

## Shenzhen VStarcam Technology Co., Ltd

# SCOPE OF WORK FCC TESTING-C26S, NOXOX REPORT NUMBER

180528022SZN-001

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1F/2F, Building B, QiaoAn Scientific Technology Park, Shangkeng Community, Guanhu Subdistrict, Longhua District, Shenzhen, P.R. China

Tel: (86 755) 8601 6288 Fax: (86 755) 8601 6751 www.intertek.com

Intertek Report No.: 180528022SZN-001

## Shenzhen VStarcam Technology Co., Ltd

Application For Certification

## FCC ID: 2AP2HC26S

## **IP Camera**

## Model: C26S Additional Model: NOXOX

## 2.4GHz Wi-Fi Transceiver

Report No.: 180528022SZN-001

We hereby certify that the sample of the above item is considered to comply with the requirements of FCC Part 15, Subpart C for Intentional Radiator, mention 47 CFR [10-1-17]

Prepared and Checked by:

Approved by:

Surel Guo Engineer Kidd Yang Technical Supervisor Date: 7 June 2018

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#### Intertek Testing Service Shenzhen Ltd. Longhua Branch

1F/2F, Building B, QiaoAn Scientific Technology Park, Shangkeng Community, Guanhu Subdistrict, Longhua District, Shenzhen, P.R. China. Tel: (86 755) 8601 6288 Fax: (86 755) 8601 6751



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## **MEASUREMENT/TECHNICAL REPORT**

## **IP Camera**

## Model: C26S

## FCC ID: 2AP2HC26S

This report concerns (check one)	Original Grant <u>X</u> Class	II Change
Equipment Type: <u>DTS - Part 15 [</u> portion)	Digital Transmission Systems (V	<u>Vi-Fi transmitter</u>
Deferred grant requested per 47 CF	R 0.457(d)(1)(ii)? Yes	No <u></u>
Company Name agrees to notify the	-	until : date
of the intended date of announce issued on that date.	nent of the product so that the	e grant can be
Transition Rules Request per 15.37	? Yes	NoX
If no, assumed Part 15, Subpart [10-01-17] Edition] provision.	C for intentional radiator - the	e new 47 CFR
Report prepared by:		
Surel Guo Intertek Testing Services Shenzhen Ltd. Longhua Branch 1F/2F, Building B, QiaoAn Scientific Technology Park, Shangkeng Community, Guanhu Subdistrict, Longhua District, Shenzhen, P.R. China Tel: (86 755) 8601 6288 Fax: (86 755) 8601 6751		



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## List of attached file

Exhibit type	File Description	Filename
Test Report	Test Report	report.pdf
Test Setup Photo	Conducted Emission	conducted photos.pdf
Test Setup Photo	Radiated Emission	radiated photos.pdf
External Photo	External Photo	external photos.pdf
Internal Photo	Internal Photo	internal photos.pdf
Block Diagram	Block Diagram	block.pdf
Schematics	Circuit Diagram	circuit.pdf
Operation Description	Technical Description	descri.pdf
ID Label/Location	Label Artwork and Location	label.pdf
User Manual	User Manual	manual.pdf
Cover Letter	Confidentiality Letter	request.pdf
Cover Letter	Letter of Agency	agency.pdf



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## EXHIBIT 1 SUMMARY OF TEST RESULTS



## 1.0 Summary of Test Results

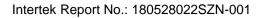
## IP Camera

## Model: C26S

## FCC ID: 2AP2HC26S

TEST ITEM	REFERENCE	RESULTS
Max. Output power	15.247(b)(3)	Pass
6 dB Bandwidth	15.247(a)(2)	Pass
Max. Power Density	15.247(e)	Pass
Out of Band Antenna Conducted Emission	15.247(d)	Pass
Radiated Emission in Restricted Bands	15.247(d)	Pass
Antenna Requirement	15.203	Pass (See Notes)

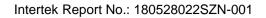
Notes: The EUT uses an Integral Antenna which in accordance to Section 15.203 is considered sufficient to comply with the provisions of this section.





## EXHIBIT 2

## **GENERAL DESCRIPTION**





## 2.0 General Description

### 2.1 Product Description

The Equipment Under Test (EUT) is a IP Camera with Wi-Fi function operating at 2412-2462MHz for 802.11b/g/n-HT20, 11 channels with 5MHz channel spacing and 2422-2452MHz for 802.11n-HT40, 9 channels with 5MHz channel spacing. The EUT is powered by AC/DC adaptor through AC120V/60Hz. For more detailed features description, please refer to the user's manual.

Type of Modulation: BPSK, QPSK, 16QAM, 64QAM for OFDM; CCK, DQPSK, DBPSK for DSSS. Antenna Type: Integral Antenna

The Model: NOXOX is the same as the Model: C26S in hardware aspect. The difference in model number serves as marketing strategy.

For electronic filing, the brief circuit description is saved with filename: descri.pdf.

### 2.2 Related Submittal(s) Grants

This is an application for certification of: DTS- Part 15 Digital Transmission Systems (2.4GHz Wi-Fi transmitter portion).

Remaining portions are subject to the following procedures:

- 1. Receiver portion of WiFi: exempt from technical requirement of this Part.
- 2. Other Digital Function: Subject to FCC Part 15B SDOC.
- 2.3 Test Methodology

Both AC mains line-conducted and radiated emission measurements were performed according to the procedures in ANSI C63.10 (2013) and KDB 558074 D01 v04. Radiated emission measurement was performed in Semi-anechoic chamber and conducted emission measurement was performed in shield room. For radiated emission measurement, preliminary scans were performed in the semi-anechoic chamber only to determine the worst case modes. All radiated tests were performed at an antenna to EUT distance of 3 meters, unless stated otherwise in the "Justification Section" of this Application. All other measurements were made in accordance with the procedures in part 2 of CFR 47.

#### 2.4 Test Facility

The Semi-Anechoic chamber and shield room used to collect the radiated data and conducted data are Intertek **Testing Services Shenzhen Ltd. Longhua Branch** and located at 1F/2F, Building B, QiaoAn Scientific Technology Park, Shangkeng Community, Guanhu Subdistrict, Longhua District, Shenzhen, P.R. China. This test facility and site measurement data have been fully placed on file with File Number: CN1188.



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## **EXHIBIT 3**

## SYSTEM TEST CONFIGURATION



## 3.0 System Test Configuration

## 3.1 Justification

For emissions testing, the equipment under test (EUT) setup to transmit continuously to simplify the measurement methodology. Care was taken to ensure proper power supply voltages during testing. During testing, all cables were manipulated to produce worst case emissions. The EUT was powered by AC/DC adaptor through AC120V/60Hz during the test. Only the worst case mode is shown in the report.

On 802.11b/g/n mode, only one antenna is used, and all data rate were tested and only the worst case data is shown in the report.

For maximizing emissions, the EUT was rotated through 360°, the EUT was placed on the styrene turntable with 0.8m up to 1GHz and 1.5 m above 1GHz. The antenna height and polarization are varied during the search for maximum signal level. The antenna height is varied from 1 to 4 meters. Radiated emissions are taken at three meters unless the signal level is too low for measurement at that distance. If necessary, a pre-amplifier is used and/or the test is conducted at a closer distance.

All readings are extrapolated back to the equivalent three meter reading using inverse scaling with distance. Analyzer resolution is 100 kHz or greater for frequencies below 1000 MHz. The resolution is 1 MHz or greater for frequencies above 1000 MHz. The spurious emissions more than 20 dB below the permissible value are not reported.

The rear of unit shall be flushed with the rear of the table.

Radiated emission measurement were performed the lowest radio frequency signal generated in the device which is greater than 9 kHz to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower.

#### 3.2 EUT Exercising Software

The EUT exercise program (provided by client) used during radiated and conducted testing was designed to exercise the various system components in a manner similar to a typical use. The worst case configuration is used in all specified testing.

#### The parameters of test software setting:

During the test, Channel and power controlling software provided by the applicant was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the application and is going to be fixed on the firmware of the end product.



### 3.3 Special Accessories

N/A.

#### 3.4 Measurement Uncertainty

When determining of the test conclusion, the Measurement Uncertainty of test has been considered.

Uncertainty and Compliance - Unless the standard specifically states that measured values are to be extended by the measurement uncertainty in determining compliance, all compliance determinations are based on the actual measured value.

3.5 Equipment Modification

Any modifications installed previous to testing by Shenzhen VStarcam Technology Co., Ltd will be incorporated in each production model sold / leased in the United States.

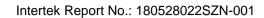
No modifications were installed by Intertek Testing Services Shenzhen Ltd. Longhua Branch.

#### 3.6 Support Equipment List and Description

This product was tested in the following configuration:

Description	Manufacturer	Detail
Adapter	XED	Model: XED-UL050200CU Input: AC100-240V, 50/60Hz, 0.3A Output: DC5V, 2A
USB Cable	N/A	Unshielding,150cm
TF card	Kingston	8G

Refer List:





## **EXHIBIT 4**

## **MEASUREMENT RESULTS**



Applicant: Shenzhen VStarcam Technology Co., Ltd Date of Test: June 1, 2018 Model: C26S

#### 4.0 Measurement Results

4.1 Maximum Conducted Output Power at Antenna Terminals, FCC Rules 15.247(b)(3):

The antenna power of the EUT was connected to the input of a broadband peak RF power meter. The power meter have a video bandwidth that is greater than DTS bandwidth and utilize a fast-responding diode detector. Power was read directly at the EUT antenna terminals with cable loss added.

For antennas with gains of 6 dBi or less, maximum allowed Transmitter output is 1 watt (+30 dBm).

IEEE 802.11b (Antenna Gain = 3 dBi) (CCK, 1Mbps)		
Frequency (MHz)Output in dBm (Peak Reading)Output in mWatt		
Low Channel: 2412	18.87	77.09
Middle Channel: 2437 18.59 72.28		72.28
High Channel: 2462	17.62	57.81

IEEE 802.11g (Antenna Gain = 3 dBi) (16QAM, 6Mbps)		
Frequency (MHz)Output in dBm (Peak Reading)Output in mWatt		
Low Channel: 2412	18.98	79.07
Middle Channel: 2437	18.71	74.30
High Channel: 2462	17.95	62.37

IEEE 802.11n-HT20 (Antenna Gain = 3 dBi) (64QAM, 6Mbps)		
Frequency (MHz)Output in dBm (Peak Reading)Output in mWat		
Low Channel: 2412	18.32	67.92
Middle Channel: 2437	18.10	64.57
High Channel: 2462	17.31	53.83

IEEE 802.11n-HT40 (Antenna Gain = 3 dBi) (64QAM, 13.5Mbps)		
Frequency (MHz)Output in dBm (Peak Reading)Output in m\		Output in mWatt
Low Channel: 2422	16.47	44.36
Middle Channel: 2437	16.25	42.17
High Channel: 2452	16.60	45.71



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Cable loss: 0.5 dB External Attenuation: 0 dB

Cable loss, external attenuation has been included in OFFSET function

EUT max. output level = 18.98 dBm EUT max. E.I.R.P = 18.98dBm + 3dBi = 21.98dBm = 157.76mW

For RF Exposure, the information is saved with filename: RF exposure.pdf.



Applicant: Shenzhen VStarcam Technology Co., Ltd Date of Test: June 1, 2018 Model: C26S

## 4.2 Minimum 6 dB RF Bandwidth, FCC Rule 15.247(a) (2):

The antenna port of the EUT was connected to the input of a spectrum analyzer. Analyzer RES BW was set to 100 KHz according to FCC KDB 558074 D01 v04. For each RF output channel investigated, the spectrum analyzer center frequency was set to the channel carrier. A PEAK output reading was taken, a DISPLAY line was drawn 6 dB lower than PEAK level. The 6dB bandwidth was determined from where the channel output spectrum intersected the display line.

