FCC RADIO TEST REPORT
FCC ID: 2AJRK-FSP6

Product：	3D TOUCH PROJECTOR
Trade Name：	Foison
Model Name：	FSP6
Serial Model：	FSP6-S, FSP6-PLUS
Report No.：	NTEK-2016NT08278601F5

Prepared for

Shenzhen Foisontech Corporation Ltd
North Floor 6, Xinwuyuan Industry Zone, No. 1, Difu Road, Gushu, Xixiang, Baoan, Shenzhen City, Guangdong, China

Prepared by

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TEST RESULT CERTIFICATION

Applicant's name ..... Shenzhen Foisontech Corporation Ltd

Address ..... North Floor 6, Xinwuyuan Industry Zone, No. 1, Difu Road, Gushu, Xixiang, Baoan, Shenzhen City, Guangdong, China

Manufacture's Name... Shenzhen Foisontech Corporation Ltd

Address ..... North Floor 6, Xinwuyuan Industry Zone, No. 1, Difu Road, Gushu, Xixiang, Baoan, Shenzhen City, Guangdong, China

Product description

Product name ..... 3D TOUCH PROJECTOR

Model and/or type reference FSP6

Serial Model FSP6-S, FSP6-PLUS

Standards ..... FCC Part15.407: 01 Oct. 2015

Test procedure ..... ANSI C63.10-2013 and KDB 789033 D02 General UNII Test Procedures New Rules v01r03
FCC KDB 662911 D01 Multiple Transmitter Output v01
FCC KDB 662911 D02 MIMO With Cross Polarized Antenna V01

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/ the Industry Canada 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 ..... 27 Aug. 2016 ~ 15 Oct. 2016

Date of Issue..... 15 Oct. 2016

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

Testing Engineer : Lake.Xie
(Lake Xie)

Technical Manager : Jason chen
(Jason Chen)

Authorized Signatory : Sam . Chen
(Sam Chen)

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1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

FCC Part15 (15.407) , Subpart E			
Standard Section	Test Item	Judgment	Remark
15.207	AC Power Line Conducted Emissions	PASS	
15.209(a), 15.407 (b)(1) 15.407 (b)(4) 15.407 (b)(6)	Spurious Radiated Emissions	PASS	
15.407 (a)(1) 15.407 (a)(3) 15.1049	26 dB and 99% Emission Bandwidth	PASS	
15.407(e)	Minimum 6 dB bandwidth	PASS	
15.407 (a)(1) 15.407 (a)(3)	Maximum Conducted Output Power	PASS	
2.1051, 15.407(b)(1) 15.407(b)(4)	Band Edges	PASS	
15.407 (a)(1) 15.407 (a)(3)	Power Spectral Density	PASS	
15.407(g)	Frequency Stability	PASS	
15.203	Antenna Requirement	PASS	

NOTE:

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

Revision History

Report No.	Version	Description	Issued Date
NTEK-2016NT08278601F3	Rev.01	Initial issue of report	Oct 15, 2016

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	3D TOUCH PROJECTOR	
Trade Name	Foison	
Model Name	FSP6, FSP6-S, FSP6-PLUS	
Product Description	IEEE 802.11 WLAN Mode Supported	☒802.11a/AC(20MHz channel bandwidth) ☒802.11n/AC(20MHz channel bandwidth) ☒802.11n/AC(40MHz channel bandwidth)
	Data Rate	802.11a: 6,9,12,18,24,36,48,54Mbps; 802.11n(HT20):MCS0-MCS15; 802.11n(HT40):MCS0-MCS15; 802.11AC: NSS1,MCS0-MCS9,NSS2,MCS0-MCS9;
	Modulation	OFDM with BPSK/QPSK/16QAM/64QAM/256QAM for 802.11a/n/ac;
	Operating Frequency Range	☒5180-5240MHz for 802.11a/n(HT20)/AC20; 5190-5230MHz for 802.11n(HT40)/AC40; ☒5745-5825 MHz for 802.11a/n(HT20)/AC20; 5755-5795 MHz for 802.11a/n(HT40)/AC40;
	Number of Channels	☒4 channels for 802.11a/N20/AC20 in the 5180-5240MHz band ; 2 channels for 802.11N40/AC40 in the 5190-5230MHz band ; ☒5 channels for 802.11a/N20/AC20 in the 5745-5825MHz band ; 2 channels for 802.11N40/AC40 in the 5755-5795MHz band ;
	Antenna Type	FPCB Antenna
	Smart system	☒SISO for 802.11a/n, 802.11n/ac ☐MIMO for 802.11n/ac
	Antenna Gain	1dBi
	Based on the application, features, or specification exhibited in User's Manual, More details of EUT technical specification, please refer to the User's Manual.	

Ratings	DC 12V,5200mAh or DC14.4 from adapter
Adapter	Model: JHD-AD065C-144400 Input: 100-240V~, 50/60Hz, 1.5A Output: 14.4V⎓4000mA
Battery	DC 12V,5200mAh
Connecting I/O Port(s)	Please refer to the User's Manual
HW Version	P5 V3.1 0729
SW Version	rk3288-userdebug 5.1.1 LMY49F eng.ytpcba.20160708.113801 test-keys

Note:

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

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

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

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

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

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

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

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

Note 2
The EUT has RF module , as shown in Figure A shows

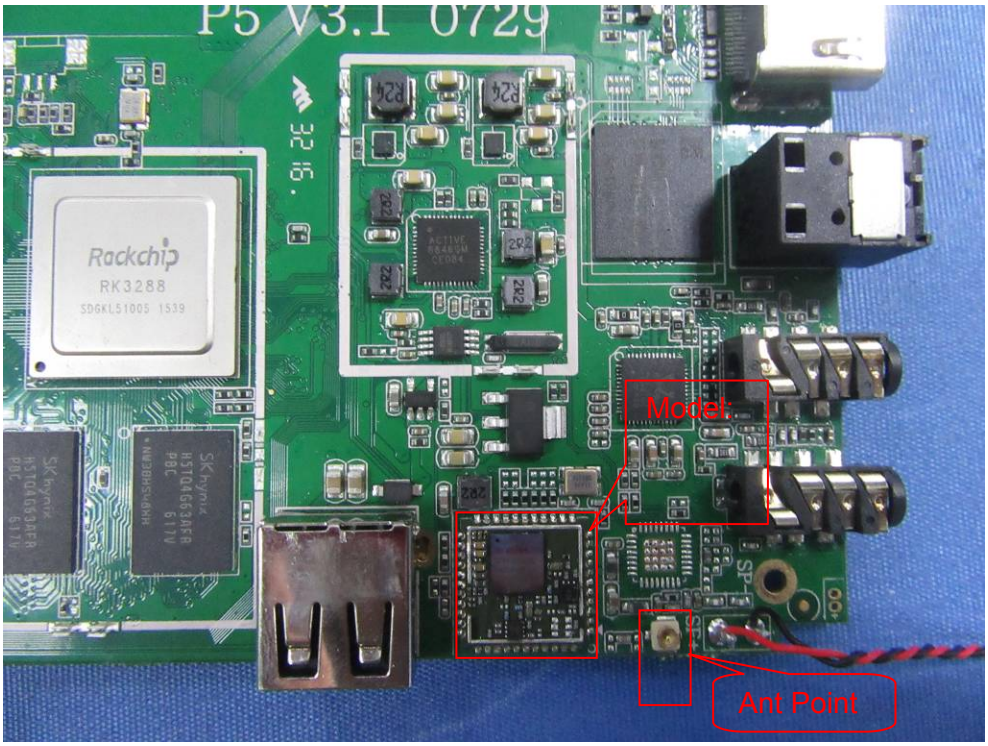


Figure A

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	Link Mode
Mode 2	802.11a / n/ ac 20 CH36/ CH40/ CH 48 802.11a /n/ ac 20 CH149/ CH157/ CH 165
Mode 3	802.11n/ ac40 CH38/ CH 46 802.11n/ ac40 CH 151 / CH 159
For Radiated Emission	
Final Test Mode	Description
Mode 1	Link Mode
Mode 2	802.11a / n/ ac 20 CH36/ CH40/ CH 48 802.11a /n/ ac 20 CH149/ CH157/ CH 165
Mode 3	802.11n/ ac40 CH38/ CH 46 802.11n/ ac40 CH 151 / CH 159
For Conduction Emission	
Final Test Mode	Description
Mode 1	Link Mode
Mode 2	802.11a / n/ ac 20 CH36/ CH40/ CH 48 802.11a /n/ ac 20 CH149/ CH157/ CH 165
Mode 3	802.11n/ ac40 CH38/ CH 46 802.11n/ ac40 CH 151 / CH 159

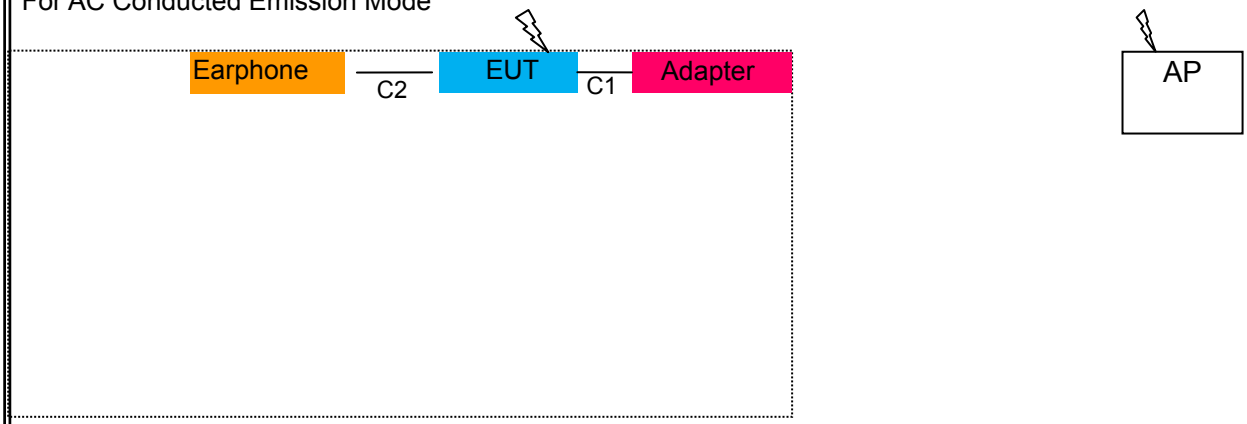
Note:

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

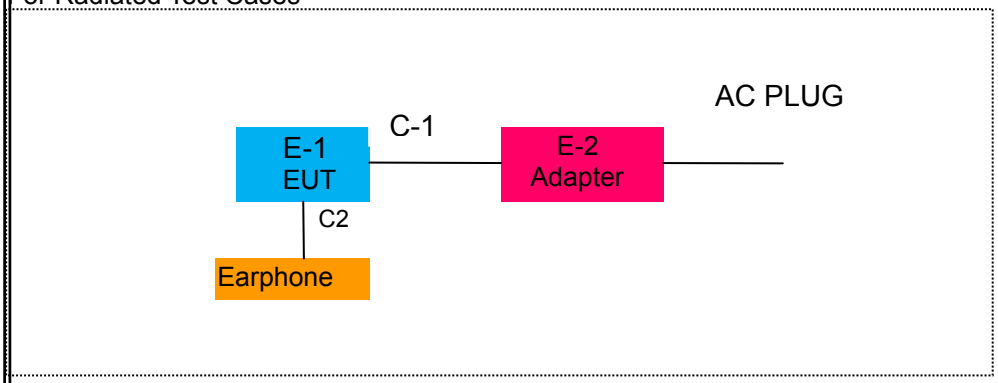
(2) The measurements are performed at all Bit Rate of Transmitter, the worst data was reported

2.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

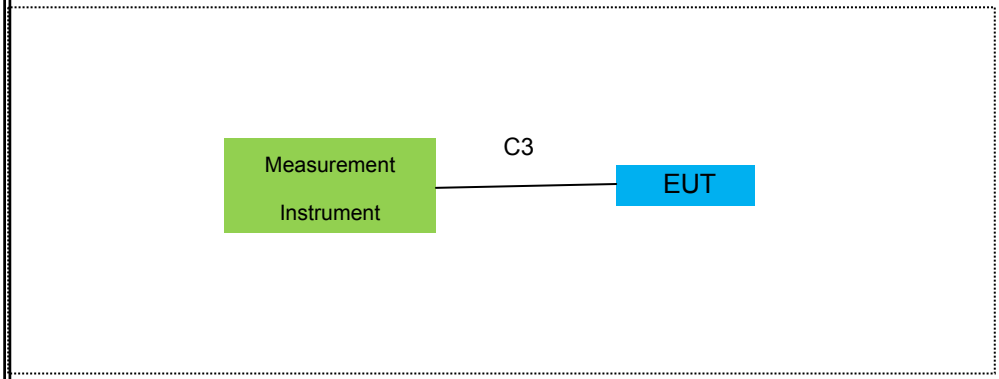
For AC Conducted Emission Mode



For Radiated Test Cases



For Conducted Test Cases



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

2.4 DESCRIPTION OF SUPPORT UNITS(CONDUCTED MODE)

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

Item	Equipment	Brand	Model/Type No.	Series No.	Note
E-1	3D TOUCH PROJECTOR	Foison	FSP6	N/A	EUT
E-2	Adapter	N/A	JHD-AD065C-144400	N/A	Peripherals
E-3	Earphone	N/A	2688	N/A	

Item	Cable Type	Shielded Type	Ferrite Core	Length	Note
C-1	USB Cable	NO	NO	1.2m	
C-2	Earphone Cable	NO	NO	1.0m	
C-3	RF Cable	NO	NO	0.5m	

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	Spectrum Analyzer	Agilent	N9020A	MY49100060	2016.07.06	2017.07.05	1 year
3	EMI Test Receiver	Agilent	N9038A	MY53227146	2016.06.06	2017.06.05	1 year
4	Test Receiver	R&S	ESPI	101318	2016.06.06	2017.06.05	1 year
5	Bilog Antenna	TESEQ	CBL6111D	31216	2016.07.06	2017.07.05	1 year
6	50Ω Coaxial Switch	Anritsu	MP59B	6200264416	2016.06.06	2017.06.05	1 year
7	Spectrum Analyzer	ADVANTEST	R3132	150900201	2016.06.06	2017.06.05	1 year
8	Horn Antenna	EM	EM-AH-10180	2011071402	2016.07.06	2017.07.05	1 year
9	Horn Ant	Schwarzbeck	BBHA 9170	9170-181	2016.07.06	2017.07.05	1 year
10	Amplifier	EM	EM-30180	060538	2015.12.22	2016.12.21	1 year
11	Amplifier	MITEQ	TTA1840-35-HG	177156	2016.06.06	2017.06.05	1 year
12	Loop Antenna	ARA	PLA-1030/B	1029	2016.06.06	2017.06.05	1 year
13	Power Meter	DARE	RPR3006W	100696	2016.07.06	2017.07.05	1 year
15	Test Cable (9KHz-30MHz)	N/A	R-01	N/A	2015.07.06	2016.07.05	1 year
16	Test Cable (30MHz-1GHz)	N/A	R-02	N/A	2016.07.06	2017.07.05	1 year
17	High Test Cable(1G-40GHz)	N/A	R-03	N/A	2016.06.06	2017.06.05	1 year
18	High Test Cable(1G-40GHz)	N/A	R-04	N/A	2016.06.06	2017.06.05	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
7	Test Cable (9KHz-30MHz)	N/A	C01	N/A	2016.06.08	2017.06.07	1 year
8	Test Cable (9KHz-30MHz)	N/A	C02	N/A	2016.06.08	2017.06.07	1 year
9	Test Cable (9KHz-30MHz)	N/A	C03	N/A	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/ RSS-247
0.50 -5.0	73.00	60.00	56.00	46.00	FCC/ RSS-247
5.0 -30.0	73.00	60.00	60.00	50.00	FCC/ RSS-247

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

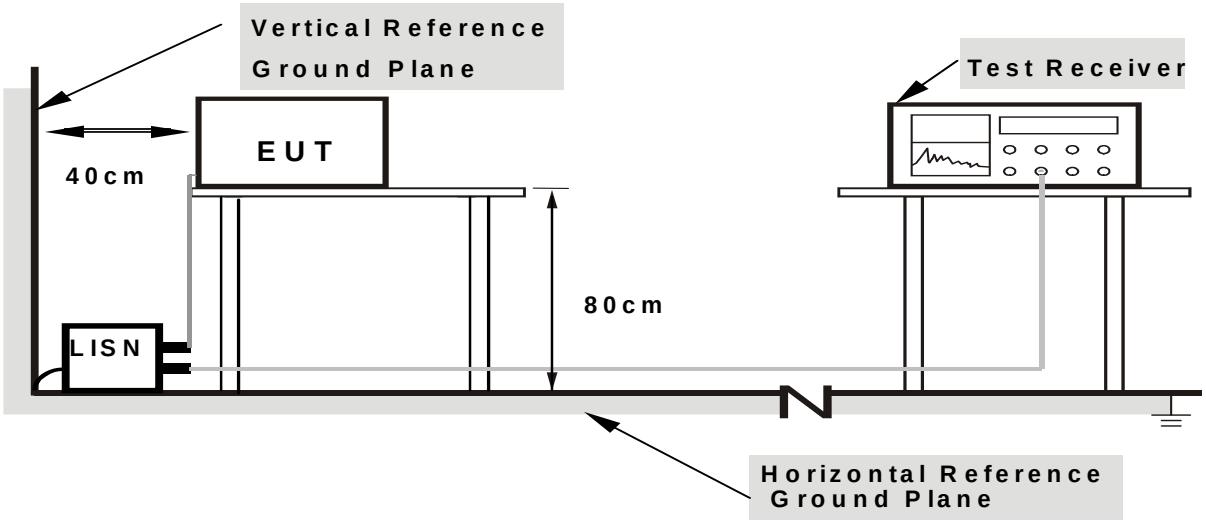
3.1.2 TEST PROCEDURE

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.

