

FCC Part 15 Test Report

Report No.: RF160629C28

FCC ID: LDKIXMLPWA900

Test Model: IXM-LPWA-900-16-K9

Received Date: Jun. 29, 2016

Test Date: Jul. 18 ~ Jul. 28, 2016

Issued Date: Jul. 28, 2016

Applicant: Cisco Systems Inc

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Release Control Record

Issue No.	Description	Date Issued
RF160629C28	Original release.	Jul. 28, 2016

1 Certificate of Conformity

Product: Cisco LoRaWAN Interface Module

Brand: Cisco Systems, Inc

Test Model: IXM-LPWA-900-16-K9

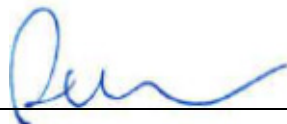
Sample Status: Engineering sample

Applicant: Cisco Systems Inc

Test Date: Jul. 18 ~ Jul. 28, 2016

Standards: 47 CFR FCC Part 15, Subpart C (Section 15.247)
ANSI C63.10:2013

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

Prepared by :  , **Date:** Jul. 28, 2016
Pettie Chen / Senior Specialist

Approved by :  , **Date:** Jul. 28, 2016
Ken Liu / Senior Manager

2 Summary of Test Results

47 CFR FCC Part 15, Subpart C (Section 15.247)			
FCC Clause	Test Item	Result	Remarks
15.207	AC Power Conducted Emission	Pass	Meet the requirement of limit. Minimum passing margin is -4.03dB at 17.83884MHz.
15.205 / 15.209 / 15.247(d)	Radiated Emissions and Band Edge Measurement	Pass	Meet the requirement of limit. Minimum passing margin is -7.8dB at 2769.90, 7386.40MHz.
15.247(d)	Antenna Port Emission	Pass	Meet the requirement of limit.
15.247(a)(2)	6dB bandwidth	Pass	Meet the requirement of limit.
15.247(b)	Conducted power	Pass	Meet the requirement of limit.
15.247(e)	Power Spectral Density	Pass	Meet the requirement of limit.
15.203	Antenna Requirement	Pass	Antenna connector is N-Type. (The device is professionally installed)

2.1 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150kHz ~ 30MHz	2.44 dB
Radiated Emissions up to 1 GHz	30MHz ~ 200MHz	3.63 dB
	200MHz ~ 1000MHz	3.64 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	2.29 dB
	18GHz ~ 40GHz	2.29 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Cisco LoRaWAN Interface Module
Brand	Cisco Systems, Inc
Test Model	IXM-LPWA-900-16-K9
Status of EUT	Engineering sample
Power Supply Rating	56Vdc (PoE)
Modulation Type	FSK
Transfer Rate	40kbps
Operating Frequency	923.3MHz~927.5MHz
Number of Channel	8
Output Power	939.723mW
Antenna Type	Dipole type antenna with 6.22dBi gain
Antenna Connector	N Type
Accessory Device	PoE (Option)
Data Cable Supplied	3.1m shielded coaxial cable without core x 2

Note:

1. The EUT is a LoRa WAN Gateway (Base Stations/Concentrators).
2. This EUT has two RF transmit chains (chain 0 & chain 1). After pre-testing, chain 1 was the worst for the final test.
3. The EUT uses following POE.

POE (Option)	
Brand	CISCO
Model	DPSN-35FB A
Input Power	100-240Vac~ 0.8A 50/60Hz
Output Power	56Vdc / 0.55A

4. The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or user's manual.

3.2 Description of Test Modes

8 channels are provided for EUT:

Channel	Frequency (MHz)	Channel	Frequency (MHz)
64	923.3	72	925.7
65	923.9	73	926.3
68	924.5	76	926.9
69	925.1	77	927.5

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE $\geq$ 1G	RE<1G	PLC	APCM	
-	√	√	√	√	-

Where **RE $\geq$ 1G**: Radiated Emission above 1GHz & Bandedge Measurement
RE<1G: Radiated Emission below 1GHz
PLC: Power Line Conducted Emission
APCM: Antenna Port Conducted Measurement

Note: 1. The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **Z-axis**.

Radiated Emission Test (Above 1GHz):

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TYPE	DATA RATE (kbps)
-	64 to 77	64, 69, 77	FSK	40

Radiated Emission Test (Below 1GHz):

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TYPE	DATA RATE (kbps)
-	64 to 77	64, 69, 77	FSK	40

Power Line Conducted Emission Test:

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

EUT CONFIGURE MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TYPE	DATA RATE (kbps)
-	64 to 77	64, 69, 77	FSK	40

Antenna Port Conducted Measurement:

- ☒ This item includes all test value of each mode, but only includes spectrum plot of worst value of each mode.
- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

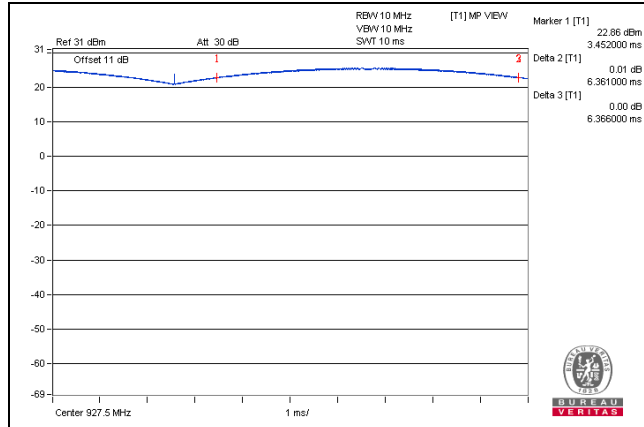
EUT CONFIGUURE MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TYPE	DATA RATE (kbps)
-	64 to 77	64, 69, 77	FSK	40

Test Condition:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE $\geq$ 1G	20deg. C, 69%RH	120Vac, 60Hz	Bayu Chen
RE<1G	25deg. C, 69%RH	120Vac, 60Hz	Tank Wu
PLC	25deg. C, 70%RH	120Vac, 60Hz	Nick Hsu
APCM	25deg. C, 60%RH	120Vac, 60Hz	Frank Liu

