Prüfbericht-Nr.: *Test Report No.:*	**50062633 002**	**Auftrags-Nr.:** *Order No.:*	164077890	Seite 1 von 27 *Page 1 of 27*
Kunden-Referenz-Nr.: *Client Reference No.:*	N/A	**Auftragsdatum:** *Order date:*	03.11.2016	
Auftraggeber: *Client:*	SWANN COMMUNICATIONS LIMITED, RM1601, 249-255 DES VOEUX ROAD, CENTRAL, HONGKONG			
Prüfgegenstand: *Test item:*	Swann Wireless HD Smart Security Camera			
Bezeichnung / Typ-Nr.: *Identification / Type No.:*	SWWHD-INTCAM			
Auftrags-Inhalt: *Order content:*	FCC approval			
Prüfgrundlage: *Test specification:*	CFR47 FCC Part 15: Subpart C Section 15.407 CFR47 FCC Part 15: Subpart C Section 15.207 CFR47 FCC Part 15: Subpart C Section 15.209 CFR47 FCC Part 15: Subpart B Section 15.107 CFR47 FCC Part 15: Subpart B Section 15.109 FCC KDB publication 447498 D01 v06			

Wareneingangsdatum: *Date of receipt:*	03.11.2016	Refer to photo documents
Prüfmuster-Nr.: *Test sample No.:*	D161109357, D161109358	
Prüfzeitraum: *Testing period:*	20.11.2016 - 24.03.2017	
Ort der Prüfung: *Place of testing:*	BTL Inc.	
Prüflaboratorium: *Testing laboratory:*	TÜV Rheinland (Shenzhen) Co., Ltd.	
Prüfergebnis*: *Test result*:*	Pass	

geprüft von / *tested by:*

05.04.2017	Alex Lan / Project Engineer	
Datum *Date*	**Name / Stellung** *Name / Position*	**Unterschrift** *Signature*

kontrolliert von / *reviewed by:*

04.07.2017	Sam Lin / Technical Certifier	
Datum *Date*	**Name / Stellung** *Name / Position*	**Unterschrift** *Signature*

Sonstiges / *Other:*
This report is for NII equipment class.
FCC ID:2AKPISWWHDINTCAM

Zustand des Prüfgegenstandes bei Anlieferung: *Condition of the test item at delivery:* — Prüfmuster vollständig und unbeschädigt / *Test item complete and undamaged*

* Legende:	1 = sehr gut	2 = gut	3 = befriedigend	4 = ausreichend	5 = mangelhaft
	P(ass) = entspricht o.g. Prüfgrundlage(n)		F(ail) = entspricht nicht o.g. Prüfgrundlage(n)	N/A = nicht anwendbar	N/T = nicht getestet
Legend:	*1 = very good*	*2 = good*	*3 = satisfactory*	*4 = sufficient*	*5 = poor*
	P(ass) = passed a.m. test specification(s)		*F(ail) = failed a.m. test specification(s)*	*N/A = not applicable*	*N/T = not tested*

TEST SUMMARY

5.1.1 DUTY CYCLE
RESULT: Pass

5.1.2 MAXIMUM CONDUCTED OUTPUT POWER
RESULT: Pass

5.1.3 26DB BANDWIDTH, 6DB BANDWIDTH AND 99% BANDWIDTH
RESULT: Pass

5.1.4 POWER SPECTRAL DENSITY
RESULT: Pass

5.1.5 UNWANTED EMISSION
RESULT: Pass

5.1.6 RADIATED EMISSIONS
RESULT: Pass

5.1.7 CONDUCTED EMISSIONS
RESULT: Pass

Contents

1. General Remarks

1.1 Complementary Materials

All attachments are integral parts of this test report. This applies especially to the following appendix:

Appendix A: Test Results of Wi-Fi operation for U-NII-1 band and U-NII-3 band

Appendix B: Test Results of RF Exposure

2. Test Sites

2.1 Test Facilities

BTL Inc.
(FCC Registration No.: 319330 & IC Registration Number: 4428B-1)

No. 3, Jinshagang 1st Road, Shixia, Dalang Town, Dongguan, China

The tests at the test site have been conducted under the supervision of a TÜV engineer.

2.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment

Kind of Equipment	Manufacturer	Type	S/N	Calibrated until
Radio Spectrum – 6 dB Bandwidth				
Spectrum Analyzer	R&S	FSP 40	100185	Sep. 04, 2017
Radio Spectrum – Peak Output Power				
P-series Power meter	Agilent	N1911A	MY45100473	Mar. 26, 2018
Wireband Power sensor	Agilent	N1921A	MY51100041	Mar. 26, 2018
Radio Spectrum – Antenna Conducted Spurious Emission				
Spectrum Analyzer	R&S	FSP 40	100185	Sep. 04, 2017
Radio Spectrum – Power Spectral Density				
Spectrum Analyzer	R&S	FSP 40	100185	Sep. 04, 2017
Radio Spectrum – Frequency Stability Measurement				
Spectrum Analyzer	R&S	FSP 40	100185	Sep. 04, 2017
Precision Oven Tester	HOLINK	H-T-1F-D	BA03101701	Sep. 04, 2017
Conducted emissions				
50Ω Terminator	SHX	TF2-3G-A	8122901	Mar. 26, 2018
TWO-LINE V-NETWORK	R&S	ENV216	100526	Mar. 26, 2018
EMI Test Receiver	R&S	ESR3	101862	Sep. 04, 2017
Artificial-Mains Network	SCHWARZBECK	NSLK 8127	8127685	Sep. 04, 2017
Cable	N/A	RG400 12m	N/A	Mar. 09, 2018
Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
Spurious Emissions and Radiated emissions				
Antenna	Schwarbeck	VULB9160	9160-3232	Mar. 26, 2018
Amplifier	HP	8447D	2944A09673	Oct. 20, 2017
Receiver	Agilent	N9038A	MY52130039	Sep. 04, 2017
Controller	CT	SC100	N/A	N/A
Controller	MF	MF-7802	MF780208416	N/A
Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
Amplifier	Agilent	8449B	3008A02274	Mar. 09, 2018
Receiver	Agilent	N9038A	MY52130039	Sep. 04, 2017
Antenna	EM	EM-6876-1	230	Jul. 08, 2017
Controller	CT	SC100	N/A	N/A
Controller	MF	MF-7802	MF780208416	N/A
Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	9170319	Apr. 22, 2018
Spectrum Analyzer	R&S	FSP40	100185	Sep. 04, 2017
Microwave Preamplifier With Adaptor	EMC INSTRUMENT	EMC2654045	980039 & HA01	Mar. 26, 2018
Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A

2.3 Traceability

All measurement equipment calibrations are traceable to NIST or where calibration is performed outside the United States, to equivalent nationally recognized standards organizations.

2.4 Calibration

Equipment requiring calibration is calibrated periodically by the manufacturer or according to manufacturer's specifications. Additionally all equipment is verified for proper performance on a regular basics using in house standards or comparisons.

2.5 Measurement Uncertainty

The estimated combined standard uncertainty for radiated emissions and conducted emissions measurements as below table,

Items		Extended Uncertainty
CE	Disturbance Voltage (dBuV)	U=2.32dB, k=2, σ=95%
RE (9kHz-30MHz)	Field strength (dBuV/m)	U=3.79dB, k=2, σ=95%
RE (30-1000MHz)	Field strength (dBuV/m)	U=4.10dB, k=2, σ=95%
RE (above 1000MHz)	Field strength (dBuV/m)	U=4.15dB, k=2, σ=95%

2.6 Location of Original Data

The original copies of all test data taken during actual testing were attached at Appendix1 of this report and delivered to the applicant. A copy has been retained in the TÜV Rheinland (Shenzhen) file for certification follow-up purposes.

2.7 Status of Facility Used for Testing

The BTL Inc. facility located at No. 3, Jinshagang 1st Road, Shixia, Dalang Town, Dongguan, China is listed on the US Federal Communications Commission list of facilities approved to perform measurements.

3. General Product Information

3.1 Product Function and Intended Use

The EUT is wireless camera. It supports 802.11 a/b/g/n wireless technologies. The EUT supports the following funtions:

- Wireless access in the 2.4GHz band or 5GHz band

For details refer to the User Manual, Technical Description and Circuit Diagram.

3.2 Ratings and System Details

Table 2: Technical Specification of EUT

Technical Specification	Value
Kind of Equipment:	Swann Wireless HD Smart Security Camera
Type Designation:	SWWHD-INTCAM
FCC ID:	2AKPISWWHDINTCAM
IC:	--
HVIN:	--
Type of Equipment:	Class B digital equipment
Equiupment Class:	NII
Wireless Technology:	Wi-Fi
Operating Frequency Range:	U-NII-1 Band: 5180-5240 MHz U-NII-3 Band: 5745-5825 MHz
Channel Number:	U-NII-1 Band: 4 channels for 20MHz bandwidth 2 channels for 40MHz bandwidth U-NII-3 Band: 5 channels for 20MHz bandwidth 2 channels for 40MHz bandwidth
Channel Separation:	20MHz
Type of Modulation:	OFDM for Wi-Fi 802.11a/n
Operating Voltage:	DC 3.8V via internal Lithium battery DC 5V via USB port for battery charging
Operating Temperature Range:	0°C to 40°C
Antenna Type:	Integrated PIFA Antenna for WiFi
Smart Antenna Systems:	Not Applicable
Number of Antenna:	1 for Wi-Fi
Antenna Gain:	Max. 3 dBi for Wi-Fi Antenna

Table 3: List of Radio Frequency Channel, Wi-Fi 802.11 a/n 20MHz bandwidth

U-NII-1 Band					
RF Channel	**Frequency (MHz)**	**RF Channel**	**Frequency (MHz)**	**RF Channel**	**Frequency (MHz)**
36	5180.00	40	5200.00	44	5220.00
48	5240.00	--	--	--	--
U-NII-3 Band					
RF Channel	**Frequency (MHz)**	**RF Channel**	**Frequency (MHz)**	**RF Channel**	**Frequency (MHz)**
149	5745.00	153	5765.00	157	5785.00
161	5805.00	165	5825.00	--	--

Table 4: List of Radio Frequency Channel, Wi-Fi 802.11 n 40MHz bandwidth

U-NII-1 Band					
RF Channel	**Frequency (MHz)**	**RF Channel**	**Frequency (MHz)**	**RF Channel**	**Frequency (MHz)**
38	5190.00	46	5230.00	--	--
U-NII-3 Band					
RF Channel	**Frequency (MHz)**	**RF Channel**	**Frequency (MHz)**	**RF Channel**	**Frequency (MHz)**
151	5755.00	159	5795.00	--	--

3.3 Independent Operation Modes

The basic operation modes are:

A. Transmitting
    1. Low Channel
    2. Mid Channel
    3. High Channel
B. Receiving
    1. Low Channel
    2. Mid Channel
    3. High Channel
C. Battery charging via USB port
D. Standby
E. Off

Table 5: List of Wi-Fi operation modes

Mode	Wi-Fi Operation		
Antenna	**Single**		
Bandwidth	**20**	**40**	**80**
802.11a	√	x	x
802.11n	√	√	x
802.11ac	x	x	x

Note:
1. The EUT support HT20 and HT40.
2. 802.11n support MCS0 ~ MCS7 data rates.

3.4 Noise Generating and Noise Suppressing Parts

Refer to the Circuit Diagram.

3.5 Submitted Documents

- Bill of Material	- Circuit Diagram
- PCB Layout	- Instruction Manual
- Photo Document	- Rating Label

4. Test Set-up and Operation Modes

4.1 Principle of Configuration Selection

Radio Spectrum: The equipment under test (EUT) was configured at its highest power output in order to measure its highest possible radiation and conducted level. The test modes were adapted accordingly in reference to the instructions for use.

Emission: The equipment under test (EUT) was configured to measure its highest possible radiation level. The test modes were adapted accordingly in reference to the instructions for use.

4.2 Test Operation and Test Software

Test operation refers to test setup in chapter 5.

Test software ‘MP Tool’ provided by the applicant was used to control the operating channels as well as output power for Wi-Fi operation.

Table 6: List of Frequencies under Test, Wi-Fi operation

Operation Band	802.11a and 802.11n HT20		802.11n HT40	
	Channel number	Frequency (MHz)	Channel number	Frequency (MHz)
U-NII-1	36	5180.00	38	5190.00
	40	5200.00	46	5230.00
	48	5240.00	--	--
U-NII-3	149	5745.00	151	5755.00
	157	5785.00	159	5795.00
	165	5825.00	--	--

Table 7: List of Operation mode under Test, Wi-Fi operation

Configuration	Data Rates	Transmit Chain
Transmit Chain - 1TX_Non-Beamforming		
802.11a	6Mbps	ANT 1
802.11n HT20	MCS0	ANT 1
802.11n HT40	MCS0	ANT 1
Note: Preliminary tests were performed in different data rate and antenna chain to find the worst case. The data rate and antenna chain shown in the table is the worst case.		

Table 8: Power level setting of U-NII-1 band in test software

Power Level Setting in Test Software			
Configuration	**802.11a**	**802.11n HT20**	*Not applicable*
Transmit Chain	**1TX**	**1TX**	
Channel 36	13	13	
Channel 40	17	17	
Channel 48	17	17	
Configuration	**802.11n HT40**	*Not applicable*	
Transmit Chain	**1TX**		
Channel 38	12		
Channel 46	17		

Table 9: Power level setting of U-NII-3 band in test software

Power Level Setting in Test Software			
Configuration	**802.11a**	**802.11n HT20**	*Not applicable*
Transmit Chain	**1TX**	**1TX**	
Channel 149	17	17	
Channel 157	17	17	
Channel 165	17	17	
Configuration	**802.11n HT40**	*Not applicable*	
Transmit Chain	**1TX**		
Channel 151	17		
Channel 159	17		

4.3 Special Accessories and Auxiliary Equipment

Table 10: List of Accessories and Auxiliary Equipment

Description	Manufacturer	Model	S/N	Remark
Laptop PC	DELL	745	G7K832X	FCC DOC
AC/DC Adapter	Dongguan City Yingju Eelectronics Co., Ltd.	YJC010W-0502000U	N/A	Input: AC 100-240 V, 50/60Hz Output: 5.0V DC

4.4 Countermeasures to achieve EMC Compliance

The test sample which has been tested contained the noise suppression parts as described in the Constructional Data Form or the Technical Construction File. No additional measures were employed to achieve compliance.

4.5 Test Setup Diagram

Diagram of Measurement Configuration for Radiation Test (Below 1 GHz)

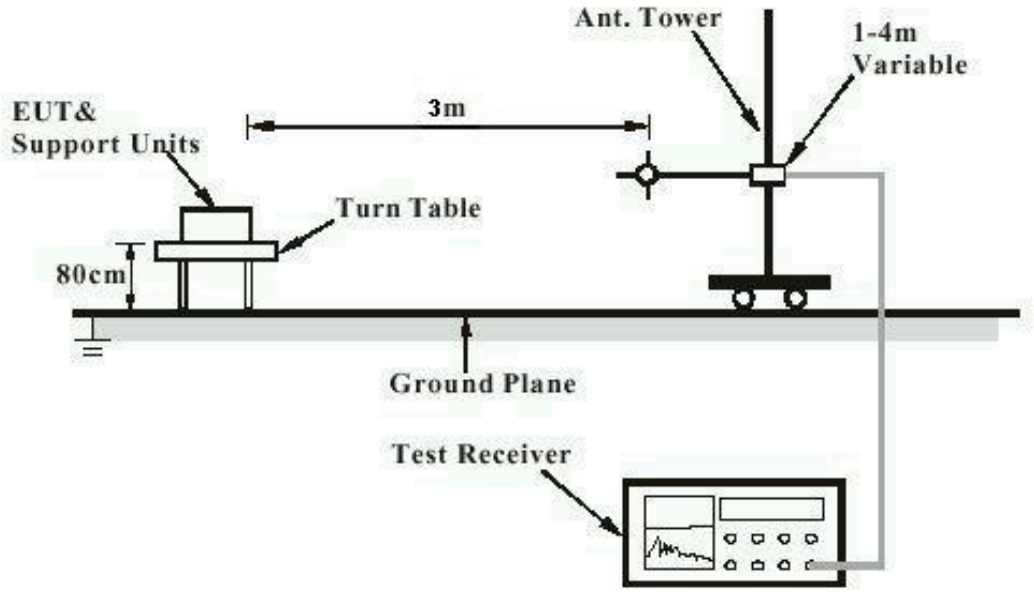


Diagram of Measurement Configuration for Radiation Test (Above 1GHz)

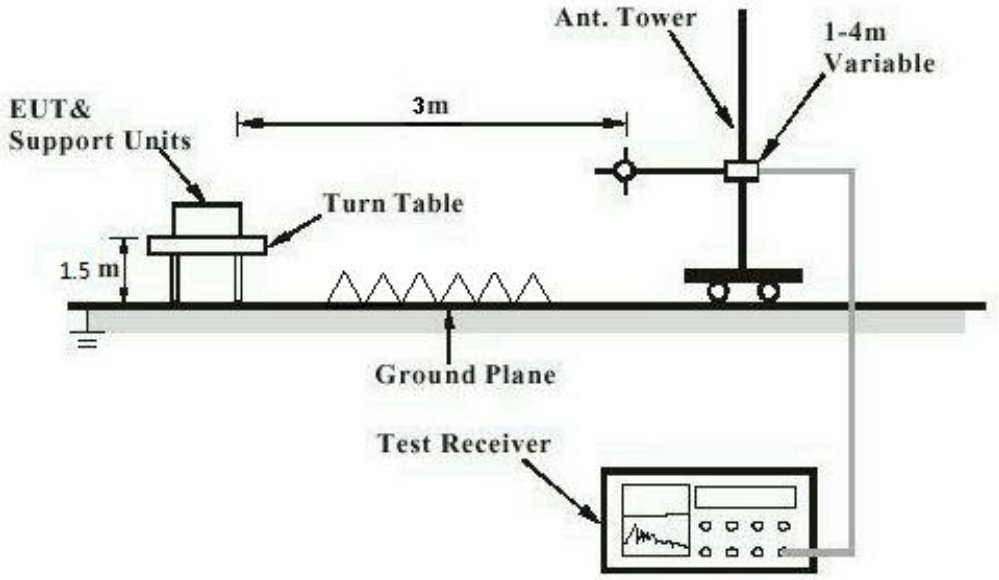


Diagram of Measurement Equipment Configuration for Conduction Measurement

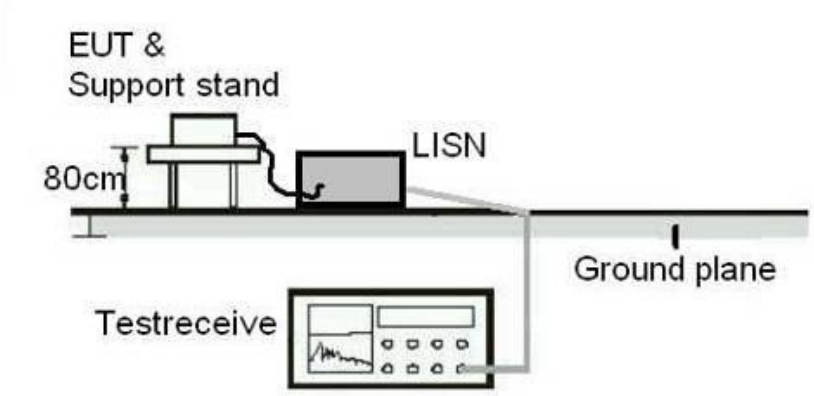
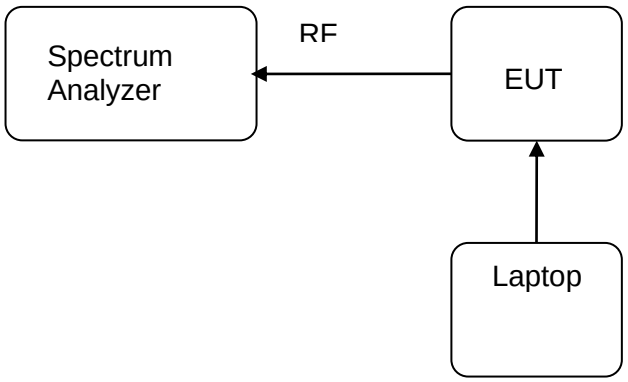


Diagram of Measurement Equipment Configuration for Transmitter Measurement



5. Test Results

5.1 Transmitter Requirement & Test Suites

5.1.1 Duty Cycle

RESULT: **Pass**

Date of testing	:	2016-11-20 to 2017-03-24
Test standard	:	FCC Part 15.407
Basic standard	:	ANSI C63.10:2013 KDB 789033 D02 v01r03
Kind of test site	:	Shielded room

Test setup

Test Channel	:	One channel for all data rates
Operation Mode	:	A
Ambient temperature	:	22°C
Relative humidity	:	51%
Atmospheric pressure	:	101.0 kPa

Table 11: Test result of Duty Cycle

Mode	Data rate Mbps	T_{on} (ms)	T_{Total} (ms)	Duty Cycle	Duty Cycle Factor
802.11a	6	1.395	1.505	0.93	0.33
802.11n HT20	MCS0	1.310	1.415	0.93	0.33
802.11n HT40	MCS0	0.620	0.690	0.90	0.46

5.1.2 Maximum Conducted Output Power

RESULT: **Pass**

Date of testing	:	2016-11-20 to 2017-03-24
Test standard	:	FCC Part 15.407(a)
Basic standard	:	ANSI C63.10:2013 KDB 789033 D02 v01r03
Limit	:	1Watt (30dBm) for AP 250mW (24dBm) for mobile and portable client device
Kind of test site	:	Shielded room

Test setup

Test Channel	:	CH36, CH40, CH48, CH149, CH157, CH165 for 20MHz CH38, CH46, CH151, CH159 for 40MHz
Operation Mode	:	A
Ambient temperature	:	22°C
Relative humidity	:	51%
Atmospheric pressure	:	101.0 kPa

Refer to attached Appendix A for details of test results.

5.1.3 26dB Bandwidth, 6dB Bandwidth and 99% Bandwidth

RESULT: **Pass**

Date of testing	:	2016-11-20 to 2017-03-24
Test standard	:	FCC Part 15.407(e)
Basic standard	:	ANSI C63.10:2013 KDB 789033 D02 v01r03
Limit	:	at least 500kHz for U-NII-3 band No requirement for U-NII-1 band
Kind of test site	:	Shielded room

Test setup

Test Channel	:	CH36, CH40, CH48, CH149, CH157, CH165 for 20MHz CH38, CH46, CH151, CH159 for 40MHz
Operation Mode	:	A
Ambient temperature	:	22°C
Relative humidity	:	51%
Atmospheric pressure	:	101.0 kPa

Table 12: Test result of 26dB Bandwidth and 99% Bandwidth for U-NII-1 band

Channel	Channel Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)	Verdict
802.11a				
36	5180	20.19	16.80	Pass
40	5200	28.99	17.10	Pass
48	5240	25.45	17.00	Pass
802.11n HT20				
36	5180	19.51	17.70	Pass
40	5200	29.29	17.80	Pass
48	5240	27.30	17.90	Pass
802.11n HT40				
38	5190	40.99	36.40	Pass
46	5230	70.30	37.20	Pass

Table 13: Test result of 6dB Bandwidth and 99% Bandwidth for U-NII-3 band

Channel	Channel Frequency (MHz)	6dB Bandwidth (MHz)	99% Bandwidth (MHz)	Verdict
802.11a				
149	5745	15.75	16.40	Pass
157	5785	15.15	16.50	Pass
165	5825	15.50	16.50	Pass
802.11n HT20				
149	5745	14.80	17.70	Pass
157	5785	14.50	17.60	Pass
165	5825	15.25	17.70	Pass
802.11n HT40				
151	5755	34.10	36.20	Pass
159	5795	32.80	36.20	Pass

Refer to attached Appendix A for details of test results.

5.1.4 Power Spectral Density

RESULT: **Pass**

Date of testing	:	2016-11-20 to 2017-03-24
Test standard	:	FCC part 15.407(a)
Basic standard	:	ANSI C63.10:2013 KDB 789033 D02 v01r03
Limit	:	17dBm/MHz for U-NII-1 30dBm/500kHz for U-NII-3
Kind of test site	:	Shield room

Test setup

Test Channel	:	CH36, CH40, CH48, CH149, CH157, CH165 for 20MHz CH38, CH46, CH151, CH159 for 40MHz
Operation mode	:	A.1
Ambient temperature	:	23°C
Relative humidity	:	48%
Atmospheric pressure	:	101kPa

Table 14: Test Results for Power Spectral Density for U-NII-1 band

1TX	Measured PSD (dBm/MHz)			Total PSD (dBm/MHz)			Limit (dBm/MHz)	Verdict
Channel	Ch 36	Ch 40	Ch 48	Ch 36	Ch 40	Ch 48		
802.11a_6Mbps	2.73	6.11	6.53	3.06	6.44	6.86	17.00	PASS
802.11n_HT20_MCS0	1.30	4.82	5.99	1.63	5.15	6.32	17.00	PASS
Channel	Ch 38	Ch 46	--	Ch 38	Ch 46	--	Limit (dBm/MHz)	Verdict
802.11n_HT40_MCS0	-0.70	4.61	--	-0.24	5.07	--	17.00	PASS

Table 15: Test Results for Power Spectral Density for U-NII-3 band

1TX	Measured PSD (dBm/500kHz)			Total PSD (dBm/500kHz)			Limit (dBm/500kHz)	Verdict
Channel	Ch 149	Ch 157	Ch 165	Ch 149	Ch 157	Ch 165		
802.11a_6Mbps	2.66	1.84	2.08	-0.01	-0.83	-0.59	30.00	PASS
802.11n_HT20_MCS0	2.41	2.36	1.64	-0.26	-0.31	-1.03	30.00	PASS
Channel	Ch 151	Ch 159	--	Ch 151	Ch 159	--	Limit (dBm/500kHz)	Verdict
802.11n_HT40_MCS0	0.94	0.89	--	-1.6	-1.65	--	30.00	PASS

Refer to attached Appendix A for details of test results.

5.1.5 Unwanted Emission

RESULT: **Pass**

Date of testing	:	2016-11-20 to 2017-03-24
Test standard	:	FCC part 15.407(b) FCC part 15.209
Basic standard	:	ANSI C63.10:2013 KDB 789033 D02 v01r03
Limits	:	-27dBm/MHz outside 5150-5250MHz -17dBm/MHz within 5715-5725MHz and 5850-5860MHz -27dBm/MHz outside 5715-5860MHz All emissions in the restricted bands must comply with FCC 15.209(a)
Kind of test site	:	3m Semi-Anechoic Chamber

Test setup

Test Channel	:	CH36, CH40, CH48, CH149, CH157, CH165 for 20MHz CH38, CH46, CH151, CH159 for 40MHz
Operation mode	:	A.1
Ambient temperature	:	23°C
Relative humidity	:	48%
Atmospheric pressure	:	101.0 kPa

Radiated measurement were performed, EIRP is converted to field strength as follow:

EIRP(dBm) = E(dBuV/m)-95.2

Refer to attached Appendix A for details of test results.