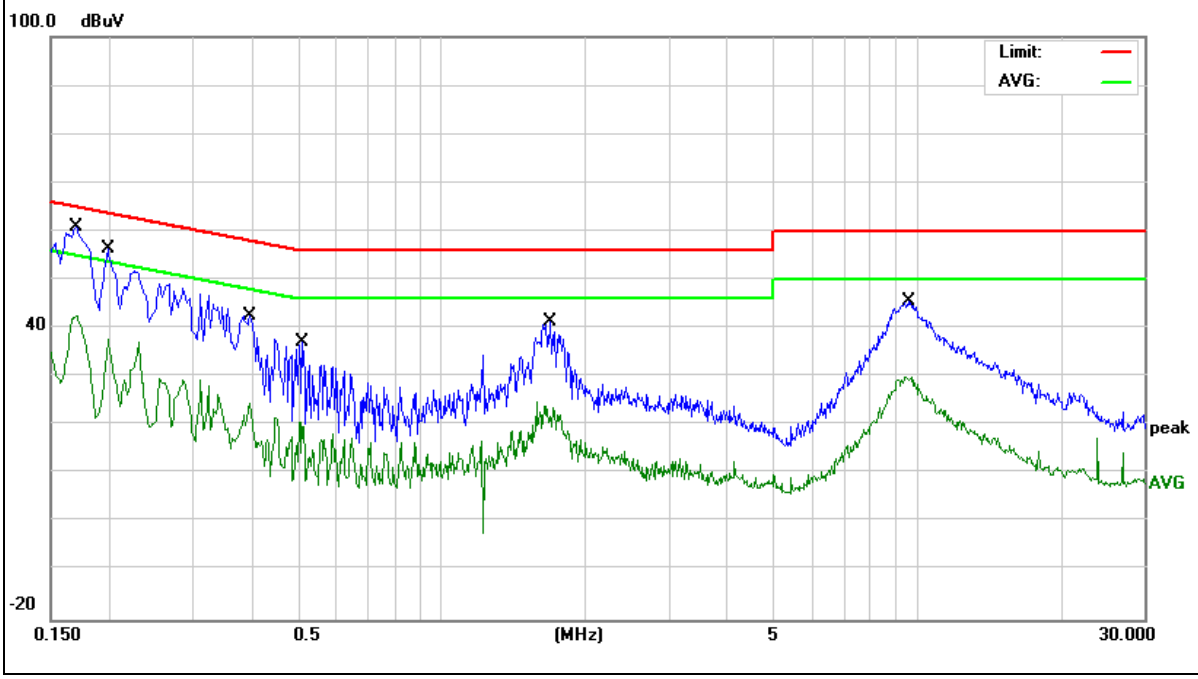
3.1.6 TEST RESULTS

EUT：	3D TOUCH PROJECTOR	Model Name. ：	FSP6
Temperature：	26 ℃	Relative Humidity：	56%
Pressure：	1010hPa	Phase：	L
Test Voltage ：	DC 12V From adapter AC120V/60Hz	Test Mode：	Mode 1

Frequency	Reading Level	Correct Factor	Measure-ment	Limits	Margin	Remark
(MHz)	(dBμV)	(dB)	(dBμV)	(dBμV)	(dB)	
0.17	50.86	10.12	60.98	64.96	-3.98	QP
0.17	32.56	10.12	42.68	54.96	-12.28	AVG
0.198	46.35	10.13	56.48	63.69	-7.21	QP
0.198	27.66	10.13	37.79	53.69	-15.9	AVG
0.394	32.57	10.05	42.62	57.98	-15.36	QP
0.394	14.42	10.05	24.47	47.98	-23.51	AVG
0.51	27.24	9.81	37.05	56	-18.95	QP
0.51	10.77	9.81	20.58	46	-25.42	AVG
1.6978	31.42	9.8	41.22	56	-14.78	QP
1.6978	15.07	9.8	24.87	46	-21.13	AVG

Remark:

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

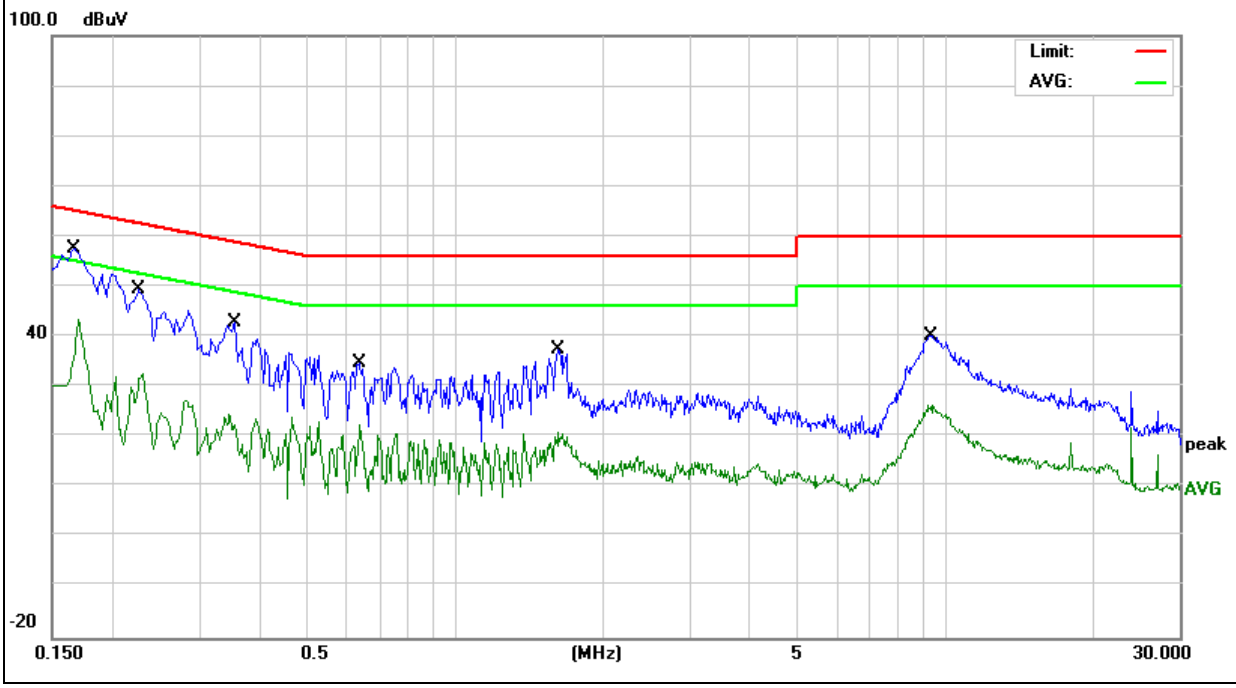


EUT：	3D TOUCH PROJECTOR	Model Name. ：	FSP6
Temperature：	26 ℃	Relative Humidity：	56%
Pressure：	1010hPa	Phase：	N
Test Voltage ：	DC 12V From adapter AC120V/60Hz	Test Mode：	Mode 1

Frequency	Reading Level	Correct Factor	Measure-ment	Limits	Margin	Remark
(MHz)	(dBμV)	(dB)	(dBμV)	(dBμV)	(dB)	
0.166	47.6	10.06	57.66	65.15	-7.49	QP
0.166	33.46	10.06	43.52	55.15	-11.63	AVG
0.226	39.25	10.05	49.3	62.59	-13.29	QP
0.226	22.54	10.05	32.59	52.59	-20	AVG
0.3537	32.65	10.09	42.74	58.87	-16.13	QP
0.3537	14.53	10.09	24.62	48.87	-24.25	AVG
0.634	25.05	9.82	34.87	56	-21.13	QP
0.634	12.52	9.82	22.34	46	-23.66	AVG
1.618	27.65	9.83	37.48	56	-18.52	QP
1.618	10.99	9.83	20.82	46	-25.18	AVG
9.3099	30.44	9.86	40.3	60	-19.7	QP
9.3099	16.44	9.86	26.3	50	-23.7	AVG

Remark:

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



3.2 RADIATED EMISSION MEASUREMENT

3.2.1 APPLICABLE STANDARD

According to FCC Part 15.407(b) and 15.209

3.2.2 CONFORMANCE LIMIT

According to FCC Part 15.407(b):
the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:
(1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.
(2) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.
(3) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.
(4) For transmitters operating in the 5.725-5.85 GHz band
(i) All emissions shall be limited to a level of −27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

According to FCC Part 15.407(b)(7): radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).
According to FCC Part15.205, Restricted bands

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
10.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	(2)
13.36-13.41			

Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in §15.209. Further, then the 15.209(a) limit in the table below has to be followed.

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

Limits of Radiated Emission Measurement(Above 1000MHz)
According to FCC Part 15.407(b):
the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:
(4) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.
(5) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.
(6) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.
(4) For transmitters operating in the 5.725-5.85 GHz band
(i) All emissions shall be limited to a level of −27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

Refer to KDB 789033 D02v01r03 G)2)d) Unwanted Emissions that fall Outside of the Restricted Bands
d) If radiated measurements are performed, field strength is then converted to EIRP as follows:
(i) EIRP = ((E×d)^2) / 30
where:
E is the field strength in V/m;

d is the measurement distance in meters;

EIRP is the equivalent isotropically radiated power in watts.
(ii) Working in dB units, the above equation is equivalent to:
EIRP[dBm] = E[dBμV/m] + 20 log (d[meters]) - 104.77
(iii) Or, if d is 3 meters:
EIRP[dBm] = E[dBμV/m] - 95.2
its limit is -27dBm/MHz or -17dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of 68.2dBμV/m.
Unwanted Emissions that fall Outside of the Restricted Bands limit:

Operating Frequency Band (MHz)	EIRP Limit (dBm/MHz)	Equivalent Field Strength at 3m (dBuV/m)
5150 - 5250	-27	68.2
5725 - 5850	-17	78.2
	-27	68.2

Unwanted Emissions in the Restricted Bands limit:

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

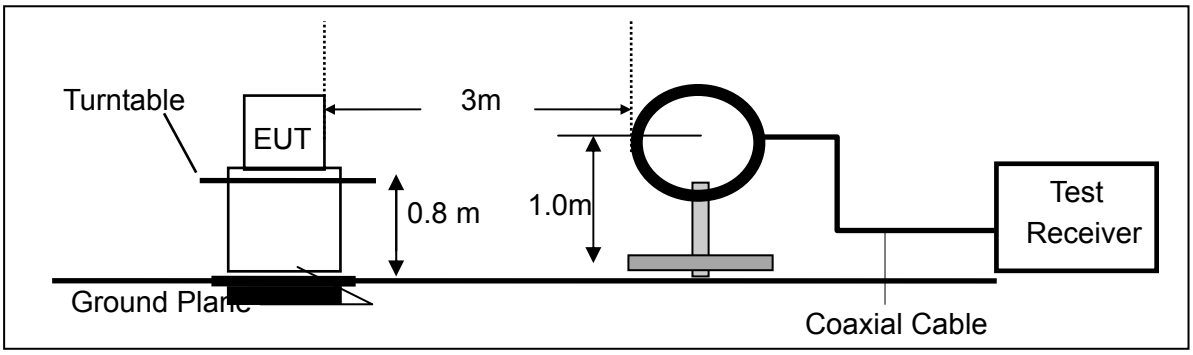
Remark :1. Emission level in dBuV/m=20 log (uV/m)
2. Measurement was performed at an antenna to the closed point of EUT distance of meters.
3. Distance extrapolation factor =40log(Specific distance/ test distance)(dB);
Limit line=Specific limits(dBuV) + distance extrapolation factor.

3.2.3 MEASURING INSTRUMENTS

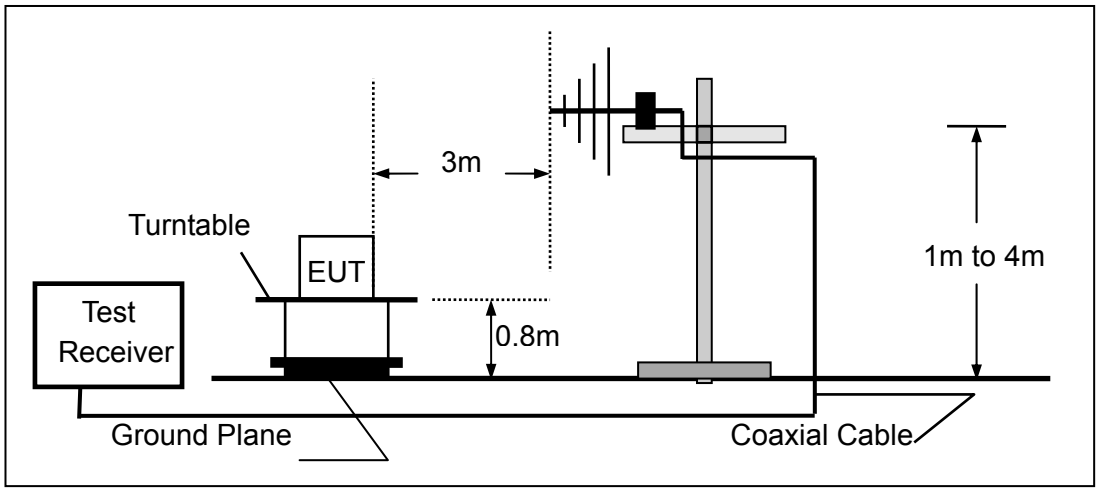
The Measuring equipment is listed in the section 6.3 of this test report.

3.2.4 TEST CONFIGURATION

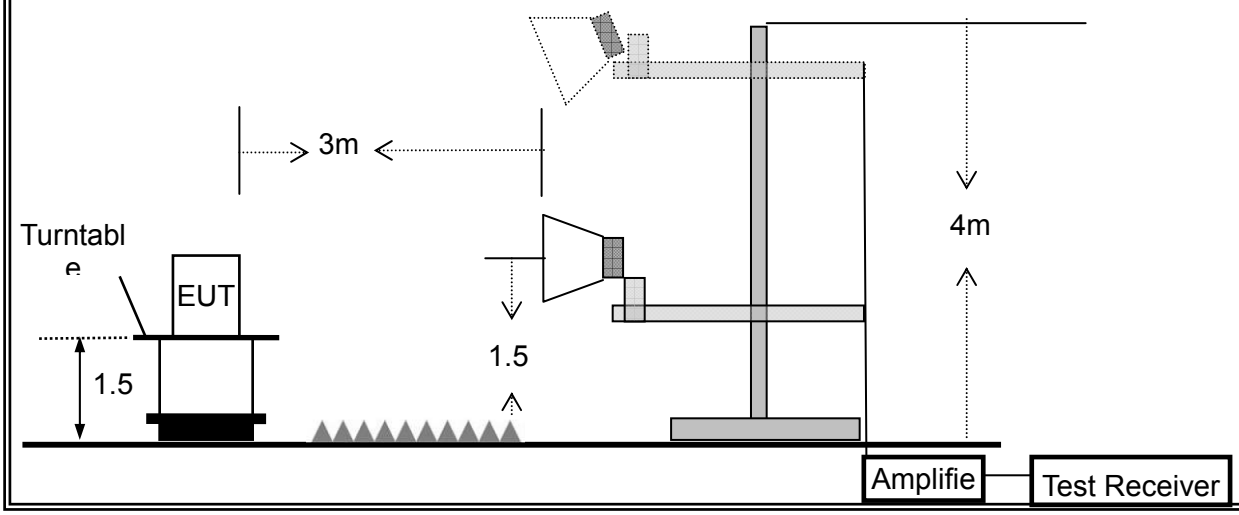
(a) For radiated emissions below 30MHz



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



(c) For radiated emissions above 1000MHz



3.2.5 TEST PROCEDURE

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

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

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

a. The measuring distance of at 3 m shall be used for measurements at frequency up to 1GHz and frequencies above 1GHz,
b. The EUT was placed on the top of a rotating table 0.8 m for below 1GHz and 1.5m for above 1GHz the ground at a 3 meter. The table was rotated 360 degrees to determine the position of the highest radiation.
c. The height of the equipment or of the substitution antenna shall be 0.8 m for below 1GHz and 1.5m for above 1GHz; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
d. For the radiated emission test above 1GHz:
Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.
e. 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.
f. 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.
g For the actual test configuration, please refer to the related Item –EUT Test Photos.

Note:

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

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

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

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

3.2.6 TEST RESULTS (BETWEEN 9KHZ – 30 MHZ)

EUT：	3D TOUCH PROJECTOR	Model Name. ：	FSP6
Temperature：	20 ℃	Relative Humidtity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 12V
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)

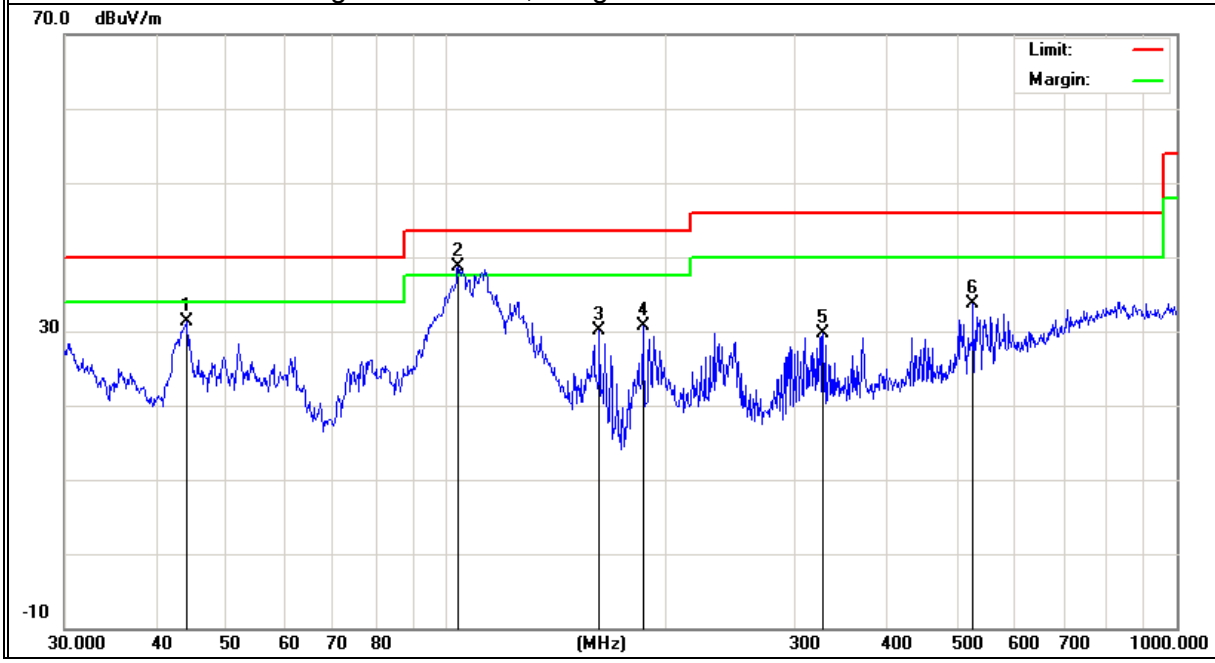
■ Spurious Emission below 1GHz (30MHz to 1GHz)

EUT：	3D TOUCH PROJECTOR	Model Name ：	FSP6
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 12V
Test Mode ：	TX (802.11a)		

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

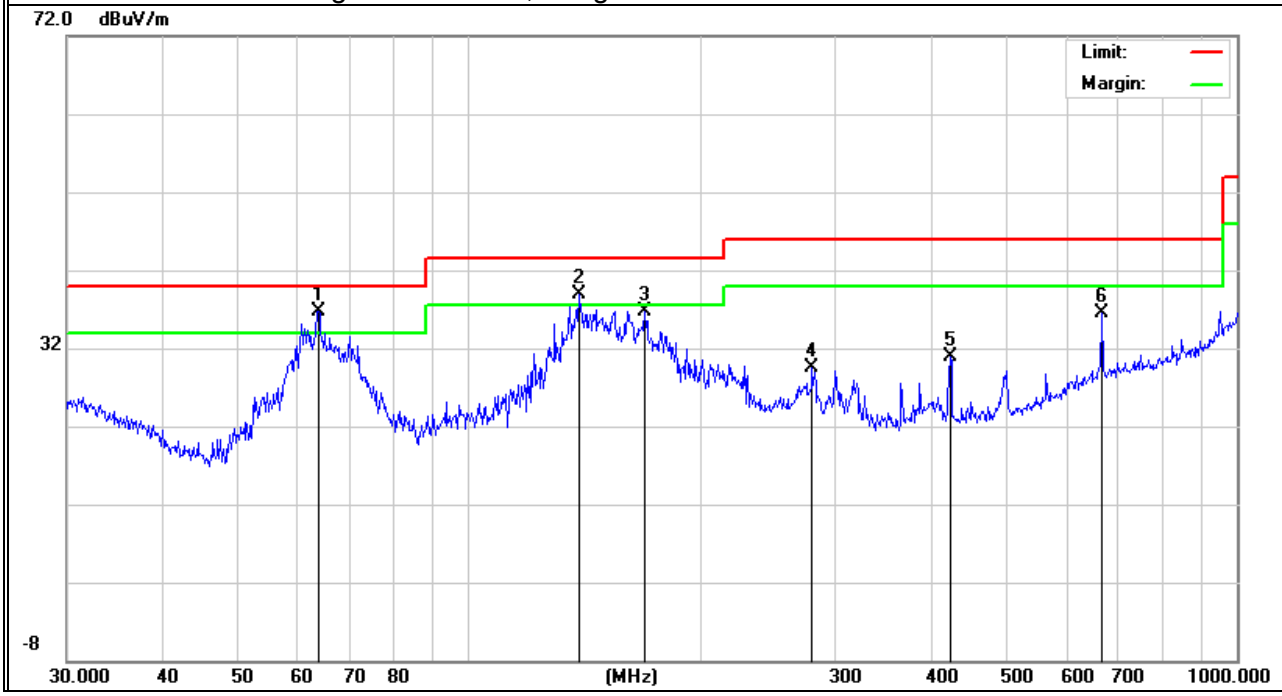
Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
V	60.7043	27.16	6.83	33.99	40	-6.01	QP
V	133.1511	24.17	12.03	36.2	43.5	-7.3	QP
V	159.7844	22.22	12.48	34.7	43.5	-8.8	QP
V	182.5592	19.56	13.14	32.7	43.5	-10.8	QP
V	425.028	15.31	16.08	31.39	46	-14.61	QP
V	665.8034	16.2	22	38.2	46	-7.8	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	63.7588	30.23	6.47	36.7	40	-3.3	QP
H	139.361	26.85	12.09	38.94	43.5	-4.56	QP
H	169.5988	23.26	13.54	36.8	43.5	-6.7	QP
H	280.0237	16.19	13.22	29.41	46	-16.59	QP
H	423.5403	14.85	16.05	30.9	46	-15.1	QP
H	668.1422	14.43	22.06	36.49	46	-9.51	QP

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



3.2.8 TEST RESULTS (1GHz-18GHz)

EUT：	3D TOUCH PROJECTOR	Model Name ：	FSP6
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 12V
Test Mode ：	TX (5.2G)-802.11a 5150-5250MHz		

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

Polar	Frequency	Meter Reading	Cable loss	Antenna Factor	Preamp Factor	Emission Level	Limits	Margin	Detector Type	Mark
(H/V)	(MHz)	(dBuV)	(dB)	dB/m	(dB)	(dBuV/m)	(dBuV/m	(dB)		
Low Channel (5180 MHz)-Above 1G										
Vertical	2461.33	56.21	5.94	35.40	44.00	53.55	74.00	-20.45	PK	*
Vertical	2461.33	43.62	5.94	35.40	44.00	40.96	54.00	-13.04	AV	*
Vertical	10360.29	54.99	8.46	39.75	44.50	58.70	68.20	-9.50	Pk	
Vertical	15540.26	52.95	10.12	38.80	44.10	57.77	68.20	-10.43	Pk	
Horizontal	2435.23	54.45	5.94	35.18	44.00	51.57	74.00	-22.43	PK	*
Horizontal	2435.23	43.60	5.94	35.18	44.00	40.72	54.00	-13.28	AV	*
Horizontal	10360.67	54.02	8.46	38.71	44.50	56.69	68.20	-11.51	Pk	
Horizontal	15540.25	51.47	10.12	38.38	44.10	55.87	68.20	-12.33	Pk	
middle Channel (5200 MHz)-Above 1G										
Vertical	2305.66	54.64	6.48	36.35	44.05	53.42	74.00	-20.58	PK	*
Vertical	2305.66	43.47	6.48	36.35	44.05	42.25	54.00	-11.75	AV	*
Vertical	10400.23	52.28	8.47	37.88	44.51	54.12	68.20	-14.08	Pk	
Vertical	15560.15	51.81	10.12	38.8	44.10	56.63	68.20	-11.57	Pk	
Horizontal	2441.13	55.15	6.48	36.37	44.05	53.95	74.00	-20.05	Pk	*
Horizontal	2441.13	43.18	6.48	36.37	44.05	41.98	54.00	-12.02	AV	*
Horizontal	10401.28	53.19	8.47	38.64	44.50	55.80	68.20	-12.40	Pk	
Horizontal	15561.26	52.52	10.12	38.38	44.10	56.92	68.20	-11.28	Pk	
High Channel (5240 MHz)-Above 1G										
Vertical	2418.26	55.84	7.10	37.24	43.50	56.68	74.00	-17.32	PK	*
Vertical	2418.26	51.09	7.10	37.24	43.50	51.93	54.00	-2.07	AV	*
Vertical	10480.11	51.09	8.46	37.68	44.50	52.73	68.20	-15.47	Pk	
Vertical	15720.06	50.55	10.12	38.8	44.10	55.37	68.20	-12.83	Pk	
Horizontal	2413.17	54.10	7.10	37.24	43.50	54.94	74.00	-19.06	PK	*
Horizontal	2413.17	43.65	7.10	37.24	43.50	44.49	54.00	-9.51	AV	*
Horizontal	10480.81	52.92	8.46	38.57	44.50	55.45	68.20	-12.75	Pk	
Horizontal	15720.13	54.04	10.12	38.38	44.10	58.44	68.20	-9.76	Pk	

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

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

Note 1: "*" is in restricted band, its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a "conversion" factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of 68.2dBμV/m.

