



CMA Testing and Certification Laboratories

廠商會檢定中心

TEST REPORT

Report No. : AV0018254(9) Date : 05 Apr 2017

Application No. : LV009853(3)

Applicant : Titan International Technologies Ltd.
Unit A, 5/F, Centro-Sound Industrial Building,
6 A Kung Ngam Village Road, Shau Kei Wan, Hong Kong

Sample Description : One(1) item of submitted sample stated to be Wireless Firing Module of Model
No. Titan-1
Sample registration no. : RV013214-002
Radio Frequency : 2402MHz – 2480MHz Transceiver
Rating : 8 x 1.5V D size batteries
No. of submitted sample : Two (2) piece (s)

Date Received : 28 Mar 2017

Test Period : 28 Mar 2017 to 31 Mar 2017

Test Requested : FCC Part 15 Certification, FCC Part 15 Verification Procedure

Test Method : 47 CFR Part 15 (10-1-15 Edition), ANSI C63.4 – 2014, ANSI C63.10 – 2013
KDB 558074 D01 DTS Meas Guidance v03r05


Test Engineer : Mr. LEUNG Shu-kan, Ken

Test Result : See attached sheet(s) from page 2 to 61.

Conclusion : The submitted sample was found to comply with requirement of FCC Subpart B
and C.

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: 2ALI3T201700001



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1 General Information

1.1 General Description

The equipment under test (EUT) is a wireless firing module. The EUT is power by 8 x 1.5V D size batteries. It operates at 2402MHz – 2480MHz. The EUT will connect to other wireless for firing control.

The brief circuit description is listed as follows:

- U17 and its associated circuit act as MCU
- U1 and its associated circuit act as RF module
- U2, U5 and its associated circuit act as power regulator
- Y1, Y4 and its associated circuit act as oscillator



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1.2 Location of the test site

FCC Registered Test Site Number: 416666

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 2017	1Year
Coaxial Cable	Suhner	RG 214/U	N/A	18 May 2017	1Year
Coaxial Cable	Suhner	Sucoflex_104	N/A	20 Dec 2017	1Year
TS8997 Testing System					
Spectrum Analyzer	R&S	FSV 40	101190	12 May 2017	1Year
Vector Generator	R&S	SMBV100A	262024	04 May 2017	1Year
Generator	R&S	SMB100A	103230	24 May 2017	1Year
OSP	R&S	OSP	OSP120 V02	06 Jun 2017	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:	26	°C
Relative humidity:	65	%

Summary

Test	Frequency (MHz)	Nominal Power (dBm)	Nominal Bandwidth (MHz)	Result
RF output power	2402.000	0.0	1.000000	PASS
Power Spectral Density	2402.000	0.0	1.000000	PASS
Minimum Emission Bandwidth 6 dB	2402.000	0.0	1.000000	PASS
Band Edge low	2402.000	0.0	1.000000	PASS
Tx Spurious Emission	2402.000	0.0	1.000000	PASS
Rx Spurious Emission	2402.000	0.0	1.000000	PASS
RF output power	2440.000	0.0	1.000000	PASS
Power Spectral Density	2440.000	0.0	1.000000	PASS
Minimum Emission Bandwidth 6 dB	2440.000	0.0	1.000000	PASS
Tx Spurious Emission	2440.000	0.0	1.000000	PASS
Rx Spurious Emission	2440.000	0.0	1.000000	PASS
RF output power	2480.000	0.0	1.000000	PASS
Power Spectral Density	2480.000	0.0	1.000000	PASS
Minimum Emission Bandwidth 6 dB	2480.000	0.0	1.000000	PASS
Band Edge high	2480.000	0.0	1.000000	PASS
Tx Spurious Emission	2480.000	0.0	1.000000	PASS
Rx Spurious Emission	2480.000	0.0	1.000000	PASS



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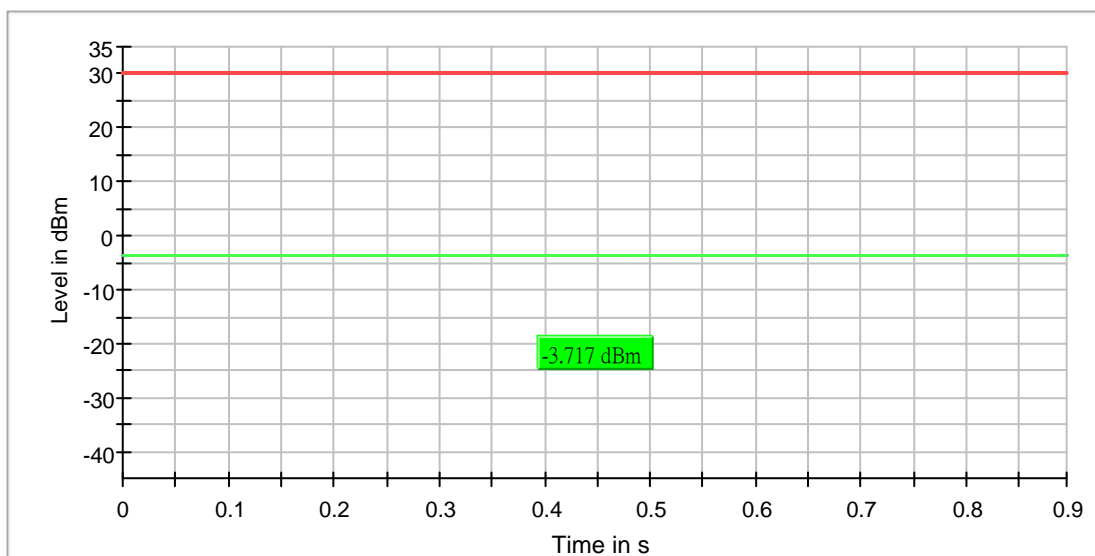
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RF output power (2402 MHz)

Result

DUT Frequency (MHz)	Gated EIRP (dBm)	Limit Max (dBm)	DutyCycle (%)	Result
2402.000000	-3.7	30.0	89.555	PASS





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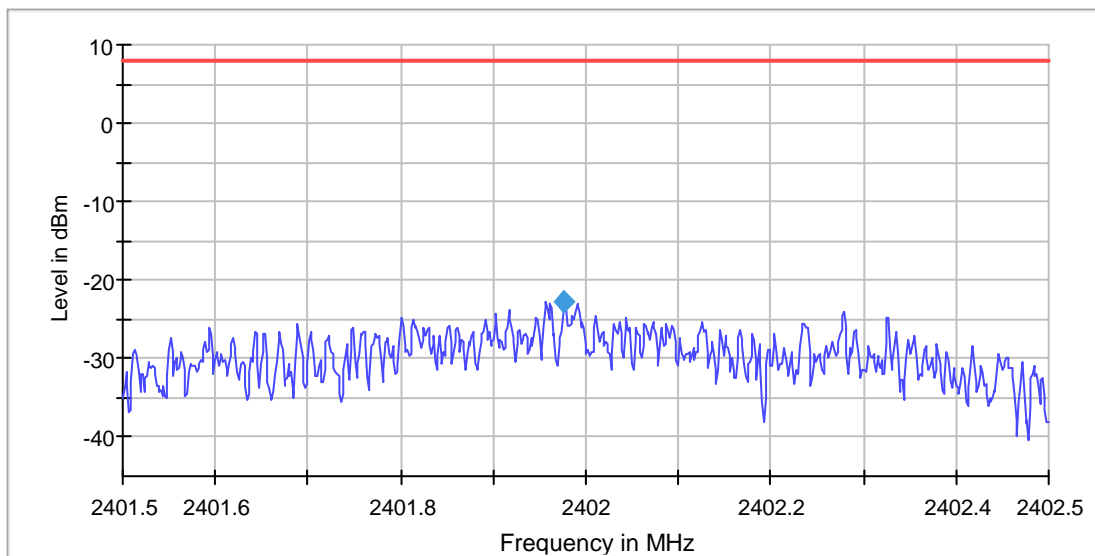
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Power Spectral Density (2402 MHz)

Result

DUT Frequency (MHz)	Frequency (MHz)	PSD (dBm)	Limit Max (dBm)	Result
2402.000000	2401.976796	-22.671	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			
Preamp	off	off			



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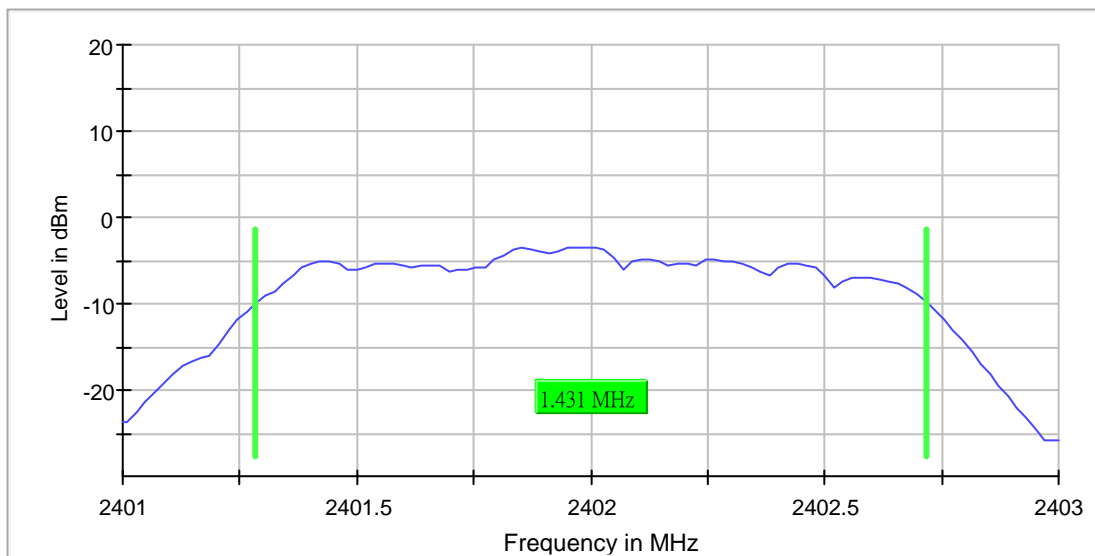
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Minimum Emission Bandwidth 6 dB (2402 MHz)

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
2402.000000	1.431372	0.500000	---	2401.284314	2402.715686	-3.4	PASS



Measurement

Setting	Instrument Value	Target Value	Setting	Instrument Value	Target Value
Start Frequency	2.40100 GHz	2.40100 GHz	Stablemode	Trace	Trace
Stop Frequency	2.40300 GHz	2.40300 GHz	Stablevalue	0.30	0.30
Span	2.000 MHz	2.000 MHz	Run	58 / 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 μs	AUTO			
Reference Level	-10.000 dBm	-10.000 dBm			
Attenuation	10.000 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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Band Edge low (2402 MHz)

Result

DUT Frequency (MHz)	Result
2402.000000	PASS

Inband Peak

Frequency (MHz)	Level (dBm)
2401.973818	-11.5

Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
2399.925042	-60.0	28.5	-31.5	PASS
2399.875069	-60.4	28.9	-31.5	PASS
2399.825097	-60.8	29.3	-31.5	PASS
2399.775125	-61.0	29.5	-31.5	PASS
2399.725153	-61.6	30.2	-31.5	PASS
2399.675180	-62.5	31.0	-31.5	PASS
2399.575236	-63.0	31.6	-31.5	PASS
2399.625208	-63.1	31.6	-31.5	PASS
2399.525264	-63.2	31.7	-31.5	PASS
2399.475292	-64.5	33.0	-31.5	PASS
2399.425319	-64.8	33.4	-31.5	PASS
2399.325375	-65.1	33.6	-31.5	PASS
2399.375347	-65.2	33.7	-31.5	PASS
2399.275403	-65.7	34.3	-31.5	PASS
2399.025541	-66.2	34.7	-31.5	PASS



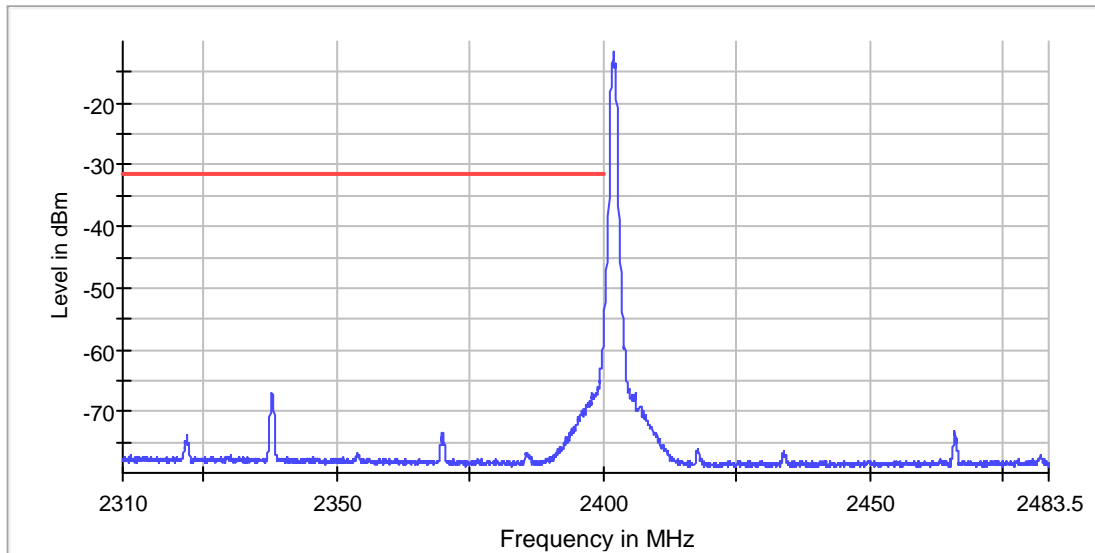
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Measurement 1

Measurement 2

Setting	Instrument Value	Target Value	Setting	Instrument Value	Target Value
RBW	100.000 kHz	<= 100.000 kHz	RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz	VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	1670	~ 1670	SweepPoints	1800	~ 1800
SweepTime	1.670 s	1.670 s	SweepTime	1.800 s	1.800 s
Reference Level	-10.000 dBm	-10.000 dBm	Reference Level	-10.000 dBm	-10.000 dBm
Attenuation	10.000 dB	AUTO	Attenuation	10.000 dB	AUTO
Detector	RMS	RMS	Detector	RMS	RMS
SweepCount	3	3	SweepCount	3	3
Filter	3 dB	3 dB	Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold	Trace Mode	Max Hold	Max Hold
Sweeptype	Sweep	AUTO	Sweeptype	Sweep	AUTO
Preamp	off	off	Preamp	off	off
Stablemode	Trace	Trace	Stablemode	Trace	Trace
Stablevalue	0.30	0.30	Stablevalue	0.30	0.30
Run	3 / max. 15	max. 15	Run	3 / max. 15	max. 15
Stable	3 / 3	3	Stable	3 / 3	3



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Tx Spurious Emission (2402 MHz)

Result

DUT Frequency (MHz)	Result
2402.000000	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)
256.013350	-57.1	7.9	-49.2
255.963352	-57.8	8.6	-49.2
2209.817922	-50.0	8.8	-41.2
2209.318101	-50.1	8.9	-41.2
256.063347	-58.2	8.9	-49.2
2210.317744	-50.3	9.1	-41.2
240.014175	-58.7	9.5	-49.2
2399.250268	-33.4	10.0	-23.4
2208.818279	-51.4	10.1	-41.2
240.064172	-59.8	10.6	-49.2
272.012525	-61.0	11.8	-49.2
271.962528	-61.3	12.1	-49.2
255.913355	-61.4	12.1	-49.2
2241.806498	-54.2	13.0	-41.2
256.113345	-62.5	13.3	-49.2

