



FCC RADIO TEST REPORT

FCC ID: 2AJQ075I8

Product : QOMO Interactive Touch Screen

Trade Name : N/A

Model Name: 75I8

Serial Model : QIT1343,QIT1350,QIT1355,QIT1360,QIT1365,
QIT1370,QIT1375,QIT1385,QIT1390,QIT1398,
QIT13A0,QIT2350,QIT2355,QIT2360,QIT2365,
QIT2375,QIT2385,QIT23A0,QIT6350,QIT6355,
QIT6360,QIT6365,QIT6370,QIT6375,QIT6385,
QIT63A0,43I8,50I8,55I8,60I8,65I8,70I8,85I8,
90I8,98I8

Report No. : POCE- 20160905213R

Prepared for

QOMO,LLC

46950 Magellan Drive, Lot4 Wixom, MI48393, USA

Prepared by

Shenzhen POCE Technology Co.,Ltd.
Room 502, Bldg. 1, Xinghua Garden, Baoan Road Xixiang,
Baoan District, Shenzhen, China

TEST RESULT CERTIFICATION

Applicant's name : QOMO,LLC

Address : 46950 Magellan Drive, Lot4 Wixom, MI48393, USA

Manufacture's Name : QOMO,LLC

Address : 46950 Magellan Drive, Lot4 Wixom, MI48393, USA

Product description

Product name : QOMO Interactive Touch Screen

Model and/or type reference : 7518

Serial Model : QIT1343, QIT1350, QIT1355, QIT1360, QIT1365,
QIT1370, QIT1375, QIT1385, QIT1390, QIT1398,
QIT13A0, QIT2350, QIT2355, QIT2360, QIT2365,
QIT2375, QIT2385, QIT23A0, QIT6350, QIT6355,
QIT6360, QIT6365, QIT6370, QIT6375, QIT6385,
QIT63A0, 4318, 5018, 5518, 6018, 6518, 7018, 8518,
9018, 9818

Standards : FCC Part15.247, KDB558074 D01 DTS Meas Guidance v03r03

Test procedure ANSI C63.10-2013

This device described above has been tested by POCE, 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.

This report shall not be reproduced except in full, without the written approval of POCE, this document may be altered or revised by POCE, personal only, and shall be noted in the revision of the document.

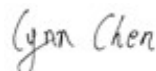
Date of Test :

Date (s) of performance of tests : 01 Sep. 2016 ~10 Sep. 2016

Date of Issue : 10 Sep. 2016

Test Result : **Pass**

Testing Engineer :



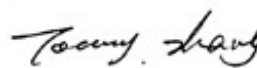
(Lynn Chen)

Technical Manager :



(Carlen Liu)

Authorized Signatory :



(Tommy Zhang)

Table of Contents

	Page
1 . SUMMARY OF TEST RESULTS	5
1.1 TEST FACILITY	6
1.2 MEASUREMENT UNCERTAINTY	6
2 . GENERAL INFORMATION	7
2.1 GENERAL DESCRIPTION OF EUT	7
2.2 DESCRIPTION OF TEST MODES	9
2.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED	10
2.4 DESCRIPTION OF SUPPORT UNITS(CONDUCTED MODE)	11
2.5 EQUIPMENTS LIST FOR ALL TEST ITEMS	12
3 . EMC EMISSION TEST	13
3.1 CONDUCTED EMISSION MEASUREMENT	13
3.1.1 POWER LINE CONDUCTED EMISSION LIMITS	13
3.1.2 TEST PROCEDURE	14
3.1.3 DEVIATION FROM TEST STANDARD	14
3.1.4 TEST SETUP	14
3.1.5 EUT OPERATING CONDITIONS	14
3.1.6 TEST RESULTS	15
3.2 RADIATED EMISSION MEASUREMENT	17
3.2.1 RADIATED EMISSION LIMITS	17
3.2.2 TEST PROCEDURE	18
3.2.3 DEVIATION FROM TEST STANDARD	18
3.2.4 TEST SETUP	19
3.2.5 EUT OPERATING CONDITIONS	20
3.2.6 TEST RESULTS (BETWEEN 9KHZ – 30 MHZ)	21
3.2.7 TEST RESULTS (BETWEEN 30MHZ – 1GHZ)	22
3.2.8 TEST RESULTS (ABOVE 1000 MHZ)	23
4 . POWER SPECTRAL DENSITY TEST	25
4.1 APPLIED PROCEDURES / LIMIT	25
4.1.1 TEST PROCEDURE	25
4.1.2 DEVIATION FROM STANDARD	25
4.1.3 TEST SETUP	25
4.1.4 EUT OPERATION CONDITIONS	25
4.1.5 TEST RESULTS	26
5 . BANDWIDTH TEST	32
5.1 APPLIED PROCEDURES / LIMIT	32
5.1.1 TEST PROCEDURE	32
5.1.2 DEVIATION FROM STANDARD	32

Table of Contents

	Page
5.1.3 TEST SETUP	32
5.1.4 EUT OPERATION CONDITIONS	32
5.1.5 TEST RESULTS	33
6 . PEAK OUTPUT POWER TEST	39
6.1 APPLIED PROCEDURES / LIMIT	39
6.1.1 TEST PROCEDURE	39
6.1.2 DEVIATION FROM STANDARD	39
6.1.3 TEST SETUP	39
6.1.4 EUT OPERATION CONDITIONS	39
6.1.5 TEST RESULTS	40
7 . 100 KHZ BANDWIDTH OF FREQUENCY BAND EDGE	41
7.1 DEVIATION FROM STANDARD	41
7.2 TEST SETUP	41
7.3 EUT OPERATION CONDITIONS	41
7.4 TEST RESULTS	42
8 . ANTENNA REQUIREMENT	46
8.1 STANDARD REQUIREMENT	46
8.2 EUT ANTENNA	46
9 . EUT TEST PHOTO	47

1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

FCC Part15 (15.247) , Subpart C KDB558074 D01 DTS Meas Guidance v03r05			
Standard Section	Test Item	Judgment	Remark
15.207(a)	AC Conducted Emission	PASS	
15.247 (a)(2)	6dB Bandwidth	PASS	
15.247 (b)(3) 15.31(e)	Peak Output Power	PASS	
15.247 (d) 15.205	Radiated Spurious Emission	PASS	
15.247 (e)	Power Spectral Density	PASS	
15.247(d), 15.205	Band Edge Emission	PASS	
15.203	Antenna Requirement	PASS	

1.1 TEST FACILITY

Shenzhen POCE Technology Co.,Ltd.

Add.: Room 502, Bldg. 1, Xinghua Garden, Baoan Road Xixiang, Baoan District, Shenzhen, China

FCC Registered No.: 222278

1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement $y \pm U$, where expanded 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	$\pm 1.38\text{dB}$
2	RF power,conducted	$\pm 0.16\text{dB}$
3	Spurious emissions,conducted	$\pm 0.21\text{dB}$
4	All emissions,radiated(<1G)	$\pm 4.68\text{dB}$
5	All emissions,radiated(>1G)	$\pm 4.89\text{dB}$
6	Temperature	$\pm 0.5^{\circ}\text{C}$
7	Humidity	$\pm 2\%$

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Equipment	QOMO Interactive Touch Screen	
Trade Name	N/A	
Model Name	7518	
Serial Model	QIT1343,QIT1350,QIT1355,QIT1360,QIT1365, QIT1370,QIT1375,QIT1385,QIT1390,QIT1398, QIT13A0,QIT2350,QIT2355,QIT2360,QIT2365, QIT2375,QIT2385,QIT23A0,QIT6350,QIT6355, QIT6360,QIT6365,QIT6370,QIT6375,QIT6385, QIT63A0,4318,5018,5518,6018,6518,7018,8518, 9018,9818	
Model Difference	All the same,Only model name is different.	
Product Description	The EUT is a QOMO Interactive Touch Screen	
	Operation Frequency:	802.11b/g/n:2412~2462 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:78/52/6.5Mbps
	Number Of Channel	802.11b/g/n:11CH
	Antenna Designation:	Please see Note 3.
	Output Power(Conducted):	802.11b: 17.32 dBm (Max.) 802.11g: 15.81 dBm (Max.) 802.11n: 14.63 dBm (Max.)
	Antenna Gain (dBi)	3.17dbi
	Based on the application, features, or specification exhibited in User's Manual, the EUT is considered as an ITE/Computing Device. More details of EUT technical specification, please refer to the User's Manual.	
Channel List	Please refer to the Note 2.	
Ratings	AC 120V	
Adapter	N/A	
Battery	N/A	
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.

Channel List for 802.11b/g/n(20)							
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		

3.

Table for Filed Antenna

Ant	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	NOTE
A	N/A	N/A	Reverse SMA Antenna	N/A	3.17	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	802.11n CH1/ CH6/ CH11
Mode 4	Link Mode

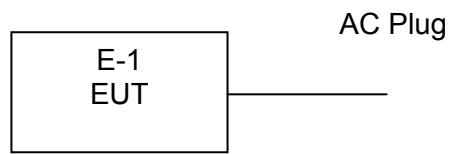
For Conducted Emission	
Final Test Mode	Description
Mode 4	Link Mode

For Radiated Emission	
Final Test Mode	Description
Mode 1	802.11b CH1/ CH6/ CH11
Mode 2	802.11g CH1/ CH6/ CH11
Mode 3	802.11n CH1/ CH6/ CH11

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



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	QOMO Interactive Touch Screen	N/A	7518	N/A	EUT

Item	Shielded Type	Ferrite Core	Length	Note

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	2016.07.06	2017.07.05	1 year
2	Test Receiver	R&S	ESPI	101318	2016.06.07	2017.06.06	1 year
3	Bilog Antenna	TESEQ	CBL6111D	31216	2016.07.06	2017.07.05	1 year
4	50Ω Coaxial Switch	Anritsu	MP59B	6200264416	2016.06.07	2017.06.06	1 year
5	Spectrum Analyzer	ADVANTEST	R3132	150900201	2016.06.07	2017.06.06	1 year
6	Horn Antenna	EM	EM-AH-10180	2011071402	2016.07.06	2017.07.05	1 year
7	Horn Ant	Schwarzbeck	BBHA 9170	9170-181	2016.07.06	2017.07.05	1 year
8	Amplifier	EM	EM-30180	060538	2015.12.22	2016.12.21	1 year
9	Loop Antenna	ARA	PLA-1030/B	1029	2016.06.08	2017.06.07	1 year
10	Power Meter	R&S	NRVS	100696	2016.07.06	2017.07.05	1 year
11	Power Sensor	R&S	URV5-Z4	0395.1619.05	2016.07.06	2017.07.05	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	2016.06.06	2017.06.05	1 year
2	LISN	R&S	ENV216	101313	2016.08.24	2017.08.23	1 year
3	LISN	EMCO	3816/2	00042990	2016.08.24	2017.08.23	1 year
4	50Ω Coaxial Switch	Anritsu	MP59B	6200264417	2016.06.07	2017.06.06	1 year
5	Passive Voltage Probe	R&S	ESH2-Z3	100196	2016.06.07	2017.06.06	1 year
6	Absorbing clamp	R&S	MOS-21	100423	2016.06.08	2017.06.07	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

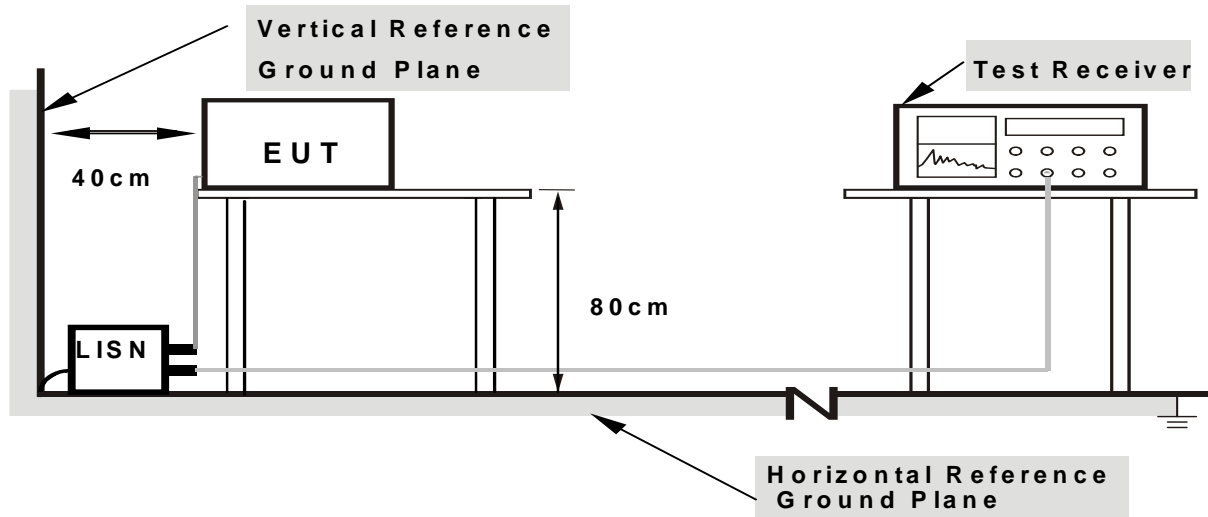
3.1.2 TEST PROCEDURE

- 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.