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

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

Average measurement was not performed if peak level lower than average limit.

EUT：	3D TOUCH PROJECTOR	Model Name ：	FSP6
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 12V
Test Mode ：	TX (5.8G)-802.11a 5745-5825MHz		

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

Polar	Frequency	Meter Reading	Cable loss	Antenna Factor	Preamp Factor	Emission Level	Limits	Margin	Detector Type	Mark
(H/V)	(MHz)	(dBuV)	(dB)	dB/m	(dB)	(dBm/MHz)	(dBuV/m)	(dB)		
Low Channel (5745 MHz)-Above 1G										
Vertical	4679.234	57.83	5.94	35.40	44.00	55.17	74.00	-18.83	Pk	*
Vertical	4679.234	43.56	5.94	35.40	44.00	40.90	54.00	-13.10	AV	*
Vertical	11490.227	51.40	8.46	39.75	44.50	55.11	68.20	-13.09	Pk	
Vertical	17235.265	50.05	10.12	38.80	44.10	54.87	68.20	-13.33	Pk	
Horizontal	4679.639	54.80	5.94	35.18	44.00	51.92	74.00	-22.08	Pk	*
Horizontal	4679.639	43.58	5.94	35.18	44.00	40.70	54.00	-13.30	AV	*
Horizontal	11490.128	52.49	8.46	38.71	44.50	55.16	68.20	-13.04	Pk	
Horizontal	17235.111	54.49	10.12	38.38	44.10	58.89	68.20	-9.31	Pk	
middle Channel (5785 MHz)-Above 1G										
Vertical	4592.256	54.85	6.48	36.35	44.05	53.63	74.00	-20.37	Pk	*
Vertical	4592.256	43.86	6.48	36.35	44.05	42.64	54.00	-11.36	AV	*
Vertical	11570.199	52.21	8.47	37.88	44.51	54.05	68.20	-14.15	Pk	
Vertical	17355.128	54.89	10.12	38.8	44.10	59.71	68.20	-8.49	Pk	
Horizontal	4592.535	53.13	6.48	36.37	44.05	51.93	74.00	-22.07	Pk	*
Horizontal	4592.535	43.40	6.48	36.37	44.05	42.20	54.00	-11.80	AV	*
Horizontal	11570.271	52.96	8.47	38.64	44.50	55.57	68.20	-12.63	Pk	
Horizontal	17355.247	54.41	10.12	38.38	44.10	58.81	68.20	-9.39	Pk	
High Channel (5825 MHz)-Above 1G										
Vertical	6039.235	56.99	7.10	37.24	43.50	57.83	68.20	-10.37	Pk	
Vertical	11650.838	53.08	8.46	37.68	44.50	54.72	68.20	-13.48	Pk	
Vertical	17475.128	52.91	10.12	38.8	44.10	57.73	68.20	-10.47	Pk	
Horizontal	6039.101	57.84	7.10	37.24	43.50	58.68	68.20	-9.52	Pk	
Horizontal	11650.283	52.95	8.46	38.57	44.50	55.48	68.20	-12.72	Pk	
Horizontal	17475.247	51.97	10.12	38.38	44.10	56.37	68.20	-11.83	Pk	

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

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

Note 1: "*" is in restricted band, its limit is 74dBuV/m for PK,. 54dBuV/m for AV.

Then its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined

by adding a "conversion" factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of

68.2dBμV/m.

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

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

Average measurement was not performed if peak level lower than average limit.

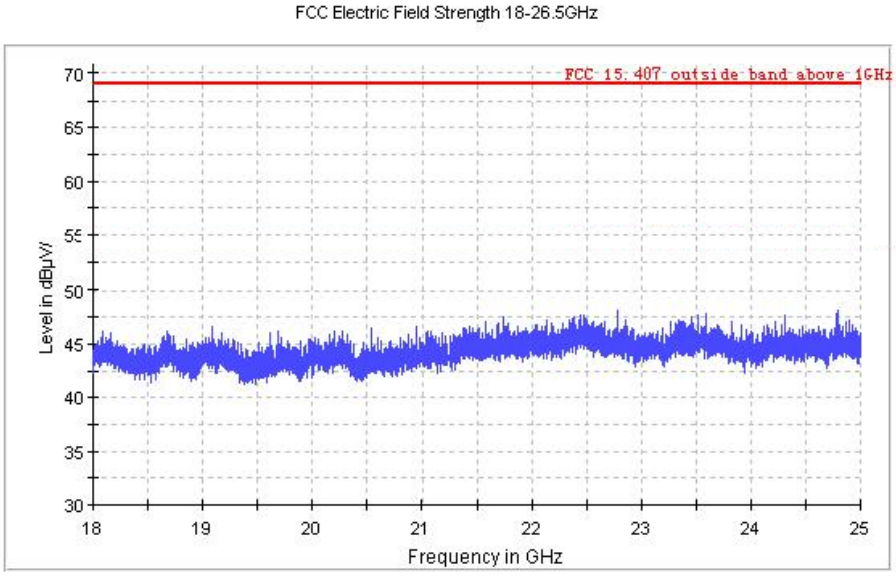
TEST RESULTS (18GHz-40GHz)

EUT：	3D TOUCH PROJECTOR	Model Name ：	FSP6
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 12V
Test Mode ：	TX (5.2G)-802.11N(20) 5180MHz~5240MHz , TX (5.8G) -802.11N(20) 5745MHz~5825MHz		

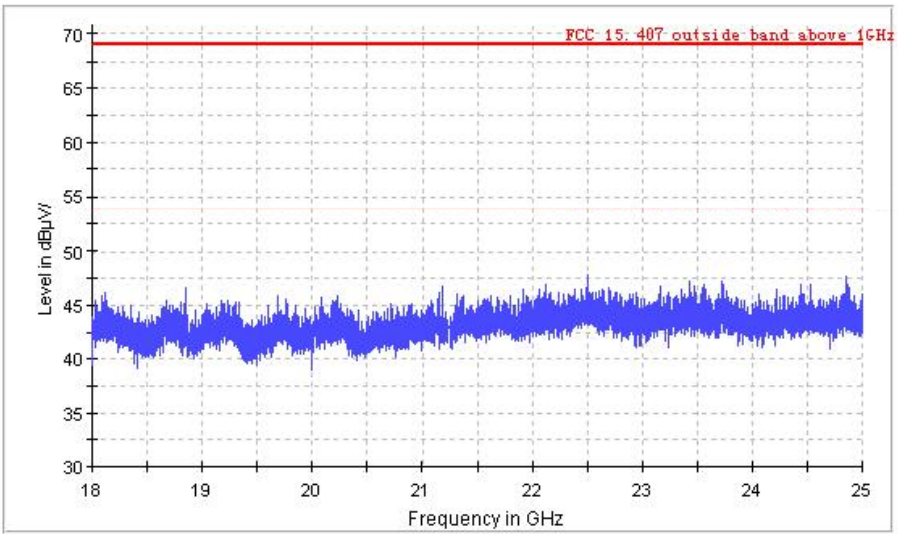
All the modulation modes have been tested, and the worst result was report as below:

Low Channel (802.11N(20) 5180 MHz)-Above 1G

Horizontal

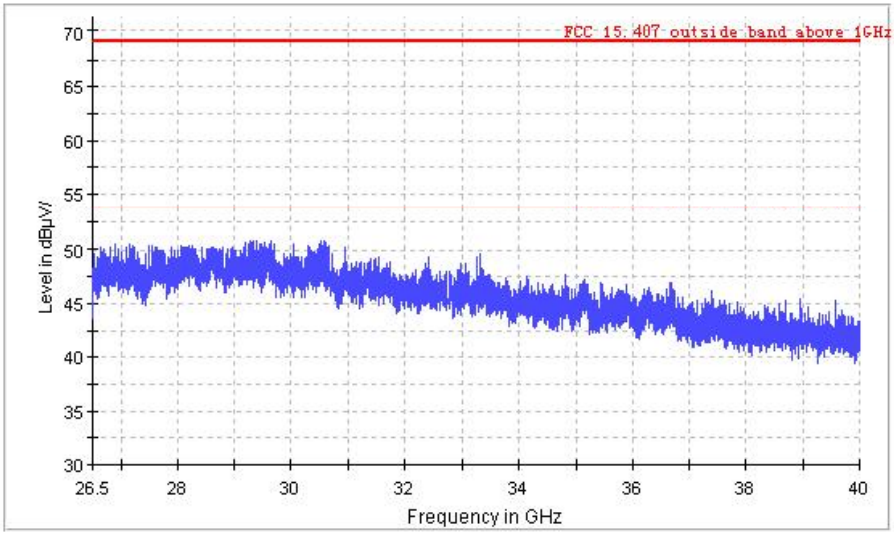


Vertical



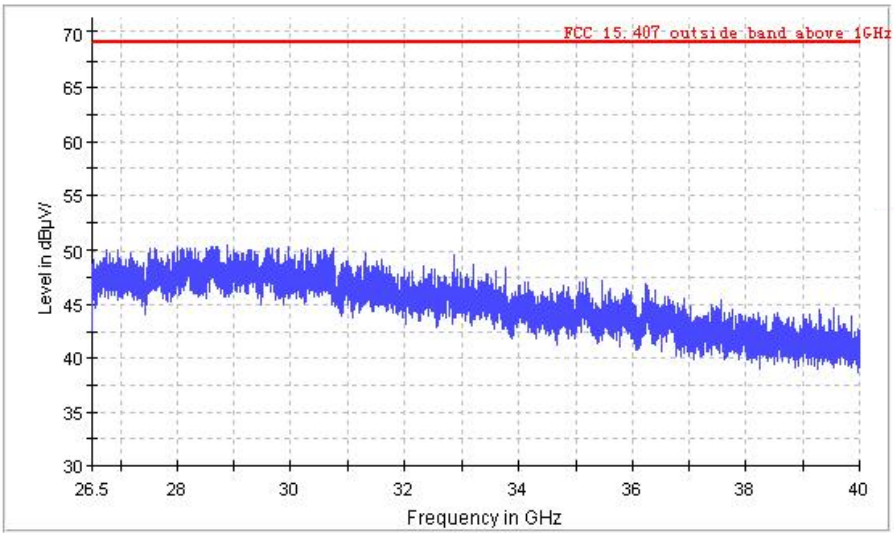
Horizontal

FCC Electric Field Strength 26.5-40GHz



Vertical

FCC Electric Field Strength 26.5-40GHz



4. BAND EDGE COMPLIANCE OF EMISSION

4.1TEST LIMIT

For 15.205 requirement: Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a) of FCC part 15, must also comply with the radiated emission limits specified in Section 15.209(a).

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
[1]0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	([2])

For 15.407(b) requirement:

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

For transmitters operating in the 5.725-5.85 GHz band: All emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an e.i.r.p. of −17 dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions shall not exceed an e.i.r.p. of −27 dBm/MHz.

E[dBμV/m] = EIRP[dBm] + 95.2, for d = 3 meters.

its limit is -27dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -27dBm/MHz to obtain the limit for out of band spurious emissions of 68.2dBμV/m.

its limit is -17dBm/MHz. At a distance of 3 meters, the field strength limit in dBμV/m can be determined by adding a “conversion” factor of 95.2dB to the EIRP limit of -17dBm/MHz to obtain the limit for out of band spurious emissions of 78.2dBμV/m.

Operating Frequency Band (MHz)	EIRP Limit (dBm/MHz)	Equivalent Field Strength at 3m (dBuV/m)
5150 - 5250	-27	68.2
5725 - 5850	-17	78.2
	-27	68.2

Note: Refer to KDB 789033 D02v01 G)2)c), as specified in § 15.407(b), emissions above 1000 MHz that are outside of the restricted bands are subject to a maximum emission limit of -27 dBm/MHz (or -17 dBm/MHz as specified in § 15.407(b)(4)). However, an out-of-band emission that complies with both the peak and average limits of § 15.209 is not required to satisfy the -27 dBm/MHz or -17 dBm/MHz maximum emission limit

4.2TEST PROCEDUCE

According to KDB 789033 D01 V03 for Antenna-port conducted measurement. Antenna-port conducted measurements may also be used as an alternative to radiated measurements for demonstrating compliance in the restricted frequency bands. If conducted measurements are performed, then proper impedance matching must be ensured and an additional radiated test for cabinet/case spurious emissions is required.

d) Band edge measurements.
Unwanted band-edge emissions may be measured using either of the special band-edge measurement techniques (the marker-delta or integration methods) described below. Note that the marker-delta method is primarily a radiated measurement technique that requires the 99% occupied bandwidth edge to be within 2 MHz of the authorized band edge, whereas the integration method can be used in either a radiated or conducted measurement without any special requirement with regards to the displacement of the unwanted emission(s) relative to the authorized bandwidth. .
(i) Marker-Delta Method.

The marker-delta method, as described in ANSI C63.10, can be used to perform measurements of the radiated unwanted emissions level of emissions provided that the 99% occupied bandwidth of the fundamental is within 2 MHz of the authorized band-edge.
(ii) Integration Method
For maximum emissions measurements, follow the procedures described in section II.G.5., “Procedures for Unwanted Maximum Emissions Measurements above 1000 MHz,” except for the following changes:

◦ Set RBW = 100 kHz
◦ Set VBW ≥ 3 × RBW
◦ Perform a band-power integration across the 1 MHz bandwidth in which the band-edge emission level is to be measured. CAUTION: You must ensure that the spectrum analyzer or EMI receiver is set for peak-detection and max-hold for this measurement.

For average emissions measurements, follow the procedures described in section II.G.6., “Procedures for Average Unwanted Emissions Measurements above 1000 MHz,” except for the following changes:
◦ Set RBW = 100 kHz
◦ Set VBW ≥ 3 × RBW
◦ Perform a band-power integration across the 1 MHz bandwidth in which the band-edge emission level is to be measured.
4. Procedure for Unwanted Emissions Measurements below 1000 MHz
a) Follow the requirements in section II.G.3. “General Requirements for Unwanted Emissions Measurements.”
b) Compliance shall be demonstrated using CISPR quasi-peak detection; however, peak detection is permitted as an alternative to quasi-peak detection.

5. Procedure for Unwanted Maximum Emissions Measurements above 1000 MHz
a) Follow the requirements in section II.G.3, “General Requirements for Unwanted Emissions Measurements.”
b) Maximum emission levels are measured by setting the analyzer as follows:
(i) RBW = 1 MHz.
(ii) VBW ≥ 3 MHz.
(iii) Detector = Peak.
(iv) Sweep time = auto.
(v) Trace mode = max hold.
(vi) Allow sweeps to continue until the trace stabilizes. Note that if the transmission is not continuous, the time required for the trace to stabilize will increase by a factor of approximately 1/x, where x is the duty cycle. For example, at 50% duty cycle, the measurement time will increase by a factor of two relative to measurement time for continuous transmission.

