APPLICATION CERTIFICATION FCC Part 15C
On Behalf of
Hunan GM Innovation Technology Co., Ltd

Vaxis wireless video system
Model No.: Vaxis Storm 500FT+ PRO, Vaxis Storm 500FT+,
Vaxis Storm 055, Vaxis Storm 058

FCC ID: 2AJOF-500FT

Prepared for	:	Hunan GM Innovation Technology Co., Ltd.
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Report No.	:	ATE20180467
Date of Test	:	April 10-April 12, 2018
Date of Report	:	April 13, 2018

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Test Report Certification

Applicant	:	Hunan GM Innovation Technology Co., Ltd
Manufacturer	:	Hunan GM Innovation Technology Co., Ltd
EUT Description	:	Vaxis wireless video system
Model No.	:	Vaxis Storm 500FT+ PRO, Vaxis Storm 500FT+, Vaxis Storm 055, Vaxis Storm 058

Measurement Procedure Used:

FCC Rules and Regulations Part 15 Subpart E Section 15.407
ANSI C63.10: 2013
KDB 789033 D02 General UNII Test Procedures New Rules v01r04
KDB 662911 D01 Multiple Transmitter Output v02r01

The device described above is tested by Shenzhen Accurate Technology Co., Ltd to determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart E Section 15.407 limits. The measurement results are contained in this test report and Shenzhen Accurate Technology Co., Ltd is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the Equipment Under Test (EUT) is to be technically compliant with the FCC requirements.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of Shenzhen Accurate Technology Co., Ltd.

Date of Test : April 10-April 12, 2018
Date of Report : April 13, 2018

Prepared by : (St Yang, Engineer)

Approved & Authorized Signer : (Sean Liu, Manager)

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

EUT	:	Vaxis wireless video system
Model Number	:	Vaxis Storm 500FT+ PRO, Vaxis Storm 500FT+, Vaxis Storm 055, Vaxis Storm 058 (Note: These sample are same, except their model name is different. So we prepare for Vaxis Storm 500FT+ test only.)
Frequency Range	:	5745MHz, 5785MHz, 5825MHz
Number of Channels	:	3
GANT MAX	:	5dBi(two antennas have the same gain)
Directional gain	:	8.01
Antenna type	:	External Antenna
Modulation mode	:	OFDM 16QAM
Power Supply	:	DC 12V
Applicant	:	Hunan GM Innovation Technology Co., Ltd
Address	:	No 46, Jiefang East Road, Furong District, Changsha City, Hunan Province, China
Manufacturer	:	Hunan GM Innovation Technology Co., Ltd
Address	:	No 46, Jiefang East Road, Furong District, Changsha City, Hunan Province, China

1.2. Special Accessory and Auxiliary Equipment

N/A

1.3.Description of Test Facility

EMC Lab	:	Recognition of accreditation by Federal Communications Commission (FCC) The Designation Number is CN1189 The Registration Number is 708358 Listed by Innovation, Science and Economic Development Canada (ISEDC) The Registration Number is 5077A-2 Accredited by China National Accreditation Service for Conformity Assessment (CNAS) The Registration Number is CNAS L3193 Accredited by American Association for Laboratory Accreditation (A2LA) The Certificate Number is 4297.01
Name of Firm	:	Shenzhen Accurate Technology Co., Ltd
Site Location	:	1/F., Building A, Changyuan New Material Port, Science & Industry Park, Nanshan District, Shenzhen, Guangdong, P.R. China

1.4.Measurement Uncertainty

Conducted Emission Expanded Uncertainty	=	2.23dB, k=2
Radiated emission expanded uncertainty (9kHz-30MHz)	=	3.08dB, k=2
Radiated emission expanded uncertainty (30MHz-1000MHz)	=	4.42dB, k=2
Radiated emission expanded uncertainty (Above 1GHz)	=	4.06dB, k=2

2. MEASURING DEVICE AND TEST EQUIPMENT

Table 1: List of Test and Measurement Equipment

Kind of equipment	Manufacturer	Type	S/N	Calibrated dates	Calibrated until
EMI Test Receiver	Rohde&Schwarz	ESCS30	100307	Jan. 06, 2018	1 Year
EMI Test Receiver	Rohde&Schwarz	ESPI3	101526/003	Jan. 06, 2018	1 Year
Spectrum Analyzer	Agilent	E7405A	MY45115511	Jan. 06, 2018	1 Year
Pre-Amplifier	Rohde&Schwarz	CBLU1183540-01	3791	Jan. 06, 2018	1 Year
Loop Antenna	Schwarzbeck	FMZB1516	1516131	Jan. 12, 2018	1 Year
Bilog Antenna	Schwarzbeck	VULB9163	9163-323	Jan. 12, 2018	1 Year
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-655	Jan. 12, 2018	1 Year
Horn Antenna	Schwarzbeck	BBHA9170	9170-359	Jan. 12, 2018	1 Year
LISN	Rohde&Schwarz	ESH3-Z5	100305	Jan. 06, 2018	1 Year
LISN	Schwarzbeck	NSLK8126	8126431	Jan. 06, 2018	1 Year
Highpass Filter	Wainwright Instruments	WHKX3.6/18G-10SS	N/A	Jan. 06, 2018	1 Year
Band Reject Filter	Wainwright Instruments	WRCG2400/2485-2375/2510-60/11SS	N/A	Jan. 06, 2018	1 Year
RF COAXIAL CABLE	SUHNER	N-5m(Frequency range:9KHz-26.5GHz)	NO.3	Jan. 06, 2018	1 Year
RF COAXIAL CABLE	SUHNER	N-5m(Frequency range:9KHz-26.5GHz)	NO.4	Jan. 06, 2018	1 Year
RF COAXIAL CABLE	SUHNER	N-1m(Frequency range:9KHz-26.5GHz)	NO.5	Jan. 06, 2018	1 Year
RF COAXIAL CABLE	SUHNER	N-1m(Frequency range:9KHz-26.5GHz)	NO.6	Jan. 06, 2018	1 Year

3. OPERATION OF EUT DURING TESTING

3.1.Operating Mode

The mode is used: **Transmitting mode**

Low Channel: 5745MHz
Middle Channel: 5785MHz
High Channel: 5825MHz

Note: The EUT has been tested under continuous transmission mode.

3.2.Configuration and peripherals

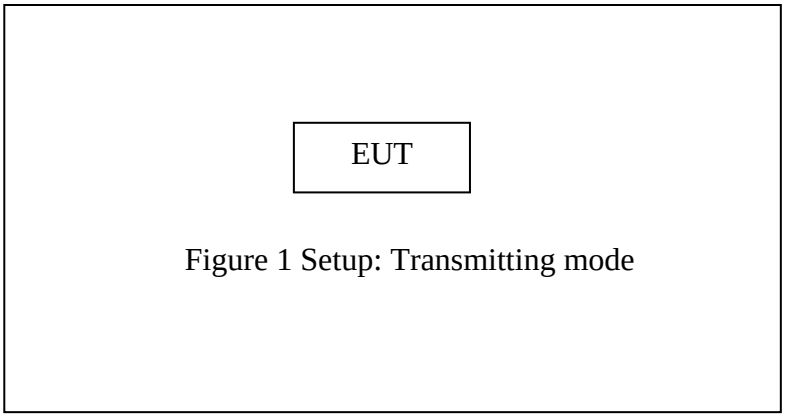


Figure 1 Setup: Transmitting mode

(EUT: Vaxis wireless video system)

Note: The EUT have two antenna(1 and 2), They can only transmit simultaneously.

4. TEST PROCEDURES AND RESULTS

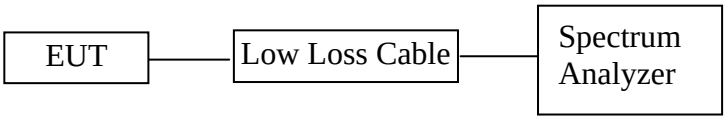
FCC Rules	Description of Test	Result
Section 15.207	AC power Line Conducted Emission	N/A
Section 15.403(i), 15.407(e)	6dB Occupied Bandwidth	Compliant
---	Duty cycle	Compliant
KDB 789033 §D	99% occupied Bandwidth	Compliant
Section 15.407(a)(3)	Maximum conducted (average) output power	Compliant
Section 15.407(a)(3) 15.407(a)(4)	Power Spectral Density	Compliant
Section 15.407(b)(4) Section 15.407(b)(6) Section 15.407(b)(7) Section 15.209	Unwanted Emissions	Compliant
Section 15.407(b)	Band Edge Compliance	Compliant
Section 15.407(g)	Frequency Stability	Compliant
Section 15.203, Section 15.204(b), Section 15.204(c), Section 15.212(a), 2.929(b)	Antenna Requirement	Compliant

Remark: “N/A” means “Not applicable”.

Note: The power supply mode of the EUT is DC 12V, According to the FCC standard requirements, conducted emission is not applicable.

5. 6DB OCCUPIED BANDWIDTH TEST

5.1.Block Diagram of Test Setup



5.2.The Requirement For Section Section 15.407(e)

Section 15.407(e) specifies the minimum 6 dB emission bandwidth of at least 500 kHz for the band 5.725-5.85 GHz

5.3.EUT Configuration on Measurement

The equipment are installed on the emission measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

5.4.Operating Condition of EUT

5.4.1.Setup the EUT and simulator as shown as Section 5.1.

5.4.2.Turn on the power of all equipment.

5.4.3.Let the EUT work in TX modes measure it. The transmit frequency are 5745MHz, 5785MHz and 5825MHz.

5.5.Test Procedure

5.5.1.The transmitter output was connected to the spectrum analyzer through a low loss cable.

5.5.2.Set RBW of spectrum analyzer to 100 kHz and VBW to 300 kHz.

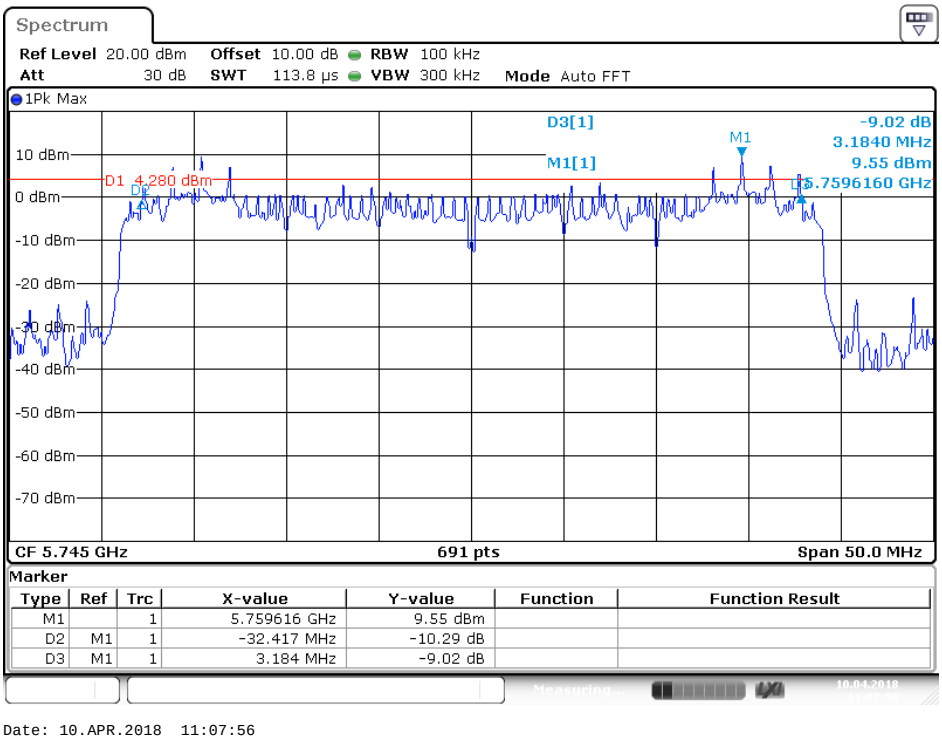
5.5.3.The 6dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6dB.

5.6.Test Result

Test mode: MIMO				
Channel	Frequency (MHz)	6dB Bandwidth ANT 1 (MHz)	6dB Bandwidth ANT 2(MHz)	Limit (MHz)
Low	5745	35.601	35.637	> 0.5MHz
Middle	5785	35.601	35.600	> 0.5MHz
High	5825	35.601	35.601	> 0.5MHz

The spectrum analyzer plots are attached as below.

ANT 1 Low channel



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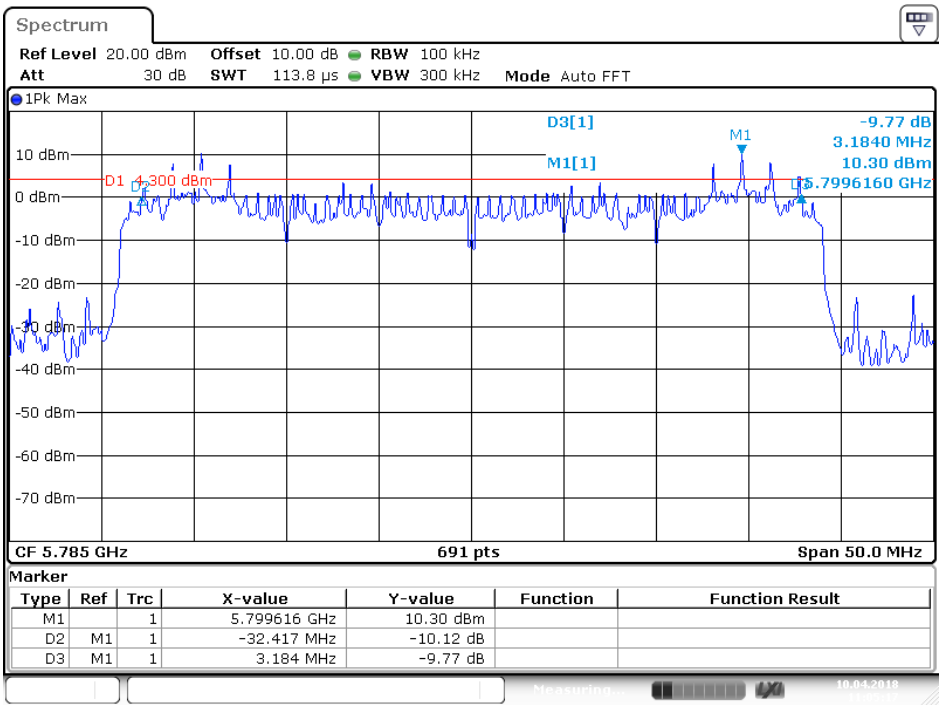
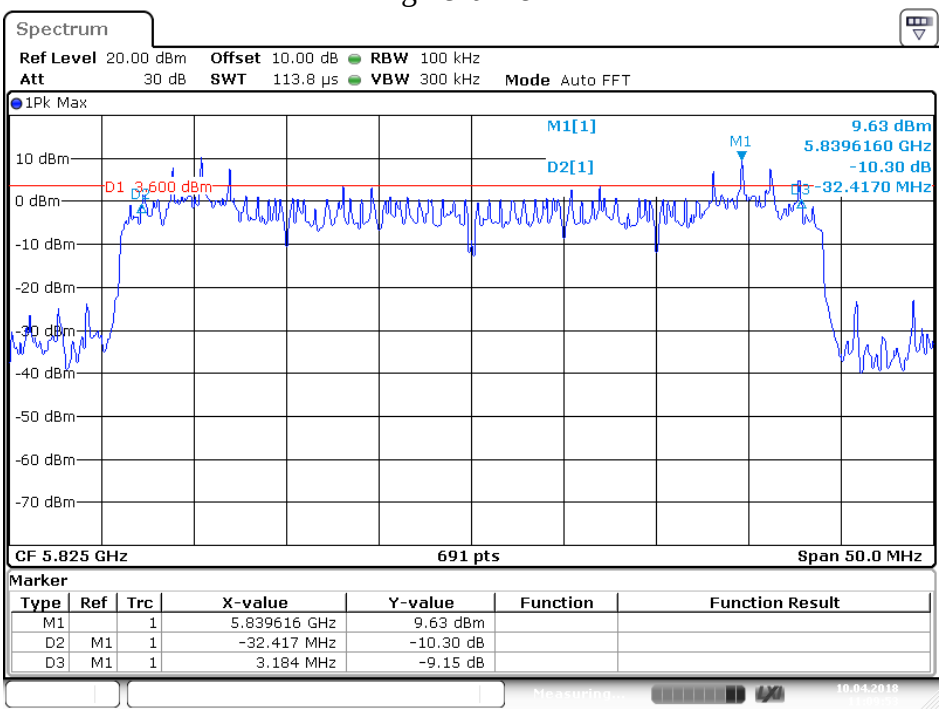
Middle channel



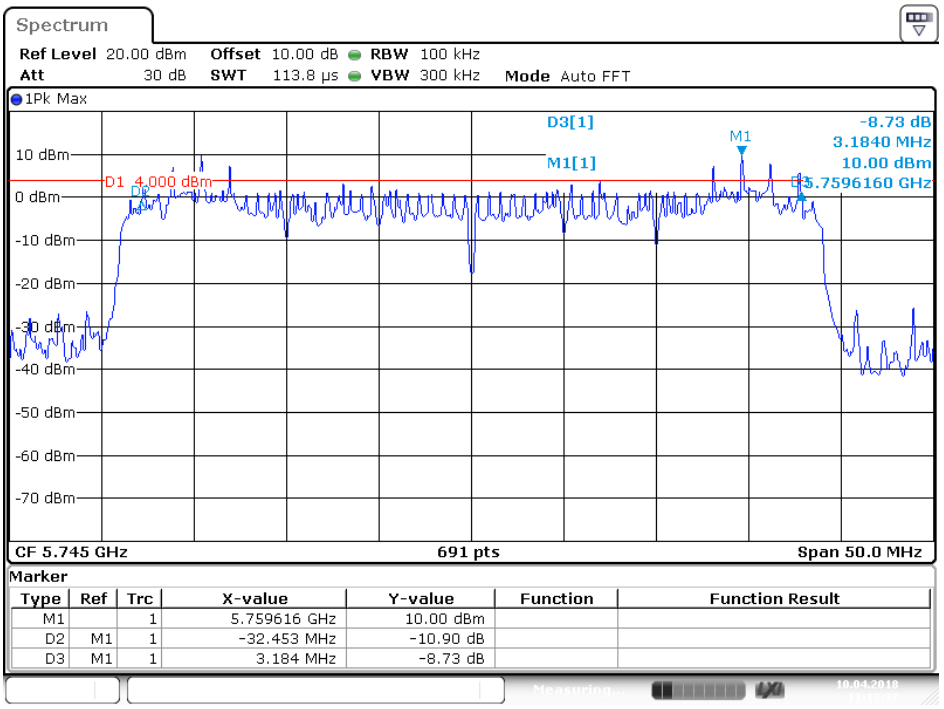
Date: 10.APR.2018 11:05:18

High channel



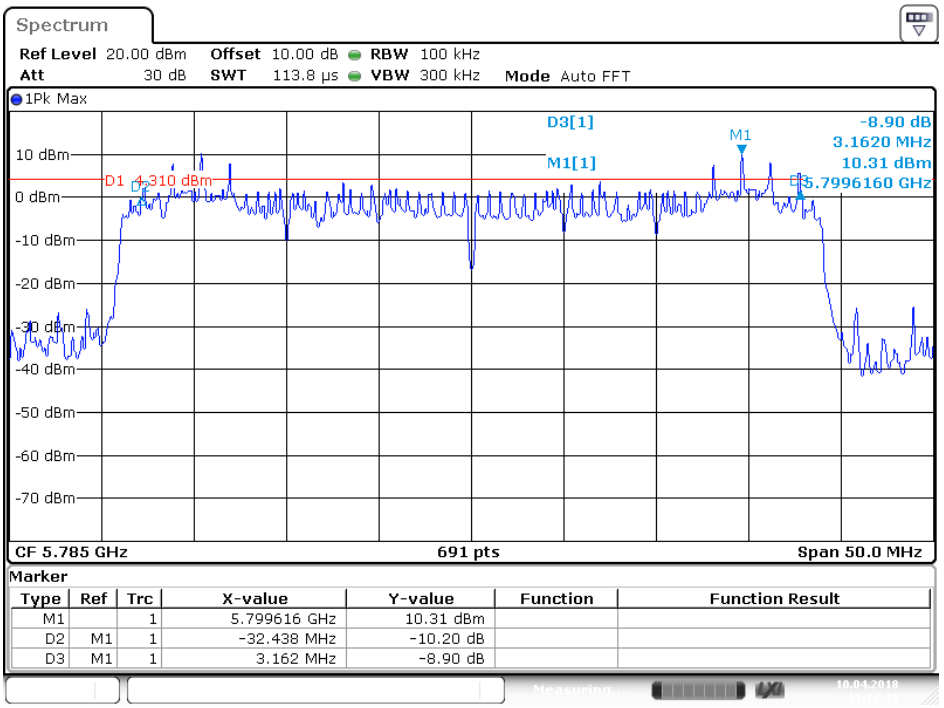
Date: 10.APR.2018 11:09:53

ANT2 Low channel



Date: 10.APR.2018 11:13:37

Middle channel



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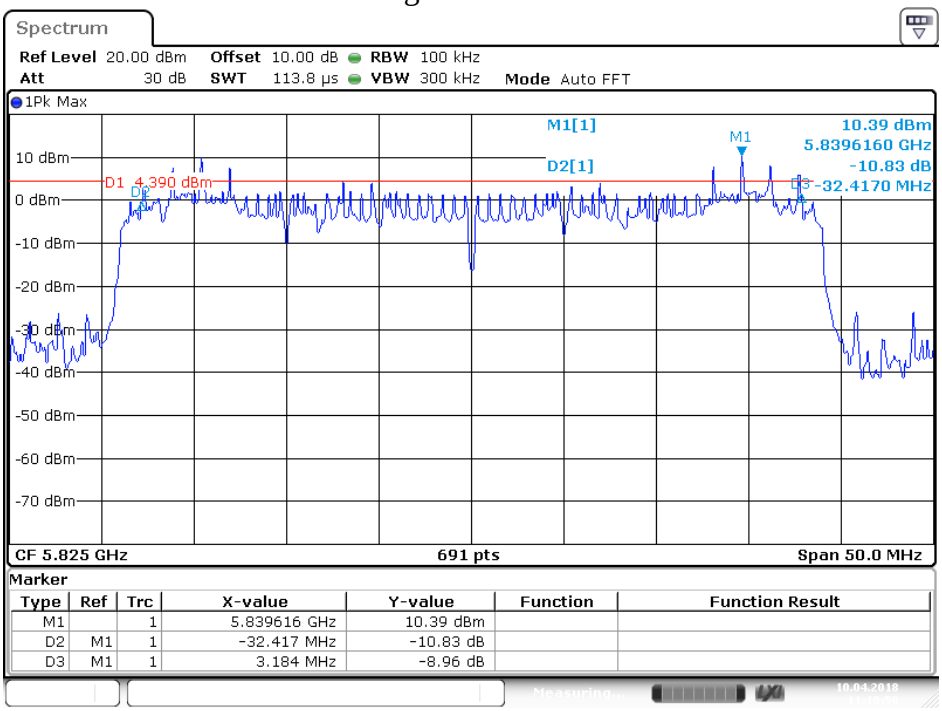
High channel



