FCC Radio Test Report

FCC ID: MCLCSE300APK9

This report concerns (check one) : ■ **Original Grant** □ **Class II Change**

Issued Date	: Sep. 01, 2011
Project No.	: 1108C254
Equipment	: Cisco Edge 300
Model Name	: CS-E300-AP-K9;HS-E300-AP-K9
Applicant	: Hon Hai Precision Ind., Co.,Ltd.
Address	: 5F-1, 5, Hsin-An Road, Hsinchu Science-Based Industrial Park Hsinchu Taiwan
Manufacturer	: Cisco Systems, Inc.
Address	: 170 West Tasman Drive, San Jose，CA 95134-1706 U.S.A

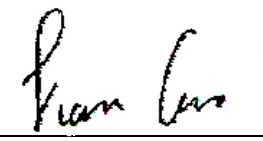
Tested by:

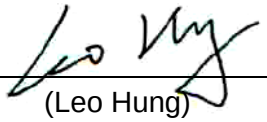
Neutron Engineering Inc. EMC Laboratory

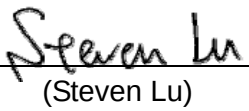
Date of Receipt: Aug. 10, 2011

Date of Test:

Aug. 10, 2011 ~ Aug. 31, 2011

Testing Engineer :  (Ivan Cao)

Technical Manager :  (Leo Hung)

Authorized Signatory :  (Steven Lu)

Neutron Engineering Inc.

No.3,Jinshagang 1st Road, ShiXia, Dalang Town, Dong Guan, China.

TEL : (0769) 8318-3000 FAX : (0769) 8319-6000

Declaration

Neutron represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with the standards traceable to National Measurement Laboratory (**NML**) of **R.O.C**., or National Institute of Standards and Technology (**NIST**) of **U.S.A.**

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Limitation

For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective.

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1. CERTIFICATION

Equipment:	Cisco Edge 300
Brand Name :	Cisco
Model Name :	CS-E300-AP-K9;HS-E300-AP-K9
Applicant:	Hon Hai Precision Ind., Co.,Ltd.
Factory:	HONG FU JIN PRECISION INDUSTRY (SHEN ZHEN) CO LTD
	Bldg. D10, F21, No. 2, 2ND DONGHUAN ROAD, 10TH YOUSONG
Address:	INDUSTRIAL DISTRICT,LONGHUA TOWN,BAOAN, SHENZHEN,
	GUANGDONG, CHINA
Date of Test:	Aug. 10, 2011 ~ Aug. 31, 2011
Test Item:	ENGINEERING SAMPLE
Standards:	FCC Part15, Subpart C(15.247) / ANSI C63.4 : 2003

The above equipment has been tested and found compliance with the requirement of the relative standards by Neutron Engineering Inc. EMC Laboratory.
The test data, data evaluation, and equipment configuration contained in our test report (Ref No. NEI-FCCP-1-1108C254) were obtained utilizing the test procedures, test instruments, test sites that has been accredited by the Authority of NVLAP and TAF according to the ISO-17025 quality assessment standard and technical standard(s).

Test result included in this report is only for the Bluetooth approval part.

2. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

FCC Part15 (15.247) , Subpart C			
Standard Section	Test Item	Judgment	Remark
15.207	Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is -5.70 dB at 0.619 MHz.
15.247(d)	Antenna conducted Spurious Emission	PASS	Meets the requirements
15.247(a)(1)	Hopping Channel Separation	PASS	Meets the requirements
15.247(b)(1)	Peak Output Power	PASS	Meets the requirements
15.247(d) /15.209	Radiated Spurious Emission	PASS	Meet the requirement of limit. Minimum passing margin is -3.93 dB at 85.78 MHz.
15.247 (a)(1)(iii)	Number of Hopping Frequency	PASS	Meets the requirements
15.247 (a)(1)(iii)	Dwell Time	PASS	Meets the requirements
15.205	Restricted Bands	PASS	Meets the requirements
15.203	Antenna Requirement	PASS	Meets the requirements
1.1307 1.1310 2.1091 2.1093	RF Exposure Compliance	PASS	Meets the requirements

NOTE:

(1)” N/A” denotes test is not applicable in this Test Report

2.1 TEST FACILITY

The test facilities used to collect the test data in this report is **DG-C01/DG-CB03** at the location of No.3,Jinshagang 1st Road, ShiXia, Dalang Town, Dong Guan, China.523792
DG-C01 : (VCCI RN: C-3893/T-2013; FCC RN: 248549)
DG-CB03 : (VCCI RN: G-95; FCC RN: 319330; IC Assigned Code: 4428B-1)

2.2 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:

The reported uncertainty of measurement **y** ± **U**，where expended uncertainty **U** is based on a standard uncertainty multiplied by a coverage factor of **k=2**，providing a level of confidence of approximately **95** %。

A. Conducted Measurement :

Test Site	Method	Measurement Frequency Range	U，(dB)	NOTE
DG-C01	CISPR	150 KHz ~ 30MHz	1.94	

B. Radiated Measurement :

Test Site	Method	Measurement Frequency Range	Ant. H / V	U，(dB)	NOTE
DG-CB03	CISPR	30MHz ~ 1000MHz	V	3.42	
		30MHz ~ 1000MHz	H	3.54	
		1GHz~26.5GHz	V	3.12	
		1GHz~26.5GHz	H	3.68	

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

Equipment	Cisco Edge 300
Brand Name	Cisco
Model Name	CS-E300-AP-K9;HS-E300-AP-K9
OEM Brand/Model Name	N/A
Model Difference	Hardware design are all the same just for different customer usage.
Product Description	The EUT is a Cisco Edge 300 Operation Frequency: 2402~2480 MHz Modulation Type: GFSK(1Mbps) Bit Rate of Transmitter π/4-DQPSK(2Mbps) 8-DPSK(3Mbps) Number of Channel 79 CH Antenna Designation: Please see Note 3. Antenna Gain(Peak) Please see Note 3. Output Power: 1.93 dBm-1Mbps 3.02 dBm-3Mbps Based on the application, features, or specification exhibited in User's Manual, the EUT is considered as an ITE/Computing Device. More details of EUT technical
Channel List	Please refer to the Note 2.
Power Source	#1 DC Voltage supplied from AC/DC adapter Brand name: LITEON ; Model name:PA-1600-2A-LF #2 DC Voltage supplied from AC/DC adapter Brand name: DELTA ; Model name:EADP-60MB B
Power Rating	#1 I/P 100-240VAC~ 50-60Hz, 2A O/P 12V, 5A #2 I/P 100-240VAC~ 50-60Hz, 1.5A O/P 12V, 5A
Connecting I/O Port(s)	USB ports HDMI port Audio out port Audio in port Gigabit Ethernet (uplink) port Ethernet (downlink) port Power
Products Covered	N/A

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

2.

Channel List					
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
00	2402	27	2429	54	2456
01	2403	28	2430	55	2457
02	2404	29	2431	56	2458
03	2405	30	2432	57	2459
04	2406	31	2433	58	2460
05	2407	32	2434	59	2461
06	2408	33	2435	60	2462
07	2409	34	2436	61	2463
08	2410	35	2437	62	2464
09	2411	36	2438	63	2465
10	2412	37	2439	64	2466
11	2413	38	2440	65	2467
12	2414	39	2441	66	2468
13	2415	40	2442	67	2469
14	2416	41	2443	68	2470
15	2417	42	2444	69	2471
16	2418	43	2445	70	2472
17	2419	44	2446	71	2473
18	2420	45	2447	72	2474
19	2421	46	2448	73	2475
20	2422	47	2449	74	2476
21	2423	48	2450	75	2477
22	2424	49	2451	76	2478
23	2425	50	2452	77	2479
24	2426	51	2453	78	2480
25	2427	52	2454		
26	2428	53	2455		

3.

Table for Filed Antenna

Ant	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	Length (mm)
BT	FOXCONN	FX01B88-OG-EF-H	PCB	U.FL	3.10	41
WLAN	FOXCONN	FX01B89-OG-EF-H	PCB	U.FL	2.92	75
WLAN	FOXCONN	FX01B90-OG-EF-H	PCB	U.FL	2.98	175

3.2 DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Pretest Mode	Description
Mode 1	TX CH00 (1/3Mbps)
Mode 2	TX CH39 (1/3Mbps)
Mode 3	TX CH78 (1/3Mbps)
Mode 4	TX Mode

The EUT system operated these modes were found to be the worst case during the pre-scanning test as Following:

For Conducted Emission	
Final Test Mode	Description
Mode 4	TX Mode

For Radiated Emission	
Final Test Mode	Description
Mode 1	TX CH00 (1/3Mbps)
Mode 2	TX CH39 (1/3Mbps)
Mode 3	TX CH78 (1/3Mbps)

Note:

(1) The measurements are performed at the highest, middle, lowest available channels.

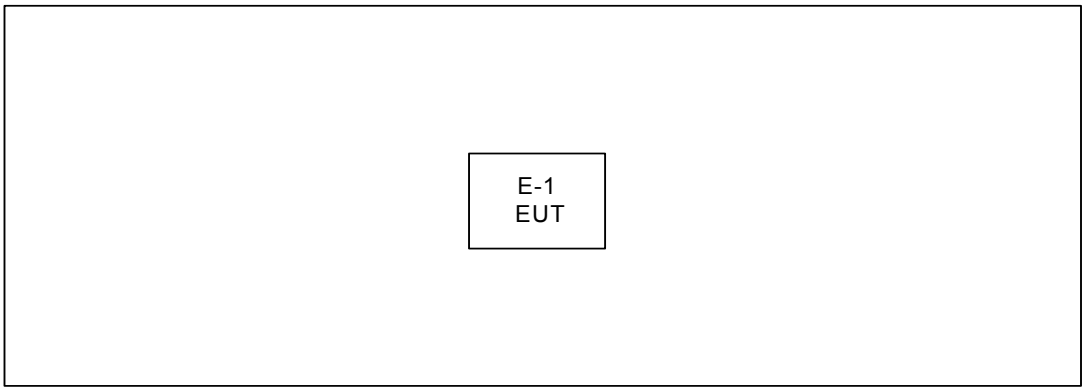
3.3 TABLE OF PARAMETERS OF TEXT SOFTWARE SETTING

During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product power parameters of FHSS

Test software Version	Test program: BlueTooth		
Frequency	2402 MHz	2441 MHz	2480 MHz
Parameters-1Mbps	0	0	0
Parameters-3Mbps	0	0	0

3.4 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

Radiation:



3.5 DESCRIPTION OF SUPPORT UNITS (CONDUCTED MODE)

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.

Item	Equipment	Mfr/Brand	Model/Type No.	FCC ID	Series No.	Note
E-1	Cisco Edge 300	Cisco	CS-E300-AP-K9	MCLCSE300APK9	N/A	EUT

Item	Shielded Type	Ferrite Core	Length	Note
	-	-	-	

Note:
(1) The support equipment was authorized by Declaration of Conformity.
(2) For detachable type I/O cable should be specified the length in m in『Length』column.

4. EMC EMISSION TEST

4.1 CONDUCTED EMISSION MEASUREMENT

4.1.1 POWER LINE CONDUCTED EMISSION Limits (Frequency Range 150KHz-30MHz)

FREQUENCY (MHz)	Class A (dBuV)		Class B (dBuV)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 -0.5	79.00	66.00	66 - 56 *	56 - 46 *
0.50 -5.0	73.00	60.00	56.00	46.00
5.0 -30.0	73.00	60.00	60.00	50.00

Note:

(1) The tighter limit applies at the band edges.

(2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

4.1.2 MEASUREMENT INSTRUMENTS LIST AND SETTING

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	LISN	EMCO	3816/2	00052765	May.26.2012
2	LISN	R&S	ENV216	100087	May.26.2012
3	Test Cable	N/A	C_17	N/A	Mar.30.2012
4	EMI TEST RECEIVER	R&S	ESCS30	826547/022	May.26.2012
5	50Ω Terminator	SHX	TF2-3G-A	08122902	May.26.2012

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 DG-C01.

The following table is the setting of the receiver

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

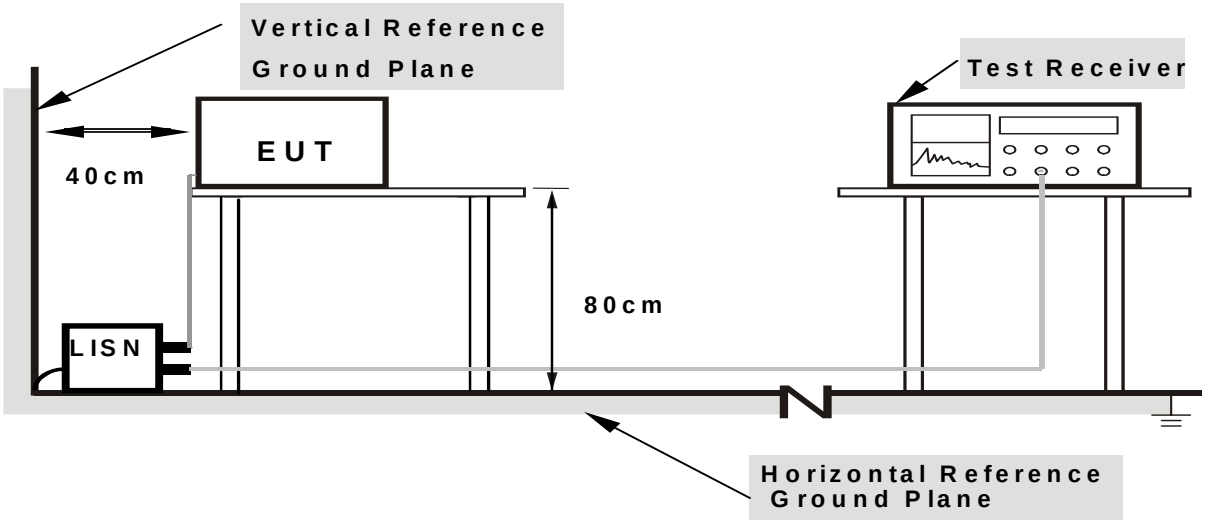
4.1.3 TEST PROCEDURE

a. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
d. LISN at least 80 cm from nearest part of EUT chassis.
e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

4.1.4 DEVIATION FROM TEST STANDARD

No deviation

4.1.5 TEST SETUP



Note: 1.Support units were connected to second LISN.
2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

4.1.6 EUT OPERATING CONDITIONS

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

The EUT was programmed to be in continuously transmitting / Hopping on mode.