4.4TEST RESULTS

EUT：	3D TOUCH PROJECTOR	Model Name ：	FSP6
Temperature：	20 ℃	Relative Humidity：	48%
Pressure：	1010 hPa	Test Voltage ：	DC 12V
Test Mode ：	TX (5.2G) 5180MHz~5240MHz , TX (5.8G) 5745MHz~5825MHz		

TX (5.2G) 5180MHz~5240MHz 802.11a

Polar	Frequency	Meter Reading	Cable loss	Antenna Factor	Preamp Factor	Emission Level	Limits	Margin	Detector Type	Mark
(H/V)	(MHz)	(dBuV)	(dB)	dB/m	(dB)	(dBuV/m)	(dBuV/m)	(dB)		
H	5150.64	53.64	5.62	35.4	44.00	50.66	74.00	-23.34	Peak	*
H	5150.64	45.37	5.62	35.4	44.00	42.39	54.00	-11.61	AVG	*
V	5150.64	52.16	5.62	35.4	44.00	49.18	54.00	-4.82	Peak	*
V	5150.64	44.35	5.62	35.4	44.00	41.37	54.00	-12.63	AVG	*
H	5183.62	111.24	8.33	38.8	44.10	114.27	main wave	/	Peak	
V	5183.62	100.54	8.33	38.8	44.10	103.57	main wave	/	Peak	
H	5236.59	117.35	9.34	39.75	44.40	122.04	main wave	/	Peak	
V	5236.59	105.64	9.34	39.75	44.40	110.33	main wave	/	Peak	
H	5350.5	50.68	11.05	40.35	44.50	57.58	74.00	-16.42	Peak	*
H	5350.5	40.38	11.05	40.35	44.50	47.28	54.00	-6.72	AVG	*
V	5350.5	50.36	11.05	40.35	44.50	57.26	74.00	-16.74	Peak	*
V	5350.5	41.27	11.05	40.35	44.50	48.17	54.00	-5.83	AVG	*

Note 1: "*" is in restricted band,

802.11n20

Polar	Frequency	Meter Reading	Cable loss	Antenna Factor	Preamp Factor	Emission Level	Limits	Margin	Detector Type	Mark
(H/V)	(MHz)	(dBuV)	(dB)	dB/m	(dB)	(dBuV/m)	(dBuV/m)	(dB)		
H	5150.64	52.35	5.62	35.4	44.00	49.37	74.00	-24.63	Peak	*
H	5150.64	44.61	5.62	35.4	44.00	41.63	54.00	-12.37	AVG	*
V	5150.64	53.15	5.62	35.4	44.00	50.17	74.00	-23.83	Peak	*
V	5150.64	43.08	5.62	35.4	44.00	40.1	54.00	-13.90	AVG	*
H	5183.62	108.35	8.33	38.8	44.10	111.38	main wave	/	Peak	
V	5183.62	100.85	8.33	38.8	44.10	103.88	main wave	/	Peak	
H	5236.59	110.65	9.34	39.75	44.40	115.34	main wave	/	Peak	
V	5236.59	106.26	9.34	39.75	44.40	110.95	main wave	/	Peak	
H	5350.5	52.31	11.05	40.35	44.50	59.21	74.00	-14.79	Peak	*
H	5350.5	41.65	11.05	40.35	44.50	48.55	54.00	-5.45	AVG	*
V	5350.5	53.71	11.05	40.35	44.50	60.61	74.00	-13.39	Peak	*
V	5350.5	42.09	11.05	40.35	44.50	48.99	54.00	-5.01	AVG	*

Note 1: "*" is in restricted band,

802.11n40

Polar	Frequency	Meter Reading	Cable loss	Antenna Factor	Preamp Factor	Emission Level	Limits	Margin	Detector Type	Mark
(H/V)	(MHz)	(dBuV)	(dB)	dB/m	(dB)	(dBuV/m)	(dBuV/m)	(dB)		
H	5150.20	52.35	5.62	35.40	44.00	49.37	74.00	-24.63	Peak	*
H	5150.20	44.61	5.62	35.40	44.00	41.63	54.00	-12.37	AVG	*
V	5150.20	53.56	5.62	35.40	44.00	50.58	74.00	-23.42	Peak	*
V	5150.20	41.25	5.62	35.40	44.00	38.27	54.00	-15.73	AVG	*
H	5190.75	108.35	8.42	38.50	44.10	111.17	main wave	/	Peak	
V	5190.75	100.85	8.42	38.50	44.10	103.67	main wave	/	Peak	
H	5227.00	110.65	8.73	39.61	44.40	114.59	main wave	/	Peak	
V	5227.00	106.26	8.73	39.61	44.40	110.2	main wave	/	Peak	
H	5350.50	51.34	11.05	40.35	44.50	58.24	74.00	-15.76	Peak	*
H	5350.50	40.83	11.05	40.35	44.50	47.73	54.00	-6.27	AVG	*
V	5350.50	52.64	11.05	40.35	44.50	59.54	74.00	-14.46	Peak	*
V	5350.50	41.08	11.05	40.35	44.50	47.98	54.00	-6.02	AVG	*

Note 1: "*" is in restricted band,

802.11ac20

Polar	Frequency	Meter Reading	Cable loss	Antenna Factor	Preamp Factor	Emission Level	Limits	Margin	Detector Type	Mark
(H/V)	(MHz)	(dBuV)	(dB)	dB/m	(dB)	(dBuV/m)	(dBuV/m)	(dB)		
H	5150.10	52.64	5.62	35.4	44.00	49.66	74.00	-24.34	Peak	*
H	5150.10	44.19	5.62	35.4	44.00	41.21	54.00	-12.79	AVG	*
V	5150.10	51.62	5.62	35.4	44.00	48.64	74.00	-25.36	Peak	*
V	5150.10	42.09	5.62	35.4	44.00	39.11	54.00	-14.89	AVG	*
H	5180.48	108.65	8.33	38.8	44.10	111.68	main wave	/	Peak	
V	5180.48	101.53	8.33	38.8	44.10	104.56	main wave	/	Peak	
H	5230.40	114.16	9.34	39.75	44.40	118.85	main wave	/	Peak	
V	5230.40	103.84	9.34	39.75	44.40	108.53	main wave	/	Peak	
H	5350.50	50.31	11.05	40.35	44.50	57.21	74.00	-16.79	Peak	*
H	5350.50	40.18	11.05	40.35	44.50	47.08	54.00	-6.92	AVG	*
V	5350.50	51.34	11.05	40.35	44.50	58.24	74.00	-15.76	Peak	*
V	5350.50	41.06	11.05	40.35	44.50	47.96	54.00	-6.04	AVG	*

Note 1: "*" is in restricted band,

802.11ac40

Polar	Frequency	Meter Reading	Cable loss	Antenna Factor	Preamp Factor	Emission Level	Limits	Margin	Detector Type	Mark
(H/V)	(MHz)	(dBuV)	(dB)	dB/m	(dB)	(dBuV/m)	(dBuV/m)	(dB)		
H	5150.20	50.65	5.62	35.40	44.00	47.67	74.00	-26.33	Peak	*
V	5150.20	43.15	5.62	35.40	44.00	40.17	54.00	-13.83	AVG	*
H	5150.20	51.26	5.62	35.40	44.00	48.28	74.00	-25.72	Peak	*
V	5150.20	42.64	5.62	35.40	44.00	39.66	54.00	-14.34	AVG	*
H	5190.65	104.26	8.42	38.50	44.10	107.08	main wave	/	Peak	
V	5190.65	98.64	8.42	38.50	44.10	101.46	main wave	/	Peak	
H	5227.51	108.34	8.73	39.61	44.40	112.28	main wave	/	Peak	
V	5227.51	100.56	8.73	39.61	44.40	104.5	main wave	/	Peak	
H	5350.50	50.64	11.05	40.35	44.50	57.54	74.00	-16.46	Peak	*
V	5350.50	40.62	11.05	40.35	44.50	47.52	54.00	-6.48	AVG	*
H	5350.50	51.64	11.05	40.35	44.50	58.54	74.00	-15.46	Peak	*
V	5350.50	41.03	11.05	40.35	44.50	47.93	54.00	-6.07	AVG	*

Note 1: "*" is in restricted band,

TX (5.8G) 5745MHz~5825MHz 802.11a

Polar	Frequency	Meter Reading	Cable loss	Antenna Factor	Preamp Factor	Emission Level	Limits	Margin	Detector Type	Mark
(H/V)	(MHz)	(dBuV)	(dB)	dB/m	(dB)	(dBuV/m)	(dBuV/m)	(dB)		
H	5715.50	49.26	5.56	34.18	40.65	48.35	68.20	-19.85	Peak	
H	5715.50	39.64	5.56	34.18	40.65	38.73	48.20	-9.47	AVG	
V	5715.50	47.18	5.56	34.18	40.65	46.27	68.20	-21.93	Peak	
V	5715.50	38.42	5.56	34.18	40.65	37.51	48.20	-10.69	AVG	
H	5725.60	53.64	5.94	35.4	42.00	52.98	78.20	-25.22	Peak	
H	5725.60	48.61	5.94	35.4	42.00	47.95	54.00	-6.05	AVG	
V	5725.60	52.76	5.94	35.4	42.00	52.1	78.20	-26.10	Peak	
V	5725.60	47.06	5.94	35.4	42.00	46.4	54.00	-7.60	AVG	
H	5751.30	111.24	8.46	38.8	44.50	114	main wave	/	Peak	
V	5751.30	100.54	8.46	38.8	44.50	103.3	main wave	/	Peak	
H	5825.59	117.35	10.12	39.75	45.06	122.16	main wave	/	Peak	
V	5825.59	105.64	10.12	39.75	45.06	110.45	main wave	/	Peak	
H	5850.50	50.68	12.02	40.35	46.50	56.55	78.20	-21.65	Peak	
H	5850.50	40.38	12.02	40.35	46.50	46.25	54.00	-7.75	AVG	
V	5850.50	50.68	12.02	40.35	46.50	56.55	78.20	-21.65	Peak	
V	5850.50	40.38	12.02	40.35	46.50	46.25	54.00	-7.75	AVG	
H	5860.40	47.61	12.16	40.59	47.00	53.36	68.20	-14.84	Peak	
H	5860.40	38.25	12.16	40.59	47.00	44.00	48.20	-4.20	AVG	
V	5860.40	46.09	12.16	40.59	47.00	51.84	68.20	-16.36	Peak	
V	5860.40	37.19	12.16	40.59	47.00	42.94	48.20	-5.26	AVG	

802.11n20

Polar	Frequency	Meter Reading	Cable loss	Antenna Factor	Preamp Factor	Emission Level	Limits	Margin	Detector Type	Mark
(H/V)	(MHz)	(dBuV)	(dB)	dB/m	(dB)	(dBuV/m)	(dBuV/m)	(dB)		
H	5715.50	48.13	5.56	34.18	40.65	47.22	68.20	-20.98	Peak	
H	5715.50	38.54	5.56	34.18	40.65	37.63	48.20	-10.57	AVG	
V	5715.50	46.03	5.56	34.18	40.65	45.12	68.20	-23.08	Peak	
V	5715.50	37.12	5.56	34.18	40.65	36.21	48.20	-11.99	AVG	
H	5725.60	55.03	5.94	35.4	42.00	54.37	78.20	-23.83	Peak	
H	5725.60	46.19	5.94	35.4	42.00	45.53	54.00	-8.47	AVG	
V	5725.60	56.04	5.94	35.4	42.00	55.38	78.20	-22.82	Peak	
V	5725.60	46.15	5.94	35.4	42.00	45.49	54.00	-8.51	AVG	
H	5751.13	110.12	8.46	38.8	44.50	112.88	main wave	/	Peak	
V	5751.13	101.62	8.46	38.8	44.50	104.38	main wave	/	Peak	
H	5829.00	114.25	10.12	39.75	45.06	119.06	main wave	/	Peak	
V	5829.00	103.62	10.12	39.75	45.06	108.43	main wave	/	Peak	
H	5850.50	51.32	12.02	40.35	46.50	57.19	78.20	-21.01	Peak	
H	5850.50	41.21	12.02	40.35	46.50	47.08	54.00	-6.92	AVG	
V	5850.50	52.85	12.02	40.35	46.50	58.72	78.20	-19.48	Peak	
V	5850.50	41.06	12.02	40.35	46.50	46.93	54.00	-7.07	AVG	
H	5860.40	49.62	12.16	40.59	47.00	55.37	68.20	-12.83	Peak	
H	5860.40	36.13	12.16	40.59	47.00	41.88	48.20	-6.32	AVG	
V	5860.40	49.15	12.16	40.59	47.00	54.90	68.20	-13.30	Peak	
V	5860.40	36.27	12.16	40.59	47.00	42.02	48.20	-6.18	AVG	

802.11n40

Polar	Frequency	Meter Reading	Cable loss	Antenna Factor	Preamp Factor	Emission Level	Limits	Margin	Detector Type	Mark
(H/V)	(MHz)	(dBuV)	(dB)	dB/m	(dB)	(dBuV/m)	(dBuV/m)	(dB)		
H	5715.50	47.16	5.56	34.18	40.65	46.25	68.20	-21.95	Peak	
H	5715.50	37.59	5.56	34.18	40.65	36.68	48.20	-11.52	AVG	
V	5715.50	48.06	5.56	34.18	40.65	47.15	68.20	-21.05	Peak	
V	5715.50	38.16	5.56	34.18	40.65	37.25	48.20	-10.95	AVG	
H	5725.60	56.13	5.94	35.4	42.00	55.47	78.20	-22.73	Peak	
H	5725.60	45.23	5.94	35.4	42.00	44.57	54.00	-9.43	AVG	
V	5725.60	55.38	5.94	35.4	42.00	54.72	78.20	-23.48	Peak	
V	5725.60	45.09	5.94	35.4	42.00	44.43	54.00	-9.57	AVG	
H	5752.35	106.62	8.46	38.8	44.50	109.38	main wave	/	Peak	
V	5752.35	100.51	8.46	38.8	44.50	103.27	main wave	/	Peak	
H	5810.00	105.41	10.12	39.75	45.06	110.22	main wave	/	Peak	
V	5810.00	100.12	10.12	39.75	45.06	104.93	main wave	/	Peak	
H	5850.50	52.08	12.02	40.35	46.50	57.95	78.20	-20.25	Peak	
H	5850.50	42.18	12.02	40.35	46.50	48.05	54.00	-5.95	AVG	
V	5850.50	53.62	12.02	40.35	46.50	59.49	78.20	-18.71	Peak	
V	5850.50	42.03	12.02	40.35	46.50	47.9	54.00	-6.10	AVG	
H	5860.40	48.65	12.16	40.59	47.00	54.40	68.20	-13.80	Peak	
H	5860.40	38.13	12.16	40.59	47.00	43.88	48.20	-4.32	AVG	
V	5860.40	47.26	12.16	40.59	47.00	53.01	68.20	-15.19	Peak	
V	5860.40	35.06	12.16	40.59	47.00	40.81	48.20	-7.39	AVG	

802.11ac20

Polar	Frequency	Meter Reading	Cable loss	Antenna Factor	Preamp Factor	Emission Level	Limits	Margin	Detector Type	Mark
(H/V)	(MHz)	(dBuV)	(dB)	dB/m	(dB)	(dBuV/m)	(dBuV/m)	(dB)		
H	5715.50	47.56	5.56	34.18	40.65	46.65	68.20	-21.55	Peak	
H	5715.50	36.19	5.56	34.18	40.65	35.28	48.20	-12.92	AVG	
V	5715.50	47.08	5.56	34.18	40.65	46.17	68.20	-22.03	Peak	
V	5715.50	36.95	5.56	34.18	40.65	36.04	48.20	-12.16	AVG	
H	5725.60	54.18	5.94	35.4	42.00	53.52	78.20	-24.68	Peak	
H	5725.60	45.07	5.94	35.4	42.00	44.41	54.00	-9.59	AVG	
V	5725.60	55.25	5.94	35.4	42.00	54.59	78.20	-23.61	Peak	
V	5725.60	44.15	5.94	35.4	42.00	43.49	54.00	-10.51	AVG	
H	5751.13	105.36	8.46	38.8	44.50	108.12	main wave	/	Peak	
V	5751.13	99.62	8.46	38.8	44.50	102.38	main wave	/	Peak	
H	5829.00	101.23	10.12	39.75	45.06	106.04	main wave	/	Peak	
V	5829.00	98.23	10.12	39.75	45.06	103.04	main wave	/	Peak	
H	5850.50	52.13	12.02	40.35	46.50	58	78.20	-20.20	Peak	
H	5850.50	40.65	12.02	40.35	46.50	46.52	54.00	-7.48	AVG	
V	5850.50	51.26	12.02	40.35	46.50	57.13	78.20	-21.07	Peak	
V	5850.50	41.52	12.02	40.35	46.50	47.39	54.00	-6.61	AVG	
H	5860.40	48.62	12.16	40.59	47.00	54.37	68.20	-13.83	Peak	
H	5860.40	35.16	12.16	40.59	47.00	40.91	48.20	-7.29	AVG	
V	5860.40	49.22	12.16	40.59	47.00	54.97	68.20	-13.23	Peak	
V	5860.40	37.13	12.16	40.59	47.00	42.88	48.20	-5.32	AVG	

802.11ac40

Polar	Frequency	Meter Reading	Cable loss	Antenna Factor	Preamp Factor	Emission Level	Limits	Margin	Detector Type	Mark
(H/V)	(MHz)	(dBuV)	(dB)	dB/m	(dB)	(dBuV/m)	(dBuV/m)	(dB)		
H	5715.50	46.13	5.56	34.18	40.65	45.22	68.20	-22.98	Peak	
H	5715.50	36.09	5.56	34.18	40.65	35.18	48.20	-13.02	AVG	
V	5715.50	47.51	5.56	34.18	40.65	46.6	68.20	-21.60	Peak	
V	5715.50	39.05	5.56	34.18	40.65	38.14	48.20	-10.06	AVG	
H	5725.60	57.13	5.94	35.4	42.00	56.47	78.20	-21.73	Peak	
H	5725.60	43.06	5.94	35.4	42.00	42.4	54.00	-11.60	AVG	
V	5725.60	56.19	5.94	35.4	42.00	55.53	78.20	-22.67	Peak	
V	5725.60	41.26	5.94	35.4	42.00	40.6	54.00	-13.40	AVG	
H	5752.35	100.23	8.46	38.8	44.50	102.99	main wave	/	Peak	
V	5752.35	98.65	8.46	38.8	44.50	101.41	main wave	/	Peak	
H	5810.00	101.35	10.12	39.75	45.06	106.16	main wave	/	Peak	
V	5810.00	99.26	10.12	39.75	45.06	104.07	main wave	/	Peak	
H	5850.50	53.16	12.02	40.35	46.50	59.03	78.20	-19.17	Peak	
H	5850.50	41.07	12.02	40.35	46.50	46.94	54.00	-7.06	AVG	
V	5850.50	55.61	12.02	40.35	46.50	61.48	78.20	-16.72	Peak	
V	5850.50	43.15	12.02	40.35	46.50	49.02	54.00	-4.98	AVG	
H	5860.40	49.03	12.16	40.59	47.00	54.78	68.20	-13.42	Peak	
H	5860.40	38.68	12.16	40.59	47.00	44.43	48.20	-3.77	AVG	
V	5860.40	47.08	12.16	40.59	47.00	52.83	68.20	-15.37	Peak	
V	5860.40	36.94	12.16	40.59	47.00	42.69	48.20	-5.51	AVG	

Note: Emission Level = Meter Reading - Cable loss - Antenna Factor + Preamp Factor

5. POWER SPECTRAL DENSITY TEST

5.1 APPLIED PROCEDURES / LIMIT

According to FCC §15.407(a)(3)

For the band 5.15-5.25 GHz,

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

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

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

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

For the band 5.725-5.85 GHz

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

,

5.2 TEST PROCEDURE

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

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

b) Set VBW ≥ 3 RBW.

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

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

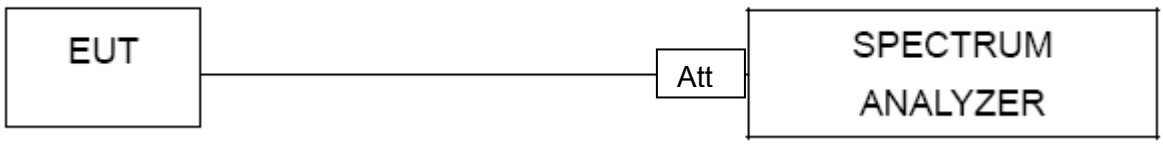
e) Care must be taken to ensure that the measurements are performed during a period of continuous transmission or are corrected upward for duty cycle.

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

5.3 DEVIATION FROM STANDARD

No deviation.