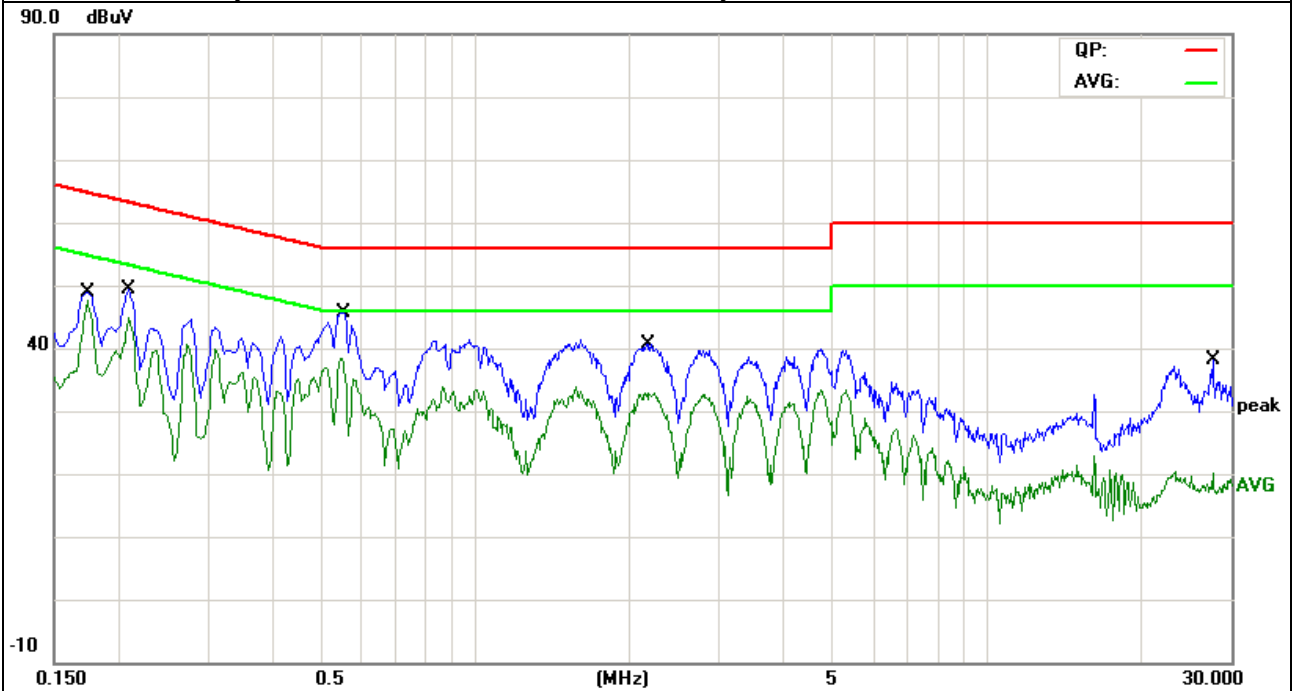
3.1.6 TEST RESULTS

EUT :	QOMO Interactive Touch Screen	Model Name. :	7518
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	1010hPa	Phase :	L
Test Voltage :	AC 120V/60Hz	Test Mode :	Mode 1

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV)	Limits (dBμV)	Margin (dB)	Detector Type
0.1740	38.18	9.97	48.15	64.76	-16.61	QP
0.1740	37.69	9.97	47.66	54.76	-7.10	AVG
0.2100	38.07	10.02	48.09	63.20	-15.11	QP
0.2100	34.74	10.02	44.76	53.20	-8.44	AVG
0.5540	35.29	10.05	45.34	56.00	-10.66	QP
0.5540	27.45	10.05	37.50	46.00	-8.50	AVG
2.1860	28.69	10.05	38.74	56.00	-17.26	QP
2.1860	22.87	10.05	32.92	46.00	-13.08	AVG
27.5860	12.32	10.21	22.53	60.00	-37.47	QP
27.5860	2.74	10.21	12.95	50.00	-37.05	AVG

Remark:

1. All readings are Quasi-Peak and Average values.
2. lever = Read lever + factor (LISN Factor +cable loss)
Factor added by measurement software automatically.

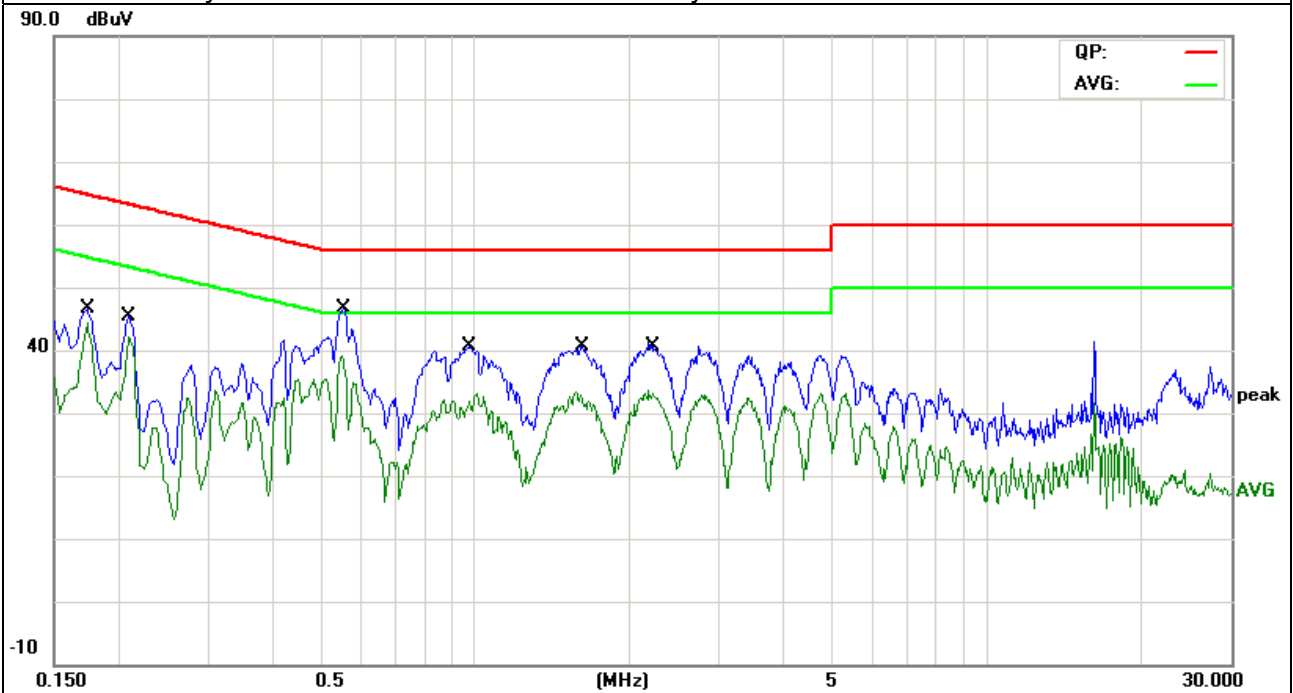


EUT :	QOMO Interactive Touch Screen	Model Name. :	7518
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	1010hPa	Phase :	N
Test Voltage :	AC 120V/60Hz	Test Mode :	Mode 1

Frequency (MHz)	Meter Reading (dBµV)	Factor (dB)	Emission Level (dBµV)	Limits (dBµV)	Margin (dB)	Detector Type
0.1740	34.64	10.12	44.76	64.76	-20.00	QP
0.1740	34.04	10.12	44.16	54.76	-10.60	AVG
0.2100	34.18	10.12	44.30	63.20	-18.90	QP
0.2100	32.34	10.12	42.46	53.20	-10.74	AVG
0.5540	36.21	10.02	46.23	56.00	-9.77	QP
0.5540	28.24	10.02	38.26	46.00	-7.74	AVG
0.9700	28.87	10.15	39.02	56.00	-16.98	QP
0.9700	21.06	10.15	31.21	46.00	-14.79	AVG
1.6220	28.51	10.10	38.61	56.00	-17.39	QP
1.6220	21.66	10.10	31.76	46.00	-14.24	AVG
2.2260	27.44	10.06	37.50	56.00	-18.50	QP
2.2260	22.86	10.06	32.92	46.00	-13.08	AVG

Remark:

1. All readings are Quasi-Peak and Average values.
 2. level = Read level + factor (LISN Factor +cable loss)
- Factor added by measurement software automatically.



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 (microvolt/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)	Class A (dBuV/m) (at 3M)		Class B (dBuV/m) (at 3M)	
	PEAK	AVERAGE	PEAK	AVERAGE
Above 1000	80	60	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:

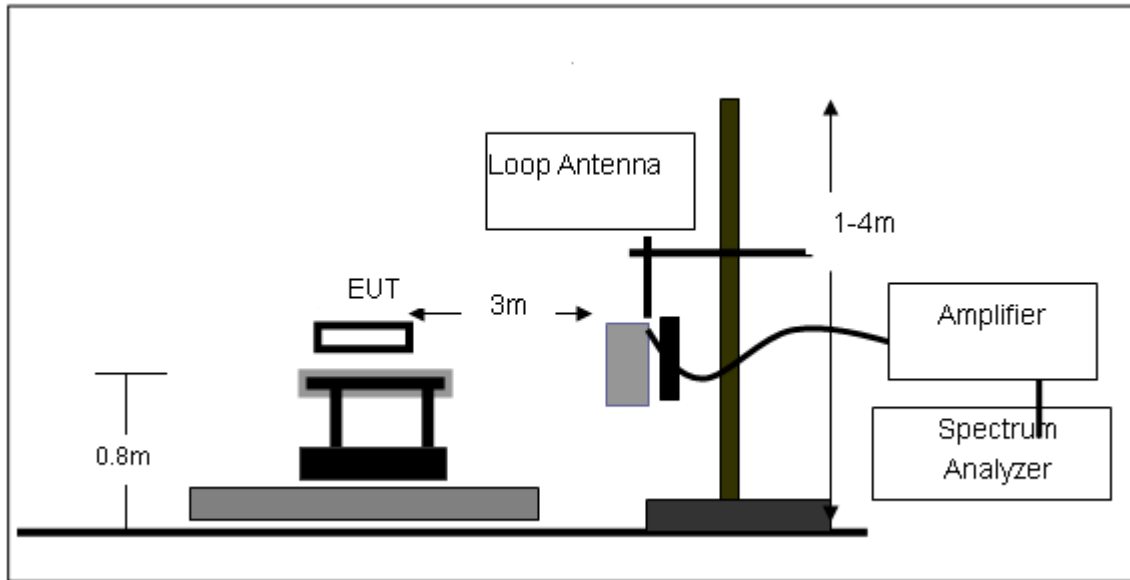
Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported

