FCC RADIO TEST REPORT
FCC ID:2AEMK-TVE1001I

Product： Tablet PC

Trade Name： Filla

Model Name： TVE1001I

Serial Model： Prism MII

Report No.： NTEK-2015NT04011396F4

Prepared for

TECHVISION INFORMATION TECHNOLOGY (HK) LIMITED

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TEST RESULT CERTIFICATION

Applicant's name ..... TECHVISION INFORMATION TECHNOLOGY (HK) LIMITED

Address ..... Workshop 11A,12th Floor,Pacific Trade Center, No.2 Kai Hing Road, Kowloon Bay, Hong Kong

Manufacture's Name... Techvision Intelligent Technology Co.,Ltd.

Address ..... Room 7006, Tianxia IC Industry Building, Yiyuan Road, Nanshan, Shenzhen

Product description

Product name ..... Tablet PC

Model and/or type reference TVE1001I

Serial Model ..... Prism MII

Standards ..... FCC Part15.247 01 Oct. 2014

Test procedure ..... ANSI C63.4-2003 and KDB 558074 D01 DTS Meas Guidance v03r02

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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Date of Test .....

Date (s) of performance of tests ..... 01 Apr. 2015~14 Apr. 2015

Date of Issue..... 14 Apr. 2015

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

Testing Engineer : Eileen Liu.

(Eileen Liu)

Technical Manager : Brown Lu

(Brown Lu)

Authorized Signatory : Bill

(Bill Yao)

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1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

FCC Part15 (15.247) , Subpart C			
Standard Section	Test Item	Judgment	Remark
15.207	Conducted Emission	PASS	
15.247 (a)(2)	6dB Bandwidth	PASS	
15.247 (b)	Peak Output Power	PASS	
15.247 (c)	Radiated Spurious Emission	PASS	
15.247 (d)	Power Spectral Density	PASS	
15.205	Band Edge Emission	PASS	
15.203	Antenna Requirement	PASS	

NOTE:

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

1.1 TEST FACILITY

NTEK Testing Technology Co., Ltd
Add.:1/F, Building E, Fenda Science Park, Sanwei Community, Xixiang Street, Bao'an District, Shenzhen P.R. China.
FCC Registration No.:238937; IC Registration No.:9270A-1
CNAS Registration No.:L5516

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	±1.38dB
2	RF power,conducted	±0.16dB
3	Spurious emissions,conducted	±0.21dB
4	All emissions,radiated(<1G)	±4.68dB
5	All emissions,radiated(>1G)	±4.89dB
6	Temperature	±0.5°C
7	Humidity	±2%

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Equipment	Tablet PC
Trade Name	Filla
Model Name	TVE1001I
Serial Model	Prism MII
Model Difference	All the model are the same circuit and RF module, except the model name and colour.
Product Description	2.4G Operation Frequency(2.4G): 802.11b/g/n(20MHz):2412~2462 MHz Operation Frequency(5.8G): 5725 MHz ~ 5850 MHz Modulation Type: CCK/OFDM/DBPSK/DAPSK Bit Rate of Transmitter: 802.11b:11/5.5/2/1 Mbps 802.11g:54/48/36/24/18/12/9/6Mbps 802.11n(20MHz):150/144.44/130/117/115.56/104/86.67/78/52/6.5Mbps Number Of Channel: 802.11b/g/n20MHz:11CH Modulation Type: OFDM (BPSK / QPSK / 16QAM / 64QAM) Antenna Designation: Please see Note 3. Antenna Gain (dBi): Please see Note 3.
Channel List	Please refer to the Note 2.
Ratings	DC 3.8V
Adapter	Mode: PS10E050K2000UU Input: 100-240V~, 50/60Hz, 0.35A Output: 5.0V⎓, 2000mA
Battery	DC 3.8V,4000mAh
Connecting I/O Port(s)	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. 2.4GHz

Channel List for 802.11b/g/n(20 MHz)							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
01	2412	04	2427	07	2442	10	2457
02	2417	05	2432	08	2447	11	2462
03	2422	06	2437	09	2452	-	-

5GHz

802.11a/n20 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	-	-	-	-	-	-

3.

Table for Filed Antenna

Brand	Model Name	Antenna Type	Gain (dBi)	NOTE
N/A	N/A	FPCB antenna	2.4G/5G:2.0	Wifi Antenna

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	802.11b CH1/ CH6/ CH11
Mode 2	802.11g CH1/ CH6/ CH11
Mode 3	802.11n20 CH1/ CH6/ CH11
Mode 4	802.11n40 CH3/ CH6/ CH9
Mode 5	Link Mode
Mode 6	802.11a /n 20 CH149/ CH157/ CH 165
Mode 7	802.11n40 CH 151 / CH 159

For Conducted Emission	
Final Test Mode	Description
Mode 5	Link Mode

For Radiated Emission	
Final Test Mode	Description
Mode 1	802.11b CH1/ CH6/ CH11
Mode 2	802.11g CH1/ CH6/ CH11
Mode 3	802.11n20 CH1/ CH6/ CH11
Mode 4	802.11n40 CH3/ CH6/ CH 9
Mode 5	Link Mode
Mode 6	802.11a /n20 CH149/ CH157/ CH165
Mode 7	802.11n40 CH151 / CH159

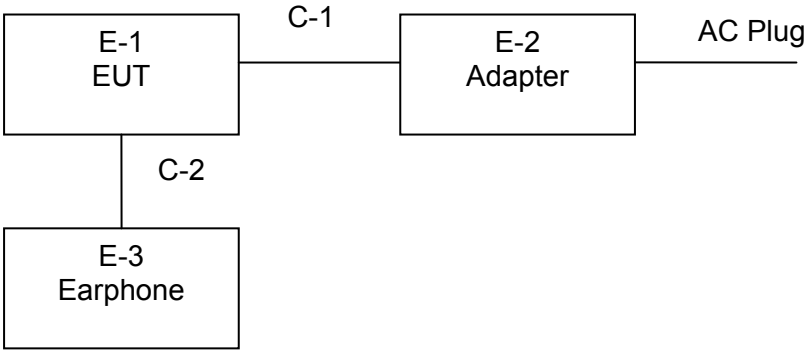
Note:

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

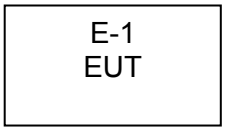
(2) The measurements are performed at all Bit Rate of Transmitter, the worst data was reported

2.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

Conducted Emission Test



Radiated Spurious Emission Test



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	Brand	Model/Type No.	Series No.	Note
E-1	Tablet PC	Filla	TVE1001I	N/A	EUT
E-2	Adapter	N/A	PS10E050K2000UU	N/A	
E-3	Earphone	N/A	2688	N/A	

Item	Shielded Type	Ferrite Core	Length	Note
C-1	NO	NO	1.2m	
C-2	NO	NO	1.0m	

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.

2.5 EQUIPMENTS LIST FOR ALL TEST ITEMS

Radiation Test equipment

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibration period
1	Spectrum Analyzer	Agilent	E4407B	MY45108040	2014.07.06	2015.07.05	1 year
2	Test Receiver	R&S	ESPI	101318	2014.06.06	2015.06.05	1 year
3	Bilog Antenna	TESEQ	CBL6111D	31216	2014.07.06	2015.07.05	1 year
4	50Ω Coaxial Switch	Anritsu	MP59B	6200264416	2014.06.06	2015.06.05	1 year
5	Spectrum Analyzer	ADVANTEST	R3132	150900201	2014.06.06	2015.06.05	1 year
6	Horn Antenna	EM	EM-AH-10180	2011071402	2014.07.06	2015.07.05	1 year
7	Horn Ant	Schwarzbeck	BBHA 9170	9170-181	2014.07.06	2015.07.05	1 year
8	Amplifier	EM	EM-30180	060538	2014.12.22	2015.12.21	1 year
9	Loop Antenna	ARA	PLA-1030/B	1029	2014.06.06	2015.06.05	1 year
10	Power Meter	R&S	NRVS	100696	2014.07.06	2015.07.05	1 year
11	Power Sensor	R&S	URV5-Z4	0395.1619.05	2014.07.06	2015.07.05	1 year

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	2014.06.06	2015.06.05	1 year
2	LISN	R&S	ENV216	101313	2014.08.24	2015.08.23	1 year
3	LISN	EMCO	3816/2	00042990	2014.06.06	2015.06.05	1 year
4	50Ω Coaxial Switch	Anritsu	MP59B	6200264417	2014.06.06	2015.06.05	1 year
5	Passive Voltage Probe	R&S	ESH2-Z3	100196	2014.06.06	2015.06.05	1 year
6	Absorbing clamp	R&S	MOS-21	100423	2014.06.06	2015.06.05	1 year

1	Attenuation	MCE	24-10-34	BN9258	2014.06.06	2015.06.05	1 year

3. EMC EMISSION TEST

3.1 CONDUCTED EMISSION MEASUREMENT

3.1.1 POWER LINE CONDUCTED EMISSION Limits (Frequency Range 150KHz-30MHz)

FREQUENCY (MHz)	Class A (dBuV)		Class B (dBuV)		Standard
	Quasi-peak	Average	Quasi-peak	Average	
0.15 -0.5	79.00	66.00	66 - 56 *	56 - 46 *	CISPR
0.50 -5.0	73.00	60.00	56.00	46.00	CISPR
5.0 -30.0	73.00	60.00	60.00	50.00	CISPR

0.15 -0.5	79.00	66.00	66 - 56 *	56 - 46 *	FCC
0.50 -5.0	73.00	60.00	56.00	46.00	FCC
5.0 -30.0	73.00	60.00	60.00	50.00	FCC

Note:

(1) The tighter limit applies at the band edges.

(2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

The following table is the setting of the receiver

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

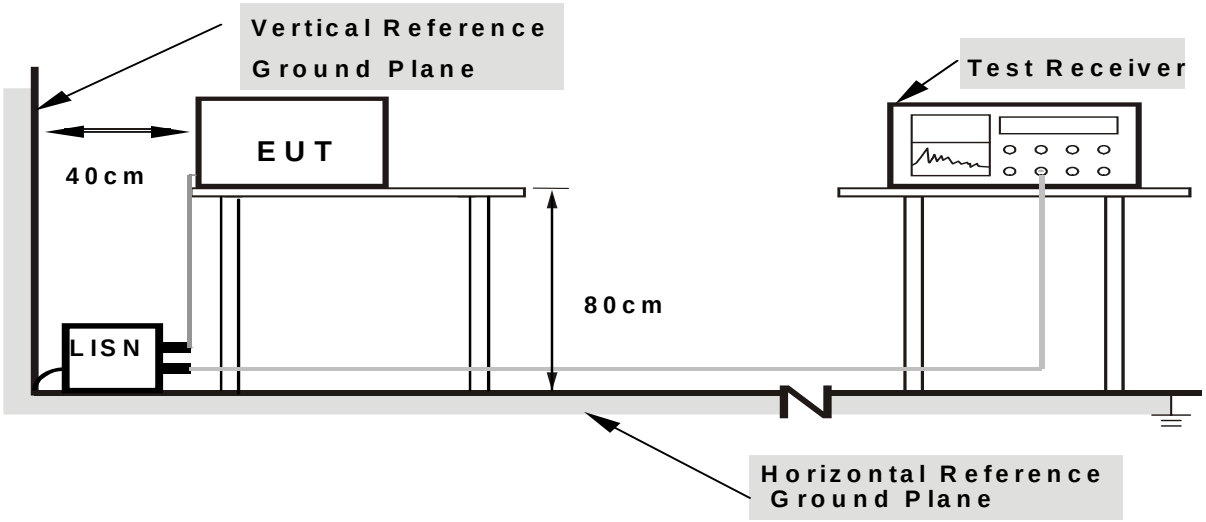
3.1.2 TEST PROCEDURE

a. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected 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.
b. 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 40 cm long.
c. 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.
d. LISN at least 80 cm from nearest part of EUT chassis.
e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

3.1.3 DEVIATION FROM TEST STANDARD

No deviation

3.1.4 TEST SETUP



Note: 1.Support units were connected to second LISN.
2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

3.1.5 EUT OPERATING CONDITIONS

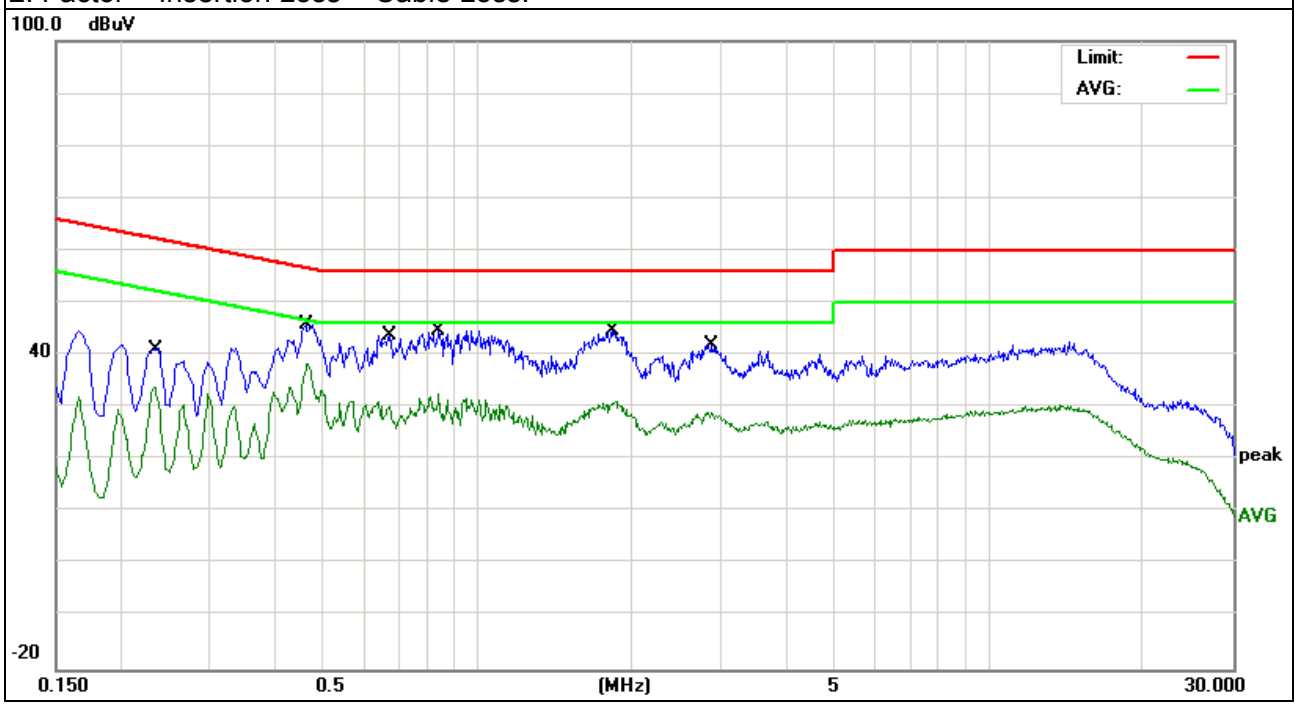
The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

3.1.6 TEST RESULTS

EUT：	Tablet PC	Model Name. ：	TVE1001I
Temperature：	26 ℃	Relative Humidity：	56%
Pressure：	1010hPa	Phase：	L
Test Voltage ：	DC 5V From adapter AC120V/60Hz	Test Mode：	Mode 5(2.4G)

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV)	Limits (dBμV)	Margin (dB)	Remark
0.2340	31.76	9.50	41.26	62.30	-21.04	QP
0.2340	24.46	9.50	33.96	52.30	-18.34	AVG
0.4660	36.36	9.43	45.79	56.58	-10.79	QP
0.4660	28.97	9.43	38.40	46.58	-8.18	AVG
0.6740	34.26	9.59	43.85	56.00	-12.15	QP
0.6740	21.65	9.59	31.24	46.00	-14.76	AVG
0.8420	35.17	9.59	44.76	56.00	-11.24	QP
0.8420	22.92	9.59	32.51	46.00	-13.49	AVG
1.8340	35.04	9.57	44.61	56.00	-11.39	QP
1.8340	21.61	9.57	31.18	46.00	-14.82	AVG
2.8780	32.45	9.60	42.05	56.00	-13.95	QP
2.8780	19.53	9.60	29.13	46.00	-16.87	AVG

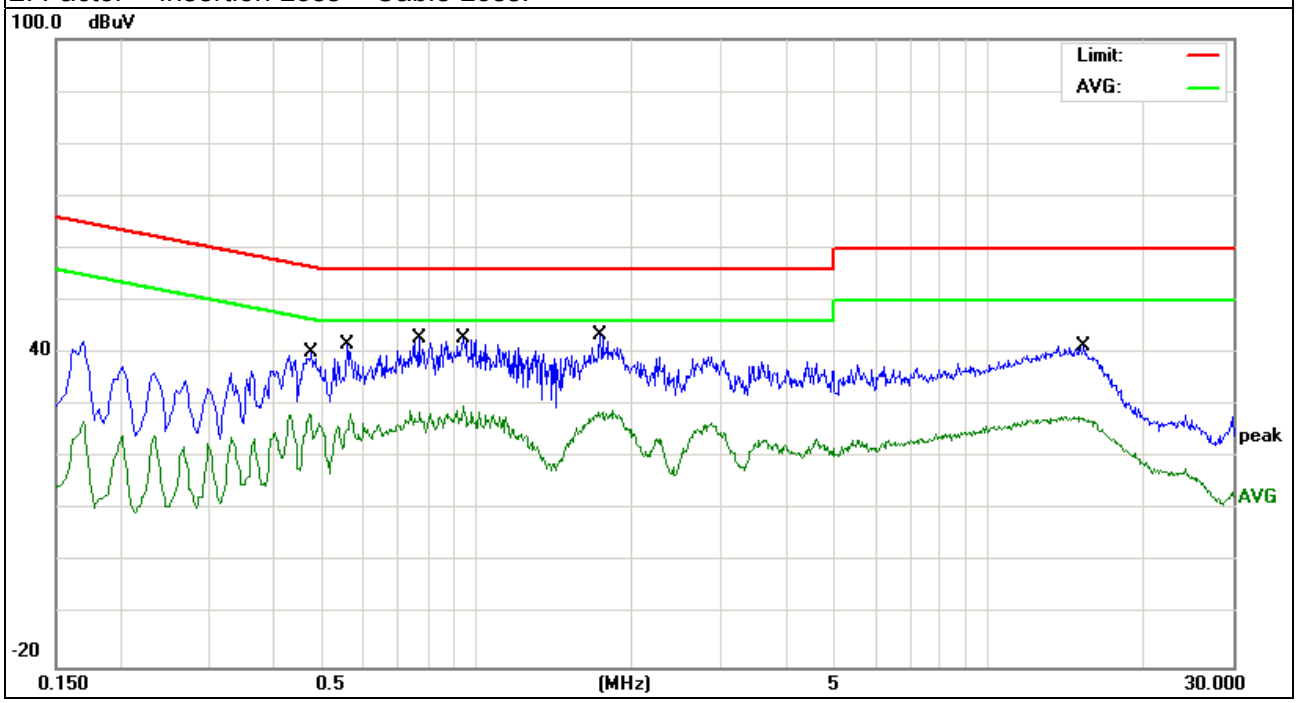
Remark:
1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.



EUT：	Tablet PC	Model Name. ：	TVE1001I
Temperature：	26 ℃	Relative Humidity：	56%
Pressure：	1010hPa	Phase：	N
Test Voltage ：	DC 5V From adapter AC120V/60Hz	Test Mode：	Mode 5(2.4G)

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV)	Limits (dBμV)	Margin (dB)	Remark
0.4740	30.81	9.46	40.27	56.44	-16.17	QP
0.4740	18.99	9.46	28.45	46.44	-17.99	AVG
0.5580	32.04	9.46	41.50	56.00	-14.50	QP
0.5580	18.91	9.46	28.37	46.00	-17.63	AVG
0.7700	33.27	9.45	42.72	56.00	-13.28	QP
0.7700	19.74	9.45	29.19	46.00	-16.81	AVG
0.9420	33.48	9.46	42.94	56.00	-13.06	QP
0.9420	20.58	9.46	30.04	46.00	-15.96	AVG
1.7420	33.92	9.46	43.38	56.00	-12.62	QP
1.7420	19.44	9.46	28.90	46.00	-17.10	AVG
15.3380	31.61	9.71	41.32	60.00	-18.68	QP
15.3380	18.26	9.71	27.97	50.00	-22.03	AVG

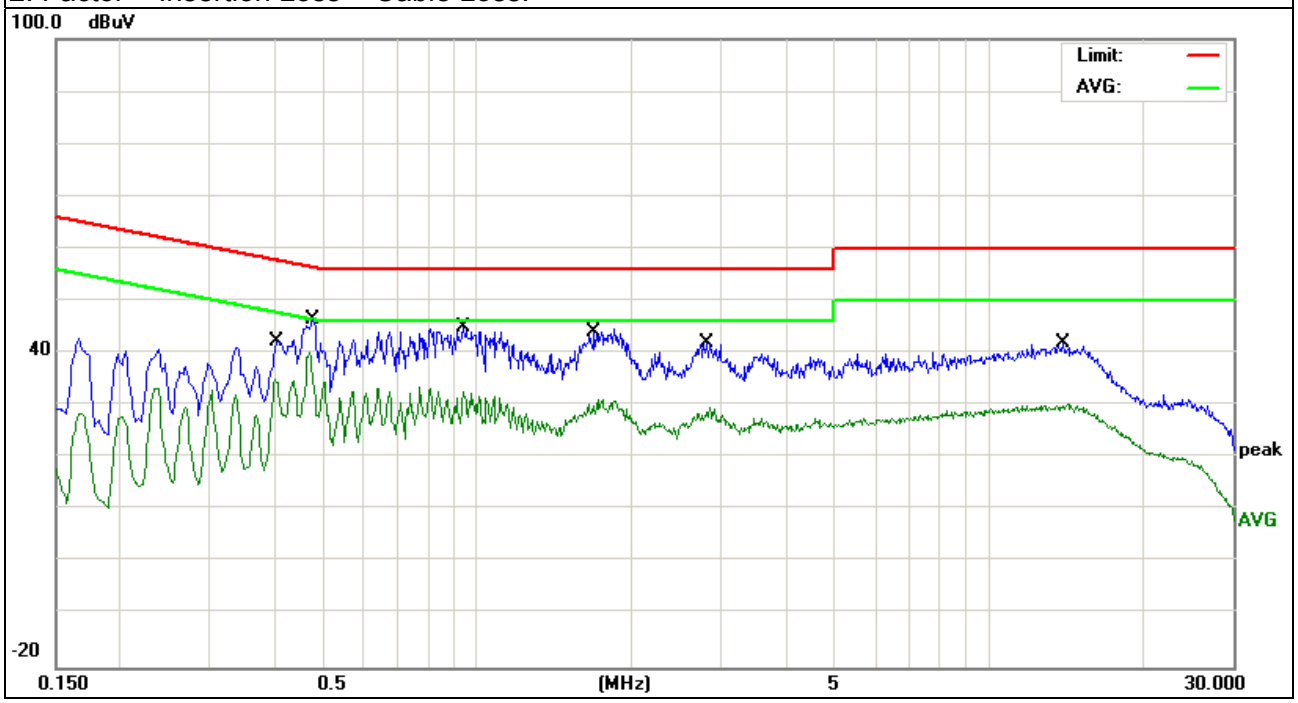
Remark:
1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.



