FCC RADIO TEST REPORT
FCC ID: 2AWV6-STV6985

Product: Media Player
Trade Mark: STREAM TV
Model No.: STV6985
Family Model: Bloom III
Report No.: S22110802102004
Issue Date: Nov 30, 2022

Prepared for

NAVAIR Corporation

618 Marion Hill Lane, Ruskin, FL 33570, USA

Prepared by

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TEST RESULT CERTIFICATION

Applicant's name ..... : NAVAIR Corporation

Address ..... : 618 Marion Hill Lane, Ruskin, FL 33570, USA

Manufacturer's Name..... : VIDEOSTRONG TECHNOLOGY CO.,LTD

Address ..... : 604, Lushi industrial Building, 28 District, Bao'an District, Shenzhen, China

Product description

Product name..... : Media Player

Trade Mark..... : STREAM TV

Model and/or type reference ..... : STV6985

Family Model..... : Bloom III

Standards..... : FCC Part15.407

Test procedure ..... ANSI C63.10-2013
KDB 789033 D02 General UNII Test Procedures New Rules v02r01
FCC KDB 662911 D01 Multiple Transmitter Output v02r01

This device described above has been tested by NTEK, and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

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Test Sample Number..... S221108021002

Date of Test .....

Date (s) of performance of tests ..... Nov 08, 2022 ~ Nov 30, 2022

Date of Issue..... Nov 30, 2022

Test Result..... **Pass**

Testing Engineer : Mukzi Lee

(Mukzi Lee)

Authorized Signatory : Alex

(Alex Li)

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Revision History

Report No.	Version	Description	Issued Date
S22110802102004	Rev.01	Initial issue of report	Nov 30, 2022

1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

FCC Part15 (15.407) , Subpart E			
Standard Section	Test Item	Judgment	Remark
15.207	AC Power Line Conducted Emissions	PASS	
15.209(a), 15.407 (b)(1) 15.407 (b)(4) 15.407 (b)(9) 15.407 (b)(10)	Spurious Radiated Emissions	PASS	
15.407 (a)(1) 15.407 (a)(3)	26 dB and 99% Emission Bandwidth	PASS	
15.407(e)	Minimum 6 dB bandwidth	PASS	
15.407 (a)(1) 15.407 (a)(3)	Maximum Conducted Output Power	PASS	
15.407(b)(1) 15.407(b)(4)	Band Edge	PASS	
15.407 (a)(1) 15.407 (a)(3)	Power Spectral Density	PASS	
15.407(b)	Spurious Emissions at Antenna Terminals	PASS	
15.203	Antenna Requirement	PASS	

NOTE:

(1)" N/A" denotes test is not applicable in this Test Report

1.1 FACILITIES AND ACCREDITATIONS

FACILITIES

All measurement facilities used to collect the measurement data are located at
1/F, Building E, Fenda Science Park Sanwei, Xixiang, Bao'an District
Shenzhen, Guangdong, China

The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.10 and CISPR Publication 22.

LABORATORY ACCREDITATIONS AND LISTINGS

Site Description

CNAS-Lab.	:	The Certificate Registration Number is L5516.
IC-Registration		The Certificate Registration Number is 9270A.
		CAB identifier:CN0074
FCC- Accredited		Test Firm Registration Number: 463705.
		Designation Number: CN1184
A2LA-Lab.		The Certificate Registration Number is 4298.01
Name of Firm	:	Shenzhen NTEK Testing Technology Co., Ltd.
Site Location	:	1/F, Building E, Fenda Science Park Sanwei, Xixiang, Bao'an District Shenzhen, Guangdong, China

1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement y±U, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95 %.

No.	Item	Uncertainty
1	Conducted Emission Test	±2.80dB
2	RF power, conducted	±0.16dB
3	Spurious emissions, conducted	±0.21dB
4	All emissions, radiated(9KHz~30MHz)	±6dB
5	All emissions, radiated(30MHz~1GHz)	±2.64dB
6	All emissions, radiated(1GHz~6GHz)	±2.40dB
7	All emissions, radiated(> 6GHz)	±2.52dB
8	Temperature	±0.5°C
9	Humidity	±2%

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Equipment	Media Player
Trade Mark	STREAM TV
Model Name	STV6985
Family Model	Bloom III
Model Difference	All the model are the same circuit and RF module,except the model name.
FCC ID	2AWV6-STV6985
Product Description	

Mode Supported	☒802.11a ☒802.11n(HT20) ☒802.11n(HT40) ☒802.11ac(VHT20) ☒802.11ac(VHT40) ☒802.11ac(VHT80)
Data Rate	802.11a: 6,9,12,18,24,36,48,54Mbps; 802.11n(HT20/HT40):MCS0-MCS15; 802.11ac(VHT20): NSS1, MCS0-MCS8 802.11ac(VHT40/VHT80):NSS1, MCS0-MCS9
Modulation	OFDM with BPSK/QPSK/16QAM/64QAM/256QAM
Operating Frequency Range	☒ U-NII-1: 5150 MHz ~5250MHz ☐ U-NII-2A: 5250MHz~5350MHz ☐ U-NII-2C: 5470MHz~5725MHz ☒ U-NII-3: 5725 MHz ~5850 MHz
Function:	☐Outdoor AP ☐Indoor AP ☐Fixed P2P ☒Client
Smart system	☒SISO for 802.11a/n/ac ☒MIMO for 802.11n/ac
Antenna Type	FPCB Antenna
Antenna Gain	5.85 dBi

Based on the application, features, or specification exhibited in User's Manual, More details of EUT technical specification, please refer to the User's Manual.

Adapter	Model: TEKA012-0502000UK Input: 100-240V~50/60Hz 0.35A MAX Output: 5V⎓2A
Battery	N/A
Power Rating	DC 5V
Connecting I/O Port(s)	Please refer to the User's Manual
Hardware Version	KM3 X2 LPDDR4X V1.2
Software Version	N/A

Note: Based on the application, features, or specification exhibited in User's Manual, the EUT is considered as an ITE/Computing Device. More details of EUT technical specification, please refer to the User's Manual.

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.
2. Frequency and Channel list for 802.11a/n/ac(20MHz) band I (5180-5240MHz):

802.11a/n/ac(20MHz) Carrier Frequency Channel							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	44	5220	-	-	-	-
40	5200	48	5240	-	-	-	-

Frequency and Channel list for 802.11n/ac(40MHz) band I (5190-5230MHz):

802.11n/ac(40MHz) Carrier Frequency Channel							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
38	5190	-	-	-	-	-	-
46	5230	-	-	-	-	-	-

Frequency and Channel list for 802.11ac(80MHz) band I (5210MHz):

802.11ac(80MHz) Carrier Frequency Channel							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
42	5210	-	-	-	-	-	-

Frequency and Channel list for 802.11a/n/ac(20 MHz) band IV (5745-5825MHz):

802.11a/n/ac(20 MHz) Carrier Frequency Channel							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
149	5745	153	5765	157	5785	161	5805
165	5825	-	-	-	-	-	-

Frequency and Channel list for 802.11n/ac(40MHz) band IV (5755-5795MHz):

802.11n/ac(40MHz) Carrier Frequency Channel					
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
151	5755	159	5795	-	-

Frequency and Channel list for 802.11ac(80MHz) band IV (5775MHz):

802.11ac(80MHz) Carrier Frequency Channel					
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
155	5775			-	-

The EUT support MIMO modes, transmit mode what describe as following:

Mode	Tx / Rx
802.11n(20MHz,40MHz)/ac (20MHz,40MHz,80MHz)	2TX, 2RX

For 5GHz band, 802.11n(20MHz,40MHz)/ac (20MHz,40MHz,80MHz) has MIMO mode, Antenna 1,2 are simultaneous transmissions, each with the same directional gain.

For power measurements: Directional gain=G_{ANT} + Array Gain=5.85dBi + 0 = 5.85dBi
For power spectral density (PSD) measurements: Directional gain=G_{ANT} +Array Gain=5.85dBi+3.01=8.86dBi

Note: G_{ANT} means antenna gain for the same gain in dBi.

For power spectral density (PSD) measurements: Array Gain = 10log(N_{ANT}/N_{ss})dB.

For power measurements:

Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;
Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{ANT};
Array Gain = 5 log(N_{ANT}/N_{SS}) dB or 3 dB, whichever is less, for 20-MHz channel widths with $N_{ANT} \geq 5$.

N_{ANT} = number of transmit antennas and
N_{SS} = number of spatial streams.

2.2 DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Pretest Mode	Description
Mode 1	Normal Link Mode
Mode 2	802.11a/n/ac20 CH36/CH40/CH48/CH149/CH157/CH165
Mode 3	802.11n40/ac40 CH38/CH46CH151/CH159
Mode 4	802.11ac80 CH42/CH155

For Radiated Emission	
Final Test Mode	Description
Mode 1	Normal Link Mode
Mode 2	802.11a/n/ac20 CH36/CH40/CH48/CH149/CH157/CH165
Mode 3	802.11n40/ac40 CH38/CH46CH151/CH159
Mode 4	802.11ac80 CH42/CH155

For AC Conducted Emission	
Final Test Mode	Description
Mode 1	Normal Link Mode

For Conducted Test Cases	
Final Test Mode	Description
Mode 1	Normal Link Mode
Mode 2	802.11a/n/ac20 CH36/CH40/CH48/CH149/CH157/CH165
Mode 3	802.11n40/ac40 CH38/CH46CH151/CH159
Mode 4	802.11ac80 CH42/CH155

Note:

(1) The measurements are performed at the highest, middle, lowest available channels.

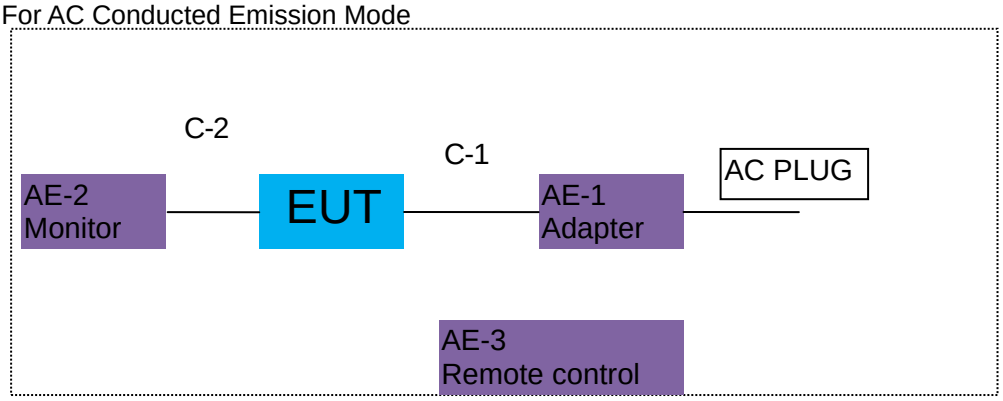
(2) The measurements are performed at all Bit Rate of Transmitter, the worst data was reported

This EUT has two antennas, and different modes support different transmit mode what describe as following form:

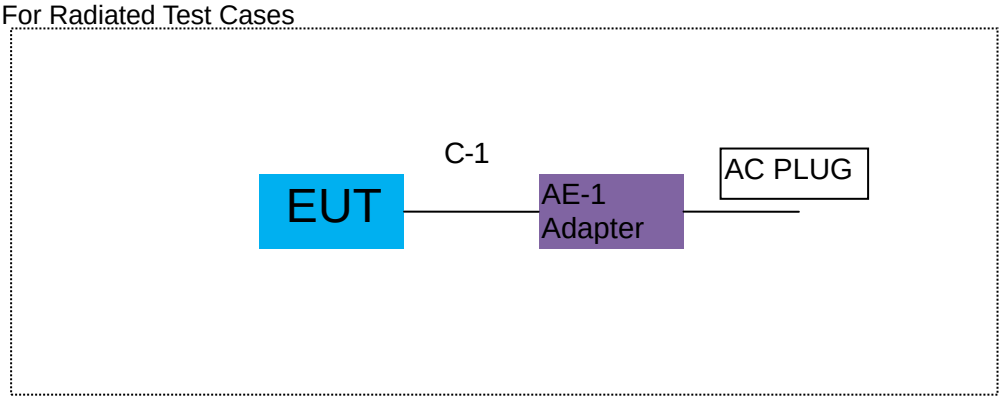
Mode	Tx / Rx
802.11a / n(20MHz,40MHz) / ac(20MHz,40MHz,80MHz)	1TX, 1RX
802.11n(20MHz,40MHz) / ac(20MHz,40MHz,80MHz)	2TX, 2RX

2.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

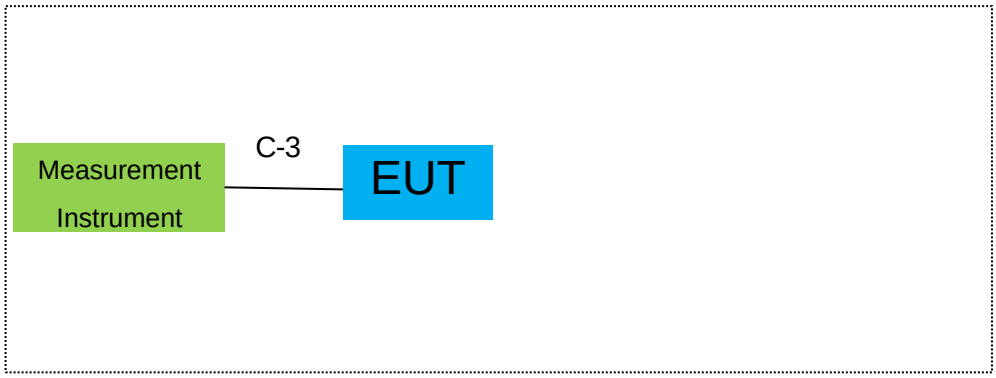
For AC Conducted Emission Mode



For Radiated Test Cases



For Conducted Test Cases



Note: 1. The temporary antenna connector is soldered on the PCB board in order to perform conducted tests and this temporary antenna connector is listed in the equipment list.

2.4 DESCRIPTION OF SUPPORT UNITS(CONDUCTED MODE)

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Model/Type No.	Series No.	Note
AE-1	Adapter	TEKA012-0502000UK	N/A	Peripherals
AE-2	Monitor	N/A	N/A	Peripherals
AE-3	Remote control	N/A	N/A	Peripherals

Item	Cable Type	Shielded Type	Ferrite Core	Length
C-1	Power cable	NO	NO	1.2m
C-2	HDMI cable	YES	NO	1.5m
C-3	RF Cable	YES	NO	0.1m

Note:

(1) The support equipment was authorized by Declaration of Confirmation.
(2) For detachable type I/O cable should be specified the length in cm in 『Length』 column.
(3) During the battery power test, the battery is fully charged.

2.5 EQUIPMENTS LIST FOR ALL TEST ITEMS

Radiation& Conducted Test equipment

	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibration period
1	Spectrum Analyzer	Aglient	E4407B	MY45108040	2022.04.01	2023.03.31	1 year
2	Spectrum Analyzer	Agilent	N9020A	MY49100060	2022.04.01	2023.03.31	1 year
3	Spectrum Analyzer	R&S	FSV40	101417	2022.06.16	2023.06.15	1 year
4	Test Receiver	R&S	ESPI7	101318	2022.04.06	2023.04.05	1 year
5	Bilog Antenna	TESEQ	CBL6111D	31216	2022.03.30	2023.03.29	1 year
6	50Ω Coaxial Switch	Anritsu	MP59B	6200983705	2020.05.11	2023.05.10	3 year
7	Horn Antenna	EM	EM-AH-10180	2011071402	2022.03.31	2023.03.30	1 year
8	Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	803	2021.11.07 2022.11.07	2022.11.06 2023.11.06	1 year
9	Amplifier	EMC	EMC051835SE	980246	2022.06.17	2023.06.16	1 year
10	Active Loop Antenna	SCHWARZBECK	FMZB 1519 B	055	2021.11.07 2022.11.04	2022.11.06 2023.11.03	1 year
11	Power Meter	DARE	RPR3006W	15I00041SNO84	2022.06.16	2023.06.15	1 year
12	Test Cable (9KHz-30MHz)	N/A	R-01	N/A	2022.06.17	2025.06.16	3 year
13	Test Cable (30MHz-1GHz)	N/A	R-02	N/A	2022.06.17	2025.06.16	3 year
14	High Test Cable(1G-40GHz)	N/A	R-03	N/A	2022.06.17	2025.06.16	3 year
15	Filter	TRILTHIC	2400MHz	29	2020.04.07	2023.04.06	3 year
16	temporary antenna connector (Note)	NTS	R001	N/A	N/A	N/A	N/A

Note:
We will use the temporary antenna connector (soldered on the PCB board) When conducted test
And this temporary antenna connector is listed within the instrument list

AC Conduction Test equipment

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibration period
1	Test Receiver	R&S	ESCI	101160	2022.04.06	2023.04.05	1 year
2	LISN	R&S	ENV216	101313	2022.04.06	2023.04.05	1 year
3	LISN	SCHWARZBECK	NNLK 8129	8129245	2022.04.06	2023.04.05	1 year
4	50Ω Coaxial Switch	ANRITSU CORP	MP59B	6200983704	2020.05.11	2023.05.10	3 year
5	Test Cable (9KHz-30MHz)	N/A	C01	N/A	2020.05.11	2023.05.10	3 year
6	Test Cable (9KHz-30MHz)	N/A	C02	N/A	2020.05.11	2023.05.10	3 year
7	Test Cable (9KHz-30MHz)	N/A	C03	N/A	2020.05.11	2023.05.10	3 year

Note: Each piece of equipment is scheduled for calibration once a year except the Test Cable& Aux Equipment which is scheduled for calibration every 3 years.

3. EMC EMISSION TEST

3.1 CONDUCTED EMISSION MEASUREMENT

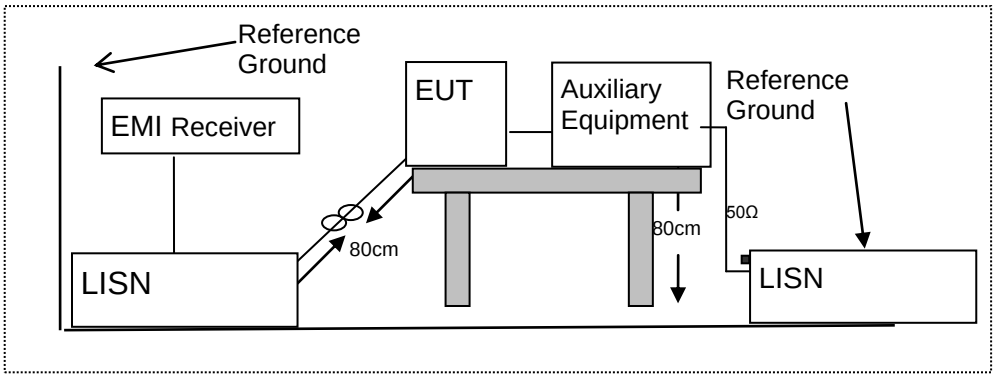
3.1.1 APPLICABLE STANDARD

According to FCC Part 15.207(a)

3.1.2 CONFORMANCE LIMIT

Frequency(MHz)	Conducted Emission Limit	
	Quasi-peak	Average
0.15-0.5	66-56*	56-46*
0.5-5.0	56	46
5.0-30.0	60	50
Note: 1. *Decreases with the logarithm of the frequency 2. The lower limit shall apply at the transition frequencies 3. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.		

3.1.3 TEST CONFIGURATION



3.1.4 TEST PROCEDURE

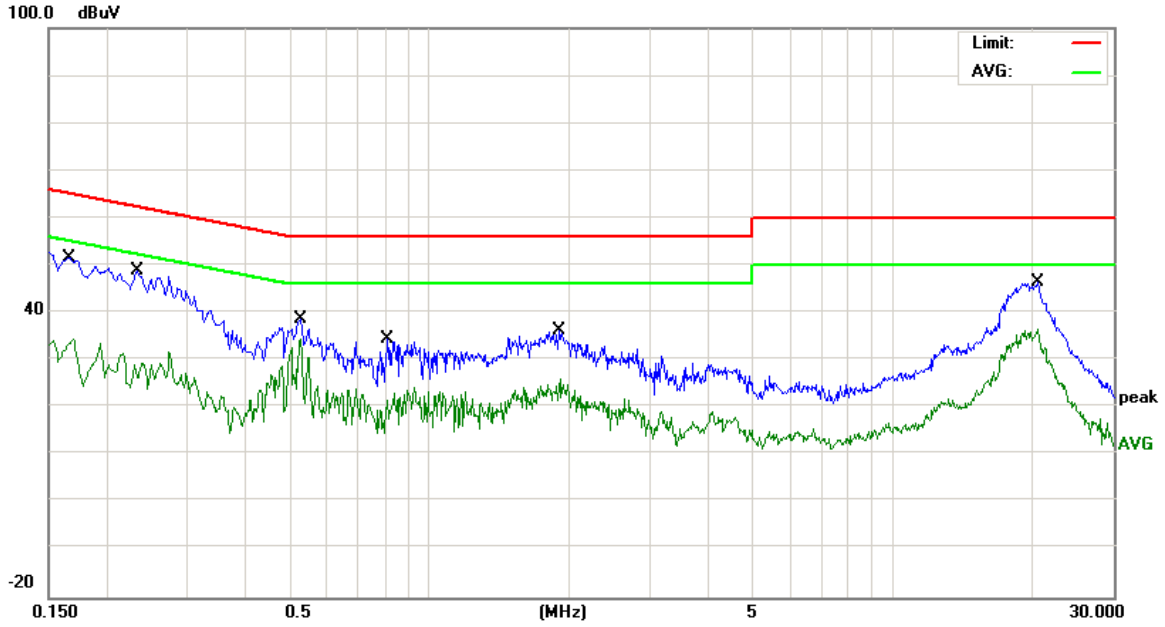
According to the requirements in Section 13.1.4.1 of ANSI C63.10-2013 Conducted emissions the EUT measured in the frequency range between 0.15 MHz and 30 MHz using CISPR Quasi-Peak and average detector mode.

1. The EUT was placed 0.4 meter from the conducting wall of the shielding room.
2. The EUT was placed on a table which is 0.8m above ground plane.
3. Connect EUT to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
4. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40cm long.
5. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
6. LISN at least 80 cm from nearest part of EUT chassis.
7. The frequency range from 150KHz to 30MHz was searched.
8. Set the test-receiver system to Peak Detect Function and specified bandwidth(IF bandwidth=9KHz) with Maximum Hold Mode
9. For the actual test configuration, please refer to the related Item –EUT Test Photos.

EUT：	Media Player	Model Name. ：	STV6985
Temperature：	23.5 ℃	Relative Humidity：	60%
Pressure：	1010hPa	Phase：	L
Test Voltage ：	DC 5V from Adapter AC 120V/60Hz	Test Mode：	Mode 1 (5.2G)

Frequency (MHz)	Reading Level (dBμV)	Correct Factor (dB)	Measure-ment (dBμV)	Limits (dBμV)	Margin (dB)	Remark
0.1660	42.06	9.61	51.67	65.15	-13.48	QP
0.1660	23.89	9.61	33.50	55.15	-21.65	AVG
0.2340	39.15	9.63	48.78	62.30	-13.52	QP
0.2340	16.58	9.63	26.21	52.30	-26.09	AVG
0.5260	28.88	9.66	38.54	56.00	-17.46	QP
0.5260	24.76	9.66	34.42	46.00	-11.58	AVG
0.8100	24.65	9.68	34.33	56.00	-21.67	QP
0.8100	11.80	9.68	21.48	46.00	-24.52	AVG
1.9057	26.58	9.68	36.26	56.00	-19.74	QP
1.9057	14.94	9.68	24.62	46.00	-21.38	AVG
20.4057	25.47	10.18	35.65	50.00	-14.35	AVG
20.4057	36.12	10.18	46.30	60.00	-13.70	QP

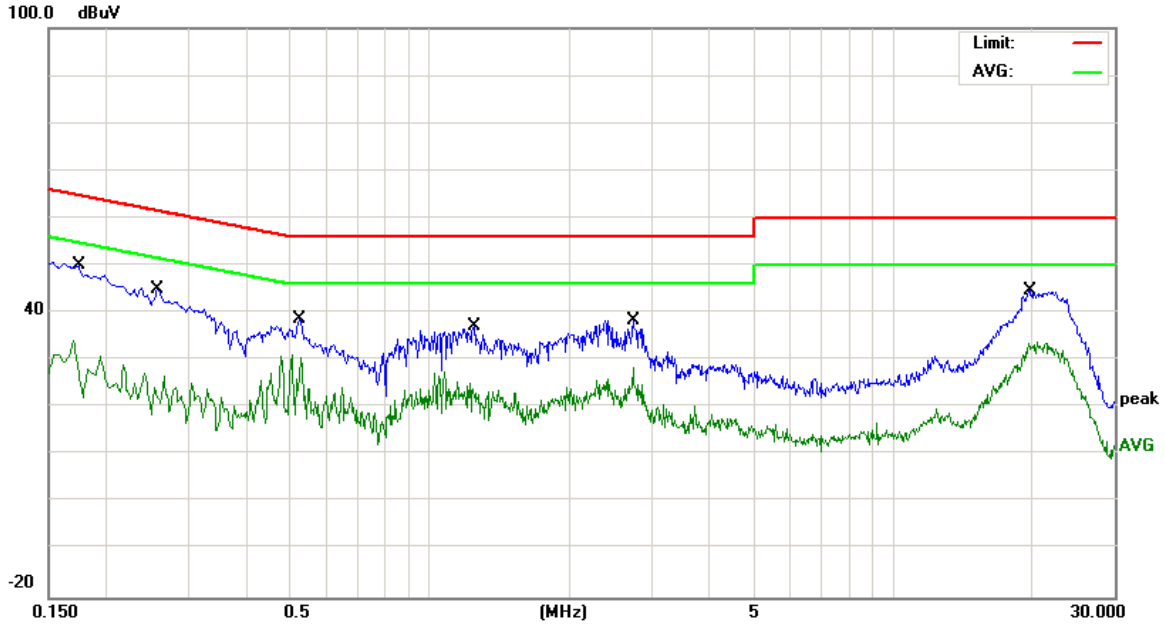
Remark:
1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.



