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TEST REPORT

Salcom 12-88-7450
UHF Output Control
Paging Receiver

tested to the specification

EN 300 224-2 V1.1.1, 2001-01

Electromagnetic compatibility and Radio spectrum matters (ERM): On site paging service: Part 2: Harmonized EN under article 3.2 of the R&TTE Directive (RED Directive)

for

Sea Air and Land Communications Ltd

This Test Report is issued with the authority of:

Andrew Cutler- General Manager

IANZ ACCREDITED LABORATORY

Tests indicated as not accredited are outside the scope of the laboratory's accreditation

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1. STATEMENT OF COMPLIANCE

The **Salcom 12-88-7450 UHF Output Control Paging Receiver** complies with the EN 300-224-2 V1.1.1, 2001 when tested in accordance to EN 300 224-1 V1.3.1, 2001.

2. RESULTS SUMMARY

The results of testing that was carried out in October 2017 are summarised below.

Clause	Result
Clause 7: Transmitter	Not applicable.
Clause 7.1: Frequency error	Not applicable.
Clause 7.2.2: Carrier power (conducted)	Not applicable.
Clause 7.2.3: Effective Radiated Power	Not applicable.
Clause 7.3: Adjacent channel power	Not applicable.
Clause 7.4: Frequency deviation.	Not applicable.
Clause 7.5: Spurious emissions (conducted)	Not applicable.
Clause 7.5: Spurious emissions (radiated)	Not applicable.
Clause 7.6: Transmitter transient behaviour.	Not applicable.
Clause 8: Receiver spurious emissions	Complies.

3. INTRODUCTION

This report describes the tests and measurements performed for the purpose of determining compliance with the specification.

The test sample was selected by the client.

This report relates only to the sample tested.

This report contains no corrections or erasures.

Measurement uncertainties with statistical confidence intervals of 95% are shown below test results. Both class A and Class B uncertainties have been accounted for, as well as influence uncertainties where appropriate.

All compliance statements have been made with respect of the specification limit with no reference to the measurement uncertainty.

4. CLIENT INFORMATION

Company Name Sea Air and Land Communications Ltd

Address 10 Vanadium place
Addington
Christchurch 8024

Country New Zealand

Contact Mr John Croft

5. DESCRIPTION OF TEST SAMPLE

Brand Name Salcom

Model Number 12-88-7450

Product UHF Output Control Paging Receiver (440-470MHz)

Manufacturer Sea Air Land Communications Ltd

Manufactured in New Zealand

Serial Number Not serialized

Bands of operation

440.0 – 470.0 MHz

External Connector

The device has no external connector.

External Controls

This device has no external controls.

6. RECEIVER REQUIREMENTS (pocket paging receivers)

Spurious Emissions:

Spurious emission testing was carried out over the frequency range of 25 to 4000 MHz at the laboratory's open area test site - located at 670 Kawakawa-Orere Road, RD5, Papakura, New Zealand.

Before testing was carried out, a receiver Self Test and Internal Calibration was undertaken along with a check of all connecting cables and programmed antenna factors.

The device was placed on the test tabletop, which was a total of 1.5 m above the test site ground plane.

Measurements of the radiated field were made with the antenna located at a 3 metre horizontal distance from the boundary of the devices under test.

Testing is carried out by scanning between 25 and 4000 MHz monitoring for emissions.

When an emission is located, it is positively identified and its maximum level is found by rotating the automated turntable, and by varying the antenna height with an automated antenna tower.

The emission is measured in both vertical and horizontal antenna polarisations using a Quasi Peak detector with a bandwidth of 120 kHz.

During the test, a number of ambient emissions are identified (list of which can be provided upon request).

The emission level is determined in field strength by taking the following into consideration:
Level (dBμV/m) = Receiver Reading (dBμV) + Antenna Factor (dB/m) + Coax Loss (dB)

Test set up

The device was powered at 13.8 Vdc.

Output of the transmitter was terminated onto a dummy load.