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



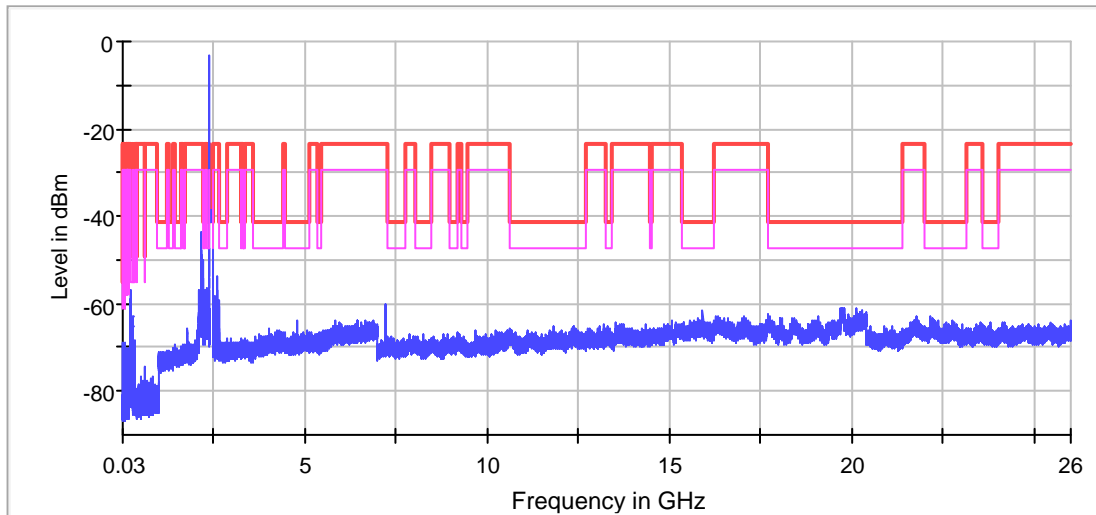
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✗ Limit [limit.Result:1] ✗ Sum Level [trace.Result:1]

Pre Measurement 1

Pre Measurement 2

Setting	Instrument Value	Target Value	Setting	Instrument Value	Target Value
RBW	100.000 kHz	<= 100.000 kHz	RBW	1.000 MHz	<= 1.000 MHz
VBW	300.000 kHz	>= 300.000 kHz	VBW	3.000 MHz	>= 3.000 MHz
SweepPoints	19400	~ 19400	SweepPoints	2800	~ 2800
SweepTime	19.400 ms	AUTO	SweepTime	2.800 ms	AUTO
Reference Level	-30.000 dBm	-30.000 dBm	Reference Level	-30.000 dBm	-30.000 dBm
Attenuation	0.000 dB	AUTO	Attenuation	0.000 dB	AUTO
Detector	MaxPeak	MaxPeak	Detector	MaxPeak	MaxPeak
SweepCount	30	30	SweepCount	30	30
Filter	3 dB	3 dB	Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold	Trace Mode	Max Hold	Max Hold
Sweeptype	Sweep	AUTO	Sweeptype	Sweep	AUTO
Preamp	off	off	Preamp	off	off
Stablemode	Trace	Trace	Stablemode	Trace	Trace
Stablevalue	0.30	0.30	Stablevalue	0.30	0.30
Run	3 / max. 150	max. 150	Run	3 / max. 150	max. 150
Stable	3 / 3	3	Stable	3 / 3	3



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Rx Spurious Emission (2402 MHz)

Result

DUT Frequency (MHz)	Result
2402.000000	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)
32.049789	-68.5	13.2	-55.2
272.225028	-62.8	13.6	-49.2
256.226678	-63.0	13.7	-49.2
64.046490	-69.0	13.8	-55.2
256.026698	-63.1	13.8	-49.2
31.949799	-69.4	14.2	-55.2
240.228327	-63.7	14.5	-49.2
256.126688	-63.7	14.5	-49.2
240.128337	-64.0	14.7	-49.2
272.125039	-64.2	14.9	-49.2
63.946500	-70.4	15.2	-55.2
272.325018	-64.5	15.3	-49.2
240.328317	-65.0	15.8	-49.2
288.023400	-65.0	15.8	-49.2
256.326667	-65.5	16.3	-49.2

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



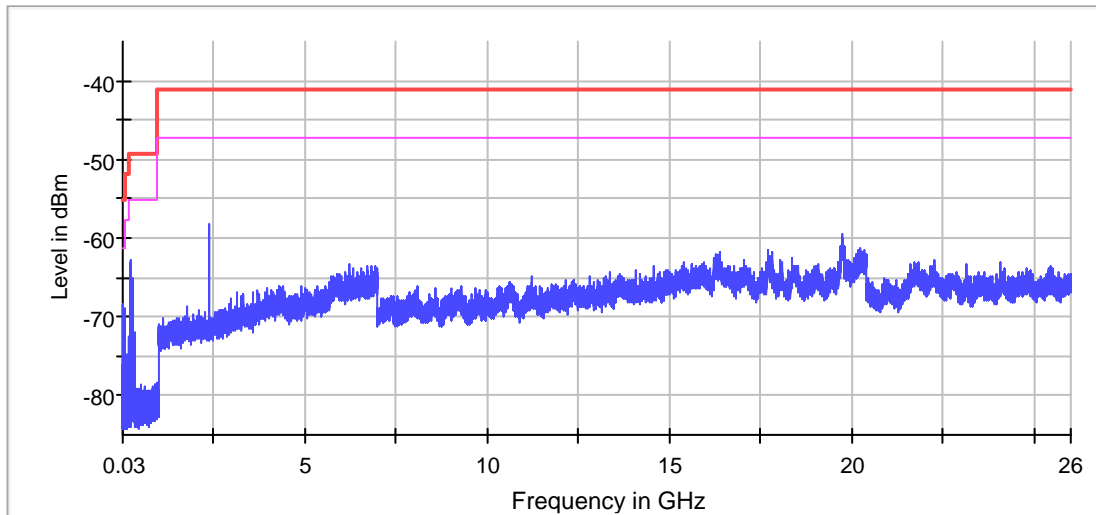
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— Limit [limit.Result:1] × Threshold [limit.2.Result:1]

Pre Measurement 1

Pre Measurement 2

Setting	Instrument Value	Target Value	Setting	Instrument Value	Target Value
RBW	100.000 kHz	<= 100.000 kHz	RBW	1.000 MHz	<= 1.000 MHz
VBW	300.000 kHz	>= 300.000 kHz	VBW	3.000 MHz	>= 3.000 MHz
SweepPoints	9700	~ 9700	SweepPoints	6000	~ 6000
SweepTime	9.700 ms	AUTO	SweepTime	6.000 ms	AUTO
Reference Level	-67.000 dBm	-67.000 dBm	Reference Level	-67.000 dBm	-67.000 dBm
Attenuation	0.000 dB	AUTO	Attenuation	0.000 dB	AUTO
Detector	MaxPeak	MaxPeak	Detector	MaxPeak	MaxPeak
SweepCount	100	100	SweepCount	100	100
Filter	3 dB	3 dB	Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold	Trace Mode	Max Hold	Max Hold
Sweeptype	Sweep	AUTO	Sweeptype	Sweep	AUTO
Preamp	off	off	Preamp	off	off
Stablemode	Trace	Trace	Stablemode	Trace	Trace
Stablevalue	0.30	0.30	Stablevalue	0.30	0.30
Run	3 / max. 150	max. 150	Run	3 / max. 150	max. 150
Stable	3 / 3	3	Stable	3 / 3	3



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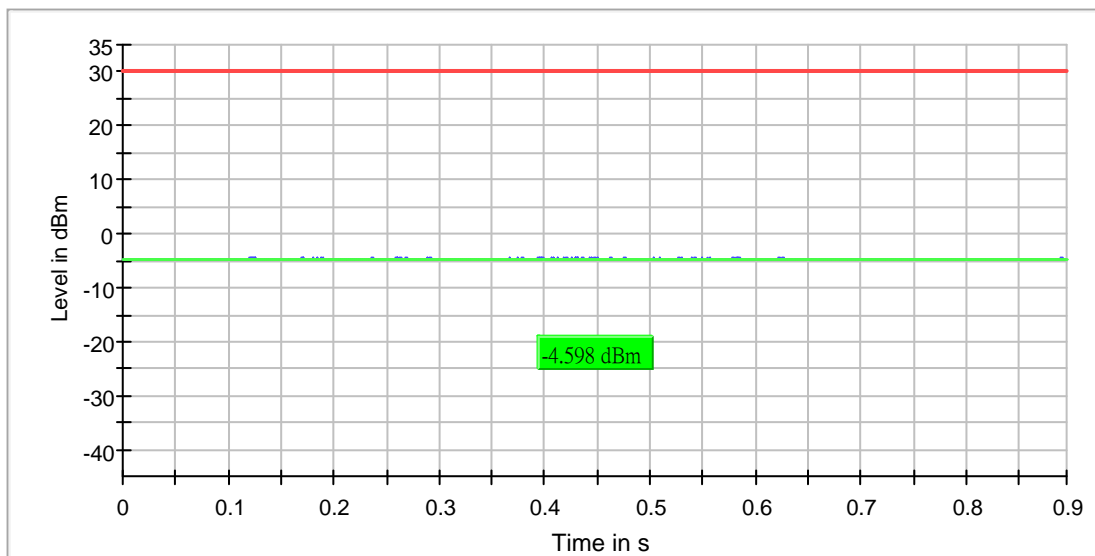
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RF output power (2440 MHz)

Result

DUT Frequency (MHz)	Gated EIRP (dBm)	Limit Max (dBm)	DutyCycle (%)	Result
2440.000000	-4.6	30.0	89.570	PASS





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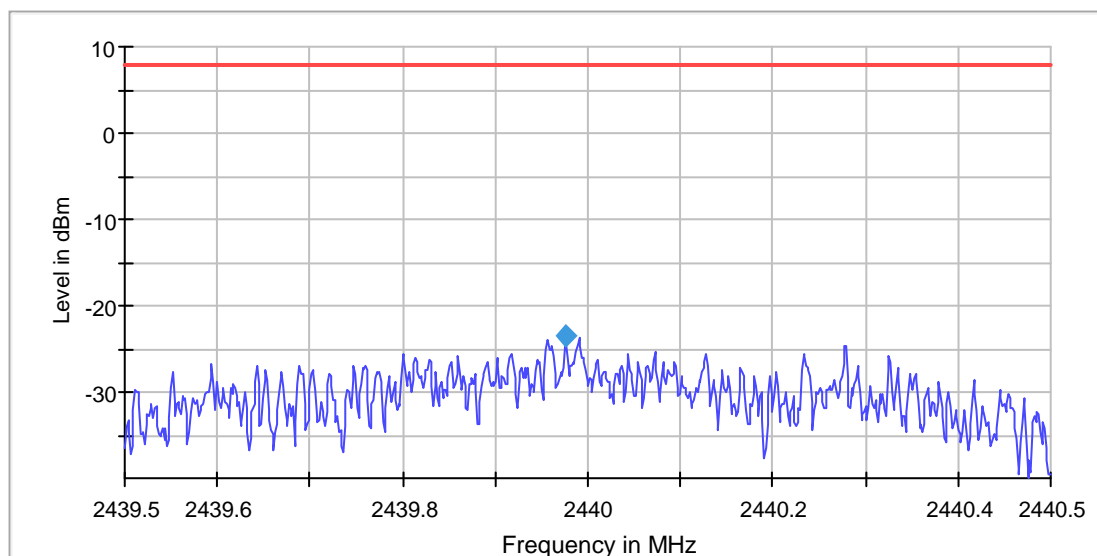
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Power Spectral Density (2440 MHz)

Result

DUT Frequency (MHz)	Frequency (MHz)	PSD (dBm)	Limit Max (dBm)	Result
2440.000000	2439.975299	-23.473	8.0	PASS



Measurement

Setting	Instrument Value	Target Value	Setting	Instrument Value	Target Value
Start Frequency	2.43950 GHz	2.43950 GHz	Stablemode	Trace	Trace
Stop Frequency	2.44050 GHz	2.44050 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			
Preamp	off	off			



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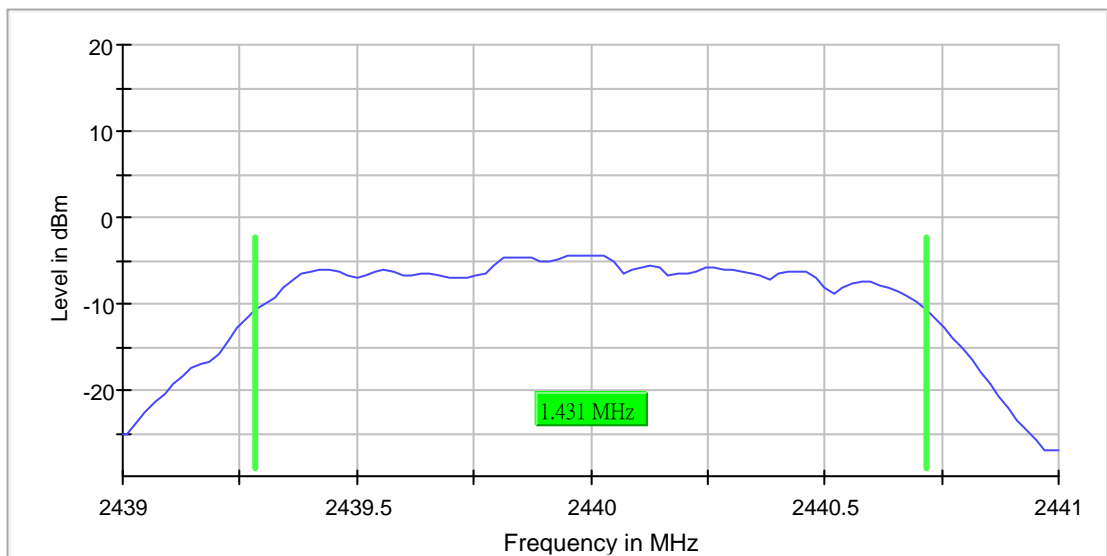
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Minimum Emission Bandwidth 6 dB (2440 MHz)

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
2440.000000	1.431372	0.500000	---	2439.284314	2440.715686	-4.3	PASS



Measurement

Setting	Instrument Value	Target Value	Setting	Instrument Value	Target Value
Start Frequency	2.43900 GHz	2.43900 GHz	Stablemode	Trace	Trace
Stop Frequency	2.44100 GHz	2.44100 GHz	Stablevalue	0.30	0.30
Span	2.000 MHz	2.000 MHz	Run	64 / 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 µs	AUTO			
Reference Level	-10.000 dBm	-10.000 dBm			
Attenuation	10.000 dB	AUTO			
Detector	MaxPeak	MaxPeak			
SweepCount	100	100			
Filter	3 dB	3 dB			
Trace Mode	Max Hold	AUTO Hold			
SweepType	FFT	AUTO			
Preamp	off	off			



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廠商會檢定中心

TEST REPORT

Report No. : AV0018254(9)

Date : 05 Apr 2017

Tx Spurious Emission (2440 MHz)

Result

DUT Frequency (MHz)	Result
2440.000000	PASS

Final measurements

Frequency (MHz)	Level Pre Measurement (dBm)	level (dBm)	Limit (dBm)	Margin (dB)	Result
2215.815780	-42.9	-45.6	-41.2	4.4	PASS