EUT：	Tablet PC	Model Name. ：	TVE1001I
Temperature：	26 ℃	Relative Humidity：	56%
Pressure：	1010hPa	Phase：	L
Test Voltage ：	DC 5V From adapter AC120V/60Hz	Test Mode：	Mode 5(5.0G)

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV)	Limits (dBμV)	Margin (dB)	Remark
0.4020	33.05	9.18	42.23	57.81	-15.58	QP
0.4020	25.98	9.18	35.16	47.81	-12.65	AVG
0.4700	37.09	9.44	46.53	56.51	-9.98	QP
0.4700	30.59	9.44	40.03	46.51	-6.48	AVG
0.9420	35.52	9.58	45.10	56.00	-10.90	QP
0.9420	23.03	9.58	32.61	46.00	-13.39	AVG
1.6900	34.61	9.57	44.18	56.00	-11.82	QP
1.6900	21.61	9.57	31.18	46.00	-14.82	AVG
2.8220	32.24	9.60	41.84	56.00	-14.16	QP
2.8220	20.07	9.60	29.67	46.00	-16.33	AVG
13.9260	32.14	9.74	41.88	60.00	-18.12	QP
13.9260	20.53	9.74	30.27	50.00	-19.73	AVG

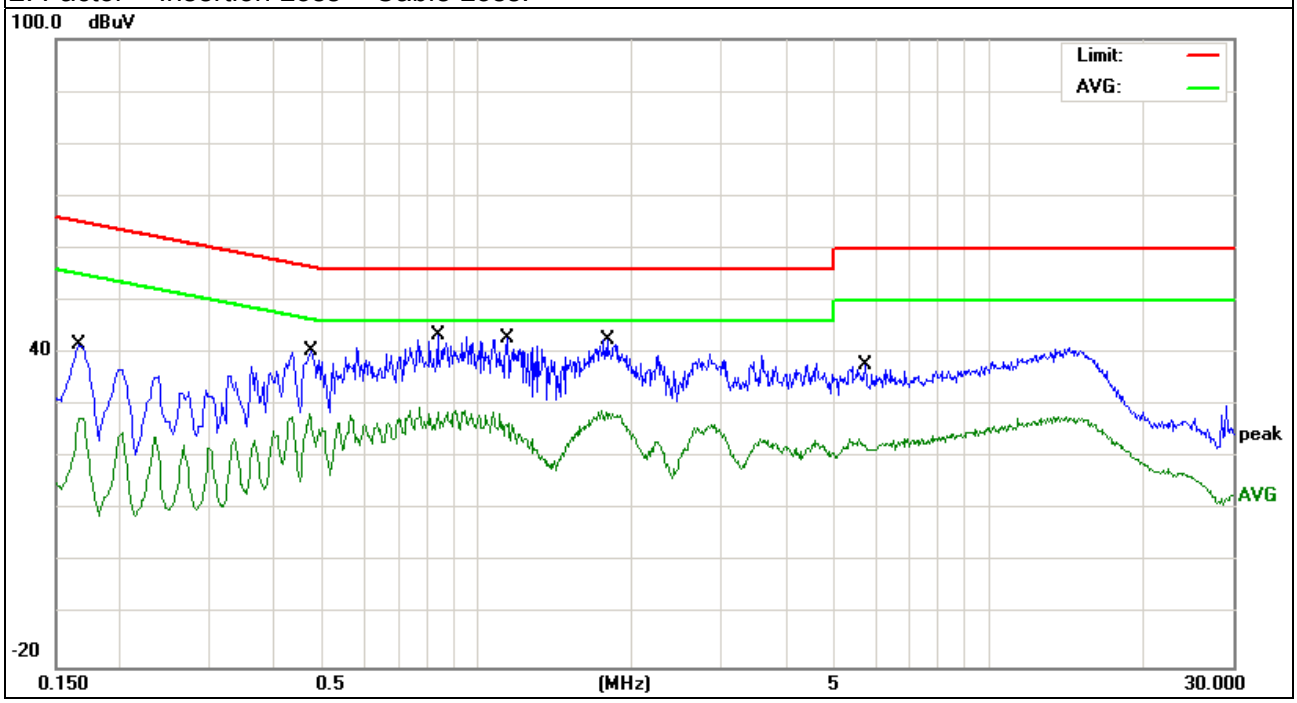
Remark:
1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.



EUT：	Tablet PC	Model Name. ：	TVE1001I
Temperature：	26 ℃	Relative Humidity：	56%
Pressure：	1010hPa	Phase：	N
Test Voltage ：	DC 5V From adapter AC120V/60Hz	Test Mode：	Mode 5(5.0G)

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV)	Limits (dBμV)	Margin (dB)	Remark
0.1660	32.02	9.59	41.61	65.15	-23.54	QP
0.1660	17.96	9.59	27.55	55.15	-27.60	AVG
0.4740	31.05	9.46	40.51	56.44	-15.93	QP
0.4740	19.12	9.46	28.58	46.44	-17.86	AVG
0.8380	33.87	9.45	43.32	56.00	-12.68	QP
0.8380	20.11	9.45	29.56	46.00	-16.44	AVG
1.1420	33.27	9.46	42.73	56.00	-13.27	QP
1.1420	19.35	9.46	28.81	46.00	-17.19	AVG
1.7980	33.15	9.46	42.61	56.00	-13.39	QP
1.7980	19.66	9.46	29.12	46.00	-16.88	AVG
5.7300	28.25	9.45	37.70	60.00	-22.30	QP
5.7300	14.18	9.45	23.63	50.00	-26.37	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 RADIATED EMISSION LIMITS (Frequency Range 9kHz-1000MHz)

20dBc in any 100 kHz bandwidth outside the operating frequency band. 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.

Frequencies (MHz)	Field Strength (micorvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

FREQUENCY (MHz)	dBuV/m@at 3M	
	PEAK	AVERAGE
Above 1000	74	54

Notes:

(1) The limit for radiated test was performed according to FCC PART 15C.
(2) The tighter limit applies at the band edges.
(3) Emission level (dBuV/m)=20log Emission level (uV/m).

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

3.2.2 TEST PROCEDURE

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 meters above the ground at a 3 meter open area test site. 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; 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:

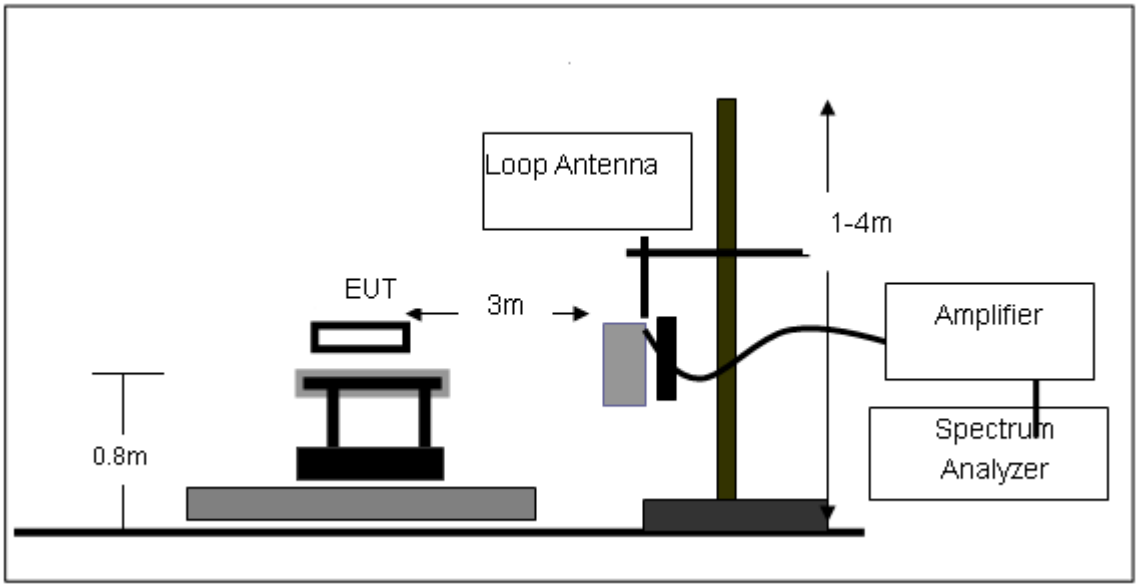
Frequency Band (MHz)	Function	Resolution bandwidth	Video Bandwidth
30 to 1000	Peak	100 kHz	100 kHz
Above 1000	Peak	1 MHz	1 MHz
	Average	1 MHz	10 Hz

3.2.3 DEVIATION FROM TEST STANDARD

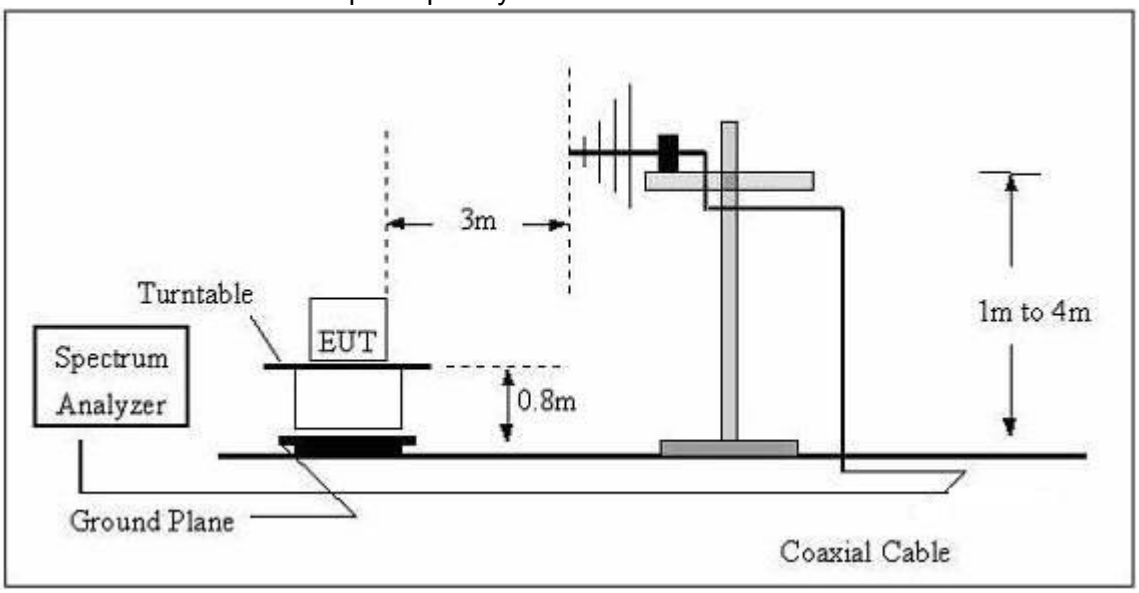
No deviation

3.2.4 TEST SETUP

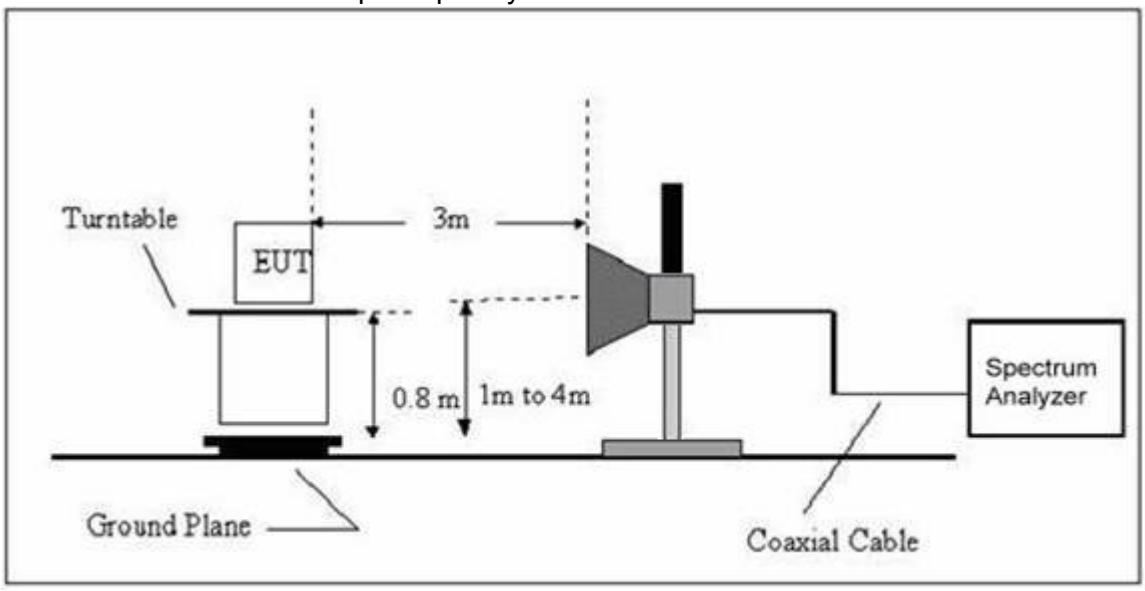
（A）Radiated Emission Test-Up Frequency Below 30MHz



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



（C）Radiated Emission Test-Up Frequency Above 1GHz



3.2.5 EUT OPERATING 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.

3.2.6 TEST RESULTS (BETWEEN 9KHZ – 30 MHZ)

EUT：	Tablet PC	Model Name. ：	TVE1001I
Temperature：	20 ℃	Relative Humidtity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 3.8V
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.
Distance extrapolation factor =40 log (specific distance/test distance)(dB);
Limit line = specific limits(dBuv) + distance extrapolation factor.

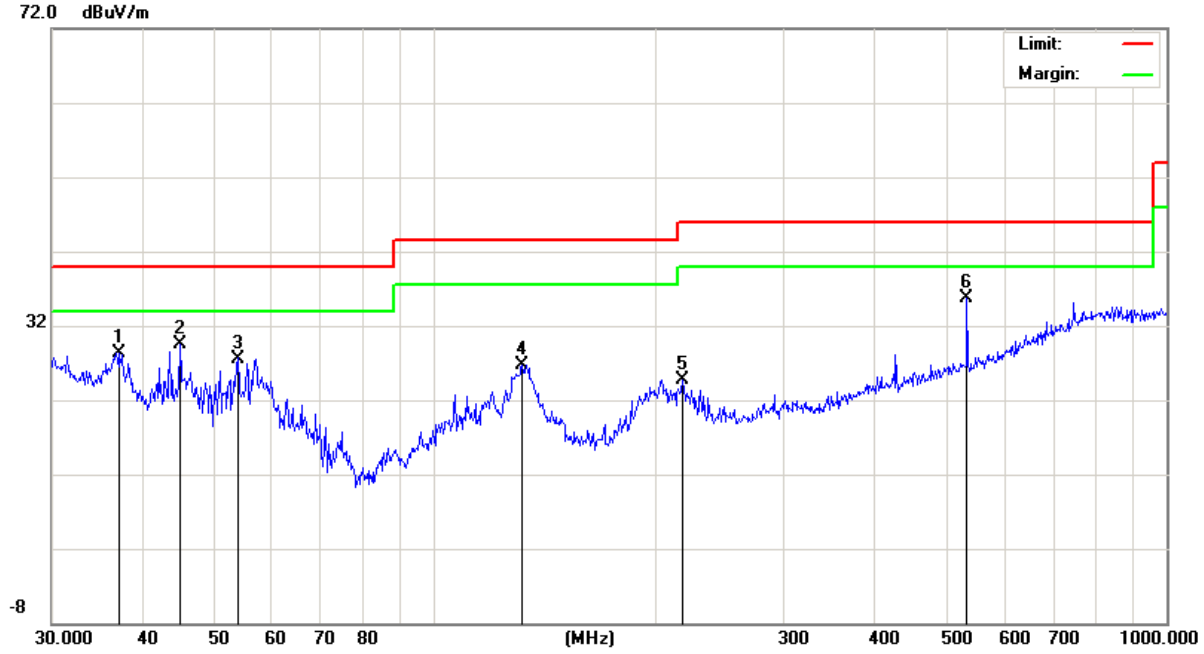
3.2.7 TEST RESULTS (BETWEEN 30MHZ – 1GHZ)

EUT：	Tablet PC	Model Name ：	TVE1001I
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 3.8V
Test Mode ：	TX (2.4G)		

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
V	37.1550	13.03	15.33	28.36	40.00	-11.64	QP
V	44.9006	17.56	11.95	29.51	40.00	-10.49	QP
V	53.8818	18.02	9.58	27.60	40.00	-12.40	QP
V	131.7577	14.84	11.81	26.65	43.50	-16.85	QP
V	218.3085	12.75	12.02	24.77	46.00	-21.23	QP
V	533.8321	14.77	21.00	35.77	46.00	-10.23	QP

Remark:

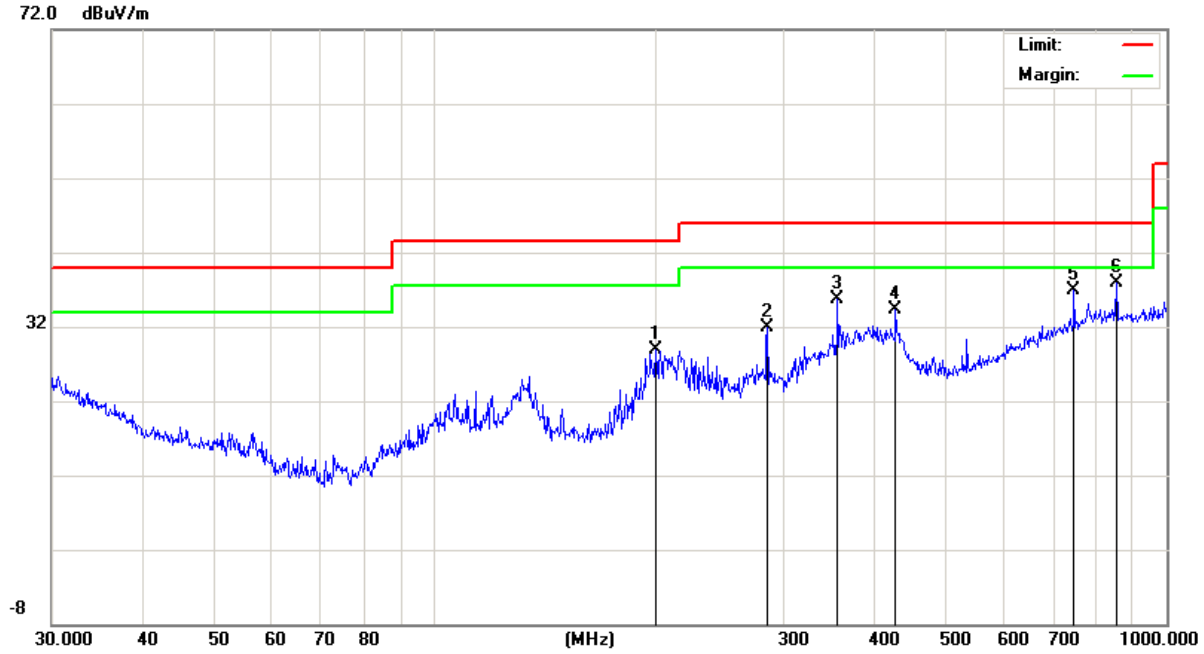
Absolute Level= ReadingLevel+ Factor, Margin= Absolute Level - Limit



Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
H	200.6881	18.13	10.82	28.95	43.50	-14.55	QP
H	284.9767	17.87	13.98	31.85	46.00	-14.15	QP
H	355.4273	19.15	16.47	35.62	46.00	-10.38	QP
H	426.521	15.40	18.84	34.24	46.00	-11.76	QP
H	747.4825	10.84	26.04	36.88	46.00	-9.12	QP
H	854.0247	10.78	27.21	37.99	46.00	-8.01	QP

Remark:

