

EMF TEST REPORT

Test Report No. : OT-264-RWD-028
Reception No. : 2508002696
Applicant : AREVISION CO.,LTD.
Address : 603,604,605, Gasan-dong, Woolim LionsValley-2cha, 2 Gasan digital 1-ro, Geumcheon-gu, Seoul, South Korea
Manufacturer : AREVISION CO.,LTD.
Address : 603,604,605, Gasan-dong, Woolim LionsValley-2cha, 2 Gasan digital 1-ro, Geumcheon-gu, Seoul, South Korea
Type of Equipment : RF Receiver Basic
FCC ID. : 2BUSORF-RECEIVER
Model Name : RF Receiver Basic
Multiple Model Name : RF Receiver Pro
Serial number : N/A
Total page of Report : 8 pages (including this page)
Date of Incoming : August 12, 2025
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SUMMARY

The equipment complies with the regulation; **CFR §2.1093**

This test report only contains the result of a single test of the sample supplied for the examination.

It is not a generally valid assessment of the features of the respective products of the mass-production.

This test report is not associated with the accreditation granted by the Korean Laboratory Accreditation Scheme (KOLAS).





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Revision History

Rev. No.	Issue Report No.	Issued Date	Revisions	Section Affected
0	OT-264-RWD-028	April 07, 2026	Initial Release	All

1. VERIFICATION OF COMPLIANCE

Applicant : AREVISION CO.,LTD.

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FCC ID : 2BUSORF-RECEIVER

Model Name : RF Receiver Basic

Brand Name : -

Serial Number : N/A

Date : April 07, 2026

E.U.T. DESCRIPTION	RF Receiver Basic
THIS REPORT CONCERNS	Original Grant
MEASUREMENT PROCEDURES	KDB 447498 D01 General RF Exposure Guidance v06
TYPE OF EQUIPMENT TESTED	Pre-Production
KIND OF EQUIPMENT AUTHORIZATION REQUESTED	Certification
Modifications on the Equipment to Achieve Compliance	None

-. The above equipment was tested by ONETECH Corp. for compliance with the requirement set forth in the FCC Rules and Regulations. This said equipment in the configuration described in this report, shows the maximum emission levels emanating from equipment are within the compliance requirements.

2. GENERAL INFORMATION

2.1 Product Description

The AREVISION CO.,LTD., Model RF Receiver Basic (referred to as the EUT in this report) is a RF Receiver Basic. The product specification described herein was obtained from product data sheet or user's manual.

DEVICE TYPE	RF Receiver Basic		
OPERATING FREQUENCY	Data Link (QPSK)	2 412 MHz ~ 2 462 MHz	
MODULATION TYPE	Data Link (QPSK)	QPSK Modulation	
RF OUTPUT POWER	Data Link (QPSK)	Antenna 1	20.34 dBm
		Antenna 2	19.40 dBm
		MIMO	22.91 dBm
ANTENNA TYPE	Data Link (QPSK)	Dipole Antenna	
ANTENNA GAIN	Data Link (QPSK)	Antenna 1	4.50 dBi
		Antenna 2	4.50 dBi
		Multiple Antenna	7.51 dBi

2.2 Alternative type(s)/model(s); also covered by this test report.

-. The following lists consist of the added model and their differences.

Model Name	Differences	Tested
RF Receiver Basic	Basic Model	☒
RF Receiver Pro	This model has no changes to the RF part, other components have been removed and added.	☐

Note: 1. Applicant consigns only basic model to test. Therefore, this test report just guarantees the units which have been tested.

2. The Applicant/manufacture is responsible for the compliance of all variants.

3. EUT MODIFICATIONS

-. None

4. MAXIMUM PERMISSIBLE EXPOSURE

4.1 RF Exposure Calculation

According to the FCC rule 1.1310 table 1B, the limit for the maximum permissible RF exposure for an uncontrolled environment are $f/1500$ mW/cm² for the frequency range between 300 MHz and 1 500 MHz and 1.0 mW/cm² for the frequency range between 1 500 MHz and 100 000 MHz.