5.1.6 Radiated Emissions

RESULT: **Pass**

Date of testing	:	2016-11-20 to 2017-03-24
Test standard	:	FCC Part 15.109
Basic standard	:	ANSI C63.4:2014
Frequency range	:	30 – 6000MHz
Limits	:	FCC Part 15.109(a)
Kind of test site	:	3m Semi-Anechoic Chamber

Test Setup

Input Voltage	:	DC 5V (via USB port)
Operation Mode	:	C
Ambient temperature	:	23°C
Relative humidity	:	48%
Atmospheric pressure	:	101.0 kPa

Refer to attached Appendix A for details of test results.

5.1.7 Conducted Emissions

RESULT: **Pass**

Date of testing	:	2016-11-20 to 2017-03-24
Test standard	:	FCC Part 15.207 FCC Part 15.107
Basic standard	:	ANSI C63.4:2014
Frequency range	:	0.15MHz – 30MHz
Limits	:	FCC Part 15.207(a) FCC Part 15.107(a)
Kind of test site	:	Shield Room

Test Setup

Input Voltage	:	DC 5V (via USB port)
Operation Mode	:	A+B+C
Ambient temperature	:	23°C
Relative humidity	:	50%
Atmospheric pressure	:	101.0 kPa

Refer to attached Appendix A for details of test results.

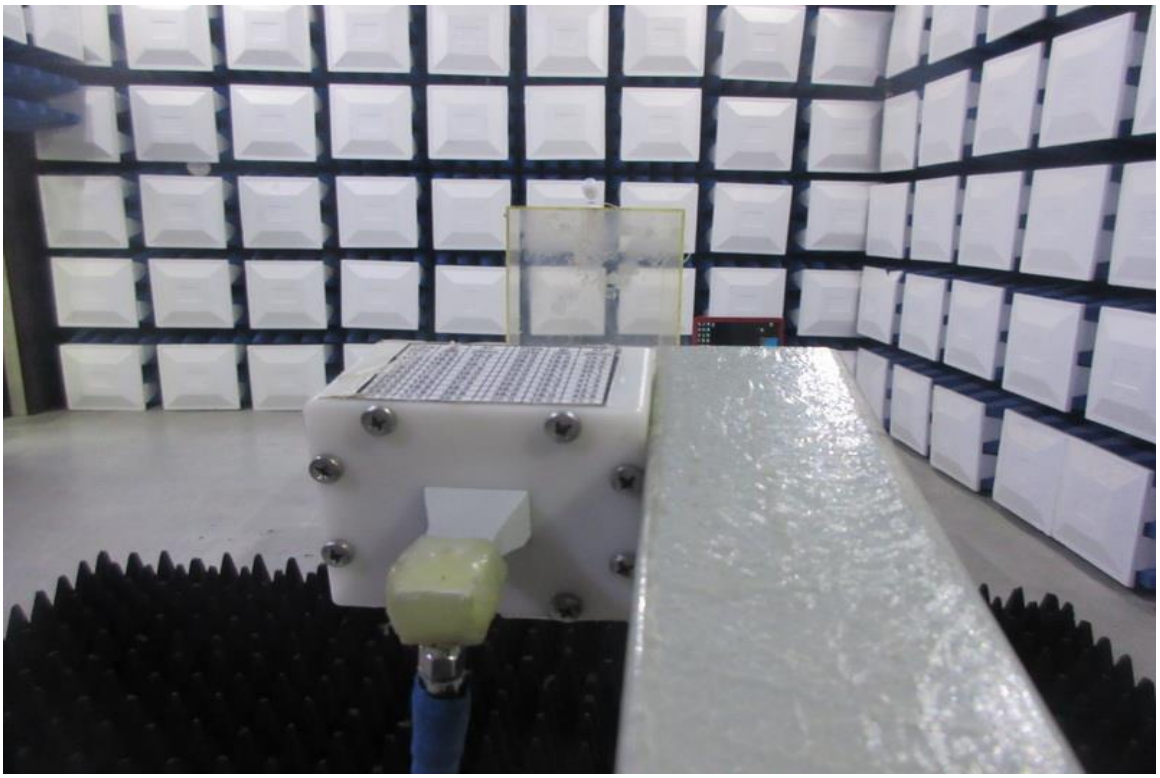
6. Photographs of the Test Set-Up

Photograph 1: Set-up for Spurious Emissions (9 kHz-30MHz)

Photograph 2: Set-up for Spurious Emissions (30MHz-1GHz)

Photograph 3: Set-up for Spurious Emissions (1GHz-18GHz)

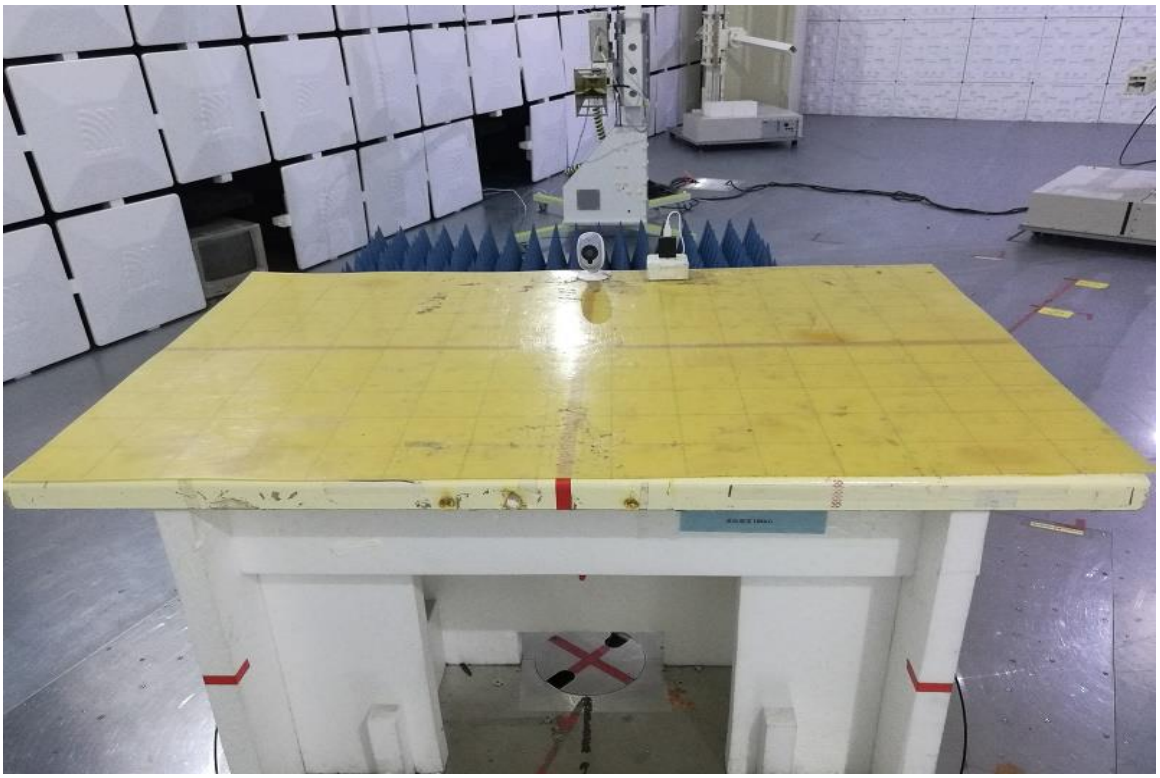
Photograph 4: Set-up for Spurious Emissions (18GHz-40GHz)



Photograph 5: Set-up for Conducted Emissions

Photograph 6: Set-up for Radiated Emissions, below 1GHz

Photograph 7: Set-up for Radiated Emissions, above 1GHz



7. List of Tables

8. List of Photographs

Appendix A

Test Results of Wi-Fi operation for U-NII-1 Band and U-NII-3 Band

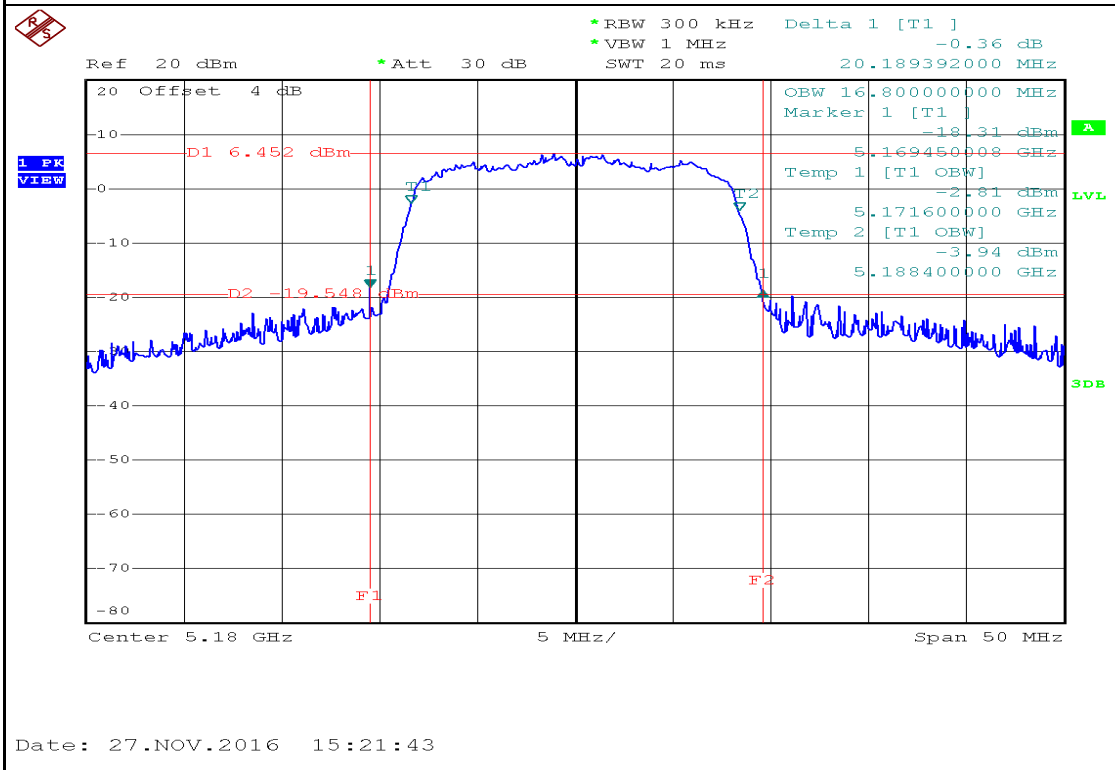
Appendix A.1: Maximum Conducted Output Power, U-NII-1 Band

1TX	Measured Power (dBm)			Total Power (dBm)			Limit (dBm)	Verdict
Channel	**Ch 36**	**Ch 40**	**Ch 48**	**Ch 36**	**Ch 40**	**Ch 48**		
802.11a_6Mbps	12.83	16.48	16.97	13.16	16.81	17.30	30.00	PASS
802.11n_HT20_MCS0	12.59	16.38	17.01	12.92	16.71	17.14	30.00	PASS
Channel	**Ch 38**	**Ch 46**	**--**	**Ch 38**	**Ch 46**	**--**	**Limit (dBm)**	**Verdict**
802.11n_HT40_MCS0	11.77	16.93	--	12.33	17.39	--	30.00	PASS

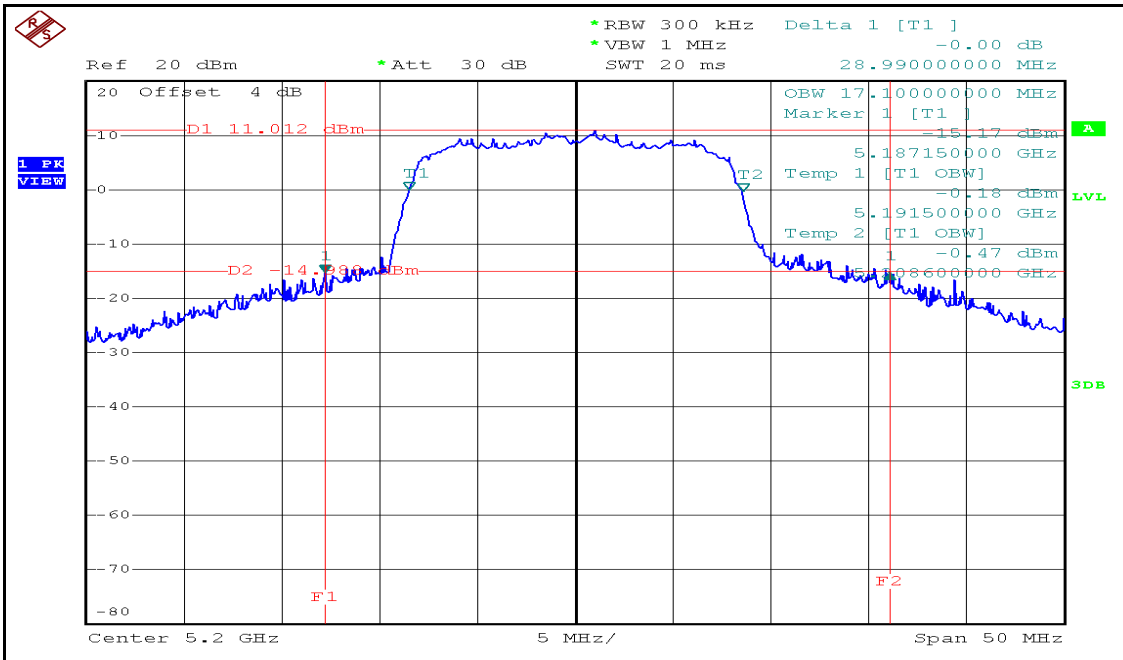
Appendix A.2: 26dB Bandwidth and 99% Bandwidth, U-NII-1 Band

802.11a

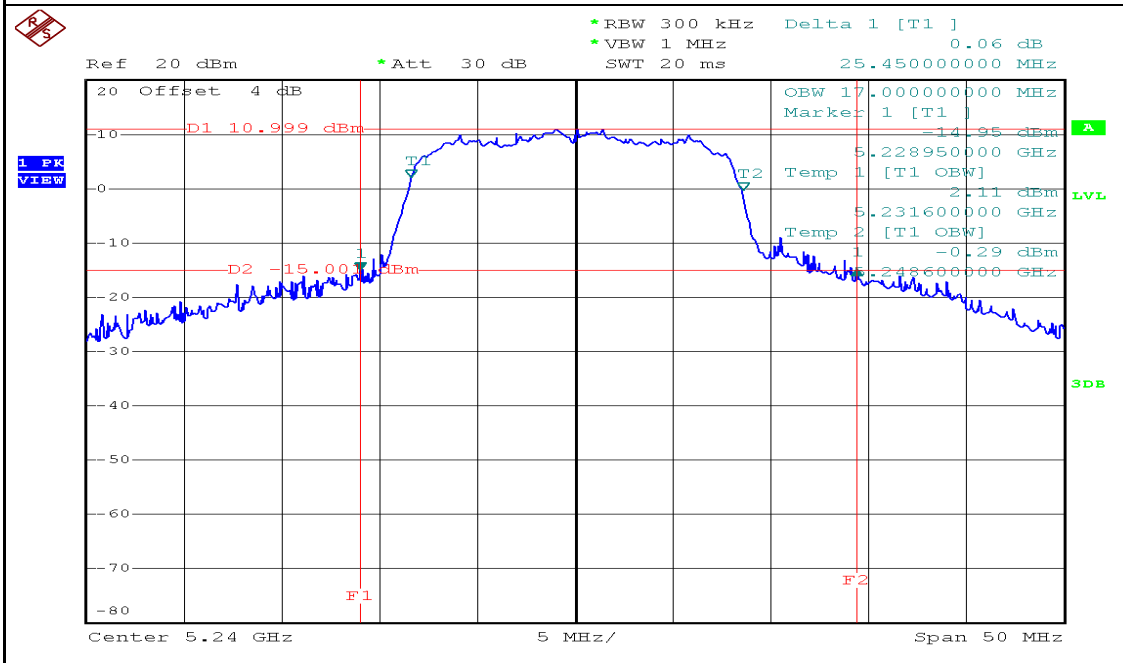
Channel 36, 26dB Bandwidth and 99% Bandwidth



Channel 40, 26dB Bandwidth and 99% Bandwidth

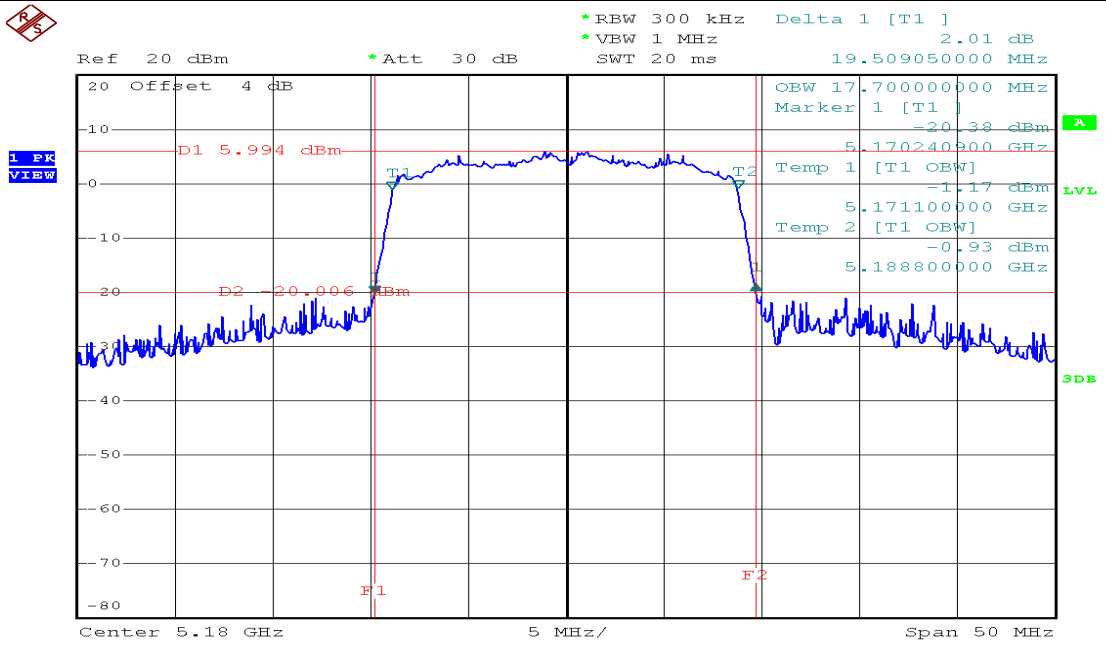


Channel 48, 26dB Bandwidth and 99% Bandwidth

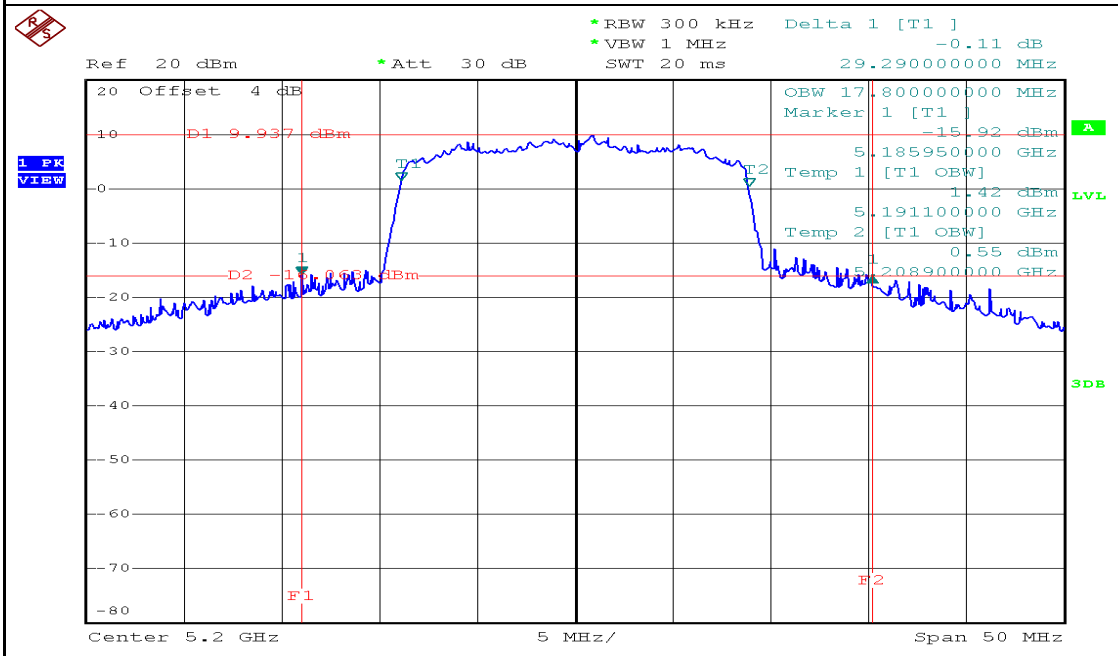


802.11n HT20

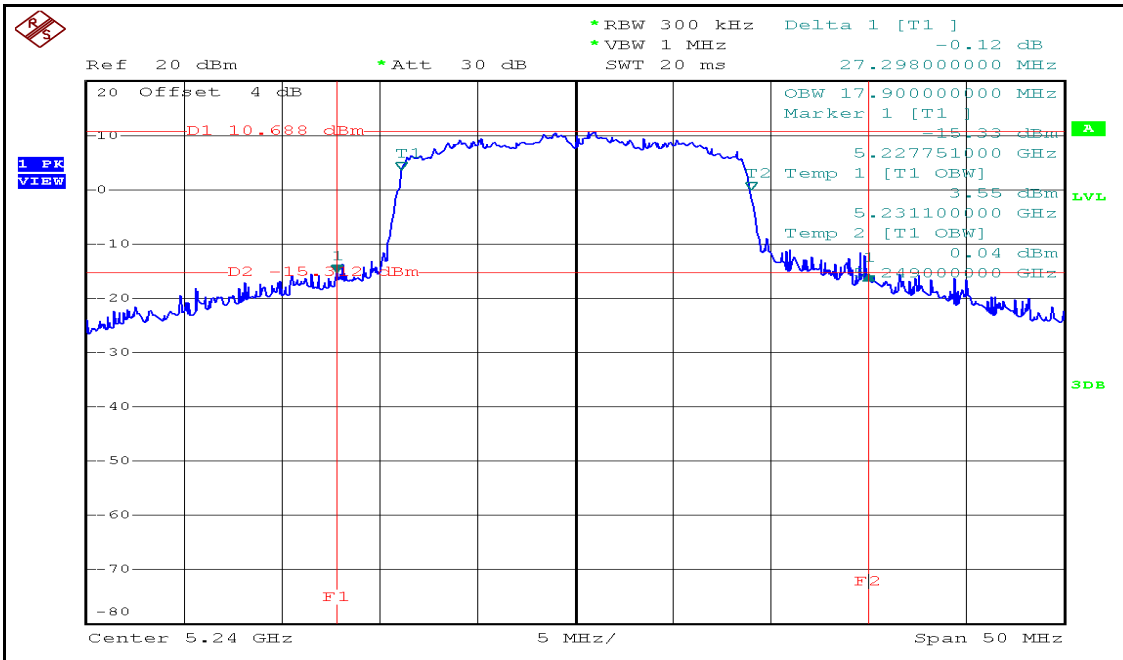
Channel 36, 26dB Bandwidth and 99% Bandwidth