5.4 TEST SETUP



5.5 EUT OPERATION CONDITIONS

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

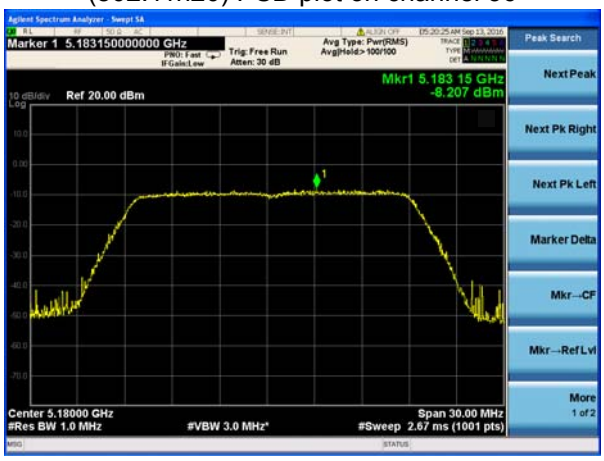
5.6 TEST RESULTS

EUT：	3D TOUCH PROJECTOR	Model Name ：	FSP6
Temperature：	25 ℃	Relative Humidity：	56%
Pressure：	1015 hPa	Test Voltage ：	DC 12V
Test Mode ：	TX Frequency Band I (5180-5240MHz)		

Mode	Frequency	Measured Power Density (dBm)	Limit (dBm)	Result
		ANT 1		
802.11 a	5180	-8.032	11	PASS
	5200	-8.044	11	PASS
	5240	-7.71	11	PASS
802.11 n20	5185	-8.207	9.35	PASS
	5200	-7.84	9.35	PASS
	5240	-7.163	9.35	PASS
802.11 n40	5190	-10.772	9.35	PASS
	5230	-10.401	9.35	PASS
802.11 AC20	5185	-8.51	9.35	PASS
	5200	-7.941	9.35	PASS
	5240	-7.791	9.35	PASS
802.11 AC40	5190	-10.768	9.35	PASS
	5230	-9.556	9.35	PASS

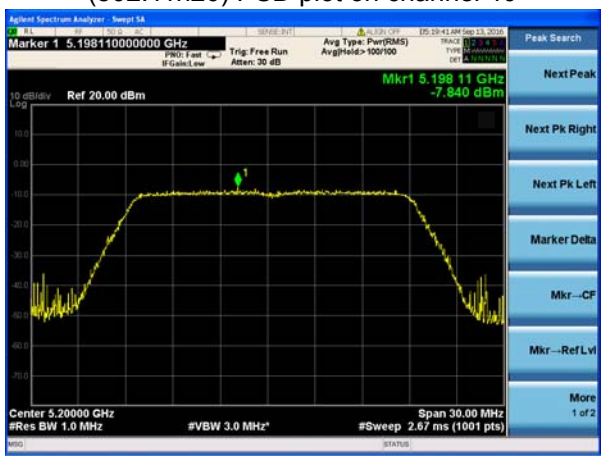
(802.11a) PSD plot on channel 36

(802.11n20) PSD plot on channel 36

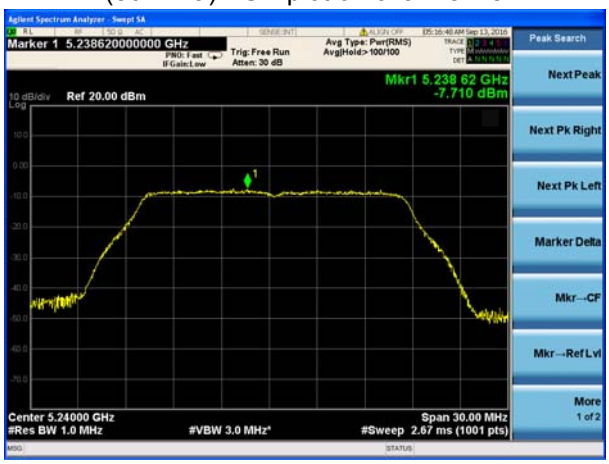


(802.11a) PSD plot on channel 40

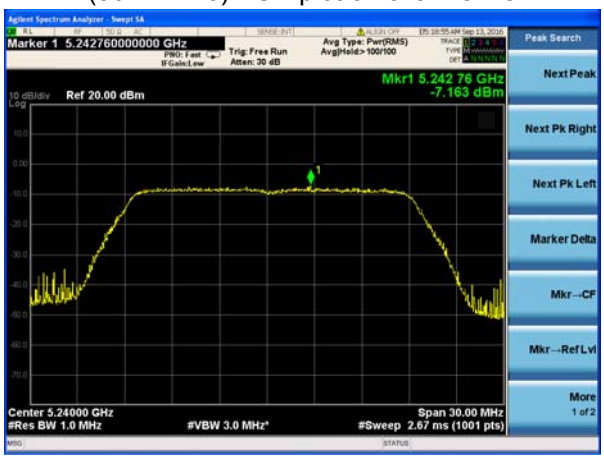
(802.11n20) PSD plot on channel 40



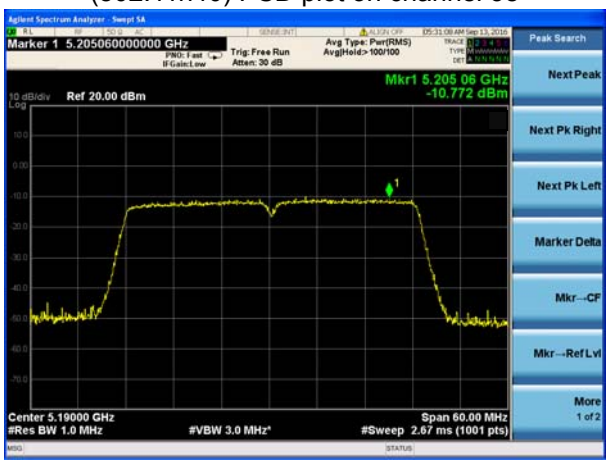
(802.11a) PSD plot on channel 48



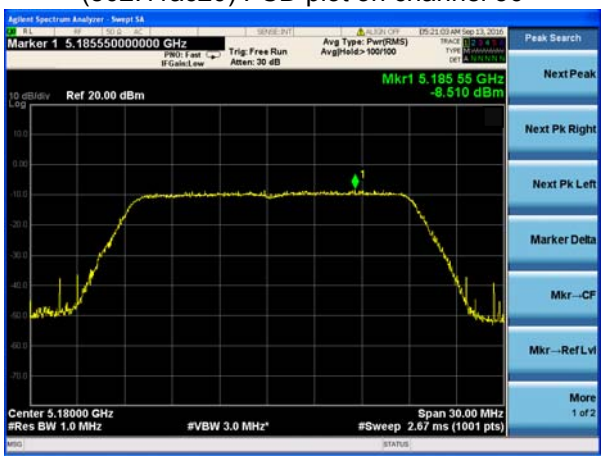
(802.11n20) PSD plot on channel 48



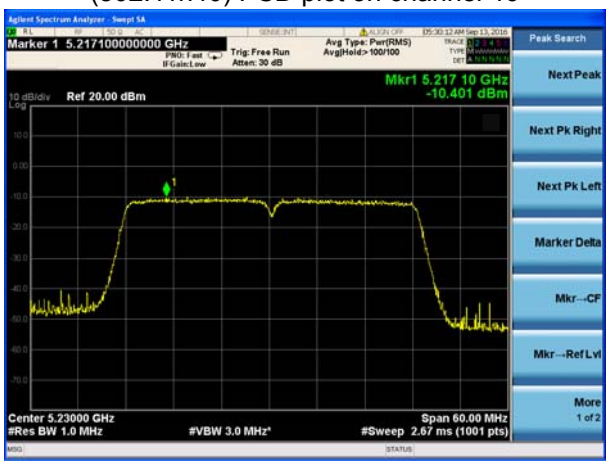
(802.11n40) PSD plot on channel 38



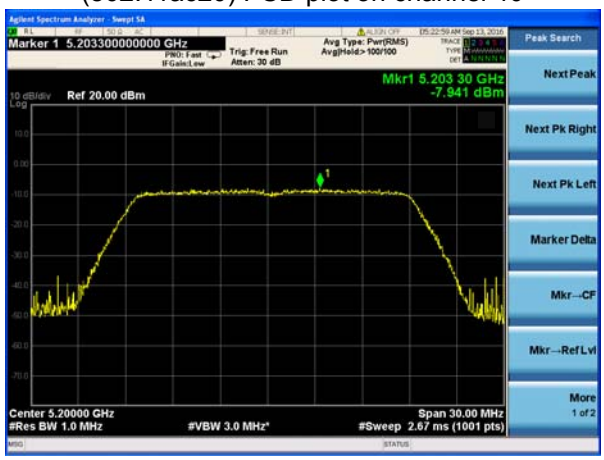
(802.11ac20) PSD plot on channel 36



(802.11n40) PSD plot on channel 46

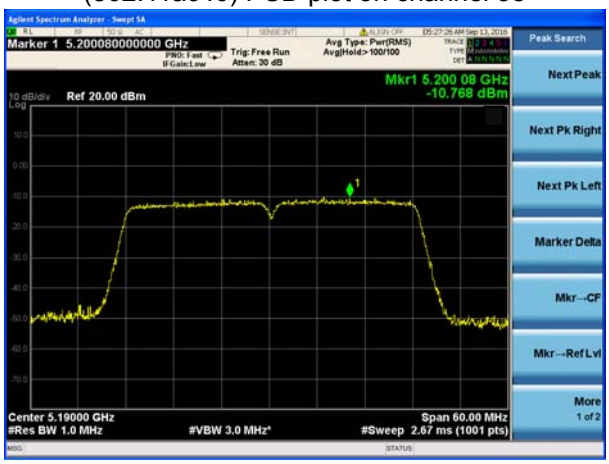


(802.11ac20) PSD plot on channel 40

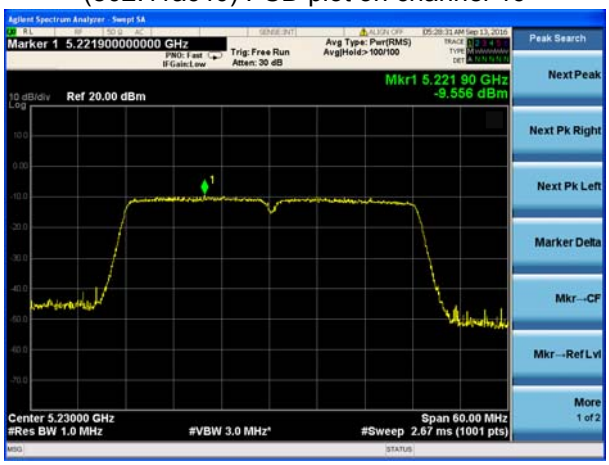


(802.11ac20) PSD plot on channel 48

(802.11ac40) PSD plot on channel 38



(802.11ac40) PSD plot on channel 46

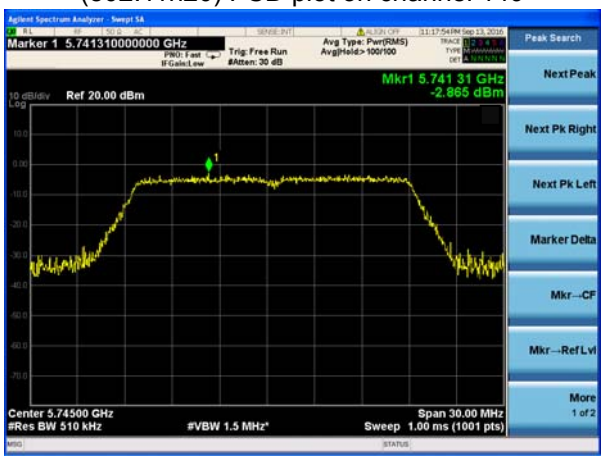


EUT：	3D TOUCH PROJECTOR	Model Name ：	FSP6
Temperature：	25 ℃	Relative Humidity：	56%
Pressure：	1015 hPa	Test Voltage ：	DC 12V
Test Mode ：	TX Frequency Band III (5745-5825MHz)		

Mode	Frequency	Measured Power Density (dBm)	Limit (dBm)	Result
		ANT		
802.11 a	5745 MHz	-3.185	30	PASS
	5785 MHz	-3.741	30	PASS
	5825 MHz	-4.128	30	PASS
802.11 n20	5745 MHz	-2.865	27.96	PASS
	5785 MHz	-2.983	27.96	PASS
	5825 MHz	-3.834	27.96	PASS
802.11 n40	5755 MHz	-6.311	27.96	PASS
	5795 MHz	-6.092	27.96	PASS
802.11 AC20	5745 MHz	-2.896	27.96	PASS
	5785 MHz	-3.891	27.96	PASS
	5825 MHz	-3.996	27.96	PASS
802.11 AC40	5755 MHz	-6.191	27.96	PASS
	5795 MHz	-6.36	27.96	PASS

(802.11a) PSD plot on channel 149

(802.11n20) PSD plot on channel 149

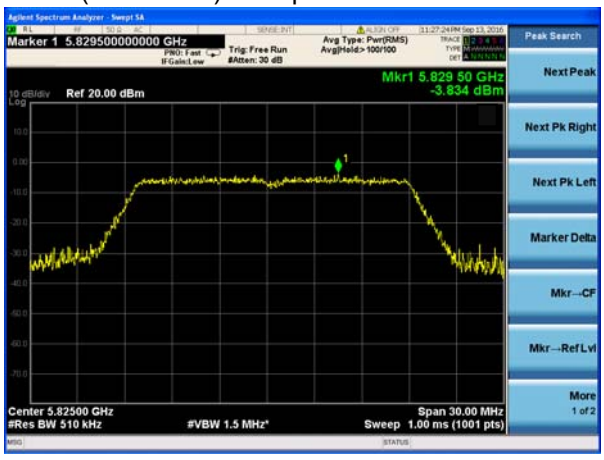


(802.11a) PSD plot on channel 157

(802.11n20) PSD plot on channel 157

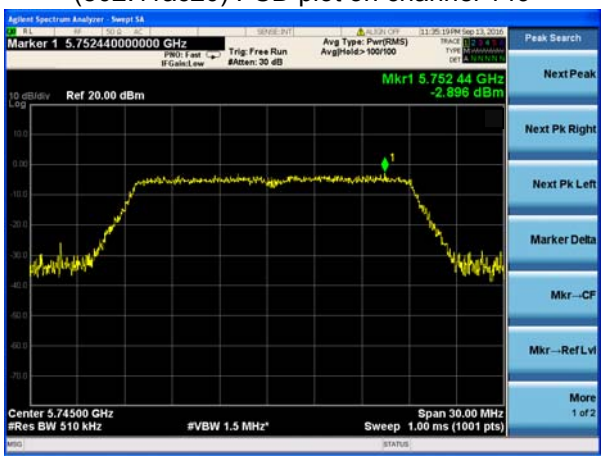
(802.11a) PSD plot on channel 165

(802.11n20) PSD plot on channel 165



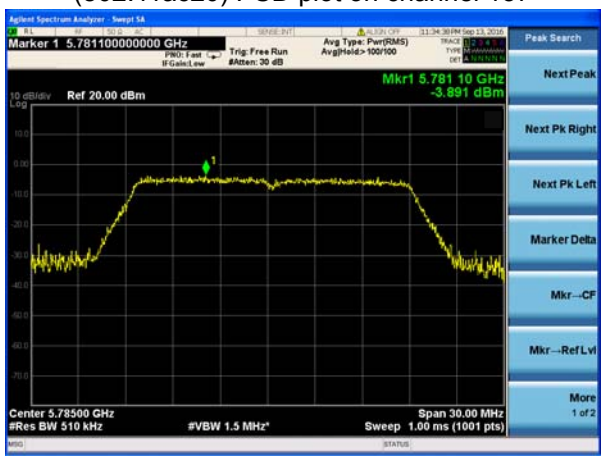
(802.11n40) PSD plot on channel 151

(802.11ac20) PSD plot on channel 149

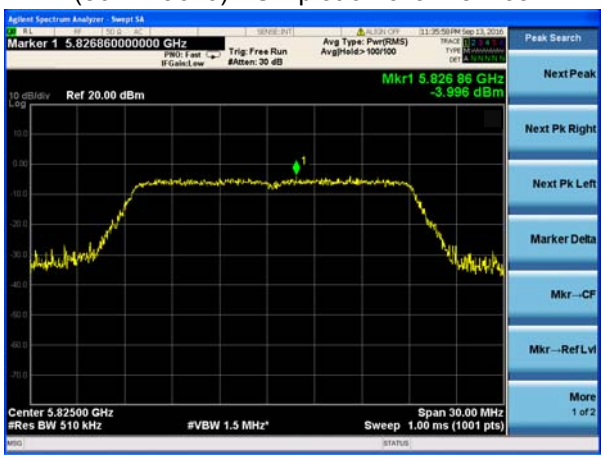


(802.11n40) PSD plot on channel 159

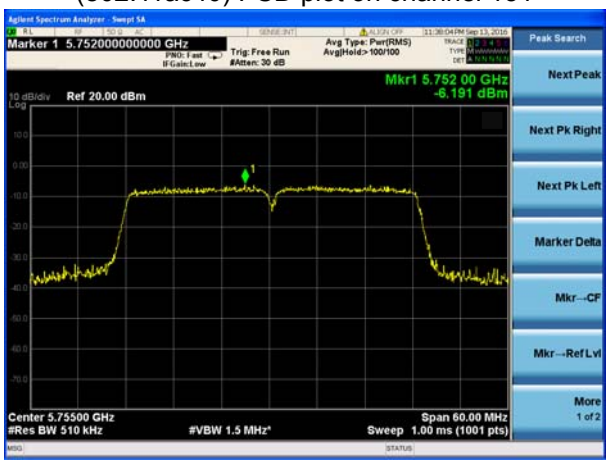
(802.11ac20) PSD plot on channel 157



(802.11ac20) PSD plot on channel 165



(802.11ac40) PSD plot on channel 151



(802.11ac40) PSD plot on channel 159

6. 26 DB & 99% EMISSION BANDWIDTH

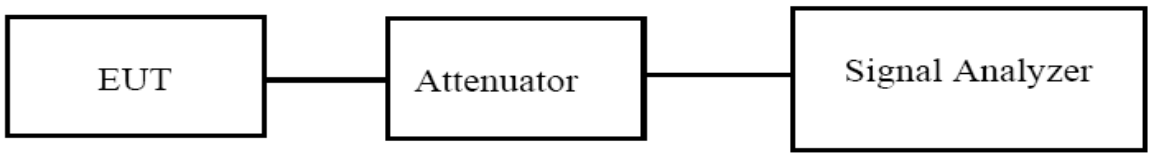
6.1 APPLIED PROCEDURES / LIMIT

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

6.2 TEST PROCEDURE

a) Set RBW = approximately 1% of the emission bandwidth.
b) Set the VBW > RBW.
c) Detector = Peak.
d) Trace mode = max hold.
e) Measure the maximum width of the emission that is 26 dB down from the maximum of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.
The following procedure shall be used for measuring (99 %) power bandwidth:

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



6.3 EUT OPERATION CONDITIONS

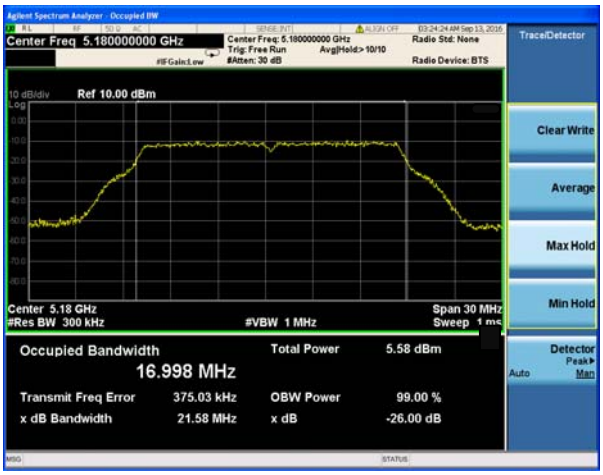
The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

6.4 TEST RESULTS

EUT：	3D TOUCH PROJECTOR	Model Name ：	FSP6
Temperature：	25 ℃	Relative Humidity：	56%
Pressure：	1012 hPa	Test Voltage ：	DC 12V
Test Mode ：	TX Frequency Band I (5180-5240MHz)		

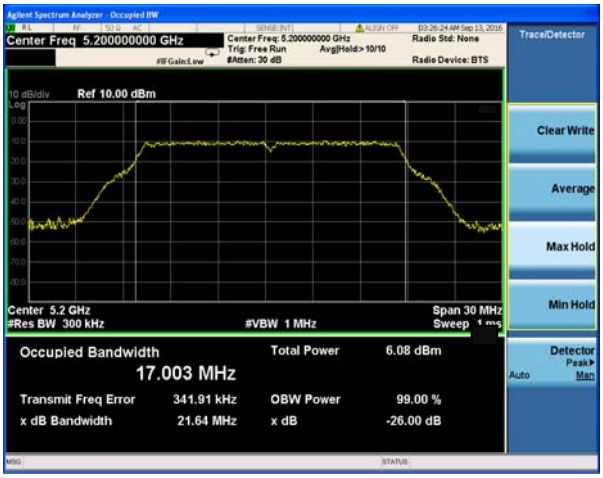
Mode	Channel	Frequency (MHz)	99% bandwidth(MHz)	26dB bandwidth (MHz)	Result
			ANT	ANT	
802.11a	CH36	5180	16.998	21.58	Pass
	CH40	5200	17.003	21.64	Pass
	CH48	5240	17.048	21.57	Pass
802.11 n20	CH36	5180	18.074	21.77	Pass
	CH40	5200	18.102	22.00	Pass
	CH48	5240	18.135	21.81	Pass
802.11 n40	CH 38	5190	36.206	39.52	Pass
	CH 46	5230	36.251	39.99	Pass
802.11 AC20	CH36	5180	18.158	21.96	Pass
	CH40	5200	18.155	21.87	Pass
	CH48	5240	18.157	21.84	Pass
802.11 AC40	CH 38	5190	36.185	39.46	Pass
	CH 46	5230	36.242	39.81	Pass

