



CMA Testing and Certification Laboratories

廠商會檢定中心

TEST REPORT

Report No. : A0000131(5) Date : 03 Jan 2017

Application No. : LU045800(6)

Applicant : ITI Hong Kong Co., LTD.
Unit 10B, 13/F, Cable TV Tower,
9 Hoi Shing Road, Tsuen Wan, Hong Kong

Sample Description : One(1) item of submitted sample stated to be Bluetooth Transmitter
of Model No. 1201786
Sample registration No. : RU041118-001
Radio Frequency : 2402MHz – 2480 MHz Transceiver
Rating : 3.7V rechargeable battery
No. of submitted sample : Six (6) piece (s)

Date Received : 28 Dec 2016

Test Period : 28 Dec 2016 to 30 Dec 2016.

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
FCC Public Notice DA 00-705

Test Engineer : Mr. LEUNG Shu-kan, Ken

Test Result : See attached sheet(s) from page 2 to 64.

Conclusion : The submitted sample was found to comply with requirement of FCC Part 15
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: 2AIGJ1201786



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1 General Information

1.1 General Description

The equipment under test (EUT) is a Bluetooth audio transmitter. The EUT is power by 3.7V rechargeable battery. The EUT transmits digital audio signal to other wireless device and playback the audio signal.

A non standardized Bluetooth protocol or other Gaussian frequency-shift keying (GFSK) digital modulation signal was unable to synchronize the Bluetooth speaker.

A Bluetooth trademark was printed on the speaker enclosure to indicate it communicate with Bluetooth protocol only.

Pseudorandom frequency hopping sequence

The channel is represented by a pseudo-random hopping sequence hopping through the 79 RF Channels. The hopping sequence is unique for the piconet and is determined by the Bluetooth device address of the master; the phase in the hopping sequence is determined by the Bluetooth clock of the master. The channel is divided into time slots where each slot corresponds to an RF hop frequency. Consecutive hops correspond to different RF hop frequencies. The nominal hop rate is 1600 hops/s.

Example of a 79 hopping sequence in data mode: 40, 21, 44, 23, 42, 53, 46, 55, 48, 33, 52, 35, 50, 65, 54...

Equal Hopping Frequency Use

All Bluetooth units participating in the piconet are time and hop-synchronized to the channel.

System Receiver Input Bandwidth

The input bandwidth of the receiver is 1 MHz. In every connection one Bluetooth device is the master and the other one is slave. The master determines the hopping sequence. The slave follows this sequence. Both devices shift between RX and TX time slot according to the clock of the master. Additionally the type of connection (e.g. single multisport (packet) is set up at the beginning of the connection. The master adapts its hopping frequency and its TX/RX timing according to the packet type of the connection. Also the slave of the connection will use these settings. Repeating of a packet has no influence on the hopping sequence.. The hopping sequence generated by the master of the connection will be followed in any case. That means, a repeated packet will not be send on the same frequency, it is send on the next frequency of the hopping sequence.

Equipment Description

15.247(g): In accordance with the Bluetooth Industry Standard, the system is designed to comply



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With all of The regulations in Section 15.247 when the transmitter is presented with a continuous data (or information) system.

15.247(h): In accordance with the Bluetooth Industry Standard, the system does not coordinate its channels selection/ hopping sequence with other frequency hopping systems for the express purpose of avoiding the simultaneous occupancy of individual hopping frequencies by multiple transmitters.

The brief circuit description is listed as follows:

- U4 and its associated circuit act as RF module
- U3 and its associated circuit act as MCU
- U2 and its associated circuit act as Flash memory
- U1 and its associated circuit act as battery charging

Antenna type : PCB Antenna
Antenna gain : 0.432 dBi
Modulation technique : GFSK
Number of channel : 79 channels



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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,
Fo Tan, Shatin,
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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	16 Nov 2017	1Year
Spectrum Analyzer	R&S	FSV40	100628	09 Feb 2017	1Year
Broadband Antenna	Schaffner	CBL6112B	2718	15 Mar 2017	2Years
Loop Antenna	EMCO	6502	00056620	25 Jan 2018	2Years
Horn Antenna	Schwarzbeck	BBHA 9120C	9120C 594	28 Jul 2018	2Years
Broadband Pre-Amplifier	Schwarzbeck	BBV 9718	BBV9718 297	28 Jul 2018	2Years
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170442	02 Aug 2017	2Years
Broadband Pre-Amplifier	Schwarzbeck	BBV 9719	9719-010	02 Aug 2017	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	13 Dec 2017	1Year
LISN	R&S	ENV216	101323	21 Oct 2017	1Year
Coaxial Cable	Tyco Electronics	RG 58C/U	N/A	01 Nov 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

Conducted emissions

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



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2 Description of the radiated 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:	24	° C
Relative humidity:	66	%

Summary

Test	Frequency (MHz)	Nominal Power (dBm)	Nominal Bandwidth (MHz)	Result
Hopping Frequencies	--- (hopping)	0.0	1.000000	PASS
Band Edge low	--- (hopping)	0.0	1.000000	PASS
Band Edge high	--- (hopping)	0.0	1.000000	PASS
Tx Spurious Emission	--- (hopping)	0.0	1.000000	PASS
Rx Spurious Emission	--- (hopping)	0.0	1.000000	PASS
Carrier Frequency Separation	2402.000 (hopping)	0.0	1.000000	PASS
Carrier Frequency Separation	2441.000 (hopping)	0.0	1.000000	PASS
Carrier Frequency Separation	2479.000 (hopping)	0.0	1.000000	PASS
Time of Channel Occupancy	2402.000 (hopping)	0.0	1.000000	PASS
Time of Channel Occupancy	2441.000 (hopping)	0.0	1.000000	PASS
Time of Channel Occupancy	2480.000 (hopping)	0.0	1.000000	PASS
RF output power	2402.000 (single)	0.0	1.000000	PASS
Emission Bandwidth 20 dB	2402.000 (single)	0.0	1.000000	PASS
Band Edge low	2402.000 (single)	0.0	1.000000	PASS
RF output power	2441.000 (single)	0.0	1.000000	PASS
Emission Bandwidth 20 dB	2441.000 (single)	0.0	1.000000	PASS
RF output power	2480.000 (single)	0.0	1.000000	PASS
Emission Bandwidth 20 dB	2480.000 (single)	0.0	1.000000	PASS
Band Edge high	2480.000 (single)	0.0	1.000000	PASS



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Frequencies

BT CH 1 (2402 MHz)	BT CH 2 (2403 MHz)	BT CH 3 (2404 MHz)
BT CH 4 (2405 MHz)	BT CH 5 (2406 MHz)	BT CH 6 (2407 MHz)
BT CH 7 (2408 MHz)	BT CH 8 (2409 MHz)	BT CH 9 (2410 MHz)
BT CH 10 (2411 MHz)	BT CH 11 (2412 MHz)	BT CH 12 (2413 MHz)
BT CH 13 (2414 MHz)	BT CH 14 (2415 MHz)	BT CH 15 (2416 MHz)
BT CH 16 (2417 MHz)	BT CH 17 (2418 MHz)	BT CH 18 (2419 MHz)
BT CH 19 (2420 MHz)	BT CH 20 (2421 MHz)	BT CH 21 (2422 MHz)
BT CH 22 (2423 MHz)	BT CH 23 (2424 MHz)	BT CH 24 (2425 MHz)
BT CH 25 (2426 MHz)	BT CH 26 (2427 MHz)	BT CH 27 (2428 MHz)
BT CH 28 (2429 MHz)	BT CH 29 (2430 MHz)	BT CH 30 (2431 MHz)
BT CH 31 (2432 MHz)	BT CH 32 (2433 MHz)	BT CH 33 (2434 MHz)
BT CH 34 (2435 MHz)	BT CH 35 (2436 MHz)	BT CH 36 (2437 MHz)
BT CH 37 (2438 MHz)	BT CH 38 (2439 MHz)	BT CH 39 (2440 MHz)
BT CH 40 (2441 MHz)	BT CH 41 (2442 MHz)	BT CH 42 (2443 MHz)
BT CH 43 (2444 MHz)	BT CH 44 (2445 MHz)	BT CH 45 (2446 MHz)
BT CH 46 (2447 MHz)	BT CH 47 (2448 MHz)	BT CH 48 (2449 MHz)
BT CH 49 (2450 MHz)	BT CH 50 (2451 MHz)	BT CH 51 (2452 MHz)
BT CH 52 (2453 MHz)	BT CH 53 (2454 MHz)	BT CH 54 (2455 MHz)
BT CH 55 (2456 MHz)	BT CH 56 (2457 MHz)	BT CH 57 (2458 MHz)
BT CH 58 (2459 MHz)	BT CH 59 (2460 MHz)	BT CH 60 (2461 MHz)
BT CH 61 (2462 MHz)	BT CH 62 (2463 MHz)	BT CH 63 (2464 MHz)
BT CH 64 (2465 MHz)	BT CH 65 (2466 MHz)	BT CH 66 (2467 MHz)
BT CH 67 (2468 MHz)	BT CH 68 (2469 MHz)	BT CH 69 (2470 MHz)
BT CH 70 (2471 MHz)	BT CH 71 (2472 MHz)	BT CH 72 (2473 MHz)
BT CH 73 (2474 MHz)	BT CH 74 (2475 MHz)	BT CH 75 (2476 MHz)
BT CH 76 (2477 MHz)	BT CH 77 (2478 MHz)	BT CH 78 (2479 MHz)
BT CH 79 (2480 MHz)		



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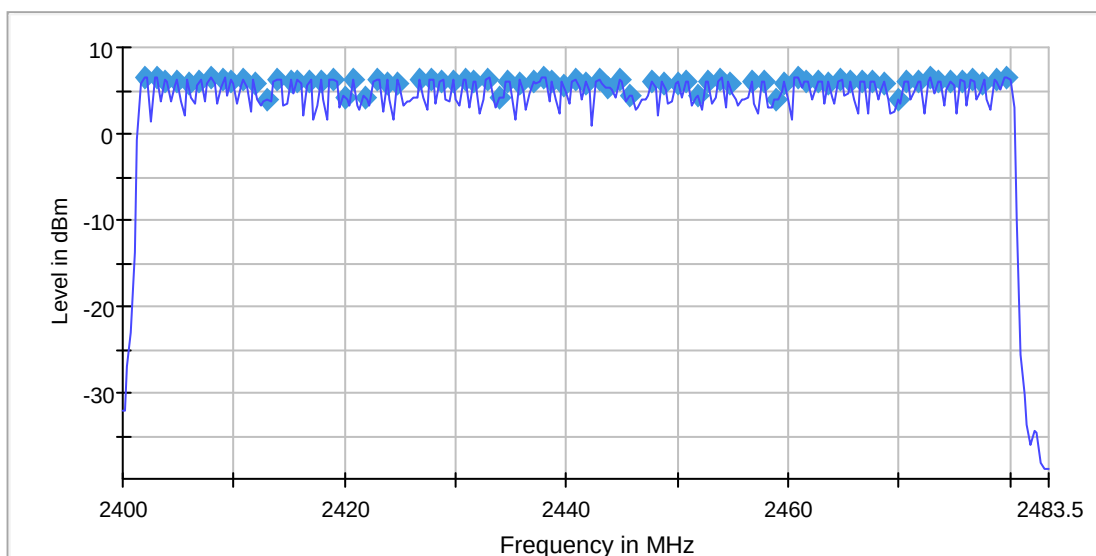
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Hopping Frequencies (frequency independent)

Channels

Channels	Limit Min	Limit Max	Result
79	15	---	PASS



Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.40000 GHz	2.40000 GHz
Stop Frequency	2.48350 GHz	2.48350 GHz
Span	83.500 MHz	83.500 MHz
RBW	300.000 kHz	<= 300.000 kHz
VBW	300.000 kHz	>= 300.000 kHz
SweepPoints	278	~ 278
SweepTime	1.000 ms	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	Sweep	AUTO
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50	0.50
Run	83 / max. 150	max. 150
Stable	3 / 3	3



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Band Edge low (frequency independent)

Result

DUT Frequency (MHz)	Result
hopping	PASS

Inband Peak

Frequency (MHz)	Level (dBm)
2477.828396	-1.4

Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
2398.525819	-59.3	37.9	-21.4	PASS
2396.227096	-61.1	39.7	-21.4	PASS
2396.526929	-61.4	40.0	-21.4	PASS
2396.476957	-62.2	40.8	-21.4	PASS
2397.676291	-62.5	41.1	-21.4	PASS
2396.576902	-62.6	41.2	-21.4	PASS
2397.726263	-62.9	41.4	-21.4	PASS
2394.777901	-62.9	41.5	-21.4	PASS
2396.027207	-63.2	41.8	-21.4	PASS
2396.077179	-63.4	42.0	-21.4	PASS
2397.876180	-63.9	42.5	-21.4	PASS
2399.825097	-64.1	42.7	-21.4	PASS
2397.926152	-64.2	42.8	-21.4	PASS
2397.476402	-64.3	42.9	-21.4	PASS
2399.225430	-64.4	42.9	-21.4	PASS



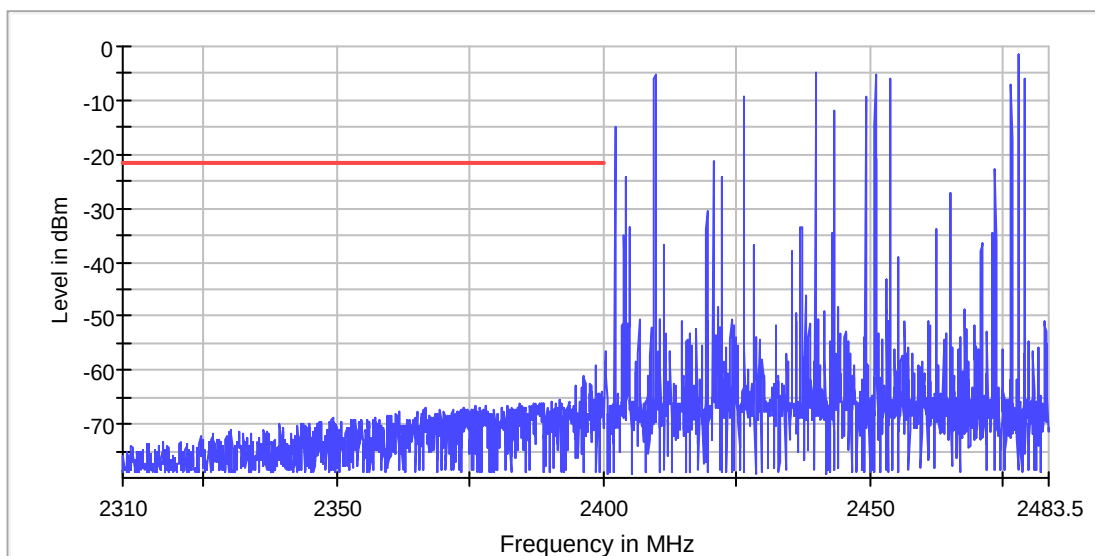
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Measurement 1