3.2.3 DEVIATION FROM TEST STANDARD

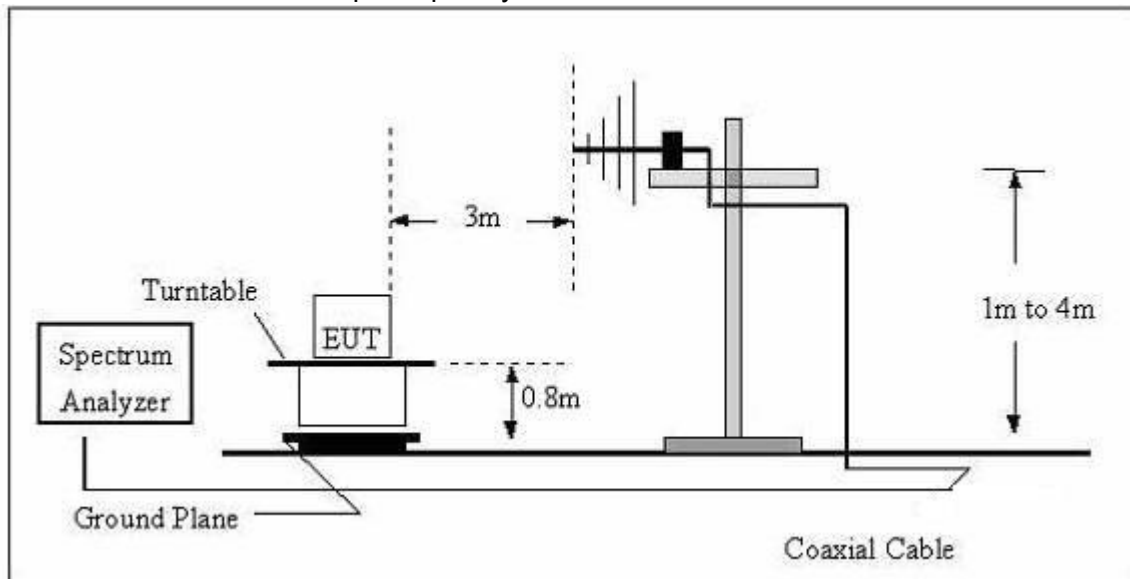
No deviation

3.2.4 TEST SETUP

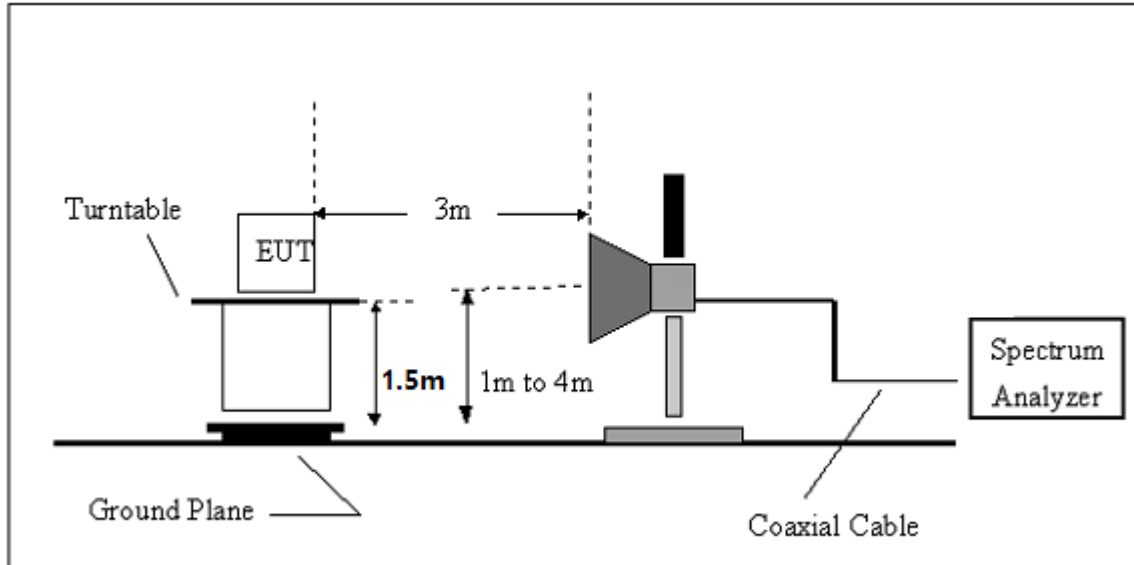
(A) Radiated Emission Test-Up Frequency Below 30MHz



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



(C) Radiated Emission Test-Setup 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:	QOMO Interactive Touch Screen	Model Name. :	7518
Temperature:	20 °C	Relative Humidity:	48%
Pressure:	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX	Polarization :	--

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

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 = $40 \log (\text{specific distance}/\text{test distance})(\text{dB})$;

Limit line = specific limits(dBuv) + distance extrapolation factor.

3.2.7 TEST RESULTS (BETWEEN 30MHZ – 1GHZ)

EUT :	QOMO Interactive Touch Screen	Model Name :	7518
Temperature :	20 °C	Relative Humidity :	48%
Pressure:	1010 hPa	Test Voltage :	AC 120V
Test Mode :	TX		

Polar (H/V)	Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
	(MHz)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
V	73.3593	29.73	6.56	36.29	40.00	-3.71	QP
V	112.5241	28.24	11.79	40.03	43.50	-3.47	QP
V	167.8240	29.03	10.59	39.62	43.50	-3.88	QP
V	252.9482	27.98	13.94	41.92	46.00	-4.08	QP
V	336.0350	18.96	16.03	34.99	46.00	-11.01	QP
V	533.8318	17.52	21.58	39.10	46.00	-6.90	QP
H	76.7806	28.56	7.14	35.70	40.00	-4.30	QP
H	155.9097	27.35	11.38	38.73	43.50	-4.77	QP
H	215.2675	27.39	9.91	37.30	43.50	-6.20	QP
H	330.1949	21.14	15.85	36.99	46.00	-9.01	QP
H	416.1791	15.58	18.92	34.50	46.00	-11.50	QP
H	595.1326	14.92	22.60	37.52	46.00	-8.48	QP

Remark:

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

Factor added by measurement software automatically.

3.2.8 TEST RESULTS (ABOVE 1000 MHZ)

802.11b

Normal Voltage

Polar (H/V)	Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
	(MHz)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
Mid Channel (2412 MHz)							
Horizontal	4824.143	34.35	10.44	44.79	54.00	-9.21	AVG
Horizontal	4824.156	54.85	10.44	65.29	74.00	-8.71	peak
Vertical	7236.126	45.21	12.39	57.60	74.00	-16.40	peak
Vertical	7236.135	30.12	12.39	42.51	54.00	-11.49	AVG
Vertical	4824.128	36.23	10.44	46.67	54.00	-7.33	AVG
Vertical	4824.213	53.68	10.44	64.12	74.00	-9.88	peak
Mid Channel (2437 MHz)							
Horizontal	4874.158	33.12	10.40	43.52	54.00	-10.48	AVG
Horizontal	4874.258	50.23	10.40	60.63	74.00	-13.37	peak
Vertical	7311.125	25.13	12.75	37.88	54.00	-16.12	AVG
Vertical	7311.235	42.02	12.75	54.77	74.00	-19.23	peak
Vertical	4874.144	52.12	10.40	62.52	74.00	-11.48	peak
Vertical	4874.156	32.65	10.40	43.05	54.00	-10.95	AVG
High Channel (2462 MHz)							
Horizontal	4924.123	53.21	10.39	63.60	74.00	-10.40	peak
Horizontal	4924.220	34.03	10.39	44.42	54.00	-9.58	AVG
Vertical	7386.121	29.12	12.68	41.80	54.00	-12.20	AVG
Vertical	7386.145	42.03	12.68	54.71	74.00	-19.29	peak
Vertical	4924.135	34.26	10.39	44.65	54.00	-9.35	AVG
Vertical	4924.147	53.26	10.39	63.65	74.00	-10.35	peak

Note: "802.11b" mode is the worst mode.

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

Factor added by measurement software automatically.

3.2.9 BAND EDGE EMISSION(RADIATED MEASUREMENT):

Frequency (MHz)	Meter Reading (dBµV)	Factor (dB)	Emission Level (dBµV/m)	Limits (dBµV/m)	Margin (dB)	Detector Type	Comment
802.11b							
2400	82.19	-12.99	69.2	74	-4.8	peak	Vertical
2400	84.39	-12.99	71.4	74	-2.6	peak	Horizontal
2400	59.82	-12.99	46.83	54	-7.17	AVG	Vertical
2400	59.62	-12.99	46.63	54	-7.37	AVG	Horizontal
2483.5	59.20	-12.78	46.42	74	-27.58	peak	Vertical
2483.5	52.74	-12.78	39.96	74	-34.04	peak	Horizontal
802.11g							
2400	79.32	-12.99	66.33	74	-7.67	peak	Horizontal
2400	57.27	-12.99	44.28	54	-9.72	AVG	Horizontal
2400	83.59	-12.99	70.6	74	-3.4	peak	Vertical
2400	60.37	-12.99	47.38	54	-6.62	AVG	Vertical
2483.5	60.51	-12.78	47.73	74	-26.27	peak	Vertical
2483.5	61.19	-12.78	48.41	74	-25.59	peak	Horizontal
802.11n							
2400	84.29	-12.99	71.3	74	-2.7	peak	Horizontal
2400	60.84	-12.99	47.85	54	-6.15	AVG	Horizontal
2400	83.79	-12.99	70.8	74	-3.2	peak	Vertical
2400	60.33	-12.99	47.34	54	-6.66	AVG	Vertical
2483.5	58.21	-12.78	45.46	74	-28.54	peak	Vertical
2483.5	55.51	-12.78	42.73	74	-31.27	peak	Horizontal

Note: Factor = Antenna Factor + Cable Loss – Pre-amplifier.
 Factor added by measurement software automatically.
 Emission Level is less(PK) than AV Limits, No need AV lever

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

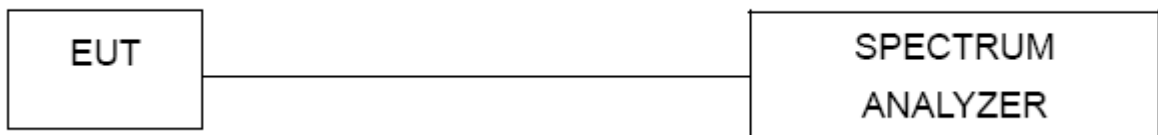
4.1.1 TEST PROCEDURE

1. Set analyzer center frequency to DTS channel center frequency.
2. Set the span to 1.5 times the DTS channel bandwidth.
3. Set the RBW \geq 3 kHz.
4. Set the VBW \geq 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.
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