Channel 40, 26dB Bandwidth and 99% Bandwidth

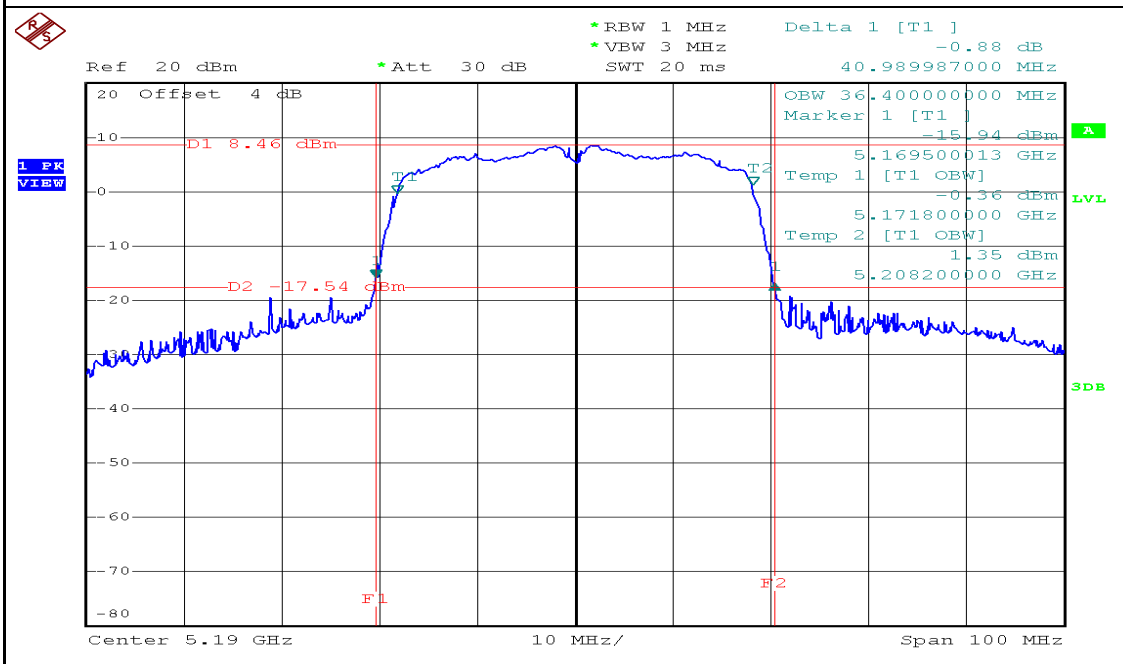


Channel 48, 26dB Bandwidth and 99% Bandwidth

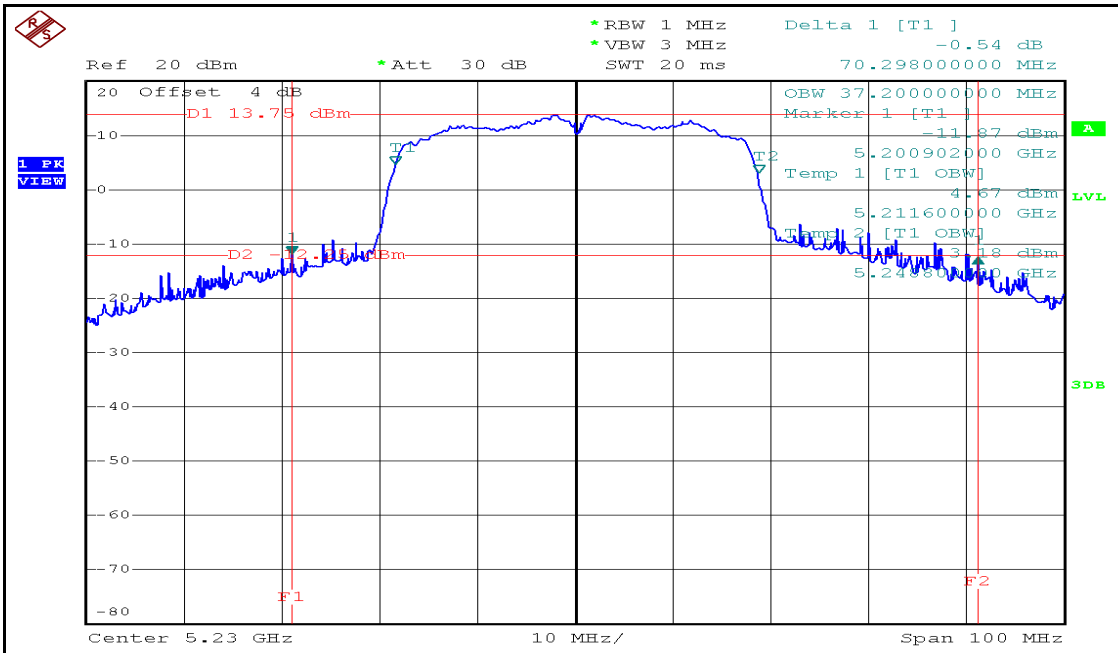


802.11n HT40

Channel 38, 26dB Bandwidth and 99% Bandwidth



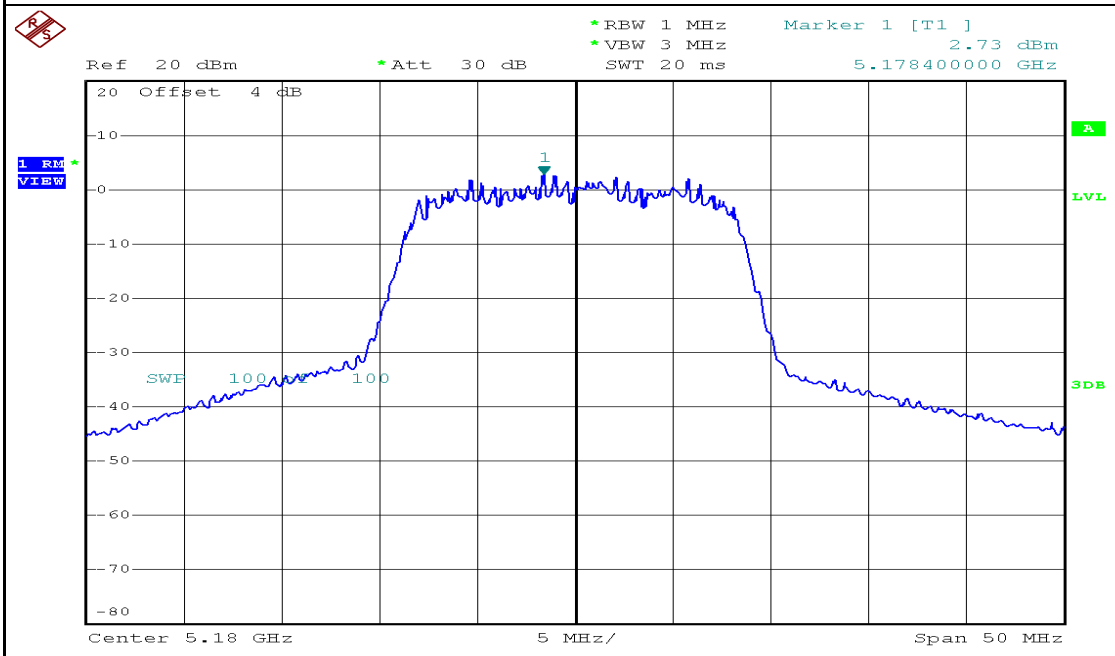
Channel 46, 26dB Bandwidth and 99% Bandwidth


RBW 1 MHz
VBW 3 MHz
SWT 20 ms
Delta 1 [T1]
-0.54 dB
70.298000000 MHz
Ref 20 dBm
Att 30 dB
20 Offset 4 dB
D1 13.75 dBm
OBW 37.200000000 MHz
Marker 1 [T1]
-11.87 dBm
5.200902000 GHz
Temp 1 [T1 OBW]
4.67 dBm
5.211600000 GHz
Temp 2 [T1 OBW]
-3.18 dBm
5.247800000 GHz
1 PK VIEW
A
LVL
3DB
T1
T2
F1
F2
Center 5.23 GHz
10 MHz/
Span 100 MHz
Date: 27.NOV.2016 16:10:39

Appendix A.3: Power Spectral Density, U-NII-1 Band

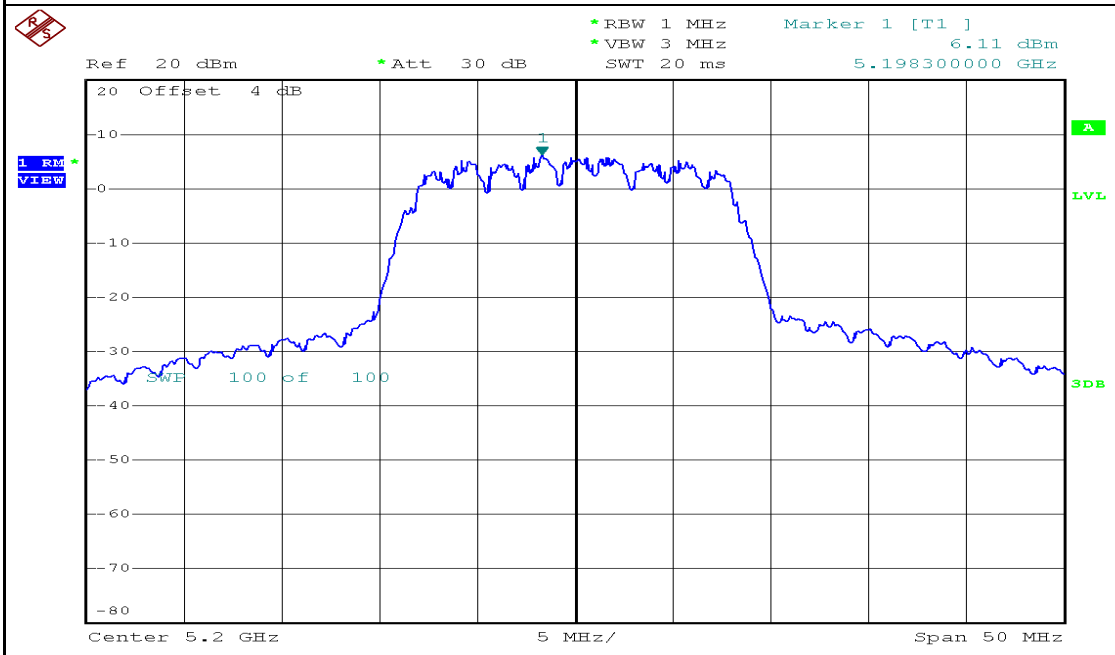
802.11a

Channel 36



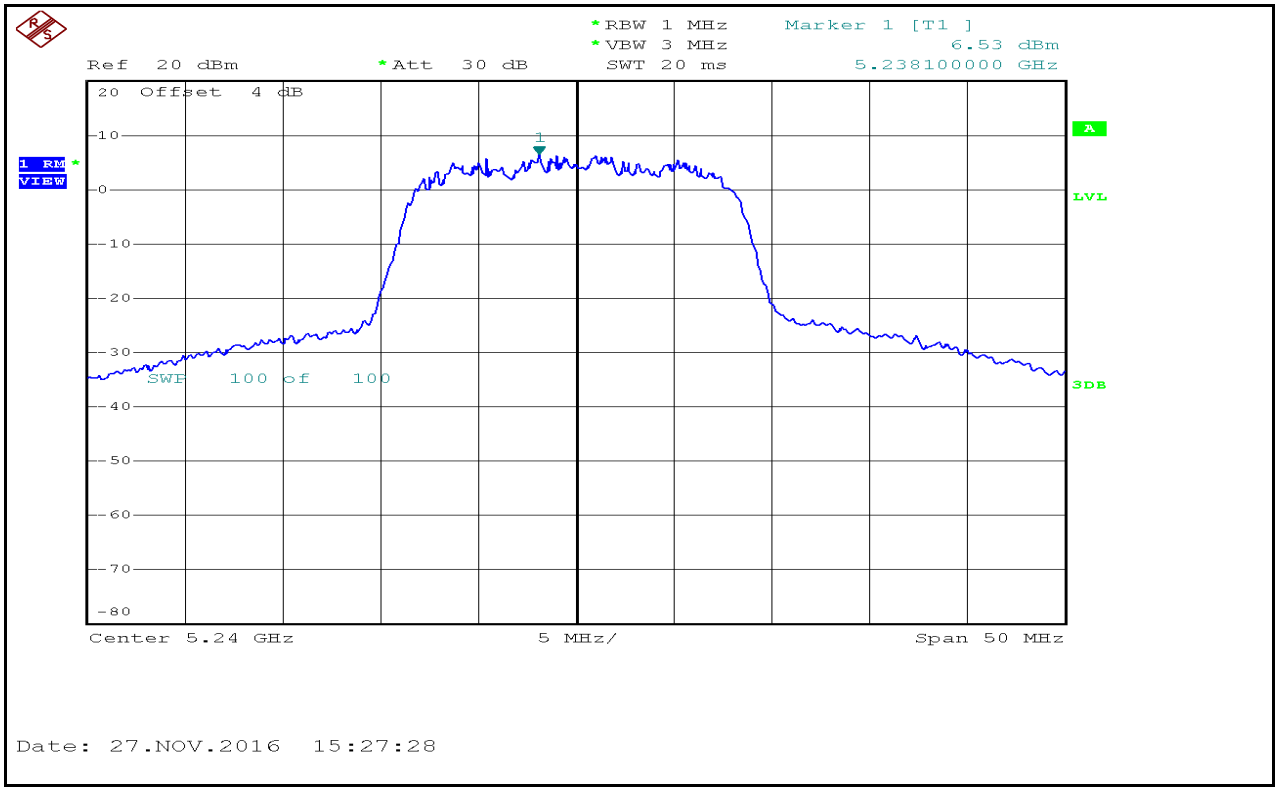
Date: 27.NOV.2016 15:21:53

Channel 40



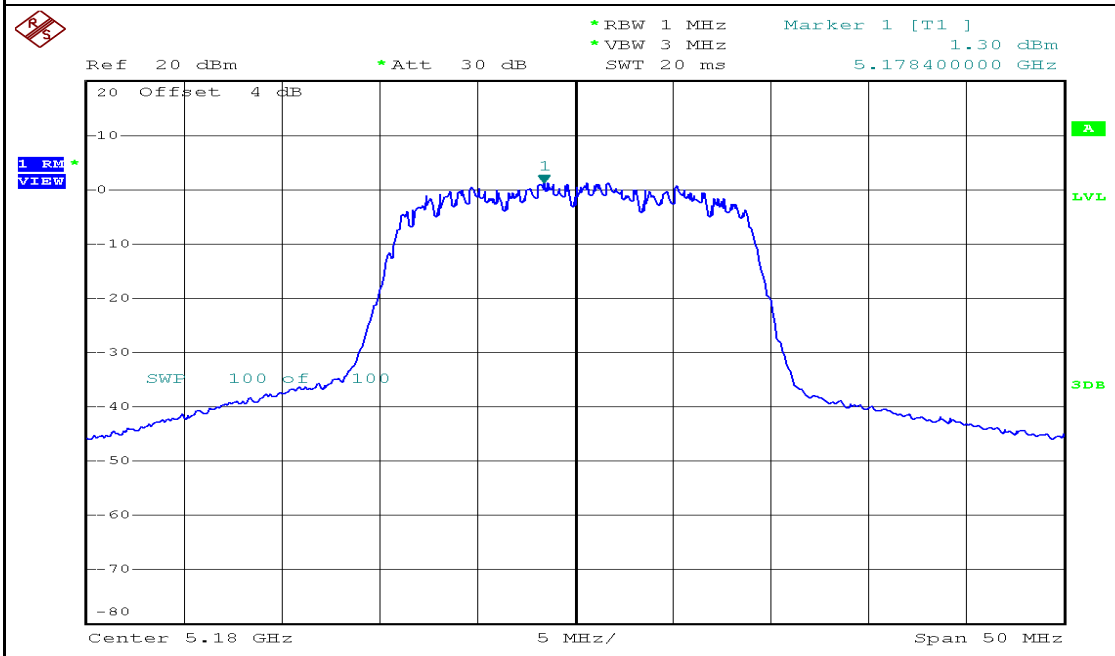
Date: 27.NOV.2016 15:26:31

Channel 48


*RBW 1 MHz
*VBW 3 MHz
SWT 20 ms
Marker 1 [T1]
6.53 dBm
5.238100000 GHz
Ref 20 dBm
*Att 30 dB
20 Offset 4 dB
1 RM
VIEW
A
LVL
3DB
SWP 100 of 100
Center 5.24 GHz
5 MHz/
Span 50 MHz
Date: 27.NOV.2016 15:27:28

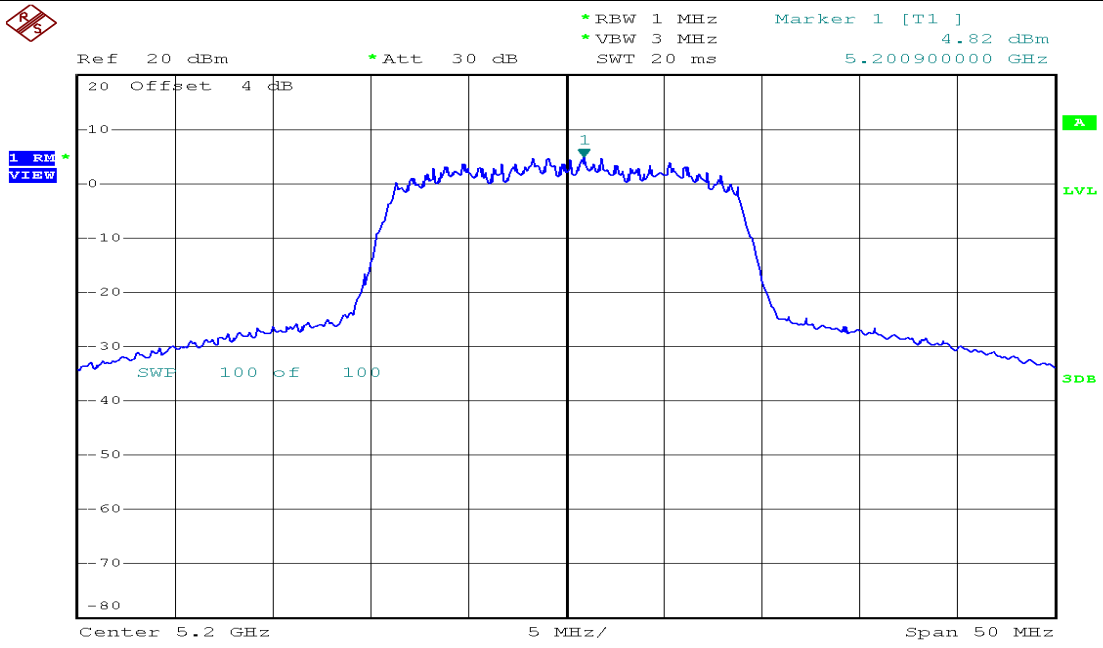
802.11n HT20

Channel 36



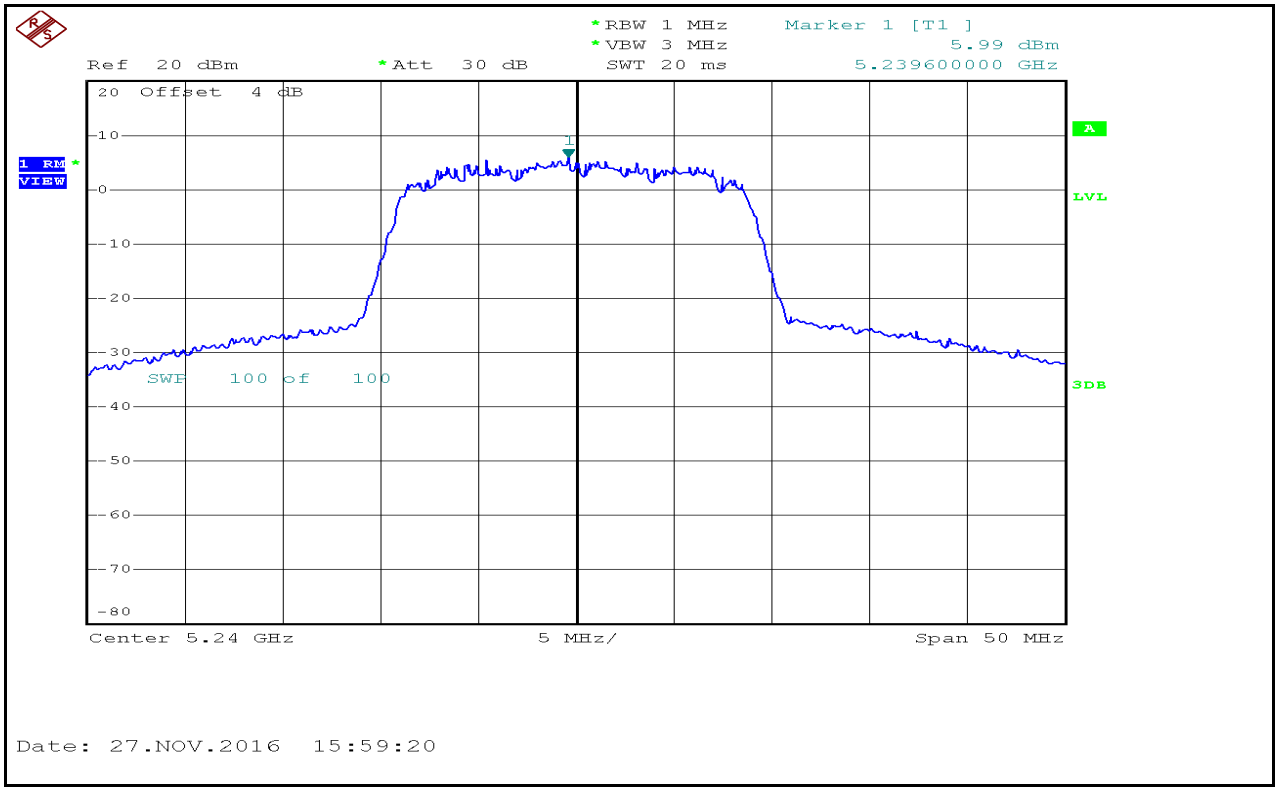
Date: 27.NOV.2016 15:57:19

Channel 40



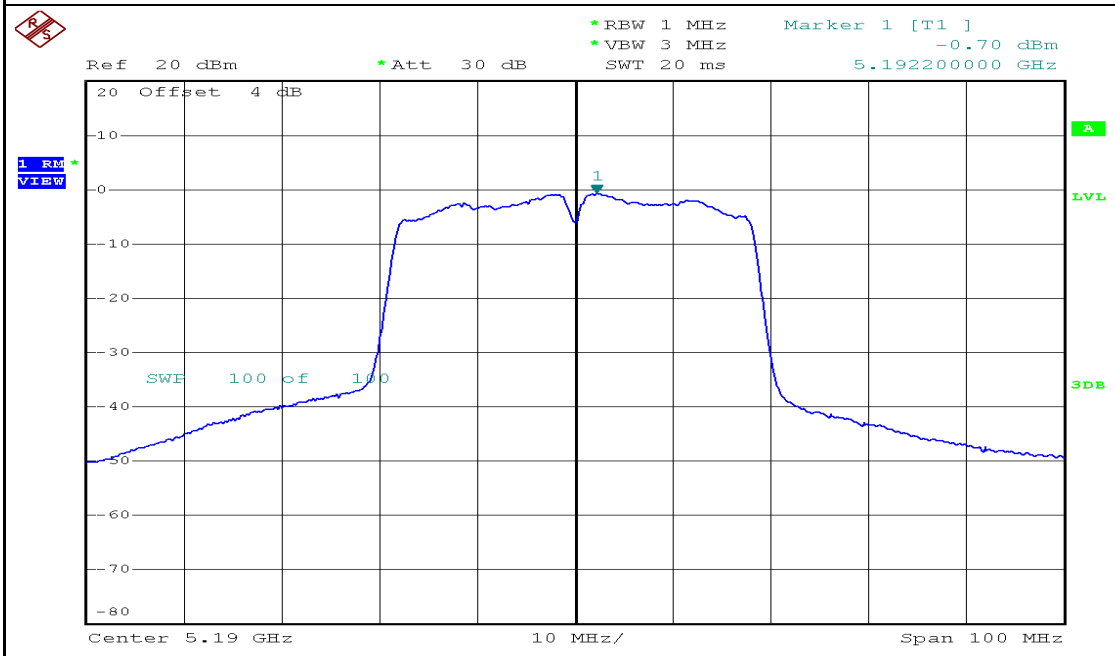
Date: 9.MAR.2017 13:37:14

Channel 48


*RBW 1 MHz
*VBW 3 MHz
SWT 20 ms
Marker 1 [T1]
5.99 dBm
5.239600000 GHz
Ref 20 dBm
*Att 30 dB
20 Offset 4 dB
1 RM *
VIEW
A
LVL
3DB
SWP 100 of 100
Center 5.24 GHz
5 MHz/
Span 50 MHz
Date: 27.NOV.2016 15:59:20

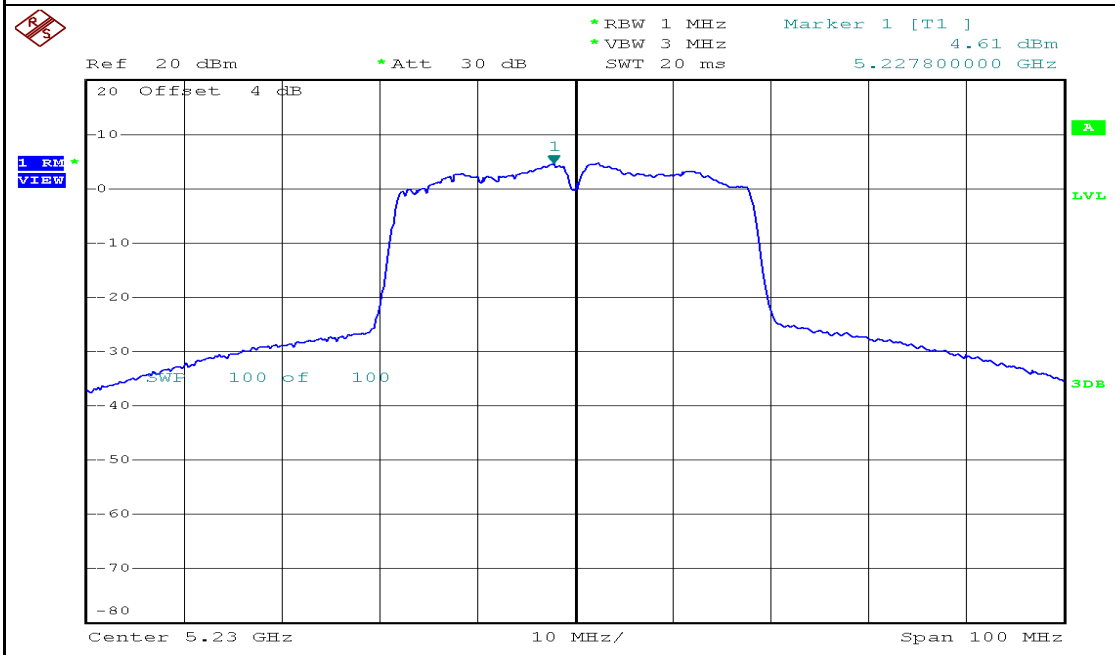
802.11n HT40

Channel 38



Date: 27.NOV.2016 16:10:06

Channel 46



Date: 27.NOV.2016 16:10:51

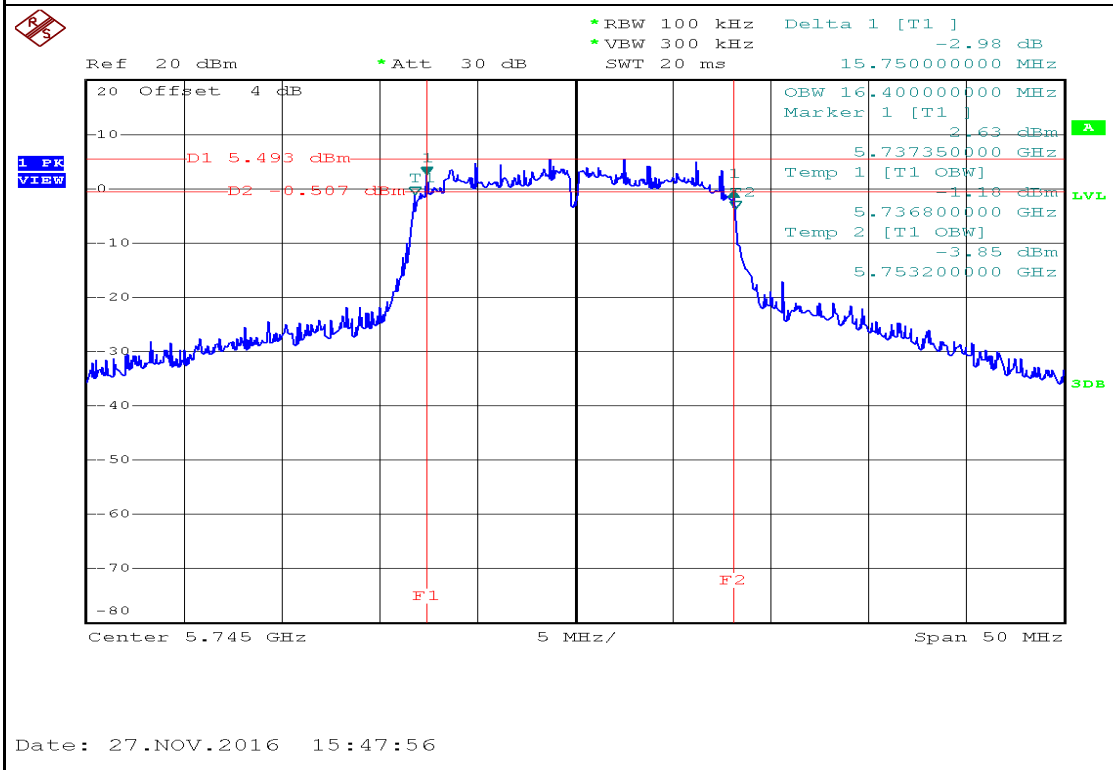
Appendix A.4: Maximum Conducted Output Power, U-NII-3 Band