4.1.7 TEST RESULTS

EUT：	Cisco Edge 300	Model Name ：	CS-E300-AP-K9
Temperature：	25 ℃	Relative Humidity：	50 %
Pressure：	1010hPa	Test Power ：	AC 120V/60Hz
Test Mode：	TX Mode (Adapter: PA-1600-2A-LF)		

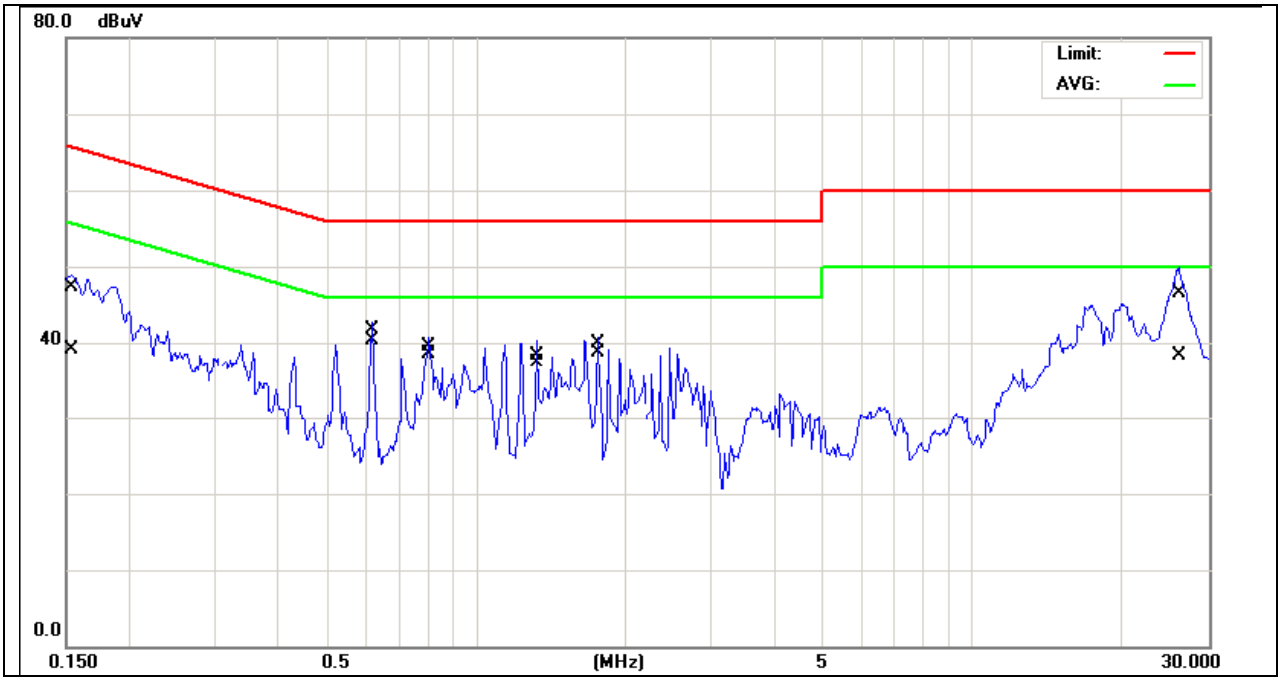
Freq.	Terminal	Reading Level(dBuV)		Correct	Measurement(dBuV)		Limit(dBuV)		Margin(dB)	
(MHz)	L/N	QP-Mode	AV-Mode	Factor(dB)	QP-Mode	AV-Mode	QP-Mode	AV-Mode	QP-Mode	AV-Mode
0.153	Line	37.56	29.35	9.69	47.25	39.04	65.82	55.82	-18.57	-16.78
0.619	Line	32.05	30.56	9.74	41.79	40.30	56.00	46.00	-14.21	- 5.70
0.806	Line	29.67	28.67	9.75	39.42	38.42	56.00	46.00	-16.58	- 7.58
1.330	Line	28.42	27.56	9.82	38.24	37.38	56.00	46.00	-17.76	- 8.62
1.756	Line	30.02	28.76	9.90	39.92	38.66	56.00	46.00	-16.08	- 7.34
26.160	Line	35.21	26.87	11.36	46.57	38.23	60.00	50.00	-13.43	-11.77

Remark

(1) Reading in which marked as QP means measurements by using are Quasi-Peak Mode with Detector BW=9KHz；SPA setting in RBW=10KHz,VBW =10KHz, Swp. Time = 0.2 sec./MHz。
Reading in which marked as AV means measurements by using are Average Mode with instrument setting in RBW=10KHz,VBW=10KHz, Swp. Time =0.2 sec./MHz 。

(2) Margin value = Measurement level – Limit value.
Correct factor = Insertion loss + Cable loss.
Measurement level = Correct factor + Reading level.

(3) Measuring frequency range from 150KHz to 30MHz 。



EUT：	Cisco Edge 300	Model Name ：	CS-E300-AP-K9
Temperature：	25 ℃	Relative Humidity：	50 %
Pressure：	1010hPa	Test Power ：	AC 120V/60Hz
Test Mode ：	TX Mode (Adapter: PA-1600-2A-LF)		

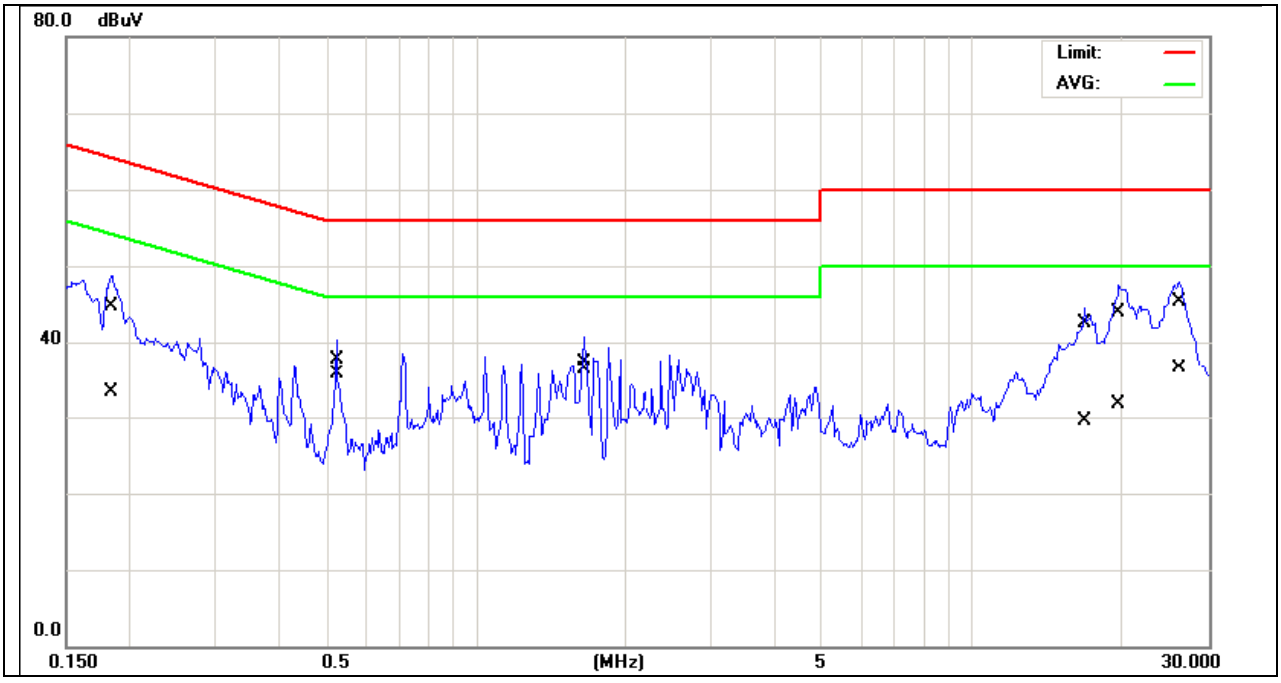
Freq.	Terminal	Reading Level(dBuV)		Correct	Measurement(dBuV)		Limit(dBuV)		Margin(dB)	
(MHz)	L/N	QP-Mode	AV-Mode	Factor(dB)	QP-Mode	AV-Mode	QP-Mode	AV-Mode	QP-Mode	AV-Mode
0.184	Neutral	35.02	23.58	9.70	44.72	33.28	64.29	54.29	-19.57	-21.01
0.525	Neutral	28.03	26.02	9.73	37.76	35.75	56.00	46.00	-18.24	-10.25
1.645	Neutral	27.35	26.35	9.88	37.23	36.23	56.00	46.00	-18.77	- 9.77
16.839	Neutral	31.62	18.69	10.82	42.44	29.51	60.00	50.00	-17.56	-20.49
19.801	Neutral	32.69	20.58	11.15	43.84	31.73	60.00	50.00	-16.16	-18.27
26.215	Neutral	34.02	25.13	11.36	45.38	36.49	60.00	50.00	-14.62	-13.51

Remark

(1) Reading in which marked as QP means measurements by using are Quasi-Peak Mode with Detector BW=9KHz；SPA setting in RBW=10KHz,VBW =10KHz, Swp. Time = 0.2 sec./MHz。
Reading in which marked as AV means measurements by using are Average Mode with instrument setting in RBW=10KHz,VBW=10KHz, Swp. Time =0.2 sec./MHz 。

(2) Margin value = Measurement level – Limit value.
Correct factor = Insertion loss + Cable loss.
Measurement level = Correct factor + Reading level.

(3) Measuring frequency range from 150KHz to 30MHz 。



EUT：	Cisco Edge 300	Model Name ：	CS-E300-AP-K9
Temperature：	25 ℃	Relative Humidity：	50 %
Pressure：	1010hPa	Test Power ：	AC 120V/60Hz
Test Mode：	TX Mode (Adapter: EADP-60MB B)		

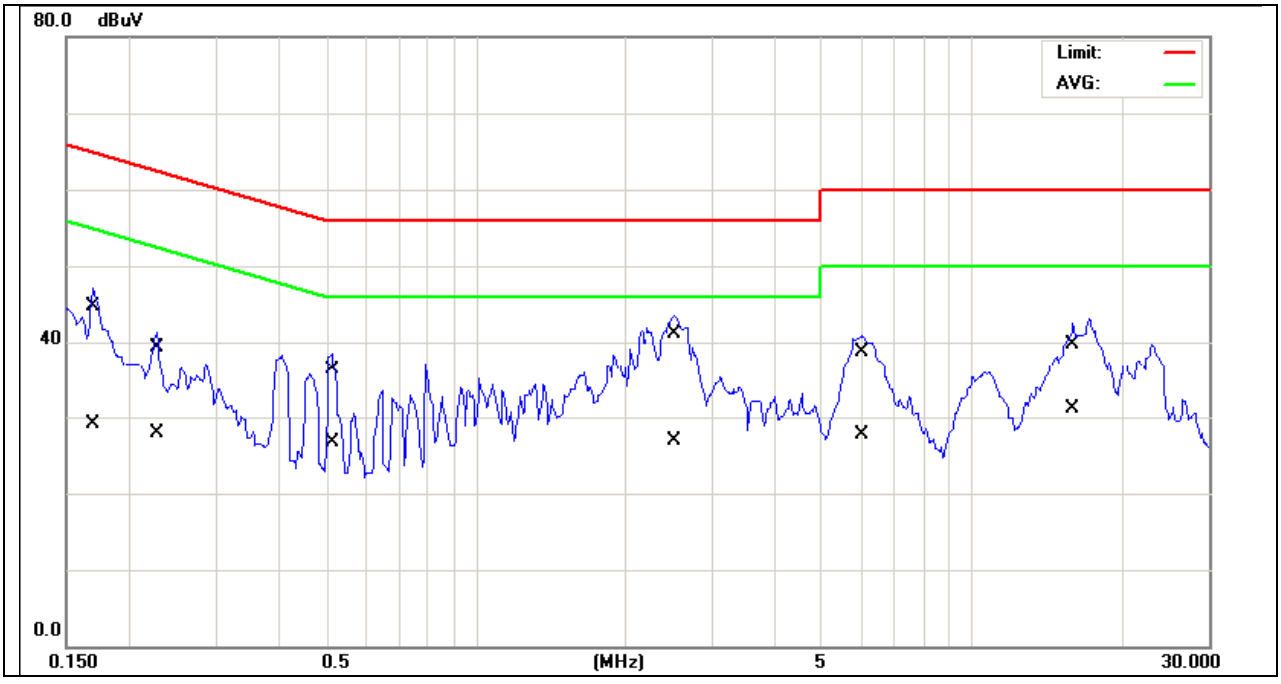
Freq.	Terminal	Reading Level(dBuV)		Correct	Measurement(dBuV)		Limit(dBuV)		Margin(dB)	
(MHz)	L/N	QP-Mode	AV-Mode	Factor(dB)	QP-Mode	AV-Mode	QP-Mode	AV-Mode	QP-Mode	AV-Mode
0.170	Line	34.98	19.35	9.70	44.68	29.05	64.98	54.98	-20.30	-25.93
0.228	Line	29.68	18.26	9.71	39.39	27.97	62.52	52.52	-23.13	-24.55
0.513	Line	26.52	17.03	9.73	36.25	26.76	56.00	46.00	-19.75	-19.24
2.521	Line	31.12	16.99	9.96	41.08	26.95	56.00	46.00	-14.92	-19.05
6.024	Line	28.63	17.66	10.06	38.69	27.72	60.00	50.00	-21.31	-22.28
15.970	Line	29.02	20.36	10.72	39.74	31.08	60.00	50.00	-20.26	-18.92

Remark

(1) Reading in which marked as QP means measurements by using are Quasi-Peak Mode with Detector BW=9KHz；SPA setting in RBW=10KHz,VBW =10KHz, Swp. Time = 0.2 sec./MHz。
Reading in which marked as AV means measurements by using are Average Mode with instrument setting in RBW=10KHz,VBW=10KHz, Swp. Time =0.2 sec./MHz 。

(2) Margin value = Measurement level – Limit value.
Correct factor = Insertion loss + Cable loss.
Measurement level = Correct factor + Reading level.

(3) Measuring frequency range from 150KHz to 30MHz 。



EUT：	Cisco Edge 300	Model Name ：	CS-E300-AP-K9
Temperature：	25 ℃	Relative Humidity：	50 %
Pressure：	1010hPa	Test Power ：	AC 120V/60Hz
Test Mode ：	TX Mode (Adapter: EADP-60MB B)		

Freq.	Terminal	Reading Level(dBuV)		Correct	Measurement(dBuV)		Limit(dBuV)		Margin(dB)	
(MHz)	L/N	QP-Mode	AV-Mode	Factor(dB)	QP-Mode	AV-Mode	QP-Mode	AV-Mode	QP-Mode	AV-Mode
0.150	Neutral	32.01	22.59	9.69	41.70	32.28	66.00	56.00	-24.30	-23.72
0.165	Neutral	32.68	21.36	9.70	42.38	31.06	65.21	55.21	-22.83	-24.15
0.410	Neutral	28.21	16.55	9.72	37.93	26.27	57.64	47.64	-19.71	-21.37
0.513	Neutral	29.02	22.01	9.73	38.75	31.74	56.00	46.00	-17.25	-14.26
2.630	Neutral	31.67	22.02	9.96	41.63	31.98	56.00	46.00	-14.37	-14.02
5.898	Neutral	29.86	19.53	10.05	39.91	29.58	60.00	50.00	-20.09	-20.42

Remark

(1) Reading in which marked as QP means measurements by using are Quasi-Peak Mode with Detector BW=9KHz；SPA setting in RBW=10KHz,VBW =10KHz, Swp. Time = 0.2 sec./MHz。
Reading in which marked as AV means measurements by using are Average Mode with instrument setting in RBW=10KHz,VBW=10KHz, Swp. Time =0.2 sec./MHz。

(2) Margin value = Measurement level – Limit value.
Correct factor = Insertion loss + Cable loss.
Measurement level = Correct factor + Reading level.

(3) Measuring frequency range from 150KHz to 30MHz。

4.2 RADIATED EMISSION MEASUREMENT

4.2.1 RADIATED EMISSION LIMITS (Frequency Range 9kHz-1000MHz)

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequencies (MHz)	Field Strength (micorvolts/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

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

FREQUENCY (MHz)	(dBuV/m) (at 3M)	
	PEAK	AVERAGE
Above 1000	74	54

Notes:

(1) The limit for radiated test was performed according to FCC PART 15C.

(2) The tighter limit applies at the band edges.

(3) Emission level (dBuV/m)=20log Emission level (uV/m).

