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廠商會檢定中心

TEST REPORT

Report No. : AV0032301(9) Date : 16 Jun 2017

Application No. : LV018432(7)

Applicant : Kid Galaxy Inc
150 Dow Street,
Unit 425B Manchester, NH03101, U.S.A

Sample Description : One(1) item of submitted sample stated to be Remote of 2.4G High Speed 20V RC F150 of Model No. 10314, 10315
Sample registration no. : RV0024505-001
Radio Frequency : 2413MHz – 2473MHz Transceiver
Rating : 2 x 1.5V AA size batteries
No. of submitted sample : Two (2) piece (s)

Date Received : 02 Jun 2017

Test Period : 06 Jun 2017 to 09 Jun 2017

Test Requested : FCC Part 15 Certification (15.247), FCC Part 15 Verification Procedure
Industry Canada RSS-247 Issue 2, Class B digital apparatus under ICES-003 Issue 6

Test Method : 47 CFR Part 15 (10-1-15 Edition), ANSI C63.4 – 2014, ANSI C63.10 – 2013,
Industry Canada RSS-247 Issue 2, Industry Canada RSS-Gen Issue 4
KDB 558074 D01 DTS Meas Guidance v04

Test Engineer : Mr. LEUNG Shu-kan, Ken

Test Result : See attached sheet(s) from page 2 to 66.

Conclusion : The submitted sample was found to comply with requirement of FCC Subpart B and C, Industry Canada RSS-247 Issue 2, Class B digital apparatus under ICES-003 Issue 4.

Remark : All two models are the same in circuitry and components and construction, and therefore model 10314 was chosen to be the representative of the test sample. The difference(s) between the tested model and the declared model(s) is: Model no.

For and on behalf of
CMA Industrial Development Foundation Limited

Authorized Signature : _____


Mr. WONG Lap-pong, Andrew
Manager
Electrical Division

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FCC ID: QEA-U282-2G4T
IC: 22849-U282T

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1 General Information

1.1 General Description

The equipment under test (EUT) is a controller for cycle. The EUT is power by 2 x 1.5V AA size batteries. It operates at 2413MHz – 2473MHz. There are joysticks on the EUT. When the joysticks are moved, the EUT will transmit the radio control signal to receiver.

The brief circuit description is listed as follows:

- U1 and its associated circuit act as MCU with RF circuit
- R4, R5, C5 and its associated circuit act as LVD
- VR1, VR2, VR3 and its associated circuit act as control



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1.2 Location of the test site

FCC Registered Test Site Number: 416666

IC Registered Test Site Number: 4093A

Radiated emissions measurements are investigated and taken pursuant to the procedures of ANSI C63.10 – 2013. A Semi-Anechoic Chamber Testing Site is set up for investigation and located at:

Ground Floor, Yan Hing Centre,
9 – 13 Wong Chuk Yeung Street,
Fo Tan, Shatin,
New Territories,
Hong Kong.

Conducted emissions measurements are investigated and also taken pursuant to the procedures of ANSI C63.10 – 2013. A shielded room is located at :

Ground Floor, Yan Hing Centre,
9 – 13 Wong Chuk Yeung Street,
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1.3 List of measuring equipment

Equipment	Manufacturer	Model No.	Serial No.	Calibration Due Date	Calibration Period
EMI Test Receiver	R&S	ESCI	100152	15 Nov 2017	1Year
Spectrum Analyzer	R&S	FSV40	100964	08 Feb 2018	1Year
Biconical Antenna	Rohde & Schwarz	HK116	837414/004	17 Aug 2017	1Year
Log Periodic Antenna	Teseq	UPA6109	43666	27 Jul 2017	1Year
Loop Antenna	EMCO	6502	00056620	25 Jan 2018	2Years
Horn Antenna	Schwarzbeck	BBHA 9120D	9120D-531	19 Dec 2018	2Years
Broadband Pre-Amplifier	Schwarzbeck	BBV 9718	9718-119	21 Dec 2018	2Years
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170442	02 Aug 2017	2Years
Broadband Pre-Amplifier	Schwarzbeck	BBV 9719	9719-010	02 Aug 2017	2Years
Horn Antenna	Schwarzbeck	BBHA 9120C	9120C 594	26 Jul 2018	2Years
Pre-amplifier	Schwarzbeck	BBV9718	BBV9718 297	24 Jul 2018	2Years
Coaxial Cable	Schaffner	RG 213/U	N/A	18 May 2018	1Year
Coaxial Cable	Suhner	RG 214/U	N/A	18 May 2018	1Year
Coaxial Cable	Suhner	Sucoflex_104	N/A	20 Dec 2017	1Year
TS8997 Testing System					
Spectrum Analyzer	R&S	FSV 40	101190	12 Jun 2018	1Year
Vector Generator	R&S	SMBV100A	262024	04 Jun 2018	1Year
Generator	R&S	SMB100A	103230	24 Jun 2018	1Year
OSP	R&S	OSP	OSP120 V02	06 Jun 2018	1Year



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1.4 Measurement Uncertainty

The reported uncertainty is based on a standard uncertainty multiplied by a coverage factor $k=2$, providing a level of confidence of approximately 95%.

Radiated emissions

Frequency	Uncertainty (U_{lab})
30MHz ~ 200MHz (Horizontal)	4.83dB
30MHz ~ 200MHz (Vertical)	4.84dB
200MHz ~ 1000MHz (Horizontal)	4.87dB
200MHz ~ 1000MHz (Vertical)	5.94dB
1GHz ~ 6GHz	4.41dB
6GHz ~ 18GHz	4.64dB

Line-conducted emissions

Frequency	Uncertainty (U_{lab})
150kHz~30MHz	2.64dB



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2 Description of the emission test

2.1 Test Procedure

Radiated emissions measurements are investigated and taken pursuant to the procedures of ANSI C63.10 – 2013.

The equipment under test (EUT) was placed on a non-conductive turntable with dimensions of 1.5m x 1m and 0.8m high above the ground for below 1GHz measurement and 1.5m high above the ground for above 1GHz measurement. 3m from the EUT, a broadband antenna mounting on the mast received the signal strength. The turntable was rotated to maximize the emission level. The antenna was then moving along the mast from 1m up to 4m until no more higher value was found. Both horizontal and vertical polarization of the antenna were placed and investigated.

For below 30MHz, a loop antenna with its vertical plane is placed 3m from the EUT and rotated about its vertical axis for maximum response at each azimuth about the EUT. And the centre of the loop shall be 1 m above the ground.

For 30MHz to 1GHz, broadband antenna with its vertical and horizontal plane is placed 3m from the EUT and rotated about its vertical and horizontal axis for maximum response at each azimuth about the EUT. And the reference point of antenna shall be 1 m above the ground.

For above 1GHz, horn antenna with its vertical and horizontal plane is placed 3m from the EUT and rotated about its vertical and horizontal axis for maximum response at each azimuth about the EUT. Preamplifier and High Pass filter was used for measurements. The reference point of antenna shall be 1 m above the ground.

The device was rotated through three orthogonal to determine which attitude and configuration produce the highest emission during measurement for Radiated Emission measurement.

The EUT will connect to TS 8997 testing system for direct conducted measurement.



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2.2 Conducted Emission Measurement Data

Environmental conditions:

Parameter	Recorded value	
Ambient temperature:	28	° C
Relative humidity:	65	%

Summary

Test	Frequency (MHz)	Nominal Power (dBm)	Nominal Bandwidth (MHz)	Result
RF output power	2413.000	0.0	1.000000	PASS
Power Spectral Density	2413.000	0.0	1.000000	PASS
Minimum Emission Bandwidth 6 dB	2413.000	0.0	1.000000	PASS
99% Bandwidth	2413.000	0.0	1.000000	PASS
Band Edge low	2413.000	0.0	1.000000	PASS
Tx Spurious Emission	2413.000	0.0	1.000000	PASS
Rx Spurious Emission	2413.000	0.0	1.000000	PASS
RF output power	2450.000	0.0	1.000000	PASS
Power Spectral Density	2450.000	0.0	1.000000	PASS
Minimum Emission Bandwidth 6 dB	2450.000	0.0	1.000000	PASS
99% Bandwidth	2450.000	0.0	1.000000	PASS
Tx Spurious Emission	2450.000	0.0	1.000000	PASS
Rx Spurious Emission	2450.000	0.0	1.000000	PASS
RF output power	2473.000	0.0	1.000000	PASS
Power Spectral Density	2473.000	0.0	1.000000	PASS
Minimum Emission Bandwidth 6 dB	2473.000	0.0	1.000000	PASS
99% Bandwidth	2473.000	0.0	1.000000	PASS
Band Edge high	2473.000	0.0	1.000000	PASS
Tx Spurious Emission	2473.000	0.0	1.000000	PASS
Rx Spurious Emission	2473.000	0.0	1.000000	PASS



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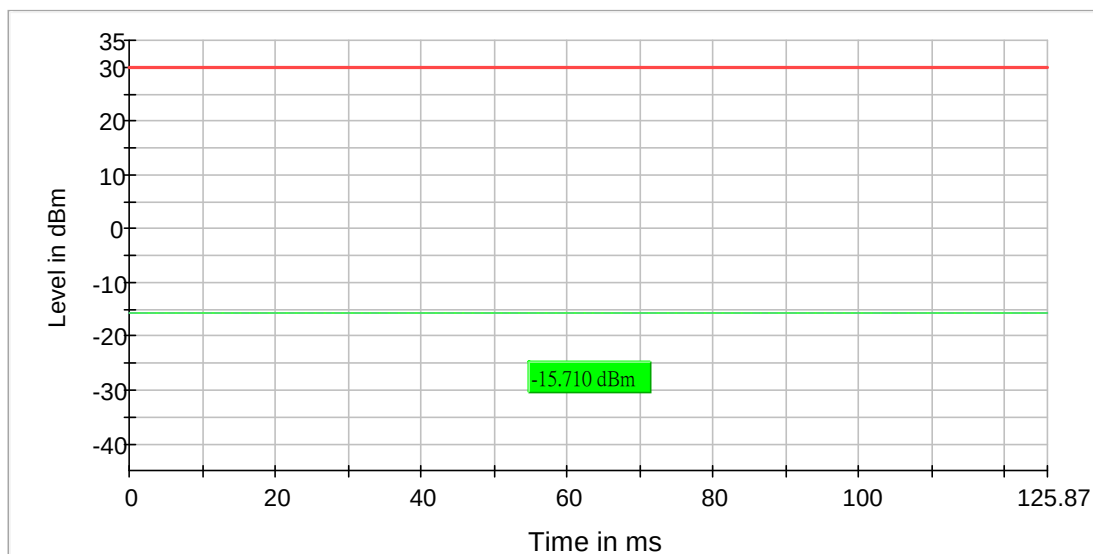
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RF output power (2413 MHz)

Result

DUT Frequency (MHz)	Gated EIRP (dBm)	Limit Max (dBm)	Duty Cycle (%)	Result
2413.000000	-15.7	30.0	12.777	PASS





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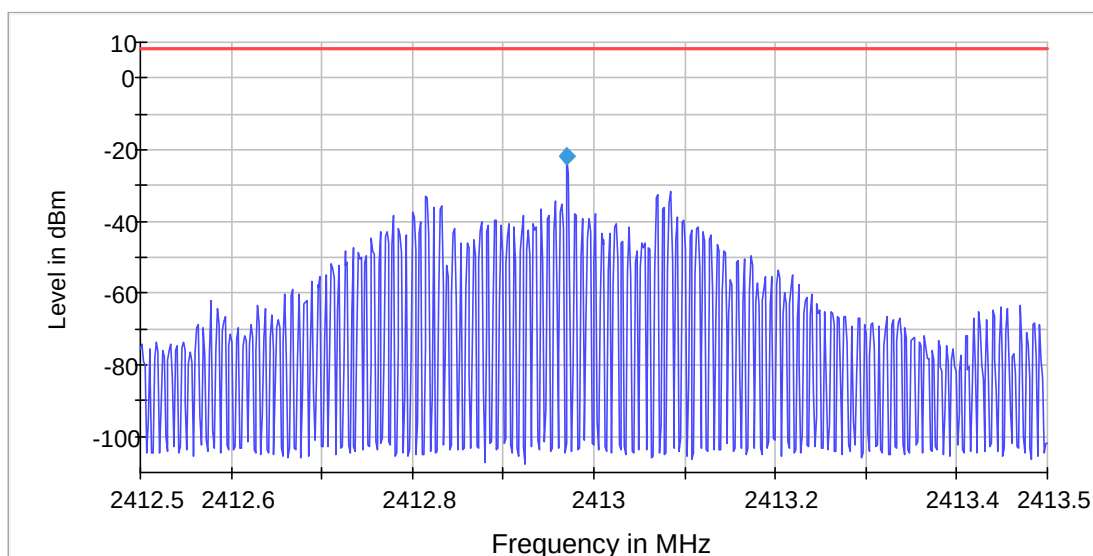
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Power Spectral Density (2413 MHz)

Result

DUT Frequency (MHz)	Frequency (MHz)	PSD (dBm)	Limit Max (dBm)	Result
2413.000000	2412.970808	-21.891	8.0	PASS



Measurement

Setting	Instrument Value	Target Value	Setting	Instrument Value	Target Value
Start Frequency	2.40150 GHz	2.40150 GHz	Stablemode	Trace	Trace
Stop Frequency	2.40250 GHz	2.40250 GHz	Stablevalue	0.30	0.30
Span	1.000 MHz	1.000 MHz	Run	3 / max. 150	max. 150
RBW	3.000 kHz	<= 3.000 kHz	Stable	3 / 3	3
VBW	10.000 kHz	>= 9.000 kHz			
SweepPoints	667	~ 667			
SweepTime	667.000 ms	667.000 ms			
Reference Level	-10.000 dBm	-10.000 dBm			
Attenuation	10.000 dB	AUTO			
Detector	RMS	RMS			
SweepCount	1	1			
Filter	3 dB	3 dB			
Trace Mode	Max Hold	Max Hold			
SweepType	Sweep	AUTO			
Preamplifier	off	off			

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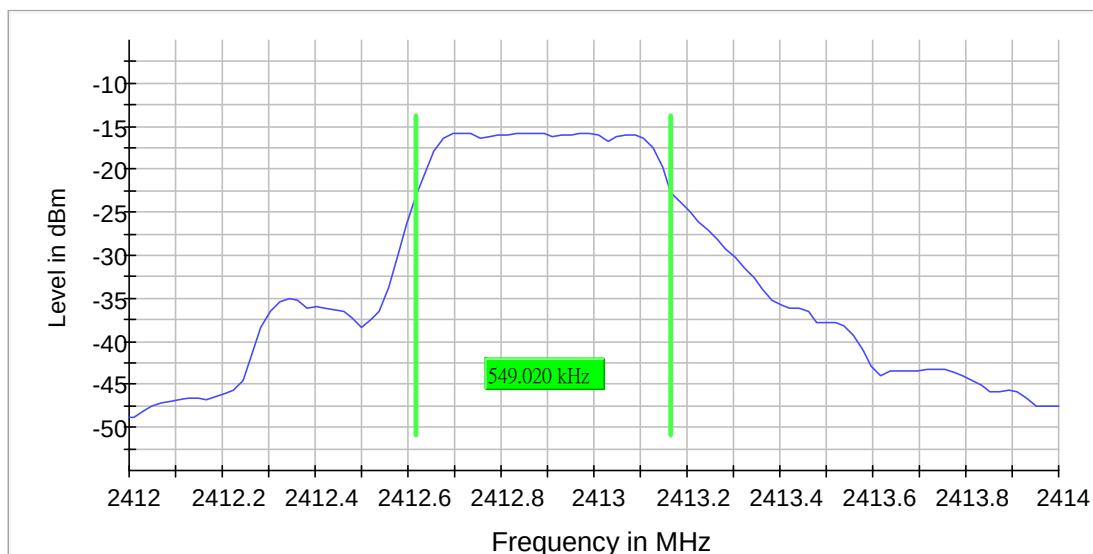
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Minimum Emission Bandwidth 6 dB (2413 MHz)

6 dB Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)	Max Level (dBm)	Result
2413.000000	0.549020	0.500000	---	2412.617647	2413.166667	-15.8	PASS



Measurement

Setting	Instrument Value	Target Value	Setting	Instrument Value	Target Value
Start Frequency	2.41200 GHz	2.41200 GHz	Stablemode	Trace	Trace
Stop Frequency	2.41400 GHz	2.41400 GHz	Stablevalue	0.30	0.30
Span	2.000 MHz	2.000 MHz	Run	24 / max. 150	max. 150
RBW	100.000 kHz	~ 100.000 kHz	Stable	15 / 15	15
VBW	300.000 kHz	~ 300.000 kHz			
SweepPoints	101	~ 20			
Sweeptime	18.938 μ s	AUTO			
Reference Level	-20.000 dBm	-20.000 dBm			
Attenuation	0.000 dB	AUTO			
Detector	MaxPeak	MaxPeak			
SweepCount	100	100			
Filter	3 dB	3 dB			
Trace Mode	Max Hold	Max Hold			
SweepType	FFT	AUTO			
Preamp	off	off			



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99% Bandwidth (2413 MHz)

6 dB Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)
2413.000000	0.545454





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Band Edge low (2413 MHz)

Result

DUT Frequency (MHz)	Result
2413.000000	PASS

Inband Peak

Frequency (MHz)	Level (dBm)
2412.967235	-18.5

Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
2388.331483	-71.1	32.5	-38.5	PASS
2388.281510	-71.8	33.3	-38.5	PASS
2388.381455	-76.3	37.8	-38.5	PASS
2387.981677	-84.1	45.6	-38.5	PASS
2387.831760	-84.5	46.0	-38.5	PASS
2387.881732	-85.1	46.6	-38.5	PASS
2387.931705	-85.2	46.7	-38.5	PASS
2387.781788	-85.3	46.7	-38.5	PASS
2388.631316	-85.5	47.0	-38.5	PASS
2388.681288	-85.9	47.3	-38.5	PASS
2396.776791	-86.2	47.7	-38.5	PASS
2396.826763	-86.3	47.8	-38.5	PASS
2396.926707	-86.4	47.8	-38.5	PASS
2396.876735	-86.9	48.4	-38.5	PASS
2388.781233	-87.0	48.5	-38.5	PASS