Absolute Level= ReadingLevel+ Factor, Margin= Absolute Level - Limit

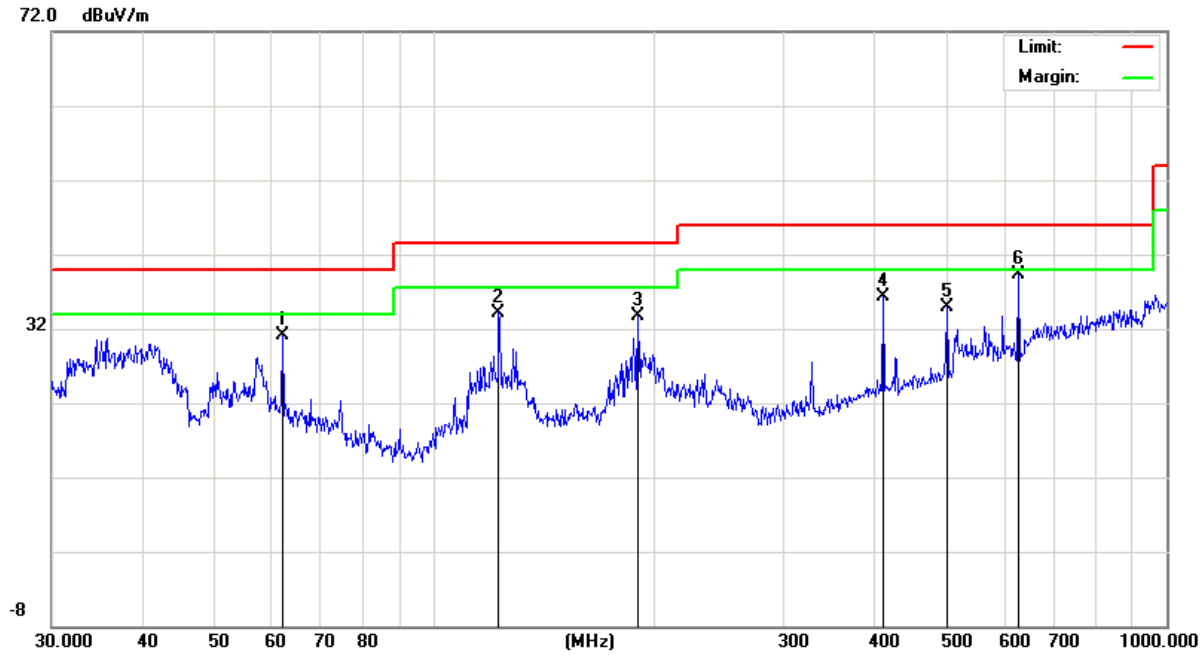


EUT：	Tablet PC	Model Name ：	TVE1001I
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 3.8V
Test Mode ：	TX(5.0G)		

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
V	61.9951	23.82	7.38	31.20	40.00	-8.80	QP
V	122.4038	22.15	12.05	34.20	43.50	-9.30	QP
V	189.7384	23.10	10.70	33.80	43.50	-9.70	QP
V	410.3824	17.88	18.52	36.40	46.00	-9.60	QP
V	501.1788	14.58	20.32	34.90	46.00	-11.10	QP
V	627.2738	16.35	22.95	39.30	46.00	-6.70	QP

Remark:

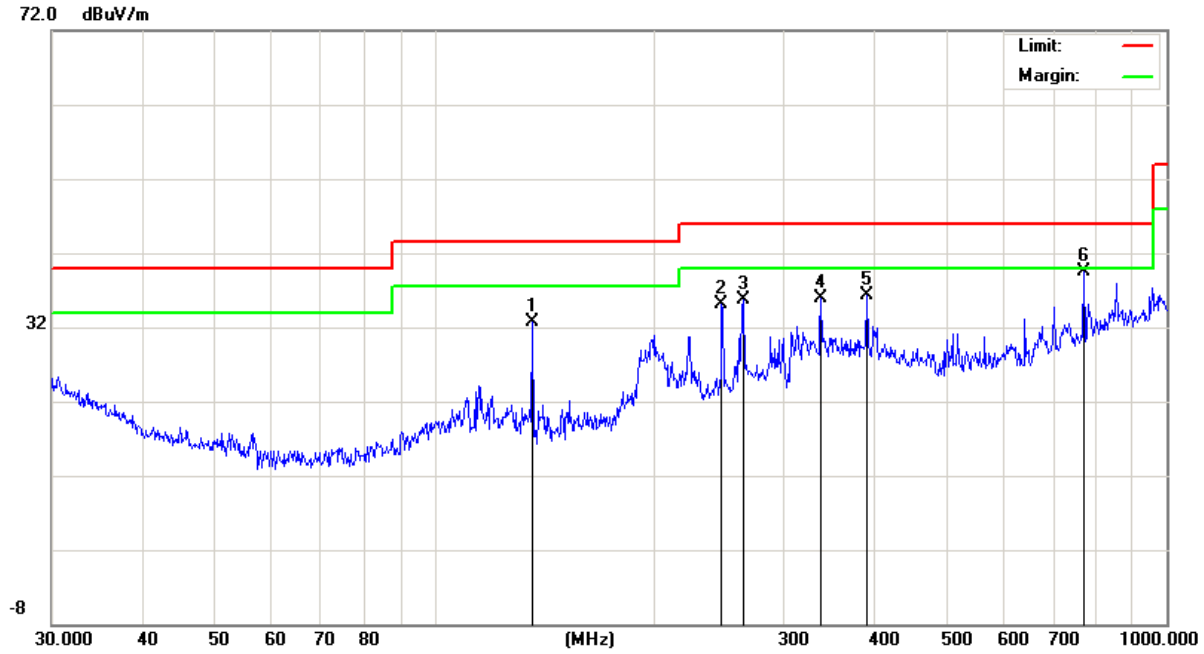
Absolute Level= ReadingLevel+ Factor, Margin= Absolute Level - Limit



Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
H	135.9822	21.20	11.60	32.80	43.50	-10.70	QP
H	246.8146	21.54	13.56	35.10	46.00	-10.90	QP
H	264.7456	22.05	13.75	35.80	46.00	-10.20	QP
H	337.2155	20.30	15.70	36.00	46.00	-10.00	QP
H	389.3548	18.43	17.87	36.30	46.00	-9.70	QP
H	771.4486	12.84	26.66	39.50	46.00	-6.50	QP

Remark:

Absolute Level= ReadingLevel+ Factor, Margin= Absolute Level - Limit



3.2.8 TEST RESULTS (ABOVE 1000 MHZ)

EUT：	Tablet PC	Model Name ：	TVE1001I
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 3.8V
Test Mode ：	TX (2.4G)		

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
Low Channel (2412 MHz)-Above 1G							
Vertical	4824.085	52.97	10.44	63.41	74.00	-10.59	Pk
Vertical	4824.085	35.05	10.44	45.49	54.00	-8.51	Av
Vertical	7236.116	46.59	12.39	58.98	74.00	-15.02	Pk
Vertical	7236.116	30.22	12.39	42.61	54.00	-11.39	Av
Horizontal	4824.206	52.18	10.44	62.62	74.00	-11.38	Pk
Horizontal	4824.206	34.92	10.44	45.36	54.00	-8.64	Av
Horizontal	7236.303	48.06	12.39	60.45	74.00	-13.55	Pk
Horizontal	7236.303	31.41	12.39	43.80	54.00	-10.20	Av
Mid Channel (2437 MHz)-Above 1G							
Vertical	4874.206	52.11	10.40	62.51	74.00	-11.49	Pk
Vertical	4874.206	31.85	10.40	42.25	54.00	-11.75	Av
Vertical	7311.148	44.76	12.75	57.51	74.00	-16.49	Pk
Vertical	7311.148	28.09	12.75	40.84	54.00	-13.16	Av
Horizontal	4874.146	51.31	10.40	61.71	74.00	-12.29	Pk
Horizontal	4874.146	31.08	10.40	41.48	54.00	-12.52	Av
Horizontal	7311.204	47.84	12.75	60.59	74.00	-13.41	Pk
Horizontal	7311.204	29.64	12.75	42.39	54.00	-11.61	Av
High Channel (2462 MHz)- Above 1G							
Vertical	4924.114	51.24	10.39	61.63	74.00	-12.37	Pk
Vertical	4924.114	33.54	10.39	43.93	54.00	-10.07	Av
Vertical	7386.203	46.75	12.68	59.43	74.00	-14.57	Pk
Vertical	7386.203	29.38	12.68	42.06	54.00	-11.94	Av
Horizontal	4924.185	52.68	10.39	63.07	74.00	-10.93	Pk
Horizontal	4924.185	33.23	10.39	43.62	54.00	-10.38	Av
Horizontal	7386.206	49.57	12.68	62.25	74.00	-11.75	Pk
Horizontal	7386.206	30.51	12.68	43.19	54.00	-10.81	Av

Note:”802.11b” mode is the worst mode. When PK value is lower than the Average value limit, average didn't record.

EUT：	Tablet PC	Model Name ：	TVE1001I
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 3.8V
Test Mode ：	TX (5.0G)		

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Detector Type
Low Channel (5745 MHz)-Above 1G							
Vertical	11490.519	38.91	14.21	53.12	74	-20.88	Pk
Vertical	17235.164	36.17	16.09	52.26	74	-21.74	Pk
Horizontal	11490.248	35.73	14.21	49.94	74	-24.06	Pk
Horizontal	17235.197	32.28	16.09	48.37	74	-25.63	Pk
middle Channel (5785 MHz)-Above 1G							
Vertical	11570.308	36.66	14.51	51.17	74	-22.83	Pk
Vertical	17355.253	36.45	16.15	52.6	74	-21.4	Pk
Horizontal	11570.192	36.15	14.51	50.66	74	-23.34	Pk
Horizontal	17355.154	35.24	16.15	51.39	74	-22.61	Pk
High Channel (5825 MHz)-Above 1G							
Vertical	11590.127	38.76	14.55	53.31	74	-20.69	Pk
Vertical	17385.117	36.93	16.18	53.11	74	-20.89	Pk
Vertical	11591.205	35.68	14.56	50.24	74	-23.76	Av
Horizontal	17386.294	35.08	16.19	51.27	74	-22.73	Pk
Horizontal	11590.127	38.76	14.55	53.31	74	-20.69	Pk

Note:”802.11a(5G)” mode is the worst mode. When PK value is lower than the Average value limit, average didn't record.

4. POWER SPECTRAL DENSITY TEST

4.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247	Power Spectral Density	8 dBm (in any 3KHz)	2400-2483.5	PASS

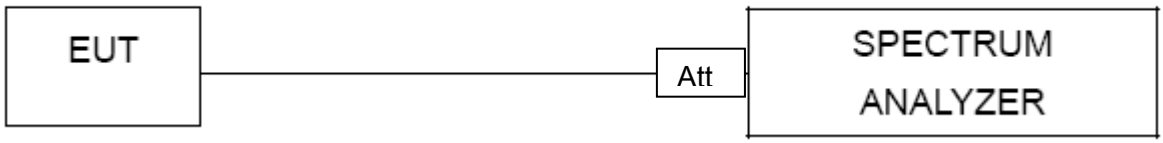
4.1.1 TEST PROCEDURE

1. Set analyzer center frequency to DTS channel center frequency.
2. Set the span to 1.5 times the DTS channel bandwidth.
3. 3 kHz ≤Set the RBW≤100 kHz.
4. Set the VBW ≥ 3 x RBW.
5. Detector = peak.
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 within the RBW.
10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

4.1.2 DEVIATION FROM STANDARD

No deviation.

4.1.3 TEST SETUP



4.1.4 EUT OPERATION CONDITIONS

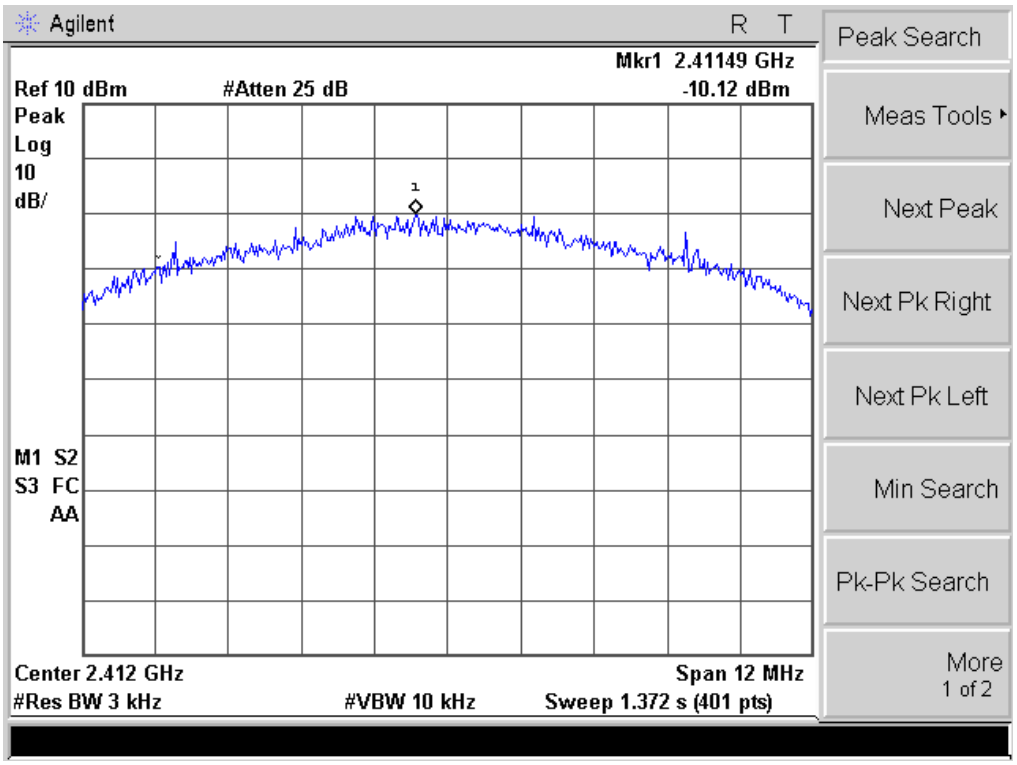
The EUT tested system was configured as the statements of 2.1 Unless otherwise a special operating condition is specified in the follows during the testing.

4.1.5 TEST RESULTS

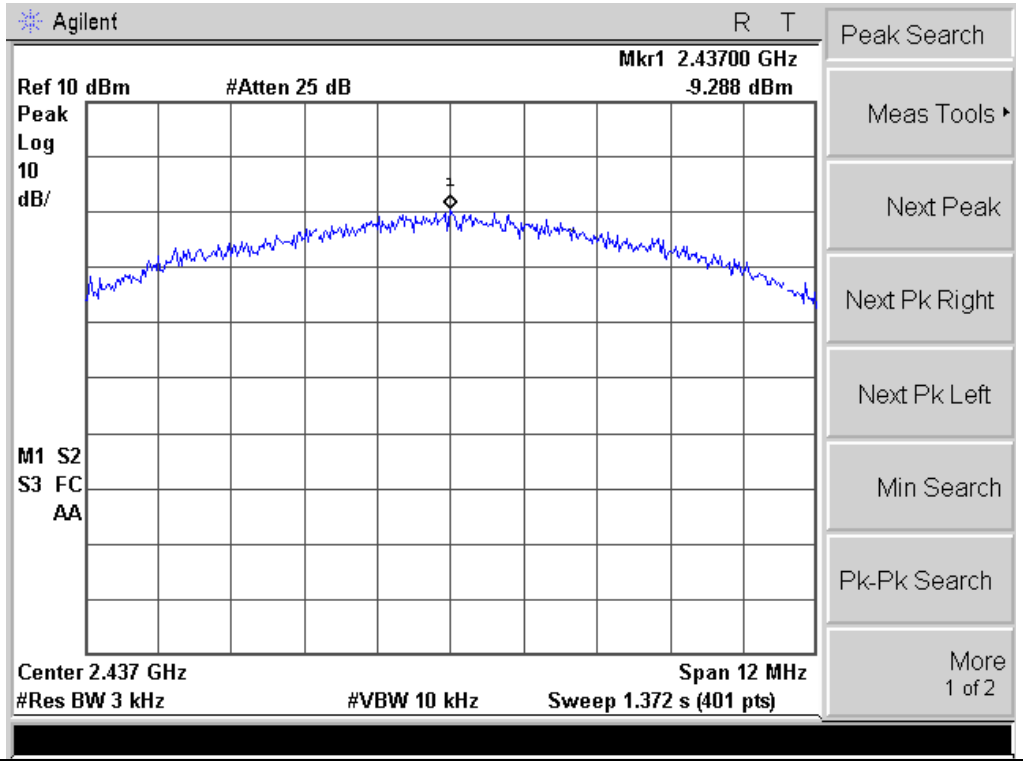
EUT：	Tablet PC	Model Name ：	TVE1001I
Temperature：	25 ℃	Relative Humidity：	56%
Pressure：	1015 hPa	Test Voltage ：	DC 3.8V
Test Mode ：	TX b Mode /CH01, CH06, CH11		

Frequency	Power Density (dBm)	Limit (dBm)	Result
2412 MHz	−10. 12	8	PASS
2437 MHz	−9. 288	8	PASS
2462 MHz	−9. 699	8	PASS

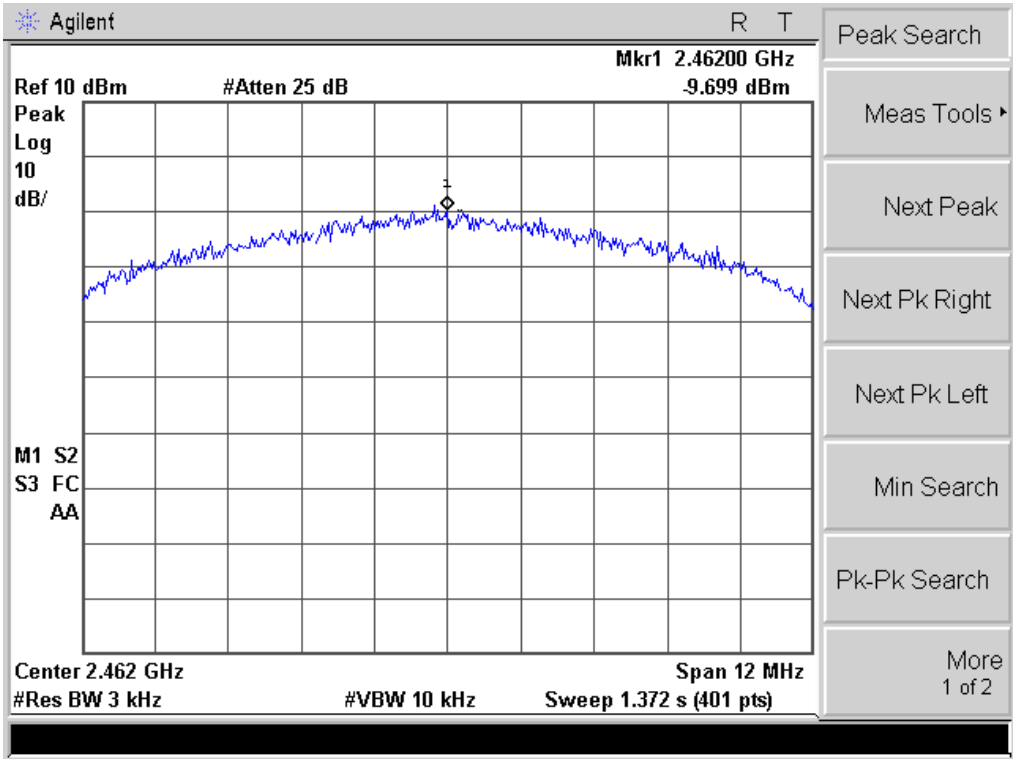
TX CH01



TX CH06



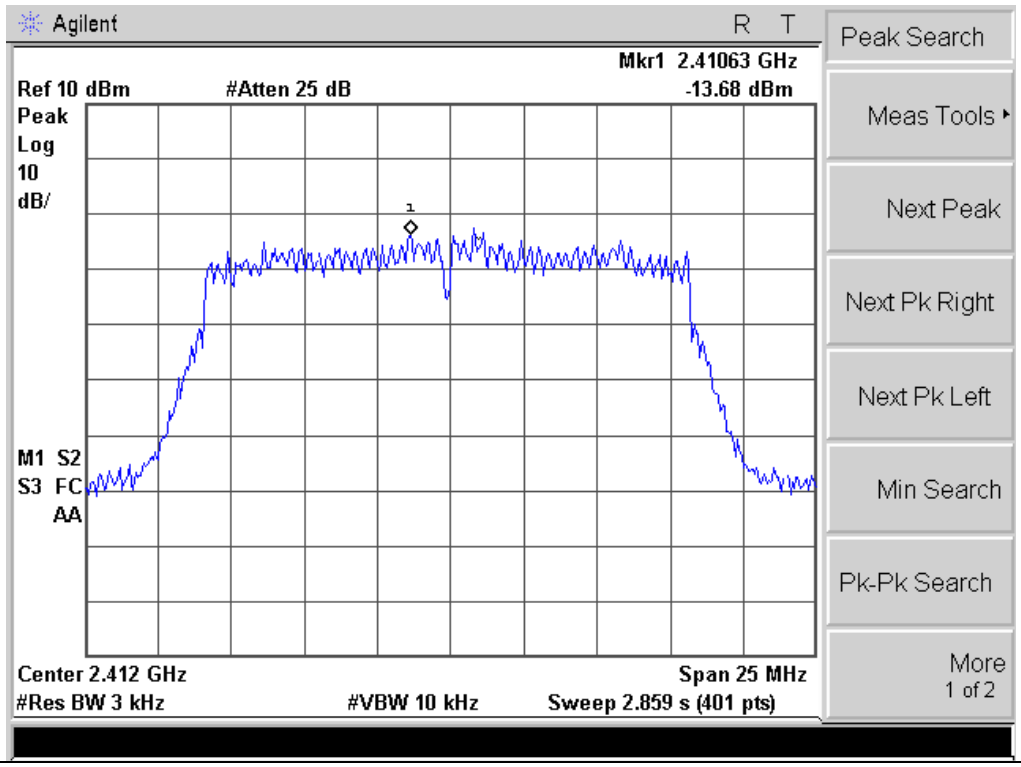
TX CH11



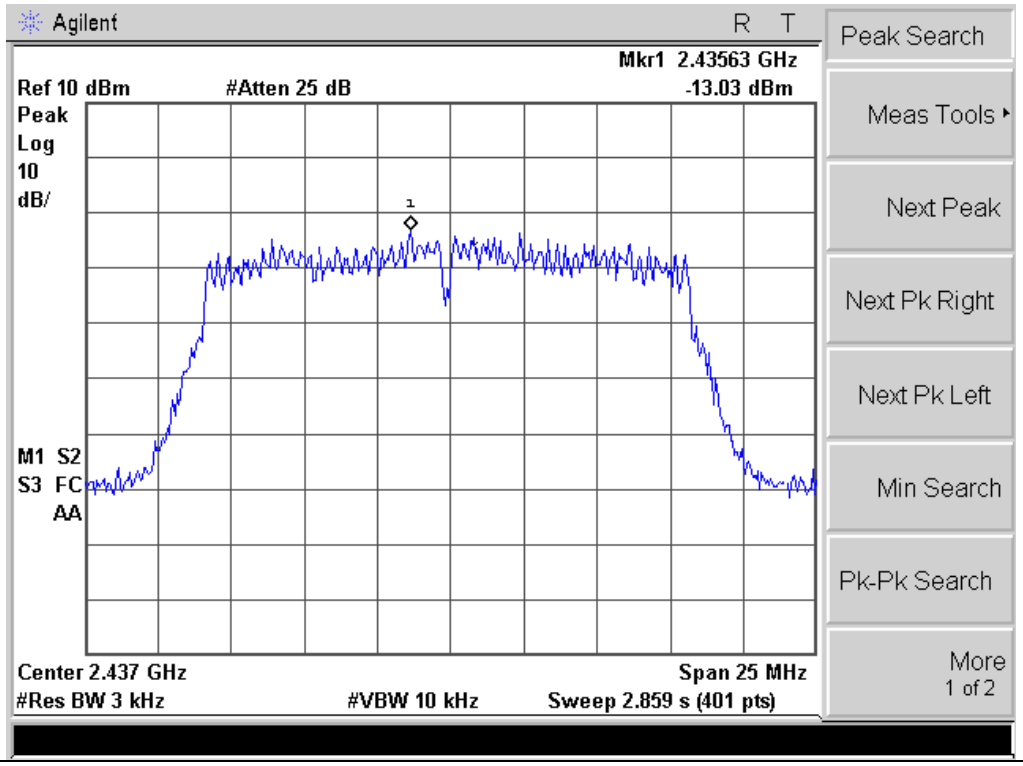
EUT：	Tablet PC	Model Name ：	TVE1001I
Temperature：	25 ℃	Relative Humidity：	56%
Pressure：	1015 hPa	Test Voltage ：	DC 3.8V
Test Mode ：	TX g Mode /CH01, CH06, CH11		