FREQUENCY RANGE OF RADIATED MEASUREMENT (For unintentional radiators)

Highest frequency generated or Upper frequency of measurement used in the device or on which the device operates or tunes (MHz)	Range (MHz)
Below 1.705	30
1.705 – 108	1000
108 – 500	2000
500 – 1000	5000
Above 1000	5^{th} harmonic of the highest frequency or 40 GHz, whichever is lower

4.2.2 MEASUREMENT INSTRUMENTS LIST ANS SETTING

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Active Loop Antenna	R&S	HFH2-Z2	830749/020	May.26.2012
2	Bi-log Antenna	Schwarbeck	VULB9160	9160-3232	May.25.2012
3	Horn Antenna	ETS	3115	00075789	May.11.2012
4	Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	9170340	Dec.15.2011
5	Amplifier	HP	8447D	2944A09673	May.25.2012
6	Amplifier	Agilent	8449B	3008A02274	May.25.2012
7	Amplifier	EMC	EMC2654045	980039	Aug.11.2012
8	Test Receiver	R&S	ESCI	100895	May.25.2012
9	Spectrum Analyzer	R&S	FSP 40	100185	Nov.26.2011
10	Test Cable	N/A	C-01_CB03	N/A	Jul.04.2012
11	Test Cable	HUBER+SUHNER	SUCOFLEX_8m	313794/4	Apr.11.2012
12	Controller	CT	SC100	N/A	N/A

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 DG-CB03 (Below 1GHz/Above 1GHz)
3. The Horn antenna and HP preamplifier (model: 8449B) /EMC preamplifier (model: EMC2654045) are used only for the measurement of emission frequency above 1GHz if tested.
4. The IC Site Registration No. is 4428B-1 (DG-CB03)
5. The FCC Site Registration No. is 319330 (DG-CB03)

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RB / VB (emission in restricted band)	1 MHz / 1 MHz for Peak, 1 MHz / 10Hz for Average

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

4.2.3 TEST PROCEDURE

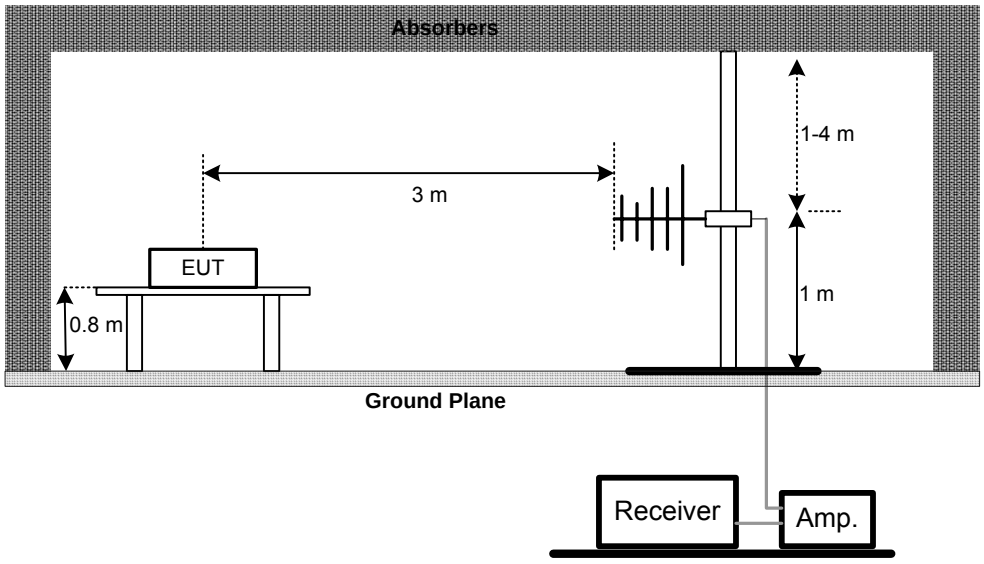
a. The measuring distance of at 3 m shall be used for measurements at frequency up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
b. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
c. The height of the equipment or of the substitution antenna shall be 0.8 m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
d. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
e. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
f. For the actual test configuration, please refer to the related Item –EUT Test Photos.

4.2.4 DEVIATION FROM TEST STANDARD

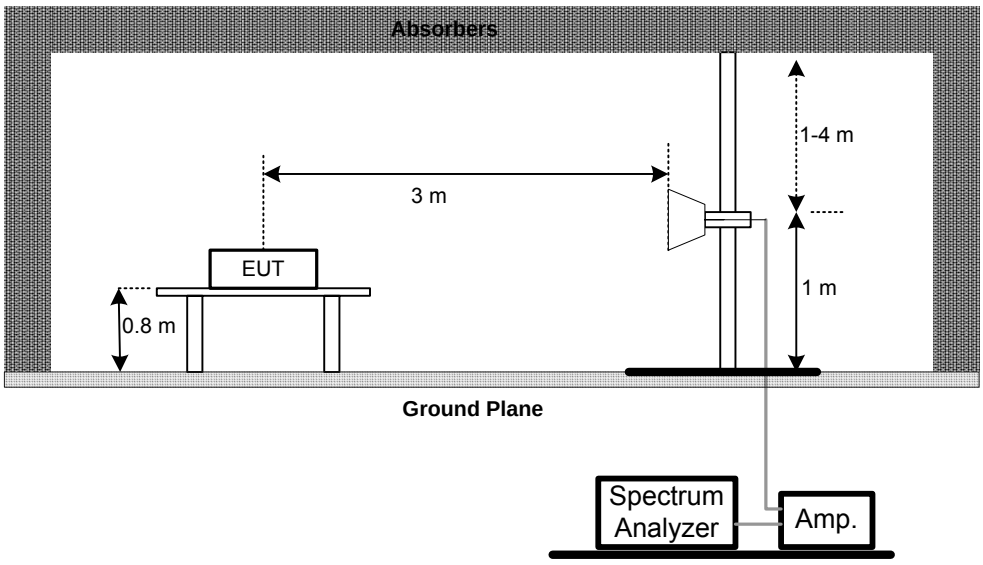
No deviation

4.2.5 TEST SETUP

(A) Radiated Emission Test Set-Up Frequency Below 1 GHz



(B) Radiated Emission Test Set-Up Frequency Above 1 GHz



4.2.6 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.

4.2.7 TEST RESULTS (BETWEEN30 – 1000 MHZ)

EUT：	Cisco Edge 300	Model Name ：	CS-E300-AP-K9
Temperature：	25 ℃	Relative Humidity：	58 %
Pressure：	1010 hPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	TX 2402MHz –CH00-1Mbps (Adapter: PA-1600-2A-LF)		

Freq. (MHz)	Ant. H/V	Reading(RA) (dBuV)	Corr.Factor(CF) (dB)	Measured(FS) (dBuV/m)	Limits(QP) (dBuV/m)	Margin (dB)	Note
41.64	V	52.40	-16.69	35.71	40.00	- 4.29	
278.32	V	45.84	-12.75	33.09	46.00	- 12.91	
499.48	V	37.92	-7.37	30.55	46.00	- 15.45	
604.24	V	38.79	-4.18	34.61	46.00	- 11.39	
625.58	V	40.83	-3.80	37.03	46.00	- 8.97	
668.26	V	45.26	-3.28	41.98	46.00	- 4.02	

Remark：

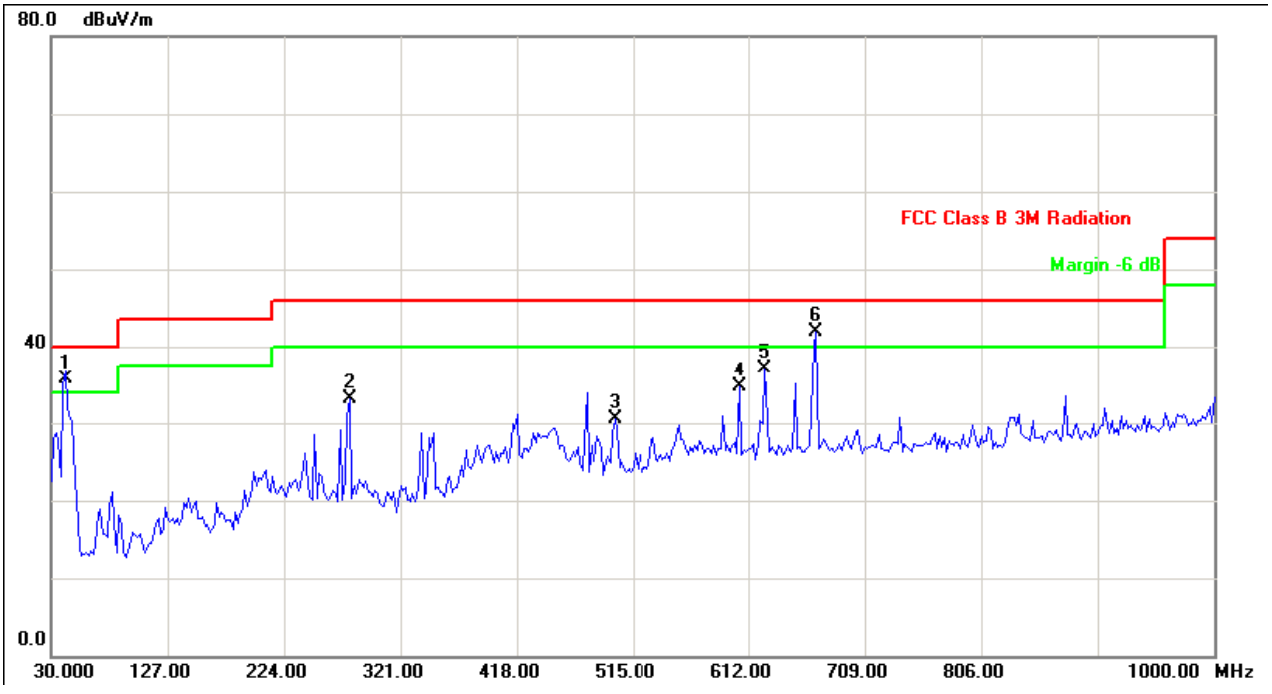
(1) Reading in which marked as QP or Peak means measurements by using are Quasi-Peak Mode or Peak Mode with Detector BW=120KHz ; SPA setting in RBW=120KHz, VBW =120KHz, Swp. Time = 0.3 sec./MHz ◦

(2) Measuring frequency range from 30MHz to 1000MHz ◦

(3) Measured level (dBuV/m)= Raw value (dBuV) + Correction Factor(dB/m).
Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor(dB).
Margin value = Emission level – Limit value.

(4) All readings are Peak unless otherwise stated QP in column of『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform ◦

(5) If the peak scan value lower limit more than 20dB, then this signal data does not show in table ◦



EUT：	Cisco Edge 300	Model Name ：	CS-E300-AP-K9
Temperature：	25 ℃	Relative Humidity：	58 %
Pressure：	1010 hPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	TX 2402MHz –CH00-1Mbps (Adapter: PA-1600-2A-LF)		

Freq. (MHz)	Ant. H/V	Reading(RA) (dBuV)	Corr.Factor(CF) (dB)	Measured(FS) (dBuV/m)	Limits(QP) (dBuV/m)	Margin (dB)	Note
47.46	H	42.11	-17.09	25.02	40.00	- 14.98	
249.22	H	49.41	-14.62	34.79	46.00	- 11.21	
278.32	H	49.24	-12.75	36.49	46.00	- 9.51	
445.16	H	41.04	-8.21	32.83	46.00	- 13.17	
625.58	H	40.37	-3.80	36.57	46.00	- 9.43	
668.26	H	44.16	-3.28	40.88	46.00	- 5.12	

Remark：

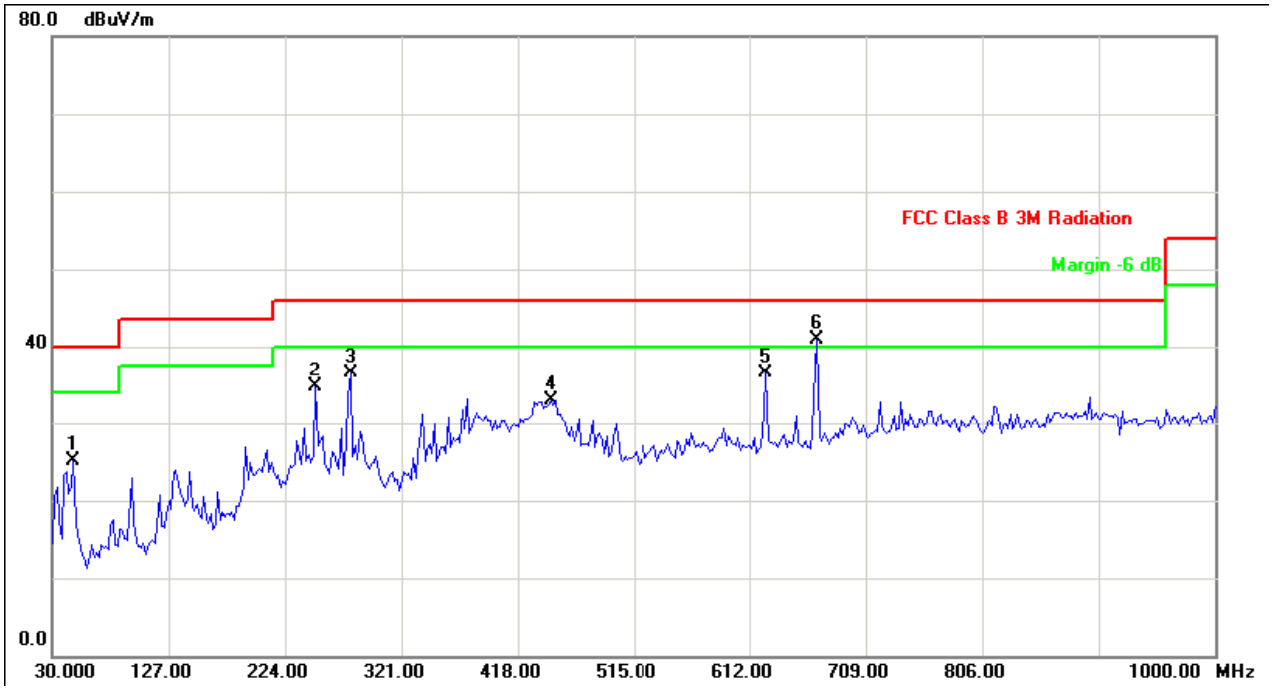
(1) Reading in which marked as QP or Peak means measurements by using are Quasi-Peak Mode or Peak Mode with Detector BW=120KHz；SPA setting in RBW=120KHz, VBW =120KHz, Swp. Time = 0.3 sec./MHz。

(2) Measuring frequency range from 30MHz to 1000MHz。

(3) Measured level (dBuV/m)= Raw value (dBuV) + Correction Factor(dB/m).
Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor(dB).
Margin value = Emission level – Limit value.

