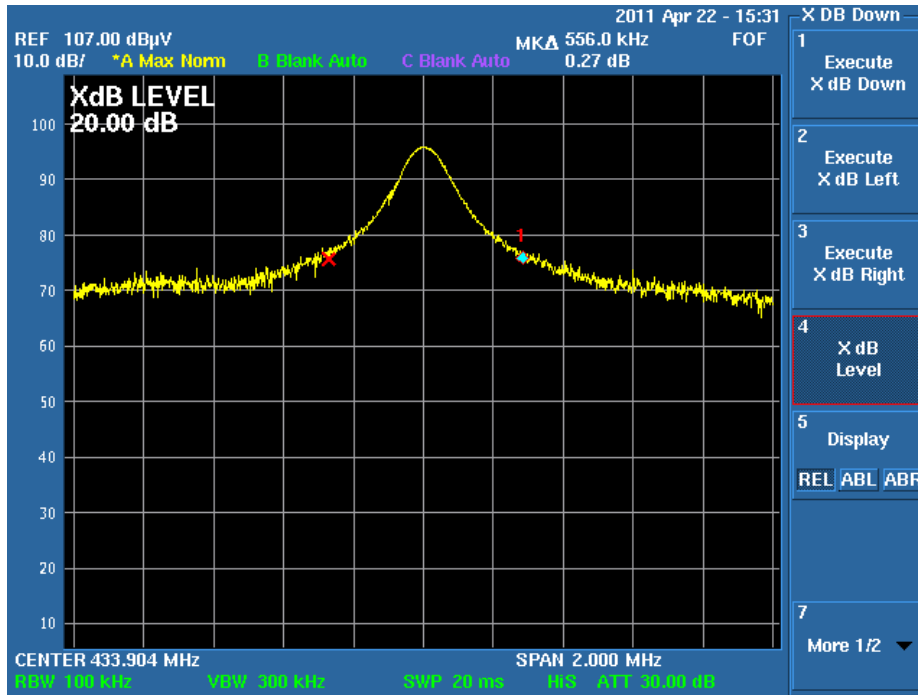
5.4 Bandwidth

For test instruments and accessories used see section 6.

5.4.1 Description of the test location

Test location: Shielded Room

5.4.2 Photo documentation of the test



5.4.3 Test result

Measured Occupied Bandwidth (kHz)	Limit (kHz)
556.0	1084.8

The requirements of section 15.231(c) are **FULFILLED**

Remarks:

File No. **E4064219901KY**

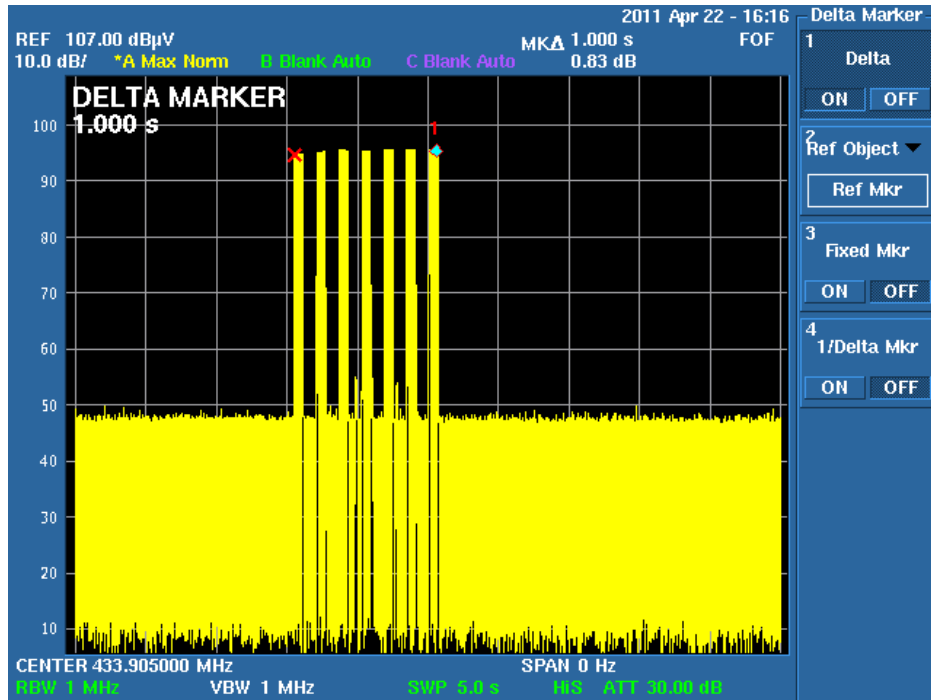
5.5 Provision of Momentary operation

For test instruments and accessories used see section 6.

5.5.1 Description of the test location

Test location: Shielded Room

5.5.2 Photo documentation of the test



5.5.3 Test result

The time of stopping transmission after switch releasing (s)	Limit (s)
1.00	5.00

The requirement of section 15.231(a)(1) is **FULFILLED**

Remarks:

File No. **E4064219901KY**

6 USED TEST EQUIPMENT AND ACCESSORIES

All test instruments used, in addition to the test accessories, are calibrated and verified regularly.

Test Item No.	Model / Type	Kind of Equipment	Manufacturer	Next Cal. Date	Equipment
Radiated Emission	ESPI3	EMI Test Receiver	Rohde & Schwarz	Apr 26, 2012	04-02/03-06-002
	U3772	Spectrum Analyzer	Advantest	Apr 26, 2012	04-02/11-08-001
	3142C	Biconilog Antenna	EMCO	Mar 26,2013	04-02/24-06-001
	3117	Horn Antenna	ETS Lindgren	Mar 26,2013	04-02/24-07-001
Bandwidth	U3772	Spectrum Analyzer	Advantest	Apr 26, 2012	04-02/11-08-001
Momentary operation	U3772	Spectrum Analyzer	Advantest	Apr 26, 2012	04-02/11-08-001
Average Factor	U3772	Spectrum Analyzer	Advantest	Apr 26, 2012	04-02/11-08-001

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Page 17 of 17