Frequency	Power Density (dBm)	Limit (dBm)	Result
2412 MHz	-13.68	8	PASS
2437 MHz	-13.03	8	PASS
2462 MHz	-13.53	8	PASS

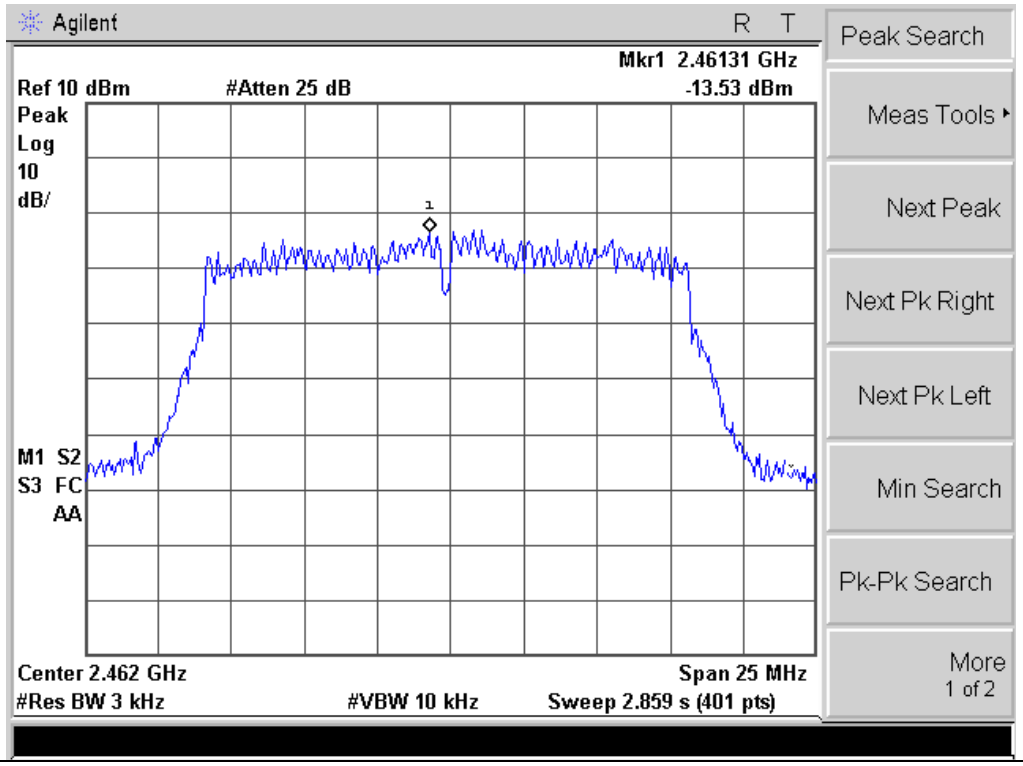
TX CH01



TX CH06



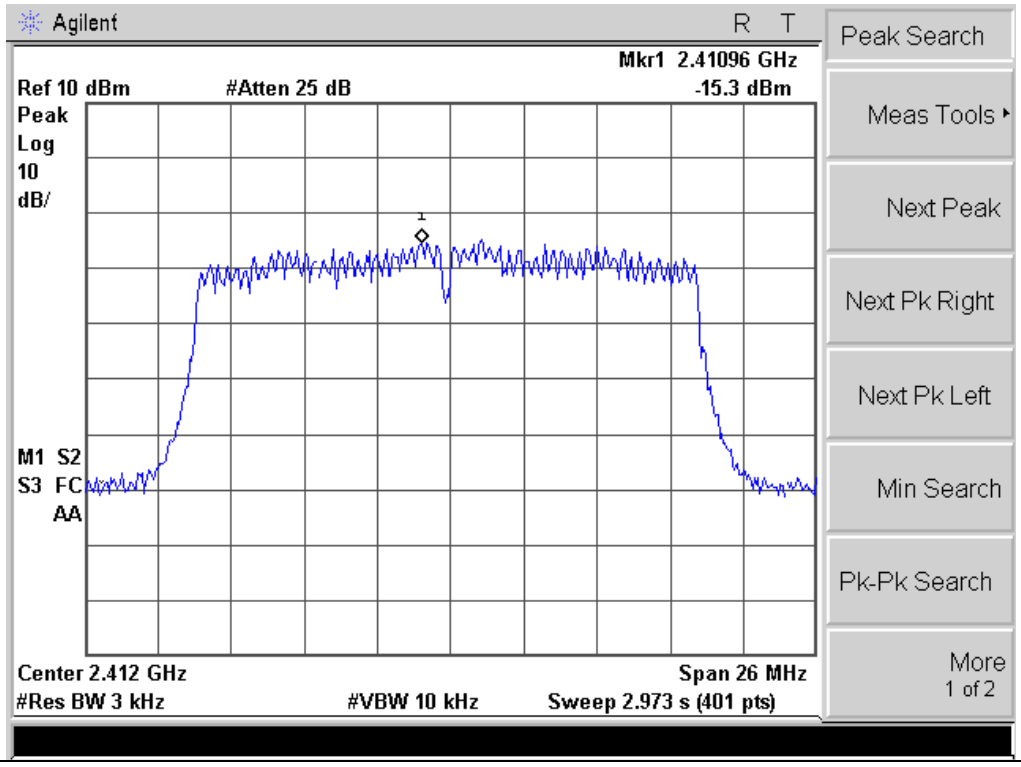
TX CH11



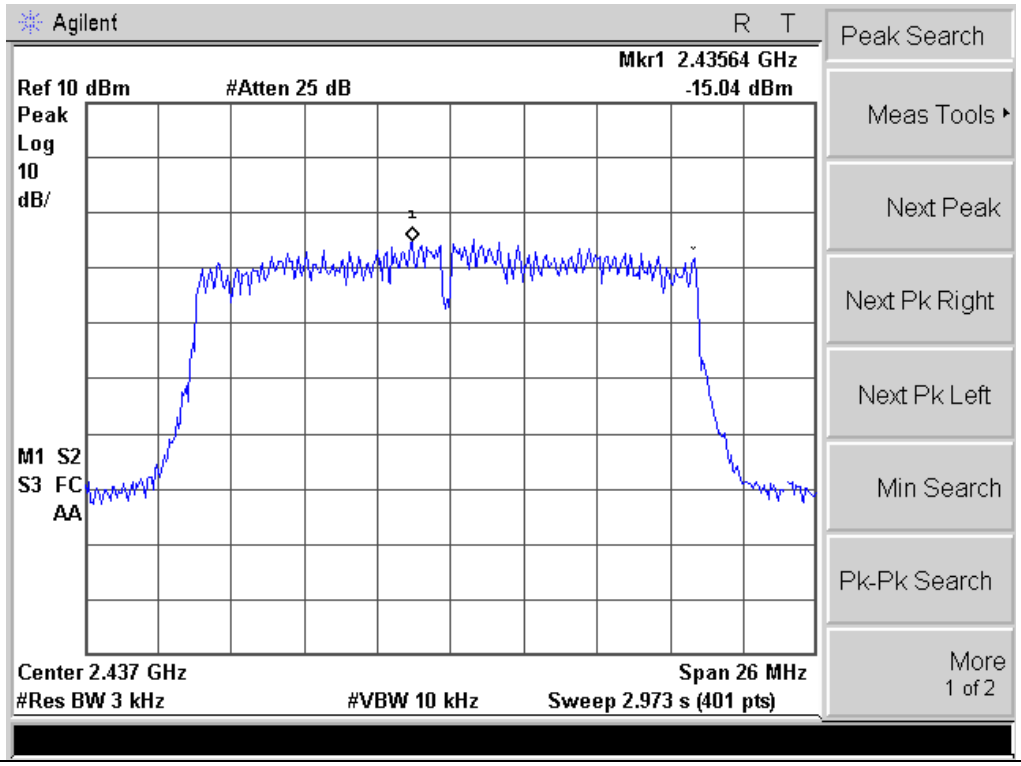
EUT：	Tablet PC	Model Name ：	TVE1001I
Temperature：	25 ℃	Relative Humidity：	56%
Pressure：	1015 hPa	Test Voltage ：	DC 3.8V
Test Mode ：	TX n Mode (20MHz)/CH01, CH06, CH11		

Frequency	Power Density (dBm)	Limit (dBm)	Result
2412 MHz	-15.30	8	PASS
2437 MHz	-15.04	8	PASS
2462 MHz	-15.46	8	PASS

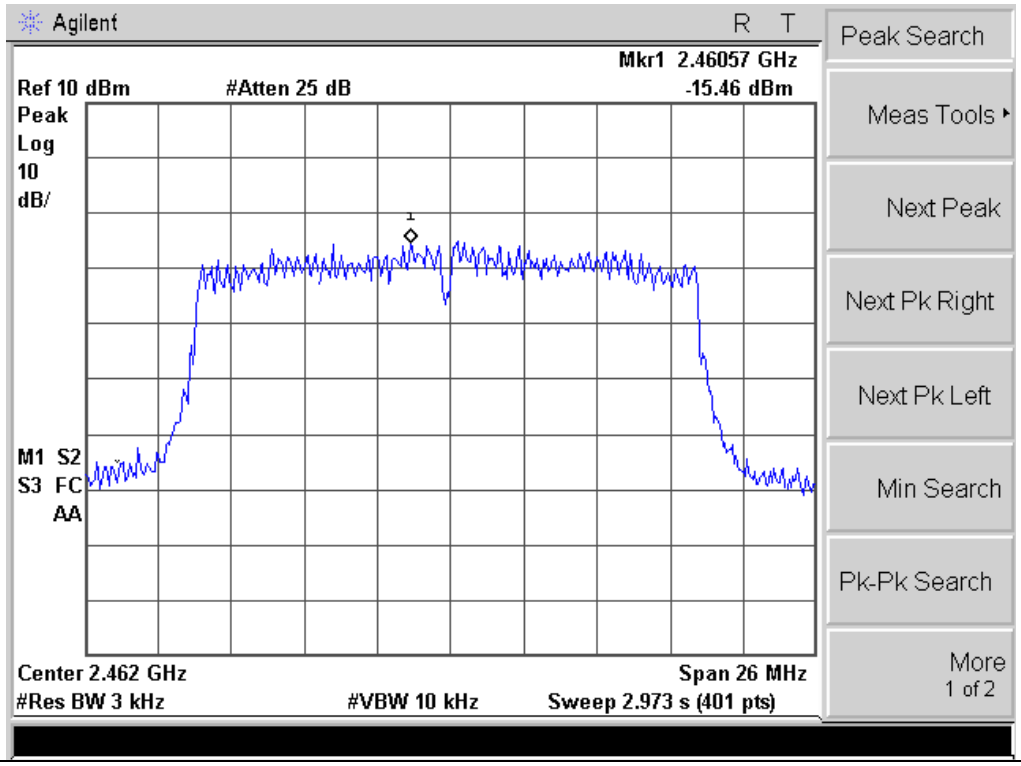
TX CH01



TX CH06



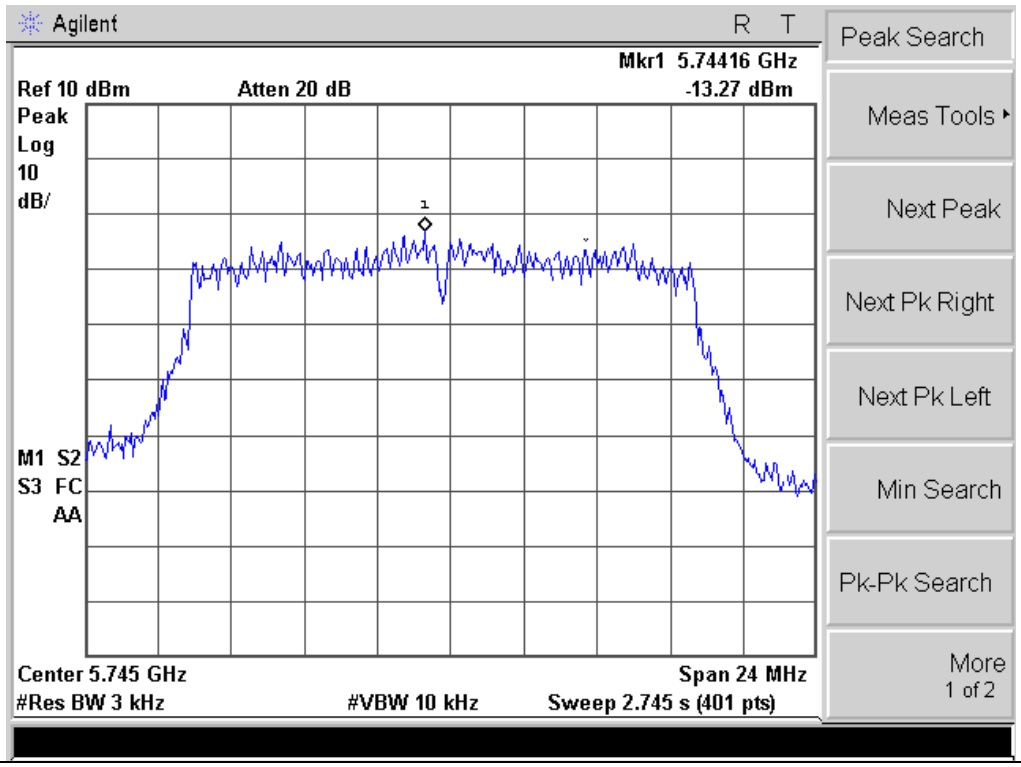
TX CH11



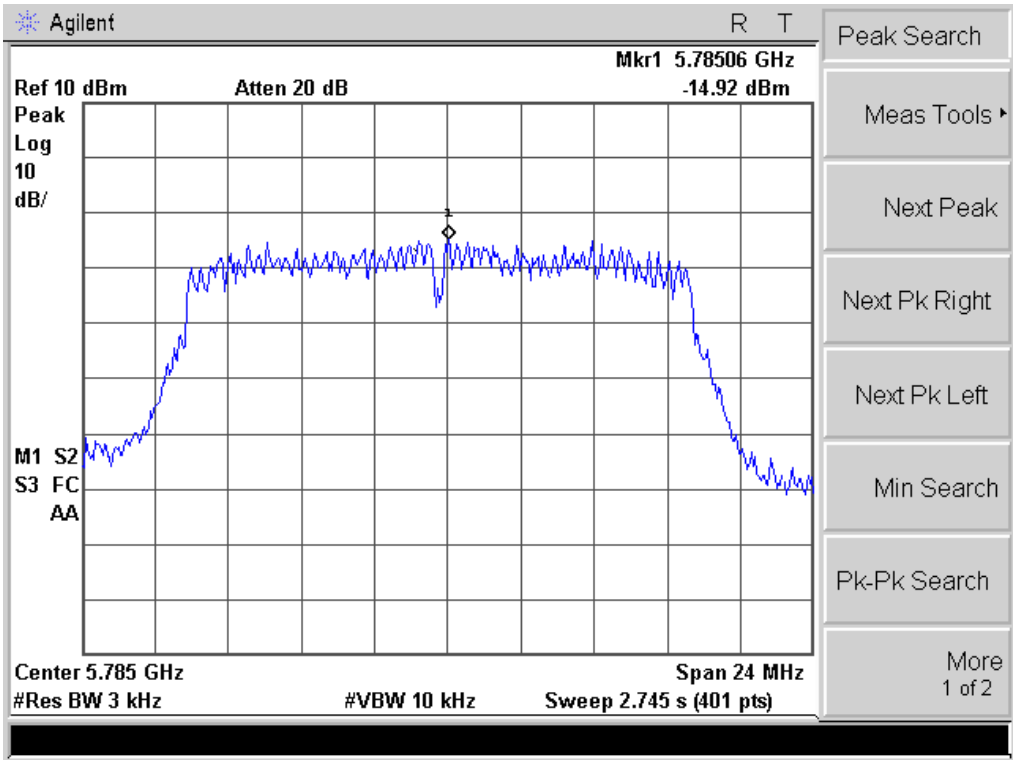
EUT：	Tablet PC	Model Name ：	TVE1001I
Temperature：	25 ℃	Relative Humidity：	56%
Pressure：	1015 hPa	Test Voltage ：	DC 3.8V
Test Mode ：	TX a Mode /CH149, CH157, CH165		

Frequency	Power Density (dBm)	Limit (dBm)	Result
5745MHz	-13.27	8	PASS
5785 MHz	-14.92	8	PASS
5825 MHz	-14.06	8	PASS

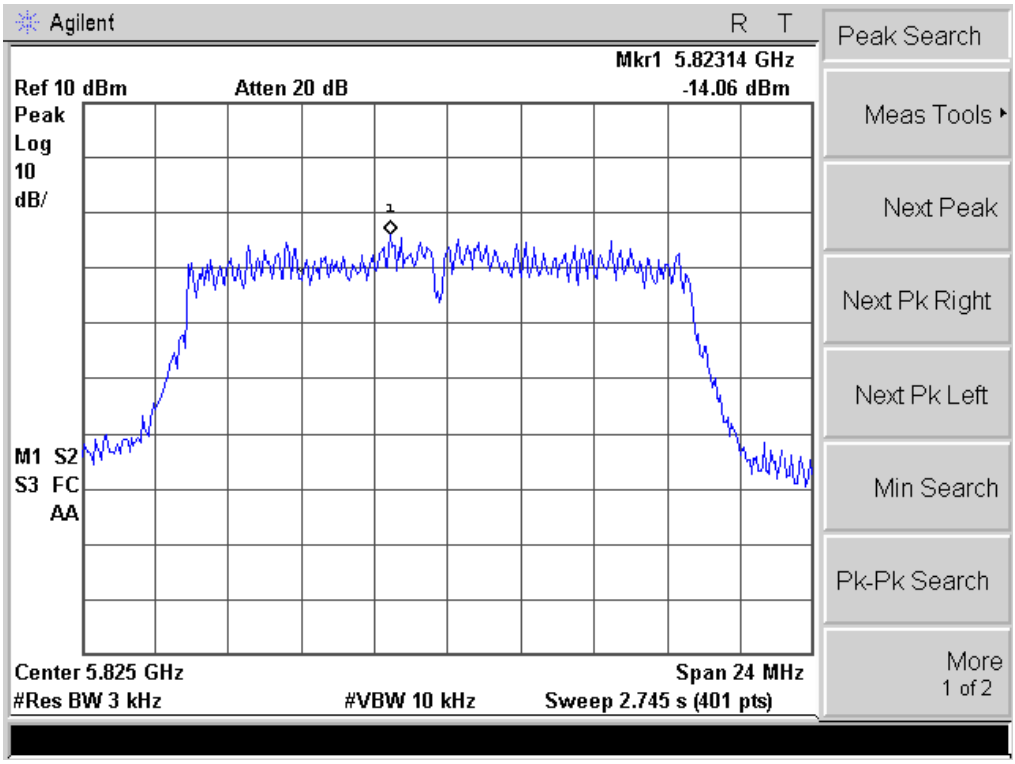
TX CH149



TX CH157



TX CH165

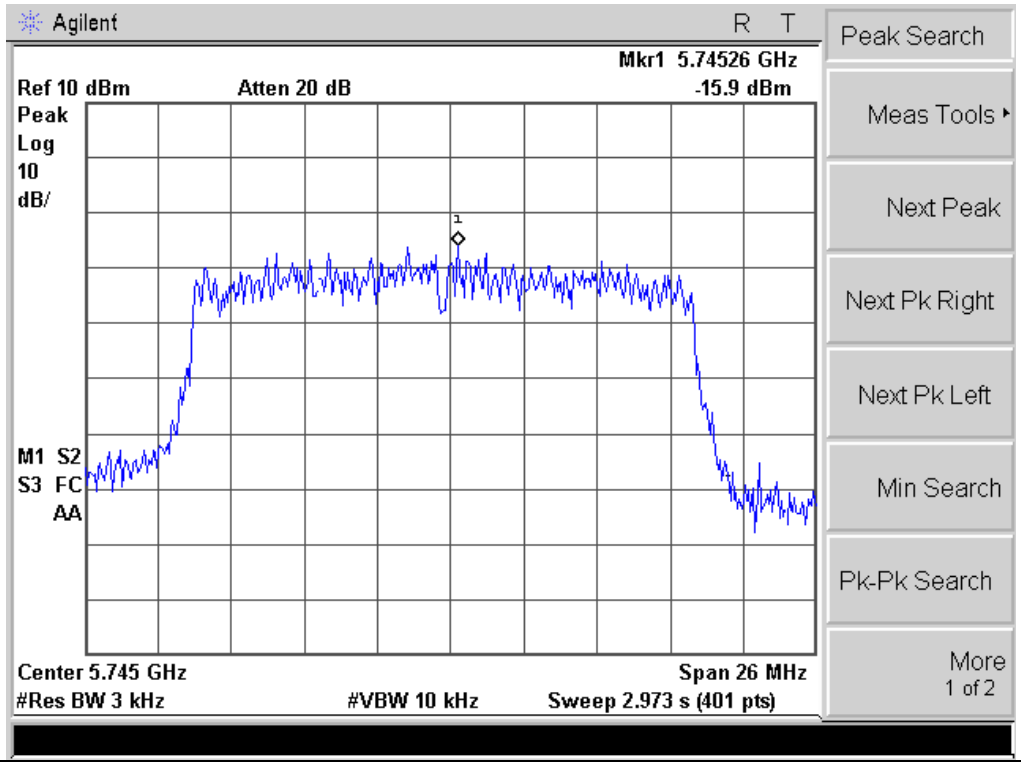


EUT：	Tablet PC	Model Name ：	TVE1001I
Temperature：	25 ℃	Relative Humidity：	56%
Pressure：	1015 hPa	Test Voltage ：	DC 3.8V
Test Mode ：	TX n(20) Mode(5G) /CH149, CH157, CH165		