EUT：	Media Player	Model Name. ：	STV6985
Temperature：	23.5 ℃	Relative Humidity：	60%
Pressure：	1010hPa	Phase：	N
Test Voltage ：	DC 5V from Adapter AC 120V/60Hz	Test Mode：	Mode 1 (5.2G)

Frequency (MHz)	Reading Level (dBμV)	Correct Factor (dB)	Measure-ment (dBμV)	Limits (dBμV)	Margin (dB)	Remark
0.1737	40.35	9.65	50.00	64.78	-14.78	QP
0.1737	16.56	9.65	26.21	54.78	-28.57	AVG
0.2580	35.45	9.62	45.07	61.49	-16.42	QP
0.2580	12.62	9.62	22.24	51.49	-29.25	AVG
0.5220	28.96	9.66	38.62	56.00	-17.38	QP
0.5220	17.30	9.66	26.96	46.00	-19.04	AVG
1.2459	27.35	9.67	37.02	56.00	-18.98	QP
1.2459	12.63	9.67	22.30	46.00	-23.70	AVG
2.7378	28.73	9.69	38.42	56.00	-17.58	QP
2.7378	15.04	9.69	24.73	46.00	-21.27	AVG
19.6737	34.51	10.14	44.65	60.00	-15.35	QP
19.6737	22.23	10.14	32.37	50.00	-17.63	AVG

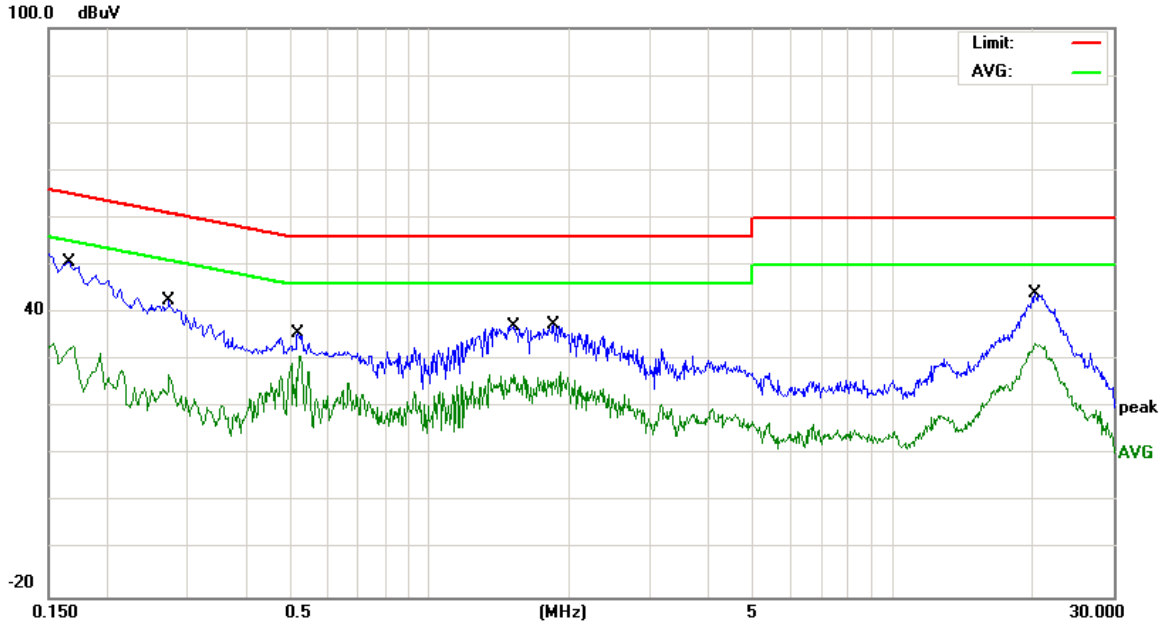
Remark:
1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.



EUT：	Media Player	Model Name. ：	STV6985
Temperature：	23.5 ℃	Relative Humidity：	60%
Pressure：	1010hPa	Phase：	L
Test Voltage ：	DC 5V from Adapter AC 120V/60Hz	Test Mode：	Mode 1 (5.8G)

Frequency (MHz)	Reading Level (dBμV)	Correct Factor (dB)	Measure-ment (dBμV)	Limits (dBμV)	Margin (dB)	Remark
0.1660	41.06	9.61	50.67	65.15	-14.48	QP
0.1660	22.89	9.61	32.50	55.15	-22.65	AVG
0.2740	32.94	9.63	42.57	60.99	-18.42	QP
0.2740	17.23	9.63	26.86	50.99	-24.13	AVG
0.5181	25.98	9.66	35.64	56.00	-20.36	QP
0.5181	16.04	9.66	25.70	46.00	-20.30	AVG
1.5140	27.57	9.67	37.24	56.00	-18.76	QP
1.5140	15.54	9.67	25.21	46.00	-20.79	AVG
1.8540	27.72	9.68	37.40	56.00	-18.60	QP
1.8540	14.34	9.68	24.02	46.00	-21.98	AVG
20.2976	33.90	10.18	44.08	60.00	-15.92	QP
20.2976	23.34	10.18	33.52	50.00	-16.48	AVG

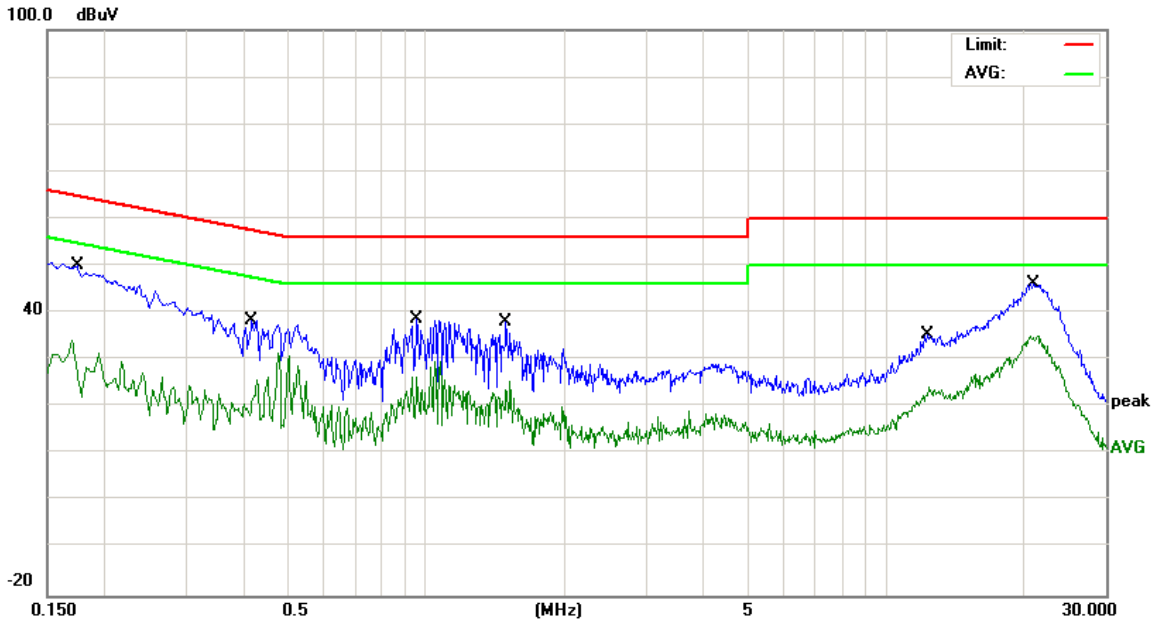
Remark:
1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.



EUT：	Media Player	Model Name. ：	STV6985
Temperature：	23.5 ℃	Relative Humidity：	60%
Pressure：	1010hPa	Phase：	N
Test Voltage ：	DC 5V from Adapter AC 120V/60Hz	Test Mode：	Mode 1 (5.8G)

Frequency (MHz)	Reading Level (dBμV)	Correct Factor (dB)	Measure-ment (dBμV)	Limits (dBμV)	Margin (dB)	Remark
0.1737	40.35	9.65	50.00	64.78	-14.78	QP
0.1737	16.56	9.65	26.21	54.78	-28.57	AVG
0.4178	28.77	9.67	38.44	57.49	-19.05	QP
0.4178	11.19	9.67	20.86	47.49	-26.63	AVG
0.9536	29.08	9.69	38.77	56.00	-17.23	QP
0.9536	16.69	9.69	26.38	46.00	-19.62	AVG
1.4939	28.38	9.67	38.05	56.00	-17.95	QP
1.4939	13.94	9.67	23.61	46.00	-22.39	AVG
12.2736	25.41	9.97	35.38	60.00	-24.62	QP
12.2736	12.38	9.97	22.35	50.00	-27.65	AVG
20.8616	35.91	10.16	46.07	60.00	-13.93	QP
20.8616	24.59	10.16	34.75	50.00	-15.25	AVG

Remark:
1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.



3.2 RADIATED EMISSION MEASUREMENT

3.2.1 APPLICABLE STANDARD

According to FCC Part 15.407(b)(9) and 15.209

3.2.2 CONFORMANCE LIMIT

According to FCC Part 15.407(b) (9): radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).
According to FCC Part15.205, Restricted bands

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	(2)
13.36-13.41			

In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Restricted Frequency(MHz)	Field Strength (μV/m)	Field Strength (dBμV/m)	Measurement Distance
0.009~0.490	2400/F(KHz)	20 log (uV/m)	300
0.490~1.705	24000/F(KHz)	20 log (uV/m)	30
1.705~30.0	30	29.5	30
30-88	100	40	3
88-216	150	43.5	3
216-960	200	46	3
Above 960	500	54	3

Limits of Radiated Emission Measurement(Above 1000MHz)

Frequency(MHz)	Class B (dBuV/m) (at 3M)	
	PEAK	AVERAGE
Above 1000	74	54

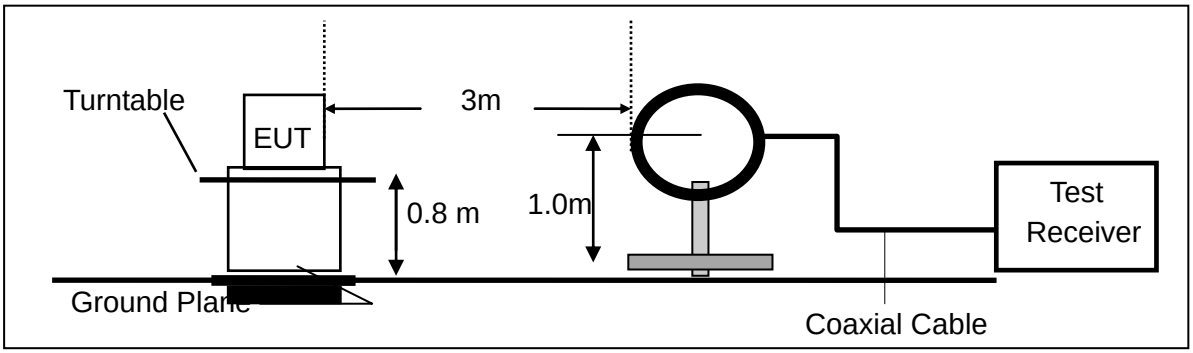
Remark :1. Emission level in dBuV/m=20 log (uV/m)
2. Measurement was performed at an antenna to the closed point of EUT distance of meters.
3. For Frequency 9kHz~30MHz:
Distance extrapolation factor =40log(Specific distance/ test distance)(dB);
Limit line=Specific limits(dBuV) + distance extrapolation factor.
For Frequency above 30MHz:
Distance extrapolation factor =20log(Specific distance/ test distance)(dB);
Limit line=Specific limits(dBuV) + distance extrapolation factor.

3.2.3 MEASURING INSTRUMENTS

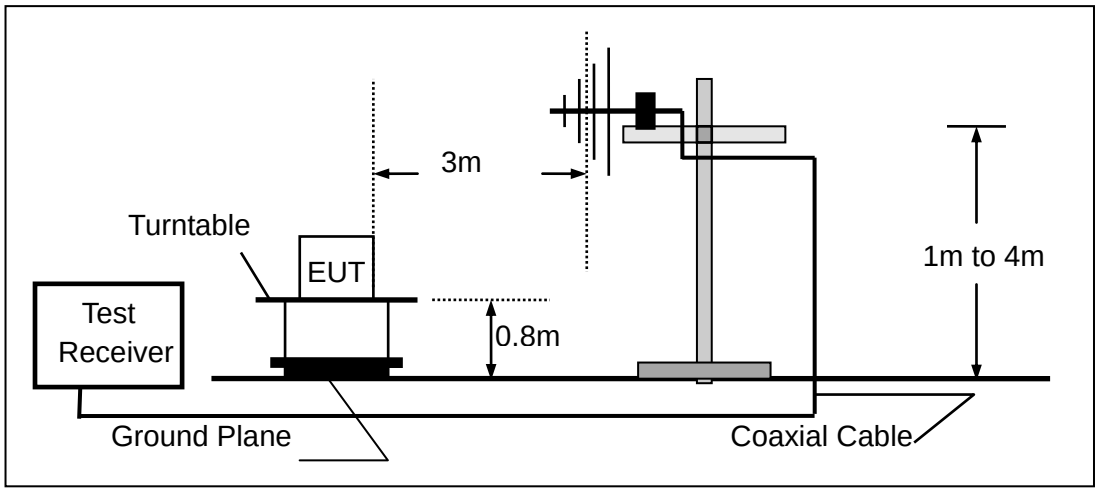
The Measuring equipment is listed in the section 6.3 of this test report.

3.2.4 TEST CONFIGURATION

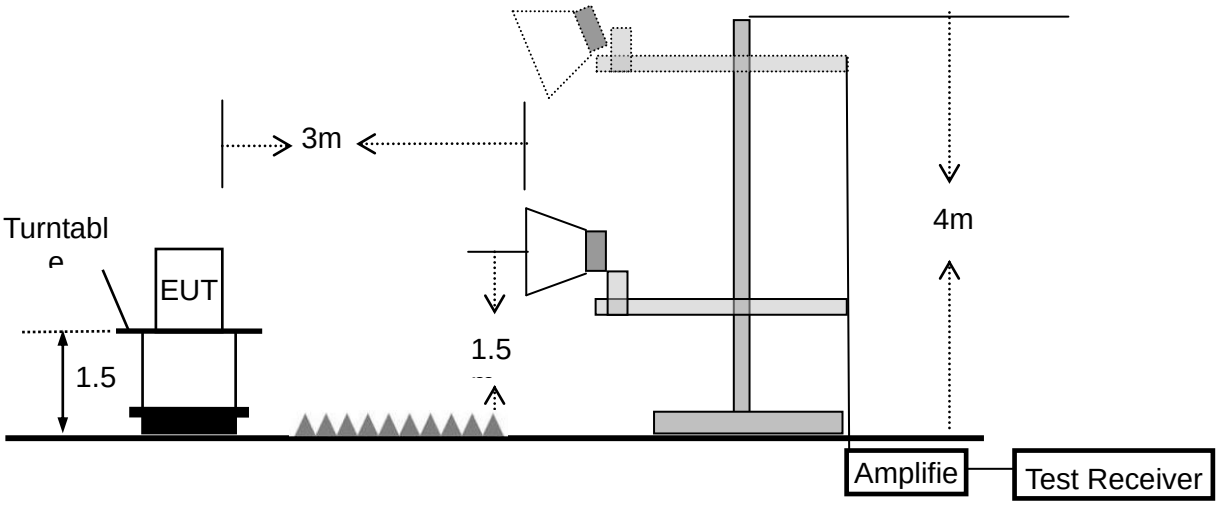
(a) For radiated emissions below 30MHz



(b) For radiated emissions from 30MHz to 1000MHz



(c) For radiated emissions above 1000MHz



3.2.5 TEST PROCEDURE

The test site semi-anechoic chamber has met the requirement of NSA tolerance 4 dB according to the standards: ANSI C63.10-2013. The test distance is 3m.The setup is according to the requirements in Section 13.1.4.1 of ANSI C63.10-2013 and CAN/CSA-CEI/IEC CISPR 22.
This test is required for any spurious emission that falls in a Restricted Band, as defined in Section 15.205. It must be performed with the highest gain of each type of antenna proposed for use with the EUT.
Use the following spectrum analyzer settings:

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RB / VB (emission in restricted band)	1 MHz / 1 MHz for Peak, 1 MHz / 10Hz for Average

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

a. The measuring distance of at 3 m shall be used for measurements at frequency up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
b. The EUT was placed on the top of a rotating table 0.8 m for below 1GHz and 1.5m for above 1GHz the ground at a 3 meter. The table was rotated 360 degrees to determine the position of the highest radiation.
c. The height of the equipment or of the substitution antenna shall be 0.8 m for below 1GHz and 1.5m for above 1GHz; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
d. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
e. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
f. For the actual test configuration, please refer to the related Item –EUT Test Photos.

Note:

Both horizontal and vertical antenna polarities were tested
and performed pretest to three orthogonal axis. The worst case emissions were reported

During the radiated emission test, the Spectrum Analyzer was set with the following configurations:

Frequency Band (MHz)	Function	Resolution bandwidth	Video Bandwidth
30 to 1000	QP	120 kHz	300 kHz
Above 1000	Peak	1 MHz	1 MHz
	Average	1 MHz	10 Hz

Note: for the frequency ranges below 30 MHz, a narrower RBW is used for these ranges but the measured value should add a RBW correction factor (RBWCF) where RBWCF [dB] =10*lg(100 [kHz]/narrower RBW [kHz]). , the narrower RBW is 1 kHz and RBWCF is 20 dB for the frequency 9 kHz to 150 kHz, and the narrower RBW is 10 kHz and RBWCF is 10 dB for the frequency 150 kHz to 30 MHz.

3.2.6 TEST RESULTS (9KHZ – 30 MHZ)

EUT：	Media Player	Model Name ：	STV6985
Temperature：	26 ℃	Relative Humidity：	54%
Pressure：	1010 hPa	Test Voltage ：	DC 5V
Test Mode ：	TX	Polarization :	--

Freq.	Reading	Limit	Margin	State
(MHz)	(dBuV/m)	(dBuV/m)	(dB)	P/F
--	--	--	--	N/A
--	--	--	--	N/A

NOTE:

The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

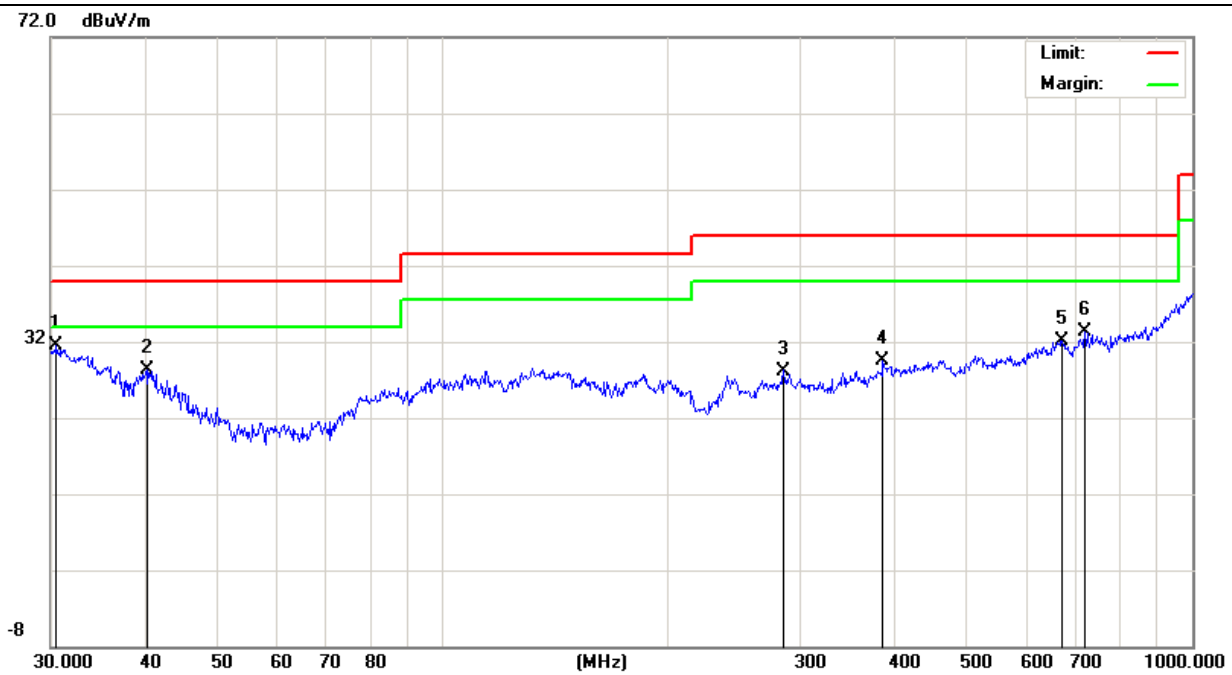
3.2.7 TEST RESULTS (30MHZ – 1GHZ)

EUT :	Media Player	Model Name :	STV6985
Temperature :	25.2	Relative Humidity :	55%
Pressure :	1010 hPa	Test Voltage :	DC 5V
Test Mode :	TX(5.2G)- 802.11ac20 MIMO Mode(Low CH)		

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
V	30.5304	5.62	25.87	31.49	40.00	-8.51	QP
V	40.2757	7.96	20.31	28.27	40.00	-11.73	QP
V	284.9766	8.12	20.08	28.20	46.00	-17.80	QP
V	386.6338	6.62	22.90	29.52	46.00	-16.48	QP
V	670.4891	5.15	27.03	32.18	46.00	-13.82	QP
V	719.1992	5.35	28.02	33.37	46.00	-12.63	QP

Remark:

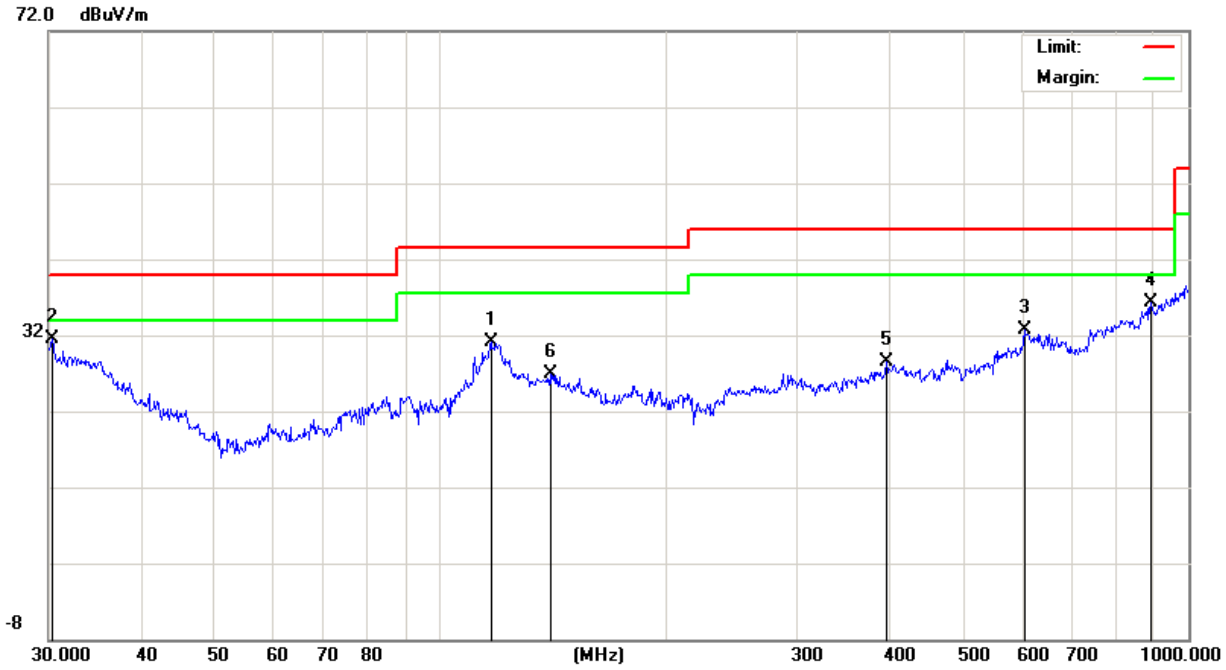
Emission Level= Meter Reading+ Factor, Margin= Emission Level - Limit



Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
H	116.9495	12.16	18.91	31.07	43.50	-12.43	QP
H	30.3170	5.70	25.87	31.57	40.00	-8.43	QP
H	603.5392	6.40	26.37	32.77	46.00	-13.23	QP
H	890.7278	5.83	30.38	36.21	46.00	-9.79	QP
H	394.8543	5.32	23.19	28.51	46.00	-17.49	QP
H	140.3420	8.00	18.83	26.83	43.50	-16.67	QP

Remark:

Emission Level= Meter Reading+ Factor, Margin= Emission Level - Limit

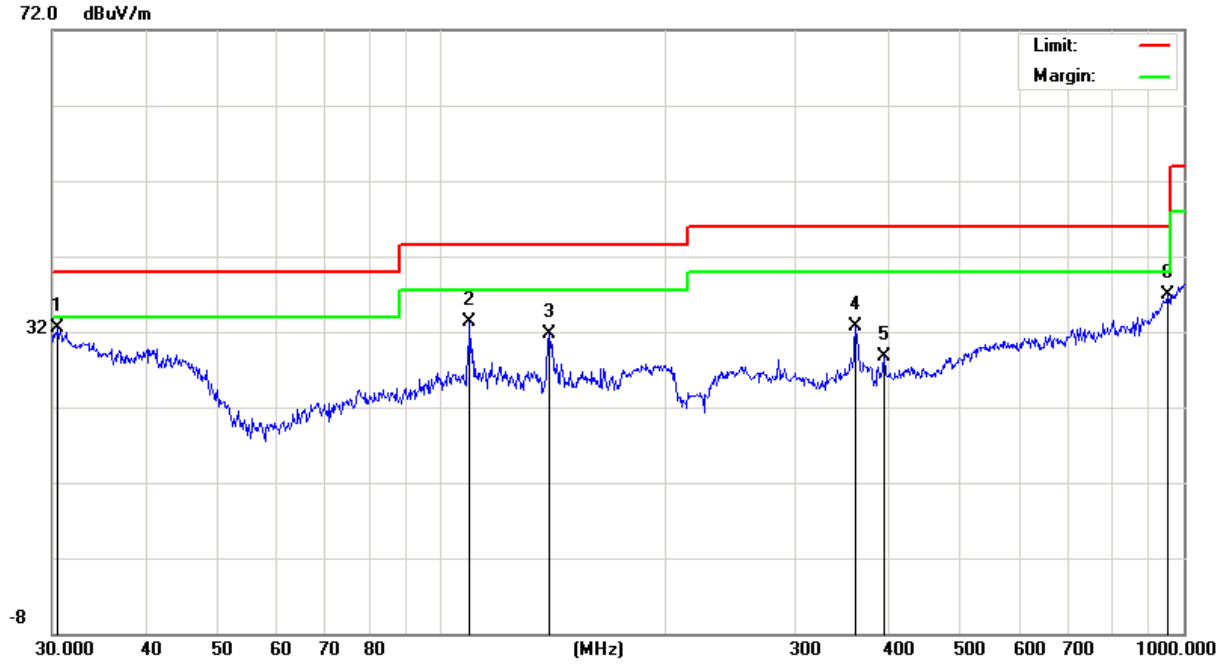


EUT :	Media Player	Model Name :	STV6985
Temperature :	25.2	Relative Humidity :	55%
Pressure :	1010 hPa	Test Voltage :	DC 5V
Test Mode :	TX(5.8G) - 802.11n20 MIMO Mode(Low CH)		