3.3 Duty Cycle of Test Signal

Duty cycle of test signal = 100%



3.4 Description of Support Units

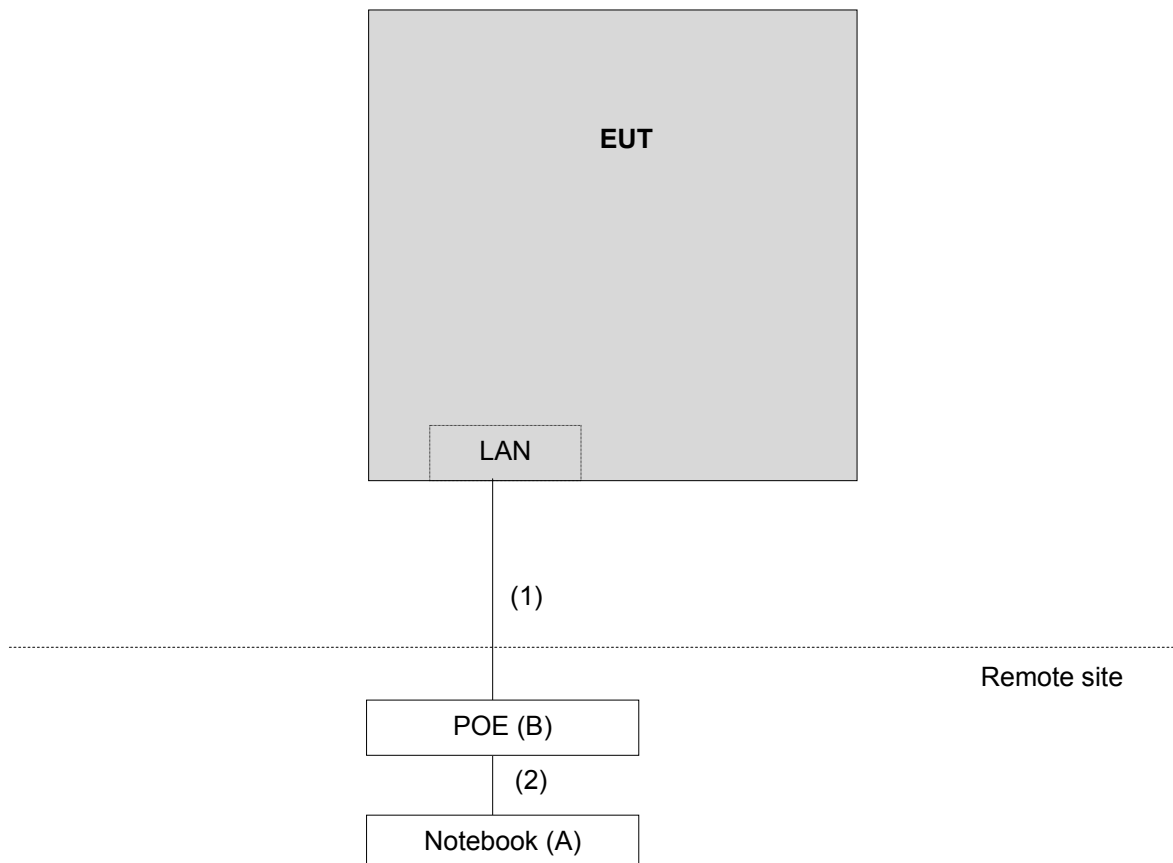
The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Notebook	DELL	D531	CN-0XM006-48643-81 U-2973	QDS-BRCM1020	-
B.	PoE	CISCO	DPSN-35FB A	NA	NA	-

Note: All power cords of the above support units are non-shielded (1.8m).

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	RJ45 cable	1	10	N	0	-
2.	RJ45 cable	1	3	N	0	-

3.4.1 Configuration of System under Test



3.5 General Description of Applied Standards

The EUT is a RF Product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC Part 15, Subpart C (15.247)

KDB 558074 D01 DTS Meas Guidance v03r05

ANSI C63.10-2013

All test items have been performed and recorded as per the above standards.

4 Test Types and Results

4.1 Radiated Emission and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 30dB below the highest level of the desired power:

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

Note:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. For frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 30dB under any condition of modulation.

4.1.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESCS30	100289	Dec. 23, 2015	Dec. 22, 2016
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100269	Apr. 19, 2016	Apr. 18, 2017
BILOG Antenna SCHWARZBECK	VULB9168	9168-148	Jan. 18, 2016	Jan. 17, 2017
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-1169	Jan. 08, 2016	Jan. 07, 2017
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Jan. 18, 2016	Jan. 17, 2017
Preamplifier Agilent	8449B	3008A01911	Aug. 09, 2015	Aug. 08, 2016
Preamplifier Agilent	8447D	2944A10638	Aug. 09, 2015	Aug. 08, 2016
RF signal cable HUBER+SUHNER	SUCOFLEX 104	CABLE-CH9-02(309222 +248780)	Aug. 09, 2015	Aug. 08, 2016
RF signal cable HUBER+SUHNER	SUCOFLEX 104	CABLE-CH9-03(274092)	Aug. 09, 2015	Aug. 08, 2016
RF signal cable Woken	8D-FB	Cable-CH9-01	Aug. 11, 2015	Aug. 10, 2016
Software BV ADT	ADT_Radiated_ V7.6.15.9.4	NA	NA	NA
Antenna Tower EMCO	2070/2080	512.835.4684	NA	NA
Turn Table EMCO	2087-2.03	NA	NA	NA
Antenna Tower & Turn BV ADT	AT100	AT93021705	NA	NA
Turn Table BV ADT	TT100	TT93021705	NA	NA
Turn Table Controller BV ADT	SC100	SC93021705	NA	NA
High Speed Peak Power Meter	ML2495A	1232003	Oct. 07, 2015	Oct. 06, 2016
Power Sensor	MA2411B	1207333	Oct. 07, 2015	Oct. 06, 2016

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
 2. The test was performed in HwaYa Chamber 9.
 3. The horn antenna and preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
 4. The FCC Site Registration No. is 215374.
 5. The IC Site Registration No. is IC 7450F-9.

4.1.3 Test Procedures

- a. The EUT was placed on the top of a rotating table 0.8 meters (for below 1GHz) / 1.5 meters (for above 1GHz) above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
- f. The test-receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

Note:

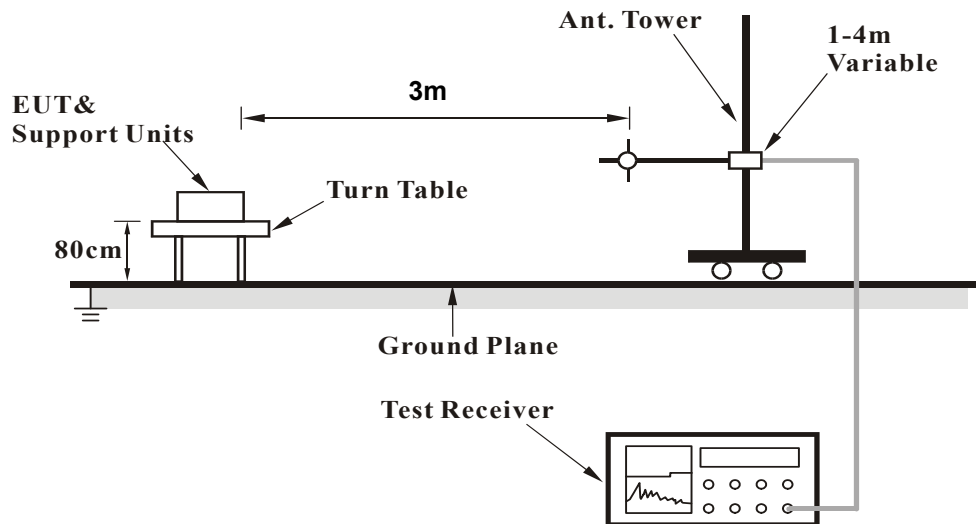
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 3MHz for RMS Average (Duty cycle < 98%) for Average detection (AV) at frequency above 1GHz, then the measurement results was added to a correction factor ($10 \log(1/\text{duty cycle})$).
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is 10Hz (Duty cycle $\geq 98\%$) for Average detection (AV) at frequency above 1GHz.
5. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