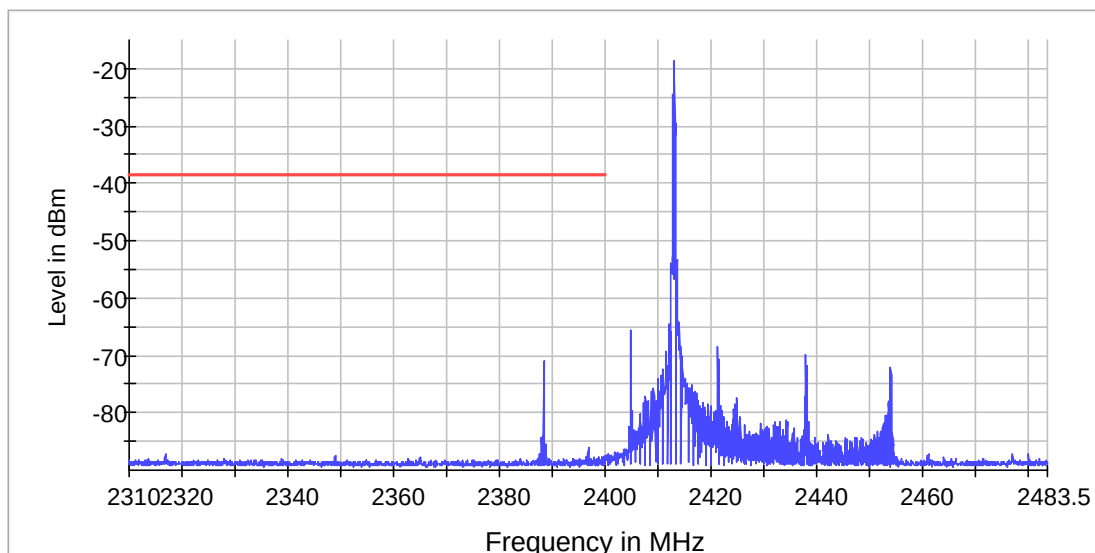
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Measurement 1

Setting	Instrument Value	Target Value
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	1670	~ 1670
SweepTime	1.670 s	1.670 s
Reference Level	-20.000 dBm	-20.000 dBm
Attenuation	0.000 dB	AUTO
Detector	RMS	RMS
SweepCount	3	3
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.30	0.30
Run	3 / max. 15	max. 15
Stable	3 / 3	3

Measurement 2

Setting	Instrument Value	Target Value
RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	1800	~ 1800
SweepTime	1.800 s	1.800 s
Reference Level	-20.000 dBm	-20.000 dBm
Attenuation	0.000 dB	AUTO
Detector	RMS	RMS
SweepCount	3	3
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.30	0.30
Run	3 / max. 15	max. 15
Stable	3 / 3	3



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Tx Spurious Emission (2413 MHz)

Result

DUT Frequency (MHz)	Result
2413.000000	PASS

Final measurements

Frequency (MHz)	Level Pre Measurement (dBm)	level (dBm)	Limit (dBm)	Margin (dB)	Result
4825.490729	-35.1	-46.3	-41.2	5.1	PASS

Pre Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
4825.490729	-35.1	-6.1	-41.2
4825.990674	-35.1	-6.1	-41.2
4826.490619	-35.6	-5.6	-41.2
4824.990785	-37.7	-3.6	-41.2
4826.990563	-42.1	0.9	-41.2
4824.490840	-44.2	3.0	-41.2
4827.490508	-49.8	8.5	-41.2
4908.481542	-51.9	10.6	-41.2
4908.981487	-52.1	10.9	-41.2
4907.981597	-52.4	11.2	-41.2
4842.988792	-53.2	11.9	-41.2
4843.488737	-53.3	12.1	-41.2
4909.481431	-55.9	14.7	-41.2
4842.488848	-57.5	16.3	-41.2
4839.989124	-58.8	17.6	-41.2

Measurement Settings

Start Frequency (MHz)	Stop Frequency (MHz)	Pre Measurement	Final Measurement
30.000000	1000.000000	1	1
1000.000000	2400.000000	2	2
2400.000000	2483.500000	2	2
2483.500000	7000.000000	2	2
7000.000000	26000.000000	2	2



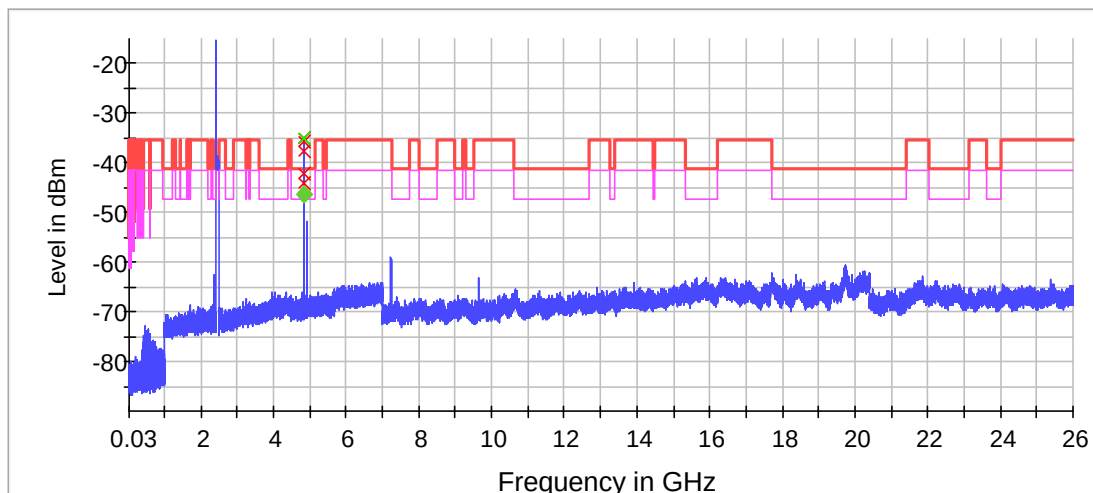
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× Limit [limit.Result:1] × Sum Level [trace.Result:1]
◆ Threshold [limit 2.Result:1] ◆ Critical [Over Limit.Result:1]

Pre Measurement 1

Setting	Instrument Value	Target Value
RBW	100.000 kHz	≤ 100.000 kHz
VBW	300.000 kHz	≥ 300.000 kHz
SweepPoints	19400	~ 19400
SweepTime	19.400 ms	AUTO
Reference Level	-30.000 dBm	-30.000 dBm
Attenuation	0.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	30	30
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.30	0.30
Run	3 / max. 150	max. 150
Stable	3 / 3	3

Pre Measurement 2

Setting	Instrument Value	Target Value
RBW	1.000 MHz	≤ 1.000 MHz
VBW	3.000 MHz	≥ 3.000 MHz
SweepPoints	2800	~ 2800
SweepTime	2.800 ms	AUTO
Reference Level	-30.000 dBm	-30.000 dBm
Attenuation	0.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	30	30
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.30	0.30
Run	3 / max. 150	max. 150
Stable	3 / 3	3



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Final Measurement 2

Setting	Instrument Value	Target Value
Span	ZeroSpan	ZeroSpan
RBW	1.000 MHz	~ 1.000 MHz
VBW	3.000 MHz	~ 3.000 MHz
SweepPoints	10001	~ 10001
SweepTime	1.000 s	1.000 s
Reference Level	-10.000 dBm	-10.000 dBm
Attenuation	0.000 dB	0.000 dB
Detector	RMS	RMS
SweepCount	1	1
Filter	3 dB	3 dB
Trace Mode	Clear Write	Clear Write
SweepType	Sweep	AUTO
Preamp	off	off



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Rx Spurious Emission (2413 MHz)

Result

DUT Frequency (MHz)	Result
2413.000000	PASS

Final measurements

Frequency (MHz)	Level Pre Measurement (dBm)	level (dBm)	Limit (dBm)	Margin (dB)	Result
---	---	---	---	---	---

Pre Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
19729.830009	-60.5	19.3	-41.2
19758.828483	-60.6	19.4	-41.2
19717.830640	-60.8	19.6	-41.2
19720.830483	-60.8	19.6	-41.2
19748.829009	-60.9	19.6	-41.2
19716.830693	-60.9	19.7	-41.2
19733.829798	-61.0	19.8	-41.2
19725.830219	-61.0	19.8	-41.2
19723.830325	-61.0	19.8	-41.2
19732.829851	-61.1	19.9	-41.2
19753.828746	-61.1	19.9	-41.2
19715.830746	-61.1	19.9	-41.2
19738.829535	-61.2	20.0	-41.2
19722.830377	-61.3	20.0	-41.2
19763.828220	-61.3	20.0	-41.2

Measurement Settings

Start Frequency (MHz)	Stop Frequency (MHz)	Pre Measurement	Final Measurement
30.000000	1000.000000	1	1
1000.000000	7000.000000	2	2
7000.000000	26000.000000	2	2



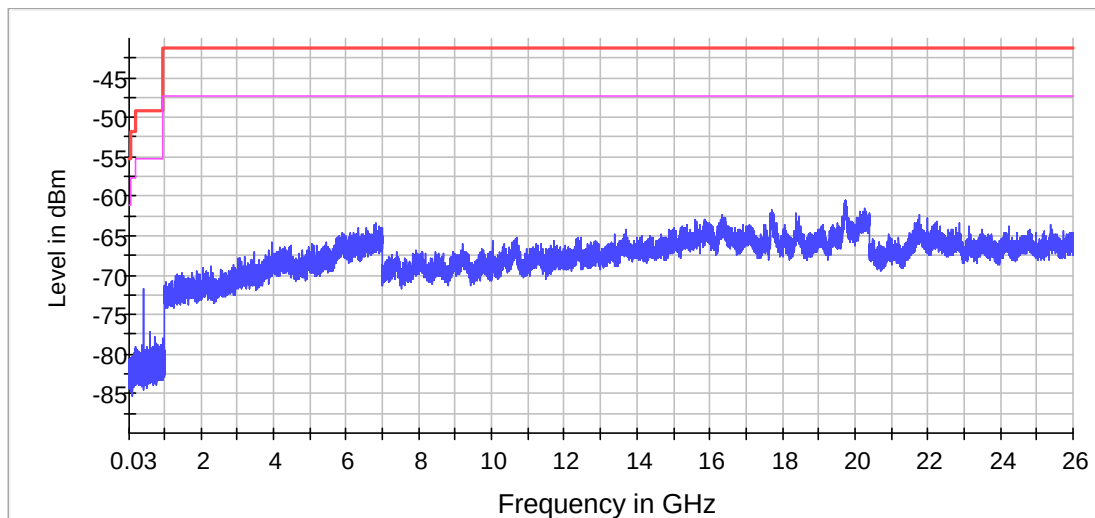
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— Limit [limit.Result:1] × Threshold [limit.2.Result:1]

Pre Measurement 1

Setting	Instrument Value	Target Value
RBW	100.000 kHz	≤ 100.000 kHz
VBW	300.000 kHz	≥ 300.000 kHz
SweepPoints	9700	~ 9700
SweepTime	9.700 ms	AUTO
Reference Level	-67.000 dBm	-67.000 dBm
Attenuation	0.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.30	0.30
Run	3 / max. 150	max. 150
Stable	3 / 3	3

Pre Measurement 2

Setting	Instrument Value	Target Value
RBW	1.000 MHz	≤ 1.000 MHz
VBW	3.000 MHz	≥ 3.000 MHz
SweepPoints	6000	~ 6000
SweepTime	6.000 ms	AUTO
Reference Level	-67.000 dBm	-67.000 dBm
Attenuation	0.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.30	0.30
Run	3 / max. 150	max. 150
Stable	3 / 3	3



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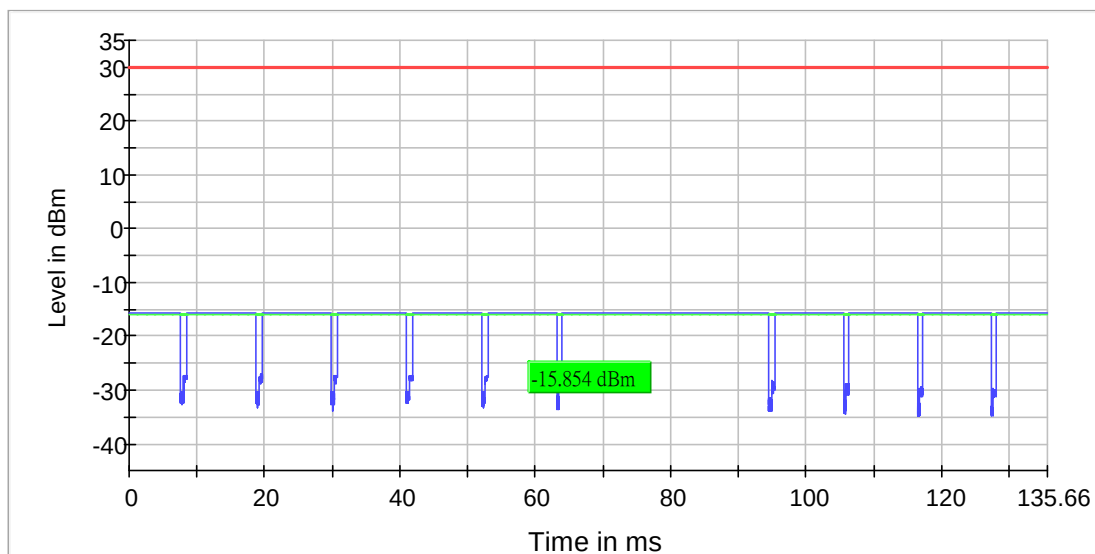
Report No. : AV0032301(9)

Date : 16 Jun 2017

RF output power (2450 MHz)

Result

DUT Frequency (MHz)	Gated EIRP (dBm)	Limit Max (dBm)	Duty Cycle (%)	Result
2450.000000	-15.9	30.0	13.631	PASS





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TEST REPORT

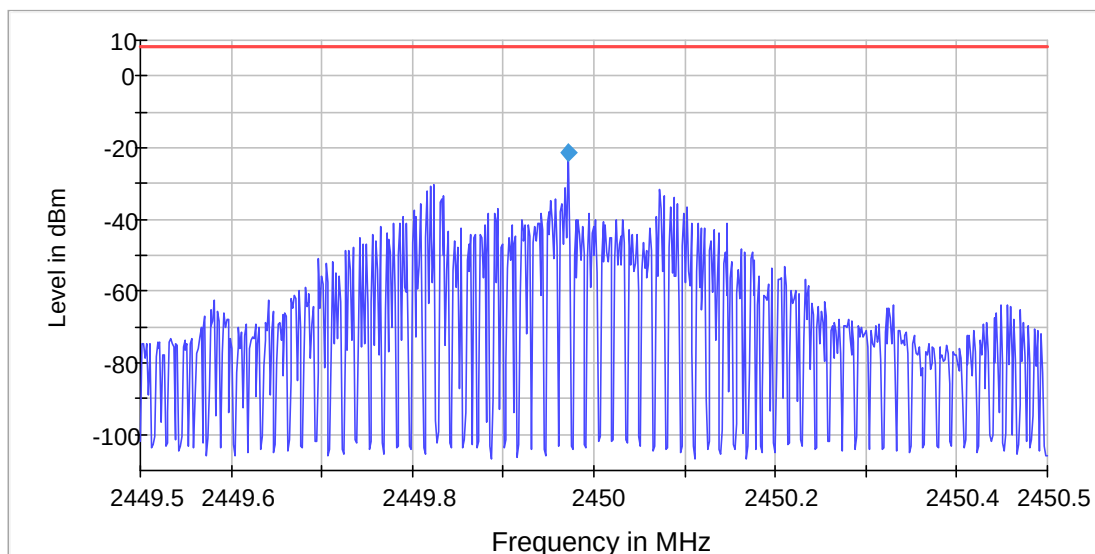
Report No. : AV0032301(9)

Date : 16 Jun 2017

Power Spectral Density (2450 MHz)

Result

DUT Frequency (MHz)	Frequency (MHz)	PSD (dBm)	Limit Max (dBm)	Result
2450.000000	2449.972305	-21.337	8.0	PASS



Measurement

Setting	Instrument Value	Target Value	Setting	Instrument Value	Target Value
Start Frequency	2.44950 GHz	2.44950 GHz	Stablemode	Trace	Trace
Stop Frequency	2.45050 GHz	2.45050 GHz	Stablevalue	0.30	0.30
Span	1.000 MHz	1.000 MHz	Run	3 / max. 150	max. 150
RBW	3.000 kHz	<= 3.000 kHz	Stable	3 / 3	3
VBW	10.000 kHz	>= 9.000 kHz			
SweepPoints	667	~ 667			
SweepTime	667.000 ms	667.000 ms			
Reference Level	-20.000 dBm	-20.000 dBm			
Attenuation	0.000 dB	AUTO			
Detector	RMS	RMS			
SweepCount	1	1			
Filter	3 dB	3 dB			
Trace Mode	Max Hold	Max Hold			
SweepType	Sweep	AUTO			
Preamp	off	off			