(802.11a) -26dB&99% Bandwidth plot on channel 36

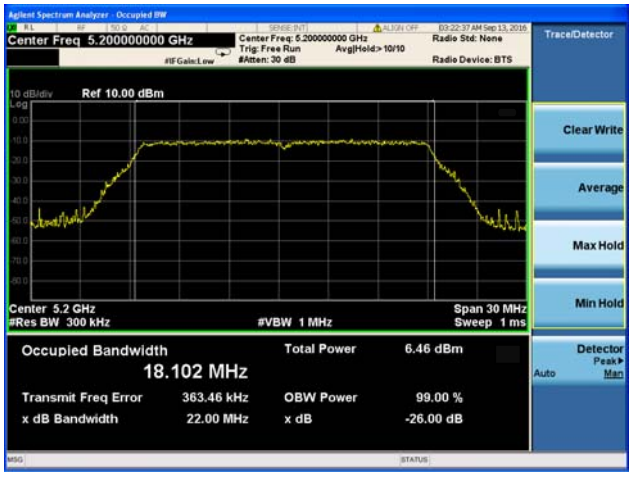


(802.11n20) -26dB&99% Bandwidth plot on channel 36

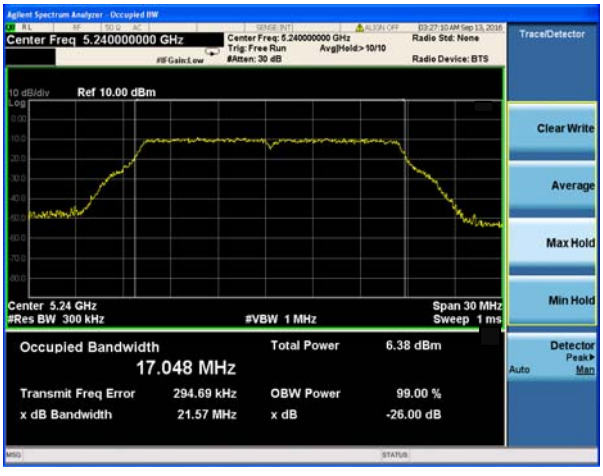
(802.11a) -26dB&99% Bandwidth plot on channel 40



(802.11n20) -26dB&99% Bandwidth plot on channel 40

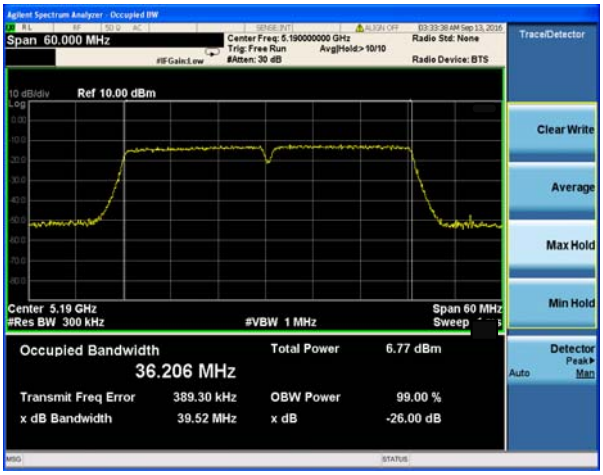


(802.11a) -26dB&99% Bandwidth plot on channel 48



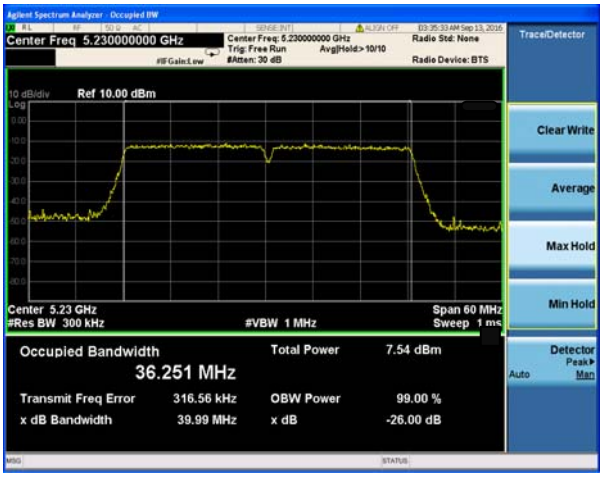
(802.11n20) -26dB&99% Bandwidth plot on channel 48

(802.11n40) -26dB&99% Bandwidth plot on channel 38

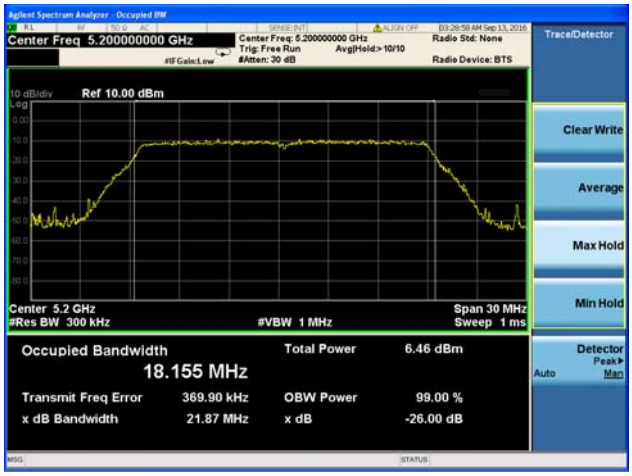


(802.11ac20) -26dB&99% Bandwidth plot on channel 36

(802.11n40) -26dB&99% Bandwidth plot on channel 46



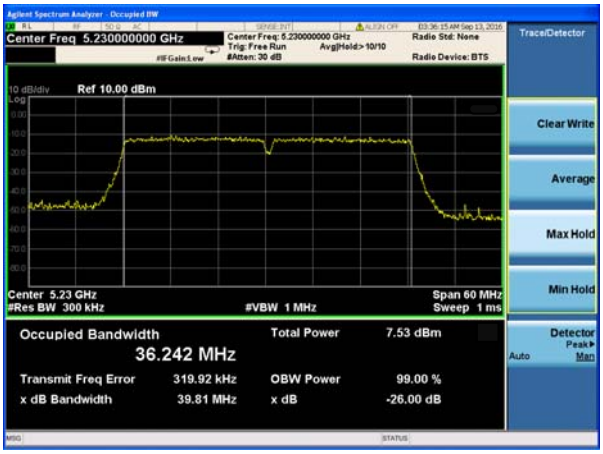
(802.11ac20) -26dB&99% Bandwidth plot on channel 40



(802.11ac20) -26dB&99% Bandwidth plot on channel 48

(802.11ac40) -26dB&99% Bandwidth plot on channel 38

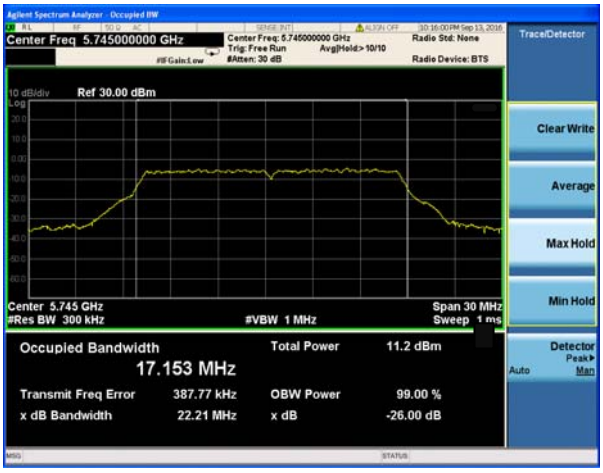
(802.11ac40) -26dB&99% Bandwidth plot on channel 46



EUT：	3D TOUCH PROJECTOR	Model Name ：	FSP6
Temperature：	25 ℃	Relative Humidity：	56%
Pressure：	1012 hPa	Test Voltage ：	DC 12V
Test Mode ：	TX Frequency Band III (5745-5850MHz)		

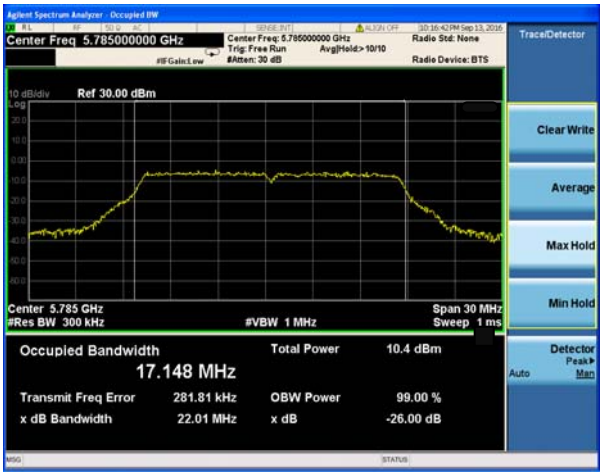
Mode	Channel	Frequency (MHz)	99% bandwidth(MHz)	26dB bandwidth (MHz)	Result
			ANT	ANT	
802.11a	CH149	5745	17.135	22.21	Pass
	CH157	5785	17.148	22.01	Pass
	CH165	5825	17.122	22.31	Pass
802.11 n20	CH149	5745	18.215	26.09	Pass
	CH157	5785	18.308	26.21	Pass
	CH165	5825	18.331	26.81	Pass
802.11 n40	CH 151	5755	36.986	58.24	Pass
	CH 159	5795	36.949	57.43	Pass
802.11 AC20	CH149	5745	18.230	23.92	Pass
	CH157	5785	18.173	25.06	Pass
	CH165	5825	18.262	27.97	Pass
802.11 AC40	CH 151	5755	36.867	52.39	Pass
	CH 159	5795	36.852	58.26	Pass

(802.11a) -26dB&99% Bandwidth plot on channel 149

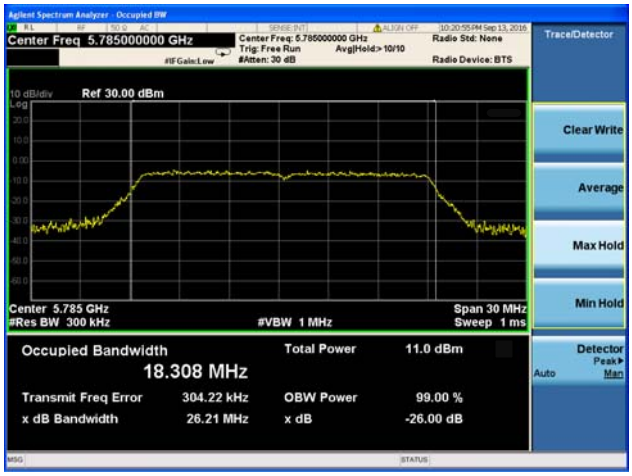


(802.11n20) -26dB&99% Bandwidth plot on channel 149

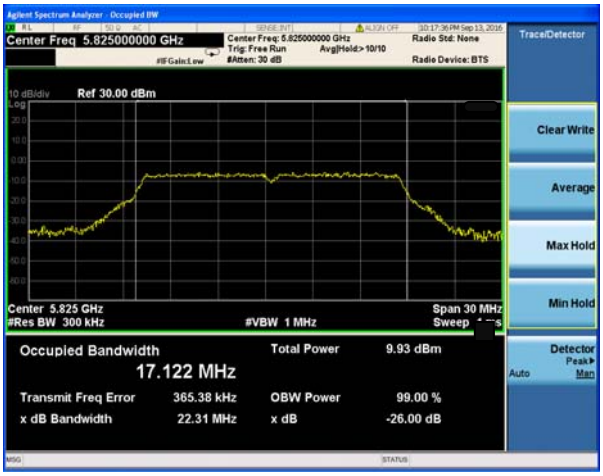
(802.11a) -26dB&99% Bandwidth plot on channel 157



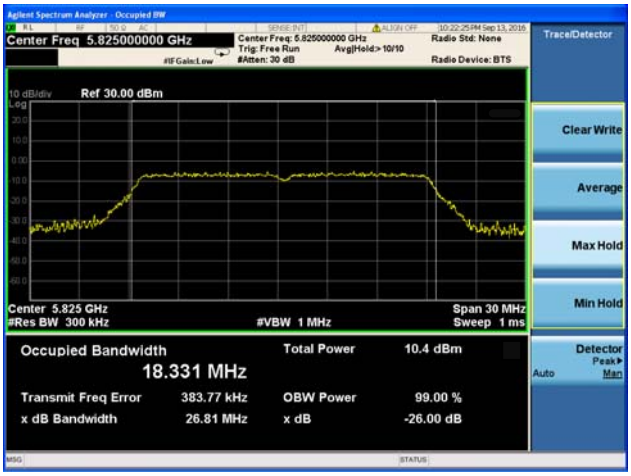
(802.11n20) -26dB&99% Bandwidth plot on channel 157



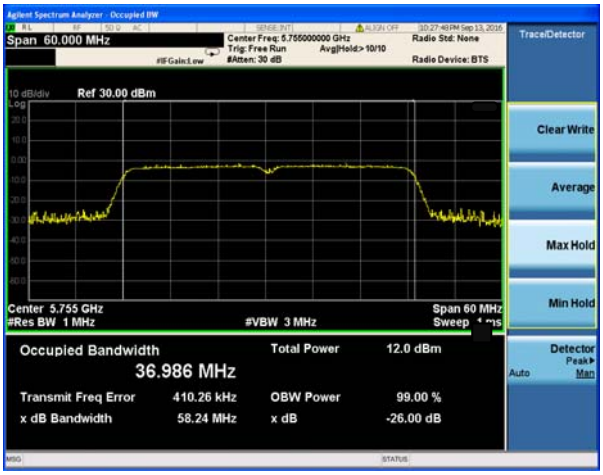
(802.11a) -26dB&99% Bandwidth plot on channel 165



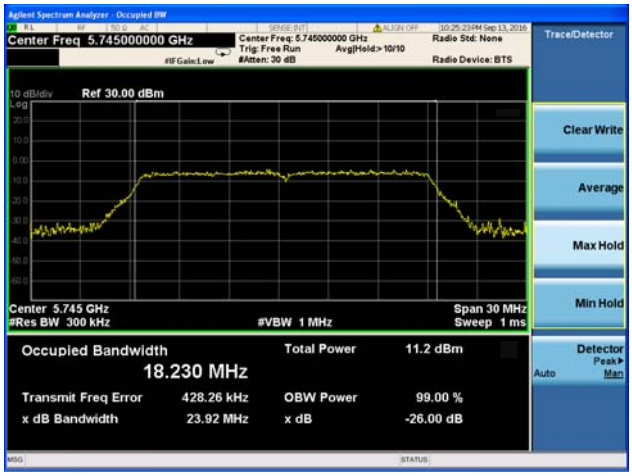
(802.11n20) -26dB&99% Bandwidth plot on channel 165



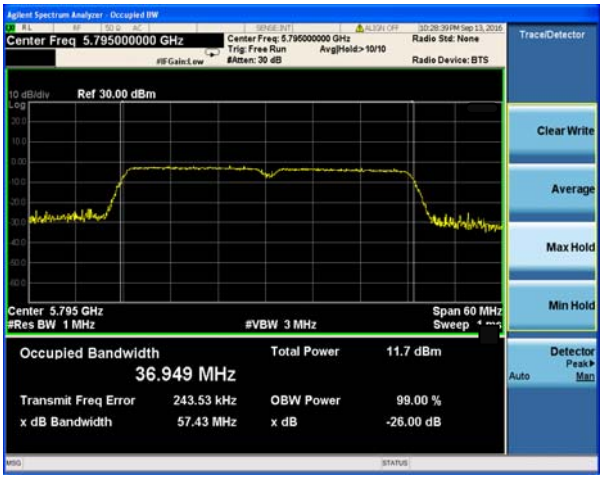
(802.11n40) -26dB&99% Bandwidth plot on channel 151



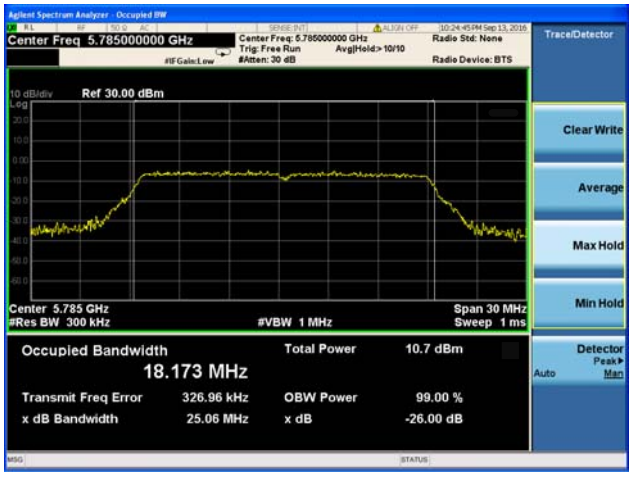
(802.11ac20) -26dB&99% Bandwidth plot on channel 149



(802.11n40) -26dB&99% Bandwidth plot on channel 159



(802.11ac20) -26dB&99% Bandwidth plot on channel 157



(802.11ac20) -26dB&99% Bandwidth plot on channel 165

(802.11ac40) -26dB&99% Bandwidth plot on channel 151

(802.11ac40) -26dB&99% Bandwidth plot on channel 159

7. MINIMUM 6 DB BANDWIDTH

7.1 APPLIED PROCEDURES / LIMIT

According to FCC §15.407(e)
(e) Within the 5.18-5.24 GHz band and 5.725-5.85 GHz band, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.

7.2 TEST PROCEDURE

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

a) Set RBW = 100 kHz.

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

c) Detector = Peak.

d) Trace mode = max hold.

e) Sweep = auto couple.

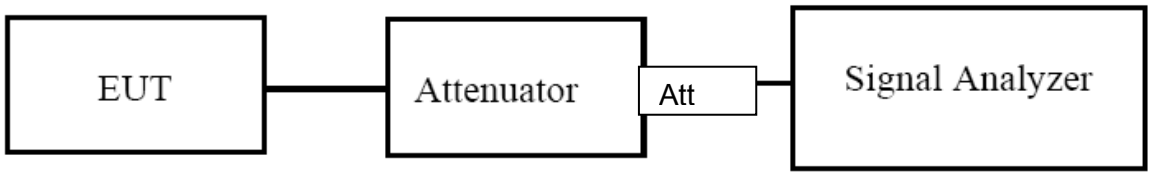
f) Allow the trace to stabilize.

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

7.3 DEVIATION FROM STANDARD

No deviation.

7.4 TEST SETUP



7.5 EUT OPERATION CONDITIONS

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

7.6 TEST RESULTS

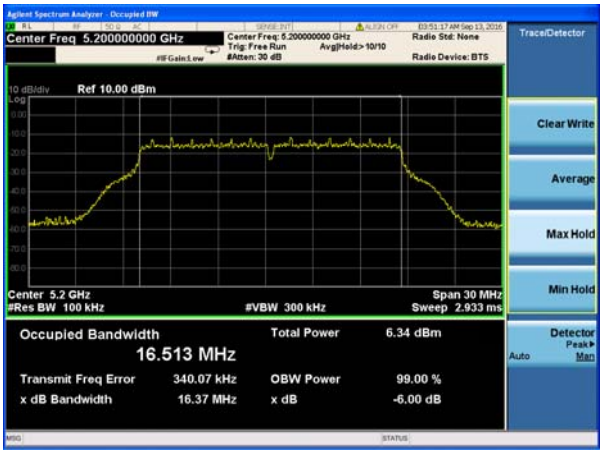
EUT：	3D TOUCH PROJECTOR	Model Name ：	FSP6
Temperature：	25 ℃	Relative Humidity：	60%
Pressure：	1012 hPa	Test Voltage ：	DC 12V
Test Mode ：	TX (5G) Mode Frequency Band I (5180-5140MHz)		

Mode	Channel	Frequency (MHz)	-6dB bandwidth (MHz)	Limit (KHz)	Result
			ANT		
802.11a	CH36	5180	16.37	500	Pass
	CH40	5200	16.37	500	Pass
	CH48	5240	16.40	500	Pass
802.11 n20	CH36	5180	17.61	500	Pass
	CH40	5200	17.59	500	Pass
	CH48	5240	17.64	500	Pass
802.11 n40	CH 38	5190	36.12	500	Pass
	CH 46	5230	36.38	500	Pass
802.11 AC20	CH36	5180	17.61	500	Pass
	CH40	5200	17.62	500	Pass
	CH48	5240	17.64	500	Pass
802.11 AC40	CH 38	5190	36.08	500	Pass
	CH 46	5230	36.37	500	Pass

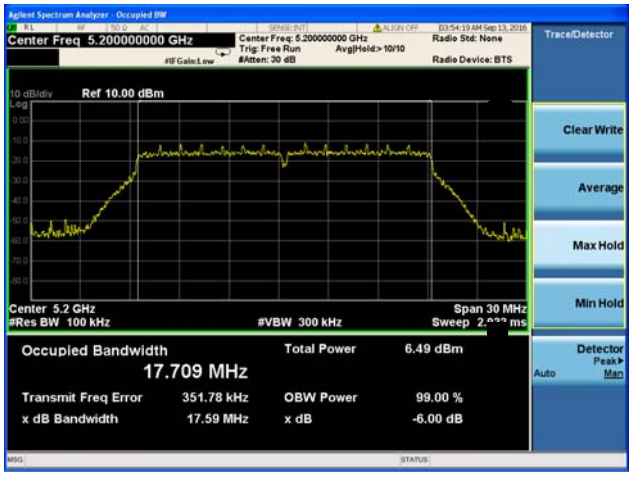
(802.11a) -6dB Bandwidth plot on channel 36