(4) All readings are Peak unless otherwise stated QP in column of 『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform。

(5) If the peak scan value lower limit more than 20dB, then this signal data does not show in table。



EUT：	Cisco Edge 300	Model Name ：	CS-E300-AP-K9
Temperature：	25 ℃	Relative Humidity：	58 %
Pressure：	1010 hPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	TX 2441MHz –CH39-1Mbps (Adapter: EADP-60MB B)		

Freq. (MHz)	Ant. H/V	Reading(RA) (dBuV)	Corr.Factor(CF) (dB)	Measured(FS) (dBuV/m)	Limits(QP) (dBuV/m)	Margin (dB)	Note
88.20	V	49.25	-18.91	30.34	43.50	- 13.16	
250.68	V	43.80	-13.12	30.68	46.00	- 15.32	
333.13	V	41.28	-10.62	30.66	46.00	- 15.34	
626.55	V	40.05	-5.40	34.65	46.00	- 11.35	
650.80	V	44.45	-5.34	39.11	46.00	- 6.89	
667.78	V	45.12	-5.21	39.91	46.00	- 6.09	

Remark：

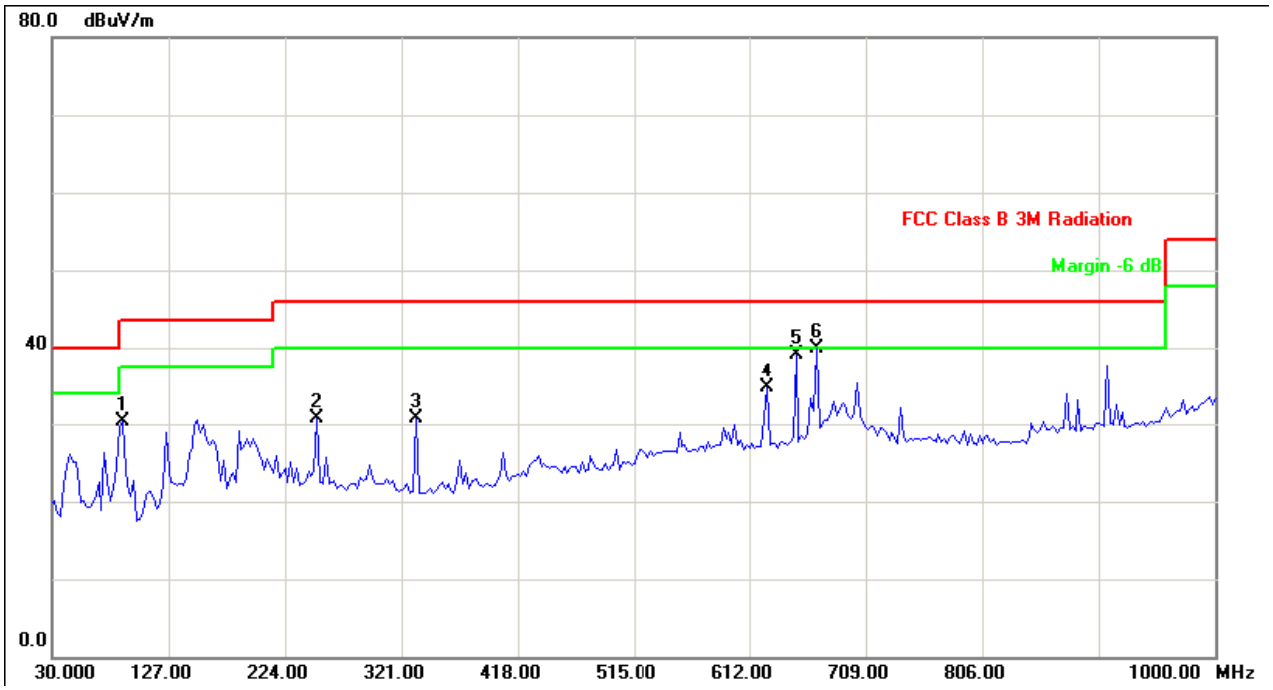
(1) Reading in which marked as QP or Peak means measurements by using are Quasi-Peak Mode or Peak Mode with Detector BW=120KHz；SPA setting in RBW=120KHz, VBW =120KHz, Swp. Time = 0.3 sec./MHz。

(2) Measuring frequency range from 30MHz to 1000MHz。

(3) Measured level (dBuV/m)= Raw value (dBuV) + Correction Factor(dB/m).
Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor(dB).
Margin value = Emission level – Limit value.

(4) All readings are Peak unless otherwise stated QP in column of 『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform。

(5) If the peak scan value lower limit more than 20dB, then this signal data does not show in table。



EUT：	Cisco Edge 300	Model Name ：	CS-E300-AP-K9
Temperature：	25 ℃	Relative Humidity：	58 %
Pressure：	1010 hPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	TX 2441MHz –CH39-1Mbps (Adapter: EADP-60MB B)		

Freq. (MHz)	Ant. H/V	Reading(RA) (dBuV)	Corr.Factor(CF) (dB)	Measured(FS) (dBuV/m)	Limits(QP) (dBuV/m)	Margin (dB)	Note
85.78	H	54.91	-18.84	36.07	40.00	- 3.93	
124.58	H	42.39	-14.86	27.53	43.50	- 15.97	
250.68	H	46.02	-13.12	32.90	46.00	- 13.10	
333.13	H	49.03	-10.62	38.41	46.00	- 7.59	
667.78	H	40.89	-5.21	35.68	46.00	- 10.32	
910.28	H	40.94	-3.45	37.49	46.00	- 8.51	

Remark：

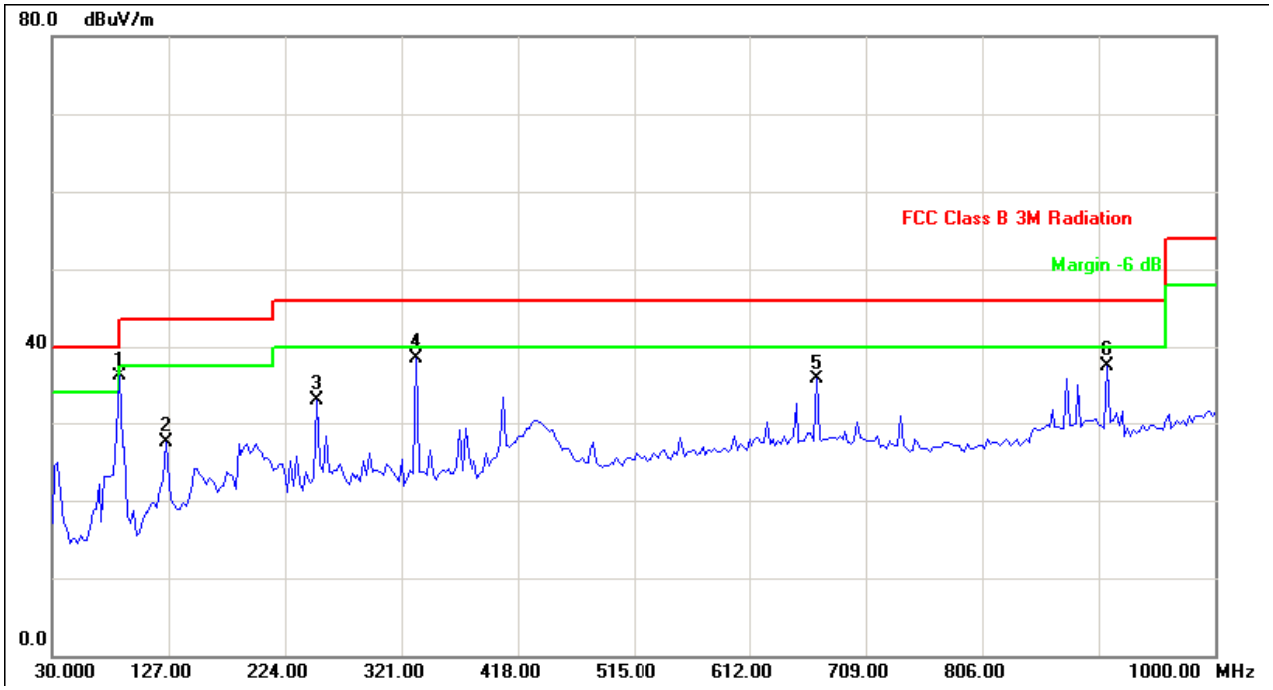
(1) Reading in which marked as QP or Peak means measurements by using are Quasi-Peak Mode or Peak Mode with Detector BW=120KHz；SPA setting in RBW=120KHz, VBW =120KHz, Swp. Time = 0.3 sec./MHz。

(2) Measuring frequency range from 30MHz to 1000MHz。

(3) Measured level (dBuV/m)= Raw value (dBuV) + Correction Factor(dB/m).
Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor(dB).
Margin value = Emission level – Limit value.

(4) All readings are Peak unless otherwise stated QP in column of 『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform。

(5) If the peak scan value lower limit more than 20dB, then this signal data does not show in table。



4.2.8 TEST RESULTS (ABOVE 1000 MHZ)

EUT：	Cisco Edge 300	Model Name ：	CS-E300-AP-K9
Temperature：	25 ℃	Relative Humidity：	58 %
Pressure：	1010 hPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	TX 2402MHz – CH 00-1Mbps		

Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2390.00	V	21.70	10.78	31.91	53.61	42.69	74.00	54.00	X/E
2402.00	**V**	**67.78**	**27.75**	**31.90**	**99.68**	**59.65**			**X/F**
4803.94	V	48.74	35.00	5.21	53.95	40.21	74.00	54.00	X/H

Remark：

(1) All readings are Peak unless otherwise stated QP in column of『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform。

(2) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency。"F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)

(3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

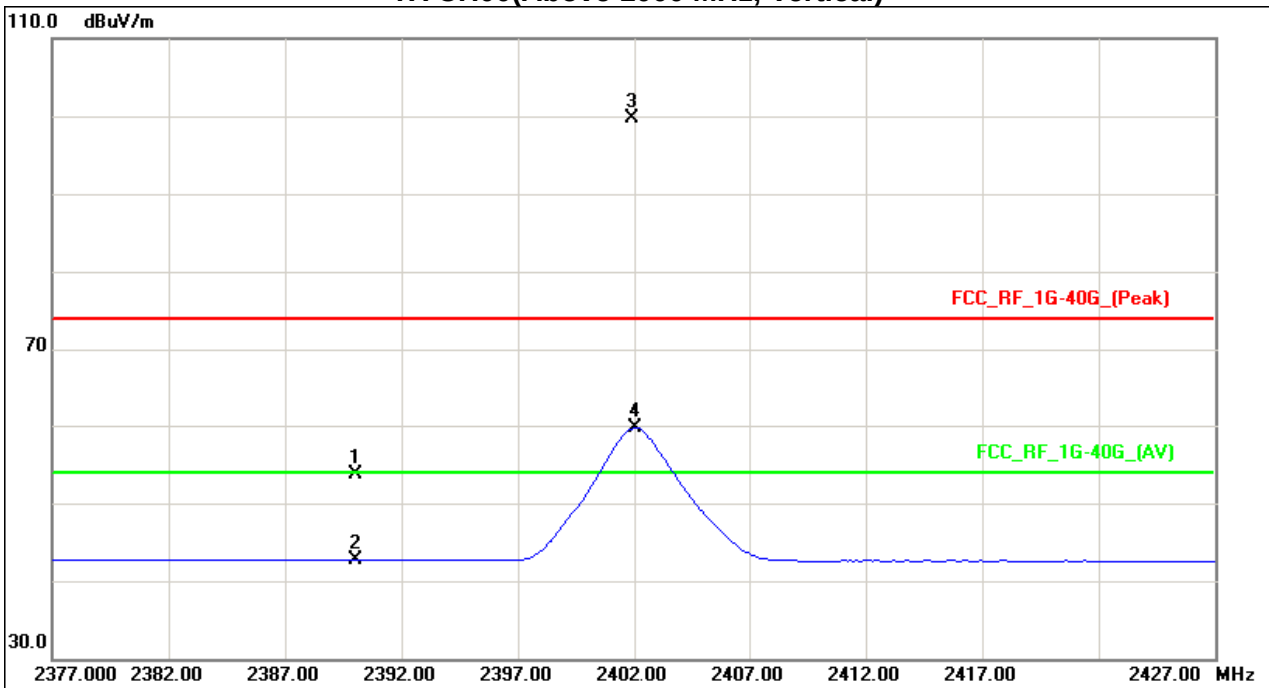
(6) EUT Orthogonal Axis：
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

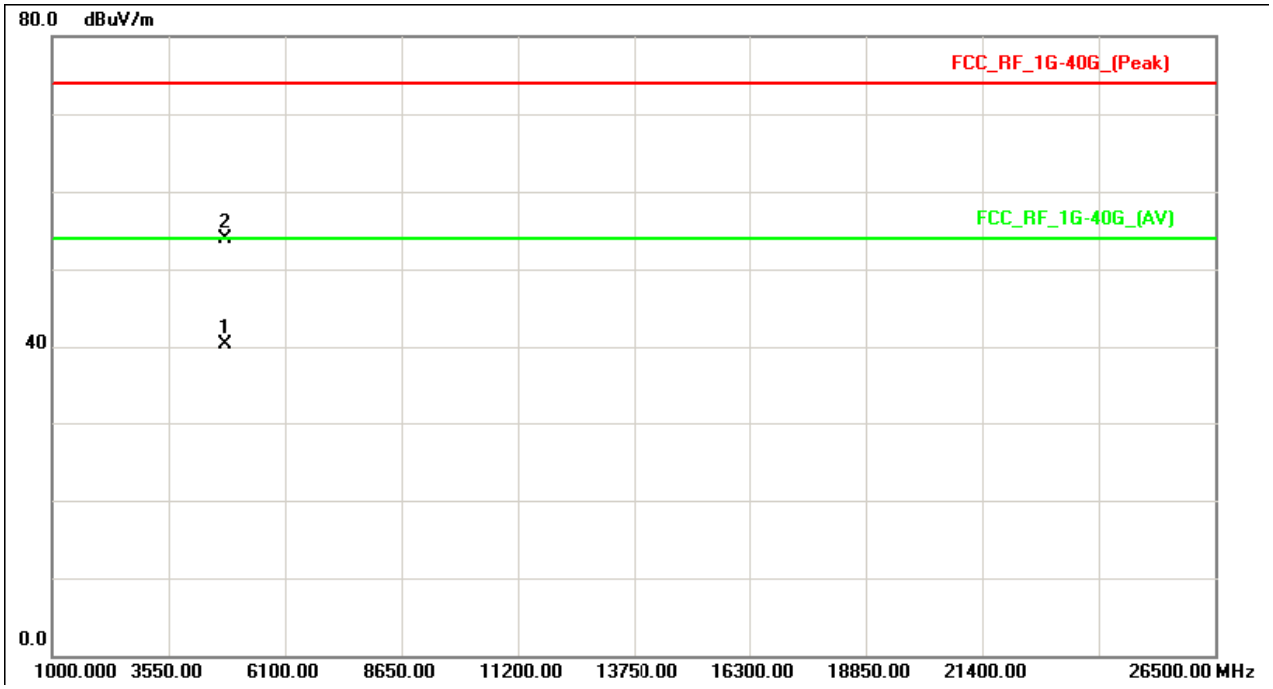
(7) During the measurements above 1 GHz it is taken care of that the EUT is always within the 3 dB cone of radiation BW of the used antenna

(8) Reading in which marked as Peak or AVG means measurements by using are Peak Mode or AVG with Detector BW=1MHz；SPA setting in RBW=1MHz, VBW =1MHz, Swp. Time = 0.3 sec./MHz, AVG Mode with detector BW=1MHz；SPA setting in RBW=1MHz, VBW =10Hz, Swp. Time = 0.3 sec./MHz。

(9) Measured level (dBuV/m)= Raw value (dBuV) + Correction Factor(dB/m).
Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor(dB).
Margin value = Emission level – Limit value.