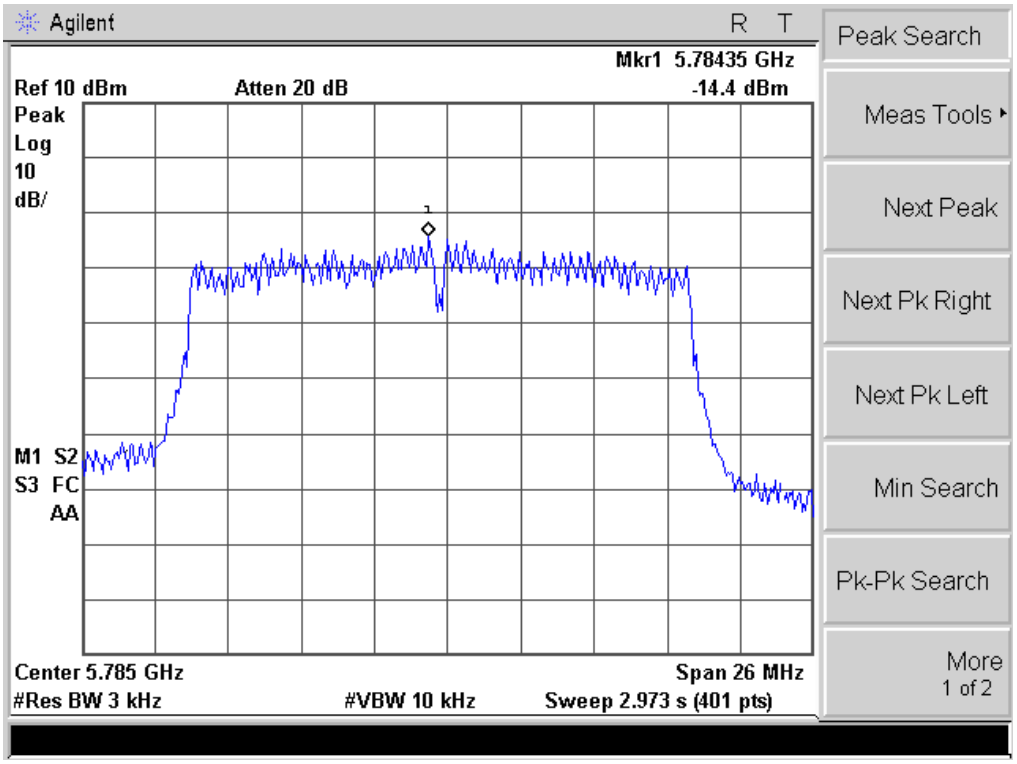
Frequency	Power Density (dBm)	Limit (dBm)	Result
5745MHz	-15.90	8	PASS
5785 MHz	-14.40	8	PASS
5825 MHz	-14.79	8	PASS

.

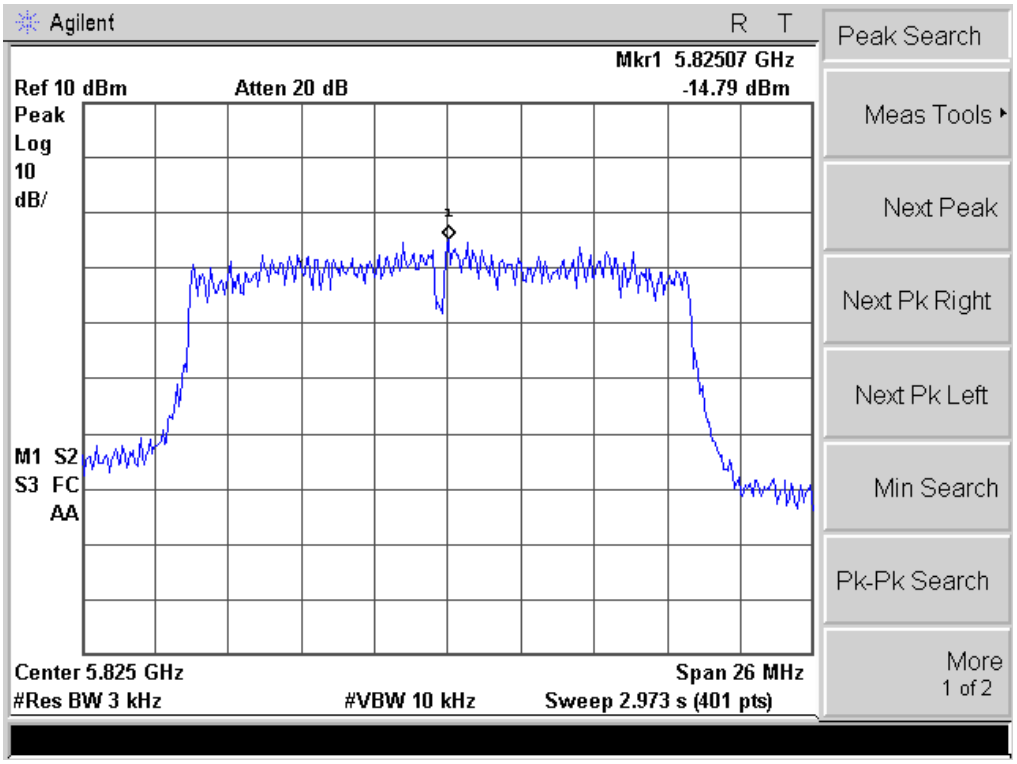
TX CH149



TX CH157



TX CH165



5. BANDWIDTH TEST

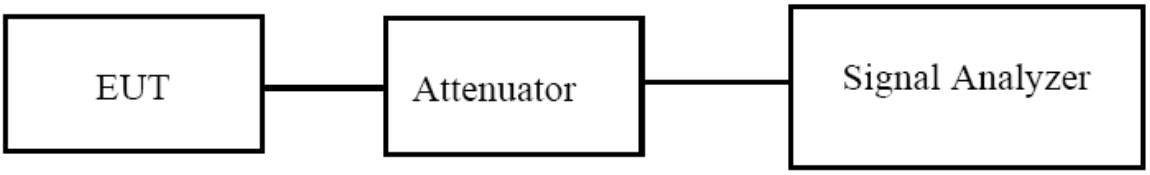
5.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(a)(2)	Bandwidth	>= 500KHz (6dB bandwidth)	2400-2483.5	PASS

5.1.1 TEST PROCEDURE

1. Set RBW = 100 kHz.
2. Set the video bandwidth (VBW) ≥ 3 x RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = auto couple.
6. Allow the trace to stabilize.
7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

TEST SETUP



5.1.2 EUT OPERATION CONDITIONS

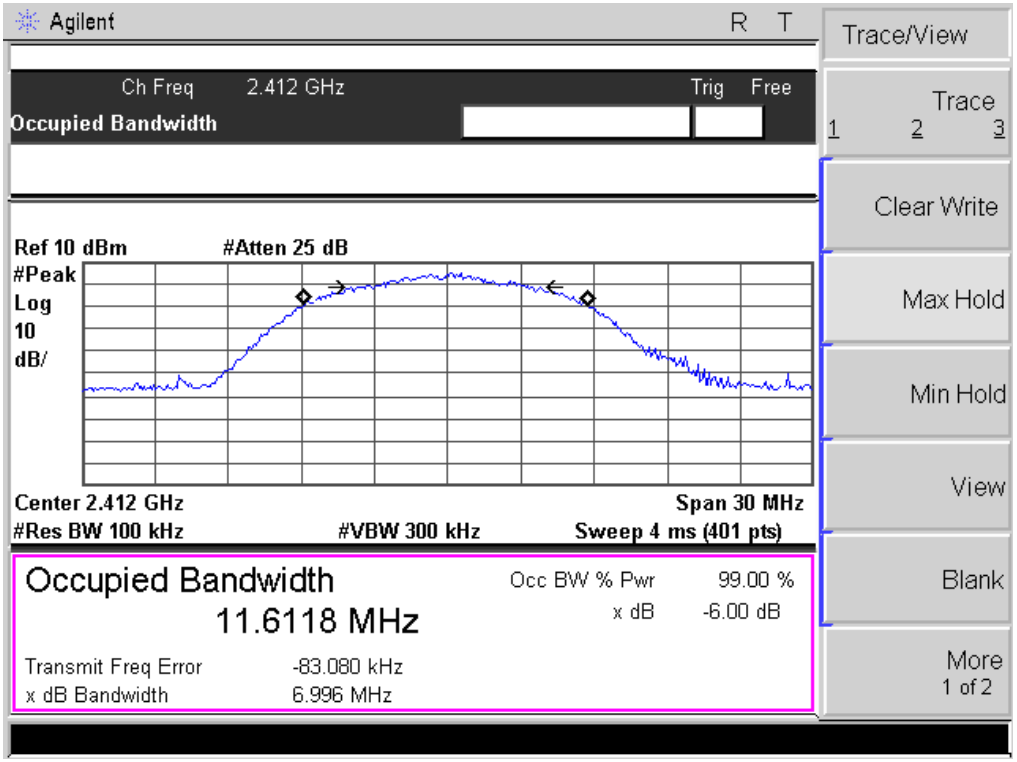
The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

5.1.3 TEST RESULTS

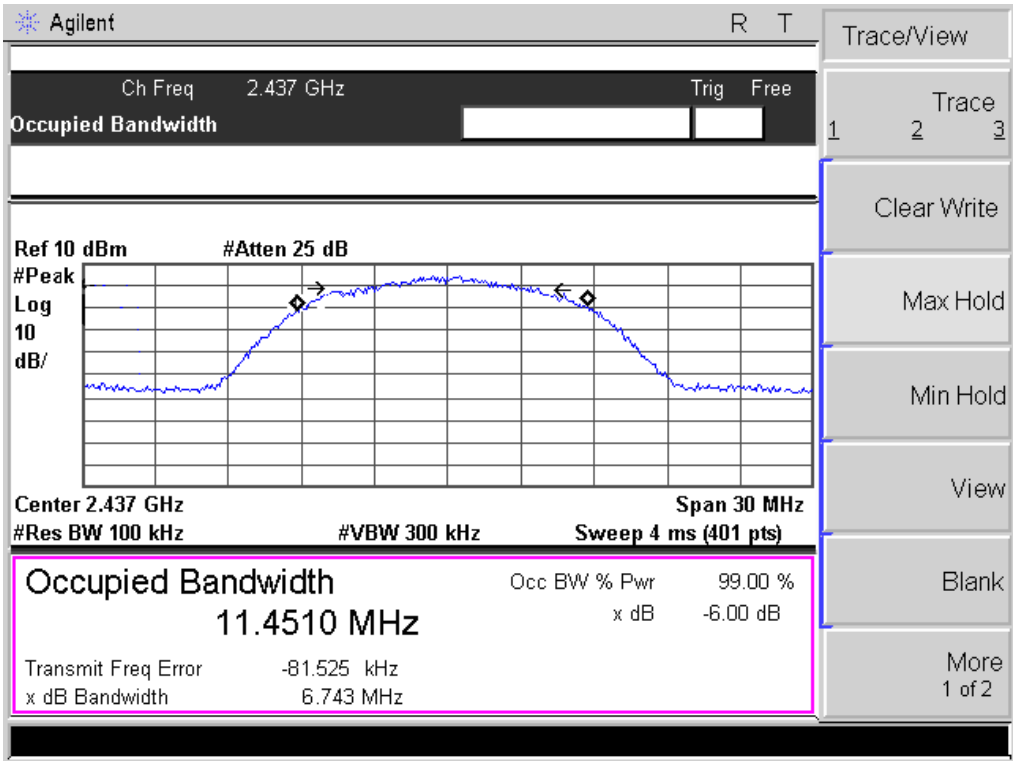
EUT：	Tablet PC	Model Name ：	TVE1001I
Temperature：	25 ℃	Relative Humidity：	56%
Pressure：	1012 hPa	Test Voltage ：	DC 3.8V
Test Mode ：	TX b Mode /CH01, CH06, CH11		

Channel	Frequency (MHz)	6dB bandwidth (MHz)	Limit (kHz)	Result
Low	2412	6.996	500	Pass
Middle	2437	6.743	500	Pass
High	2462	5.370	500	Pass

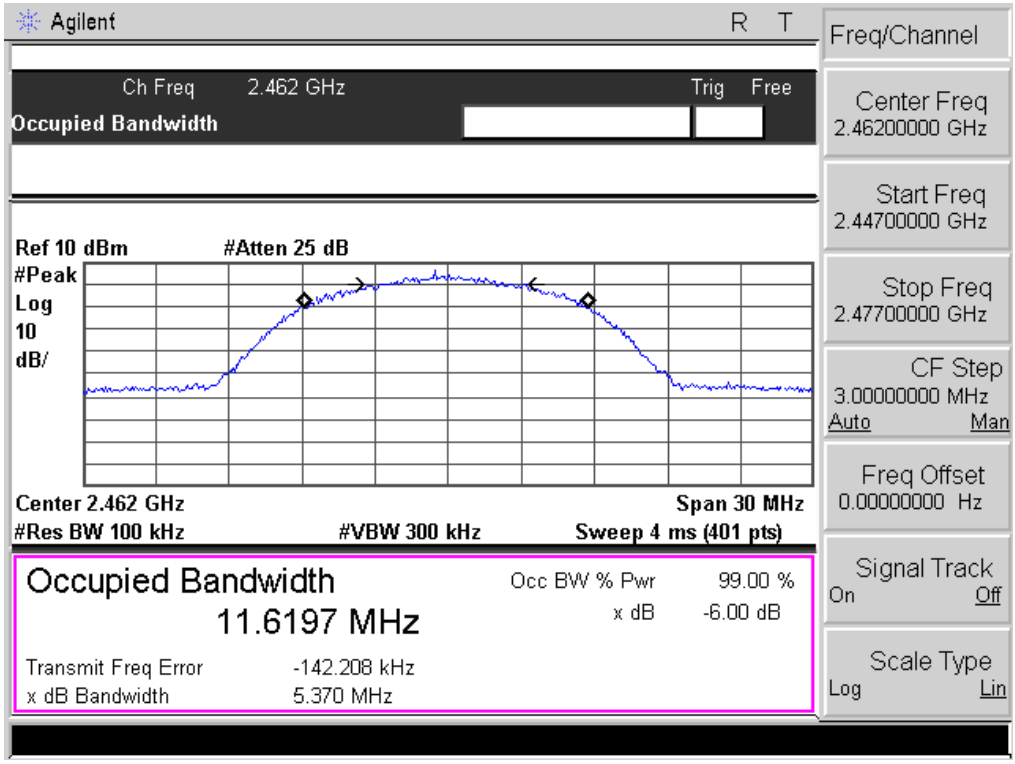
TX CH 01



TX CH 06



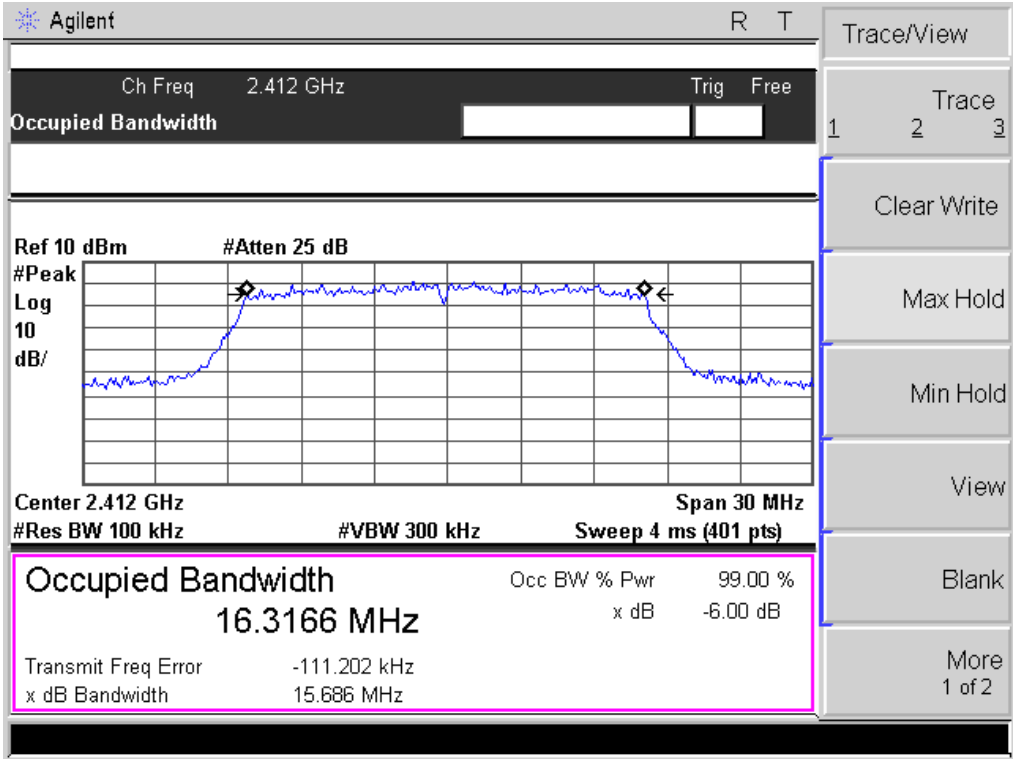
TX CH 11



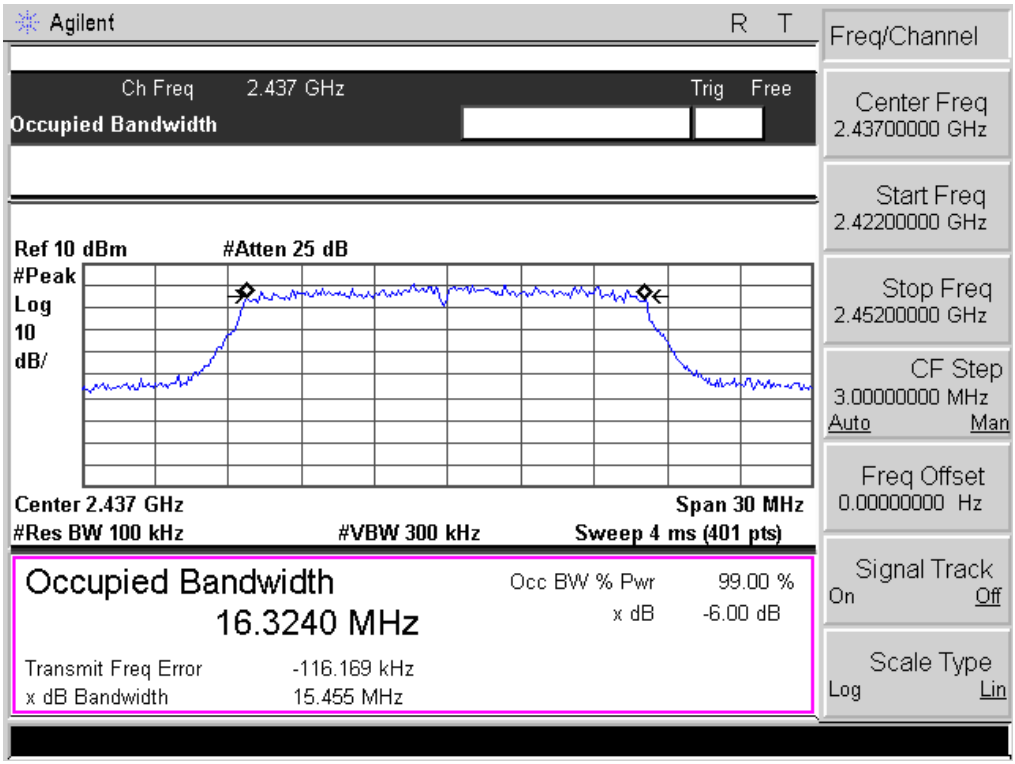
EUT：	Tablet PC	Model Name ：	TVE1001I
Temperature：	25 ℃	Relative Humidity：	60%
Pressure：	1012 hPa	Test Voltage ：	DC 3.8V
Test Mode ：	TX g Mode /CH01, CH06, CH11		

Channel	Frequency (MHz)	6dB bandwidth (MHz)	Limit (kHz)	Result
Low	2412	15.686	500	Pass
Middle	2437	15.455	500	Pass
High	2462	15.366	500	Pass