1TX	Measured Power (dBm)			Total Power (dBm)			Limit (dBm)	Verdict
Channel	**Ch 149**	**Ch 157**	**Ch 165**	**Ch 149**	**Ch 157**	**Ch 165**		
802.11a_6Mbps	16.18	15.93	15.84	16.51	16.26	16.17	30.00	PASS
802.11n_HT20_MCS0	16.02	15.86	15.71	16.35	16.19	16.04	30.00	PASS
Channel	**Ch151**	**Ch 159**	**--**	**Ch151**	**Ch 159**	**--**	**Limit (dBm)**	**Verdict**
802.11n_HT40_MCS0	16.27	16.04	--	16.73	16.50	--	30.00	PASS

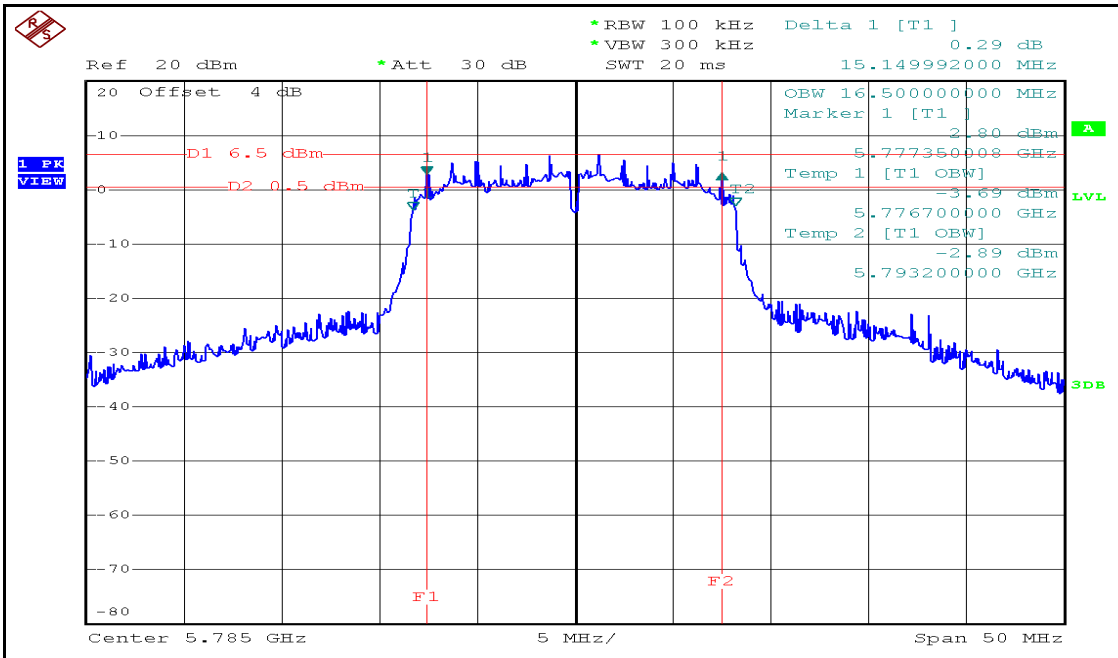
Appendix A.5: 6dB Bandwidth and 99% Bandwidth, U-NII-3 Band

802.11a

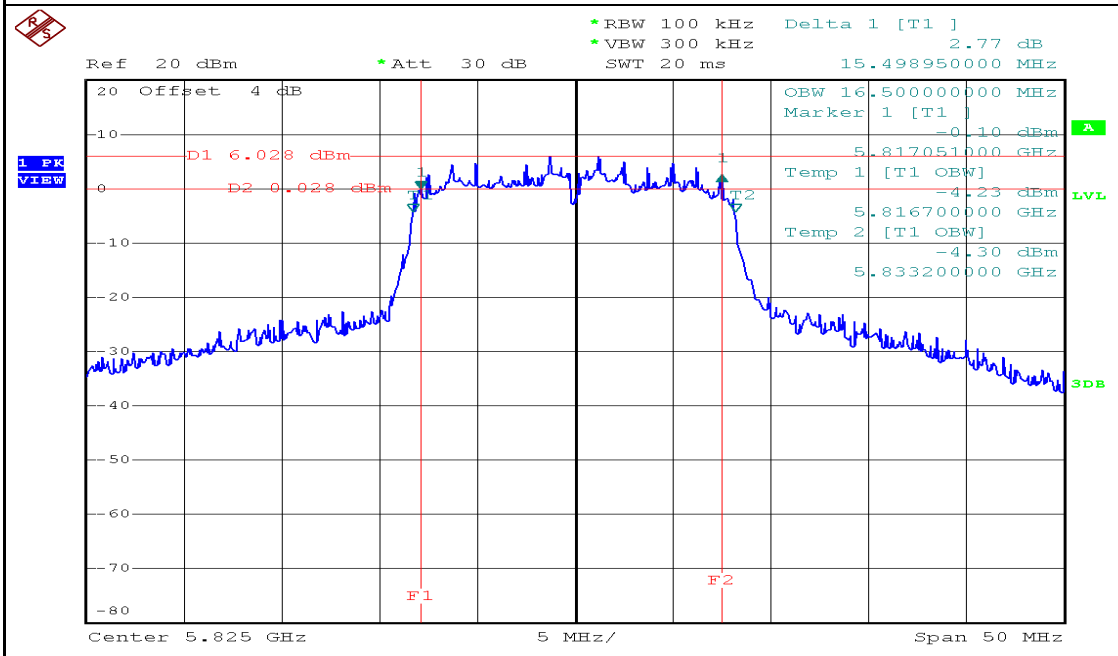
Channel 149, 6dB Bandwidth and 99% Bandwidth



Channel 157, 6dB Bandwidth and 99% Bandwidth

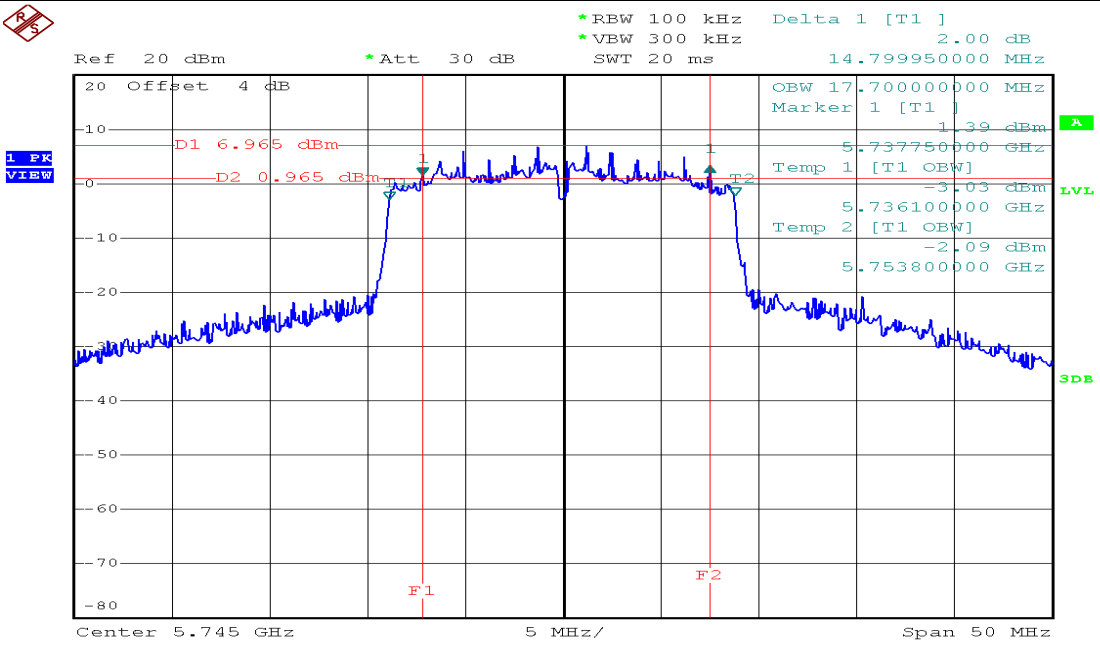


Channel 165, 6dB Bandwidth and 99% Bandwidth

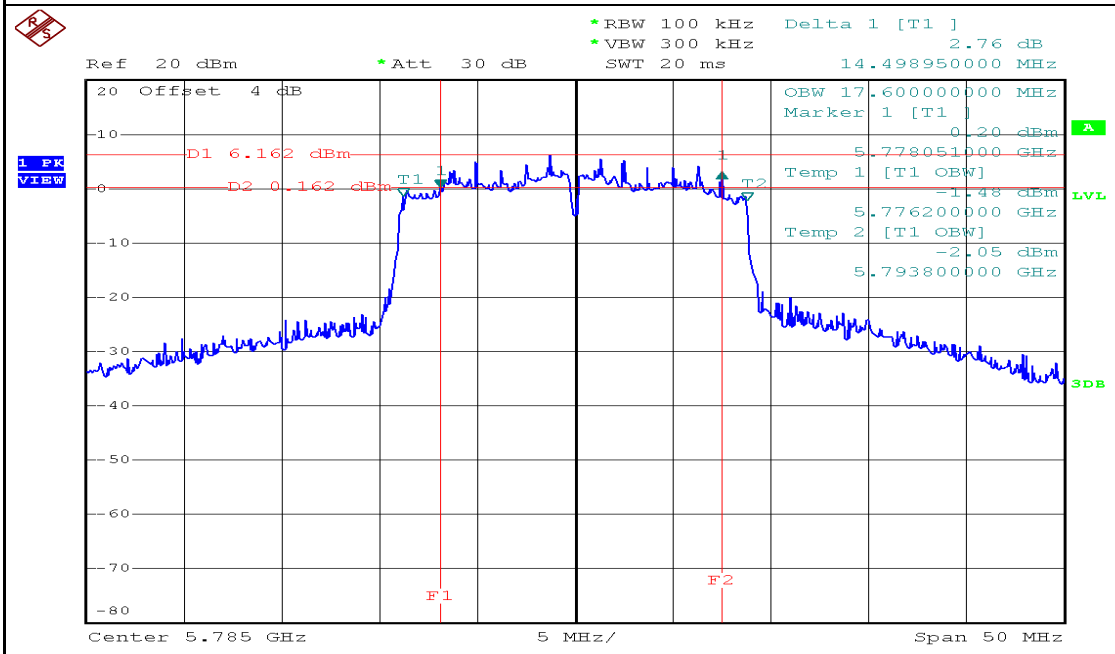


802.11n HT20

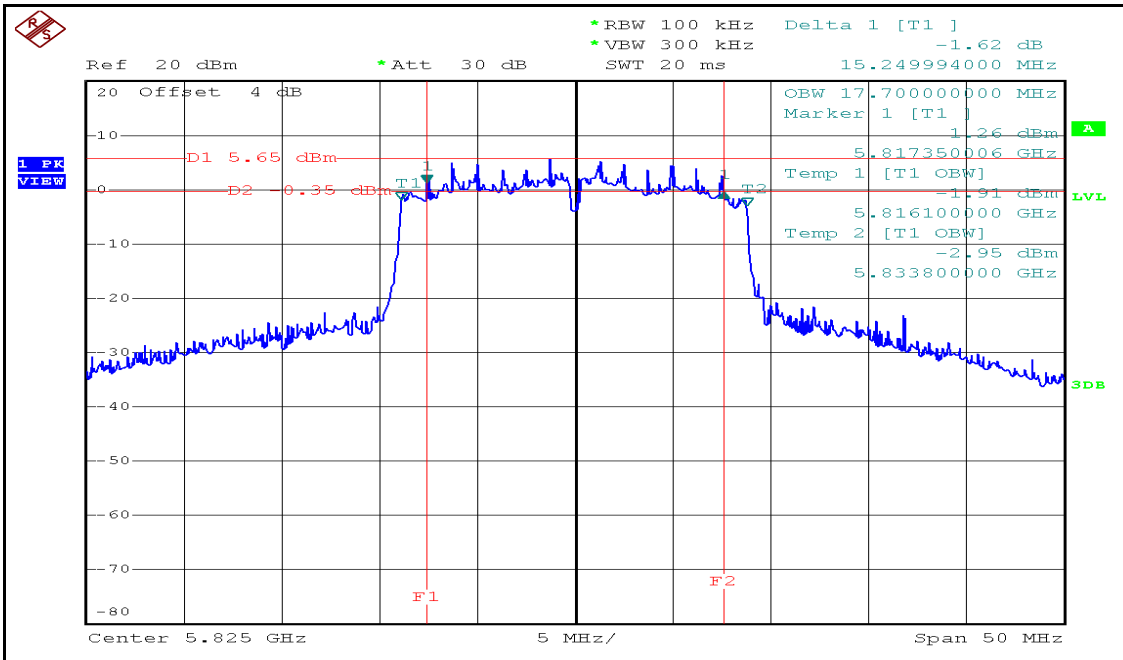
Channel 149, 6dB Bandwidth and 99% Bandwidth



Channel 157, 6dB Bandwidth and 99% Bandwidth



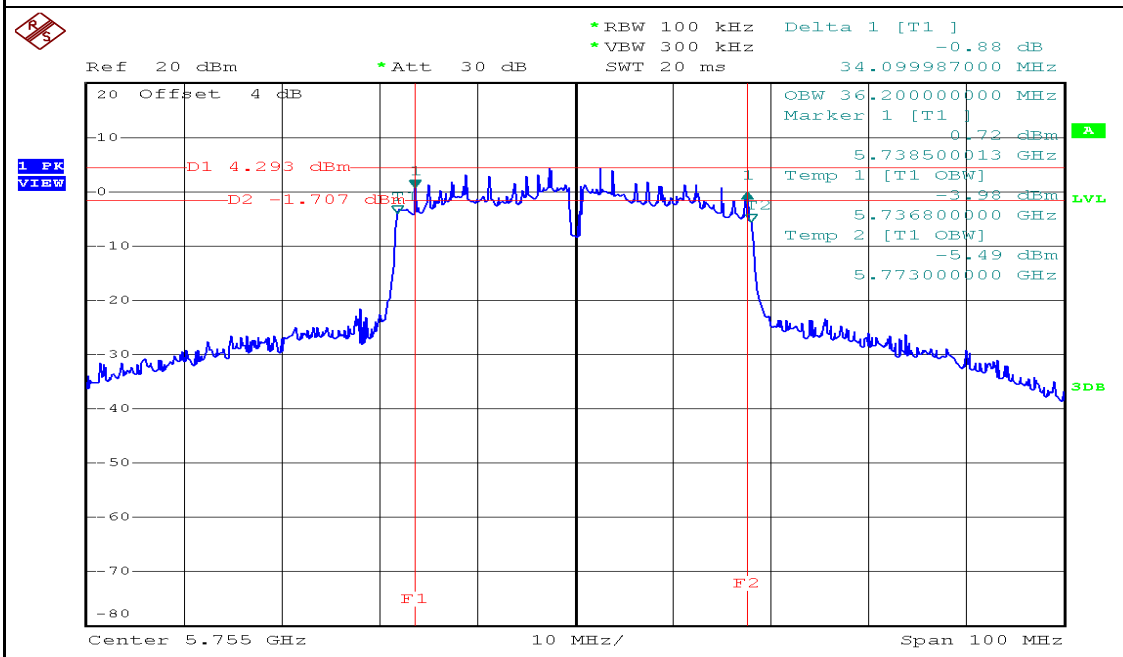
Channel 165, 6dB Bandwidth and 99% Bandwidth



Date: 27.NOV.2016 16:07:40

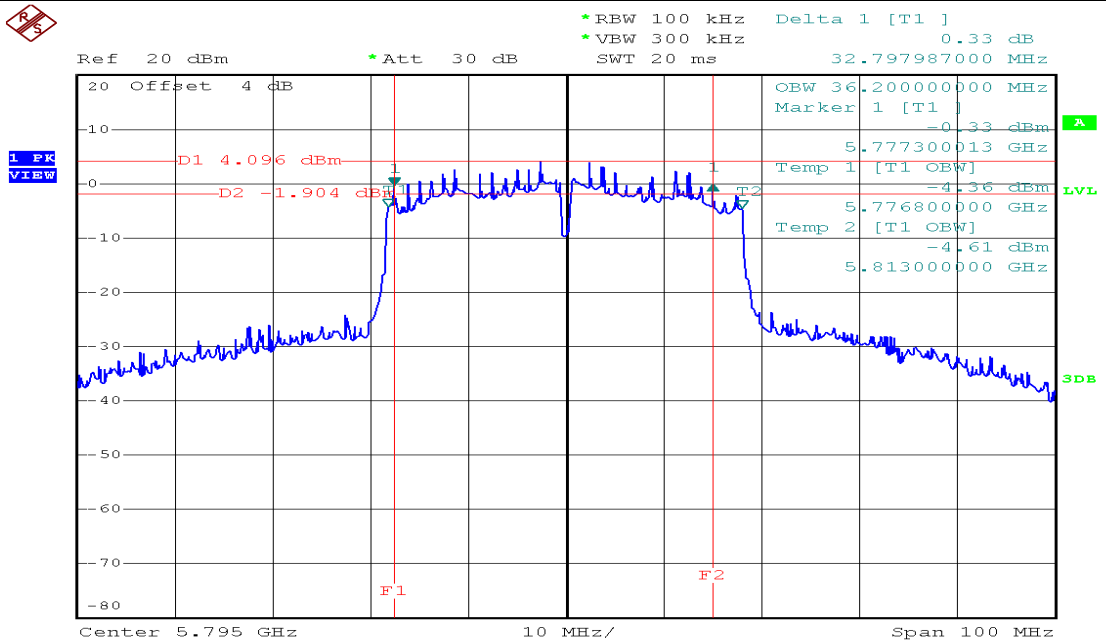
802.11n HT40

Channel 151, 6dB Bandwidth and 99% Bandwidth



Date: 9.MAR.2017 13:51:37

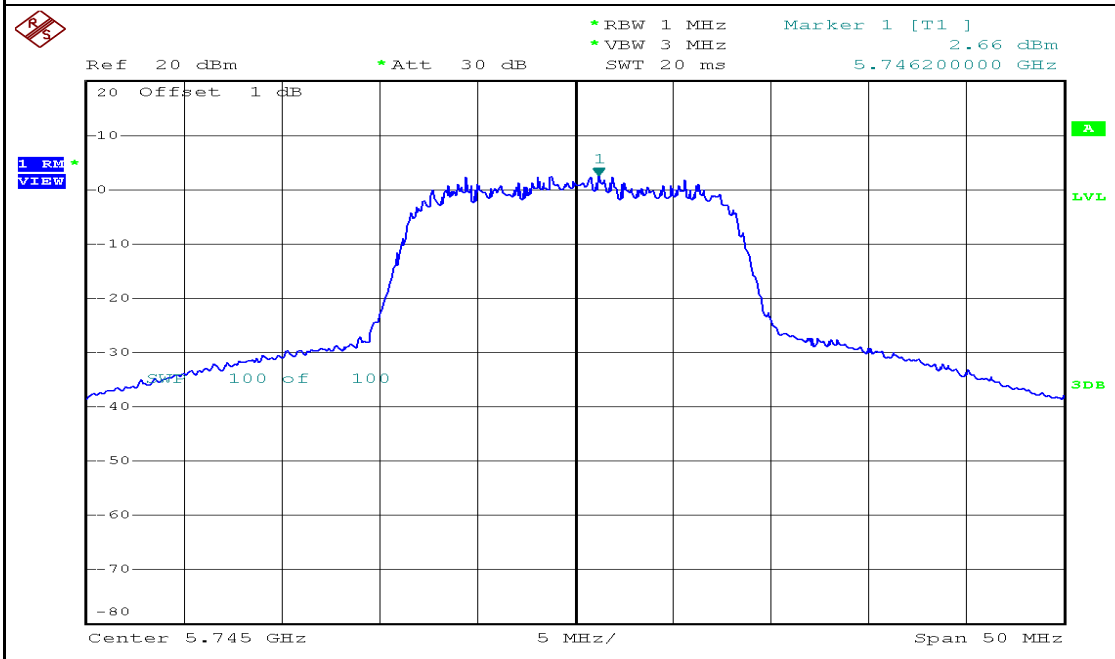
Channel 159, 99% Bandwidth and 99% Bandwidth


RBW 100 kHz
VBW 300 kHz
SWT 20 ms
Delta 1 [T1]
0.33 dB
32.797987000 MHz
Ref 20 dBm
Att 30 dB
20 Offset 4 dB
OBW 36.200000000 MHz
Marker 1 [T1]
-0.33 dBm
5.777300013 GHz
Temp 1 [T1 OBW]
-4.36 dBm
5.776800000 GHz
Temp 2 [T1 OBW]
-4.61 dBm
5.813000000 GHz
D1 4.096 dBm
D2 -1.904 dBm
1 PK VIEW
A
LVL
3DB
F1
F2
Center 5.795 GHz
10 MHz/
Span 100 MHz
Date: 27.NOV.2016 16:19:38