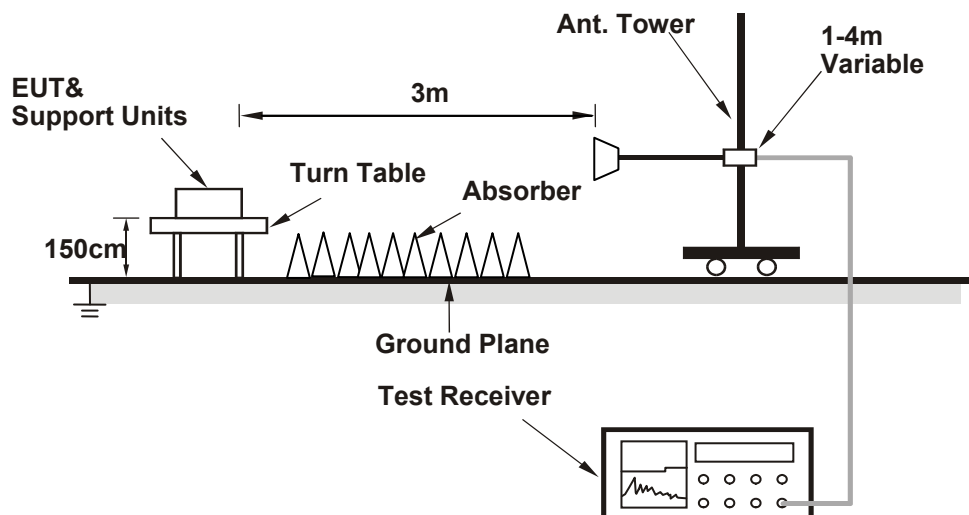
No deviation.

4.1.5 Test Setup

<Frequency Range below 1GHz>



<Frequency Range above 1GHz>



For the actual test configuration, please refer to the attached file (Test Setup Photo).

4.1.6 EUT Operating Conditions

Set the EUT under transmission condition continuously at specific channel frequency.

4.1.7 Test Results

CHANNEL	TX Channel 64	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	902.00	63.9 PK	86.0	-32.1	1.65 H	144	36.90	27.00
2	902.00	54.0 AV	85.7	-41.7	1.65 H	144	27.00	27.00
3	*923.30	116.0 PK			1.65 H	144	88.60	27.40
4	*923.30	115.7 AV			1.65 H	144	88.30	27.40
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	902.00	64.9 PK	99.7	-44.8	1.22 V	99	37.90	27.00
2	902.00	55.8 AV	99.3	-53.5	1.22 V	99	28.80	27.00
3	*923.30	129.7 PK			1.22 V	99	102.30	27.40
4	*923.30	129.3 AV			1.22 V	99	101.90	27.40

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.

CHANNEL	TX Channel 69	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz	FUNCTION	Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*925.10	116.4 PK			1.29 H	286	88.90	27.50
2	*925.10	116.0 AV			1.29 H	286	88.50	27.50
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*925.10	129.5 PK			1.29 V	154	102.00	27.50
2	*925.10	129.1 AV			1.29 V	154	101.60	27.50

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.

CHANNEL	TX Channel 77	DETECTOR	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz	FUNCTION	Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*927.50	116.9 PK			1.09 H	159	89.40	27.50
2	*927.50	116.5 AV			1.09 H	159	89.00	27.50
3	928.00	78.5 PK	86.9	-18.4	1.09 H	159	51.00	27.50
4	928.00	65.5 AV	86.5	-31.0	1.09 H	159	38.00	27.50
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*927.50	130.4 PK			1.15 V	101	102.90	27.50
2	*927.50	130.0 AV			1.15 V	101	102.50	27.50
3	928.00	89.9 PK	100.4	-20.5	1.15 V	101	62.40	27.50
4	928.00	70.4 AV	100.0	-39.6	1.15 V	101	42.90	27.50

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.

Above 1GHz Worst-Case Data

CHANNEL	TX Channel 64	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2769.90	49.3 PK	74.0	-24.7	1.34 H	191	50.60	-1.30
2	2769.90	46.2 AV	54.0	-7.8	1.34 H	191	47.50	-1.30
3	3693.20	48.1 PK	74.0	-25.9	4.00 H	146	47.20	0.90
4	3693.20	37.5 AV	54.0	-16.5	4.00 H	146	36.60	0.90
5	7386.40	55.4 PK	74.0	-18.6	1.50 H	159	45.90	9.50
6	7386.40	46.2 AV	54.0	-7.8	1.50 H	159	36.70	9.50
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2769.90	48.2 PK	74.0	-25.8	1.29 V	182	49.50	-1.30
2	2769.90	44.0 AV	54.0	-10.0	1.29 V	182	45.30	-1.30
3	3693.20	46.2 PK	74.0	-27.8	1.51 V	176	45.30	0.90
4	3693.20	37.2 AV	54.0	-16.8	1.51 V	176	36.30	0.90
5	7386.40	55.0 PK	74.0	-19.0	1.51 V	60	45.50	9.50
6	7386.40	45.9 AV	54.0	-8.1	1.51 V	60	36.40	9.50

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.

CHANNEL	TX Channel 69	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2775.30	45.5 PK	74.0	-28.5	1.77 H	162	46.70	-1.20
2	2775.30	35.9 AV	54.0	-18.1	1.77 H	162	37.10	-1.20
3	3700.40	46.4 PK	74.0	-27.6	1.59 H	171	45.50	0.90
4	3700.40	33.0 AV	54.0	-21.0	1.59 H	171	32.10	0.90
5	7400.80	56.1 PK	74.0	-17.9	1.29 H	221	46.60	9.50
6	7400.80	44.0 AV	54.0	-10.0	1.29 H	221	34.50	9.50
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2775.30	45.4 PK	74.0	-28.6	1.51 V	106	46.60	-1.20
2	2775.30	35.7 AV	54.0	-18.3	1.51 V	106	36.90	-1.20
3	3700.40	45.9 PK	74.0	-28.1	1.32 V	250	45.00	0.90
4	3700.40	32.5 AV	54.0	-21.5	1.32 V	250	31.60	0.90
5	7400.80	57.2 PK	74.0	-16.8	2.00 V	166	47.70	9.50
6	7400.80	41.8 AV	54.0	-12.2	2.00 V	166	32.30	9.50

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.

CHANNEL	TX Channel 77	DETECTOR FUNCTION	Peak (PK)
FREQUENCY RANGE	1GHz ~ 25GHz		Average (AV)

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2782.50	45.1 PK	74.0	-28.9	1.49 H	166	46.20	-1.10
2	2782.50	35.8 AV	54.0	-18.2	1.49 H	166	36.90	-1.10
3	3710.00	46.4 PK	74.0	-27.6	1.31 H	177	45.50	0.90
4	3710.00	36.3 AV	54.0	-17.7	1.31 H	177	35.40	0.90
5	7420.00	57.7 PK	74.0	-16.3	1.55 H	200	48.20	9.50
6	7420.00	44.4 AV	54.0	-9.6	1.55 H	200	34.90	9.50
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	2782.50	44.4 PK	74.0	-29.6	1.59 V	148	45.50	-1.10
2	2782.50	34.6 AV	54.0	-19.4	1.59 V	148	35.70	-1.10
3	3710.00	46.2 PK	74.0	-27.8	1.69 V	177	45.30	0.90
4	3710.00	35.8 AV	54.0	-18.2	1.69 V	177	34.90	0.90
5	7420.00	59.4 PK	74.0	-14.6	1.92 V	162	49.90	9.50
6	7420.00	45.3 AV	54.0	-8.7	1.92 V	162	35.80	9.50

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. " * ": Fundamental frequency.