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
V	30.5304	6.62	25.87	32.49	40.00	-7.51	QP
V	109.4116	15.14	18.19	33.33	43.50	-10.17	QP
V	139.8505	12.99	18.78	31.77	43.50	-11.73	QP
V	361.7139	10.53	22.10	32.63	46.00	-13.37	QP
V	394.8543	5.54	23.19	28.73	46.00	-17.27	QP
V	952.0937	6.06	30.86	36.92	46.00	-9.08	QP

Remark:

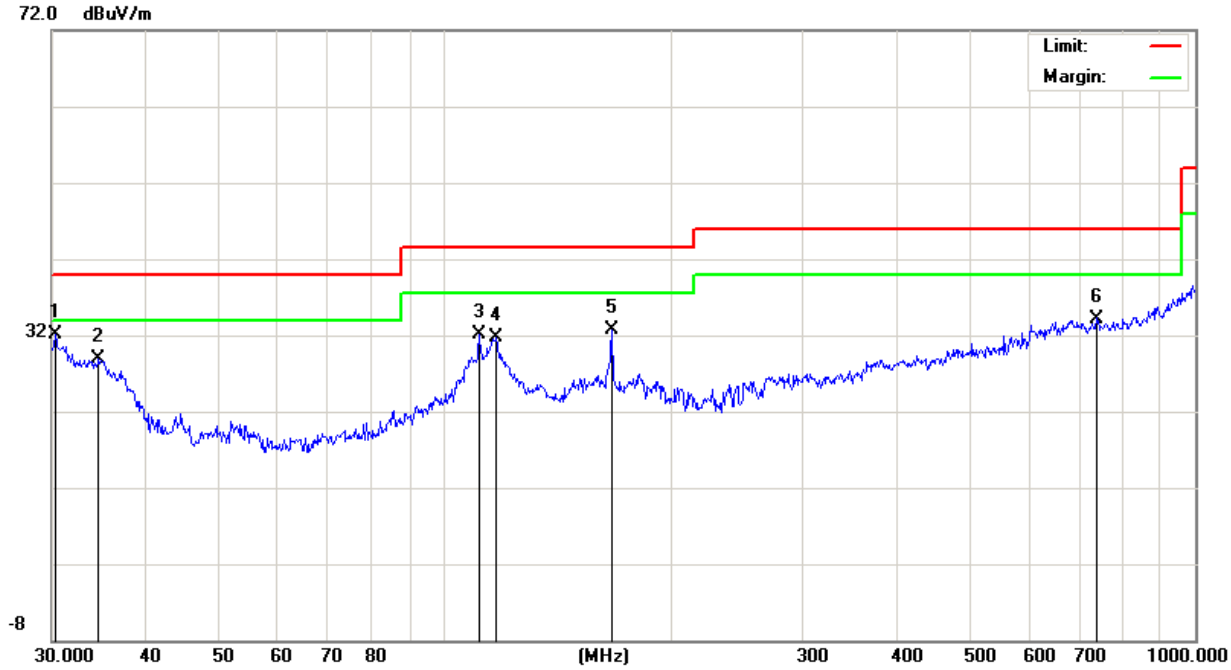
Emission Level= Meter Reading+ Factor, Margin= Emission Level - Limit



Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
H	30.3170	6.20	25.87	32.07	40.00	-7.93	QP
H	34.6385	5.39	23.49	28.88	40.00	-11.12	QP
H	111.3468	13.62	18.48	32.10	43.50	-11.40	QP
H	117.3602	13.01	18.71	31.72	43.50	-11.78	QP
H	167.2366	15.38	17.30	32.68	43.50	-10.82	QP
H	739.6603	5.71	28.49	34.20	46.00	-11.80	QP

Remark:

Emission Level= Meter Reading+ Factor, Margin= Emission Level - Limit



Note: All modes have been tested, just the the worst mode has been recorded in the report.

3.2.8 TEST RESULTS (1GHz-18GHz)

EUT：	Media Player	Model Name. ：	STV6985
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 5V
Test Mode ：	TX(5.2G) - 802.11ac20 MIMO mode		

Polar	Frequency	Meter Reading	Cable loss	Antenna Factor	Preamp Factor	Emission Level	Limits	Margin	Detector Type
(H/V)	(MHz)	(dBuV)	(dB)	dB/m	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel (5180 MHz)-Above 1G									
Vertical	3694.56	61.97	5.94	35.40	44.00	59.31	74.00	-14.69	Pk
Vertical	3694.60	42.46	5.94	35.40	44.00	39.80	54.00	-14.20	AV
Vertical	10360.68	58.66	8.46	39.75	44.50	62.37	68.20	-5.83	Pk
Vertical	15540.52	61.33	10.12	38.80	44.10	66.15	74.00	-7.85	Pk
Vertical	15540.58	40.09	10.12	38.80	42.70	46.31	54.00	-7.69	AV
Horizontal	3713.28	63.75	5.94	35.18	44.00	60.87	74.00	-13.13	Pk
Horizontal	3713.39	43.99	5.94	35.18	44.00	41.11	54.00	-12.89	AV
Horizontal	10361.00	59.25	8.46	38.71	44.50	61.92	68.20	-6.28	Pk
Horizontal	15540.86	57.59	10.12	38.38	44.10	61.99	74.00	-12.01	Pk
Horizontal	15540.75	41.33	10.12	38.38	44.10	45.73	54.00	-8.27	AV
Middle Channel (5200 MHz)-Above 1G									
Vertical	3624.57	59.03	6.48	36.35	44.05	57.81	74.00	-16.19	Pk
Vertical	3624.58	43.22	6.48	36.35	44.05	42.00	54.00	-12.00	AV
Vertical	10400.48	60.12	8.47	37.88	44.51	61.96	68.20	-6.24	Pk
Vertical	15600.50	60.35	10.12	38.80	44.10	65.17	74.00	-8.83	Pk
Vertical	15600.55	39.93	10.12	38.80	42.70	46.15	54.00	-7.85	AV
Horizontal	4202.45	58.53	6.48	36.37	44.05	57.33	74.00	-16.67	Pk
Horizontal	4202.40	45.38	6.48	36.37	44.05	44.18	54.00	-9.82	AV
Horizontal	10400.38	61.56	8.47	38.64	44.50	64.17	68.20	-4.03	Pk
Horizontal	15600.86	60.15	10.12	38.38	44.10	64.55	74.00	-9.45	Pk
Horizontal	15601.06	41.68	10.12	38.38	44.10	46.08	54.00	-7.92	AV
High Channel (5240 MHz)-Above 1G									
Vertical	4598.26	64.15	7.10	37.24	43.50	64.99	74.00	-9.01	Pk
Vertical	4598.11	43.63	7.10	37.24	43.50	44.47	54.00	-9.53	AV
Vertical	10480.50	60.56	8.46	37.68	44.50	62.20	68.20	-6.00	Pk
Vertical	15720.68	61.85	10.12	38.80	44.10	66.67	74.00	-7.33	Pk
Vertical	15720.64	40.56	10.12	38.80	42.70	46.78	54.00	-7.22	AV
Horizontal	4589.74	61.37	7.10	37.24	43.50	62.21	74.00	-11.79	Pk
Horizontal	4589.58	41.89	7.10	37.24	43.50	42.73	54.00	-11.27	AV
Horizontal	10480.87	62.59	8.46	38.57	44.50	65.12	68.20	-3.08	Pk
Horizontal	15720.63	60.00	10.12	38.38	44.10	64.40	74.00	-9.60	Pk
Horizontal	15720.52	43.40	10.12	38.38	44.10	47.80	54.00	-6.20	AV

Note: "802.11ac20 MIMO" mode is the worst mode. PK value is lower than the Average value limit, So average didn't record.
The amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.
Emission level (dBuV/m) = 20 log Emission level (uV/m).
Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

EUT：	Media Player	Model Name. ：	STV6985
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 5V
Test Mode ：	TX (5.8G) -- 802.11n20 MIMO Mode		

Polar	Frequency	Meter Reading	Cable loss	Antenna Factor	Preamp Factor	Emission Level	Limits	Margin	Detector Type
(H/V)	(MHz)	(dBuV)	(dB)	dB/m	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Low Channel (5745 MHz)-Above 1G									
Vertical	5122.79	63.96	5.94	35.40	44.00	61.30	74.00	-12.70	Pk
Vertical	5123.00	45.68	5.94	35.40	44.00	43.02	54.00	-10.98	AV
Vertical	11491.07	60.44	8.46	39.75	44.50	64.15	74.00	-9.85	Pk
Vertical	11490.94	43.70	8.46	39.75	44.50	47.41	54.00	-6.59	AV
Vertical	17236.05	52.50	10.12	38.80	44.10	57.32	68.20	-10.88	Pk
Horizontal	5166.87	59.74	5.94	35.18	44.00	56.86	68.20	-11.34	Pk
Horizontal	11490.79	59.18	8.46	38.71	44.50	61.85	74.00	-12.15	Pk
Horizontal	11491.05	42.90	8.46	38.71	44.50	45.57	54.00	-8.43	AV
Horizontal	17235.91	51.83	10.12	38.38	44.10	56.23	68.20	-11.97	Pk
middle Channel (5785 MHz)-Above 1G									
Vertical	5433.94	62.85	6.48	36.35	44.05	61.63	74.00	-12.37	Pk
Vertical	5433.75	43.50	6.48	36.35	44.05	42.28	54.00	-11.72	AV
Vertical	11570.88	60.69	8.47	37.88	44.51	62.53	74.00	-11.47	Pk
Vertical	11570.87	43.44	8.47	37.88	44.51	45.28	54.00	-8.72	AV
Vertical	17356.16	56.16	10.12	38.80	44.10	60.98	68.20	-7.22	Pk
Horizontal	4867.06	60.46	6.48	36.37	44.05	59.26	74.00	-14.74	Pk
Horizontal	4867.07	43.02	6.48	36.37	44.05	41.82	54.00	-12.18	AV
Horizontal	11570.54	62.86	8.47	38.64	44.50	65.47	74.00	-8.53	Pk
Horizontal	11570.61	44.11	8.47	38.64	44.50	46.72	54.00	-7.28	AV
Horizontal	17355.94	56.89	10.12	38.38	44.10	61.29	68.20	-6.91	Pk
High Channel (5825 MHz)-Above 1G									
Vertical	5243.89	61.94	7.10	37.24	43.50	62.78	68.20	-5.42	Pk
Vertical	11651.60	61.83	8.46	37.68	44.50	63.47	74.00	-10.53	Pk
Vertical	11651.64	43.25	8.46	37.68	44.50	44.89	54.00	-9.11	AV
Vertical	17472.83	60.53	10.12	38.80	44.10	65.35	68.20	-2.85	Pk
Vertical	17472.87	60.81	10.12	38.80	44.10	65.63	68.20	-2.57	Pk
Horizontal	5284.51	60.43	7.10	37.24	43.50	61.27	68.20	-6.93	Pk
Horizontal	11651.98	60.51	8.46	38.57	44.50	63.04	74.00	-10.96	Pk
Horizontal	11651.91	41.96	8.46	38.57	44.50	44.49	54.00	-9.51	AV
Horizontal	17473.89	58.31	10.12	38.38	44.10	62.71	68.20	-5.49	Pk
Horizontal	17474.04	58.23	10.12	38.38	44.10	62.63	68.20	-5.57	Pk

Note:"802.11n20 MIMO" mode is the worst mode. PK value is lower than the Average value limit, So average didn't record.

The amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value

has no need to be reported.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

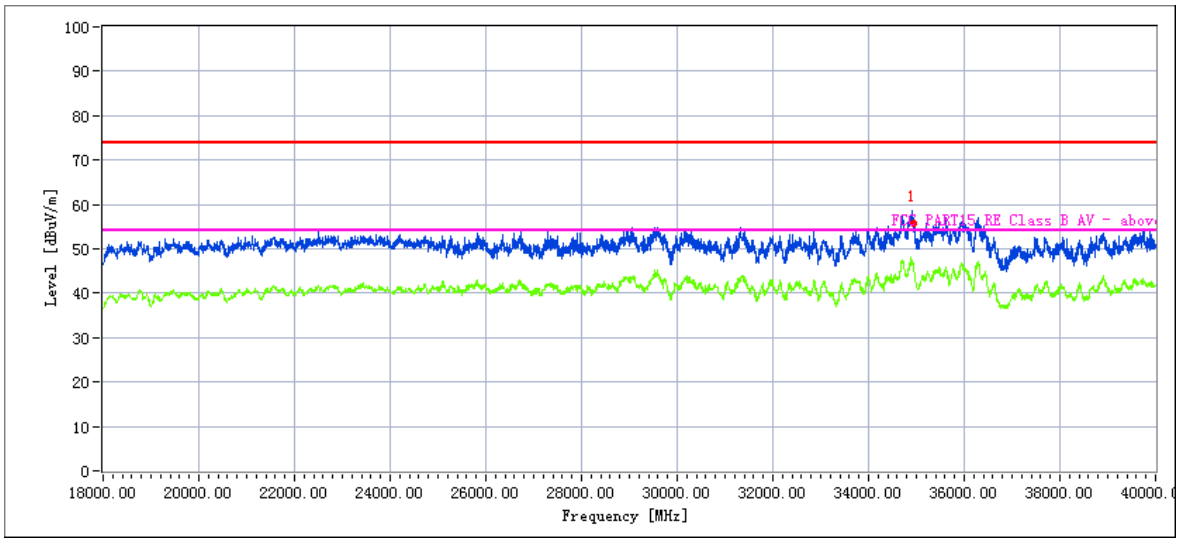
3.2.10 TEST ESULTS (18GHz-40GHz)

EUT：	Media Player	Model Name. ：	STV6985
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 5V
Test Mode ：	TX (5.2G)-802.11ac20 MIMO 5180MHz~5240MHz; TX (5.8G)-802.11n20 MIMO 5745MHz~5825MHz		

All the modulation modes have been tested, and the worst result was report as below:

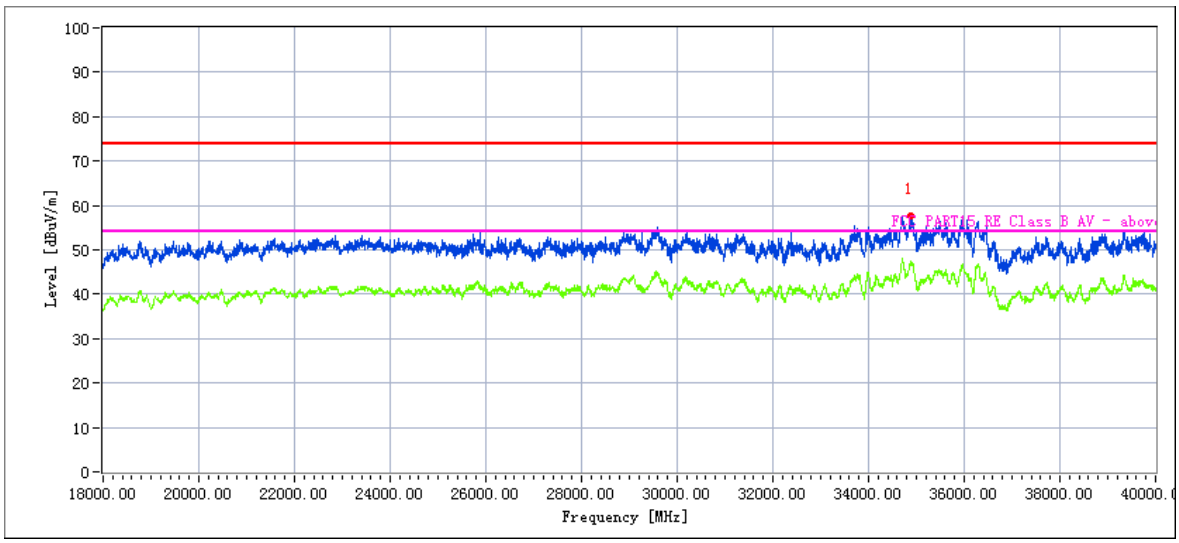
Low Channel (5180 MHz)-Above 1G

Horizontal



Frequency	Meter Reading	Cable loss	Antenna Factor	Preamp Factor	Emission Level	Limits	Margin	Remark
39768.88	39.19	20.09	44.07	43.48	59.87	68.2	8.33	Peak
39766.91	27.57	20.09	44.04	43.48	48.22	54	5.78	AVG

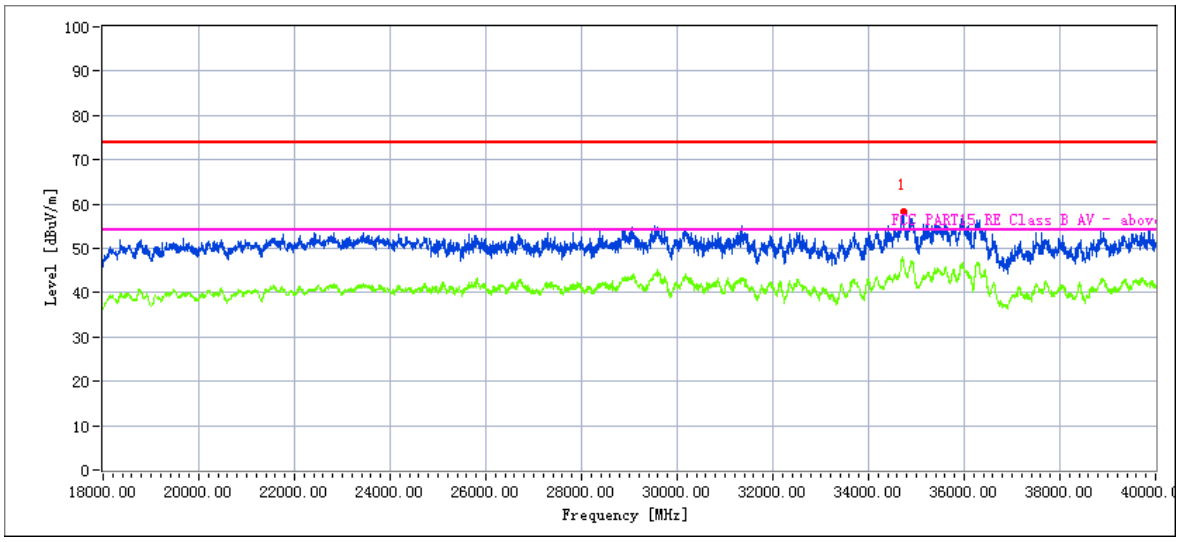
Vertical



Frequency	Meter Reading	Cable loss	Antenna Factor	Preamp Factor	Emission Level	Limits	Margin	Remark
39769.386	36.14	20.09	44.07	43.48	56.82	68.2	11.38	Peak
39769.205	27.39	20.09	44.04	43.48	48.04	54	5.96	AVG

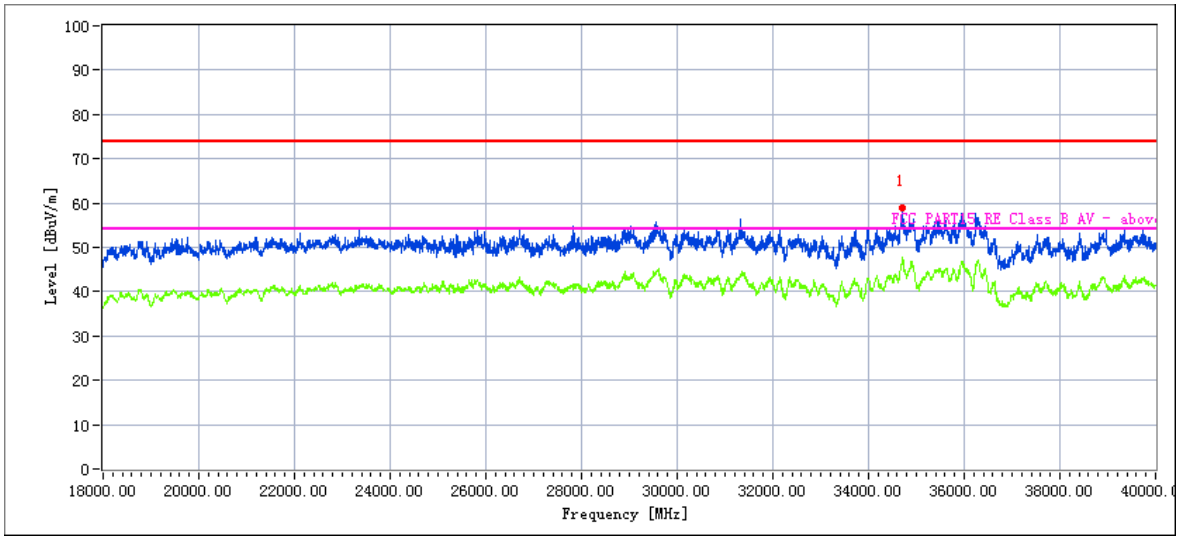
High Channel (5240 MHz)-Above 1G

Horizontal



Frequency	Meter Reading	Cable loss	Antenna Factor	Preamp Factor	Emission Level	Limits	Margin	Remark
35628.05	41.03	19.11	42.73	44.61	58.26	68.2	9.94	Peak
35596.466	31.43	19.11	42.73	44.61	48.66	54	5.34	AVG

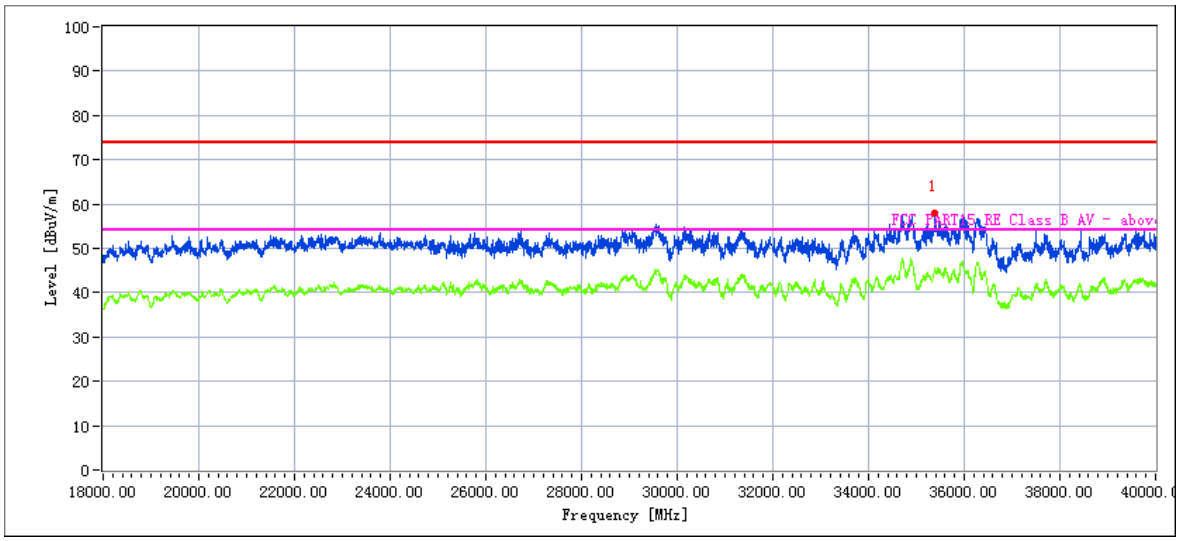
Vertical



Frequency	Meter Reading	Cable loss	Antenna Factor	Preamp Factor	Emission Level	Limits	Margin	Remark
39769.136	37.27	20.09	44.07	43.48	57.95	68.2	10.25	Peak
39769.456	25.4	20.09	44.04	43.48	46.05	54	7.95	AVG

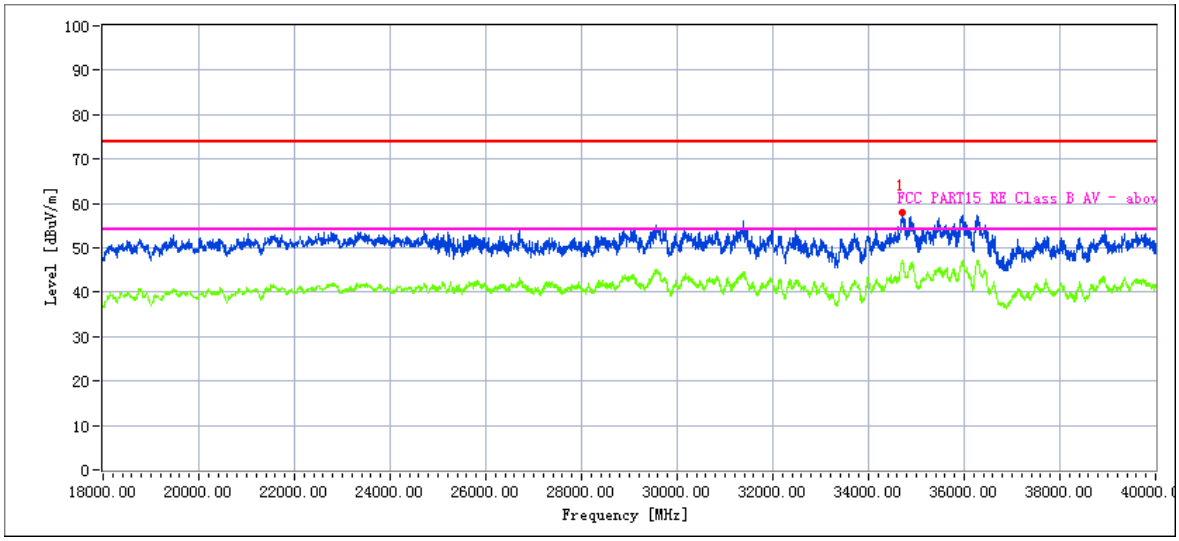
Low Channel (5745 MHz)-Above 1G

Horizontal



Frequency	Meter Reading	Cable loss	Antenna Factor	Preamp Factor	Emission Level	Limits	Margin	Remark
39669.734	38.48	20.09	44.16	43.48	59.25	68.2	8.95	Peak
39669.654	29.34	20.09	44.16	43.48	50.11	54	3.89	AVG