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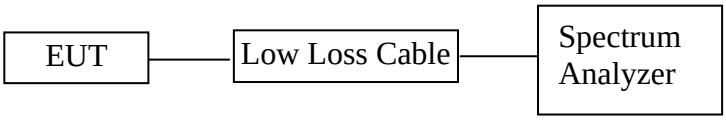
6. 99% OCCUPIED BANDWIDTH

6.1.Block Diagram of Test Setup



6.2.The Requirement For Section 15.407

The 99% occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers are each equal to 0.5 % of the total mean power of the given emission. Measurement of the 99% occupied bandwidth is required only as a condition for using the optional band-edge measurement techniques described in section II.G.3.d). Measurements of 99% occupied bandwidth may also optionally be used in lieu of the EBW to define the minimum frequency range over which the spectrum is integrated when measuring maximum conducted output power as described in section II.E. However, the EBW must be measured to determine bandwidth dependent limits on maximum conducted output power in accordance with 15.407(a).

6.3.EUT Configuration on Measurement

The equipment is installed on the emission measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

6.4.Operating Condition of EUT

6.4.1.Setup the EUT and simulator as shown as Section 6.1.

6.4.2.Turn on the power of all equipment.

6.4.3.Let the EUT work in TX modes measure it. The transmit frequency are 5745MHz, 5785MHz and 5825MHz.

6.5.Test Procedure

6.5.1.The transmitter output was connected to the spectrum analyzer through a low loss cable. The transmitter shall be operated at its maximum carrier power measured under normal test conditions. The span of the analyzer shall be set to capture all products of the modulation process, including the emission skirts.

6.5.2.The resolution bandwidth (RBW) shall be in the range of 1% to 5% of the occupied bandwidth (OBW) and video bandwidth (VBW) shall be approximately 3x RBW.

6.5.3.A peak, or peak hold, may be used in place of the sampling detector as this may produce a wider bandwidth than the actual bandwidth (worst-case measurement). Use of a peak hold may be necessary to determine the occupied bandwidth if the device is not transmitting continuously.

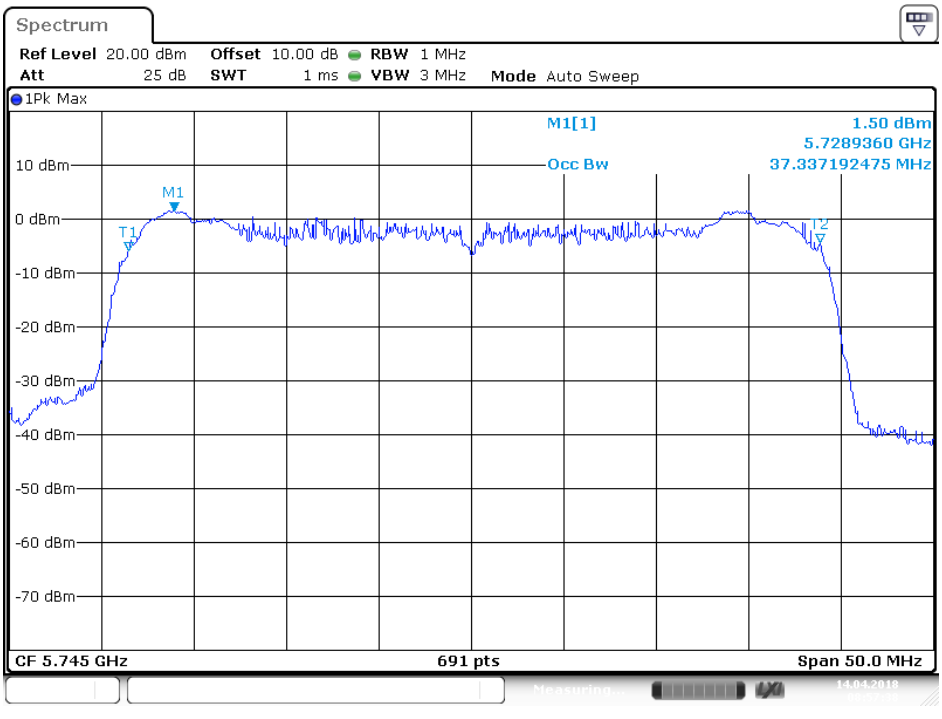
6.5.4.Set SPA “Meas” function, Select “Occupied Bandwidth” function, Select “99% Power Bandwidth”. The frequency of the upper and lower markers indicating the edges of the transmitters “99% Power” emission bandwidth shall be recorded to automate by SPA.

6.6.Measurement Result

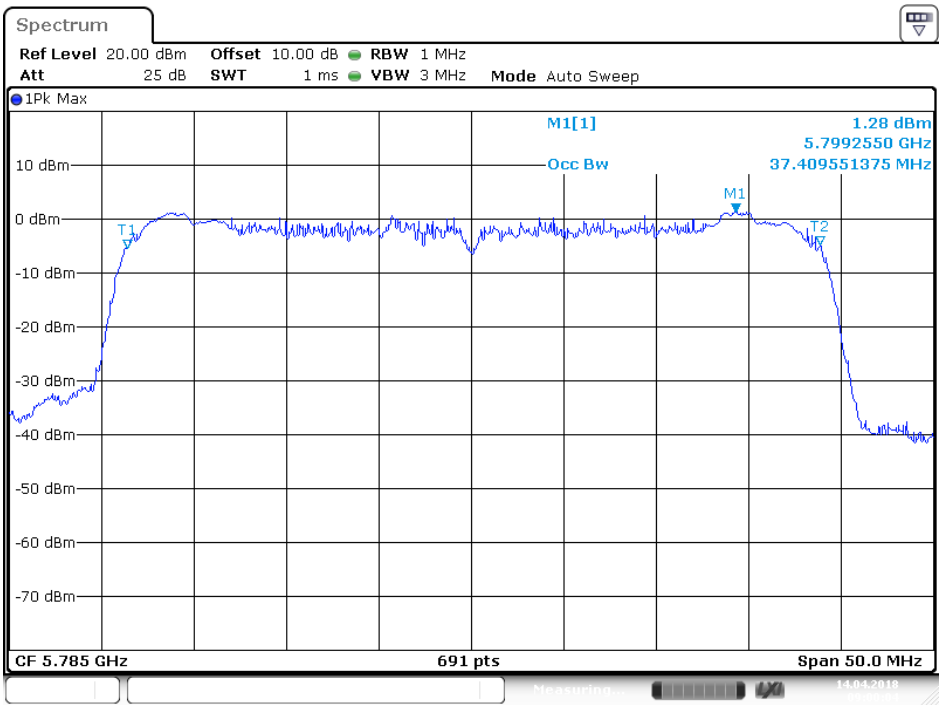
Test mode: MIMO			
Channel	Frequency (MHz)	99% Occupied Bandwidth ANT1 (MHz)	99% Occupied Bandwidth ANT2 (MHz)
Low	5745	37.337	37.410
Middle	5785	37.410	37.482
High	5825	37.410	37.554

The spectrum analyzer plots are attached as below.

ANT 1 Low channel

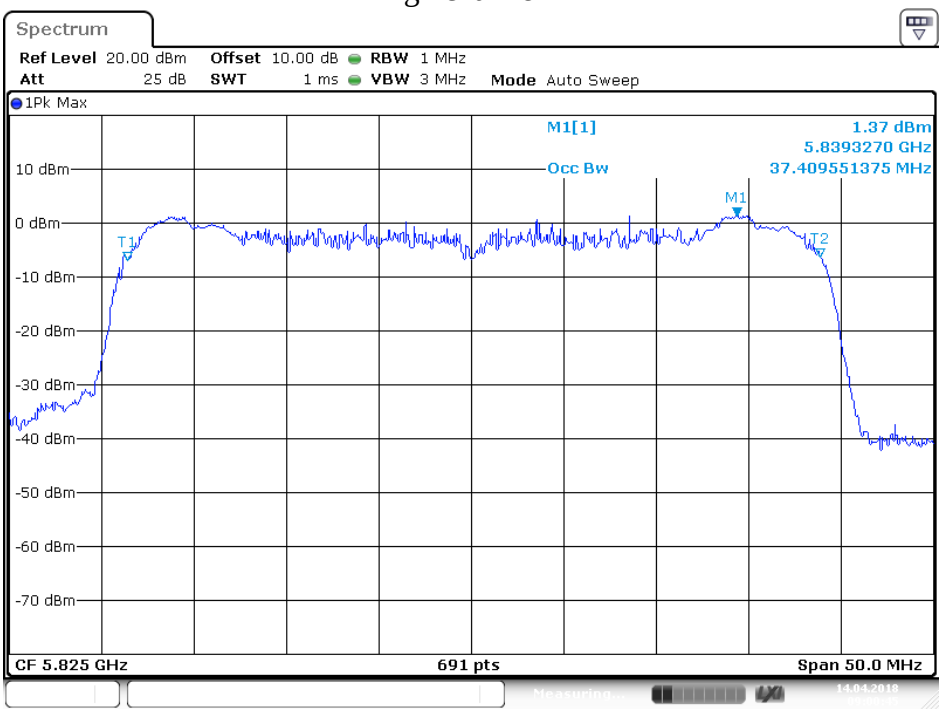


Middle channel



Date: 14.APR.2018 09:00:04

High channel



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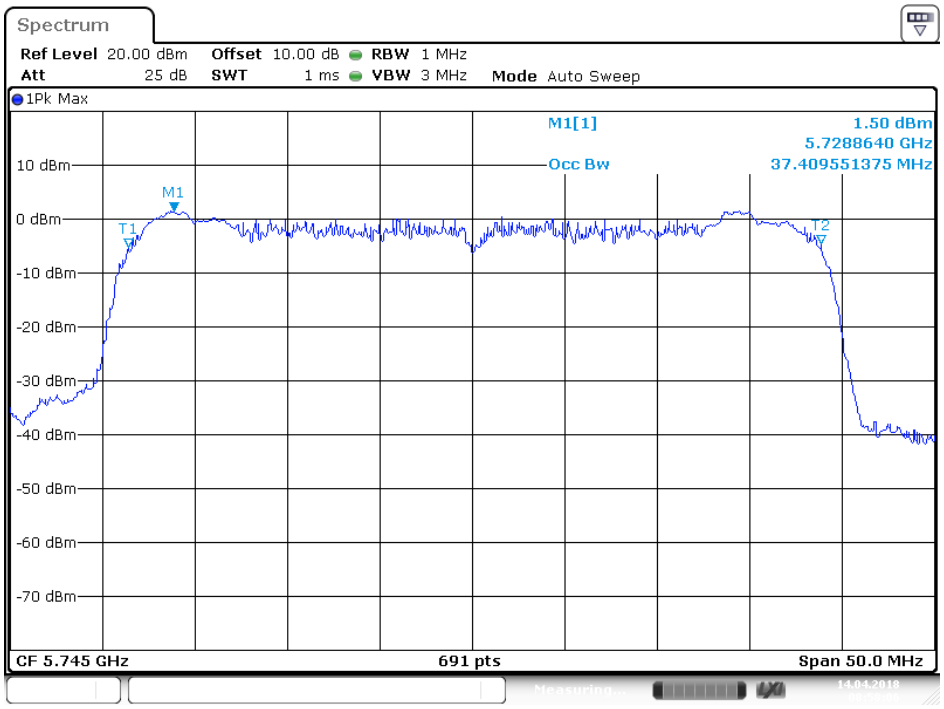
ANT2 Low channel



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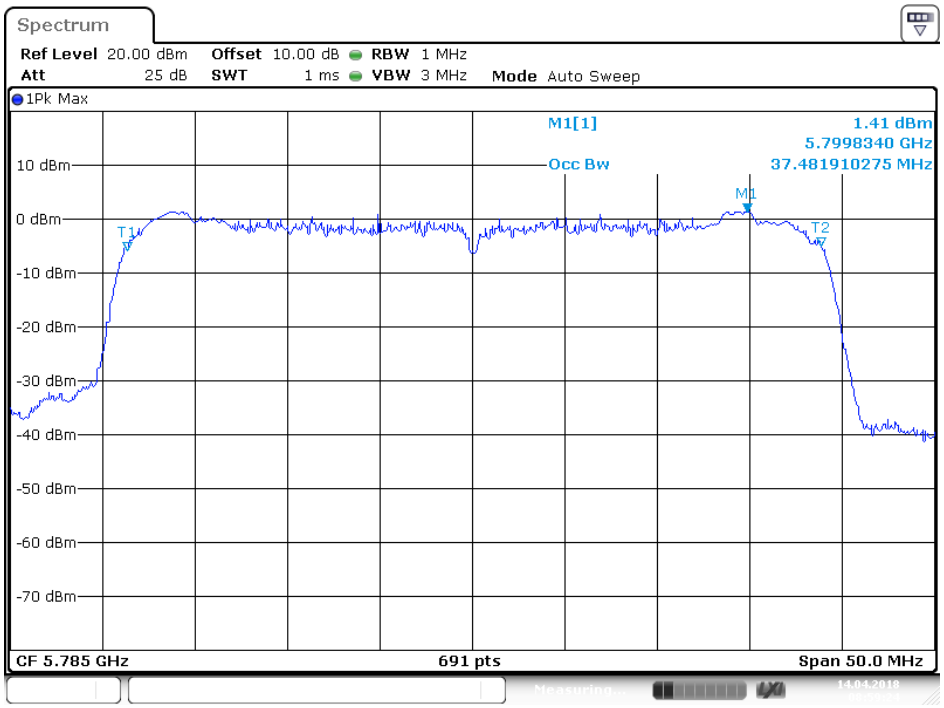
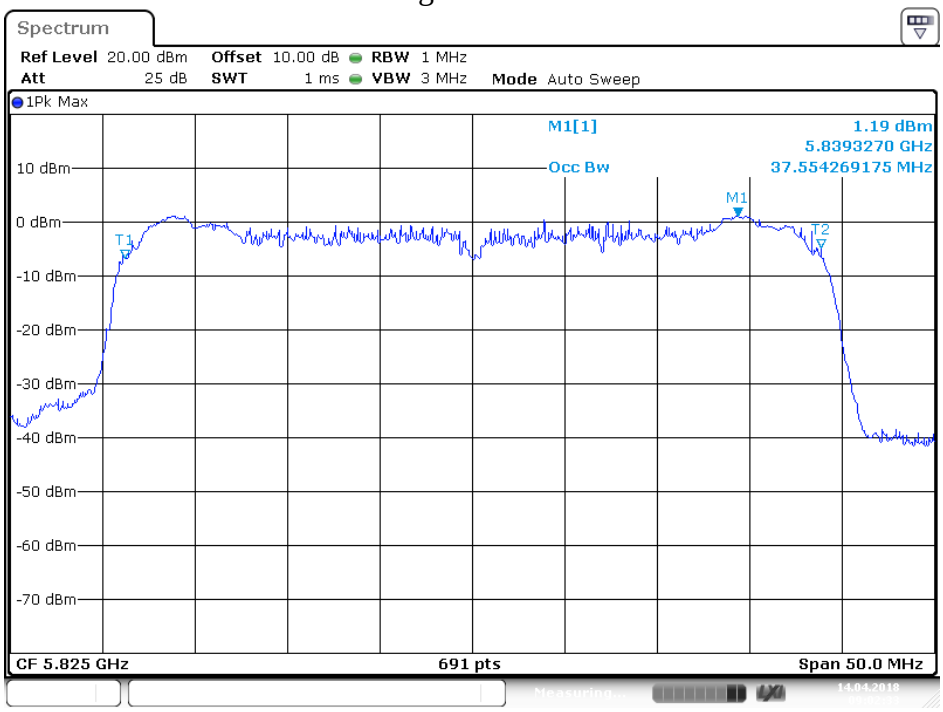
Middle channel



Date: 14.APR.2018 08:59:25

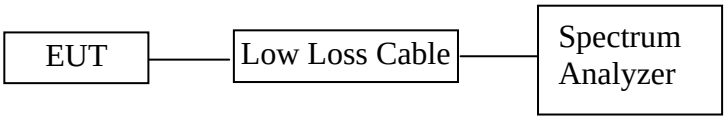
High channel



Date: 14.APR.2018 09:02:33

7. DUTY CYCLE MEASUREMENT

7.1.Block Diagram of Test Setup



7.2.EUT Configuration on Measurement

The equipment are installed on the emission measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

7.3.Operating Condition of EUT

7.3.1.Setup the EUT and simulator as shown as Section 7.1.

7.3.2.Turn on the power of all equipment.

7.3.3.Let the EUT work in TX modes measure it. The transmit frequency are 5745MHz , 5825MHz and 5785MHz.