Limit: The 6 dB Bandwidth is at least 500 kHz.

IEEE 802.11b (CCK, 1Mbps)		
Frequency (MHz)	6 dB Bandwidth (MHz)	
2412	10.116	
2437	10.072	
2462	10.072	

IEEE 802.11g (16QAM, 6Mbps)		
Frequency (MHz)6 dB Bandwidth (MHz)		
2412	16.411	
2437	16.368	
2462	16.411	

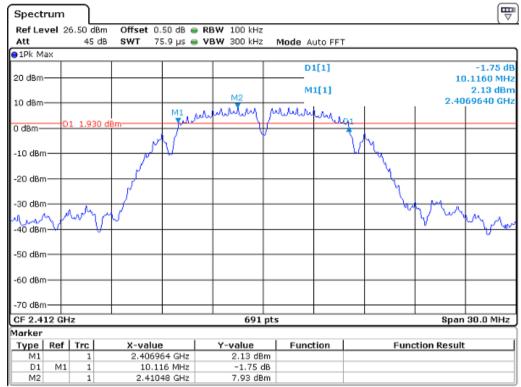
IEEE 802.11n-HT2	0 (64QAM, 6Mbps)
Frequency (MHz)	6 dB Bandwidth (MHz)
2412	16.961
2437	17.077
2462	17.077

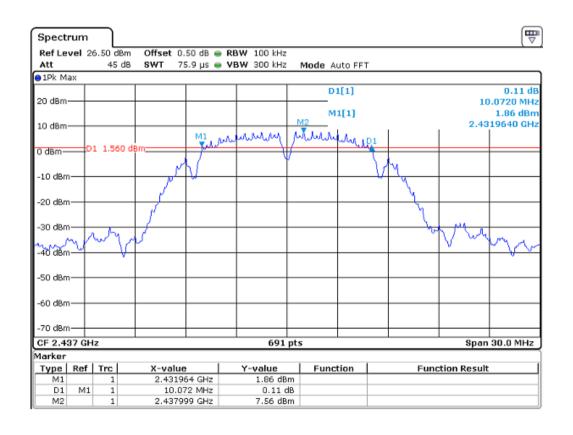
IEEE 802.11n-HT40	(64QAM, 13.5Mbps)
Frequency (MHz)	6 dB Bandwidth (MHz)
2422	35.514
2437	35.340
2452	35.340

The test plots are attached as below.



#### 802.11b







Spect	rum							
Ref Le	vel 2	6.50 dB	m Offset 0.50 dB (	RBW 100 kHz				
Att		45 (	18 SWT 75.9 μs 🤅	• VBW 300 kHz	Mode Auto FFT			
🖯 1Pk M	ax							
20 dBm					D1[1]		10.	-0.05 dE 0720 MH:
10 d8m					M1[1]			1.12 dBn 9640 GH
			MI	munny)	M2 Marine 101			
0 dBm-	-	1 0.690	dBm		ing			
-10 dBn	\			Ĭ		M.		
-20 dBn	<u> </u>					N.		
-30 dBn			ſ			۲		
m mml	m p	wy	25			<u>ل</u> م	Muy	Mar
-40 dBn								
-50 dBn	+י							
-60 dBn	י <del>ר</del> י							
-70 dBn	1							
CF 2.4	62 GH	z	· · · ·	691 p	ts		Span	30.0 MHz
Marker								
Туре	Ref	Trc	X-value	Y-value	Function	Func	tion Result	
M1		1	2.456964 GHz	1.12 dBm				
D1	M1	1	10.072 MHz	-0.05 dB				
M2		1	2.46352 GHz	6.69 dBm				

#### 802.11g

9										_
Spect	rum									( <del>4</del>
Ref Le	vel 2	6.50 dBm	Offset 0.	.50 dB 👄	RBW 100 kHz					
Att		45 dB	SWT 7	5.9 µs 👄	VBW 300 kHz	Mode	Auto FFT			
😑 1Pk M	ах									
							D1[1]			-0.26 d
20 dBm	-					<u> </u>			1	6.4110 MH
							M1[1]			0.28 dBi
10 dBm						<u> </u>		M2	2.40	037950 GH
			Malual	nerhand	walnushing	ambro	mahard	uplumber.		
0 dBm-	=0	1 1.180 d	Bm					4		
						1		- L		
-10 dBm			1		-		_	1	-	
			r					`	Marchan	
-20 dBm	2.00	MM							- when	A Barry M
ANN	۳v٦°	·								000
-30 dBm						<u> </u>			l	
-40 dBm	-					<u> </u>				ļ
-50 dBm						L				
-60 dBm										
00 000	'									
-70 dBm	-					L	_	_		ļ
CF 2.4	12 GH	z	I	I	691	pts			Spar	1 30.0 MHz
Marker						<u>.                                    </u>				
Type	Ref	Trc	X-value	<b>,</b>	Y-value	Fur	nction	Fund	ction Resul	t
M1		1	2.403795 GHz 0.28 dBr		im 🛛					
D1	M1	1	16.4	11 MHz	-0.26	dB				
M2		1	2.4195	11 GHz	7.18 dB	3m				



Spectrum									
Ref Level	26.50 dBm	Offset 0.5	50 dB 👄 RI	BW 100 kHz					
Att	45 dB	SWT 75	.9 µs 😐 V	BW 300 kHz	Mode Au	ito FFT			
😑 1Pk Max									
20 dBm					D1	[1]		16	1.94 dB .3680 MHz
10 d8m					M	L[1]	M2	2.42	0.42 dBm 87950 GHz
		Mahan	whenter	whenhung	mbrink	mbaulu			07900 di iz
0 dBm	DI 1.270 d	BIII		l u			Î		
-10 dBm		1					7	n.	
-391189777	offen free							www	mound
-30 dBm									
-40 dBm									
-50 dBm									
-60 dBm									
-70 dBm									
CF 2.437 G	Hz			691	pts			Span	30.0 MHz
Marker									
	Trc	X-value		Y-value	Funct	ion	Fund	tion Result	
M1	1	2.42879		0.42 dBr					
D1 M: M2	1 1	2.44451	8 MHz	1.94 dl 7.27 dBr					
		2111402							

Spect	rum						Ē
Ref Le	vel 2	6.50 dBn	n Offset 0.50 dB	RBW 100 kHz			( ·
Att		45 di	B SWT 75.9 μs	VBW 300 kHz	Mode Auto FFT		
🖯 1Pk M	ax						
					D1[1]		-0.75 d
20 dBm	+		+				16.4110 MH
					M1[1]		-0.16 dBr
10 dBm	+					M2	2.4537950 GH
		1 0.420	Malumpertry	Marchandren ,	whentrontrache	hanly	
<del>0 dBm-</del>		1 0.420		V		1	
-10 dBn						L L	
-20 dBn	no	mar					manning
-30 dBn	∩+						
-40 dBn	n+						
-50 dBn	n- -						
-60 dBn	n- -			_			
-70 dBn	n- -						
CF 2.4	62 GH	z	1 1	691 p	ts	1	Span 30.0 MHz
Marker							
Туре	Ref	Trc	X-value	Y-value	Function	Fund	tion Result
M1		1	2.453795 GHz	-0.16 dBm			
D1	M1	1	16.411 MHz	-0.75 dB			
M2		1	2.469511 GHz	6.42 dBm			



### 802.11n-HT20

Spect	rum								Q
Ref Le	vel 20	6.50 d	Bm Offset 0.	.50 dB 👄 I	RBW 100 kHz				· · · · ·
Att		45	dB SWT 9	4.8 µs 👄 '	<b>VBW</b> 300 kHz	Mode A	uto FFT		
🖯 1Pk M	ах								
						D	1[1]		-0.30 (
20 dBm	+				+ +				16.9610 MF
						M	1[1]		2.02 dB
10 dBm	$\rightarrow$				++			M2	2.4034910 G
	_	1 1 50	0 dBm	introducto	. Aucharahan	mahand	whent	where a	
0 dBm–	-	1 1.52						-	
-10 dBrr	<del>ا ا</del>		1		+ +			1	
			1 . 1					June 1	whether the warry
-20 dBrr		ALMA	My Walk					* oned	Mr. Maria
-20 dBm	Water	V.W	× •						L
-30 dBr	ν <del>- </del> -				+ +				
-40 dBm	∩—								
-50 dBm	∩—				+ +				
-60 dBm	<u> </u>								
00 000	·								
-70 dBrr	∩								
CF 2.4	12 GH	z	I	I	691	pts		I	Span 40.0 MH
Marker									
Туре	Ref	Trc	X-value	•	Y-value	Func	tion	Fund	tion Result
M1		1	2.4034		2.02 dB				
D1	M1	1		61 MHz	-0.30 d				
M2		1	2.4195	25 GHz	7.52 dBi	m			

Spect	rum					Ē
Ref Le	vel 2	6.50 dBn	o Offset 0.50 dB (	• RBW 100 kHz		(
Att		45 d8	3 SWT 94.8 µs 🤅	• VBW 300 kHz	Mode Auto FFT	
🖯 1Pk M	ax					
					D1[1]	1.04 dB
20 dBm	+					17.0770 MH
					M1[1]	1.19 dBn
10 dBm	$\rightarrow$				M2	2.4284330 GH
			Minhurly	the low burn bear in	higher of all all all all all all all all all al	
0 dBm–	=	1 1.500	dBm	a sublicity of a set of a		
				I I		
-10 dBn	ι <del>_</del> +					
					<u>\u</u> .	
-20 dBn	η <del></del>	J. March	North	_		Martine La
mm	plaque	~~w~~w				Manan manan
-30 dBn	η					
-40 dBn	<u> </u>					
-50 dBn	<u> </u>					
	·					
-60 dBn	<u> </u>					
-00 001	'					
-70 dBn	<u> </u>					
CF 2.4		-		691 pt		Span 40.0 MHz
Marker	37 GF	2		oar hi	3	apan 40.0 MHz
Type	Ref	Trc	X-value	Y-value	Function F	unction Result
M1	Kei	1	2.428433 GHz	1.19 dBm	Function	anction result
D1	M1	1	17.077 MHz	1.04 dB		
M2		1	2.444525 GHz	7.50 dBm		



Spectru	m											
Ref Leve	1 26.50	dBm		😑 RI	<b>BW</b> 100 k	Hz						`
Att	4	5 dB <b>SW1</b>	94.8	µs 👄 V	<b>BW</b> 300 k	Hz Mo	ode Aut	o FFT				
∋1Pk Max												
							D	1[1]				0.41 dB
20 dBm—	+					-+					1	7.0770 MHz
							M	1[1]				0.31 dBm
10 dBm—	+				_	$\rightarrow$			M2		2.4	534330 GHz
<del>ö dam</del>	-01.04	180 dBm	M1	horbert	millinghe	have	halfred	adad	unter 1			
	01 0.4		7			Y			٦			
-10 dBm—	1		T		1				1			
-20 dBm—		h Ala	~		_	$\rightarrow$			`	Mary La	diata.	
March	mour	www.									www.www.www	Munnary
-30 dBm—					_	$\rightarrow$						
-40 dBm—												
-50 d8m—												
-50 dbin												
-60 dBm—					_	$\rightarrow$						
-70 dBm—												
CF 2.462	047					691 pts					- Po av	1 40.0 MHz
CF 2.402 Marker	GHZ					oar hts	,				əhai	1 40.0 MM2
	ef   Trc	x-	value	1	Y-val	ue	Func	tion (	1	Fund	tion Resul	t
M1	1		45343	3 GHz		31 dBm	T une			- unit	Alon Kesul	
	M1 1		17.077			.41 dB						
M2	1	2.	46952	5 GHz	6.4	48 dBm						