TX CH00(Above 1000 MHz, Vertical)





EUT：	Cisco Edge 300	Model Name ：	CS-E300-AP-K9
Temperature：	25 ℃	Relative Humidity：	58 %
Pressure：	1010hPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	TX 2402MHz – CH 00-1Mbps		

Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2390.00	H	22.87	10.87	31.91	54.78	42.78	74.00	54.00	X/E
2402.10	**H**	**65.23**	**27.28**	**31.90**	**97.13**	**59.18**			**X/F**
4804.02	H	45.56	32.57	5.21	50.77	37.78	74.00	54.00	X/H

Remark：

(1) All readings are Peak unless otherwise stated QP in column of『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform。

(2) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency。"F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)

(3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

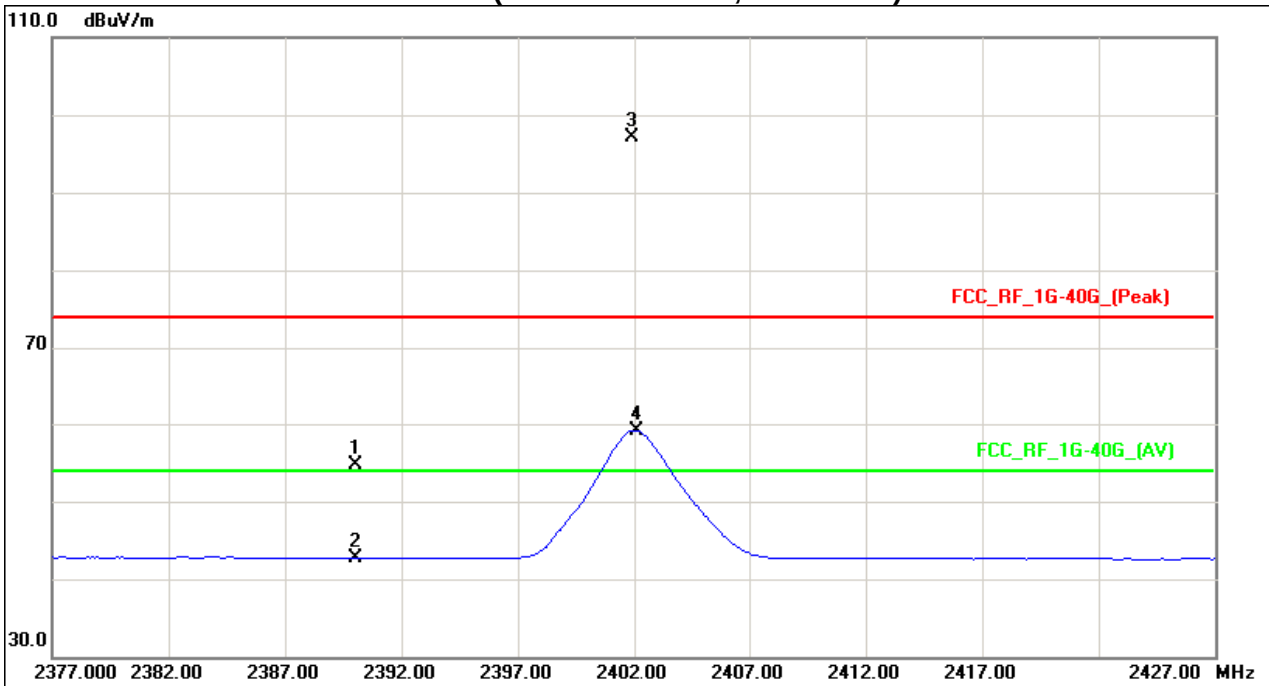
(6) EUT Orthogonal Axis：
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

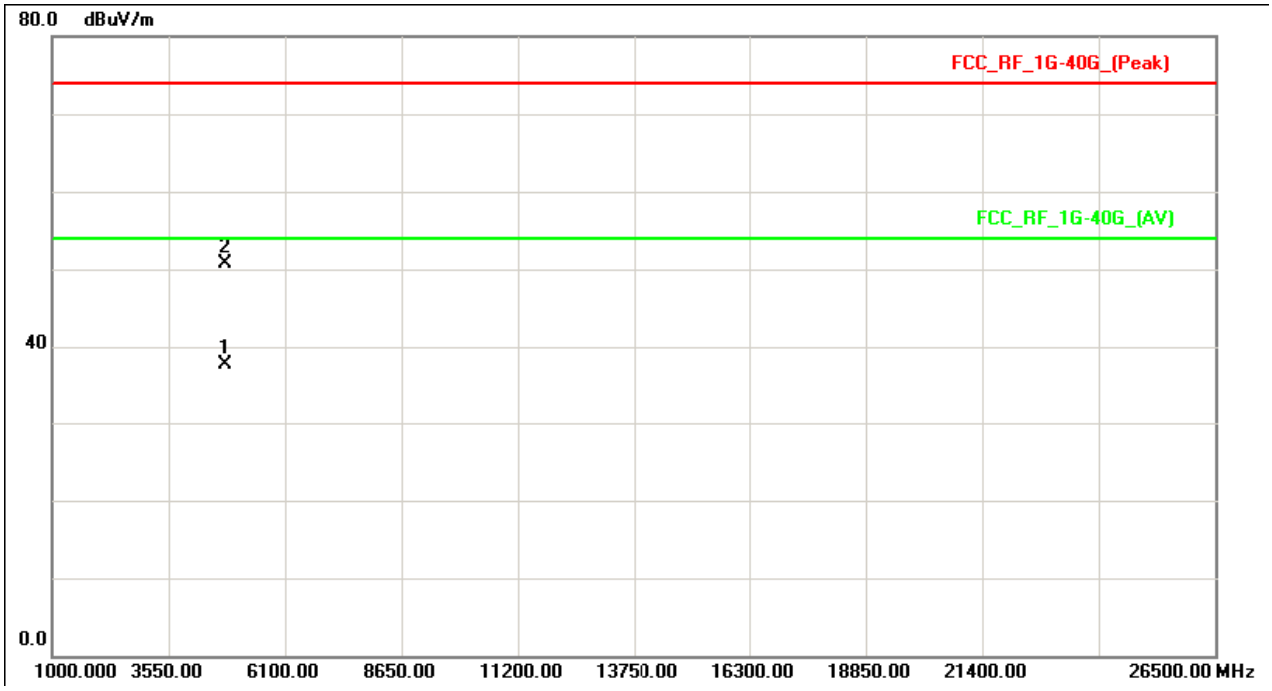
(7) During the measurements above 1 GHz it is taken care of that the EUT is always within the 3 dB cone of radiation BW of the used antenna

(8) Reading in which marked as Peak or AVG means measurements by using are Peak Mode or AVG with Detector BW=1MHz；SPA setting in RBW=1MHz, VBW =1MHz, Swp. Time = 0.3 sec./MHz, AVG Mode with detector BW=1MHz；SPA setting in RBW=1MHz, VBW =10Hz, Swp. Time = 0.3 sec./MHz。

(9) Measured level (dBuV/m)= Raw value (dBuV) + Correction Factor(dB/m).
Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor(dB).
Margin value = Emission level – Limit value.

TX CH00(Above 1000 MHz, Horizontal)





EUT：	Cisco Edge 300	Model Name ：	CS-E300-AP-K9
Temperature：	25 ℃	Relative Humidity：	58 %
Pressure：	1010 hPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	TX 2441MHz –CH39-1Mbps		

Freq.	Ant.Pol.	Reading		Ant/CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2440.90	**V**	**69.07**	**28.70**	**31.85**	**100.92**	**60.55**			**X/F**
4882.02	V	51.21	35.14	5.50	56.71	40.64	74.00	54.00	X/H

Remark：

(1) All readings are Peak unless otherwise stated QP in column of『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform。

(2) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency。"F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)

(3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

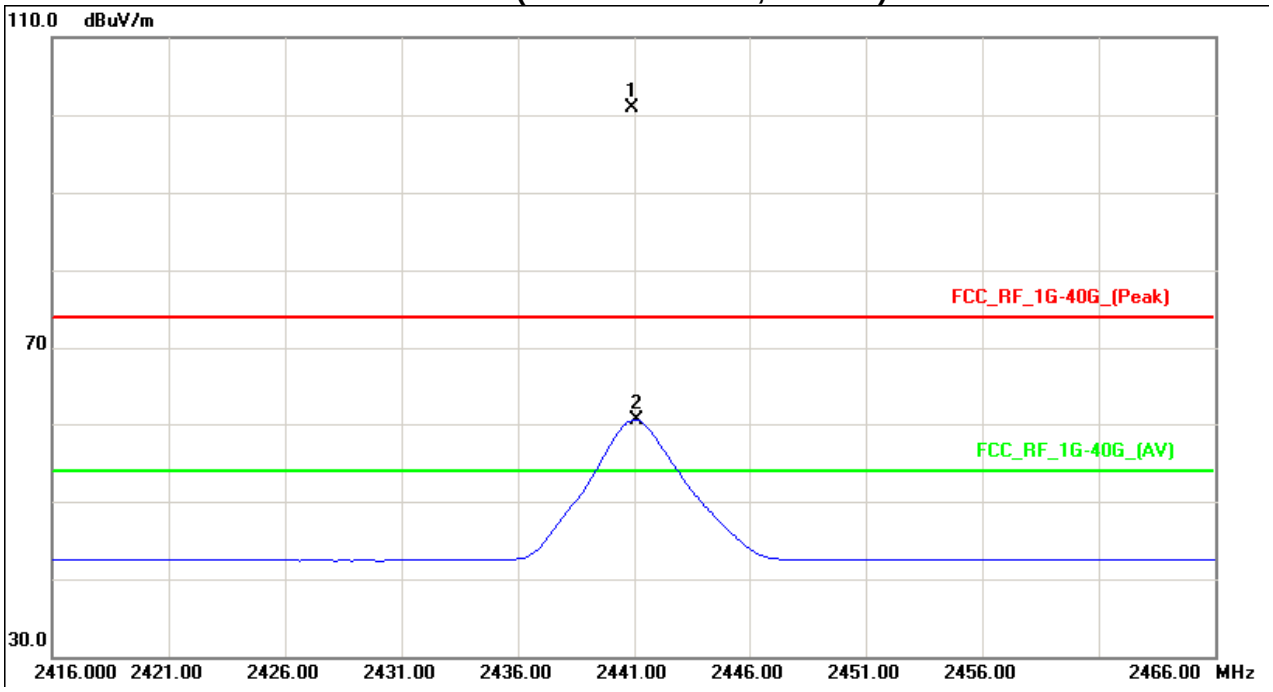
(6) EUT Orthogonal Axis：
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

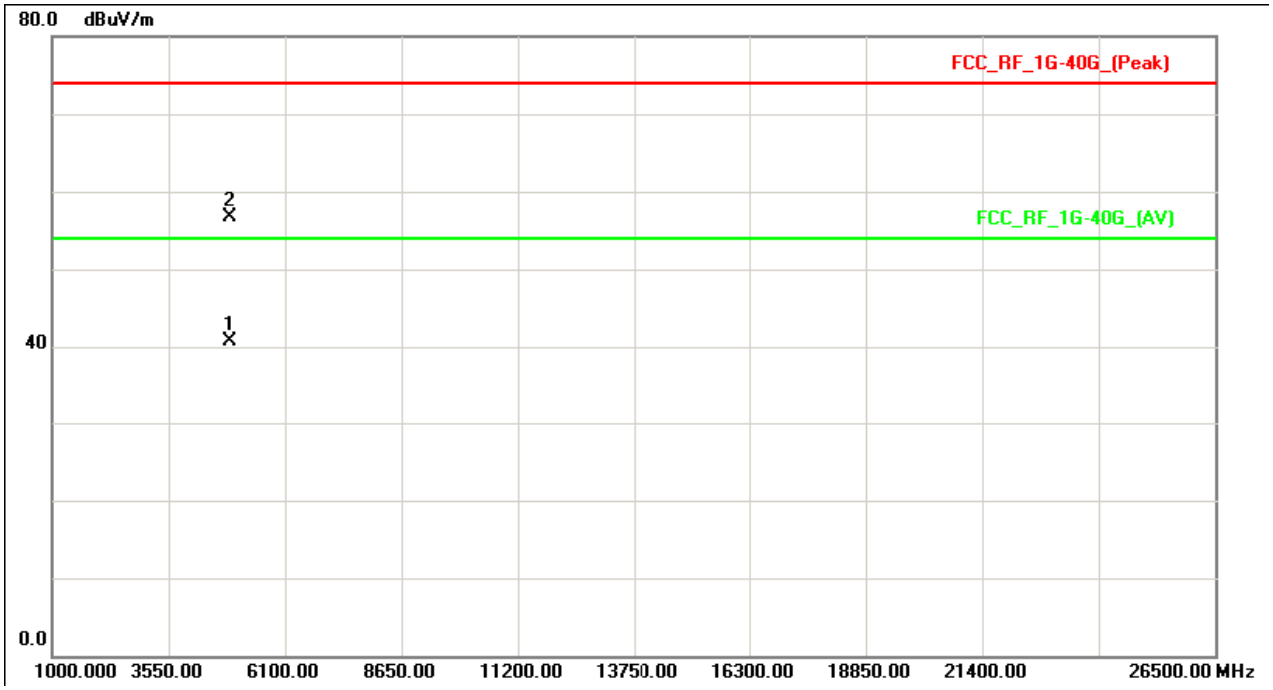
(7) During the measurements above 1 GHz it is taken care of that the EUT is always within the 3 dB cone of radiation BW of the used antenna

(8) Reading in which marked as Peak or AVG means measurements by using are Peak Mode or AVG with Detector BW=1MHz；SPA setting in RBW=1MHz, VBW =1MHz, Swp. Time = 0.3 sec./MHz, AVG Mode with detector BW=1MHz；SPA setting in RBW=1MHz, VBW =10Hz, Swp. Time = 0.3 sec./MHz。

(9) Measured level (dBuV/m)= Raw value (dBuV) + Correction Factor(dB/m).
Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor(dB).
Margin value = Emission level – Limit value.