7.4.Test Procedure

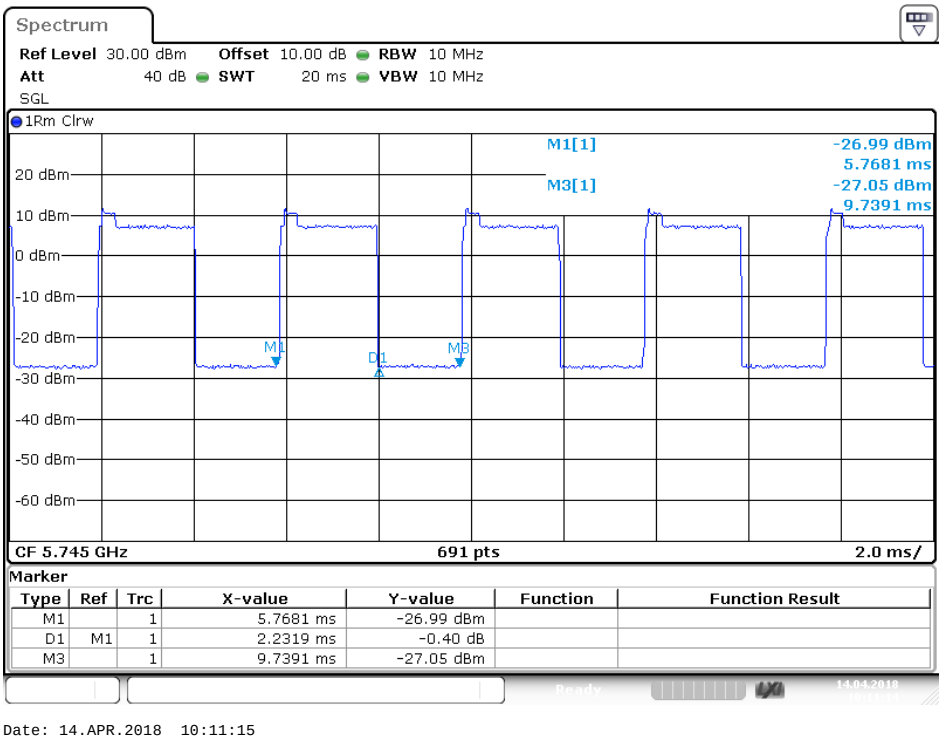
Measurements of duty cycle and transmission duration shall be performed using one of the following techniques:
1. A diode detector and an oscilloscope that together have sufficiently short response time to permit accurate measurements of the on- and off-times of the transmitted signal.
2. The zero-span mode on a spectrum analyzer or EMI receiver if the response time and spacing between bins on the sweep are sufficient to permit accurate measurements of the on- and off-times of the transmitted signal
a. Set the center frequency of the instrument to the centre frequency of the transmission
b. Set RBW ≥ OBW if possible; otherwise, set RBW to the largest available value(10MHz).
c. Set detector = Peak or average.
d. The zero-span measurement method shall not be used unless both RBW and VBW are > 50/T and the number of sweep points across duration T exceeds 100.
(For example, if VBW and/or RBW are limited to 3MHz, then the zero-span method of measuring duty cycle shall not be used if T≤16.7 microseconds.)

7.5.Test Result

Test mode: MIMO					
Channel	Frequency (MHz)	duty cycle(x) ANT 1	10log(1/x) ANT 1	duty cycle(x) ANT 2	10log(1/x) ANT 2
Low	5745	56.20%	2.50	64.10%	1.93
Middle	5785	55.15%	2.58	55.47%	2.56
High	5825	55.88%	2.53	55.88%	2.53

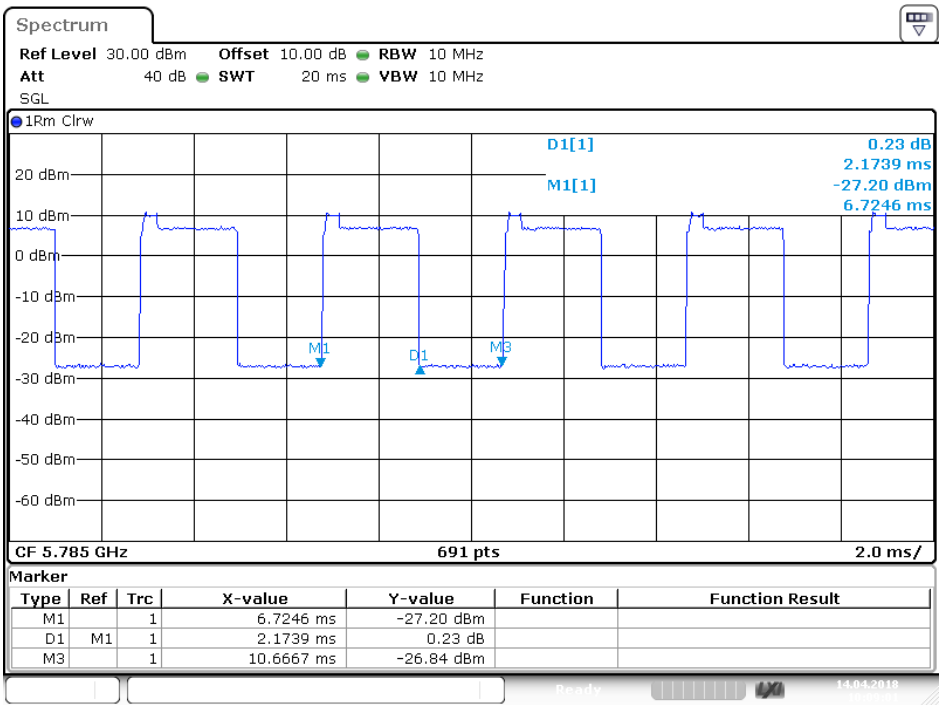
The spectrum analyzer plots are attached as below.

(ANT 1) Low channel



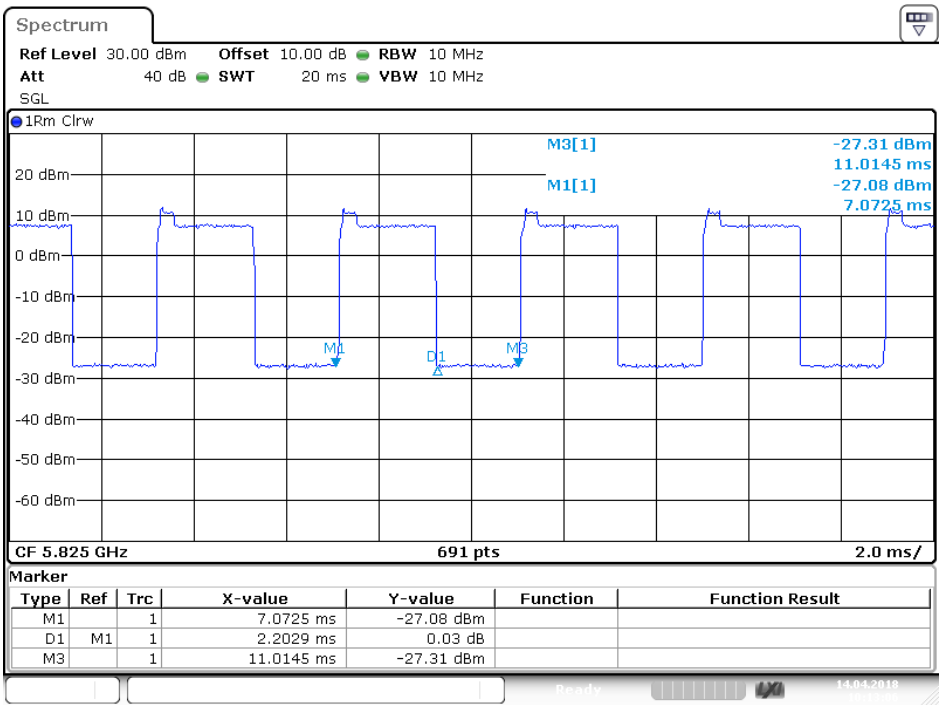
Date: 14.APR.2018 10:11:15

Middle channel



Date: 14.APR.2018 10:09:02

High channel



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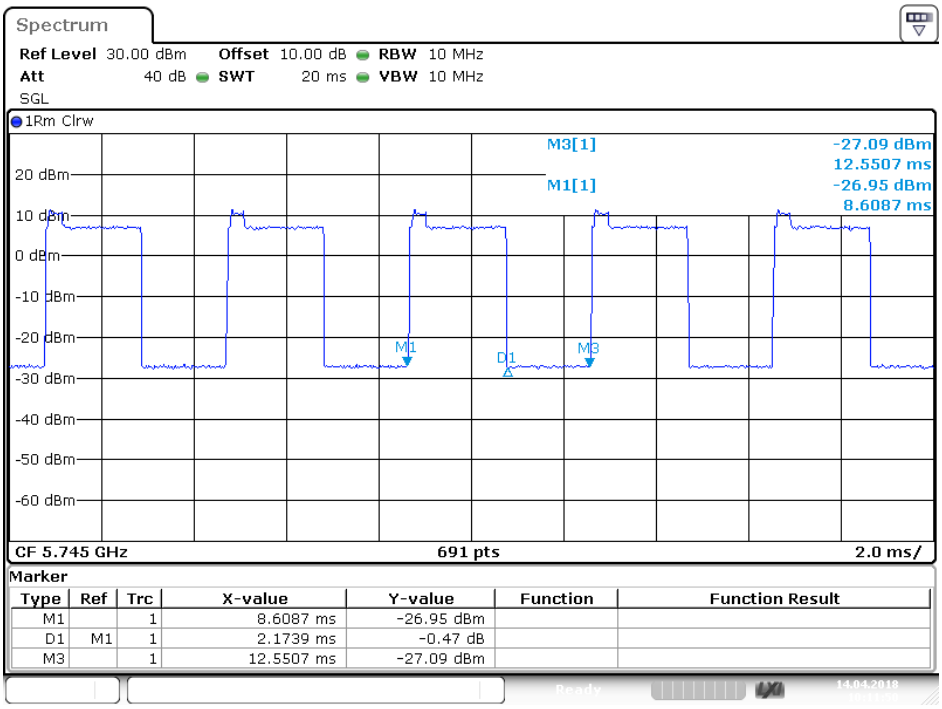
ANT 2 Low channel



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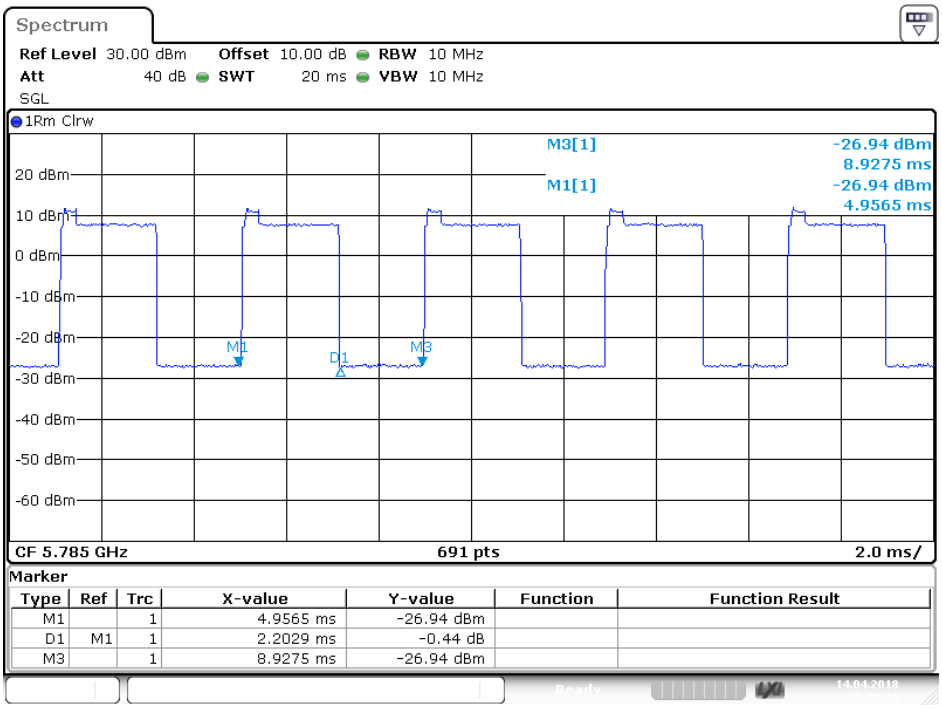
Middle channel



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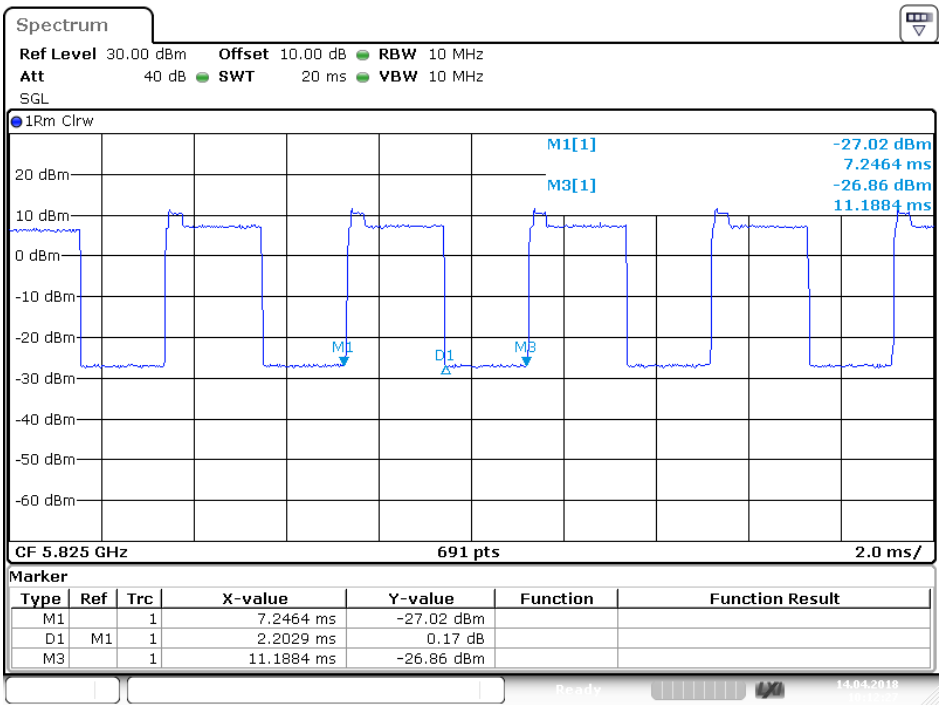
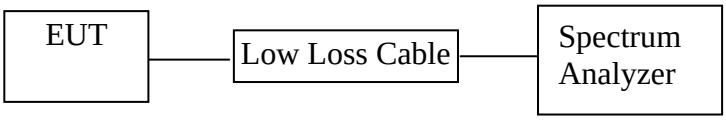
High channel



Date: 14.APR.2018 10:12:27

8. POWER SPECTRAL DENSITY TEST

8.1. Block Diagram of Test Setup



8.2. The Requirement For Section 15.407

For the band 5.15–5.25GHz,
Section 15.407: the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band

For the 5.25–5.35 GHz and 5.47–5.725 GHz bands,
Section 15.407: the peak power spectral density shall not exceed 11 dBm in any 1 megahertz band.

For the band 5.725–5.825GHz,
Section 15.407: 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 output power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

8.3. EUT Configuration on Measurement

The equipment are installed on the emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

8.4. Operating Condition of EUT

8.4.1. Setup the EUT and simulator as shown as Section 8.1.

8.4.2. Turn on the power of all equipment.

8.4.3. Let the EUT work in TX modes measure it. The transmit frequency are 5745MHz, 5785MHz and 5825MHz.

8.5.Test Procedure

8.5.1.The transmitter output was connected to the spectrum analyzer through a low loss cable.

8.5.2.Measurement Procedure PKPSD:

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:

1. Set RBW≥1/T, where T is defined in section II.B.l.a). Set VBW ≥ 3 RBW.
2. If measurement bandwidth of Maximum PSD is specified in 500 kHz, add 10 log (500 kHz/RBW) to the measured result, whereas RBW (< 500 kHz) is the reduced resolution bandwidth of the spectrum analyzer set during measurement.
3. If measurement bandwidth of Maximum PSD is specified in 1 MHz, add 10 log (1MHz/RBW) to the measured result, whereas RBW (< 1 MHz) is the reduced resolution bandwidth of spectrum analyzer set during measurement.
4. Care must be taken to ensure that the measurements are performed during a period of continuous transmission or are corrected upward for duty cycle.
5. Detector = RMS.
6. Sweep time = auto couple.
7. Trace mode = max hold.
8. Allow trace to fully stabilize.
9. Use the peak marker function to determine the maximum amplitude level.

8.5.3.Measurement the maximum power spectral density.

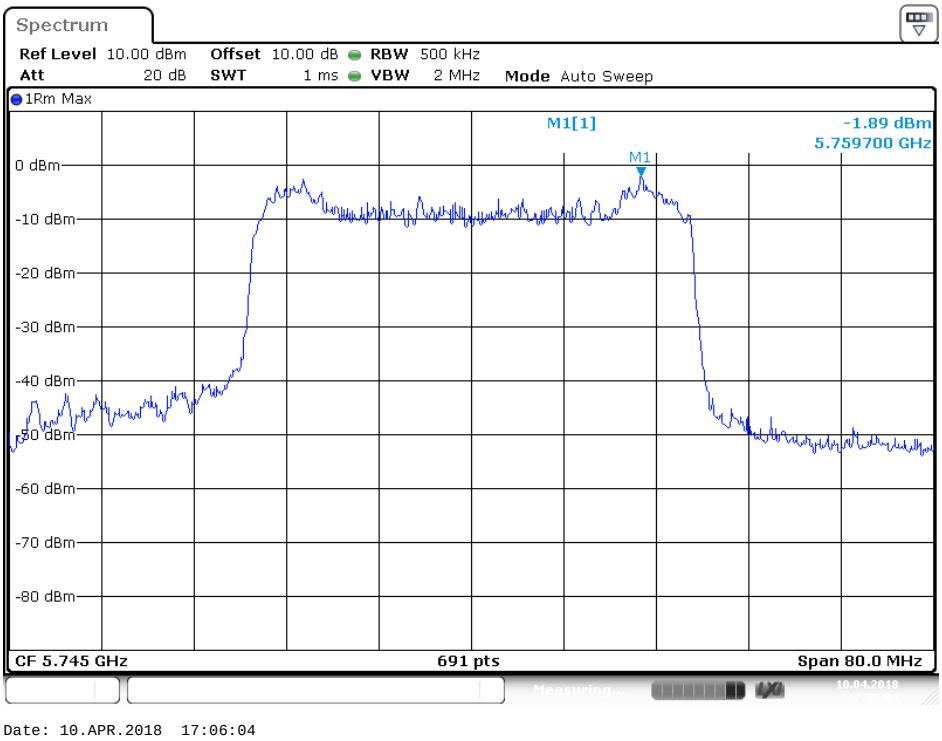
8.6.Test Result

PASS

Test mode: MIMO							
Frequency (MHz)	Power Spectral Density ANT 1 (dBm)	Power Spectral Density ANT 2 (dBm)	10log(1/x) ANT 1	10log(1/x) ANT 2	Final Power Spectral Density ANT 1 (dBm)	Final Power Spectral Density ANT 2 (dBm)	Limits (dBm)
5745	-1.89	-0.91	2.50	1.93	0.61	1.02	27.99 dBm
5785	-1.95	-0.71	2.58	2.56	0.63	1.85	27.99 dBm
5825	-2.73	-0.63	2.53	2.53	-0.20	1.90	27.99 dBm

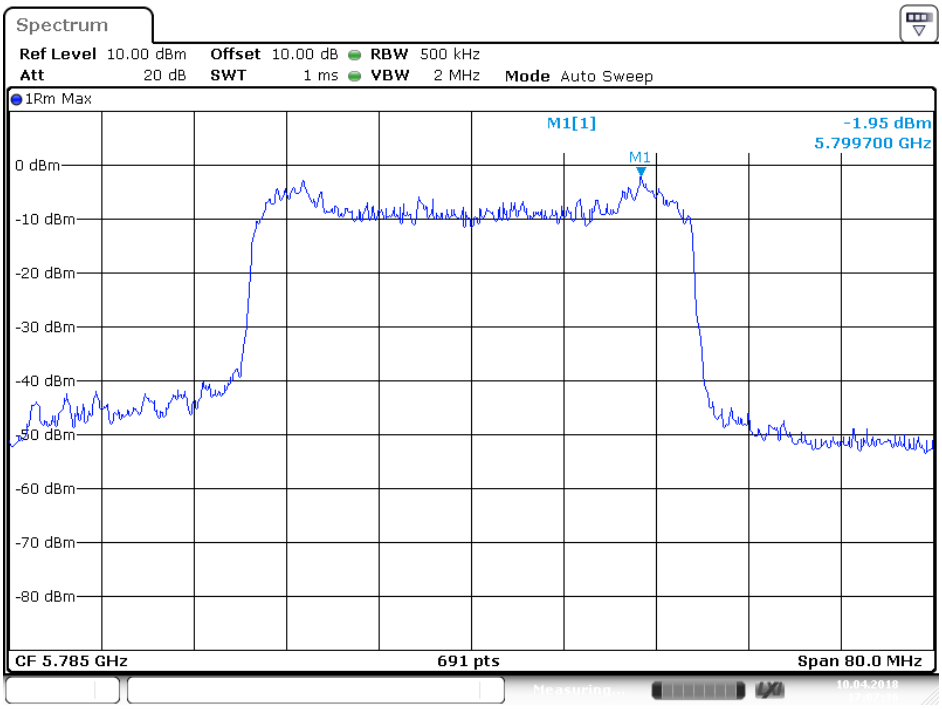
The spectrum analyzer plots are attached as below.