## 802.11n-HT40

Spect										
	vel 2	6.50 dBm 45 dB	-	RBW 100 kHz						
Att 1Pk M		45 GB	SWT 132.7 µs 👄	VBW 300 KHZ	Mode Auto					
ртык м					p.d.	1				
20 dBm					D1[1	1		21	0.40 d 5.5140 MH	
20 0011					M1[1]					
10 dBm								2.40	-3.62 dB 42000 GF	
20 000			M2							
0 dBm-							1 1 1 1 1			
o aom		1 -3.340	aBm	halle britter barre	مساليه المراسي	لاستعماليها	and a start of the	ŧ		
-10 dBm	\			¥				<u> </u>		
				- I - Y				Ц		
-20 dBm	<b>`</b> ⊢							1		
		und						See		
-30, dek	فللأحيقم	willow						Marry	Mychang	
-40 dBm	∩									
-50 dBm	ι <del>  </del>									
-60 dBm	η <del></del>									
-70 dBr	ν <del>+</del> -									
CF 2.4	22 ĠH	z		691 p	ots		·	Span	60.0 MHz	
Marker										
Туре	Ref	Trc	X-value	Y-value	Function	n	Fund	ction Result	t	
M1		1	2.4042 GHz	-3.62 dBn						
D1	M1	1	35.514 MHz	0.40 dt	-					
M2		1	2.405763 GHz	2.66 dBn	1					



Spectrur	n										
Ref Level	27.00 di	3m Offset	0.50 dB 🧉	RBW 10	IO kHz						
Att	45	dB SWT 1	32.7 µs 🧉	• VBW 30	10 kHz	Mode /	Auto FF	Т			
🔵 1Pk Max											
						D	1[1]				0.40 dB
20 dBm	<u> </u>			<u> </u>	+					:	35.3400 MHz
						M	1[1]				-3.01 dBm
10 dBm	+	M2	+				I	1		2.4	192870 GHz
		T .						.			
0 dBm	01 -2.69	30 dam mahal	A land all	us when he	AMA MM	wheelpole	Martin	walk	howwood	al I	
	01 -2.00	1			- 11					1	
-10 dBm—	<u> </u>				_ <del></del>			-			
		1								- 11	
-20 dBm—		1			+					R.	
-achighus	- Meredall									When	maturation
-80487	00000-00				+					-	1
-40 dBm—					$\rightarrow$			-			
-50 dBm—	+		+								
-60 dBm—								$\rightarrow$			
-70 dBm—	<u> </u>			<u> </u>	$\rightarrow$						
CF 2.437	ĠHz				691 pts	5				Spa	n 60.0 MHz
Marker											
Type Re	ef   Trc	X-valu	e	Y-val	ue	Func	tion		Fu	nction Resu	lt
M1	1		87 GHz		01 dBm						
	V1 1		34 MHz		.40 dB						
M2	1	2.4207	63 GHz	3.3	32 dBm						

Spect	rum										₩
Ref Le	vel 2	7.00 dBr		0 dB 👄 I	RBW 100 kHz						<u> </u>
Att		45 di	B SWT 132.	7 µs 👄 '	<b>VBW</b> 300 kHz	Mode	Auto FF	т			
∋1Pk M	ax										
							D1[1]			-0.2	8 d
20 dBm	$\rightarrow$				++					35.3400	MH
							M1[1]			-3.05 (	
10 dBm	+				+ +					2.4342870	GH
			M2								
0 dBm-			1 dem market			ulutur.	111		1.1		
	-0	1 -2.620	dem	and a line of the second s	San and and	Januaryo	ماليواليو الم	and the second	4		
-10 dBn											
-10 080	'		J		1 4						
oo daa			1 1						- N		
-20 dBn									1		
haq-qiay	June	wind							- V	mounter	din.
ABO-GBU	1										
-40 dBn	+-י										
-50 dBn	·+-		+ + +		+ +						
-60 dBn	ι <del>−</del>		+		+ +		_				
-70 dBn	∩— -						_				
CF 2.4	52 GH	z	- I I -		691	ots				Span 60.0 M	1Hz
Marker											
Туре	Ref	Trc	X-value		Y-value	Fun	ction		Function	Result	
M1		1	2.434287	GHz	-3.05 dBr	n					
D1	M1	1	35.34		-0.28 d						
M2		1	2.435763	GHz	3.38 dBr	n					



Applicant: Shenzhen VStarcam Technology Co., LtdDate of Test: June 1, 2018Model: C26S

4.3 Maximum Power Density Reading, FCC Rule 15.247(e):

The Measurement Procedure PKPSD was set according to the FCC KDB 558074 D01 v04.

Antenna output of the EUT was coupled directly to spectrum analyzer; if an external attenuator and/or cable was used, these losses are compensated for with the analyzer OFFSET function.

Limit: The Power Density does not exceed 8dBm/3 kHz.

IEEE 802.11b (CCK, 1Mbps)						
Frequency (MHz)	Power Density with RBW 100KHz					
2412	7.25					
2437	7.53					
2462	7.70					

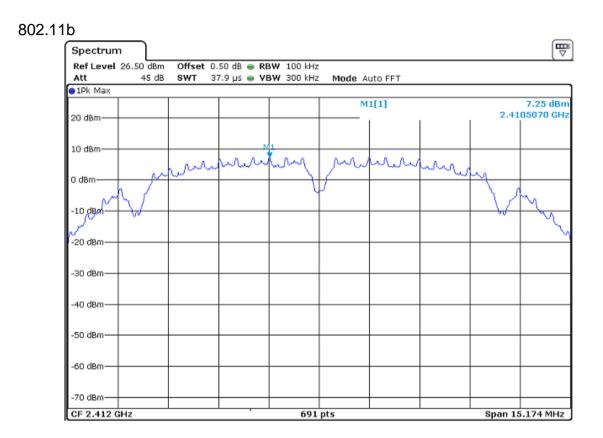
IEEE 802.11g (16QAM, 6Mbps)							
Frequency (MHz)	Power Density with RBW 100KHz						
2412	7.53						
2437	7.40						
2462	6.47						

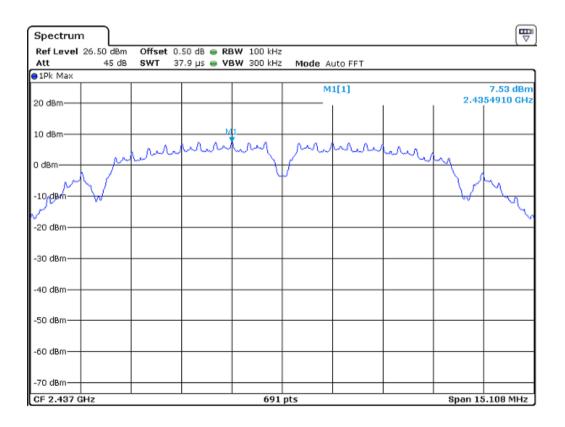
IEEE 802.11n-HT20 (64QAM, 6Mbps)							
Frequency (MHz)	Power Density with RBW 100KHz						
2412	7.52						
2437	7.42						
2462	6.25						

IEEE 802.11n-HT20 (64QAM, 13.5Mbps)						
Frequency (MHz)	Power Density with RBW 100KHz					
2422	2.55					
2437	2.82					
2452	2.87					

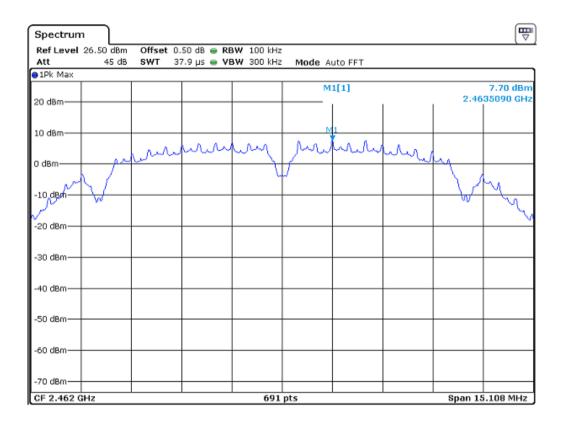
The test plots are attached as below.



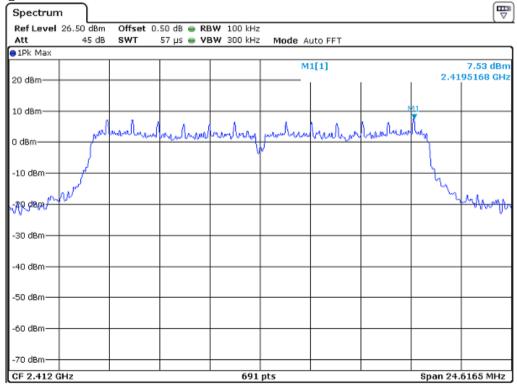




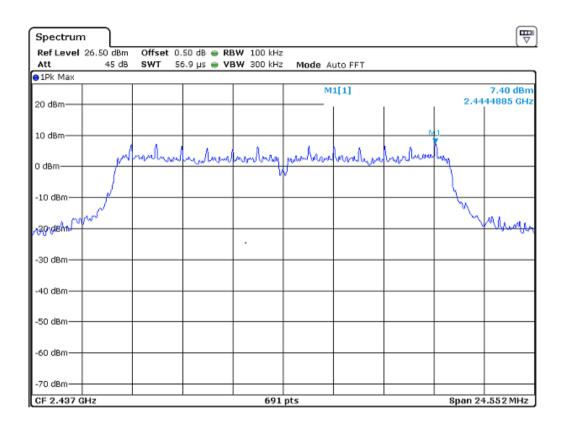


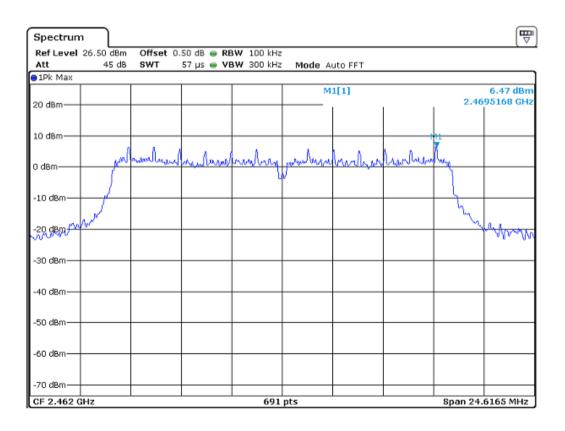


#### 802.11g



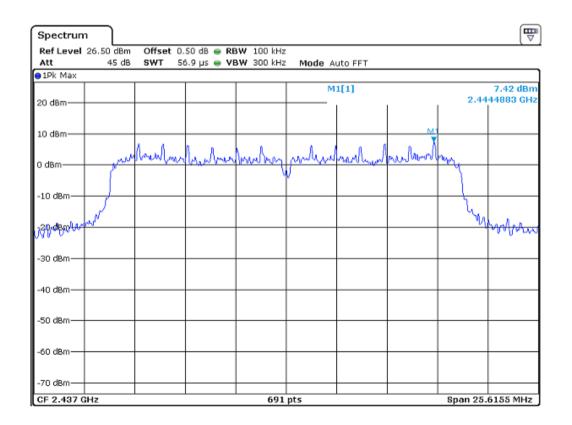




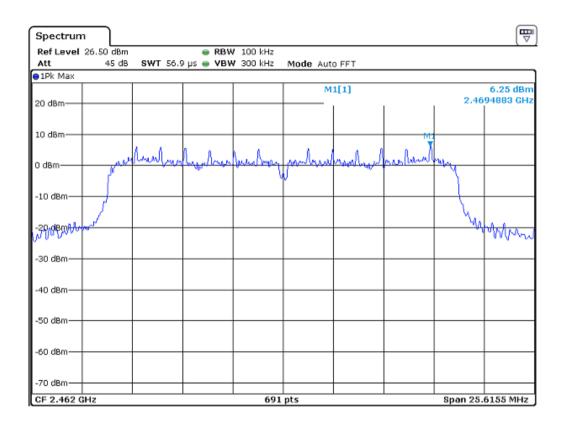




#### 802.11n-HT20 ඐ Spectrum Ref Level 26.50 dBm Offset 0.50 dB 👄 RBW 100 kHz Att 45 dB SWT 56.8 µs 👄 VBW 300 kHz Mode Auto FFT 😑 1Pk Max M1[1] 7.52 dBm 2.4195113 GHz 20 dBm 10 dBm buch mand when rul Amburston N 0 dBm· -10 dBm Walner -30, ¢Brol4 -30 dBm 40 dBm -50 dBm -60 dBm -70 dBm-691 pts CF 2.412 GHz Span 25.4415 MHz