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TEST REPORT

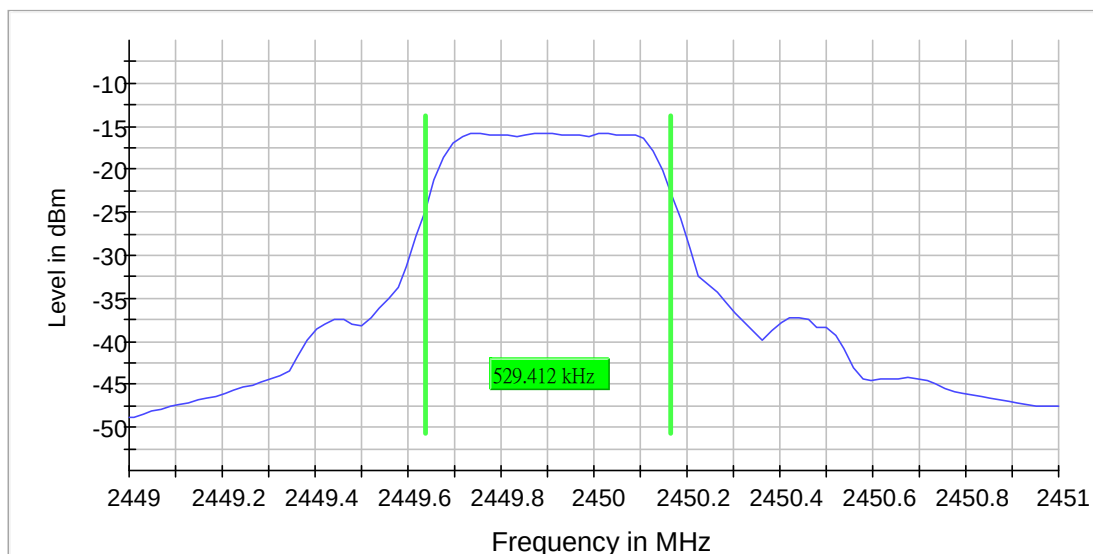
Report No. : AV0032301(9)

Date : 16 Jun 2017

Minimum Emission Bandwidth 6 dB (2450 MHz)

6 dB Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)	Max Level (dBm)	Result
2450.000000	0.529412	0.500000	---	2449.637255	2450.166667	-15.8	PASS



Measurement

Setting	Instrument Value	Target Value	Setting	Instrument Value	Target Value
Start Frequency	2.44900 GHz	2.44900 GHz	Stablemode	Trace	Trace
Stop Frequency	2.45100 GHz	2.45100 GHz	Stablevalue	0.30	0.30
Span	2.000 MHz	2.000 MHz	Run	44 / max. 150	max. 150
RBW	100.000 kHz	~ 100.000 kHz	Stable	15 / 15	15
VBW	300.000 kHz	~ 300.000 kHz			
SweepPoints	101	~ 20			
Sweeptime	18.938 μ s	AUTO			
Reference Level	-20.000 dBm	-20.000 dBm			
Attenuation	0.000 dB	AUTO			
Detector	MaxPeak	MaxPeak			
SweepCount	100	100			
Filter	3 dB	3 dB			
Trace Mode	Max Hold	Max Hold			
SweepType	FFT	AUTO			
Preamp	off	off			

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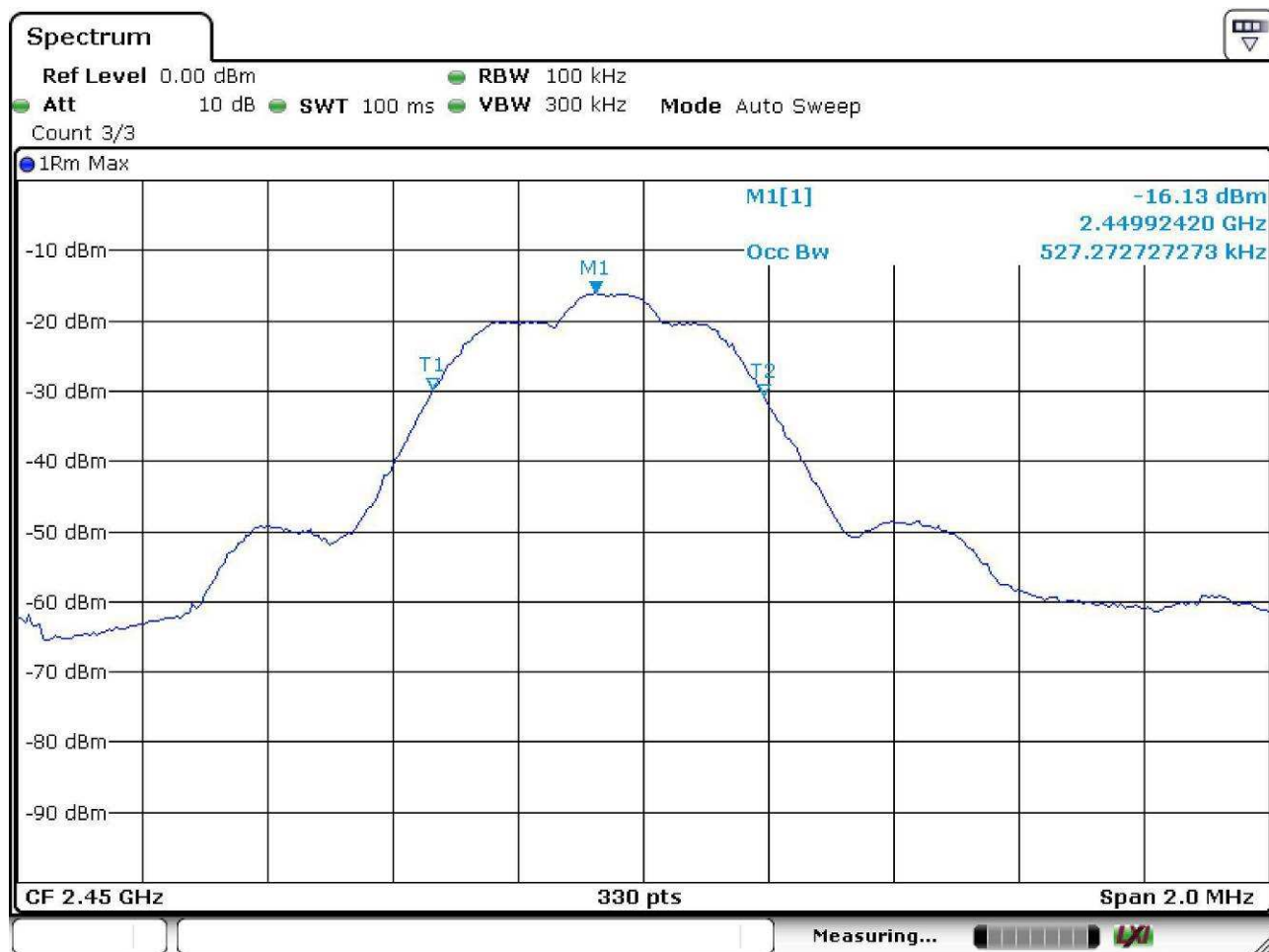
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99% Bandwidth (2450 MHz)

6 dB Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)
2450.000000	0.527272





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TEST REPORT

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Tx Spurious Emission (2450 MHz)

Result

DUT Frequency (MHz)	Result
2450.000000	PASS

Final measurements

Frequency (MHz)	Level Pre Measurement (dBm)	level (dBm)	Limit (dBm)	Margin (dB)	Result
4899.982483	-35.8	-45.3	-41.2	4.1	PASS

Pre Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
4899.982483	-35.8	-5.5	-41.2
4900.482427	-35.9	-5.3	-41.2
4899.482538	-36.0	-5.3	-41.2
4900.982372	-39.8	-1.4	-41.2
4898.982594	-39.9	-1.3	-41.2
4898.482649	-47.5	6.2	-41.2
4901.482317	-47.6	6.4	-41.2
4916.980601	-54.3	13.0	-41.2
4916.480656	-54.4	13.1	-41.2
4902.482206	-54.6	13.4	-41.2
4913.480988	-55.7	14.5	-41.2
4901.982261	-56.8	15.6	-41.2
4897.982704	-57.1	15.8	-41.2
4902.982151	-58.2	17.0	-41.2
4896.982815	-58.8	17.6	-41.2

Measurement Settings

Start Frequency (MHz)	Stop Frequency (MHz)	Pre Measurement	Final Measurement
30.000000	1000.000000	1	1
1000.000000	2400.000000	2	2
2400.000000	2483.500000	2	2
2483.500000	7000.000000	2	2
7000.000000	26000.000000	2	2



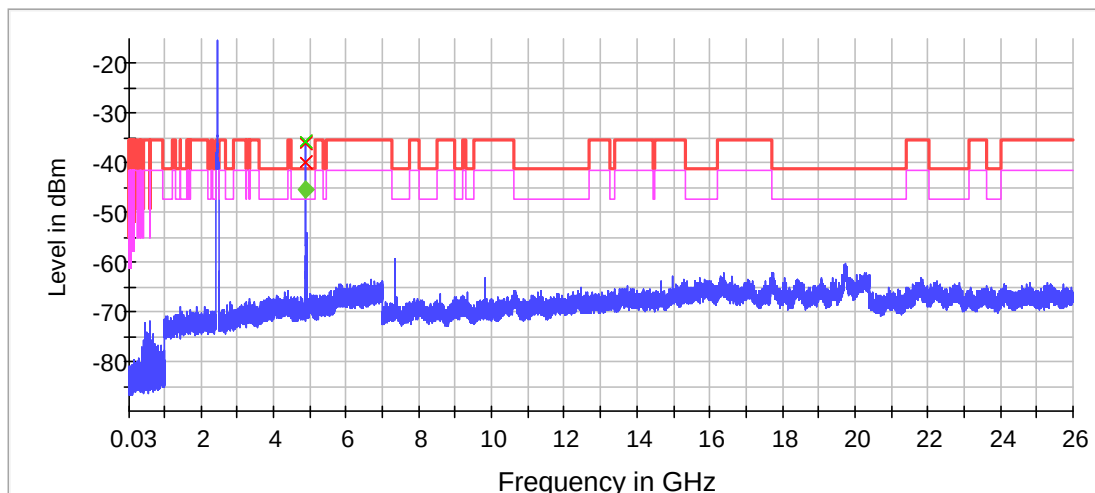
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× Limit [limit.Result:1] × Sum Level [trace.Result:1]
◆ Threshold [limit 2.Result:1] ◆ Critical [Over Limit.Result:1]

Pre Measurement 1

Setting	Instrument Value	Target Value
RBW	100.000 kHz	≤ 100.000 kHz
VBW	300.000 kHz	≥ 300.000 kHz
SweepPoints	19400	~ 19400
SweepTime	19.400 ms	AUTO
Reference Level	-30.000 dBm	-30.000 dBm
Attenuation	0.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	30	30
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.30	0.30
Run	3 / max. 150	max. 150
Stable	3 / 3	3

Pre Measurement 2

Setting	Instrument Value	Target Value
RBW	1.000 MHz	≤ 1.000 MHz
VBW	3.000 MHz	≥ 3.000 MHz
SweepPoints	2800	~ 2800
SweepTime	2.800 ms	AUTO
Reference Level	-30.000 dBm	-30.000 dBm
Attenuation	0.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	30	30
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.30	0.30
Run	3 / max. 150	max. 150
Stable	3 / 3	3



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Final Measurement 2

Setting	Instrument Value	Target Value
Span	ZeroSpan	ZeroSpan
RBW	1.000 MHz	~ 1.000 MHz
VBW	3.000 MHz	~ 3.000 MHz
SweepPoints	10001	~ 10001
SweepTime	1.000 s	1.000 s
Reference Level	-10.000 dBm	-10.000 dBm
Attenuation	0.000 dB	0.000 dB
Detector	RMS	RMS
SweepCount	1	1
Filter	3 dB	3 dB
Trace Mode	Clear Write	Clear Write
SweepType	Sweep	AUTO
Preamp	off	off



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TEST REPORT

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Rx Spurious Emission (2450 MHz)

Result

DUT Frequency (MHz)	Result
2450.000000	PASS

Final measurements

Frequency (MHz)	Level Pre Measurement (dBm)	level (dBm)	Limit (dBm)	Margin (dB)	Result
---	---	---	---	---	---

Pre Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
19748.829009	-60.2	18.9	-41.2
19701.831483	-60.3	19.1	-41.2
19743.829272	-60.4	19.1	-41.2
19737.829588	-60.4	19.2	-41.2
19766.828062	-60.5	19.3	-41.2
19708.831114	-60.6	19.4	-41.2
19763.828220	-60.7	19.5	-41.2
19733.829798	-60.8	19.6	-41.2
19756.828588	-60.9	19.6	-41.2
19752.828798	-60.9	19.6	-41.2
19705.831272	-60.9	19.7	-41.2
19726.830167	-60.9	19.7	-41.2
19744.829220	-60.9	19.7	-41.2
19732.829851	-61.0	19.8	-41.2
19734.829746	-61.0	19.8	-41.2

Measurement Settings

Start Frequency (MHz)	Stop Frequency (MHz)	Pre Measurement	Final Measurement
30.000000	1000.000000	1	1
1000.000000	7000.000000	2	2
7000.000000	26000.000000	2	2



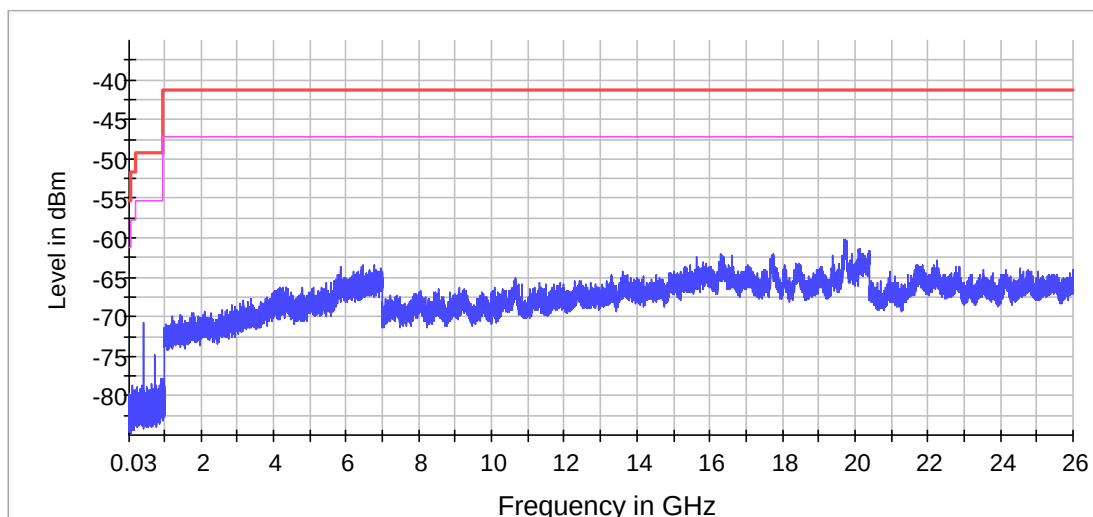
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— Limit [limit.Result:1] × Threshold [limit.2.Result:1]

Pre Measurement 1

Setting	Instrument Value	Target Value
RBW	100.000 kHz	≤ 100.000 kHz
VBW	300.000 kHz	≥ 300.000 kHz
SweepPoints	9700	~ 9700
SweepTime	9.700 ms	AUTO
Reference Level	-67.000 dBm	-67.000 dBm
Attenuation	0.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.30	0.30
Run	3 / max. 150	max. 150
Stable	3 / 3	3

Pre Measurement 2

Setting	Instrument Value	Target Value
RBW	1.000 MHz	≤ 1.000 MHz
VBW	3.000 MHz	≥ 3.000 MHz
SweepPoints	6000	~ 6000
SweepTime	6.000 ms	AUTO
Reference Level	-67.000 dBm	-67.000 dBm
Attenuation	0.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.30	0.30
Run	3 / max. 150	max. 150
Stable	3 / 3	3



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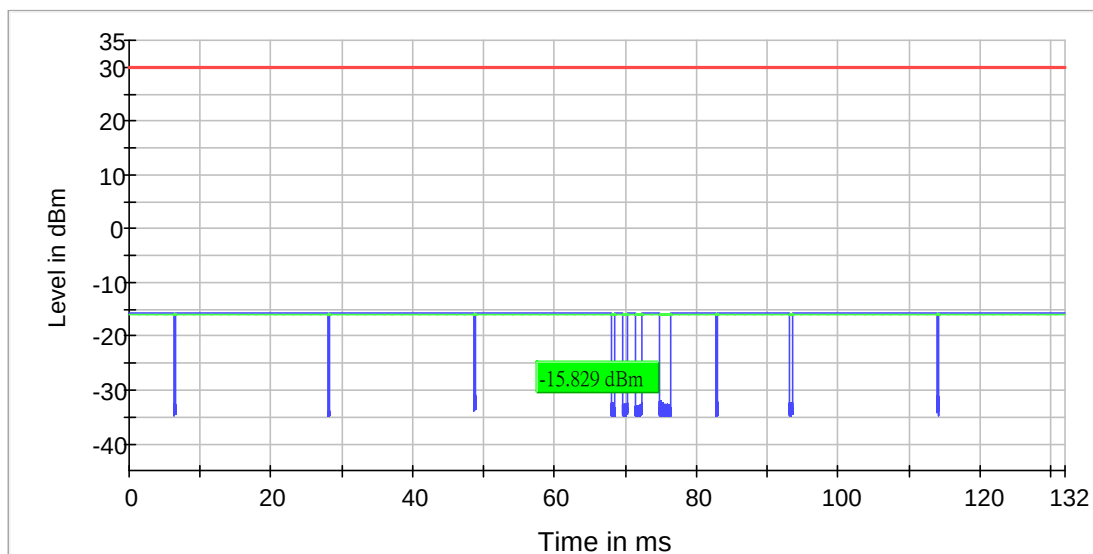
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RF output power (2473 MHz)