TX CH39 (Above 1000 MHz, Vertical)





EUT：	Cisco Edge 300	Model Name ：	CS-E300-AP-K9
Temperature：	25 ℃	Relative Humidity：	58 %
Pressure：	1010 hPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	TX 2441MHz –CH39-1Mbps		

Freq.	Ant.Pol.	Reading		Ant/CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2440.90	**H**	**64.38**	**27.14**	**31.85**	**96.23**	**58.99**			**X/F**
4882.12	H	45.73	33.03	5.50	51.23	38.53	74.00	54.00	X/H

Remark：

(1) All readings are Peak unless otherwise stated QP in column of『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform。

(2) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency。"F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)

(3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

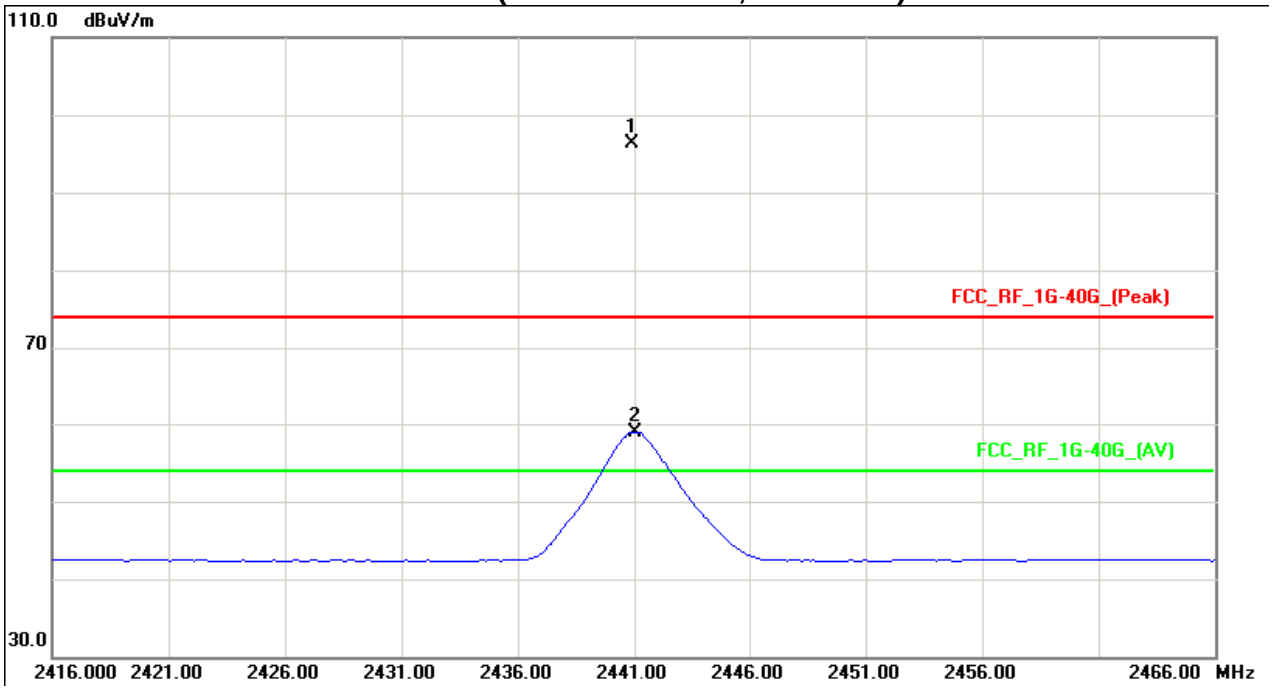
(6) EUT Orthogonal Axis：
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

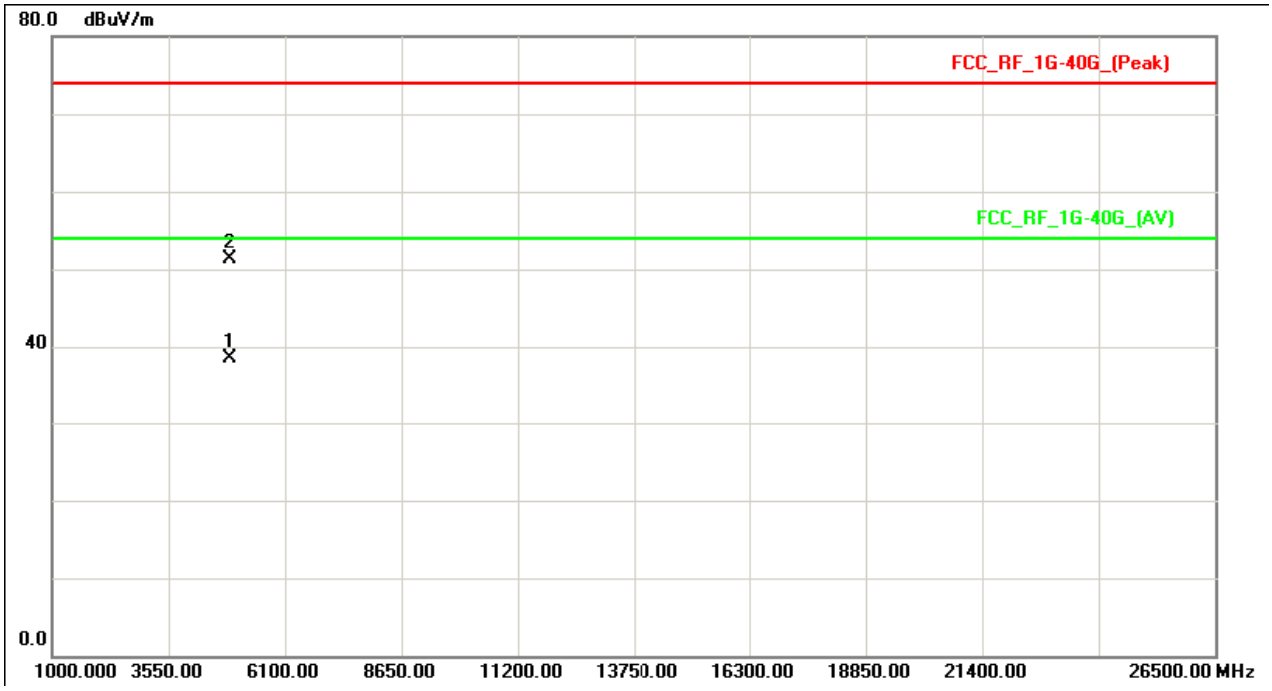
(7) During the measurements above 1 GHz it is taken care of that the EUT is always within the 3 dB cone of radiation BW of the used antenna

(8) Reading in which marked as Peak or AVG means measurements by using are Peak Mode or AVG with Detector BW=1MHz；SPA setting in RBW=1MHz, VBW =1MHz, Swp. Time = 0.3 sec./MHz, AVG Mode with detector BW=1MHz；SPA setting in RBW=1MHz, VBW =10Hz, Swp. Time = 0.3 sec./MHz。

(9) Measured level (dBuV/m)= Raw value (dBuV) + Correction Factor(dB/m).
Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor(dB).
Margin value = Emission level – Limit value.

TX CH39 (Above 1000 MHz, Horizontal)





EUT：	Cisco Edge 300	Model Name ：	CS-E300-AP-K9
Temperature：	25 ℃	Relative Humidity：	58 %
Pressure：	1010hPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	TX 2480MHz –CH78-1Mbps		

Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2480.00	**V**	**67.53**	**28.23**	**31.80**	**99.33**	**60.03**			**X/F**
2483.50	V	29.28	15.69	31.80	61.08	47.49	74.00	54.00	X/E
4960.10	V	49.44	34.04	5.78	55.22	39.82	74.00	54.00	X/H

Remark：

(1) All readings are Peak unless otherwise stated QP in column of『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform。

(2) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency。"F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)

(3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

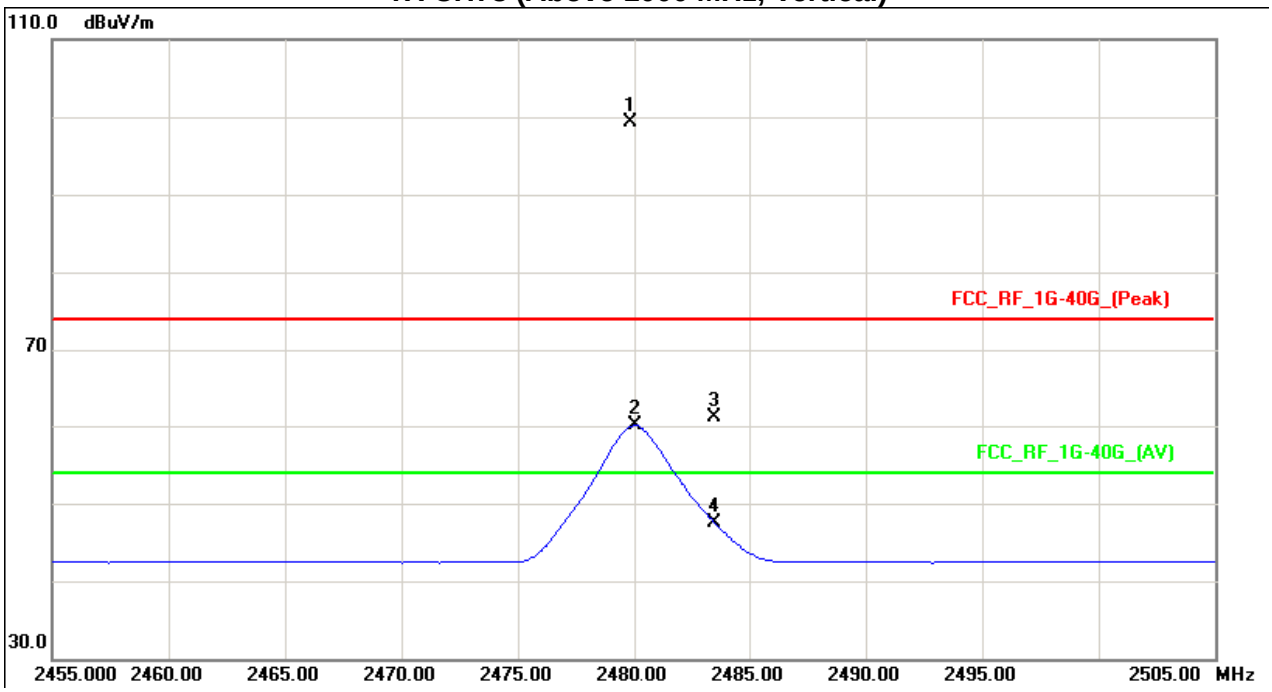
(6) EUT Orthogonal Axis：
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

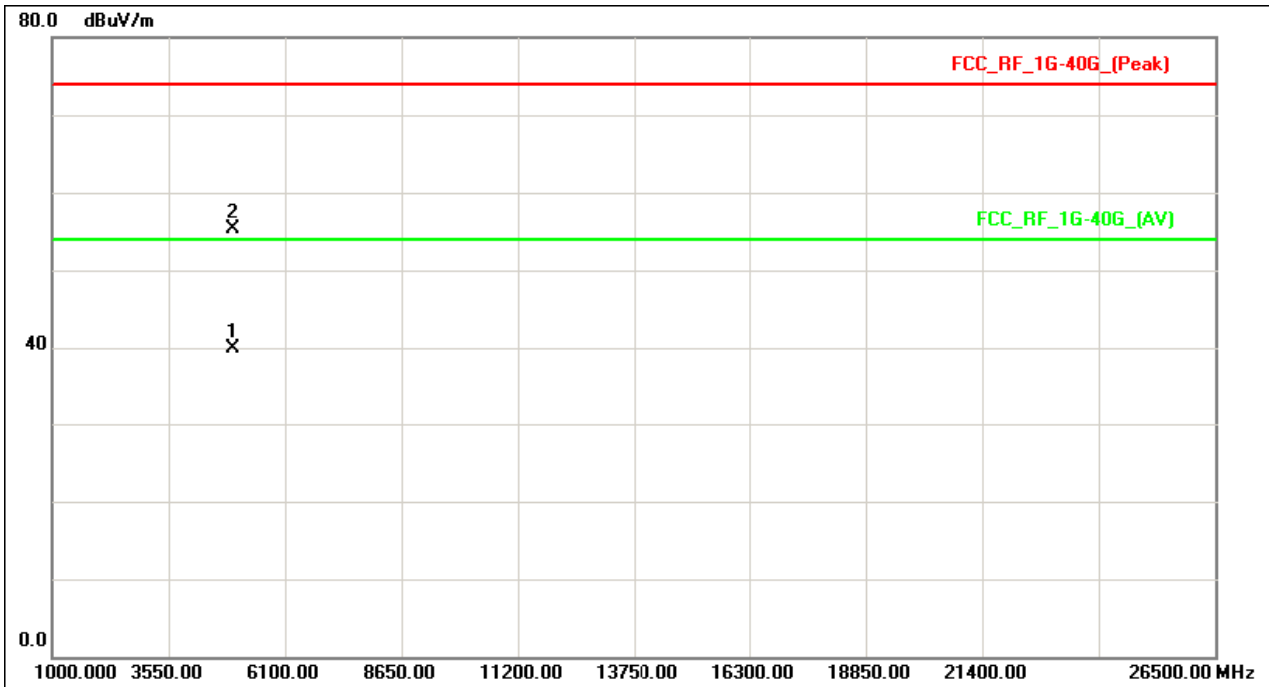
(7) During the measurements above 1 GHz it is taken care of that the EUT is always within the 3 dB cone of radiation BW of the used antenna

(8) Reading in which marked as Peak or AVG means measurements by using are Peak Mode or AVG with Detector BW=1MHz；SPA setting in RBW=1MHz, VBW =1MHz, Swp. Time = 0.3 sec./MHz, AVG Mode with detector BW=1MHz；SPA setting in RBW=1MHz, VBW =10Hz, Swp. Time = 0.3 sec./MHz。

(9) Measured level (dBuV/m)= Raw value (dBuV) + Correction Factor(dB/m).
Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor(dB).
Margin value = Emission level – Limit value.

TX CH78 (Above 1000 MHz, Vertical)





EUT：	Cisco Edge 300	Model Name ：	CS-E300-AP-K9
Temperature：	25 ℃	Relative Humidity：	58 %
Pressure：	1010 hPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	TX 2480MHz –CH78-1Mbps		

Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2480.00	**H**	**64.65**	**27.32**	**31.80**	**96.45**	**59.12**			**X/F**
2483.50	H	26.78	14.81	31.80	58.58	46.61	74.00	54.00	X/E
4960.05	H	46.48	34.34	5.78	52.26	40.12	74.00	54.00	X/H

Remark：

(1) All readings are Peak unless otherwise stated QP in column of『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform。

(2) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency。"F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)

(3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

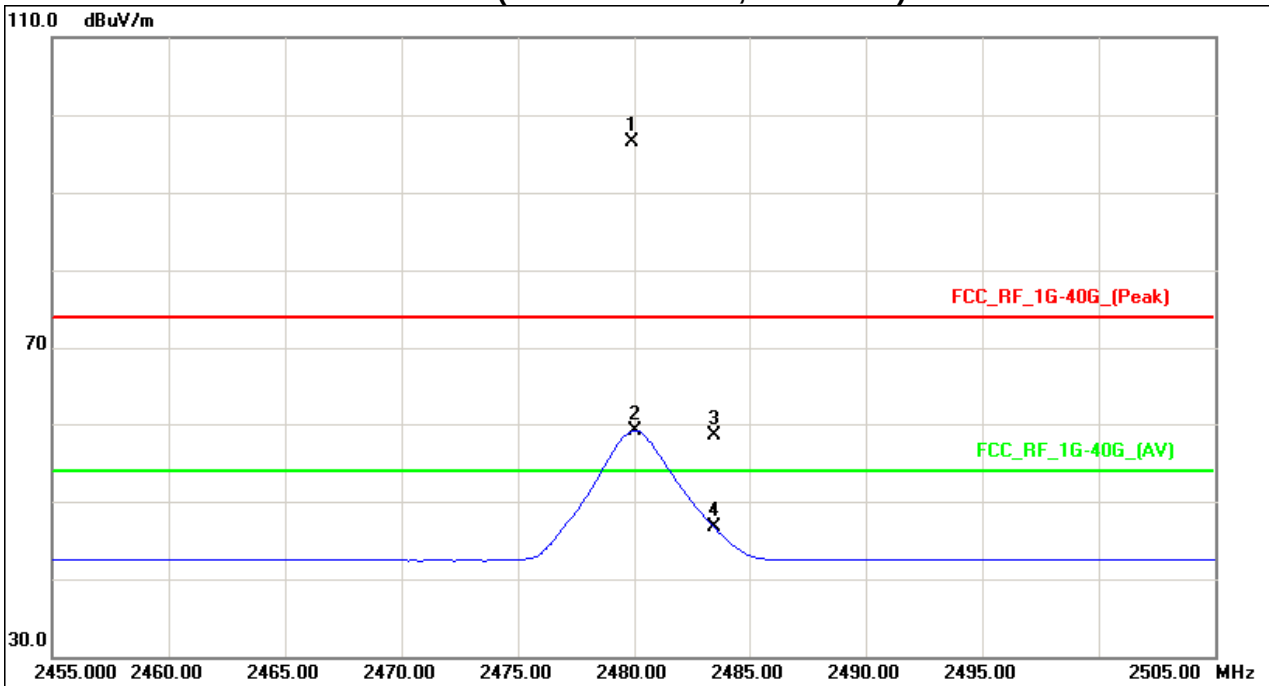
(6) EUT Orthogonal Axis：
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

