

MPE test report

According to the standard:
CFR 47 FCC PART 15

Equipment under test:
RM5 MODULE

FCC ID: NQY-RM5

Company:
Allflex USA, Inc.

Distribution: Mr LANGOUET

(Company: ALLFLEX EUROPE SAS)

Number of pages: 6

Ed.	Date	Modified Page(s)	Technical Verification and Quality Approval	
			Name and Function	Visa
0	6-May-21	Creation	T. LEDRESSEUR, Radio Technician	

*Duplication of this document is only permitted for an integral photographic facsimile. It includes the number of pages referenced here above.
This document is the result of testing a specimen or a sample of the product submitted. It does not imply an assessment of the conformity of the whole manufactured products of the tested sample.*



DESIGNATION OF PRODUCT: *RM5 MODULE*

Serial number (S/N): 611486

Reference / model (P/N): *RM5*

Software version: *V2.1 26682M*

MANUFACTURER: *ALLFLEX EUROPE SAS*

COMPANY SUBMITTING THE PRODUCT:

Company: ALLFLEX EUROPE SAS

Address: ROUTE DES EAUX
BP 90219
35502 VITRE CEDEX
FRANCE

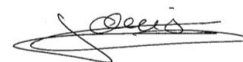
Responsible: Mr LANGOUET

DATES OF TEST: From 14-Apr-21 to 15-Apr-21

TESTING LOCATION: EMITECH ANGERS laboratory at JUIGNE SUR LOIRE (49) FRANCE
FCC Accredited under US-EU MRA Designation Number: FR0009
Test Firm Registration Number: 873677

TESTED BY: S. LOUIS

VISA:



WRITTEN BY: S. LOUIS

CONTENTS

	<i>TITLE</i>	<i>PAGE</i>
1.	INTRODUCTION.....	4
2.	PRODUCT DESCRIPTION	4
3.	NORMATIVE REFERENCE.....	5
4.	RF EXPOSURE.....	6

1. INTRODUCTION

This report presents the results of radio test carried out on the following radio equipment: **RM5 Module**, in accordance with normative reference.

The equipment under test is a LF module not already certified tested with 4 different antennas. This module was tested on a workbench.

All tests have been performed with the 4 antennas described below.

Antennas tested:

- NX-AW100
- NX-AP6040
- NX-AP9045
- NX-12060

2. PRODUCT DESCRIPTION

Category of equipment (ISED): I

Class: B

Utilization: Module

Antenna characteristics:

NX-AP6040	118.32 uH	187
NX-AP9045	117.67 uH	188
NX-AP12060	118.11 uH	122
NX-AW50	115.76 uH	1700

Operating frequency range: 134.2 kHz

Number of channels: 1

Channel spacing: Not concerned

Modulation: ASK

Power source: From 12Vdc to 15Vdc

Power level, frequency range and channels characteristics are not user adjustable.
The details pictures of the product and the circuit boards are joined with this file.

3. NORMATIVE REFERENCE

The standards and testing methods related throughout this report are those listed below.

They are applied on the whole test report even though the extensions (version, date and amendment) are not repeated.

CFR 47 (2020) Radio Frequency Devices

ANSI C63.10 2013
Procedures for Compliance Testing of Unlicensed Wireless Devices.

447498 D01 General RF RF Exposure procedures and equipment authorization policies for mobile and
Exposure Guidance v06 portable equipment

OET BULLETIN 65 Evaluating Compliance with FCC Guidelines for Human Exposure to
Radiofrequency Electromagnetic Fields

4. RF EXPOSURE**RFID part:**

In accordance with KDB 447498 D01 General RF Exposure Guidance v06, Paragraph 4.3.1.

The product must respect the exclusion limit for 10-g extremity SAR and a separation distances less than 50mm:

The calculation has been realized only with the most powerful antenna (NX-AP12060 Antenna)

Maximum measured power = 85.12 dB μ V/m = **3.5 x 10⁻⁵ mW** at 134.2 kHz.
with $P = (E \times d)^2 / (30 \times G_p)$ with $d = 10\text{ m}$ and $G_p = 1$

The power threshold determined by the equation in 4.3.1.c) 1) for 50 mm and 100 MHz is multiplied by 1/2

According this formula:

Power threshold, mW = $\left[\left[\frac{(50 \times 7.5)}{\sqrt{(0.100)}} + (50 - 50) \times (100/150) \right] \times [1 + \log(100/0.1342)] \times \frac{1}{2} \right]$
Power threshold, mW = 2295.96 mW

The equipment fulfils the requirements on maximum conducted or equivalent isotropically radiated power (e.i.r.p) for general population/uncontrolled exposure and therefore fulfils the requirements of 47 CFR §1.1310 at the distance greater than 5 mm between the user and the antenna.

□□□ End of report □□□