Pre Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
2215.815780	-42.9	1.7	-41.2
2215.315959	-43.0	1.8	-41.2
2216.315602	-43.1	1.9	-41.2
2216.815423	-43.6	2.3	-41.2
2214.816137	-44.9	3.6	-41.2
2200.321314	-47.3	6.1	-41.2
2217.315245	-47.9	6.6	-41.2
2200.821135	-48.3	7.1	-41.2
2248.304177	-49.3	8.1	-41.2
2247.804356	-49.5	8.2	-41.2
256.013350	-57.8	8.6	-49.2
2247.304534	-50.1	8.9	-41.2
255.963352	-58.5	9.3	-49.2
256.063347	-58.9	9.6	-49.2
240.014175	-59.3	10.0	-49.2

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



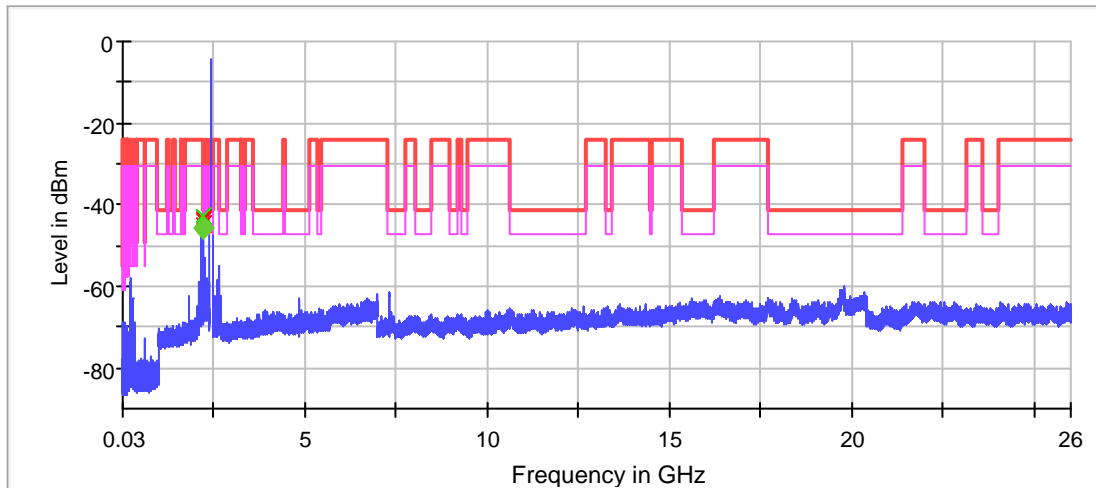
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- ✗ Limit [limit.Result:1]
- ◆ Threshold [limit.2.Result:1]
- ✗ Sum Level [trace.Result:1]
- ◆ Critical [Over Limit.Result:1]

Pre Measurement 1

Pre Measurement 2

Setting	Instrument Value	Target Value	Setting	Instrument Value	Target Value
RBW	100.000 kHz	<= 100.000 kHz	RBW	1.000 MHz	<= 1.000 MHz
VBW	300.000 kHz	>= 300.000 kHz	VBW	3.000 MHz	>= 3.000 MHz
SweepPoints	19400	~ 19400	SweepPoints	2800	~ 2800
SweepTime	19.400 ms	AUTO	SweepTime	2.800 ms	AUTO
Reference Level	-30.000 dBm	-30.000 dBm	Reference Level	-30.000 dBm	-30.000 dBm
Attenuation	0.000 dB	AUTO	Attenuation	0.000 dB	AUTO
Detector	MaxPeak	MaxPeak	Detector	MaxPeak	MaxPeak
SweepCount	30	30	SweepCount	30	30
Filter	3 dB	3 dB	Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold	Trace Mode	Max Hold	Max Hold
Sweeptype	Sweep	AUTO	Sweeptype	Sweep	AUTO
Preamp	off	off	Preamp	off	off
Stablemode	Trace	Trace	Stablemode	Trace	Trace
Stablevalue	0.30	0.30	Stablevalue	0.30	0.30
Run	3 / max. 150	max. 150	Run	3 / max. 150	max. 150
Stable	3 / 3	3	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

Report No. : AV0018254(9)

Date : 05 Apr 2017

Rx Spurious Emission (2440 MHz)

Result

DUT Frequency (MHz)	Result
2440.000000	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)
256.026698	-59.3	10.0	-49.2
255.926709	-61.9	12.6	-49.2
224.029997	-62.4	13.1	-49.2
256.126688	-62.4	13.2	-49.2
32.049789	-68.6	13.4	-55.2
64.046490	-68.9	13.7	-55.2
240.028348	-62.9	13.7	-49.2
31.949799	-69.6	14.4	-55.2
63.946500	-70.1	14.8	-55.2
239.928358	-65.0	15.7	-49.2
288.023400	-65.2	15.9	-49.2
224.129987	-66.0	16.8	-49.2
272.025049	-66.1	16.8	-49.2
2440.259957	-58.3	17.1	-41.2
2439.260123	-58.4	17.1	-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



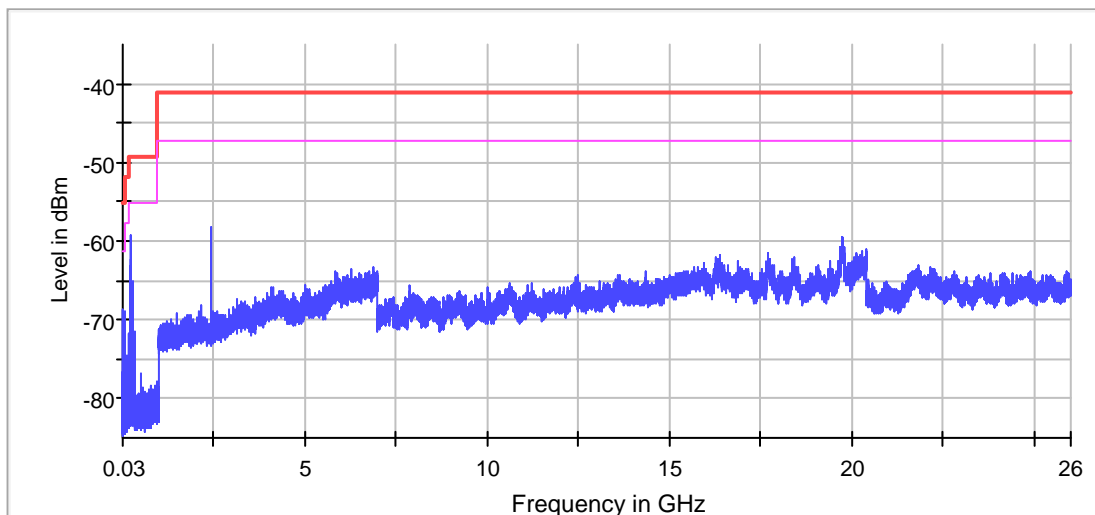
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— Limit [limit.Result:1] × Threshold [limit.2.Result:1]

Pre Measurement 1

Pre Measurement 2

Setting	Instrument Value	Target Value		Setting	Instrument Value	Target Value
RBW	100.000 kHz	<= 100.000 kHz		RBW	1.000 MHz	<= 1.000 MHz
VBW	300.000 kHz	>= 300.000 kHz		VBW	3.000 MHz	>= 3.000 MHz
SweepPoints	9700	~ 9700		SweepPoints	6000	~ 6000
SweepTime	9.700 ms	AUTO		SweepTime	6.000 ms	AUTO
Reference Level	-67.000 dBm	-67.000 dBm		Reference Level	-67.000 dBm	-67.000 dBm
Attenuation	0.000 dB	AUTO		Attenuation	0.000 dB	AUTO
Detector	MaxPeak	MaxPeak		Detector	MaxPeak	MaxPeak
SweepCount	100	100		SweepCount	100	100
Filter	3 dB	3 dB		Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold		Trace Mode	Max Hold	Max Hold
Sweeptype	Sweep	AUTO		Sweeptype	Sweep	AUTO
Preamp	off	off		Preamp	off	off
Stablemode	Trace	Trace		Stablemode	Trace	Trace
Stablevalue	0.30	0.30		Stablevalue	0.30	0.30
Run	3 / max. 150	max. 150		Run	3 / max. 150	max. 150
Stable	3 / 3	3		Stable	3 / 3	3



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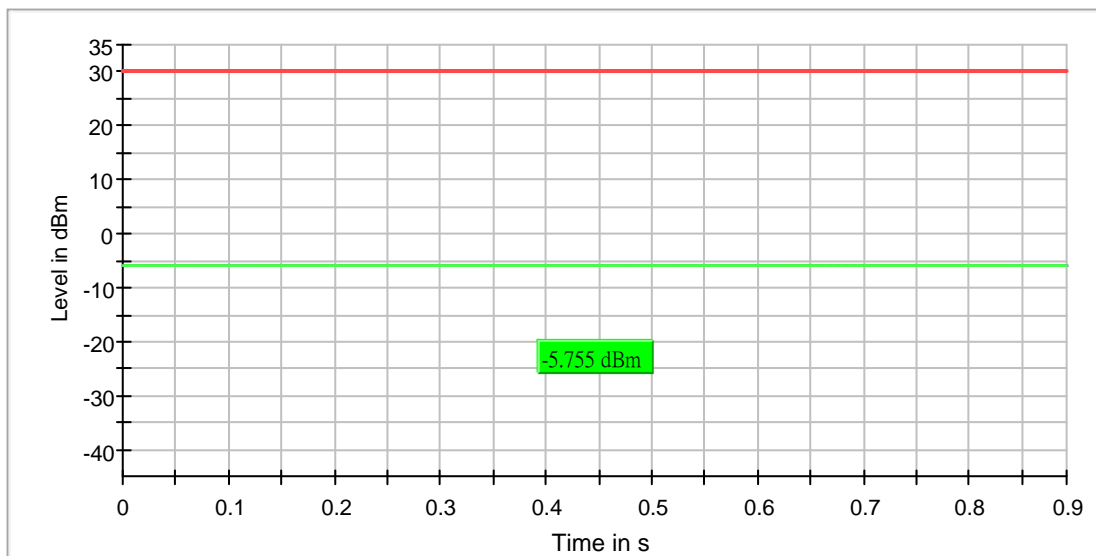
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RF output power (2480 MHz)

Result

DUT Frequency (MHz)	Gated EIRP (dBm)	Limit Max (dBm)	DutyCycle (%)	Result
2480.000000	-5.8	30.0	89.258	PASS





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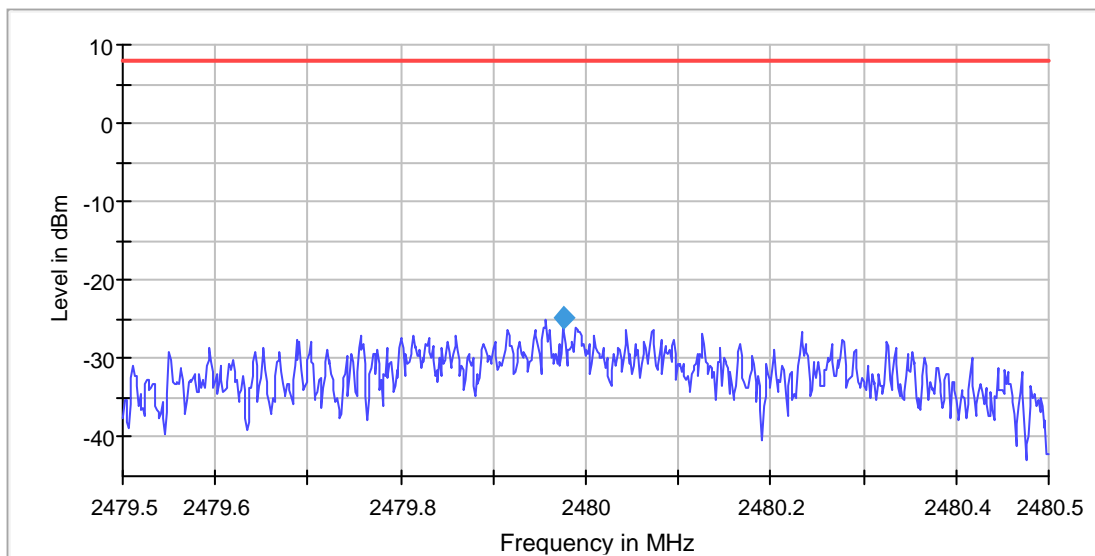
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Power Spectral Density (2480 MHz)

Result

DUT Frequency (MHz)	Frequency (MHz)	PSD (dBm)	Limit Max (dBm)	Result
2480.000000	2479.975299	-24.701	8.0	PASS



Measurement

Setting	Instrument Value	Target Value	Setting	Instrument Value	Target Value
Start Frequency	2.47950 GHz	2.47950 GHz	Stablemode	Trace	Trace
Stop Frequency	2.48050 GHz	2.48050 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			
Preamp	off	off			



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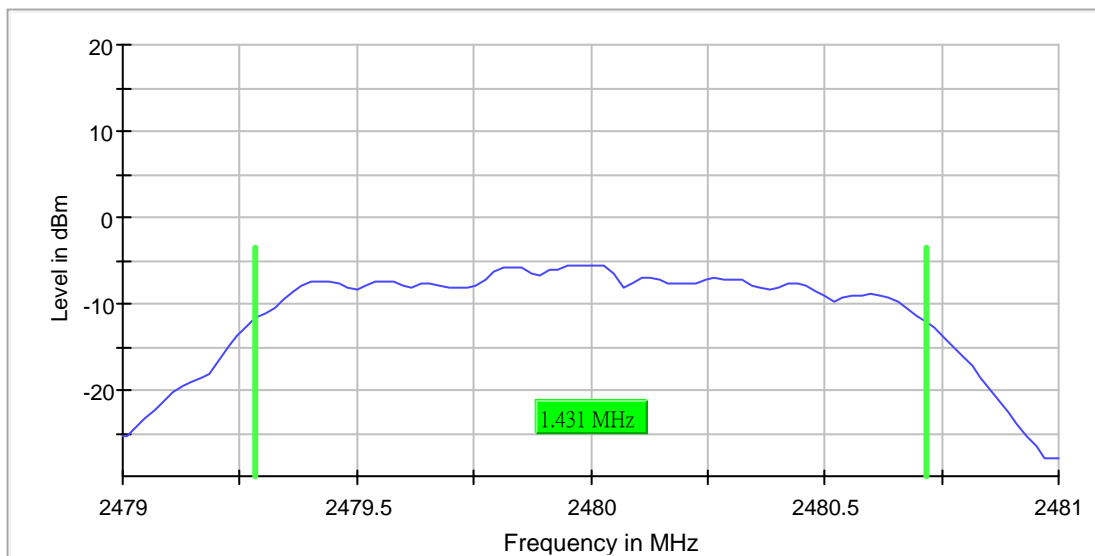
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Minimum Emission Bandwidth 6 dB (2480 MHz)

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
2480.000000	1.431372	0.500000	---	2479.284314	2480.715686	-5.5	PASS



Measurement

Setting	Instrument Value	Target Value	Setting	Instrument Value	Target Value
Start Frequency	2.47900 GHz	2.47900 GHz	Stablemode	Trace	Trace
Stop Frequency	2.48100 GHz	2.48100 GHz	Stablevalue	0.30	0.30
Span	2.000 MHz	2.000 MHz	Run	36 / 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 μs	AUTO			
Reference Level	-10.000 dBm	-10.000 dBm			
Attenuation	10.000 dB	AUTO			
Detector	MaxPeak	MaxPeak			
SweepCount	100	100			
Filter	3 dB	3 dB			
Trace Mode	Max Hold	AUTO Hold			
SweepType	FFT	AUTO			
Preamp	off	off			



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Band Edge high (2480 MHz)