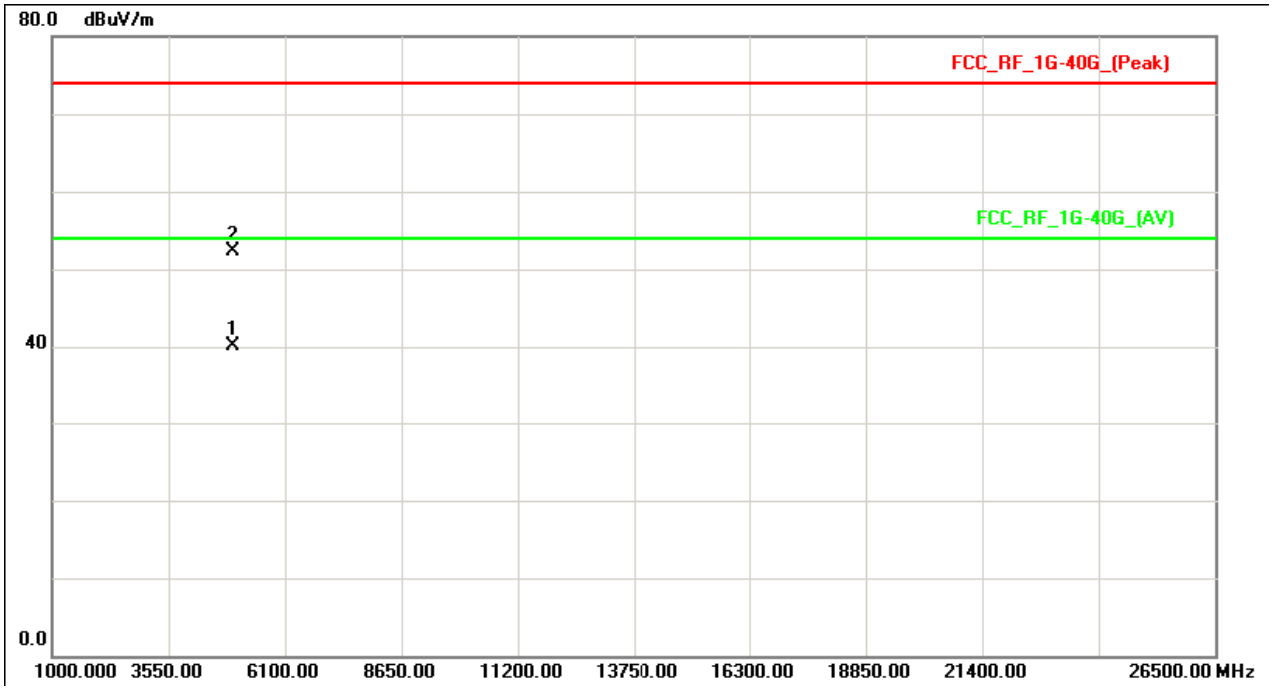
(7) During the measurements above 1 GHz it is taken care of that the EUT is always within the 3 dB cone of radiation BW of the used antenna

(8) Reading in which marked as Peak or AVG means measurements by using are Peak Mode or AVG with Detector BW=1MHz；SPA setting in RBW=1MHz, VBW =1MHz, Swp. Time = 0.3 sec./MHz, AVG Mode with detector BW=1MHz；SPA setting in RBW=1MHz, VBW =10Hz, Swp. Time = 0.3 sec./MHz。

(9) Measured level (dBuV/m)= Raw value (dBuV) + Correction Factor(dB/m).
Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor(dB).
Margin value = Emission level – Limit value.

TX CH78 (Above 1000 MHz, Horizontal)





EUT：	Cisco Edge 300	Model Name ：	CS-E300-AP-K9
Temperature：	25 ℃	Relative Humidity：	58 %
Pressure：	1010 hPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	TX 2402MHz – CH 00-3Mbps		

Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2390.00	V	23.68	10.79	31.91	55.59	42.70	74.00	54.00	X/E
2402.00	**V**	**68.24**	**28.25**	**31.90**	**100.14**	**60.15**			**X/F**
4803.98	V	47.86	33.67	5.21	53.07	38.88	74.00	54.00	X/H

Remark：

(1) All readings are Peak unless otherwise stated QP in column of『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform。

(2) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency。"F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)

(3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

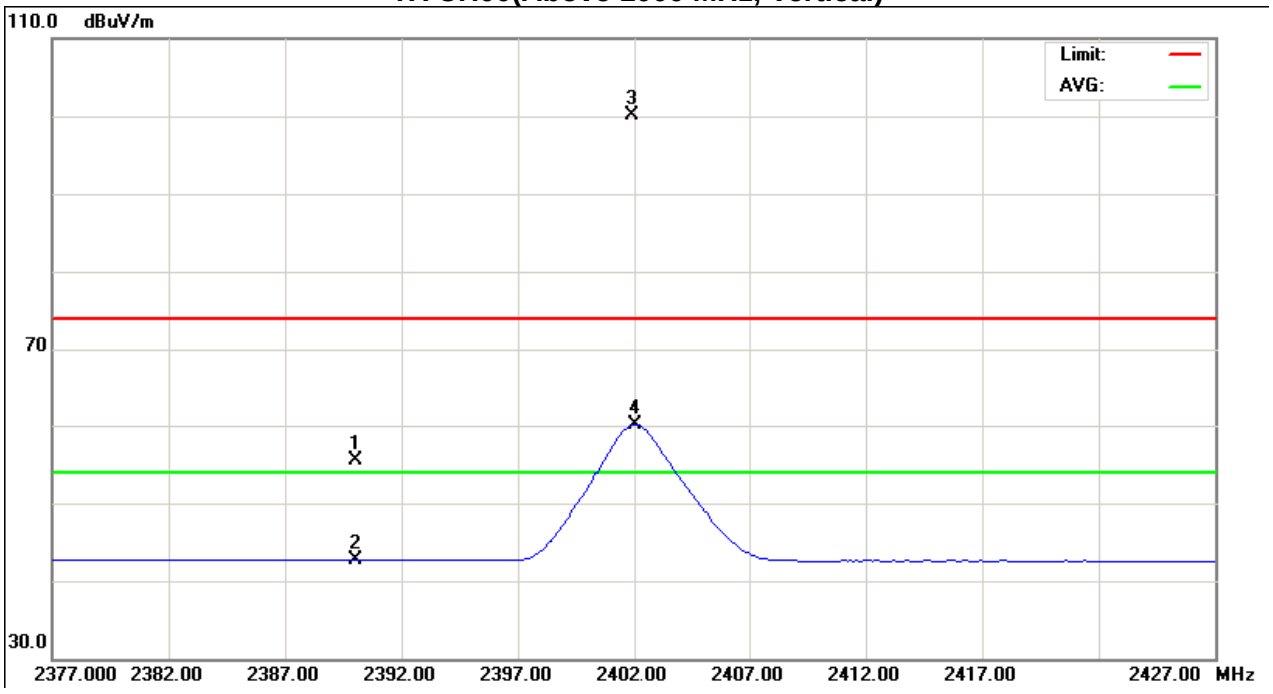
(6) EUT Orthogonal Axis：
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

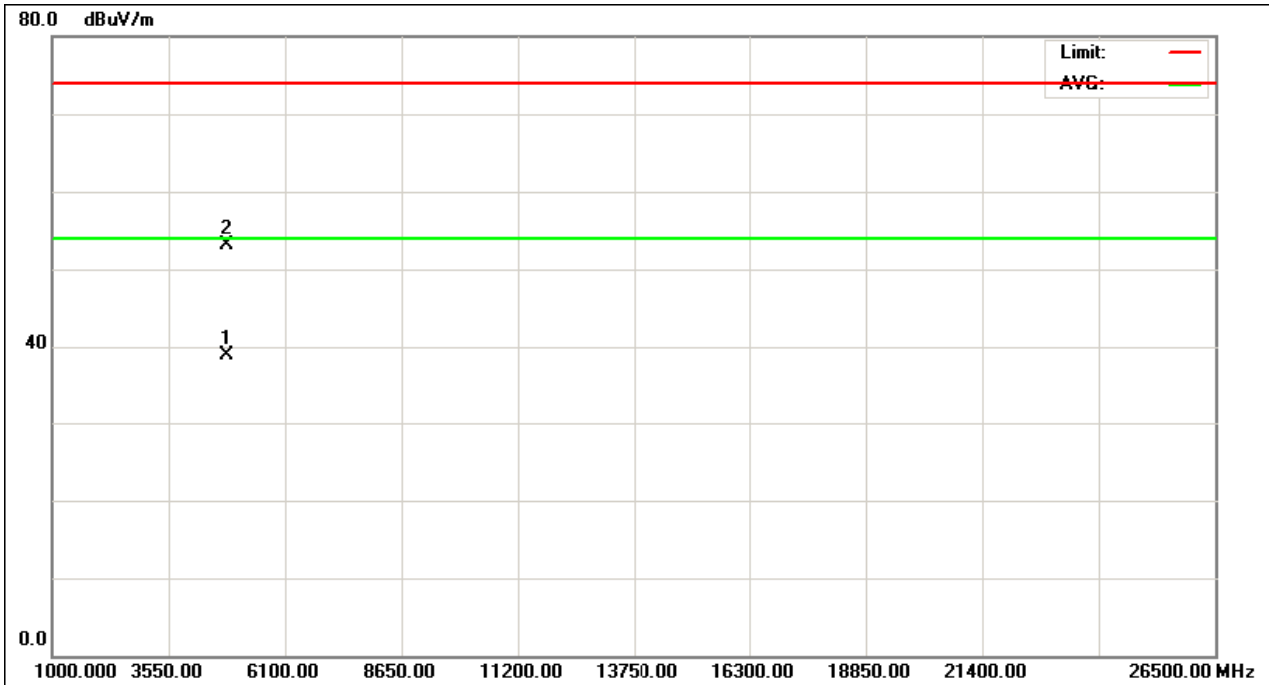
(7) During the measurements above 1 GHz it is taken care of that the EUT is always within the 3 dB cone of radiation BW of the used antenna

(8) Reading in which marked as Peak or AVG means measurements by using are Peak Mode or AVG with Detector BW=1MHz；SPA setting in RBW=1MHz, VBW =1MHz, Swp. Time = 0.3 sec./MHz, AVG Mode with detector BW=1MHz；SPA setting in RBW=1MHz, VBW =10Hz, Swp. Time = 0.3 sec./MHz。

(9) Measured level (dBuV/m)= Raw value (dBuV) + Correction Factor(dB/m).
Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor(dB).
Margin value = Emission level – Limit value.

TX CH00(Above 1000 MHz, Vertical)





EUT：	Cisco Edge 300	Model Name ：	CS-E300-AP-K9
Temperature：	25 ℃	Relative Humidity：	58 %
Pressure：	1010hPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	TX 2402MHz – CH 00-3Mbps		

Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2390.00	H	22.93	10.89	31.91	54.84	42.80	74.00	54.00	X/E
2402.10	**H**	**65.85**	**27.78**	**31.90**	**97.75**	**59.68**			**X/F**
4804.24	H	47.60	32.67	5.21	52.81	37.88	74.00	54.00	X/H

Remark：

(1) All readings are Peak unless otherwise stated QP in column of『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform。

(2) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency。"F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)

(3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

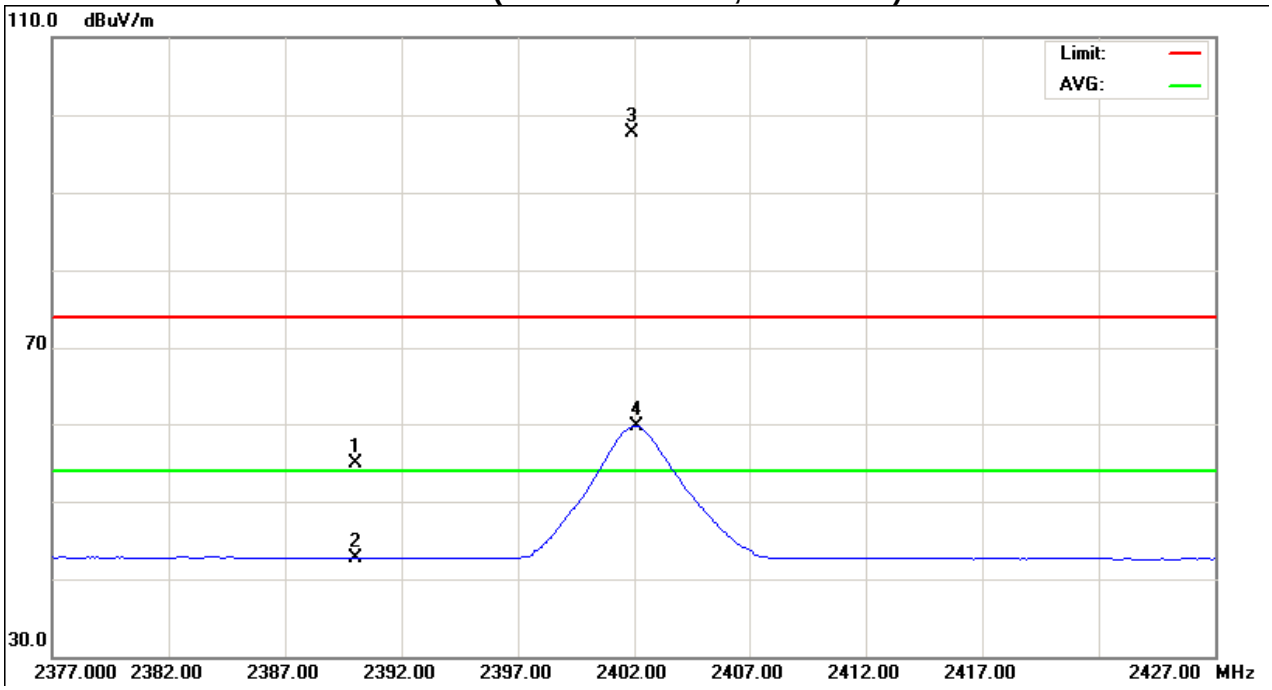
(6) EUT Orthogonal Axis：
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

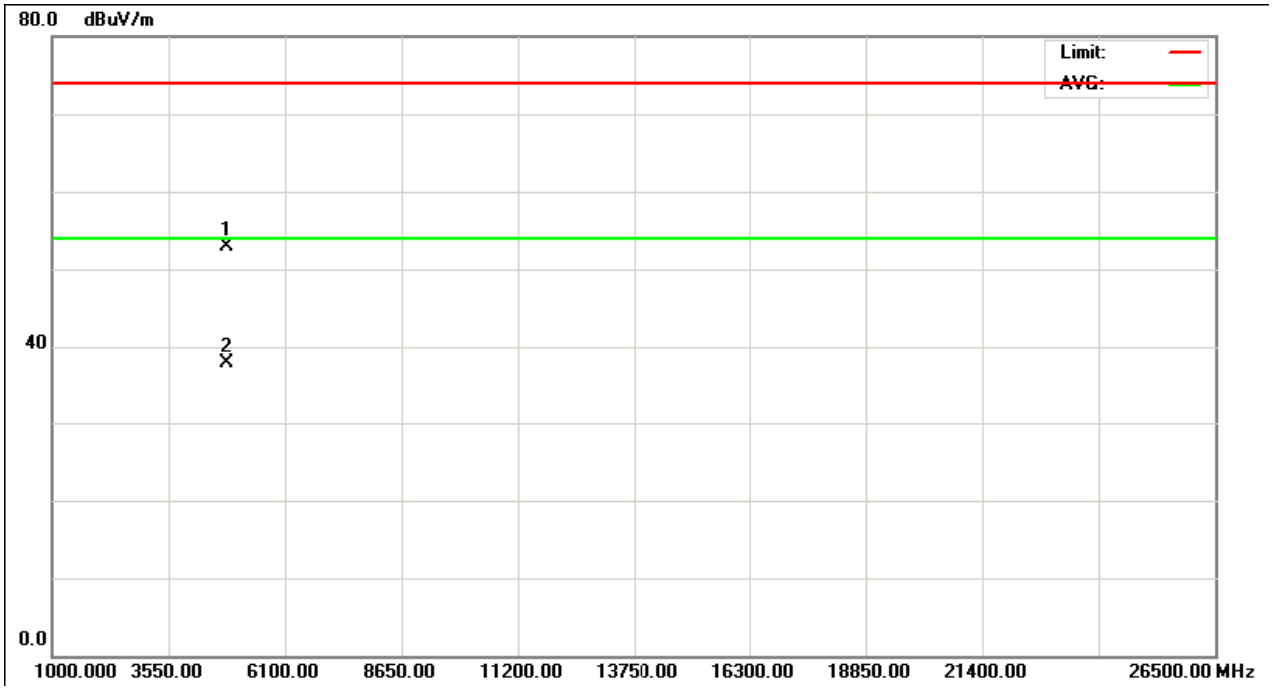
(7) During the measurements above 1 GHz it is taken care of that the EUT is always within the 3 dB cone of radiation BW of the used antenna

(8) Reading in which marked as Peak or AVG means measurements by using are Peak Mode or AVG with Detector BW=1MHz；SPA setting in RBW=1MHz, VBW =1MHz, Swp. Time = 0.3 sec./MHz, AVG Mode with detector BW=1MHz；SPA setting in RBW=1MHz, VBW =10Hz, Swp. Time = 0.3 sec./MHz。

(9) Measured level (dBuV/m)= Raw value (dBuV) + Correction Factor(dB/m).
Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor(dB).
Margin value = Emission level – Limit value.