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

Measurement 2

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Band Edge high (frequency independent)

Result

DUT Frequency (MHz)	Result
hopping	PASS

Inband Peak

Frequency (MHz)	Level (dBm)
2454.792190	0.7

Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
2484.870846	-58.2	38.8	-19.3	PASS
2487.612538	-62.6	43.2	-19.3	PASS
2487.562689	-63.0	43.7	-19.3	PASS
2487.662387	-63.1	43.8	-19.3	PASS
2488.559668	-63.3	44.0	-19.3	PASS
2488.509819	-63.7	44.4	-19.3	PASS
2483.973565	-64.4	45.1	-19.3	PASS
2483.923716	-64.6	45.3	-19.3	PASS
2496.385952	-64.7	45.3	-19.3	PASS
2483.873867	-64.8	45.5	-19.3	PASS
2487.413142	-64.9	45.5	-19.3	PASS
2492.946375	-65.0	45.6	-19.3	PASS
2497.283233	-65.3	45.9	-19.3	PASS
2494.142749	-65.5	46.2	-19.3	PASS
2494.940332	-65.6	46.2	-19.3	PASS



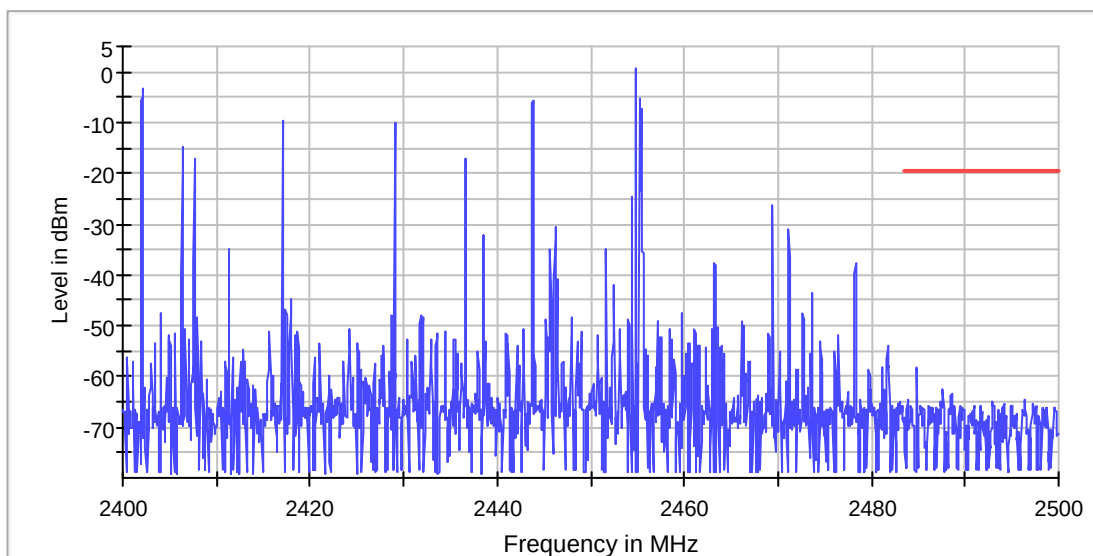
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Measurement 1

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	-10.000 dBm	-10.000 dBm
Attenuation	10.000 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	-10.000 dBm	-10.000 dBm
Attenuation	10.000 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 (frequency independent)

Result

DUT Frequency (MHz)	Result
hopping	PASS

Final measurements

Frequency (MHz)	Level Pre Measurement (dBm)	level (dBm)	Limit (dBm)	Margin (dB)	Result
2484.749862	-36.3	-64.5	-41.2	23.3	PASS
4819.491394	-35.2	-69.0	-41.2	27.8	PASS
4848.488184	-37.3	-71.3	-41.2	30.1	PASS
4855.987353	-36.8	-70.7	-41.2	29.5	PASS
7263.311668	-23.2	-62.9	-41.2	21.7	PASS
7266.280232	-36.0	-48.9	-41.2	7.6	PASS
7301.309293	-24.6	-53.2	-41.2	12.0	PASS
7304.277858	-28.9	-58.6	-41.2	17.4	PASS
7305.465283	-37.0	-63.6	-41.2	22.4	PASS
7310.808699	-24.0	-54.6	-41.2	13.3	PASS
7327.432660	-25.6	-71.2	-41.2	30.0	PASS
7331.588651	-24.7	-52.9	-41.2	11.6	PASS
7335.744641	-34.4	-54.4	-41.2	13.2	PASS
7345.244047	-25.6	-56.6	-41.2	15.3	PASS
7367.211424	-37.3	-56.0	-41.2	14.8	PASS
7370.773702	-26.2	-54.0	-41.2	12.7	PASS
7374.929692	-34.9	-76.1	-41.2	34.9	PASS
7395.709643	-25.3	-77.0	-41.2	35.8	PASS
7400.459346	-26.8	-62.2	-41.2	21.0	PASS
7418.864446	-25.6	-77.6	-41.2	36.4	PASS

Pre Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)
7263.311668	-23.2	-18.0	-41.2
7263.905381	-23.5	-17.7	-41.2
7310.808699	-24.0	-17.2	-41.2
7310.214987	-24.4	-16.8	-41.2
7301.309293	-24.6	-16.7	-41.2
7302.496719	-24.6	-16.6	-41.2
7331.588651	-24.7	-16.5	-41.2
7332.182364	-24.8	-16.5	-41.2
7301.903006	-25.0	-16.2	-41.2
7262.124242	-25.1	-16.2	-41.2
7395.709643	-25.3	-16.0	-41.2
7395.115930	-25.4	-15.9	-41.2
7330.994938	-25.5	-15.7	-41.2
7327.432660	-25.6	-15.7	-41.2
7345.244047	-25.6	-15.7	-41.2



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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



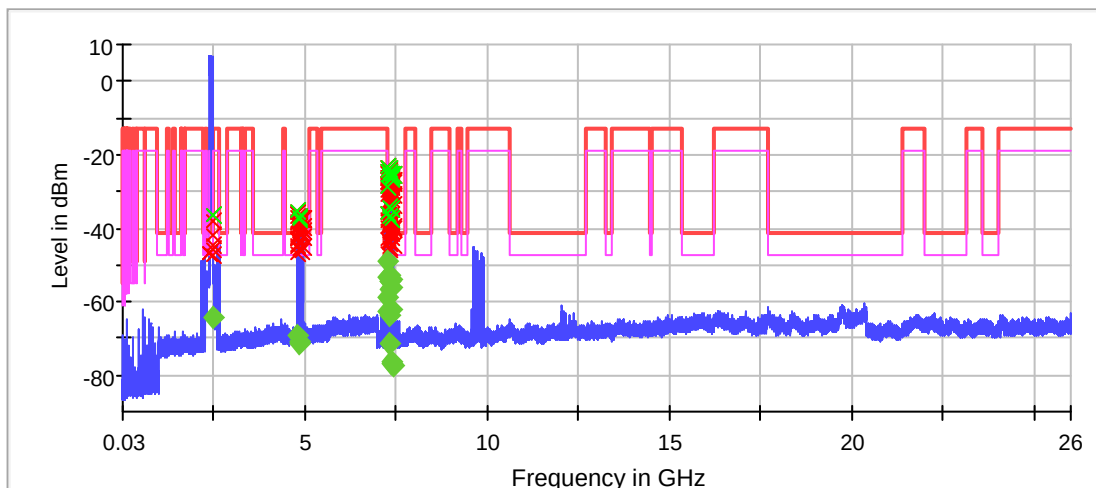
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× Limit [limit.Result:1] × Sum Level [trace.Result:1]
◆ Threshold [limit.2.Result:1] ◆ Critical [Over Limit.Result:1]

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	-30.000 dBm	-30.000 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
Preamplifier	off	off



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Rx Spurious Emission (frequency independent)

Result

DUT Frequency (MHz)	Result
hopping	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)
19750.828904	-59.0	17.8	-41.2
19767.828009	-60.0	18.8	-41.2
19768.827956	-60.1	18.8	-41.2
19730.829956	-60.3	19.0	-41.2
19716.830693	-60.3	19.1	-41.2
19748.829009	-60.3	19.1	-41.2
19754.828693	-60.6	19.3	-41.2
19712.830904	-60.6	19.4	-41.2
19739.829483	-60.7	19.4	-41.2
19734.829746	-60.9	19.6	-41.2
19726.830167	-60.9	19.7	-41.2
19717.830640	-60.9	19.7	-41.2
19736.829641	-61.0	19.7	-41.2
19733.829798	-61.0	19.8	-41.2
20245.802852	-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



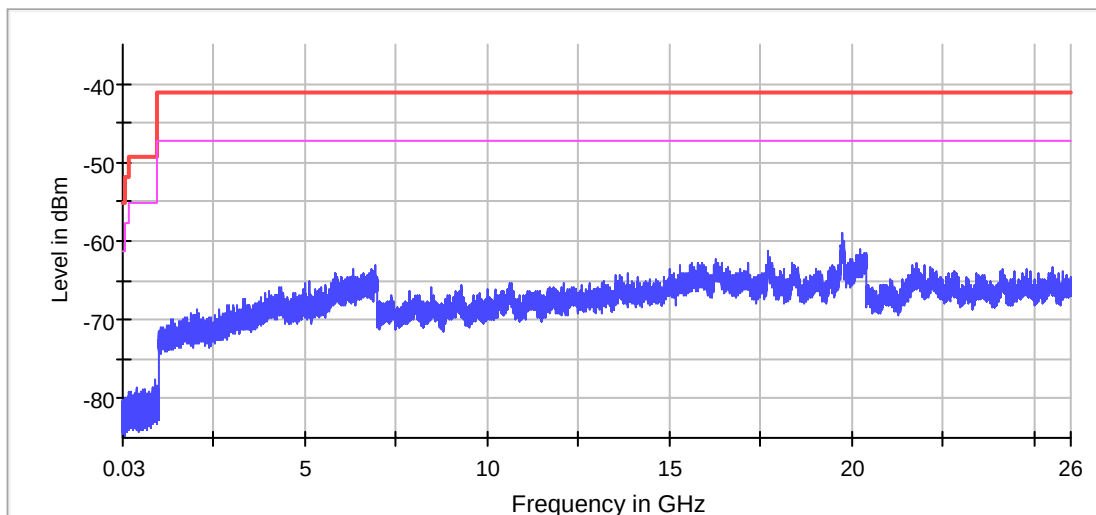
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— Limit [limit.Result:1] X Threshold [limit.2.Result:1]

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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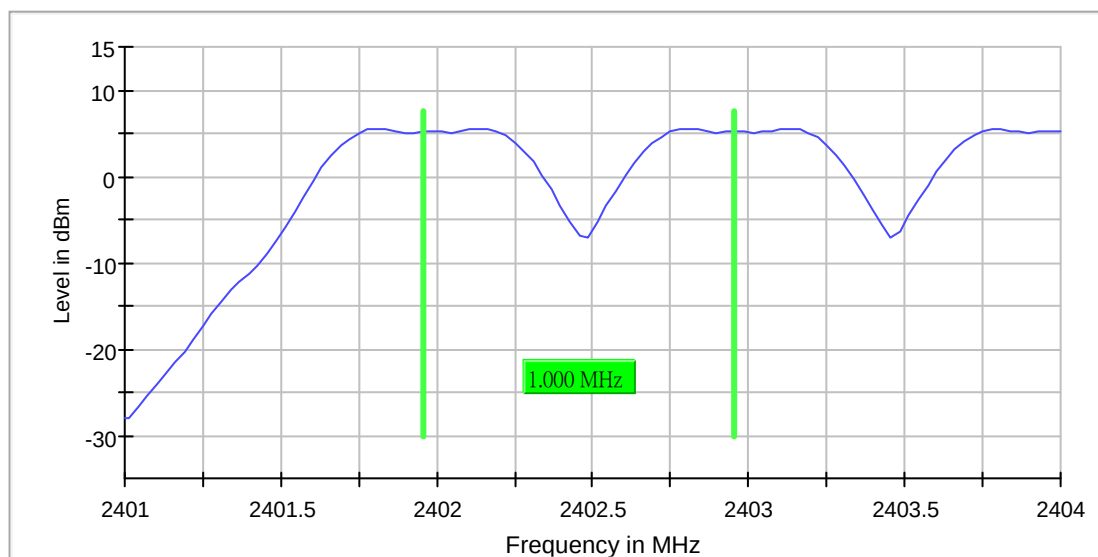
Report No. : A0000131(5)

Date : 03 Jan 2017

Carrier Frequency Separation (2402 MHz)

Result

DUT Frequency (MHz)	Frequency Separation (MHz)	Limit Min (MHz)	Limit Max (MHz)	Center Frequency low Channel (MHz)	Center Frequency high Channel (MHz)	Result
2402.000000	1.000000	0.666667	---	2401.955882	2402.955882	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	2.40400 GHz	2.40400 GHz	Stablevalue	0.30	0.30
Span	3.000 MHz	3.000 MHz	Run	30 / max. 150	max. 150
RBW	300.000 kHz	<= 300.000 kHz	Stable	10 / 10	10
VBW	300.000 kHz	>= 300.000 kHz			
SweepPoints	101	~ 10			
SweepTime	6.313 μ s	AUTO			
Reference Level	-10.000 dBm	-10.000 dBm			
Attenuation	10.000 dB	AUTO			
Detector	MaxPeak	MaxPeak			
SweepCount	200	200			
Filter	3 dB	3 dB			
Trace Mode	Max Hold	Max Hold			
SweepType	FFT	AUTO			
Preamplifier	off	off			