Appendix A.6: Power Spectral Density, U-NII-3 Band

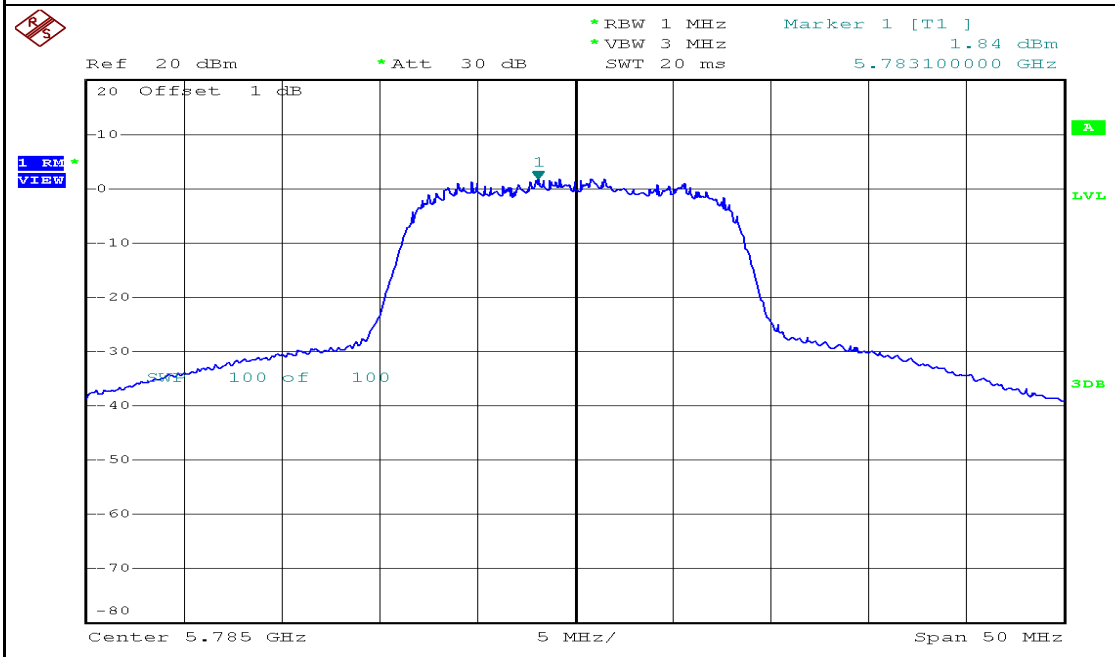
802.11a

Channel 149



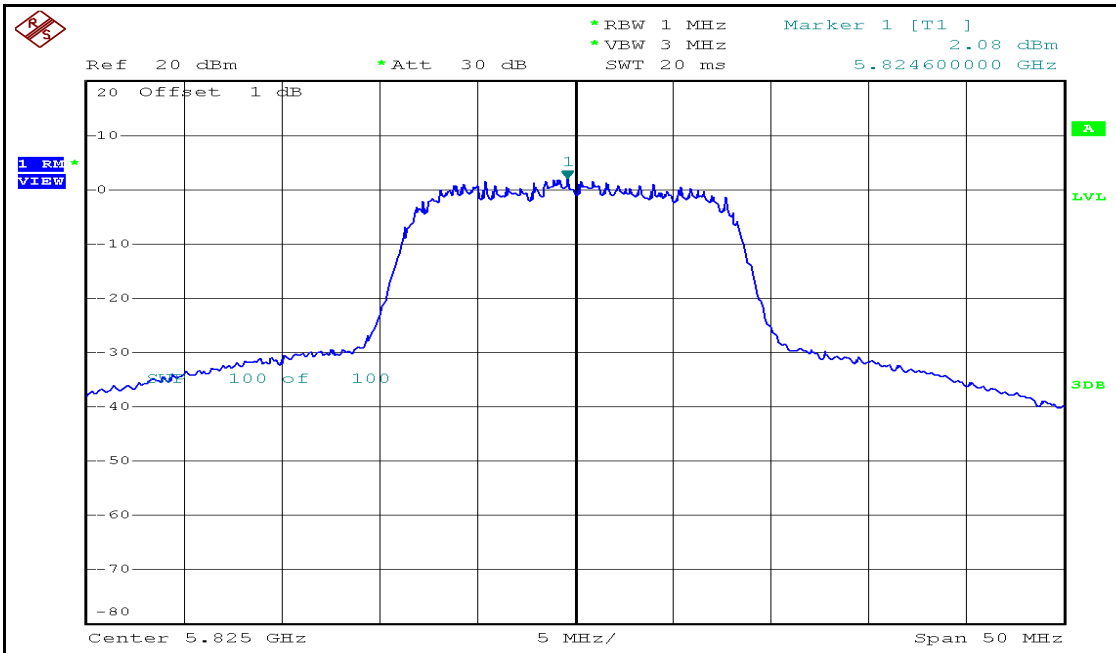
Date: 27.NOV.2016 15:47:23

Channel 157



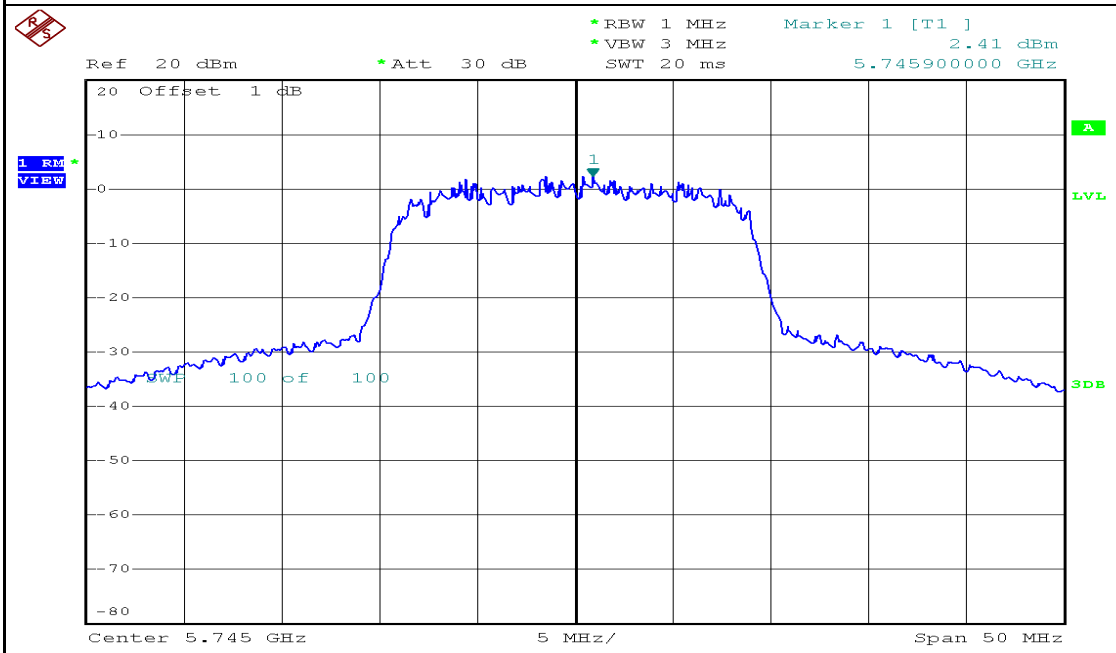
Date: 27.NOV.2016 15:52:43

Channel 165

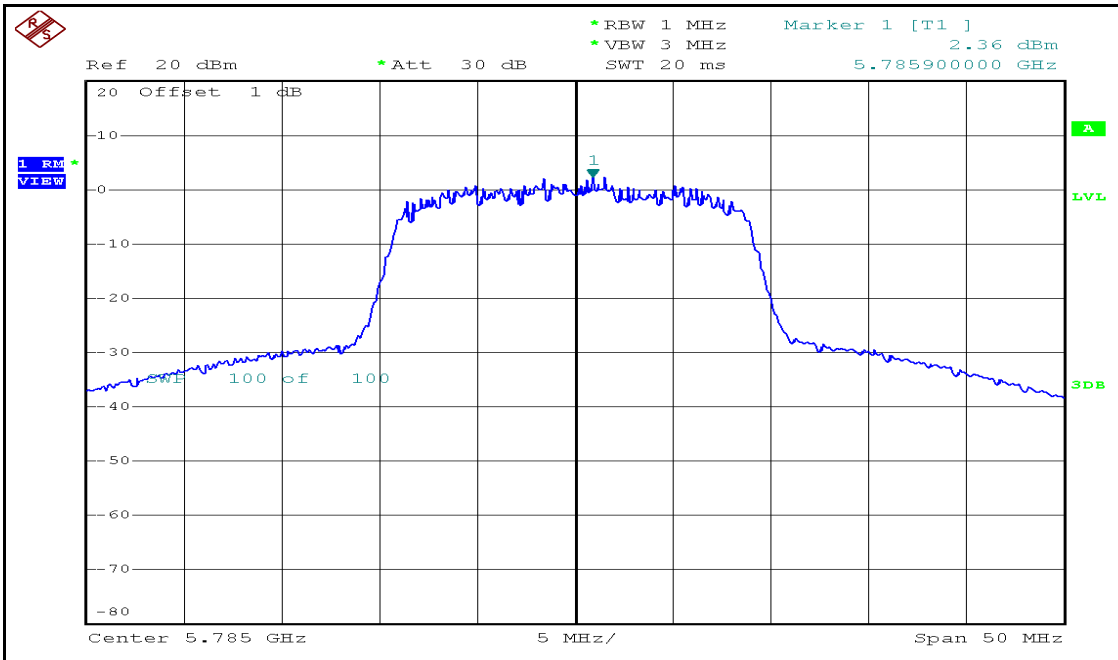


802.11n HT20

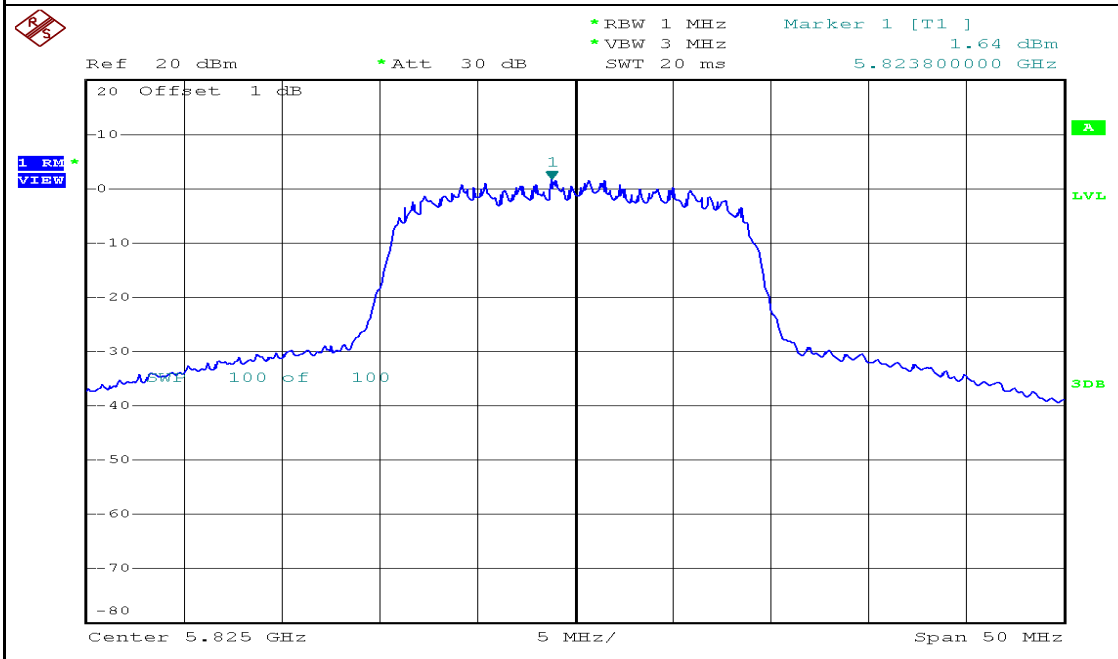
Channel 149



Channel 157

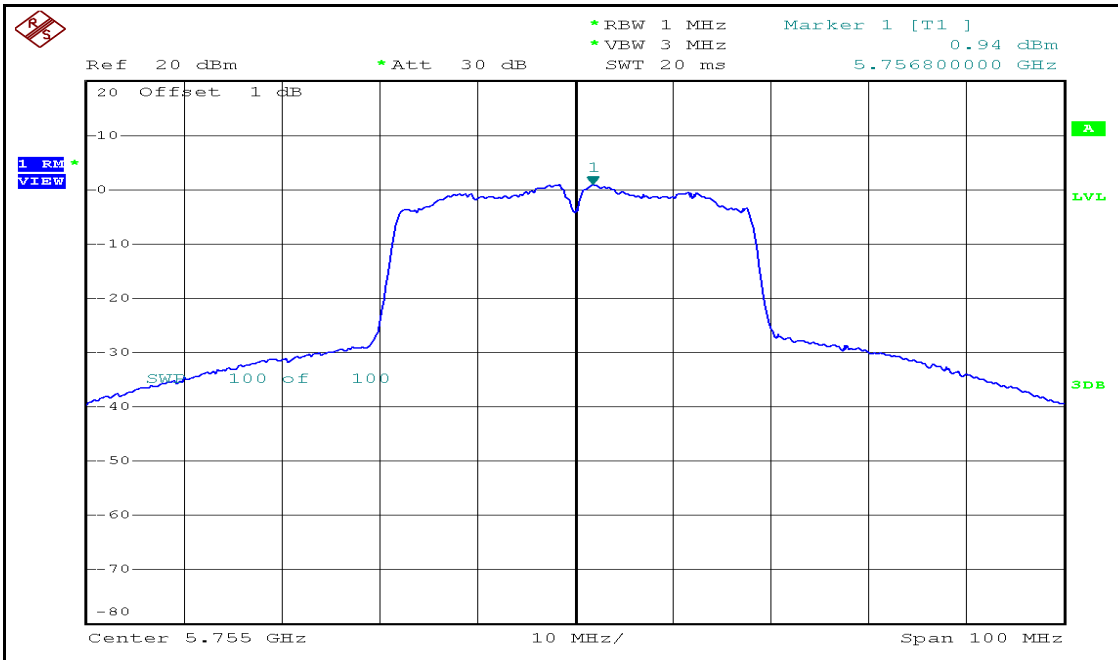


Channel 165



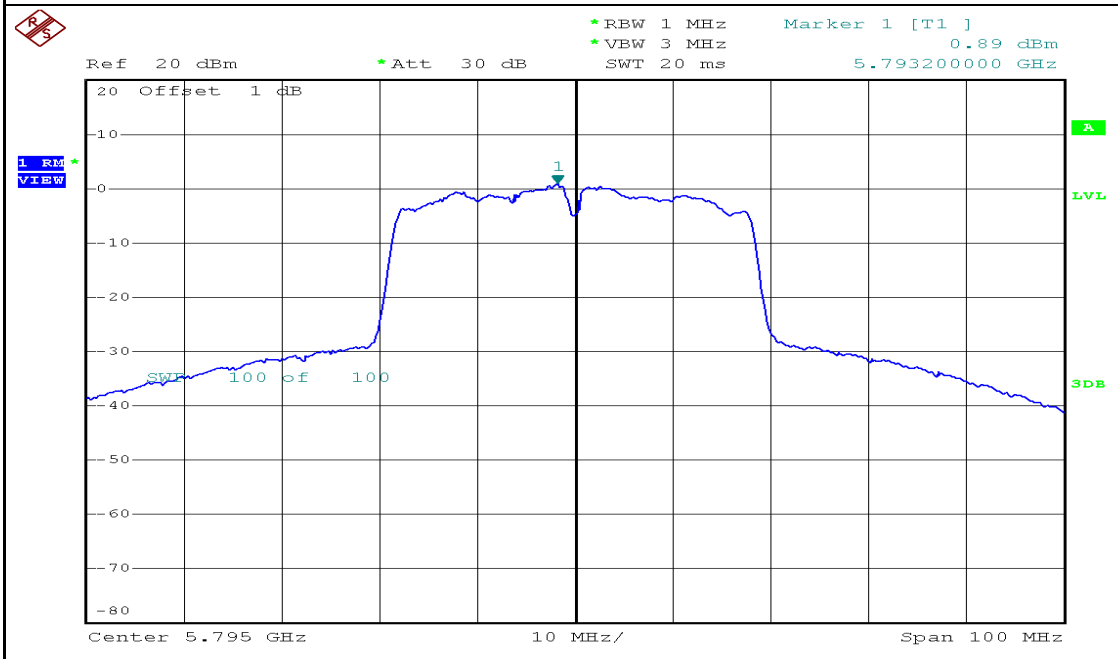
802.11n HT40

Channel 151



Date: 27.NOV.2016 16:18:18

Channel 159



Date: 27.NOV.2016 16:19:50

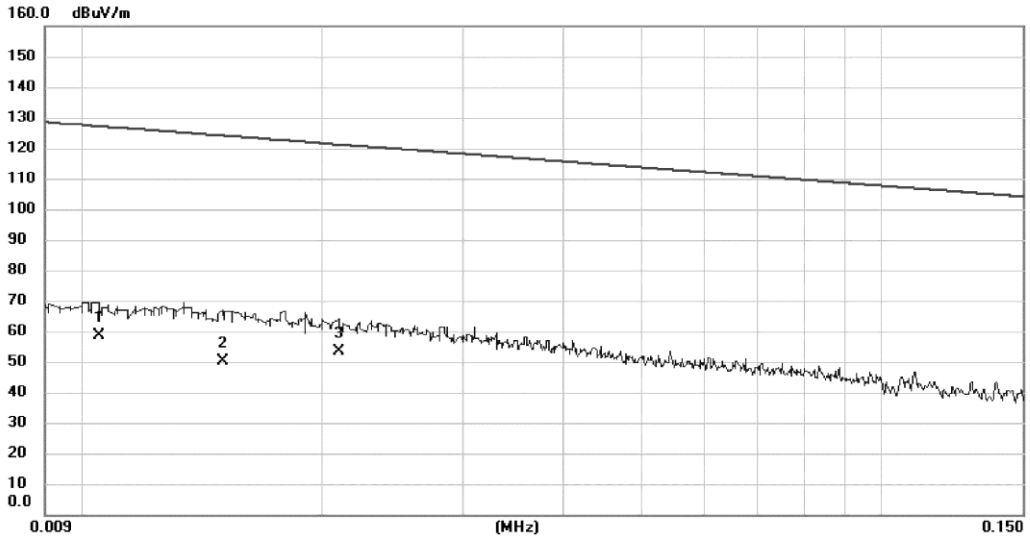
Appendix A.7: Unwanted Emissions - Outside of the Restriced Bands, below 30 MHz

BTL Inc. do the best
No.3.JinShaGang 1st Road,ShiXia,DaLang Town,DongGuan,China.
Tel: (0769)-8318-3000 Fax:(0769)-8319-6000 Post Code: 523792
www.newbtl.com

Site:	DG-CB01	Polarization:	Temperature: 25 (C)
Limit:	FCC 15.209_3m(QP&AVG)_new	Power: DC 5V	Humidity: 60 %
EUT:	Swann Wireless HD Smart Security Camera	Distance: 3m	
M/N:	SWWHD-INTCAM	Mode: TX_0_1	
Note:			

Radiated Emission Measurement

File :FCCP_9KTO30M Data :#1 Date: 2016-11-21 Time: 11:44:12



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		0.011	34.50	24.09	58.59	127.18	-68.59	AVG	
2		0.015	26.41	23.82	50.23	124.08	-73.85	AVG	
3	*	0.021	29.81	23.40	53.21	121.16	-67.95	AVG	

*:Maximum data x:Over limit !:over margin 〈Reference Only

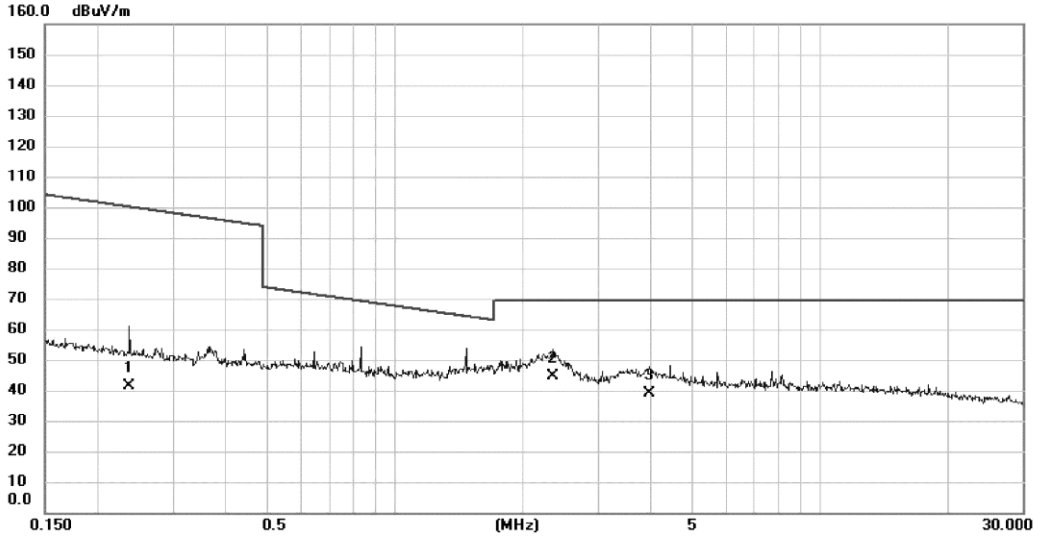
File :FCCP_9KTO30M\Data :#1 *Page: 1* Test engineer : BIAO

BTL Inc. do the best
No.3.JinShaGang 1st Road,ShiXia,DaLang Town,DongGuan,China.
Tel: (0769)-8318-3000 Fax:(0769)-8319-6000 Post Code: 523792
www.newbtl.com

Site:	DG-CB01	Polarization:	Temperature: 25 (C)
Limit:	FCC 15.209_3m(QP&AVG)_new	Power: DC 5V	Humidity: 60 %
EUT:	Swann Wireless HD Smart Security Camera	Distance: 3m	
M/N:	SWWHD-INTCAM	Mode: TX_0_2	
Note:			

Radiated Emission Measurement

File :FCCP_9KTO30M Data :#2 Date: 2016-11-21 Time: 11:48:42



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		0.237	22.60	18.66	41.26	100.13	-58.87	AVG	
2	*	2.346	27.20	17.46	44.66	69.54	-24.88	QP	
3		3.964	20.50	18.67	39.17	69.54	-30.37	QP	

*:Maximum data x:Over limit !:over margin 〈Reference Only

BTL Inc. do the best
No.3.JinShaGang 1st Road,ShiXia,DaLang Town,DongGuan,China.
Tel: (0769)-8318-3000 Fax:(0769)-8319-6000 Post Code: 523792
www.newbtl.com

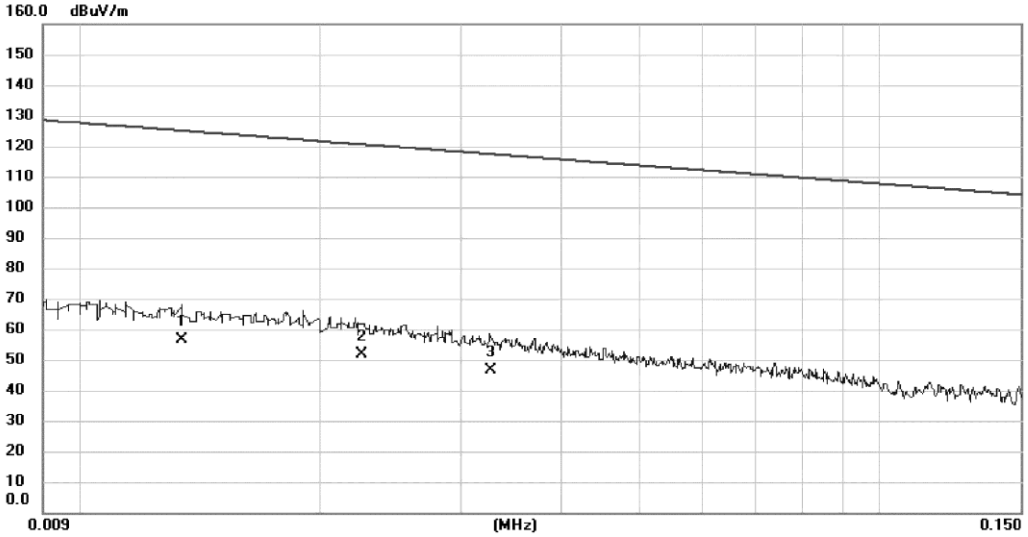
Site: DG-CB01
Limit: FCC 15.209_3m(QP&AVG)_new
EUT: Swann Wireless HD Smart Security Camera
M/N: SWWHD-INTCAM
Note:

Polarization:
Power: DC 5V
Distance: 3m
Mode: TX_90_1

Temperature: 25 (C)
Humidity: 60 %

Radiated Emission Measurement

File :FCCP_9KTO30M Data :#3 Date: 2016-11-21 Time: 11:57:18



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1	*	0.013	32.80	23.92	56.72	125.06	-68.34	AVG	
2		0.022	28.50	23.21	51.71	120.56	-68.85	AVG	
3		0.033	24.78	21.97	46.75	117.34	-70.59	AVG	

*:Maximum data x:Over limit !:over margin 〈Reference Only

File :FCCP_9KTO30M\Data :#3 *Page: 1* Test engineer : BIAO

BTL Inc. do the best
No.3.JinShaGang 1st Road,ShiXia,DaLang Town,DongGuan,China.
Tel: (0769)-8318-3000 Fax:(0769)-8319-6000 Post Code: 523792
www.newbtl.com

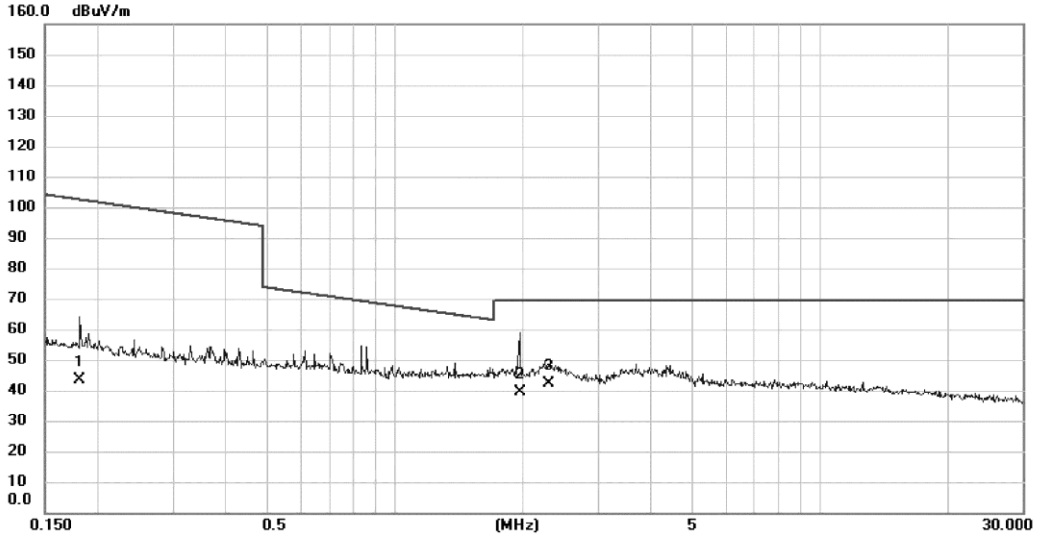
Site: DG-CB01
Limit: FCC 15.209_3m(QP&AVG)_new
EUT: Swann Wireless HD Smart Security Camera
M/N: SWWHD-INTCAM
Note:

Polarization:
Power: DC 5V
Distance: 3m
Mode: TX_90_2

Temperature: 25 (C)
Humidity: 60 %

Radiated Emission Measurement

File :FCCP_9KTO30M Data :#4 Date: 2016-11-21 Time: 11:53:15



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin	Detector	Comment
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		0.181	24.50	18.71	43.21	102.43	-59.22	AVG	
2		1.970	21.70	17.89	39.59	69.54	-29.95	QP	
3	*	2.297	24.80	17.52	42.32	69.54	-27.22	QP	

*:Maximum data x:Over limit !:over margin 〈Reference Only

File :FCCP_9KTO30M\Data :#4 *Page: 1* Test engineer : BIAO

Appendix A.8: Unwanted Emissions - Outside of the Restriced Bands, below 1 GHz

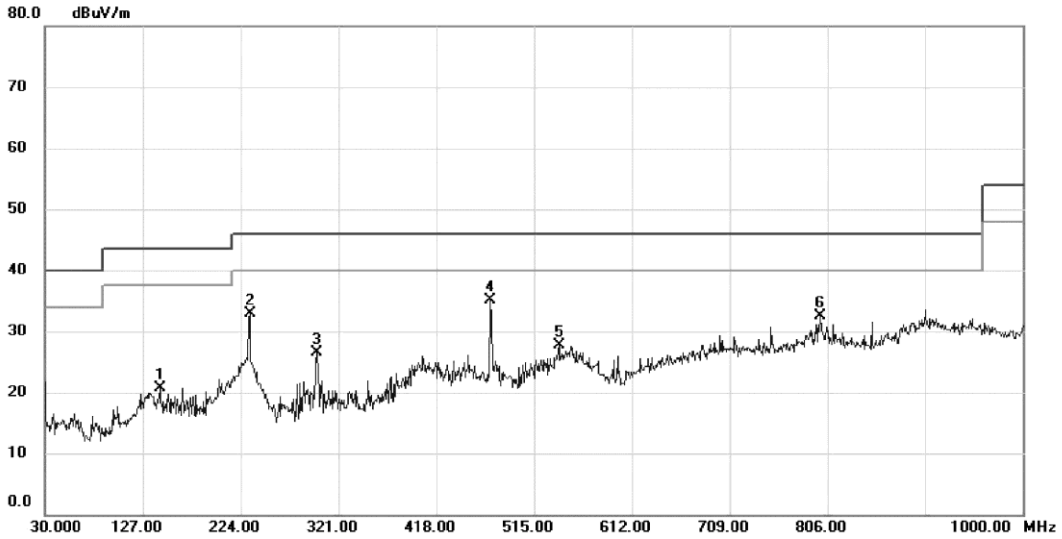
BTL Inc. do the best
Neutron Engineering Inc.
No.3.JinShaGang 1st Road,ShiXia,DaLang Town,DongGuan,China.
Tel: (0769)-8318-3000 Fax: (0769)-8319-6000 Post Code: 523792

Site:	DG-CB03	Polarization:	***Vertical***
Limit:	FCC Class B 3m Radiation	Power:	DC 5V
EUT:	Swann Wireless HD Smart Security Camera	Distance:	3m
M/N:	SWWHD-INTCAM	Mode:	TX_A_5180
Note:			

Temperature:	25 (C)
Humidity:	60 %

Radiated Emission Measurement

File :FCCP_BELOW1G_1 Data :#1 Date: 2016-11-20 Time: 11:08:45



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		143.975	34.20	-13.43	20.77	43.50	-22.73	peak	
2		233.215	46.45	-13.50	32.95	46.00	-13.05	peak	
3		299.660	36.60	-10.19	26.41	46.00	-19.59	peak	
4	*	471.350	43.78	-8.74	35.04	46.00	-10.96	peak	
5		539.735	33.26	-5.60	27.66	46.00	-18.34	peak	
6		798.240	32.31	0.18	32.49	46.00	-13.51	peak	

