FCC Test Report (BT-LE)

Report No.:	RF16922E02-3
FCC ID:	UZ7AP7602
Test Model:	AP-7602
Received Date:	Sep. 22, 2016
Test Date:	Nov. 09 to 16, 2016
Issued Date:	Dec. 02, 2016
Applicant:	Zebra Technologies Corporation
Address:	One Zebra Plaza, Holtsville, NY,11742, USA
Manufacturer:	Zebra Technologies Corporation
Address:	One Zebra Plaza, Holtsville, NY,11742, USA
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Hsin Chu Laboratory
Lab Address:	E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan R.O.C.
Test Location (1):	E-2, No.1, Li Hsin 1st Road, Hsinchu Science Park, Hsinchu City 300, Taiwan R.O.C.
Test Location (2):	No. 49, Ln. 206, Wende Rd., Shangshan Tsuen, Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan R.O.C.

Table of Contents

Release Control Record 4

1 Certificate of Conformity 5

2 Summary of Test Results 6

2.1 Measurement Uncertainty 6
2.2 Modification Record 6

3 General Information 7

3.1 General Description of EUT (BT-LE) 7
3.2 Description of Test Modes 9
3.2.1 Test Mode Applicability and Tested Channel Detail 10
3.3 Duty Cycle of Test Signal 12
3.4 Description of Support Units 13
3.4.1 Configuration of System under Test 14
3.5 General Description of Applied Standards 16

4 Test Types and Results 17

4.1 Radiated Emission and Bandedge Measurement 17
4.1.1 Limits of Radiated Emission and Bandedge Measurement 17
4.1.2 Test Instruments 18
4.1.3 Test Procedures 19
4.1.4 Deviation from Test Standard 19
4.1.5 Test Setup 20
4.1.6 EUT Operating Conditions 21
4.1.7 Test Results 22
4.2 Conducted Emission Measurement 28
4.2.1 Limits of Conducted Emission Measurement 28
4.2.2 Test Instruments 28
4.2.3 Test Procedures 29
4.2.4 Deviation from Test Standard 29
4.2.5 Test Setup 29
4.2.6 EUT Operating Conditions 29
4.2.7 Test Results (Mode 1) 30
4.2.8 Test Results (Mode 2) 32
4.3 6dB Bandwidth Measurement 34
4.3.1 Limits of 6dB Bandwidth Measurement 34
4.3.2 Test Setup 34
4.3.3 Test Instruments 34
4.3.4 Test Procedure 34
4.3.5 Deviation fromTest Standard 34
4.3.6 EUT Operating Conditions 34
4.3.7 Test Result 35
4.4 Conducted Output Power Measurement 36
4.4.1 Limits of Conducted Output Power Measurement 36
4.4.2 Test Setup 36
4.4.3 Test Instruments 36
4.4.4 Test Procedures 36
4.4.5 Deviation from Test Standard 36
4.4.6 EUT Operating Conditions 36
4.4.7 Test Results 37
4.5 Power Spectral Density Measurement 38
4.5.1 Limits of Power Spectral Density Measurement 38
4.5.2 Test Setup 38
4.5.3 Test Instruments 38
4.5.4 Test Procedure 38
4.5.5 Deviation from Test Standard 38

4.5.6 EUT Operating Condition 38
4.5.7 Test Results 39
4.6 Conducted Out of Band Emission Measurement 40
4.6.1 Limits of Conducted Out of Band Emission Measurement 40
4.6.2 Test Setup 40
4.6.3 Test Instruments 40
4.6.4 Test Procedure 40
4.6.5 Deviation from Test Standard 40
4.6.6 EUT Operating Condition 40
4.6.7 Test Results 41
5 Pictures of Test Arrangements 42
Appendix – Information on the Testing Laboratories 43

Release Control Record

Issue No.	Description	Date Issued
RF16922E02-3	Original release.	Dec. 02, 2016

1 Certificate of Conformity

Product:	Access Point
Brand:	ZEBRA
Test Model:	AP-7602
Sample Status:	ENGINEERING SAMPLE
Applicant:	Zebra Technologies Corporation
Test Date:	Nov. 09 to 16, 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:** Dec. 02, 2016

Wendy Wu / Specialist

Approved by : _____ , **Date:** Dec. 02, 2016

May Chen / 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 -14.88dB at 0.15000MHz.
15.205 & 209 & 15.247(d)	Radiated Emissions & Band Edge Measurement	PASS	Meet the requirement of limit. Minimum passing margin is -7.2dB at 30.72MHz.
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 i-pex(MHF) not a standard connector.

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	1.83 dB
Radiated Emissions up to 1 GHz	30MHz ~ 1GHz	5.43 dB
Radiated Emissions above 1 GHz	1GHz ~ 6GHz	3.41 dB
	6GHz ~ 18GHz	4.49 dB
	18GHz ~ 40GHz	3.30 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT (BT-LE)

Product	Access Point
Brand	ZEBRA
Test Model	AP-7602
Status of EUT	ENGINEERING SAMPLE
SW Version	esdk 5.0.9.1
HW Version	ZEBRA_ASPEN-W_BCM47452_v21_d2_20160803_Sandy.brd
Power Supply Rating	12Vdc from power adapter or 55Vdc from POE
Modulation Type	GFSK
Modulation Technology	DTS
Transfer Rate	Up to 1Mbps
Operating Frequency	2402MHz ~ 2480MHz
Number of Channel	40
Output Power	2.244mW
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	NA
Data Cable Supplied	NA

Note:

1. There are WLAN, BT technology used for the EUT.
2. Simultaneously transmission condition.

Condition	Technology		
1	WLAN (2.4GHz-Chain0)	WLAN (5GHz-Chain1)	BT
2	WLAN (2.4GHz-Chain1)	WLAN (5GHz-Chain0)	BT
3	WLAN (2.4GHz-Chain0)	WLAN (2.4GHz-Chain1)	BT
4	WLAN (5GHz-Chain0)	WLAN (5GHz-Chain1)	BT
Note: The emission of the simultaneous operation has been evaluated and no non-compliance was found.			

3. The EUT must be supplied with a power adapter and POE as following table:

Adapter (Only for test not for sale)		
Brand	Model No.	Spec.
HIPRO	HP-A0502R3D	Input: 100-240Vac, 50-60Hz, 2.4A Output: 12Vdc, 4.16A DC output cable (Unshielded, 1.8m with one core)
POE(Only for test not for sale)		
Brand	Model No.	Spec.
Symbol	PD-9001GR/AT/AC	Input: 100-240Vac, 50/60Hz, 0.67A Output: 55Vdc, 0.6A P/N : AP-PSBIAS-2P3-ATR
From above adapters and POE, the radiated emission worst case was found in **POE**. Therefore only the test data of the modes were recorded in this report individually.		

4. The antennas provided to the EUT, please refer to the following table:

No.	PCB Chain No	Brand	Model	Antenna Gain(dBi) Including cable loss	Frequency range	Antenna Type	Connector type	Cable Length (mm)
1	Chain 0	NA	NA	2.61	2.4~2.4835GHz	Dipole	i-pex(MHF)	155
				4.39	5.15~5.25GHz			
				4.2	5.25~5.35GHz			
				4.28	5.47~5.725GHz			
				5.61	5.725~5.85GHz			
2	Chain 1	NA	NA	3.76	2.4~2.4835GHz	Dipole	i-pex(MHF)	182
				5.18	5.15~5.25GHz			
				5.22	5.25~5.35GHz			
				4.44	5.47~5.725GHz			
				5.95	5.725~5.85GHz			
3	BT	NA	NA	1.8	2.4~2.483GHz	Dipole	i-pex(MHF)	88

5. 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

40 channels are provided to this EUT:

CHANNEL	FREQ. (MHz)	CHANNEL	FREQ. (MHz)	CHANNEL	FREQ. (MHz)	CHANNEL	FREQ. (MHz)
0	2402	10	2422	20	2442	30	2462
1	2404	11	2424	21	2444	31	2464
2	2406	12	2426	22	2446	32	2466
3	2408	13	2428	23	2448	33	2468
4	2410	14	2430	24	2450	34	2470
5	2412	15	2432	25	2452	35	2472
6	2414	16	2434	26	2454	36	2474
7	2416	17	2436	27	2456	37	2476
8	2418	18	2438	28	2458	38	2478
9	2420	19	2440	29	2460	39	2480

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	RE≥1G	RE<1G	PLC	APCM	
1	√	√	√	√	Power from adapter
2	-	-	√	-	Power from POE

Where **RE≥1G:** Radiated Emission above 1GHz **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 2 axis. The worst case was found when positioned on **Y-plane**.
2. "-"means no effect.