ANT 1 Low channel



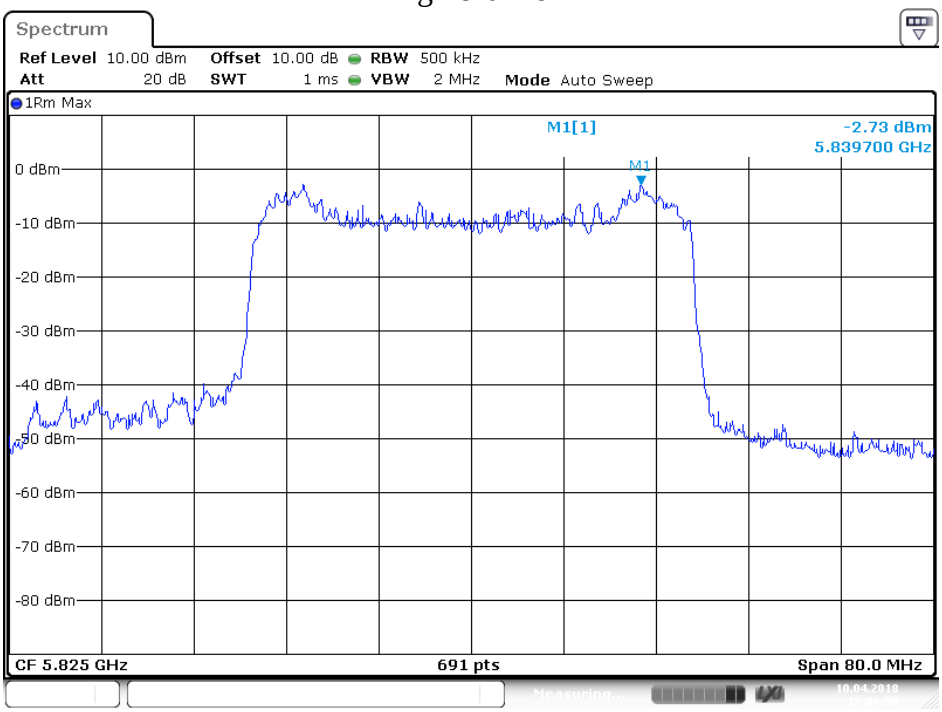
Date: 10.APR.2018 17:06:04

Middle channel



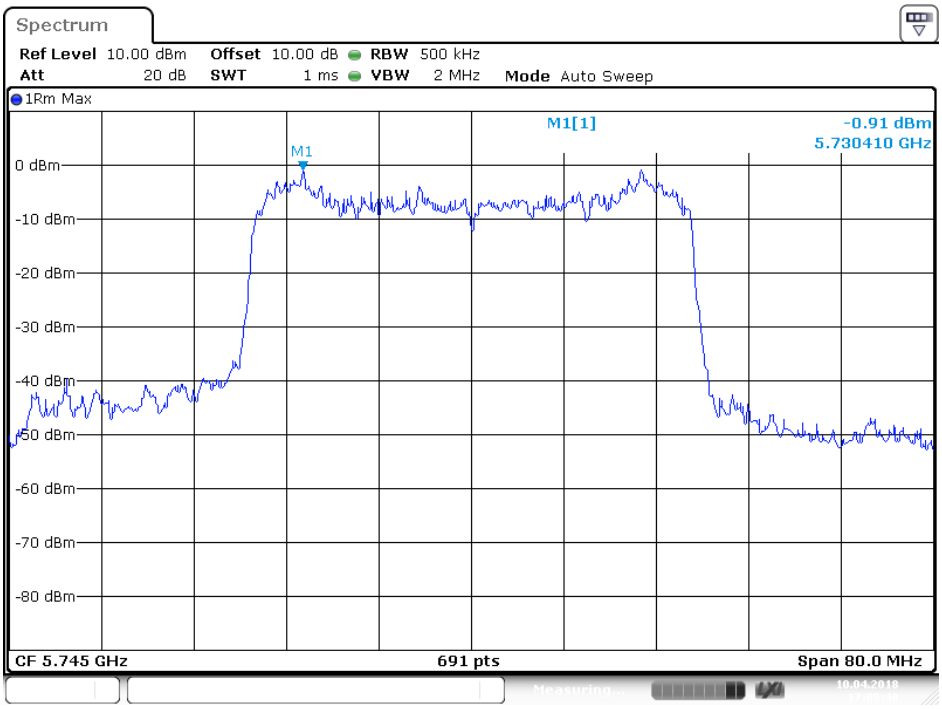
Date: 10.APR.2018 17:07:36

High channel



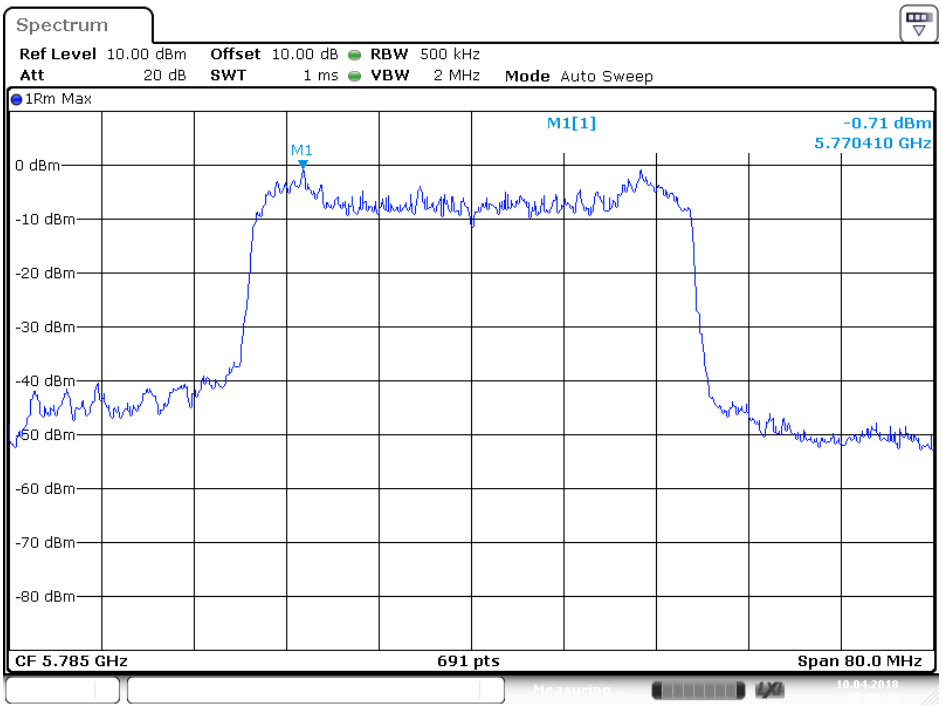
Date: 10.APR.2018 17:06:59

ANT 2 Low channel



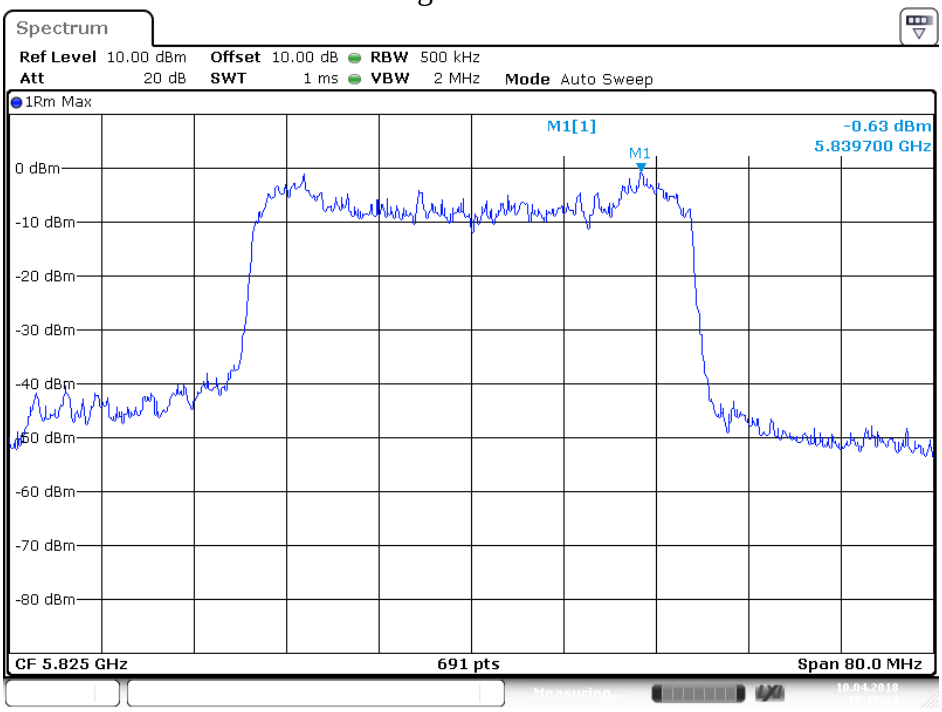
Date: 10.APR.2018 17:09:40

Middle channel



Date: 10.APR.2018 17:08:46

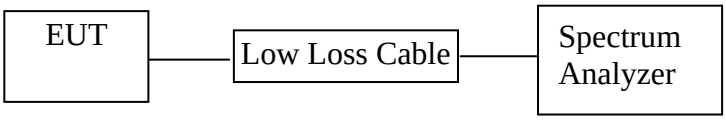
High channel



Date: 10.APR.2018 17:10:35

9. MAXIMUM CONDUCTED (AVERAGE) OUTPUT POWER

9.1.Block Diagram of Test Setup



9.2.The Requirement For Section 15.407

Section 15.407: For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 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.
the maximum conducted output power over the frequency band of operation shall not exceed 1 W

9.3.EUT Configuration on Measurement

The equipment is installed on the emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

9.4.Operating Condition of EUT

9.4.1.Setup the EUT and simulator as shown as Section 9.1.

9.4.2.Turn on the power of all equipment.

9.4.3.Let the EUT work in TX modes measure it. The transmit frequency are 5745MHz, 5785MHz and 5825MHz.

9.5.Test Procedure

9.5.1.The transmitter output was connected to the spectrum analyzer through a low loss cable.

9.5.2.Set RBW = 1-5% of the OBW, not to exceed 1 MHz, VBW ≥ 3 x RBW, Sweep time = auto, Set span to at least 1.5 times the OBW, Detector = RMS.

9.5.3.Measurement the Maximum conducted (average) output power.

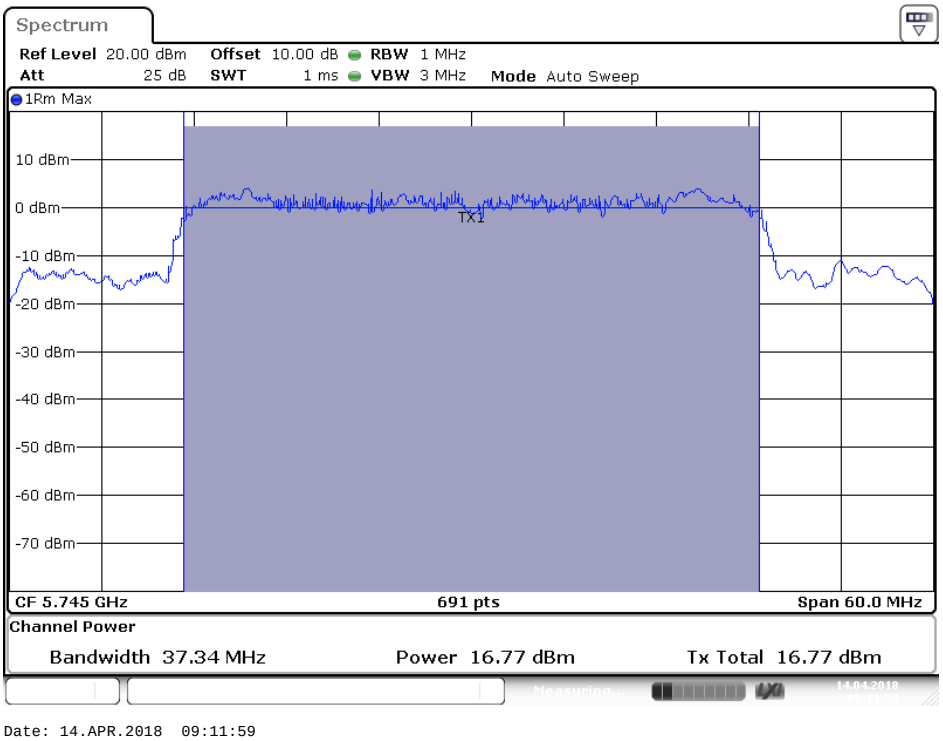
9.6.Test Result

Final power= Ave output power+10log(1/ duty cycle)

Test mode: MIMO								
Frequency (MHz)	Ave output power ANT1 (dBm)	Ave output power ANT 2 (dBm)	10log(1/ duty cycle) ANT 1	10log(1/ duty cycle) ANT 2	Final output power ANT 1 (dBm)	Final output power ANT 2 (dBm)	Total output power (dBm)	Limits dBm
5745	16.77	16.38	2.50	1.93	19.27	18.31	21.83	27.99 dBm
5785	16.81	15.79	2.58	2.56	19.39	18.35	21.91	27.99 dBm
5825	17.07	16.99	2.53	2.53	19.60	19.52	22.57	27.99 dBm

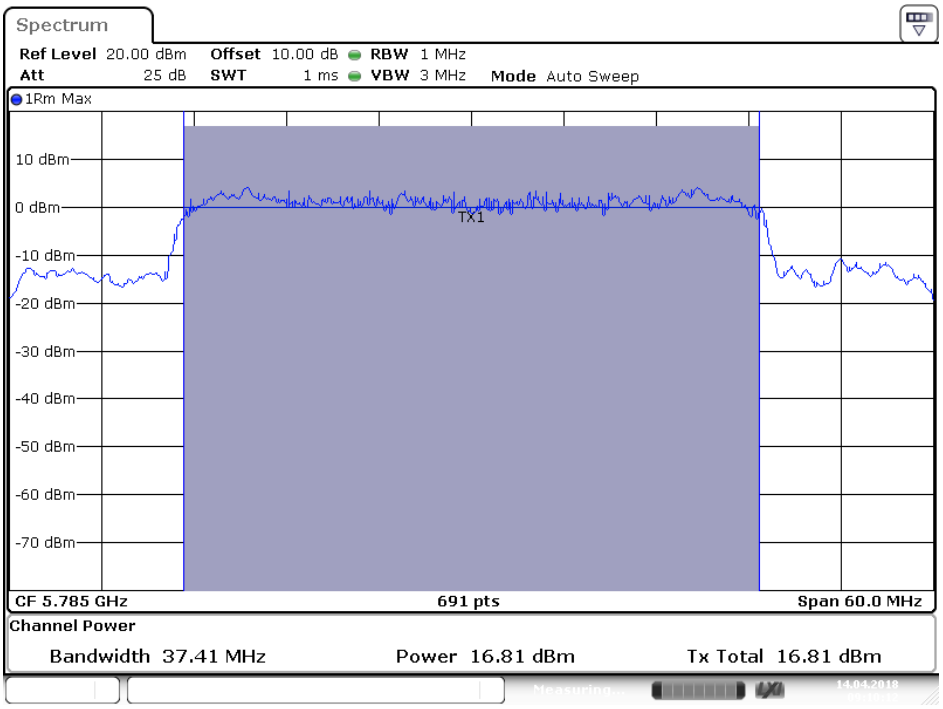
The spectrum analyzer plots are attached as below.

