

# RF Exposure Evaluation Report

Product Name : ARRI Transceiver Module

Model No. : EMIP400,EMIP400s

FCC ID : Y7N-EMIP400

Applicant : Arnold & Richter Cine Technik GmbH & Co. Betriebs KG

Address : Türkenstrasse 89, 80799 Munich, Germany

Date of Receipt : Jan. 24, 2018

Date of Declaration : Jan. 25, 2018

Report No. : 1810330R-RFUSP02V00

Report Version : V1.0

The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standard through the calibration report of the equipment and evaluated measurement uncertainty herein.

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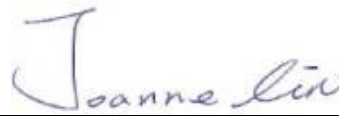
Issued Date: Jan. 25, 2018

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Product Name	ARRI Transceiver Module
Applicant	Arnold & Richter Cine Technik GmbH & Co. Betriebs KG
Address	Türkenstrasse 89, 80799 Munich, Germany
Manufacturer	Arnold & Richter Cine Technik GmbH & Co. Betriebs KG
Model No.	EMIP400,EMIP400s
FCC ID.	Y7N-EMIP400
EUT Rated Voltage	DC 3.3V by fixture
EUT Test Voltage	DC 3.3V by fixture
Trade Name	ARRI
Applicable Standard	FCC 47 CFR 1.1310
Test Result	Complied

Documented By :



( Senior Adm. Specialist / Joanne Lin )

Tested By :



( Engineer / Kevin Liu )

Approved By :



( Director / Vincent Lin )

## 1. RF Exposure Evaluation

### 1.1. Limits

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of 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 <sup>2</sup> )	Average Time (Minutes)
(A) Limits for Occupational/ Control Exposures				
300-1500	--	--	F/300	6
1500-100,000	--	--	5	6
(B) Limits for General Population/ Uncontrolled Exposures				
300-1500	--	--	F/1500	6
1500-100,000	--	--	1	30

F= Frequency in MHz

Friis Formula

Friis transmission formula:  $P_d = (P_{out} * G) / (4 * \pi * r^2)$

Where

$P_d$  = power density in mW/cm<sup>2</sup>

$P_{out}$  = output power to antenna in mW

G = gain of antenna in linear scale

$\pi$  = 3.1416

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

$P_d$  is the limit of MPE, 1 mW/cm<sup>2</sup>. If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

### 1.2. Test Procedure

Software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel individually.

The temperature and related humidity: 18°C and 78% RH.

### 1.3. Test Result of RF Exposure Evaluation

Product : ARRI Transceiver Module  
Test Item : RF Exposure Evaluation

#### RF Exposure OQPSK:

Operation Frequency	2405-2475MHz
Maximum Conducted output power	19.02dBm
Antenna gain	2dBi

#### Output Power Into Antenna & RF Exposure Evaluation Distance:

Output Power to Antenna (mW)	Power Density at R = 20 cm (mW/cm <sup>2</sup> )
79.79946873	0.025161

Power density is lower than the limit (1 mW/cm<sup>2</sup>).