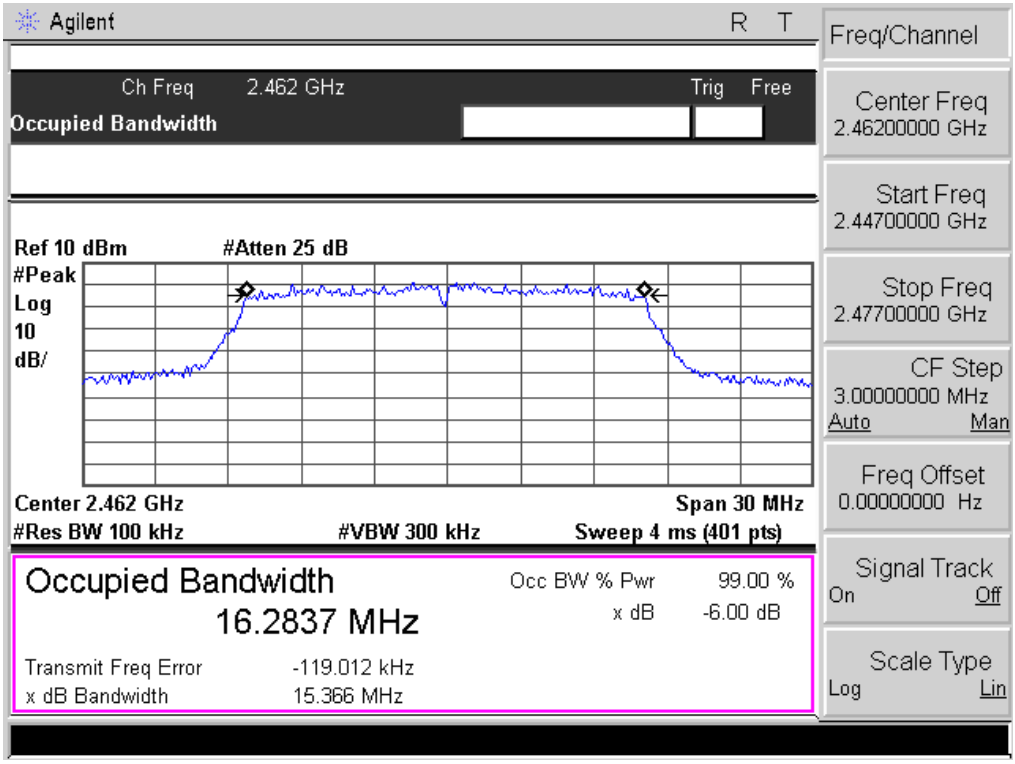
TX CH 01



TX CH 06



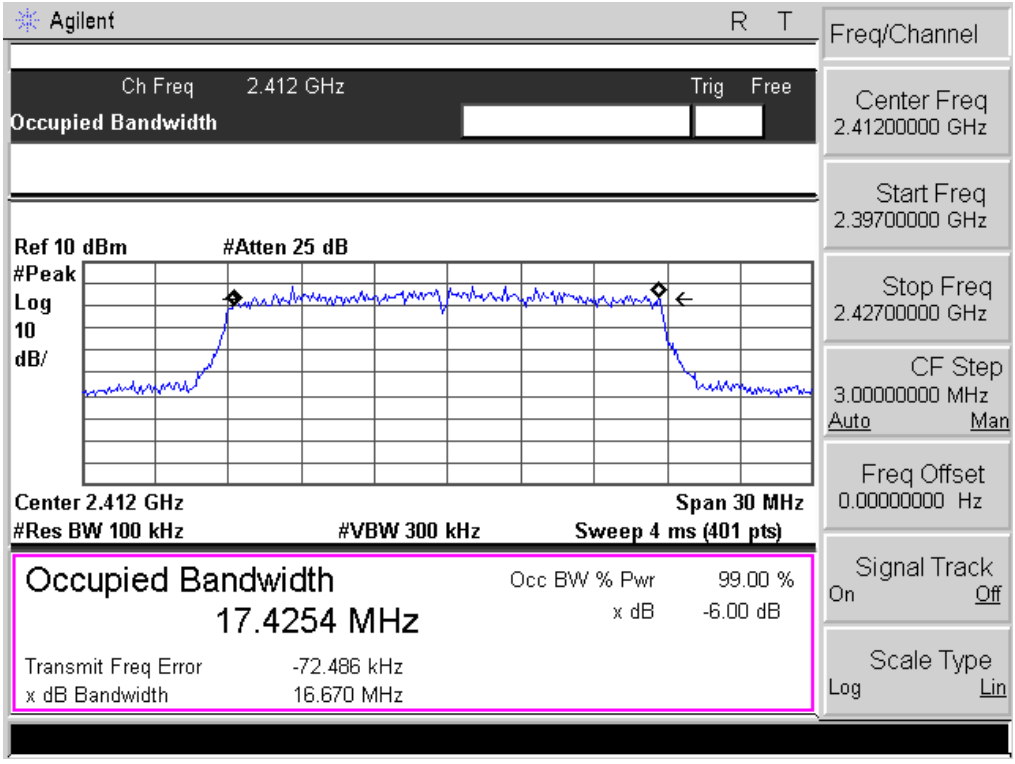
TX CH 11



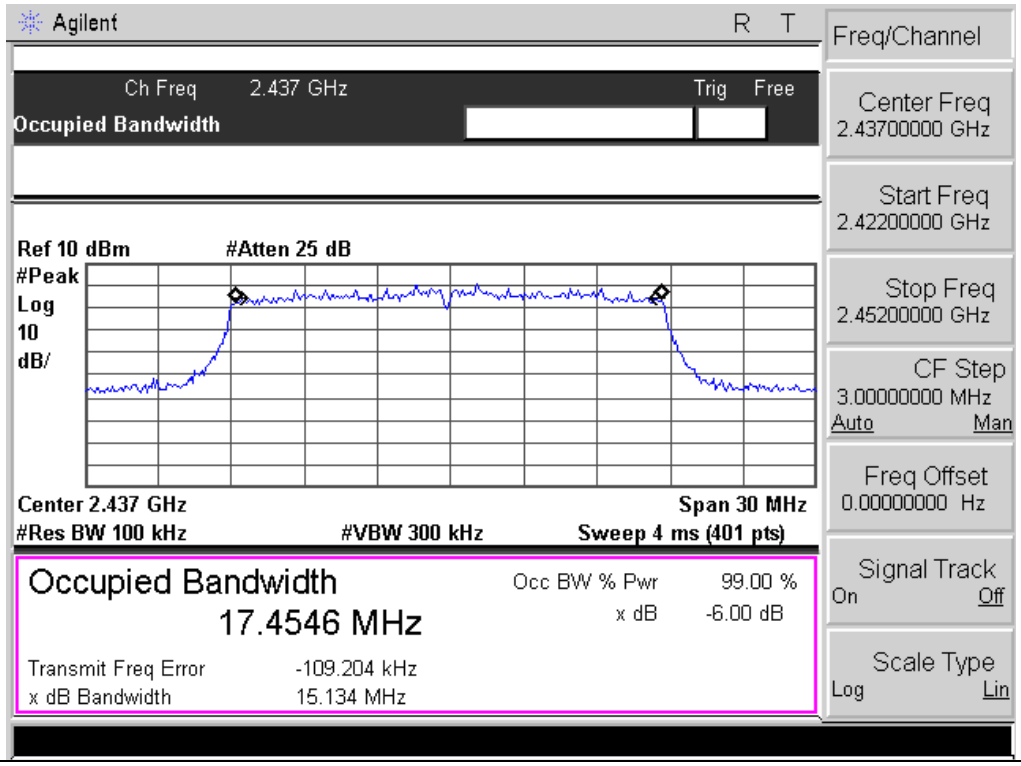
EUT：	Tablet PC	Model Name ：	TVE1001I
Temperature：	25 ℃	Relative Humidity：	56%
Pressure：	1012 hPa	Test Voltage ：	DC 3.8V
Test Mode ：	TX n Mode(20M) /CH01, CH06, CH11		

Channel	Frequency (MHz)	6dB bandwidth (MHz)	Limit (kHz)	Result
Low	2412	16.670	500	Pass
Middle	2437	15.134	500	Pass
High	2462	16.852	500	Pass

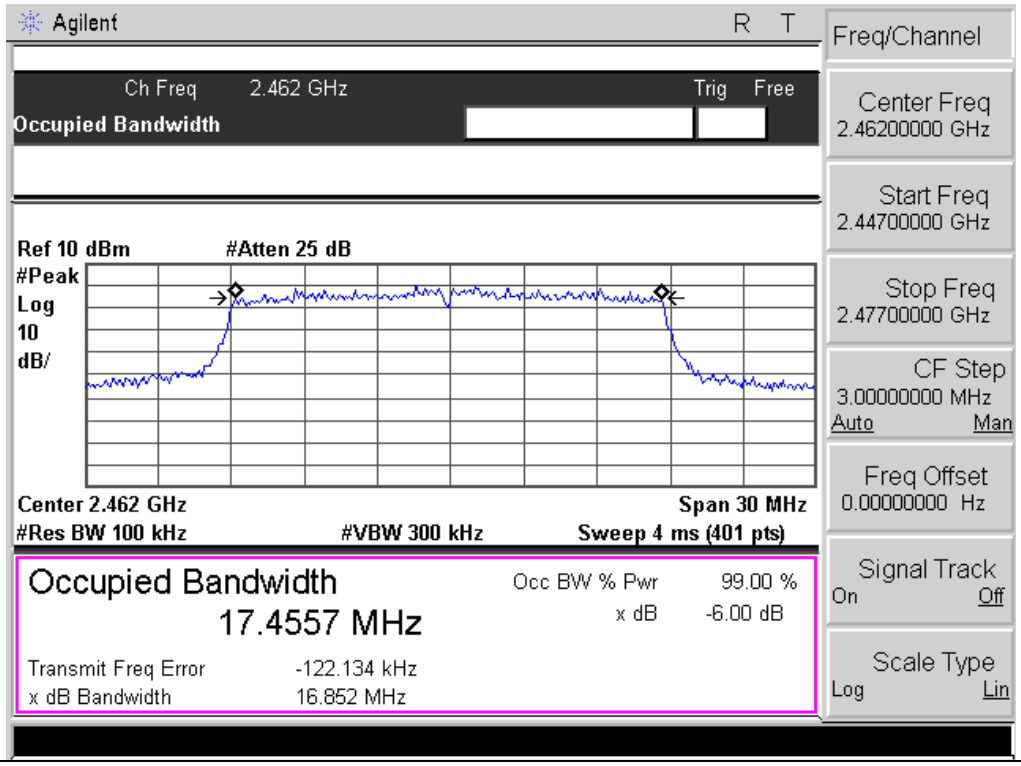
TX CH 01



TX CH 06



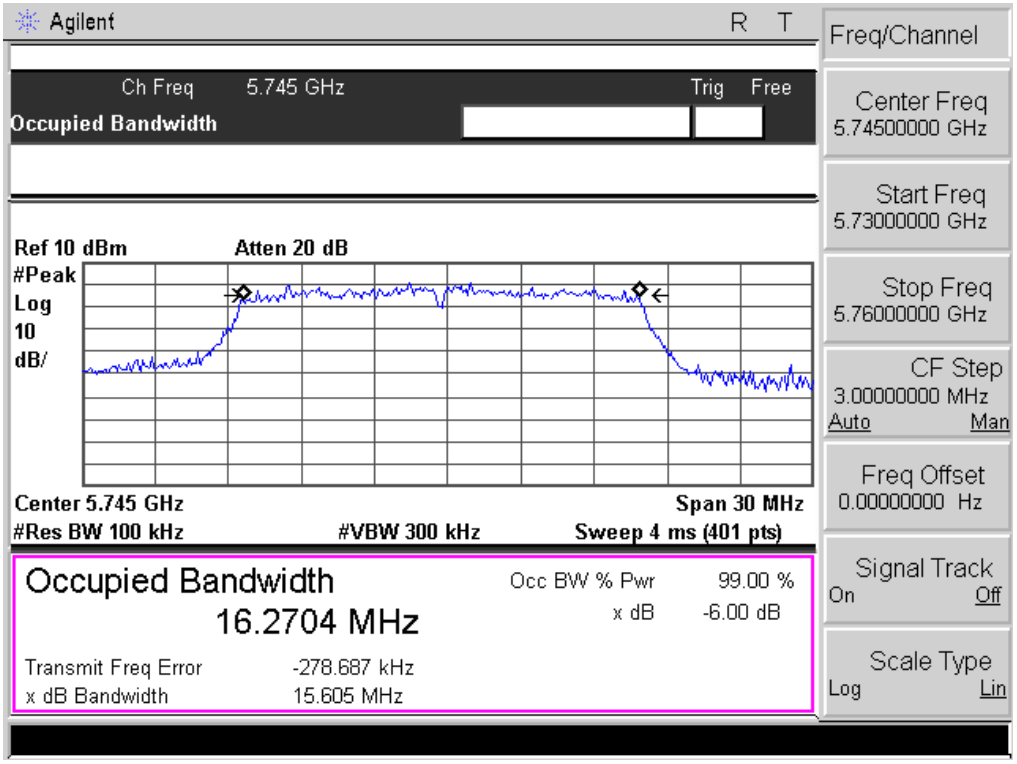
TX CH 11



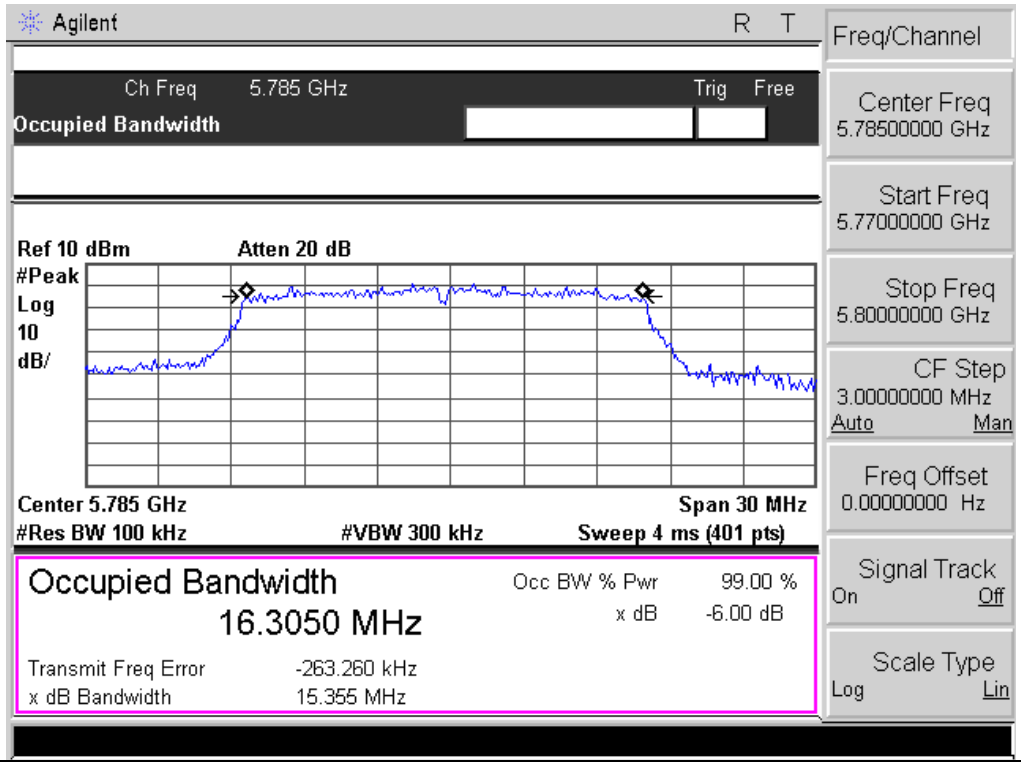
EUT：	Tablet PC	Model Name ：	TVE1001I
Temperature：	25 ℃	Relative Humidity：	56%
Pressure：	1012 hPa	Test Voltage ：	DC 3.8V
Test Mode ：	TX a Mode /CH149, CH157, CH165		

Channel	Frequency (MHz)	6dB bandwidth (MHz)	Limit (kHz)	Result
Low	5745	15.605	500	Pass
Middle	5785	15.355	500	Pass
High	5825	15.291	500	Pass

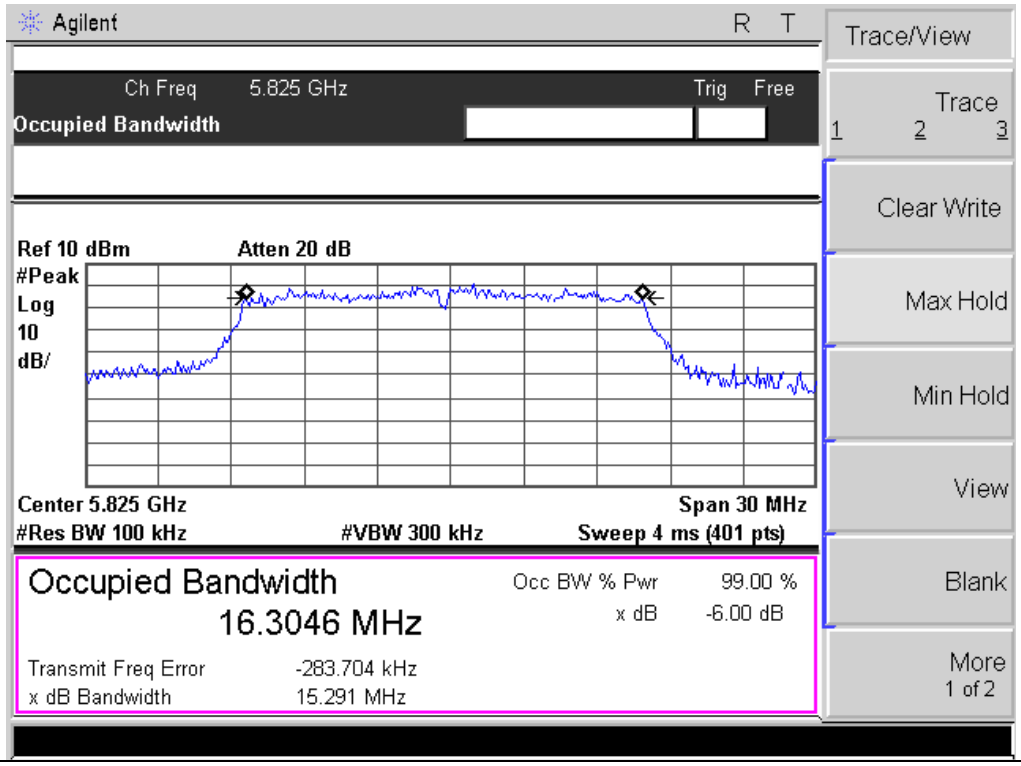
TX CH 149



TX CH 157



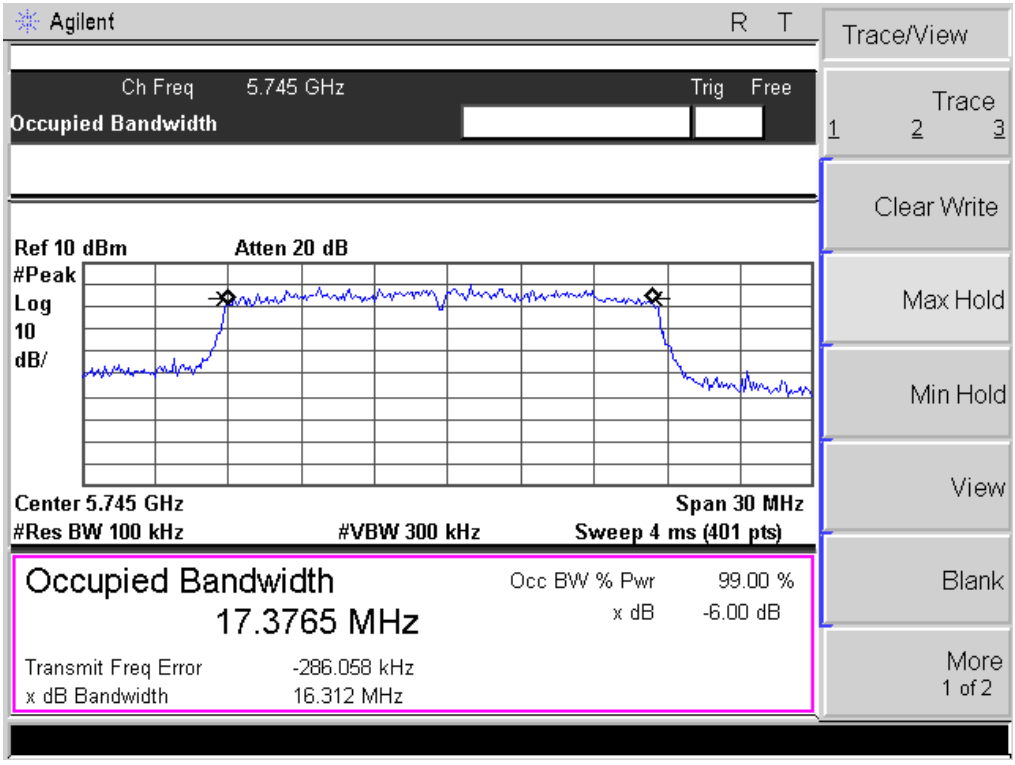
TX CH 165



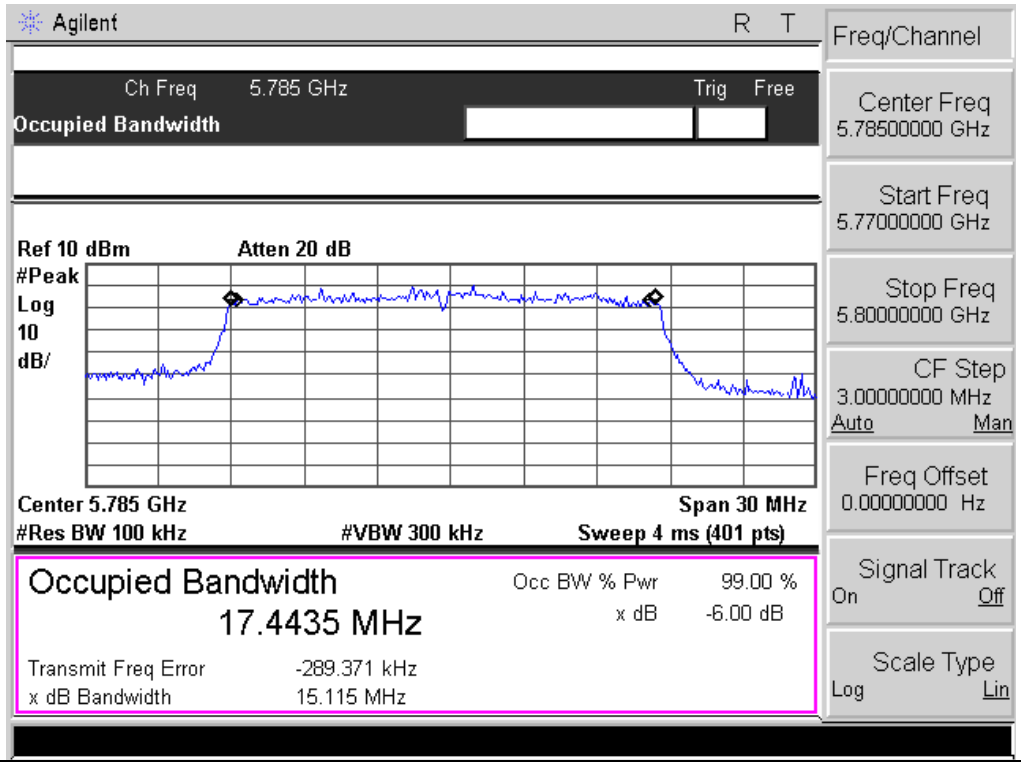
EUT：	Tablet PC	Model Name ：	TVE1001I
Temperature：	25 ℃	Relative Humidity：	56%
Pressure：	1012 hPa	Test Voltage ：	DC 3.8V
Test Mode ：	TX n(20) Mode(5G) /CH149, CH157, CH165		