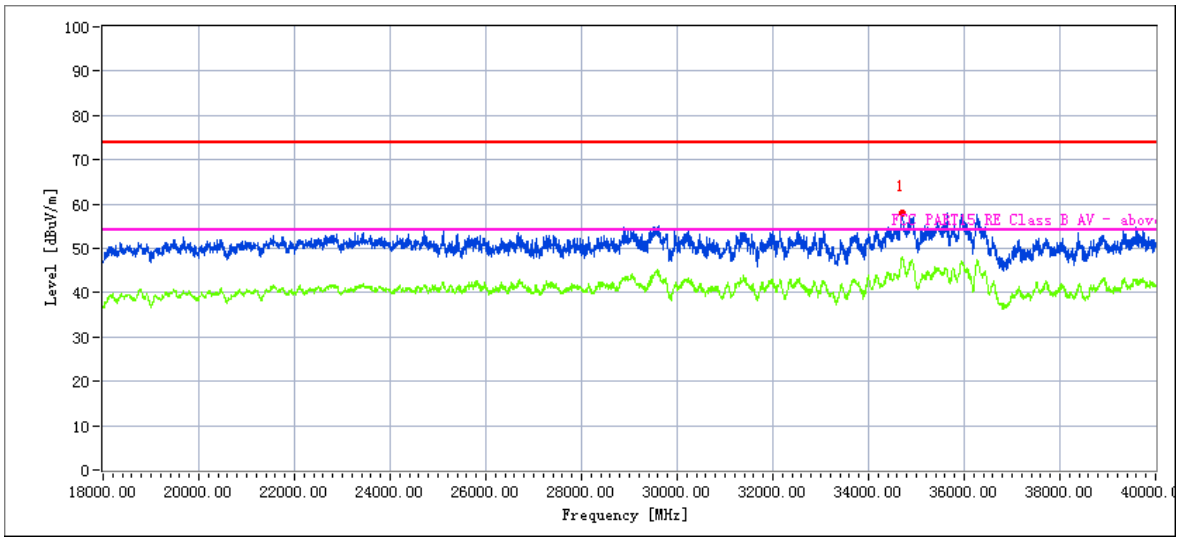
Vertical



Frequency	Meter Reading	Cable loss	Antenna Factor	Preamp Factor	Emission Level	Limits	Margin	Remark
39731.112	37.41	20.06	44.07	43.21	58.33	68.2	9.87	Peak
39731.032	28.63	20.06	44.07	43.21	49.55	54	4.45	AVG

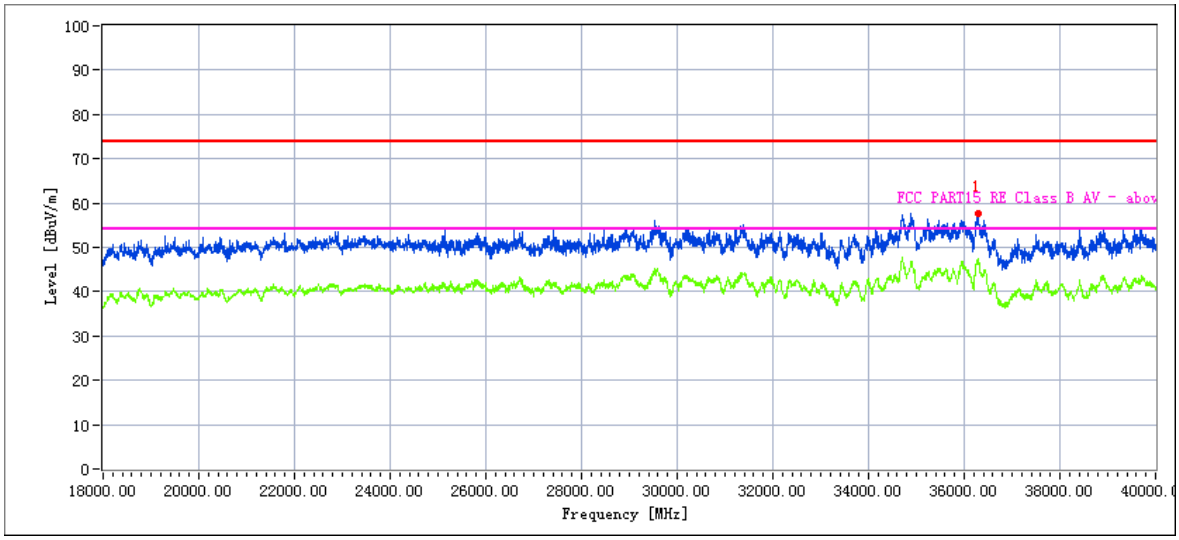
High Channel (5825 MHz)-Above 1G

Horizontal



Frequency	Meter Reading	Cable loss	Antenna Factor	Preamp Factor	Emission Level	Limits	Margin	Remark
35628.044	39.59	19.11	42.63	43.48	57.85	68.2	10.35	Peak
35635.688	29.99	19.12	42.63	43.48	48.26	54	5.74	AVG

Vertical



Frequency	Meter Reading	Cable loss	Antenna Factor	Preamp Factor	Emission Level	Limits	Margin	Remark
39821.573	38.57	20.1	44.1	43.22	59.55	68.2	8.65	Peak
39821.443	29.24	20.1	44.1	43.22	50.22	54	3.78	AVG

3.2.11 Spurious Emission in Restricted Band 4.5GHz~5.150 GHz& 5.350GHz~5460GHz

EUT：	Media Player	Model Name. ：	STV6985
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 5V
Test Mode ：	TX (5.2G)-802.11ac20 MIMO Mode		

All the modulation modes have been tested, The report just record the worst data mode.

Frequency	Meter Reading	Cable Loss	Antenna Factor	Preamp Factor	Emission Level	Limits	Margin	Detector	Comment
(MHz)	(dBμV)	(dB)	dB/m	(dB)	(dBμV/m)	(dBμV/m)	(dB)	Type	
5.2G WIFI-802.11n20 MIMO Mode									
4500	56.23	5.2	35.6	44.2	52.83	74	-21.17	Pk	Horizontal
4500	47.35	5.2	35.6	44.2	43.95	54	-10.05	AV	Horizontal
4500	59.39	5.2	35.6	44.2	55.99	74	-18.01	Pk	Vertical
4500	46.34	5.2	35.6	44.2	42.94	54	-11.06	AV	Vertical
5150	70.20	5.36	35.66	44.22	67	74	-7	Pk	Horizontal
5150	49.75	5.36	35.66	44.22	46.55	54	-7.45	AV	Horizontal
5150	57.02	5.36	35.66	44.22	53.82	74	-20.18	Pk	Vertical
5150	38.19	5.36	35.66	44.22	34.99	54	-19.01	AV	Vertical
5350	65.54	5.68	35.68	44.22	62.68	74	-11.32	Pk	Vertical
5350	47.46	5.68	35.68	44.22	44.6	54	-9.4	AV	Vertical
5350	61.21	5.68	35.68	44.22	58.35	74	-15.65	Pk	Horizontal
5350	45.72	5.68	35.68	44.22	42.86	54	-11.14	AV	Horizontal

Note: (1) Emission Level= Antenna Factor + Cable Loss + Read Level - Preamp Factor

(2) “802.11ac20 MIMO” mode is the worst mode. When PK value is lower than the Average value limit, average don't record.

4. POWER SPECTRAL DENSITY TEST

4.1 APPLIED PROCEDURES / LIMIT

According to FCC §15.407(a)

For the band 5.15-5.25 GHz,

(i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

(ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

(iv) For client devices in the 5.15-5.25 GHz band, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

For the band 5.725-5.85 GHz

(3)For the band 5.725-5.85 GHz, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

,

4.2 TEST PROCEDURE

For devices operating in the bands 5.15-5.25 GHz, 5.25-5.35 GHz, and 5.47-5.725 GHz, the above procedures make use of 1 MHz RBW to satisfy directly the 1 MHz reference bandwidth specified in § 15.407(a)(5). For devices operating in the band 5.725-5.85 GHz, the rules specify a measurement bandwidth of 500 kHz. Many spectrum analyzers do not have 500 kHz RBW, thus a narrower RBW may need to be used. The rules permit the use of a RBWs less than 1 MHz, or 500 kHz, "provided that the measured power is integrated over the full reference bandwidth" to show the total power over the specified measurement bandwidth (i.e., 1 MHz, or 500 kHz). If measurements are performed using a reduced resolution bandwidth (< 1 MHz, or < 500 kHz) and integrated over 1 MHz, or 500 KHz bandwidth, the following adjustments to the procedures apply:

a) Set RBW ≥ 1/T, where T is defined in section II.B.I.a).

b) Set VBW ≥ 3 RBW.

c) If measurement bandwidth of Maximum PSD is specified in 500 kHz, add 10log(500kHz/RBW) to the measured result, whereas RBW (< 500 KHz) is the reduced resolution bandwidth of the spectrum analyzer set during measurement.

d) If measurement bandwidth of Maximum PSD is specified in 1 MHz, add 10log(1MHz/RBW) to the measured result, whereas RBW (< 1 MHz) is the reduced resolution bandwidth of spectrum analyzer set during measurement.

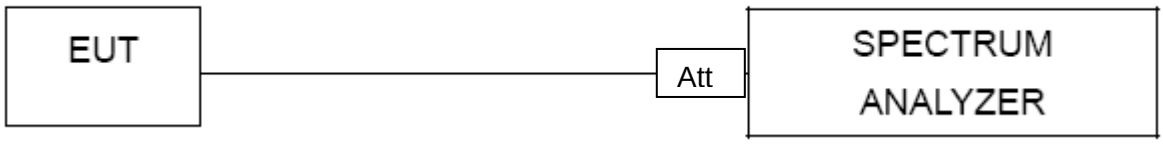
e) Care must be taken to ensure that the measurements are performed during a period of continuous transmission or are corrected upward for duty cycle.

Note: As a practical matter, it is recommended to use reduced RBW of 100 KHz for the sections 5.c) and 5.d) above, since RBW=100 KHZ is available on nearly all spectrum analyzers.

4.3 DEVIATION FROM STANDARD

No deviation.

4.4 TEST SETUP



4.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.1 Unless otherwise a special operating condition is specified in the follows during the testing.

4.6 TEST RESULTS

EUT：	Media Player	Model Name ：	STV6985
Temperature：	26 ℃	Relative Humidity：	54%
Pressure：	1015 hPa	Test Voltage ：	DC 5V
Test Mode ：	TX Frequency Band 1 (5150-5250MHz), Band 4 (5745-5825MHz)		

For 5.2G band, 802.11n/ac has MIMO mode. Directional gain=8.86 dBi
8.86dBi>6.0 dBi, so MIMO power spectral density limit=8.14 dBm / 1MHz;
For 5.8G band, 802.11n/ac has MIMO mode. Directional gain=8.86 dBi
8.86dBi>6.0 dB i, so MIMO power spectral density limit=27.14dBm / 500kHz;

Test data reference attachment.

5. 26DB & 99% EMISSION BANDWIDTH

5.1 APPLIED PROCEDURES / LIMIT

The maximum power spectral density is measured as a conducted emission by direct connection of a calibrated test instrument to the equipment under test. If the device cannot be connected directly, alternative techniques acceptable to the Commission may be used. Measurements in the 5.725-5.85 GHz band are made over a reference bandwidth of 500 kHz or the 26 dB emission bandwidth of the device, whichever is less. Measurements in the 5.15-5.25 GHz, 5.25-5.35 GHz, and the 5.47-5.725 GHz bands are made over a bandwidth of 1 MHz or the 26 dB emission bandwidth of the device, whichever is less. A narrower resolution bandwidth can be used, provided that the measured power is integrated over the full reference bandwidth.

5.2 TEST PROCEDURE

a) Set RBW = approximately 1% of the emission bandwidth.

b) Set the VBW > RBW.

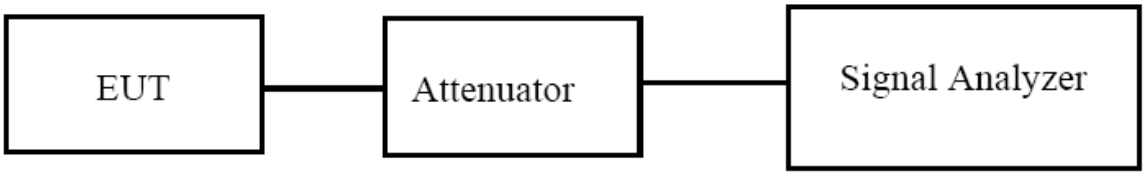
c) Detector = Peak.

d) Trace mode = max hold.

e) Measure the maximum width of the emission that is 26 dB down from the maximum of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

The following procedure shall be used for measuring (99 %) power bandwidth:

1. Set center frequency to the nominal EUT channel center frequency.
2. Set span = 1.5 times to 5.0 times the OBW.
3. Set RBW = 1 % to 5 % of the OBW
4. Set VBW ≥ 3 · RBW
5. Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used.
6. Use the 99 % power bandwidth function of the instrument (if available).
7. If the instrument does not have a 99 % power bandwidth function, the trace data points are recovered and directly summed in power units. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5 % of the total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5 % of the total is reached; that frequency is recorded as the upper frequency. The 99% occupied bandwidth is the difference between these two frequencies.



5.3 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

5.4 TEST RESULTS

EUT：	Media Player	Model Name ：	STV6985
Temperature：	26 ℃	Relative Humidity：	54%
Pressure：	1012 hPa	Test Voltage ：	DC 5V
Test Mode ：	TX Frequency Band 1 (5150-5250MHz), Band 4 (5745-5825MHz)		

Test data reference attachment.

6. MINIMUM 6 DB BANDWIDTH

6.1 APPLIED PROCEDURES / LIMIT

According to FCC §15.407(e)

(e) Within the 5.725-5.85 GHz band, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.

6.2 TEST PROCEDURE

Section 15.407(e) specifies the minimum 6 dB emission bandwidth of at least 500 KHz for the band 5.715-5.85 GHz. The following procedure shall be used for measuring this bandwidth:

a) Set RBW = 100 kHz.

b) Set the video bandwidth (VBW) ≥ 3 × RBW.

c) Detector = Peak.

d) Trace mode = max hold.

e) Sweep = auto couple.

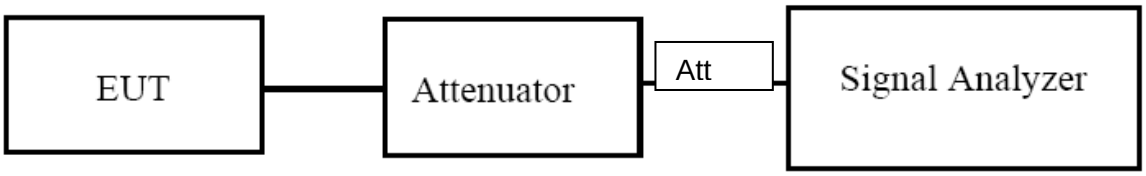
f) Allow the trace to stabilize.

g) Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

6.3 DEVIATION FROM STANDARD

No deviation.

6.4 TEST SETUP



6.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

6.6 TEST RESULTS

EUT：	Media Player	Model Name ：	STV6985
Temperature：	26 ℃	Relative Humidity：	54%
Pressure：	1012 hPa	Test Voltage ：	DC 5V
Test Mode ：	TX (5G) Mode Frequency Band 4 (5725-5850MHz)		

Test data reference attachment.

7. MAXIMUM CONDUCTED OUTPUT POWER

7.1 PPLIED PROCEDURES / LIMIT

According to FCC §15.407

The maximum conduced output power should not exceed:

Frequency Band(MHz)	Limit
5150~5250	0.25W
5725~5850	1W

7.2 TEST PROCEDURE

· Method PM is Measurement using an RF average power meter. The procedure for this method is as follows:

a) Measurements may be performed using a wideband RF power meter with a thermocouple detector or equivalent if all of the following conditions are satisfied:

1) The EUT is configured to transmit continuously, or to transmit with a constant duty cycle.

2) At all times when the EUT is transmitting, it shall be transmitting at its maximum power control level.

3) The integration period of the power meter exceeds the repetition period of the transmitted signal by at least a factor of five.

b) If the transmitter does not transmit continuously, measure the duty cycle D of the transmitter output signal as described in 12.2.

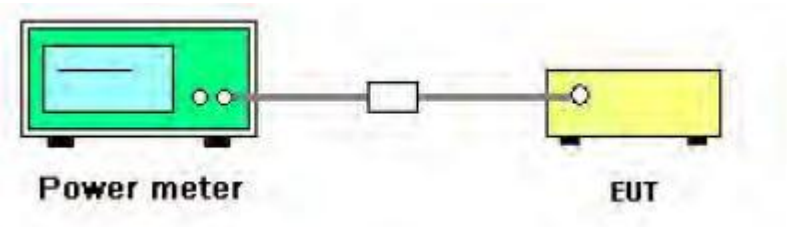
c) Measure the average power of the transmitter. This measurement is an average over both the ON and OFF periods of the transmitter.

d) Adjust the measurement in dBm by adding [10 log (1 / D)], where D is the duty cycle {e.g., [10 log (1 / 0.25)], if the duty cycle is 25%}.

7.3 DEVIATION FROM STANDARD

No deviation.

7.4 TEST SETUP



6.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

7.5 TEST RESULTS

EUT：	Media Player	Model Name ：	STV6985
Temperature：	26 ℃	Relative Humidity：	54%
Pressure：	1012 hPa	Test Voltage ：	DC 5V
Test Mode ：	TX Frequency Band 1 (5150-5250MHz), Band 4 (5745-5825MHz)		

For 5.2G band. Directional gain=5.85dBi; 6 dBi > 5.85dBi, so conducted power limit= 24dBm.

For 5.8G band. Directional gain=5.85dBi; 6dBi > 5.85dBi, so conducted power limit= 30dBm.

Test data reference attachment.

8. OUT OF BAND EMISSIONS

8.1 APPLICABLE STANDARD

According to FCC §15.407(b)

Undesirable emission limits. Except as shown in paragraph (b)(9) (10) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

(1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

(2) For transmitters operating in the 5.725-5.85 GHz band: For transmitters operating in the 5.725-5.85 GHz band: All emissions shall be limited to a level of −27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

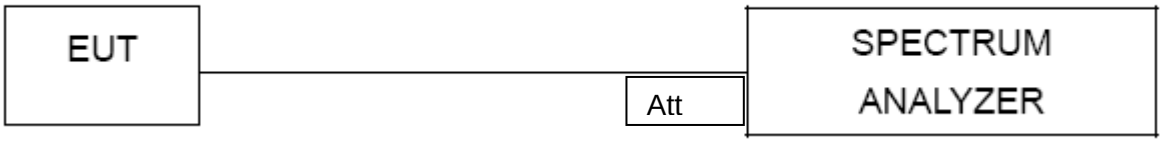
8.2 TEST PROCEDURE

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
3. Set RBW of spectrum analyzer to 1 MHz with a convenient frequency span.
4. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
5. Repeat above procedures until all measured frequencies were complete.

8.3 DEVIATION FROM STANDARD

No deviation.

8.4 TEST SETUP



8.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

8.6 TEST RESULTS

EUT：	Media Player	Model Name ：	STV6985
Temperature：	26 ℃	Relative Humidity：	54%
Pressure：	1012 hPa	Test Voltage ：	DC 5V

Test data reference attachment.

9. Frequency Stability Measurement

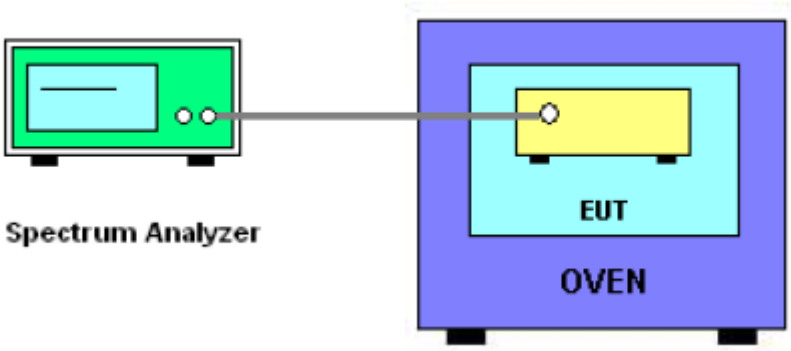
9.1 LIMIT

Manufactures of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

9.2 TEST PROCEDURES

1. The transmitter output (antenna port) was connected to the spectrum analyzer.
2. EUT have transmitted absence of modulation signal and fixed channelize.
3. Set the spectrum analyzer span to view the entire absence of modulation emissions bandwidth.
4. Set RBW = 10 kHz, VBW = 10 kHz with peak detector and maxhold settings.
5. fc is declaring of channel frequency. Then the frequency error formula is (fc-f)/fc × 10_6 ppm and the limit is less than ±20ppm (IEEE 802.11nspecification).
6. The test extreme voltage is to change the primary supply voltage from 85 to 115 percent of the nominal value
7. Extreme temperature is -20°C~70°C.

9.3 TEST SETUP LAYOUT



9.4 EUT OPERATION DURING TEST

1. The EUT was programmed to be in continuously un-modulation transmitting mode.
2. The has two antennas, and the worst data is Antenna 1, only shown Antenna 1 Plot.

9.5 TEST RESULTS

EUT：	Media Player	Model Name. ：	STV6985
Temperature：	25 ℃	Relative Humidity：	56%
Pressure：	1012 hPa	Test Voltage ：	DC 5V
Test Mode ：	TX Frequency Band I (5150-5250MHz)		

1(2) Represent the value of antenna 1 and 2, the worst data is Antenna 1 802.11a mode, only shown Antenna 1 802.11a mode data.

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5180MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	5.00	5180.0067	5180	0.0067	-1.2934
		V max (V)	5.75	5180.0129	5180	0.0129	-2.4903
		V min (V)	4.25	5180.0112	5180	0.0112	-2.1622
Limits				Within 5150-5250MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5180MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	5	T (°C)	-20	5180.0334	5180	0.0334	-6.4479
		T (°C)	-10	5180.0055	5180	0.0055	-1.0618
		T (°C)	0	5180.0061	5180	0.0061	-1.1776
		T (°C)	10	5180.0192	5180	0.0192	-3.7066
		T (°C)	20	5180.0325	5180	0.0325	-6.2741
		T (°C)	30	5180.0024	5180	0.0024	-0.4633
		T (°C)	40	5180.0092	5180	0.0092	-1.7761
		T (°C)	50	5180.0022	5180	0.0022	-0.4247
		T (°C)	60	5180.0079	5180	0.0079	-1.5251
		T (°C)	70	5180.0321	5180	0.0321	-6.1969
Limits				Within 5150-5250MHz			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5200MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	5.00	5200.0076	5200	0.0076	-1.4615
		V max (V)	5.75	5200.014	5200	0.0140	-2.6923
		V min (V)	4.25	5200.0145	5200	0.0145	-2.7885
Limits				Within 5150-5250MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5200MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	5	T (°C)	-20	5200.0288	5200	0.0288	-5.5385
		T (°C)	-10	5200.0200	5200	0.0200	-3.8462
		T (°C)	0	5200.0038	5200	0.0038	-0.7308
		T (°C)	10	5200.0316	5200	0.0316	-6.0769
		T (°C)	20	5200.0195	5200	0.0195	-3.7500
		T (°C)	30	5200.0038	5200	0.0038	-0.7308
		T (°C)	40	5200.0326	5200	0.0326	-6.2692
		T (°C)	50	5200.0105	5200	0.0105	-2.0192
		T (°C)	60	5200.0244	5200	0.0244	-4.6923
		T (°C)	70	5200.0276	5200	0.0276	-5.3077
Limits				Within 5150-5250MHz			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5240MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	5.00	5240.0177	5240	0.0177	-3.3779
		V max (V)	5.75	5240.0369	5240	0.0369	-7.0420
		V min (V)	4.25	5240.0311	5240	0.0311	-5.9351
Limits				Within 5150-5250MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5240MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	5	T (°C)	-20	5240.0124	5240	0.0124	-2.3664
		T (°C)	-10	5240.0028	5240	0.0028	-0.5344
		T (°C)	0	5240.0070	5240	0.0070	-1.3359
		T (°C)	10	5240.0133	5240	0.0133	-2.5382
		T (°C)	20	5240.0242	5240	0.0242	-4.6183
		T (°C)	30	5240.0261	5240	0.0261	-4.9809
		T (°C)	40	5240.0039	5240	0.0039	-0.7443
		T (°C)	50	5240.0288	5240	0.0288	-5.4962
		T (°C)	60	5240.0142	5240	0.0142	-2.7099
		T (°C)	70	5240.0111	5240	0.0111	-2.1183
Limits				Within 5150-5250MHz			
Result				Complies			

EUT：	Media Player	Model Name. ：	STV6985
Temperature：	25 ℃	Relative Humidity：	56%
Pressure：	1012 hPa	Test Voltage ：	DC 5V
Test Mode ：	TX Frequency(5745-5850MHz)		

1(2) Represent the value of antenna 1 and 2, the worst data is Antenna 1 802.11a mode, only shown Antenna 1 802.11a mode data.

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5745MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	5.00	5745.0054	5745	0.00540	-0.9399
		V max (V)	5.75	5745.0003	5745	0.00030	-0.0522
		V min (V)	4.25	5745.0191	5745	0.01910	-3.3246
Limits				Within 5745-5850MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5745MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	5	T (°C)	-20	5745.0158	5745	0.01580	-2.7502
		T (°C)	-10	5745.0313	5745	0.03130	-5.4482
		T (°C)	0	5745.0301	5745	0.03010	-5.2393
		T (°C)	10	5745.0000	5745	0.00000	0.0000
		T (°C)	20	5745.0048	5745	0.00480	-0.8355
		T (°C)	30	5745.0180	5745	0.01800	-3.1332
		T (°C)	40	5745.0077	5745	0.00770	-1.3403
		T (°C)	50	5745.0030	5745	0.00300	-0.5222
		T (°C)	60	5745.0238	5745	0.02380	-4.1427
		T (°C)	70	5745.0325	5745	0.03250	-5.6571
Limits				Within 5745-5850MHz			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5785MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	5.00	5785.0084	5785	0.00840	-1.4520
		V max (V)	5.75	5785.0394	5785	0.03940	-6.8107
		V min (V)	4.25	5785.0308	5785	0.03080	-5.3241
Limits				Within 5745-5850MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5785MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	5	T (°C)	-20	5785.0033	5785	0.00330	-0.5704
		T (°C)	-10	5785.0306	5785	0.03060	-5.2895
		T (°C)	0	5785.0257	5785	0.02570	-4.4425
		T (°C)	10	5785.0305	5785	0.03050	-5.2723
		T (°C)	20	5785.0142	5785	0.01420	-2.4546
		T (°C)	30	5785.0059	5785	0.00590	-1.0199
		T (°C)	40	5785.0249	5785	0.02490	-4.3042
		T (°C)	50	5785.0046	5785	0.00460	-0.7952
		T (°C)	60	5785.0190	5785	0.01900	-3.2844
		T (°C)	70	5785.0105	5785	0.01050	-1.8150
Limits				Within 5745-5850MHz			
Result				Complies			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5825MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	5.00	5825.0029	5825	0.00290	-0.4979
		V max (V)	5.75	5825.0224	5825	0.02240	-3.8455
		V min (V)	4.25	5825.0287	5825	0.02870	-4.9270
Limits				Within 5745-5850MHz			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5825MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	5	T (°C)	-20	5825.0161	5825	0.01610	-2.7639
		T (°C)	-10	5825.0076	5825	0.00760	-1.3047
		T (°C)	0	5825.0033	5825	0.00330	-0.5665
		T (°C)	10	5825.0087	5825	0.00870	-1.4936
		T (°C)	20	5825.0285	5825	0.02850	-4.8927
		T (°C)	30	5825.0229	5825	0.02290	-3.9313
		T (°C)	40	5825.0019	5825	0.00190	-0.3262
		T (°C)	50	5825.0052	5825	0.00520	-0.8927
		T (°C)	60	5825.0222	5825	0.02220	-3.8112
		T (°C)	70	5825.0221	5825	0.02210	-3.7940
Limits				Within 5745-5850MHz			
Result				Complies			

10. ANTENNA REQUIREMENT

10.1 STANDARD REQUIREMENT

15.203 requirement: For intentional device, according to 15.203: an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

10.2 EUT ANTENNA

The EUT antenna is permanent attached Antenna: FPCB Antenna (Gain: 5.85 dBi), It comply with the standard requirement.