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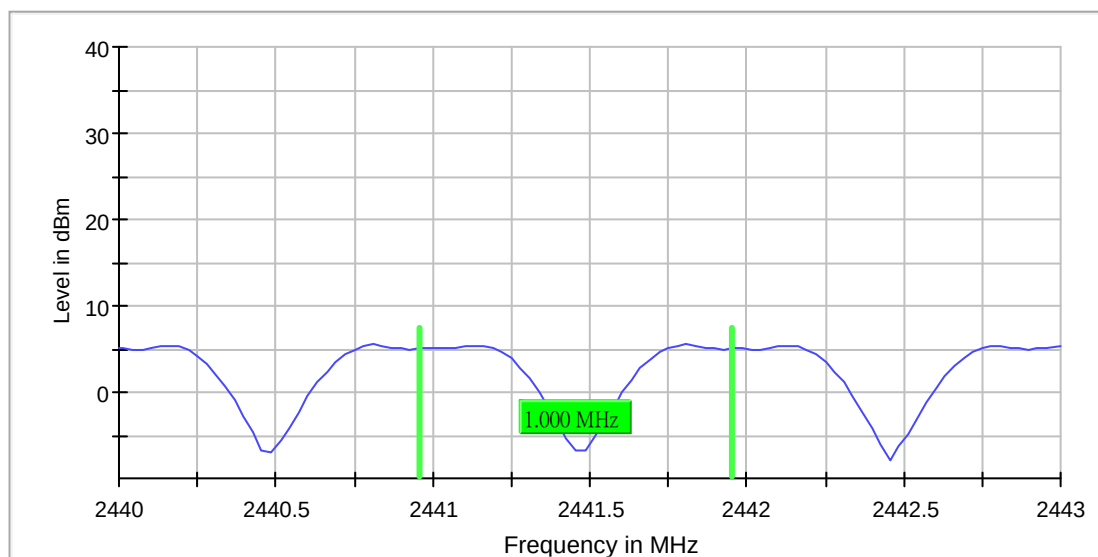
Report No. : A0000131(5)

Date : 03 Jan 2017

Carrier Frequency Separation (2441 MHz)

Result

DUT Frequency (MHz)	Frequency Separation (MHz)	Limit Min (MHz)	Limit Max (MHz)	Center Frequency low Channel (MHz)	Center Frequency high Channel (MHz)	Result
2441.000000	1.000000	0.666667	---	2440.955882	2441.955882	PASS



Measurement

Setting	Instrument Value	Target Value	Setting	Instrument Value	Target Value
Start Frequency	2.44000 GHz	2.44000 GHz	Stablemode	Trace	Trace
Stop Frequency	2.44300 GHz	2.44300 GHz	Stablevalue	0.30	0.30
Span	3.000 MHz	3.000 MHz	Run	23 / max. 150	max. 150
RBW	300.000 kHz	<= 300.000 kHz	Stable	10 / 10	10
VBW	300.000 kHz	>= 300.000 kHz			
SweepPoints	101	~ 10			
SweepTime	6.313 μ s	AUTO			
Reference Level	-10.000 dBm	-10.000 dBm			
Attenuation	10.000 dB	AUTO			
Detector	MaxPeak	MaxPeak			
SweepCount	200	200			
Filter	3 dB	3 dB			
Trace Mode	Max Hold	Max Hold			
SweepType	FFT	AUTO			
Preamp	off	off			



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TEST REPORT

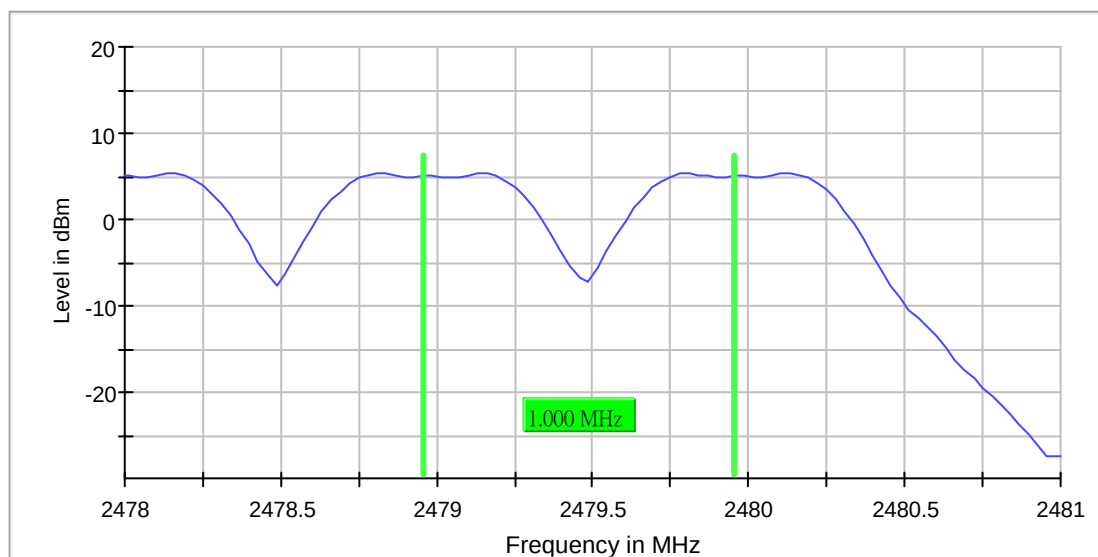
Report No. : A0000131(5)

Date : 03 Jan 2017

Carrier Frequency Separation (2479 MHz)

Result

DUT Frequency (MHz)	Frequency Separation (MHz)	Limit Min (MHz)	Limit Max (MHz)	Center Frequency low Channel (MHz)	Center Frequency high Channel (MHz)	Result
2479.000000	1.000000	0.666667	---	2478.955882	2479.955882	PASS



Measurement

Setting	Instrument Value	Target Value	Setting	Instrument Value	Target Value
Start Frequency	2.47800 GHz	2.47800 GHz	Stablemode	Trace	Trace
Stop Frequency	2.48100 GHz	2.48100 GHz	Stablevalue	0.30	0.30
Span	3.000 MHz	3.000 MHz	Run	32 / max. 150	max. 150
RBW	300.000 kHz	<= 300.000 kHz	Stable	10 / 10	10
VBW	300.000 kHz	>= 300.000 kHz			
SweepPoints	101	~ 10			
SweepTime	6.313 μ s	AUTO			
Reference Level	-10.000 dBm	-10.000 dBm			
Attenuation	10.000 dB	AUTO			
Detector	MaxPeak	MaxPeak			
SweepCount	200	200			
Filter	3 dB	3 dB			
Trace Mode	Max Hold	Max Hold			
Sweeptype	FFT	AUTO			
Preamplifier	off	off			



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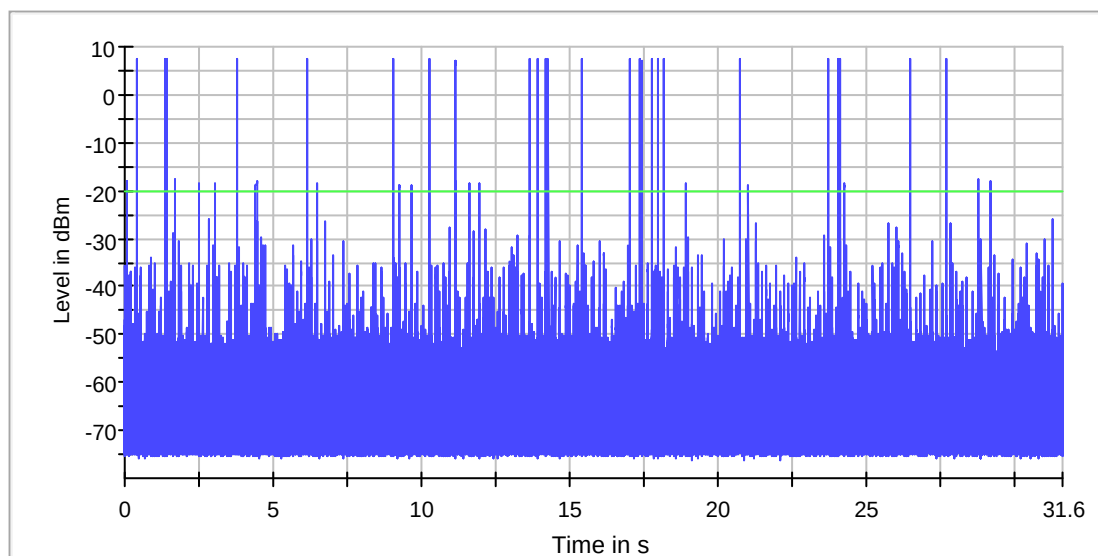
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Date : 03 Jan 2017

Time of Channel Occupancy (2402 MHz)

Result

DUT Frequency (MHz)	Time (ms)	Limit Max (ms)	Limit Min (ms)	Threshold (dBm)	Result
2402.000000	64.030	---	0.000	-20.0	PASS



Measurement

Setting	Instrument Value	Target Value
Center Frequency	2.40200 GHz	2.40200 GHz
Span	ZeroSpan	ZeroSpan
RBW	500.000 kHz	~ 500.000 kHz
VBW	1.000 MHz	~ 1.500 MHz
SweepPoints	30001	~ 30001
SweepTime	31.600 s	31.600 s
Reference Level	-10.000 dBm	-10.000 dBm
Attenuation	0.000 dB	0.000 dB
Detector	MaxPeak	MaxPeak
SweepCount	1	1
Filter	Channel	Channel
Trace Mode	Clear Write	Clear Write
SweepType	Sweep	AUTO
Preamp	off	off
Trigger	Extern	Extern
Trigger Offset	0.000 ms	0.000 ms



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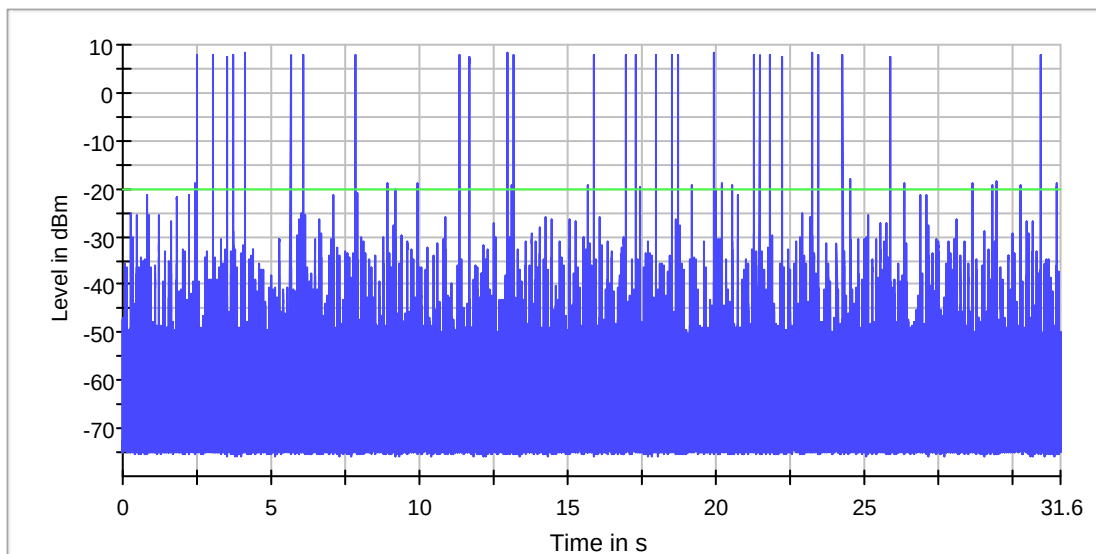
Report No. : A0000131(5)

Date : 03 Jan 2017

Time of Channel Occupancy (2441 MHz)

Result

DUT Frequency (MHz)	Time (ms)	Limit Max (ms)	Limit Min (ms)	Threshold (dBm)	Result
2441.000000	61.480	---	0.000	-20.0	PASS



Measurement

Setting	Instrument Value	Target Value
Center Frequency	2.44100 GHz	2.44100 GHz
Span	ZeroSpan	ZeroSpan
RBW	500.000 kHz	~ 500.000 kHz
VBW	1.000 MHz	~ 1.500 MHz
SweepPoints	30001	~ 30001
SweepTime	31.600 s	31.600 s
Reference Level	-10.000 dBm	-10.000 dBm
Attenuation	0.000 dB	0.000 dB
Detector	MaxPeak	MaxPeak
SweepCount	1	1
Filter	Channel	Channel
Trace Mode	Clear Write	Clear Write
SweepType	Sweep	AUTO
Preamp	off	off
Trigger	Extern	Extern
Trigger Offset	0.000 ms	0.000 ms



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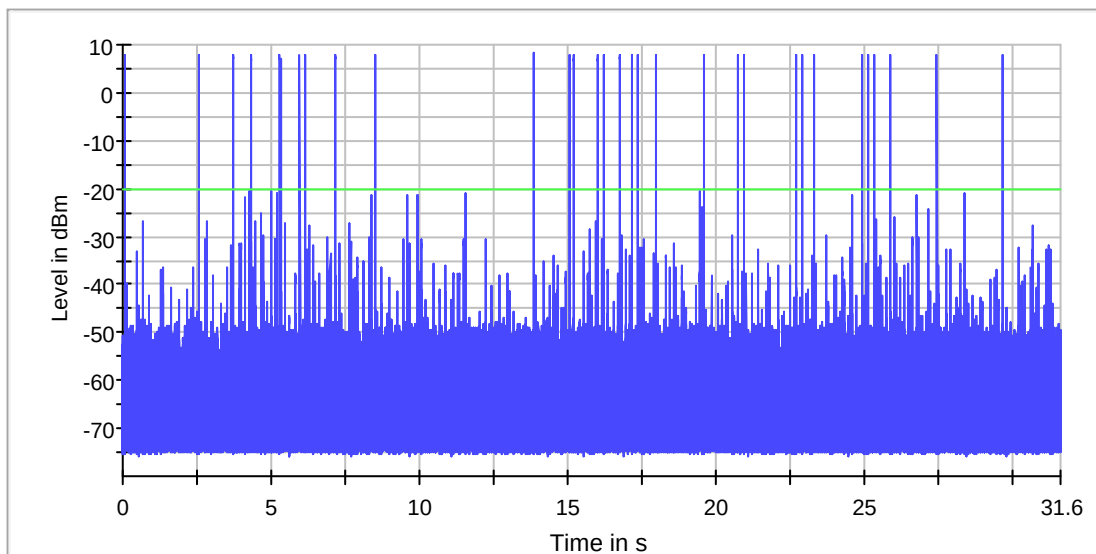
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Date : 03 Jan 2017