*:Maximum data x:Over limit !:over margin 〈Reference Only

File :FCCP_BELOW1G_1\Data :#1 *Page: 1* Test engineer : Vincent

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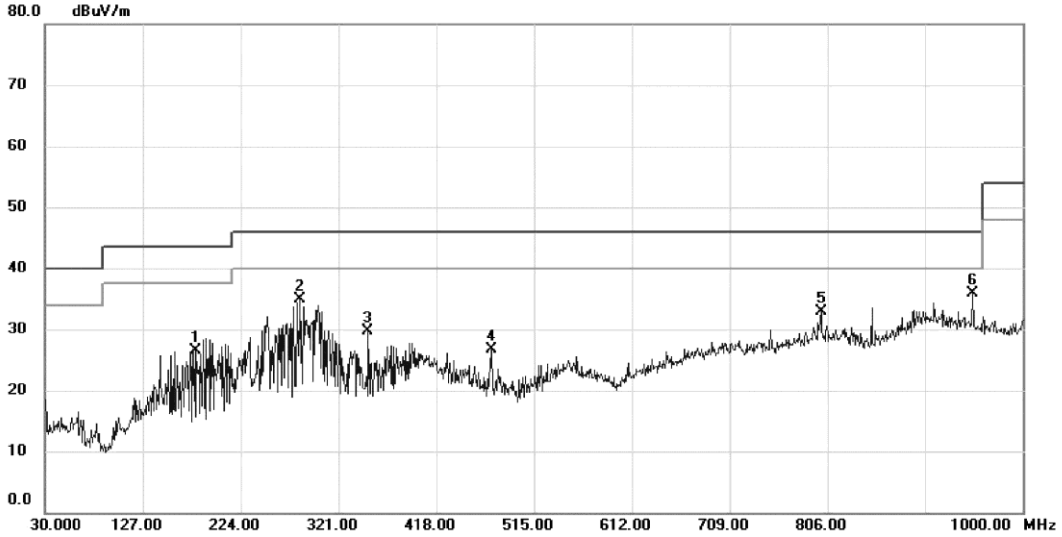
Neutron Engineering Inc.
No.3.JinShaGang 1st Road,ShiXia,DaLang Town,DongGuan,China.
Tel: (0769)-8318-3000 Fax: (0769)-8319-6000 Post Code: 523792

Site:	DG-CB03	Polarization:	***Horizontal***
Limit:	FCC Class B 3m Radiation	Power:	DC 5V
EUT:	Swann Wireless HD Smart Security Camera	Distance:	3m
M/N:	SWWHD-INTCAM	Mode:	TX_A_5180
Note:			

Temperature:	25 (C)
Humidity:	60 %

Radiated Emission Measurement

File :FCCP_BELOW1G_1 Data :#2 Date: 2016-11-20 Time: 11:07:55



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		179.380	39.31	-12.80	26.51	43.50	-16.99	peak	
2		283.170	46.69	-11.78	34.91	46.00	-11.09	peak	
3		350.100	40.86	-11.21	29.65	46.00	-16.35	peak	
4		473.290	35.47	-8.80	26.67	46.00	-19.33	peak	
5		799.695	32.59	0.25	32.84	46.00	-13.16	peak	
6	*	950.045	33.41	2.45	35.86	46.00	-10.14	peak	

*:Maximum data x:Over limit !:over margin 〈Reference Only

File :FCCP_BELOW1G_1\Data :#2 *Page: 1* Test engineer : Vincent

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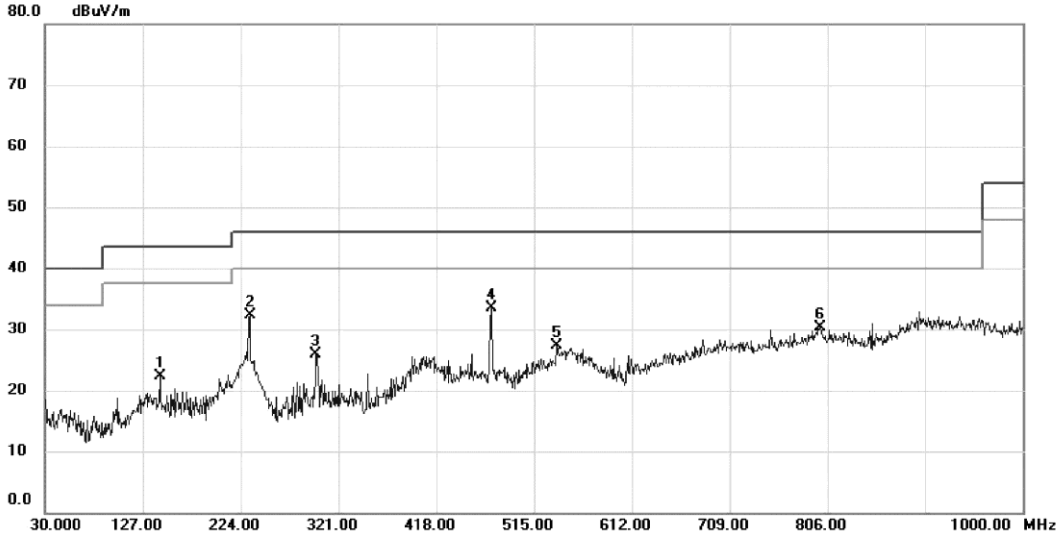
Neutron Engineering Inc.
No.3.JinShaGang 1st Road,ShiXia,DaLang Town,DongGuan,China.
Tel: (0769)-8318-3000 Fax: (0769)-8319-6000 Post Code: 523792

Site:	DG-CB03	Polarization:	***Vertical***
Limit:	FCC Class B 3m Radiation.	Power:	DC 5V
EUT:	Swann Wireless HD Smart Security Camera	Distance:	3m
M/N:	SWWHD-INTCAM	Mode:	TX_A_5200
Note:			

Temperature:	25 (C)
Humidity:	60 %

Radiated Emission Measurement

File :FCCP_BELOW1G_1 Data :#3 Date: 2016-11-20 Time: 11:09:17



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		143.975	35.80	-13.43	22.37	43.50	-21.13	peak	
2		233.215	45.88	-13.50	32.38	46.00	-13.62	peak	
3		298.690	36.18	-10.30	25.88	46.00	-20.12	peak	
4	*	473.290	42.27	-8.80	33.47	46.00	-12.53	peak	
5		537.795	33.17	-5.80	27.37	46.00	-18.63	peak	
6		798.240	30.17	0.18	30.35	46.00	-15.65	peak	

*:Maximum data x:Over limit !:over margin 〈Reference Only

File :FCCP_BELOW1G_1\Data :#3 *Page: 1* Test engineer : Vincent

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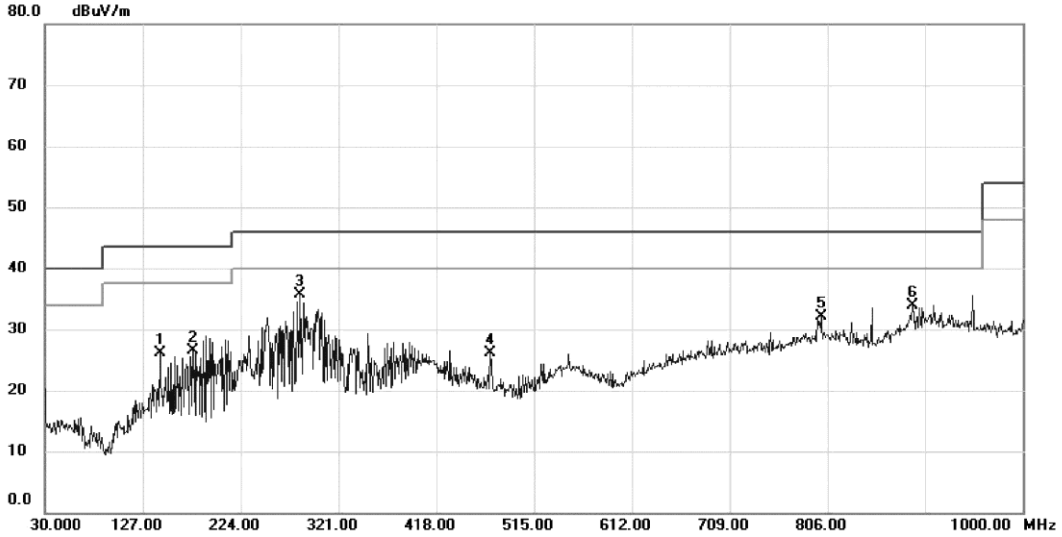
No.3.JinShaGang 1st Road,ShiXia,DaLang Town,DongGuan,China.
Tel: (0769)-8318-3000 Fax: (0769)-8319-6000 Post Code: 523792

Site:	DG-CB03	Polarization:	***Horizontal***
Limit:	FCC Class B 3m Radiation	Power:	DC 5V
EUT:	Swann Wireless HD Smart Security Camera	Distance:	3m
M/N:	SWWHD-INTCAM	Mode:	TX_A_5200
Note:			

Temperature:	25 (C)
Humidity:	60 %

Radiated Emission Measurement

File :FCCP_BELOW1G_1 Data :#4 Date: 2016-11-20 Time: 11:07:21



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		143.975	39.54	-13.43	26.11	43.50	-17.39	peak	
2		176.470	39.17	-12.62	26.55	43.50	-16.95	peak	
3	*	283.170	47.40	-11.78	35.62	46.00	-10.38	peak	
4		471.835	34.94	-8.75	26.19	46.00	-19.81	peak	
5		799.695	31.89	0.25	32.14	46.00	-13.86	peak	
6		890.875	32.06	1.93	33.99	46.00	-12.01	peak	

*:Maximum data x:Over limit !:over margin 〈Reference Only

File :FCCP_BELOW1G_1\Data :#4 *Page: 1* Test engineer : Vincent

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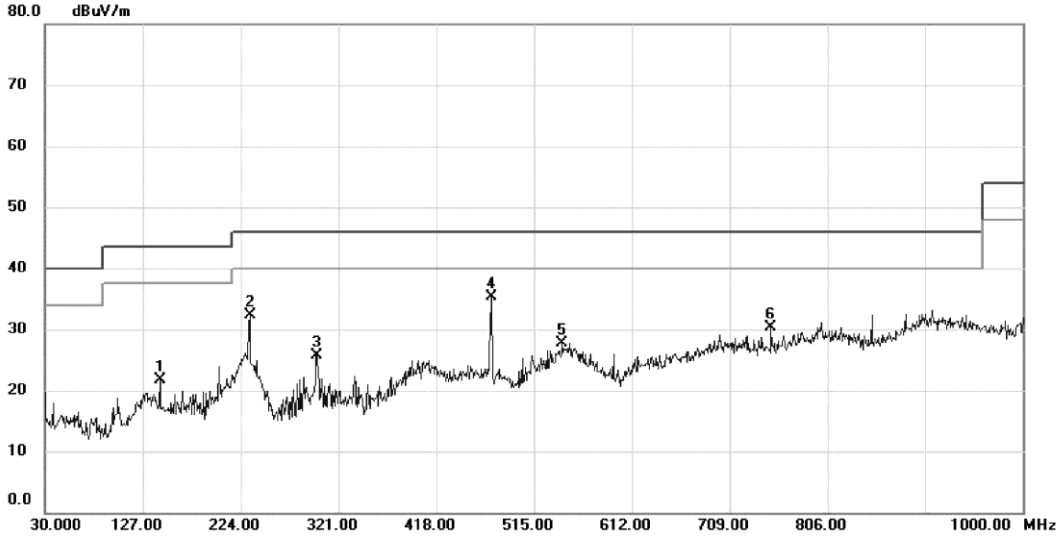
Tel: (0769)-8318-3000 Fax: (0769)-8319-6000 Post Code: 523792

Site:	DG-CB03	Polarization:	***Vertical***
Limit:	FCC Class B 3m Radiation	Power:	DC 5V
EUT:	Swann Wireless HD Smart Security Camera	Distance:	3m
M/N:	SWWHD-INTCAM	Mode:	TX_A_5240
Note:			

Temperature:	25 (C)
Humidity:	60 %

Radiated Emission Measurement

File :FCCP_BELOW1G_1 Data :#5 Date: 2016-11-20 Time: 11:09:52



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		143.975	35.17	-13.43	21.74	43.50	-21.76	peak	
2		233.215	45.79	-13.50	32.29	46.00	-13.71	peak	
3		300.145	35.89	-10.16	25.73	46.00	-20.27	peak	
4	*	473.290	44.20	-8.80	35.40	46.00	-10.60	peak	
5		543.130	33.02	-5.25	27.77	46.00	-18.23	peak	
6		749.740	32.20	-1.97	30.23	46.00	-15.77	peak	

*:Maximum data x:Over limit !:over margin 〈Reference Only

File :FCCP_BELOW1G_1\Data :#5 *Page: 1* Test engineer : Vincent

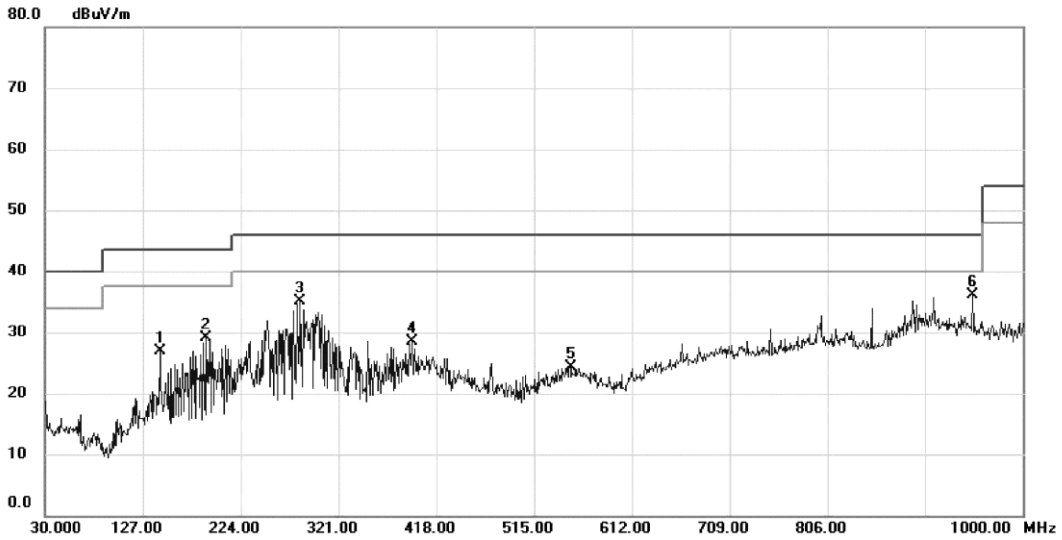
BTL Inc. do the best
Neutron Engineering Inc.
No.3.JinShaGang 1st Road,ShiXia,DaLang Town,DongGuan,China.
Tel: (0769)-8318-3000 Fax: (0769)-8319-6000 Post Code: 523792

Site:	DG-CB03	Polarization:	***Horizontal***
Limit:	FCC Class B 3m Radiation	Power:	DC 5V
EUT:	Swann Wireless HD Smart Security Camera	Distance:	3m
M/N:	SWWHD-INTCAM	Mode:	TX_A_5240
Note:			

Temperature:	25 (C)
Humidity:	60 %

Radiated Emission Measurement

File :FCCP_BELOW1G_1 Data :#6 Date: 2016-11-20 Time: 11:06:48



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		143.975	40.30	-13.43	26.87	43.50	-16.63	peak	
2		190.050	43.11	-13.93	29.18	43.50	-14.32	peak	
3		283.170	46.87	-11.78	35.09	46.00	-10.91	peak	
4		394.235	36.72	-8.18	28.54	46.00	-17.46	peak	
5		551.375	29.00	-4.61	24.39	46.00	-21.61	peak	
6	*	950.045	33.70	2.45	36.15	46.00	-9.85	peak	

*:Maximum data x:Over limit !:over margin 〈Reference Only

File :FCCP_BELOW1G_1\Data :#6 *Page: 1* Test engineer : Vincent

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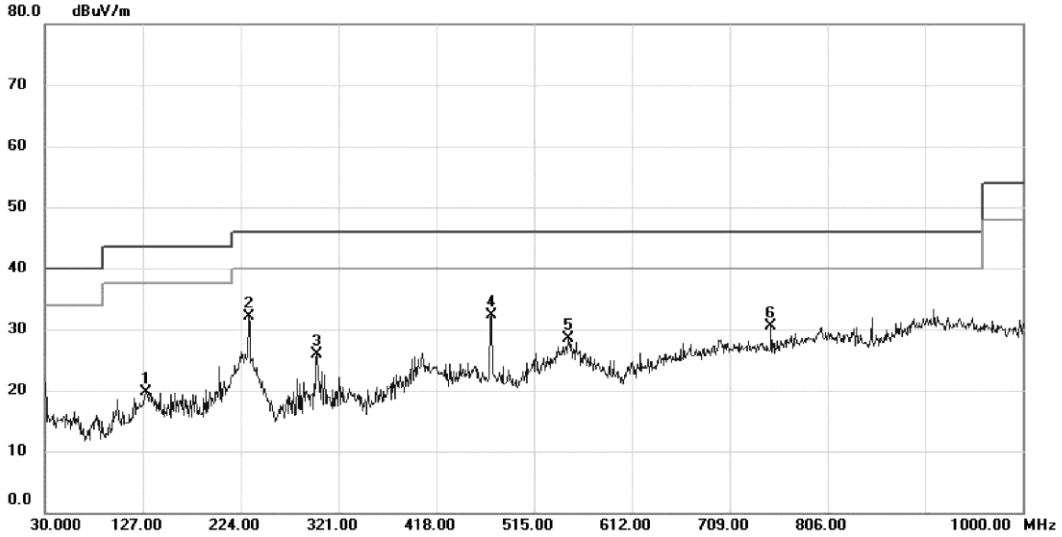
Neutron Engineering Inc.
No.3.JinShaGang 1st Road,ShiXia,DaLang Town,DongGuan,China.
Tel: (0769)-8318-3000 Fax: (0769)-8319-6000 Post Code: 523792

Site:	DG-CB03	Polarization:	***Vertical***
Limit:	FCC Class B 3m Radiation	Power:	DC 5V
EUT:	Swann Wireless HD Smart Security Camera	Distance:	3m
M/N:	SWWHD-INTCAM	Mode:	TX_A_5745
Note:			

Temperature:	25 (C)
Humidity:	60 %

Radiated Emission Measurement

File :FCCP_BELOW1G_1 Data :#19 Date: 2016-11-20 Time: 11:18:03



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		129.910	32.09	-12.36	19.73	43.50	-23.77	peak	
2		232.245	45.51	-13.46	32.05	46.00	-13.95	peak	
3		299.660	36.12	-10.19	25.93	46.00	-20.07	peak	
4	*	472.320	41.05	-8.77	32.28	46.00	-13.72	peak	
5		549.435	33.03	-4.60	28.43	46.00	-17.57	peak	
6		749.740	32.40	-1.97	30.43	46.00	-15.57	peak	

*:Maximum data x:Over limit !:over margin 〈Reference Only

File :FCCP_BELOW1G_1\Data :#19 *Page: 1* Test engineer : Vincent

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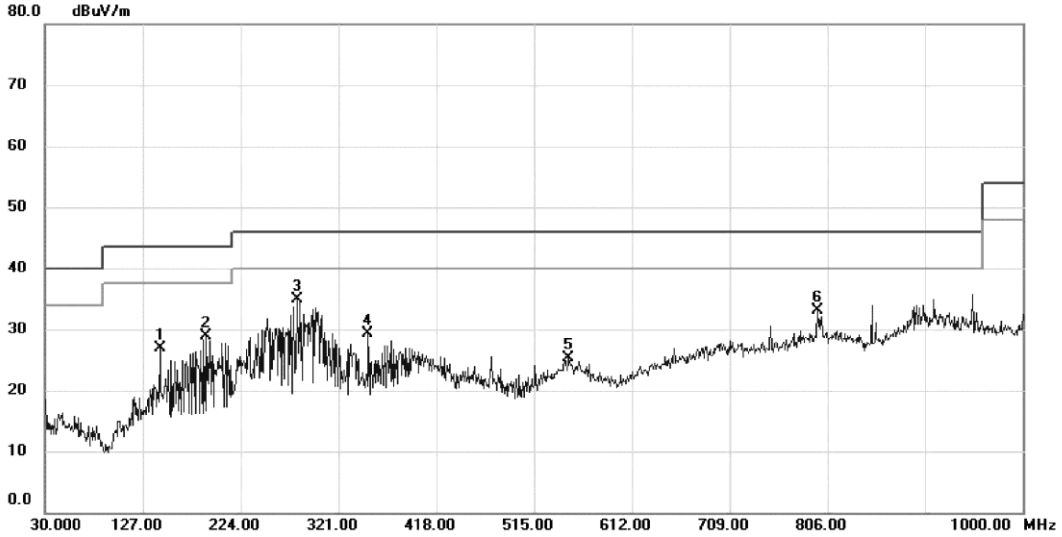
Neutron Engineering Inc.
No.3.JinShaGang 1st Road,ShiXia,DaLang Town,DongGuan,China.
Tel: (0769)-8318-3000 Fax: (0769)-8319-6000 Post Code: 523792

Site:	DG-CB03	Polarization:	***Horizontal***
Limit:	FCC Class B 3m Radiation	Power:	DC 5V
EUT:	Swann Wireless HD Smart Security Camera	Distance:	3m
M/N:	SWWHD-INTCAM	Mode:	TX_A_5745
Note:			

Temperature:	25 (C)
Humidity:	60 %

Radiated Emission Measurement

File :FCCP_BELOW1G_1 Data :#20 Date: 2016-11-20 Time: 11:02:31



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		143.975	40.30	-13.43	26.87	43.50	-16.63	peak	
2		190.050	42.74	-13.93	28.81	43.50	-14.69	peak	
3	*	279.775	47.00	-12.07	34.93	46.00	-11.07	peak	
4		350.100	40.55	-11.21	29.34	46.00	-16.66	peak	
5		549.920	29.88	-4.55	25.33	46.00	-20.67	peak	
6		796.300	33.11	0.09	33.20	46.00	-12.80	peak	

*:Maximum data x:Over limit !:over margin 〈Reference Only

File :FCCP_BELOW1G_1\Data :#20 *Page: 1* Test engineer : Vincent

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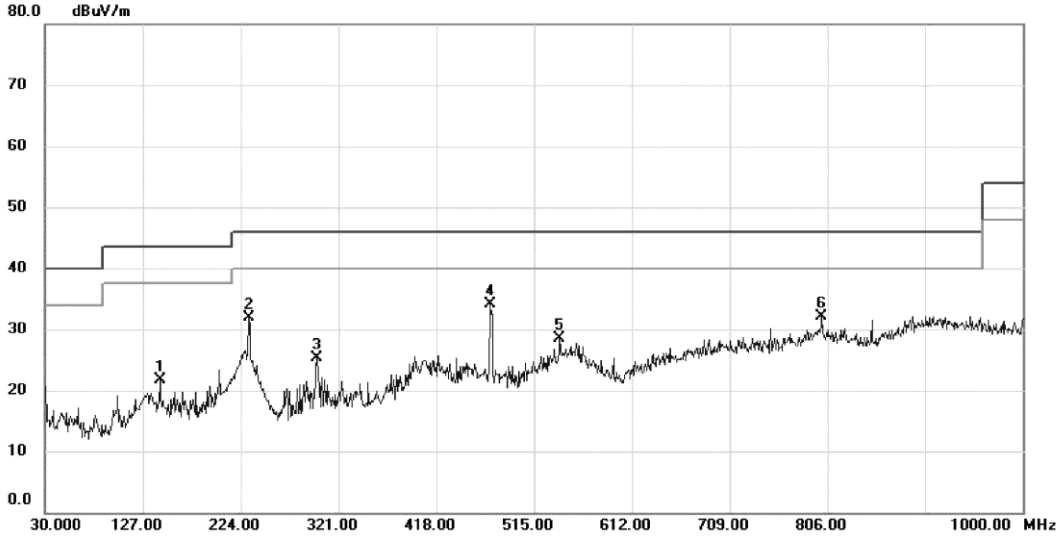
No.3.JinShaGang 1st Road,ShiXia,DaLang Town,DongGuan,China.
Tel: (0769)-8318-3000 Fax: (0769)-8319-6000 Post Code: 523792

Site:	DG-CB03	Polarization:	***Vertical***
Limit:	FCC Class B 3m Radiation	Power:	DC 5V
EUT:	Swann Wireless HD Smart Security Camera	Distance:	3m
M/N:	SWWHD-INTCAM	Mode:	TX_A_5785
Note:			

Temperature:	25 (C)
Humidity:	60 %

Radiated Emission Measurement

File :FCCP_BELOW1G_1 Data :#21 Date: 2016-11-20 Time: 11:18:39



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		143.975	35.09	-13.43	21.66	43.50	-21.84	peak	
2		232.245	45.39	-13.46	31.93	46.00	-14.07	peak	
3		300.145	35.46	-10.16	25.30	46.00	-20.70	peak	
4	*	471.835	42.80	-8.75	34.05	46.00	-11.95	peak	
5		540.705	34.04	-5.51	28.53	46.00	-17.47	peak	
6		800.180	31.76	0.25	32.01	46.00	-13.99	peak	

*:Maximum data x:Over limit !:over margin 〈Reference Only

File :FCCP_BELOW1G_1\Data :#21 *Page: 1* Test engineer : Vincent

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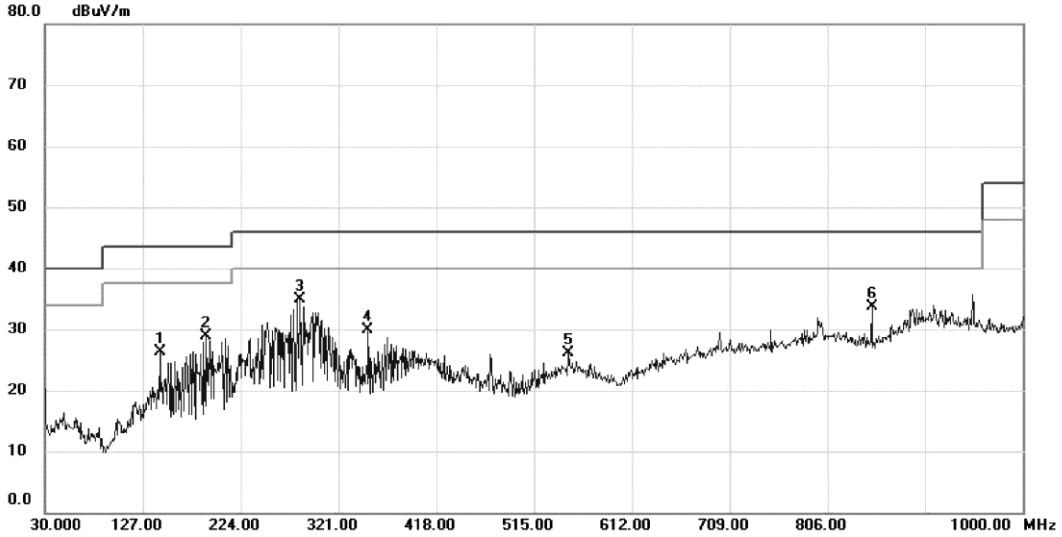
Tel: (0769)-8318-3000 Fax: (0769)-8319-6000 Post Code: 523792