Result

DUT Frequency (MHz)	Result
2480.000000	PASS

Inband Peak

Frequency (MHz)	Level (dBm)
2479.927139	-13.5

Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
2484.073263	-69.3	35.8	-33.5	PASS
2483.624622	-69.4	35.8	-33.5	PASS
2483.724320	-69.5	36.0	-33.5	PASS
2484.123112	-69.5	36.0	-33.5	PASS
2483.674471	-69.5	36.0	-33.5	PASS
2484.172961	-69.6	36.0	-33.5	PASS
2483.524924	-69.7	36.2	-33.5	PASS
2483.574773	-69.7	36.2	-33.5	PASS
2484.023414	-69.8	36.3	-33.5	PASS
2483.973565	-70.0	36.4	-33.5	PASS
2483.774169	-70.0	36.5	-33.5	PASS
2484.222810	-70.1	36.5	-33.5	PASS
2483.873867	-70.2	36.7	-33.5	PASS
2484.272659	-70.2	36.7	-33.5	PASS
2483.923716	-70.2	36.7	-33.5	PASS



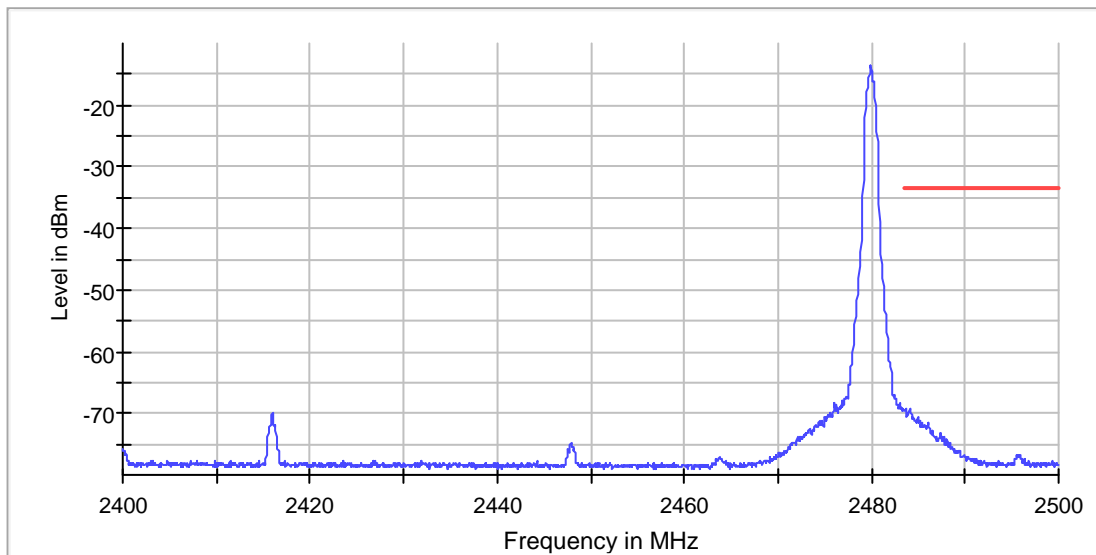
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Measurement 1

Measurement 2

Setting	Instrument Value	Target Value	Setting	Instrument Value	Target Value
RBW	100.000 kHz	<= 100.000 kHz	RBW	100.000 kHz	<= 100.000 kHz
VBW	300.000 kHz	>= 300.000 kHz	VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	1670	~ 1670	SweepPoints	330	~ 330
SweepTime	1.670 s	1.670 s	SweepTime	330.000 ms	330.000 ms
Reference Level	-10.000 dBm	-10.000 dBm	Reference Level	-10.000 dBm	-10.000 dBm
Attenuation	10.000 dB	AUTO	Attenuation	10.000 dB	AUTO
Detector	RMS	RMS	Detector	RMS	RMS
SweepCount	3	3	SweepCount	3	3
Filter	3 dB	3 dB	Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold	Trace Mode	Max Hold	Max Hold
SweepType	Sweep	AUTO	SweepType	Sweep	AUTO
Preamp	off	off	Preamp	off	off
Stablemode	Trace	Trace	Stablemode	Trace	Trace
Stablevalue	0.30	0.30	Stablevalue	0.30	0.30
Run	3 / max. 15	max. 15	Run	3 / max. 15	max. 15
Stable	3 / 3	3	Stable	3 / 3	3



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TEST REPORT

Report No. : AV0018254(9)

Date : 05 Apr 2017

Tx Spurious Emission (2480 MHz)

Result

DUT Frequency (MHz)	Result
2480.000000	PASS

Final measurements

Frequency (MHz)	Level Pre Measurement (dBm)	level (dBm)	Limit (dBm)	Margin (dB)	Result
2255.801499	-41.8	-45.1	-41.2	3.9	PASS
2483.749972	-46.3	-60.6	-41.2	19.4	PASS

Pre Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
2255.801499	-41.8	0.5	-41.2
2256.301321	-41.9	0.7	-41.2
2255.301678	-42.1	0.9	-41.2
2254.801856	-44.2	3.0	-41.2
2256.801142	-44.3	3.1	-41.2
2483.749972	-46.3	5.1	-41.2
2223.812924	-47.4	6.1	-41.2
2224.312745	-47.5	6.3	-41.2
2239.807212	-47.8	6.6	-41.2
2240.307033	-47.8	6.6	-41.2
2223.313102	-47.8	6.6	-41.2
2240.806855	-48.0	6.8	-41.2
2239.307390	-48.4	7.2	-41.2
2222.813281	-48.6	7.3	-41.2
2287.290253	-48.9	7.7	-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



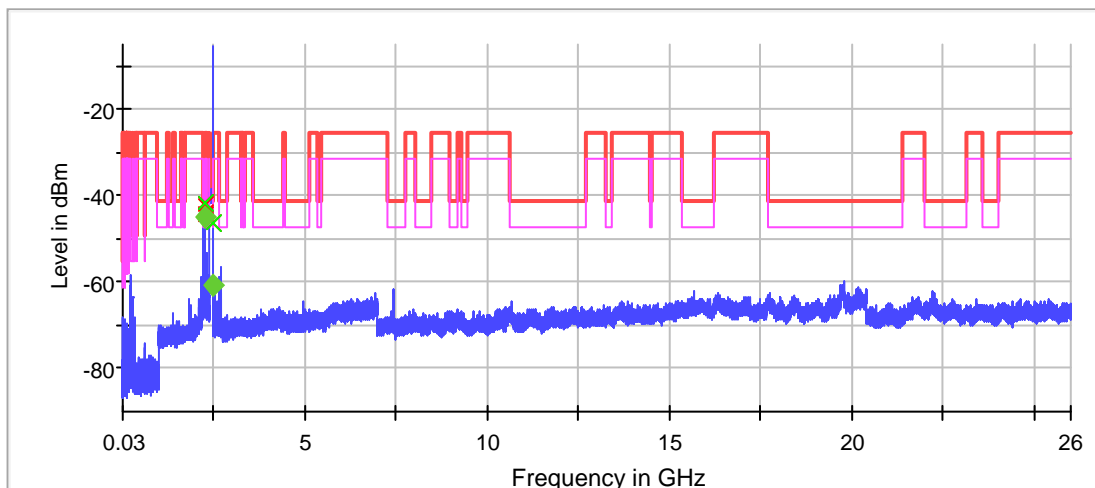
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x Limit [limit.Result:1] x Sum Level [trace.Result:1]
◆ Threshold [limit.2.Result:1] ◆ Critical [Over Limit.Result:1]

Pre Measurement 1

Pre Measurement 2

Setting	Instrument Value	Target Value	Setting	Instrument Value	Target Value
RBW	100.000 kHz	<= 100.000 kHz	RBW	1.000 MHz	<= 1.000 MHz
VBW	300.000 kHz	>= 300.000 kHz	VBW	3.000 MHz	>= 3.000 MHz
SweepPoints	19400	~ 19400	SweepPoints	2800	~ 2800
SweepTime	19.400 ms	AUTO	SweepTime	2.800 ms	AUTO
Reference Level	-30.000 dBm	-30.000 dBm	Reference Level	-30.000 dBm	-30.000 dBm
Attenuation	0.000 dB	AUTO	Attenuation	0.000 dB	AUTO
Detector	MaxPeak	MaxPeak	Detector	MaxPeak	MaxPeak
SweepCount	30	30	SweepCount	30	30
Filter	3 dB	3 dB	Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold	Trace Mode	Max Hold	Max Hold
Sweeptype	Sweep	AUTO	Sweeptype	Sweep	AUTO
Preamp	off	off	Preamp	off	off
Stablemode	Trace	Trace	Stablemode	Trace	Trace
Stablevalue	0.30	0.30	Stablevalue	0.30	0.30
Run	3 / max. 150	max. 150	Run	3 / max. 150	max. 150
Stable	3 / 3	3	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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Date : 05 Apr 2017

Rx Spurious Emission (2480 MHz)

Result

DUT Frequency (MHz)	Result
2480.000000	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)
256.026698	-61.9	12.7	-49.2
64.046490	-68.9	13.6	-55.2
32.049789	-68.9	13.7	-55.2
31.949799	-69.9	14.7	-55.2
255.926709	-63.9	14.7	-49.2
63.946500	-70.3	15.0	-55.2
224.029997	-64.3	15.1	-49.2
240.028348	-65.1	15.9	-49.2
239.928358	-65.4	16.1	-49.2
2477.253791	-58.2	17.0	-41.2
255.826719	-66.5	17.3	-49.2
287.923410	-66.6	17.3	-49.2
223.930007	-66.6	17.4	-49.2
256.126688	-66.6	17.4	-49.2
2478.253624	-58.7	17.4	-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



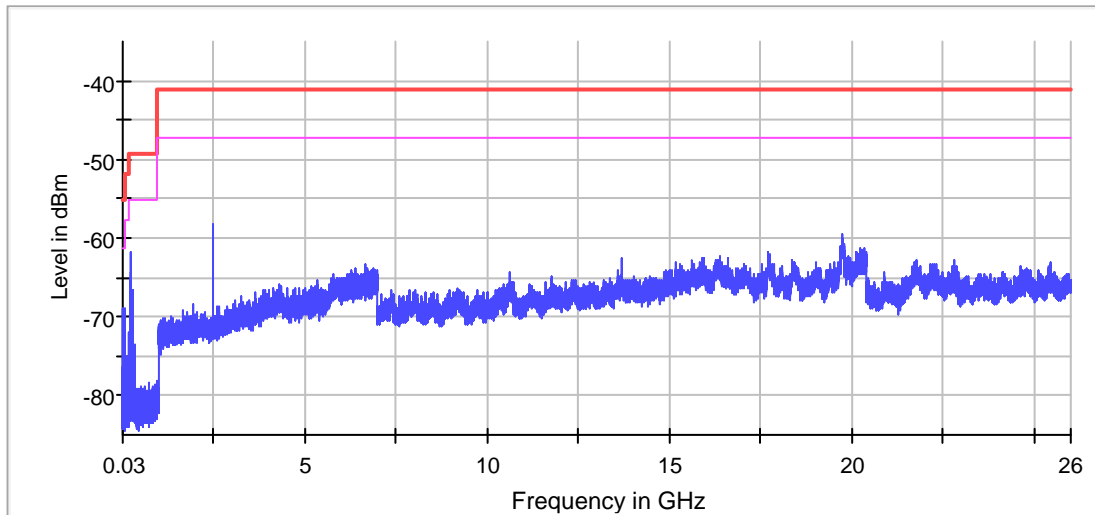
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— Limit [limit.Result:1] × Threshold [limit.2.Result:1]

Pre Measurement 1

Pre Measurement 2

Setting	Instrument Value	Target Value	Setting	Instrument Value	Target Value
RBW	100.000 kHz	<= 100.000 kHz	RBW	1.000 MHz	<= 1.000 MHz
VBW	300.000 kHz	>= 300.000 kHz	VBW	3.000 MHz	>= 3.000 MHz
SweepPoints	9700	~ 9700	SweepPoints	6000	~ 6000
SweepTime	9.700 ms	AUTO	SweepTime	6.000 ms	AUTO
Reference Level	-67.000 dBm	-67.000 dBm	Reference Level	-67.000 dBm	-67.000 dBm
Attenuation	0.000 dB	AUTO	Attenuation	0.000 dB	AUTO
Detector	MaxPeak	MaxPeak	Detector	MaxPeak	MaxPeak
SweepCount	100	100	SweepCount	100	100
Filter	3 dB	3 dB	Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold	Trace Mode	Max Hold	Max Hold
Sweeptype	Sweep	AUTO	Sweeptype	Sweep	AUTO
Preamp	off	off	Preamp	off	off
Stablemode	Trace	Trace	Stablemode	Trace	Trace
Stablevalue	0.30	0.30	Stablevalue	0.30	0.30
Run	3 / max. 150	max. 150	Run	3 / max. 150	max. 150
Stable	3 / 3	3	Stable	3 / 3	3



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TEST REPORT

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2.3 Radiated Emission Measurement Data

Environmental conditions:

Parameter	Recorded value	
Ambient temperature:	23	° 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)
2401.420	H	88.0	- 4.2	83.8	114.0	- 30.2	Peak
2401.946	V	87.5	- 4.2	83.3	114.0	- 30.7	Peak
2439.951	H	84.7	- 4.3	80.4	114.0	- 33.6	Peak
2440.243	V	86.2	- 4.3	81.9	114.0	- 32.1	Peak
2479.992	H	84.3	- 4.3	80.0	114.0	- 34.0	Peak
2480.387	V	84.2	- 4.3	79.9	114.0	- 34.1	Peak
2255.921	H	62.4	- 6.6	55.8	74.0	- 18.2	Peak
2255.987	H	54.9	- 6.6	48.3	54.0	- 5.7	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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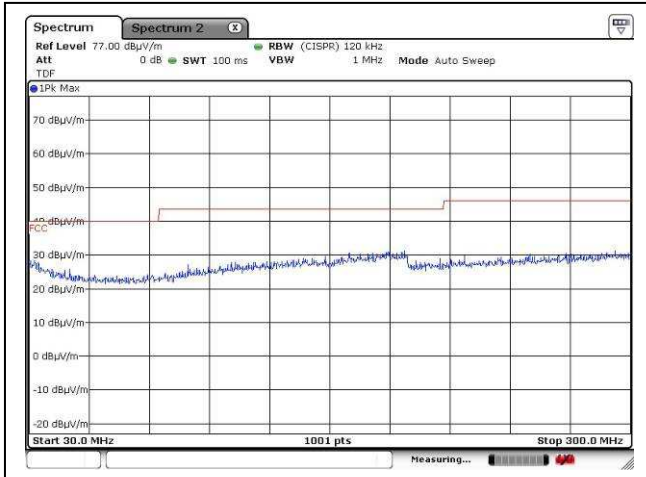
廠商會檢定中心

TEST REPORT

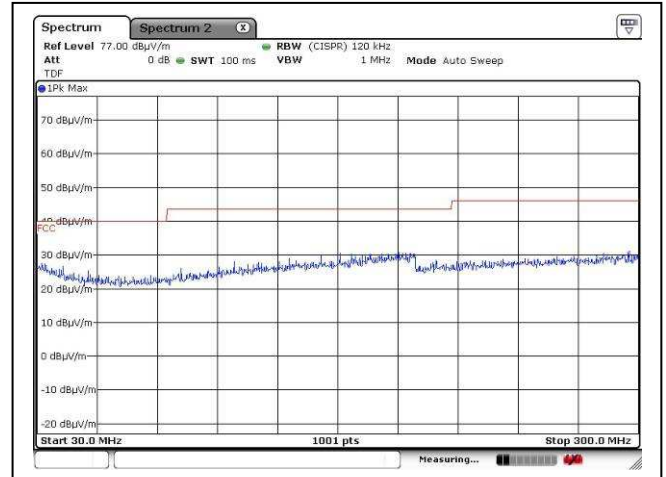
Report No. : AV0018254(9)