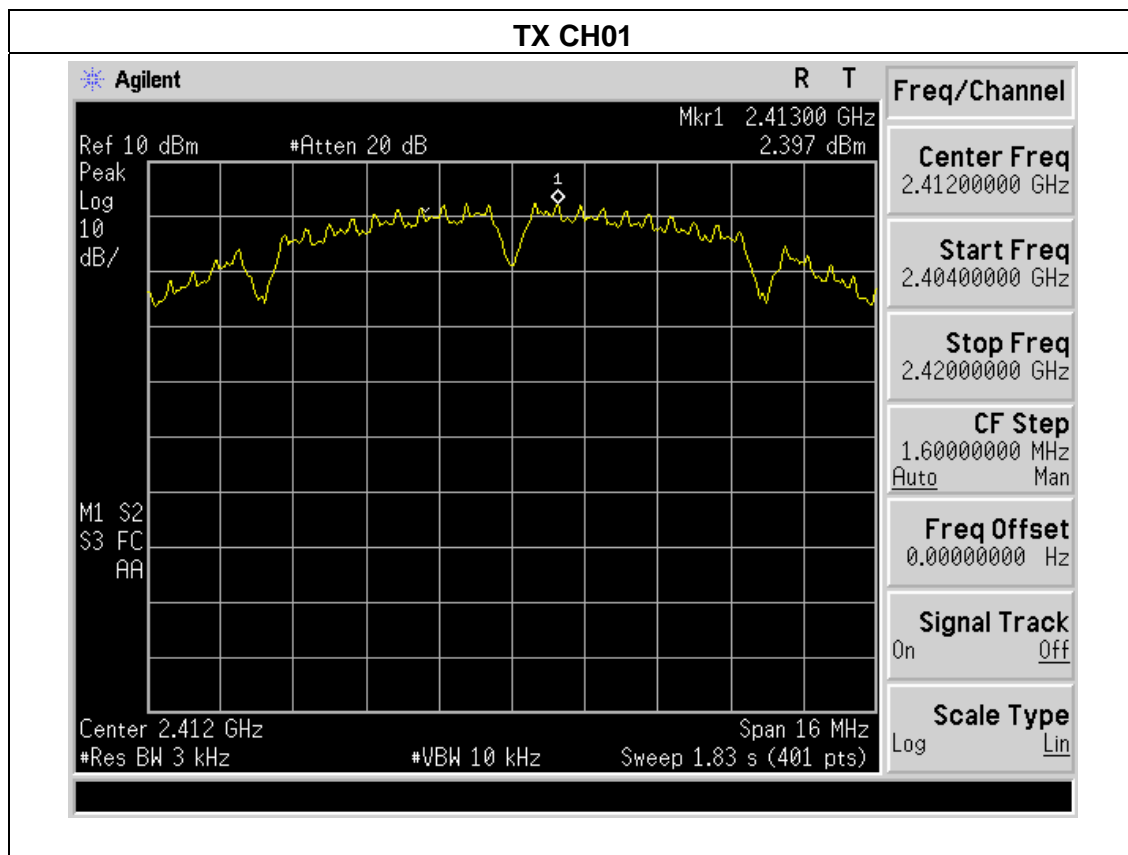
4.1.4 EUT OPERATION CONDITIONS

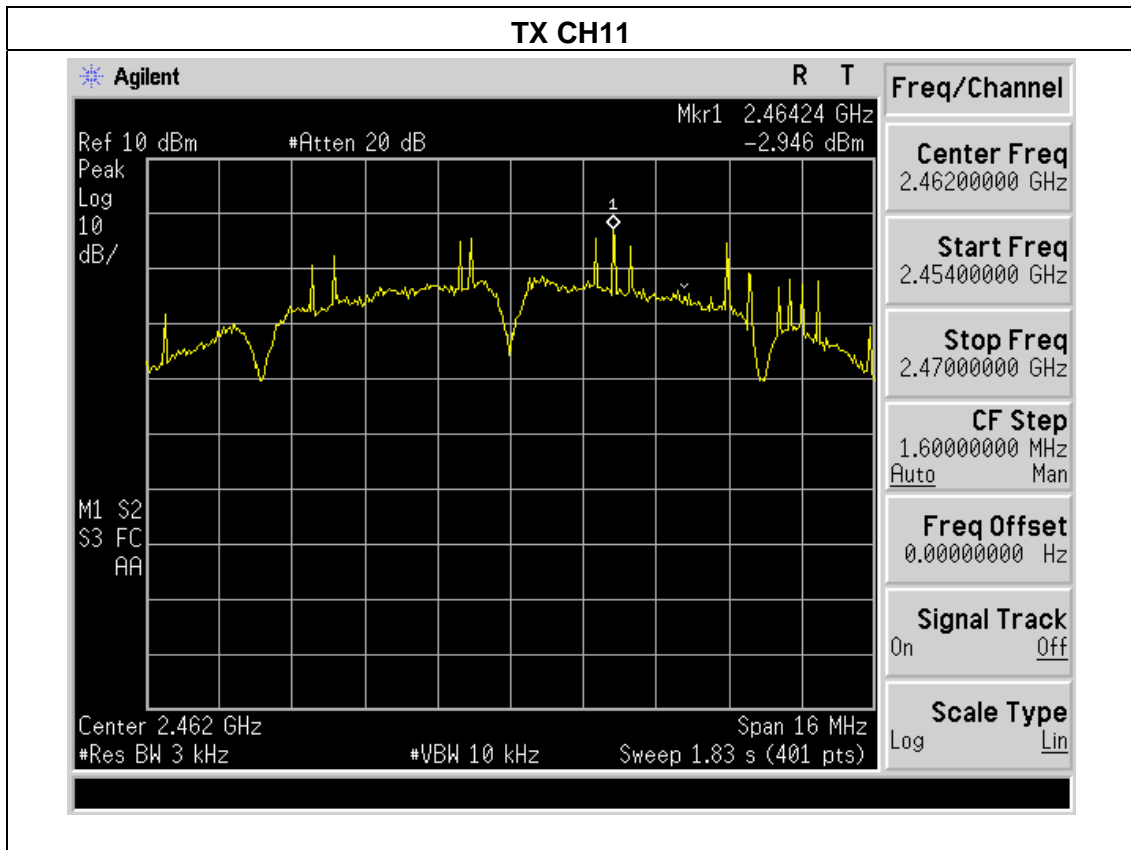
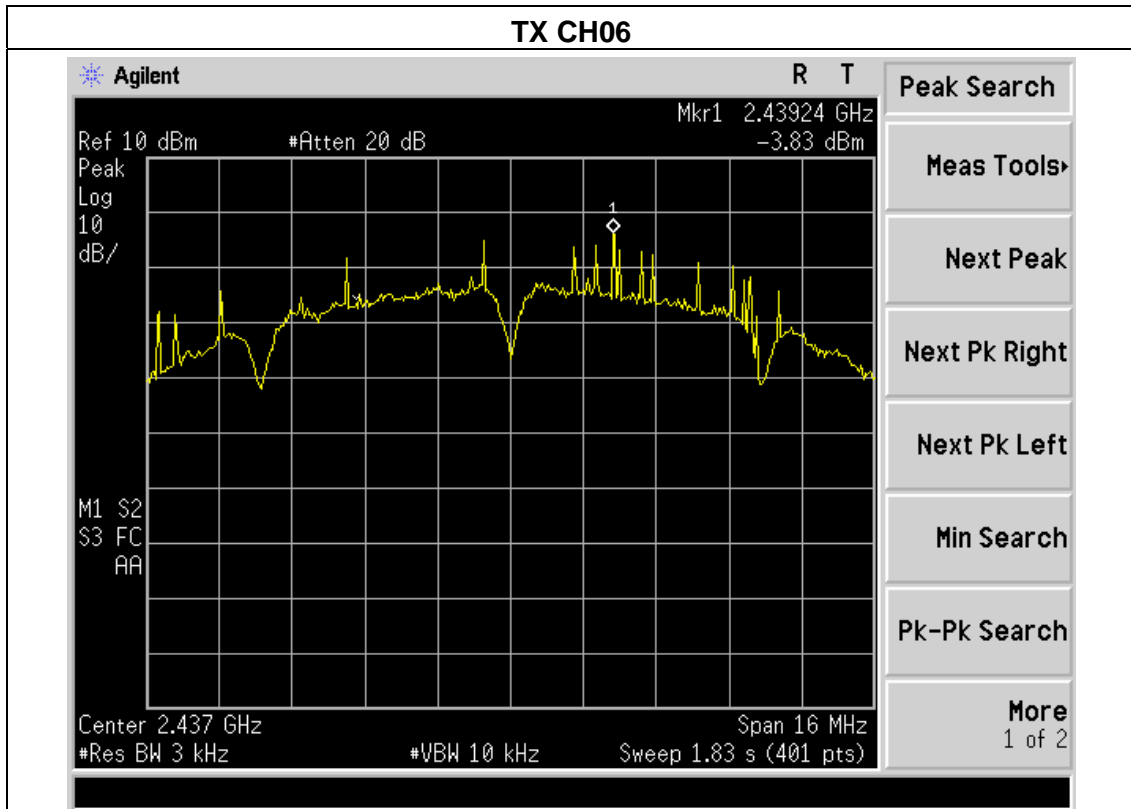
The EUT tested system was configured as the statements of 2.1 Unless otherwise a special operating condition is specified in the follows during the testing.

4.1.5 TEST RESULTS

EUT :	QOMO Interactive Touch Screen	Model Name :	7518
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1015 hPa	Test Voltage :	AC 120V
Test Mode :	TX b Mode /CH01, CH06, CH11		

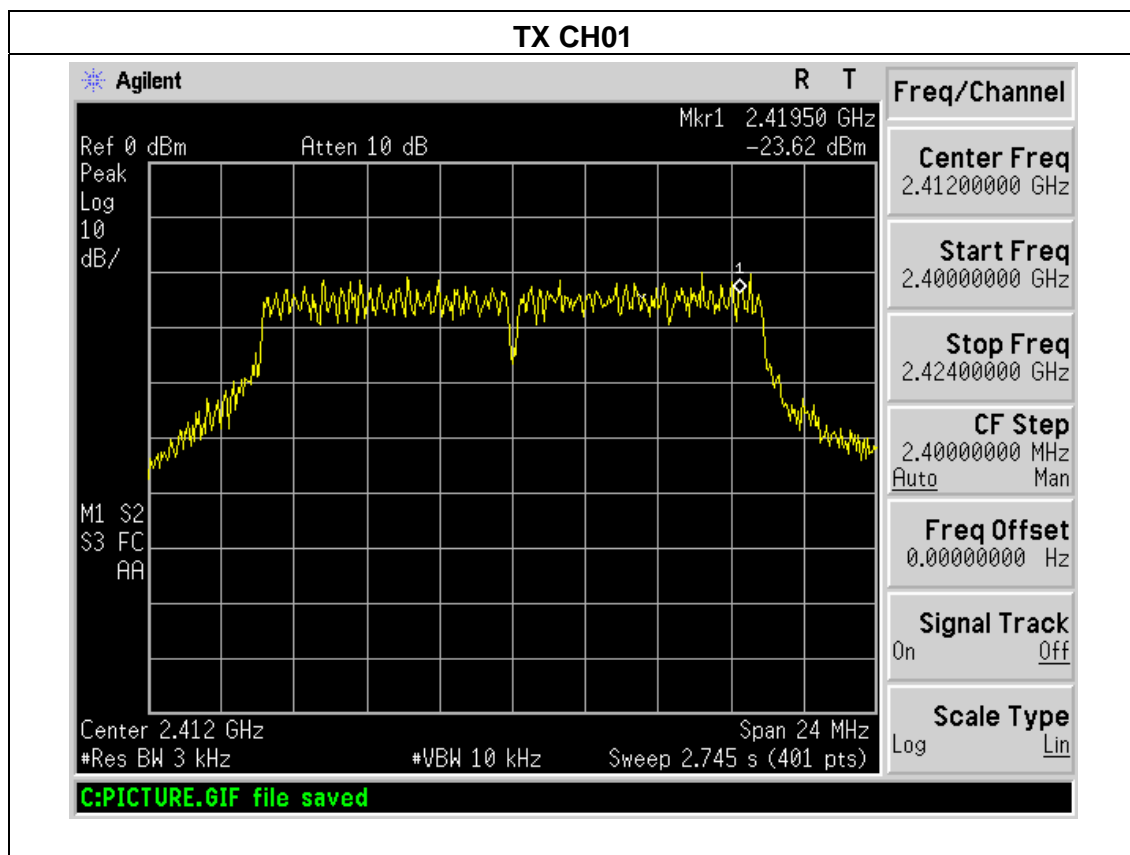
Frequency	Power Density (dBm)	Limit (dBm)	Result
2412 MHz	2.397	8	PASS
2437 MHz	-3.83	8	PASS
2462 MHz	-2.94	8	PASS

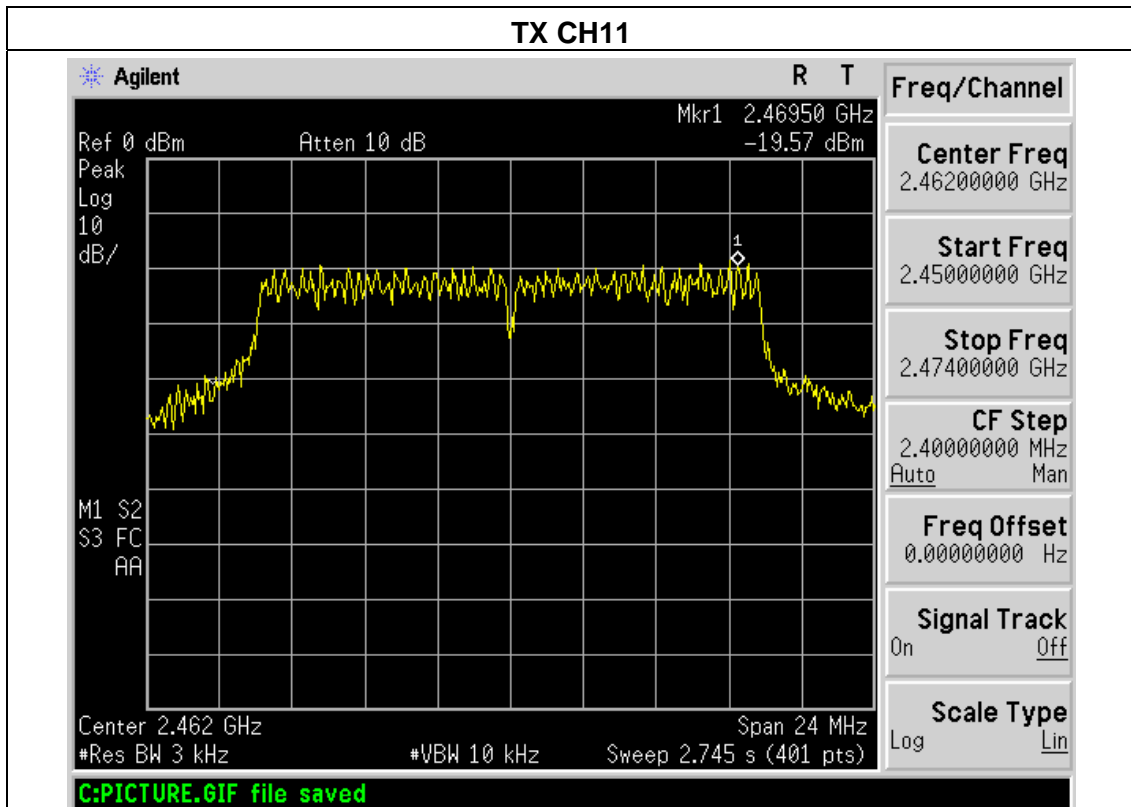
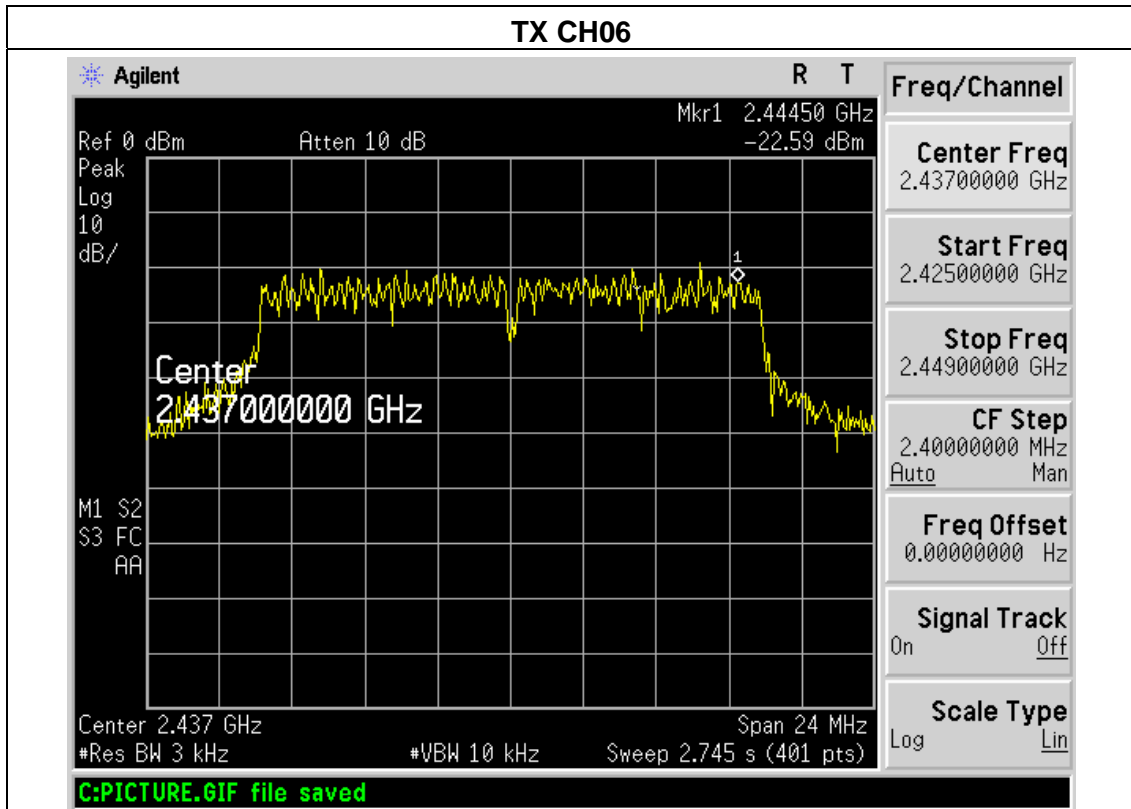