The electric field generated for a 1 mW/cm² exposure is calculated as follows:

$$E = \sqrt{(30 * P * G) / d}, \text{ and } S = E^2 / Z = E^2 / 377, \text{ because } 1 \text{ mW/cm}^2 = 10 \text{ W/m}^2$$

Where

S = Power density in mW/cm², Z = Impedance of free space, 377 Ω

E = Electric field strength in V/m, G = Numeric antenna gain, and d = distance in meter

Combining equations and rearranging the terms to express the distance as a function of the remaining variable

$$d = \sqrt{(30 * P * G) / (377 * 10 S)}$$

Changing to units of mW and cm, using $P \text{ (mW)} = P \text{ (W)} / 1\,000$, $d \text{ (cm)} = 0.01 * d \text{ (m)}$

$$d = 0.282 * \sqrt{(P * G) / S}$$

Where

d = distance in cm, P = Power in mW, G = Numeric antenna gain, and S = Power density in mW/cm²

4.2 EUT Description

Kind of EUT	RF Receiver Basic
Device Category	☐ Portable (< 20 cm separation) ☒ Mobile (> 20 cm separation) ☐ Others
Exposure Evaluation Applied	☒ MPE ☐ SAR ☐ N/A

4.3 Calculated MPE Safe Distance for Data Link Ant 1

According to above equation, the following result was obtained.

Operating Freq. Band (MHz)	Operating Mode	Target Power W/tolerance (dBm)	Max tune up power		Antenna Gain		Safe Distance (cm)	Power Density (mW/cm ²) @ 20 cm Separation	Limit (mW/cm ²)
			(dBm)	(mW)	Log	Linear			
2 412 ~ 2 462	QPSK	20.34 ± 1.0	21.34	136.14	4.50	2.818	5.524	0.076 3	1

According to above table, for 2 412 ~ 2462 MHz Band(QPSK), safe distance,

$$D = 0.282 * \sqrt{(136.14 * 2.818)/1.00} = 5.524 \text{ cm.}$$

For getting power density at 20 cm separation in above table, following formula was used.

$$S = P * G / (4\pi * R^2) = 136.14 * 2.818 / (4 * \pi * 20^2) = 0.076 3$$

Where:

S = Power Density,

P = Power input to the external antenna (Output power from the EUT antenna port (dBm) – cable loss (dB)),

G = Gain of Transmit Antenna (linear gain), R = Distance from Transmitting Antenna

4.4 Calculated MPE Safe Distance for Data Link Ant 2

According to above equation, the following result was obtained.

Operating Freq. Band (MHz)	Operating Mode	Target Power W/tolerance (dBm)	Max tune up power		Antenna Gain		Safe Distance (cm)	Power Density (mW/cm ²) @ 20 cm Separation	Limit (mW/cm ²)
			(dBm)	(mW)	Log	Linear			
2 412 ~ 2 462	QPSK	19.40 ± 1.0	20.40	109.65	4.50	2.818	4.986	0.061 5	1

According to above table, for 2 412 ~ 2462 MHz Band(QPSK), safe distance,

$$D = 0.282 * \sqrt{(109.65 * 2.818)/1.00} = 4.986 \text{ cm.}$$

For getting power density at 20 cm separation in above table, following formula was used.

$$S = P * G / (4\pi * R^2) = 109.65 * 2.818 / (4 * \pi * 20^2) = 0.061 5$$

Where:

S = Power Density,

P = Power input to the external antenna (Output power from the EUT antenna port (dBm) – cable loss (dB)),

G = Gain of Transmit Antenna (linear gain), R = Distance from Transmitting Antenna

4.5 Calculated MPE Safe Distance for Data Link Ant 1 + Ant 2 (MIMO)

According to above equation, the following result was obtained.

Operating Freq. Band (MHz)	Target Power W/tolerance (dBm)	Max tune up power		Antenna Gain		Safe Distance (cm)	Power Density (mW/cm ²) @ 20 cm Separation	Limit (mW/ cm ²)	Simultaneous Power Density (mW/cm ²)
		(dBm)	(mW)	Log	Linear				
2 412 ~ 2 462	20.34 ± 1.0	21.34	136.14	4.50	2.818	5.524	0.076 3	1	0.009 6
	19.40 ± 1.0	20.40	109.65	4.50	2.818	4.986	0.061 5	1	

According to above table, for Simultaneous Transmitter requirements,

$$\Sigma ((\text{Calculation Power Density})^2 / (\text{Limit of Power Density})^2) < 1$$

For getting power density at 20 cm separation in above table, following formula was used.

$$\begin{aligned} \text{Simultaneous Power Density} &= (\text{Calculation Power Density})^2 / (\text{Limit of Power Density})^2 \\ &= (0.076\ 3)^2 / (1)^2 + (0.061\ 5)^2 / (1)^2 = 0.009\ 6 \end{aligned}$$