Date : 05 Apr 2017

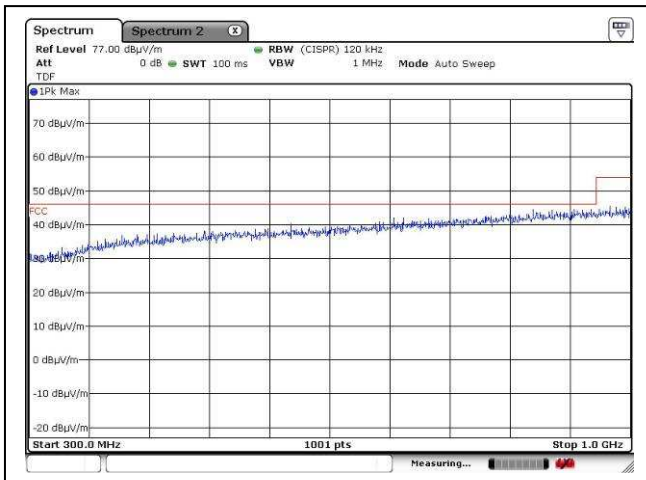
2.3 Radiated Emission Measurement Data (Con't)



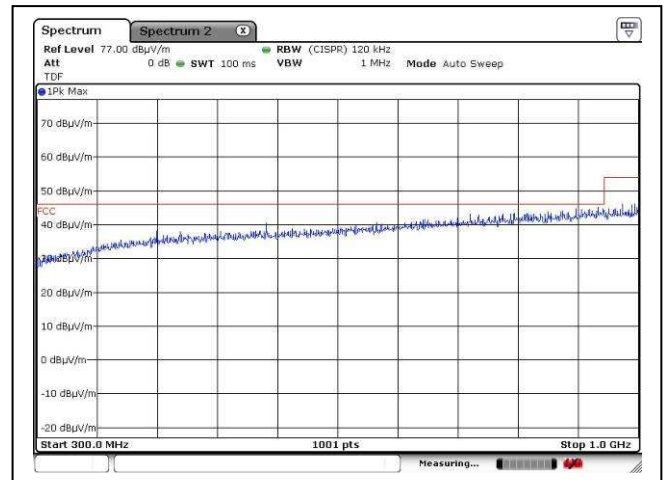
Lower channel, 30MHz – 300MHz, Horizontal



Lower channel, 30MHz – 300MHz, Vertical



Lower channel, 300MHz – 1GHz, Horizontal



Lower channel, 300MHz – 1GHz, Vertical



CMA Testing and Certification Laboratories

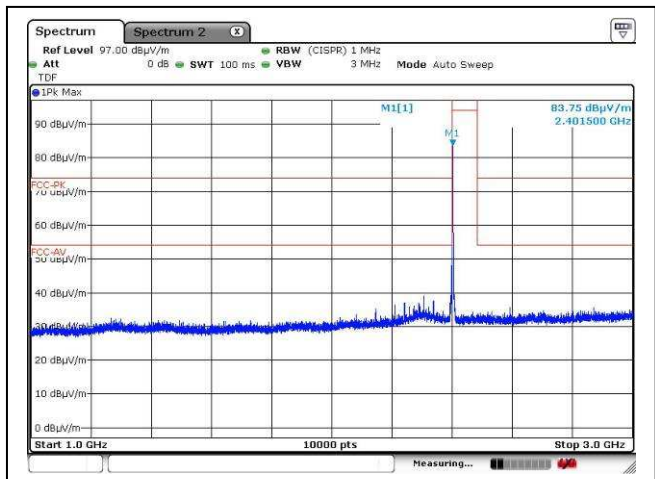
廠商會檢定中心

TEST REPORT

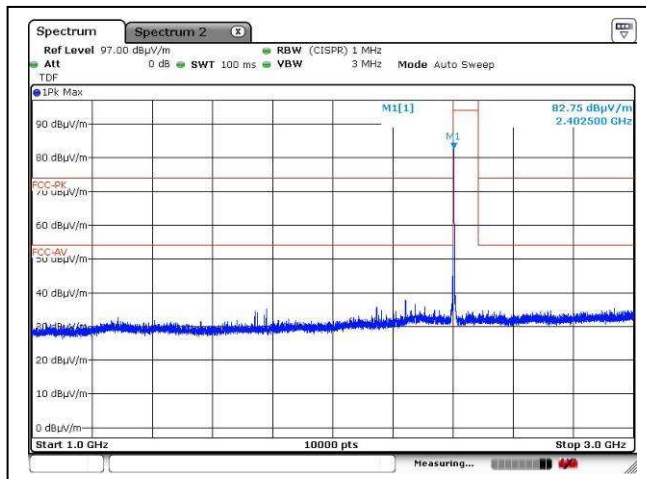
Report No. : AV0018254(9)

Date : 05 Apr 2017

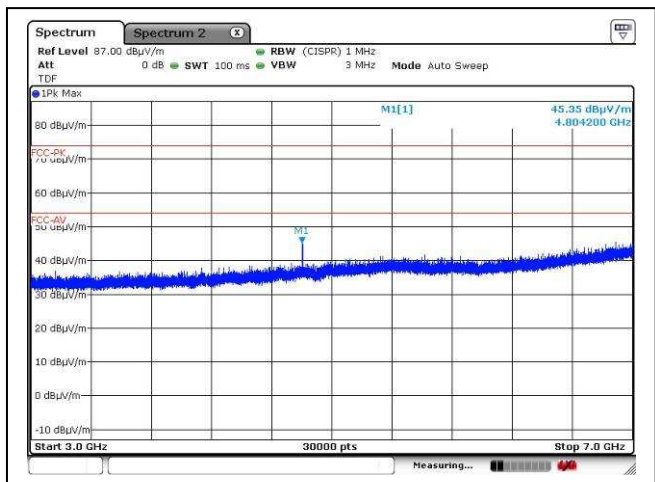
2.3 Radiated Emission Measurement Data (Con't)



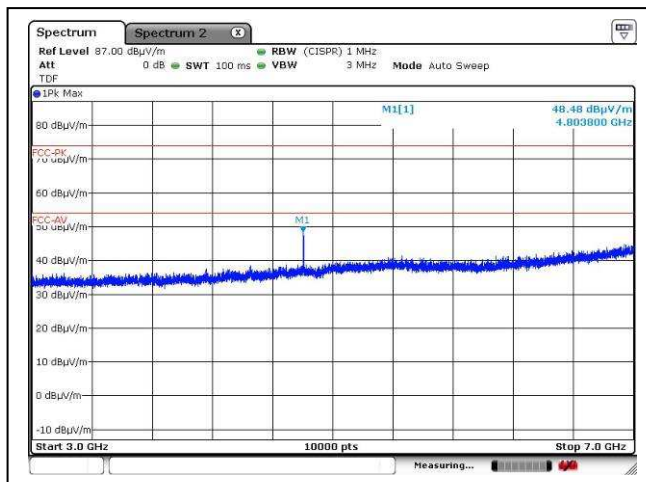
Lower channel, 1GHz – 3GHz, Horizontal



Lower channel, 1GHz – 3GHz, Vertical



Lower channel, 3GHz – 7GHz, Horizontal



Lower channel, 3GHz – 7GHz, Vertical



CMA Testing and Certification Laboratories

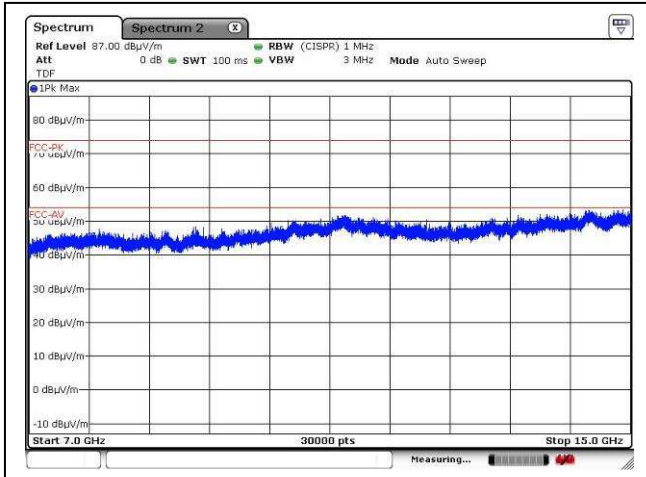
廠商會檢定中心

TEST REPORT

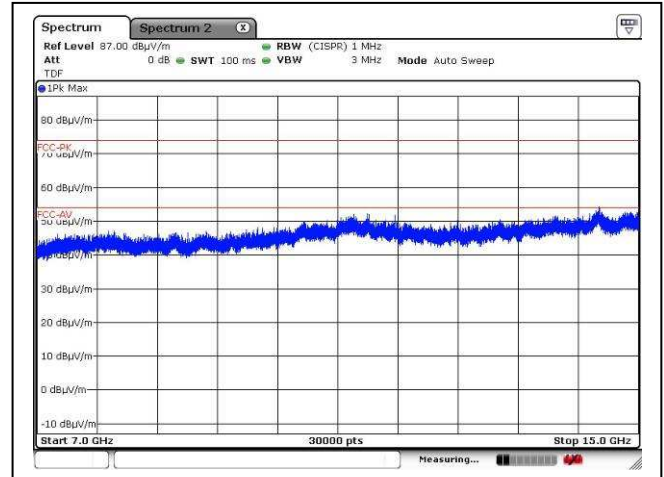
Report No. : AV0018254(9)

Date : 05 Apr 2017

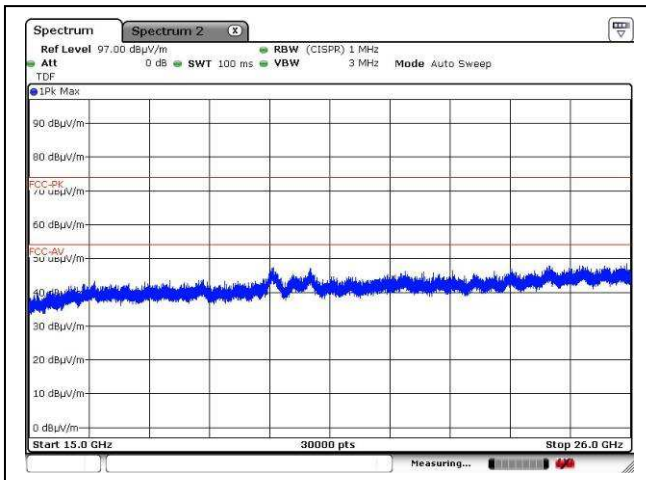
2.3 Radiated Emission Measurement Data (Con't)



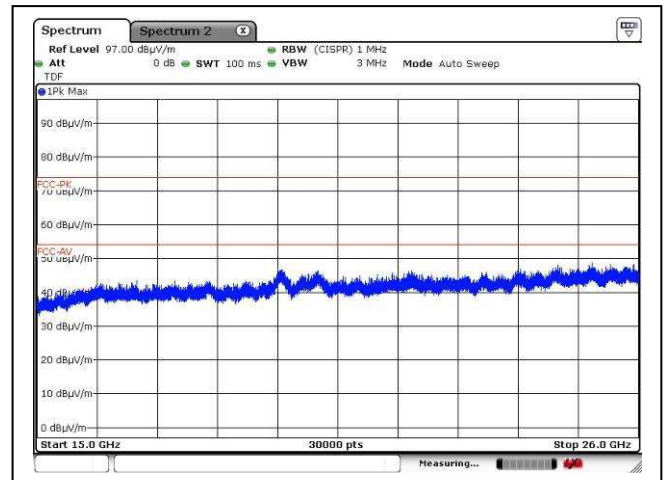
Lower channel, 7GHz – 15GHz, Horizontal



Lower channel, 7GHz – 15GHz, Vertical



Lower channel, above 15GHz, Horizontal



Lower channel, above 15GHz, Vertical



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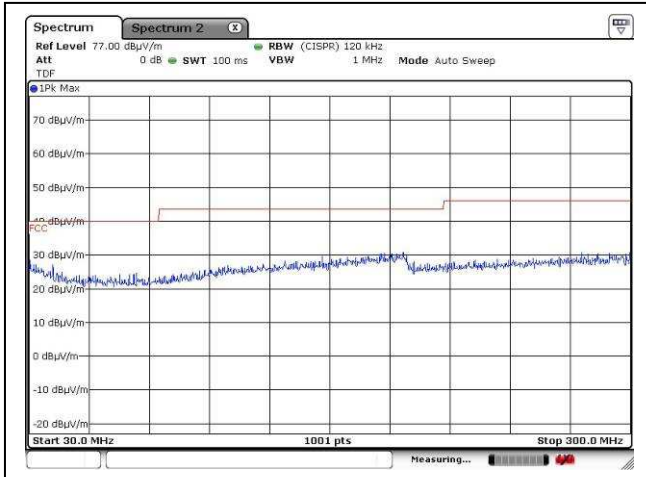
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TEST REPORT

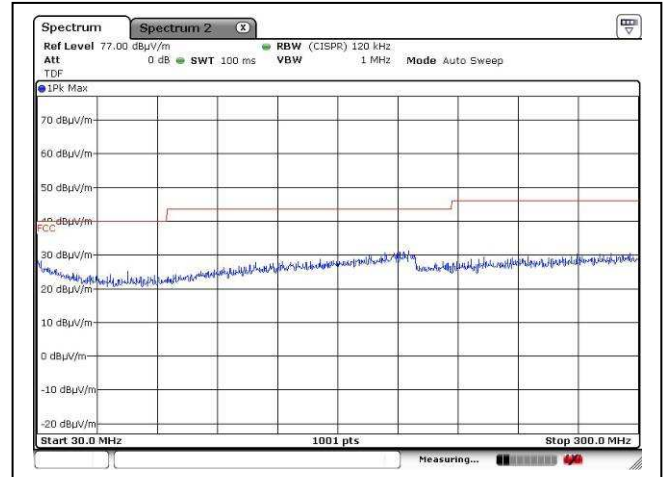
Report No. : AV0018254(9)

Date : 05 Apr 2017

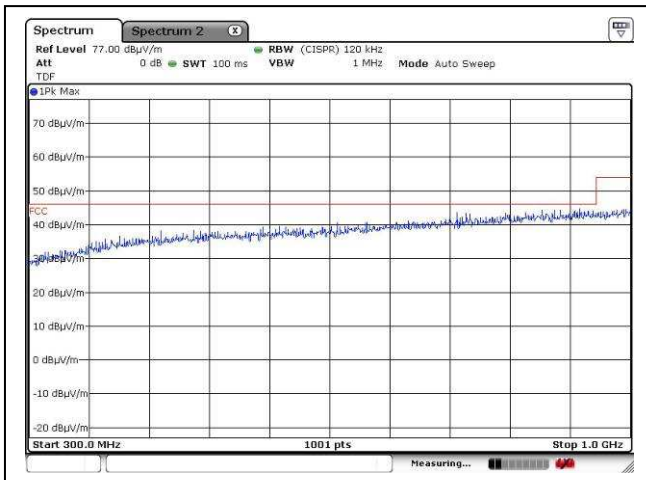
2.3 Radiated Emission Measurement Data (Con't)



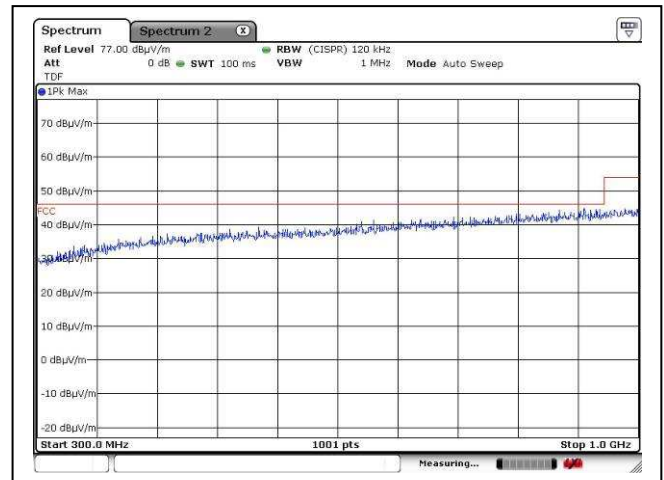
Middle channel, 30MHz – 300MHz, Horizontal