Time of Channel Occupancy (2480 MHz)

Result

DUT Frequency (MHz)	Time (ms)	Limit Max (ms)	Limit Min (ms)	Threshold (dBm)	Result
2480.000000	47.650	---	0.000	-20.0	PASS



Measurement

Setting	Instrument Value	Target Value
Center Frequency	2.48000 GHz	2.48000 GHz
Span	ZeroSpan	ZeroSpan
RBW	500.000 kHz	~ 500.000 kHz
VBW	1.000 MHz	~ 1.500 MHz
SweepPoints	30001	~ 30001
SweepTime	31.600 s	31.600 s
Reference Level	-10.000 dBm	-10.000 dBm
Attenuation	0.000 dB	0.000 dB
Detector	MaxPeak	MaxPeak
SweepCount	1	1
Filter	Channel	Channel
Trace Mode	Clear Write	Clear Write
SweepType	Sweep	AUTO
Preamp	off	off
Trigger	Extern	Extern
Trigger Offset	0.000 ms	0.000 ms



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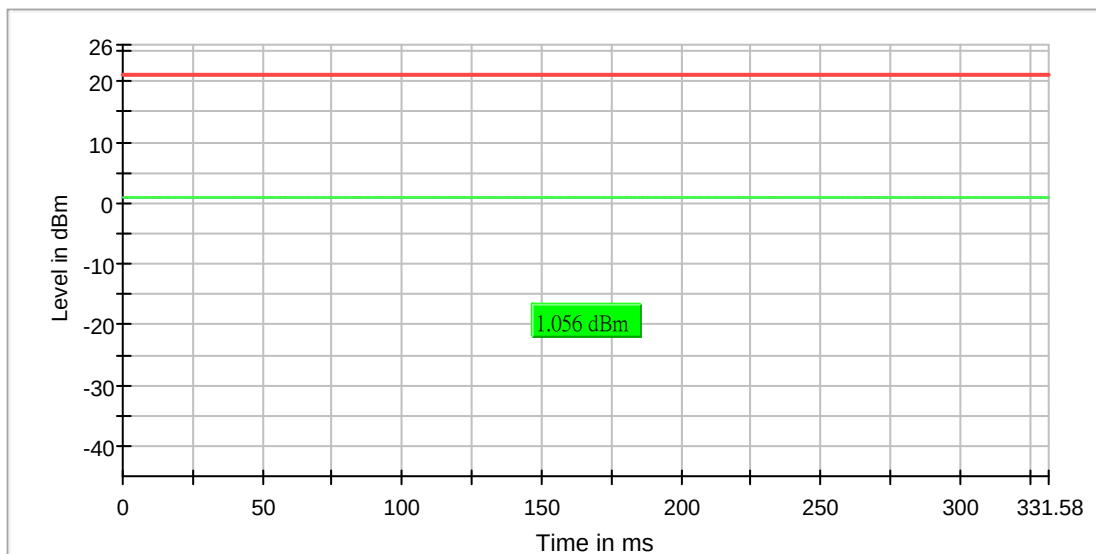
Report No. : A0000131(5)

Date : 03 Jan 2017

RF output power (2402 MHz)

Result

DUT Frequency (MHz)	Gated EIRP (dBm)	Limit Max (dBm)	Duty Cycle (%)	Result
2402.000000	1.1	21.0	33.199	PASS





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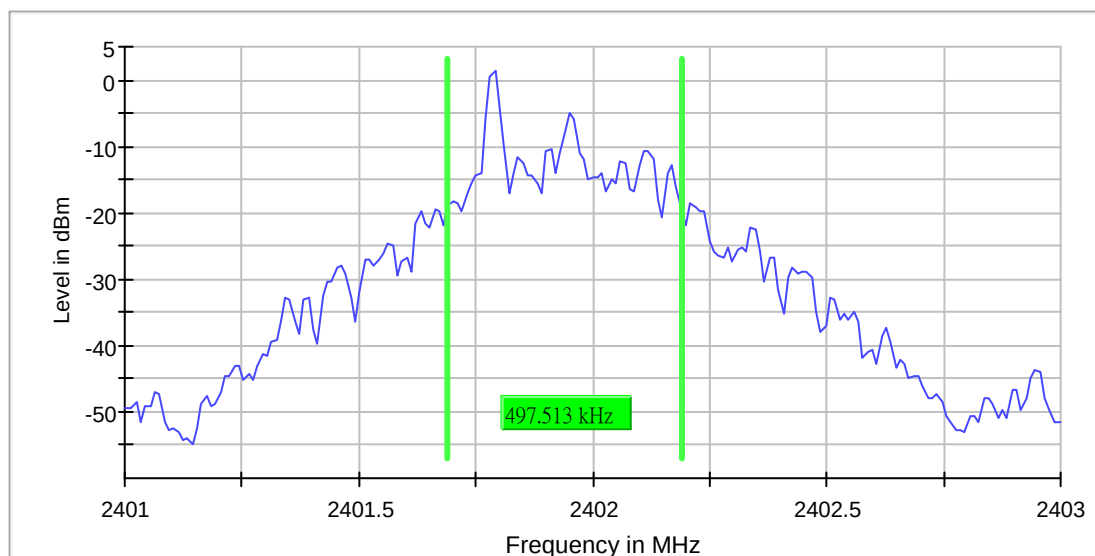
Report No. : A0000131(5)

Date : 03 Jan 2017

Emission Bandwidth 20 dB (2402 MHz)

20 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	0.497513	---	---	2401.691542	2402.189055	1.3	PASS





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Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.40100 GHz	2.40100 GHz
Stop Frequency	2.40300 GHz	2.40300 GHz
Span	2.000 MHz	2.000 MHz
RBW	10.000 kHz	~ 10.000 kHz
VBW	30.000 kHz	>= 30.000 kHz
SweepPoints	200	~ 200
SweepTime	189.620 μ s	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	200	200
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamplifier	off	off
Stablemode	Trace	Trace
Stablevalue	0.30	0.30
Run	6 / max. 150	max. 150
Stable	5 / 5	5



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Band Edge low (2402 MHz)

Result

DUT Frequency (MHz)	Result
2402.000000	PASS

Inband Peak

Frequency (MHz)	Level (dBm)
2401.773938	-4.3

Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
2399.875069	-57.1	32.8	-24.3	PASS
2399.825097	-57.5	33.2	-24.3	PASS
2399.775125	-57.6	33.3	-24.3	PASS
2399.725153	-58.0	33.7	-24.3	PASS
2399.925042	-58.1	33.8	-24.3	PASS
2399.575236	-58.1	33.8	-24.3	PASS
2399.525264	-58.1	33.8	-24.3	PASS
2399.625208	-58.1	33.8	-24.3	PASS
2399.675180	-58.2	33.9	-24.3	PASS
2399.475292	-58.6	34.3	-24.3	PASS
2399.275403	-58.9	34.5	-24.3	PASS
2399.425319	-58.9	34.5	-24.3	PASS
2399.325375	-59.0	34.7	-24.3	PASS
2398.975569	-59.0	34.7	-24.3	PASS
2399.175458	-59.1	34.8	-24.3	PASS



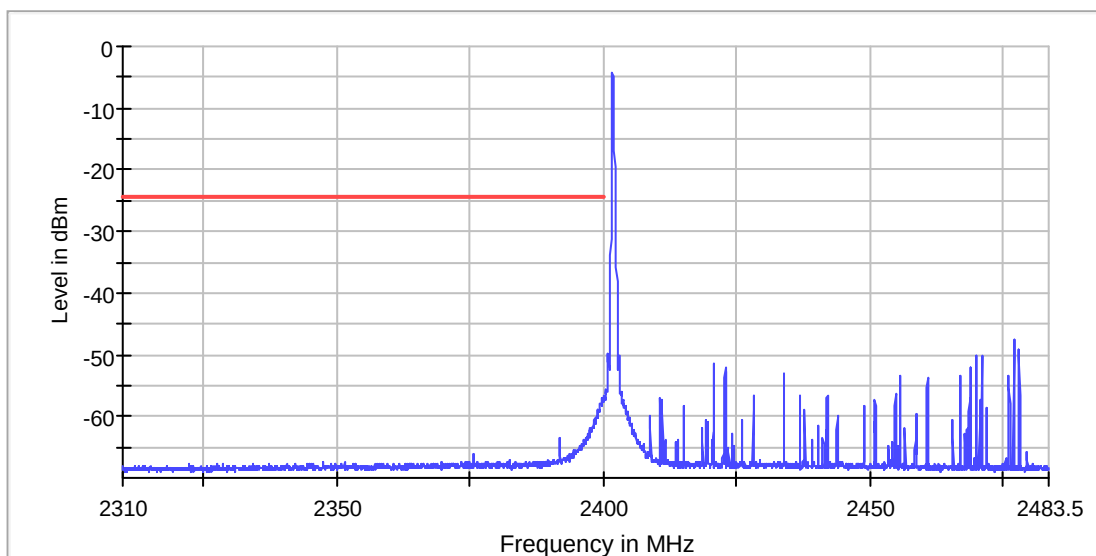
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Measurement 1

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	0.000 dBm	0.000 dBm
Attenuation	20.000 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	0.000 dBm	0.000 dBm
Attenuation	20.000 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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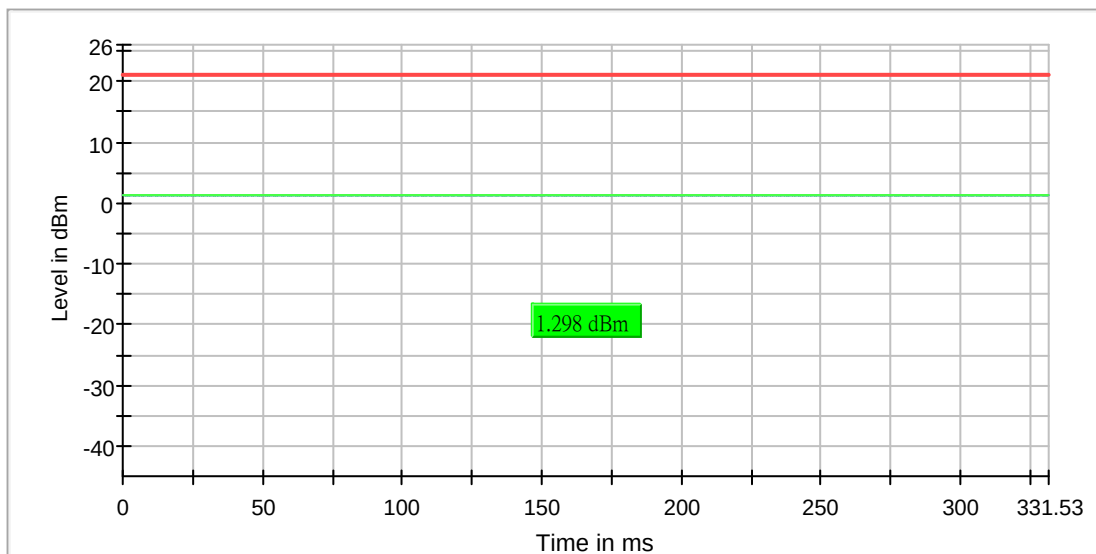
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Date : 03 Jan 2017

RF output power (2441 MHz)

Result

DUT Frequency (MHz)	Gated EIRP (dBm)	Limit Max (dBm)	Duty Cycle (%)	Result
2441.000000	1.3	21.0	33.194	PASS





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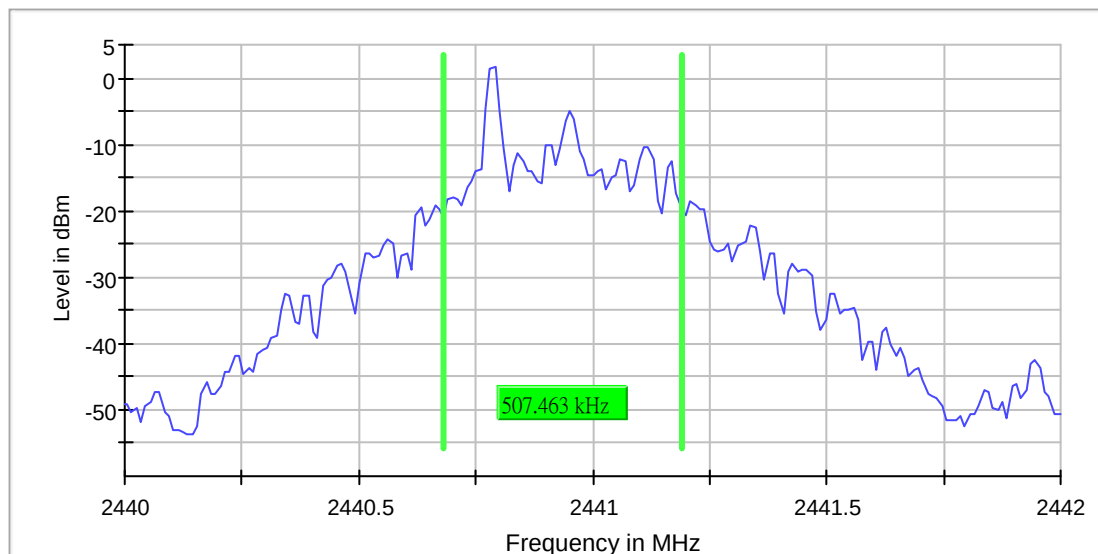
Report No. : A0000131(5)

Date : 03 Jan 2017

Emission Bandwidth 20 dB (2441 MHz)

20 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
2441.000000	0.507463	---	---	2440.681592	2441.189055	1.5	PASS





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TEST REPORT

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Date : 03 Jan 2017

Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.44000 GHz	2.44000 GHz
Stop Frequency	2.44200 GHz	2.44200 GHz
Span	2.000 MHz	2.000 MHz
RBW	10.000 kHz	~ 10.000 kHz
VBW	30.000 kHz	>= 30.000 kHz
SweepPoints	200	~ 200
SweepTime	189.620 μ s	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	200	200
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamplifier	off	off
Stablemode	Trace	Trace
Stablevalue	0.30	0.30
Run	6 / max. 150	max. 150
Stable	5 / 5	5