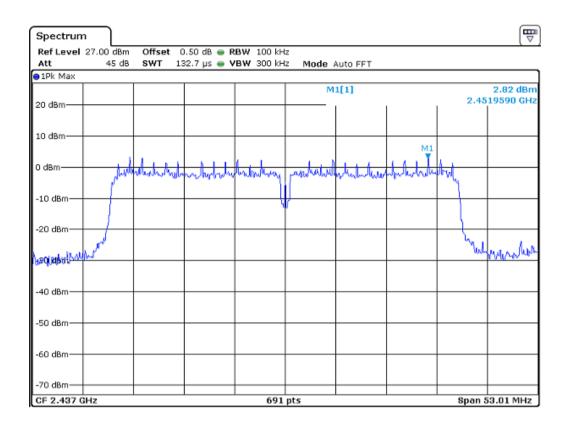


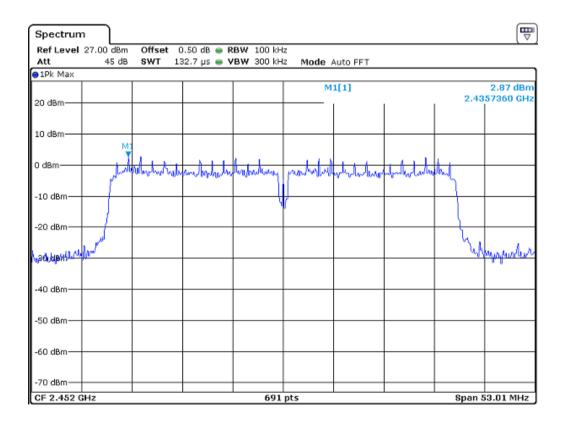


#### 802.11n-HT40











Applicant: Shenzhen VStarcam Technology Co., Ltd Date of Test: June 1, 2018 Model: C26S

### 4.4 Out of Band Conducted Emissions, FCC Rule 15.247(d)

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. The Measurement Procedure was set according to the FCC KDB 558074 D01 v04.

All other types of emissions from the EUT shall meet the general limits for radiated frequencies outside the passband.

Refer to the attached test plots for out of band conducted emissions data with rate of 1Mbps for 802.11b and 6Mbps for 802.11g and 6Mbps for 802.11n-HT20 and 13.5 Mbps for 802.11n-HT40.

The test plots showed all spurious emission up to the tenth harmonic were measured and they were found to be at least 20 dB below the highest level of the desired power in the passband.

The test plots are attached as below.



## 802.11b Channel 01 (2412MHz) Reference Level: 7.25dBm

₩ Spectrum Ref Level 26.50 dBm Offset 0.50 dB 👄 RBW 100 kHz Att 45 dB SWT 24 ms 👄 VBW 300 kHz Mode Auto Sweep 😑 1Pk Max M1[1] -35.84 dBm 2.39830 GHz 20 dBm-10 dBm 0 dBm--10 dBm-D1 -12.750 dBm--20 dBm -30 dBm--40 dBmannopellamoute and her show man and program the market of the stand the stand of the antres monumber mendeller Liburger -50 dBm -60 dBm -70 dBm-Stop 2.4 GHz Start 1.0 MHz 691 pts

Spectrum	, T								Ē
Ref Level				3W 100 kHz					
Att	45 dB	SWT 2	26 ms 🖷 VE	3W 300 kHz	Mode A	uto Sweep			
1Pk Max									
20 d8m					M	1[1]	I		36.92 dBm 5.8015 GHz
10 dBm									
0 dBm									
-10 dBm	01 -12.750	dBm							
-20 dBm	01 -12,755								
-30 dBm	ма								
-40 dBpstore	Laborer		الله حين ا	a. A subar	amplin	mount	mun	Mynum	numme
-50 dBm		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Color Line	Arrest Carriel D.			•		- v (). v -
-60 dBm									
-70 dBm									
Start 2.48	35 GHz			691	pts		1	Stop	25.0 GHz

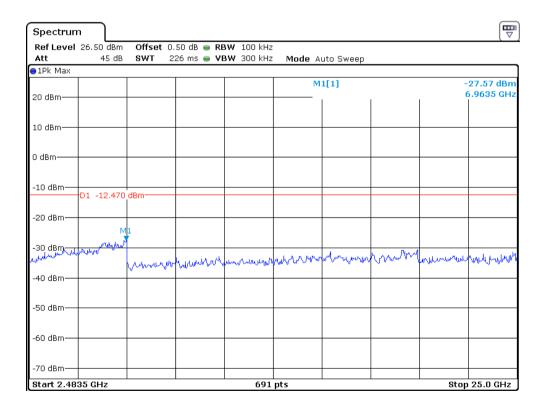


Spectrun	n								
	26.50 dBm		).50 dB 👄 R						
Att	45 dB	SWT 13	32.7µs 👄 🏼	' <b>BW</b> 300 kH	z Mode A	Auto FFT			
⊖1Pk Max									
20 dBm						1[1] 1[1]		-15	-39.11 dB .4560 MHz 7.33 dBm
10 dBm							L M1	2.41	45010 GHz
10 ubm						- Maladada	many		
0 dBm							- "4		
-10 dBm					/	V	ľ V	Ц Ч	
-20 dBm—								1	
-30 dBm	ungerden	to determine to	ullers in	<u>.</u> 	$\sim$			- yrson	two
		www.www.	and the second and	v.∕v. v					
-40 dBm									
-50 dBm—									
-60 dBm									
-70 dBm—									
CF 2.4 GH	z			691	pts			Span	60.0 MHz



## Channel 06 (2437MHz) Reference Level: 7.53dBm

Spectrum									
Ref Level 26.50 dBm Offset 0.50 dB 🖷 RBW 100 kHz									
Att	45 dB	SWT	24 ms 👄 ۷	<b>3W</b> 300 kHz	Mode A	uto Sweep			
⊖1Pk Max									
20 dBm					M	1[1] 			33.08 dBm 00610 GHz
10 dBm									
0 dBm									
-10 dBm—	D1 -12.470	dBm							
-20 dBm—									
-30 dBm	umulluour		ast	M1	1. 5. 1. 5		kallata in 1		1.1. 16 . 1 . 1
40 dBm-	Ասեղոնումննակարվո	and the second sec	Mar an an		Unfoliceallecenterile	and and a second	man and the state of the state	-unning photosolic	, which will be a start of the
-50 dBm—									
-60 dBm—									
-70 dBm-	447			691	nte				p 2.4 GHz





## Channel 11 (2462MHz) Reference Level: 7.70dBm

Spectrur	n								( <del>W</del>
	1 26.50 dBm		.50 dB 👄 RE						
Att	45 dB	SWT	24 ms 👄 VE	3W 300 kHz	Mode A	uto Sweep			
●1Pk Max		1				1[1]			41.70 dBm
20 d8m						1[1]			08940 GHz
20 0011									
10 dBm									
0 dBm									
-10 dBm—	D1 -12.300	dBm-							
-20 dBm—									
-30 dBm—									
-40 dBm—	wahner walk			M1					
where where	when the season	hardele and the	Turner framework	an and a start of the	hundrendershi	with mark	anon calor	-h-valvika-dillarius	wanter
-50 dBm—									
-60 dBm									
-70 dBm	L								
Start 1.0	MHz			691	nte			Sto	p 2.4 GHz
Spectrun	n								
	26.50 dBm		50 dB 👄 RE	<b>3W</b> 100 kHz	1				Ē
Ref Level Att			50 dB 👄 RE 26 ms 👄 VE			uto Sweep			
Ref Level	26.50 dBm				Mode A				
Ref Level Att 1Pk Max	26.50 dBm				Mode A	uto Sweep			-36.28 dBm
Ref Level Att 1Pk Max	26.50 dBm				Mode A				
Ref Level Att 1Pk Max 20 dBm	26.50 dBm				Mode A				-36.28 dBm
Ref Level Att 1Pk Max 20 dBm	26.50 dBm				Mode A				-36.28 dBm
Ref Level Att 1Pk Max 20 dBm- 10 dBm-	26.50 dBm				Mode A				-36.28 dBm
Ref Level Att 1Pk Max 20 dBm	26.50 dBm				Mode A				-36.28 dBm
Ref Level   Att   1Pk Max   20 dBm   10 dBm   0 dBm	26.50 dBm				Mode A				-36.28 dBm
Ref Level   Att   1Pk Max   20 dBm   10 dBm   0 dBm	26.50 dBm	SWT 2			Mode A				-36.28 dBm
Ref Level   Att   1Pk Max   20 dBm   10 dBm   0 dBm   -10 dBm	26.50 dBm 45 dB	SWT 2			Mode A				-36.28 dBm
Ref Level   Att   1Pk Max   20 dBm   10 dBm   0 dBm   10 dBm	26.50 dBm 45 dB	SWT 2			Mode A				-36.28 dBm
Ref Level   Att   1Pk Max   20 dBm   10 dBm   0 dBm	26.50 dBm 45 dB	SWT 2			Mode A				-36.28 dBm
Ref Level   Att   1Pk Max   20 dBm   10 dBm   0 dBm   -10 dBm	26.50 dBm 45 dB	SWT 2			Mode A				-36.28 dBm
Ref Level   Att   1Pk Max   20 dBm   10 dBm   0 dBm   -10 dBm   -20 dBm	26.50 dBm 45 dB	SWT 2			Mode A				-36.28 dBm
Ref Level   Att   1Pk Max   20 dBm   10 dBm   0 dBm   -10 dBm   -20 dBm	26.50 dBm 45 dB	SWT 2			Mode A				36.28 dBm 6.8985 GHz
Ref Level   Att   1Pk Max   20 dBm   10 dBm   0 dBm   -10 dBm   -20 dBm	26.50 dBm 45 dB	SWT 2			Mode A		meului		-36.28 dBm
Ref Level   Att   1Pk Max   20 d8m   10 d8m   0 d8m   -10 d8m   -20 d8m   -30 d8m   -30 d8m	26.50 dBm 45 dB	SWT 2			Mode A		minter		36.28 dBm 6.8985 GHz
Ref Level   Att   1Pk Max   20 dBm   10 dBm   0 dBm   -10 dBm   -20 dBm	26.50 dBm 45 dB	SWT 2			Mode A		mului		36.28 dBm 6.8985 GHz