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.

AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TYPE	DATA RATE (Mbps)
0 to 39	0, 19, 39	GFSK	1

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.

AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TYPE	DATA RATE (Mbps)
0 to 39	0, 19, 39	GFSK	1

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.

AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TYPE	DATA RATE (Mbps)
0 to 39	19	GFSK	1

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.

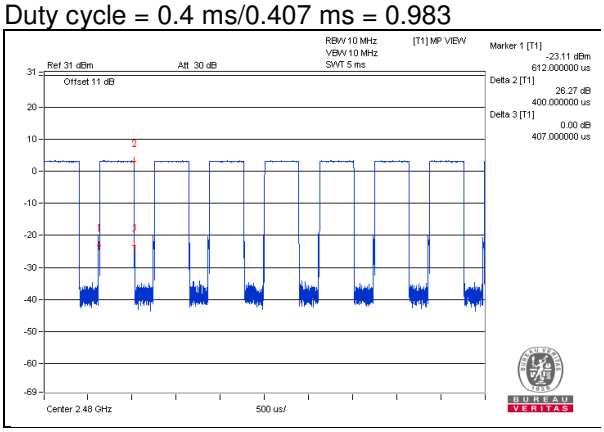
AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TYPE	DATA RATE (Mbps)
0 to 39	0, 19, 39	GFSK	1

Test Condition:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RE≥1G	24deg. C, 72%RH	120Vac, 60Hz	Jyunchun Lin
RE<1G	24deg. C, 66%RH	120Vac, 60Hz	Jyunchun Lin
PLC	25deg. C, 60%RH	120Vac, 60Hz	Eagle Chen
APCM	25deg. C, 60%RH	120Vac, 60Hz	Gary Cheng

3.3 Duty Cycle of Test Signal

Duty cycle of test signal is ≥ 98 %, duty factor is not required.
Duty cycle = 0.4 ms/0.407 ms = 0.983



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.	Laptop	DELL	E5430	HYV4VY1	FCC DoC	Provided by Lab
B.	POE	Symbol	PD-9001GR/AT/AC	NA	NA	Supplied by client
C.	HUB	ZyXEL	ES-116P	S060H02000215	FCC DoC	Provided by Lab
D.	Adapter	HIPRO	HP-A0502R3D	NA	NA	Supplied by client

Note:

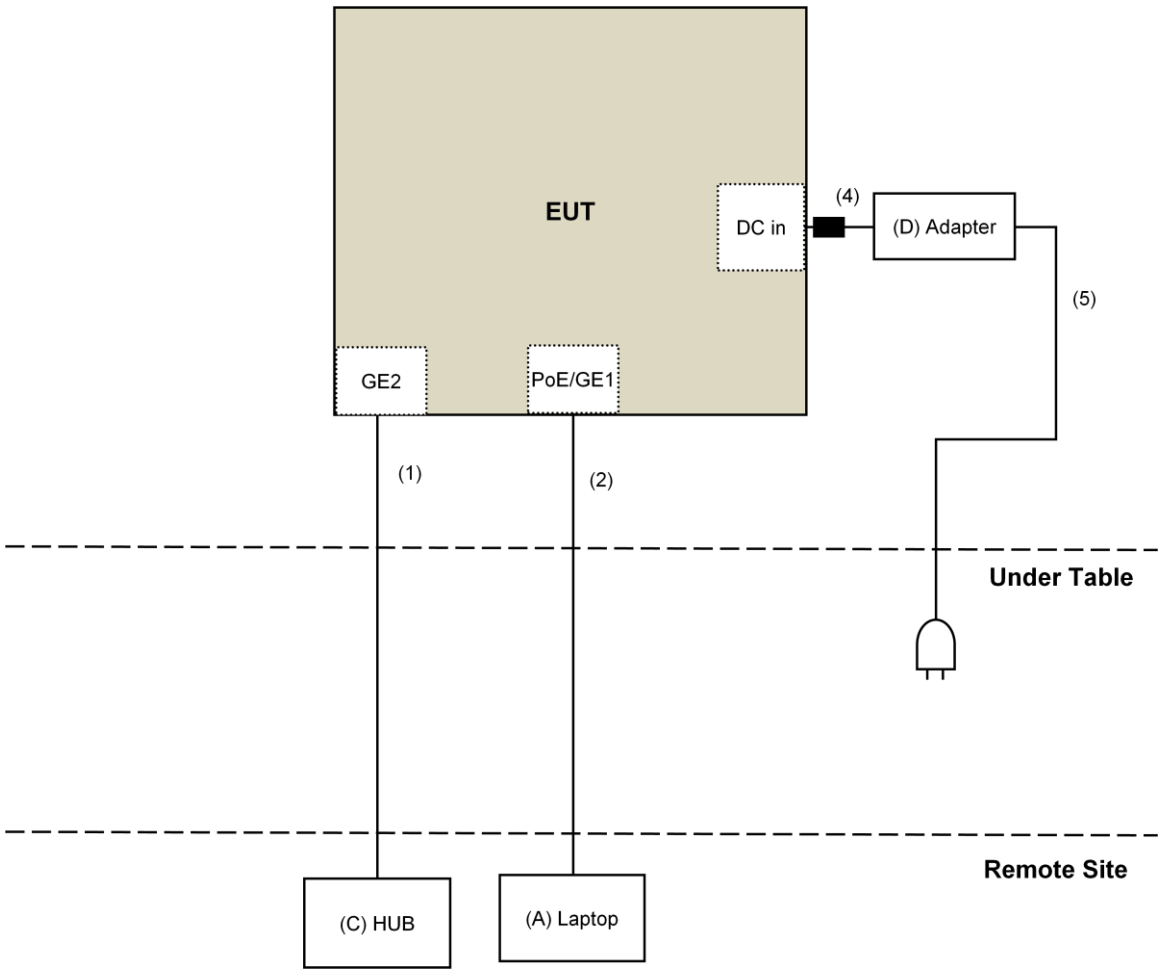
1. All power cords of the above support units are non-shielded (1.8m).

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	RJ-45 Cable	1	10	No	0	Provided by Lab
2.	RJ-45 Cable	1	10	No	0	Provided by Lab
3.	RJ-45 Cable	1	1	No	0	Provided by Lab
4.	DC Cable	1	1.8	No	1	Supplied by client
5.	AC Cable	1	1.8	No	0	Provided by Lab