Channel	Frequency (MHz)	6dB bandwidth (MHz)	Limit (kHz)	Result
Low	5745	16.312	500	Pass
Middle	5785	15.115	500	Pass
High	5825	16.979	500	Pass

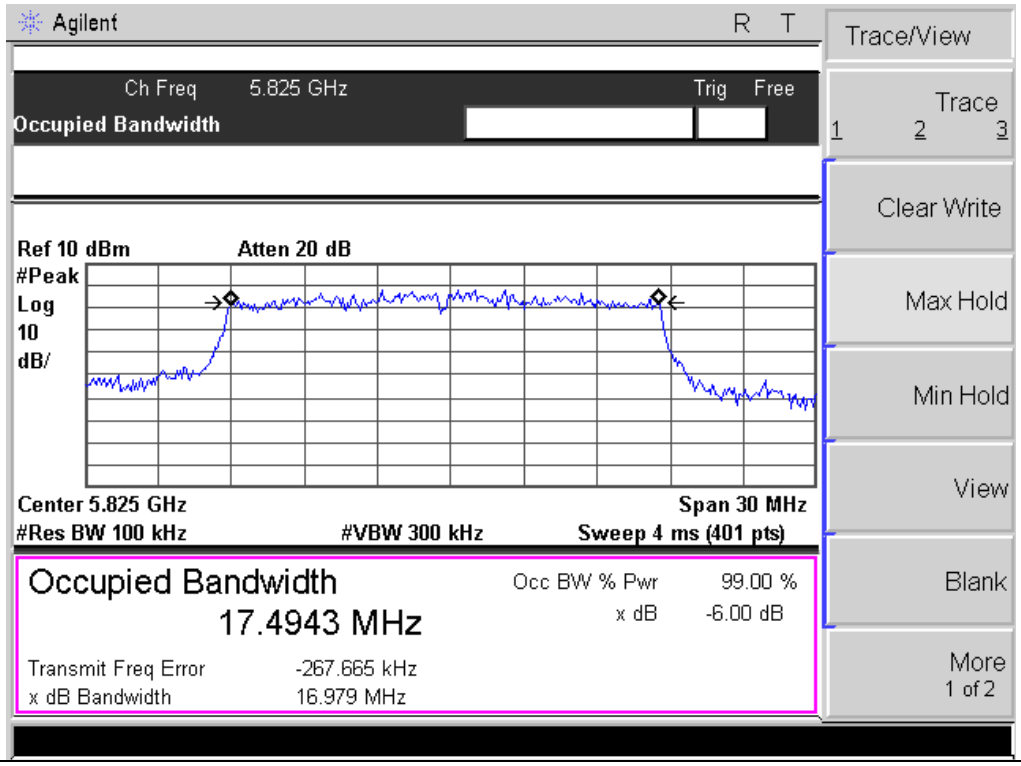
TX CH 149



TX CH 157



TX CH 165



6. PEAK OUTPUT POWER TEST

6.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(b)(3)	Peak Output Power	1 watt or 30dBm	2400-2483.5	PASS

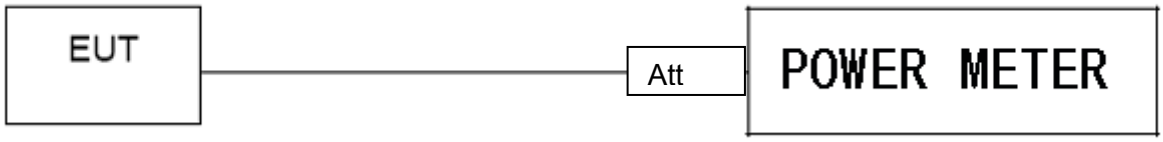
6.1.1 TEST PROCEDURE

a. The EUT was directly connected to the Power meter

6.1.2 DEVIATION FROM STANDARD

No deviation.

6.1.3 TEST SETUP



6.1.4 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.

6.1.5 TEST RESULTS

EUT：	Tablet PC	Model Name ：	TVE1001I
Temperature：	25 ℃	Relative Humidity：	60%
Pressure：	1012 hPa	Test Voltage ：	DC 3.8V
Test Mode ：	TX b/g/n(20M) Mode		

TX 802.11b Mode				
Test Channe	Frequency	Maximum Conducted Output Power(PK)	Average Power(dBm)	LIMIT
	(MHz)	(dBm)	(dBm)	(dBm)
CH01	2412	11.05	8.97	30
CH06	2437	11.67	9.46	30
CH11	2462	11.48	9.59	30
TX 802.11g Mode				
CH01	2412	10.04	7.78	30
CH06	2437	10.48	7.81	30
CH11	2462	10.37	7.73	30
TX 802.11n-HT20 Mode				
CH01	2412	8.97	6.33	30
CH06	2437	9.06	6.58	30
CH11	2462	8.91	6.18	30

EUT：	Tablet PC	Model Name ：	TVE1001I
Temperature：	25 ℃	Relative Humidity：	60%
Pressure：	1012 hPa	Test Voltage ：	DC 3.8V
Test Mode ：	TX a/n(5G) Mode		

TX 802.11a Mode				
Test Channe	Frequency	Maximum Conducted Output Power(PK)	Average Power(dBm)	LIMIT
	(MHz)	(dBm)	(dBm)	(dBm)
CH149	5745	11.87	6.69	30
CH157	5785	11.59	6.37	30
CH165	5825	11.93	6.66	30
TX 802.11 n20 Mode				
CH149	5745	9.79	5.55	30
CH157	5785	9.06	5.73	30
CH165	5825	9.89	5.56	30

7. 100 KHZ BANDWIDTH OF FREQUENCY BAND EDGE

APPLICABLE STANDARD

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, 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)).

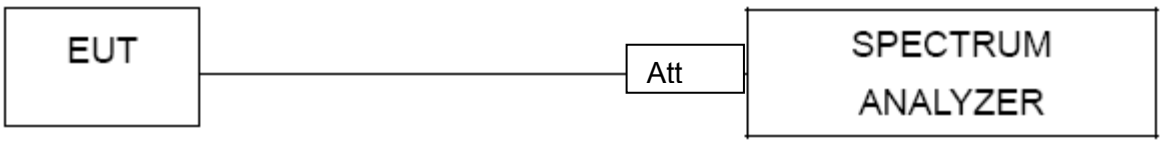
TEST PROCEDURE

a) Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
b) 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.
c) Set RBW to 100 kHz and VBW of spectrum analyzer to 300 kHz with a convenient frequency span including 100 kHz bandwidth from band edge.
d) 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.
e) Repeat above procedures until all measured frequencies were complete.

7.1 DEVIATION FROM STANDARD

No deviation.

7.2 TEST SETUP



7.3 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.

7.4 TEST RESULTS

EUT：	Tablet PC	Model Name ：	TVE1001I
Temperature：	25 ℃	Relative Humidity：	56%
Pressure：	1012 hPa	Test Voltage ：	DC 3.8V

Frequency Band	Delta Peak to band emission (dBc)	＞Limit (dBc)	Result
802.11b mode			
2400	51.24	20	Pass
2483.5	54.70	20	Pass
802.11g mode			
2400	42.23	20	Pass
2483.5	48.86	20	Pass
802.11n-HT20 mode			
2400	43.53	20	Pass
2483.5	47.20	20	Pass

Frequency Band	Delta Peak to band emission (dBc)	＞Limit (dBc)	Result
802.11a mode			
5725	42.70	20	Pass
5850	52.19	20	Pass
802.11n20 mode			
5725	43.06	20	Pass
5850	49.93	20	Pass

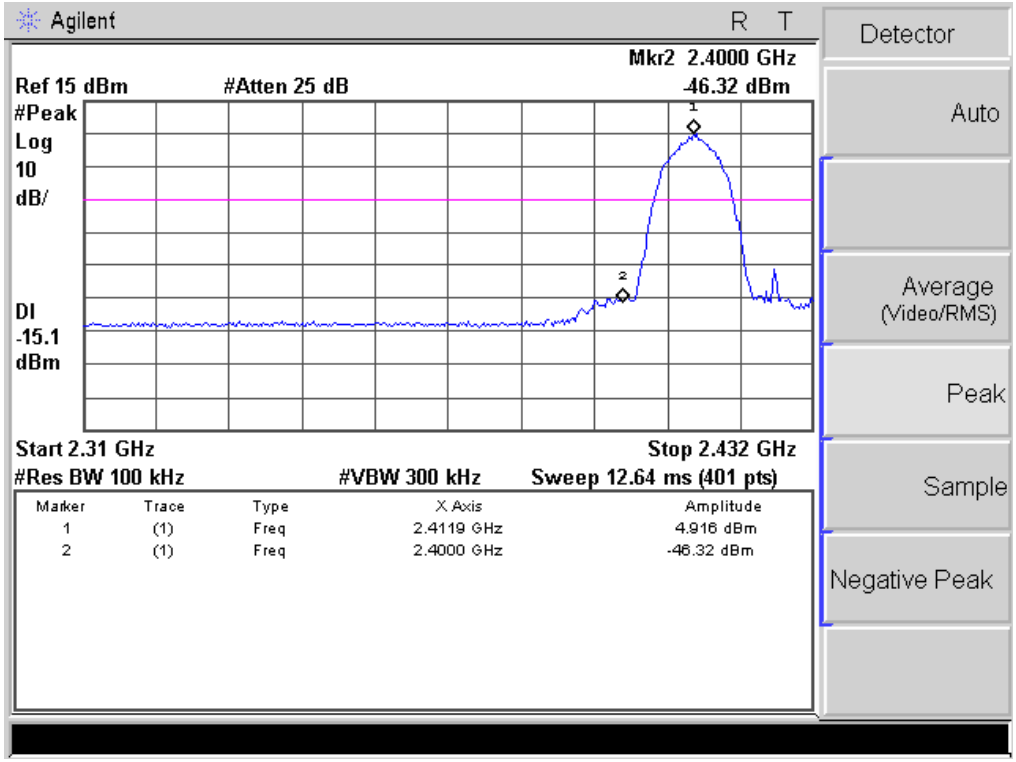
Radiated band edge:

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type	Comment
802.11b							
2390	59.97	-13.06	46.91	74	-27.09	peak	Vertical
2390	58.39	-13.06	45.33	74	-28.67	peak	Horizontal
2483.5	60.14	-12.78	47.36	74	-26.64	peak	Vertical
2483.5	60.35	-12.78	47.57	74	-26.43	peak	Horizontal
802.11g							
2390	59.84	-13.06	46.78	74	-27.22	peak	Vertical
2390	58.15	-13.06	45.09	74	-28.91	peak	Horizontal
2483.5	58.99	-12.78	46.21	74	-27.79	peak	Vertical
2483.5	60.04	-12.78	47.26	74	-26.74	peak	Horizontal
802.11n（20）							
2390	62.19	-13.06	49.13	74	-24.87	peak	Vertical
2390	63.29	-13.06	50.23	74	-23.77	peak	Horizontal
2483.5	62.55	-12.78	49.77	74	-24.23	peak	Vertical
2483.5	63.97	-12.78	51.19	74	-22.81	peak	Horizontal

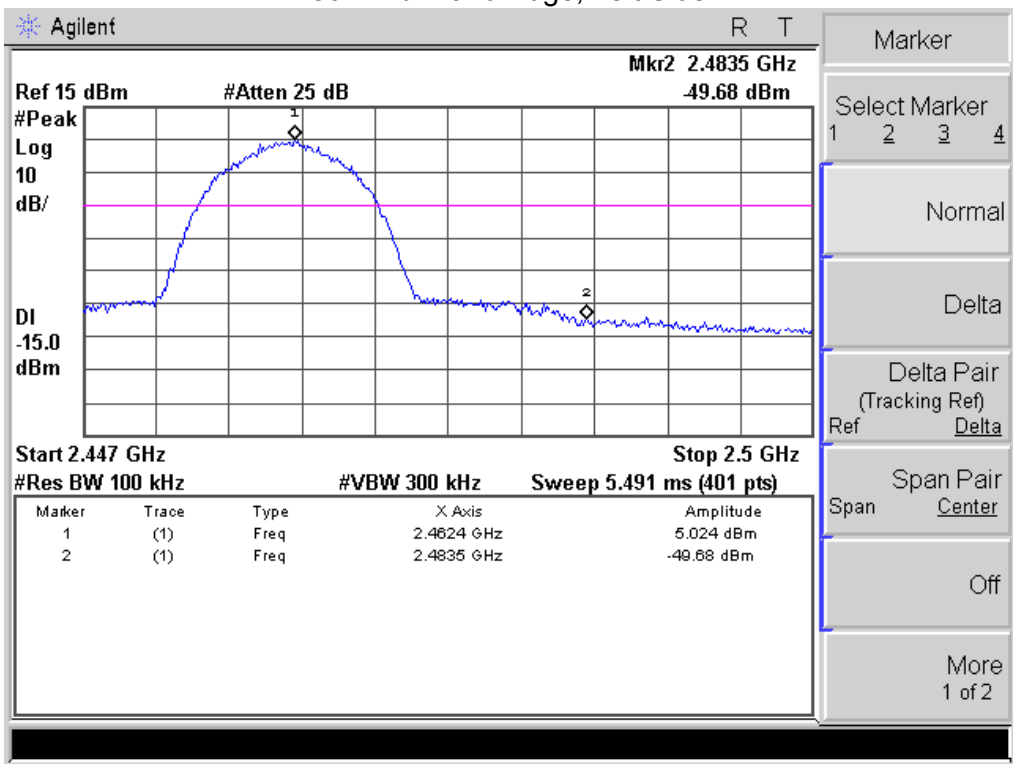
Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type	Comment
802.11a-5G							
5725	43.56	3.88	47.44	74	-26.56	peak	Vertical
5725	42.18	3.88	46.06	74	-27.94	peak	Horizontal
5850	43.36	3.85	47.21	74	-26.79	peak	Vertical
5850	41.47	3.85	45.32	74	-28.68	peak	Horizontal
802.11n20-5G							
5725	42.55	3.88	46.43	74	-27.57	peak	Vertical
5725	43.68	3.88	47.56	74	-26.44	peak	Horizontal
5850	43.76	3.85	47.61	74	-26.39	peak	Vertical
5850	45.51	3.85	49.36	74	-24.64	peak	Horizontal

Note: Test method to see chapter 3.2 . When PK value is lower than the Average value limit, average not record.