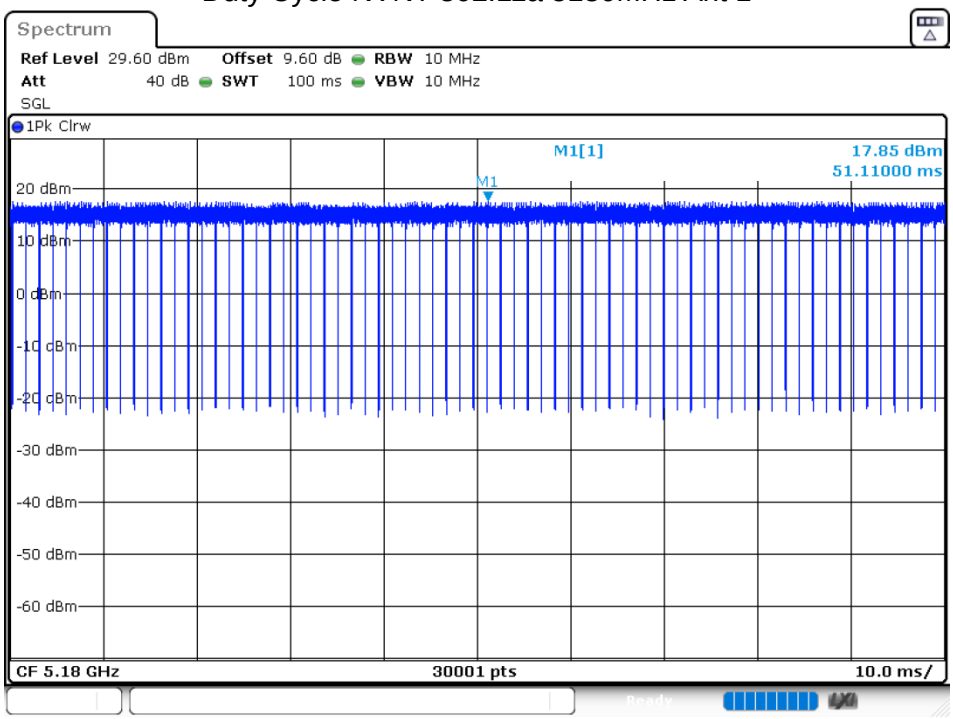
11. TEST RESULT

5.2G WIFI

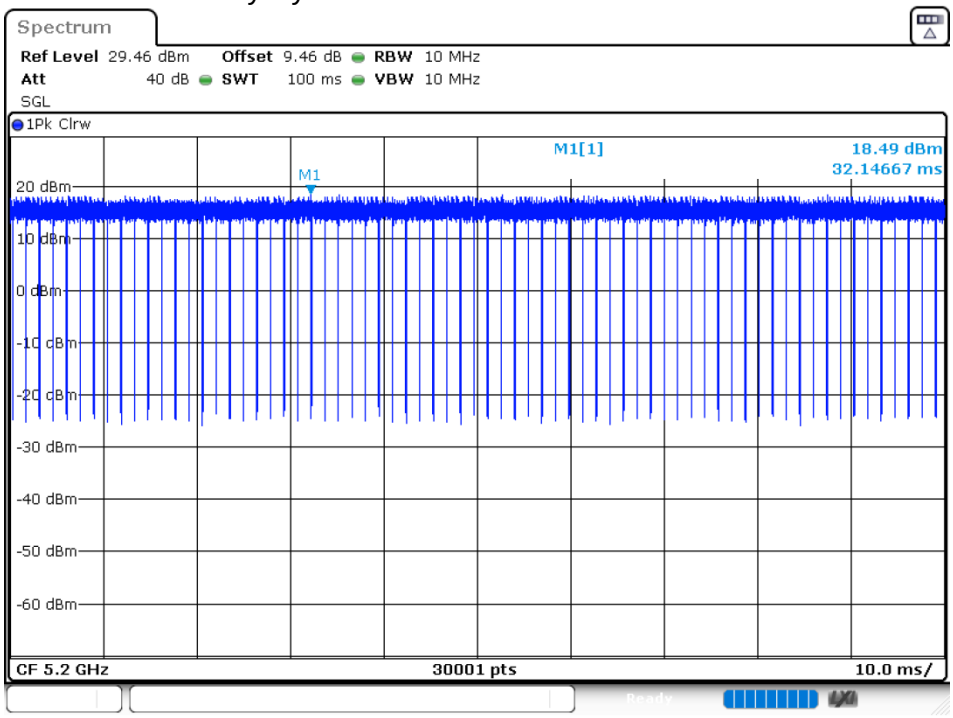
11.1 DUTY CYCLE

Antenna	Condition	Mode	Frequency (MHz)	Duty Cycle (%)	Correction Factor (dB)
Ant 1	NVNT	802.11a	5180	95.92	0.18
Ant 1	NVNT	802.11a	5200	95.94	0.18
Ant 1	NVNT	802.11a	5240	95.92	0.18
Ant 2	NVNT	802.11a	5180	95.93	0.18
Ant 2	NVNT	802.11a	5200	95.92	0.18
Ant 2	NVNT	802.11a	5240	95.93	0.18
Ant 1	NVNT	802.11ac20	5180	95.69	0.19
Ant 1	NVNT	802.11ac20	5200	95.69	0.19
Ant 1	NVNT	802.11ac20	5240	95.69	0.19
Ant 2	NVNT	802.11ac20	5180	95.69	0.19
Ant 2	NVNT	802.11ac20	5200	95.69	0.19
Ant 2	NVNT	802.11ac20	5240	95.69	0.19
Ant 1	NVNT	802.11ac40	5190	91.8	0.37
Ant 1	NVNT	802.11ac40	5230	91.78	0.37
Ant 2	NVNT	802.11ac40	5190	91.77	0.37
Ant 2	NVNT	802.11ac40	5230	91.78	0.37
Ant 1	NVNT	802.11ac80	5210	86.32	0.64
Ant 2	NVNT	802.11ac80	5210	86.32	0.64
Ant 1	NVNT	802.11n(HT20)	5180	95.63	0.19
Ant 1	NVNT	802.11n(HT20)	5200	95.68	0.19
Ant 1	NVNT	802.11n(HT20)	5240	95.63	0.19
Ant 2	NVNT	802.11n(HT20)	5180	95.69	0.19
Ant 2	NVNT	802.11n(HT20)	5200	95.69	0.19
Ant 2	NVNT	802.11n(HT20)	5240	95.65	0.19
Ant 1	NVNT	802.11n(HT40)	5190	91.73	0.37
Ant 1	NVNT	802.11n(HT40)	5230	91.72	0.38
Ant 2	NVNT	802.11n(HT40)	5190	91.73	0.37
Ant 2	NVNT	802.11n(HT40)	5230	91.72	0.38

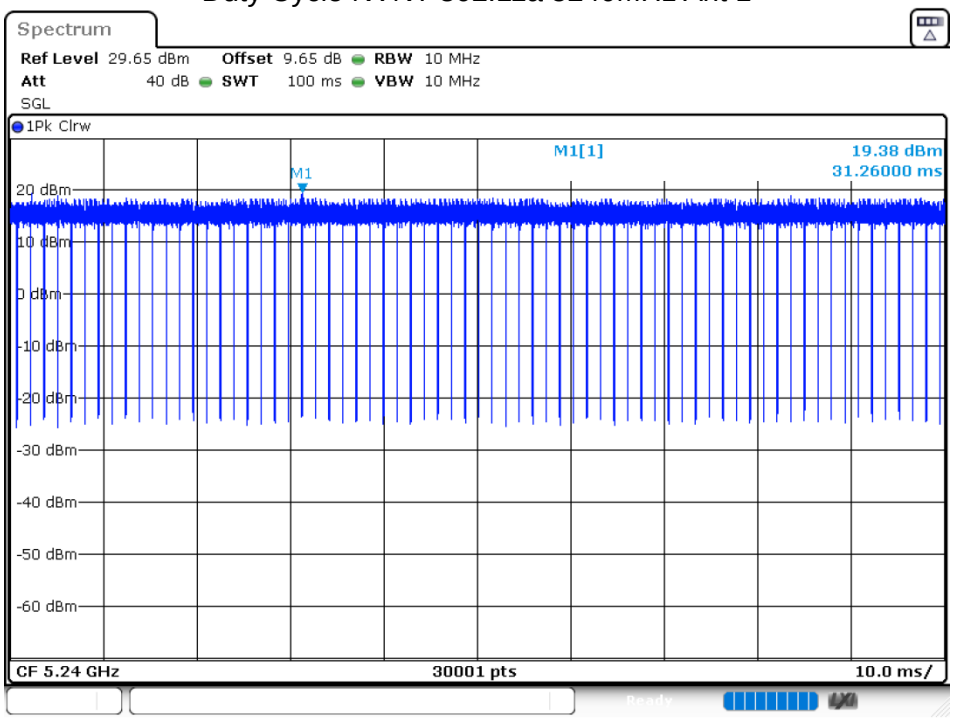
Duty Cycle NVNT 802.11a 5180MHz Ant 1



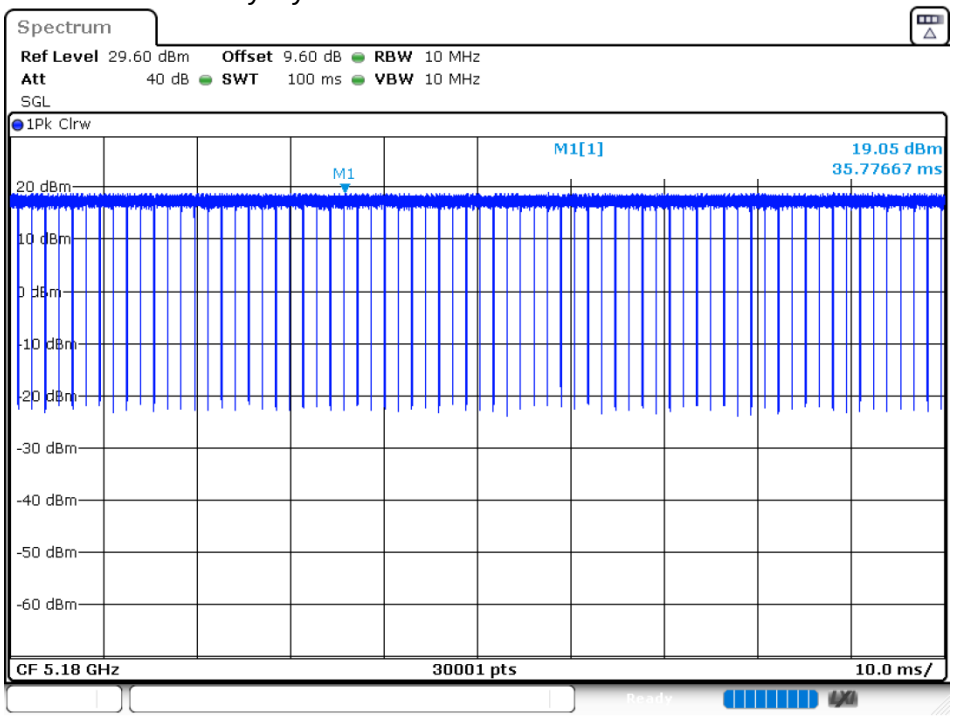
Duty Cycle NVNT 802.11a 5200MHz Ant 1



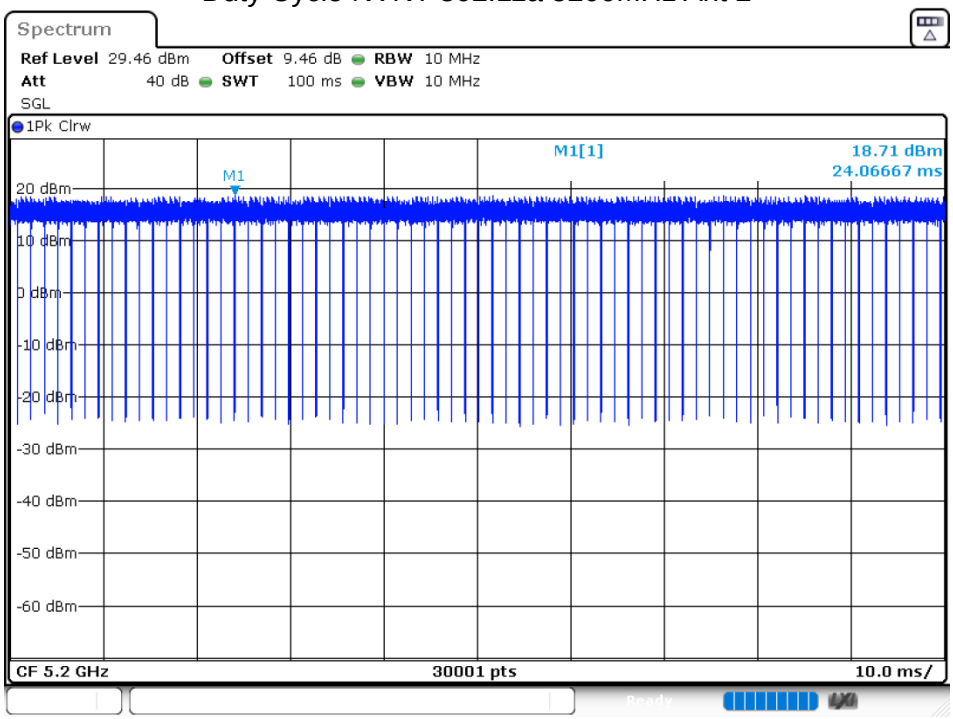
Duty Cycle NVNT 802.11a 5240MHz Ant 1



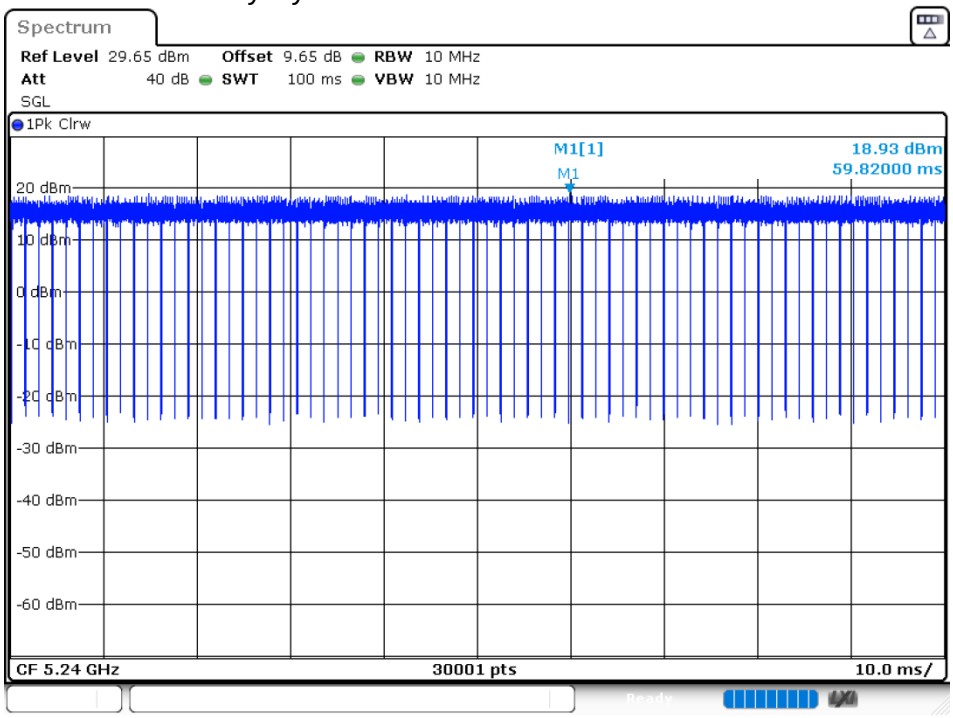
Duty Cycle NVNT 802.11a 5180MHz Ant 2



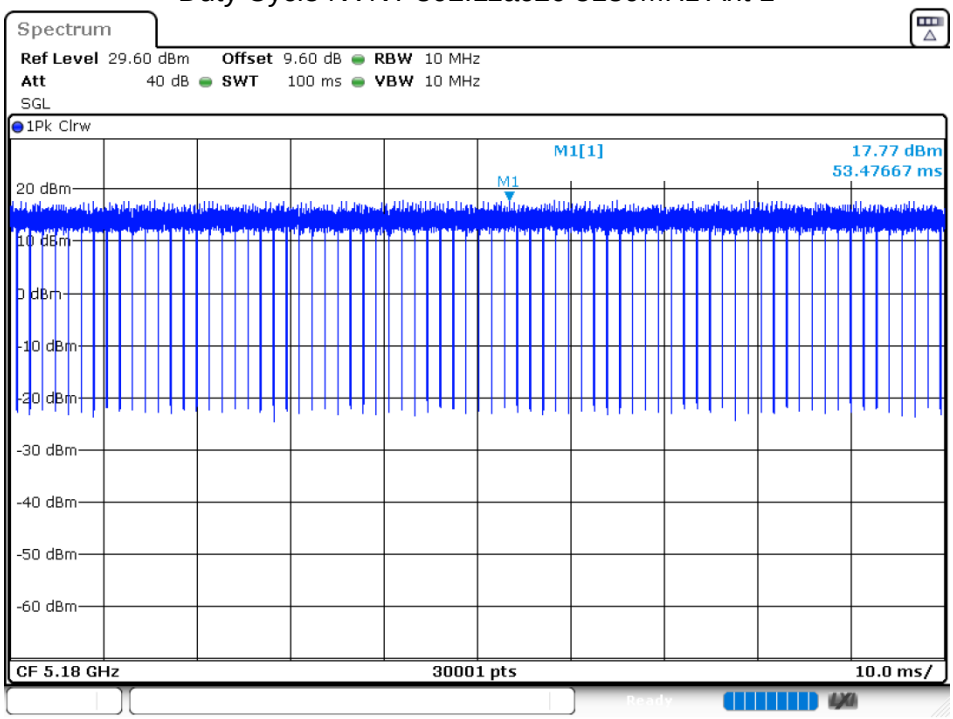
Duty Cycle NVNT 802.11a 5200MHz Ant 2



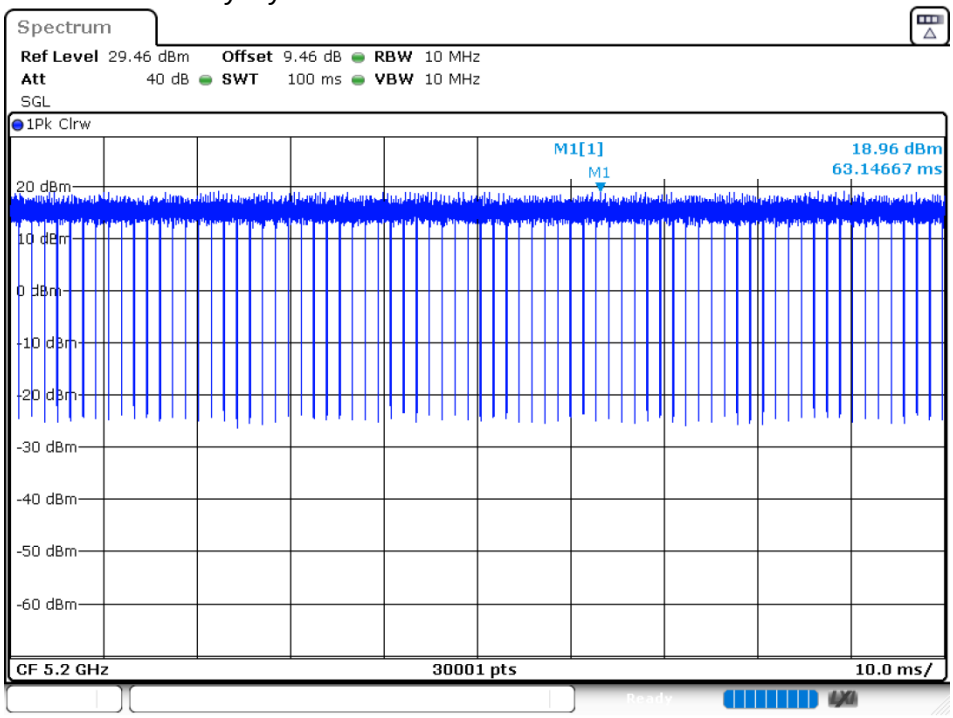
Duty Cycle NVNT 802.11a 5240MHz Ant 2



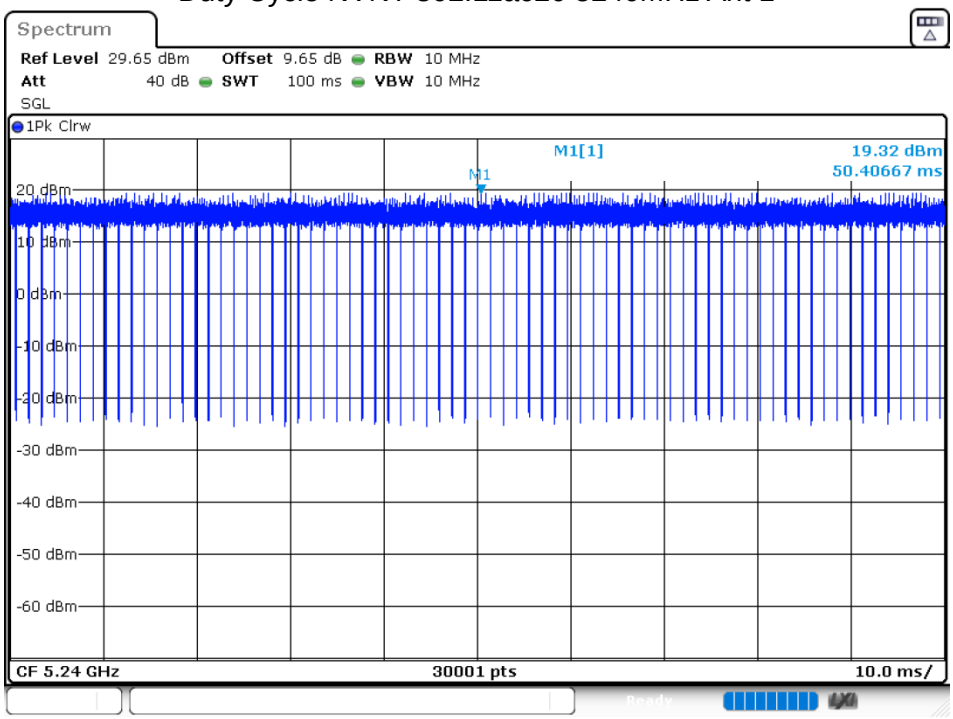
Duty Cycle NVNT 802.11ac20 5180MHz Ant 1



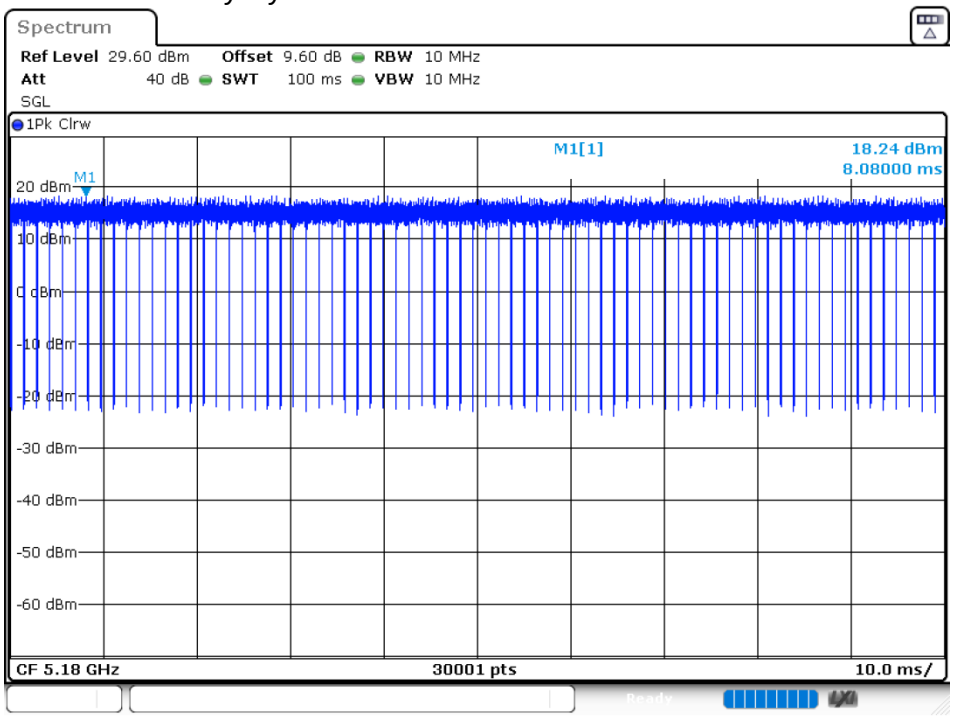
Duty Cycle NVNT 802.11ac20 5200MHz Ant 1