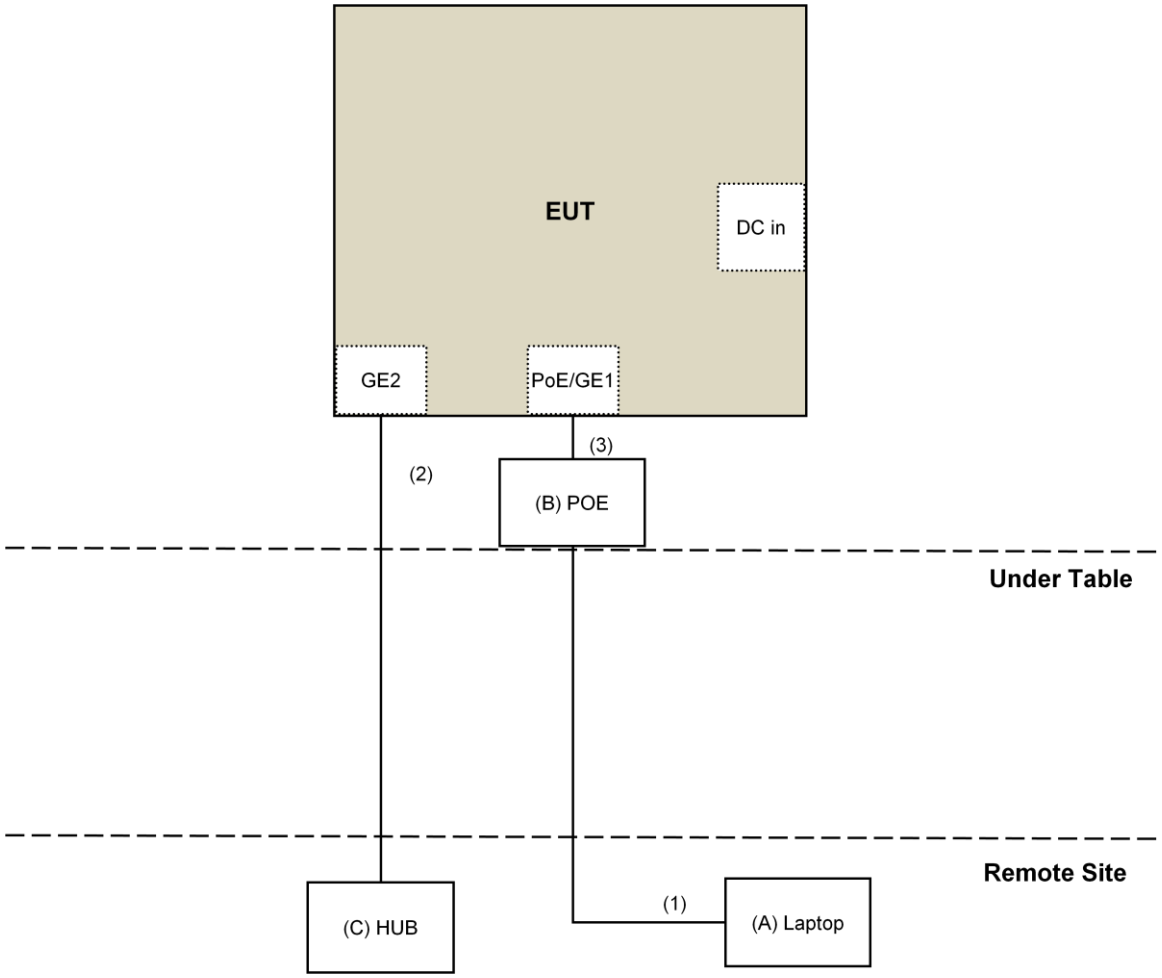
Note: The core(s) is(are) originally attached to the cable(s).

3.4.1 Configuration of System under Test

Adapter Mode:



POE Mode


EUT
DC in
GE2
PoE/GE1
(3)
(2)
(B) POE
Under Table
Remote Site
(C) HUB
(1)
(A) Laptop

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.

NOTE: The EUT has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (DoC). The test report has been issued separately.

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 20dB 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 20dB under any condition of modulation.

4.1.2 Test Instruments

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver Keysight	N9038A	MY54450088	July 20, 2016	July 19, 2017
Pre-Amplifier(*) EMCI	EMC001340	980142	Jan. 20, 2016	Jan. 19, 2018
Loop Antenna(*) Electro-Metrics	EM-6879	264	Dec. 16, 2014	Dec. 15, 2016
RF Cable	NA	LOOPCAB-001 LOOPCAB-002	Jan. 18, 2016	Jan. 17, 2017
Pre-Amplifier Mini-Circuits	ZFL-1000VH2B	AMP-ZFL-01	Nov. 10, 2016	Nov. 09, 2017
Trilog Broadband Antenna SCHWARZBECK	VULB 9168	9168-406	Jan. 04, 2016	Jan. 03, 2017
RF Cable	8D	966-4-1 966-4-2 966-4-3	Apr. 02, 2016	Apr. 01, 2017
Fixed attenuator Mini-Circuits	UNAT-5+	PAD-3m-4-01	Oct. 05, 2016	Oct. 04, 2017
Horn_Antenna SCHWARZBECK	BBHA 9120D	9120D-783	Jan. 19, 2016	Jan. 18, 2017
Pre-Amplifier Agilent	8449B	3008A01922	Sep. 18, 2016	Sep. 17, 2017
RF Cable	EMC104-SM-SM-2000 EMC104-SM-SM-5000 EMC104-SM-SM-5000	150318 150323 150324	Mar. 30, 2016	Mar. 29, 2017
Pre-Amplifier EMCI	EMC184045	980143	Jan. 15, 2016	Jan. 14, 2017
Horn_Antenna SCHWARZBECK	BBHA 9170	BBHA9170608	Jan. 08, 2016	Jan. 07, 2017
RF Cable	SUCOFLEX 102	36432/2 36441/2	Jan. 16, 2016	Jan. 15, 2017
Software	ADT_Radiated_V8.7.08	NA	NA	NA
Antenna Tower & Turn Table Max-Full	MF-7802	MF780208410	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP02	NA	NA
Spectrum Analyzer R&S	FSV40	100964	June 28, 2016	June 27, 2017
Power meter Anritsu	ML2495A	0824006	May 26, 2016	May 25, 2017
Power sensor Anritsu	MA2411B	0738172	May 26, 2016	May 25, 2017

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 calibration interval of the above test instruments is 24 months and the calibrations are traceable to NML/ROC and NIST/USA.
3. The test was performed in 966 Chamber No. 4.
4. The FCC Site Registration No. is 292998
5. The CANADA Site Registration No. is 20331-2
6 Loop antenna was used for all emissions below 30 MHz.
7. Tested Date: Nov. 12 to 16, 2016

4.1.3 Test Procedures

For Radiated emission below 30MHz

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. 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. Both X and Y axes of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case 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.

NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 9kHz at frequency below 30MHz.

For Radiated emission above 30MHz

a. The EUT was placed on the top of a rotating table 0.8 meters (for 30MHz ~ 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:

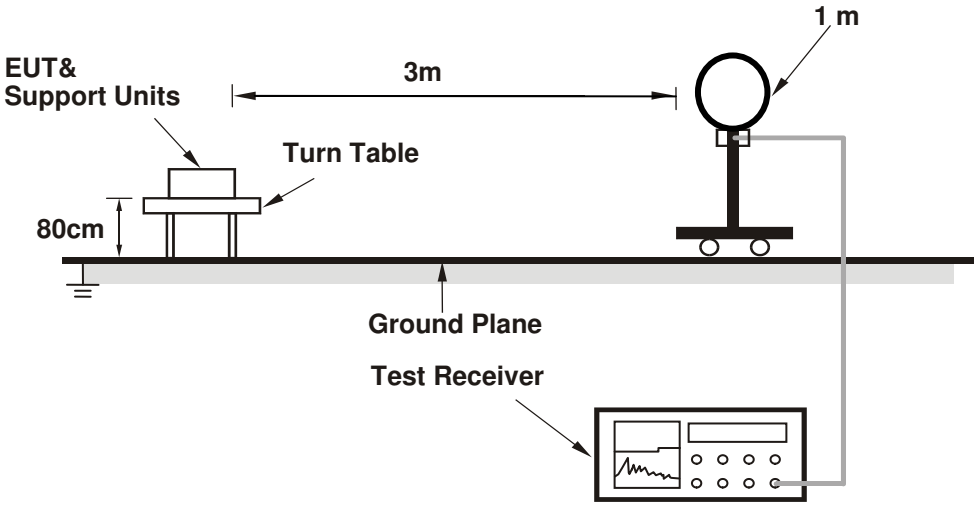
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and the video bandwidth is ≥ 1/T (Duty cycle < 98%) or 10Hz (Duty cycle ≥ 98%) for Average detection (AV) at frequency above 1GHz.
4. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

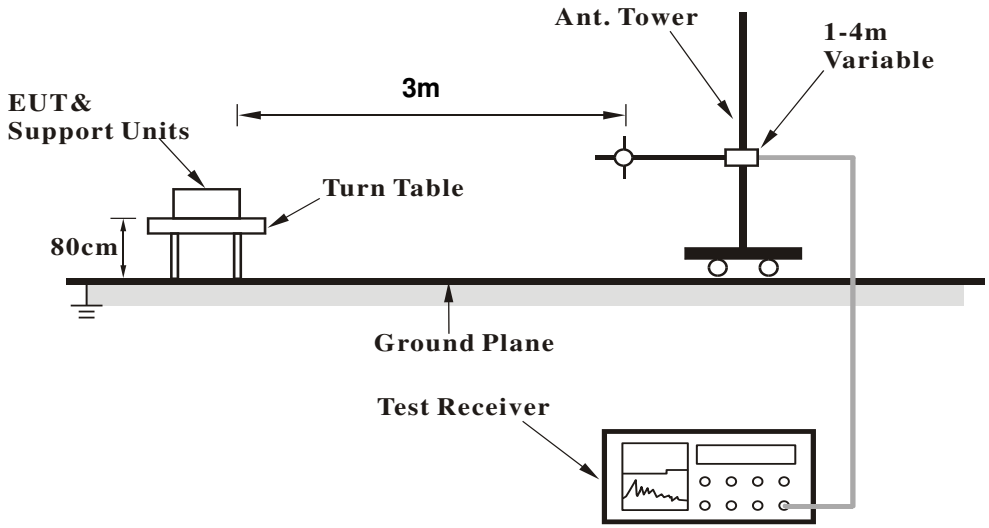
No deviation.