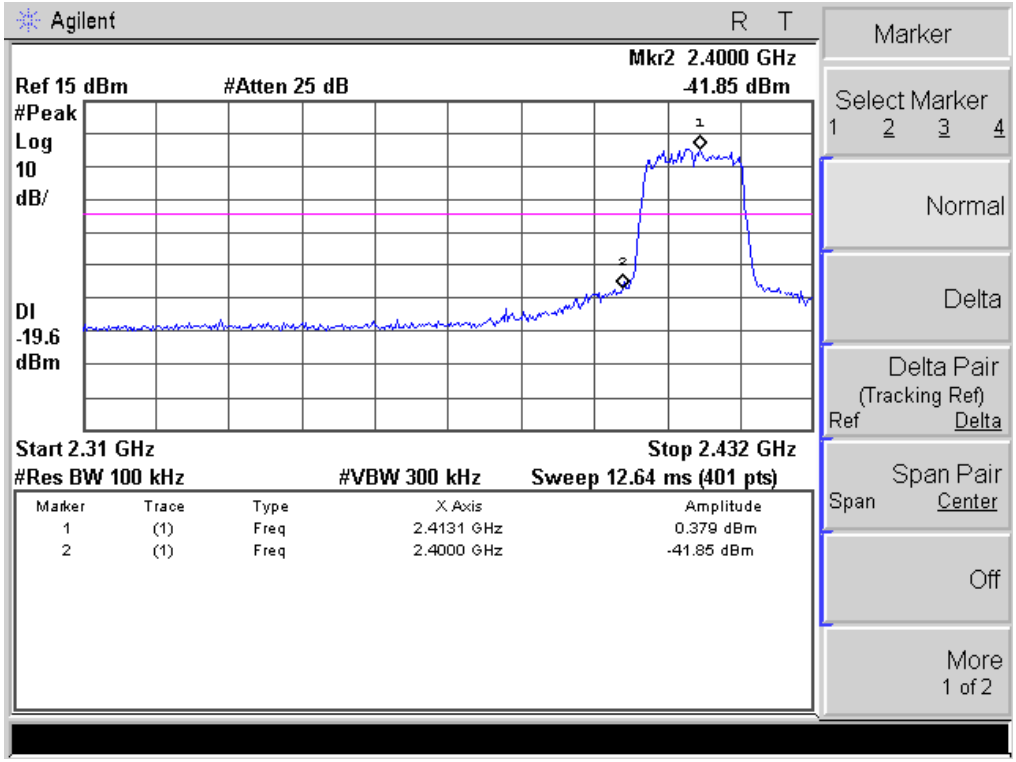
802.11b: Band Edge, Right Side



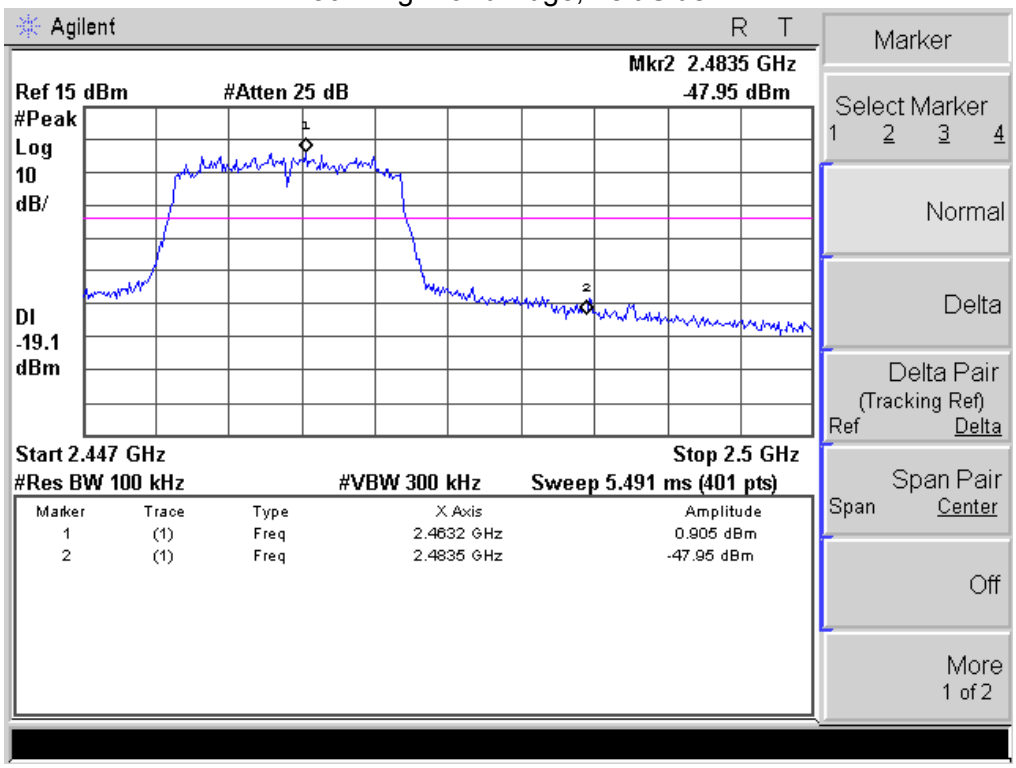
802.11b: Band Edge, Left Side



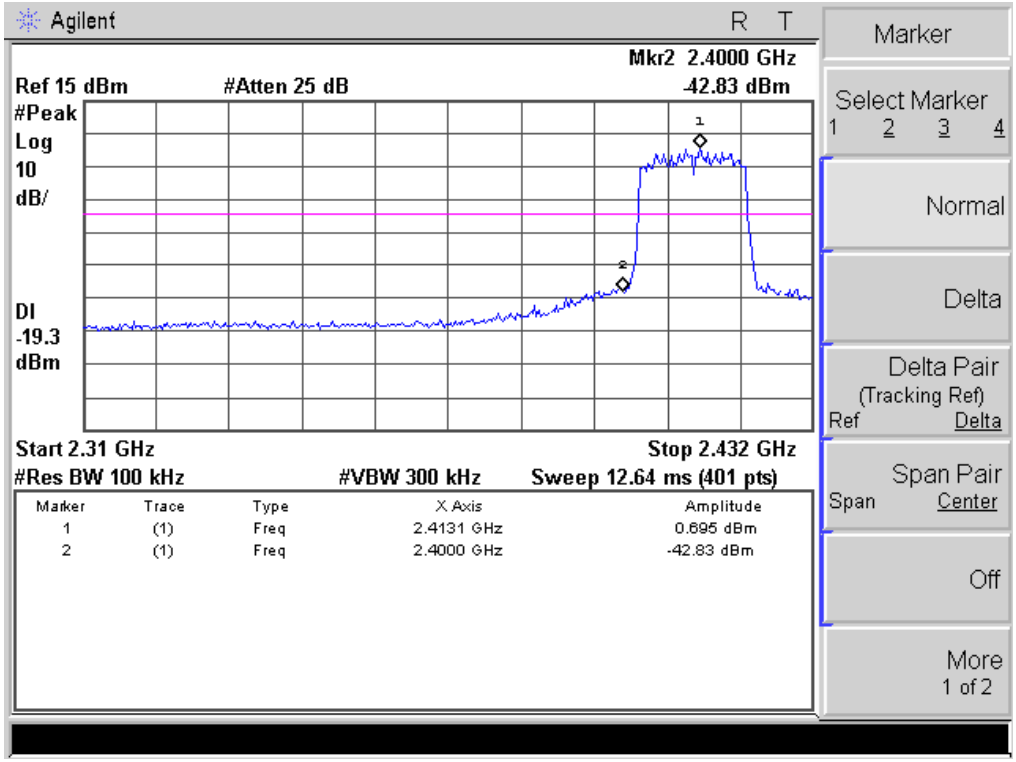
802.11g: Band Edge, Right Side



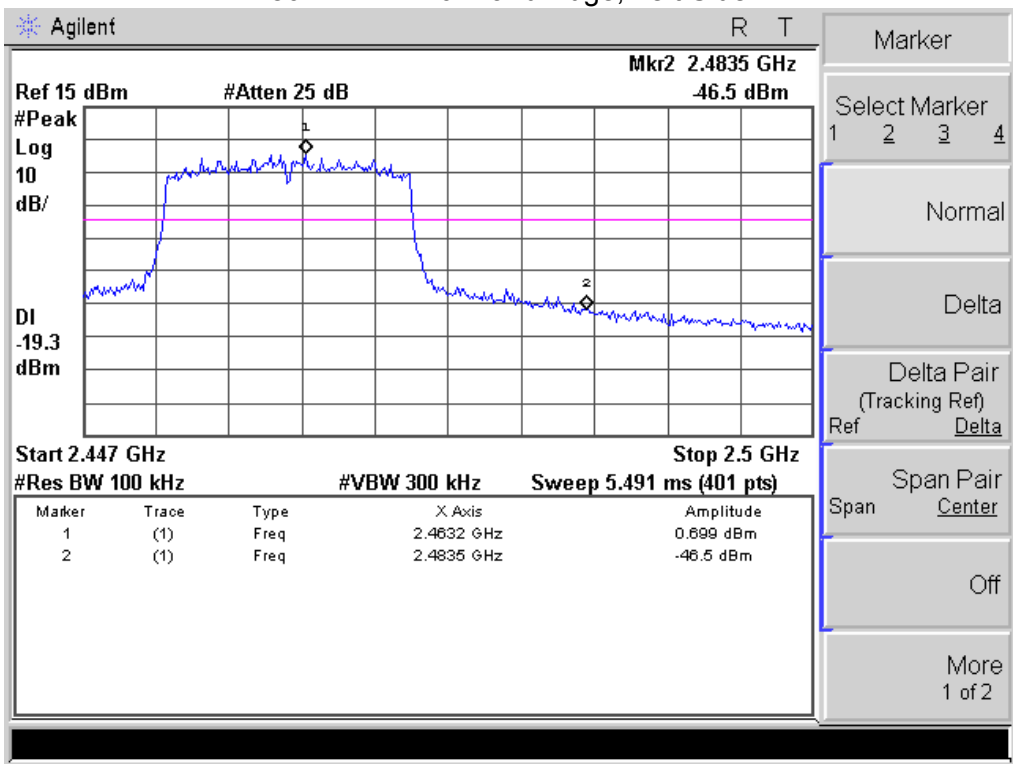
802.11g: Band Edge, Left Side



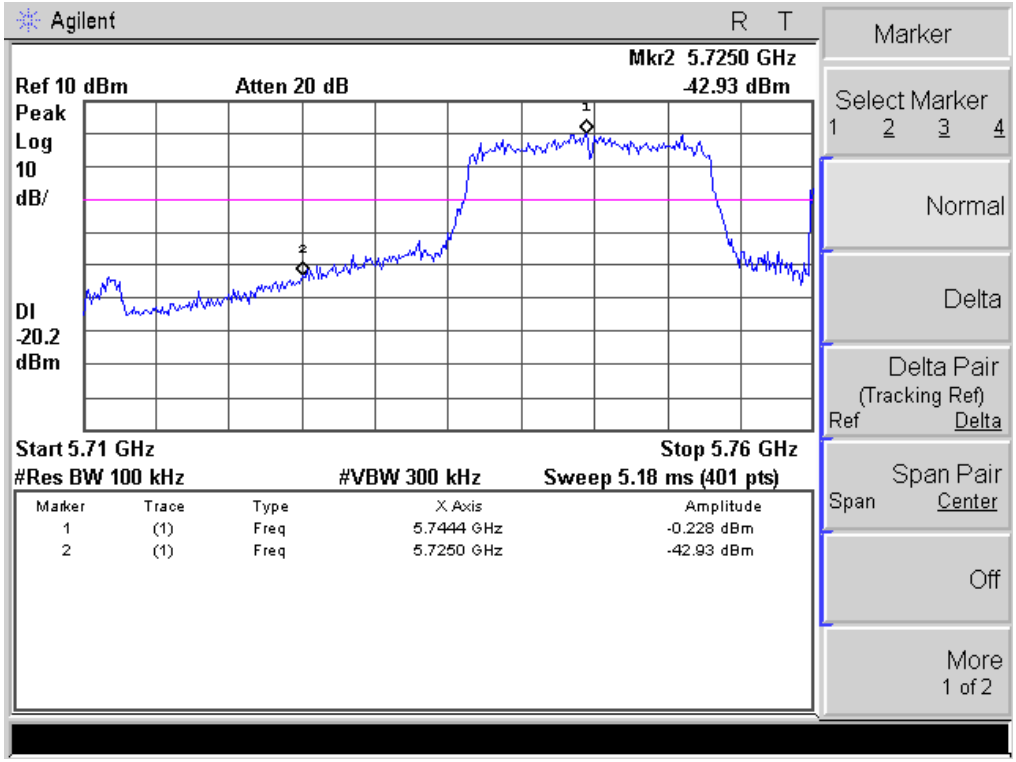
802.11n-HT20: Band Edge, Right Side



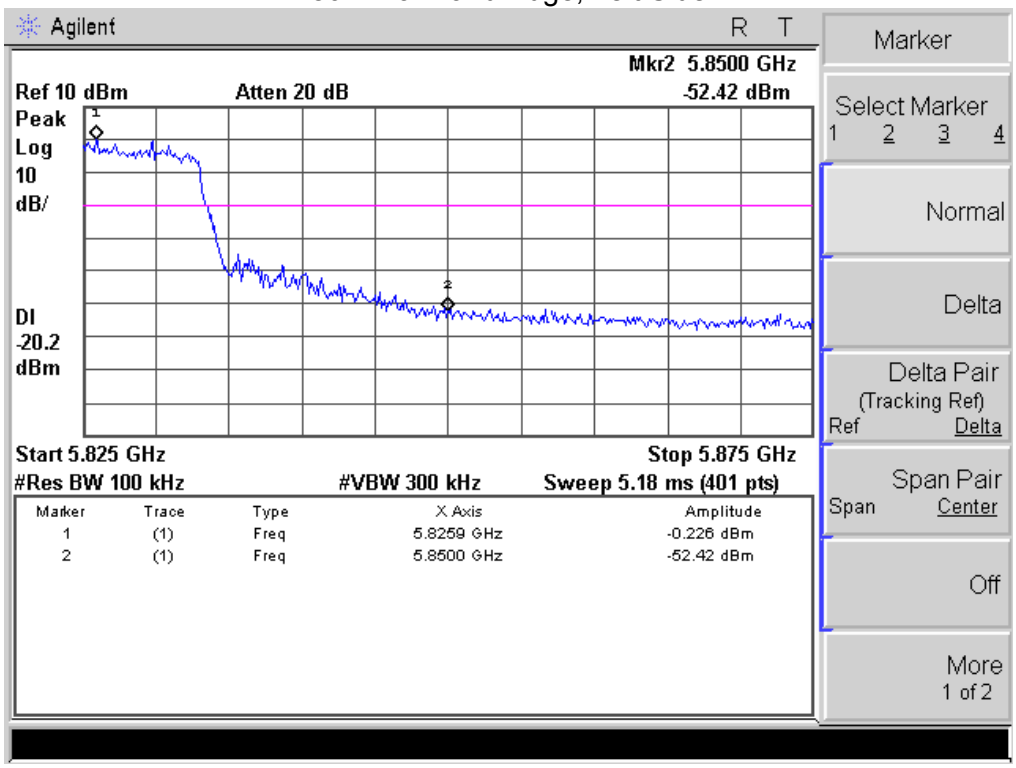
802.11n-HT20: Band Edge, Left Side



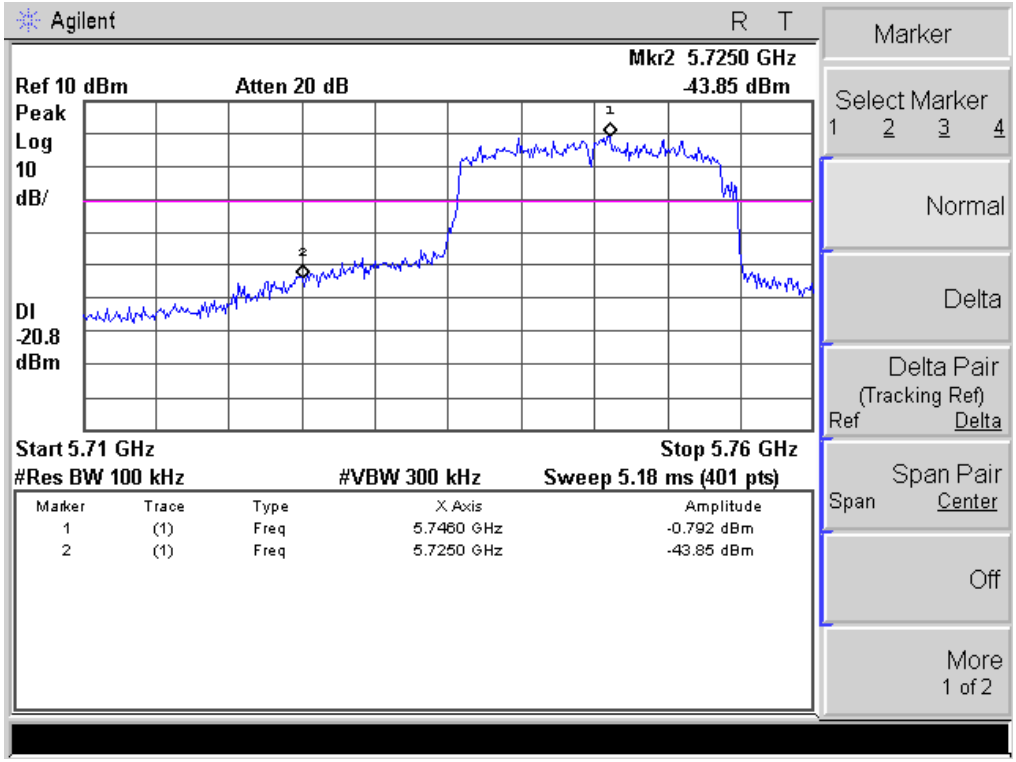
802.11a: Band Edge, Right Side



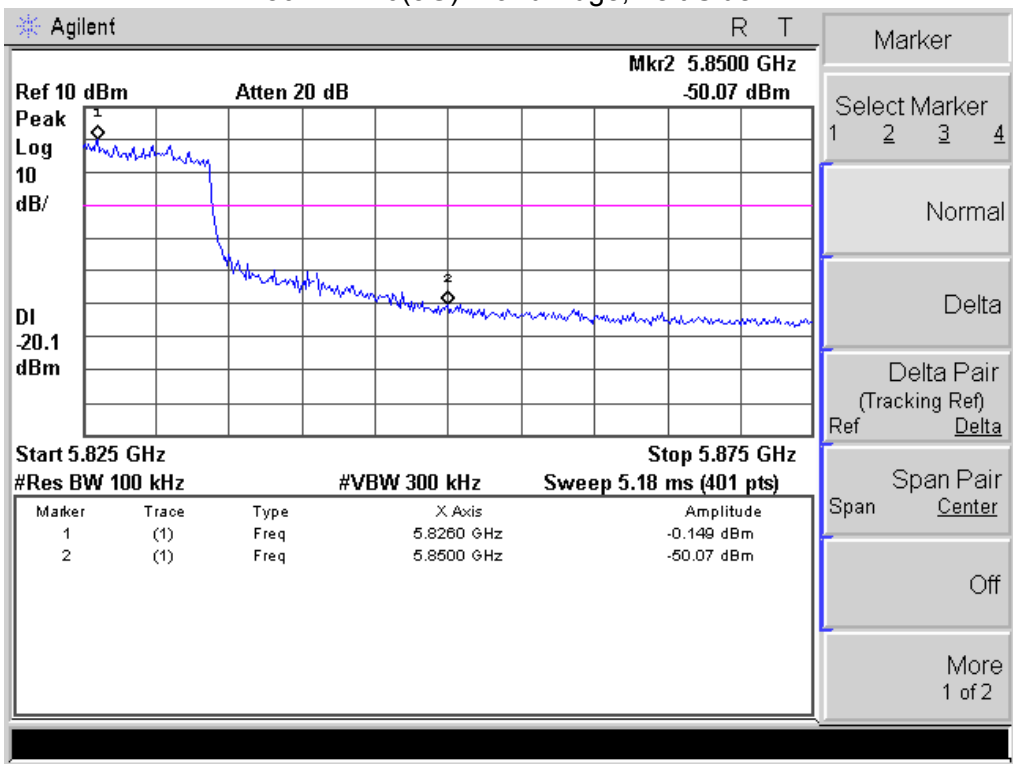
802.11a: Band Edge, Left Side



802.11n20(5G): Band Edge, Right Side



802.11n20(5G): Band Edge, Left Side



8. ANTENNA REQUIREMENT

8.1 STANDARD REQUIREMENT

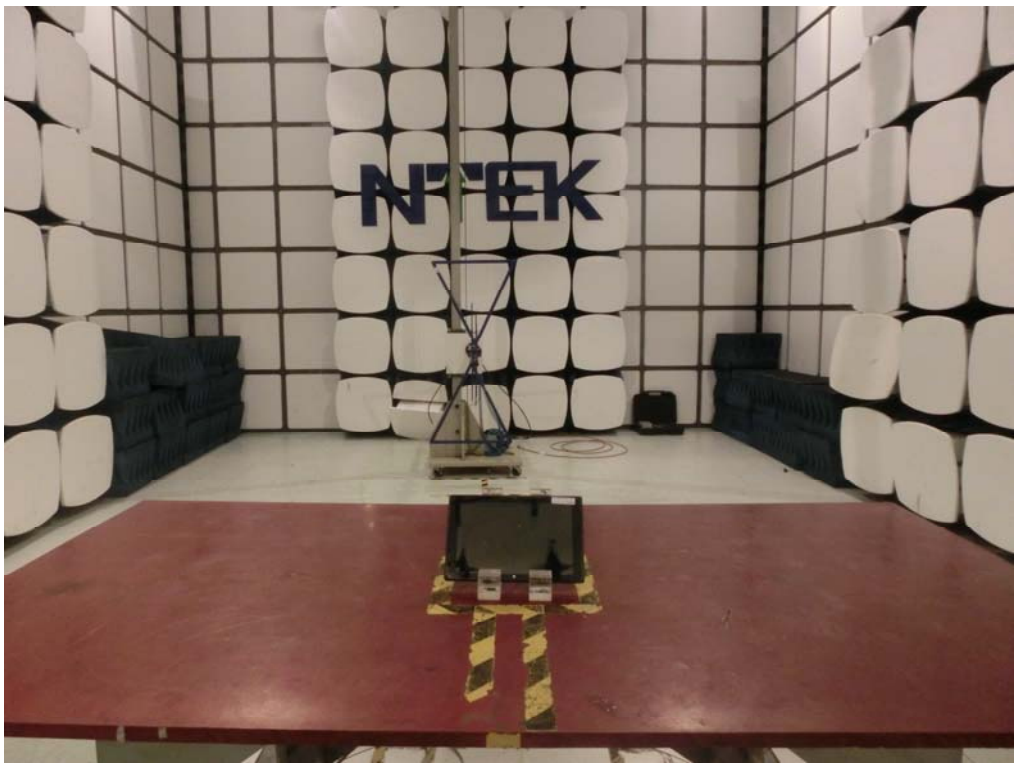
15.203 requirement: For intentional device, according to 15.203: an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

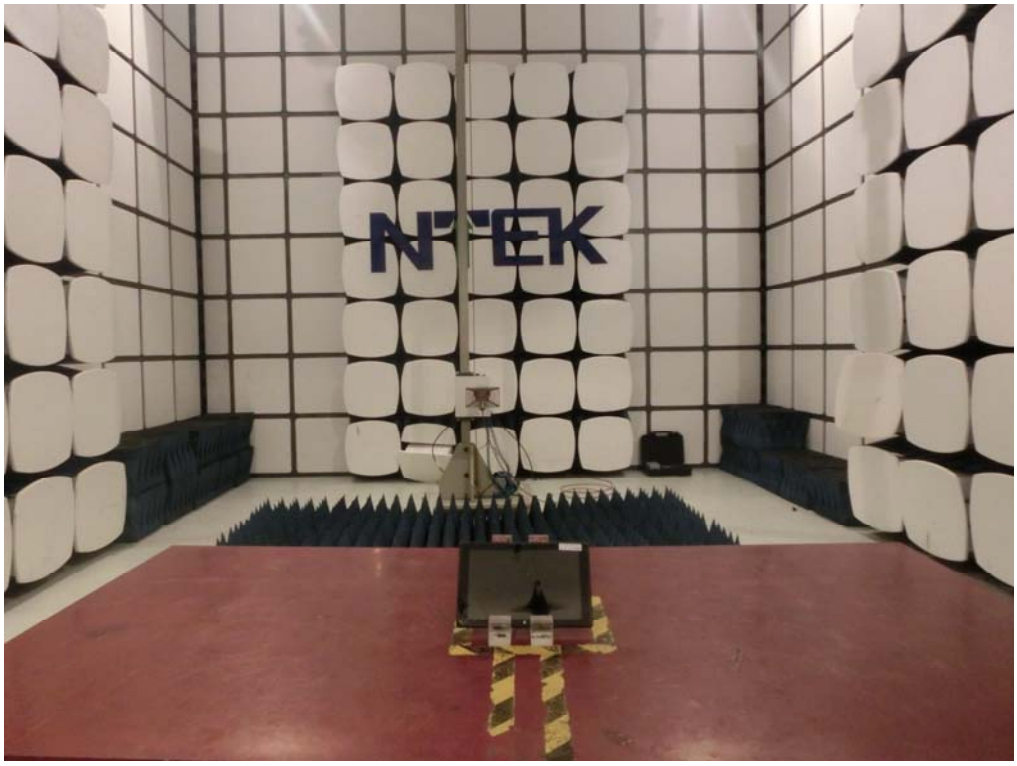
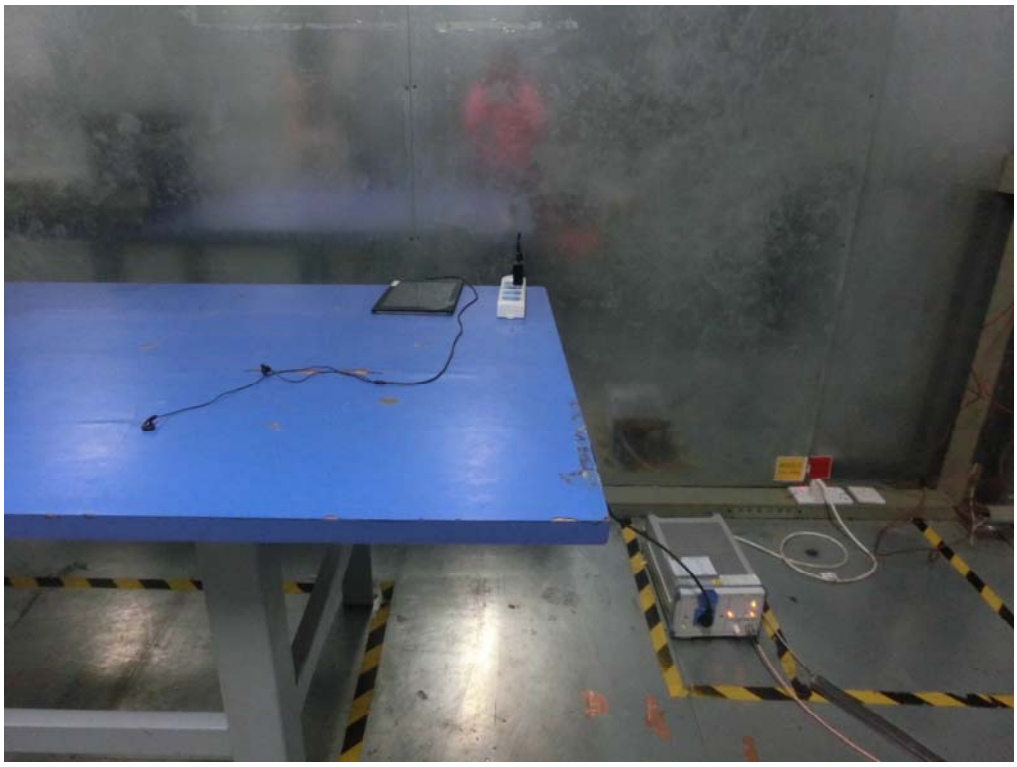
8.2 EUT ANTENNA

The EUT antenna is permanent attached antenna. It comply with the standard requirement.

9. EUT TEST PHOTO

Radiated Measurement Photos





Conducted Measurement Photos