ANT 1 Low channel



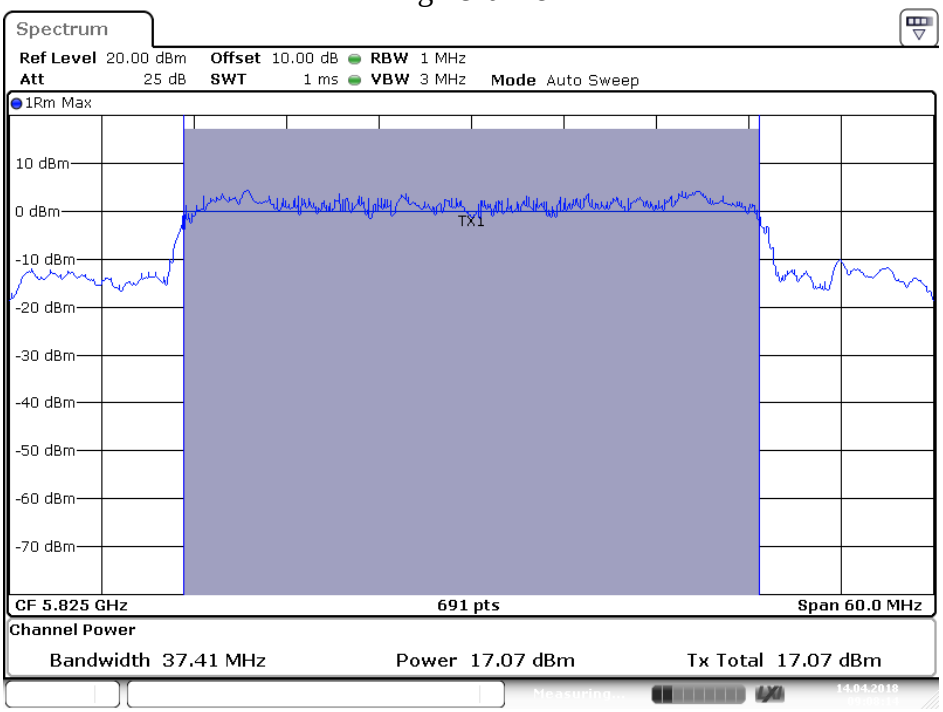
Date: 14.APR.2018 09:11:59

Middle channel



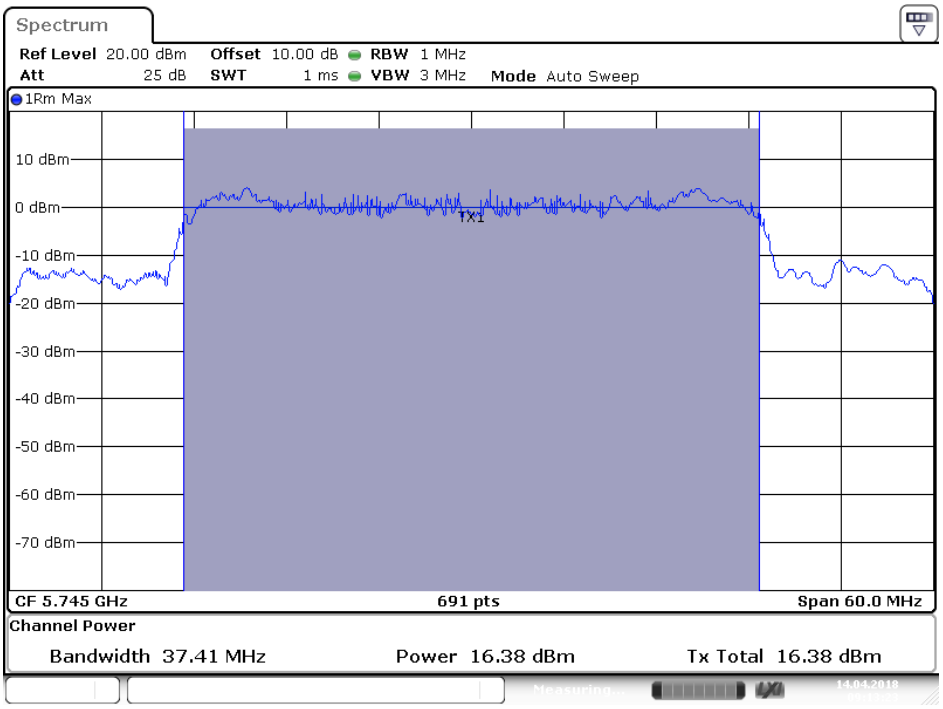
Date: 14.APR.2018 09:10:13

High channel



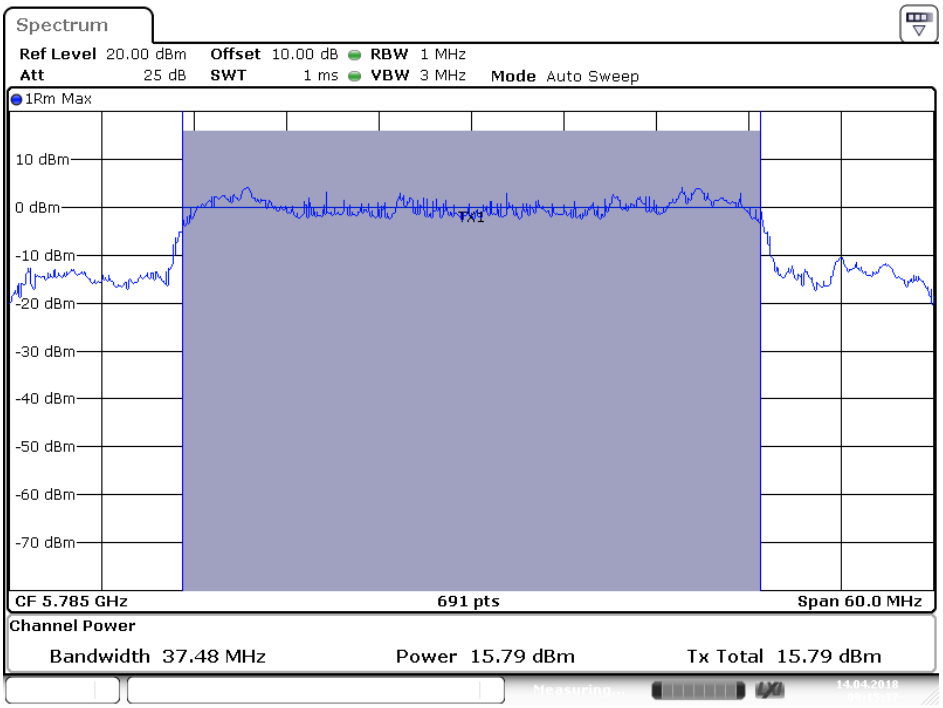
Date: 14.APR.2018 09:08:14

ANT2 Low channel



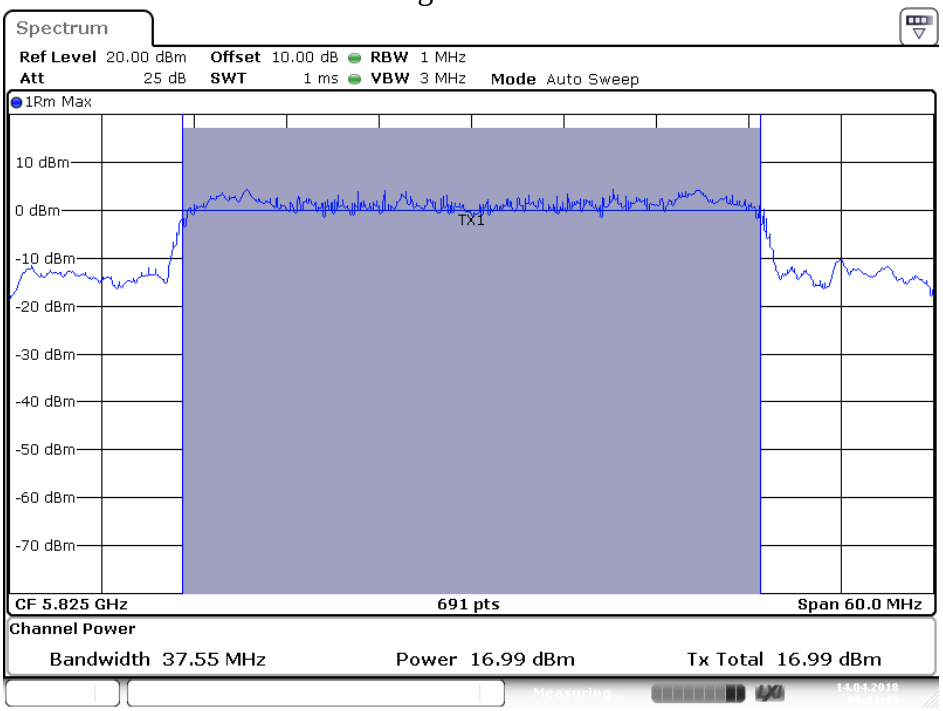
Date: 14.APR.2018 09:13:24

Middle channel



Date: 14.APR.2018 09:15:37

High channel



Date: 14.APR.2018 09:23:13

10.RADIATED SPURIOUS EMISSION TEST

10.1.Block Diagram of Test Setup

10.1.1.Block diagram of connection between the EUT and peripherals

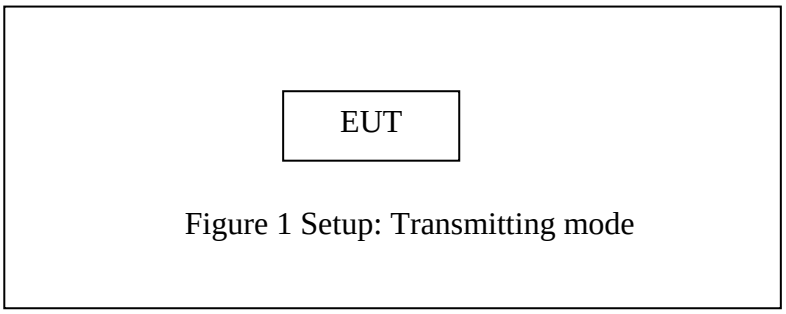
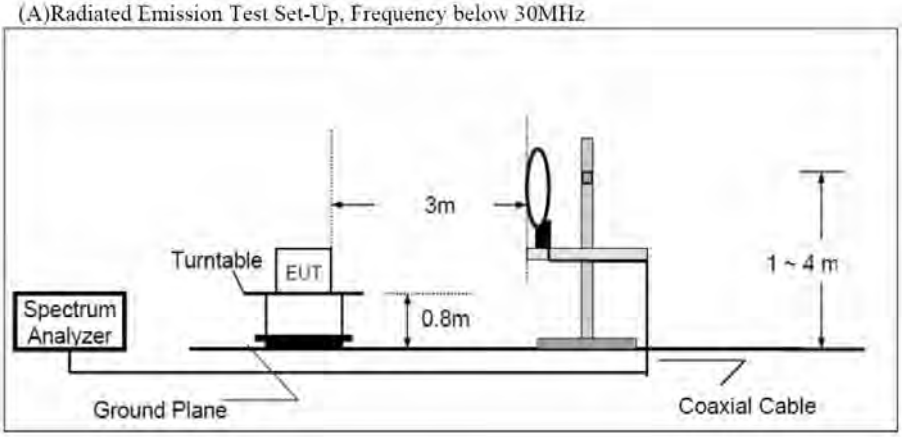


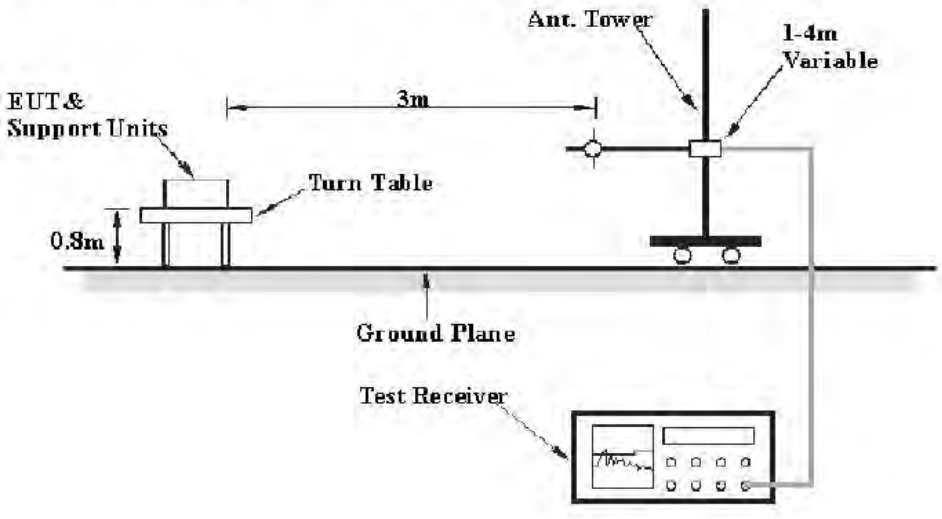
Figure 1 Setup: Transmitting mode

10.1.2.Semi-Anechoic Chamber Test Setup Diagram

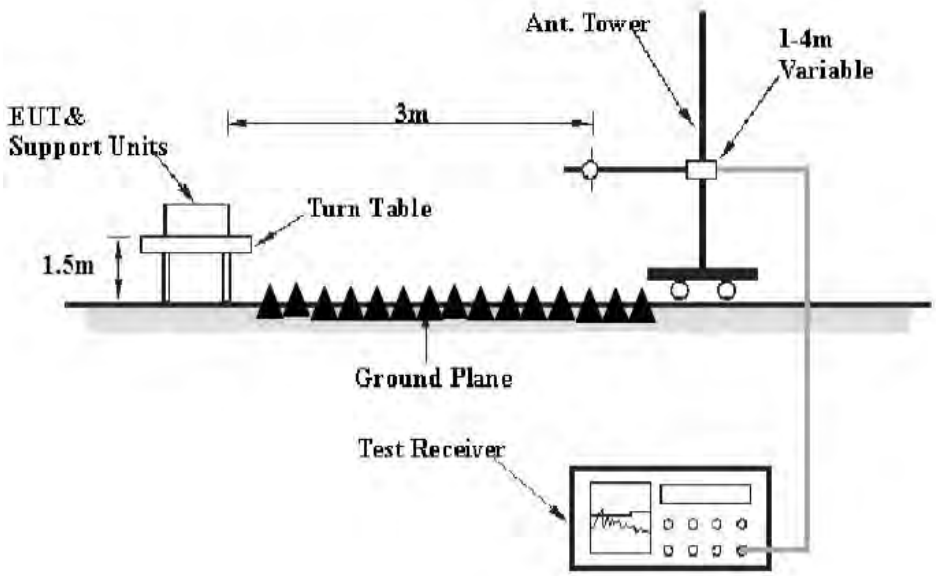
(A)Radiated Emission Test Set-Up, Frequency below 30MHz



(B)Radiated Emission Test Set-Up, Frequency 30MHz-1GHz



(C) Radiated Emission Test Set-Up. Frequency above 1GHz



10.2.The Limit For Section 15.407

Section 15.407(b): For transmitters operating in the 5.15–5.25 GHz band: all emissions out-side of the 5.15–5.35 GHz band shall not exceed an EIRP of –27dBm/MHz.

For transmitters operating in the 5.25–5.35 GHz band: all emissions outside of the 5.15–5.35 GHz band shall not exceed an EIRP of –27dBm/MHz. Devices operating in the 5.25–5.35 GHz band that generate emissions in the 5.15–5.25 GHz band must meet all applicable technical requirements for operation in the 5.15–5.25 GHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of –27dBm/MHz in the 5.15–5.25 GHz band.

For transmitters operating in the 5.47–5.725 GHz band: all emissions outside of the 5.47–5.725 GHz band shall not exceed an EIRP of –27dBm/MHz.

For transmitters operating in the 5.725–5.825 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.

10.3.Restricted bands of operation

10.3.1.FCC Part 15.205 Restricted bands of operation

(a) Except as shown in paragraph (d) of this section, Only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
[1]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	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	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			

[1]Until February 1, 1999, this restricted band shall be 0.490-0.510
[2]Above 38.6

(b) Except as provided in paragraphs (d) and (e), the field strength of emission appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000MHz, Compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000MHz, compliance with the emission limits in Section15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

10.4.Configuration of EUT on Measurement

The equipment are installed on Radiated Emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

10.5.Operating Condition of EUT

10.5.1.Setup the EUT and simulator as shown as Section 10.1.

10.5.2.Turn on the power of all equipment.

10.5.3.Let the EUT work in TX modes measure it. The transmit frequency are 5745MHz, 5785MHz and 5825MHz.

10.6.Test Procedure

The EUT and its simulators are placed on a turntable, which is 0.8 meter high above ground(Below 1GHz). The EUT and its simulators are placed on a turntable, which is 1.5 meter high above ground(Above 1GHz). The turntable can rotate 360 degrees to determine the position of the maximum emission level. EUT is set 3.0 meters away from the receiving antenna, which is mounted on an antenna tower. The antenna can be moved up and down between 1.0 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated bi-log antenna) is used as receiving antenna. Both horizontal and vertical polarizations of the antenna are set on measurement. In order to find the maximum emission levels, all of the EUT location must be manipulated according to ANSI C63.10:2013 on radiated emission measurement. This EUT was tested in 3 orthogonal positions and the worst case position data was reported.

The frequency range from 9KHz to 40000MHz is checked.

During the radiated emission test, the spectrum analyzer was set with the following configurations:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for peak measurement with peak detector at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average measurement with peak detection at frequency above 1GHz.
4. All modes of operation were investigated and the worst-case emissions are reported.

10.7.Data Sample

Frequency (MHz)	Reading (dBμv)	Factor (dB/m)	Result (dBμv/m)	Limit (dBμv/m)	Margin (dB)	Remark
X.XX	48.69	-13.35	35.34	46	-10.66	QP

Frequency(MHz) = Emission frequency in MHz
Reading(dBμv) = Uncorrected Analyzer/Receiver reading
Factor (dB/m) = Antenna factor + Cable Loss – Amplifier gain
Result(dBμv/m) = Reading(dBμv) + Factor(dB/m)
Limit (dBμv/m) = Limit stated in standard
Margin (dB) = Result(dBμv/m) - Limit (dBμv/m)
QP = Quasi-peak Reading

Calculation Formula:
Margin(dB) = Result (dBμV/m)–Limit(dBμV/m)
Result(dBμV/m)= Reading(dBμV)+ Factor(dB/m)

The “Margin” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -7dB means the emission is 7dB below the limit.

10.8.The Field Strength of Radiation Emission Measurement Results

Note: 1. Emissions attenuated more than 20 dB below the permissible value are not reported.

2. *: Denotes restricted band of operation.

3. The radiation emissions from 18-40GHz are not reported, because the test values lower than the limits of 20dB

4. The average measurement was not performed when peak measured data under the limit of average detection.

The spectrum analyzer plots are attached as below.

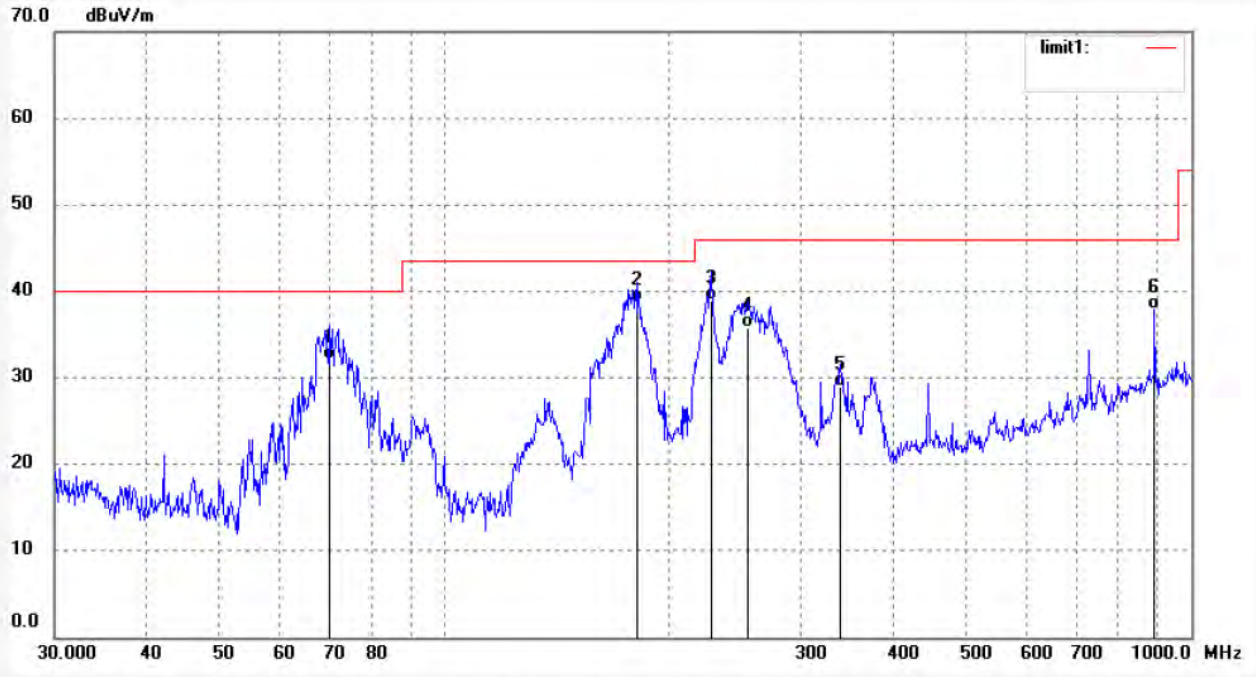
Below 1G

ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 1# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: star2018 #115
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Vaxis wirelss video system
Mode: TX 5745MHz
Model: Vaxis Storm 500FT+
Manufacturer: GM

Polarization: Horizontal
Power Source: DC 12V
Date: 18/04/10/
Time: 14/35/59
Engineer Signature: star
Distance: 3m

Note: Report No.:ATE20180467



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	70.2096	55.04	-22.86	32.18	40.00	-7.82	QP	200	123	
2	180.6641	59.00	-20.27	38.73	43.50	-4.77	QP	200	255	
3	227.8155	57.24	-18.33	38.91	46.00	-7.09	QP	200	146	
4	254.9253	53.62	-17.90	35.72	46.00	-10.28	QP	200	89	
5	338.8546	43.99	-15.04	28.95	46.00	-17.05	QP	200	110	
6	893.6557	42.13	-4.28	37.85	46.00	-8.15	QP	200	136	

ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 1# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: star2018 #116
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Vaxis wirelss video system
Mode: TX 5745MHz
Model: Vaxis Storm 500FT+
Manufacturer: GM

Polarization: Vertical
Power Source: DC 12V
Date: 18/04/10/
Time: 14/37/23
Engineer Signature: star
Distance: 3m

Note: Report No.:ATE20180467

No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	71.9578	58.67	-22.96	35.71	40.00	-4.29	QP	100	236	
2	139.7909	57.05	-22.07	34.98	43.50	-8.52	QP	100	222	
3	177.5179	52.44	-20.56	31.88	43.50	-11.62	QP	100	139	
4	227.8155	59.32	-18.33	40.99	46.00	-5.01	QP	100	258	
5	444.1299	47.05	-13.13	33.92	46.00	-12.08	QP	100	108	
6	893.6557	38.97	-4.28	34.69	46.00	-11.31	QP	100	39	

ACCURATE TECHNOLOGY CO., LTD.
F1,Bldg,A,Changyuan New Material Port Keyuan Rd,
Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 1# Chamber
Tel:+86-0755-26503290
Fax:+86-0755-26503396

Job No.: star2018 #118
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Vaxis wirelss video system
Mode: TX 5785MHz
Model: Vaxis Storm 500FT+
Manufacturer: GM

Polarization: Horizontal
Power Source: DC 12V
Date: 18/04/10/
Time: 14/39/42
Engineer Signature: star
Distance: 3m

Note: Report No.:ATE20180467

No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	69.2296	56.41	-22.82	33.59	40.00	-6.41	QP	200	179	
2	156.4259	56.38	-21.73	34.65	43.50	-8.85	QP	200	99	
3	176.8952	57.05	-20.62	36.43	43.50	-7.07	QP	200	55	
4	223.8481	57.62	-18.37	39.25	46.00	-6.75	QP	200	114	
5	254.0312	54.33	-17.95	36.38	46.00	-9.62	QP	200	136	
6	815.6352	46.17	-5.61	40.56	46.00	-5.44	QP	200	186	