Result

DUT Frequency (MHz)	Gated EIRP (dBm)	Limit Max (dBm)	Duty Cycle (%)	Result
2473.000000	-15.8	30.0	13.264	PASS





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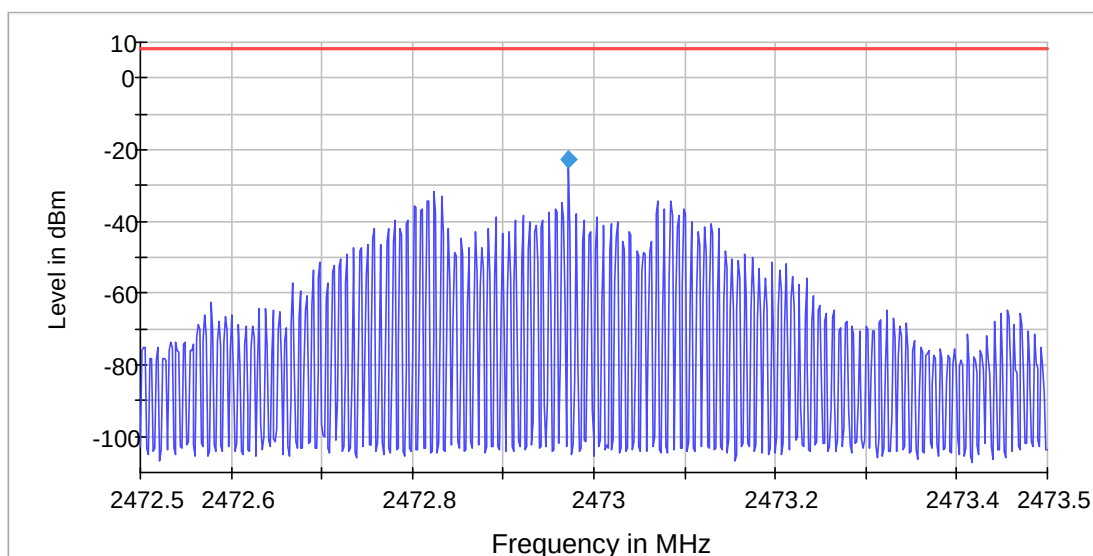
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Power Spectral Density (2473 MHz)

Result

DUT Frequency (MHz)	Frequency (MHz)	PSD (dBm)	Limit Max (dBm)	Result
2473.000000	2472.972305	-22.621	8.0	PASS



Measurement

Setting	Instrument Value	Target Value	Setting	Instrument Value	Target Value
Start Frequency	2.47250 GHz	2.47250 GHz	Stablemode	Trace	Trace
Stop Frequency	2.47350 GHz	2.47350 GHz	Stablevalue	0.30	0.30
Span	1.000 MHz	1.000 MHz	Run	3 / max. 150	max. 150
RBW	3.000 kHz	<= 3.000 kHz	Stable	3 / 3	3
VBW	10.000 kHz	>= 9.000 kHz			
SweepPoints	667	~ 667			
Sweeptime	667.000 ms	667.000 ms			
Reference Level	-20.000 dBm	-20.000 dBm			
Attenuation	0.000 dB	AUTO			
Detector	RMS	RMS			
SweepCount	1	1			
Filter	3 dB	3 dB			
Trace Mode	Max Hold	Max Hold			
SweepType	Sweep	AUTO			
Preamplifier	off	off			

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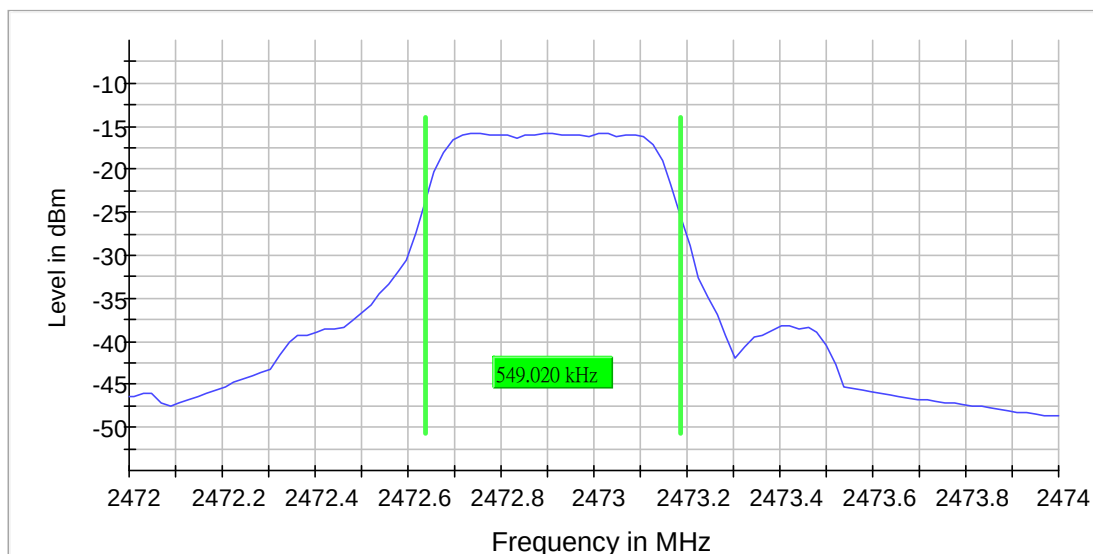
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Minimum Emission Bandwidth 6 dB (2473 MHz)

6 dB Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)	Limit Min (MHz)	Limit Max (MHz)	Band Edge Left (MHz)	Band Edge Right (MHz)	Max Level (dBm)	Result
2473.000000	0.549020	0.500000	---	2472.637255	2473.186275	-15.9	PASS



Measurement

Setting	Instrument Value	Target Value	Setting	Instrument Value	Target Value
Start Frequency	2.47200 GHz	2.47200 GHz	Stablemode	Trace	Trace
Stop Frequency	2.47400 GHz	2.47400 GHz	Stablevalue	0.30	0.30
Span	2.000 MHz	2.000 MHz	Run	38 / max. 150	max. 150
RBW	100.000 kHz	~ 100.000 kHz	Stable	15 / 15	15
VBW	300.000 kHz	~ 300.000 kHz			
SweepPoints	101	~ 20			
SweepTime	18.938 μ s	AUTO			
Reference Level	-20.000 dBm	-20.000 dBm			
Attenuation	0.000 dB	AUTO			
Detector	MaxPeak	MaxPeak			
SweepCount	100	100			
Filter	3 dB	3 dB			
Trace Mode	Max Hold	Max Hold			
SweepType	FFT	AUTO			
Preamp	off	off			



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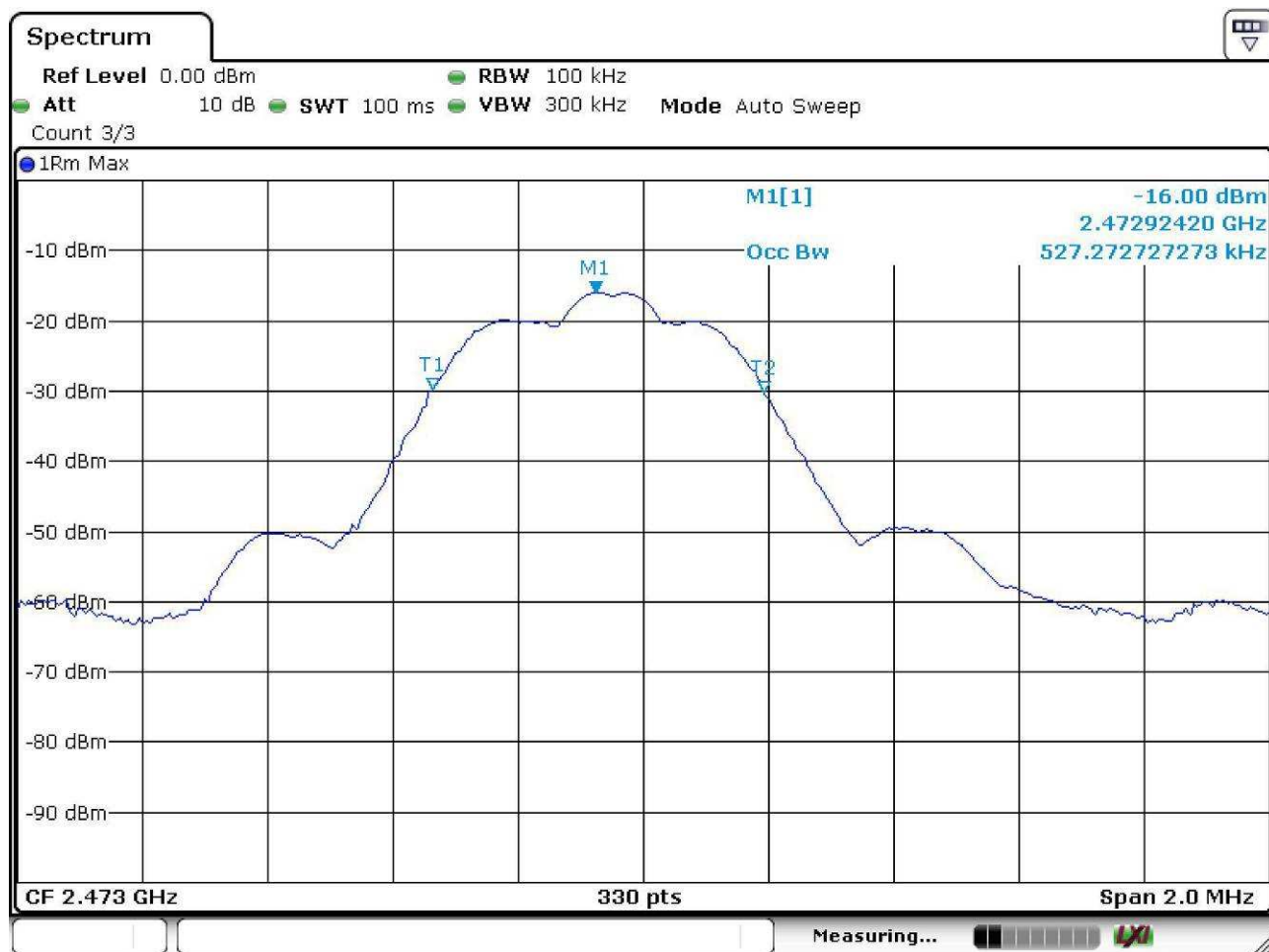
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99% Bandwidth (2473 MHz)

6 dB Bandwidth

DUT Frequency (MHz)	Bandwidth (MHz)
2473.000000	0.527272





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Band Edge high (2473 MHz)

Result

DUT Frequency (MHz)	Result
2473.000000	PASS

Inband Peak

Frequency (MHz)	Level (dBm)
2472.981299	-19.8

Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
2488.310423	-69.9	30.0	-39.8	PASS
2488.260574	-70.9	31.1	-39.8	PASS
2488.160876	-76.2	36.4	-39.8	PASS
2488.559668	-78.1	38.3	-39.8	PASS
2485.020393	-80.4	40.6	-39.8	PASS
2488.659366	-80.8	41.0	-39.8	PASS
2485.718278	-80.9	41.0	-39.8	PASS
2484.372356	-81.0	41.1	-39.8	PASS
2488.111027	-81.3	41.5	-39.8	PASS
2484.771148	-81.4	41.6	-39.8	PASS
2486.216767	-81.4	41.6	-39.8	PASS
2485.369335	-81.8	41.9	-39.8	PASS
2485.319486	-81.8	42.0	-39.8	PASS
2486.665408	-81.8	42.0	-39.8	PASS
2483.923716	-81.8	42.0	-39.8	PASS



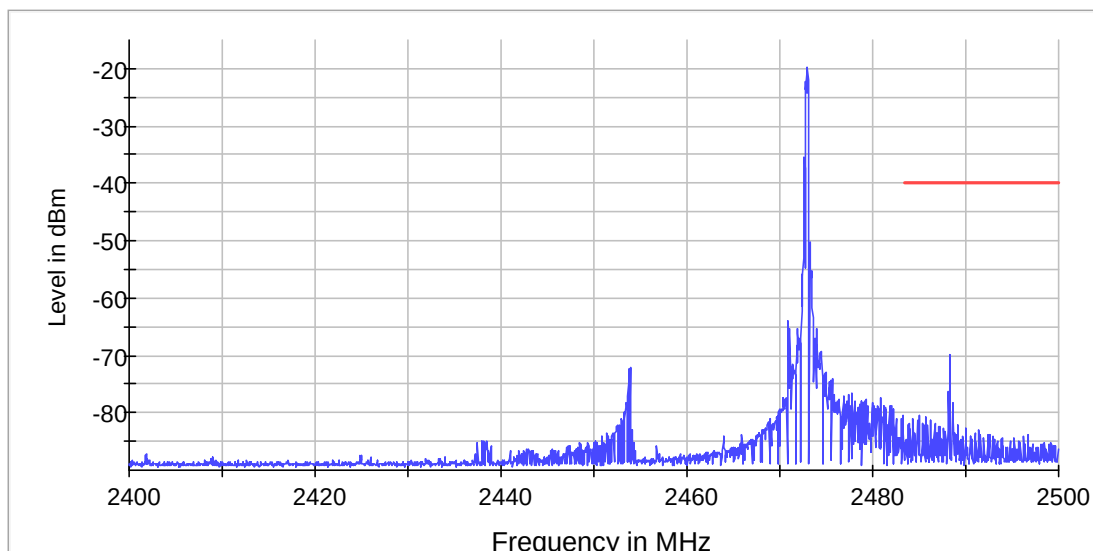
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Measurement 1

Setting	Instrument Value	Target Value
RBW	100.000 kHz	≤ 100.000 kHz
VBW	300.000 kHz	≥ 300.000 kHz
SweepPoints	1670	~ 1670
SweepTime	1.670 s	1.670 s
Reference Level	-20.000 dBm	-20.000 dBm
Attenuation	0.000 dB	AUTO
Detector	RMS	RMS
SweepCount	3	3
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.30	0.30
Run	3 / max. 15	max. 15
Stable	3 / 3	3

Measurement 2

Setting	Instrument Value	Target Value
RBW	100.000 kHz	≤ 100.000 kHz
VBW	300.000 kHz	≥ 300.000 kHz
SweepPoints	330	~ 330
SweepTime	330.000 ms	330.000 ms
Reference Level	-20.000 dBm	-20.000 dBm
Attenuation	0.000 dB	AUTO
Detector	RMS	RMS
SweepCount	3	3
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.30	0.30
Run	3 / max. 15	max. 15
Stable	3 / 3	3



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Tx Spurious Emission (2473 MHz)

Result

DUT Frequency (MHz)	Result
2473.000000	PASS

Final measurements

Frequency (MHz)	Level Pre Measurement (dBm)	level (dBm)	Limit (dBm)	Margin (dB)	Result
4945.977391	-36.0	-45.5	-41.2	4.3	PASS

Pre Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
4945.977391	-36.0	-5.3	-41.2
4946.477336	-36.0	-5.2	-41.2
4945.477446	-36.2	-5.1	-41.2
4946.977280	-38.7	-2.6	-41.2
4944.977502	-39.3	-1.9	-41.2
4947.477225	-46.6	5.4	-41.2
2489.749308	-49.9	8.7	-41.2
2489.249364	-50.0	8.8	-41.2
4944.477557	-50.1	8.9	-41.2
2488.249474	-50.1	8.9	-41.2
2490.249253	-50.2	9.0	-41.2
2488.749419	-52.5	11.3	-41.2
2490.749197	-55.3	14.0	-41.2
7419.458159	-59.3	18.1	-41.2
7418.864446	-59.3	18.1	-41.2

Measurement Settings

Start Frequency (MHz)	Stop Frequency (MHz)	Pre Measurement	Final Measurement
30.000000	1000.000000	1	1
1000.000000	2400.000000	2	2
2400.000000	2483.500000	2	2
2483.500000	7000.000000	2	2
7000.000000	26000.000000	2	2



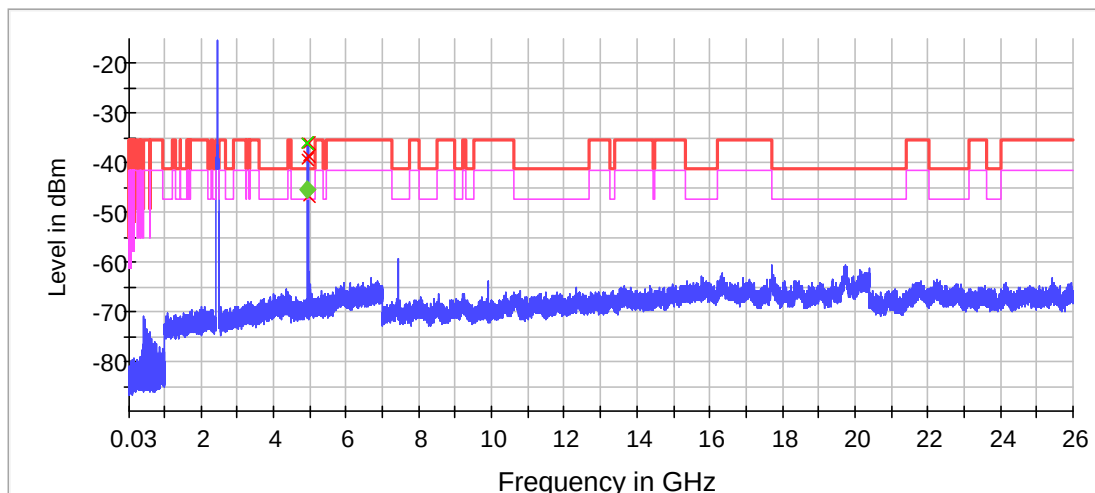
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× Limit [limit.Result:1] × Sum Level [trace.Result:1]
◆ Threshold [limit 2.Result:1] ◆ Critical [Over Limit.Result:1]

