

Radio Test Report

Report No.: STS2308156H01

Issued for

Sam Ash Music Corporation

262 Duffy Avenue Hicksville New York United States 11801

Product Name: DIGITAL DUAL RECEIVER

Brand Name: SAMSON

Model Name: CRXD2

Series Model(s): N/A

FCC ID: CCRCRXD2

Test Standard: FCC 47CFR §2.1091

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TEST REPORT

Applicant's Name.....: Sam Ash Music Corporation
Address.....: 262 Duffy Avenue Hicksville New York United States 11801
Manufacturer's Name.....: Sam Ash Music Corporation
Address.....: 262 Duffy Avenue Hicksville New York United States 11801

Product Description

Product Name.....: DIGITAL DUAL RECEIVER
Brand Name.....: SAMSON
Model Name.....: CRXD2
Series Model(s).....: N/A

Test Standards.....: FCC 47CFR §2.1091
447498 D04 Interim General RF Exposure Guidance v01

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Date of Test.....:

Date of receipt of test item.....: 28 Aug. 2023
Date (s) of performance of tests.....: 28 Aug. 2023 ~ 26 Sept. 2023
Date of Issue.....: 26 Sept. 2023
Test Result.....: Pass

Testing Engineer : [Signature]
(Lenon Hou)

Technical Manager : [Signature]
(Sean she)

Authorized Signatory : [Signature]
(Chris Chen)





TABLE OF CONTENTS

1. GENERAL INFORMATION	5
1.1 GENERAL DESCRIPTION OF THE EUT	5
1.2 TEST FACTORY	6
2. FCC 47CFR §2.1091 REQUIREMENT	7
2.1 TEST STANDARDS	7
2.2 LIMIT	7
2.3 TEST RESULT	8



Revision History

Rev.	Issue Date	Report No.	Effect Page	Contents
00	26 Sept. 2023	STS2308156H01	ALL	Initial Issue



1. GENERAL INFORMATION

1.1 GENERAL DESCRIPTION OF THE EUT

Product Name	DIGITAL DUAL RECEIVER	
Brand Name	SAMSON	
Model Name	CRXD2	
Series Model(s)	N/A	
Model Difference	N/A	
Product Description	The EUT is DIGITAL DUAL RECEIVER	
	Operation Frequency:	1921.536-1928.448MHz
	Modulation Type:	GFSK
	Antenna gain:	Ant 1: 2dBi Ant 2: 2dBi
	Antenna Designation:	Ant 1: Dipole Ant 2: Dipole
Power Rating	GPE: Input: 100-240Vac Output:15VDC 800Ma K-TEC: Input: 100-240Vac Output:15VDC 800Ma	
Hardware Version	1.0	
Software Version	1.0	



1.2 TEST FACTORY

SHENZHEN STS TEST SERVICES CO., LTD

Add. : 101, Building B, Zhuoke Science Park, No.190 Chongqing Road, ZhanChengShequ, Fuhai Sub-District, Bao'an District, Shenzhen, Guang Dong, China

FCC test Firm Registration Number: 625569

IC test Firm Registration Number: 12108A

A2LA Certificate No.: 4338.01



2. FCC 47CFR §2.1091 REQUIREMENT

2.1 TEST STANDARDS

The limit for Maximum Permissible Exposure (MPE) specified in FCC 1.1310 is followed. The gain of the antennas used in the product is extracted from the Antenna data sheets provided and also the maximum total power input to the antenna is measured. Through the Friis transmission formula and the maximum gain of the antenna, we can calculate the distance, away from the product, where the limit of MPE is reached.

Although the Friis Transmission formula is far field assumption, the calculated result of that is an over-prediction for near field power density. It is taken as worst case to specify the safety range.

2.2 LIMIT

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environmental impact of the human exposure to radio-frequency (RF) radiation as specified in 1.1307 (b)

Limits for Maximum Permissible Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)
Limits for Occupational / controlled Exposures			
300 - 1500	--	--	F/300
1500 – 100000	--	--	5.0
Limits for General population / Uncontrolled Exposure			
300 - 1500	--	--	F/1500
1500 – 100000	--	--	1.0

F= Frequency in MHz

Friss Formula

Friss Transmission Formula: $Pd = (Pout * G) / (4*pi*r^2)$

Where

Pd = power density in mW/cm²

Pout = output power to antenna in mW

G = gain of antenna in linear scale

Pi = 3.1416

R = Distance between observation point and the center of radiator in cm

If we know the maximum gain of the antenna and the total output power to the antenna, through calculation, we will know MPE value at distance 20cm.



2.3 TEST RESULT

Turn up

Mode	Detector	Turn up Power
DECT ANT1	AV	19±1dBm
DECT ANT2	AV	19±1dBm

Protocol	Fre. (GHz)	Separation distance (cm)	Max Turn up power (dBm)	ANT Gain (dBi)	Max EIRP (dBm)	Max EIRP (mW)	Power Density (mW/cm ²)	Limit (mW/cm ²)	Ratio	Result
DECT ANT1	1.928448	20	20	2	22	158.489	0.0315	1	0.0315	Pass
DECT ANT2	1.928448	20	20	2	22	158.489	0.0315	1	0.0315	Pass

Note: 1. The Maximum power is less than the limit, complies with the exemption requirements.

2. The ANT 1 and ANT 2 can't simultaneous transmission at the same time.

3. ERP = EIRP - 2.15

*****END OF THE REPORT*****