EUT :	QOMO Interactive Touch Screen	Model Name :	7518
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1015 hPa	Test Voltage :	AC 120V
Test Mode :	TX g Mode /CH01, CH06, CH11		

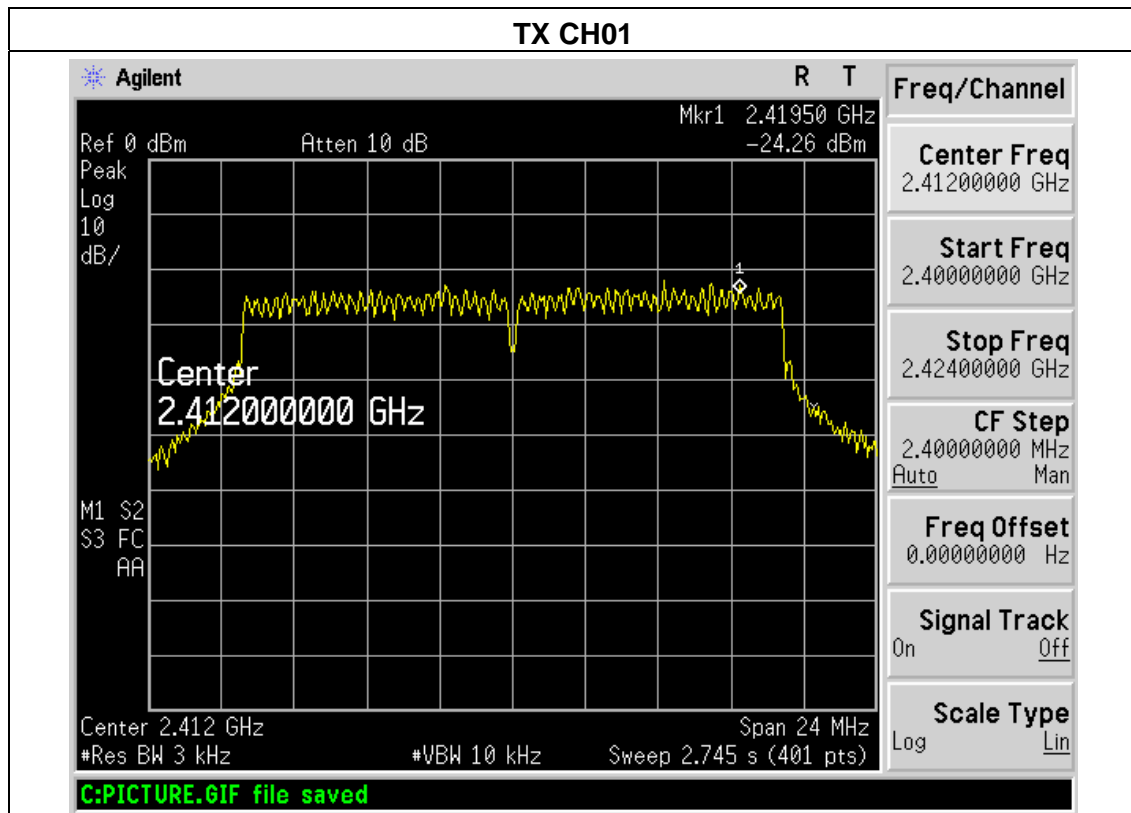
Frequency	Power Density (dBm)	Limit (dBm)	Result
2412 MHz	-23.62	8	PASS
2437 MHz	-22.59	8	PASS
2462 MHz	-19.57	8	PASS

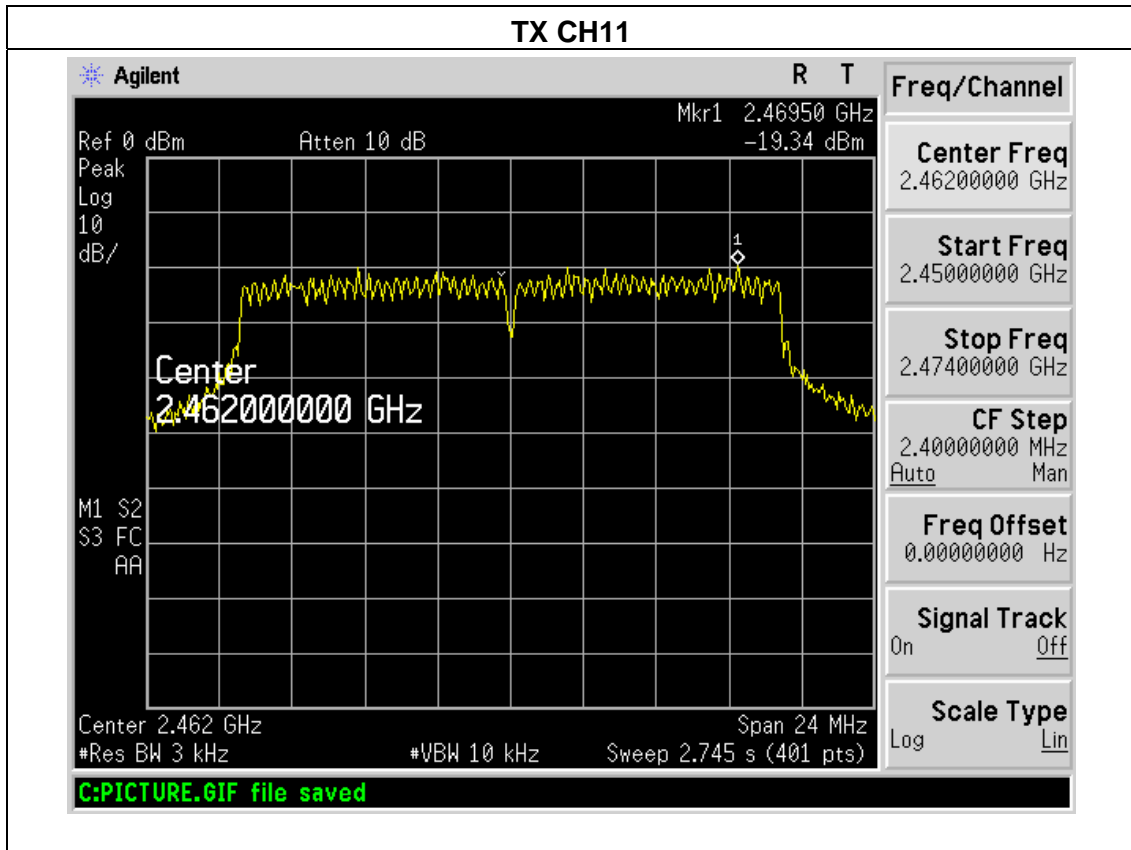
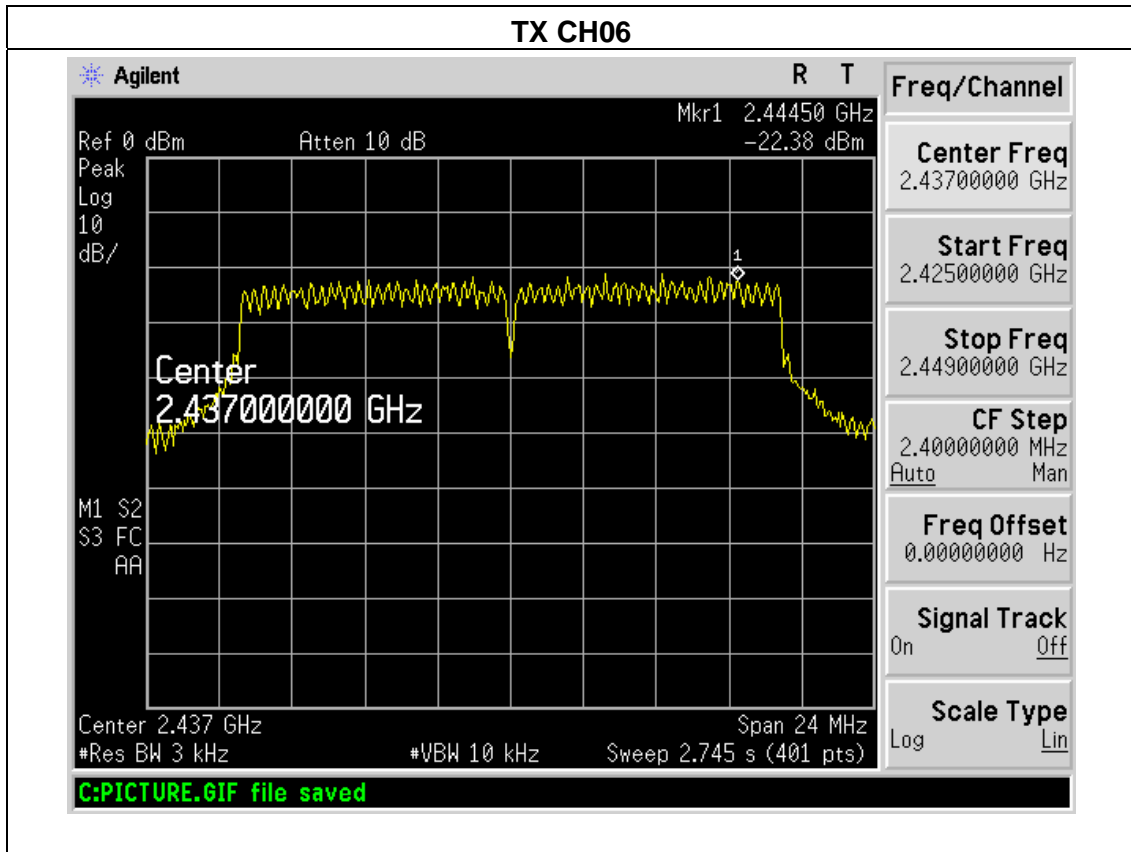




EUT :	QOMO Interactive Touch Screen	Model Name :	7518
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1015 hPa	Test Voltage :	AC 120V
Test Mode :	TX n(20) Mode /CH01, CH06, CH11		

Frequency	Power Density (dBm)	Limit (dBm)	Result
2412 MHz	-24.26	8	PASS
2437 MHz	-22.38	8	PASS
2462 MHz	-19.34	8	PASS





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	$\geq 500\text{KHz}$ (6dB bandwidth)	2400-2483.5	PASS

5.1.1 TEST PROCEDURE

1. Set RBW= 100 kHz.
2. Set the video bandwidth (VBW) $\geq 3 \times$ 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.