4.1.5 Test Setup

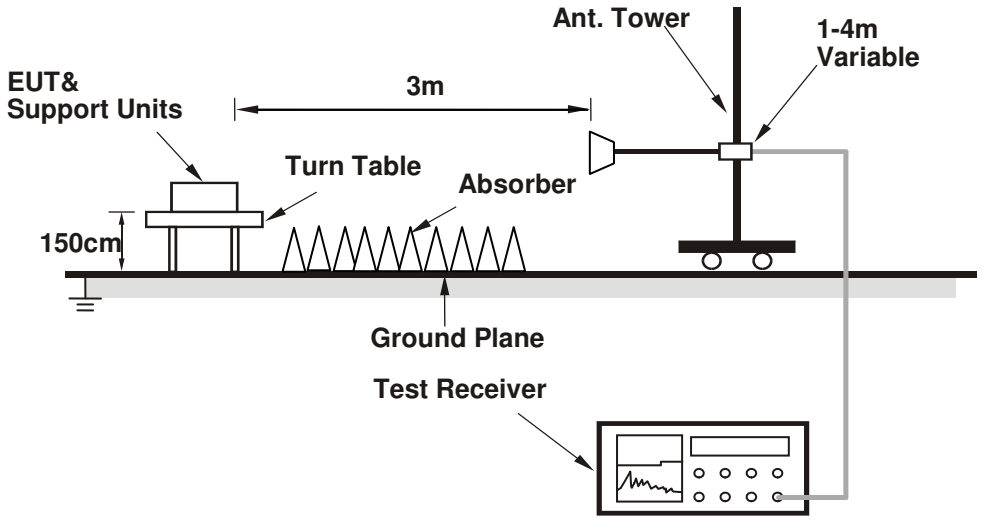
For Radiated emission below 30MHz



For Radiated emission 30MHz to 1GHz



For Radiated emission above 1GHz



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

4.1.6 EUT Operating Conditions

a. Connected the EUT with the Laptop which is placed on remote site.
b. Contorlling software (telen test command) has been activated to set the EUT on specific status.

4.1.7 Test Results

Above 1GHz Data：

CHANNEL	TX Channel 0	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

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	2382.00	48.1 PK	74.0	-25.9	1.88 H	357	53.9	-5.8
2	2382.00	36.8 AV	54.0	-17.2	1.88 H	357	42.6	-5.8
3	*2402.00	95.5 PK			1.88 H	357	101.2	-5.7
4	*2402.00	94.4 AV			1.88 H	357	100.1	-5.7
5	4804.00	42.6 PK	74.0	-31.4	1.53 H	272	41.8	0.8
6	4804.00	30.6 AV	54.0	-23.4	1.53 H	272	29.8	0.8
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	2382.00	41.9 PK	74.0	-32.1	3.63 V	5	47.7	-5.8
2	2382.00	35.3 AV	54.0	-18.7	3.63 V	5	41.1	-5.8
3	*2402.00	91.9 PK			3.63 V	5	97.6	-5.7
4	*2402.00	90.4 AV			3.63 V	5	96.1	-5.7
5	4804.00	42.8 PK	74.0	-31.2	1.49 V	164	42.0	0.8
6	4804.00	30.9 AV	54.0	-23.1	1.49 V	164	30.1	0.8

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) – Pre-Amplifier 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 19	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

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	2390.00	49.1 PK	74.0	-24.9	1.88 H	358	54.8	-5.7
2	2390.00	36.1 AV	54.0	-17.9	1.88 H	358	41.8	-5.7
3	*2440.00	96.8 PK			1.88 H	358	102.3	-5.5
4	*2440.00	95.9 AV			1.88 H	358	101.4	-5.5
5	2483.50	49.5 PK	74.0	-24.5	1.88 H	358	55.0	-5.5
6	2483.50	36.6 AV	54.0	-17.4	1.88 H	358	42.1	-5.5
7	4880.00	43.0 PK	74.0	-31.0	1.53 H	273	42.1	0.9
8	4880.00	30.9 AV	54.0	-23.1	1.53 H	273	30.0	0.9
9	7320.00	48.2 PK	74.0	-25.8	1.55 H	145	40.8	7.4
10	7320.00	36.4 AV	54.0	-17.6	1.55 H	145	29.0	7.4
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	2390.00	41.5 PK	74.0	-32.5	3.72 V	7	47.2	-5.7
2	2390.00	35.1 AV	54.0	-18.9	3.72 V	7	40.8	-5.7
3	*2440.00	92.2 PK			3.72 V	7	97.7	-5.5
4	*2440.00	91.6 AV			3.72 V	7	97.1	-5.5
5	2483.50	42.4 PK	74.0	-31.6	3.72 V	7	47.9	-5.5
6	2483.50	35.7 AV	54.0	-18.3	3.72 V	7	41.2	-5.5
7	4880.00	42.4 PK	74.0	-31.6	1.52 V	166	41.5	0.9
8	4880.00	30.3 AV	54.0	-23.7	1.52 V	166	29.4	0.9
9	7320.00	48.7 PK	74.0	-25.3	1.72 V	191	41.3	7.4
10	7320.00	36.7 AV	54.0	-17.3	1.72 V	191	29.3	7.4

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) – Pre-Amplifier 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 39	DETECTOR FUNCTION	Peak (PK) Average (AV)
FREQUENCY RANGE	1GHz ~ 25GHz		

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	*2480.00	98.9 PK			2.04 H	358	104.3	-5.4
2	*2480.00	97.8 AV			2.04 H	358	103.2	-5.4
3	2500.00	51.4 PK	74.0	-22.6	2.04 H	358	56.8	-5.4
4	2500.00	39.6 AV	54.0	-14.4	2.04 H	358	45.0	-5.4
5	4960.00	42.4 PK	74.0	-31.6	1.48 H	269	41.2	1.2
6	4960.00	30.6 AV	54.0	-23.4	1.48 H	269	29.4	1.2
7	7440.00	48.2 PK	74.0	-25.8	1.52 H	146	40.5	7.7
8	7440.00	36.4 AV	54.0	-17.6	1.52 H	146	28.7	7.7
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	*2480.00	93.5 PK			3.61 V	29	98.9	-5.4
2	*2480.00	92.7 AV			3.61 V	29	98.1	-5.4
3	2500.00	44.6 PK	74.0	-29.4	3.61 V	29	50.0	-5.4
4	2500.00	37.2 AV	54.0	-16.8	3.61 V	29	42.6	-5.4
5	4960.00	42.4 PK	74.0	-31.6	1.50 V	153	41.2	1.2
6	4960.00	30.6 AV	54.0	-23.4	1.50 V	153	29.4	1.2
7	7440.00	48.4 PK	74.0	-25.6	1.70 V	197	40.7	7.7
8	7440.00	36.5 AV	54.0	-17.5	1.70 V	197	28.8	7.7

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) – Pre-Amplifier 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 Data:

CHANNEL	TX Channel 0	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 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	30.77	30.6 QP	40.0	-9.4	2.02 H	242	40.6	-10.0
2	114.07	25.9 QP	43.5	-17.6	1.49 H	80	37.0	-11.1
3	249.91	34.0 QP	46.0	-12.0	1.00 H	66	44.0	-10.0
4	320.92	33.4 QP	46.0	-12.6	1.00 H	48	40.8	-7.4
5	498.03	27.9 QP	46.0	-18.1	1.48 H	58	30.7	-2.8
6	920.61	30.8 QP	46.0	-15.2	2.54 H	97	26.6	4.2
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	**30.72**	**32.8 QP**	**40.0**	**-7.2**	**1.98 V**	**337**	**42.8**	**-10.0**
2	42.46	29.6 QP	40.0	-10.4	1.00 V	358	38.5	-8.9
3	250.26	27.5 QP	46.0	-18.5	1.47 V	347	37.5	-10.0
4	320.46	26.4 QP	46.0	-19.6	1.46 V	359	33.8	-7.4
5	497.09	25.9 QP	46.0	-20.1	1.05 V	299	28.7	-2.8
6	926.01	29.9 QP	46.0	-16.1	2.50 V	68	25.6	4.3

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) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value

CHANNEL	TX Channel 19	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 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	30.75	30.6 QP	40.0	-9.4	1.99 H	261	40.6	-10.0
2	114.44	25.8 QP	43.5	-17.7	1.54 H	84	36.9	-11.1
3	249.73	34.2 QP	46.0	-11.8	1.00 H	76	44.2	-10.0
4	320.58	33.7 QP	46.0	-12.3	1.00 H	45	41.1	-7.4
5	497.54	27.8 QP	46.0	-18.2	1.46 H	60	30.6	-2.8
6	920.61	31.1 QP	46.0	-14.9	2.55 H	105	26.9	4.2
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	30.62	32.5 QP	40.0	-7.5	2.01 V	318	42.5	-10.0
2	42.44	29.9 QP	40.0	-10.1	1.03 V	360	38.8	-8.9
3	249.73	27.4 QP	46.0	-18.6	1.52 V	349	37.4	-10.0
4	320.49	26.6 QP	46.0	-19.4	1.46 V	353	34.0	-7.4
5	497.40	26.1 QP	46.0	-19.9	1.05 V	293	28.9	-2.8
6	926.01	29.7 QP	46.0	-16.3	2.44 V	79	25.4	4.3

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) – Pre-Amplifier Factor(dB)
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value

CHANNEL	TX Channel 39	DETECTOR FUNCTION	Quasi-Peak (QP)
FREQUENCY RANGE	9kHz ~ 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	30.96	30.8 QP	40.0	-9.2	2.04 H	269	40.8	-10.0
2	114.19	25.5 QP	43.5	-18.0	1.46 H	82	36.6	-11.1
3	250.21	34.1 QP	46.0	-11.9	1.02 H	81	44.1	-10.0
4	320.79	33.5 QP	46.0	-12.5	1.01 H	36	40.9	-7.4
5	497.49	27.8 QP	46.0	-18.2	1.49 H	48	30.6	-2.8
6	920.61	30.7 QP	46.0	-15.3	2.50 H	109	26.5	4.2
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	30.67	32.4 QP	40.0	-7.6	2.06 V	333	42.4	-10.0
2	42.75	29.5 QP	40.0	-10.5	1.04 V	360	38.3	-8.8
3	250.16	27.5 QP	46.0	-18.5	1.51 V	360	37.5	-10.0
4	320.76	26.8 QP	46.0	-19.2	1.52 V	356	34.2	-7.4
5	497.43	25.9 QP	46.0	-20.1	1.00 V	278	28.7	-2.8
6	926.01	30.0 QP	46.0	-16.0	2.52 V	57	25.7	4.3

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) – Pre-Amplifier 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.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver R&S	ESCS 30	100287	Apr. 16, 2016	Apr. 15, 2017
Line-Impedance Stabilization Network (for EUT) SCHWARZBECK	NSLK-8127	8127-523	Oct. 11, 2016	Oct. 10, 2017
Line-Impedance Stabilization Network (for Peripheral) R&S	ESH3-Z5	848773/004	Oct. 26, 2016	Oct. 25, 2017
RF Cable	5D-FB	COACAB-001	May 24, 2016	May 23, 2017
10 dB PAD Mini-Circuits	HAT-10+	CONATT-001	Sep. 13, 2016	Sep. 12, 2017
50 ohms Terminator	50	3	Oct. 26, 2016	Oct. 25, 2017
50 ohms Terminator	N/A	EMC-04	Nov. 02, 2016	Nov. 01, 2017
Software BVADT	BVADT_Cond_ V7.3.7.4	NA	NA	NA

Note:
1. The calibration interval of the above test instruments are 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in Shielded Room No. A.
3. Tested Date: Nov. 09, 2016

4.2.3 Test Procedures

a. 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.

b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.

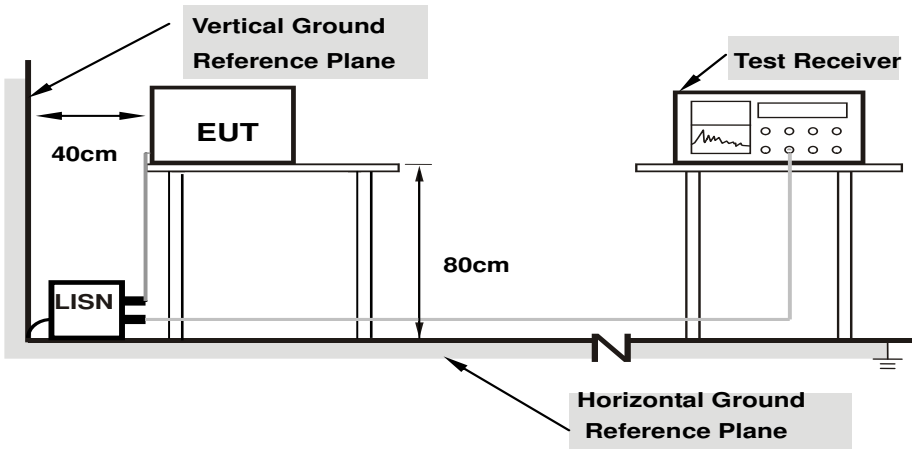
c. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

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.

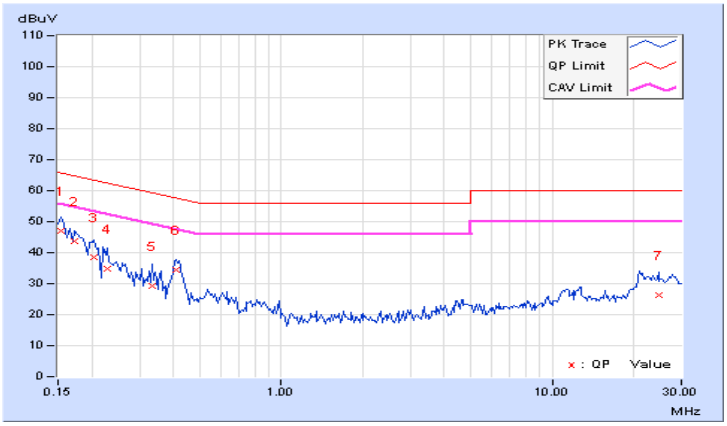
4.2.7 Test Results (Mode 1)

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

Phase Of Power : Line (L)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15391	10.14	36.98	23.04	47.12	33.18	65.79	55.79	-18.67	-22.61
2	0.17344	10.13	33.67	19.91	43.80	30.04	64.79	54.79	-20.99	-24.75
3	0.20469	10.12	28.54	12.35	38.66	22.47	63.42	53.42	-24.76	-30.95
4	0.22812	10.12	24.59	8.24	34.71	18.36	62.52	52.52	-27.81	-34.16
5	0.33359	10.11	19.11	10.14	29.22	20.25	59.36	49.36	-30.14	-29.11
6	0.40781	10.11	24.20	17.43	34.31	27.54	57.69	47.69	-23.38	-20.15
7	24.79297	10.99	15.29	10.63	26.28	21.62	60.00	50.00	-33.72	-28.38