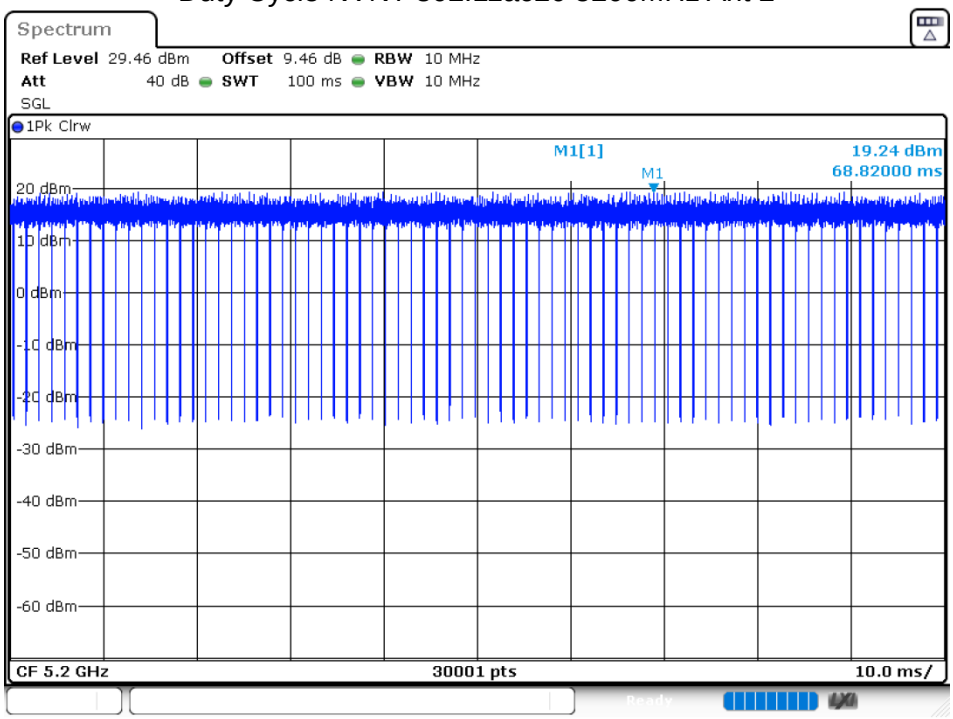
Duty Cycle NVNT 802.11ac20 5240MHz Ant 1



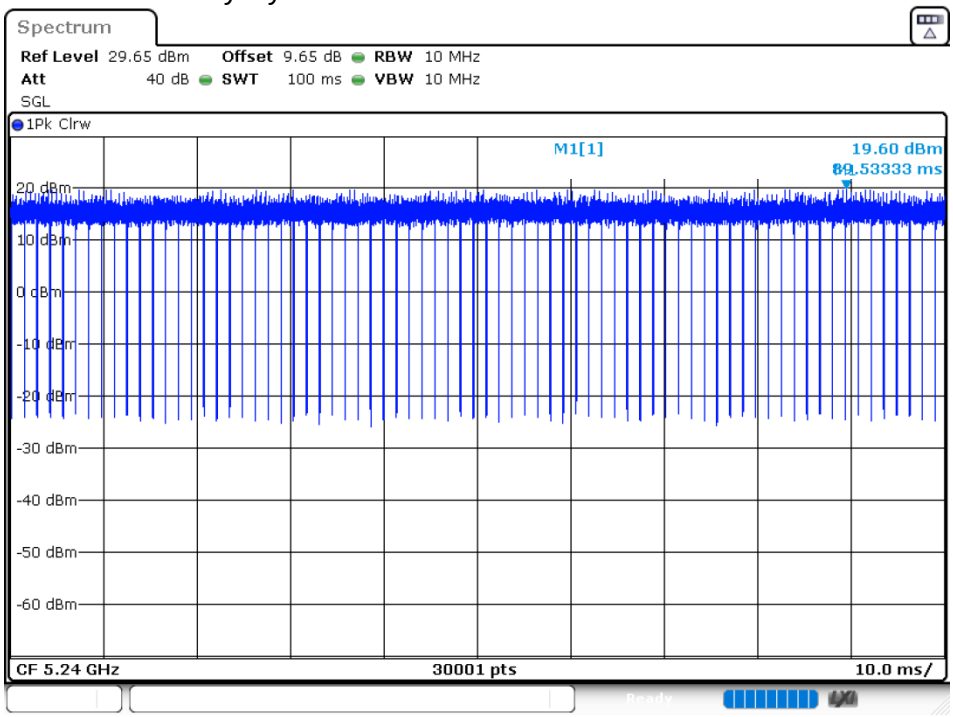
Duty Cycle NVNT 802.11ac20 5180MHz Ant 2



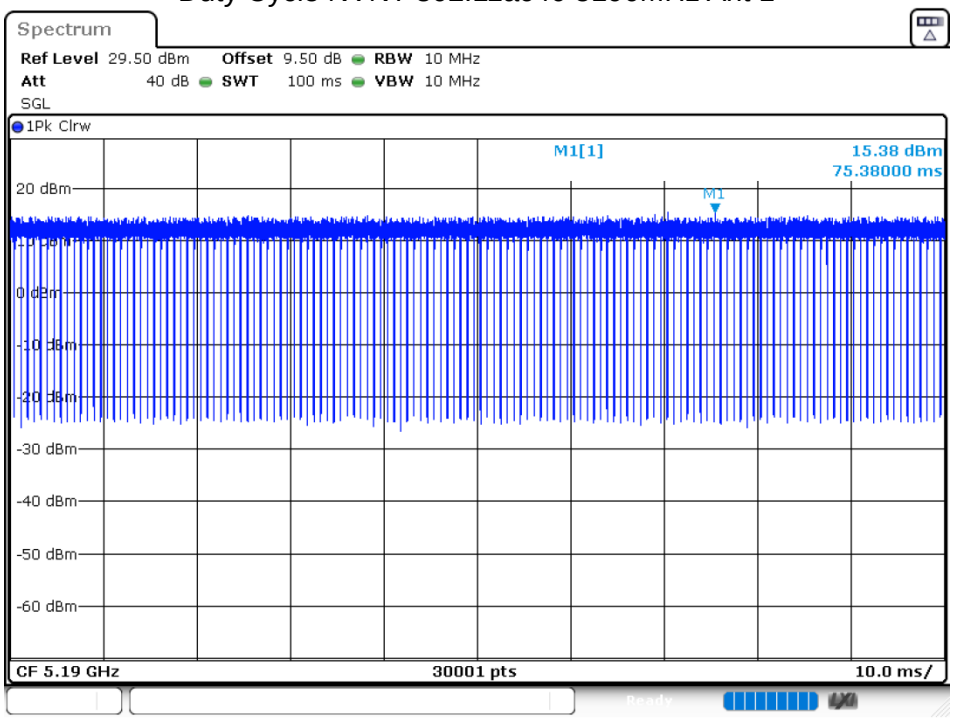
Duty Cycle NVNT 802.11ac20 5200MHz Ant 2



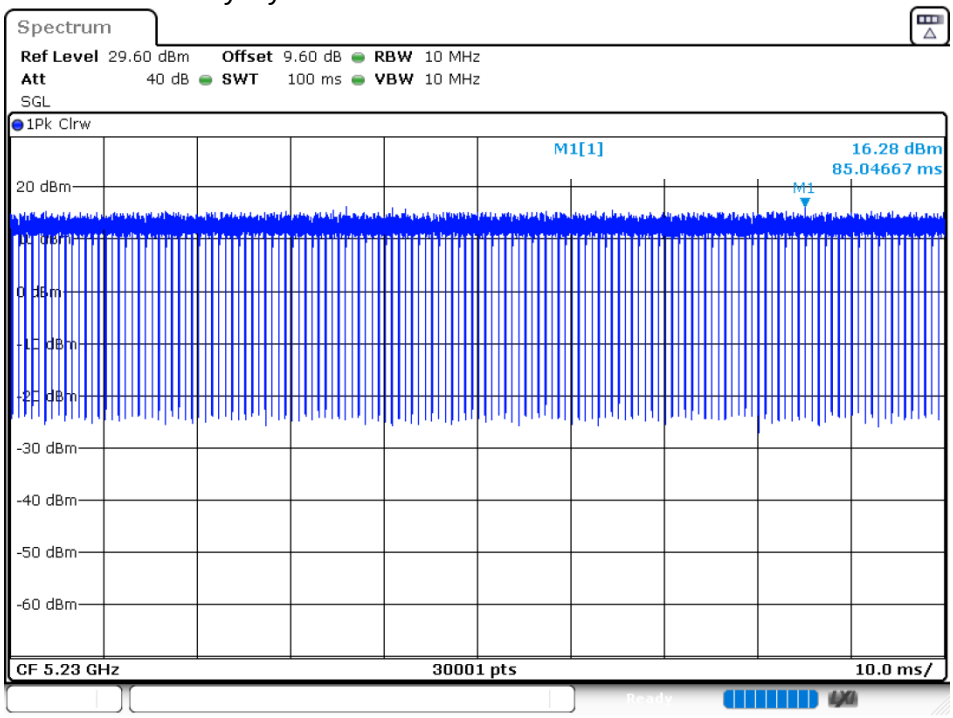
Duty Cycle NVNT 802.11ac20 5240MHz Ant 2



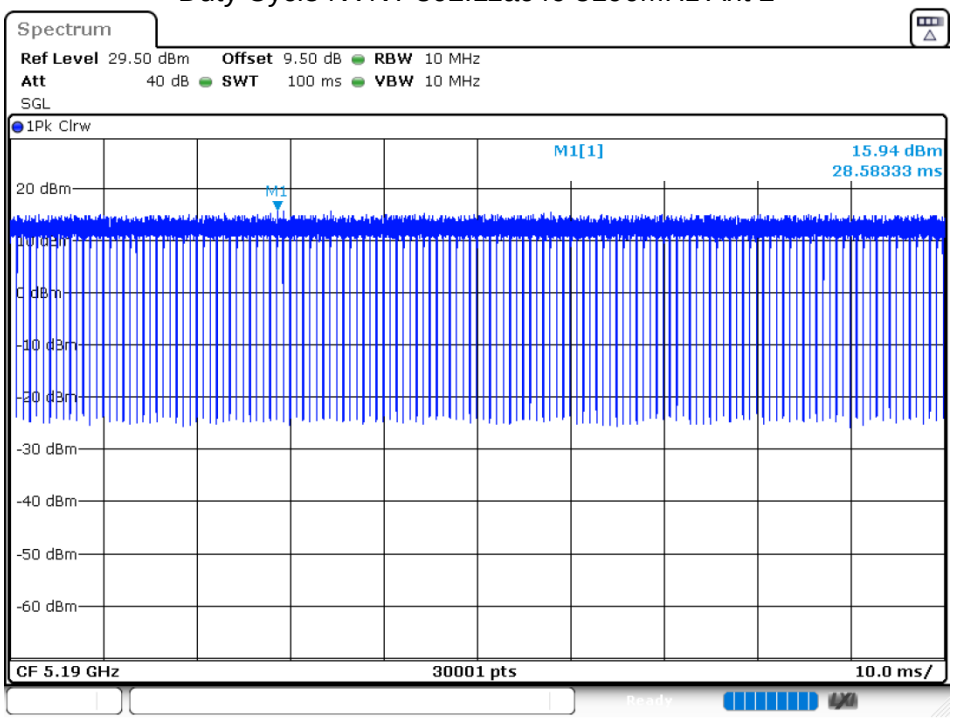
Duty Cycle NVNT 802.11ac40 5190MHz Ant 1



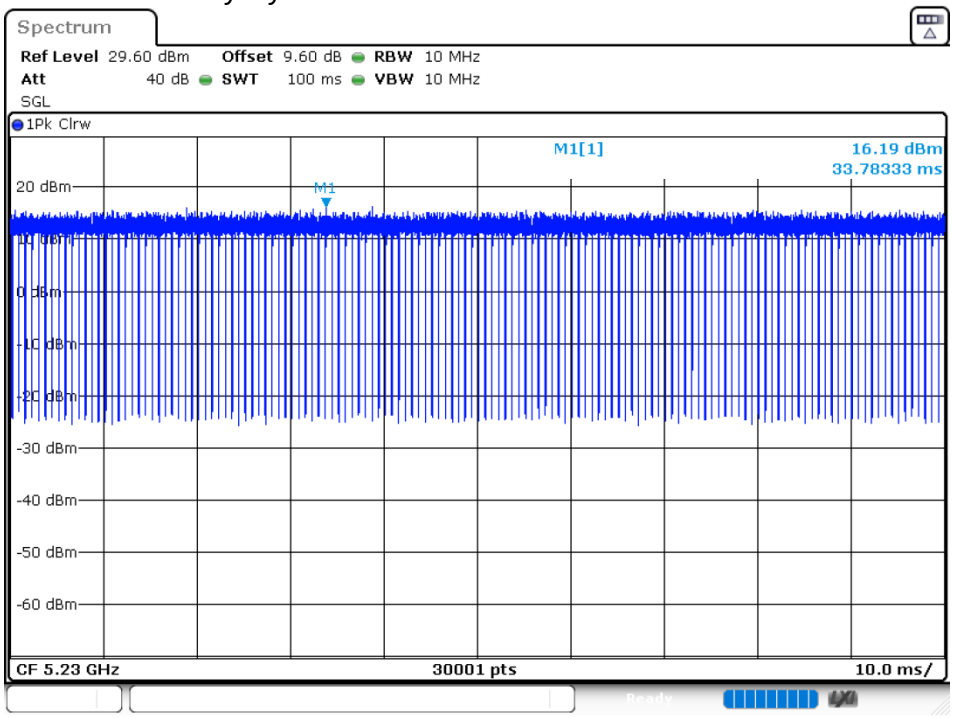
Duty Cycle NVNT 802.11ac40 5230MHz Ant 1



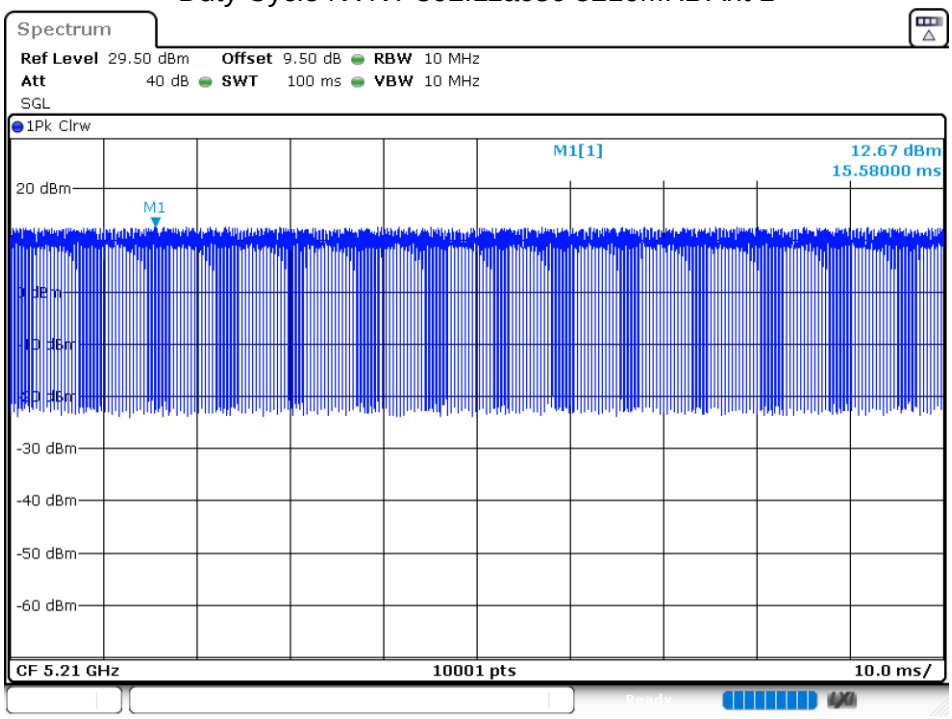
Duty Cycle NVNT 802.11ac40 5190MHz Ant 2



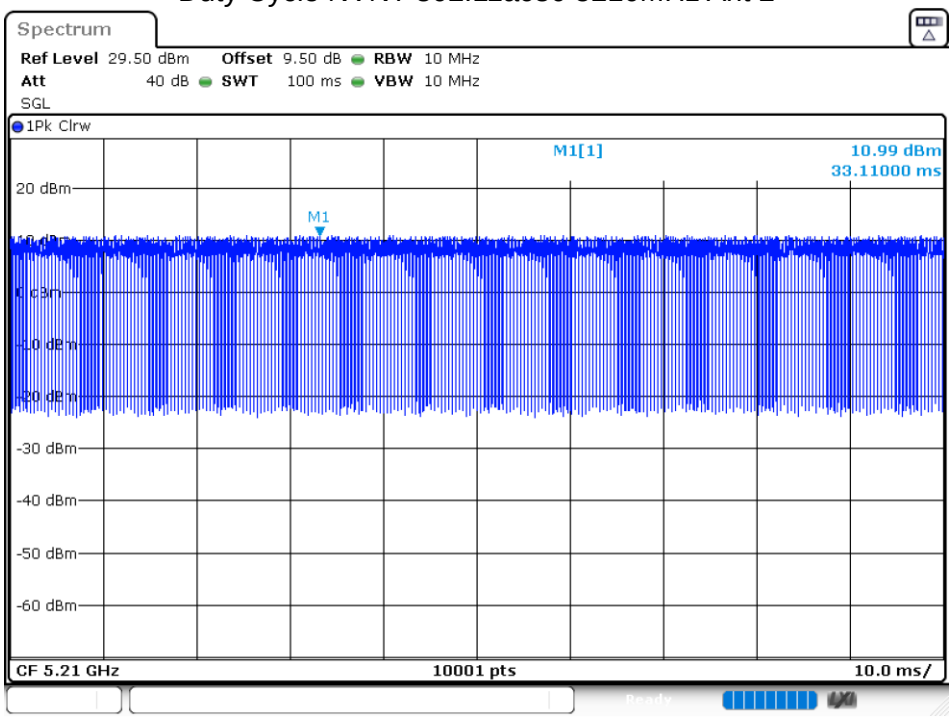
Duty Cycle NVNT 802.11ac40 5230MHz Ant 2



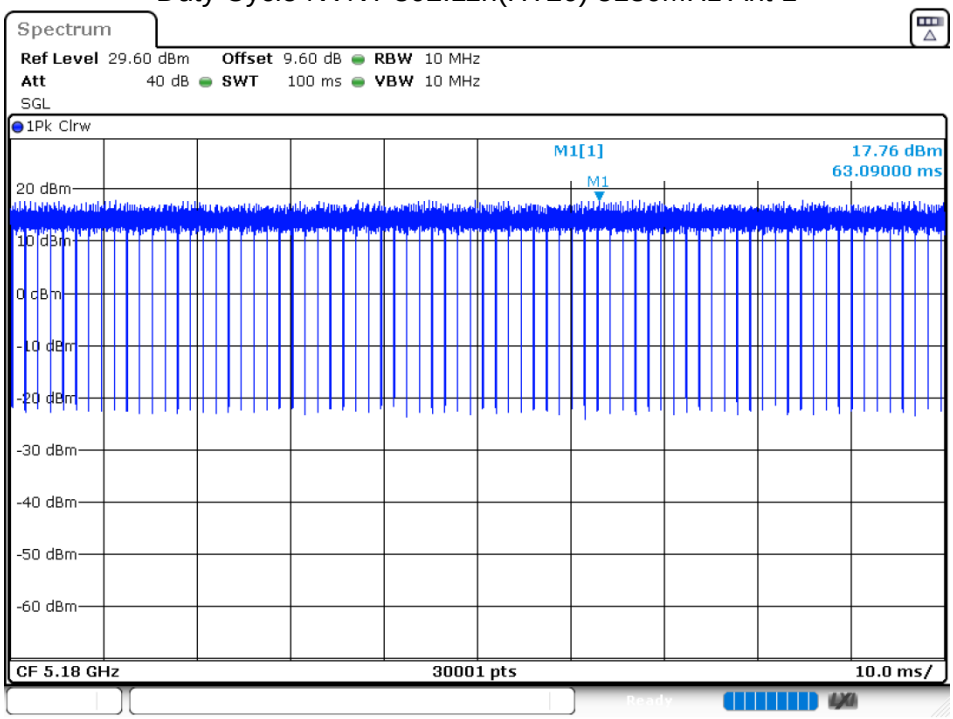
Duty Cycle NVNT 802.11ac80 5210MHz Ant 1



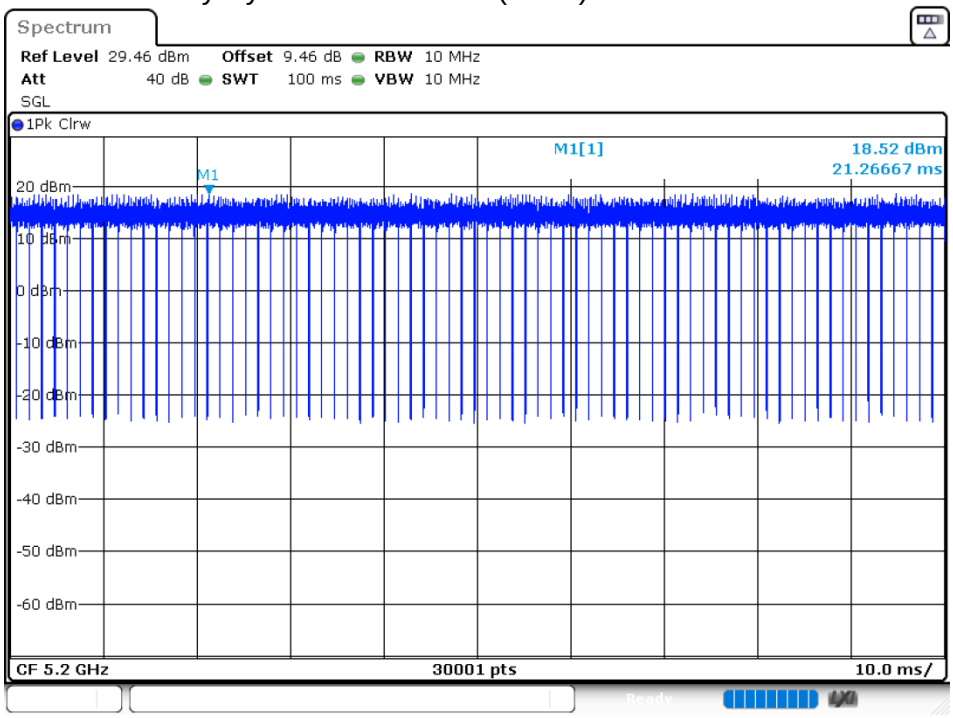
Duty Cycle NVNT 802.11ac80 5210MHz Ant 2



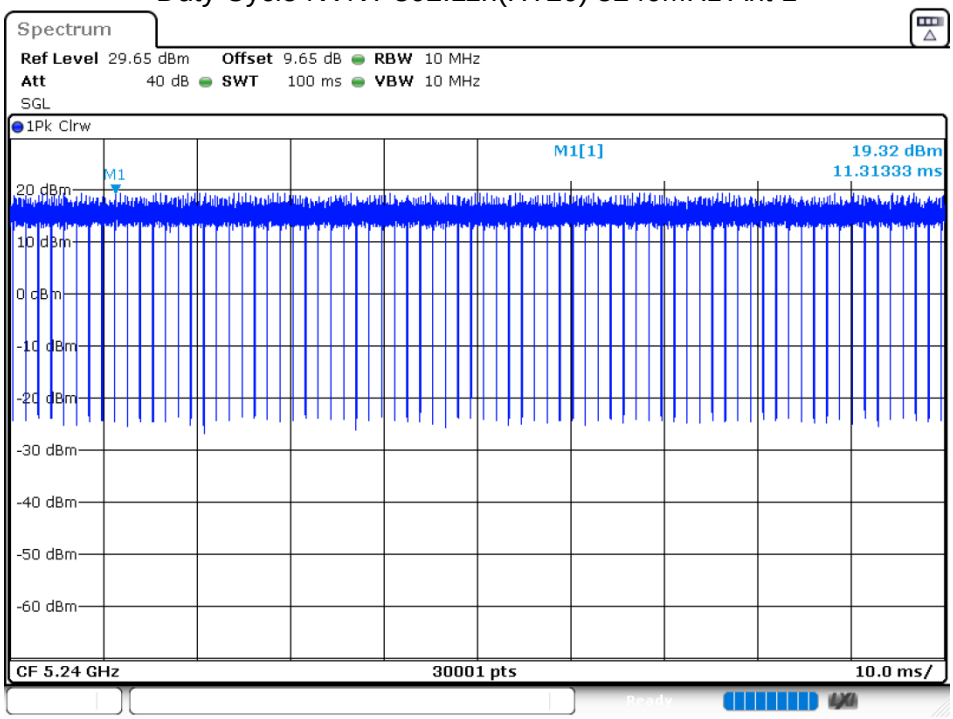
Duty Cycle NVNT 802.11n(HT20) 5180MHz Ant 1



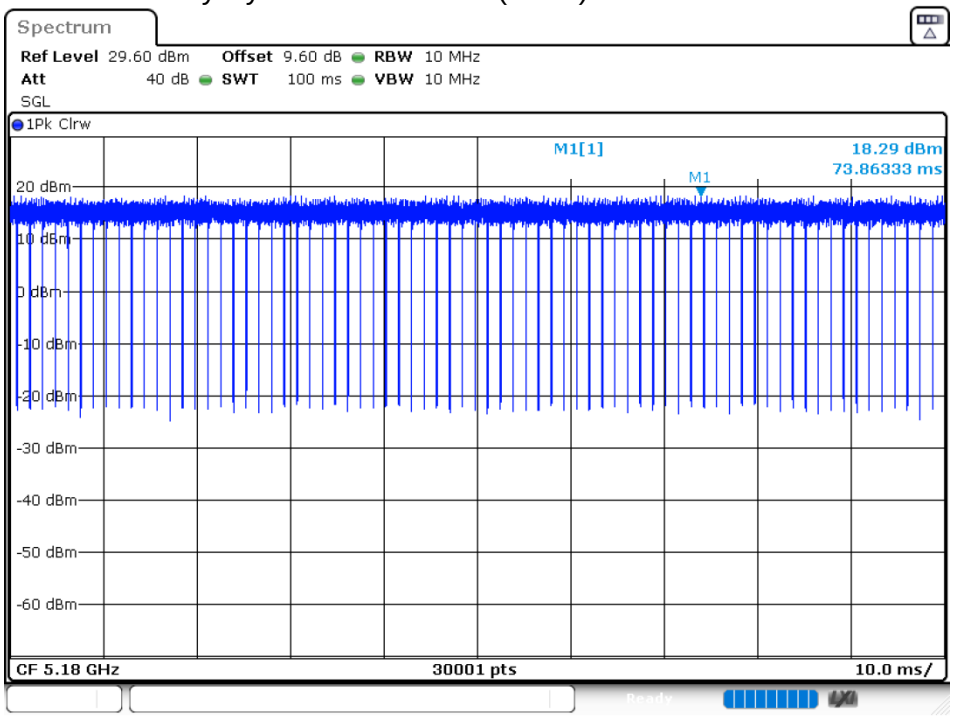
Duty Cycle NVNT 802.11n(HT20) 5200MHz Ant 1