Pre Measurement 1

Setting	Instrument Value	Target Value
RBW	100.000 kHz	≤ 100.000 kHz
VBW	300.000 kHz	≥ 300.000 kHz
SweepPoints	19400	~ 19400
SweepTime	19.400 ms	AUTO
Reference Level	-30.000 dBm	-30.000 dBm
Attenuation	0.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	30	30
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.30	0.30
Run	3 / max. 150	max. 150
Stable	3 / 3	3

Pre Measurement 2

Setting	Instrument Value	Target Value
RBW	1.000 MHz	≤ 1.000 MHz
VBW	3.000 MHz	≥ 3.000 MHz
SweepPoints	2800	~ 2800
SweepTime	2.800 ms	AUTO
Reference Level	-30.000 dBm	-30.000 dBm
Attenuation	0.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	30	30
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.30	0.30
Run	3 / max. 150	max. 150
Stable	3 / 3	3



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Final Measurement 2

Setting	Instrument Value	Target Value
Span	ZeroSpan	ZeroSpan
RBW	1.000 MHz	~ 1.000 MHz
VBW	3.000 MHz	~ 3.000 MHz
SweepPoints	10001	~ 10001
SweepTime	1.000 s	1.000 s
Reference Level	-10.000 dBm	-10.000 dBm
Attenuation	0.000 dB	0.000 dB
Detector	RMS	RMS
SweepCount	1	1
Filter	3 dB	3 dB
Trace Mode	Clear Write	Clear Write
SweepType	Sweep	AUTO
Preamp	off	off



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Rx Spurious Emission (2473 MHz)

Result

DUT Frequency (MHz)	Result
2473.000000	PASS

Final measurements

Frequency (MHz)	Level Pre Measurement (dBm)	level (dBm)	Limit (dBm)	Margin (dB)	Result
---	---	---	---	---	---

Pre Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
19773.827693	-60.1	18.9	-41.2
19729.830009	-60.2	19.0	-41.2
445.507164	-68.4	19.2	-49.2
19701.831483	-60.8	19.6	-41.2
20126.809115	-60.8	19.6	-41.2
19717.830640	-60.8	19.6	-41.2
19687.832219	-60.8	19.6	-41.2
19733.829798	-60.9	19.7	-41.2
19720.830483	-61.0	19.8	-41.2
19712.830904	-61.1	19.8	-41.2
19724.830272	-61.1	19.8	-41.2
20237.803274	-61.1	19.8	-41.2
19779.827378	-61.1	19.9	-41.2
19743.829272	-61.2	19.9	-41.2
20382.795642	-61.2	20.0	-41.2

Measurement Settings

Start Frequency (MHz)	Stop Frequency (MHz)	Pre Measurement	Final Measurement
30.000000	1000.000000	1	1
1000.000000	7000.000000	2	2
7000.000000	26000.000000	2	2



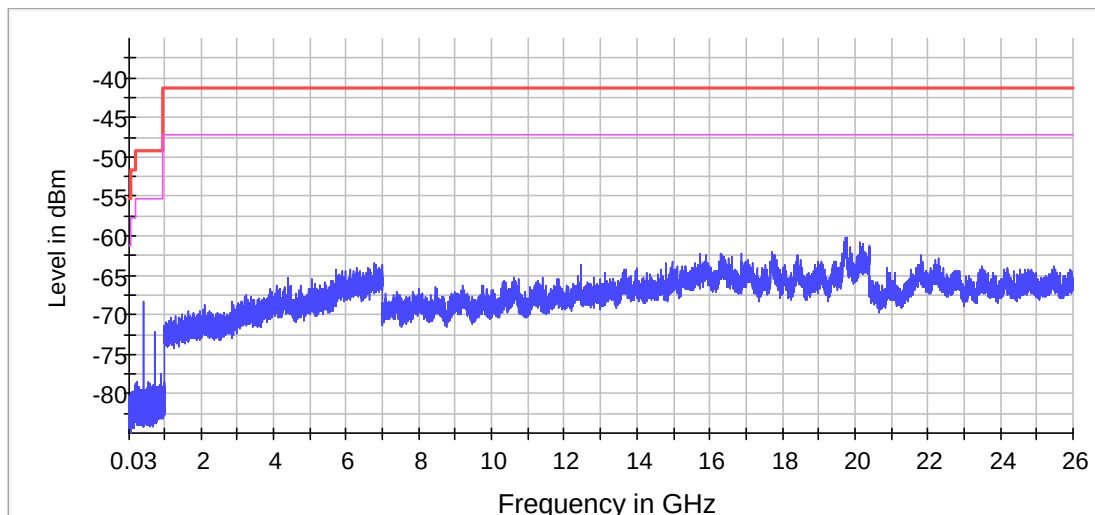
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— Limit [limit.Result:1] × Threshold [limit.2.Result:1]

Pre Measurement 1

Setting	Instrument Value	Target Value
RBW	100.000 kHz	≤ 100.000 kHz
VBW	300.000 kHz	≥ 300.000 kHz
SweepPoints	9700	~ 9700
SweepTime	9.700 ms	AUTO
Reference Level	-67.000 dBm	-67.000 dBm
Attenuation	0.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.30	0.30
Run	3 / max. 150	max. 150
Stable	3 / 3	3

Pre Measurement 2

Setting	Instrument Value	Target Value
RBW	1.000 MHz	≤ 1.000 MHz
VBW	3.000 MHz	≥ 3.000 MHz
SweepPoints	6000	~ 6000
SweepTime	6.000 ms	AUTO
Reference Level	-67.000 dBm	-67.000 dBm
Attenuation	0.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.30	0.30
Run	3 / max. 150	max. 150
Stable	3 / 3	3



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2.3 Radiated Emission Measurement Data

Environmental conditions:

Parameter	Recorded value	
Ambient temperature:	28	° C
Relative humidity:	65	%

Testing frequency range: 9kHz to 26GHz Mode: Transmission

Measurement: Quasi-peak (9kHz – 1GHz), Peak and Average(above 1GHz)

RBW: 9kHz (below 30MHz), 120kHz (30MHz – 1GHz), 1MHz (above 1GHz)

VBW: 30kHz (below 30MHz), 300kHz (30MHz – 1GHz), 3MHz (above 1GHz, Peak measurement), 10Hz (above 1GHz, Average measurement)

Frequency (MHz)	Polarity (H/V)	Reading at 3m (dBμV)	Transducer Factor (dB/m)	Field Strength at 3m (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)	Measurement (Peak/Average)
2412.967	H	93.6	- 4.7	88.9	114.0	- 25.1	Peak
2412.804	V	90.5	- 4.7	85.8	114.0	- 28.2	Peak
2450.079	H	92.7	- 4.7	88.0	114.0	- 26.0	Peak
2449.966	V	90.3	- 4.7	85.6	114.0	- 28.4	Peak
2473.273	H	92.3	- 4.7	87.6	114.0	- 26.4	Peak
2473.071	V	89.5	- 4.7	84.8	114.0	- 29.2	Peak
2448.353	H	70.3	- 4.7	65.6	74.0	- 8.4	Peak
2448.353	H	27.2	- 4.7	22.5	54.0	- 31.5	Average
2448.249	V	68.5	- 4.7	63.8	74.0	- 10.2	Peak
2488.249	V	26.8	- 4.7	22.1	54.0	- 31.9	Average
2524.387	H	69.3	- 4.7	64.6	74.0	- 9.4	Peak
2524.387	H	26.9	- 4.7	22.2	54.0	- 31.8	Average
2523.924	V	68.1	- 4.7	63.4	74.0	- 10.6	Peak
2523.924	V	26.8	- 4.7	22.1	54.0	- 31.9	Average
4825.914	H	58.2	3.0	61.2	74.0	- 12.8	Peak
4825.916	H	28.2	3.0	31.2	54.0	- 22.8	Average
4825.987	V	56.7	3.0	59.7	74.0	- 14.3	Peak
4825.859	V	28.1	3.0	31.1	54.0	- 22.9	Average

Remark: Other emissions more than 20dB below the limit are not reported.

If Peak measurement values are lower than average limit, average measurement is not necessary.

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FCC ID: QEA-U282-2G4T

IC: 22849-U282T

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Frequency (MHz)	Polarity (H/V)	Reading at 3m (dB μ V)	Transducer Factor (dB/m)	Field Strength at 3m (dB μ V/m)	Limit at 3m (dB μ V/m)	Margin (dB)	Measurement (Peak/ Average)
4899.984	H	57.3	3.0	60.3	74.0	- 13.7	Peak
4899.828	H	27.8	3.0	30.8	54.0	- 23.2	Average
4900.114	V	55.6	3.6	59.2	74.0	- 14.8	Peak
4899.839	V	27.7	3.0	30.7	54.0	- 23.3	Average
4945.958	H	57.8	3.6	61.4	74.0	- 12.6	Peak
4945.942	H	27.8	3.6	31.4	54.0	- 22.6	Average
4945.962	V	55.7	3.6	59.3	74.0	- 14.7	Peak
4945.918	V	27.4	3.6	31.0	54.0	- 23.0	Average
9651.831	V	41.2	13.5	54.7	74.0	- 19.3	Peak
9651.851	V	22.4	13.5	35.9	54.0	- 18.1	Average
9800.265	V	42.2	13.5	55.7	74.0	- 18.3	Peak
9799.786	V	23.2	13.5	36.7	54.0	- 17.3	Average
9891.939	V	41.4	13.5	54.9	74.0	- 19.1	Peak
9891.841	V	23.1	13.5	36.6	54.0	- 17.4	Average

Remark: Other emissions more than 20dB below the limit are not reported.

If Peak measurement values are lower than average limit, average measurement is not necessary.



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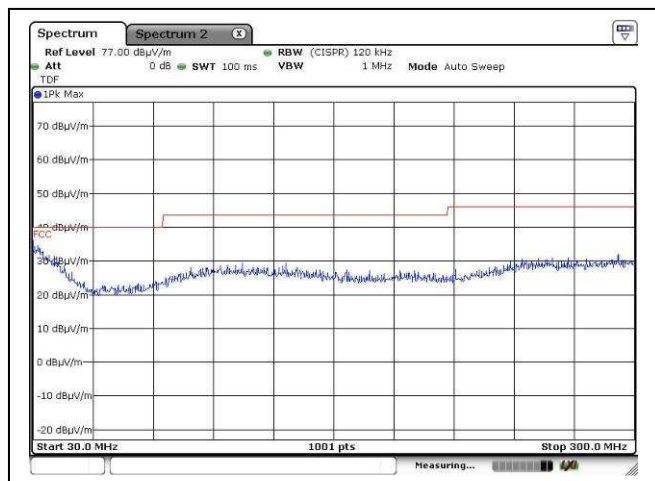
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TEST REPORT

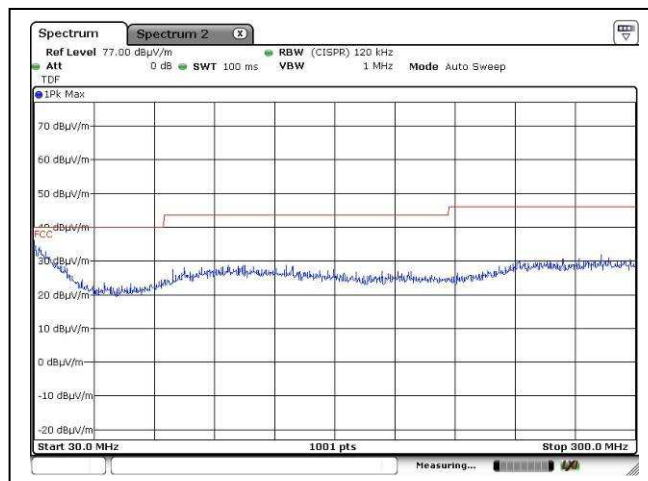
Report No. : AV0032301(9)

Date : 16 Jun 2017

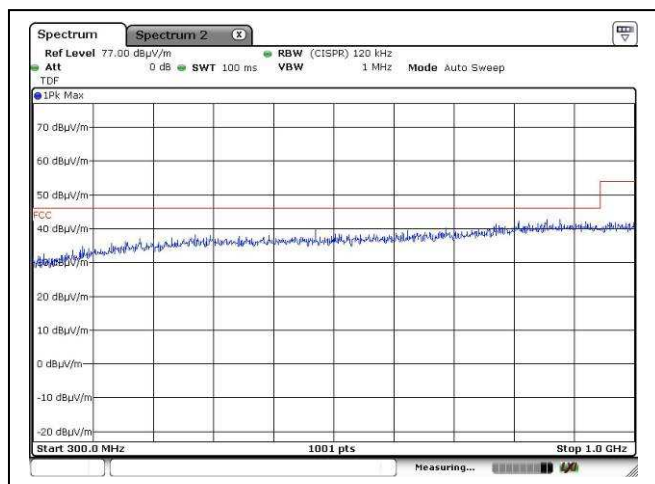
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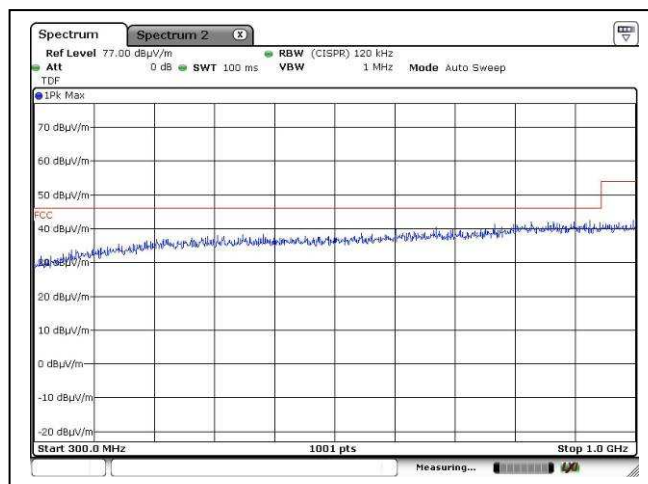
Lower channel, 30MHz – 300MHz, Horizontal



Lower channel, 30MHz – 300MHz, Vertical



Lower channel, 300MHz – 1GHz, Horizontal



Lower channel, 300MHz – 1GHz, Vertical



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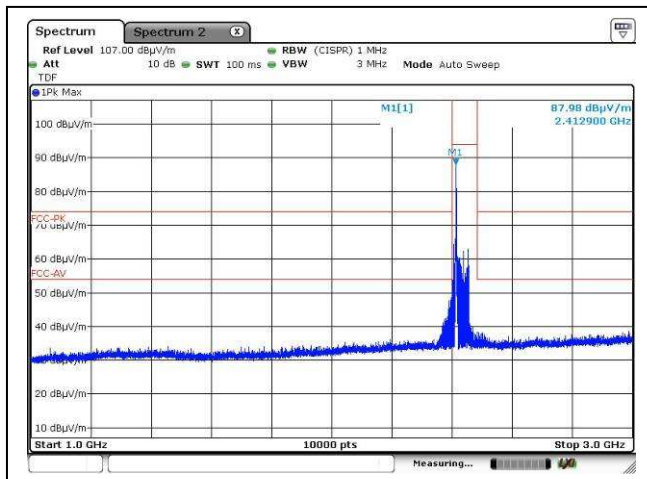
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TEST REPORT

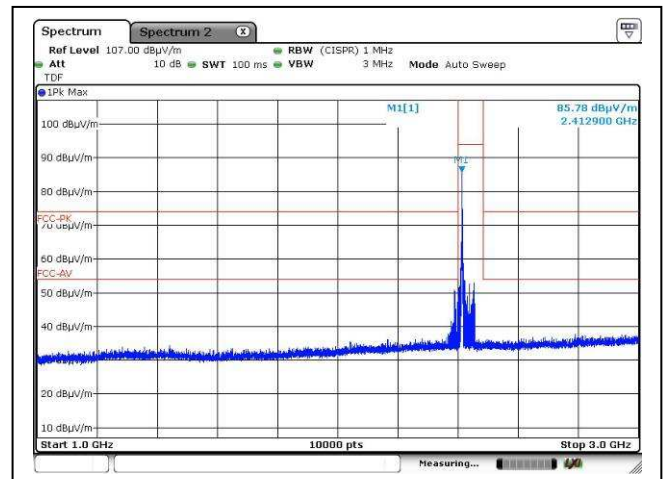
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Date : 16 Jun 2017

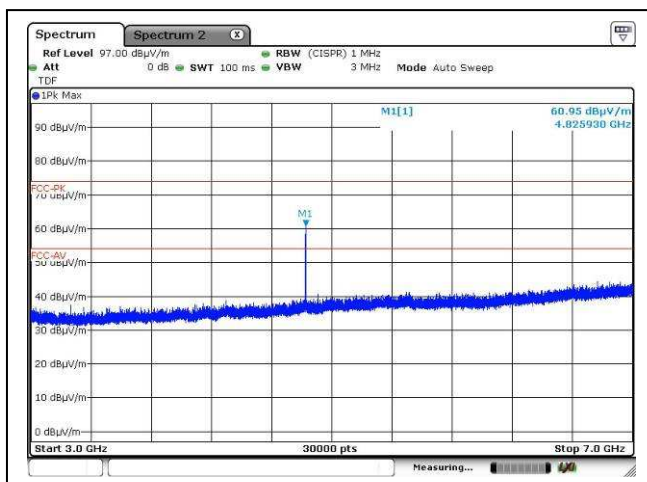
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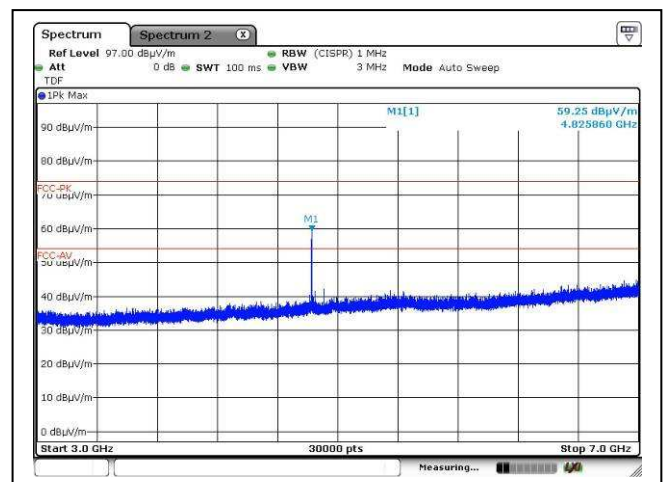
Lower channel, 1GHz – 3GHz, Horizontal