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

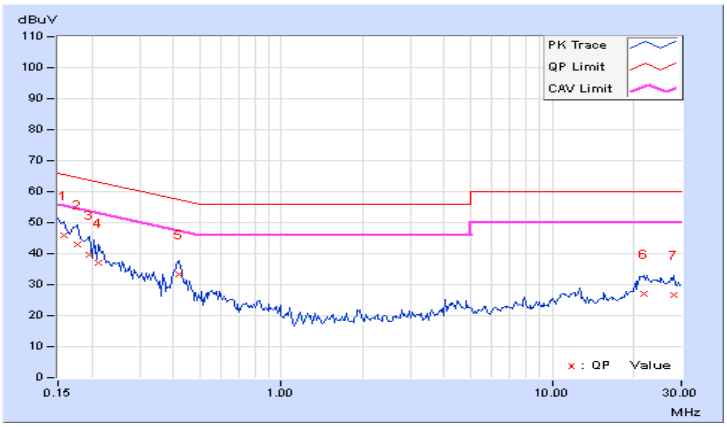


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)

Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15781	10.17	35.88	20.18	46.05	30.35	65.58	55.58	-19.53	-25.23
2	0.17734	10.12	32.90	18.11	43.02	28.23	64.61	54.61	-21.59	-26.38
3	0.19687	10.08	29.49	14.35	39.57	24.43	63.74	53.74	-24.17	-29.31
4	0.21250	10.07	26.90	10.53	36.97	20.60	63.11	53.11	-26.14	-32.51
5	0.41953	10.09	23.26	17.70	33.35	27.79	57.46	47.46	-24.11	-19.67
6	21.90234	10.91	16.22	11.16	27.13	22.07	60.00	50.00	-32.87	-27.93
7	28.12500	11.12	15.53	9.60	26.65	20.72	60.00	50.00	-33.35	-29.28

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



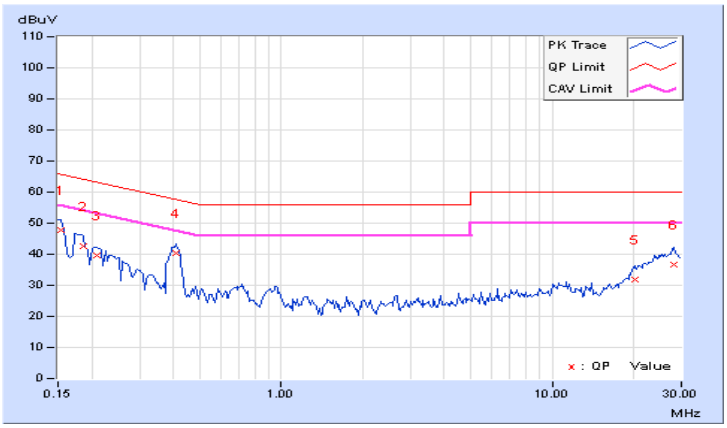
4.2.8 Test Results (Mode 2)

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

Phase Of Power : Line (L)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15391	10.14	37.58	26.16	47.72	36.30	65.79	55.79	-18.07	-19.49
2	0.18516	10.13	32.48	19.76	42.61	29.89	64.25	54.25	-21.64	-24.36
3	0.20859	10.12	29.59	22.05	39.71	32.17	63.26	53.26	-23.55	-21.09
4	0.40781	10.11	30.27	20.10	40.38	30.21	57.69	47.69	-17.31	-17.48
5	20.14063	10.82	20.90	16.07	31.72	26.89	60.00	50.00	-28.28	-23.11
6	28.23047	11.11	25.72	20.72	36.83	31.83	60.00	50.00	-23.17	-18.17

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

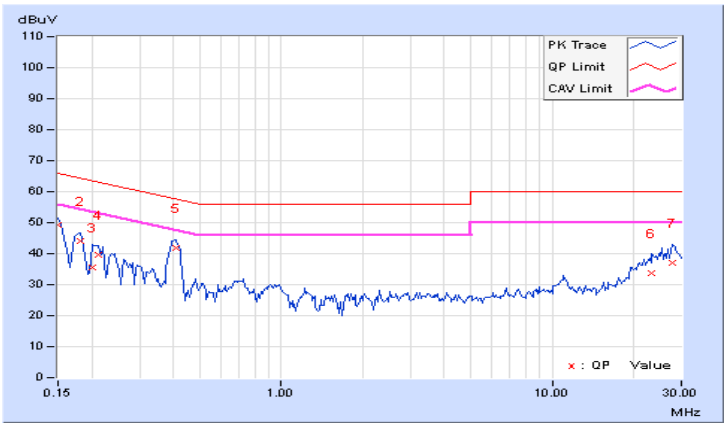


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)

Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	**0.15000**	**10.19**	**39.18**	**30.93**	**49.37**	**41.12**	**66.00**	**56.00**	**-16.63**	**-14.88**
2	0.18125	10.12	34.04	25.07	44.16	35.19	64.43	54.43	-20.27	-19.24
3	0.20078	10.07	25.57	13.15	35.64	23.22	63.58	53.58	-27.94	-30.36
4	0.21250	10.07	29.53	21.56	39.60	31.63	63.11	53.11	-23.51	-21.48
5	0.40781	10.09	31.81	22.17	41.90	32.26	57.69	47.69	-15.79	-15.43
6	23.41406	10.96	22.65	17.69	33.61	28.65	60.00	50.00	-26.39	-21.35
7	27.73047	11.11	25.77	20.71	36.88	31.82	60.00	50.00	-23.12	-18.18

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

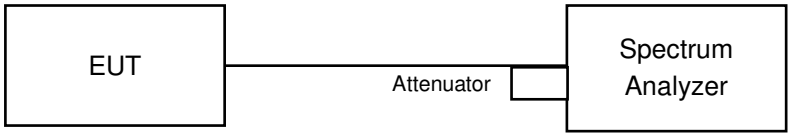


4.3 6dB Bandwidth Measurement

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

a. Set resolution bandwidth (RBW) = 100kHz
b. Set the video bandwidth (VBW) ≥ 3 x RBW, Detector = Peak.
c. Trace mode = max hold.
d. Sweep = auto couple.
e. 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 fromTest Standard

No deviation.