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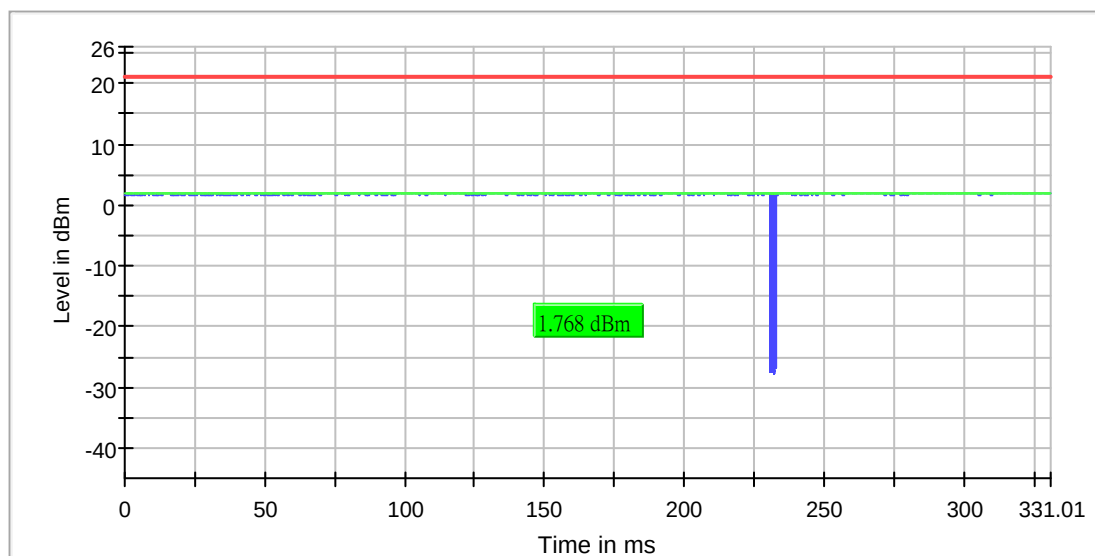
Report No. : A0000131(5)

Date : 03 Jan 2017

RF output power (2480 MHz)

Result

DUT Frequency (MHz)	Gated EIRP (dBm)	Limit Max (dBm)	DutyCycle (%)	Result
2480.000000	1.8	21.0	33.142	PASS





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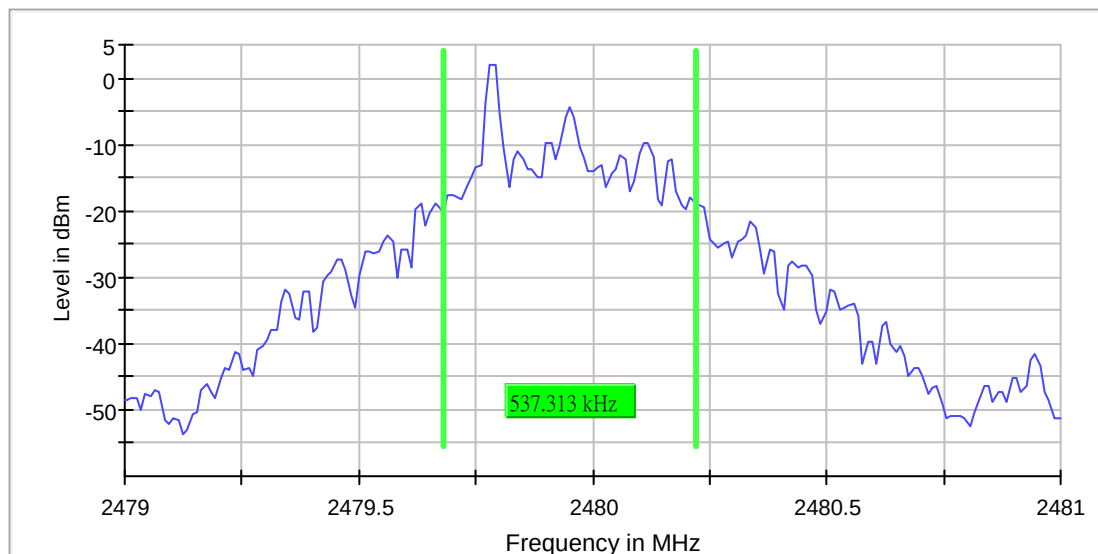
Report No. : A0000131(5)

Date : 03 Jan 2017

Emission Bandwidth 20 dB (2480 MHz)

20 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	0.537313	---	---	2479.681592	2480.218905	2.1	PASS





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Date : 03 Jan 2017

Measurement

Setting	Instrument Value	Target Value
Start Frequency	2.47900 GHz	2.47900 GHz
Stop Frequency	2.48100 GHz	2.48100 GHz
Span	2.000 MHz	2.000 MHz
RBW	10.000 kHz	~ 10.000 kHz
VBW	30.000 kHz	>= 30.000 kHz
SweepPoints	200	~ 200
SweepTime	189.620 μ s	AUTO
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	AUTO
Detector	MaxPeak	MaxPeak
SweepCount	200	200
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
SweepType	FFT	AUTO
Preamplifier	off	off
Stablemode	Trace	Trace
Stablevalue	0.30	0.30
Run	6 / max. 150	max. 150
Stable	5 / 5	5



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Date : 03 Jan 2017

Band Edge high (2480 MHz)

Result

DUT Frequency (MHz)	Result
2480.000000	PASS

Inband Peak

Frequency (MHz)	Level (dBm)
2479.727259	-3.5

Measurements

Frequency (MHz)	Level (dBm)	Margin (dB)	Limit (dBm)	Result
2483.524924	-60.5	37.0	-23.5	PASS
2483.923716	-60.6	37.1	-23.5	PASS
2483.574773	-60.7	37.2	-23.5	PASS
2483.774169	-60.8	37.3	-23.5	PASS
2483.674471	-61.0	37.4	-23.5	PASS
2484.023414	-61.2	37.7	-23.5	PASS
2483.624622	-61.2	37.7	-23.5	PASS
2483.724320	-61.3	37.8	-23.5	PASS
2483.873867	-61.3	37.8	-23.5	PASS
2484.073263	-61.4	37.8	-23.5	PASS
2483.824018	-61.6	38.1	-23.5	PASS
2484.123112	-61.8	38.3	-23.5	PASS
2484.172961	-61.9	38.4	-23.5	PASS
2484.422205	-62.1	38.5	-23.5	PASS
2483.973565	-62.1	38.6	-23.5	PASS



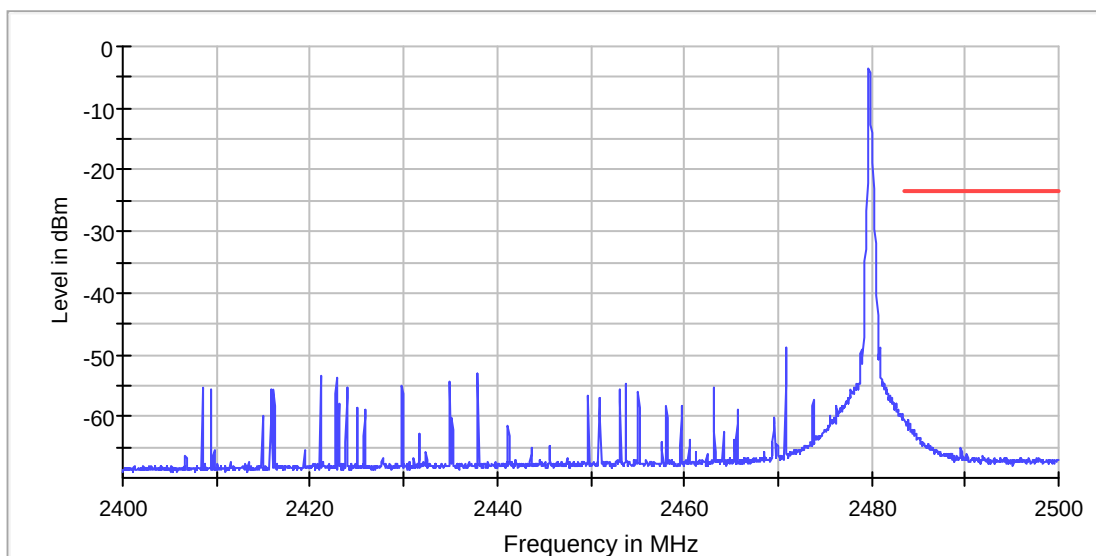
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TEST REPORT

Report No. : A0000131(5)

Date : 03 Jan 2017



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	0.000 dBm	0.000 dBm
Attenuation	20.000 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	0.000 dBm	0.000 dBm
Attenuation	20.000 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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Date : 03 Jan 2017

2.3 Radiated Emission Measurement Data

Environmental conditions:

Parameter	Recorded value	
Ambient temperature:	24	° C
Relative humidity:	66	%

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

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, 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)
2401.794	H	78.2	8.1	86.3	114.0	- 27.7	Peak
2401.783	V	81.4	8.1	89.5	114.0	- 24.5	Peak
2441.119	H	78.3	8.1	86.4	114.0	- 27.6	Peak
2441.119	V	85.0	8.1	93.1	114.0	- 20.9	Peak
2480.119	H	81.9	8.1	90.0	114.0	- 24.0	Peak
2480.139	V	89.3	8.1	97.4	114.0	- 16.6	Peak
2479.810	V	46.4	8.1	54.5	94.0	- 39.5	Average
4803.440	H	55.2	6.5	61.7	74.0	- 12.3	Peak
4803.678	H	30.1	6.5	36.6	54.0	- 17.4	Average
4803.642	V	58.3	6.5	64.8	74.0	- 9.2	Peak
4803.648	V	31.1	6.5	37.6	54.0	- 16.4	Average
4881.650	H	52.6	6.5	59.1	74.0	- 14.9	Peak
4881.694	H	28.3	6.5	34.8	54.0	- 19.2	Average
4881.668	V	58.6	6.5	65.1	74.0	- 8.9	Peak
4881.706	V	30.5	6.5	37.0	54.0	- 17.0	Average
4959.616	H	54.9	6.5	61.4	74.0	- 12.6	Peak
4959.728	H	29.8	6.5	36.3	54.0	-17.7	Average
4959.676	V	61.4	6.5	67.9	74.0	- 6.1	Peak
4959.716	V	32.0	6.5	38.5	54.0	- 15.5	Average

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7205.392	H	56.3	11.3	67.6	74.0	- 6.4	Peak
7205.510	H	29.8	11.3	41.1	54.0	- 12.9	Average
7205.400	V	59.1	11.3	70.4	74.0	- 3.6	Peak
7205.544	V	30.8	11.3	42.1	54.0	- 11.9	Average
7322.322	H	56.8	11.3	68.1	74.0	- 5.9	Peak
7322.542	H	29.9	11.3	41.2	54.0	- 12.8	Average
7322.366	V	57.9	11.3	69.2	74.0	- 4.8	Peak
7322.590	V	30.3	11.3	41.6	54.0	- 12.4	Average
7439.322	H	57.4	11.3	68.7	74.0	- 5.3	Peak
7439.544	H	30.0	11.3	41.3	54.0	- 12.7	Average
7439.376	V	58.2	11.3	69.5	74.0	- 4.5	Peak
7439.533	V	30.3	11.3	41.6	54.0	- 12.4	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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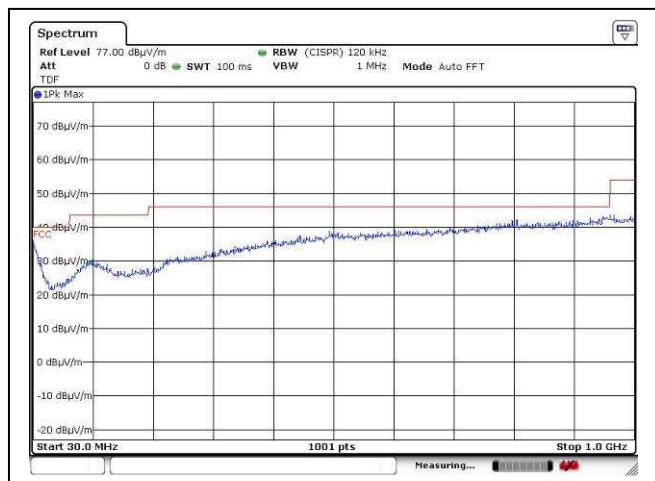
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TEST REPORT

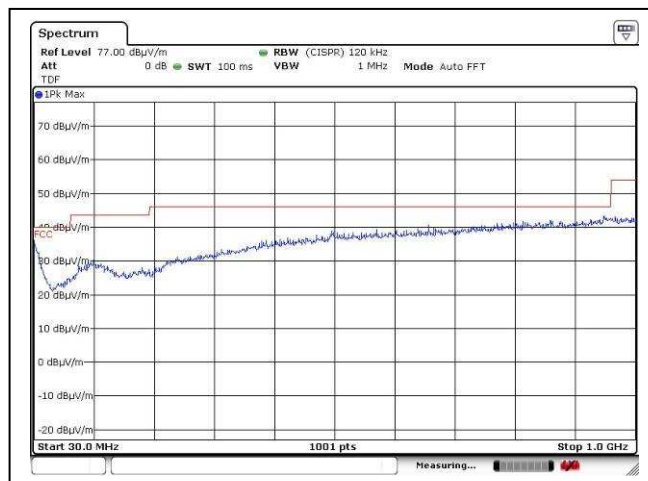
Report No. : A0000131(5)

Date : 03 Jan 2017

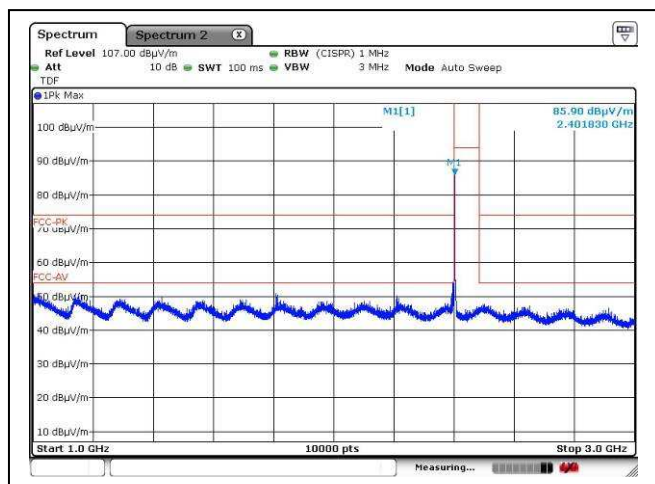
2.3 Radiated Emission Measurement Data (Con't)