Below 1GHz worst-case data

CHANNEL	TX Channel 64	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	35.88	20.2 QP	40.0	-19.8	1.99 H	38	35.60	-15.40
2	125.21	27.8 QP	43.5	-15.7	1.99 H	241	43.80	-16.00
3	169.68	32.8 QP	43.5	-10.7	1.24 H	262	46.80	-14.00
4	201.12	27.1 QP	43.5	-16.4	1.00 H	280	43.80	-16.70
5	837.04	33.1 QP	46.0	-12.9	1.99 H	3	35.20	-2.10
6	995.18	40.3 QP	54.0	-13.7	1.25 H	232	39.70	0.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	35.71	26.5 QP	40.0	-13.5	2.00 V	220	41.90	-15.40
2	109.72	26.2 QP	43.5	-17.3	1.29 V	234	43.70	-17.50
3	167.94	27.1 QP	43.5	-16.4	1.26 V	99	41.20	-14.10
4	330.70	30.3 QP	46.0	-15.7	1.26 V	277	41.90	-11.60
5	838.04	34.5 QP	46.0	-11.5	1.51 V	23	36.50	-2.00
6	994.18	36.1 QP	54.0	-17.9	2.00 V	238	35.50	0.60

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value

CHANNEL	TX Channel 69	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	35.96	21.9 QP	40.0	-18.1	1.99 H	71	37.30	-15.40
2	125.06	26.5 QP	43.5	-17.0	1.50 H	242	42.50	-16.00
3	169.68	32.2 QP	43.5	-11.3	1.50 H	253	46.20	-14.00
4	201.80	26.2 QP	43.5	-17.3	1.00 H	288	42.90	-16.70
5	331.10	24.5 QP	46.0	-21.5	1.00 H	255	36.10	-11.60
6	994.18	38.5 QP	54.0	-15.5	1.24 H	224	37.90	0.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	35.91	26.2 QP	40.0	-13.8	1.00 V	344	41.60	-15.40
2	109.54	23.6 QP	43.5	-19.9	1.00 V	247	41.10	-17.50
3	170.20	27.0 QP	43.5	-16.5	1.00 V	77	41.10	-14.10
4	332.00	24.5 QP	46.0	-21.5	1.00 V	179	36.10	-11.60
5	332.00	31.3 QP	46.0	-14.7	1.26 V	277	42.90	-11.60
6	995.20	33.7 QP	54.0	-20.3	1.49 V	199	33.10	0.60

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value

CHANNEL	TX Channel 77	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	30MHz ~ 1GHz		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	35.77	20.6 QP	40.0	-19.4	1.51 H	50	36.00	-15.40
2	126.01	27.7 QP	43.5	-15.8	1.51 H	241	43.70	-16.00
3	161.92	32.5 QP	43.5	-11.0	1.51 H	238	46.50	-14.00
4	200.81	27.3 QP	43.5	-16.2	1.01 H	271	44.00	-16.70
5	714.82	34.6 QP	46.0	-11.4	1.51 H	21	39.20	-4.60
6	994.66	38.8 QP	54.0	-15.2	1.26 H	232	38.20	0.60
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	35.74	26.5 QP	40.0	-13.5	1.00 V	231	41.90	-15.40
2	109.54	26.7 QP	43.5	-16.8	1.00 V	244	44.20	-17.50
3	170.11	27.8 QP	43.5	-15.7	1.00 V	344	41.80	-14.00
4	331.01	30.0 QP	46.0	-16.0	1.24 V	277	41.60	-11.60
5	722.58	31.2 QP	46.0	-14.8	1.49 V	279	35.50	-4.30
6	994.36	35.8 QP	54.0	-18.2	1.00 V	247	35.20	0.60

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value

4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

Frequency (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15 - 0.5	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30.0	60	50

Note: 1. The lower limit shall apply at the transition frequencies.

2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

4.2.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Date Of Calibration	Due Date Of Calibration
Test Receiver ROHDE & SCHWARZ	ESCI	100613	Nov. 16, 2015	Nov. 15, 2016
RF signal cable (with 10dB PAD) Woken	5D-FB	Cable-cond1-01	Dec. 26, 2015	Dec. 25, 2016
LISN ROHDE & SCHWARZ (EUT)	ESH3-Z5	835239/001	Feb. 26, 2016	Feb. 25, 2017
LISN ROHDE & SCHWARZ (Peripheral)	ESH2-Z5	100100	Jan. 11, 2016	Jan. 10, 2017
Software ADT	BV ADT_Cond_ V7.3.7.3	NA	NA	NA

Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

2. The test was performed in HwaYa Shielded Room 1.

3. The VCCI Site Registration No. is C-2040.

4.2.3 Test Procedures

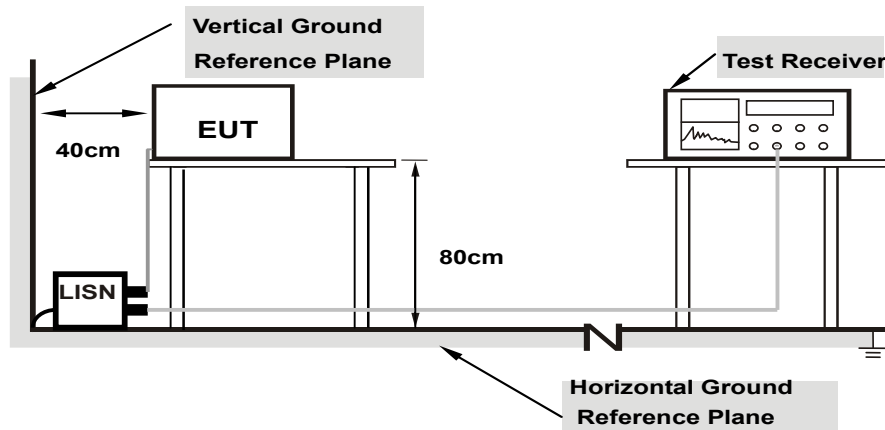
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
- Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

Note: The resolution bandwidth and video bandwidth of test receiver is 9kHz for quasi-peak detection (QP) and average detection (AV) at frequency 0.15MHz-30MHz.

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



Note: 1.Support units were connected to second LISN.

For the actual test configuration, please refer to the attached file (Test Setup Photo).

4.2.6 EUT Operating Conditions

Same as 4.1.6.

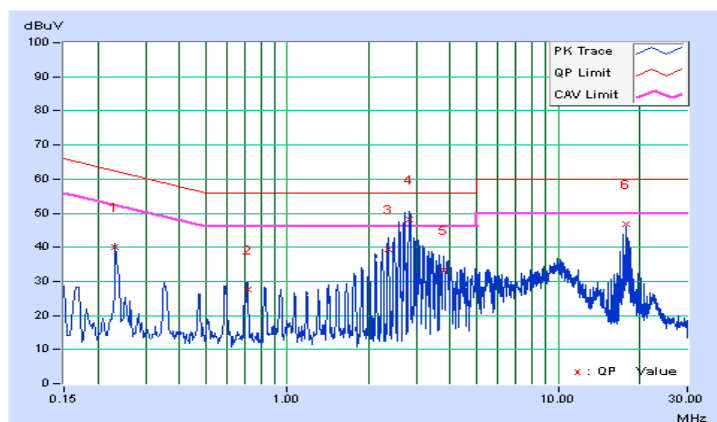
4.2.7 Test Results

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
Channel	Channel 64		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.23216	10.09	29.92	16.35	40.01	26.44	62.37	52.37	-22.36	-25.93
2	0.71304	10.23	17.29	12.35	27.52	22.58	56.00	46.00	-28.48	-23.42
3	2.35133	10.39	29.05	18.21	39.44	28.60	56.00	46.00	-16.56	-17.40
4	2.83226	10.41	37.82	25.78	48.23	36.19	56.00	46.00	-7.77	-9.81
5	3.77848	10.46	22.73	13.95	33.19	24.41	56.00	46.00	-22.81	-21.59
6	17.83884	11.27	35.41	34.60	46.68	45.87	60.00	50.00	-13.32	-4.13

REMARKS:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level - Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value.