Site:	DG-CB03	Polarization:	***Horizontal***
Limit:	FCC Class B 3m Radiation	Power:	DC 5V
EUT:	Swann Wireless HD Smart Security Camera	Distance:	3m
M/N:	SWWHD-INTCAM	Mode:	TX_A_5785
Note:			

Temperature:	25 (C)
Humidity:	60 %

Radiated Emission Measurement

File :FCCP_BELOW1G_1 Data :#22 Date: 2016-11-20 Time: 11:01:56



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		143.975	39.65	-13.43	26.22	43.50	-17.28	peak	
2		190.050	42.87	-13.93	28.94	43.50	-14.56	peak	
3	*	283.170	46.74	-11.78	34.96	46.00	-11.04	peak	
4		350.100	41.14	-11.21	29.93	46.00	-16.07	peak	
5		549.920	30.60	-4.55	26.05	46.00	-19.95	peak	
6		850.135	35.04	-1.24	33.80	46.00	-12.20	peak	

*:Maximum data x:Over limit !:over margin 〈Reference Only

File :FCCP_BELOW1G_1\Data :#22 *Page: 1* Test engineer : Vincent

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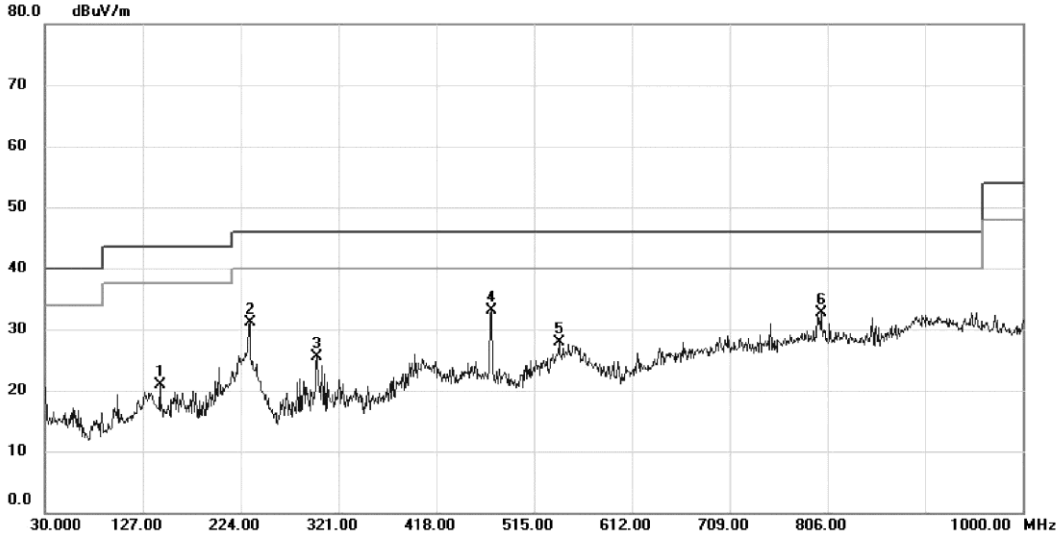
Neutron Engineering Inc.
No.3.JinShaGang 1st Road,ShiXia,DaLang Town,DongGuan,China.
Tel: (0769)-8318-3000 Fax: (0769)-8319-6000 Post Code: 523792

Site:	DG-CB03	Polarization:	***Vertical***
Limit:	FCC Class B 3m Radiation	Power:	DC 5V
EUT:	Swann Wireless HD Smart Security Camera	Distance:	3m
M/N:	SWWHD-INTCAM	Mode:	TX_A_5825
Note:			

Temperature:	25 (C)
Humidity:	60 %

Radiated Emission Measurement

File :FCCP_BELOW1G_1 Data :#23 Date: 2016-11-20 Time: 11:19:22



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		143.975	34.35	-13.43	20.92	43.50	-22.58	peak	
2		233.215	44.67	-13.50	31.17	46.00	-14.83	peak	
3		299.660	35.72	-10.19	25.53	46.00	-20.47	peak	
4	*	473.290	41.95	-8.80	33.15	46.00	-12.85	peak	
5		539.735	33.43	-5.60	27.83	46.00	-18.17	peak	
6		799.695	32.45	0.25	32.70	46.00	-13.30	peak	

*:Maximum data x:Over limit !:over margin 〈Reference Only

File :FCCP_BELOW1G_1\Data :#23 *Page: 1* Test engineer : Vincent

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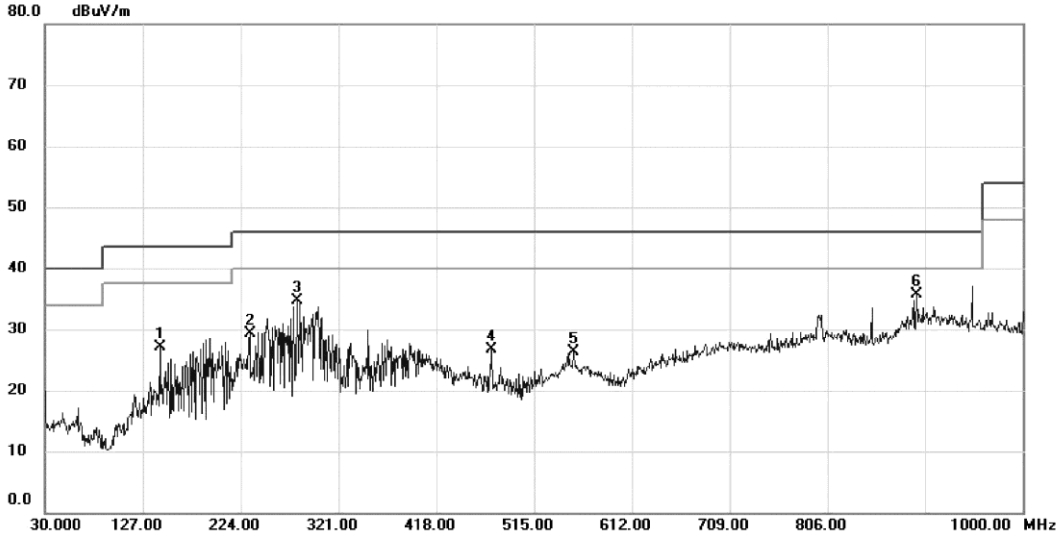
Neutron Engineering Inc.
No.3.JinShaGang 1st Road,ShiXia,DaLang Town,DongGuan,China.
Tel: (0769)-8318-3000 Fax: (0769)-8319-6000 Post Code: 523792

Site:	DG-CB03	Polarization:	***Horizontal***
Limit:	FCC Class B 3m Radiation	Power:	DC 5V
EUT:	Swann Wireless HD Smart Security Camera	Distance:	3m
M/N:	SWWHD-INTCAM	Mode:	TX_A_5825
Note:			

Temperature:	25 (C)
Humidity:	60 %

Radiated Emission Measurement

File :FCCP_BELOW1G_1 Data :#24 Date: 2016-11-20 Time: 11:01:09



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		143.975	40.53	-13.43	27.10	43.50	-16.40	peak	
2		233.215	42.84	-13.50	29.34	46.00	-16.66	peak	
3		279.775	46.73	-12.07	34.66	46.00	-11.34	peak	
4		473.290	35.46	-8.80	26.66	46.00	-19.34	peak	
5		554.285	31.00	-4.75	26.25	46.00	-19.75	peak	
6	*	894.755	33.52	2.23	35.75	46.00	-10.25	peak	

*:Maximum data x:Over limit !:over margin 〈Reference Only

File :FCCP_BELOW1G_1\Data :#24 *Page: 1* Test engineer : Vincent

Appendix A.9: Unwanted Emissions - Outside of the Restriced Bands, above 1 GHz
802.11a

BTL Inc.
No.3.JinShaGang 1st Road,ShiXia,DaLang Town,DongGuan,China.
Tel: (0769)-8318-3000 Fax:(0769)-8319-6000 Post Code: 523792
www.newbtl.com

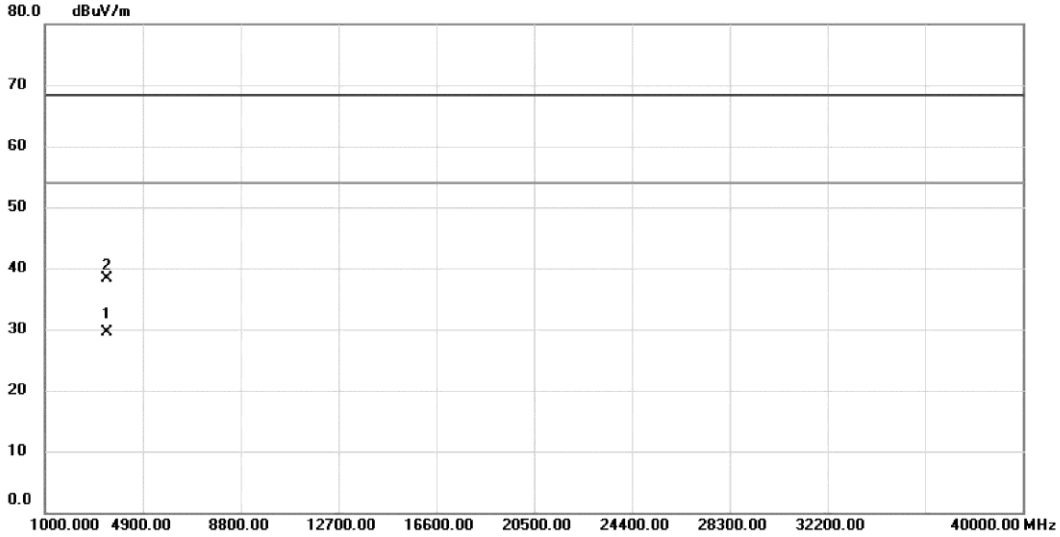
Site: DG-CB03
Limit: FCC 15.407_3m_(Peak)
EUT: SEE NOTE
M/N: SWWHD-INTCAM
Note: Swann Wireless HD Smart Security Camera

Polarization: ***Vertical***
Power: DC 5V
Distance: 3m
Mode: TX_A_5180

Temperature: 25 (C)
Humidity: 60 %

Radiated Emission Measurement

File :FCCP_ABOVE1G Data :#1 Date: 2016-11-25 Time: 12:40:04



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	3453.205	28.15	1.34	29.49	54.00	-24.51	AVG	
2		3453.245	36.96	1.34	38.30	68.30	-30.00	peak	

*:Maximum data x:Over limit !:over margin 〈Reference Only

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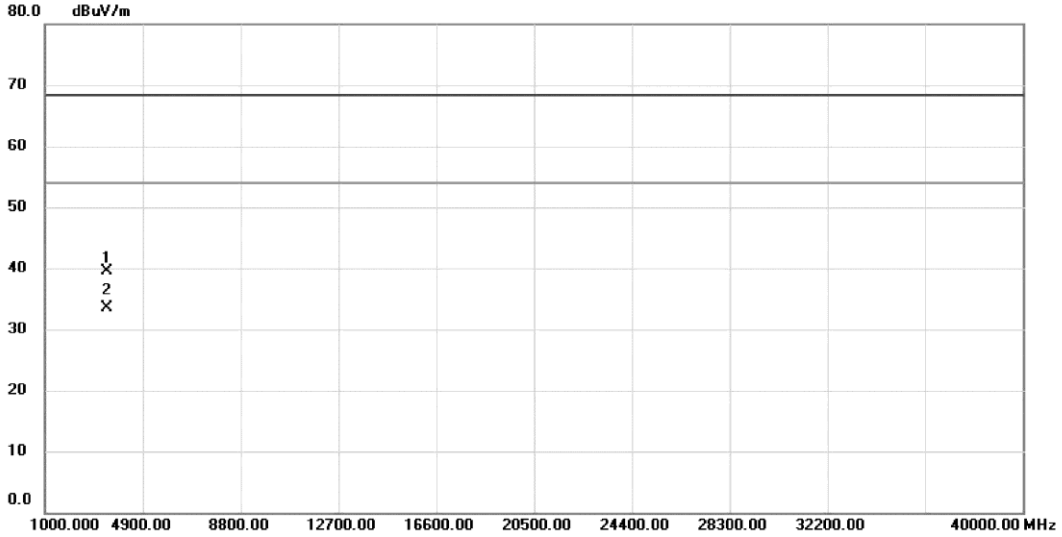
Tel: (0769)-8318-3000 Fax:(0769)-8319-6000 Post Code: 523792
www.newbtl.com

Site:	DG-CB03	Polarization:	***Horizontal***
Limit:	FCC 15.407_3m_(Peak)	Power:	DC 5V
EUT:	SEE NOTE	Distance:	3m
M/N:	SWWHD-INTCAM	Mode:	TX_A_5180
Note:	Swann Wireless HD Smart Security Camera		

Temperature:	25 (C)
Humidity:	60 %

Radiated Emission Measurement

File :FCCP_ABOVE1G Data :#2 Date: 2016-11-25 Time: 12:08:57



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		3453.273	38.20	1.34	39.54	68.30	-28.76	peak	
2	*	3453.285	32.25	1.34	33.59	54.00	-20.41	AVG	

*:Maximum data x:Over limit !:over margin 〈Reference Only

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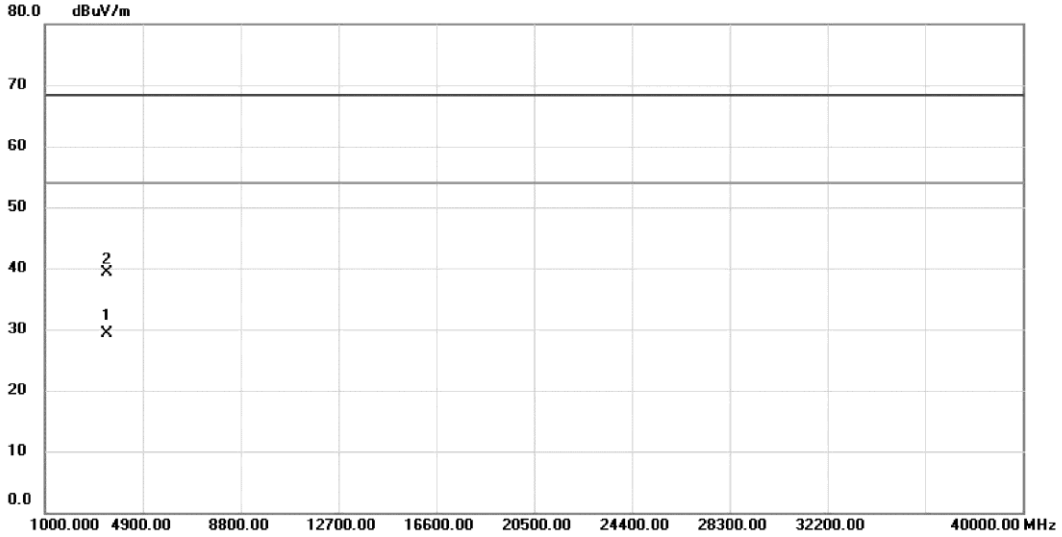
Site: DG-CB03
Limit: FCC 15.407_3m_(Peak)
EUT: SEE NOTE
M/N: SWWHD-INTCAM
Note: Swann Wireless HD Smart Security Camera

Polarization: ***Vertical***
Power: DC 5V
Distance: 3m
Mode: TX_A_5200

Temperature: 25 (C)
Humidity: 60 %

Radiated Emission Measurement

File :FCCP_ABOVE1G Data :#3 Date: 2016-11-25 Time: 10:00:16



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	3466.582	28.04	1.33	29.37	54.00	-24.63	AVG	
2		3466.865	37.91	1.33	39.24	68.30	-29.06	peak	

*:Maximum data x:Over limit !:over margin 〈Reference Only

File :FCCP_ABOVE1G\Data :#3 *Page: 1* Test engineer : Vincent

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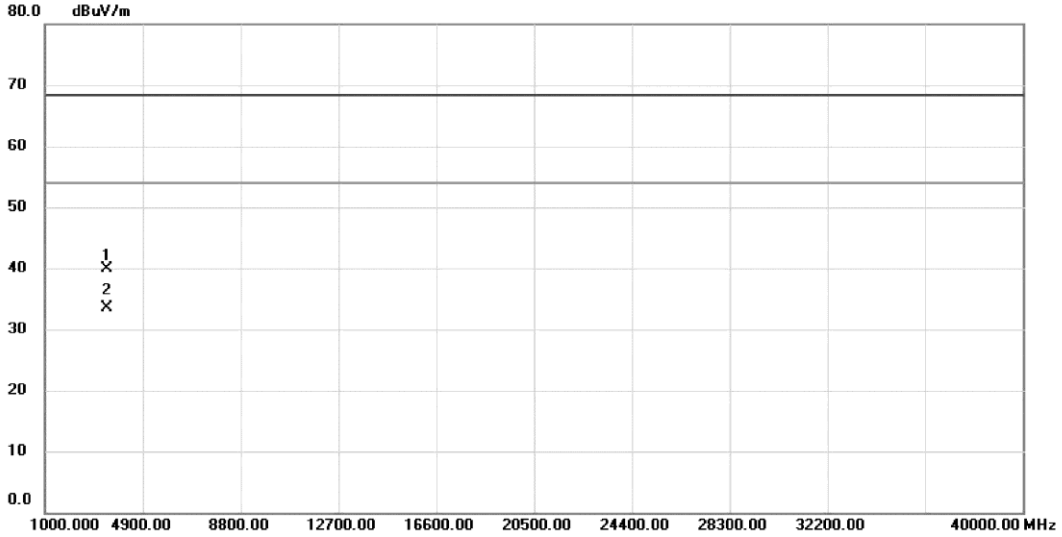
Site: DG-CB03
Limit: FCC 15.407_3m_(Peak)
EUT: SEE NOTE
M/N: SWWHD-INTCAM
Note: Swann Wireless HD Smart Security Camera

Polarization: ***Horizontal***
Power: DC 5V
Distance: 3m
Mode: TX_A_5200

Temperature: 25 (C)
Humidity: 60 %

Radiated Emission Measurement

File :FCCP_ABOVE1G Data :#4 Date: 2016-11-25 Time: 10:02:20



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		3466.500	38.63	1.33	39.96	68.30	-28.34	peak	
2	*	3466.597	32.16	1.33	33.49	54.00	-20.51	AVG	

*:Maximum data x:Over limit !:over margin 〈Reference Only

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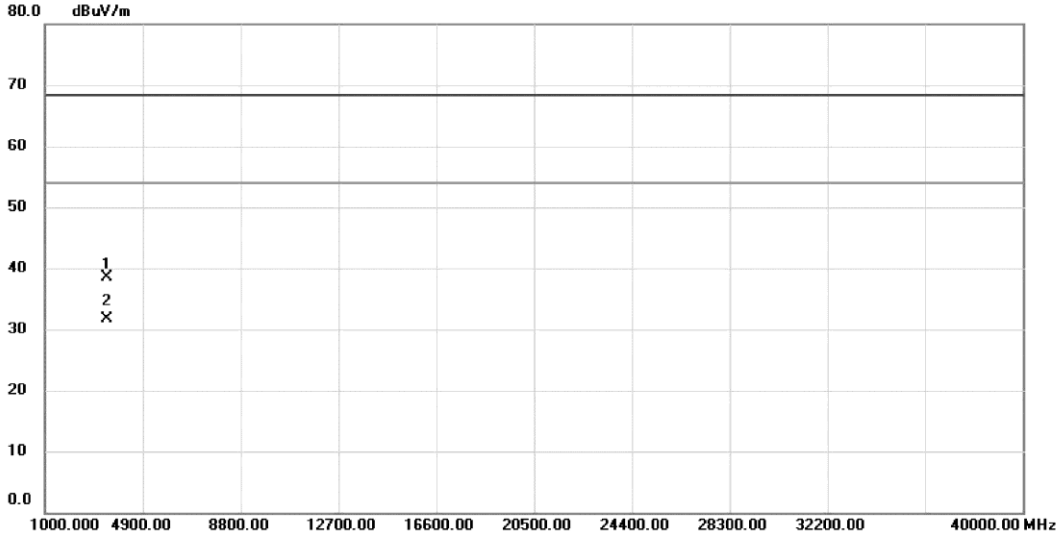
Site:	DG-CB03	Polarization:	***Vertical***
Limit:	FCC 15.407_3m_(Peak)	Power:	DC 5V
EUT:	SEE NOTE	Distance:	3m
M/N:	SWWHD-INTCAM	Mode:	TX_A_5240
Note:	Swann Wireless HD Smart Security Camera		

Temperature:	25 (C)
Humidity:	60 %

Radiated Emission Measurement

File :FCCP_ABOVE1G Data :#5 Date: 2016-11-25 Time: 10:06:09



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		3493.258	37.27	1.32	38.59	68.30	-29.71	peak	
2	*	3493.287	30.38	1.32	31.70	54.00	-22.30	AVG	

*:Maximum data x:Over limit !:over margin 〈Reference Only

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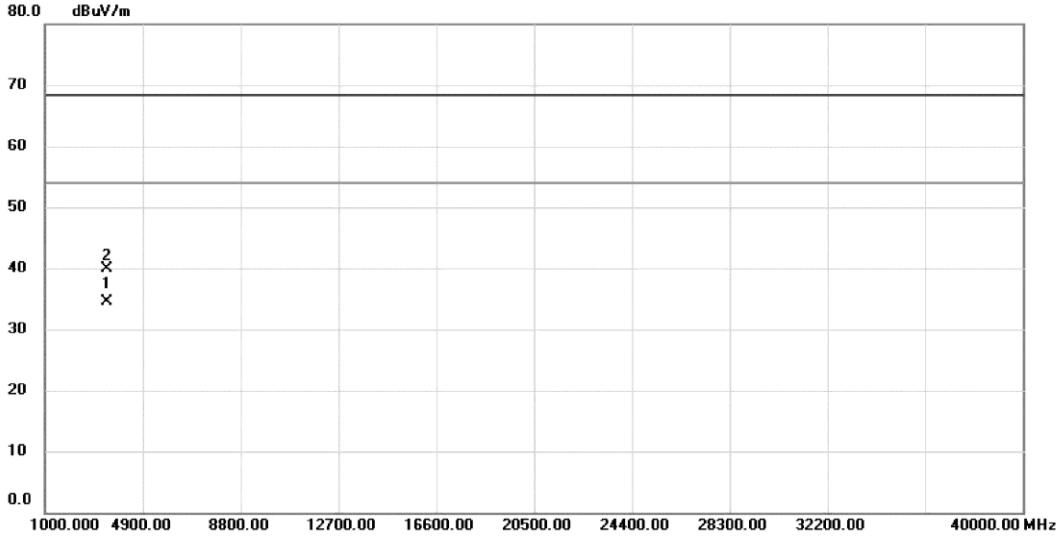
Site: DG-CB03
Limit: FCC 15.407_3m_(Peak)
EUT: SEE NOTE
M/N: SWWHD-INTCAM
Note: Swann Wireless HD Smart Security Camera

Polarization: ***Horizontal***
Power: DC 5V
Distance: 3m
Mode: TX_A_5240

Temperature: 25 (C)
Humidity: 60 %

Radiated Emission Measurement

File :FCCP_ABOVE1G Data :#6 Date: 2016-11-25 Time: 10:04:43



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	3493.250	33.09	1.32	34.41	54.00	-19.59	AVG	
2		3493.435	38.54	1.32	39.86	68.30	-28.44	peak	

*:Maximum data x:Over limit !:over margin 〈Reference Only

File :FCCP_ABOVE1G\Data :#6 *Page: 1* Test engineer : Vincent

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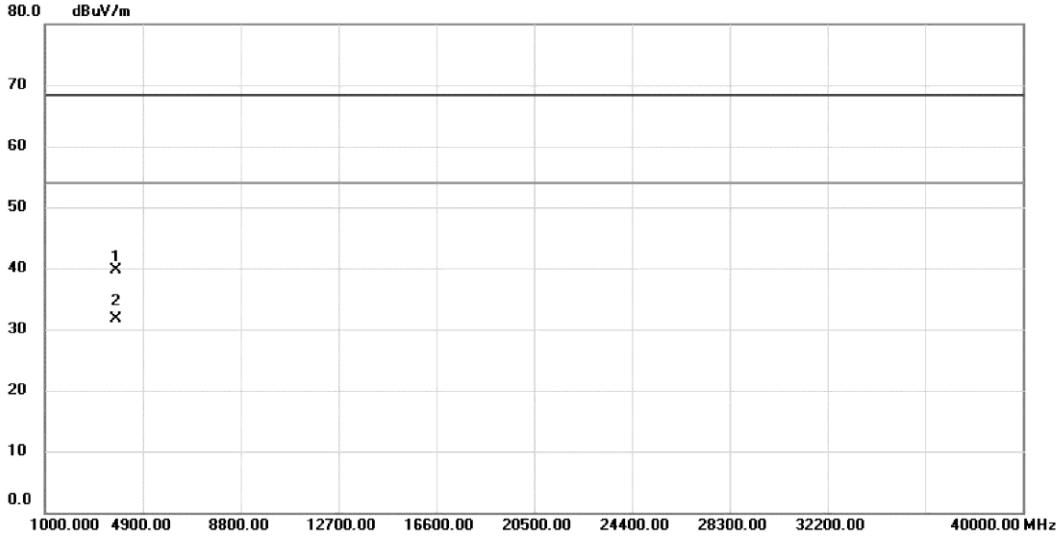
Site: DG-CB03
Limit: FCC 15.407_3m_(Peak)
EUT: SEE NOTE
M/N: SWWHD-INTCAM
Note: Swann Wireless HD Smart Security Camera