-70 dBm Start 2.4835 GHz

691 pts

Stop 25.0 GHz



Spectrun	n )								
Ref Level Att	26.50 dBm 45 dB			<b>BW</b> 100 kH <b>'BW</b> 300 kH		Auto FFT			
😑 1Pk Max									
20 dBm						1[1] 1[1]			-38.64 dB .4020 MHz 6.08 dBm 39630 GHz
10 dBm	MI MI							2.40	39030 GHZ
0 dBm	weller hermen	N.							
-10 dBm—		-M							
-20 dBm									
		lr	Manuel	Mynamia	mm	mun	Jonestinen	metrolymour	whiteward
-40 dBm									
-50 dBm—									
-60 dBm									
-70 dBm	GHz			691	pts			Span	60.0 MHz



#### 802.11g Channel 01 (2412MHz) Reference Level: 7.53dBm

Spectrun	n								<b>⊞</b>
		Offset	0.50 dB 👄 R	BW 100 kHz					(*
Att	45 dB	SWT	24 ms 🖷 V	<b>BW</b> 300 kHz	Mode A	uto Sweep			
⊖1Pk Max			-						
					M	1[1]			20.45 dBm 39830 GHz
20 dBm						1	1	2.	
10 dBm									
0 d8m									
-10 dBm—									
	01 -12.470	d8m-							
-20 dBm									
-30 dBm									
-00 0011									
10 40									
-40 dBm	A bet et e	a day ashire	munum	white was	Line in	Relations	MANUALANAN	maleten son de	a prespection of
AL				1 W	and the second	Contraction And			
-50 dBm									
-60 dBm									
-70 dBm—									
Start 1.0 M	viHz			691	pts			Sto	p 2.4 GHz
Spectrun		05	0 f0 d0 - 0	100 100					
Att	26.50 dBm 45 dB		0.50 dB 👄 RI 226 ms 👄 V			uto Sweep			
1Pk Max						are enceb			
					M	1[1]			36.83 dBn
20 dBm				<u> </u>		1	1	. •	6.9965 GH: I
10 d8m									
0 d8m									
o uom									
10 dt									
-10 dBm	D1 -12.470	d8m							
-20 dBm—									
-30 dBm				<u> </u>				<u> </u>	
	M	1	1	1		1	1	1	1

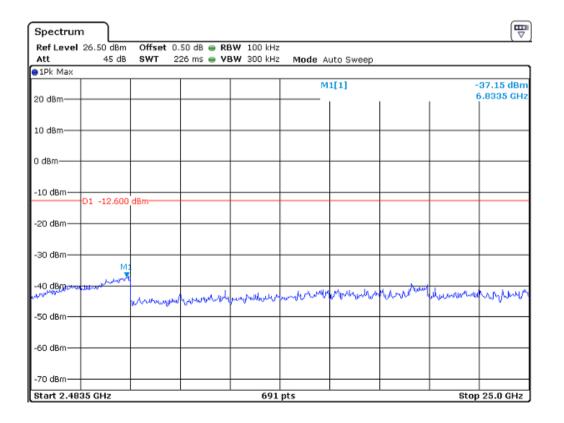


Spectrun	ı )								
Ref Level Att	26.50 dBm 45 dB		.50 dB 👄 RE 1.1 ms 👄 VE			uto Sweep			
⊜1Pk Max									
20 dBm						1[1] 1[1]		-1	-26.71 dB 20.160 MHz 6.69 dBm
10 dBm							<u>M1</u>	2.4	19570 GHz
0 dBm					diluly	and y have	howly		
-10 dBm						ľ			
				D1	put		- Luke		
-20 dBm			howard	1. MINHAW MANY	للعر			Houldburne between	9ak
-30 dBm			Loopall	"					"UNN
montioner	dunan	mound	Whenthempor						mound
-40 dBm									
-50 dBm—									
-60 dBm									
-70 dBm									
CF 2.4 GH	2 Z		1	691	pts	1	1	Span	80.0 MHz



### Channel 06 (2437MHz) Reference Level: 7.40dBm

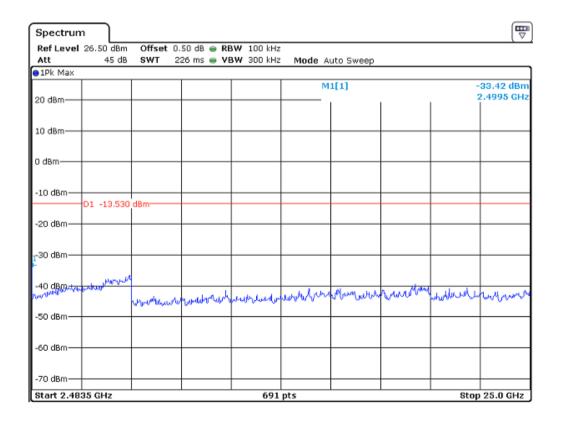
Spectrum									
Ref Level	26.50 dBm	Offset 0	.50 dB 😑 RE	3W 100 kHz					
Att	45 dB	SWT	24 ms 👄 🛛	3W 300 kHz	Mode A	uto Sweep			
😑 1Pk Max									
20 d8m					M	1[1] 	I		40.81 dBm 54.00 MHz
10 dBm									
0 d8m									
-10 dBm	-D1 -12.600	d8m							
-20 dBm—									
-30 dBm									
-40 dBm-	maphonesand	underes	M	1 Marahan Jone w	eramandum	Margaretan	vendound	odownaldwa	mennetrat
-50 dBm									
-60 dBm									
-70 dBm									
Start 1.0 N	4Hz			691	pts			Sto	p 2.4 GHz





## Channel 11 (2462MHz) Reference Level: 6.47dBm

Spectrum									
Ref Level	26.50 dBm	Offset 0	.50 dB 😑 RB	3W 100 kHz					
Att	45 dB	SWT	24 ms 👄 ٧	3W 300 kHz	Mode A	uto Sweep			
😑 1Pk Max									
20 dBm					M	1[1] 			41.25 dBm 55.40 MHz
10 dBm									
0 dBm									
-10 dBm	-D1 -13.530	dBm							
-20 dBm									
-30 dBm		M1							
-40 dBm	www.w		and a state of the series	mouldury	mmuni	nhunderha		mahludryrt	hally My spectrum
-60 dBm									
-70 dBm									
Start 1.0 M	4Hz			691	pts			Sto	p 2.4 GHz





Spectrun	n								
Ref Level Att	26.50 dBm 45 dB		50 dB 👄 RE			uto Sweep			
●1Pk Max	15 00	001 1		<b>JN</b> 300 KHZ	Moue A	uto Sweep			
20 dBm					14.7 M1[1] 5.1				-36.46 dB 4.790 MHz 5.14 dBm 69490 GHz
10 dBm			M1						
0 dBm	Muhaho	selagalada dad	July						
-10 dBm									
-20 dBm	/		- Un						
-30 dBm-			"Hi.	Maluel Mar.	11				
-30 ubiii				Mahurhan	Murboulow	whenter	hunner	hourse have a second	mound
-40 dBm—									
-50 dBm									
-60 dBm									
-70 dBm									
CF 2.4835	GHz			691	pts			Span	80.0 MHz



#### 802.11n-HT20 Channel 01 (2412MHz) Reference Level: 7.52dBm

ඐ Spectrum Ref Level 26.50 dBm Offset 0.50 dB 👄 RBW 100 kHz Att 45 dB SWT 24 ms 👄 VBW 300 kHz Mode Auto Sweep 😑 1Pk Max M1[1] -20.20 dBm 2.39830 GHz 20 dBm 10 dBm 0 dBm--10 dBm-D1 -12.480 dBm--20 dBm--30 dBm -40 dBmunpower and an energy where the when we will be the state with the state of the state added allowers summer mangener **Instat** -50 dBm -60 dBm -70 dBm Start 1.0 MHz 691 pts Stop 2.4 GHz

Spectrun	n								
Ref Level Att	26.50 dBm 45 dB			3W 100 kHz 3W 300 kHz		uto Sweep			
1Pk Max			_						
20 dBm					м	1[1]	1		36.30 dBm 5.3125 GHz
10 dBm									
0 dBm									
-10 dBm	-01 -12.480	d8m							
-20 dBm									
-30 dBm	M1								
-40 dBm	all the south of the second second	that .	h.r	a want ta d	www.www	when	hunn	Nun	hitur
-50 dBm		yor,-weither w	CANODO AN I	LONG COMPLEX			•		
-60 dBm									
-70 dBm									
Start 2.48	35 GHz			691	pts			Stop	25.0 GHz

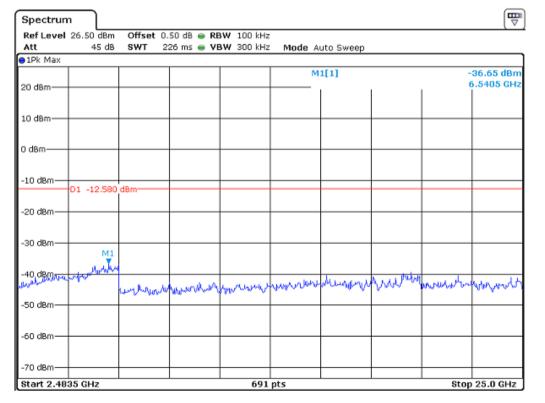


Spectrum									
Ref Level 2 Att	26.50 dBm 45 dB		.50 dB 👄 RE 1.1 ms 👄 VE		Mada A	uto Sweep			
1Pk Max	45 UB	31116	1.1 ms 🖶 ¥	JVY JUU KHZ	MOUE A	uto Sweep			
20 dBm						1[1]		-:	-25.77 dB 19.700 MHz
10 dBm					м	1[1]	1 موم	2.4	6.68 dBm +19570 GHz
					M	holdyshold	Luh		
0 dBm									
-10 dBm									
-20 dBm				D umbill <sup>umbi</sup>	₿₩ <sup>/</sup>		wy.	helder and where	ALL.
-30 dBm			we what	manthal					run h
unavara	University	worther about	- Alender						- West
-40 dBm									
-50 dBm									
-60 dBm									
-70 dBm									
CF 2.4 GHz			1	691	pts	1	1	Spar	1 1 80.0 MHz



### Channel 06 (2437MHz) Reference Level: 7.42dBm

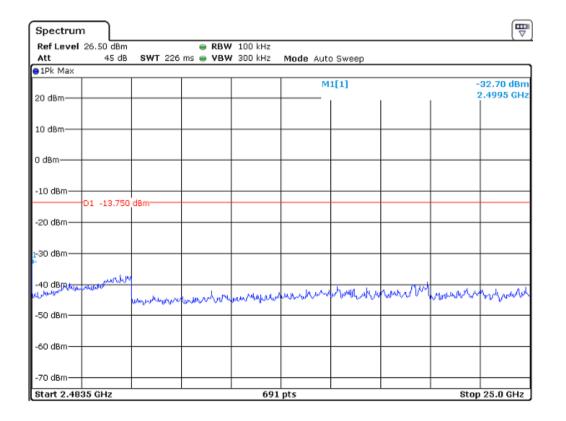
Spectrun	n								
	26.50 dBm 45 dB			SW 100 kHz					
o 1Pk Max	45 GB	SWT	24 ms 🛑 Vi	3W 300 kHz	Mode A	uto Sweep	 		
20 dBm					M	1[1]	-41.03 dBm 1.10680 GHz		
10 dBm									
0 dBm									
-10 dBm—	D1 -12.580	dBm					 		
-20 dBm									
-30 dBm—				M1					
-40 dBm-	ndurdhan	haudipolocischer	www.wheelawh	mundary	mound	museund	 renterseeind	wound	
-50 dBm									
-70 dBm-									
Start 1.0 M	/IHz			691	pts		Sto	p 2.4 GHz	