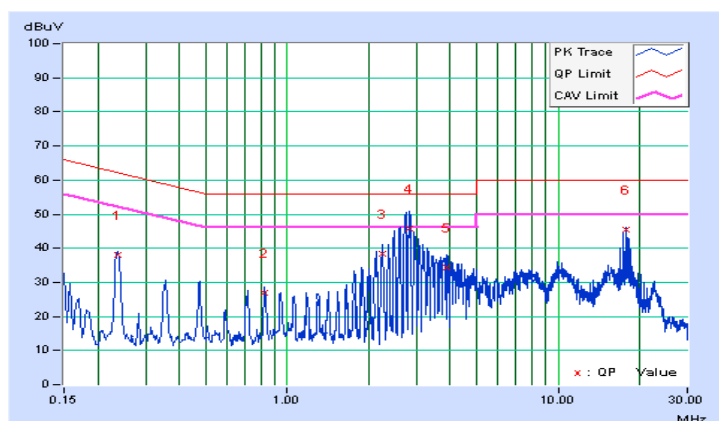


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Channel	Channel 64		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.23586	10.11	27.91	26.70	38.02	36.81	62.24	52.24	-24.22	-15.43
2	0.82643	10.28	16.76	12.97	27.04	23.25	56.00	46.00	-28.96	-22.75
3	2.24185	10.41	27.93	17.90	38.34	28.31	56.00	46.00	-17.66	-17.69
4	2.82053	10.47	35.40	20.05	45.87	30.52	56.00	46.00	-10.13	-15.48
5	3.89578	10.58	23.88	15.58	34.46	26.16	56.00	46.00	-21.54	-19.84
6	17.83884	11.41	34.17	33.92	45.58	45.33	60.00	50.00	-14.42	-4.67

REMARKS:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level - Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value.

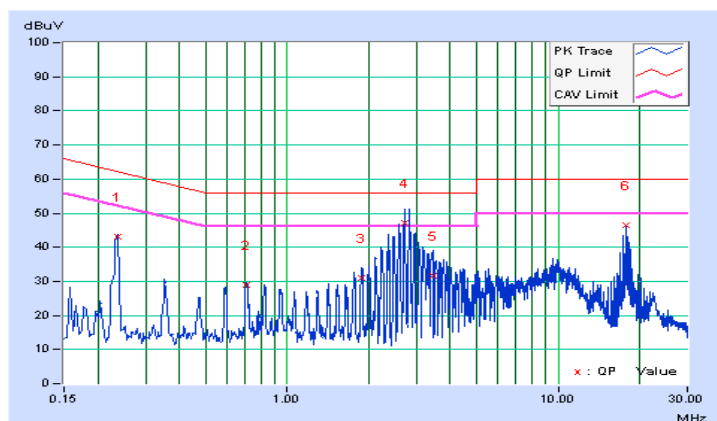


Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
Channel	Channel 69		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.23586	10.10	32.85	21.06	42.95	31.16	62.24	52.24	-19.29	-21.08
2	0.70953	10.23	18.61	15.76	28.84	25.99	56.00	46.00	-27.16	-20.01
3	1.87431	10.36	20.50	8.53	30.86	18.89	56.00	46.00	-25.14	-27.11
4	2.71887	10.41	36.66	22.59	47.07	33.00	56.00	46.00	-8.93	-13.00
5	3.45395	10.44	21.33	3.64	31.77	14.08	56.00	46.00	-24.23	-31.92
6	17.83884	11.27	35.29	34.47	46.56	45.74	60.00	50.00	-13.44	-4.26

REMARKS:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level - Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value.

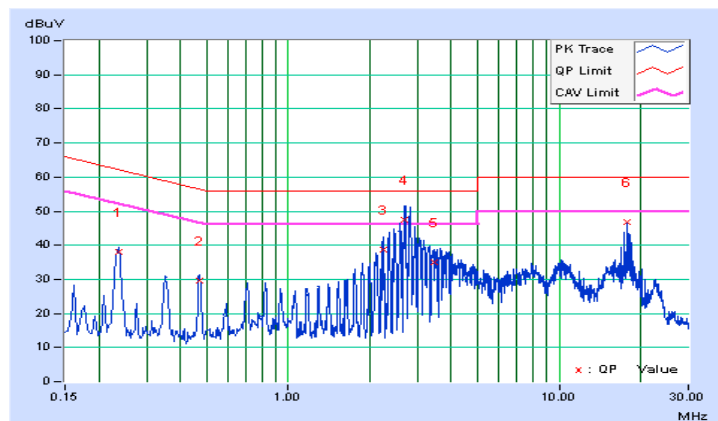


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Channel	Channel 69		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.23602	10.11	27.97	26.78	38.08	36.89	62.24	52.24	-24.16	-15.35
2	0.46915	10.25	19.46	16.47	29.71	26.72	56.53	46.53	-26.82	-19.81
3	2.23403	10.41	28.36	18.65	38.77	29.06	56.00	46.00	-17.23	-16.94
4	2.69541	10.46	36.91	22.20	47.37	32.66	56.00	46.00	-8.63	-13.34
5	3.45395	10.54	24.57	16.08	35.11	26.62	56.00	46.00	-20.89	-19.38
6	17.83884	11.41	35.52	34.56	46.93	45.97	60.00	50.00	-13.07	-4.03

REMARKS:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level - Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value.

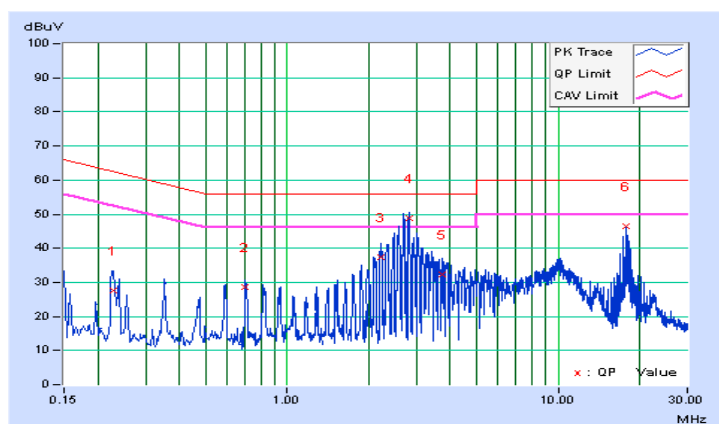


Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
Channel	Channel 77		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.22672	10.09	17.65	13.72	27.74	23.81	62.57	52.57	-34.83	-28.76
2	0.70131	10.23	18.32	12.45	28.55	22.68	56.00	46.00	-27.45	-23.32
3	2.22230	10.38	26.91	13.08	37.29	23.46	56.00	46.00	-18.71	-22.54
4	2.82053	10.41	38.46	26.42	48.87	36.83	56.00	46.00	-7.13	-9.17
5	3.74329	10.46	21.82	9.61	32.28	20.07	56.00	46.00	-23.72	-25.93
6	17.83884	11.27	35.14	34.30	46.41	45.57	60.00	50.00	-13.59	-4.43

REMARKS:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level - Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value.