Limits

Frequency Range	25 MHz – 1 GHz	1 GHz – 4 GHz
Receive mode	2 nW (-57 dBm)	20 nW (-47 dBm)

Receiver/standby:

Frequency (MHz)	Level (dBµV/m)	Level (dBm)	Limit (dBm)	Polarity	Margin (dB)	Result
38.4030	28.2	-69.2	-57.0	Vertical	12.2	Pass
61.3620	20.3	-77.1	-57.0	Vertical	20.1	Pass
166.4000	21.5	-75.9	-57.0	Horizontal	18.9	Pass
204.8000	23.9	-73.5	-57.0	Horizontal	16.5	Pass
217.6000	29.2	-68.2	-57.0	Horizontal	11.2	Pass
217.6050	23.5	-73.9	-57.0	Vertical	16.9	Pass
230.4000	21.0	-76.4	-57.0	Horizontal	19.4	Pass
243.2000	24.9	-72.5	-57.0	Horizontal	15.5	Pass
256.0000	28.8	-68.6	-57.0	Horizontal	11.6	Pass
256.0040	26.2	-71.2	-57.0	Vertical	14.2	Pass
268.8000	24.8	-72.6	-57.0	Horizontal	15.6	Pass
1819.600	50.6	-48.0	-47.0	Horizontal	1.0	Pass
1819.600	51.1	-47.5	-47.0	Vertical	0.5	Pass

Result: Complies

Measurement uncertainty with a confidence interval of 95% is:

- Free radiation tests (25 – 4000 MHz) ± 4.1 dB

7. TEST EQUIPMENT USED

Instrument	Manufacturer	Model	Serial No	Ref No
Aerial Controller	EMCO	1090	9112-1062	3710
Aerial Mast	EMCO	1070-1	9203-1661	3708
Biconical Antenna	Schwarzbeck	BBA 9106	-	3612
Coax Cable	Sucoflex	104PA	2736/4PA	-
Horn Antenna	EMCO	3115	9511-4629	E1526
Log Periodic Antenna	Schwarzbeck	VUSLP 9111	9111-228	3785
Measurement Receiver	Rohde & Schwarz	ESIB40	100295	E4030
Turntable	EMCO	1080-1-2.1	9109-1578	3709

All test equipment was within calibration at the time of testing.

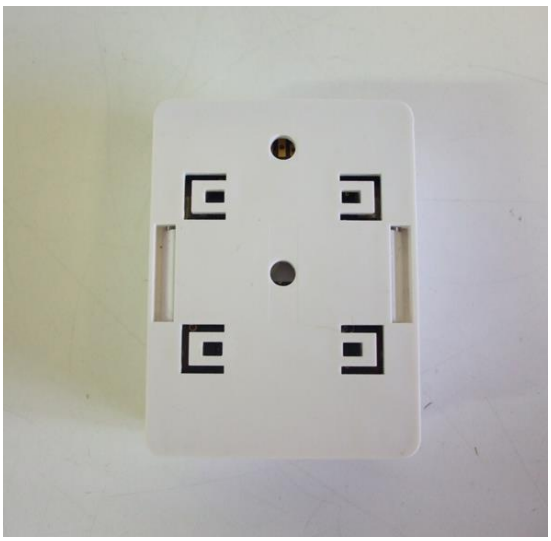
8. ACCREDITATIONS

The tests were carried out in accordance with the terms of EMC Technologies (NZ) Ltd's International Accreditation New Zealand (IANZ) Accreditation to ISO/ IEC/ NZS 17025.

All measurement equipment has been calibrated in accordance with the terms of EMC Technologies (NZ) Ltd's International Accreditation New Zealand (IANZ) Accreditation to ISO/ IEC/ NZS 17025.

International Accreditation New Zealand has Mutual Recognition Arrangements for testing and calibration with various accreditation bodies in a number of economies. This includes NATA (Australia), UKAS (UK), SANAS (South Africa), NVLAP (USA), A2LA (USA), SWEDAC (Sweden). Further details can be supplied on request.

9. PHOTOGRAPHS



Spurious Emission test setup