Polarization: ***Vertical***
Power: DC 5V
Distance: 3m
Mode: TX_A_5745

Temperature: 25 (C)
Humidity: 60 %

Radiated Emission Measurement

File :FCCP_ABOVE1G Data :#19 Date: 2016-11-25 Time: 11:38:11



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		3829.975	37.23	2.39	39.62	68.30	-28.68	peak	
2	*	3830.003	29.40	2.39	31.79	54.00	-22.21	AVG	

*:Maximum data x:Over limit !:over margin 〈Reference Only

File :FCCP_ABOVE1G\Data :#19 *Page: 1* Test engineer : Vincent

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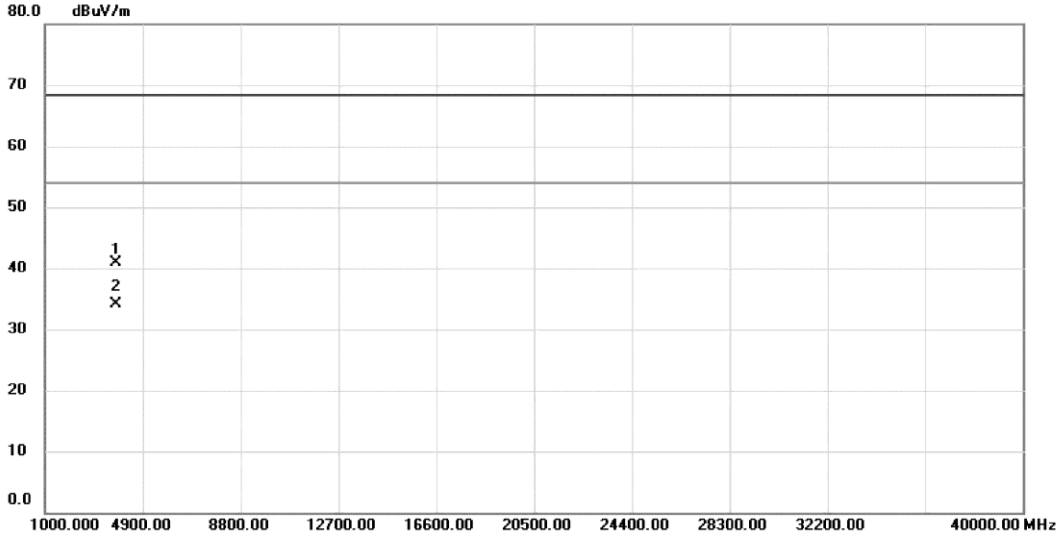
Site: DG-CB03
Limit: FCC 15.407_3m_(Peak)
EUT: SEE NOTE
M/N: SWWHD-INTCAM
Note: Swann Wireless HD Smart Security Camera

Polarization: ***Horizontal***
Power: DC 5V
Distance: 3m
Mode: TX_A_5745

Temperature: 25 (C)
Humidity: 60 %

Radiated Emission Measurement

File :FCCP_ABOVE1G Data :#20 Date: 2016-11-25 Time: 11:36:03



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		3830.015	38.54	2.39	40.93	68.30	-27.37	peak	
2	*	3830.025	31.63	2.39	34.02	54.00	-19.98	AVG	

*:Maximum data x:Over limit !:over margin 〈Reference Only

File :FCCP_ABOVE1G\Data :#20 *Page: 1* Test engineer : Vincent

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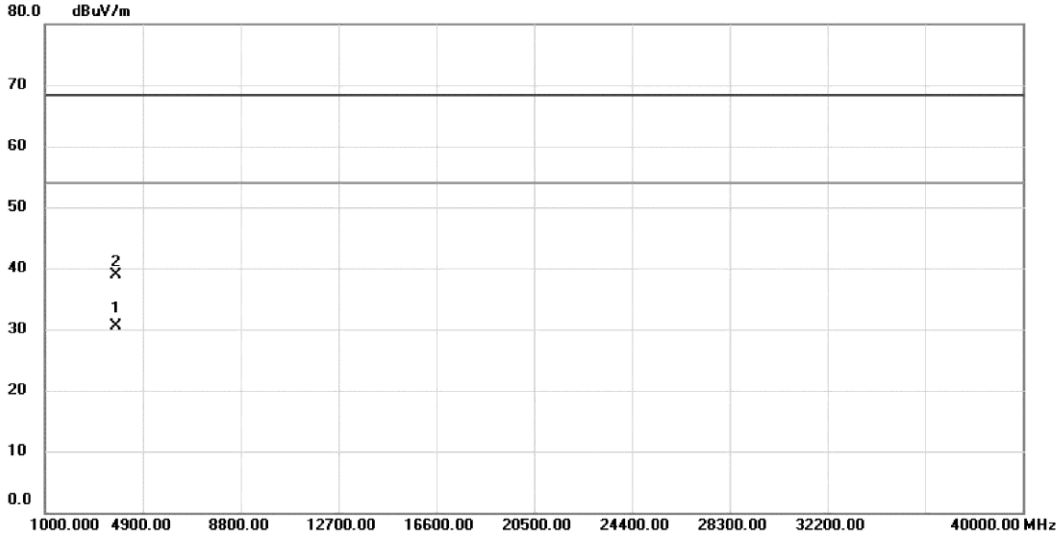
Site: DG-CB03
Limit: FCC 15.407_3m_(Peak)
EUT: SEE NOTE
M/N: SWWHD-INTCAM
Note: Swann Wireless HD Smart Security Camera

Polarization: ***Vertical***
Power: DC 5V
Distance: 3m
Mode: TX_A_5785

Temperature: 25 (C)
Humidity: 60 %

Radiated Emission Measurement

File :FCCP_ABOVE1G Data :#21 Date: 2016-11-25 Time: 11:40:36



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	3856.650	28.11	2.48	30.59	54.00	-23.41	AVG	
2		3856.725	36.45	2.48	38.93	68.30	-29.37	peak	

*:Maximum data x:Over limit !:over margin 〈Reference Only

File :FCCP_ABOVE1G\Data :#21 *Page: 1* Test engineer : Vincent

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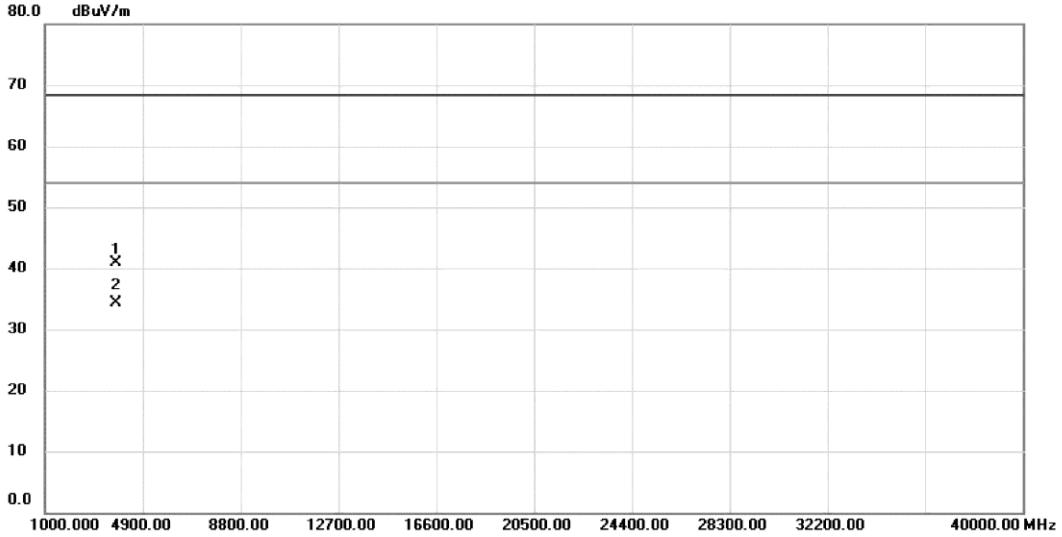
Site:	DG-CB03	Polarization:	***Horizontal***
Limit:	FCC 15.407_3m_(Peak)	Power:	DC 5V
EUT:	SEE NOTE	Distance:	3m
M/N:	SWWHD-INTCAM	Mode:	TX_A_5785
Note:	Swann Wireless HD Smart Security Camera		

Temperature:	25 (C)
Humidity:	60 %

Radiated Emission Measurement

File :FCCP_ABOVE1G Data :#22 Date: 2016-11-25 Time: 11:42:16



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		3856.472	38.47	2.48	40.95	68.30	-27.35	peak	
2	*	3856.690	31.84	2.48	34.32	54.00	-19.68	AVG	

*:Maximum data x:Over limit !:over margin 〈Reference Only

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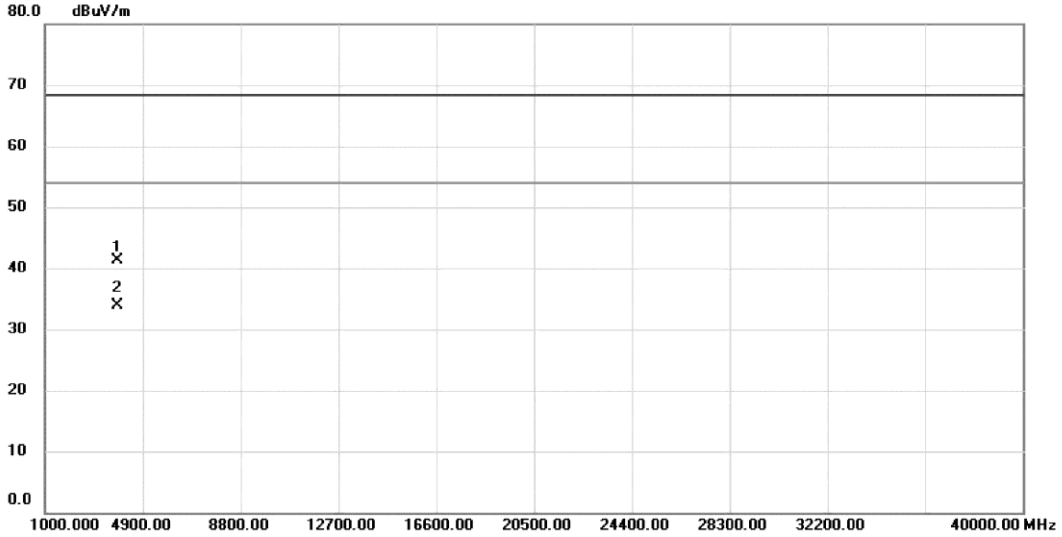
Site:	DG-CB03	Polarization:	***Vertical***
Limit:	FCC 15.407_3m_(Peak)	Power:	DC 5V
EUT:	Swann Wireless HD Smart Security Camera	Distance:	3m
M/N:	SWWHD-INTCAM	Mode:	TX_A_5825
Note:			

Temperature:	25 (C)
Humidity:	60 %

Radiated Emission Measurement

File :FCCP_ABOVE1G Data :#23 Date: 2016-11-25 Time: 11:46:21



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		3883.227	38.73	2.57	41.30	68.30	-27.00	peak	
2	*	3883.247	31.42	2.57	33.99	54.00	-20.01	AVG	

*:Maximum data x:Over limit !:over margin 〈Reference Only

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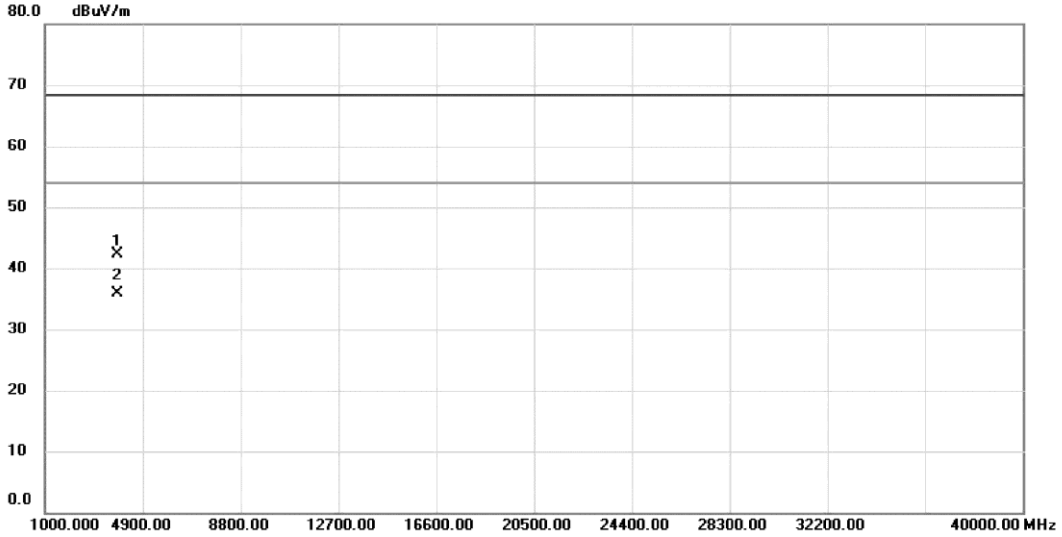
Site:	DG-CB03	Polarization:	***Horizontal***
Limit:	FCC 15.407_3m_(Peak)	Power:	DC 5V
EUT:	Swann Wireless HD Smart Security Camera	Distance:	3m
M/N:	SWWHD-INTCAM	Mode:	TX_A_5825
Note:			

Temperature:	25 (C)
Humidity:	60 %

Radiated Emission Measurement

File :FCCP_ABOVE1G Data :#24 Date: 2016-11-25 Time: 11:44:30



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		3883.142	39.79	2.57	42.36	68.30	-25.94	peak	
2	*	3883.300	33.41	2.57	35.98	54.00	-18.02	AVG	

*:Maximum data x:Over limit !:over margin 〈Reference Only

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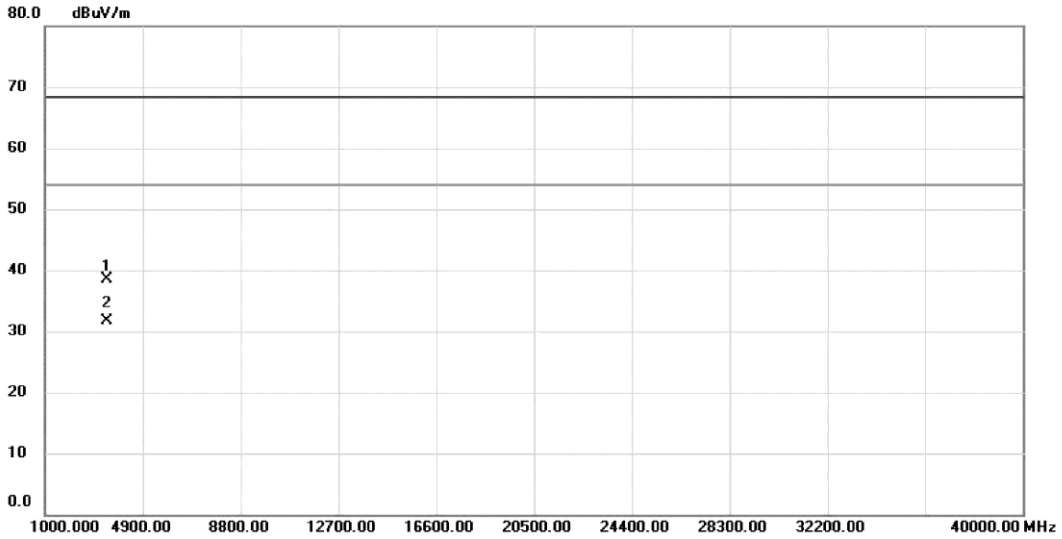
Site: DG-CB03
Limit: FCC 15.407_3m_(Peak)
EUT: SEE NOTE
M/N: SWWHD-INTCAM
Note: Swann Wireless HD Smart Security Camera

Polarization: ***Vertical***
Power: DC 5V
Distance: 3m
Mode: TX_N20_5180

Temperature: 25 (C)
Humidity: 60 %

Radiated Emission Measurement

File :FCCP_ABOVE1G Data :#23 Date: 2016-11-25 Time: 10:22:55



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		3453.300	37.15	1.34	38.49	68.30	-29.81	peak	
2	*	3453.358	30.33	1.34	31.67	54.00	-22.33	AVG	

*:Maximum data x:Over limit !:over margin 〈Reference Only

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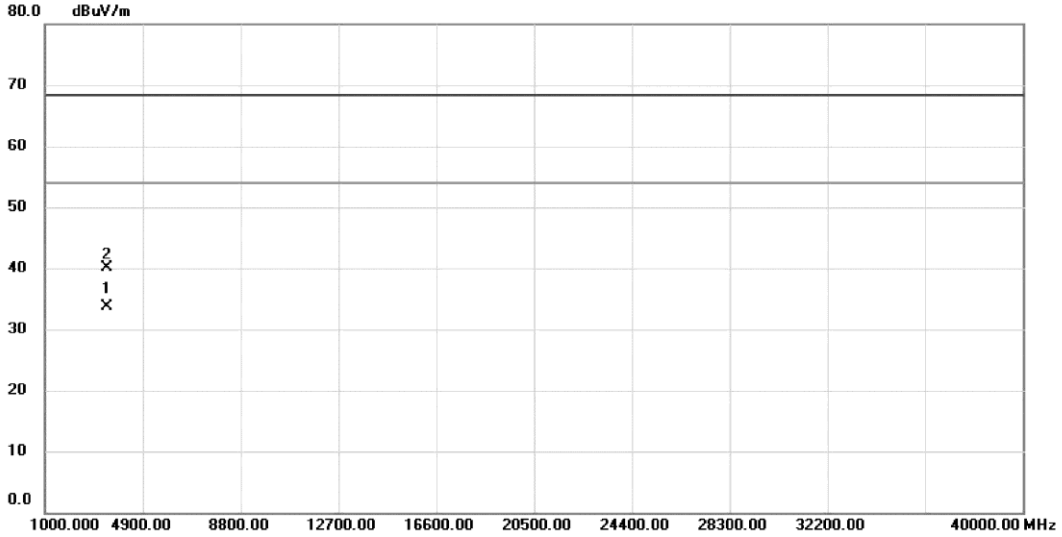
Site: DG-CB03
Limit: FCC 15.407_3m_(Peak)
EUT: SEE NOTE
M/N: SWWHD-INTCAM
Note: Swann Wireless HD Smart Security Camera

Polarization: ***Horizontal***
Power: DC 5V
Distance: 3m
Mode: TX_N20_5180

Temperature: 25 (C)
Humidity: 60 %

Radiated Emission Measurement

File :FCCP_ABOVE1G Data :#24 Date: 2016-11-25 Time: 10:20:50



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	3453.290	32.42	1.34	33.76	54.00	-20.24	AVG	
2		3453.485	38.86	1.34	40.20	68.30	-28.10	peak	

*:Maximum data x:Over limit !:over margin 〈Reference Only

File :FCCP_ABOVE1G\Data :#24 *Page: 1* Test engineer : Vincent

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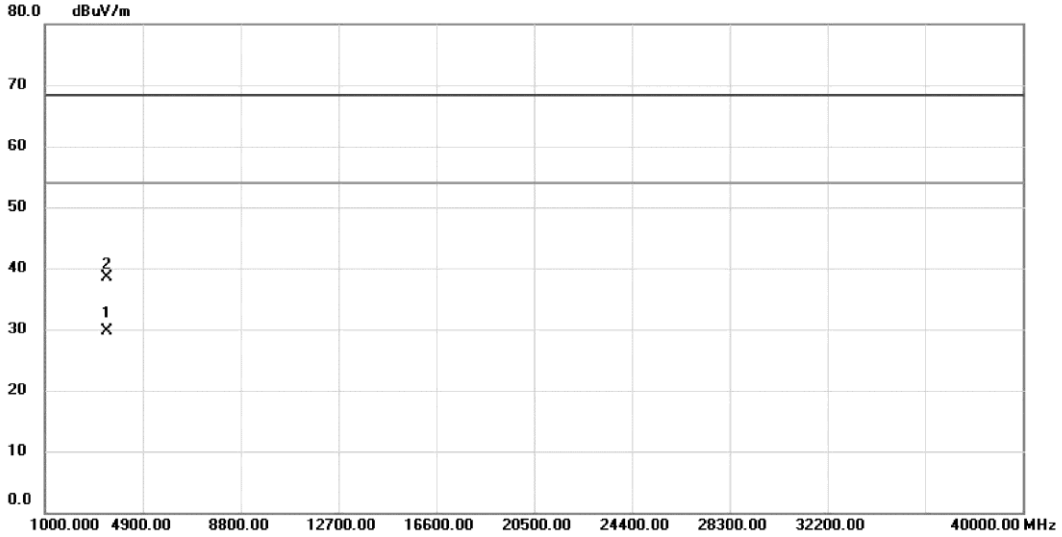
Site: DG-CB03
Limit: FCC 15.407_3m_(Peak)
EUT: SEE NOTE
M/N: SWWHD-INTCAM
Note: Swann Wireless HD Smart Security Camera

Polarization: ***Vertical***
Power: DC 5V
Distance: 3m
Mode: TX_N20_5200

Temperature: 25 (C)
Humidity: 60 %

Radiated Emission Measurement

File :FCCP_ABOVE1G Data :#25 Date: 2016-11-25 Time: 10:26:34



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	3466.675	28.41	1.33	29.74	54.00	-24.26	AVG	
2		3466.823	37.21	1.33	38.54	68.30	-29.76	peak	

*:Maximum data x:Over limit !:over margin 〈Reference Only

File :FCCP_ABOVE1G\Data :#25 *Page: 1* Test engineer : Vincent

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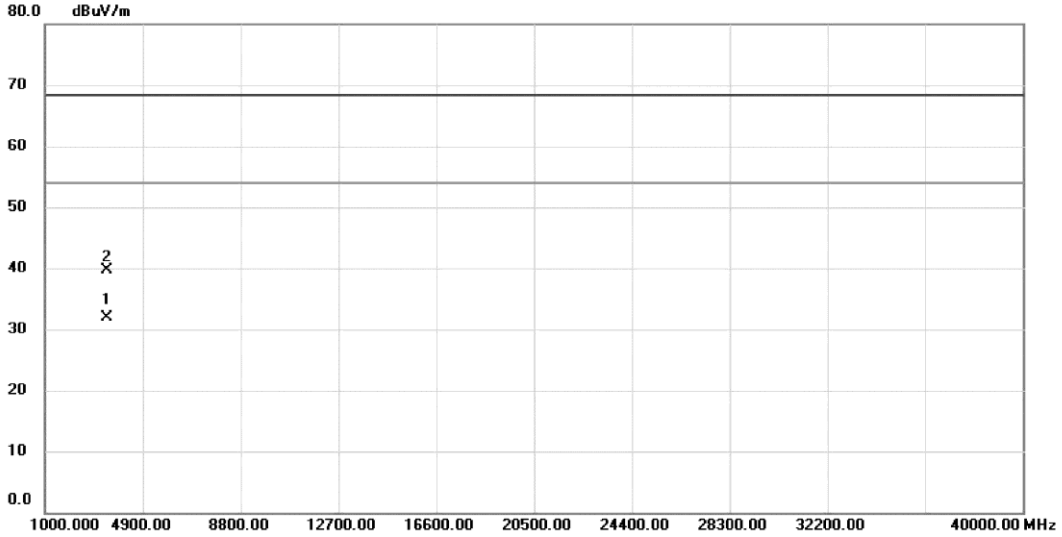
Site: DG-CB03
Limit: FCC 15.407_3m_(Peak)
EUT: SEE NOTE
M/N: SWWHD-INTCAM
Note: Swann Wireless HD Smart Security Camera

Polarization: ***Horizontal***
Power: DC 5V
Distance: 3m
Mode: TX_N20_5200

Temperature: 25 (C)
Humidity: 60 %

Radiated Emission Measurement

File :FCCP_ABOVE1G Data :#26 Date: 2016-11-25 Time: 10:24:20



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	3466.625	30.58	1.33	31.91	54.00	-22.09	AVG	
2		3466.815	38.37	1.33	39.70	68.30	-28.60	peak	

*:Maximum data x:Over limit !:over margin 〈Reference Only

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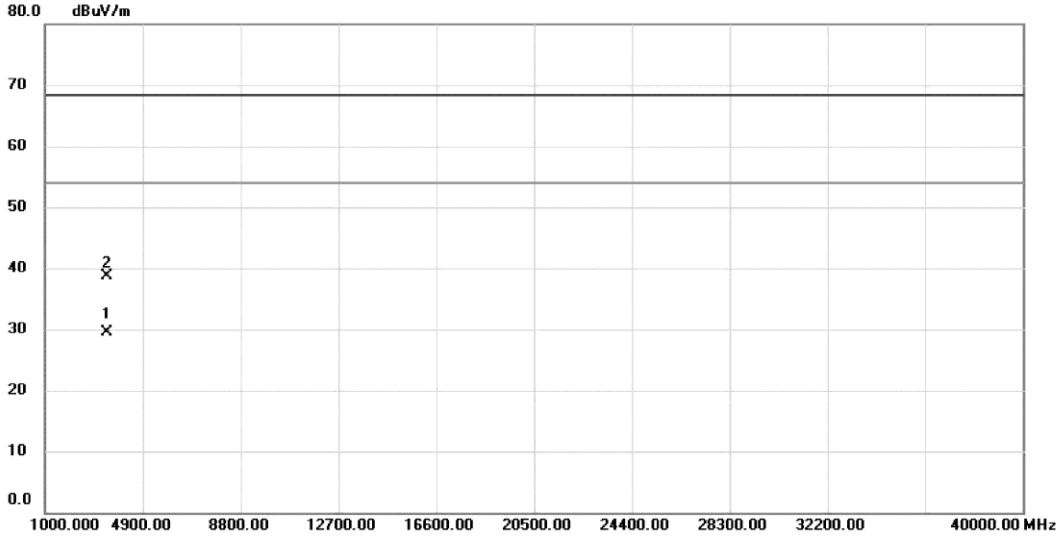
Site: DG-CB03
Limit: FCC 15.407_3m_(Peak)
EUT: SEE NOTE
M/N: SWWHD-INTCAM
Note: Swann Wireless HD Smart Security Camera

Polarization: ***Vertical***
Power: DC 5V
Distance: 3m
Mode: TX_N20_5240

Temperature: 25 (C)
Humidity: 60 %

Radiated Emission Measurement

File :FCCP_ABOVE1G Data :#27 Date: 2016-11-25 Time: 10:28:59



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	3493.350	28.14	1.32	29.46	54.00	-24.54	AVG	
2		3493.443	37.30	1.32	38.62	68.30	-29.68	peak	

*:Maximum data x:Over limit !:over margin 〈Reference Only

File :FCCP_ABOVE1G\Data :#27 *Page: 1* Test engineer : Vincent