Middle channel, 30MHz – 300MHz, Vertical



Middle channel, 300MHz – 1GHz, Horizontal



Middle channel, 300MHz – 1GHz, Vertical



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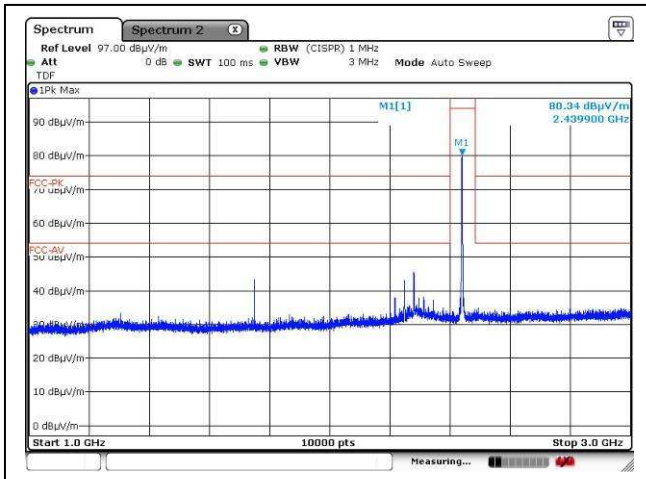
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TEST REPORT

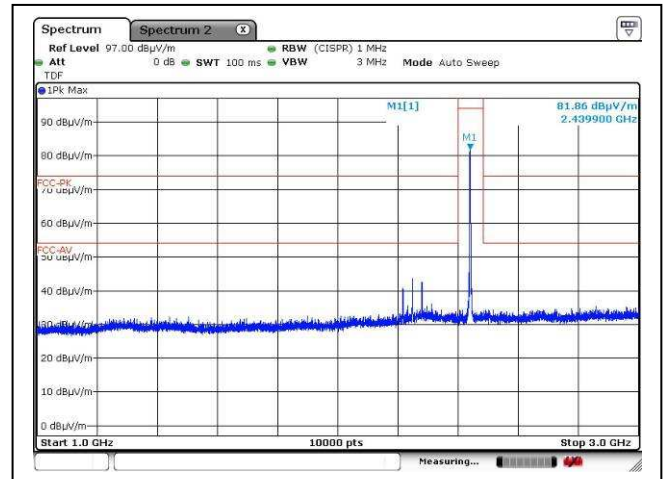
Report No. : AV0018254(9)

Date : 05 Apr 2017

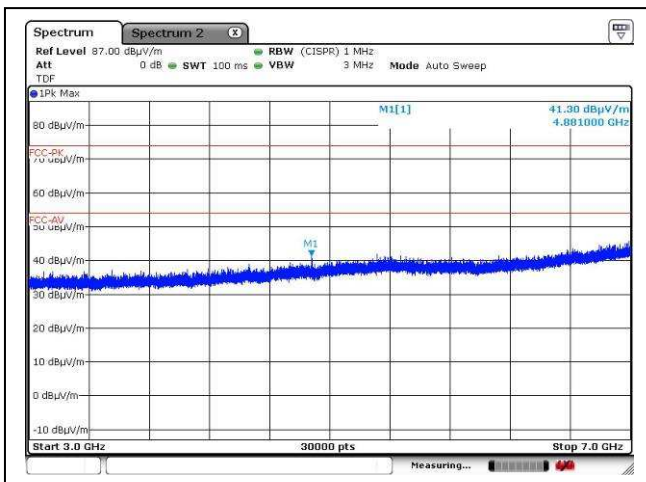
2.3 Radiated Emission Measurement Data (Con't)



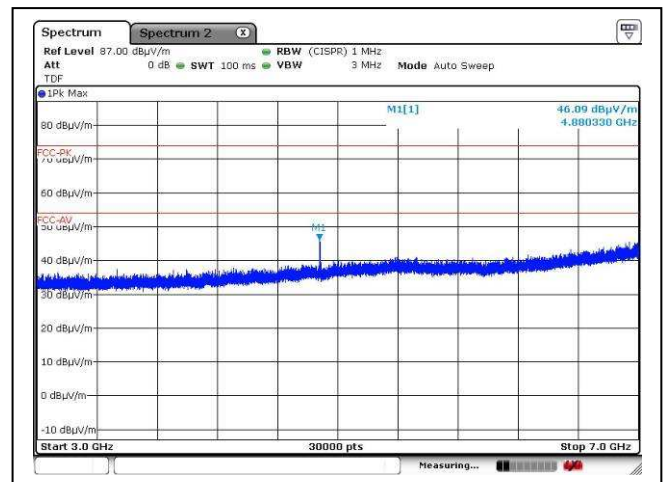
Middle channel, 1GHz – 3GHz, Horizontal



Middle channel, 1GHz – 3GHz, Vertical



Middle channel, 3GHz – 7GHz, Horizontal



Middle channel, 3GHz – 7GHz, Vertical



CMA Testing and Certification Laboratories

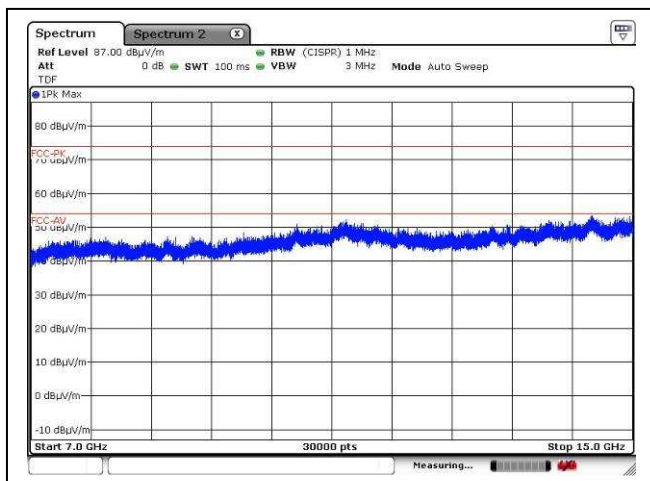
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TEST REPORT

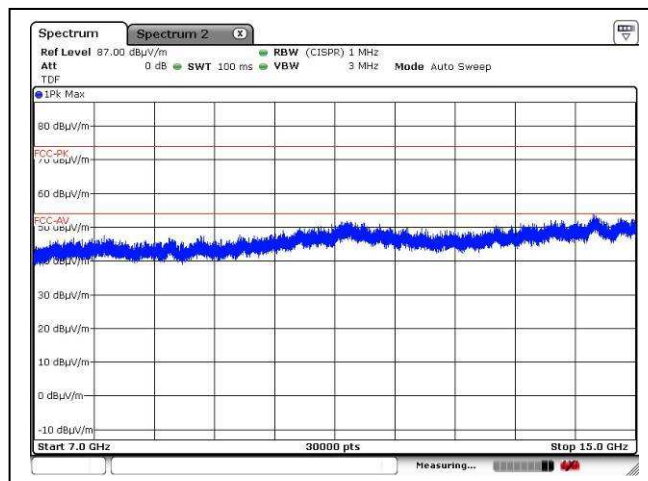
Report No. : AV0018254(9)

Date : 05 Apr 2017

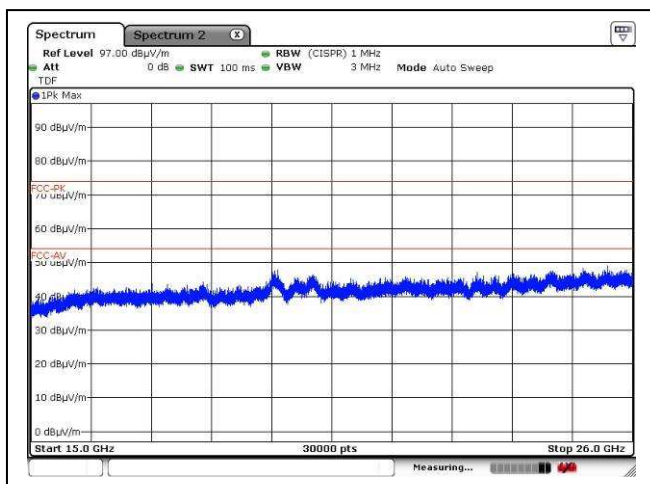
2.3 Radiated Emission Measurement Data (Con't)



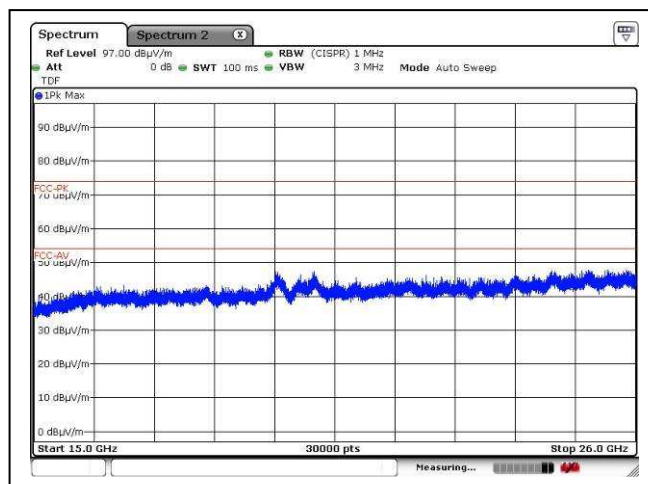
Middle channel, 7GHz – 15GHz, Horizontal



Middle channel, 7GHz – 15GHz, Vertical



Middle channel, above 15GHz, Horizontal



Middle channel, above 15GHz, Vertical



CMA Testing and Certification Laboratories

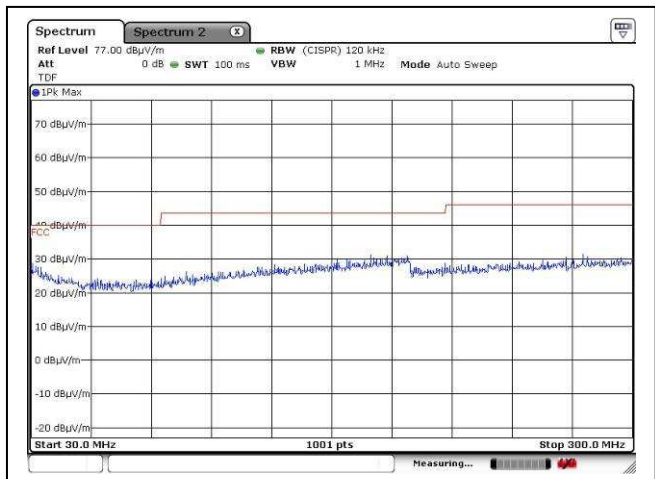
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TEST REPORT

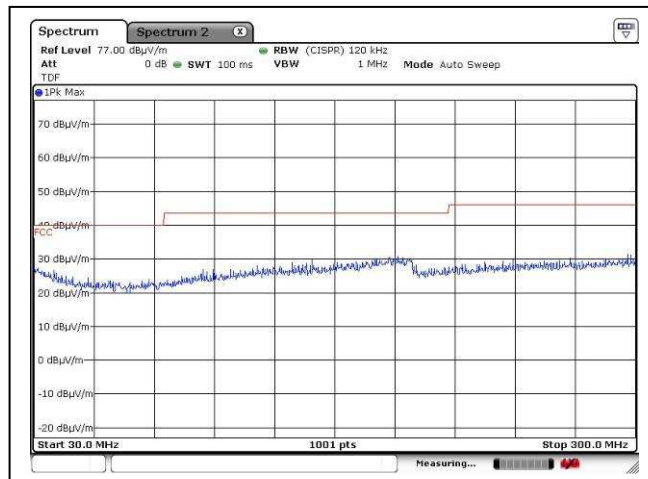
Report No. : AV0018254(9)

Date : 05 Apr 2017

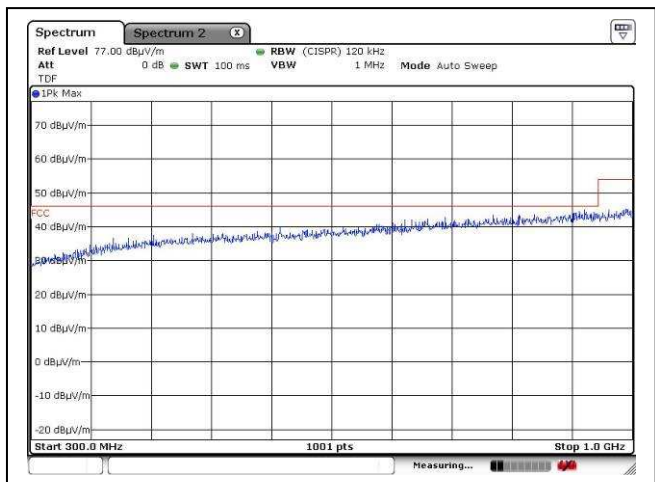
2.3 Radiated Emission Measurement Data (Con't)



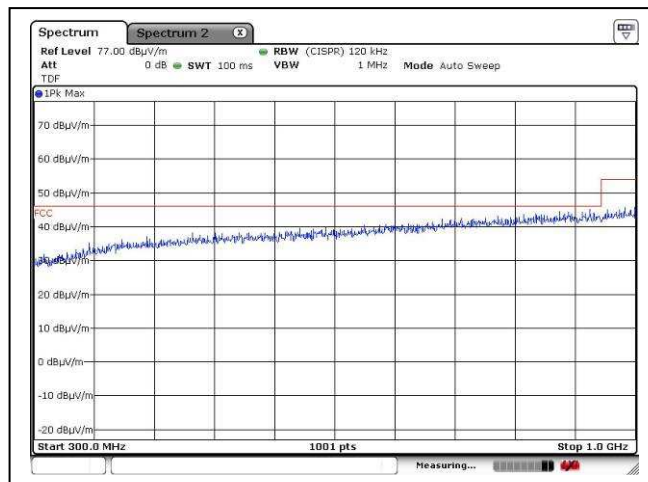
Higher channel, 30MHz – 300MHz, Horizontal



Higher channel, 30MHz – 300MHz, Vertical



Higher channel, 300MHz – 1GHz, Horizontal



Higher channel, 300MHz – 1GHz, Vertical



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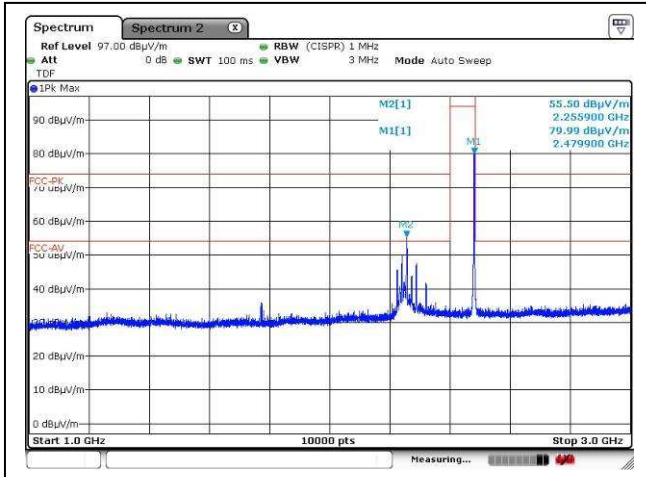
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TEST REPORT

