

MPE Evaluation Report

Prepared for: Icom Inc.

Model: IC-A120

Description: VHF Mobile Transceiver

FCC ID: AFJ369720

Serial Number: 34000211

Project No: p2630008

Test Results: Pass

To

FCC Part 1.1310

Date of Issue: April 21, 2026

On the behalf of the applicant:

Icom Inc.
1-1-32 Kamiminami Hirano-ku
Osaka Japan 547-0003

Attention of:

Tatsuo Yano, General Manager of QA Department

Prepared By:

Compliance Testing, LLC
Mesa, AZ 85204
(480) 926-3100 phone / (480) 926-3598 fax
www.compliancetesting.com
ANAB Cert#: AT-2901
FCC Site Reg.750616
ISED Site Reg. #2044A-2



Handwritten signature of Greg Corbin over a circular stamp that reads "COMPLIANCE TESTING", "ESTABLISHED 1963", and "CERTIFIED".

Greg Corbin
Project Test Engineer

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Test Report Revision History

Revision	Date	Revised By	Reason for Revision
Rev 1.0	4/21/2026	Greg Corbin	Original Document
Rev 2.0	8/21/2026	Madhava Gooduru	Added previously certified Bluetooth module on Page 5, and revised simultaneous-transmission RF exposure evaluation.

ANAB

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Non-accredited tests contained in this report:

N/A

EUT Description

Model:	IC-A120
Serial:	24094219
Firmware:	CPU version 1.05
Description:	VHF Mobile Radio
Additional Information:	The IC-A120 is a 10-watt VHF mobile radio used for ground communication. The radio operates from 118.000 – 136.9916 MHz with 8.33 kHz / 25 kHz channel spacing using AM modulation. This also has Bluetooth® Headset Connectivity
Power	13.75 or 28.5 volts DC The EUT was tested with 13.75 vdc and 28.5 vdc.
Receipt of Sample(s):	3/26/2026, 8/3/2026
EUT Condition:	Visual Damage No State of Development Production/Production Equivalent
Customer Furnished Data	None Note: The customer is responsible for any data supplied that may affect the final test results. This includes all EUT and antenna specifications.

Emission Designators

Channel Spacing	FCC Designator	IC Designator
8.33 kHz	5K60A3E	5K60A3E
25 kHz	6K00A3E	6K00A3E

Test Frequencies

Channel BW (kHz)	8.333	25	8.333	25	8.333	25
VHF Freq entered on front panel display (MHz)	118.030	118.025	127.530	127.525	136.975	136.975
VHF Actual Test Freq (MHz)	118.025	118.025	127.525	127.525	136.975	136.975
Note: When selecting the 8.33 kHz CH spacing, the radio front panel display is set 5 kHz higher than the desired frequency. For example: To select 118.025 MHz with 8.33 kHz CH spacing set the radio to 118.030 MHz. If 118.025 MHz is selected the radio will operate at 118.025 with a 25 kHz CH spacing.						

The EUT was operated under normal operating conditions at maximum output power.
 The Frequency and Channel Spacing was selected from the radio front panel display.
 The radio can be powered at either 13.75 vdc or 28.5 vdc.
 The radio was tested with 13.75 vdc and 28.5 vdc.

Source Based Time Averaged Power Calculation

The EUT is used in a controlled (occupational) environment and will utilize a 50% duty cycle.

Average Power calculations

Average Power = Peak Power * duty-cycle%

Tuned Frequency	Conducted Peak Output Power	Duty Cycle	Average Power
(MHz)	(mW)	(%)	(mW)
118.025	9683	50	4841.5
127.525	9795	50	4897.5
136.975	9931	50	4965.5
Mfr. Rated Power	10000	50	5000

Bluetooth Module Information and Referenced Data

The Bluetooth transmitter data used for this RF exposure evaluation are referenced from the previously certified Icom UT-133 Bluetooth radio, FCC ID AFJ356100.

Referenced Bluetooth Radio	Icom UT-133
Referenced FCC ID	AFJ356100
Referenced Test Report	UL Japan 10171657H-A-R1
Operating Frequency	2402 - 2480 MHz
Antenna Type	Multilayer Monopole Antenna
Maximum Antenna Gain	2.7 dBi
Maximum Measured Conducted Output Power	5.03 dBm (3.18 mW) at 2402 MHz, 3DH5

VHF Mobile Radio MPE Evaluation

The EUT is a mobile device used in a Controlled (Occupational) Exposure environment.