Lower channel, 1GHz – 3GHz, Vertical



Lower channel, 3GHz – 7GHz, Horizontal



Lower channel, 3GHz – 7GHz, Vertical



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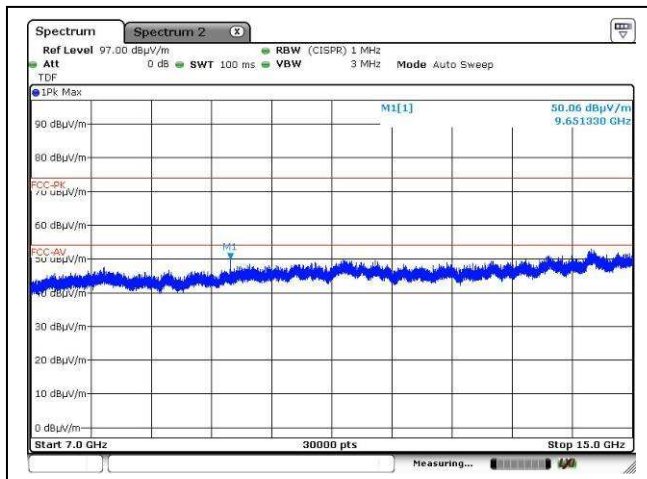
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TEST REPORT

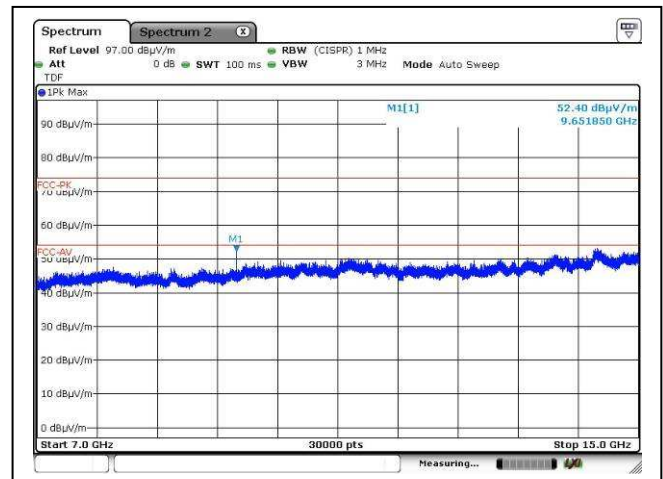
Report No. : AV0032301(9)

Date : 16 Jun 2017

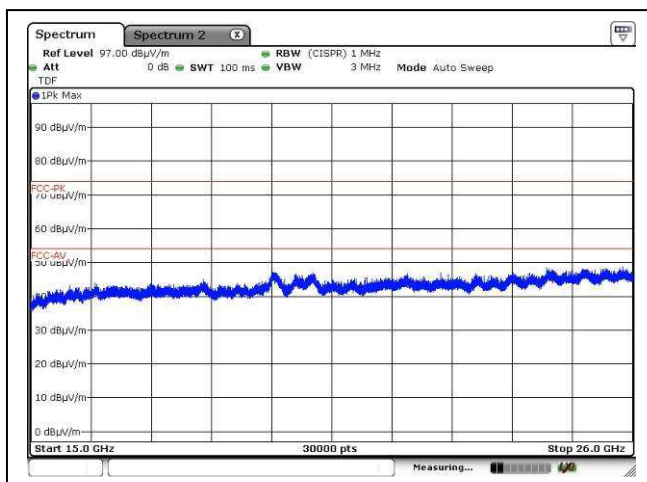
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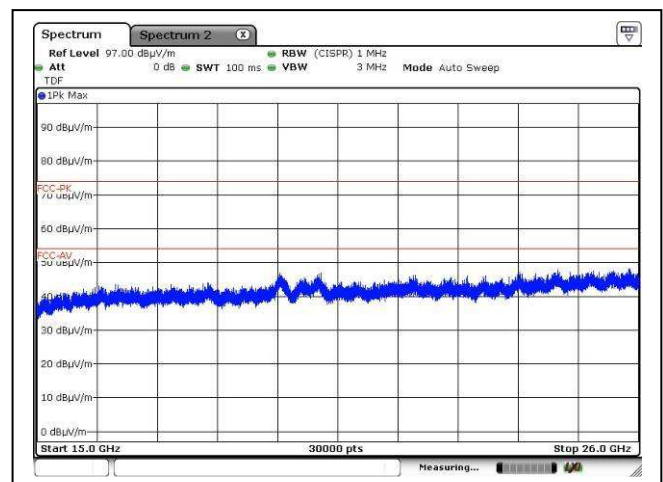
Lower channel, 7GHz – 15GHz, Horizontal



Lower channel, 7GHz – 15GHz, Vertical



Lower channel, above 15GHz, Horizontal



Lower channel, above 15GHz, Vertical



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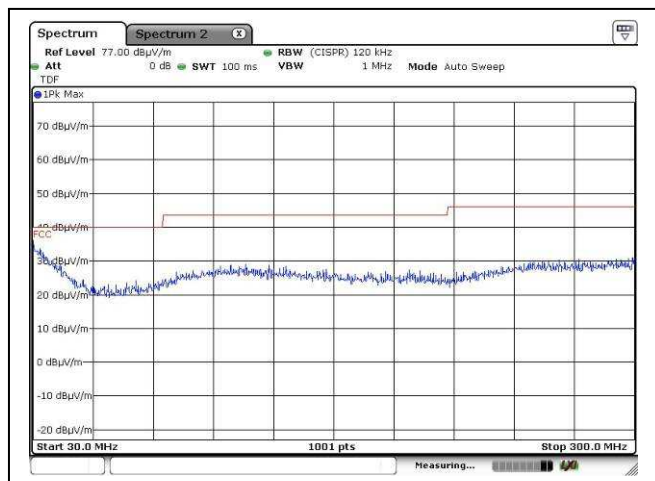
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TEST REPORT

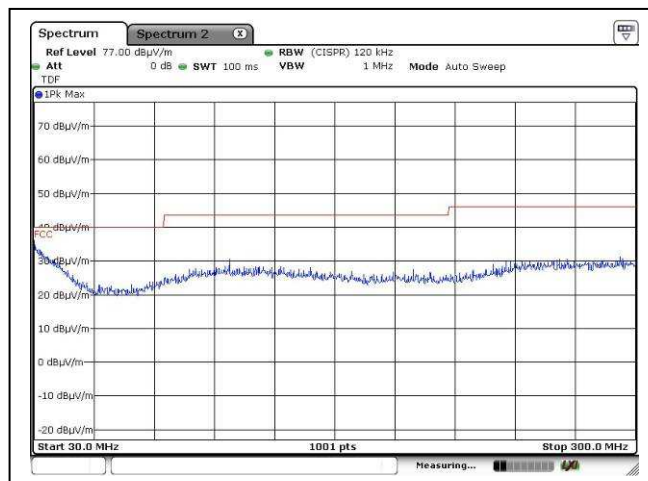
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Date : 16 Jun 2017

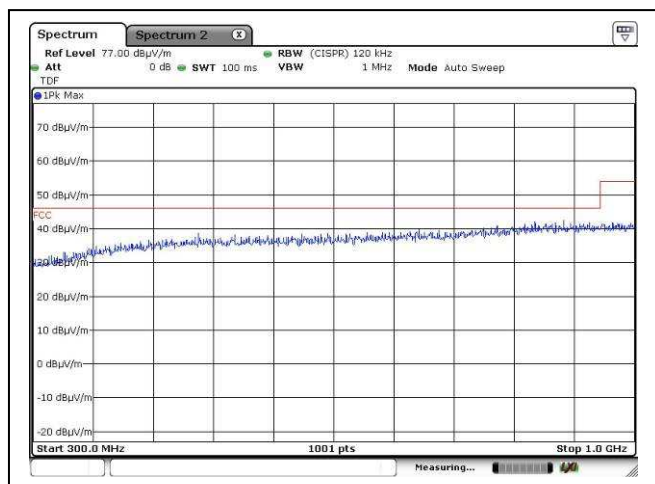
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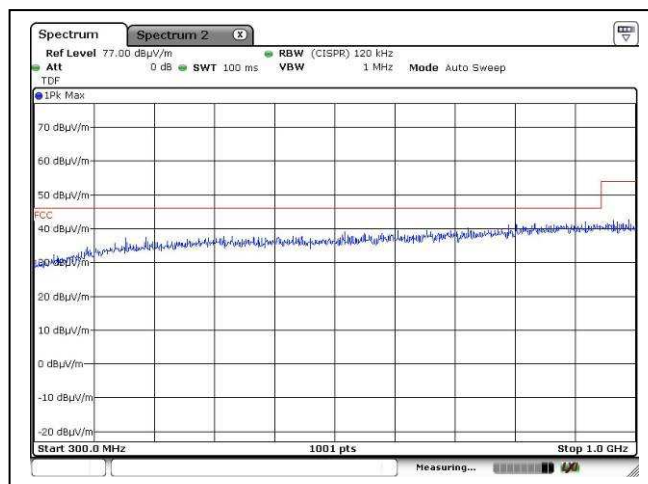
Middle channel, 30MHz – 300MHz, Horizontal



Middle channel, 30MHz – 300MHz, Vertical



Middle channel, 300MHz – 1GHz, Horizontal



Middle channel, 300MHz – 1GHz, Vertical



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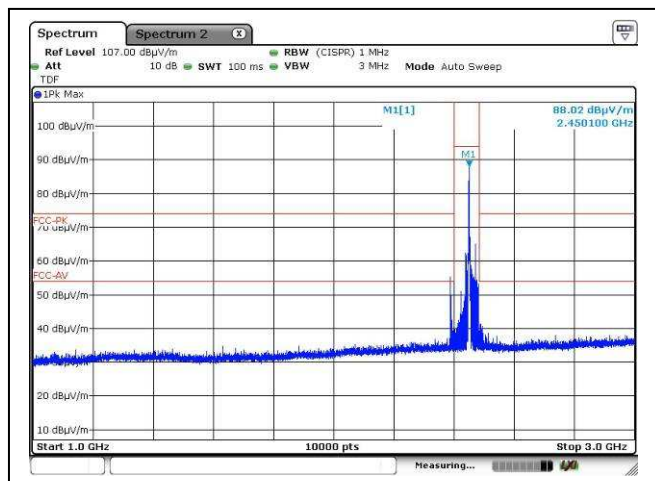
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TEST REPORT

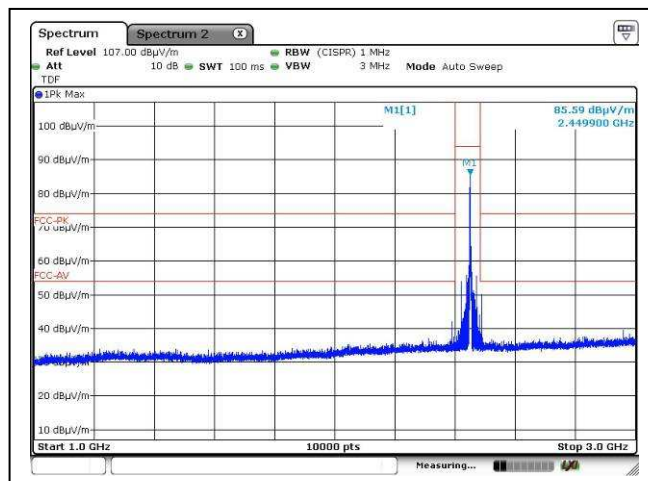
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Date : 16 Jun 2017

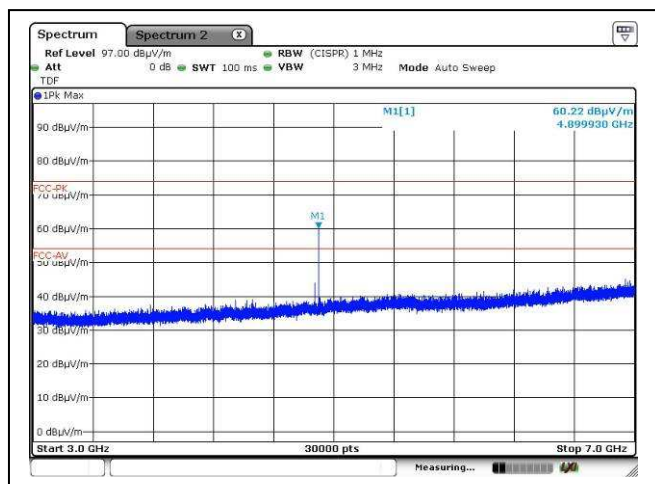
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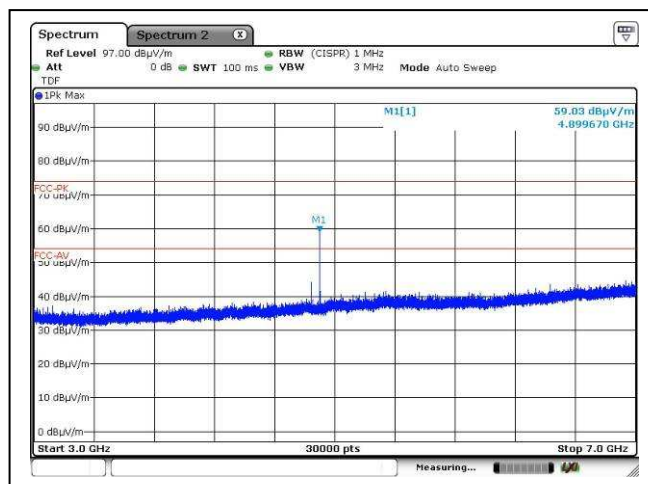
Middle channel, 1GHz – 3GHz, Horizontal



Middle channel, 1GHz – 3GHz, Vertical



Middle channel, 3GHz – 7GHz, Horizontal



Middle channel, 3GHz – 7GHz, Vertical



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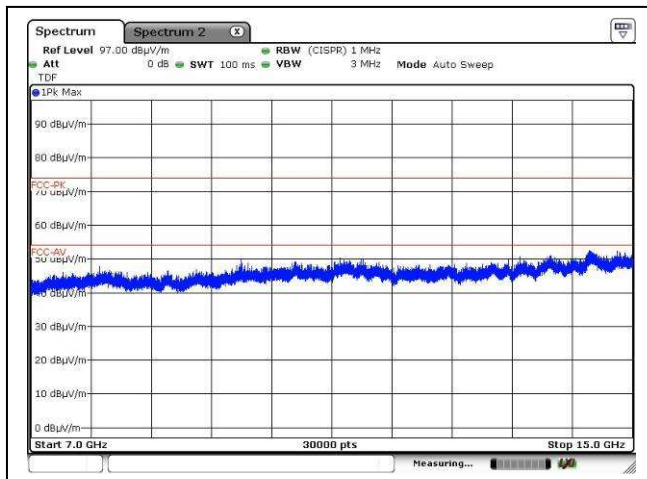
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TEST REPORT

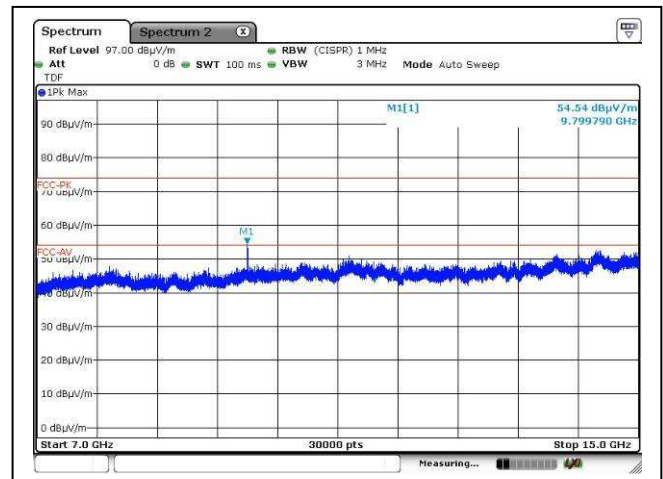
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Date : 16 Jun 2017