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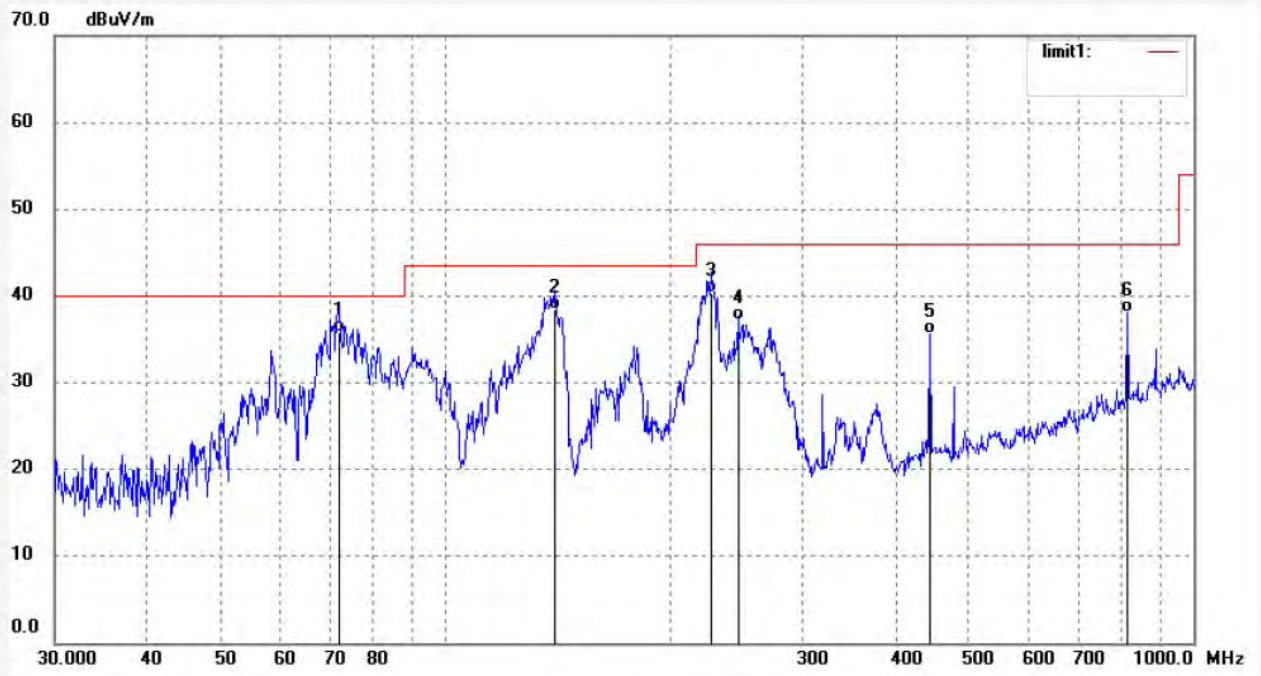
Job No.: star2018 #117
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Vaxis wirelss video system
Mode: TX 5785MHz
Model: Vaxis Storm 500FT+
Manufacturer: GM

Polarization: Vertical
Power Source: DC 12V
Date: 18/04/10/
Time: 14/38/38
Engineer Signature: star
Distance: 3m

Note: Report No.:ATE20180467



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	72.2111	58.69	-22.97	35.72	40.00	-4.28	QP	100	162	
2	139.7908	60.40	-22.07	38.33	43.50	-5.17	QP	100	254	
3	227.0164	58.63	-18.33	40.30	46.00	-5.70	QP	100	123	
4	246.1237	55.41	-18.20	37.21	46.00	-8.79	QP	100	306	
5	444.1299	48.78	-13.13	35.65	46.00	-10.35	QP	100	32	
6	815.6352	43.71	-5.61	38.10	46.00	-7.90	QP	100	99	

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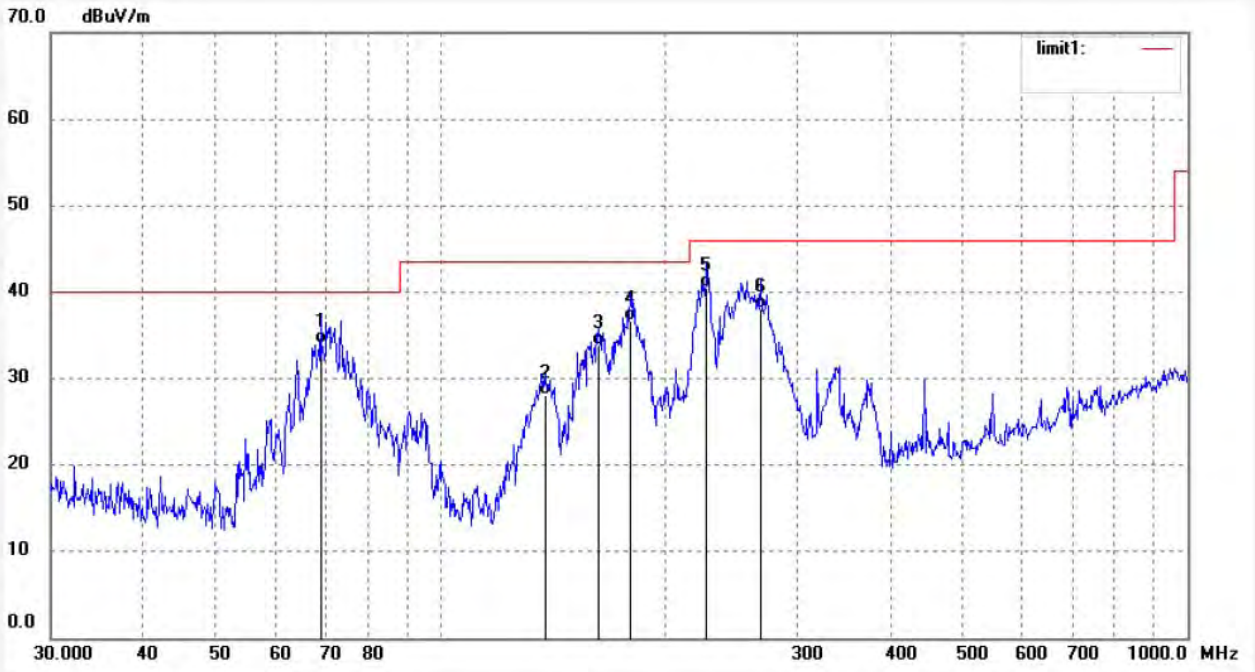
Job No.: star2018 #119
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Vaxis wirelss video system
Mode: TX 5825MHz
Model: Vaxis Storm 500FT+
Manufacturer: GM

Polarization: Horizontal
Power Source: DC 12V
Date: 18/04/10/
Time: 14/40/50
Engineer Signature: star
Distance: 3m

Note: Report No.:ATE20180467



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	68.9869	56.84	-22.81	34.03	40.00	-5.97	QP	200	169	
2	137.8400	50.11	-22.00	28.11	43.50	-15.39	QP	200	222	
3	162.5900	54.95	-21.07	33.88	43.50	-9.62	QP	200	205	
4	179.3989	57.09	-20.38	36.71	43.50	-6.79	QP	200	172	
5	227.0164	58.90	-18.33	40.57	46.00	-5.43	QP	200	236	
6	267.7787	55.22	-17.20	38.02	46.00	-7.98	QP	200	333	

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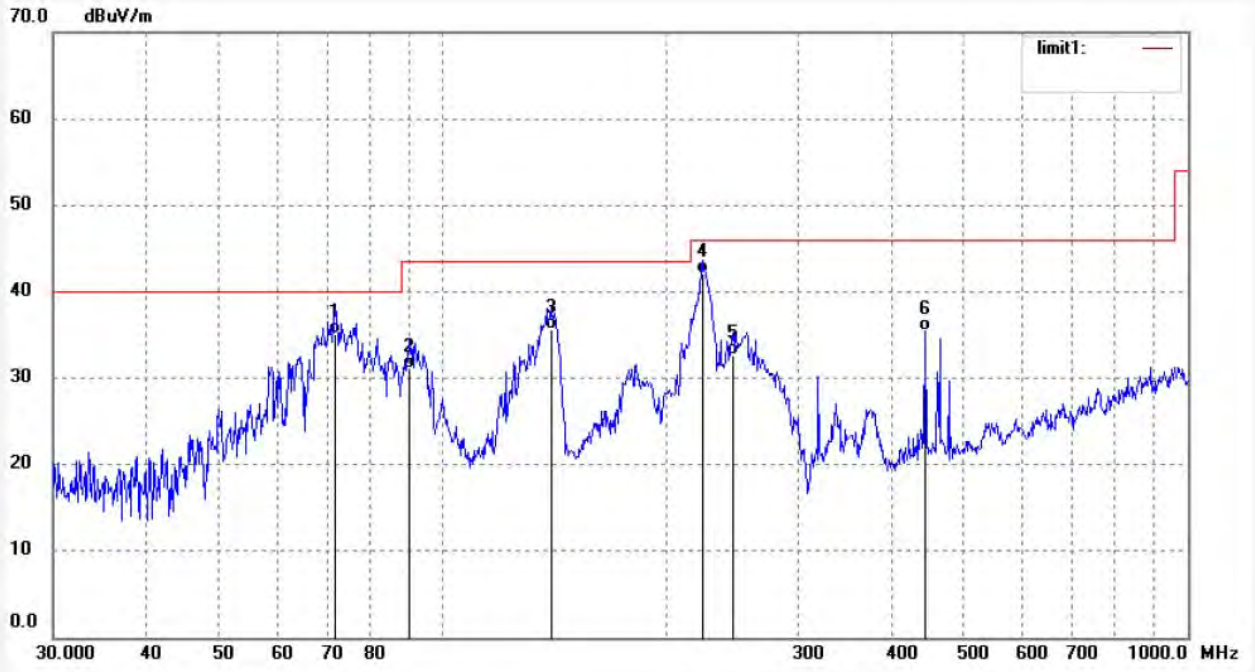
Job No.: star2018 #120
Standard: FCC Class B 3M Radiated
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Vaxis wirelss video system
Mode: TX 5825MHz
Model: Vaxis Storm 500FT+
Manufacturer: GM

Polarization: Vertical
Power Source: DC 12V
Date: 18/04/10/
Time: 14/41/50
Engineer Signature: star
Distance: 3m

Note: Report No.:ATE20180467



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	71.7053	58.10	-22.94	35.16	40.00	-4.84	QP	100	93	
2	90.4196	53.00	-21.91	31.09	43.50	-12.41	QP	100	104	
3	139.7908	57.62	-22.07	35.55	43.50	-7.95	QP	100	135	
4	223.0629	60.44	-18.37	42.07	46.00	-3.93	QP	100	266	
5	245.2606	50.86	-18.20	32.66	46.00	-13.34	QP	100	302	
6	444.1299	48.57	-13.13	35.44	46.00	-10.56	QP	100	355	

Above 1G

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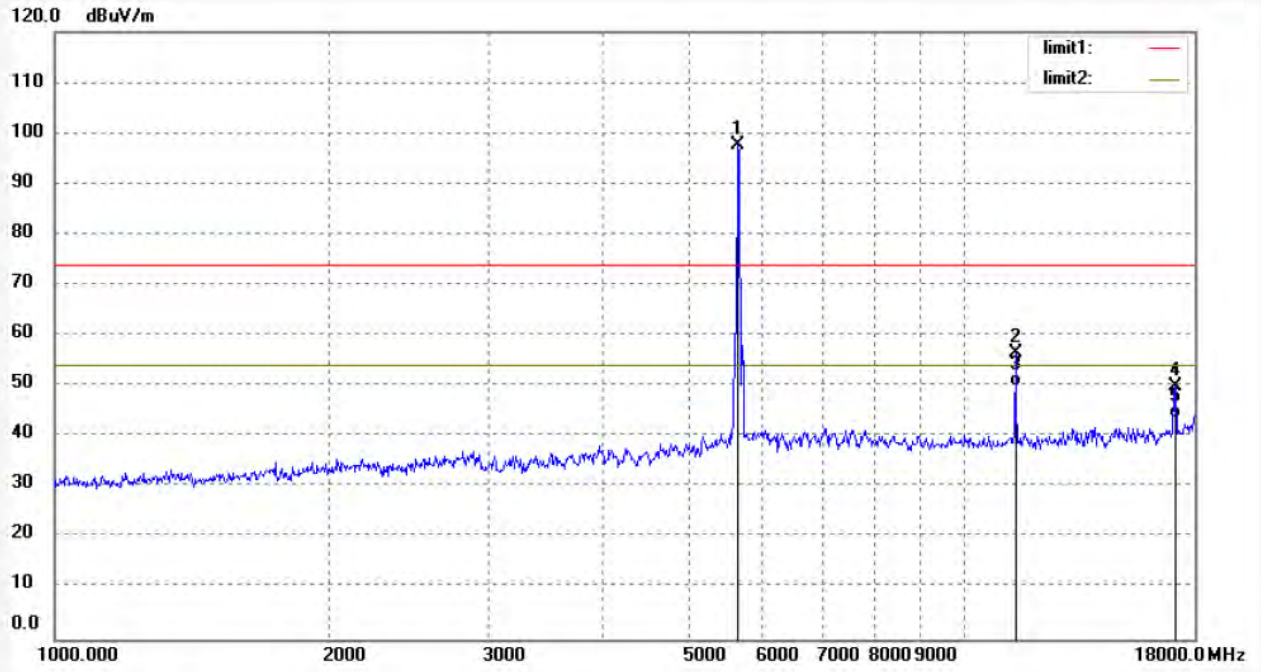
Job No.: star2018 #122
Standard: FCC PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Vaxis wirelss video system
Mode: TX 5745MHz
Model: Vaxis Storm 500FT+
Manufacturer: GM

Polarization: Horizontal
Power Source: DC 12V
Date: 18/04/10/
Time: 14/50/30
Engineer Signature: star
Distance: 3m

Note: Report No.:ATE20180467



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	5745.050	98.28	-0.52	97.76						
2	11490.614	50.14	6.45	56.59	74.00	-17.41	peak	200	254	
3	11490.614	43.48	6.45	49.93	54.00	-4.07	AVG	200	114	
4	17235.089	34.40	15.49	49.89	74.00	-24.11	peak	200	25	
5	17235.089	28.04	15.49	43.53	54.00	-10.47	AVG	200	269	

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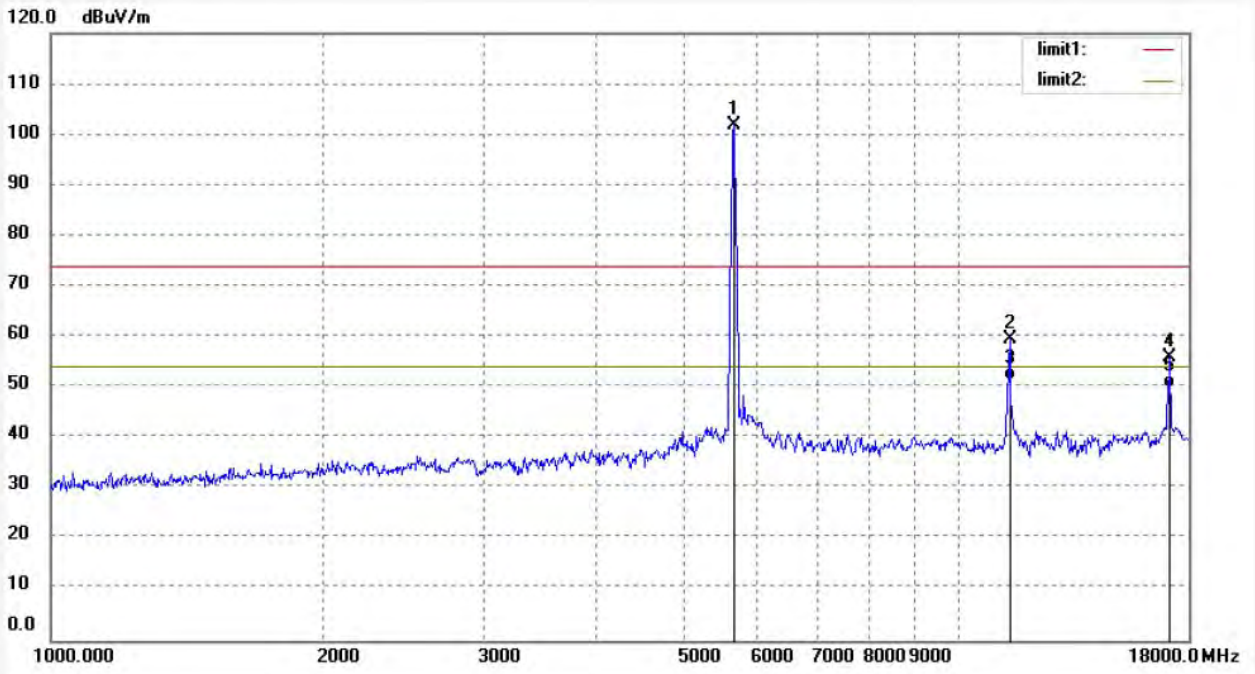
Job No.: star2018 #121
Standard: FCC PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Vaxis wirelss video system
Mode: TX 5745MHz
Model: Vaxis Storm 500FT+
Manufacturer: GM

Polarization: Vertical
Power Source: DC 12V
Date: 18/04/10/
Time: 14/49/20
Engineer Signature: star
Distance: 3m

Note: Report No.:ATE20180467



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	5745.345	102.44	-0.46	101.98			peak	150	215	
2	11490.614	52.97	6.45	59.42	74.00	-14.58	peak	150	233	
3	11490.614	45.10	6.45	51.55	54.00	-2.45	AVG	150	254	
4	17235.026	40.38	15.70	56.08	74.00	-17.92	peak	150	301	
5	17235.026	34.26	15.70	49.96	54.00	-4.04	AVG	150	277	

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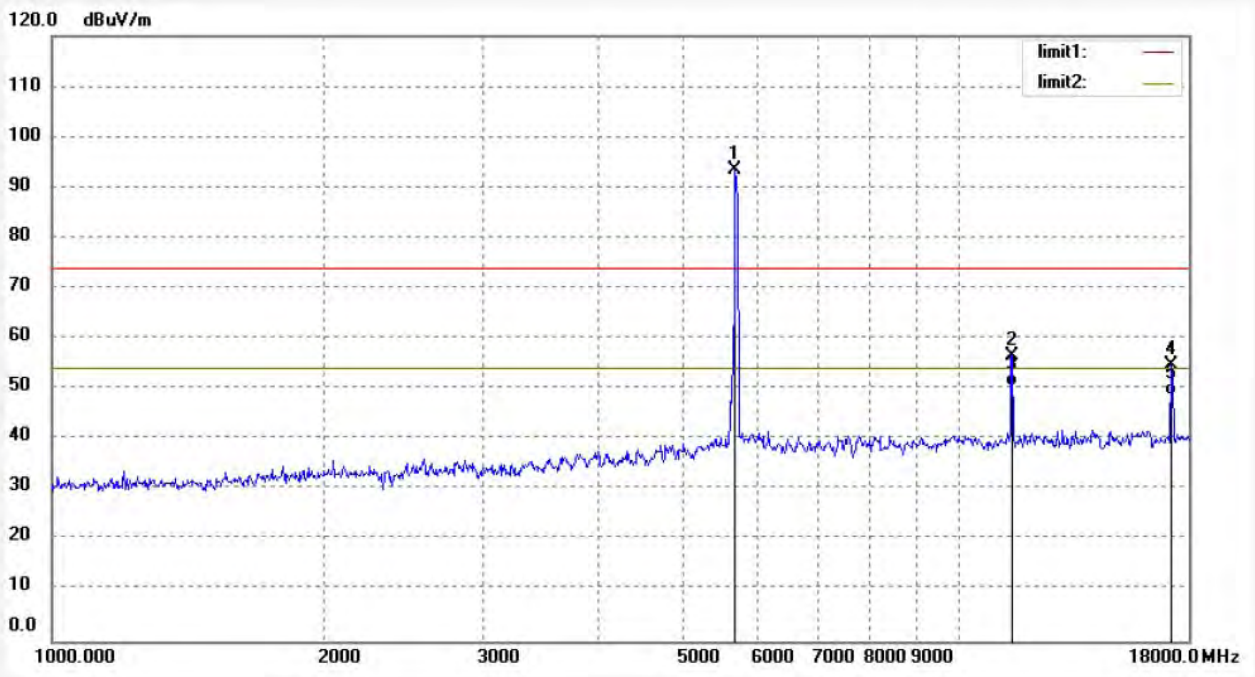
Job No.: star2018 #123
Standard: FCC PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Vaxis wirelss video system
Mode: TX 5785MHz
Model: Vaxis Storm 500FT+
Manufacturer: GM

Polarization: Horizontal
Power Source: DC 12V
Date: 18/04/10/
Time: 14/51/50
Engineer Signature: star
Distance: 3m

Note: Report No.:ATE20180467



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	5785.345	93.94	-0.46	93.48			peak	200	91	
2	11570.352	50.08	6.55	56.63	74.00	-17.37	peak	200	139	
3	11570.352	44.01	6.55	50.56	54.00	-3.44	AVG	200	22	
4	17355.008	38.97	15.91	54.88	74.00	-19.12	peak	200	203	
5	17355.008	32.97	15.91	48.88	54.00	-5.12	AVG	200	145	

