

## RF Exposure Report

**Report No.:** FCC\_RF\_SL20060401-STR-006\_MPE Rev 2.0

**FCC ID:** SSH-SYNK4KRX

**Test Model:** 0240031075

**Received Date:** 06/24/2020

**Test Date:** 06/24/2020 – 06/29/2020

**Issued Date:** 09/01/2020

**Applicant:** Stryker Endoscopy

**Address:** 5900 Optical Court, San Jose, CA, 95138, USA

**Manufacturer:** Stryker Endoscopy

**Address:** 5900 Optical Court, San Jose, CA, 95138, USA

**Issued By:** Bureau Veritas Consumer Products Services, Inc.

**Lab Address:** 775 Montague Expressway, Milpitas, CA 95035

**Test Location (1):** 775 Montague Expressway, Milpitas, CA 95035

**FCC Registration /  
Designation Number:** 540430



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## Table of Contents

<b>Release Control Record</b> .....	<b>3</b>
<b>1 Certificate of Conformity</b> .....	<b>4</b>
<b>2 RF Exposure</b> .....	<b>5</b>
2.1 Limits for Maximum Permissible Exposure (MPE).....	5
2.2 MPE Calculation Formula .....	5
2.3 Classification .....	5
2.4 Antenna Gain .....	5
2.5 Calculation Result of Maximum Conducted Power .....	6
<b>3 Conclusion</b> .....	<b>6</b>

### Release Control Record

Issue No.	Description	Date Issued
FCC_RF_SL20060401-STR-006_MPE	Original Release	08/07/2020
FCC_RF_SL20060401-STR-006_MPE_Rev_1.0	Add series model	08/18/2020
FCC_RF_SL20060401-STR-006_MPE_Rev_2.0	Update Antenna gain and recalculate the result.	09/01/2020

## 1 Certificate of Conformity

**Product:** SYNK 4K Wireless Transmitter

**Brand:** Stryker

**Test Model:** 0240031065

**Series Model:** 0240031061

**Sample Status:** Engineering sample

**Applicant:** Stryker Endoscopy

**Test Date:** 06/24/2020 – 06/29/2020

**Standards:** FCC Part 2 (Section 2.1093)

KDB 447498 D01 General RF Exposure Guidance v06

IEEE C95.1-1992

The above equipment has been tested by **Bureau Veritas Consumer Products Services, Inc., Milpitas Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

**Prepared by :**



**Date:**

09/01/2020

Deon Dai / Test Engineer

**Approved by :**



**Date:**

09/01/2020

Chen Ge / Engineer Reviewer

## 2 RF Exposure

### 2.1 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)
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 <sup>2</sup> )*	30
30-300	27.5	0.073	0.2	30
300-1500	...	...	f/1500	30
1500-100,000	...	...	1.0	30

f = Frequency in MHz; \*Plane-wave equivalent power density

### 2.2 MPE Calculation 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

### 2.3 Classification

The antenna of this product, under normal use condition, is at least 20cm away from the body of the user.  
So, this device is classified as Mobile Device.

### 2.4 Antenna Gain

The antenna type is Chip antenna with 2 dBi peak gain. 4x4

MIMO - Completely unCorrelated, Directive Antenna gain

4X4 MIMO	dBi	Numeric gain	
Ant 0	2	1.58	
Ant 1	2	1.58	
Ant 1	2	1.58	
Ant 2	2	1.58	
Directional Antenna Gain		3.25	dBi

## 2.5 Calculation Result of Maximum Conducted Power

Frequency Band (MHz)	Max Power (dBm)	Max Power (mW)	Turn-Up Tolerance	Antenna Gain (dBi)	Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
5190-5230	20.56	113.76	± 1dB	3.25	20	0.0602	1
5270-5310 5510-5710	21.84	152.76	± 1dB	3.25	20	0.0809	1
5775-5795	21.25	133.35	± 1dB	3.25	20	0.0706	1

Note:

1. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
2. Calculate MPE from condition “1” formulas.

## 3 Conclusion

### Conclusion:

The formula of calculated the MPE is:

$CPD1 / LPD1 + CPD2 / LPD2 + \dots \text{etc.} < 1$

CPD = Calculation power density

LPD = Limit of power density

Maximum = 0.0809 < 1

**Therefore the maximum calculations of above situations are less than the “1” limit.**

**--- END ---**