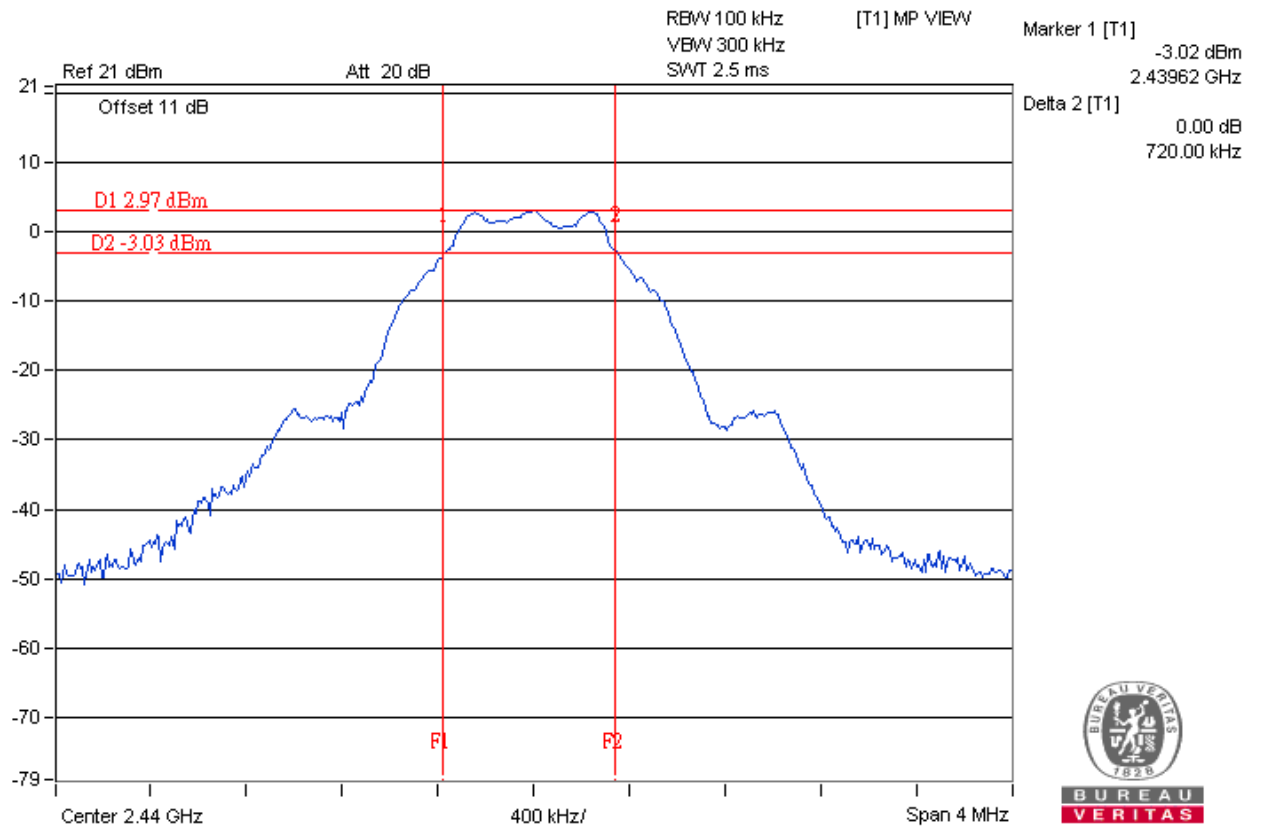
4.3.6 EUT Operating Conditions

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
0	2402	0.73	0.5	Pass
19	2440	0.72	0.5	Pass
39	2480	0.73	0.5	Pass

Spectrum Plot of Worst Value
CH 19

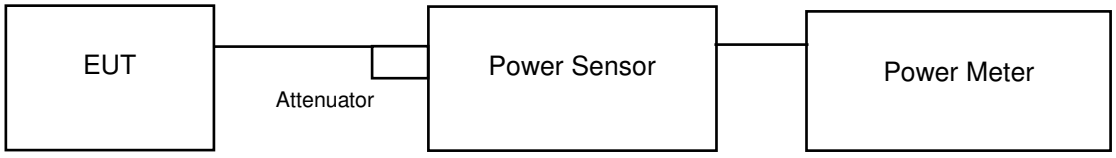


4.4 Conducted Output Power Measurement

4.4.1 Limits of Conducted Output Power Measurement

For systems using digital modulation in the 2400–2483.5 MHz 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

A peak / average power sensor was used on the output port of the EUT. A power meter was used to read the response of the peak / 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

FOR PEAK POWER

Channel	Frequency (MHz)	Peak Power (mW)	Peak Power (dBm)	Limit (dBm)	Pass/Fail
0	2402	2.056	3.13	30	Pass
19	2440	2.244	3.51	30	Pass
39	2480	2.183	3.39	30	Pass

FOR AVERAGE POWER

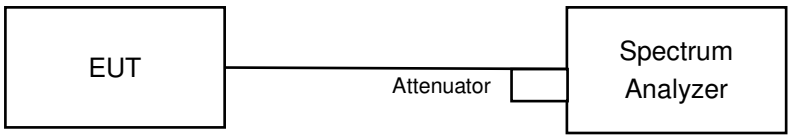
Channel	Frequency (MHz)	Average Power (mW)	Average Power (dBm)
0	2402	1.968	2.94
19	2440	2.138	3.30
39	2480	2.094	3.21

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

a. Set analyzer center frequency to DTS channel center frequency.
b. Set the span to 1.5 times the DTS bandwidth.
c. Set the RBW to: 3 kHz ≤ RBW ≤ 100 kHz.
d. Set the VBW ≥ 3 × RBW.
e. Detector = peak.
f. Sweep time = auto couple.
g. Trace mode = max hold.
h. Allow trace to fully stabilize.
i. Use the peak marker function to determine the maximum amplitude level within the RBW.

4.5.5 Deviation from Test Standard

No deviation.

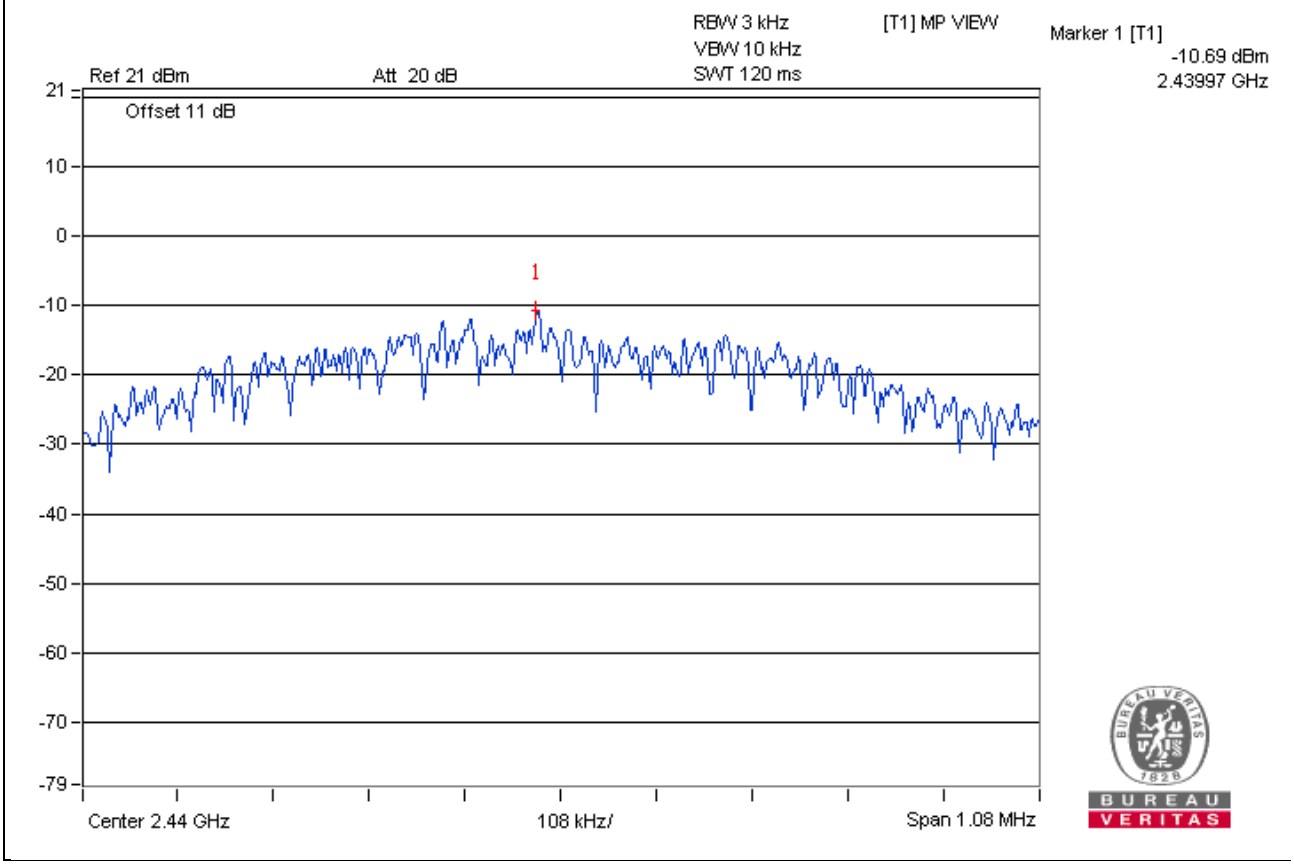
4.5.6 EUT Operating Condition

Same as Item 4.3.6

4.5.7 Test Results

Channel	Freq. (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Pass /Fail
0	2402	-11.01	8	Pass
19	2440	-10.69	8	Pass
39	2480	-11.04	8	Pass

Spectrum Plot of Worst Value
CH19

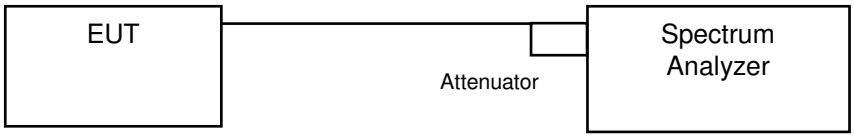


4.6 Conducted Out of Band Emission Measurement

4.6.1 Limits of Conducted Out of Band Emission Measurement

Below –20dB 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

1. Set the RBW = 100 kHz.
2. Set the VBW ≥ 300 kHz.
3. Detector = peak.
4. Sweep time = auto couple.
5. Trace mode = max hold.
6. Allow trace to fully stabilize.
7. Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.