Limits Controlled Exposure 47 CFR 1.1310 Table 1, (i)

0.3-3.0 MHz:	Limit [mW/cm ²] = 100
3.0-30 MHz:	Limit [mW/cm ²] = (900/f ²)
30-300 MHz:	Limit [mW/cm ²] = 1.0
300-1500 MHz:	Limit [mW/cm ²] = f/300
1500-100,000 MHz	Limit [mW/cm ²] = 5

Evaluation Criteria:

CFR Part 1 (1.1307 & 1.1310), Part 2 (2.1091),
FCC KDB 447498 D01 General RF Exposure Guidance v06

Test Data

The RF exposure calculations were calculated using a 0 dBi antenna. RF exposure will need to be evaluated if the antenna gain exceeds 0 dBi.

Worst case RF exposure calculations were calculated using the 0 dBi antenna gain and the manufacturer rated output power with a 50% duty cycle.

MPE calculation

Test Frequency, MHz	118.025
Power, EIRP mW (P)	5000
Antenna Gain Isotropic	0 dBi
Antenna Gain Numeric (G)	1.0
Antenna Type	dipole
Distance (R)	20 cm

$S = \frac{P * G}{4\pi r^2}$
Power Density (S) mW/cm ²

Power Density (S) = 0.995 mW/cm ²
Limit = (from above table) = 1.0 mW/cm ²

The calculated VHF mobile radio power density is 0.995 mW/cm², which is below the Controlled/Occupational MPE limit of 1.0 mW/cm² at 118.025 MHz for a 0 dBi VHF antenna and 20 cm separation distance.

Bluetooth Radio MPE Evaluation

The EUT is a mobile device used in a Controlled (Occupational) Exposure environment.

Limits Controlled Exposure 47 CFR 1.1310 Table 1, (i)

0.3-3.0 MHz:	Limit [mW/cm ²] = 100
3.0-30 MHz:	Limit [mW/cm ²] = (900/f ²)
30-300 MHz:	Limit [mW/cm ²] = 1.0
300-1500 MHz:	Limit [mW/cm ²] = f/300
1500-100,000 MHz	Limit [mW/cm ²] = 5

Evaluation Criteria:

CFR Part1 (1.1307 & 1.1310), Part 2 (2.1091),
FCC KDB 447498 D01 General RF Exposure Guidance v06

MPE calculation

Test Frequency, MHz	2402
Power mW (P)	3.18
Antenna Gain Isotropic	2.7 dBi
Antenna Gain Numeric (G)	1.86
Antenna Type	Multilayer Monopole Antenna
Distance (R)	20 cm

$S = \frac{P * G}{4\pi r^2}$
Power Density (S) mw/cm ²

Power Density (S) = 0.00118 mW/cm ²
Limit = (from above table) = 5.0 mW/cm ²

The calculated Bluetooth radio power density is 0.00118 mW/cm², which is below the Controlled/Occupational MPE limit of 5.0 mW/cm² for a 2.7 dBi antenna and 20 cm separation distance.

Simultaneous Transmission RF Exposure Evaluation

Per Section 7.2 of KDB 447498 D01 General RF Exposure Guidance v06, Simultaneous transmission MPE test exclusion applies when the sum of the MPE ratios for all simultaneously transmitting antennas incorporated in a host device is ≤ 1.0 , according to calculated/estimated, numerically modeled, or measured field strengths or power density. The MPE ratio of each antenna is determined at the minimum *test separation distance* required by the operating configurations and exposure conditions of the host device, according to the ratio of field strengths or power density to the MPE limit at the test frequency.

Simultaneous transmission MPE Calculation

RF Source	Evaluation Method	Evaluated Value (mW/ cm ²)	Threshold / Limit (mW/ cm ²)	Ratio
VHF Mobile Radio	MPE evaluation	0.995 mW/cm ²	1.0 mW/cm ²	0.99500
Bluetooth	MPE evaluation	0.00118 mW	5 mW/cm	0.000236
VHF Mobile Radio + Bluetooth			≤ 1.0	0.995236

Conclusion: The aggregate simultaneous-transmission RF exposure ratio for the VHF Mobile Radio transmitter and the previously certified Bluetooth transmitter is 0.995236, which is less than 1.0. The EUT complies with the applicable Controlled/Occupational RF exposure criteria at a minimum separation distance of 20 cm, provided the VHF antenna gain does not exceed 0 dBi and the Bluetooth transmitter is used with the referenced 2.7 dBi antenna configuration.

END OF TEST REPORT