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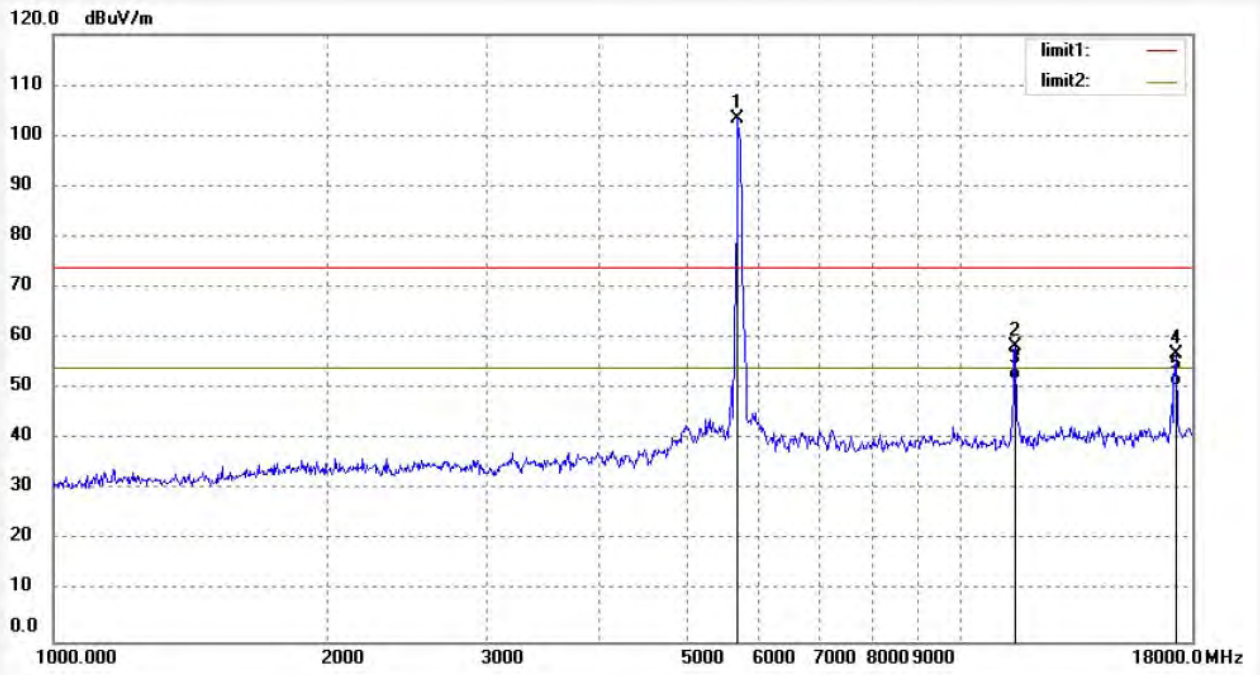
Job No.: star2018 #124
Standard: FCC PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Vaxis wirelss video system
Mode: TX 5785MHz
Model: Vaxis Storm 500FT+
Manufacturer: GM

Polarization: Vertical
Power Source: DC 12V
Date: 18/04/10/
Time: 14/53/51
Engineer Signature: star
Distance: 3m

Note: Report No.:ATE20180467



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	5785.345	103.87	-0.46	103.41			peak	150	14	
2	11570.352	51.92	6.55	58.47	74.00	-15.53	peak	150	114	
3	11570.352	45.21	6.55	51.76	54.00	-2.24	AVG	150	241	
4	17355.236	40.71	16.13	56.84	74.00	-17.16	peak	150	25	
5	17355.236	34.56	16.13	50.69	54.00	-3.31	AVG	150	264	

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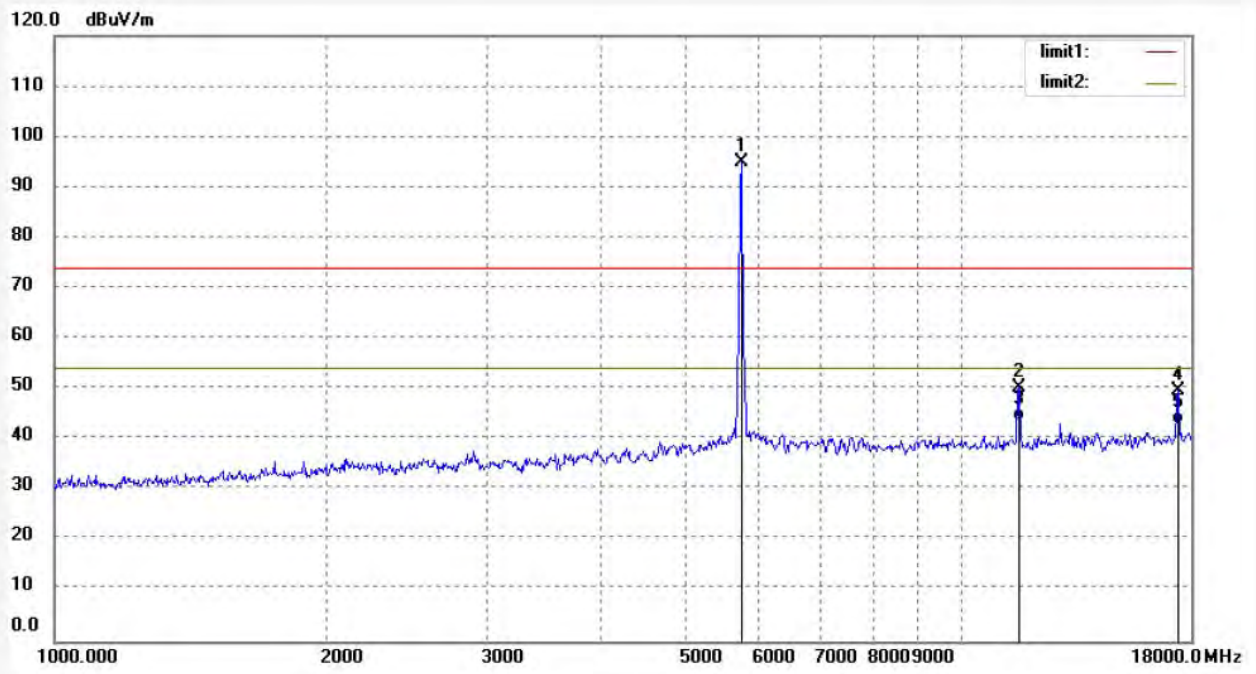
Job No.: star2018 #126
Standard: FCC PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Vaxis wirelss video system
Mode: TX 5825MHz
Model: Vaxis Storm 500FT+
Manufacturer: GM

Polarization: Horizontal
Power Source: DC 12V
Date: 18/04/10/
Time: 14/57/33
Engineer Signature: star
Distance: 3m

Note: Report No.:ATE20180467



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	5825.015	95.38	-0.33	95.05			peak	200	147	
2	11650.097	43.42	6.71	50.13	74.00	-23.87	peak	200	247	
3	11650.097	37.00	6.71	43.71	54.00	-10.29	AVG	200	158	
4	17475.001	32.74	16.77	49.51	74.00	-24.49	peak	200	304	
5	17475.001	26.14	16.77	42.91	54.00	-11.09	AVG	200	284	

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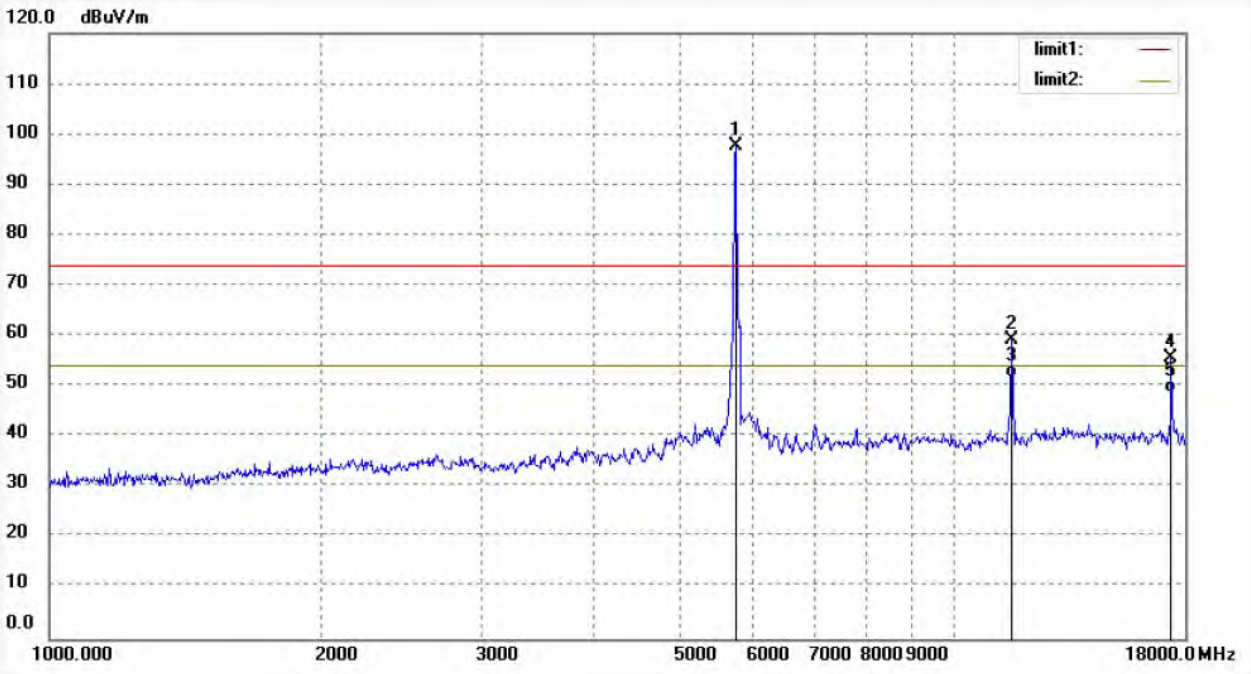
Job No.: star2018 #125
Standard: FCC PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Vaxis wirelss video system
Mode: TX 5825MHz
Model: Vaxis Storm 500FT+
Manufacturer: GM

Polarization: Vertical
Power Source: DC 12V
Date: 18/04/10/
Time: 14/55/10
Engineer Signature: star
Distance: 3m

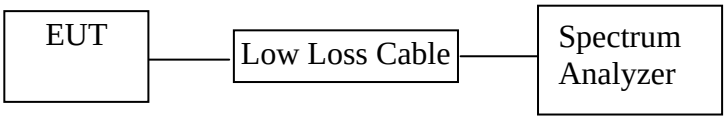
Note: Report No.:ATE20180467



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	5825.200	98.08	-0.37	97.71			peak	150	122	
2	11650.479	52.73	6.64	59.37	74.00	-14.63	peak	150	201	
3	11650.479	45.21	6.64	51.85	54.00	-2.15	AVG	150	236	
4	17475.132	39.00	16.56	55.56	74.00	-18.44	peak	150	84	
5	17475.132	32.14	16.56	48.70	54.00	-5.30	AVG	150	245	

11.BAND EDGE COMPLIANCE TEST

11.1.Block Diagram of Test Setup



11.2.The Requirement For Unwanted Emissions in the Restricted Bands

1. For all measurements, follow the requirements in section II.G.3., "General Requirements for Unwanted Emissions Measurements.
2. At frequencies below 1000 MHz, use the procedure described in section II.G.4., "Procedure for Unwanted Emissions Measurements Below 1000 MHz."
3. At frequencies above 1000 MHz, measurements performed using the peak and average measurement procedures described in sections II.G.5. and II.G.6, respectively, must satisfy the respective peak and average limits.
If all peak measurements satisfy the average limit, then average measurements are not required.
4. For conducted measurements above 1000 MHz, EIRP shall be computed as specified in section II.G.3.b) and then field strength shall be computed as follows (see KDB Publication 412172):
E[dBμV/m] = EIRP[dBm] - 20 log (d[meters]) + 104.77,
where E = field strength and d = distance at which field strength limit is specified in the rules;
E[dBμV/m] = EIRP[dBm] + 95.2, for d = 3 meters.

11.3.EUT Configuration on Measurement

The equipment are installed on the emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

11.4.Operating Condition of EUT

11.4.1.Setup the EUT and simulator as shown as Section 11.1.

11.4.2.Turn on the power of all equipment.

11.4.3.Let the EUT work in TX modes measure it. The transmit frequency are 5745MHz and 5825MHz.

11.5.Test Procedure

Conducted Band Edge:

11.5.1.The transmitter output was connected to the spectrum analyzer via a low loss cable.

11.5.2.Set RBW of spectrum analyzer to 100kHz and VBW to 300kHz.

Radiate Band Edge:

11.5.3.The EUT is placed on a turntable, which is 1.5m above the ground plane and worked at highest radiated power.

11.5.4.The turntable was rotated for 360 degrees to determine the position of maximum emission level.

11.5.5.EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emission.

11.5.6.Set the spectrum analyzer in the following setting in order to capture the lower and upper band-edges of the emission:

11.5.7.RBW=1MHz, VBW=1MHz

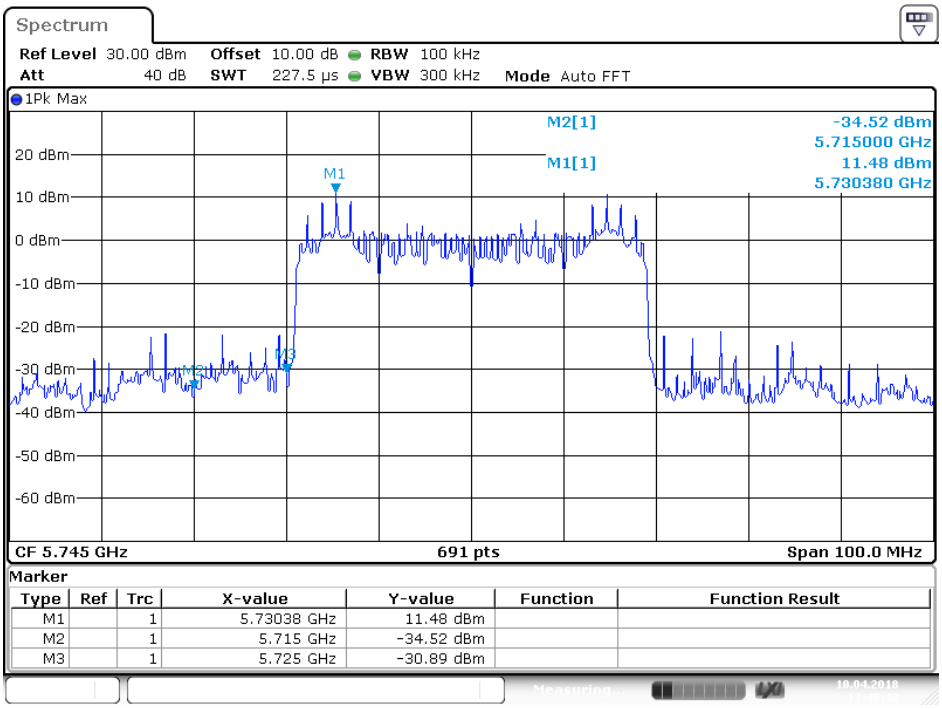
11.5.8.The band edges was measured and recorded.

11.6.Test Result

PASS

The spectrum analyzer plots are attached as below.

ANT 1



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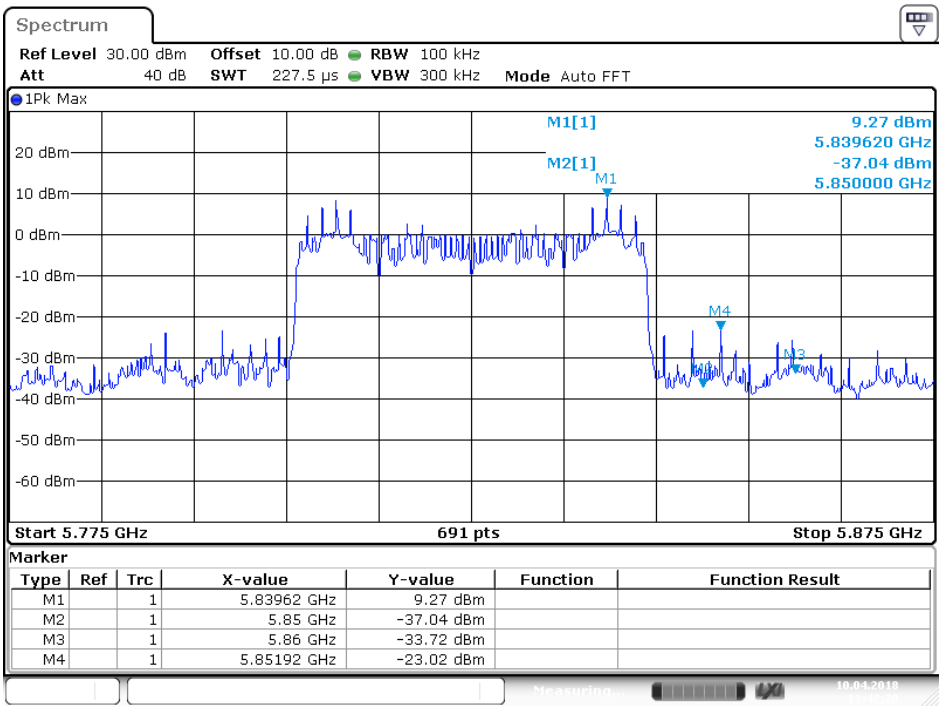

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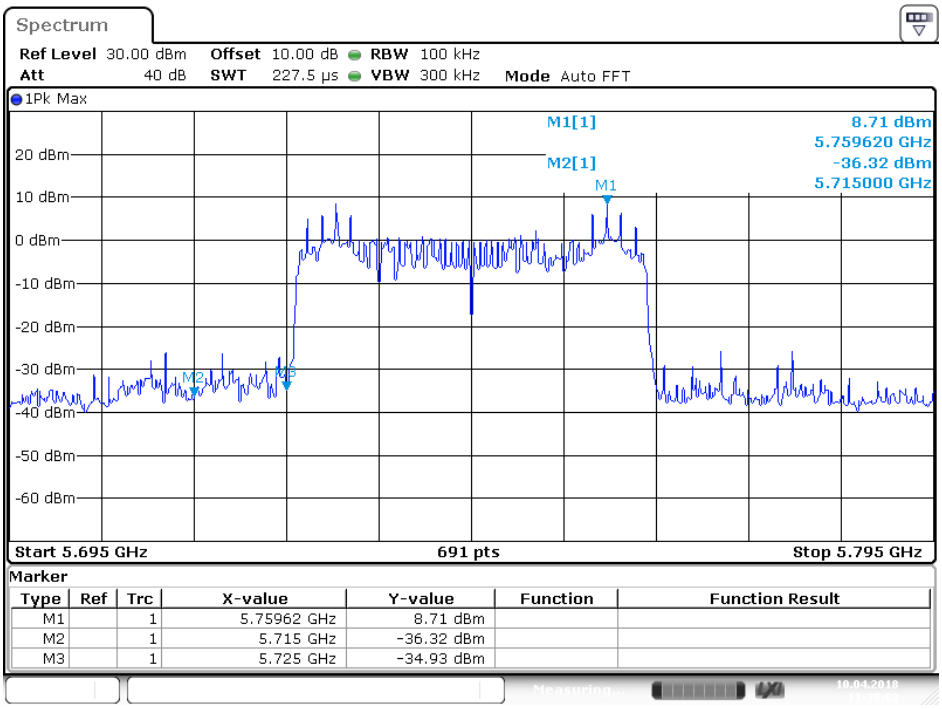
ANT2



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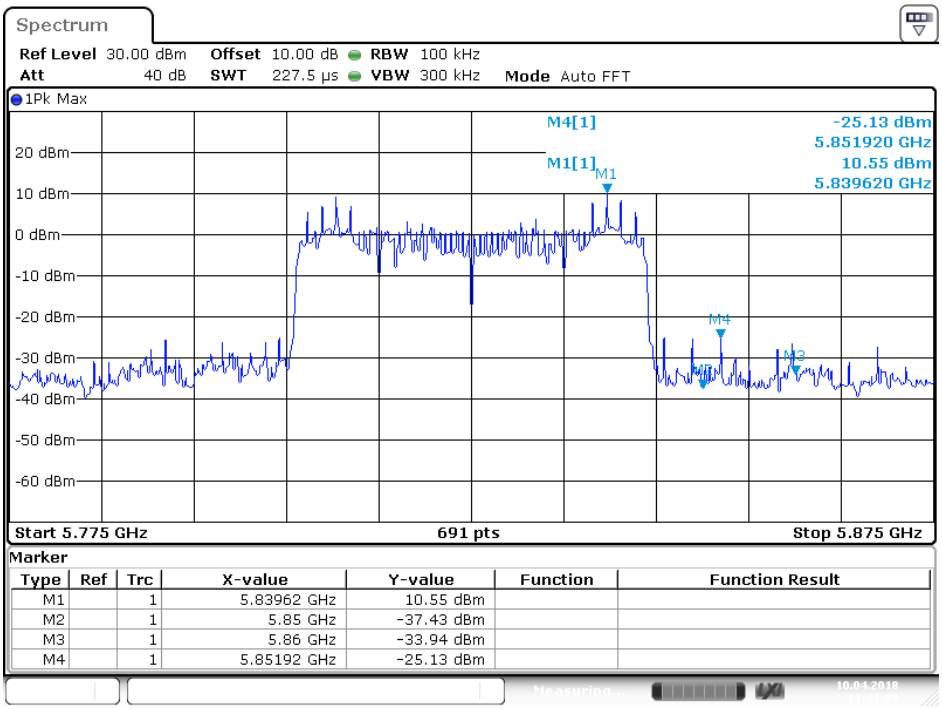

Date: 10.APR.2018 11:41:08

Radiated Band Edge Result

Note:

1. Emissions attenuated more than 20 dB below the permissible value are not reported.
2. The field strength is calculated by adding the antenna factor, high pass filter loss(if used) and cable loss, and subtracting the amplifier gain(if any)from the measured reading. The basic equation calculation is as follows:

   Result = Reading + Corrected Factor
3. Display the measurement of peak values.
4. The average measurement was not performed when peak measured data under the limit of average detection.

