

Test Report

INTENTIONAL RADIATOR TESTS ACCORDING TO FCC PART 15 C and INDUSTRY CANADA REQUIREMENTS

Equipment Under Test: 2.4 GHz Transceiver

Type/ Model: DRC-10 2ST D3

Manufacturer: Scanreco AB
Årsta Skolgränd 22
SE-47144 Stockholm
SWEDEN

Customer: Scanreco AB
Årsta Skolgränd 22
SE-47144 Stockholm
SWEDEN

FCC Rule Part: 15.247: 2012
IC Rule Part: RSS-210, Issue 8, 2010
RSS-GEN Issue 4, 2014

KDB: Filing and Measurement Guidelines for
Frequency Hopping Spread Spectrum Systems
DA 00-705 (March 30, 2000)

Date: November 17, 2014

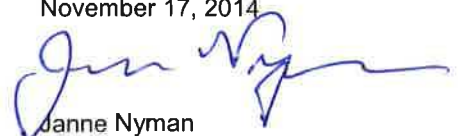
Issued by:



Timo Hietala
Testing Engineer

Date: November 17, 2014

Checked by:



Janne Nyman
Compliance Specialist

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Equipment Under Test (EUT)

Wireless System-final product

Type/ Model: DRC-10 2ST D3

Serial Number: -

DRC-10 2ST D3 is an industrial hand-held 2.4 GHz transceiver that supports frequency hopping

One sample was tested: a sample with an internal antenna (radiated measurements).

Classification of the device

Fixed device	☐
Mobile Device (Human body distance > 20cm)	☒
Portable Device (Human body distance < 20cm)	☐

Modifications Incorporated in the EUT

No modifications were applied to the EUT during testing.

Ratings and declarations

Operating Frequency Range (OFR):	2405 – 2480 MHz
Channels:	16
Channel separation:	5 MHz
Conducted power:	19.84 dBm
Transmission technique:	FHSS
Modulation:	GFSK
Integrated antenna gain:	-
External antenna gain:	0.0 dBi

Power Supply

2 x 1.32 VDC Ni-MH batteries, new batteries were used when testing the EUT.

Disclaimer

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SUMMARY OF TESTING

Test Specification	Description of Test	Result
§15.209 / RSS-GEN 8.9	Unintentional Radiated Emissions	PASS

EUT Test Conditions during Testing

The EUT was configured into the wanted channel and was in continuous transmit mode during all the tests.

Following channels were used during the tests:

Channel	Frequency/ MHz
MID	2440

Test Facility

☐	Testing Location / address: FCC registration number: 90598	SGS Fimko Ltd Särkiniementie 3 FI-00210, HELSINKI FINLAND
☒	Testing Location / address: FCC registration number: 178986 Industry Canada registration number: 8708A-2	SGS Fimko Ltd Karakaarenkuja 4 FI-02610, ESPOO FINLAND

Unintentional Radiated Emissions 30 MHz to 1000 MHz

Standard:	ANSI C63.10	(2013)
Tested by:	RRE	
Date:	14.11.2014	
Temperature:	21 - 22 °C	
Humidity:	35 - 41 % RH	
Measurement uncertainty	± 4.51 dB	Level of confidence 95 % (k = 2)

FCC Rule: 15.209(a)

Attenuation below the general limits specified in Section 15.209(a) is required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a).

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.

The measurements were performed with the EUT being in three orthogonal positions (X, Y, Z). Below 1 GHz the measurements were performed at MID channel.