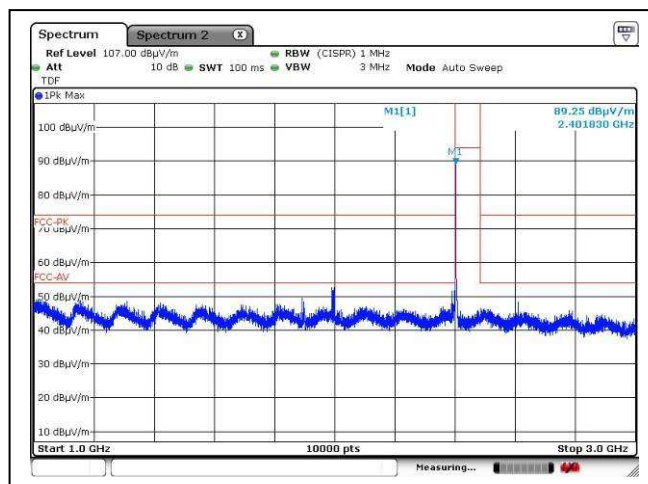
Lower channel, 30MHz – 1GHz, Horizontal



Lower channel, 30MHz – 1GHz, Vertical



Lower channel, 1GHz – 3GHz, Horizontal



Lower channel, 1GHz – 3GHz, Vertical



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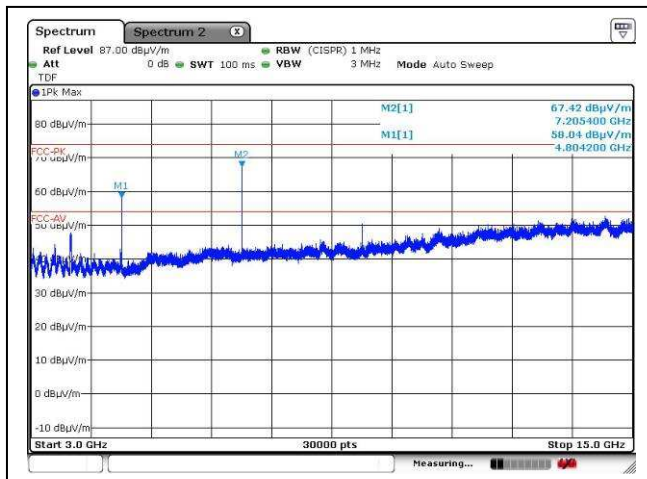
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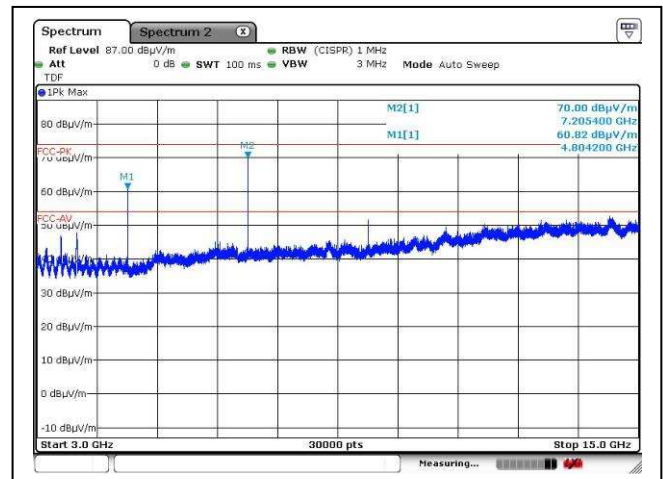
Report No. : A0000131(5)

Date : 03 Jan 2017

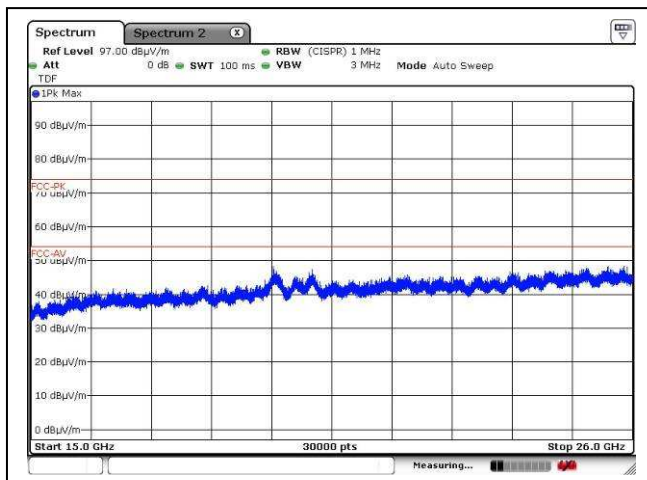
2.3 Radiated Emission Measurement Data (Con't)



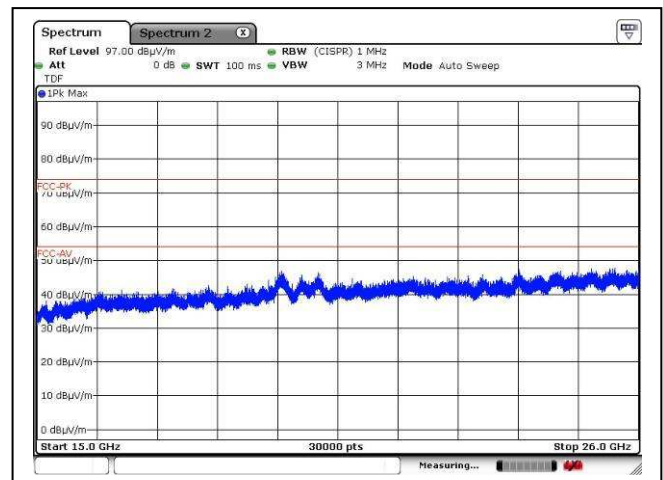
Lower channel, 3GHz – 15GHz, Horizontal



Lower channel, 3GHz – 15GHz, Vertical



Lower channel, 15GHz – 26GHz, Horizontal



Lower channel, 15GHz – 26GHz, Vertical

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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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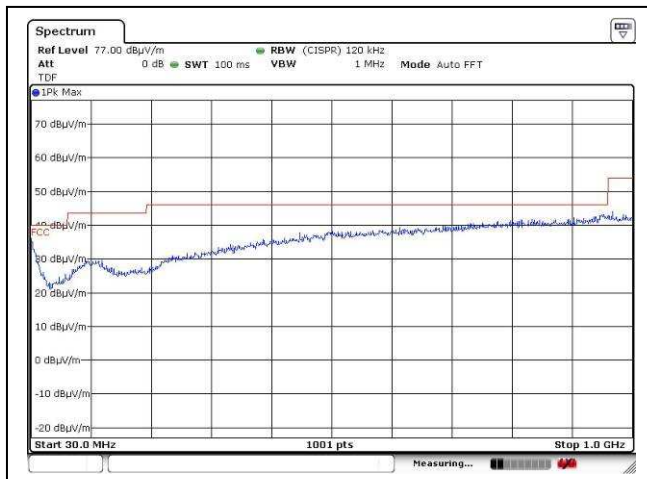
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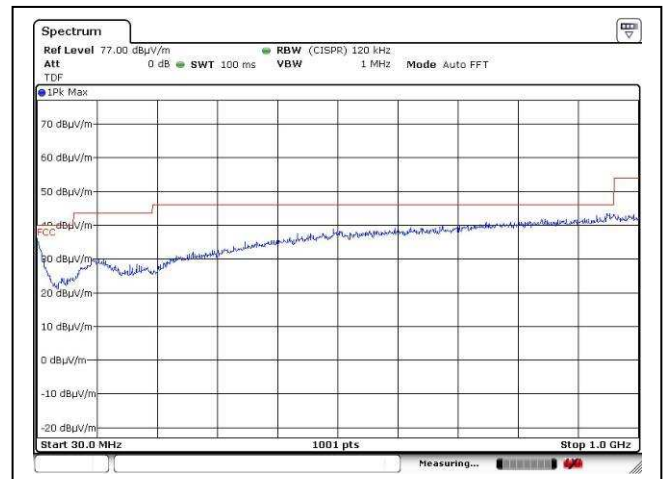
Report No. : A0000131(5)

Date : 03 Jan 2017

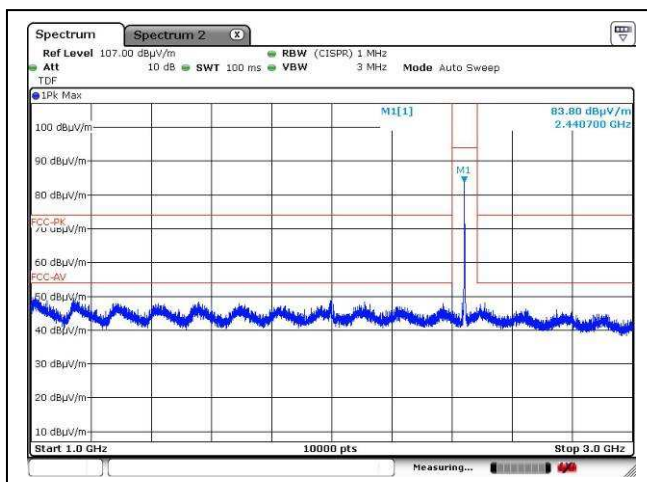
2.3 Radiated Emission Measurement Data (Con't)



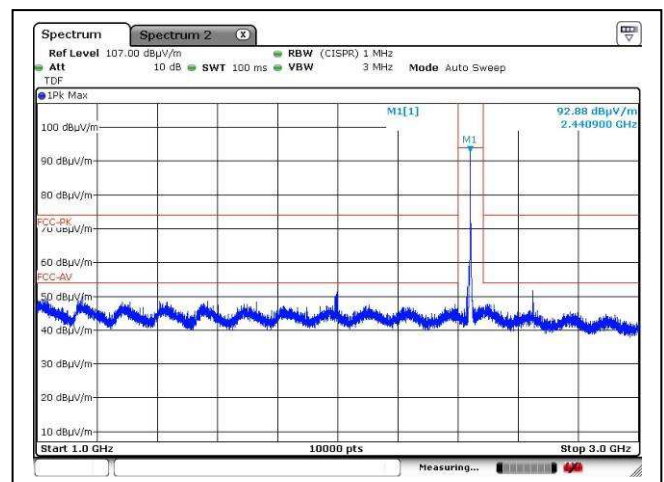
Middle channel, 30MHz – 1GHz, Horizontal



Middle channel, 30MHz – 1GHz, Vertical



Middle channel, 1GHz – 3GHz, Horizontal



Middle channel, 1GHz – 3GHz, Vertical



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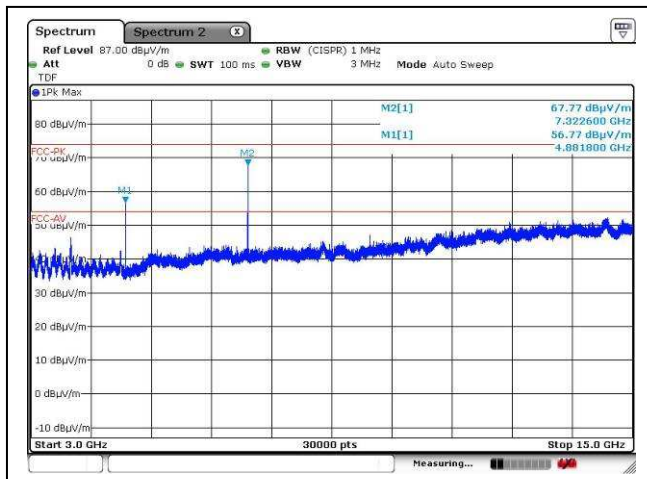
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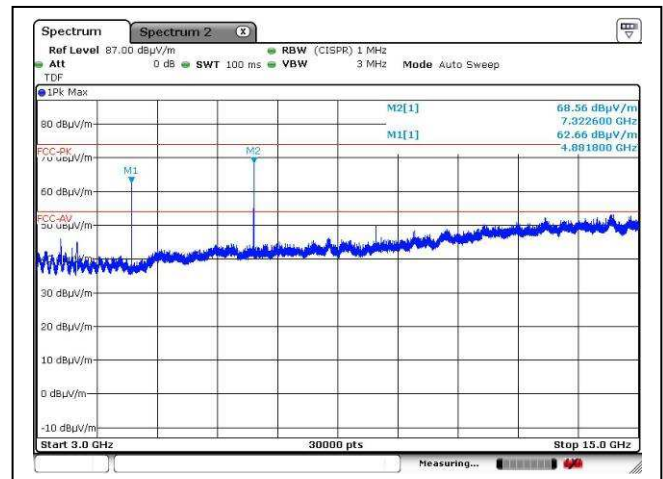
Report No. : A0000131(5)

Date : 03 Jan 2017

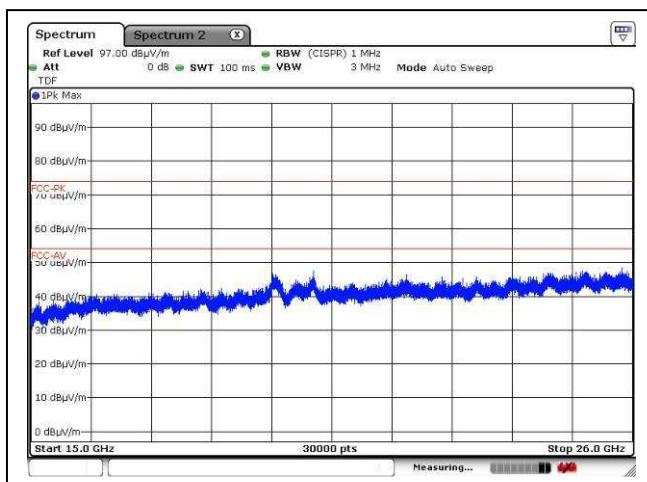
2.3 Radiated Emission Measurement Data (Con't)