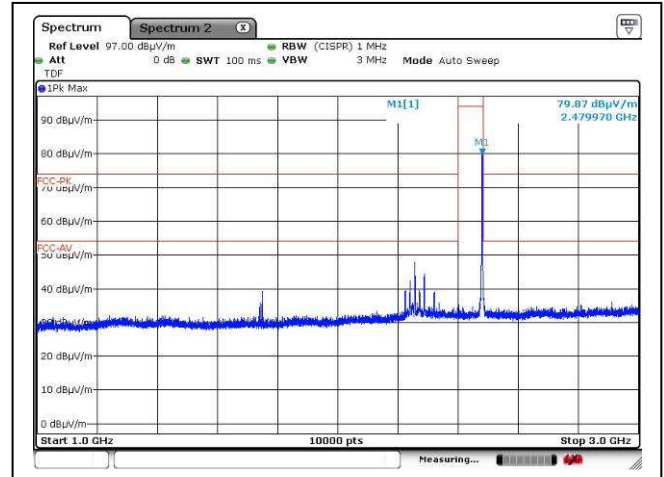
Report No. : AV0018254(9)

Date : 05 Apr 2017

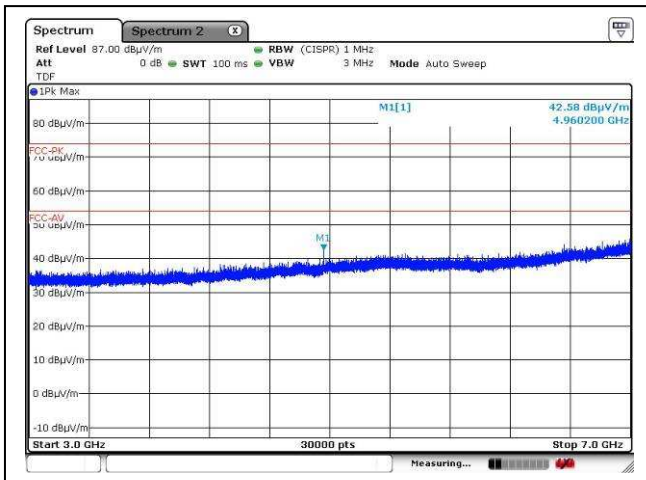
2.3 Radiated Emission Measurement Data (Con't)



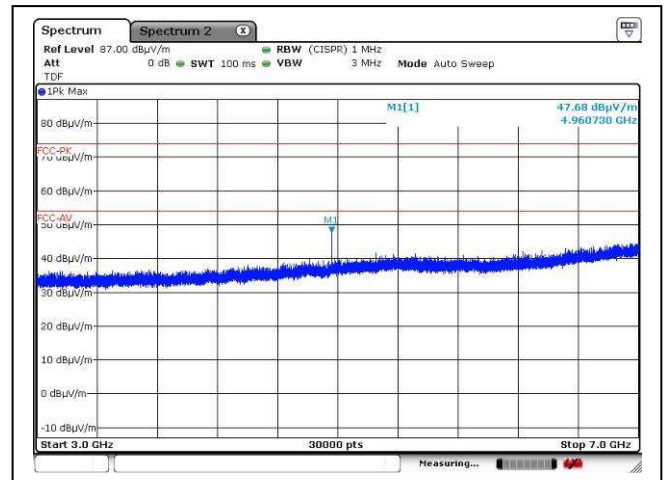
Higher channel, 1GHz – 3GHz, Horizontal



Higher channel, 1GHz – 3GHz, Vertical



Higher channel, 3GHz – 7GHz, Horizontal



Higher channel, 3GHz – 7GHz, Vertical



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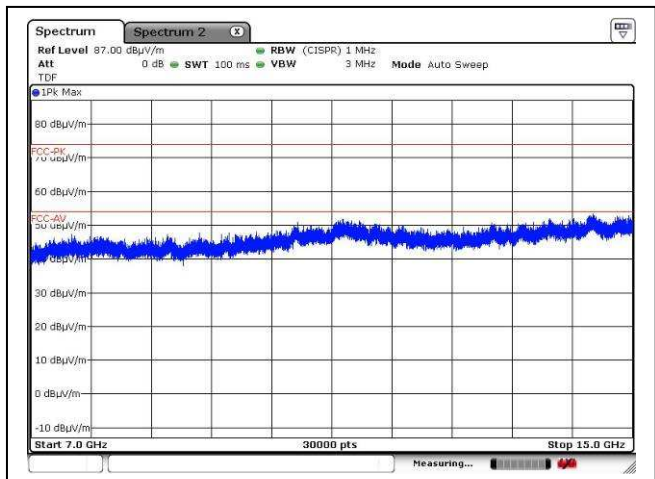
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TEST REPORT

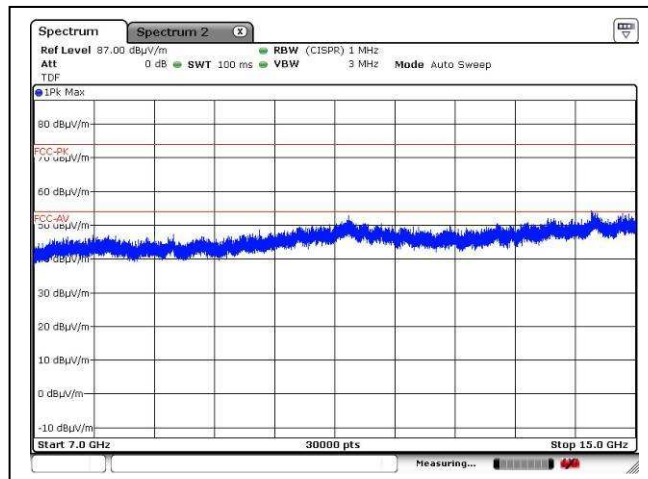
Report No. : AV0018254(9)

Date : 05 Apr 2017

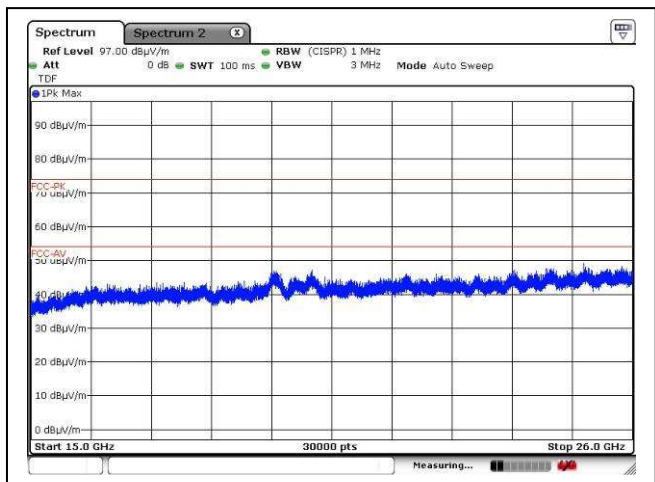
2.3 Radiated Emission Measurement Data (Con't)



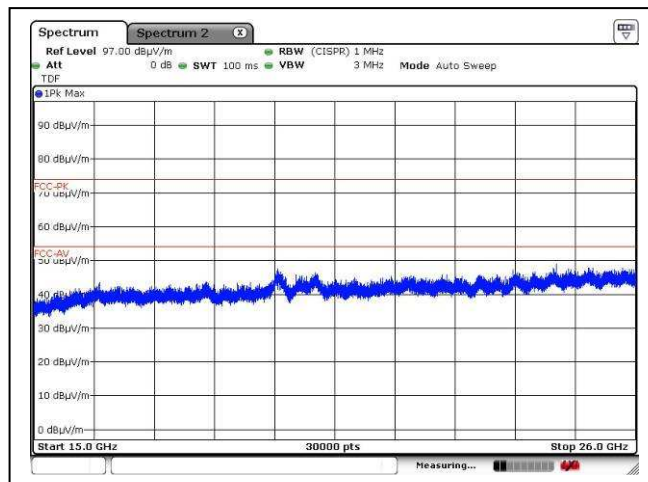
Higher channel, 7GHz – 15GHz, Horizontal



Higher channel, 7GHz – 15GHz, Vertical



Higher channel, above 15GHz, Horizontal



Higher channel, above 15GHz, Vertical



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TEST REPORT

Report No. : AV0018254(9)

Date : 05 Apr 2017

2.3 Radiated Emission Measurement Data (Con't)

Environmental conditions:

Parameter	Recorded value	
Ambient temperature:	21	° C
Relative humidity:	61	%

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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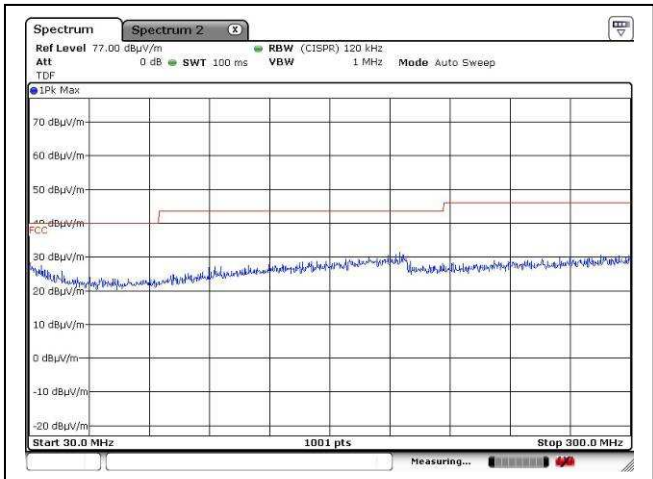
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TEST REPORT

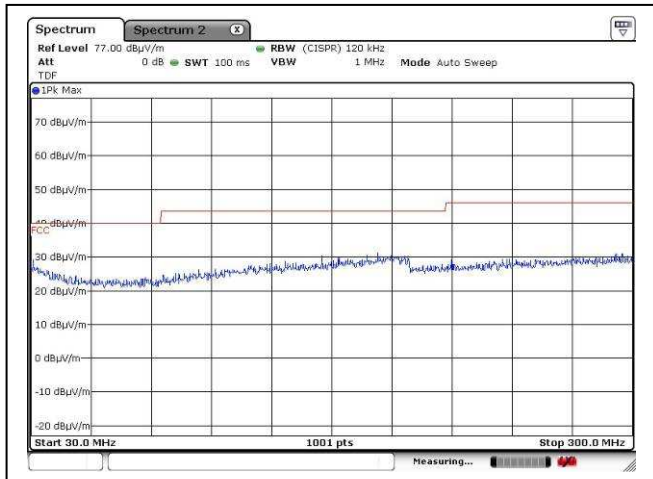
Report No. : AV0018254(9)

Date : 05 Apr 2017

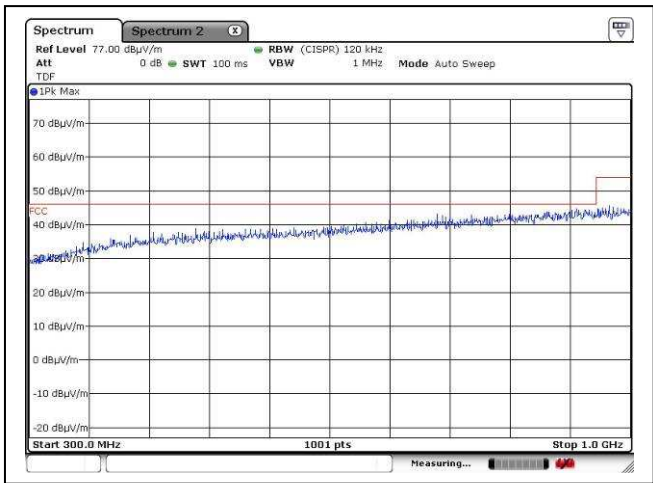
2.3 Radiated Emission Measurement Data (Con't)



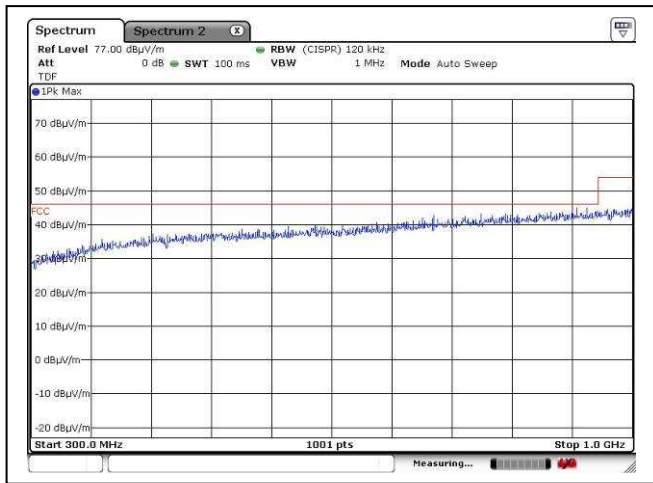
Receiving mode, 30MHz – 300MHz, Horizontal



Receiving mode, 30MHz – 300MHz, Vertical



Receiving mode, 300MHz – 1GHz, Horizontal



Receiving mode, 300MHz – 1GHz, Vertical



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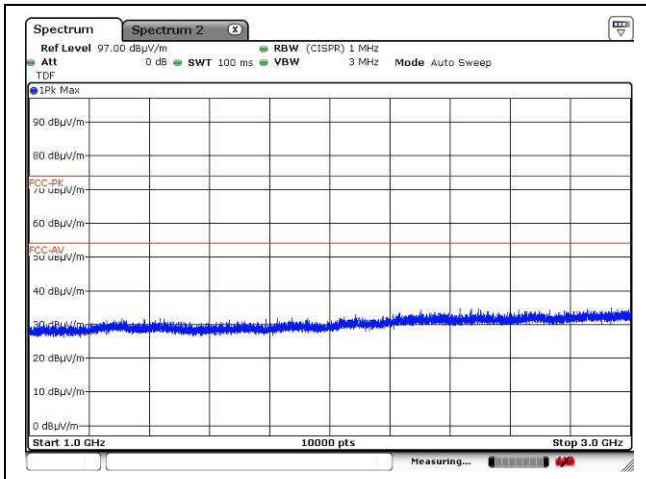
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TEST REPORT

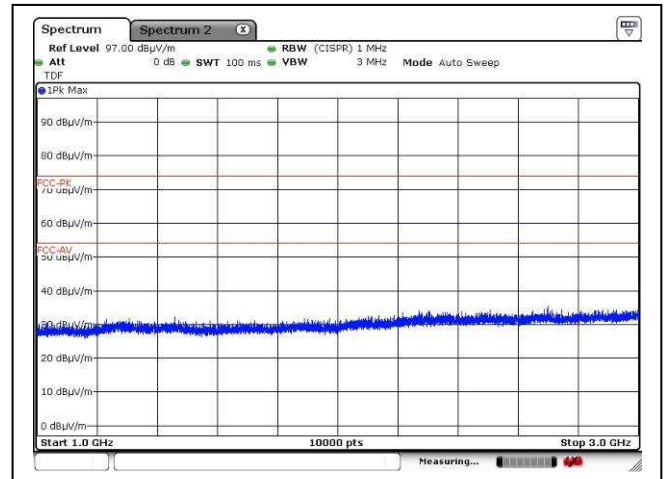
Report No. : AV0018254(9)