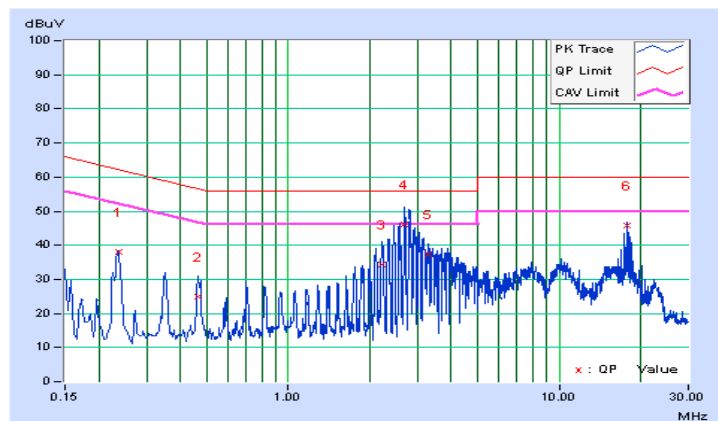


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
Channel	Channel 77		

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.23602	10.11	27.82	26.65	37.93	36.76	62.24	52.24	-24.31	-15.48
2	0.46301	10.25	14.81	7.56	25.06	17.81	56.64	46.64	-31.58	-28.83
3	2.20666	10.41	24.00	13.95	34.41	24.36	56.00	46.00	-21.59	-21.64
4	2.68759	10.46	35.76	19.12	46.22	29.58	56.00	46.00	-9.78	-16.42
5	3.28191	10.52	26.77	15.99	37.29	26.51	56.00	46.00	-18.71	-19.49
6	17.83884	11.41	34.42	34.33	45.83	45.74	60.00	50.00	-14.17	-4.26

REMARKS:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level - Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value.

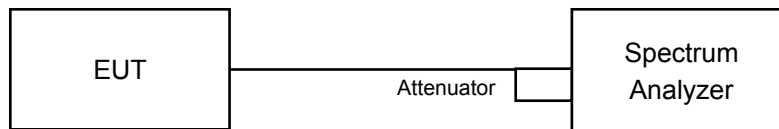


4.3 6dB Bandwidth Measurement

4.3.1 Limits of 6dB Bandwidth Measurement

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

4.3.2 Test Setup



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

- Set resolution bandwidth (RBW) = 100kHz
- Set the video bandwidth (VBW) $\geq 3 \times$ RBW, Detector = Peak.
- Trace mode = max hold.
- Sweep = auto couple.
- Measure the maximum width of the emission that is constrained by the frequencies associated with the two amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission

4.3.5 Deviation from Test Standard

No deviation.

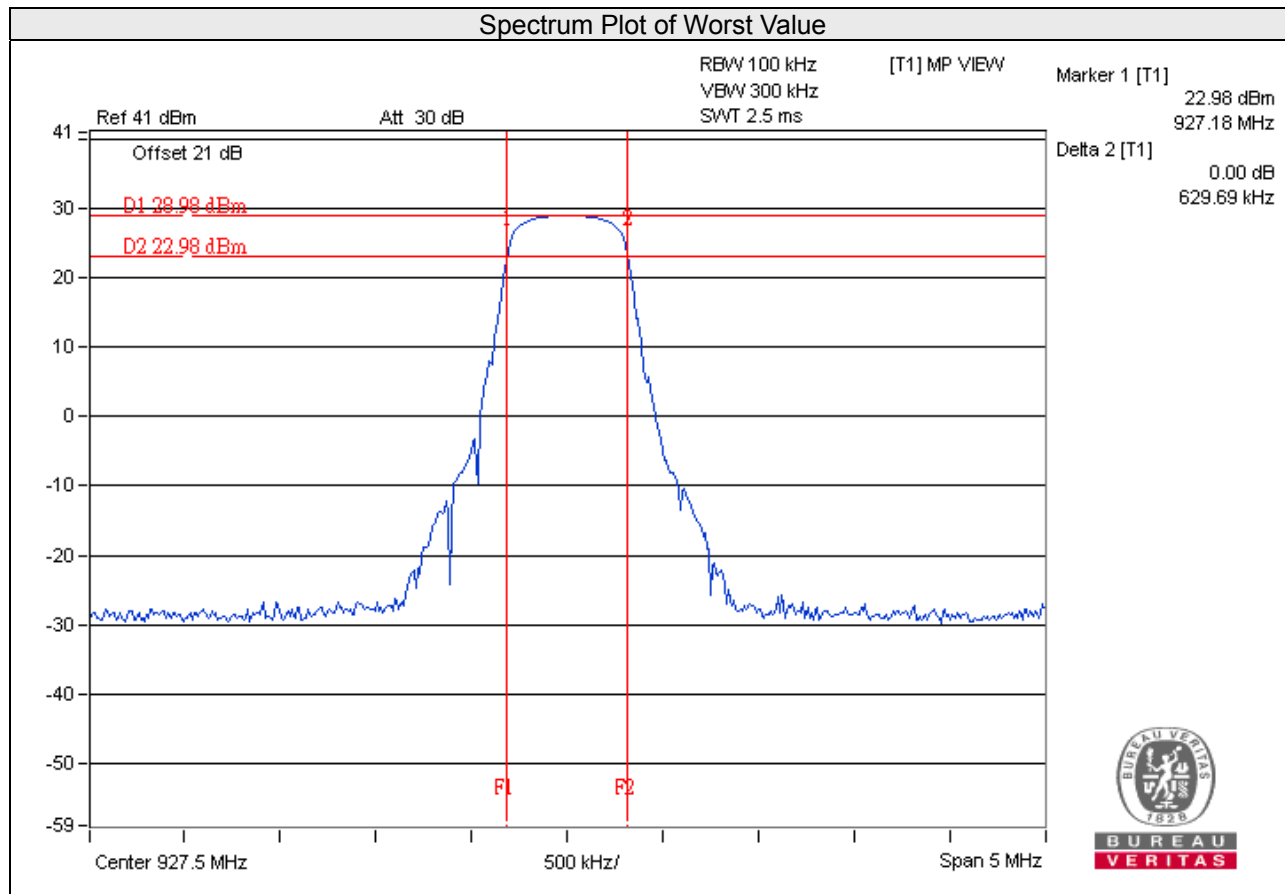
4.3.6 EUT Operating Conditions

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.

4.3.7 Test Result

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	Minimum Limit (MHz)	Pass / Fail
64	923.3	0.624	0.5	Pass
69	925.1	0.624	0.5	Pass
77	927.5	0.630	0.5	Pass

Spectrum Plot of Worst Value

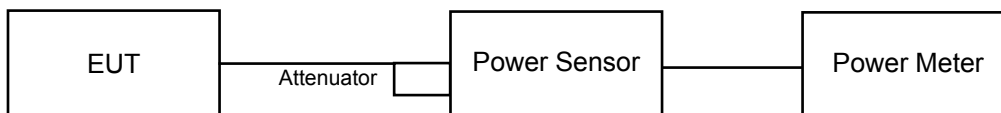


4.4 Conducted Output Power Measurement

4.4.1 Limits of Conducted Output Power Measurement

For systems using digital modulation in the 902-928MHz bands: 1 Watt (30dBm)

4.4.2 Test Setup



4.4.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.4 Test Procedures

An average power sensor was used on the output port of the EUT. A power meter was used to read the response of the average power sensor. Record the power level.