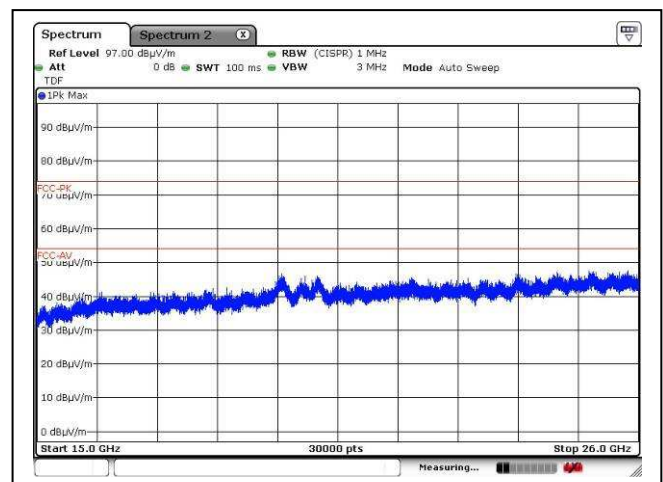
Middle channel, 3GHz – 15GHz, Horizontal



Middle channel, 3GHz – 15GHz, Vertical



Middle channel, 15GHz – 26GHz, Horizontal



Middle channel, 15GHz – 26GHz, Vertical



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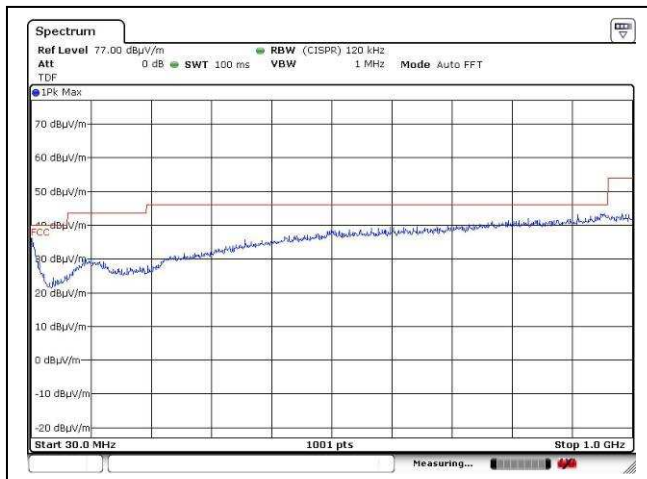
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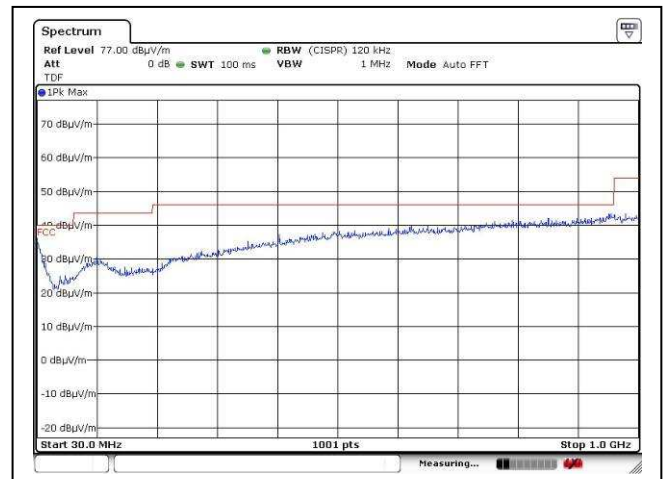
Report No. : A0000131(5)

Date : 03 Jan 2017

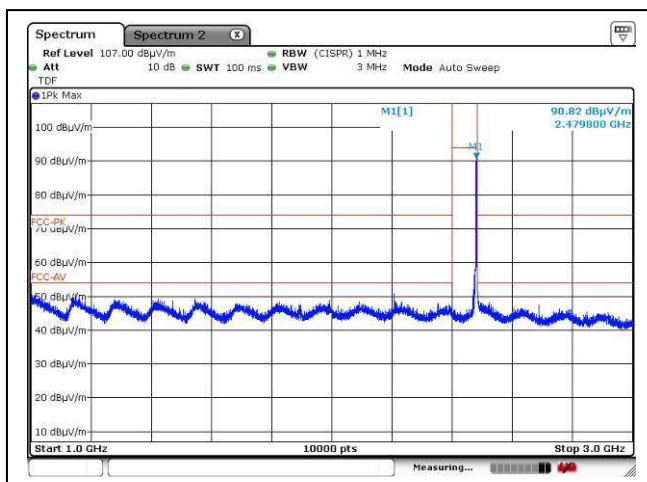
2.3 Radiated Emission Measurement Data (Con't)



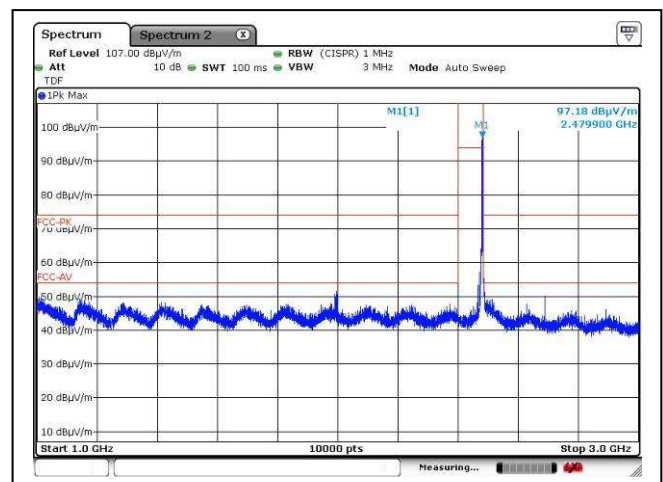
Higher channel, 30MHz – 1GHz, Horizontal



Higher channel, 30MHz – 1GHz, Vertical



Higher channel, 1GHz – 3GHz, Horizontal



Higher channel, 1GHz – 3GHz, Vertical



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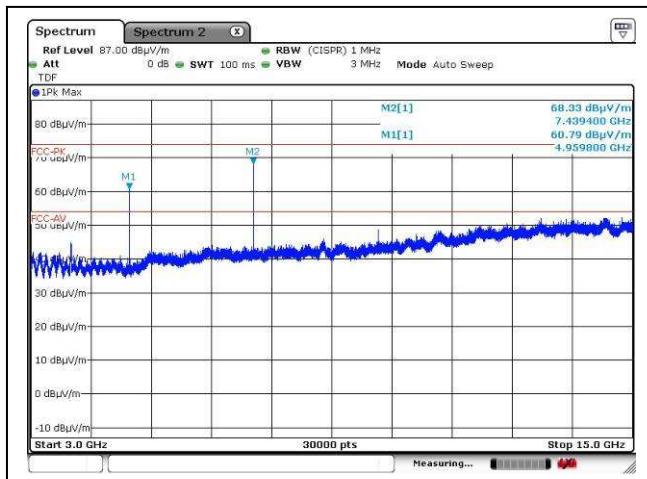
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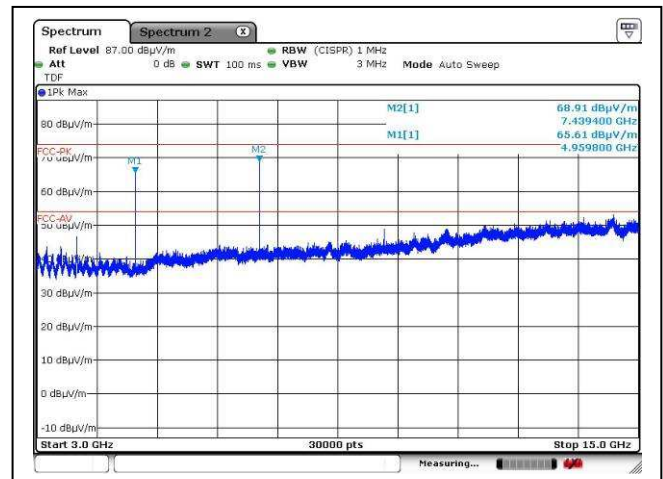
Report No. : A0000131(5)

Date : 03 Jan 2017

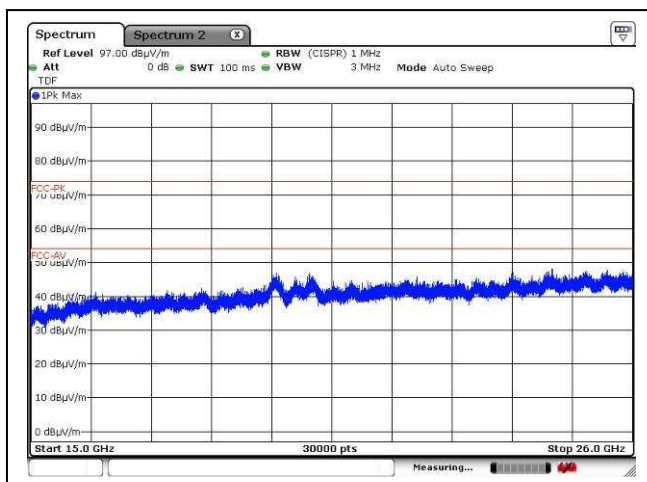
2.3 Radiated Emission Measurement Data (Con't)



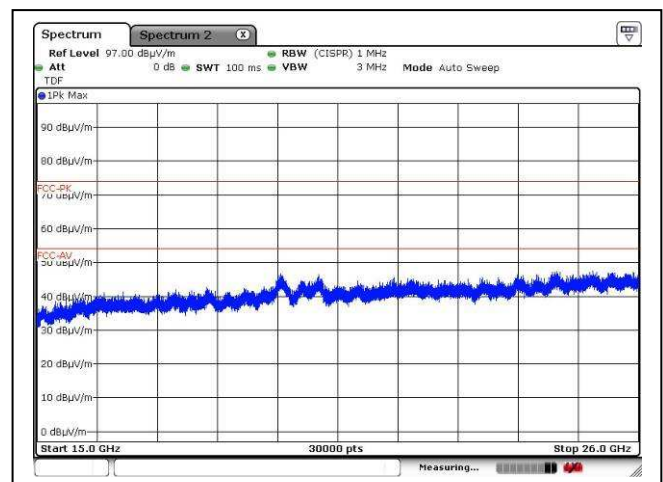
Higher channel, 3GHz – 15GHz, Horizontal



Higher channel, 3GHz – 15GHz, Vertical



Higher channel, 15GHz – 26GHz, Horizontal



Higher channel, 15GHz – 26GHz, Vertical



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2.3 Radiated Emission Measurement Data (Con't)

Environmental conditions:

Parameter	Recorded value	
Ambient temperature:	24	° C
Relative humidity:	66	%

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)	Measurement (Peak/ Average)

Remark: No specified emission found



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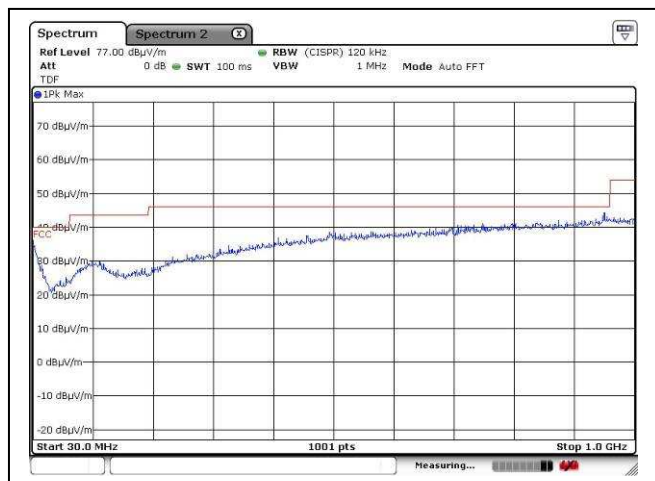
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TEST REPORT

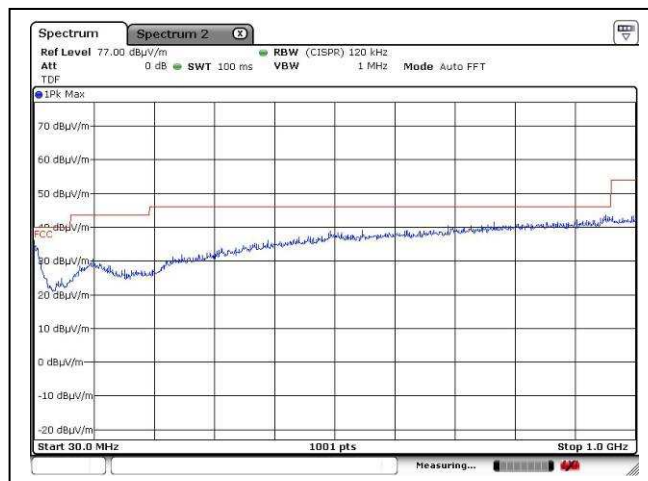
Report No. : A0000131(5)

Date : 03 Jan 2017

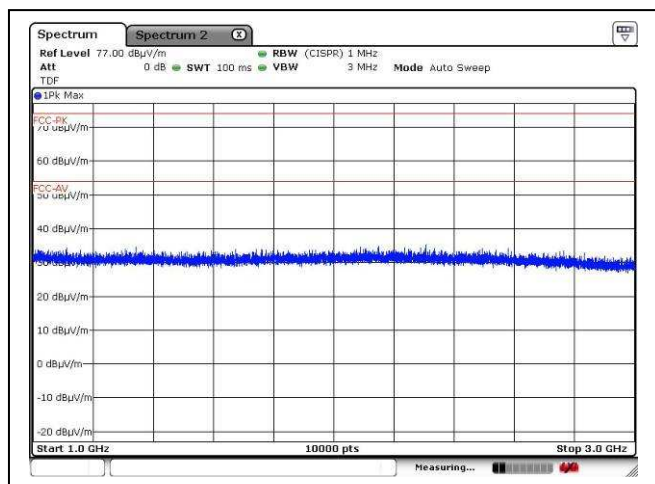
2.3 Radiated Emission Measurement Data (Con't)