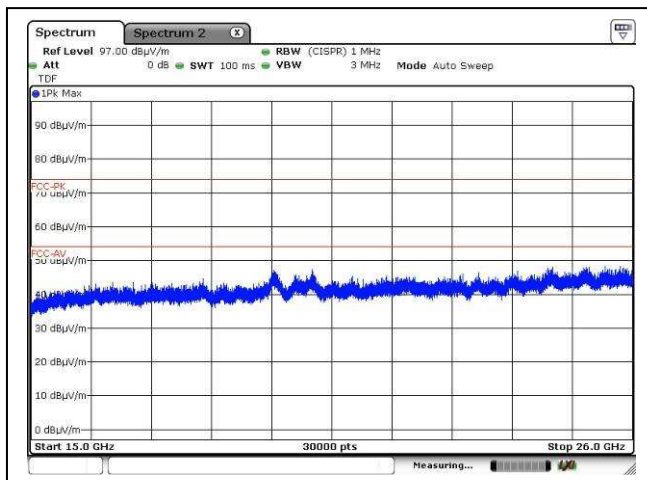
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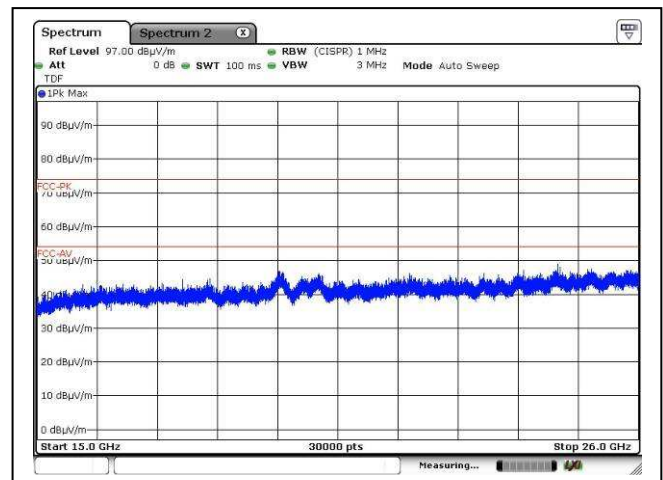
Middle channel, 7GHz – 15GHz, Horizontal



Middle channel, 7GHz – 15GHz, Vertical



Middle channel, above 15GHz, Horizontal



Middle channel, above 15GHz, Vertical



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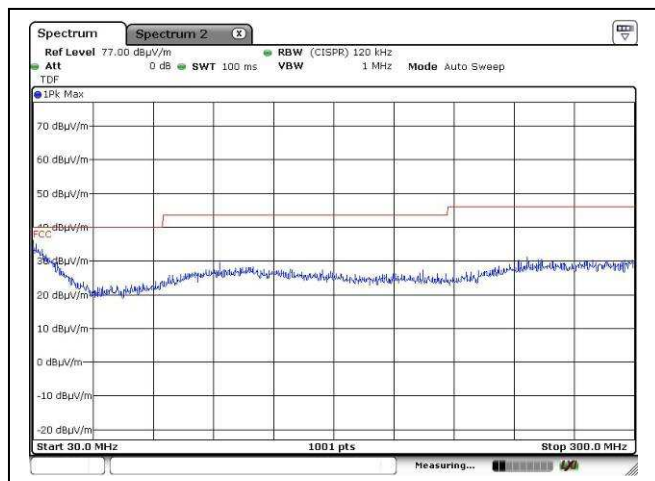
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TEST REPORT

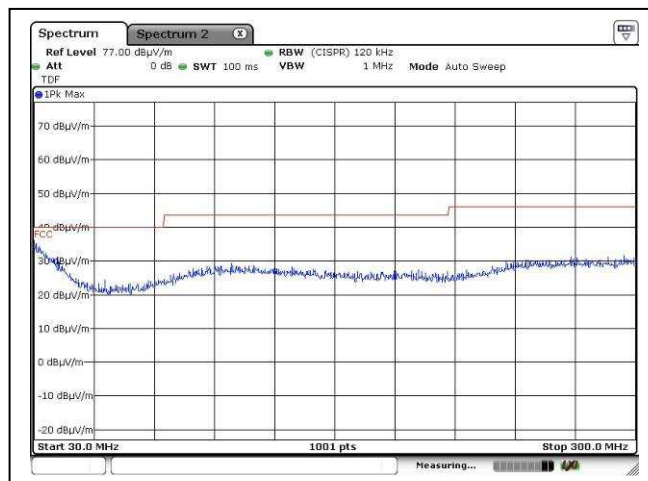
Report No. : AV0032301(9)

Date : 16 Jun 2017

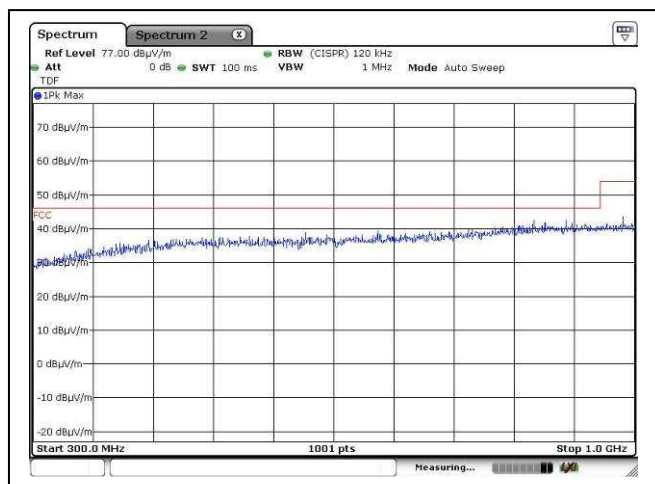
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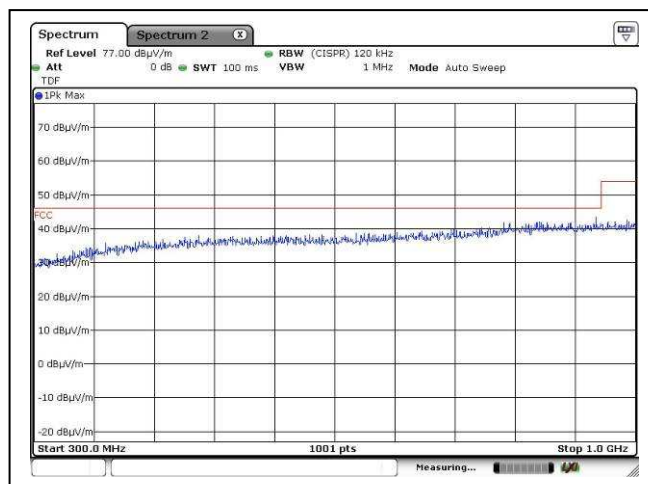
Higher channel, 30MHz – 300MHz, Horizontal



Higher channel, 30MHz – 300MHz, Vertical



Higher channel, 300MHz – 1GHz, Horizontal



Higher channel, 300MHz – 1GHz, Vertical



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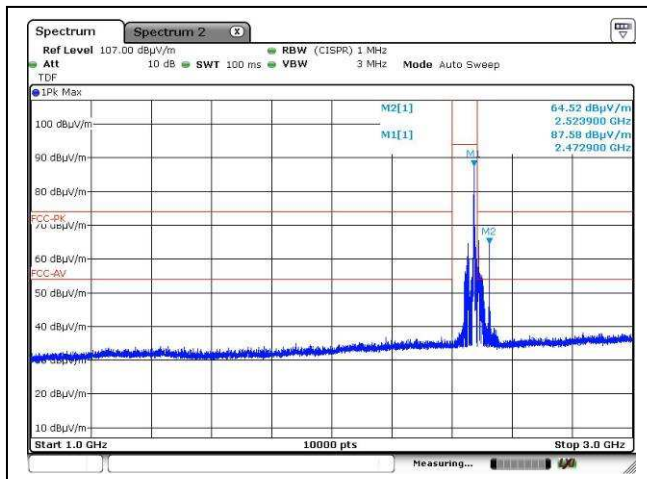
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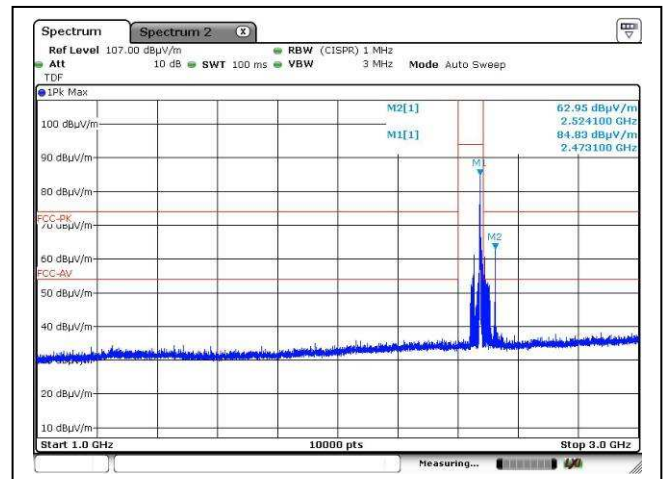
Report No. : AV0032301(9)

Date : 16 Jun 2017

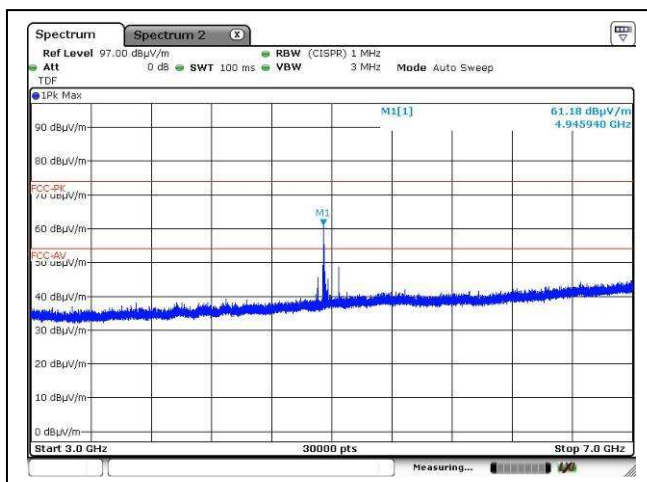
2.3 Radiated Emission Measurement Data (Con't)



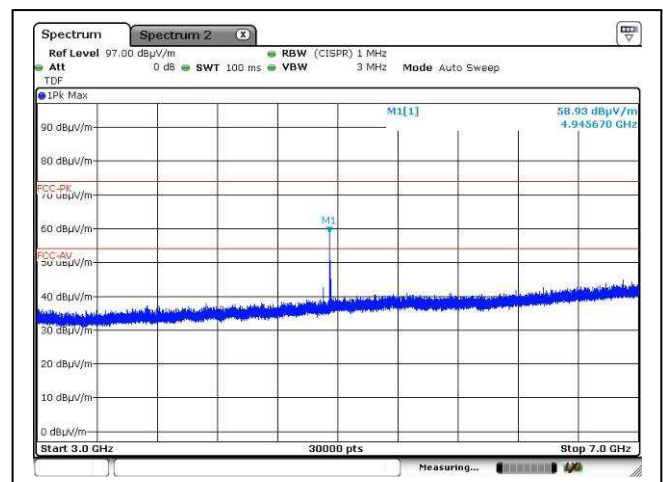
Higher channel, 1GHz – 3GHz, Horizontal



Higher channel, 1GHz – 3GHz, Vertical



Higher channel, 3GHz – 7GHz, Horizontal



Higher channel, 3GHz – 7GHz, Vertical



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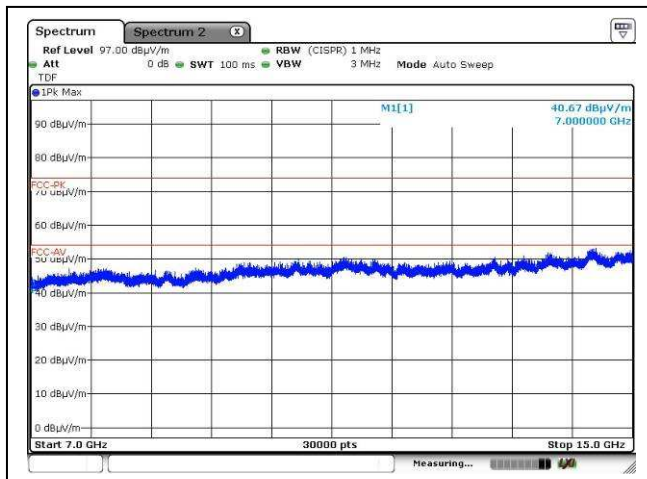
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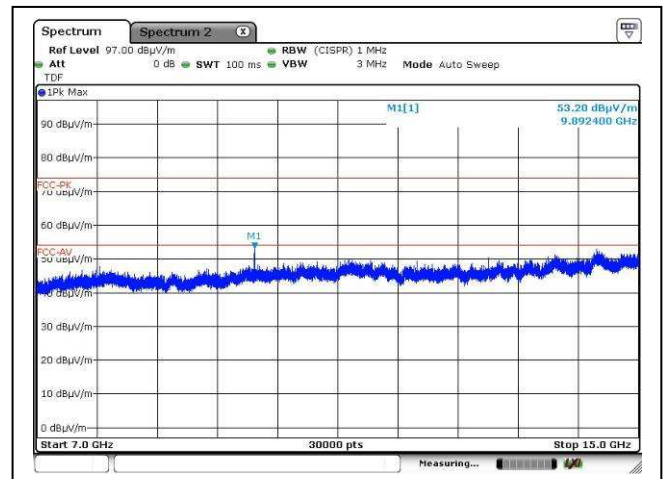
Report No. : AV0032301(9)

Date : 16 Jun 2017

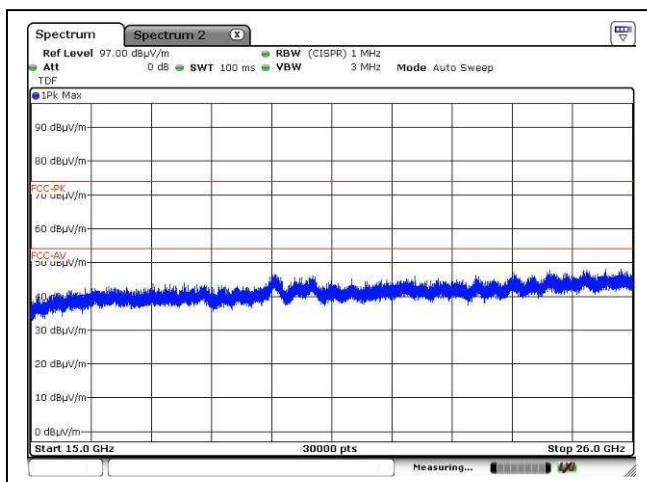
2.3 Radiated Emission Measurement Data (Con't)



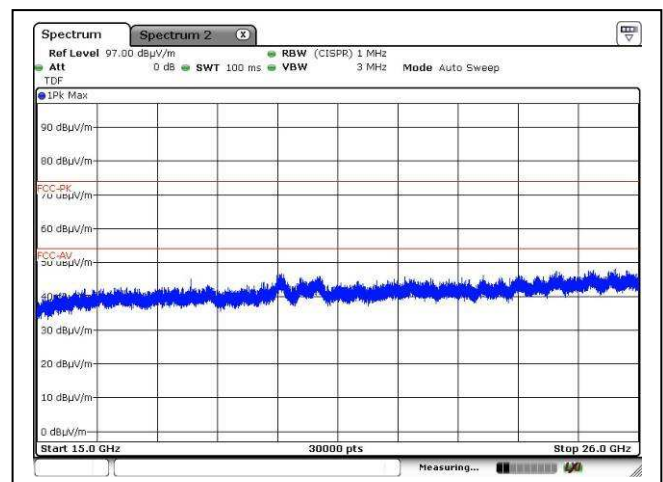
Higher channel, 7GHz – 15GHz, Horizontal



Higher channel, 7GHz – 15GHz, Vertical



Higher channel, above 15GHz, Horizontal



Higher channel, above 15GHz, Vertical



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2.3 Radiated Emission Measurement Data (Con't)

Environmental conditions:

Parameter	Recorded value	
Ambient temperature:	28	° C
Relative humidity:	65	%

Testing frequency range: 9kHz to 26GHz Mode: Receiving

Measurement: Quasi-peak (9kHz – 1GHz), Peak (above 1GHz)

RBW: 9kHz (below 30MHz), 120KHz (30MHz – 1GHz), 1MHz (above 1GHz)

VBW: 30kHz (below 30MHz), 300kHz (30MHz – 1GHz), 3MHz (above 1GHz)

Frequency (MHz)	Polarity (H/V)	Reading at 3m (dBμV)	Transducer Factor (dB/m)	Field Strength at 3m (dBμV/m)	Limit at 3m (dBμV/m)	Margin (dB)

Remark: No specified emission found



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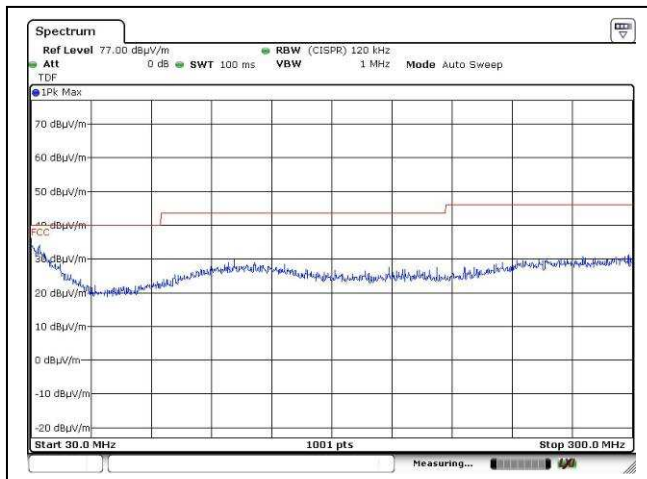
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TEST REPORT

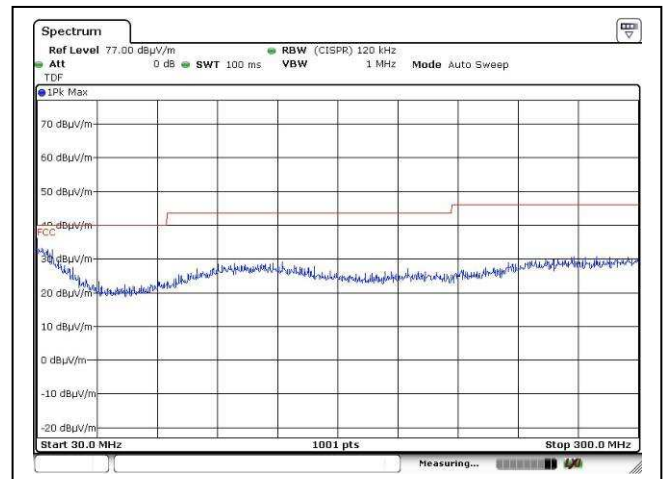
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Date : 16 Jun 2017

