



FCC ID: P27RC8520S
Report No.: TMWK2109000769KR

Page 1 / 9
Rev.: 00

KDB 447498 D03
47 C.F.R. Part 1, Subpart I, Section 1.1310
47 C.F.R. Part 2, Subpart J, Section 2.1091

RF EXPOSURE REPORT

For

Wireless Full HD Network Camera

Model: RC8520S; RC8520SXXXXXXXX (the 1st X should be "blank" or "-"; the rest X could be 0 to 9, A to Z, a to z, "blank" or "-", for marketing purpose)

Trade Name: Sercomm

Issued to

Sercomm Corporation
8F, No. 3-1, YuanQu St., NanKang, Taipei 115, Taiwan

Issued by

Compliance Certification Services Inc.
Wugu Laboratory
No.11, Wugong 6th Rd., Wugu Dist.,
New Taipei City, Taiwan. (R.O.C.)
Issue Date: November 11, 2021

Note: This document may be altered or revised by Compliance Certification Services Inc. personnel only, and shall be noted in the revision section of the document. The client should not use it to claim product endorsement by TAF, NIST or any government agencies. The test results in the report only apply to the tested sample.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.
除非另有說明，此報告結果僅對測試之樣品負責，同時此樣品僅保留90天。本報告未經本公司書面許可，不可部份複製。

This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <http://www.sgs.com.tw/Terms-and-Conditions> and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at <http://www.sgs.com.tw/Terms-and-Conditions>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of client's instruction, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced, except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.



Report No.: TMWK2109000769KR

Page 2 / 9

Rev.: 00

Revision History

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	November 11, 2021	Initial Issue	ALL	Allison Chen



Report No.: TMWK2109000769KR

Page 3 / 9
Rev.: 00

TABLE OF CONTENTS

1. TEST RESULT CERTIFICATION	4
2. LIMIT	5
3. EUT SPECIFICATION	6
4. TEST RESULTS	8
5. MAXIMUM PERMISSIBLE EXPOSURE.....	9



Report No.: TMWK2109000769KR

1. TEST RESULT CERTIFICATION

We hereby certify that:

The above equipment was tested by Compliance Certification Services Inc. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10: 2013 and the energy emitted by the sample EUT tested as described in this report is in compliance with the requirements of FCC Rules Part 15 and Part 25.

The test results of this report relate only to the tested sample EUT identified in this report.

APPLICABLE STANDARDS	
STANDARD	TEST RESULT
KDB 447498 D03 47 C.F.R. Part 1, Subpart I, Section 1.1310 47 C.F.R. Part 2, Subpart J, Section 2.1091	No non-compliance noted
Statements of Conformity	
Determination of compliance is based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.	

Approved by:

Kevin Tsai
Deputy Manager
Compliance Certification Services Inc.

Report No.: TMWK2109000769KR

2. LIMIT

According to §15.247(i), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess of the Commission's guidelines. See § 1.1307(b)(1) of this chapter.

§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), except in the case of portable devices which shall be evaluated according to the provisions of FCC part 2.1093 of the chapter.

TABLE 1 - LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	* 100	6
3.0-30	1842/f	4.89/f	* 900/f ²	6
30-300	61.4	0.163	1.0	6
300-1,500			f/300	6
1,500-100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	* 100	30
1.34-30	824/f	2.19/f	* 180/f ²	30
30-300	27.5	0.073	0.2	30
300-1,500			f/1500	30
1,500-100,000			1.0	30

f = frequency in MHz

* = Plane-wave equivalent power density

Note 1 to Table 1: Occupational/controlled exposure limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when a person is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.

Note 2 to Table 2: General population/uncontrolled exposure limits apply in situations in which the general public may be exposed, or in which persons who are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

