RF Exposure Report

Report No.:	FCC_RF_SL20060401-STR-006_MPE Rev 2.0
FCC ID:	SSH-SYNK4KTX
Test Model:	0240031065
Series Model:	0240031061
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

ACCREDITED
TESTING CERT # 2742-01

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Release Control Record

Issue No.	Description	Date Issued
FCC_RF_SL20060401-STR-006_MPE	Orignal 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^2)	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	($180/f^2$)*	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

$Pd = (Pout*G) / (4*pi*r^2)$

Where

Pd = power density in mW/cm^2

Pout = 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	Directional Gain (dBi)	Distance (cm)	Power Density (mW/cm^2)	Limit (mW/cm^2)
5190-5230	23.85	243	±1dB	3.25	20	0.102	1
5270-5310 5510-5710	23.97	250	±1dB	3.25	20	0.105	1
5775-5795	28.59	724	±1dB	3.25	20	0.304	1

Note:

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

3 Conclusion

Conclusion:

The formula of calculated the MPE is:

CPD1 / LPD1 + CPD2 / LPD2 + ……etc. < 1

CPD = Calculation power density

LPD = Limit of power density

Maximum = **0.304** <1

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

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