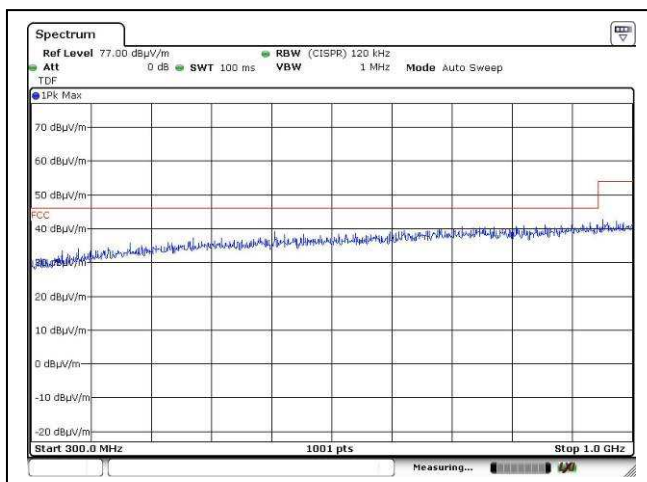
2.3 Radiated Emission Measurement Data (Con't)



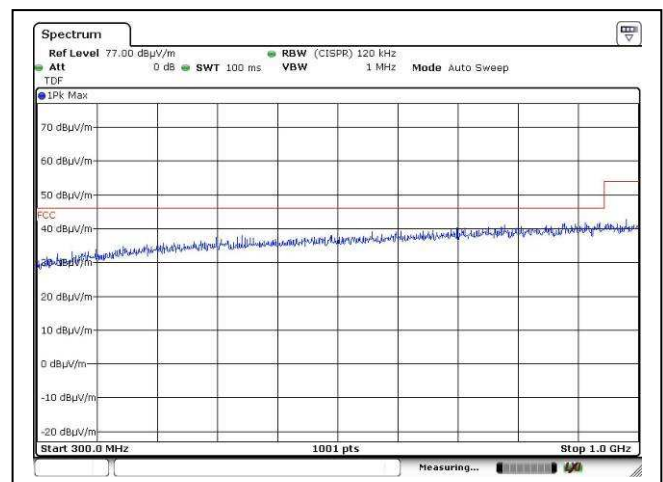
Receiving mode, 30MHz – 300MHz, Horizontal



Receiving mode, 30MHz – 300MHz, Vertical



Receiving mode, 300MHz – 1GHz, Horizontal



Receiving mode, 300MHz – 1GHz, Vertical



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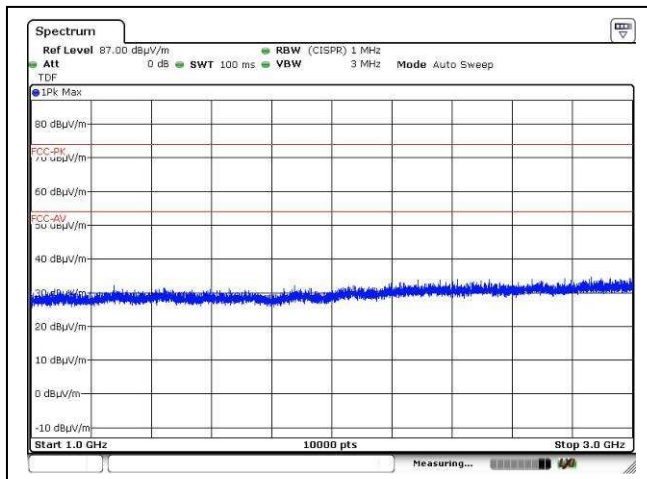
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TEST REPORT

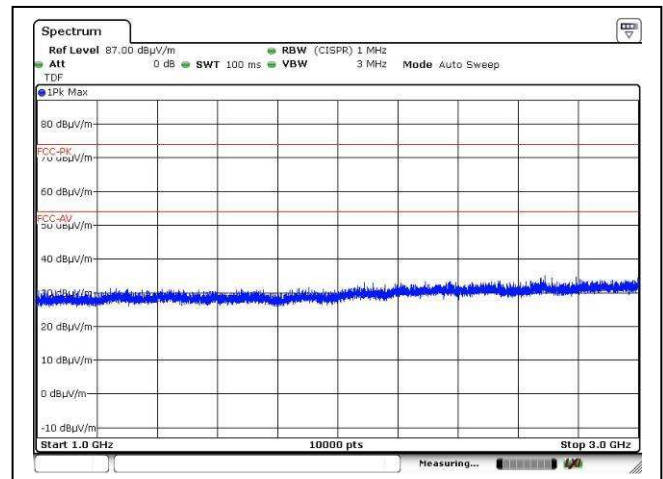
Report No. : AV0032301(9)

Date : 16 Jun 2017

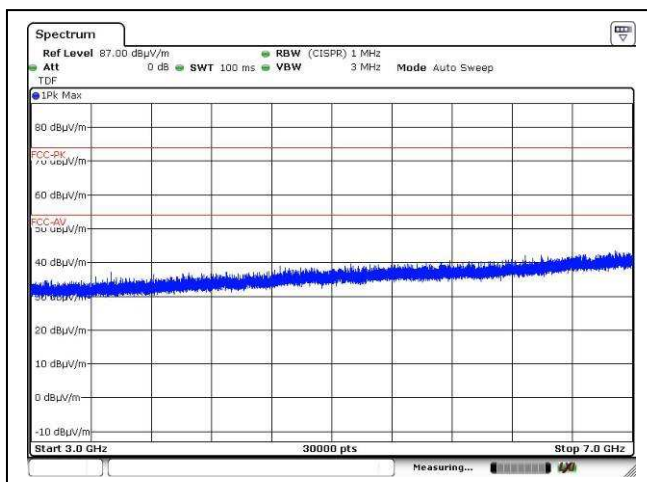
2.3 Radiated Emission Measurement Data (Con't)



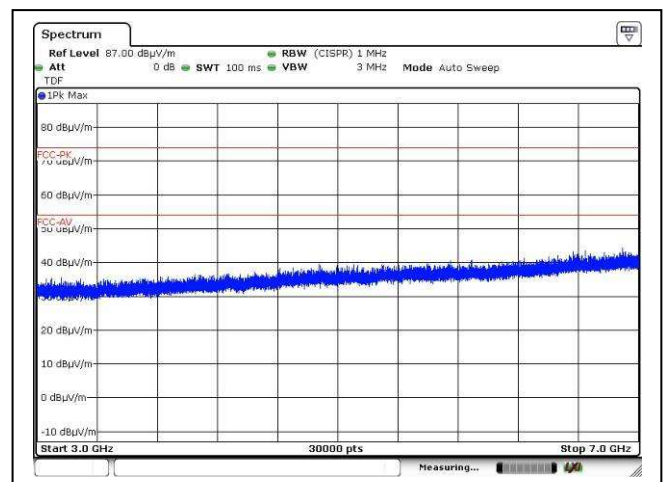
Receiving mode, 1GHz – 3GHz, Horizontal



Receiving mode, 1GHz – 3GHz, Vertical



Receiving mode, 3GHz – 7GHz, Horizontal



Receiving mode, 3GHz – 7GHz, Vertical



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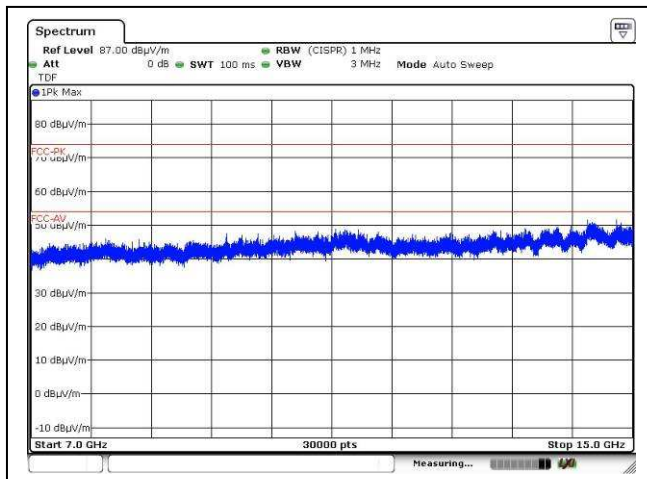
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TEST REPORT

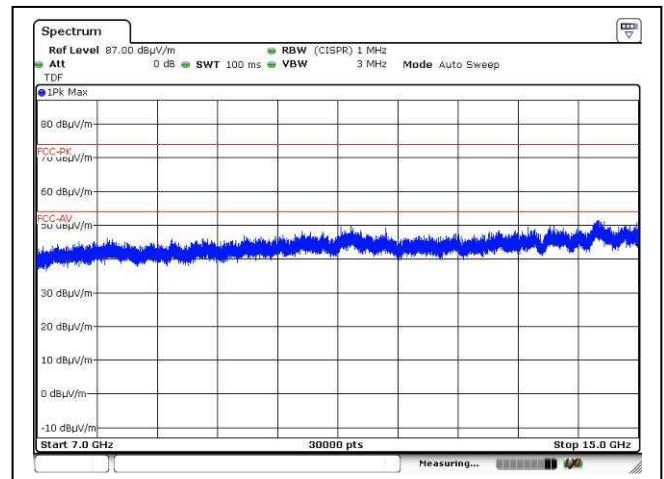
Report No. : AV0032301(9)

Date : 16 Jun 2017

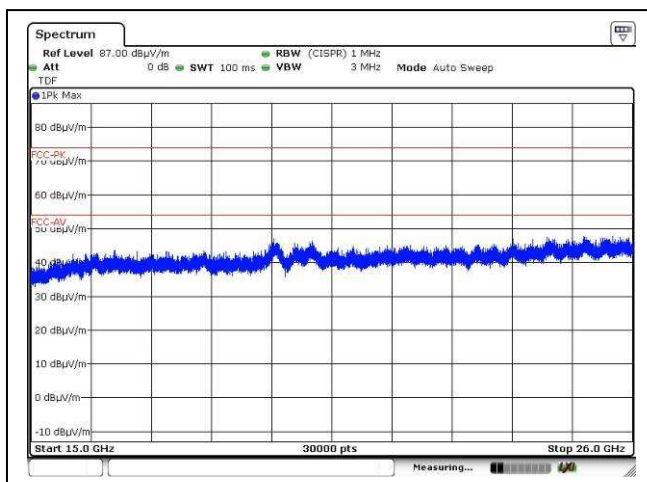
2.3 Radiated Emission Measurement Data (Con't)



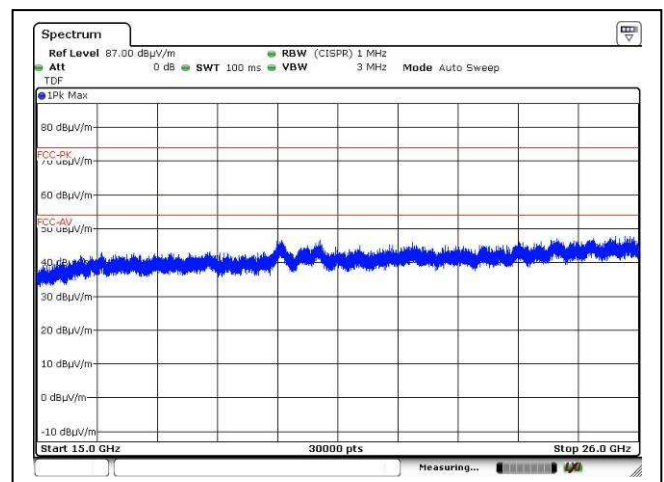
Receiving mode, 7GHz – 15GHz, Horizontal



Receiving mode, 7GHz – 15GHz, Vertical



Receiving mode, above 15GHz, Horizontal



Receiving mode, above 15GHz, Vertical



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TEST REPORT

Report No. : AV0032301(9)

Date : 16 Jun 2017

3 Description of the Line-conducted Test

3.1 Test Procedure

Conducted emissions measurements are investigated and also taken pursuant to the procedures of ANSI C63.10 – 2013. The EUT was setup as described in the procedures, and both lines were measured.

3.2 Test Result

No measurement is required as the EUT is a battery-operated product



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4 Photograph

4.1 Photographs of the Test Setup for Radiated Emission and Conducted Emission

For electronic filing, the photos are saved with filename QEA-U282-2G4T TSup.pdf.

4.2 Photographs of the External and Internal Configurations of the EUT

For electronic filing, the photos are saved with filename QEA-U282-2G4T ExPho.pdf and QEA-U282-2G4T InPho.pdf.

4.3 Antenna requirement

Appendices A4 shows the antenna is permanently attached and cannot be changed. Therefore it fulfils the section 15.203 requirement



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5 Appendices

A1	Photos of the set-up of Radiated Emissions	2	pages
A2	Photos of the set-up of Conducted Emissions	1	page
A3	Photos of External Configurations	2	pages
A4	Photos of Internal Configurations	2	pages
A5	ID Label/Location	2	pages



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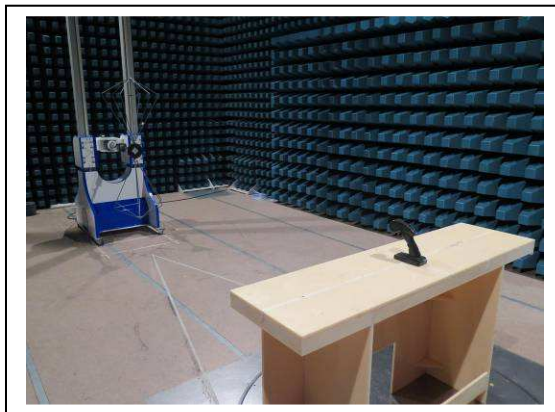
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TEST REPORT

Report No. : AV0032301(9)

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A1. Photos of the set-up of Radiated Emissions



30MHz – 300MHz



300MHz – 1GHz

Tested by:

Mr. LEUNG Shu-kan, Ken

Reviewed by:

Mr. WONG Lap-pong, Andrew

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TEST REPORT

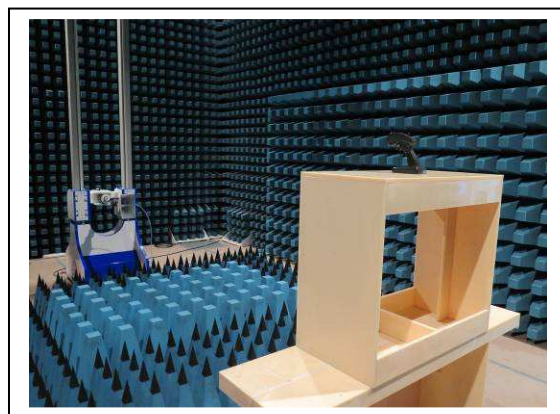
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A1. Photos of the set-up of Radiated Emissions



9kHz – 30MHz



Above 1GHz

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A2. Photos of the set-up of Conducted Emissions



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Mr. WONG Lap-pong, Andrew



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TEST REPORT

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A3 Photos of External Configurations



External Configuration 1



External Configuration 2

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Mr. WONG Lap-pong, Andrew

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A3 Photos of External Configurations



External Configuration 3



External Configuration 4

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Reviewed by:

Mr. WONG Lap-pong, Andrew



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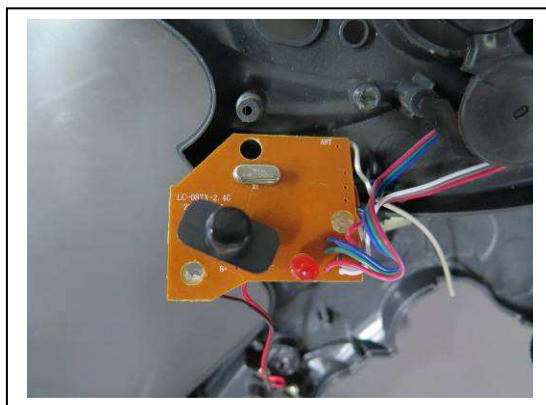
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A4 Photos of Internal Configurations



Internal Configuration 1



Internal Configuration 2

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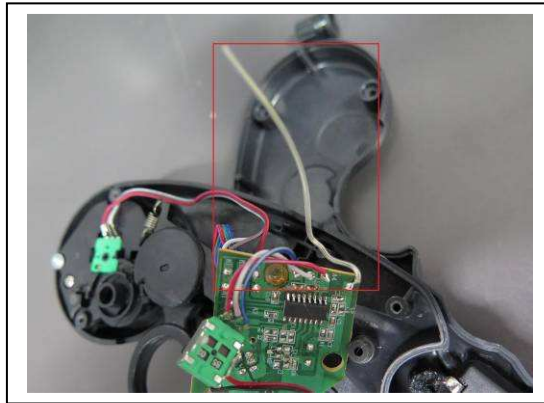
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A4 Photos of Internal Configurations



EUT antenna

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Reviewed by:

Mr. WONG Lap-pong, Andrew

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A5 ID Label / Location



ID Label 1 (FCC)



ID Label 2 (FCC)

Tested by:

Mr. LEUNG Shu-kan, Ken

Reviewed by:

Mr. WONG Lap-pong, Andrew

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TEST REPORT

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A5 ID Label / Location



ID Label 3 (IC)



ID Label 4 (IC)

***** End of Report *****

Tested by:

Mr. LEUNG Shu-kan, Ken

Reviewed by:

Mr. WONG Lap-pong, Andrew

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