3. EUT SPECIFICATION

EUT	Wireless Full HD Network Camera
Model	RC8520S; RC8520SXXXXXXXX (the 1st X should be "blank" or "-"; the rest X could be 0 to 9, A to Z, a to z, "blank" or "-", for marketing purpose)
Trade Name	Sercomm
Model Discrepancy	All the above models are identical except for the designation of model numbers. The suffix of (the 1st X should be "blank" or "-"; the rest X could be 0 to 9, A to Z, a to z, "blank" or "-") on model number is just for marketing purpose only.
Received Date	September 30, 2021
Frequency band (Operating)	<input type="checkbox"/> Bluetooth: 2402MHz ~ 2480MHz <input checked="" type="checkbox"/> 802.11b/g/n HT20: 2412 MHz ~ 2462 MHz <input checked="" type="checkbox"/> 802.11n HT40: 2422 MHz ~ 2452MHz <input type="checkbox"/> 802.11a/n HT20: 5180MHz ~ 5240MHz / 5260 ~ 5320MHz / 5500 ~ 5700MHz / 5745MHz ~ 5825MHz <input type="checkbox"/> 802.11n HT40: 5190MHz ~ 5230MHz / 5270 ~ 5310MHz / 5510 ~ 5670MHz / 5755MHz ~ 5795MHz <input type="checkbox"/> 802.11ac VHT80: 5210MHz / 5290MHz / 5530 MHz~5610MHz / 5775MHz <input type="checkbox"/> Others
Device category	<input type="checkbox"/> Portable (<20cm separation) <input checked="" type="checkbox"/> Mobile (>20cm separation) <input type="checkbox"/> Others
Exposure classification	<input type="checkbox"/> Occupational/Controlled exposure (S = 5mW/cm ²) <input checked="" type="checkbox"/> General Population/Uncontrolled exposure (S=1mW/cm ²)
Antenna Specification	Dipole Antenna Chain 0 (Ant 1): Gain: 2.9 dBi Chain 1 (Ant 2): Gain: 3.4 dBi Directional Gain: 6.16 dBi Chain 0 Gain : 2.90 dBi (Numeric gain: 1.95) Chain 1 Gain : 3.40 dBi (Numeric gain: 2.19) Directional Gain : 6.16 dBi (Numeric gain: 4.13) Worst

Report No.: TMWK2109000769KR

Maximum Measurement Average Power	2.4GHz		
	IEEE 802.11b Mode:	22.49 dBm	(177.419 mW)
	IEEE 802.11g Mode:	17.30 dBm	(53.703 mW)
	IEEE 802.11n HT 20 Mode:	19.48 dBm	(88.716 mW)
	IEEE 802.11n HT 40 Mode:	19.47 dBm	(88.512 mW)
Maximum tune up power	2.4GHz		
	IEEE 802.11b Mode:	24.17 dBm	(261.216 mW)
	IEEE 802.11g Mode:	18.59 dBm	(72.277 mW)
	IEEE 802.11n HT 20 Mode:	21.40 dBm	(138.038 mW)
	IEEE 802.11n HT 40 Mode:	21.40 dBm	(138.038 mW)
Evaluation applied	<input checked="" type="checkbox"/> MPE Evaluation* <input type="checkbox"/> SAR Evaluation <input type="checkbox"/> N/A		

Remark:

1. For more details, please refer to the User's manual of the EUT.
2. Disclaimer: Antenna information is provided by the applicant, test results of this report are applicable to the sample EUT received.
3. The tune up power referred the AVG power of the test report TMWK2109000768KR for RF Exposure assessment purpose.

4. TEST RESULTS

No non-compliance noted.

Calculation

$$\text{Given } E = \frac{\sqrt{30 \times P \times G}}{d} \quad \& \quad S = \frac{E^2}{377}$$

Where E = Field strength in Volts / meter

P = Power in Watts

G = Numeric antenna gain

d = Distance in meters

S = Power density in milliwatts / square centimeter

Combining equations and re-arranging the terms to express the distance as a function of the remaining variables yields:

$$S = \frac{30 \times P \times G}{377 d^2}$$

Changing to units of mW and cm, using:

P (mW) = P (W) / 1000 and

d (cm) = d(m) / 100

Yields

$$S = \frac{30 \times (P/1000) \times G}{377 \times (d/100)^2} = 0.0796 \times \frac{P \times G}{d^2} \quad \text{Equation 1}$$

Where d = Distance in cm

P = Power in mW

G = Numeric antenna gain

S = Power density in mW / cm²

Report No.: TMWK2109000769KR

5. MAXIMUM PERMISSIBLE EXPOSURE

Substituting the MPE safe distance using $d = 20$ cm into Equation 1:

$$S = 0.000199 \times P \times G$$

Where P = Power in mW

G = Numeric antenna gain

S = Power density in mW / cm²

IEEE 802.11b mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm ²	Limit (mW/cm2)
6	2437	261.216	2.19	20	0.1138	1

IEEE 802.11g mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm ²	Limit (mW/cm2)
6	2437	72.277	2.19	20	0.0315	1

IEEE 802.11n HT20 mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm ²	Limit (mW/cm2)
6	2437	138.038	4.13	20	0.1134	1

IEEE 802.11n HT40 mode:

Ch.	Frq.(MHz)	P (mW)	Gain (num.)	D (cm)	Power density in mW / cm ²	Limit (mW/cm2)
6	2437	138.038	4.13	20	0.1134	1

--End of Report--