5.1.2 DEVIATION FROM STANDARD

No deviation.

5.1.3 TEST SETUP



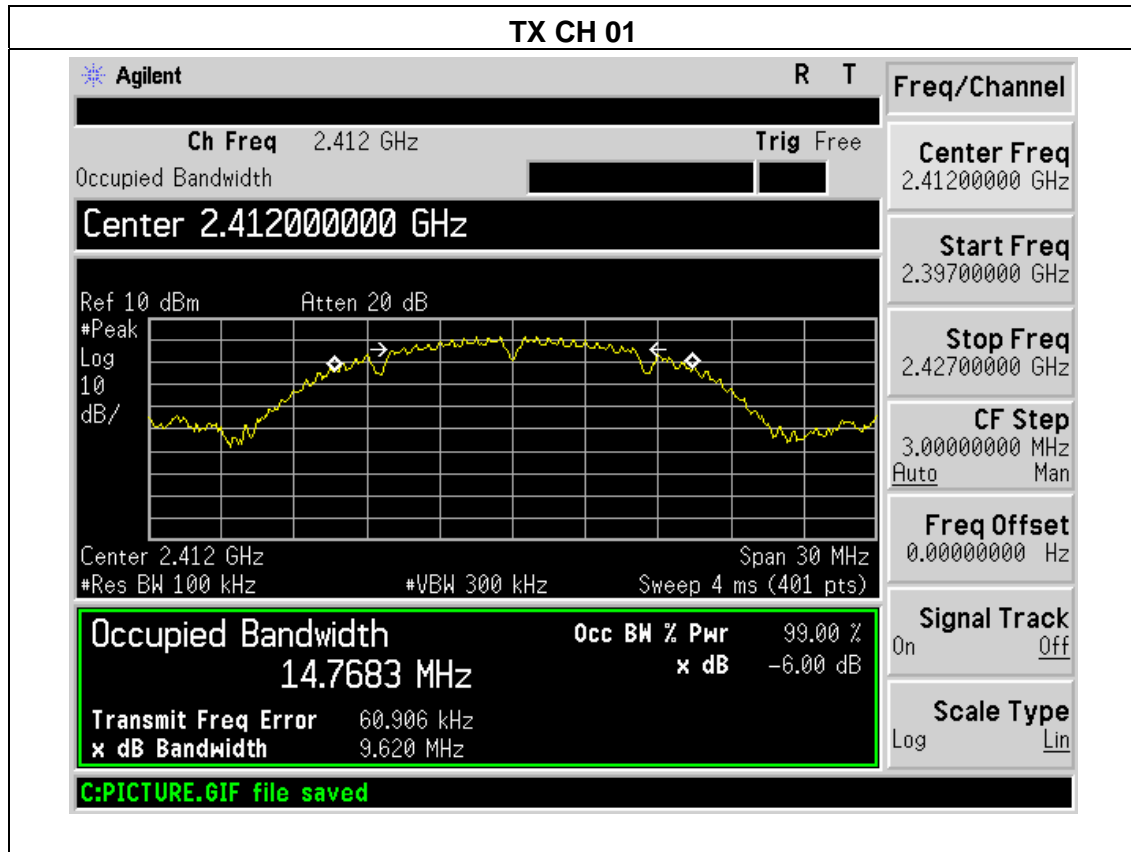
5.1.4 EUT OPERATION CONDITIONS

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.


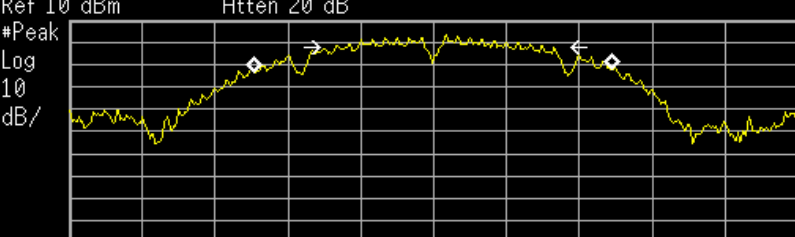
5.1.5 TEST RESULTS

EUT :	QOMO Interactive Touch Screen	Model Name :	7518
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1012 hPa	Test Voltage :	AC 120V
Test Mode :	TX b Mode /CH01, CH06, CH11		


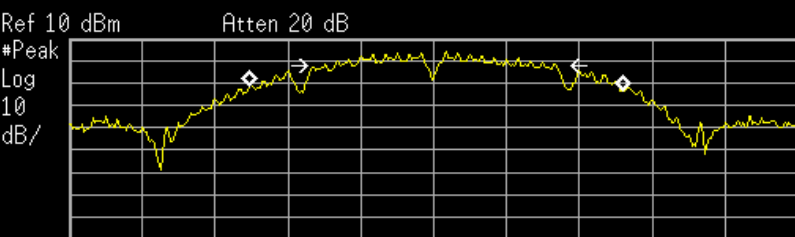
Channel	Frequency (MHz)	6dB bandwidth (MHz)	Limit (kHz)	Result
Low	2412	9.62	500	Pass
Middle	2437	9.09	500	Pass
High	2462	9.59	500	Pass



TX CH 06

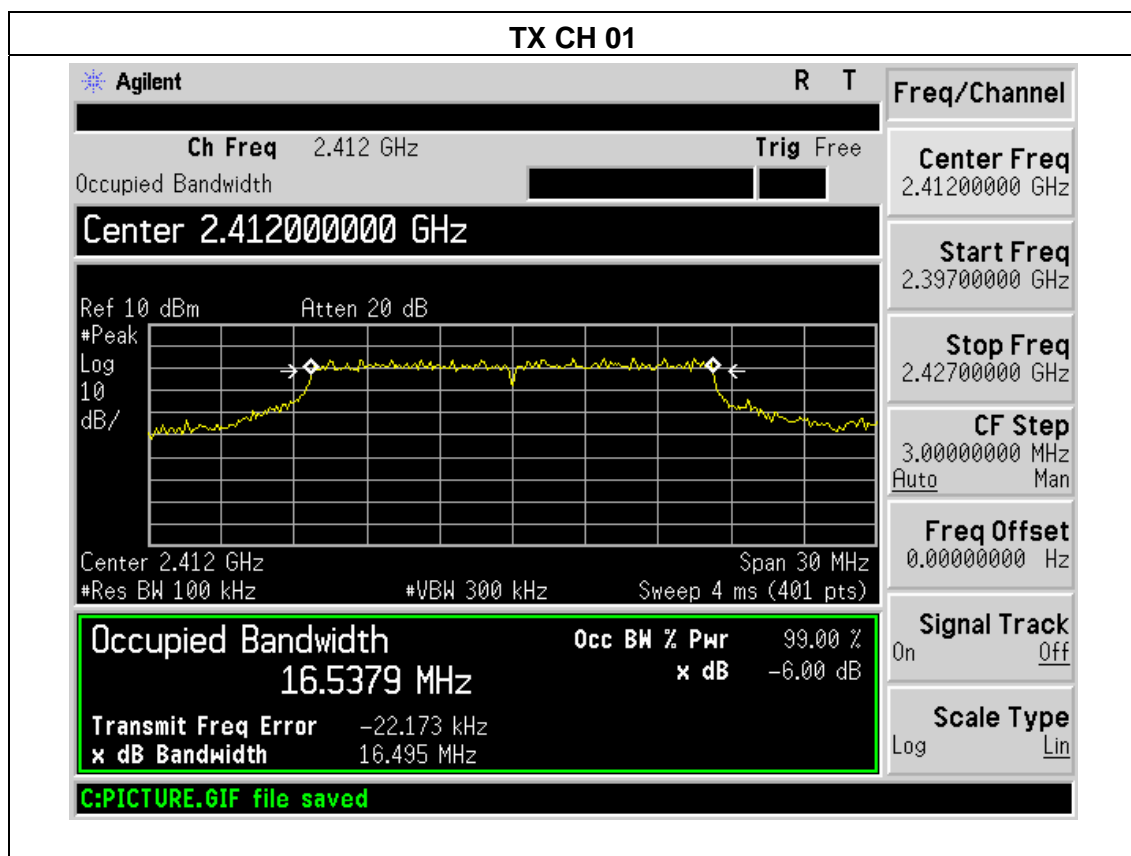
 R T		Freq/Channel								
Ch Freq 2.437 GHz		Center Freq 2.43700000 GHz								
Occupied Bandwidth		Start Freq 2.42200000 GHz								
Trig Free		Stop Freq 2.45200000 GHz								
Ref 10 dBm Atten 20 dB		CF Step 3.00000000 MHz Auto Man								
		Freq Offset 0.00000000 Hz								
Center 2.437 GHz Span 30 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 4 ms (401 pts)		Signal Track On Off								
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Occupied Bandwidth</td> <td style="padding: 5px;">Occ BW % Pwr 99.00 %</td> </tr> <tr> <td style="padding: 5px; font-size: 1.2em;">14.7324 MHz</td> <td style="padding: 5px; font-size: 1.2em;">x dB -6.00 dB</td> </tr> <tr> <td style="padding: 5px;">Transmit Freq Error</td> <td style="padding: 5px;">-45.502 kHz</td> </tr> <tr> <td style="padding: 5px;">x dB Bandwidth</td> <td style="padding: 5px;">9.091 MHz</td> </tr> </table>		Occupied Bandwidth	Occ BW % Pwr 99.00 %	14.7324 MHz	x dB -6.00 dB	Transmit Freq Error	-45.502 kHz	x dB Bandwidth	9.091 MHz	Scale Type Log Lin
Occupied Bandwidth	Occ BW % Pwr 99.00 %									
14.7324 MHz	x dB -6.00 dB									
Transmit Freq Error	-45.502 kHz									
x dB Bandwidth	9.091 MHz									
C:PICTURE.GIF file saved										

TX CH 11


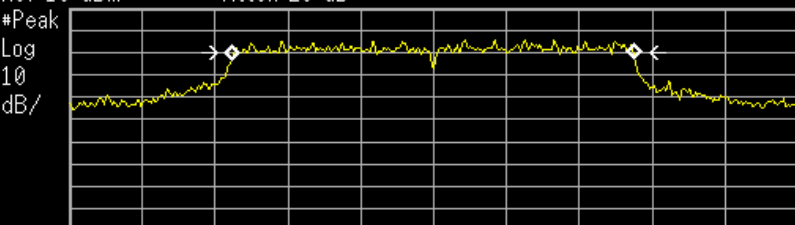
 R T		Freq/Channel								
Ch Freq 2.462 GHz		Center Freq 2.46200000 GHz								
Occupied Bandwidth		Start Freq 2.44700000 GHz								
Trig Free		Stop Freq 2.47700000 GHz								
Center 2.462000000 GHz		CF Step 3.00000000 MHz Auto Man								
Ref 10 dBm Atten 20 dB		Freq Offset 0.00000000 Hz								
		Signal Track On Off								
Center 2.462 GHz Span 30 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 4 ms (401 pts)		Scale Type Log Lin								
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Occupied Bandwidth</td> <td style="padding: 5px;">Occ BW % Pwr 99.00 %</td> </tr> <tr> <td style="padding: 5px; font-size: 1.2em;">15.3114 MHz</td> <td style="padding: 5px; font-size: 1.2em;">x dB -6.00 dB</td> </tr> <tr> <td style="padding: 5px;">Transmit Freq Error</td> <td style="padding: 5px;">108.989 kHz</td> </tr> <tr> <td style="padding: 5px;">x dB Bandwidth</td> <td style="padding: 5px;">9.598 MHz</td> </tr> </table>		Occupied Bandwidth	Occ BW % Pwr 99.00 %	15.3114 MHz	x dB -6.00 dB	Transmit Freq Error	108.989 kHz	x dB Bandwidth	9.598 MHz	
Occupied Bandwidth	Occ BW % Pwr 99.00 %									
15.3114 MHz	x dB -6.00 dB									
Transmit Freq Error	108.989 kHz									
x dB Bandwidth	9.598 MHz									
C:PICTURE.GIF file saved										

EUT :	QOMO Interactive Touch Screen	Model Name :	7518
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1012 hPa	Test Voltage :	AC 120V
Test Mode :	TX g Mode /CH01, CH06, CH11		