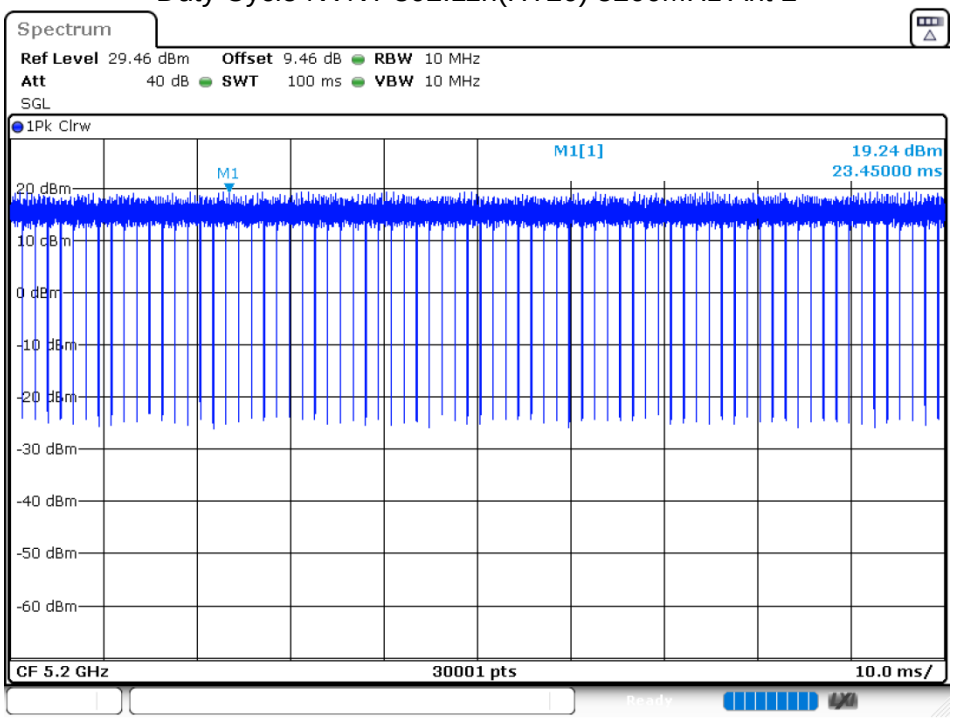
Duty Cycle NVNT 802.11n(HT20) 5240MHz Ant 1



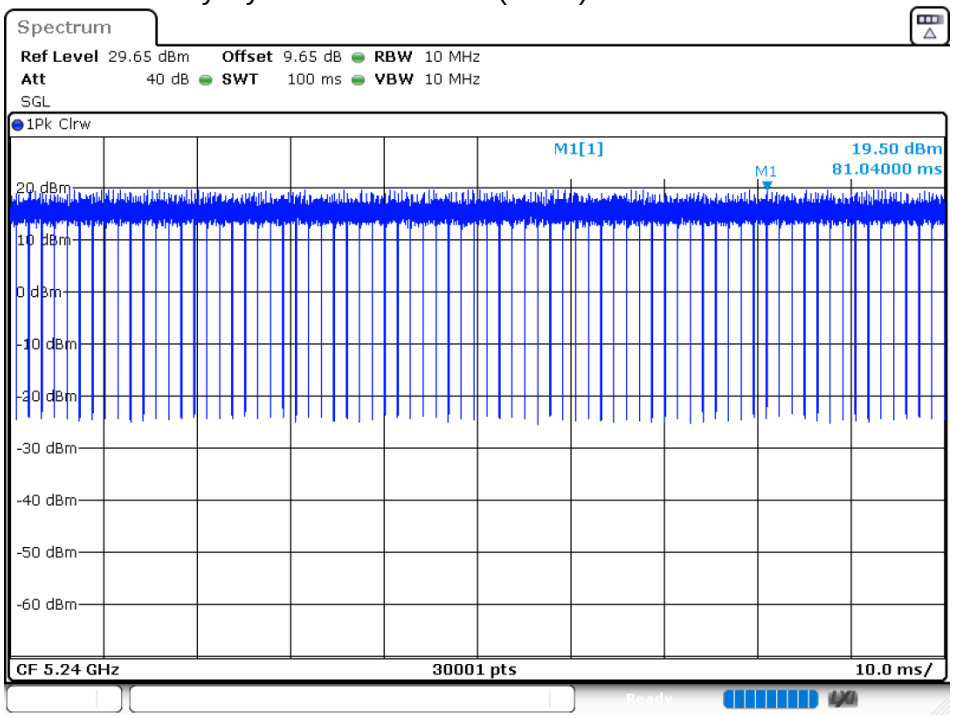
Duty Cycle NVNT 802.11n(HT20) 5180MHz Ant 2



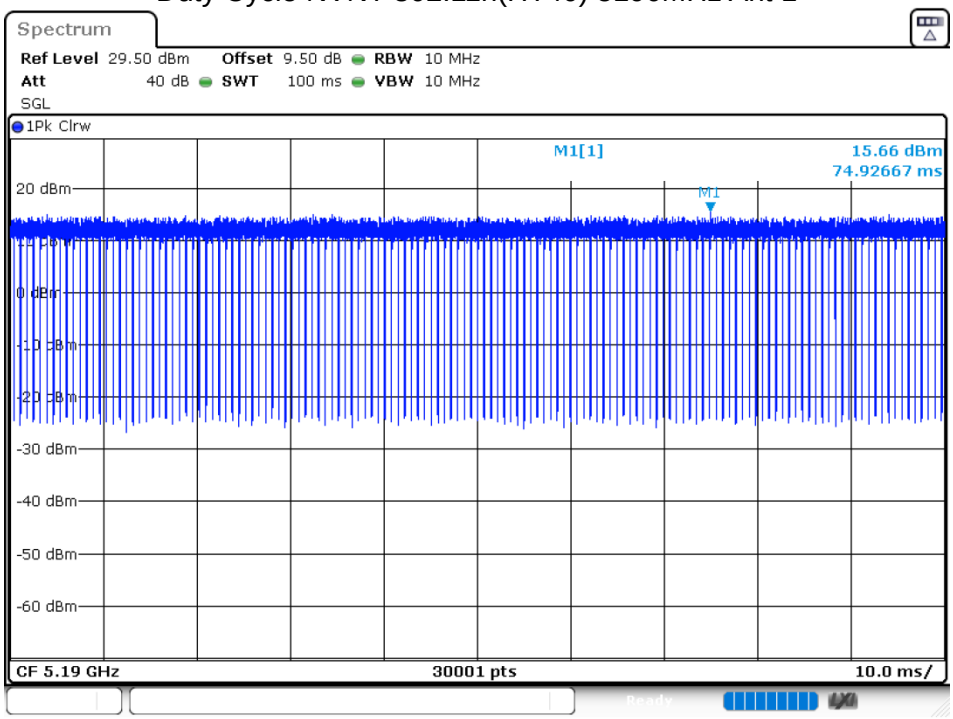
Duty Cycle NVNT 802.11n(HT20) 5200MHz Ant 2



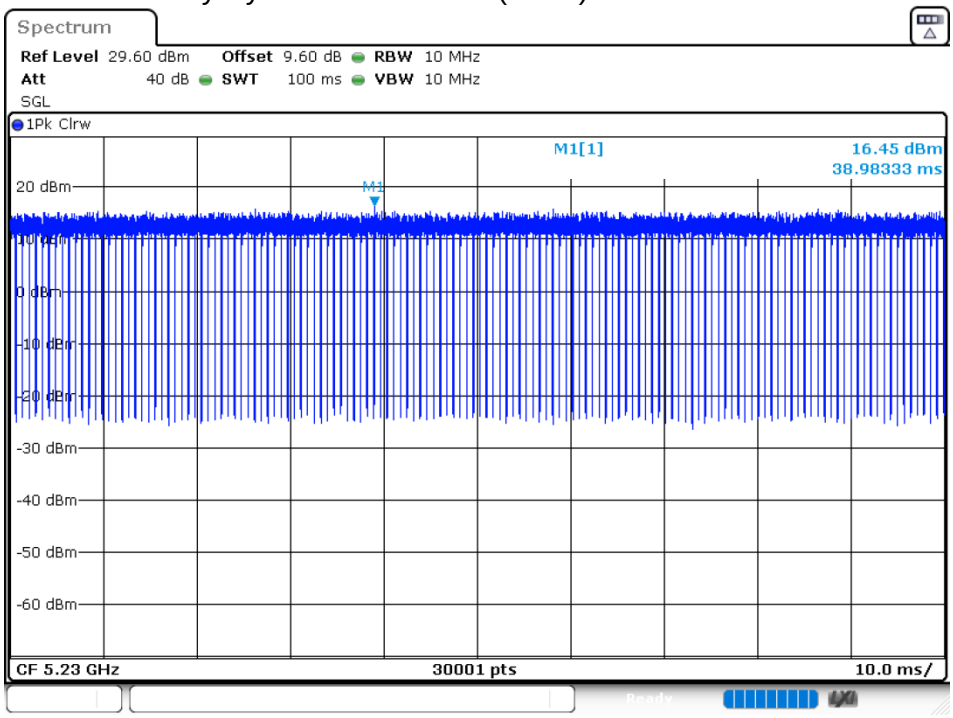
Duty Cycle NVNT 802.11n(HT20) 5240MHz Ant 2



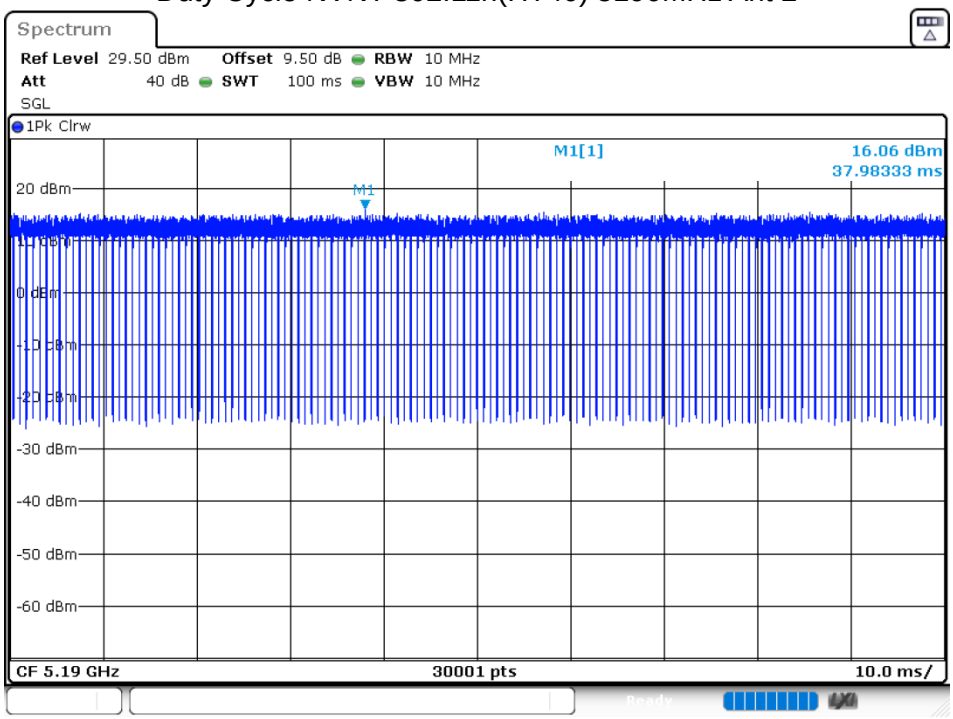
Duty Cycle NVNT 802.11n(HT40) 5190MHz Ant 1



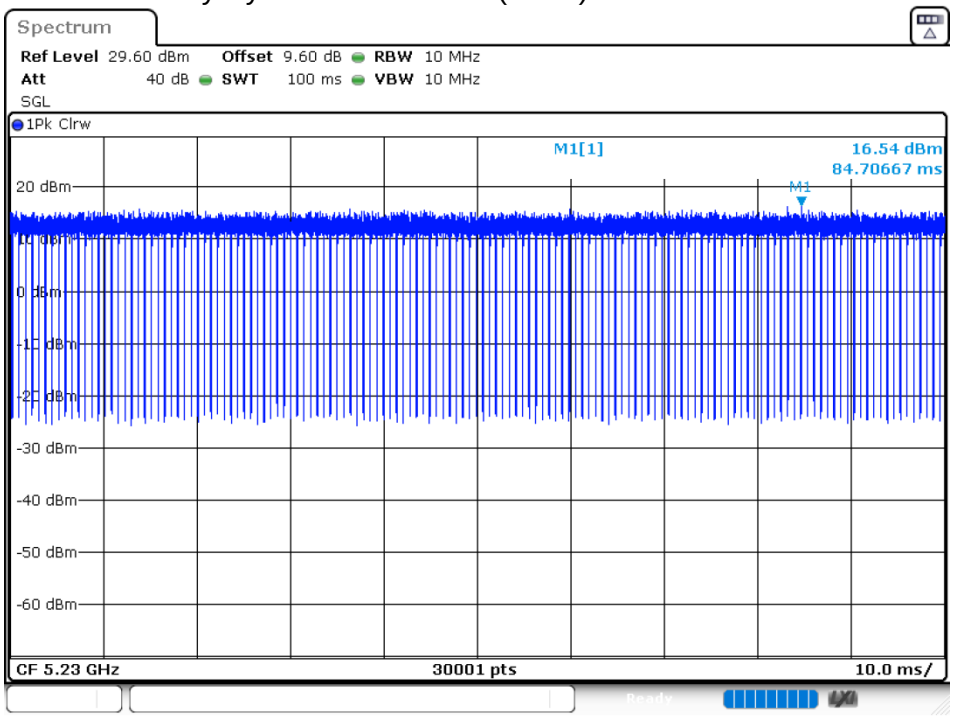
Duty Cycle NVNT 802.11n(HT40) 5230MHz Ant 1



Duty Cycle NVNT 802.11n(HT40) 5190MHz Ant 2



Duty Cycle NVNT 802.11n(HT40) 5230MHz Ant 2



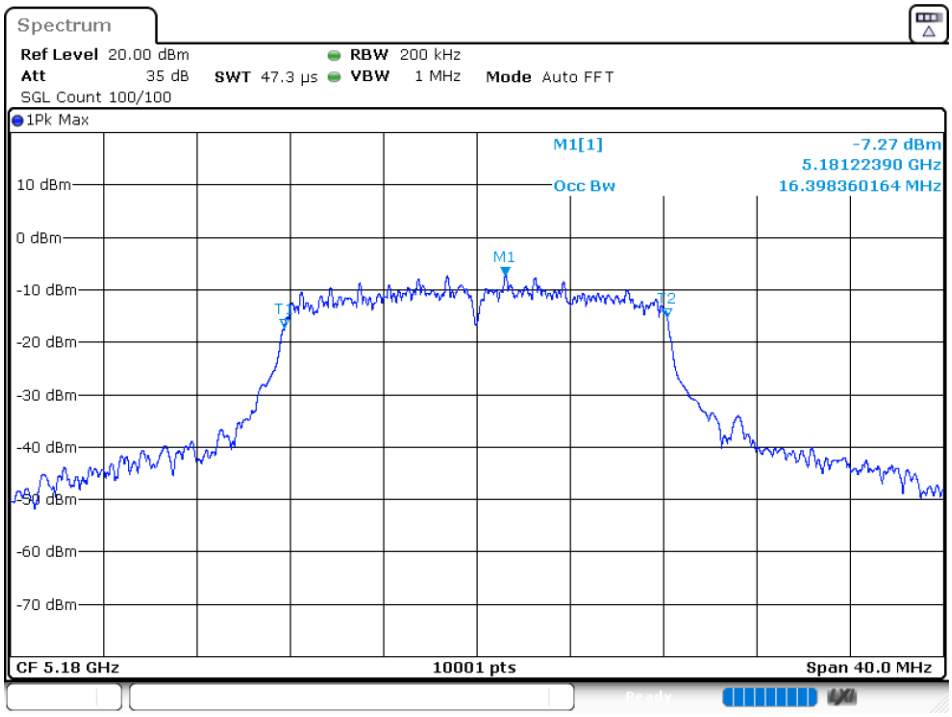
11.2 MAXIMUM CONDUCTED OUTPUT POWER

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	802.11a	5180	Ant 1	10.18	0.18	10.36	24	Pass
NVNT	802.11a	5200	Ant 1	9.82	0.18	10	24	Pass
NVNT	802.11a	5240	Ant 1	9.49	0.18	9.67	24	Pass
NVNT	802.11a	5180	Ant 2	9.85	0.18	10.03	24	Pass
NVNT	802.11a	5200	Ant 2	9.73	0.18	9.91	24	Pass
NVNT	802.11a	5240	Ant 2	9.82	0.18	10	24	Pass
NVNT	802.11ac20	5180	Ant 1	9.24	0.19	9.43	24	Pass
NVNT	802.11ac20	5200	Ant 1	9.93	0.19	10.12	24	Pass
NVNT	802.11ac20	5240	Ant 1	9.63	0.19	9.82	24	Pass
NVNT	802.11ac20	5180	Ant 2	9.97	0.19	10.16	24	Pass
NVNT	802.11ac20	5200	Ant 2	9.96	0.19	10.15	24	Pass
NVNT	802.11ac20	5240	Ant 2	10.01	0.19	10.2	24	Pass
NVNT	802.11ac40	5190	Ant 1	9.62	0.37	9.99	24	Pass
NVNT	802.11ac40	5230	Ant 1	9.62	0.37	9.99	24	Pass
NVNT	802.11ac40	5190	Ant 2	9.77	0.37	10.14	24	Pass
NVNT	802.11ac40	5230	Ant 2	9.61	0.37	9.98	24	Pass
NVNT	802.11ac80	5210	Ant 1	9.13	0.64	9.77	24	Pass
NVNT	802.11ac80	5210	Ant 2	9.17	0.64	9.81	24	Pass
NVNT	802.11n(HT20)	5180	Ant 1	9.24	0.19	9.43	24	Pass
NVNT	802.11n(HT20)	5200	Ant 1	9.15	0.19	9.34	24	Pass
NVNT	802.11n(HT20)	5240	Ant 1	9.67	0.19	9.86	24	Pass
NVNT	802.11n(HT20)	5180	Ant 2	10.01	0.19	10.2	24	Pass
NVNT	802.11n(HT20)	5200	Ant 2	9.95	0.19	10.14	24	Pass
NVNT	802.11n(HT20)	5240	Ant 2	9.79	0.19	9.98	24	Pass
NVNT	802.11n(HT40)	5190	Ant 1	9.56	0.37	9.93	24	Pass
NVNT	802.11n(HT40)	5230	Ant 1	9.62	0.38	10	24	Pass
NVNT	802.11n(HT40)	5190	Ant 2	9.73	0.37	10.1	24	Pass
NVNT	802.11n(HT40)	5230	Ant 2	9.58	0.38	9.96	24	Pass

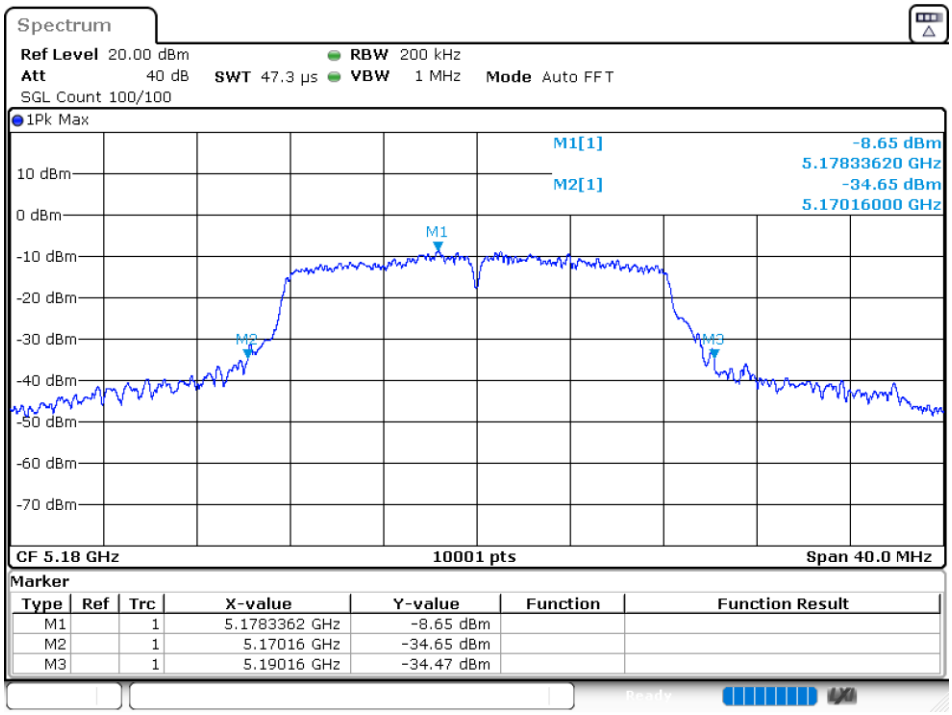
11.3 OCCUPIED CHANNEL BANDWIDTH

Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)	-26 dB Bandwidth (MHz)	Verdict
NVNT	802.11a	5180	Ant 1	16.3984	20	Pass
NVNT	802.11a	5200	Ant 1	16.4664	19.928	Pass
NVNT	802.11a	5240	Ant 1	16.4704	19.472	Pass
NVNT	802.11a	5180	Ant 2	16.4984	22.188	Pass
NVNT	802.11a	5200	Ant 2	16.4344	19.652	Pass
NVNT	802.11a	5240	Ant 2	16.4304	19.624	Pass
NVNT	802.11ac20	5180	Ant 1	17.5942	20.052	Pass
NVNT	802.11ac20	5200	Ant 1	17.5702	20.068	Pass
NVNT	802.11ac20	5240	Ant 1	17.5742	20.108	Pass
NVNT	802.11ac20	5180	Ant 2	17.6582	23.676	Pass
NVNT	802.11ac20	5200	Ant 2	17.5542	19.968	Pass
NVNT	802.11ac20	5240	Ant 2	17.5022	20.14	Pass
NVNT	802.11ac40	5190	Ant 1	36.2284	40.68	Pass
NVNT	802.11ac40	5230	Ant 1	36.0444	40.392	Pass
NVNT	802.11ac40	5190	Ant 2	36.3084	52.96	Pass
NVNT	802.11ac40	5230	Ant 2	36.0124	40.448	Pass
NVNT	802.11ac80	5210	Ant 1	75.5284	81.68	Pass
NVNT	802.11ac80	5210	Ant 2	75.2405	81.424	Pass
NVNT	802.11n(HT20)	5180	Ant 1	17.5942	19.976	Pass
NVNT	802.11n(HT20)	5200	Ant 1	17.5262	20.124	Pass
NVNT	802.11n(HT20)	5240	Ant 1	17.4943	20.096	Pass
NVNT	802.11n(HT20)	5180	Ant 2	17.6902	20.376	Pass
NVNT	802.11n(HT20)	5200	Ant 2	17.6102	20.032	Pass
NVNT	802.11n(HT20)	5240	Ant 2	17.5302	20.036	Pass
NVNT	802.11n(HT40)	5190	Ant 1	36.4044	52.216	Pass
NVNT	802.11n(HT40)	5230	Ant 1	36.1004	40.696	Pass
NVNT	802.11n(HT40)	5190	Ant 2	36.7563	58.72	Pass
NVNT	802.11n(HT40)	5230	Ant 2	36.1004	40.44	Pass

OBW NVNT 802.11a 5180MHz Ant 1



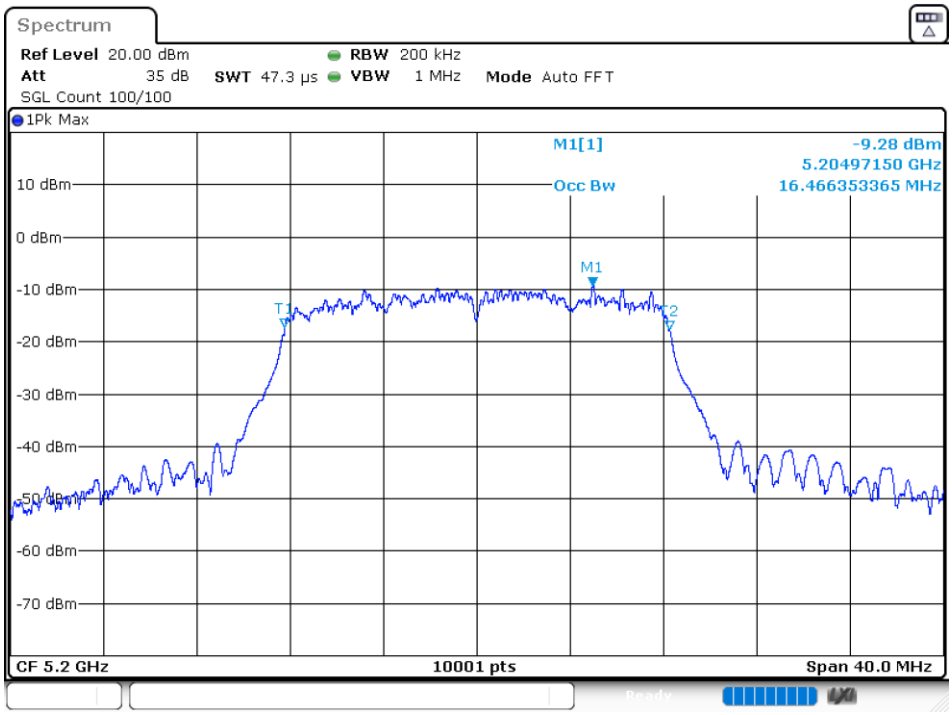
-26 dB BW NVNT 802.11a 5180MHz Ant 1



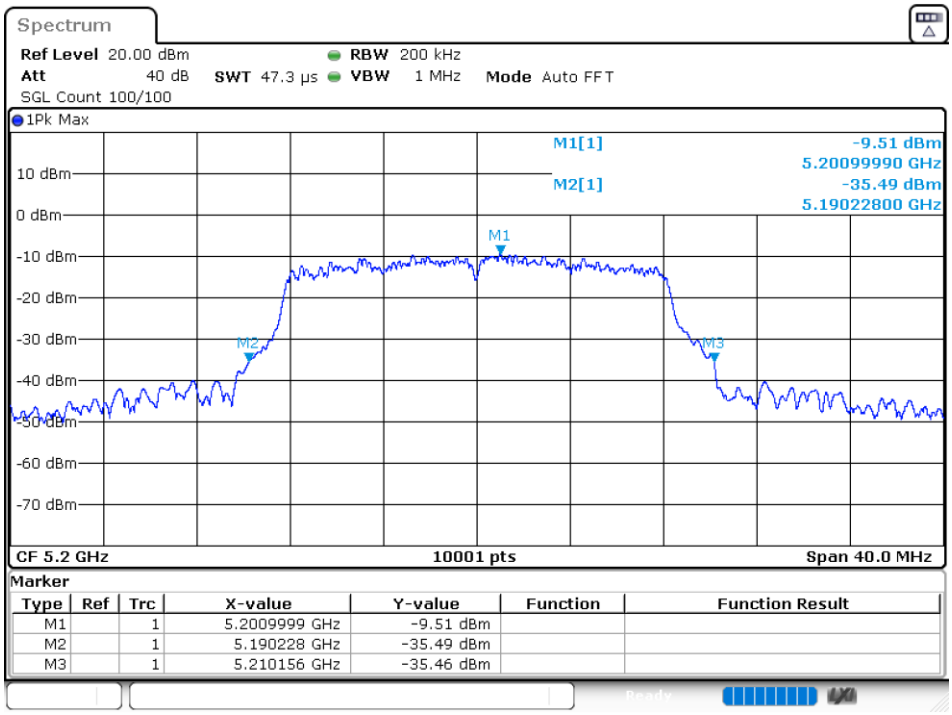
Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.1783362 GHz	-8.65 dBm		
M2		1	5.17016 GHz	-34.65 dBm		
M3		1	5.19016 GHz	-34.47 dBm		