(802.11n20) -6dB Bandwidth plot on channel 36

(802.11a) -6dB Bandwidth plot on channel 40



(802.11n20) -6dB Bandwidth plot on channel 40



(802.11a) -6dB Bandwidth plot on channel 48

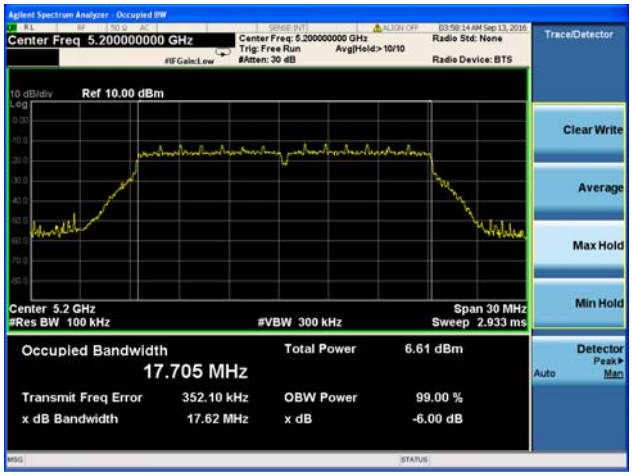
(802.11n20) -6dB Bandwidth plot on channel 48

(802.11n40) -6dB Bandwidth plot on channel 38

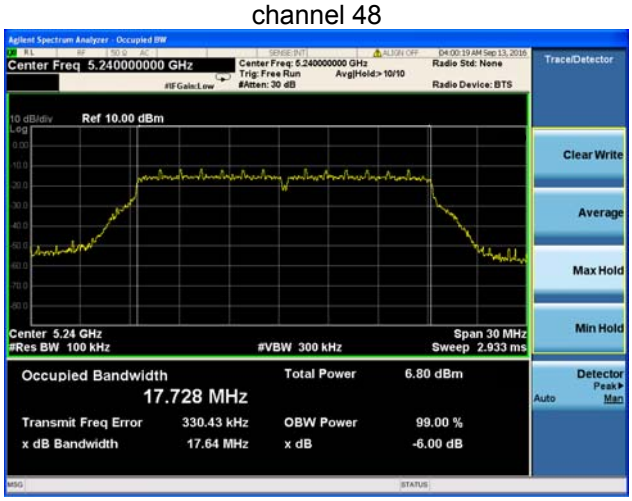
(802.11ac20) -6dB Bandwidth plot on channel 36

(802.11n40) -6dB Bandwidth plot on channel 46

(802.11ac20) -6dB Bandwidth plot on channel 40

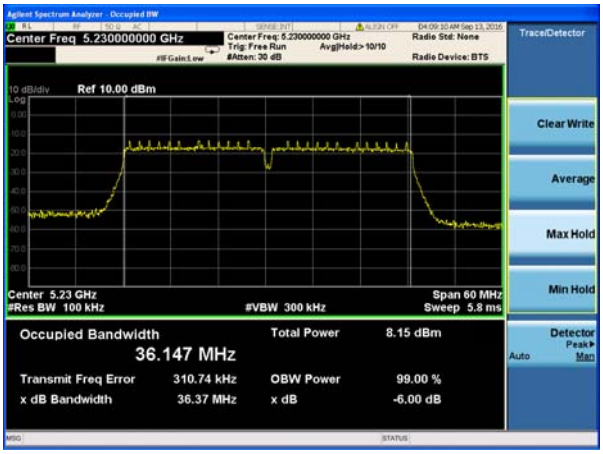


(802.11ac20) -6dB Bandwidth plot on channel 48



(802.11ac40) -6dB Bandwidth plot on channel 38

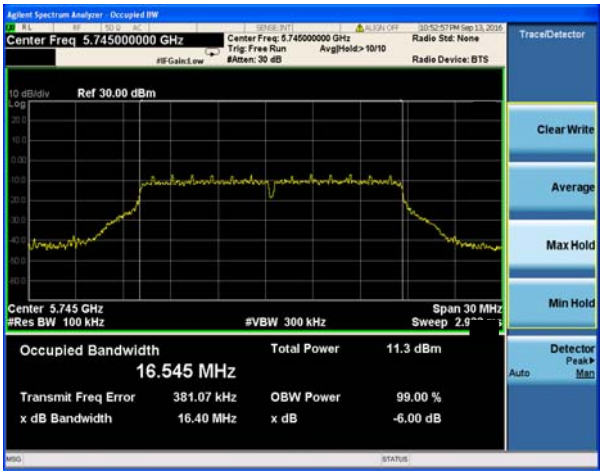
(802.11ac40) -6dB Bandwidth plot on channel 46



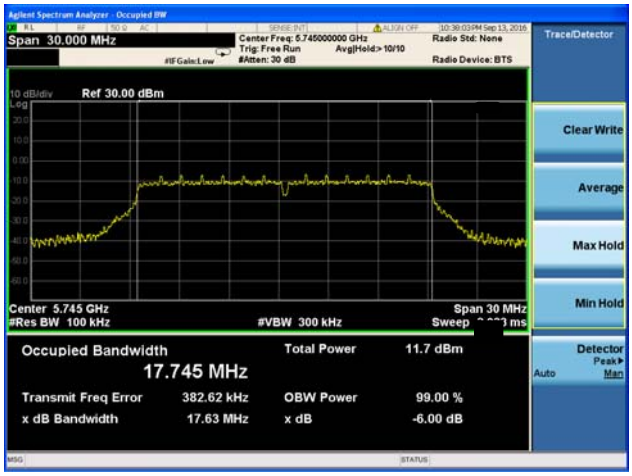
EUT：	3D TOUCH PROJECTOR	Model Name ：	FSP6
Temperature：	25 ℃	Relative Humidity：	60%
Pressure：	1012 hPa	Test Voltage ：	DC 12V
Test Mode ：	TX (5G) Mode Frequency Band III (5745-5825MHz)		

Mode	Channel	Frequency (MHz)	-6dB bandwidth (MHz)	Limit (KHz)	Result
			ANT		
802.11a	149	5745	16.40	500	Pass
	157	5785	16.38	500	Pass
	165	5825	16.39	500	Pass
802.11 n20	149	5745	17.63	500	Pass
	157	5785	17.62	500	Pass
	165	5825	17.63	500	Pass
802.11 n40	151	5755	36.36	500	Pass
	159	5795	36.04	500	Pass
802.11 AC20	149	5745	17.62	500	Pass
	157	5785	17.60	500	Pass
	165	5825	17.63	500	Pass
802.11 AC40	149	5745	36.37	500	Pass
	157	5785	36.10	500	Pass

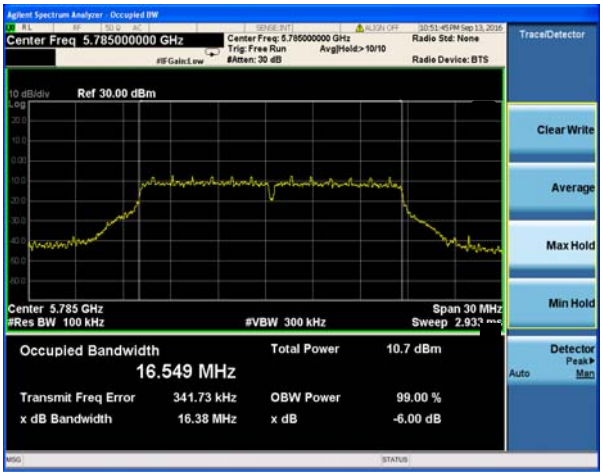
(802.11a) -6dB Bandwidth plot on channel 149



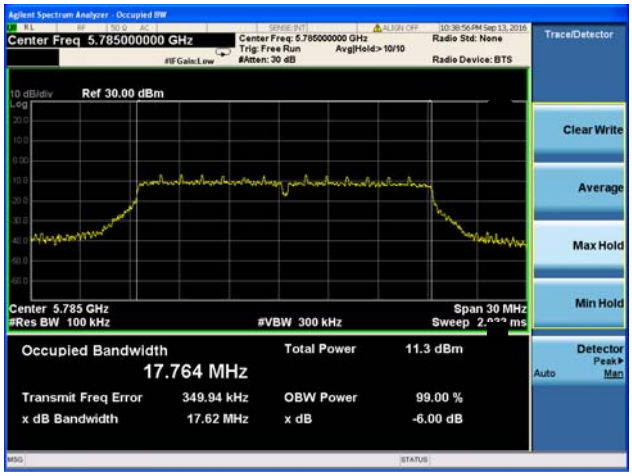
(802.11n20) -6dB Bandwidth plot on channel 149



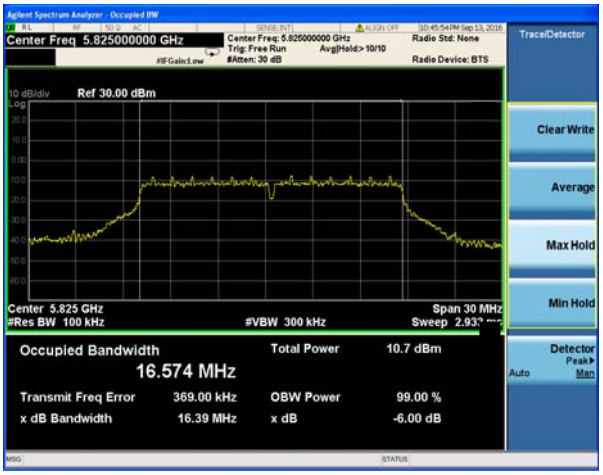
(802.11a) -6dB Bandwidth plot on channel 157



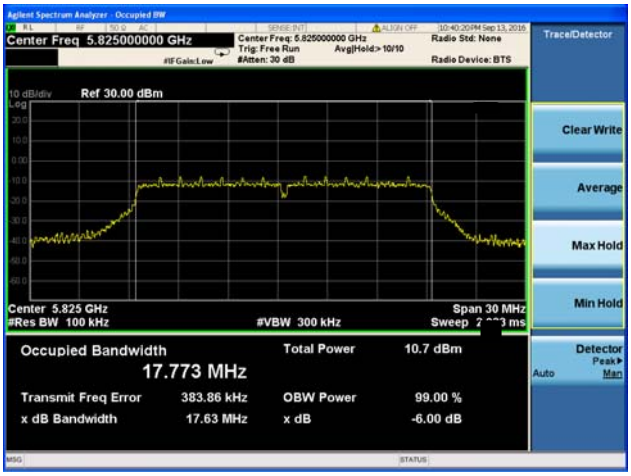
(802.11n20) -6dB Bandwidth plot on channel 157



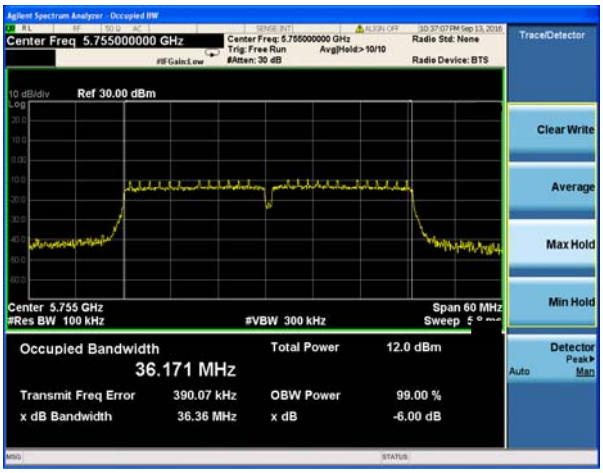
(802.11a) -6dB Bandwidth plot on channel 165



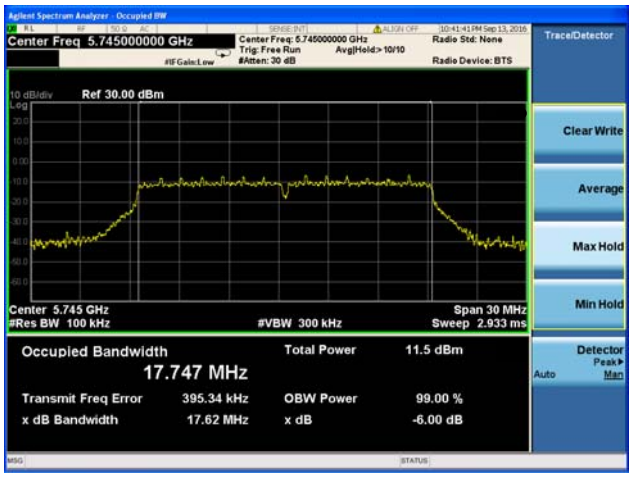
(802.11n20) -6dB Bandwidth plot on channel 165



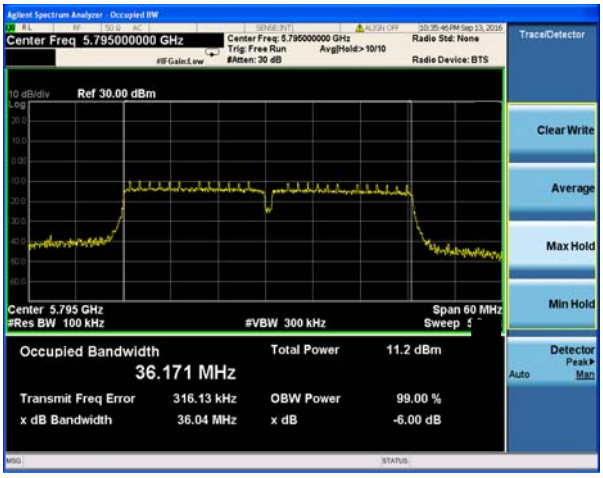
(802.11n40) -6dB Bandwidth plot on channel 151



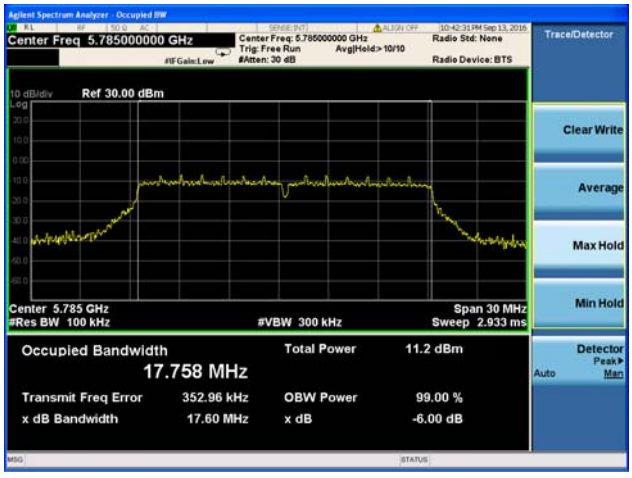
(802.11ac20) -6dB Bandwidth plot on channel 149



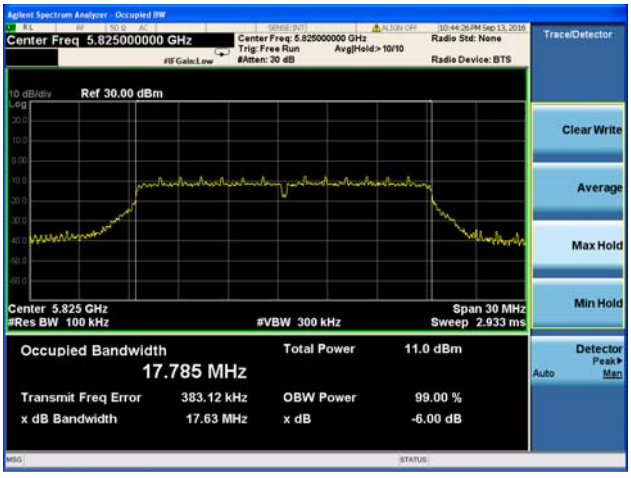
(802.11n40) -6dB Bandwidth plot on channel 159



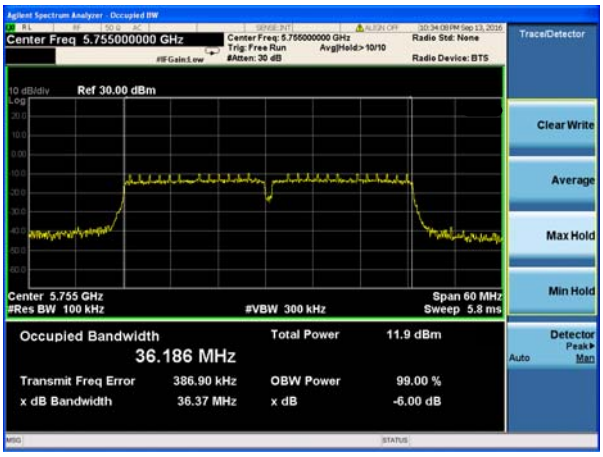
(802.11ac20) -6dB Bandwidth plot on channel 157



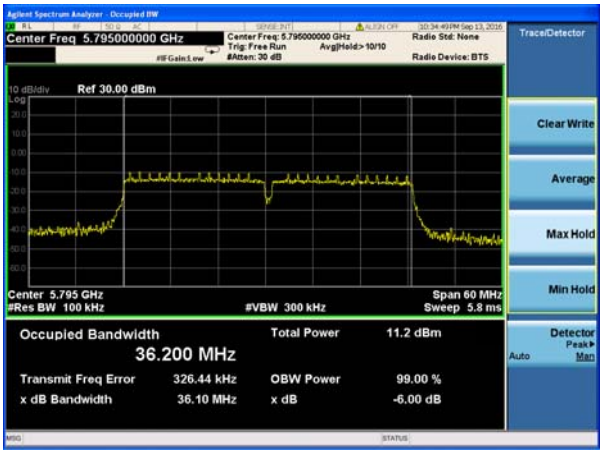
(802.11ac20) -6dB Bandwidth plot on channel 165



(802.11ac40) -6dB Bandwidth plot on channel 151



(802.11ac40) -6dB Bandwidth plot on channel 159



8. MAXIMUM CONDUCTED OUTPUT POWER

8.1 PPLIED PROCEDURES / LIMIT

According to FCC §15.407

The maximum conduced output power should not exceed:

Frequency Band		Limit
5.18~5.24 GHz		
operating Mode		
	outdoor access point	maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).
	indoor access point	maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
	fixed point-to-point access points	the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.
X	client devices	maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
5.725-5.85 GHz		
X	client devices	maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

8.2 TEST PROCEDURE

1.The transmitter output (antenna port) was connected to the power meter.

2. Test was performed in accordance with KDB789033 D02 v01r02 for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices - section (E) Maximum conducted output power =>3. Measurement using a Power Meter (PM) =>b) Method PM-G (Measurement using a gated RF average power meter).

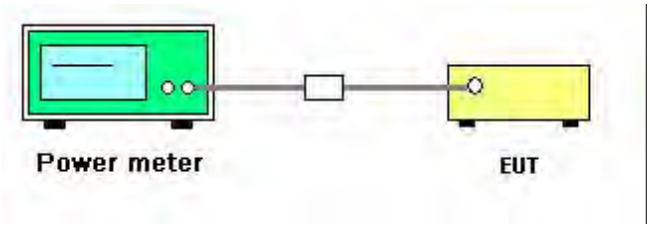
3. Multiple antenna systems was performed in accordance with KDB662911 D01 v02r01 Emissions Testing of Transmitters with Multiple Outputs in the Same Band.

4. When measuring maximum conducted output power with multiple antenna systems,add every result of the values by mathematic formula.

8.3 DEVIATION FROM STANDARD

No deviation.

8.4 TEST SETUP



8.5 EUT OPERATION DURING TEST

The EUT was programmed to be in continuously transmitting mode.