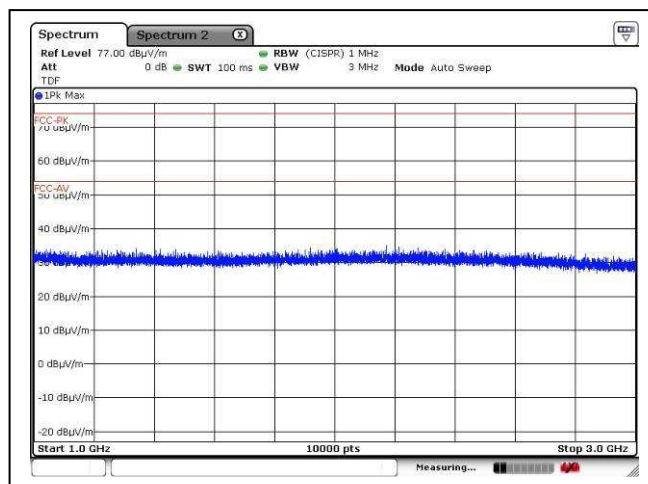
Receiving mode, 30MHz – 1GHz, Horizontal



Receiving mode, 30MHz – 1GHz, Vertical



Receiving mode, 1GHz – 3GHz, Horizontal



Receiving mode, 1GHz – 3GHz, Vertical



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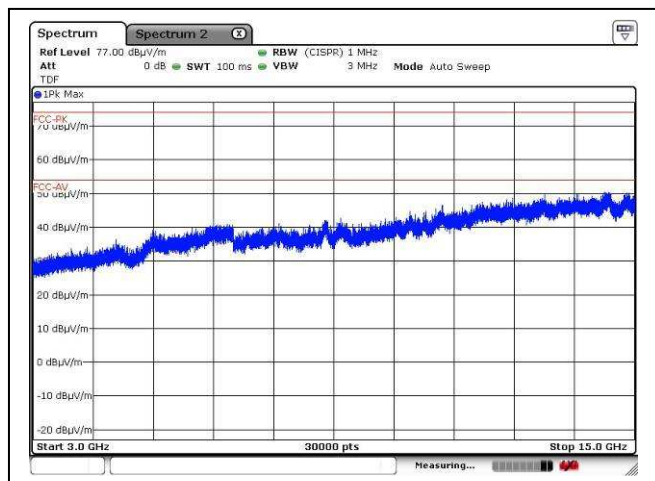
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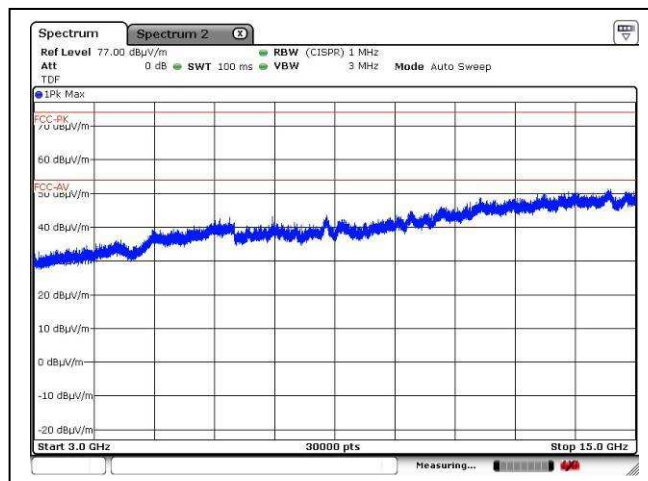
Report No. : A0000131(5)

Date : 03 Jan 2017

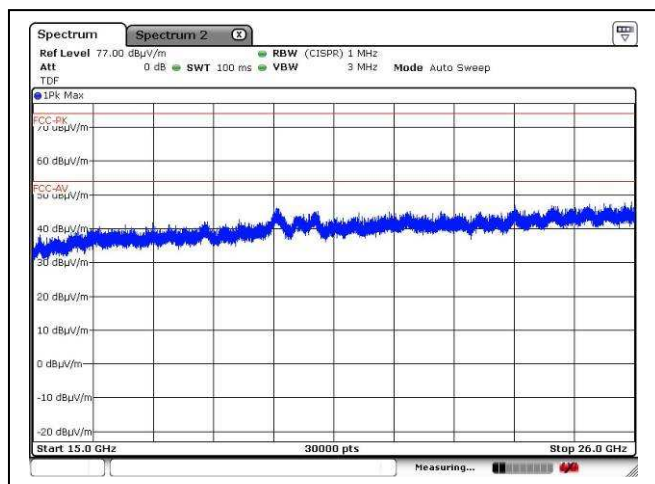
2.3 Radiated Emission Measurement Data (Con't)



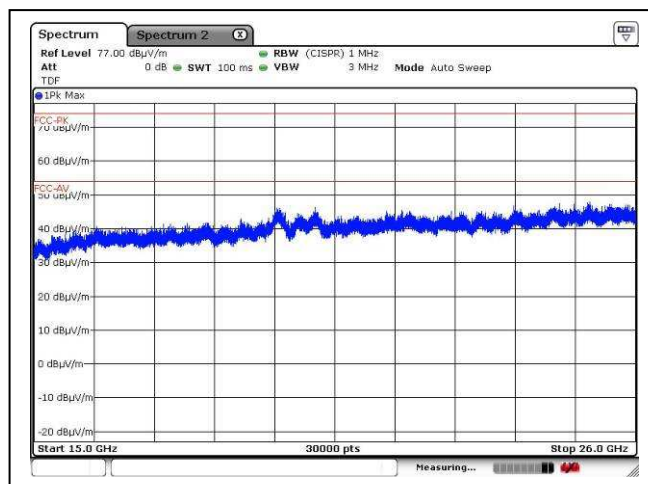
Receiving mode, 3GHz – 15GHz, Horizontal



Receiving mode, 3GHz – 15GHz, Vertical



Receiving mode, 15GHz – 26GHz, Horizontal



Receiving mode, 15GHz – 26GHz, Vertical



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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

The EUT connected to an adaptor for charging



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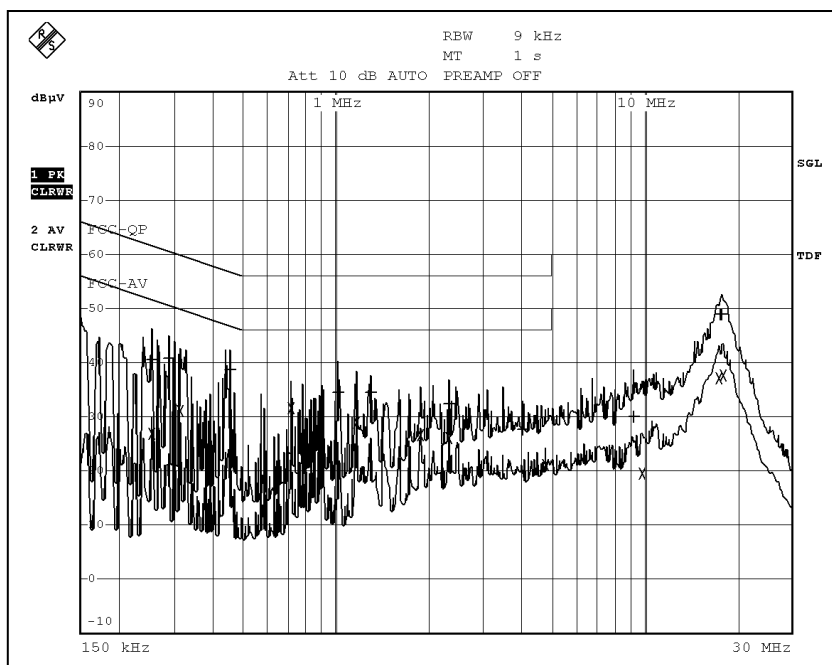
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Date : 03 Jan 2017

3.3 Graph and Table of Conducted Emission Measurement Data



EDIT PEAK LIST (Final Measurement Results)				
Trace1:	FCC-QP			
Trace2:	FCC-AV			
Trace3:	---			
TRACE	FREQUENCY	LEVEL dBμV		DELTA LIMIT dB
1 Quasi Peak	253.5 kHz	40.61	N gnd	-21.02
2 Average	253.5 kHz	26.89	N gnd	-24.74
1 Quasi Peak	289.5 kHz	40.69	N gnd	-19.84
2 Average	316.5 kHz	31.16	N gnd	-18.63
1 Quasi Peak	456 kHz	38.69	N gnd	-18.06
2 Average	711.5 kHz	31.63	N gnd	-14.36
1 Quasi Peak	1.0175 MHz	34.50	N gnd	-21.49
2 Average	1.166 MHz	29.02	N gnd	-16.97
1 Quasi Peak	1.301 MHz	34.47	L1 gnd	-21.52
2 Average	1.8815 MHz	26.66	N gnd	-19.33
1 Quasi Peak	2.318 MHz	32.33	L1 gnd	-23.66
2 Average	2.318 MHz	26.04	N gnd	-19.95
1 Quasi Peak	4.055 MHz	27.64	N gnd	-28.35
2 Average	4.7885 MHz	21.14	N gnd	-24.85
1 Quasi Peak	9.2795 MHz	30.09	N gnd	-29.90
2 Average	9.905 MHz	19.46	L1 gnd	-30.53
2 Average	17.528 MHz	37.16	N gnd	-12.84
1 Quasi Peak	17.6135 MHz	48.95	N gnd	-11.04
1 Quasi Peak	17.888 MHz	48.99	N gnd	-11.00
2 Average	18.0995 MHz	37.73	N gnd	-12.26



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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 2AIGJ1201786 TSup.pdf.

4.2 Photographs of the External and Internal Configurations of the EUT

For electronic filing, the photos are saved with filename 2AIGJ1201786 ExPho.pdf and 2AIGJ1201786 InPho.pdf.

4.3 Antenna requirement

Appendices A5 shows the antenna is permanently attached and cannot be changed. Therefore it fulfils the section 15.203 requirement



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Date : 03 Jan 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 the set-up of Line-conducted Emissions	1	page
A4	Photos of External Configurations	2	pages
A5	Photos of Internal Configurations	2	pages
A6	ID Label/Location	1	page



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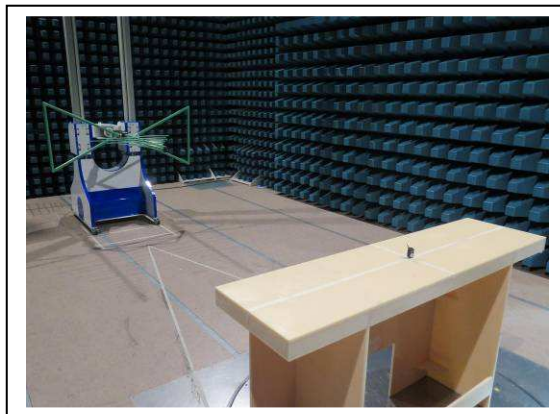
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TEST REPORT

Report No. : A0000131(5)

Date : 03 Jan 2017

A1. Photos of the set-up of Radiated Emissions



30MHz – 1GHz



9kHz – 30MHz

Tested by:

Mr. LEUNG Shu-kan, Ken

Reviewed by:

Mr. WONG Lap-pong, Andrew

FCC ID: 2AIGJ1201786

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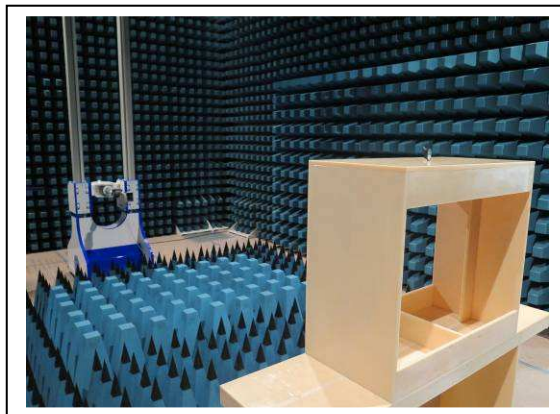
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TEST REPORT

Report No. : A0000131(5)

Date : 03 Jan 2017

A1. Photos of the set-up of Radiated Emissions



Above 1GHz

Tested by:

Mr. LEUNG Shu-kan, Ken

Reviewed by:

Mr. WONG Lap-pong, Andrew



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TEST REPORT

Report No. : A0000131(5)

Date : 03 Jan 2017

A2. Photos of the set-up of Conducted Emissions



Tested by:

Mr. LEUNG Shu-kan, Ken

Reviewed by:

Mr. WONG Lap-pong, Andrew



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TEST REPORT

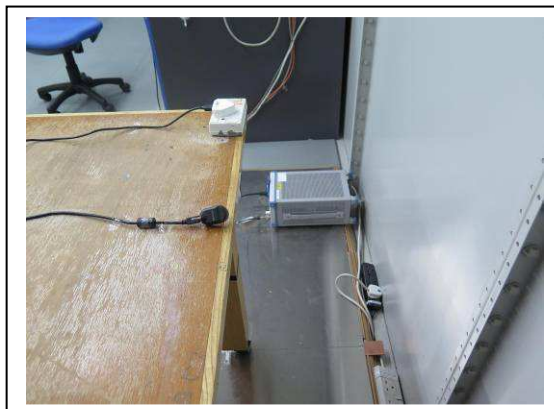
Report No. : A0000131(5)

Date : 03 Jan 2017

A3. Photos of the set-up of Line-conducted Emissions



Front view



Side view

Tested by:

Mr. LEUNG Shu-kan, Ken

Reviewed by:

Mr. WONG Lap-pong, Andrew



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TEST REPORT

Report No. : A0000131(5)

Date : 03 Jan 2017

A4 Photos of External Configurations



External Configuration 1



External Configuration 2

Tested by:

Mr. LEUNG Shu-kan, Ken

Reviewed by:

Mr. WONG Lap-pong, Andrew



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TEST REPORT

Report No. : A0000131(5)

Date : 03 Jan 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: 2AIGJ1201786

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CMA Testing and Certification Laboratories

廠商會檢定中心

TEST REPORT

Report No. : A0000131(5)

Date : 03 Jan 2017

A5 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: 2AIGJ1201786

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TEST REPORT

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Date : 03 Jan 2017

A4 Photos of Internal Configurations



EUT Antenna

Tested by:

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廠商會檢定中心

TEST REPORT

Report No. : A0000131(5)

Date : 03 Jan 2017

A6 ID Label / Location



ID Label 1

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

Tested by:

Mr. LEUNG Shu-kan, Ken

Reviewed by:

Mr. WONG Lap-pong, Andrew