Date : 05 Apr 2017

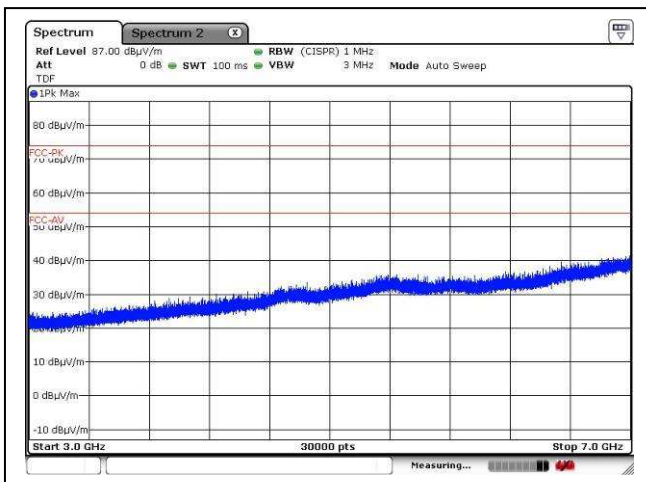
2.3 Radiated Emission Measurement Data (Con't)



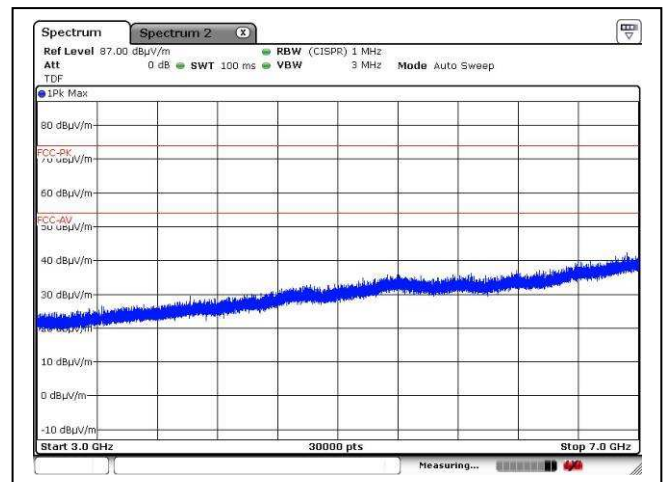
Receiving mode, 1GHz – 3GHz, Horizontal



Receiving mode, 1GHz – 3GHz, Vertical



Receiving mode, 3GHz – 7GHz, Horizontal



Receiving mode, 3GHz – 7GHz, Vertical



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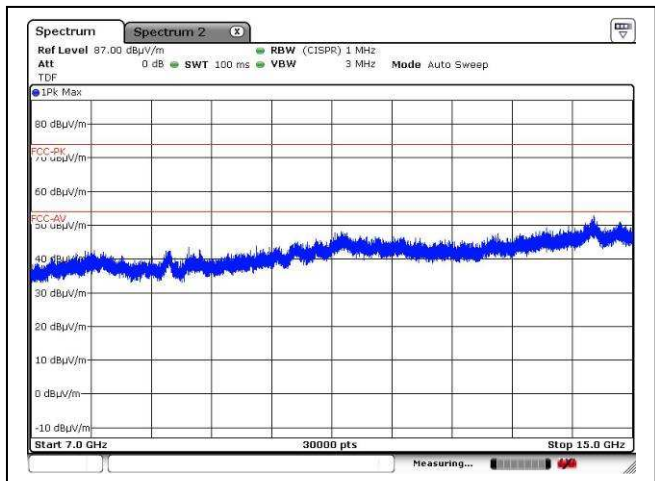
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TEST REPORT

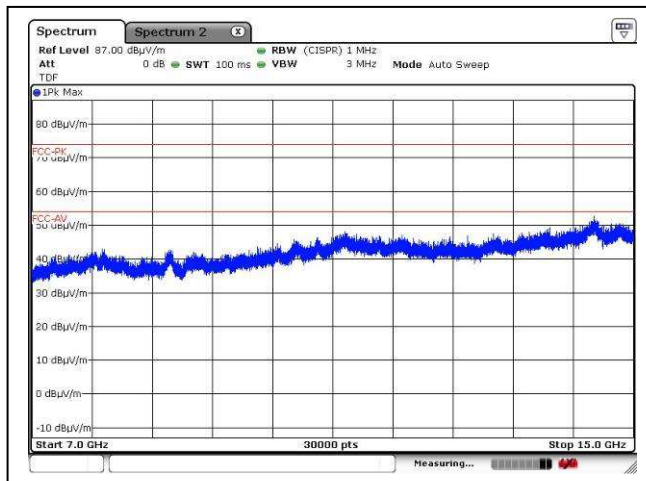
Report No. : AV0018254(9)

Date : 05 Apr 2017

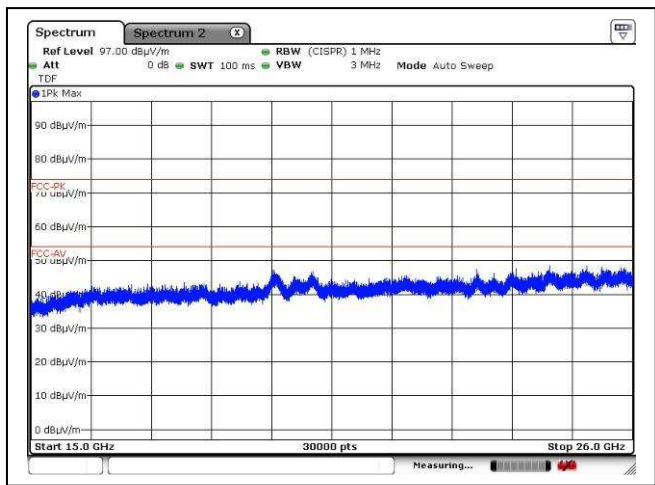
2.3 Radiated Emission Measurement Data (Con't)



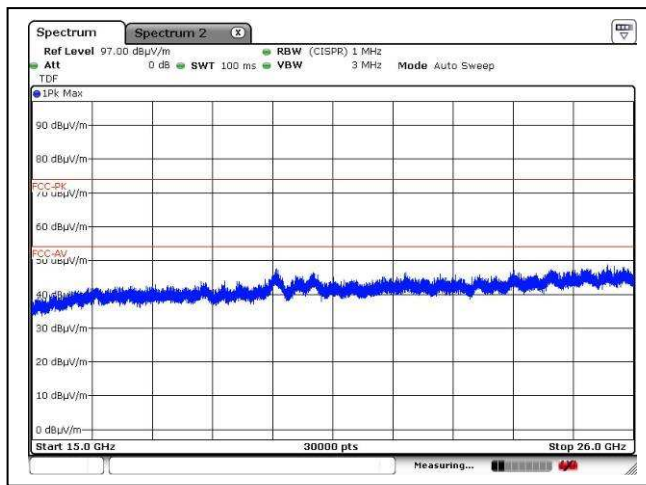
Receiving mode, 7GHz – 15GHz, Horizontal



Receiving mode, 7GHz – 15GHz, Vertical



Receiving mode, above 15GHz, Horizontal



Receiving mode, above 15GHz, Vertical



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TEST REPORT

Report No. : AV0018254(9)

Date : 05 Apr 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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TEST REPORT

Report No. : AV0018254(9)

Date : 05 Apr 2017

4 Photograph

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

For electronic filing, the photos are saved with filename 2ALI3T20170001 TSup.pdf.

4.2 Photographs of the External and Internal Configurations of the EUT

For electronic filing, the photos are saved with filename 2ALI3T20170001 ExPho.pdf and 2ALI3T20170001 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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TEST REPORT

Report No. : AV0018254(9)

Date : 05 Apr 2017

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	3	pages
A5	ID Label/Location	1	page



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TEST REPORT

Report No. : AV0018254(9)

Date : 05 Apr 2017

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

FCC ID: 2ALI3T201700001

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Tel: (852) 2698 8198 Fax: (852) 2695 4177 E-mail: info@cmatcl.com Web Site: <http://www.cmatcl.com>



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TEST REPORT

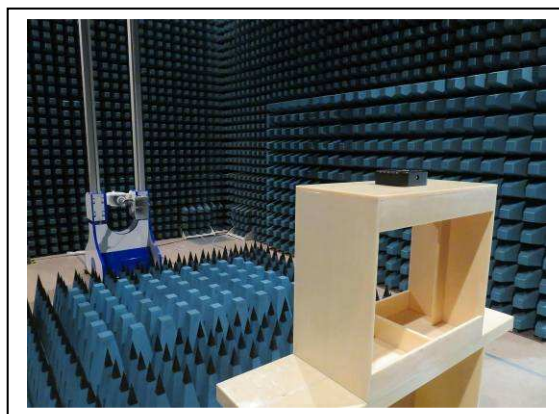
Report No. : AV0018254(9)

Date : 05 Apr 2017

A1. Photos of the set-up of Radiated Emissions



9kHz – 30MHz



Above 1GHz

Tested by:

Mr. LEUNG Shu-kan, Ken

Reviewed by:

Mr. WONG Lap-pong, Andrew

FCC ID: 2ALI3T201700001

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TEST REPORT

Report No. : AV0018254(9)

Date : 05 Apr 2017

A2. Photos of the set-up of Conducted Emissions



Tested by:

Mr. LEUNG Shu-kan, Ken

Reviewed by:

Mr. WONG Lap-pong, Andrew



CMA Testing and Certification Laboratories

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TEST REPORT

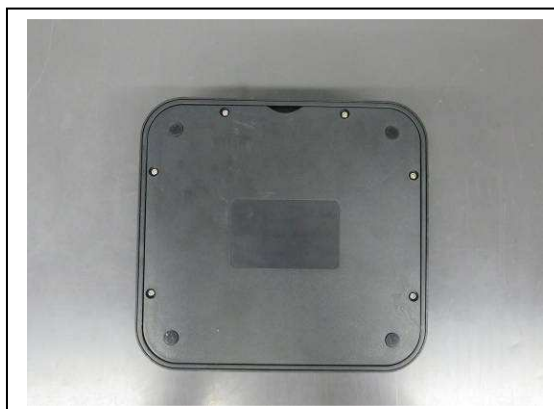
Report No. : AV0018254(9)

Date : 05 Apr 2017

A3 Photos of External Configurations



External Configuration 1



External Configuration 2

Tested by:

A handwritten signature in black ink, appearing to read 'Ken'.

Mr. LEUNG Shu-kan, Ken

Reviewed by:

A handwritten signature in black ink, appearing to read 'AP'.

Mr. WONG Lap-pong, Andrew

FCC ID: 2ALI3T201700001

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TEST REPORT

Report No. : AV0018254(9)

Date : 05 Apr 2017

A3 Photos of External Configurations



External Configuration 3



External Configuration 4

Tested by:

Mr. LEUNG Shu-kan, Ken

Reviewed by:

Mr. WONG Lap-pong, Andrew

FCC ID: 2ALI3T201700001

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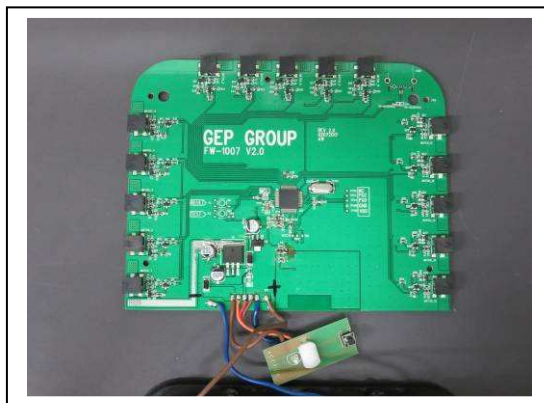
廠商會檢定中心

TEST REPORT

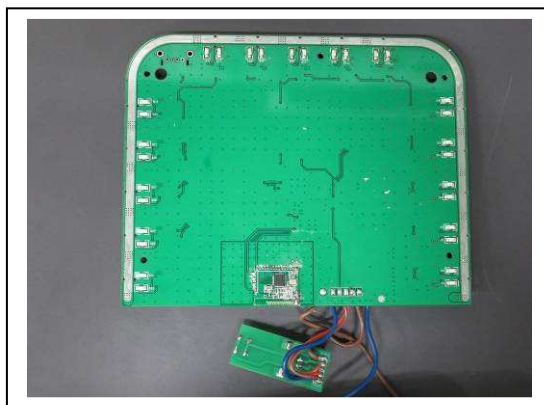
Report No. : AV0018254(9)

Date : 05 Apr 2017

A4 Photos of Internal Configurations



Internal Configuration 1



Internal Configuration 2

Tested by:

Mr. LEUNG Shu-kan, Ken

Reviewed by:

Mr. WONG Lap-pong, Andrew

FCC ID: 2ALI3T201700001

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TEST REPORT

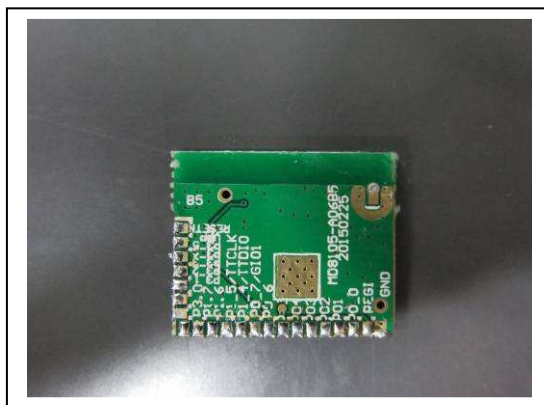
Report No. : AV0018254(9)

Date : 05 Apr 2017

A4 Photos of Internal Configurations



Internal Configuration 3



Internal Configuration 4

Tested by:

Mr. LEUNG Shu-kan, Ken

Reviewed by:

Mr. WONG Lap-pong, Andrew

FCC ID: 2ALI3T201700001

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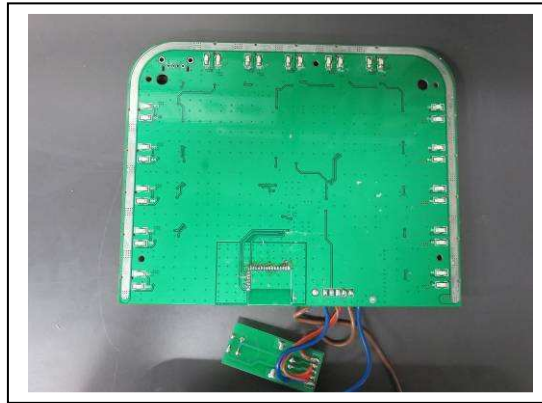
廠商會檢定中心

TEST REPORT

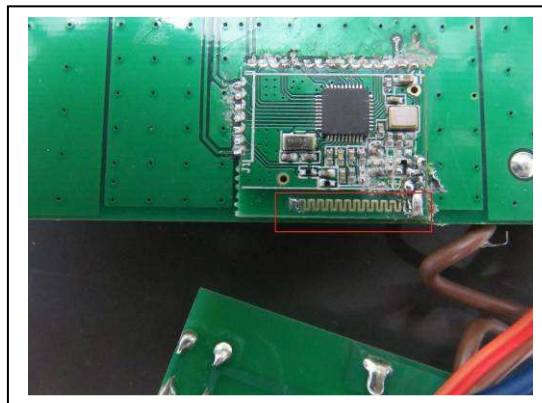
Report No. : AV0018254(9)

Date : 05 Apr 2017

A4 Photos of Internal Configurations



Internal Configuration 5



EUT antenna

Tested by:

Mr. LEUNG Shu-kan, Ken

Reviewed by:

Mr. WONG Lap-pong, Andrew

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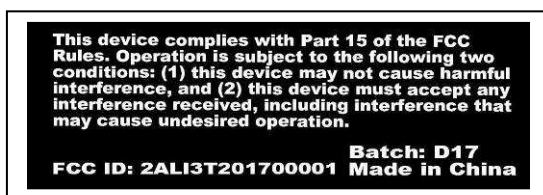
Report No. : AV0018254(9)

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A5 ID Label / Location



ID Label 1



ID Label 2

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

Tested by:

Mr. LEUNG Shu-kan, Ken

Reviewed by:

Mr. WONG Lap-pong, Andrew

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