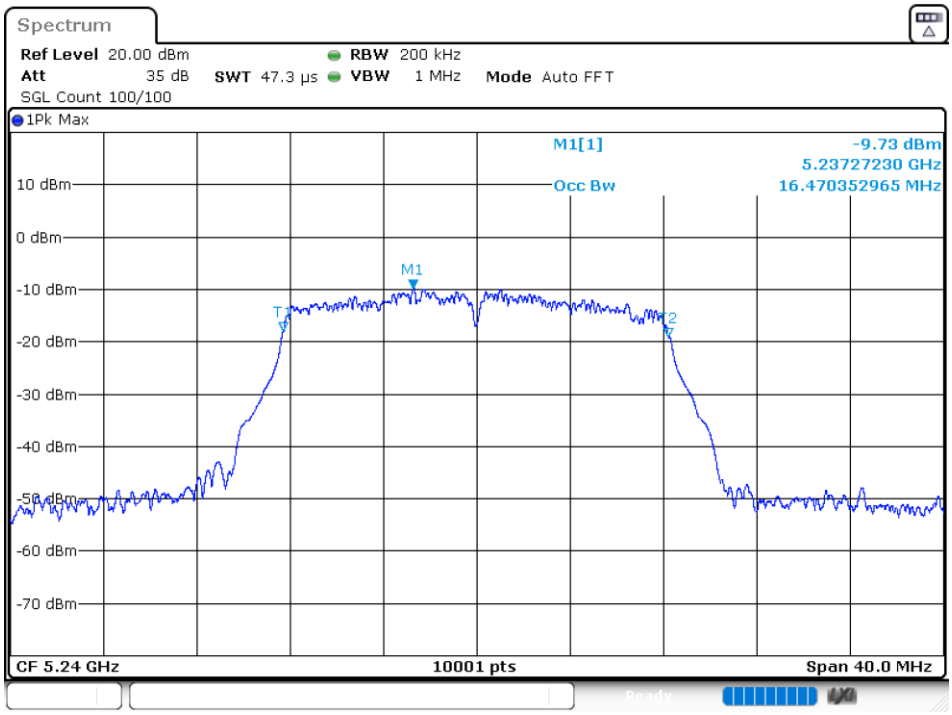
OBW NVNT 802.11a 5200MHz Ant 1



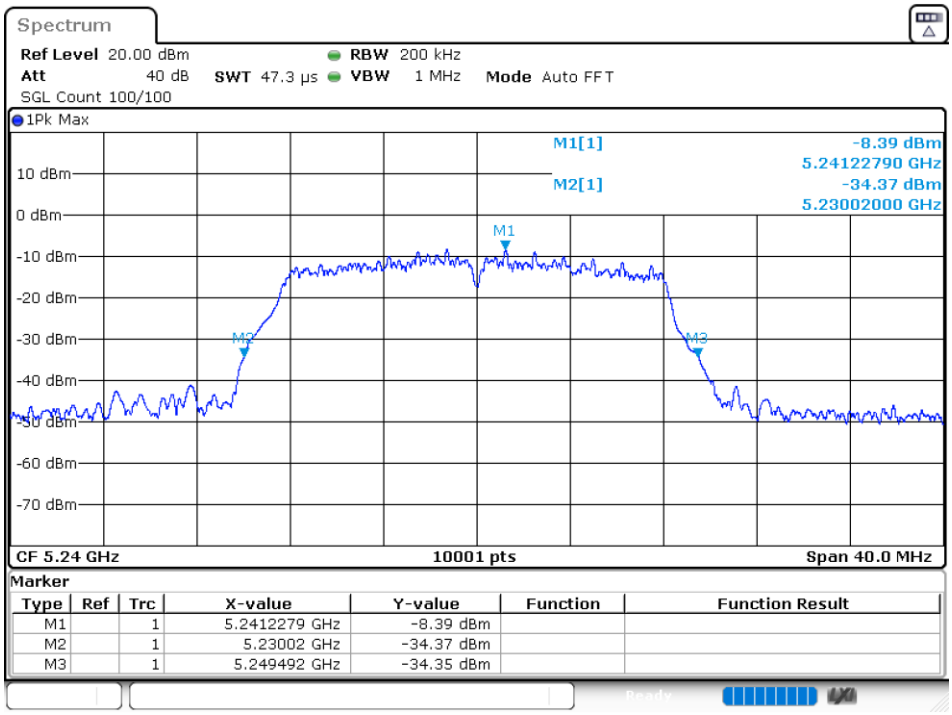
-26 dB BW NVNT 802.11a 5200MHz Ant 1



OBW NVNT 802.11a 5240MHz Ant 1



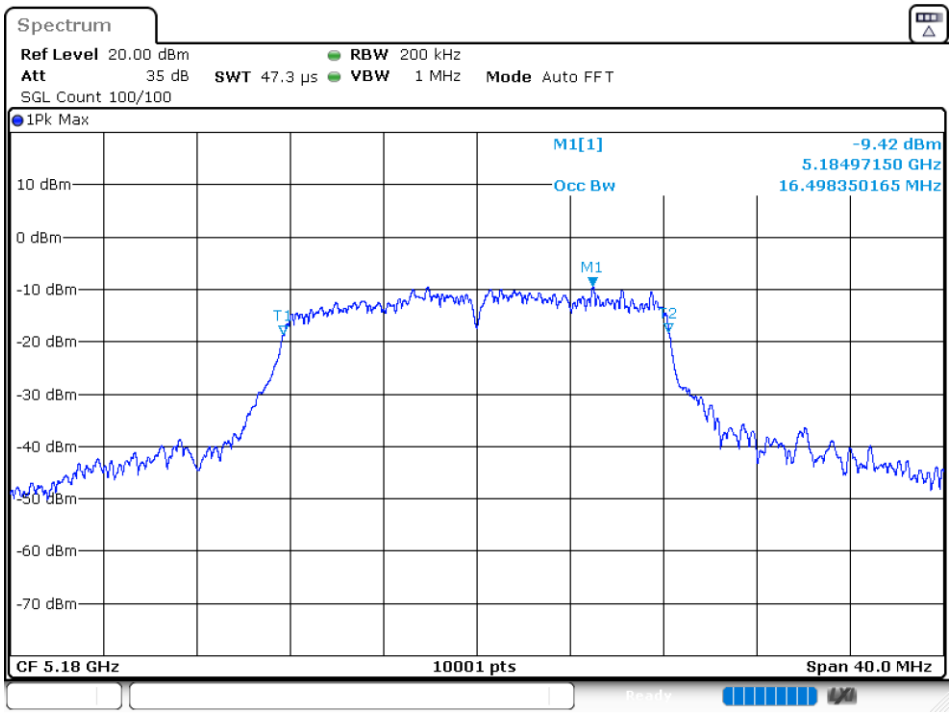
-26 dB BW NVNT 802.11a 5240MHz Ant 1



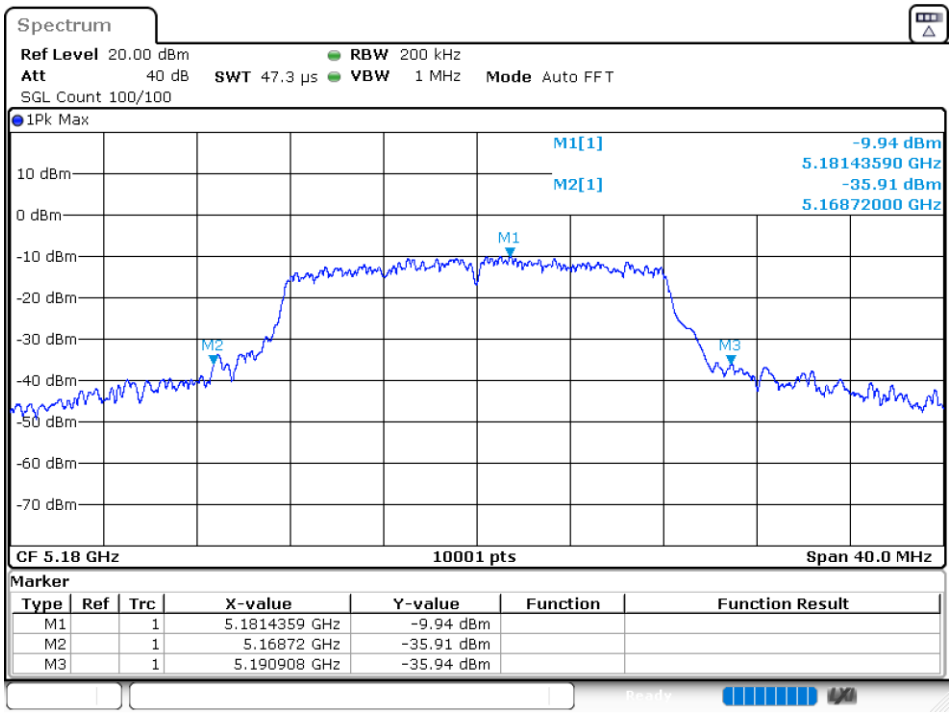
Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.2412279 GHz	-8.39 dBm		
M2		1	5.23002 GHz	-34.37 dBm		
M3		1	5.249492 GHz	-34.35 dBm		

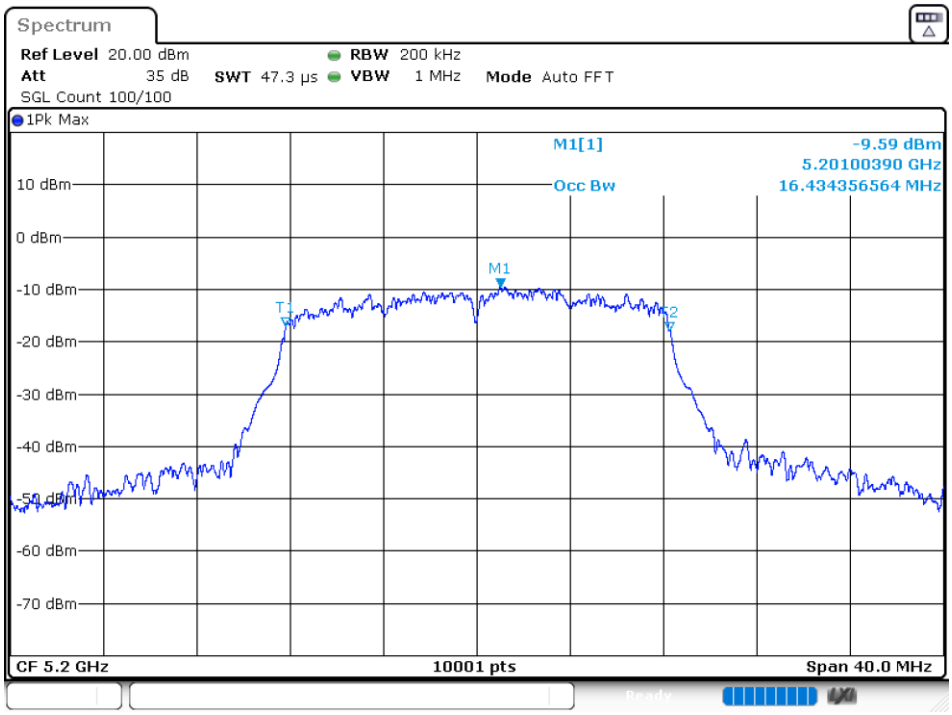
OBW NVNT 802.11a 5180MHz Ant 2



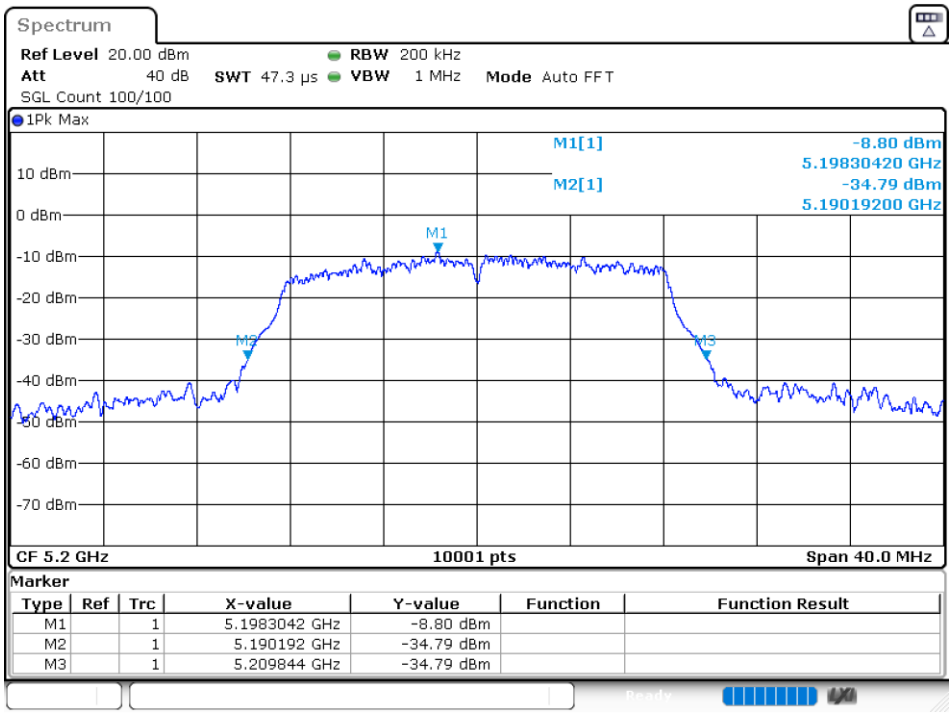
-26 dB BW NVNT 802.11a 5180MHz Ant 2



OBW NVNT 802.11a 5200MHz Ant 2



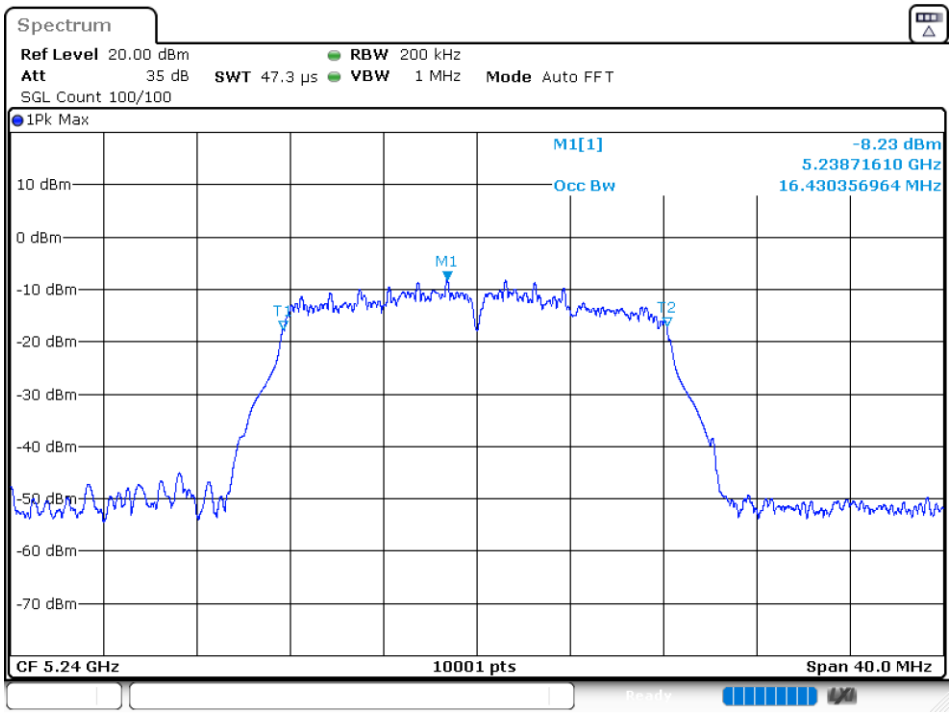
-26 dB BW NVNT 802.11a 5200MHz Ant 2



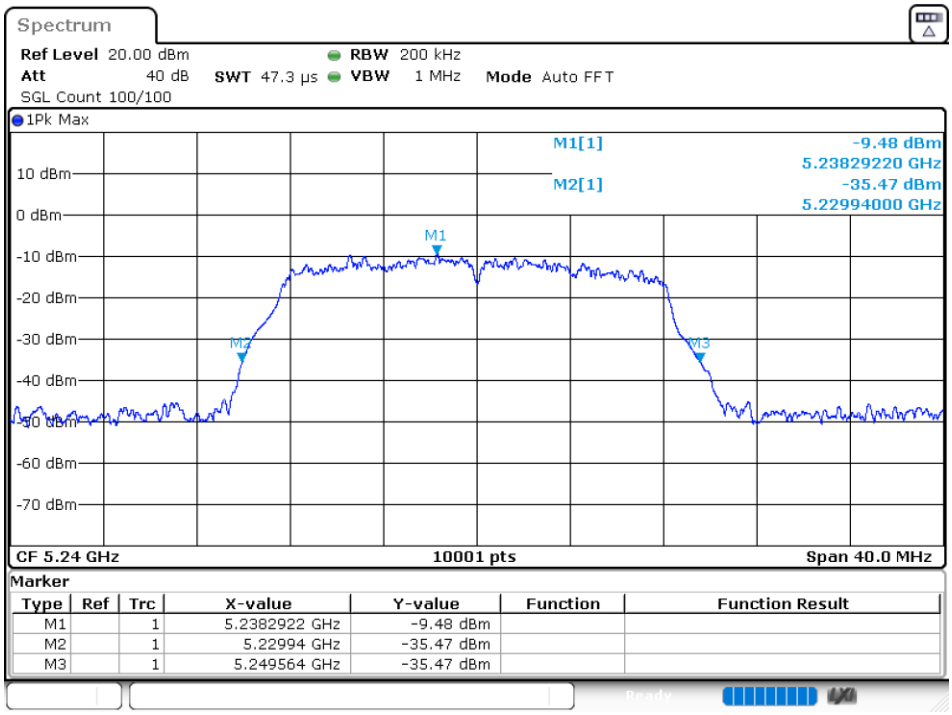
Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.1983042 GHz	-8.80 dBm		
M2		1	5.190192 GHz	-34.79 dBm		
M3		1	5.209844 GHz	-34.79 dBm		

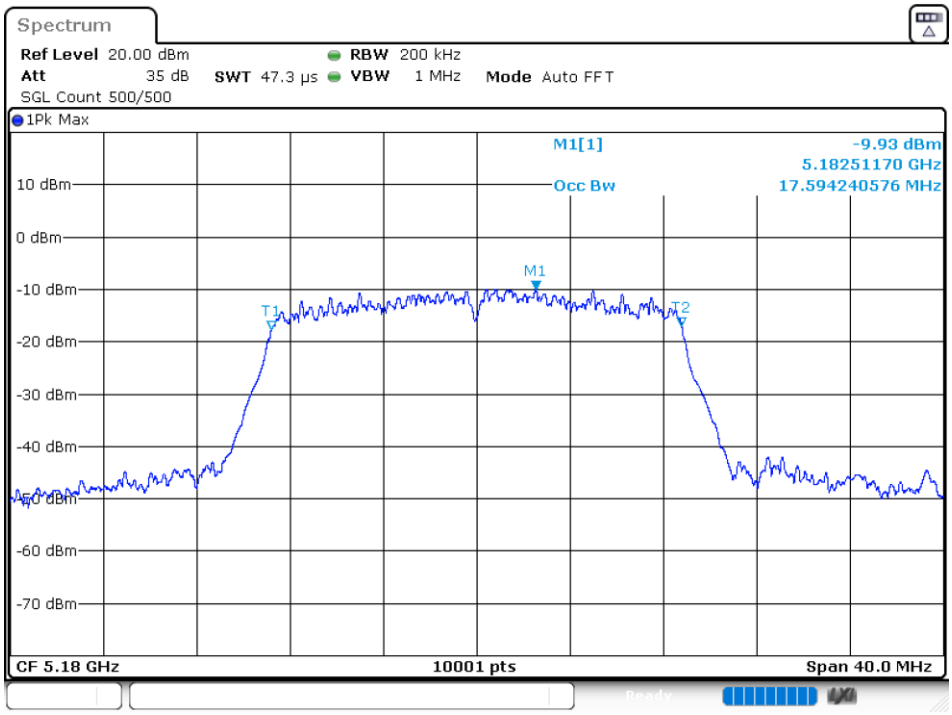
OBW NVNT 802.11a 5240MHz Ant 2



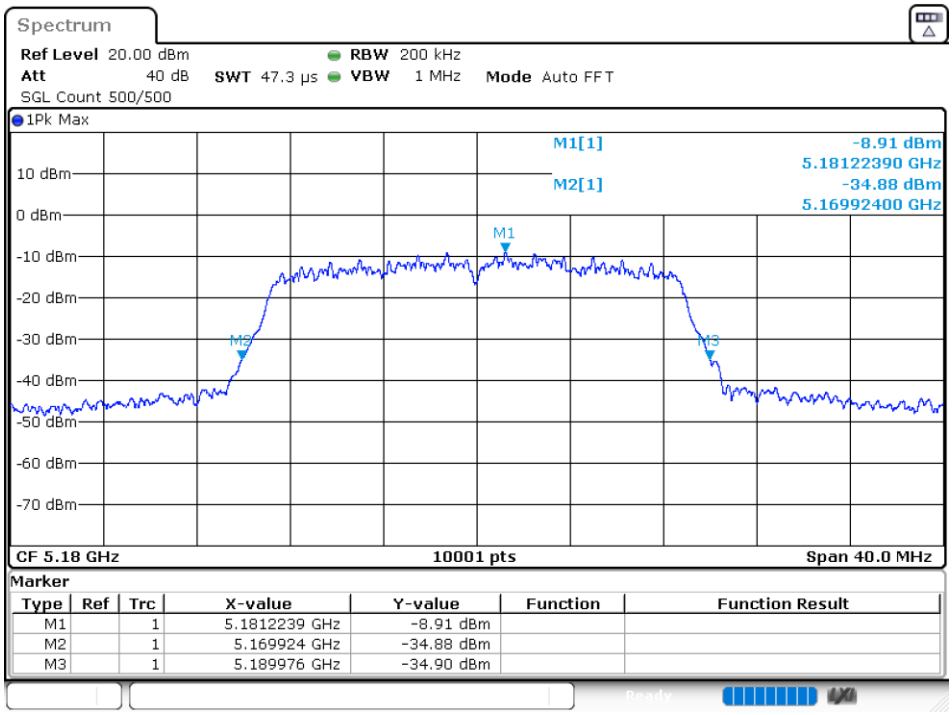
-26 dB BW NVNT 802.11a 5240MHz Ant 2



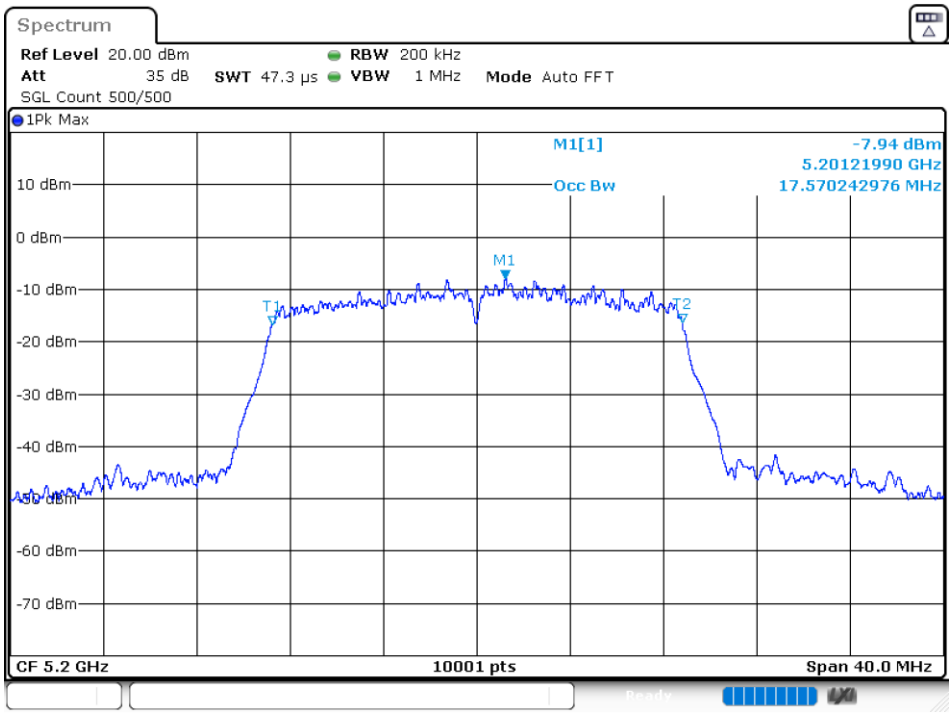
OBW NVNT 802.11ac20 5180MHz Ant 1



-26 dB BW NVNT 802.11ac20 5180MHz Ant 1



Marker

Type	Ref	Trc	X-value	Y-value	Function	Function Result
M1		1	5.1812239 GHz	-8.91 dBm		
M2		1	5.169924 GHz	-34.88 dBm		
M3		1	5.189976 GHz	-34.90 dBm		

OBW NVNT 802.11ac20 5200MHz Ant 1