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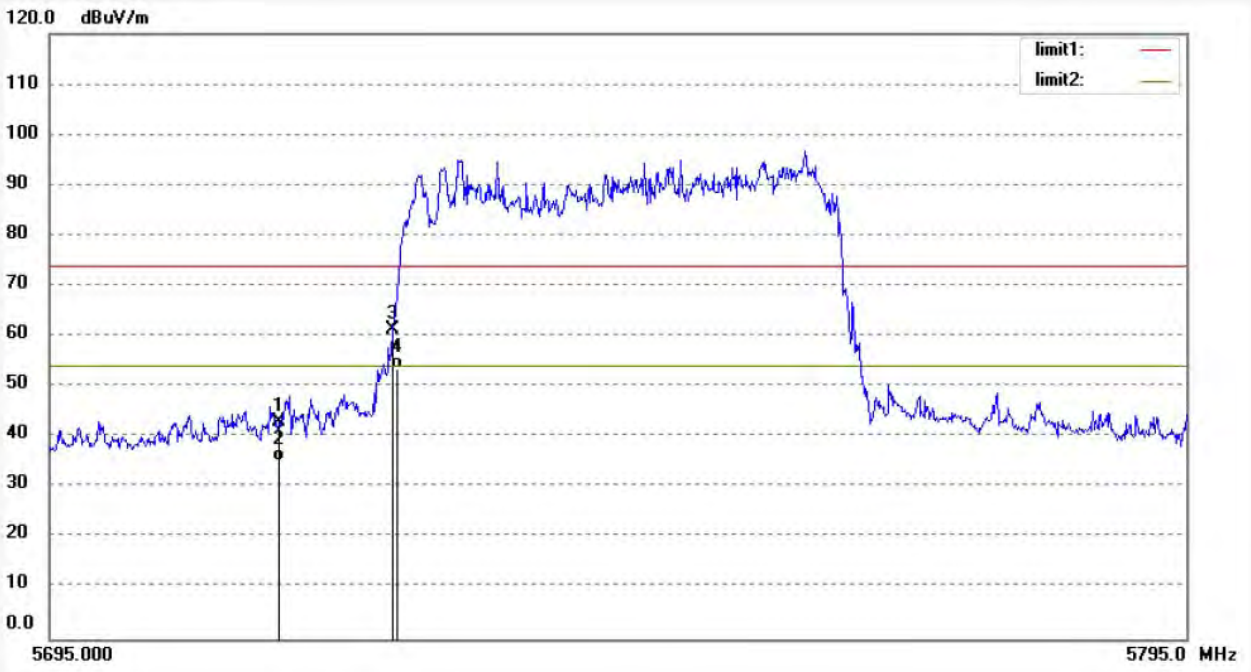
Job No.: star2018 #137
Standard: FCC PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Vaxis wirelss video system
Mode: TX 5745MHz
Model: Vaxis Storm 500FT+
Manufacturer: GM

Polarization: Horizontal
Power Source: DC 12V
Date: 18/04/10/
Time: 15/26/42
Engineer Signature: star
Distance: 3m

Note: Report No.:ATE20180467



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	5715.000	43.59	-0.41	43.18	74.00	-30.82	peak	200	130	
2	5715.000	35.71	-0.41	35.30	54.00	-18.70	AVG	200	158	
3	5725.000	61.84	-0.38	61.46	74.00	-12.54	peak	200	225	
4	5725.000	54.01	-0.38	53.63	54.00	-0.37	AVG	200	103	

Note: Average measurement with peak detection at No.2&4

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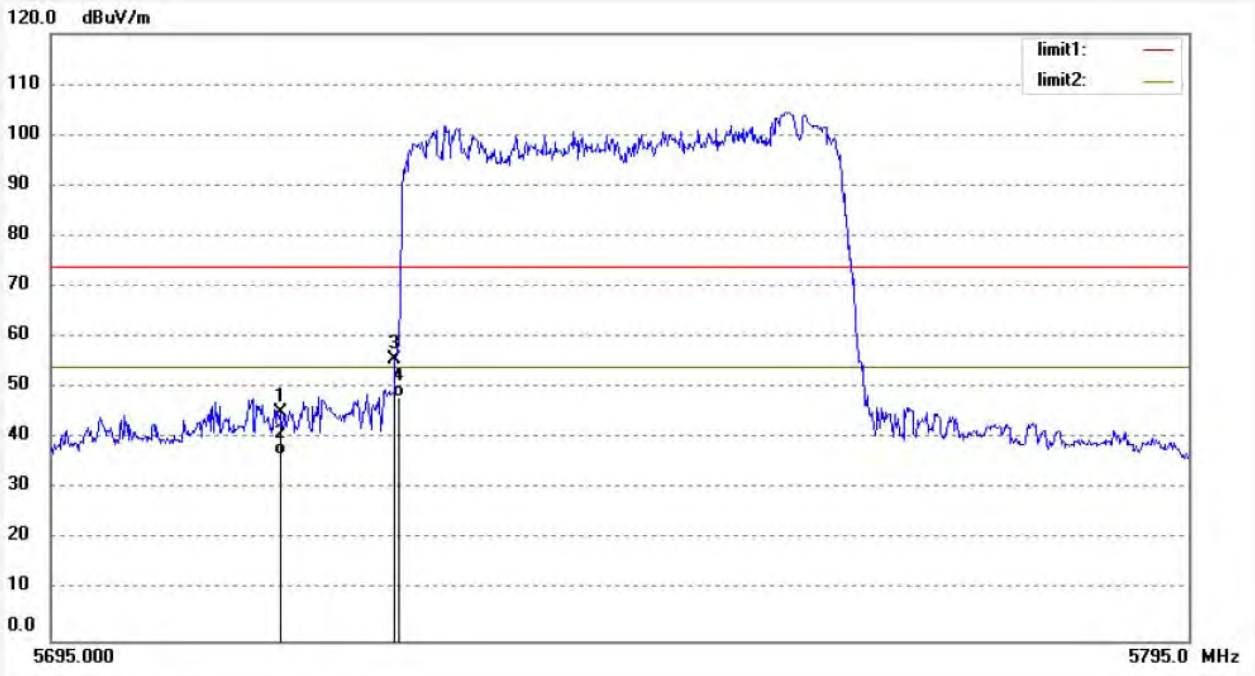
Job No.: star2018 #138
Standard: FCC PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Vaxis wirelss video system
Mode: TX 5745MHz
Model: Vaxis Storm 500FT+
Manufacturer: GM

Polarization: Vertical
Power Source: DC 12V
Date: 18/04/10/
Time: 15/28/03
Engineer Signature: star
Distance: 3m

Note: Report No.:ATE20180467



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	5715.000	45.45	-0.41	45.04	74.00	-28.96	peak	150	19	
2	5715.000	37.14	-0.41	36.73	54.00	-17.27	AVG	150	247	
3	5725.000	56.02	-0.38	55.64	74.00	-18.36	peak	150	25	
4	5725.000	48.62	-0.38	48.24	54.00	-5.76	AVG	150	314	

Note: Average measurement with peak detection at No.2&4

ACCURATE TECHNOLOGY CO., LTD.
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Science & Industry Park,Nanshan Shenzhen,P.R.China
Site: 1# Chamber
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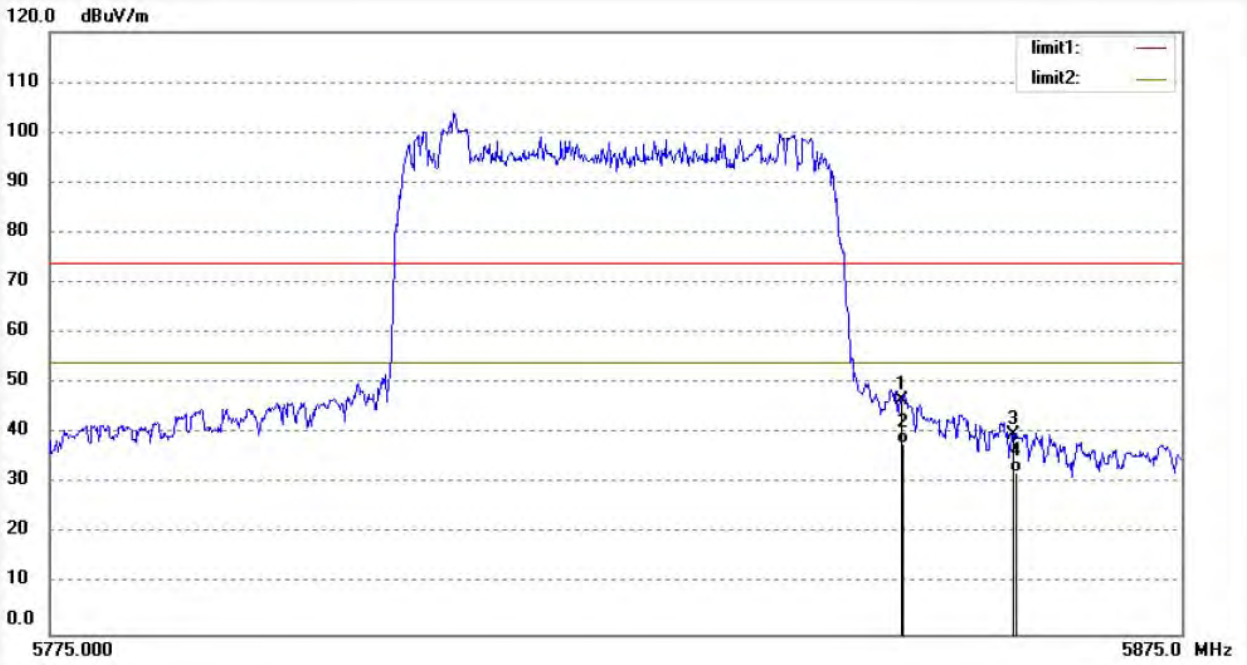
Fax:+86-0755-26503396

Job No.: star2018 #140
Standard: FCC PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Vaxis wirelss video system
Mode: TX 5825MHz
Model: Vaxis Storm 500FT+
Manufacturer: GM

Polarization: Horizontal
Power Source: DC 12V
Date: 18/04/10/
Time: 15/30/59
Engineer Signature: star
Distance: 3m

Note: Report No.:ATE20180467



No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	5850.000	46.82	-0.15	46.67	74.00	-27.33	peak	200	144	
2	5850.000	38.14	-0.15	37.99	54.00	-16.01	AVG	200	168	
3	5860.000	39.87	-0.12	39.75	74.00	-34.25	peak	200	257	
4	5860.000	32.22	-0.12	32.10	54.00	-21.90	AVG	200	300	

Note: Average measurement with peak detection at No.2&4

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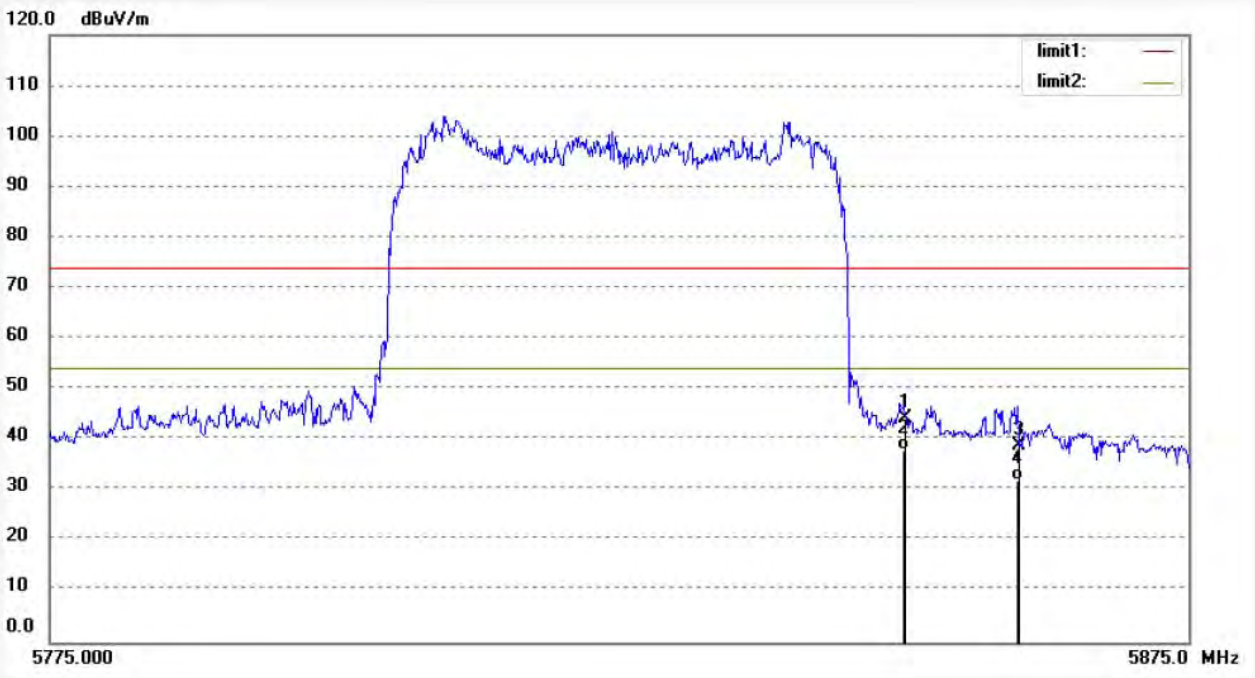
Fax:+86-0755-26503396

Job No.: star2018 #139
Standard: FCC PK
Test item: Radiation Test
Temp.(C)/Hum.(%) 25 C / 55 %
EUT: Vaxis wirelss video system
Mode: TX 5825MHz
Model: Vaxis Storm 500FT+
Manufacturer: GM

Polarization: Vertical
Power Source: DC 12V
Date: 18/04/10/
Time: 15/29/49
Engineer Signature: star
Distance: 3m

Note: Report No.:ATE20180467

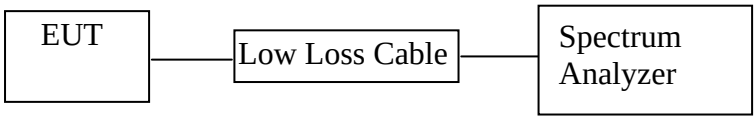


No.	Freq. (MHz)	Reading (dBuV/m)	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Degree (deg.)	Remark
1	5850.000	44.42	-0.15	44.27	74.00	-29.73	peak	150	177	
2	5850.000	38.10	-0.15	37.95	54.00	-16.05	AVG	150	256	
3	5860.000	39.04	-0.12	38.92	74.00	-35.08	peak	150	104	
4	5860.000	32.08	-0.12	31.96	54.00	-22.04	AVG	150	255	

Note: Average measurement with peak detection at No.2&4

12.FREQUENCIES STABILITY

12.1.Block Diagram of Test Setup



12.2.EUT Configuration on Measurement

Manufacturers 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 manual.

12.3.Operating Condition of EUT

12.3.1.Setup the EUT and simulator as shown as Section 13.1.

12.3.2.Turn on the power of all equipment.

12.3.3.Let the EUT work in TX modes measure it. The transmit frequency are 5745, 5785 and 5825MHz.

12.4.Test Result

PASS

Frequencies Stability test result:

Test Conditions	Measured Frequency(MHz) 5745
V nor(V)	5745.0077
V max(V)	5745.0081
V min(V)	5745.0092
Max. Deviation Frequency	0.0092
Max. Frequency Error (ppm)	1.78

Frequency Error vs. Temperature:

Test Conditions (°C)	Measured Frequency(MHz) 5745
-5	5745.0072
5	5745.0055
15	5745.0039
25	5745.0081
35	5745.0089
45	5745.0051
50	5745.0029
Max. Deviation Frequency	0.0089
Max. Frequency Error (ppm)	1.72

Test Conditions	Measured Frequency(MHz) 5785
V nor(V)	5785.0065
V max(V)	5785.0093
V min(V)	5785.0056
Max. Deviation Frequency	0.0093
Max. Frequency Error (ppm)	1.77

Frequency Error vs. Temperature:

Test Conditions (°C)	Measured Frequency(MHz) 5785
-5	5785.0045
5	5785.0068
15	5785.0051
25	5785.0090
35	5785.0076
45	5785.0063
50	5785.0038
Max. Deviation Frequency	0.0090
Max. Frequency Error (ppm)	1.71

Test Conditions	Measured Frequency(MHz) 5825
V nor(V)	5825.0055
V max(V)	5825.0047
V min(V)	5825.0059
Max. Deviation Frequency	0.0059
Max. Frequency Error (ppm)	1.01

Frequency Error vs. Temperature:

Test Conditions (°C)	Measured Frequency(MHz) 5825
-5	5825.0033
5	5825.0051
15	5825.0059
25	5825.0062
35	5825.0041
45	5825.0062
50	5825.0071
Max. Deviation Frequency	0.0071
Max. Frequency Error (ppm)	1.22

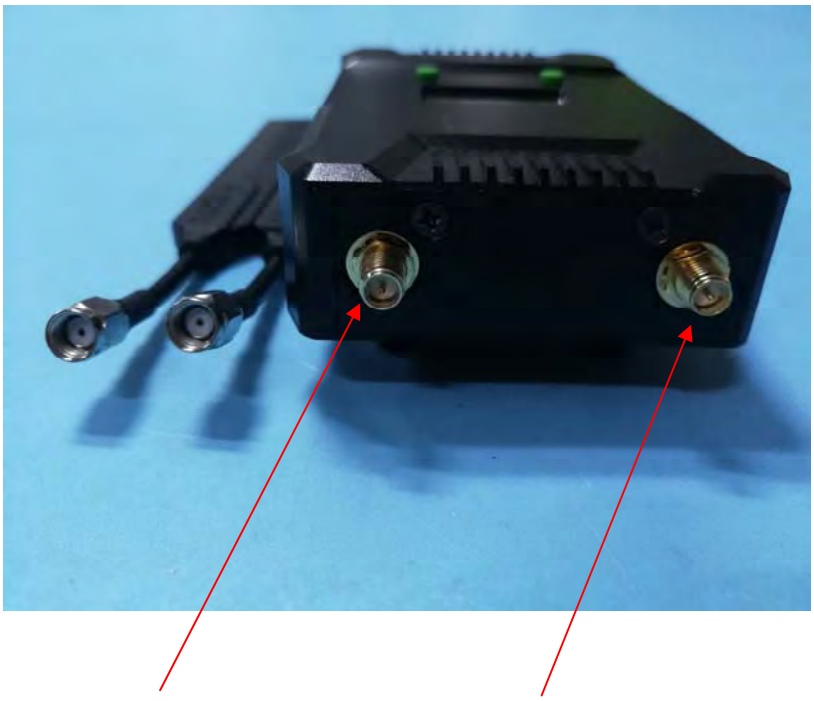
13. ANTENNA REQUIREMENT

13.1. The Requirement

According to Section 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.

13.2. Antenna Construction

The antenna use a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. The antenna jack of EUT correspond to the standard. The Antenna gain of EUT is 5dBi. Therefore, the equipment complies with the antenna requirement of Section 15.203.



Antenna 1 Antenna 2

---------- THE END OF TEST REPORT ----------