8.6 TEST RESULTS

EUT：	3D TOUCH PROJECTOR	Model Name ：	FSP6
Temperature：	25 ℃	Relative Humidity：	60%
Pressure：	1012 hPa	Test Voltage ：	DC 12V
Test Mode ：	TX (5G) Mode Frequency Band I (5180-5240MHz)		

Test Channel	Frequency	Maximum (AV) (dBm)	LIMIT	Result
	(MHz)	ANT	dBm	
TX 802.11a Mode				
CH36	5180	8.52	23.97	Pass
CH40	5200	8.86	23.97	Pass
CH48	5240	8.97	23.97	Pass
TX 802.11 n20M Mode				
CH36	5180	8.640	22.35	Pass
CH40	5200	8.960	22.35	Pass
CH48	5240	9.120	22.35	Pass
TX 802.11 n40M Mode				
CH38	5190	8.240	22.35	Pass
CH46	5230	8.750	22.35	Pass
TX 802.11 AC20M Mode				
CH36	5180	8.390	22.35	Pass
CH40	5200	8.860	22.35	Pass
CH48	5240	8.980	22.35	Pass
TX 802.11 AC40M Mode				
CH38	5190	8.440	22.35	Pass
CH46	5230	8.780	22.35	Pass

EUT：	3D TOUCH PROJECTOR	Model Name ：	FSP6
Temperature：	25 ℃	Relative Humidity：	60%
Pressure：	1012 hPa	Test Voltage ：	DC 12V
Test Mode ：	TX (5G) Mode Frequency Band III (5745-5825MHz)		

Test Channel	Frequency	Maximum (AV) (dBm)	LIMIT
	(MHz)	ANT 1	dBm
TX 802.11a Mode			
CH 149	5745	8.12	30
CH 157	5785	8.36	30
CH 165	5825	8.43	30
TX 802.11 n20M Mode			
CH 149	5745	8.23	27.96
CH 157	5785	8.55	27.96
CH 165	5825	8.64	27.96
TX 802.11 n40M Mode			
CH 151	5755	8.66	27.96
CH 159	5795	8.74	27.96
TX 802.11 AC20M Mode			
CH 149	5745	8.23	27.96
CH 157	5785	8.55	27.96
CH 165	5825	8.64	27.96
TX 802.11 AC40M Mode			
CH 151	5755	8.45	27.96
CH 159	5795	8.52	27.96

9. OUT OF BAND EMISSIONS

9.1 APPLICABLE STANDARD

According to FCC §15.407(b)

Undesirable emission limits. Except as shown in paragraph (b)(7) of this section, the maximum emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

(1) For transmitters operating in the 5.18-5.24 GHz band: All emissions outside of the 5.18-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

(2) For transmitters operating in the 5.745-5.825 GHz band: All emissions shall be limited to a level of −27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

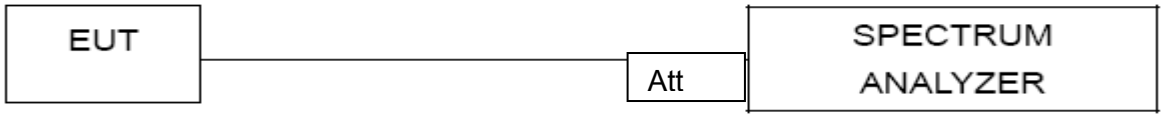
9.2 TEST PROCEDURE

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

9.3 DEVIATION FROM STANDARD

No deviation.

9.4 TEST SETUP



9.5 EUT OPERATION CONDITIONS

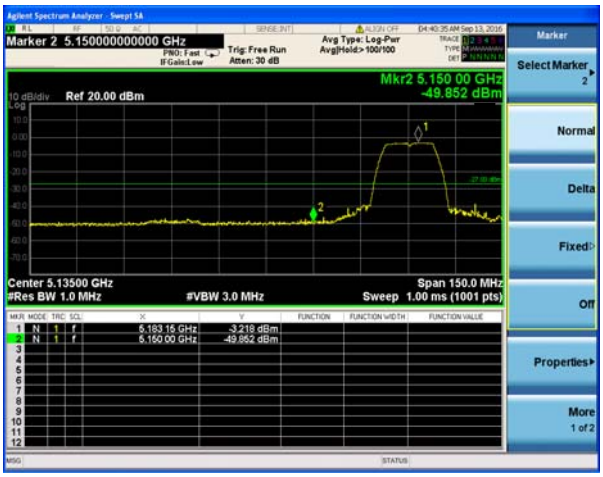
The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

9.6TEST RESULTS

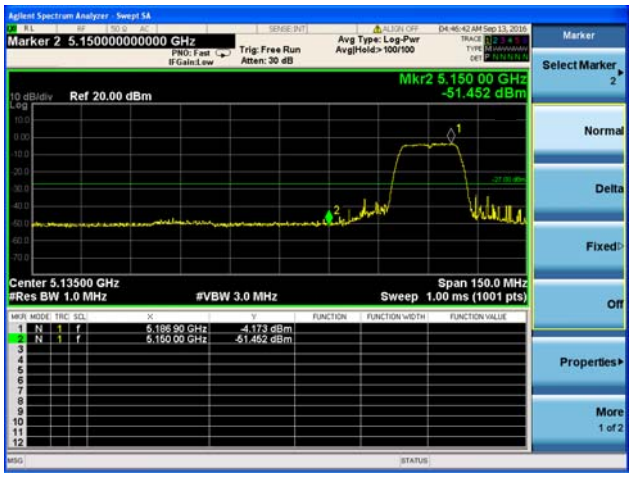
EUT：	3D TOUCH PROJECTOR	Model Name ：	FSP6
Temperature：	25 ℃	Relative Humidity：	56%
Pressure：	1012 hPa	Test Voltage ：	DC 12V

5.18~5.24 GHz

(802.11a) Band Edge, Left Side

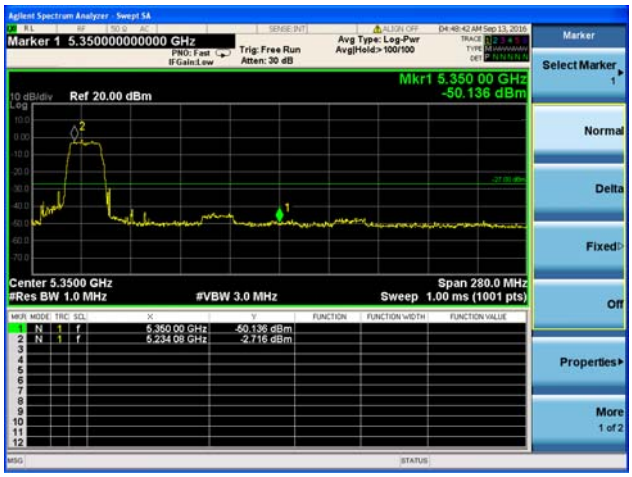


(802.11n20) Band Edge, Left Side



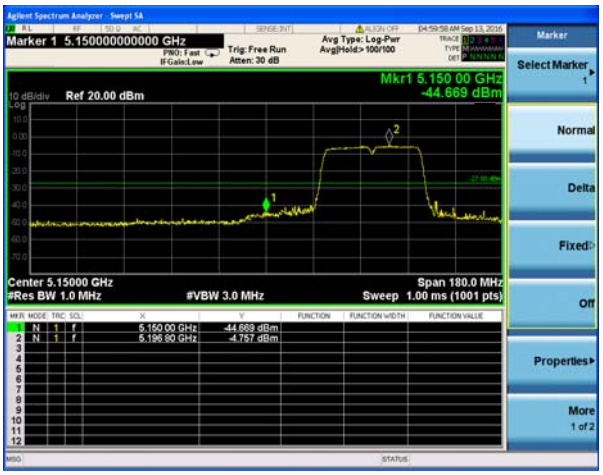
(802.11a) Band Edge, Right Side

(802.11n20) Band Edge, Right Side

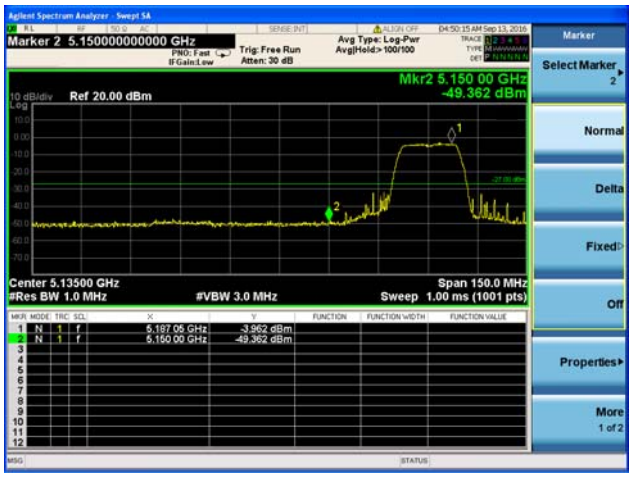


5.18~5.24 GHz

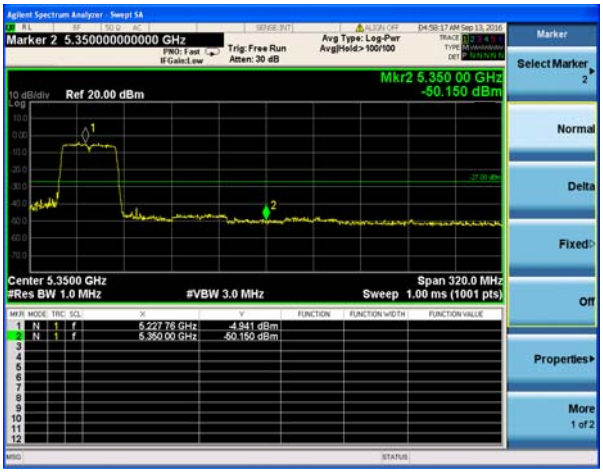
(802.11n40) Band Edge, Left Side



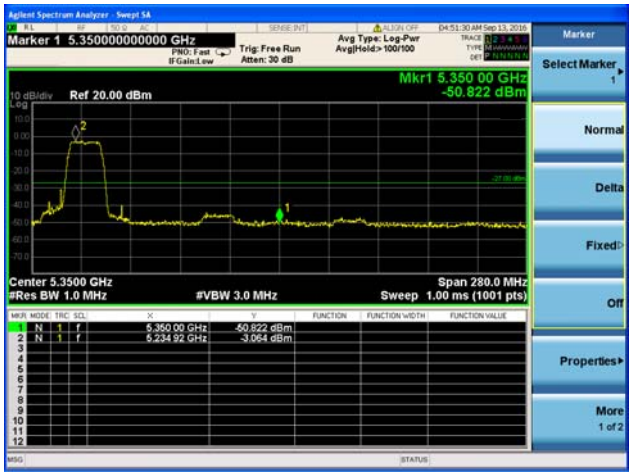
(802.11ac20) Band Edge, Left Side



(802.11n40) Band Edge, Right Side

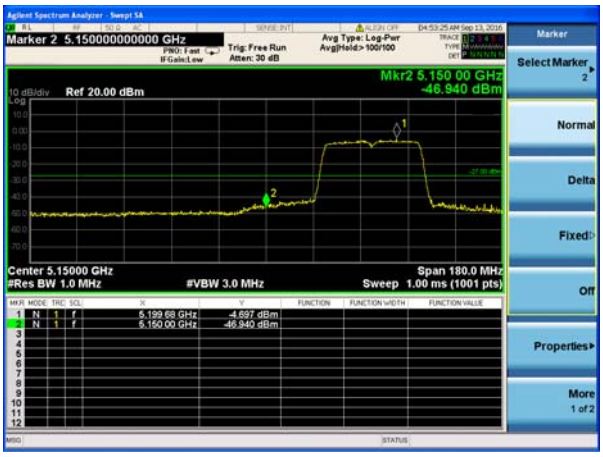


(802.11ac20) Band Edge, Right Side

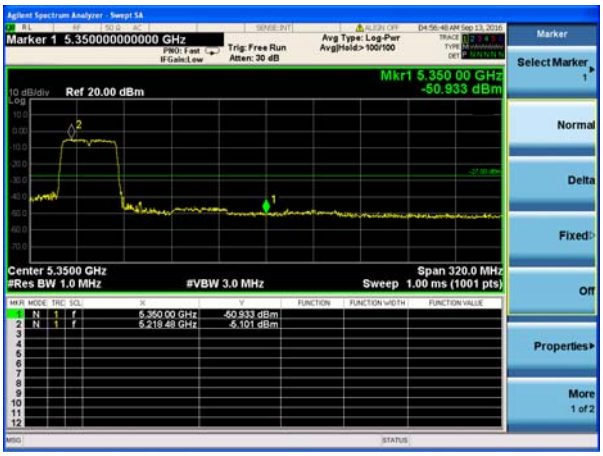


5.18~5.24 GHz

(802.11ac40) Band Edge, Left Side



(802.11ac40) Band Edge, Right Side



5.745~5.825 GHz

(802.11a) Band Edge, Left Side

(802.11n20) Band Edge, Left Side

(802.11a) Band Edge, Right Side

(802.11n20) Band Edge, Right Side

5.745-5.825 GHz

(802.11n40) Band Edge, Left Side

(802.11ac20) Band Edge, Left Side

(802.11n40) Band Edge, Right Side

(802.11ac20) Band Edge, Right Side

5.745-5.825 GHz

(802.11ac40) Band Edge, Left Side

(802.11ac40) Band Edge, Right Side

10. Frequency Stability Measurement

10.1 LIMIT

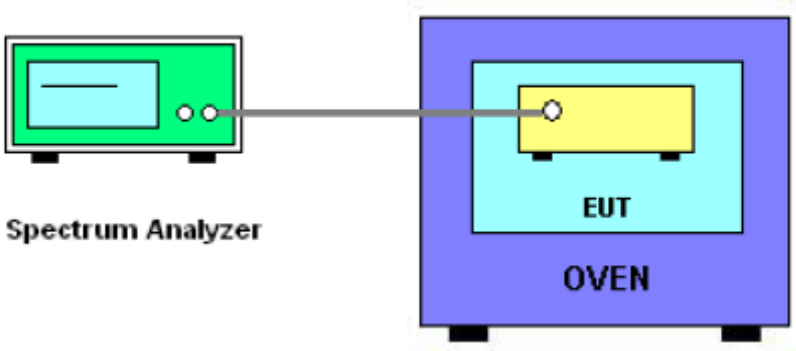
Manufactures of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

The transmitter center frequency tolerance shall be ± 20 ppm maximum for the 5 GHz band (IEEE 802.11n specification).

10.2 TEST PROCEDURES

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

10.3 TEST SETUP LAYOUT



10.4 EUT OPERATION DURING TEST

The EUT was programmed to be in continuously un-modulation transmitting mode.

10.5 TEST RESULTS

EUT：	3D TOUCH PROJECTOR	Model Name ：	FSP6
Temperature：	25 ℃	Relative Humidity：	56%
Pressure：	1015 hPa	Test Voltage ：	DC 12V
Test Mode ：	TX Frequency Band I (5180-5240MHz)		

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5180MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	12.00	5180.01165	5180	0.01165	-2.2490
		V max (V)	13.80	5180.00981	5180	0.00981	-1.8938
		V min (V)	10.20	5180.01171	5180	0.01171	-2.2606
Limits				± 20 ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5180MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	5	T (°C)	-20	5180.00268	5180	0.00268	-0.5174
		T (°C)	-10	5180.00165	5180	0.00165	-0.3185
		T (°C)	0	5180.01682	5180	0.01682	-3.2471
		T (°C)	10	5180.01195	5180	0.01195	-2.3069
		T (°C)	20	5180.01172	5180	0.01172	-2.2625
		T (°C)	30	5180.01271	5180	0.01271	-2.4537
		T (°C)	40	5180.01216	5180	0.01216	-2.3475
		T (°C)	50	5180.01224	5180	0.01224	-2.3629
		T (°C)	60	5180.01319	5180	0.01319	-2.5463
		T (°C)	70	5180.01481	5180	0.01481	-2.8591
Limits				± 20 ppm			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5200MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	12.00	5200.02264	5200	0.02264	-4.3538
		V max (V)	13.80	5200.02165	5200	0.02165	-4.1635
		V min (V)	10.20	5200.02259	5200	0.02259	-4.3442
Limits				± 20 ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5200MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	5	T (°C)	-20	5200.00218	5200	0.00218	-0.4192
		T (°C)	-10	5200.00619	5200	0.00619	-1.1904
		T (°C)	0	5200.01658	5200	0.01658	-3.1885
		T (°C)	10	5200.01195	5200	0.01195	-2.2981
		T (°C)	20	5200.01752	5200	0.01752	-3.3692
		T (°C)	30	5200.02116	5200	0.02116	-4.0692
		T (°C)	40	5200.02058	5200	0.02058	-3.9577
		T (°C)	50	5200.02568	5200	0.02568	-4.9385
		T (°C)	60	5200.02273	5200	0.02273	-4.3712
		T (°C)	70	5200.02259	5200	0.02259	-4.3442
Limits				± 20 ppm			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5240MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	12.00	5240.00165	5240	0.00165	-0.3149
		V max (V)	13.80	5240.00118	5240	0.00118	-0.2252
		V min (V)	10.20	5240.00681	5240	0.00681	-1.2996
Limits				± 20 ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5240MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	5	T (°C)	-20	5240.01182	5240	0.01182	-2.2557
		T (°C)	-10	5240.00367	5240	0.00367	-0.7004
		T (°C)	0	5240.01182	5240	0.01182	-2.2557
		T (°C)	10	5240.01219	5240	0.01219	-2.3263
		T (°C)	20	5240.01167	5240	0.01167	-2.2271
		T (°C)	30	5240.01362	5240	0.01362	-2.5992
		T (°C)	40	5240.01229	5240	0.01229	-2.3454
		T (°C)	50	5240.01215	5240	0.01215	-2.3187
		T (°C)	60	5240.00336	5240	0.00336	-0.6412
		T (°C)	70	5240.01216	5240	0.01216	-2.3206
Limits				± 20 ppm			

EUT：	3D TOUCH PROJECTOR	Model Name ：	FSP6
Temperature：	25 ℃	Relative Humidity：	56%
Pressure：	1015 hPa	Test Voltage ：	DC 12V
Test Mode ：	TX Frequency Band III (5745-5825MHz)		

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5745MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	12.00	5745.01165	5745	0.01165	-2.0279
		V max (V)	13.80	5745.00981	5745	0.00981	-1.7076
		V min (V)	10.20	5745.01171	5745	0.01171	-2.0383
Limits				± 20 ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5745MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	5	T (°C)	-20	5745.00236	5745	0.00236	-0.4108
		T (°C)	-10	5745.00145	5745	0.00145	-0.2524
		T (°C)	0	5745.01252	5745	0.01252	-2.1793
		T (°C)	10	5745.01195	5745	0.01195	-2.0801
		T (°C)	20	5745.01170	5745	0.01170	-2.0366
		T (°C)	30	5745.01271	5745	0.01271	-2.2124
		T (°C)	40	5745.01215	5745	0.01215	-2.1149
		T (°C)	50	5745.01201	5745	0.01201	-2.0905
		T (°C)	60	5745.01309	5745	0.01309	-2.2785
		T (°C)	70	5745.01421	5745	0.01421	-2.4735
Limits				± 20 ppm			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5785MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	12.00	5785.02225	5785	0.02225	-3.8462
		V max (V)	13.80	5785.02325	5785	0.02325	-4.0190
		V min (V)	10.20	5785.02430	5785	0.02430	-4.2005
Limits				± 20 ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				5785			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	5	T (°C)	-20	5785.00221	5785	0.00221	-0.3820
		T (°C)	-10	5785.00641	5785	0.00641	-1.1080
		T (°C)	0	5785.01658	5785	0.01658	-2.8660
		T (°C)	10	5785.01195	5785	0.01195	-2.0657
		T (°C)	20	5785.01762	5785	0.01762	-3.0458
		T (°C)	30	5785.02116	5785	0.02116	-3.6577
		T (°C)	40	5785.02050	5785	0.02050	-3.5436
		T (°C)	50	5785.02533	5785	0.02533	-4.3786
		T (°C)	60	5785.02275	5785	0.02275	-3.9326
		T (°C)	70	5785.02259	5785	0.02259	-3.9049
Limits				± 20 ppm			

Voltage vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5825MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
T nom (°C)	20	V nom (V)	12.00	5825.00166	5825	0.00166	-0.2850
		V max (V)	13.80	5825.00104	5825	0.00104	-0.1785
		V min (V)	10.20	5825.00640	5825	0.00640	-1.0987
Limits				± 20 ppm			
Result				Complies			

Temperature vs. Frequency Stability

TEST CONDITIONS				Reference Frequency：5825MHz			
				f	fc	Max. Deviation (MHz)	Max. Deviation (ppm)
V nom (V)	5	T (°C)	-20	5825.01182	5825	0.01182	-2.0292
		T (°C)	-10	5825.00325	5825	0.00325	-0.5579
		T (°C)	0	5825.01145	5825	0.01145	-1.9657
		T (°C)	10	5825.01210	5825	0.01210	-2.0773
		T (°C)	20	5825.01141	5825	0.01141	-1.9588
		T (°C)	30	5825.01362	5825	0.01362	-2.3382
		T (°C)	40	5825.01224	5825	0.01224	-2.1013
		T (°C)	50	5825.01215	5825	0.01215	-2.0858
		T (°C)	60	5825.00341	5825	0.00341	-0.5854
		T (°C)	70	5825.01211	5825	0.01211	-2.0790
Limits				± 20 ppm			

11. ANTENNA REQUIREMENT

11.1 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.

11.2 EUT ANTENNA

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

END OF REPORT