Unintentional Radiated Emissions 30 MHz to 1000 MHz

Test results with internal antenna

Final results 30 – 1000 MHz:

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

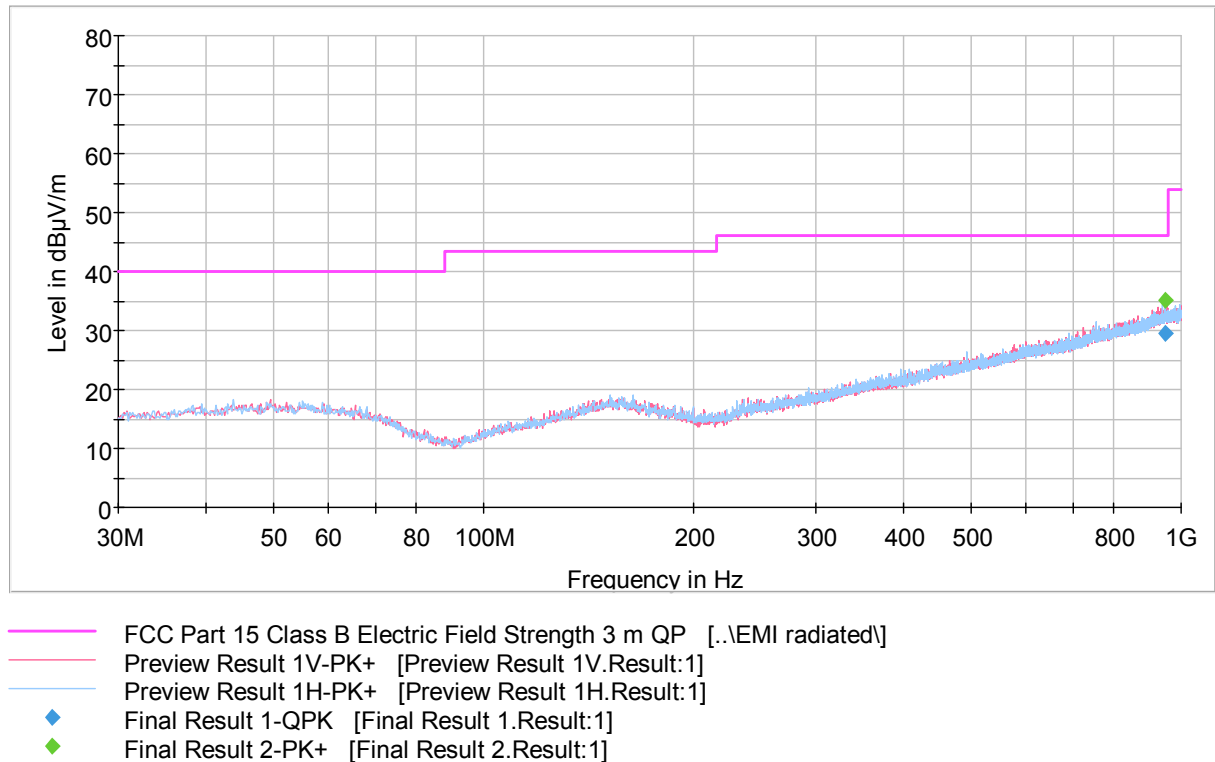


Figure 1. Measured curve with peak-detector. Channel MID.

Final measurements from the worst frequencies

Table 1. Final results 30 – 1000 MHz (QP).

Frequency (MHz)	QuasiPeak (dBμV/m)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Margin (dB)	Limit (dBμV/m)	Comment
947.715000	29.5	120.000	322.0	H	58.0	16.5	46.0	

LIST OF TEST EQUIPMENT
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Radiated Emissions

Equipment	Manufacturer	Type	Serial no	Inv.no
TEST RECEIVER	ROHDE & SCHWARZ	ESU 26	100185	8453
TEST SOFTWARE	ROHDE & SCHWARZ	EMC-32	-	-
ANTENNA (30-1000 MHz)	SCHWARZBECK	VULB 9168	8168-503	8911
ANTENNA MAST	DEISEL	MA240	240/455	5017
TURNTABLE	DEISEL	DS420	-	5015
CONTROLLER	COMTEST	HD100	100/457	5018
AC Power Source	CALIFORNIA INSTRUMENTS	5001 iX Series II	58209	7826

All used measurement equipment was calibrated (if required).