4.4.5 Deviation from Test Standard

No deviation.

4.4.6 EUT Operating Conditions

Same as Item 4.3.6.

4.4.7 Test Results

Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)	Limit (dBm)	Pass/Fail
64	923.3	935.406	29.71	29.78	Pass
69	925.1	912.011	29.60	29.78	Pass
77	927.5	939.723	29.73	29.78	Pass

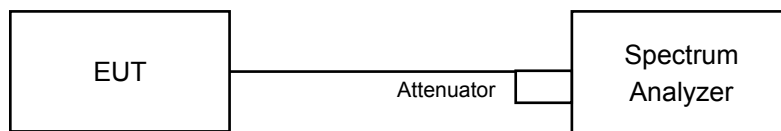
*Gain = 6.22dBi > 6dBi, so the power limit shall be reduced to $30 - (6.22 - 6) = 29.78\text{dBm}$.

4.5 Power Spectral Density Measurement

4.5.1 Limits of Power Spectral Density Measurement

The Maximum of Power Spectral Density Measurement is 8dBm.

4.5.2 Test Setup



4.5.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.5.4 Test Procedure

- Set analyzer center frequency to DTS channel center frequency.
- Set the span to 1.5 times the DTS bandwidth.
- Set the RBW to: $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$.
- Set the VBW $\geq 3 \times \text{RBW}$.
- Detector = peak.
- Sweep time = auto couple.
- Trace mode = max hold.
- Allow trace to fully stabilize.
- Use the peak marker function to determine the maximum amplitude level within the RBW.

4.5.5 Deviation from Test Standard

No deviation.

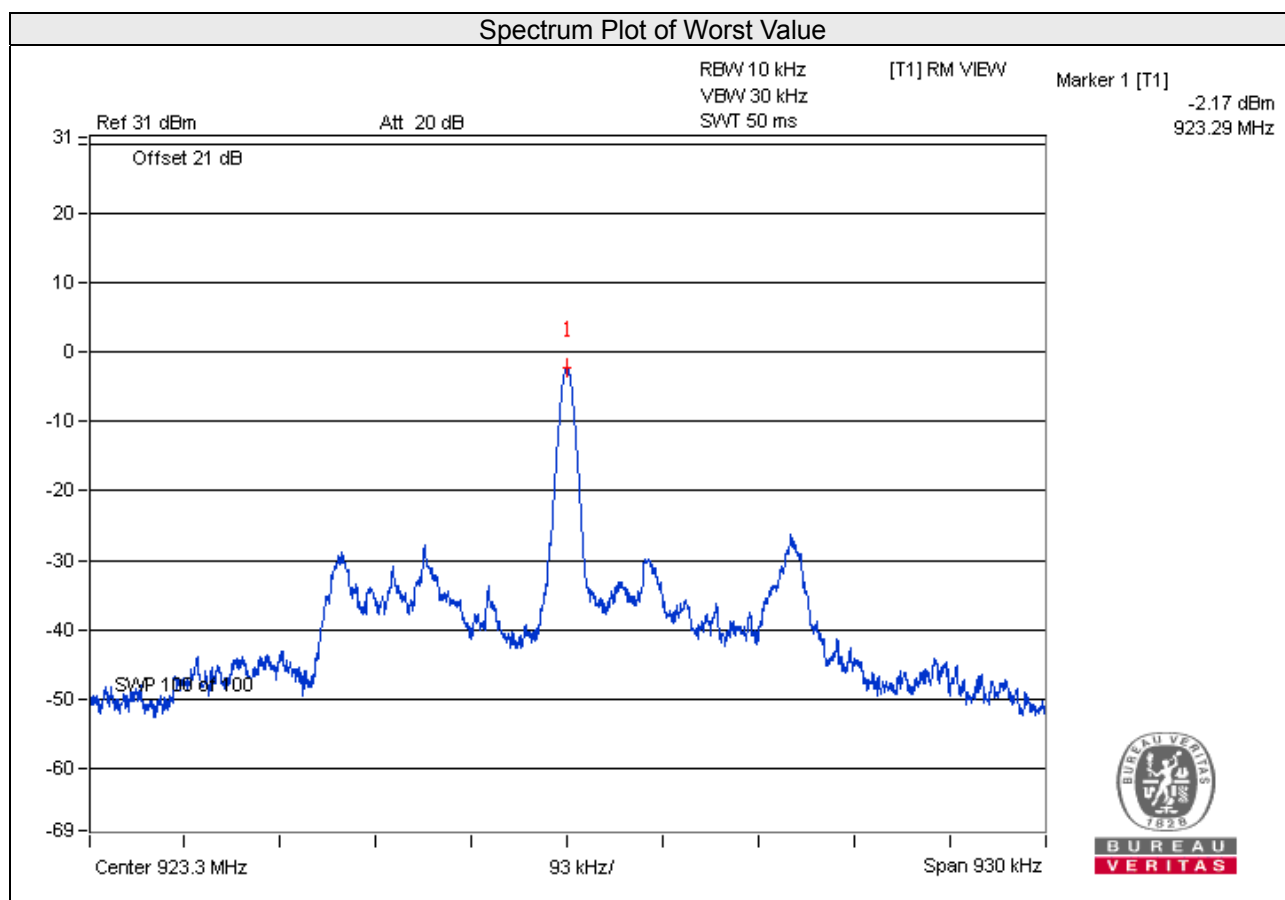
4.5.6 EUT Operating Condition

Same as Item 4.3.6

4.5.7 Test Results

Channel	Freq. (MHz)	PSD (dBm)	Limit (dBm)	Pass /Fail
64	923.3	-2.17	7.78	Pass
69	925.1	-6.30	7.78	Pass
77	927.5	-4.90	7.78	Pass

*Gain = 6.22dBi > 6dBi, so the power density limit shall be reduced to 8-(6.22-6) = 7.78dBm.

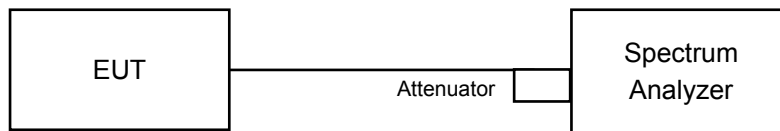


4.6 Conducted Out of Band Emission Measurement

4.6.1 Limits of Conducted Out of Band Emission Measurement

Below 30dB of the highest emission level of operating band (in 100kHz Resolution Bandwidth).

4.6.2 Test Setup



4.6.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.6.4 Test Procedure

MEASUREMENT PROCEDURE REF

- Set the RBW = 100 kHz.
- Set the VBW $\geq$ 300 kHz.
- Detector = peak.
- Sweep time = auto couple.
- Trace mode = max hold.
- Allow trace to fully stabilize.
- Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.