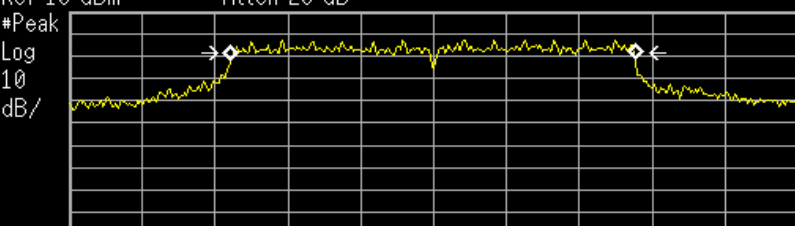
Channel	Frequency (MHz)	6dB bandwidth (MHz)	Limit (kHz)	Result
Low	2412	16.49	500	Pass
Middle	2437	16.46	500	Pass
High	2462	16.47	500	Pass



TX CH 06

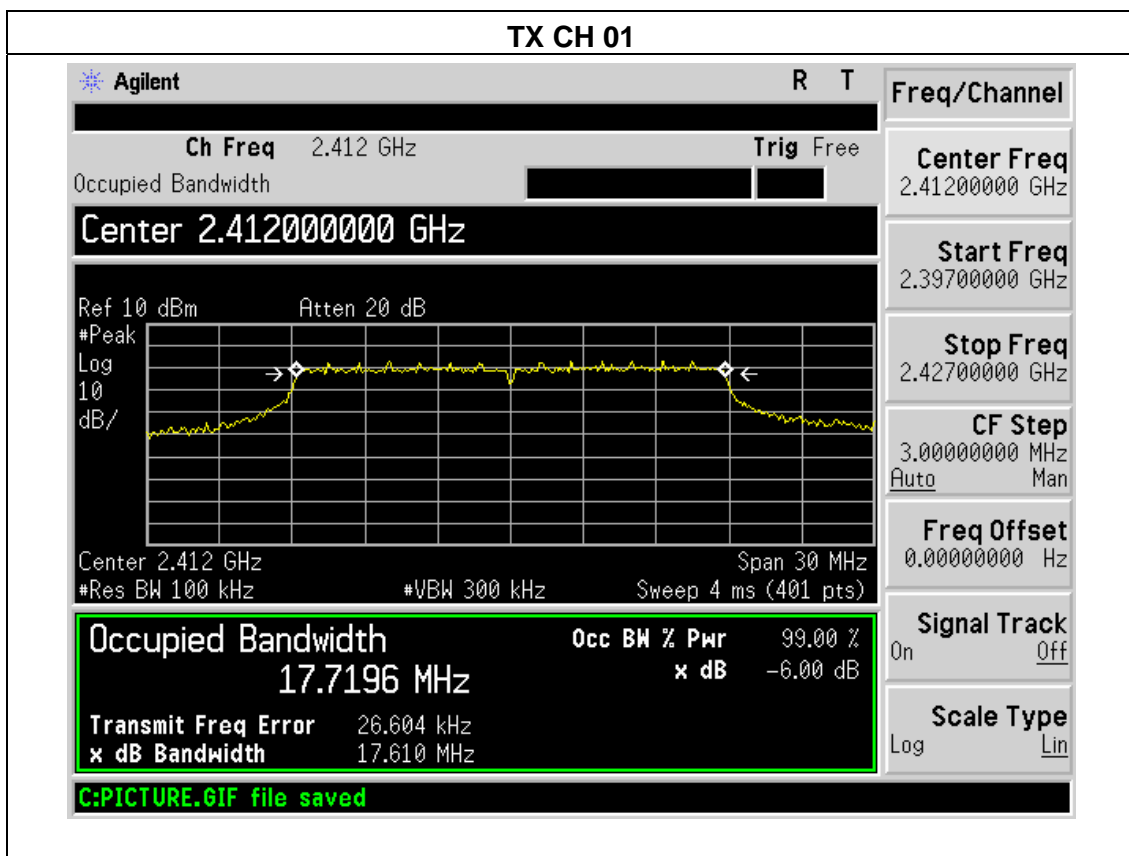
 R T		Freq/Channel	
Ch Freq 2.437 GHz		Center Freq 2.43700000 GHz	
Occupied Bandwidth		Start Freq 2.42200000 GHz	
Trig Free		Stop Freq 2.45200000 GHz	
Ref 10 dBm Atten 20 dB		CF Step 3.00000000 MHz Auto Man	
		Freq Offset 0.00000000 Hz	
Center 2.437 GHz Span 30 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 4 ms (401 pts)		Signal Track On Off	
Occupied Bandwidth 16.6216 MHz		Scale Type Log Lin	
Occ BW % Pwr 99.00 % x dB -6.00 dB			
Transmit Freq Error -50.476 kHz			
x dB Bandwidth 16.467 MHz			
C:PICTURE.GIF file saved			

TX CH 11

 R T		Freq/Channel	
Ch Freq 2.462 GHz		Center Freq 2.46200000 GHz	
Occupied Bandwidth		Start Freq 2.44700000 GHz	
Trig Free		Stop Freq 2.47700000 GHz	
Ref 10 dBm Atten 20 dB		CF Step 3.00000000 MHz Auto Man	
		Freq Offset 0.00000000 Hz	
Center 2.462 GHz Span 30 MHz #Res BW 100 kHz #VBW 300 kHz Sweep 4 ms (401 pts)		Signal Track On Off	
Occupied Bandwidth 16.6819 MHz		Scale Type Log Lin	
Occ BW % Pwr 99.00 % x dB -6.00 dB			
Transmit Freq Error -41.445 kHz			
x dB Bandwidth 16.470 MHz			
C:PICTURE.GIF file saved			

EUT :	QOMO Interactive Touch Screen	Model Name :	7518
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1012 hPa	Test Voltage :	AC 120V
Test Mode :	TX n(20) Mode /CH01, CH06, CH11		

Channel	Frequency (MHz)	6dB bandwidth (MHz)	Limit (kHz)	Result
Low	2412	17.61	500	Pass
Middle	2437	17.61	500	Pass
High	2462	17.62	500	Pass



TX CH 06

Agilent R T

Ch Freq 2.437 GHz **Trig** Free

Occupied Bandwidth █

Center 2.437000000 GHz

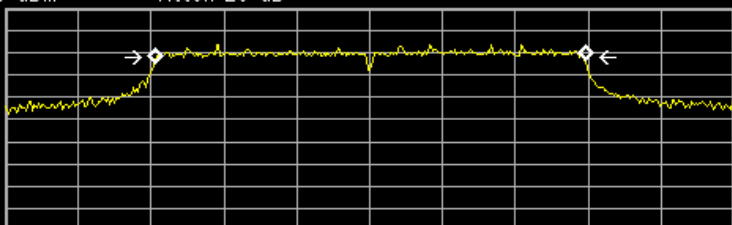
Ref 10 dBm Atten 20 dB

#Peak

Log

10

dB/



Center 2.437 GHz Span 30 MHz

#Res BW 100 kHz #VBW 300 kHz Sweep 4 ms (401 pts)

Occupied Bandwidth **Occ BW % Pwr** 99.00 %

17.7871 MHz **x dB** -6.00 dB

Transmit Freq Error 12.081 kHz

x dB Bandwidth 17.616 MHz

C:PICTURE.GIF file saved

Freq/Channel

Center Freq
2.43700000 GHz

Start Freq
2.42200000 GHz

Stop Freq
2.45200000 GHz

CF Step
3.00000000 MHz
Auto Man

Freq Offset
0.00000000 Hz

Signal Track
On Off

Scale Type
Log Lin

TX CH 11

Agilent R T

Ch Freq 2.462 GHz **Trig** Free

Occupied Bandwidth █

Center 2.462000000 GHz

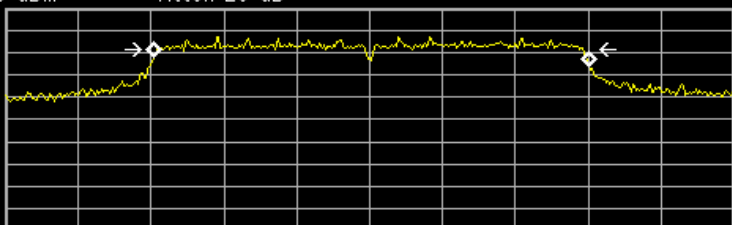
Ref 10 dBm Atten 20 dB

#Peak

Log

10

dB/



Center 2.462 GHz Span 30 MHz

#Res BW 100 kHz #VBW 300 kHz Sweep 4 ms (401 pts)

Occupied Bandwidth **Occ BW % Pwr** 99.00 %

17.9265 MHz **x dB** -6.00 dB

Transmit Freq Error 36.844 kHz

x dB Bandwidth 17.621 MHz

C:PICTURE.GIF file saved

Freq/Channel

Center Freq
2.46200000 GHz

Start Freq
2.44700000 GHz

Stop Freq
2.47700000 GHz

CF Step
3.00000000 MHz
Auto Man

Freq Offset
0.00000000 Hz

Signal Track
On Off

Scale Type
Log Lin

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 :	QOMO Interactive Touch Screen	Model Name :	7518
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1012 hPa	Test Voltage :	AC 120V
Test Mode :	TX b/g/n Mode /CH01, CH06, CH11		

TX 802.11b Mode			
Test Channe	Frequency	Maximum Conducted Output Power(PK)	LIMIT
	(MHz)	(dBm)	dBm
CH01	2412	17.32	30
CH06	2437	17.12	30
CH11	2462	17.16	30
TX 802.11g Mode			
CH01	2412	15.81	30
CH06	2437	15.13	30
CH11	2462	15.12	30
TX 802.11n Mode			
CH01	2412	14.63	30
CH06	2437	14.14	30
CH11	2462	14.21	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.

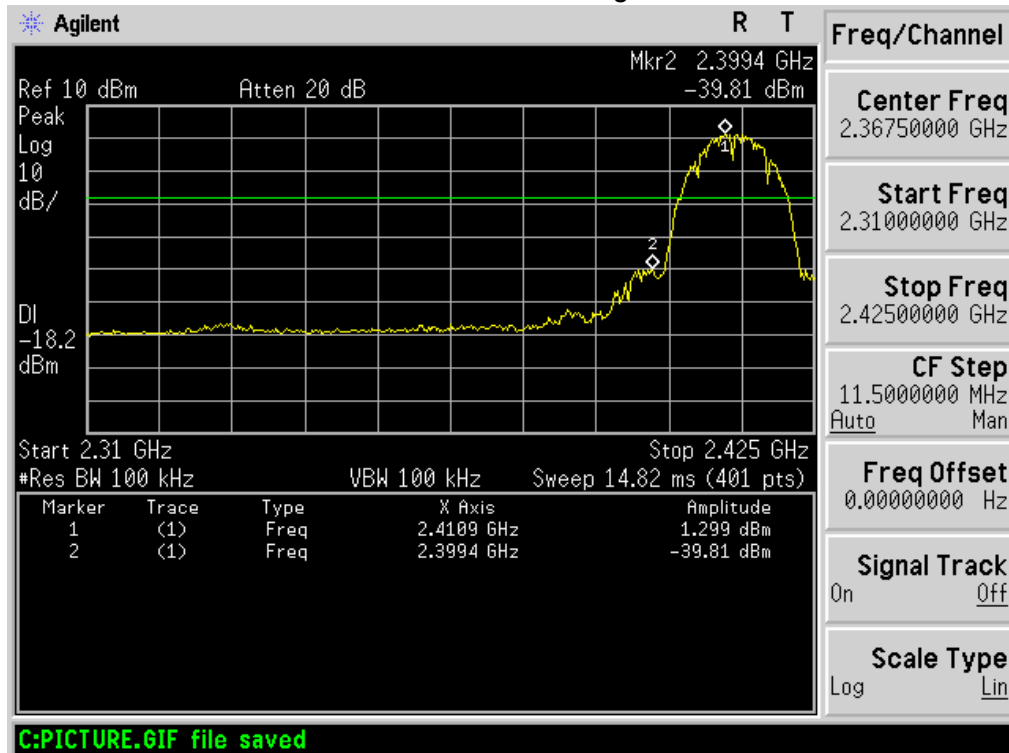
7.4 TEST RESULTS

EUT :	QOMO Interactive Touch Screen	Model Name :	7518
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1012 hPa	Test Voltage :	AC 120V

Frequency Band	Delta Peak to band emission (dBc)	> Limit (dBc)	Result
802.11b mode			
Left-band	41.10	20	Pass
Right-band	30.20	20	Pass
802.11g mode			
Left-band	31.13	20	Pass
Right-band	38.25	20	Pass
802.11n mode			
Left-band	31.55	20	Pass
Right-band	31.95	20	Pass

BAND EDGE (CONDUCTED)