### Channel 11 (2462MHz) Reference Level: 6.25dBm

Spectrum	n								(The second seco
	26.50 dBm			100 kHz					
Att	45 dB	SWT 2	4 ms 👄 VBW	300 kHz	Mode Auto	Sweep			
😑 1Pk Max									
20 d8m					м	1[1] 	I		41.87 dBm 64840 GHz
10 dBm									
0 dBm									
-10 dBm		40.00							
-20 dBm	D1 -13.750	dem							
-30 dBm									
-40 dBm		and the second	and the second state	Sacalla nue		M1	II. and share hit and		at Last salts
-50 dBm	han an a		ungoladianou	- manage	anguntur men	WU-A, Kong, And JAM	www.www.www.		and a factor of the second of
-60 dBm									
-70 dBm									
Start 1.0 M	/Hz			691	pts	1		Sto	p 2.4 GHz





Spectrun									
•	26.50 dBm	Offset 0	.50 dB 🔵 RB	W 100 kHz					( • )
Att	45 dB		1.1 ms 👄 VE			uto Sweep			
⊖1Pk Max									
20 dBm						1[1]		1	-34.87 dB 4.330 MHz
					м	1[1]		2.4	5.17 dBm 69490 GHz
10 dBm			M1						
0 dBm	whilehold	uli, al had	, why man						
-10 dBm		U							
-20 dBm-	/		Who is						
-20 dBm			~ԽՆեկ	"We Augustalian	1				
-30 dBm					Whendo	whenned	manublem	uhandhaan	-bhuna-mhanan
-40 dBm									
-50 dBm									
-60 dBm									
-70 dBm									
CF 2.4835	GHz		1	691	pts		1	Span	80.0 MHz



#### 802.11n-HT40 Channel 03 (2422MHz) Reference Level: 2.55dBm

₩ Spectrum Ref Level 26.50 dBm RBW 100 kHz Att 45 dB SWT 24 ms 🖷 VBW 300 kHz Mode Auto Sweep 1Pk Max M1[1] -28.14 dBm 2.39830 GHz 20 dBm 10 dBm 0 dBm--10 dBm-D1 -17.450 dBm -20 dBm--30 dBm--40 dBmand marked and and the state of the second s Interes uppowerde manual يتوقع والحرية wry. mound w.uw haman -Thomas -50 dBm--60 dBm--70 dBm-Start 1.0 MHz 691 pts Stop 2.4 GHz

Spectrun	n								Ē
Ref Level	26.50 dBm		👄 RBW	/ 100 kHz					
Att	45 dB	SWT 226	ms 👄 VBW	/ 300 kHz	Mode Auto	o Sweep			
😑 1Pk Max									
20 dBm					м	1[1]	1		36.21 dBm 5.9965 GHz
10 dBm									
0 d8m									
-10 dBm									
-20 dBm—	-D1 -17.450	dBm							
-30 dBm—	M	1							
-40 dB00000	pender yearth	للاردارية	Mariahortung	hunner	www.phaha	Mmunn	www	whenter	www.how
-50 dBm		0							
-60 dBm									
-70 dBm									
	35 GHz			691	pts			Stop	25.0 GHz

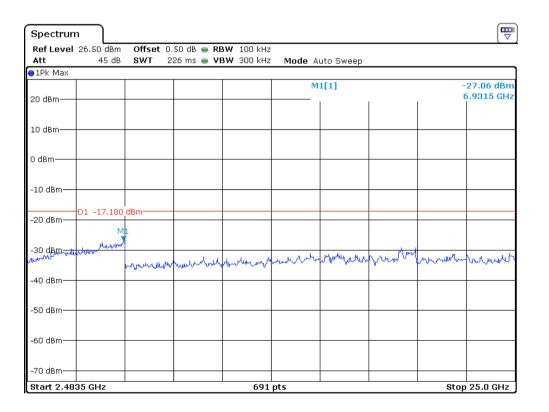


Spectrun	n								
Ref Level	26.50 dBm	Offset (	).50 dB 😑 R	<b>BW</b> 100 kH	z				
Att	45 dB	<b>SWT</b> 2-	46.5 µs 👄 🏼	<b>BW</b> 300 kH	z Mode /	Auto FFT			
⊖1Pk Max									
20 dBm						1[1] 1[1]			-27.88 dB 8.760 MHz 3.53 dBm 05730 GHz
10 dBm					M1				
0 dBm					Jurbert	- Juli white	publicher	Harly	
-10 dBm									
-20 dBm	Hungorth				A.I			- hu	wy
-30 dBm			1 January 1	Lard March and					hyphary
Muthingut	Margarit	www.how	Mmm. a						
-40 dBm									
-50 dBm									
-60 dBm									
-70 dBm									
CF 2.4 GH	z			691	pts			Span 1	10.0 MHz



### Channel 06 (2437MHz) Reference Level: 2.82dBm

Spectrun	r )								
Ref Level	26.50 dBm	Offset 0	50 dB 😑 RE	<b>3W</b> 100 kHz					
Att	45 dB	SWT	24 ms 👄 🛛 🛛	<b>3W</b> 300 kHz	Mode At	uto Sweep			
⊖1Pk Max									
20 dBm					M	1[1] 			28.59 dBm 39830 GHz
10 dBm									
0 dBm									
-10 dBm									
-20 dBm—	D1 -17.180	dBm							
-30 dBm—				elle anne d				1.0	¥
40 dBm-	muniphilip	ولالمستعوليات بالمريس	walk Worker	many	www.www.	nfutrationalised	hand	Hullunian	nauhormatul
-50 dBm—									
-60 dBm									
-70 dBm									
Start 1.0 M	1Hz			691	pts			Sto	p 2.4 GHz





# Channel 09 (2452MHz) Reference Level: 2.87dBm

Spectrun	n								Ē
	27.00 dBm		0.50 dB 👄 RE						
Att	45 dB	SWT	24 ms 👄 VE	3W 300 kHz	Mode A	uto Sweep			
●1Pk Max				M1[1]					41.10 dBm
20 dBm								۰ ۱	95.00 MHz
10 dBm									
0 dBm									
-10 dBm									
-20 dBm	-01 -17.130	d8m							
-30 dBm									
-40 dBm			M1						
Junder Marsh	umbhruhu	and water	MI	Harmon and	ddv4radersold	mound	metremanter	unterrendened	ownpound
-60 dBm									
-70 dBm									
Start 1.0 M	4Hz			691	pts			Sto	p 2.4 GHz

Spectrum	τ								(₩)
Ref Level Att	27.00 dBm 45 dB		50 dB 👄 RE 26 ms 👄 VE			uto Europa			
9 1Pk Max	45 06	311 2	20 1115 🚽 🖬	5W 300 KH2	MOUE A	uto Sweep			
20 dBm				M1[1]					29.74 dBm 2.4995 GHz
10 dBm									
0 dBm									
-10 dBm									
-20 dBm	01 -17.130	dBm-							
-30 dBm									
-40 dBm	rliniw	hippywalt-colybur	with	would	monther	uthrathration	mana ma	hunden	Yerman
-50 dBm									
-60 dBm									
-70 dBm	35 GHz			691	pts			Stop	25.0 GHz



Spectrun	n								
Ref Level	26.50 dBm	Offset	0.50 dB 🥃 I	<b>RBW</b> 100 kH	z				
Att	45 dB	<b>SWT</b> 2	46.5 µs 😑 '	<b>VBW</b> 300 kH	z Mode /	Auto FFT			
●1Pk Max									
20 dBm					48.8 M1[1] 2.1				-31.07 dB 8.800 MHz 2.77 dBm 35740 GHz
10 dBm									
O dBm	et y he had he	J. publichter	within						
-10 dBm		₩							
-20 ¢Bm— ₩ 1430 dBm—				Mulley Bay					
-40 dBm				Mr. M. M. Marthan	Jundond	a production of the	morneybri	Muniallula	mplound
-50 dBm									
-60 dBm									
-70 dBm									
CF 2.4835	GHz			691	pts			Span 1	10.0 MHz



Applicant: Shenzhen VStarcam Technology Co., Ltd Date of Test: June 1, 2018 Model: C26S

4.5 Out of Band Radiated Emissions (for emissions in 4.4 above that are less than 20dB below carrier), FCC Rule 15.247(d):

For out of band emissions that are close to or that exceed the 20dB attenuation requirement described in the specification, radiated measurements were performed at a 3m separation distance to determine whether these emissions complied with the general radiated emission requirement.

- [×] Not required, since all emissions are more than 20dB below fundamental
- [ ] See attached data sheet



Applicant: Shenzhen VStarcam Technology Co., Ltd Date of Test: June 1, 2018 Model: C26S

4.6 Transmitter Radiated Emissions in Restricted Bands, FCC Rule 15.35(b) (c):

Data is included of the worst case configuration (the configuration which resulted in the highest emission levels). A sample calculation, configuration photographs and data tables of the emissions are included. All measurements were performed with peak detection unless otherwise specified.

The data on the following pages list the significant emission frequencies, the limit and the margin of compliance.



Applicant: Shenzhen VStarcam Technology Co., Ltd Date of Test: June 1, 2018 Model: C26S

#### 4.7 Field Strength Calculation

The field strength is calculated by adding the reading on the Spectrum Analyzer to the factors associated with preamplifiers (if any), antennas, cables, pulse desensitization and average factors (when specified limit is in average and measurements are made with peak detectors). A sample calculation is included below.

FS = RA + AF + CF - AG + PD

 $\begin{array}{ll} Where & FS = Field \ Strength \ in \ dB_{\mu}V/m \\ RA = Receiver \ Amplitude \ (including \ preamplifier) \ in \ dB_{\mu}V \\ CF = Cable \ Attenuation \ Factor \ in \ dB \\ AF = Antenna \ Factor \ in \ dB \\ AG = Amplifier \ Gain \ in \ dB \\ PD = Pulse \ Desensitization \ in \ dB \end{array}$ 

In the radiated emission table which follows, the reading shown on the data table may reflect the preamplifier gain. An example of the calculations, where the reading does not reflect the preamplifier gain, follows:

FS = RA + AF + CF - AG + PD

Example

Assume a receiver reading of 62.0 dB $\mu$ V is obtained. The antenna factor of 7.4 dB and cable factor of 1.6 dB is added. The amplifier gain of 29 dB is subtracted. The pulse desensitization factor of the spectrum analyzer was 0 dB. The net field strength for comparison to the appropriate emission limit is 42 dB $\mu$ V/m. This value in dB $\mu$ V/m was converted to its corresponding level in  $\mu$ V/m.