MEASUREMENT PROCEDURE OOBE

1. Set RBW = 100 kHz.
2. Set VBW ≥ 300 kHz.
3. Detector = peak.
4. Sweep = auto couple.
5. Trace Mode = max hold.
6. Allow trace to fully stabilize.
7. Use the peak marker function to determine the maximum amplitude level.

4.6.5 Deviation from Test Standard

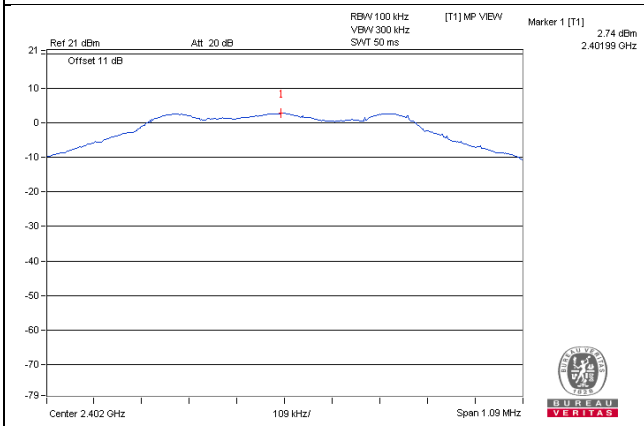
No deviation.

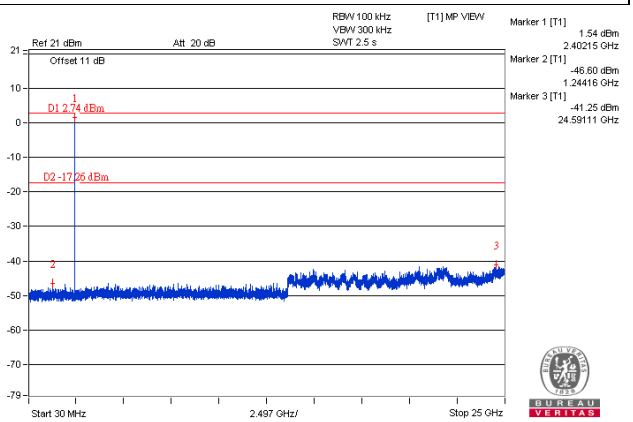
4.6.6 EUT Operating Condition

Same as Item 4.3.6

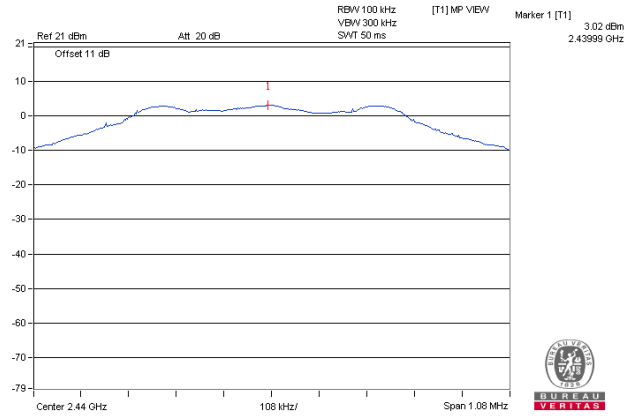
4.6.7 Test Results

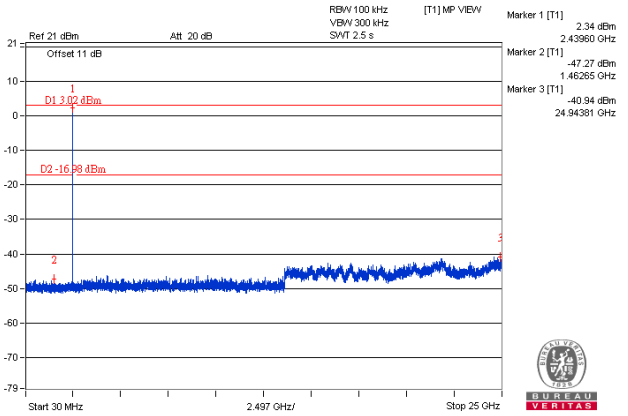
CH 0



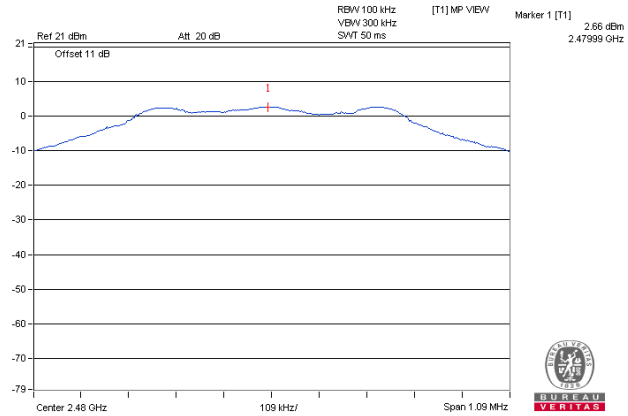


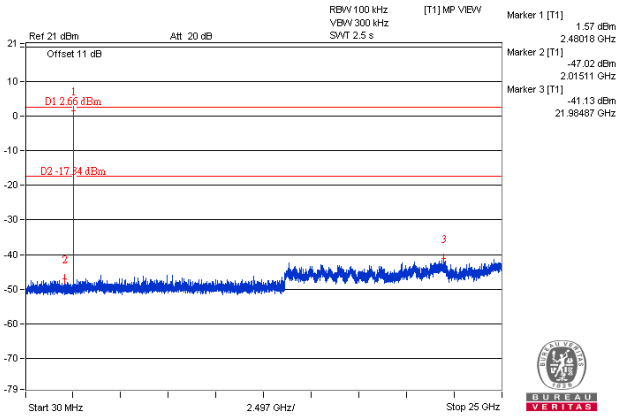
CH 19



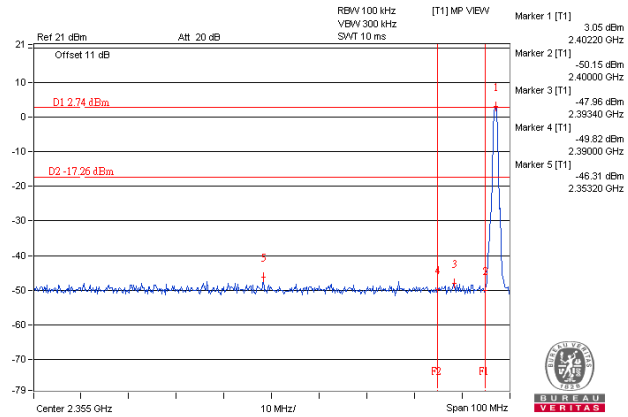


CH 39

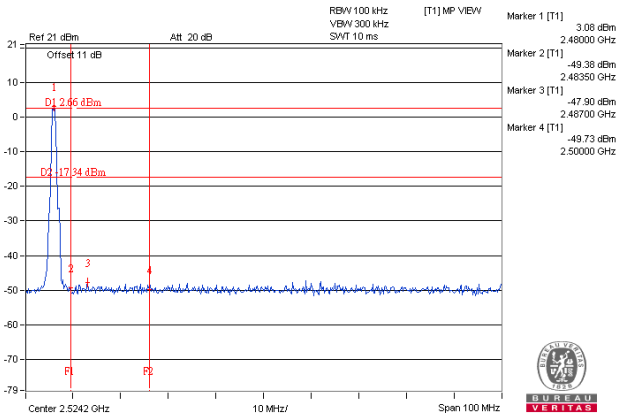




CH 0 Band edge



CH 39 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:

Linko EMC/RF Lab
Tel: 886-2-26052180
Fax: 886-2-26051924

Hsin Chu EMC/RF/Telecom Lab
Tel: 886-3-6668565
Fax: 886-3-6668323

Hwa Ya EMC/RF/Safety Lab
Tel: 886-3-3183232
Fax: 886-3-3270892

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.

--- END ---