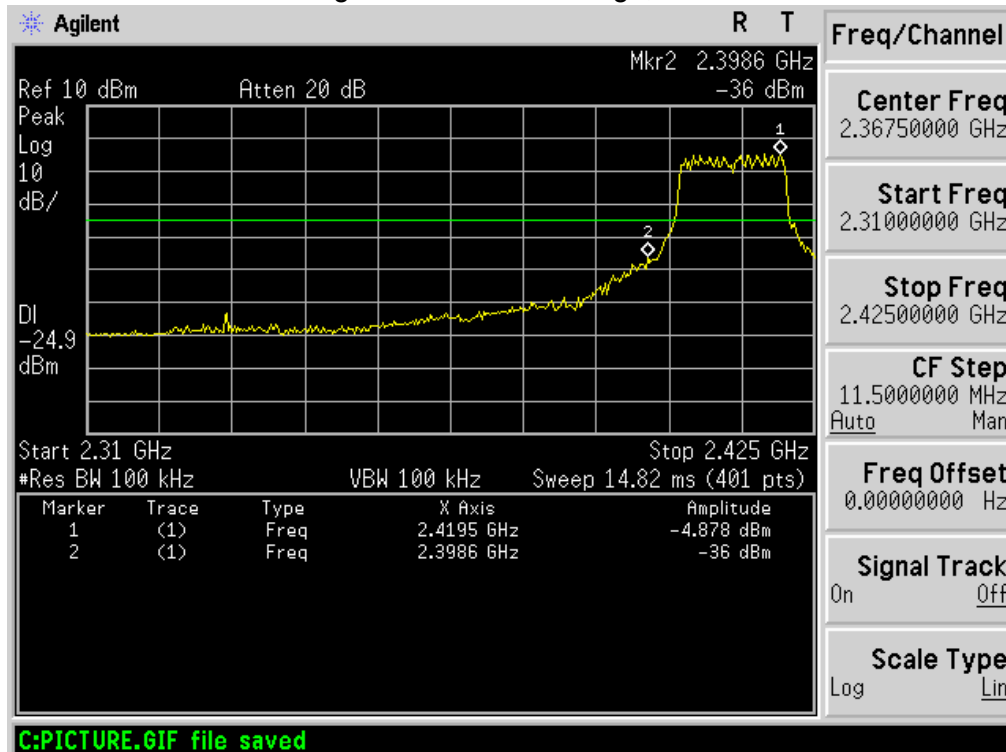
802.11b/2412MHz: Band Edge, Left Side



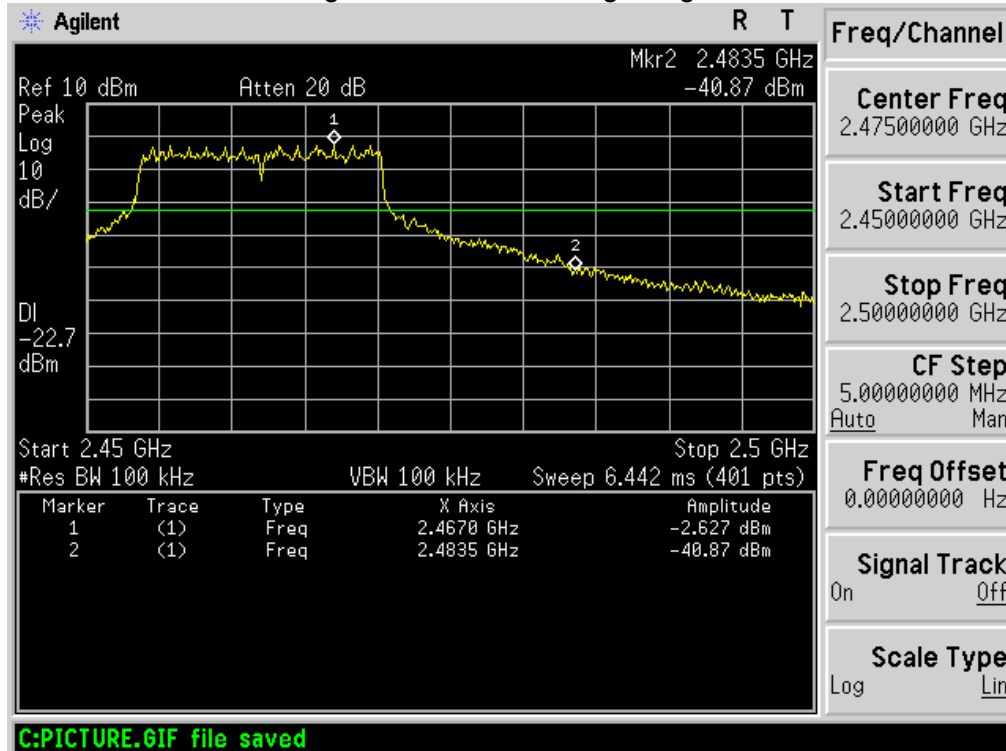
802.11b/2462MHz: Band Edge, Right Side



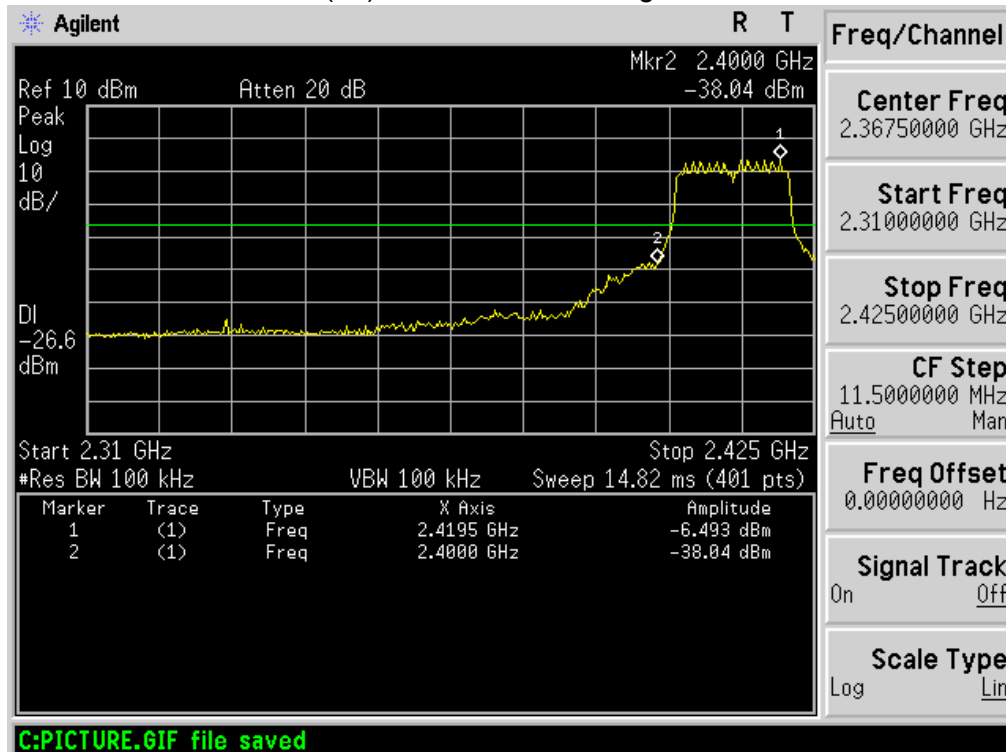
802.11g/2412MHz: Band Edge, Left Side



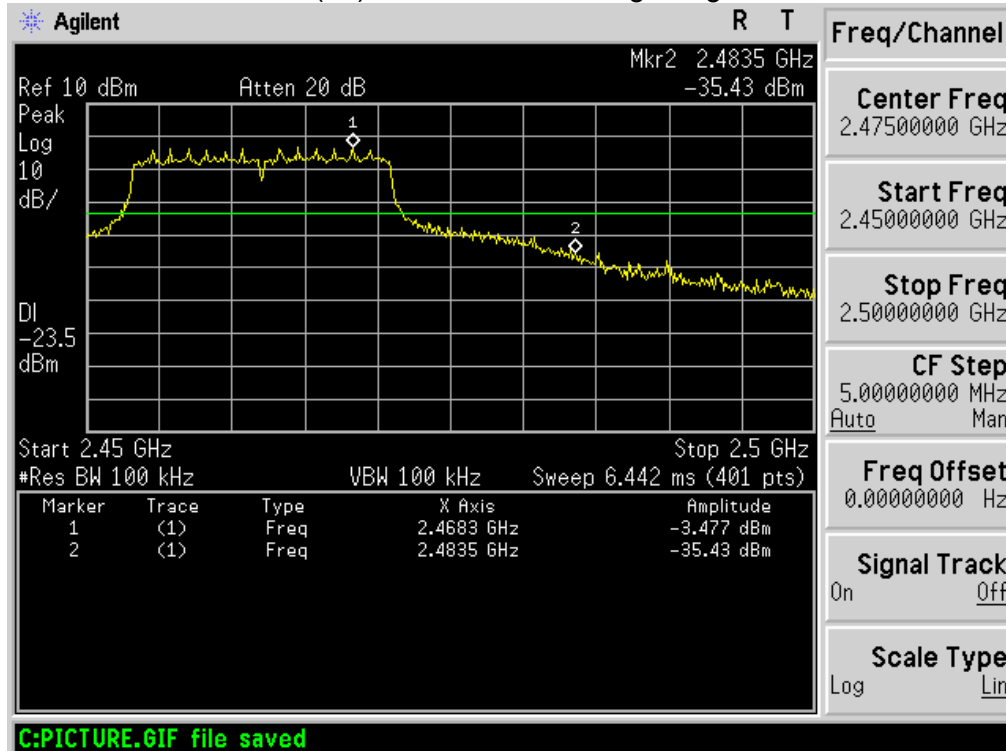
802.11g/2462MHz: Band Edge, Right Side



802.11n(20)/2412MHz: Band Edge, Left Side



802.11n(20)/2462MHz: Band Edge, Right Side



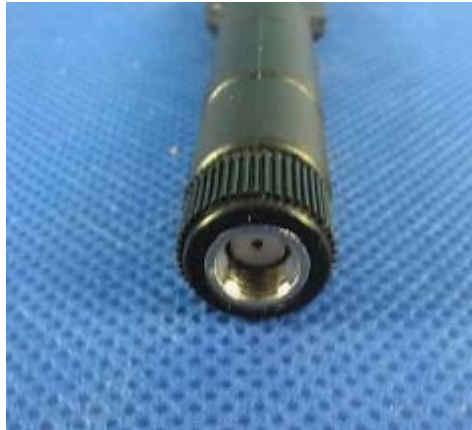
8. ANTENNA REQUIREMENT

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.

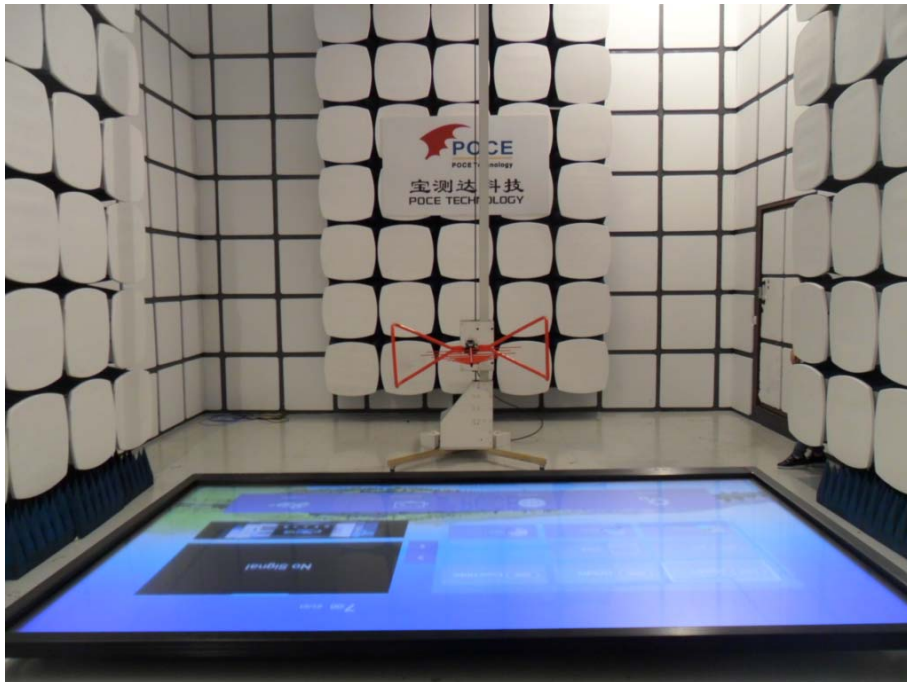
8.2 EUT ANTENNA

The EUT antenna is a reverse SMA (External) antenna. It comply with the standard requirement.



9. EUT TEST PHOTO

Radiated Measurement Photos



Conducted Measurement Photos