MEASUREMENT PROCEDURE OOB

- Set RBW = 100 kHz.
- Set VBW $\geq$ 300 kHz.
- Detector = peak.
- Sweep = auto couple.
- Trace Mode = max hold.
- Allow trace to fully stabilize.
- Use the peak marker function to determine the maximum amplitude level.

4.6.5 Deviation from Test Standard

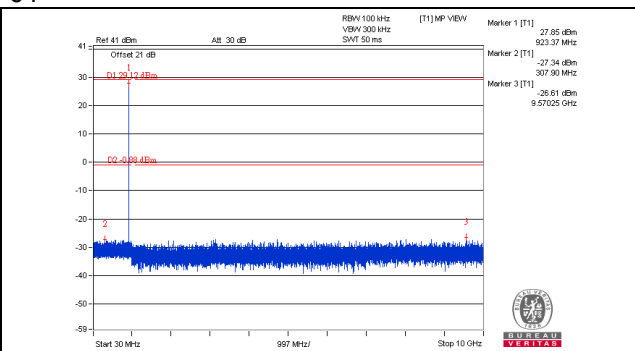
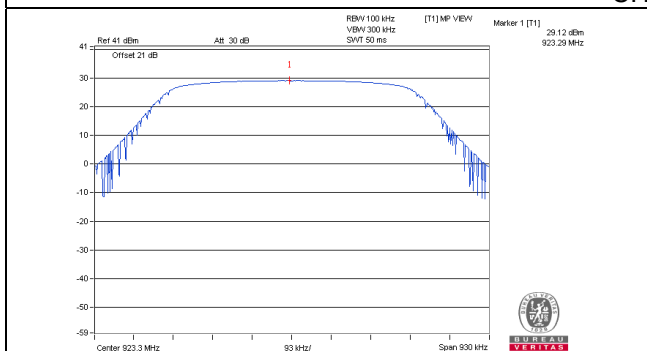
No deviation.

4.6.6 EUT Operating Condition

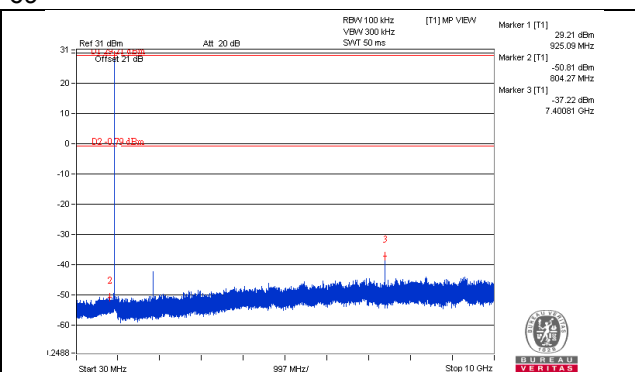
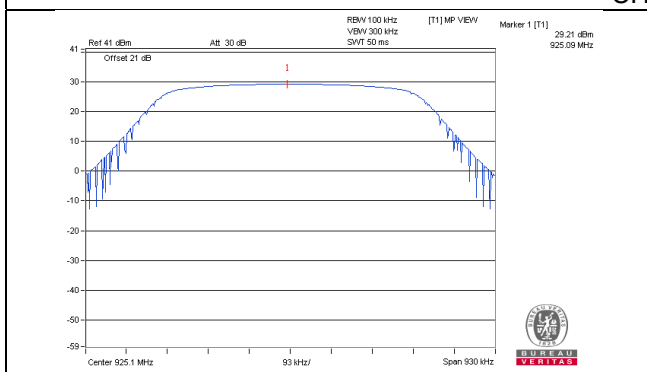
Same as Item 4.3.6

4.6.7 Test Results

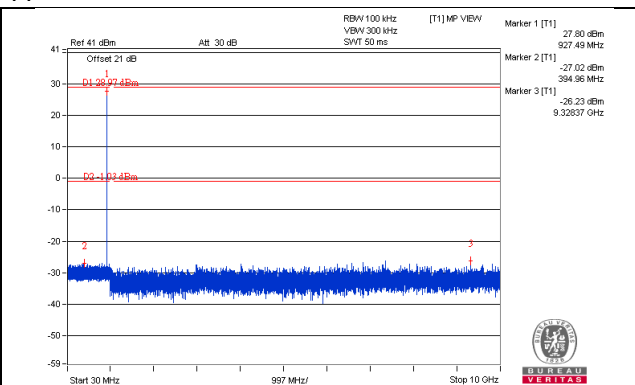
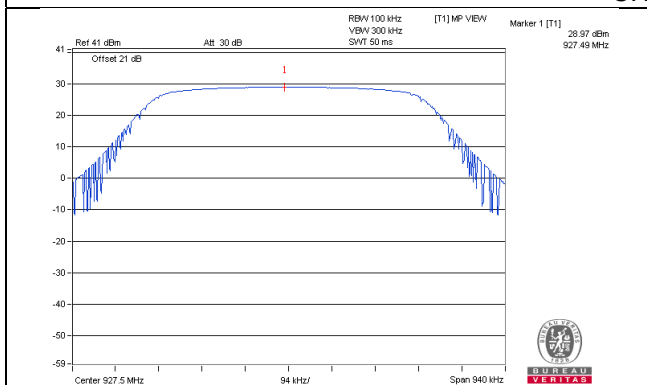
CH 64



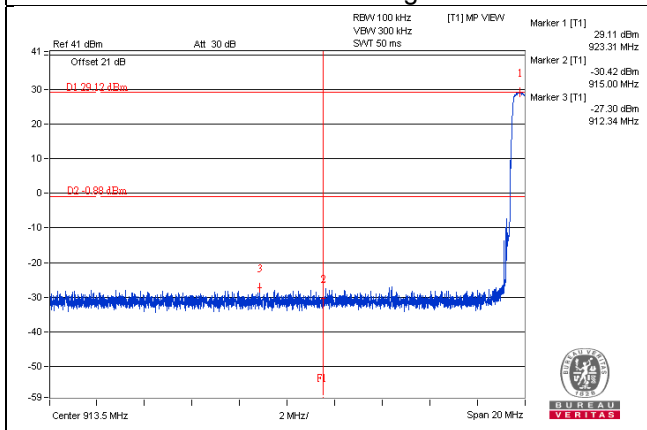
CH 69



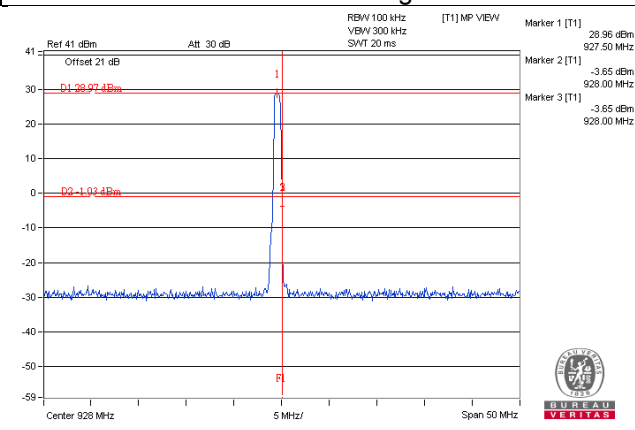
CH 77



CH 64 Band edge



CH 77 Band edge



5 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo).

Appendix – Information on the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

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Email: service.adt@tw.bureauveritas.com

Web Site: www.bureauveritas-adt.com

The address and road map of all our labs can be found in our web site also.

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