RA = 62.0 dB $\mu$ V AF = 7.4 dB CF = 1.6 dB AG = 29.0 dB PD = 0 dB FS = 62 + 7.4 + 1.6 - 29 + 0 = 42 dB $\mu$ V/m

Level in mV/m = Common Antilogarithm [(42 dB $\mu$ V/m)/20] = 125.9  $\mu$ V/m



Intertek Report No.: 180528022SZN-001

Applicant: Shenzhen VStarcam Technology Co., Ltd Date of Test: June 1, 2018 Model: C26S

4.8 Radiated Spurious Emission

#### Worst Case Radiated Spurious Emission (802.11b-Channel 01) at 600.195 MHz

Judgement: Passed by 0.3dB margin.

For the electronic filing, the worst case radiated emission configuration photographs are saved with filename: radiated photos.pdf.



# Applicant: Shenzhen VStarcam Technology Co., LtdDate of Test: June 1, 2018Model: C26SWorst Case Operating Mode: Transmitting (802.11b-Channel 01)

#### **Radiated Emissions**

Polarization	Frequency (MHz)	Reading (dBµV)	Pre- Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	300.000	42.3	20.0	15.5	37.8	46.0	-8.2
Horizontal	480.080	36.5	20.0	20.4	36.9	46.0	-9.1
Horizontal	960.230	29.9	20.0	27.6	37.5	54.0	-16.5
Vertical	499.965	40.4	20.0	20.6	41.0	46.0	-5.0
Vertical	600.195	43.3	20.0	22.4	45.7	46.0	-0.3
Vertical	960.038	41.4	20.0	27.6	49.0	54.0	-5.0

NOTES: 1. Quasi-Peak detector is used for frequency below 1GHz.

- 2. All measurements were made at 3 meters. Harmonic emissions not detected at the 3-meter distances were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other harmonic emissions than those reported were detected at a test distance of 0.3-meter.
- 3. Negative value in the margin column shows emission below limit.



Applicant: Shenzhen VStarcam Technology Co., LtdDate of Test: June 1, 2018Model: C26SOperating Mode: Transmitting (802.11b-Channel 01)

### **Radiated Emissions**

Polarization	Frequency (MHz)	Reading (dBµV)	Pre- Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	*4824.000	54.6	36.1	34.2	52.7	74.0	-21.3
Horizontal	*2398.784	54.8	34.7	33.1	53.2	74.0	-20.8

Polarization	Frequency (MHz)	Reading (dBµV)	Pre- Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	*4824.000	40.7	36.1	34.2	38.8	54.0	-15.2
Horizontal	*2398.784	39.2	34.7	33.1	37.6	54.0	-16.4

NOTES: 1. Peak detector is used, RBW=1MHz/VBW=3MHz for peak value and RBW=1MHz/VBW=10Hz for average value.

- 2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
- 3. Negative value in the margin column shows emission below limit.
- 4. Horn antenna used for the emission over 1000MHz.
- \* Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.



# Applicant: Shenzhen VStarcam Technology Co., LtdDate of Test: June 1, 2018Model: C26SOperating Mode: Transmitting (802.11b-Channel 06)

## **Radiated Emissions**

Polarization	Frequency (MHz)	Reading (dBµV)	Pre- Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	*4874.000	54.0	36.1	34.6	52.5	74.0	-21.5
Horizontal	*7311.000	53.2	35.6	37.1	54.7	74.0	-19.3

Polarization	Frequency (MHz)	Reading (dBµV)	Pre- Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	*4874.000	40.6	36.1	34.6	39.1	54.0	-14.9
Horizontal	*7311.000	38.6	35.6	37.1	40.1	54.0	-13.9

NOTES: 1. Peak detector is used, RBW=1MHz/VBW=3MHz for peak value and RBW=1MHz / VBW=10Hz for average value.

- 2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
- 3. Negative value in the margin column shows emission below limit.
- 4. Horn antenna used for the emission over 1000MHz.
- \* Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.



Applicant: Shenzhen VStarcam Technology Co., Ltd Date of Test: June 1, 2018 Model: C26S Operating Mode: Transmitting (802.11b-Channel 11)

#### **Radiated Emissions**

Polarization	Frequency (MHz)	Reading (dBµV)	Pre- Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	*4924.000	54.0	36.1	34.6	52.5	74.0	-21.5
Horizontal	*7386.000	53.3	35.6	37.2	54.9	74.0	-19.1

Polarization	Frequency (MHz)	Reading (dBµV)	Pre- Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	*4924.000	39.8	36.1	34.6	38.3	54.0	-15.7
Horizontal	*7386.000	41.6	35.6	37.2	43.2	54.0	-10.8

- NOTES: 1. Peak detector is used, RBW=1MHz/VBW=3MHz for peak value and RBW=1MHz / VBW=10Hz for average value.
  - 2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
  - 3. Negative value in the margin column shows emission below limit.
  - 4. Horn antenna used for the emission over 1000MHz.
  - \* Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.



Applicant: Shenzhen VStarcam Technology Co., LtdDate of Test: June 1, 2018Model: C26SOperating Mode: Transmitting (802.11g-Channel 01)

## **Radiated Emissions**

Polarization	Frequency (MHz)	Reading (dBµV)	Pre- Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	*4824.000	52.5	36.1	34.2	50.6	74.0	-23.4
Horizontal	*2398.310	55.9	34.7	33.1	54.3	74.0	-19.7

Polarization	Frequency (MHz)	Reading (dBµV)	Pre- Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	*4824.000	38.1	36.1	34.2	36.2	54.0	-17.8
Horizontal	*2398.310	38.7	34.7	33.1	37.1	54.0	-16.9

NOTES: 1. Peak detector is used, RBW=1MHz/VBW=3MHz for peak value and RBW=1MHz/VBW=10Hz for average value.

- 2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
- 3. Negative value in the margin column shows emission below limit.
- 4. Horn antenna used for the emission over 1000MHz.
- \* Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.



Applicant: Shenzhen VStarcam Technology Co., LtdDate of Test: June 1, 2018Model: C26SOperating Mode: Transmitting (802.11g-Channel 06)

### **Radiated Emissions**

Polarization	Frequency (MHz)	Reading (dBµV)	Pre- Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	*4874.000	52.0	36.1	34.6	50.5	74.0	-23.5
Horizontal	*7311.000	52.1	35.6	37.1	53.6	74.0	-20.4

Polarization	Frequency (MHz)	Reading (dBµV)	Pre- Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	*4874.000	37.8	36.1	34.6	36.3	54.0	-17.7
Horizontal	*7311.000	37.9	35.6	37.1	39.4	54.0	-14.6

NOTES: 1. Peak detector is used, RBW=1MHz/VBW=3MHz for peak value and RBW=1MHz / VBW=10Hz for average value.

- 2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
- 3. Negative value in the margin column shows emission below limit.
- 4. Horn antenna used for the emission over 1000MHz.
- \* Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.



Applicant: Shenzhen VStarcam Technology Co., Ltd Date of Test: June 1, 2018 Model: C26S Operating Mode: Transmitting (802.11g-Channel 11)

#### **Radiated Emissions**

Polarization	Frequency (MHz)	Reading (dBµV)	Pre- Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	*4924.000	51.7	36.1	34.6	50.2	74.0	-23.8
Horizontal	*7386.000	52.0	35.6	37.2	53.6	74.0	-20.4

Polarization	Frequency (MHz)	Reading (dBµV)	Pre- Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	*4924.000	37.9	36.1	34.6	36.4	54.0	-17.6
Horizontal	*7386.000	37.9	35.6	37.2	39.5	54.0	-14.5

- NOTES: 1. Peak detector is used, RBW=1MHz/VBW=3MHz for peak value and RBW=1MHz / VBW=10Hz for average value.
  - 2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
  - 3. Negative value in the margin column shows emission below limit.
  - 4. Horn antenna used for the emission over 1000MHz.
  - \* Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.



Applicant: Shenzhen VStarcam Technology Co., LtdDate of Test: June 1, 2018Model: C26SOperating Mode: Transmitting (802.11n20-Channel 01)

### **Radiated Emissions**

Polarization	Frequency (MHz)	Reading (dBµV)	Pre- Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	*4824.000	51.8	36.1	34.2	49.9	74.0	-24.1
Horizontal	*2398.021	56.4	34.7	33.1	54.8	74.0	-19.2

Polarization	Frequency (MHz)	Reading (dBµV)	Pre- Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	*4824.000	37.5	36.1	34.2	35.6	54.0	-18.4
Horizontal	*2398.021	45.4	34.7	33.1	43.8	54.0	-10.2

NOTES: 1. Peak detector is used, RBW=1MHz/VBW=3MHz for peak value and RBW=1MHz/VBW=10Hz for average value.

- 2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
- 3. Negative value in the margin column shows emission below limit.
- 4. Horn antenna used for the emission over 1000MHz.
- \* Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.



Applicant: Shenzhen VStarcam Technology Co., LtdDate of Test: June 1, 2018Model: C26SOperating Mode: Transmitting (802.11n20-Channel 06)

### **Radiated Emissions**

Polarization	Frequency (MHz)	Reading (dBµV)	Pre- Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	*4874.000	51.7	36.1	34.6	50.2	74.0	-23.8
Horizontal	*7311.000	54.0	35.6	37.1	55.5	74.0	-18.5

Polarization	Frequency (MHz)	Reading (dBµV)	Pre- Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	*4874.000	37.0	36.1	34.6	35.5	54.0	-18.5
Horizontal	*7311.000	37.9	35.6	37.1	39.4	54.0	-14.6

NOTES: 1. Peak detector is used, RBW=1MHz/VBW=3MHz for peak value and RBW=1MHz / VBW=10Hz for average value.

- 2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
- 3. Negative value in the margin column shows emission below limit.
- 4. Horn antenna used for the emission over 1000MHz.
- \* Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.



Applicant: Shenzhen VStarcam Technology Co., LtdDate of Test: June 1, 2018Model: C26SOperating Mode: Transmitting (802.11n20-Channel 11)

#### **Radiated Emissions**

Polarization	Frequency (MHz)	Reading (dBµV)	Pre- Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	*4924.000	51.7	36.1	34.6	50.2	74.0	-23.8
Horizontal	*7386.000	53.8	35.6	37.2	55.4	74.0	-18.6

Polarization	Frequency (MHz)	Reading (dBµV)	Pre- Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	*4924.000	37.3	36.1	34.6	35.8	54.0	-18.2
Horizontal	*7386.000	38.0	35.6	37.2	39.6	54.0	-14.4

- NOTES: 1. Peak detector is used, RBW=1MHz/VBW=3MHz for peak value and RBW=1MHz / VBW=10Hz for average value.
  - 2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
  - 3. Negative value in the margin column shows emission below limit.
  - 4. Horn antenna used for the emission over 1000MHz.
  - \* Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.



Applicant: Shenzhen VStarcam Technology Co., LtdDate of Test: June 1, 2018Model: C26SOperating Mode: Transmitting (802.11n40-Channel 03)

### **Radiated Emissions**

Polarization	Frequency (MHz)	Reading (dBµV)	Pre- Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	*4844.000	51.9	36.1	34.2	50.0	74.0	-24.0
Horizontal	*2398.020	55.9	34.7	33.1	54.3	74.0	-19.7

Polarization	Frequency (MHz)	Reading (dBµV)	Pre- Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	*4844.000	38.0	36.1	34.2	36.1	54.0	-17.9
Horizontal	*2398.020	40.8	34.7	33.1	39.2	54.0	-14.8

NOTES: 1. Peak detector is used, RBW=1MHz/VBW=3MHz for peak value and RBW=1MHz/VBW=10Hz for average value.

- 2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
- 3. Negative value in the margin column shows emission below limit.
- 4. Horn antenna used for the emission over 1000MHz.
- \* Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.



Applicant: Shenzhen VStarcam Technology Co., LtdDate of Test: June 1, 2018Model: C26SOperating Mode: Transmitting (802.11n40-Channel 06)

## **Radiated Emissions**

Polarization	Frequency (MHz)	Reading (dBµV)	Pre- Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	*4874.000	51.6	36.1	34.6	50.1	74.0	-23.9
Horizontal	*7311.000	52.9	35.6	37.1	54.4	74.0	-19.6

Polarization	Frequency (MHz)	Reading (dBµV)	Pre- Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	*4874.000	37.7	36.1	34.6	36.2	54.0	-17.8
Horizontal	*7311.000	37.9	35.6	37.1	39.4	54.0	-14.6

NOTES: 1. Peak detector is used, RBW=1MHz/VBW=3MHz for peak value and RBW=1MHz / VBW=10Hz for average value.

- 2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
- 3. Negative value in the margin column shows emission below limit.
- 4. Horn antenna used for the emission over 1000MHz.
- \* Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.



# Applicant: Shenzhen VStarcam Technology Co., LtdDate of Test: June 1, 2018Model: C26SOperating Mode: Transmitting (802.11n40-Channel 09)

#### **Radiated Emissions**

Polarization	Frequency (MHz)	Reading (dBµV)	Pre- Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	*4904.000	51.6	36.1	34.6	50.1	74.0	-23.9
Horizontal	*7356.000	53.0	35.6	37.2	54.6	74.0	-19.4

Polarization	Frequency (MHz)	Reading (dBµV)	Pre- Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
Horizontal	*4904.000	37.9	36.1	34.6	36.4	54.0	-17.6
Horizontal	*7356.000	38.0	35.6	37.2	39.6	54.0	-14.4

- NOTES: 1. Peak detector is used, RBW=1MHz/VBW=3MHz for peak value and RBW=1MHz / VBW=10Hz for average value.
  - 2. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
  - 3. Negative value in the margin column shows emission below limit.
  - 4. Horn antenna used for the emission over 1000MHz.
  - \* Emission within the restricted band meets the requirement of section 15.205. The corresponding limit as per 15.209 is based on Quasi peak limit for frequencies below 1000 MHz and average limit for frequencies over 1000 MHz. The radio frequency emissions above 1GHz also meet corresponding 20dB permitted peak limit with a peak detector function.



Intertek Report No.: 180528022SZN-001

Applicant: Shenzhen VStarcam Technology Co., Ltd Date of Test: June 1, 2018 Model: C26S

4.9 Conducted Emission

#### Worst Case Radiated Spurious Emission (802.11b-Channel 11) at 0.534MHz is passed by 4.9dB margin.

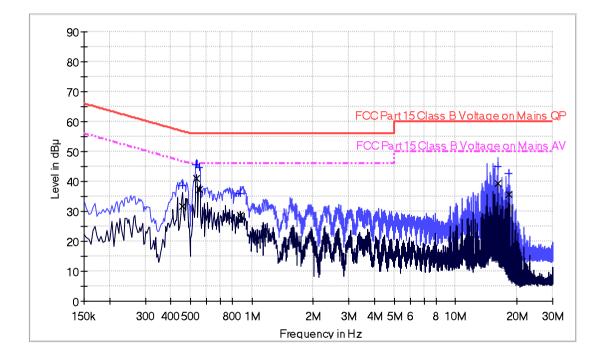
For the electronic filing, the worst case radiated emission configuration photographs are saved with filename: conducted photos.pdf.



Applicant: Shenzhen VStarcam Technology Co., LtdDate of Test: June 1, 2018Model: C26SWorst Case Operating Mode: Transmitting (802.11b-Channel 11)Phase: Live

# **Graphic / Data Table**

Conducted Emissions Pursuant to FCC 15.207: Emissions Requirement



# Limit and Margin QP

Frequency (MHz)	QuasiPeak (dB¦ÌV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB¦ÌV)
0.458000	38.6	9.000	L1	9.7	18.1	56.7
0.534000	45.7	9.000	L1	9.7	10.3	56.0
0.550000	44.8	9.000	L1	9.7	11.2	56.0
0.882000	36.0	9.000	L1	9.7	20.0	56.0
16.166000	45.0	9.000	L1	10.1	15.0	60.0
18.242000	42.7	9.000	L1	10.3	17.3	60.0

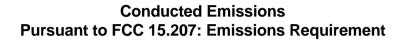
# Limit and Margin AV

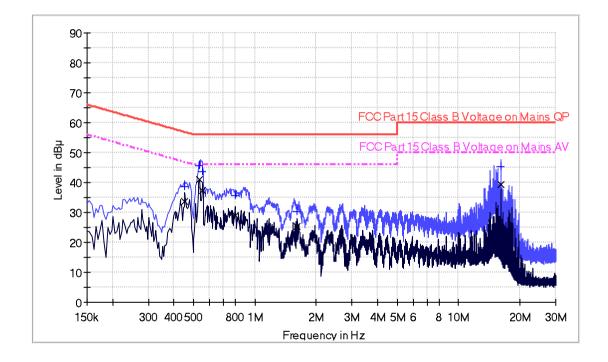
Frequency (MHz)	Average (dB¦ÌV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB¦ÌV)
0.458000	31.7	9.000	L1	9.7	15.0	46.7
0.534000	41.1	9.000	L1	9.7	4.9	46.0
0.550000	37.2	9.000	L1	9.7	8.8	46.0
0.882000	28.7	9.000	L1	9.7	17.3	46.0
16.166000	39.5	9.000	L1	10.1	10.5	50.0
18.242000	35.7	9.000	L1	10.3	14.3	50.0



Applicant: Shenzhen VStarcam Technology Co., LtdDate of Test: June 1, 2018Model: C26SWorst Case Operating Mode: Transmitting (802.11b-Channel 11)Phase: Neutral

# **Graphic / Data Table**





## Limit and Margin QP

Frequency (MHz)	QuasiPeak (dB¦ÌV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB¦ÌV)
0.454000	38.8	9.000	N	9.7	18.0	56.8
0.534000	45.8	9.000	N	9.7	10.0	56.0
0.554000	43.6	9.000	N	9.7	12.4	56.0
0.798000	35.7	9.000	N	9.7	20.3	56.0
1.618000	30.5	9.000	N	9.7	25.5	56.0
16.226000	45.3	9.000	Ν	10.1	14.7	60.0

# Limit and Margin AV

Frequency (MHz)	Average (dB¦ÌV)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB¦ÌV)
0.454000	33.7	9.000	N	9.7	13.1	46.8
0.534000	41.0	9.000	N	9.7	5.0	46.0
0.554000	37.4	9.000	N	9.7	8.6	46.0
0.798000	29.1	9.000	Ν	9.7	16.9	46.0
1.618000	25.5	9.000	N	9.7	20.5	46.0
16.226000	39.4	9.000	N	10.1	10.6	50.0



Intertek Report No.: 180528022SZN-001

Applicant: Shenzhen VStarcam Technology Co., Ltd Date of Test: June 1, 2018 Model: C26S

4.10 Radiated Emissions from Digital Section of Transceiver, FCC Ref: 15.109

- [ ] Not required No digital part
- [ ] Test results are attached
- [x] Included in the separated report.



Applicant: Shenzhen VStarcam Technology Co., Ltd Date of Test: June 1, 2018 Model: C26S

4.11 Transmitter Duty Cycle Calculation and Measurements, FCC Rule 15.35(b), (c)

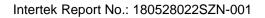
The EUT antenna output port was connected to the input of the spectrum analyzer. The analyzer center frequency was set to EUT RF channel carrier. The SWEP function on the analyzer was set to ZERO SPAN. The Transmitter ON time was determined from the resultant time-amplitude display:

	See attached spectrum analyzer chart (s) for Transmitter timing
	See Transmitter timing diagram provided by manufacturer
х	Not applicable, duty cycle was not used.



# **EXHIBIT 5**

### **EQUIPMENT PHOTOGRAPHS**





#### 5.0 Equipment Photographs

For electronic filing, the photographs are saved with filename: external photos.pdf & internal photos.pdf.



## **EXHIBIT 6**

### **PRODUCT LABELLING**



#### 6.0 Product Labeling

For electronic filing, the FCC ID label artwork and location is saved with filename: label.pdf.



# EXHIBIT 7 TECHNICAL SPECIFICATIONS



#### 7.0 <u>Technical Specifications</u>

For electronic filing, the block diagram and circuit diagram are saved with filename: block.pdf and circuit.pdf respectively.



# **EXHIBIT 8**

**INSTRUCTION MANUAL** 



#### 8.0 Instruction Manual

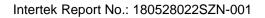
For electronic filing, a preliminary copy of the Instruction Manual is saved with filename: manual.pdf.

This manual will be provided to the end-user with each unit sold/leased in the United States.



# **EXHIBIT 9**

### **CONFIDENTIALITY REQUEST**





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#### 9.0 Confidentiality Request

For electronic filing, the confidentiality request of the tested EUT is saved with filename: request.pdf.



# **EXHIBIT 10**

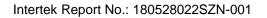
### **MISCELLANEOUS INFORMATION**



#### 10.0 Discussion of Pulse Desensitization

The determination of pulse desensitivity was made in accordance with Hewlett Packard Application Note 150-2, *Spectrum Analysis ... Pulsed RF.* 

Pulse desensitivity is not applicable for this device since the transmitter transmits the RF signal continuously.





## **EXHIBIT 11**

### **TEST EQUIPMENT LIST**



**TEST REPORT** 

#### 11.0 Test Equipment List

Equipment No.	Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Due Date
SZ182-02	RF Power Meter	Anritsu	ML2496A	1302005	1-Jun-2018	1-Jun-2019
SZ182-02-01	Power Sensor	Anritsu	MA2411B	1207429	1-Jun-2018	1-Jun-2019
SZ061-12	BiConiLog Antenna	ETS	3142E	00166158	20-Sep-2017	20-Sep-2018
SZ185-01	EMI Receiver	R&S	ESCI	100547	24-Jan-2018	24-Jan-2019
SZ061-08	Horn Antenna	ETS	3115	00092346	20-Sep-2017	20-Sep-2018
SZ061-06	Active Loop Antenna	Electro- Metrics	EM-6876	217	11-May-2018	11-May-2019
SZ056-03	Spectrum Analyzer	R&S	FSP 30	101148	1-Jun-2017	1-Jun-2018
SZ056-06	Signal Analyzer	R&S	FSV 40	101101	7-Jul-2017	7-Jul-2018
SZ181-04	Preamplifier	Agilent	8449B	3008A024 74	24-Jan-2018	24-Jan-2019
SZ188-01	Anechoic Chamber	ETS	RFD-F/A- 100	4102	16-Jan-2017	16-Jan-2019
SZ062-02	RF Cable	RADIALL	RG 213U		8-Jan-2018	8-Jul-2018
SZ062-05	RF Cable	RADIALL	0.04- 26.5GHz		16-Mar-2018	16-Sep-2018
SZ062-12	RF Cable	RADIALL	0.04- 26.5GHz		16-Mar-2018	16-Sep-2018
SZ067-04	Notch Filter	Micro-Tronics	BRM5070 2-02		14-Jun-2017	14-Jun-2018
SZ185-02	EMI Test Receiver	R&S	ESCI	100692	30-Oct-2017	30-Oct-2018
SZ187-01	Two-Line V- Network	R&S	ENV216	100072	30-Oct-2017	30-Oct-2018
SZ187-02	Two-Line V- Network	R&S	ENV216	100072	12-Jul-2017	12-Jul-2018
SZ188-03	Shielding Room	ETS	RFD-100	4100	16-Jan-2017	16-Jan-2019