TX CH00(Above 1000 MHz, Horizontal)





EUT：	Cisco Edge 300	Model Name ：	CS-E300-AP-K9
Temperature：	25 ℃	Relative Humidity：	58 %
Pressure：	1010 hPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	TX 2441MHz –CH39-3Mbps		

Freq.	Ant.Pol.	Reading		Ant/CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2440.90	**V**	**69.24**	**29.20**	**31.85**	**101.09**	**61.05**			**X/F**
4882.02	V	49.27	35.03	5.50	54.77	40.53	74.00	54.00	X/H

Remark：

(1) All readings are Peak unless otherwise stated QP in column of『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform。

(2) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency。"F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)

(3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

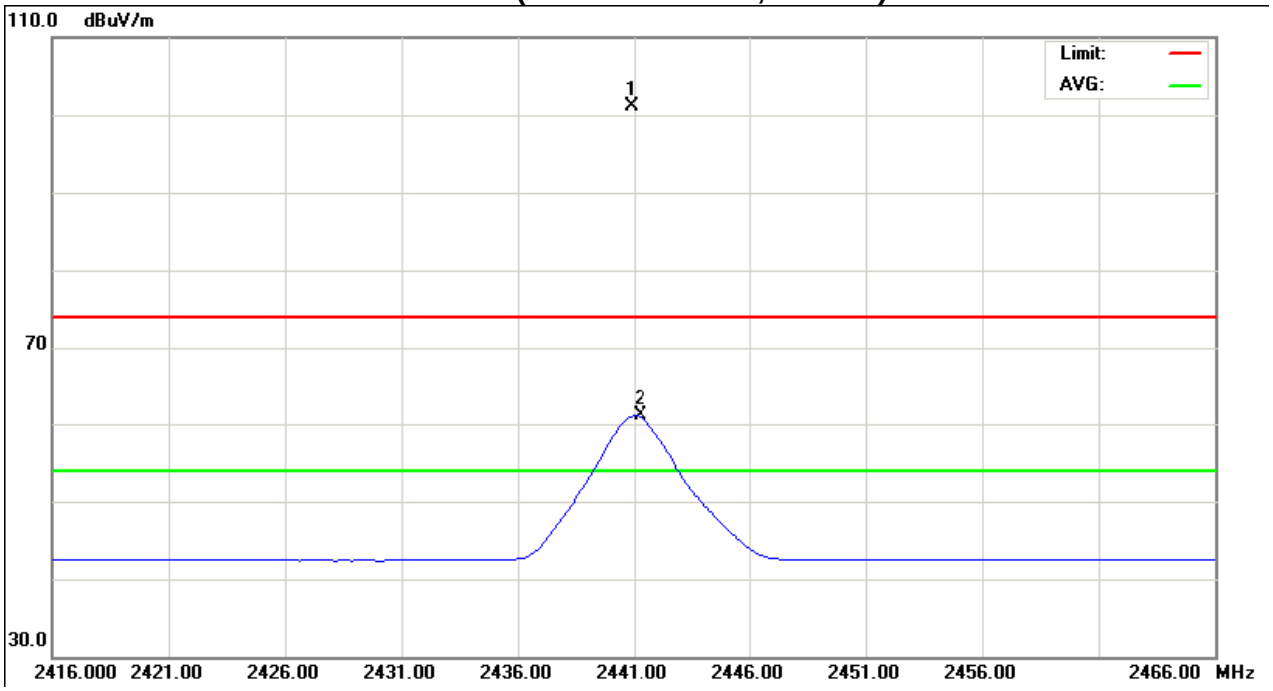
(6) EUT Orthogonal Axis：
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

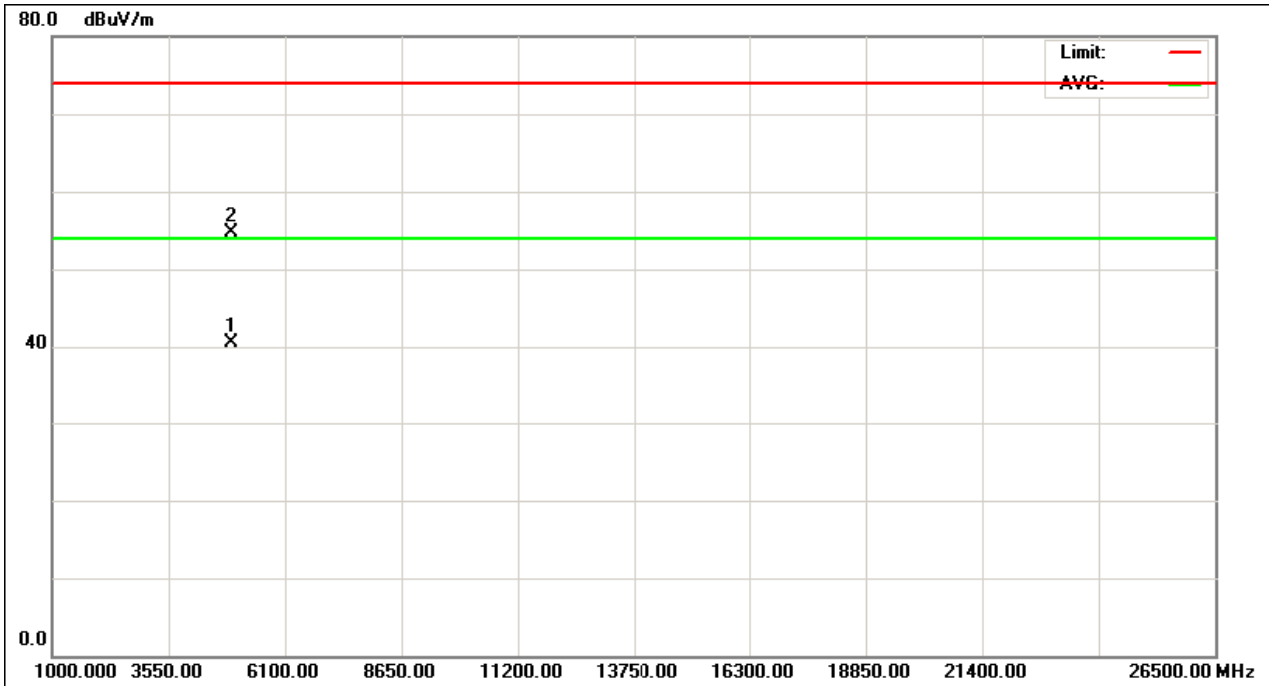
(7) During the measurements above 1 GHz it is taken care of that the EUT is always within the 3 dB cone of radiation BW of the used antenna

(8) Reading in which marked as Peak or AVG means measurements by using are Peak Mode or AVG with Detector BW=1MHz；SPA setting in RBW=1MHz, VBW =1MHz, Swp. Time = 0.3 sec./MHz, AVG Mode with detector BW=1MHz；SPA setting in RBW=1MHz, VBW =10Hz, Swp. Time = 0.3 sec./MHz。

(9) Measured level (dBuV/m)= Raw value (dBuV) + Correction Factor(dB/m).
Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor(dB).
Margin value = Emission level – Limit value.

TX CH39 (Above 1000 MHz, Vertical)





EUT：	Cisco Edge 300	Model Name ：	CS-E300-AP-K9
Temperature：	25 ℃	Relative Humidity：	58 %
Pressure：	1010 hPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	TX 2441MHz –CH39-3Mbps		

Freq.	Ant.Pol.	Reading		Ant/CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2440.92	**H**	**64.78**	**27.64**	**31.85**	**96.63**	**59.49**			**X/F**
4882.06	H	46.82	34.71	5.50	52.32	40.21	74.00	54.00	X/H

Remark：

(1) All readings are Peak unless otherwise stated QP in column of『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform。

(2) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency。"F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)

(3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

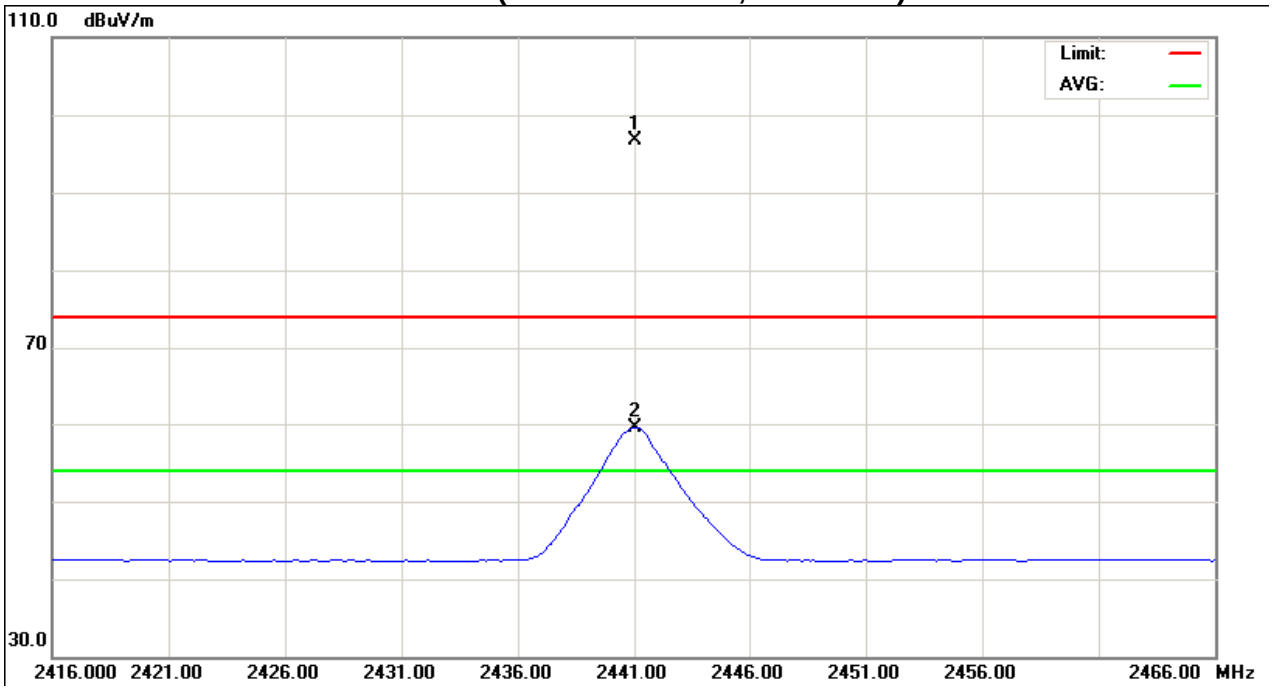
(6) EUT Orthogonal Axis：
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

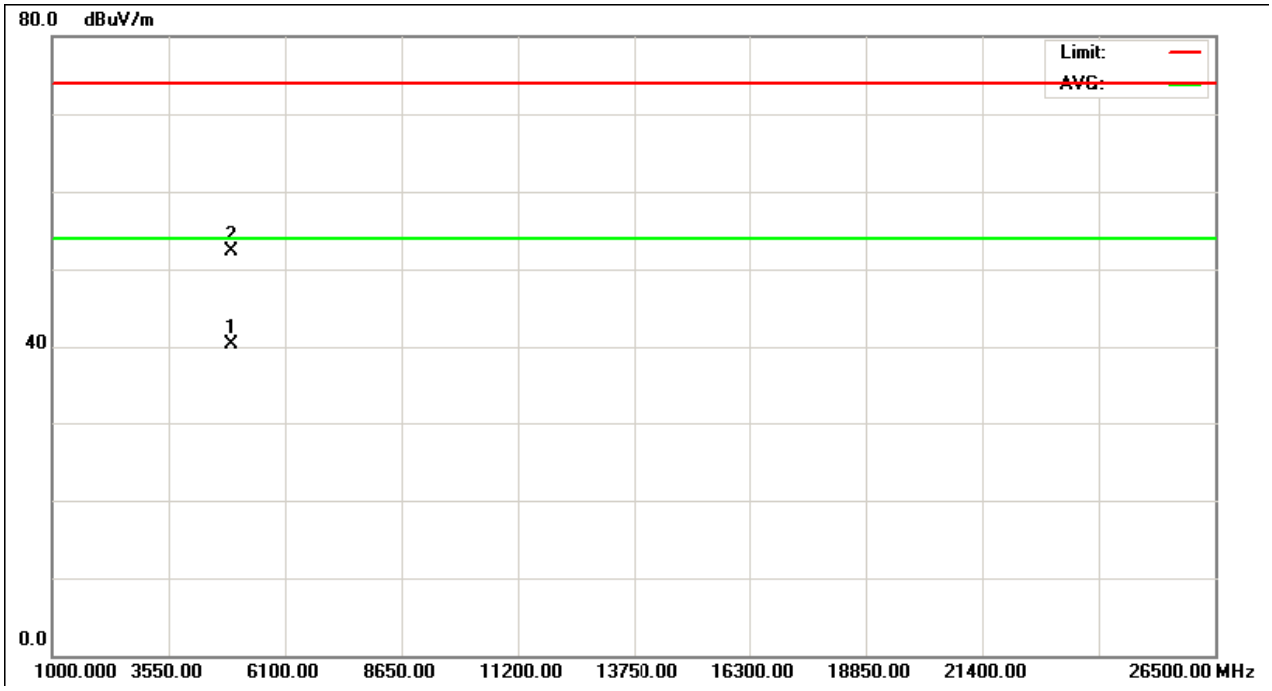
(7) During the measurements above 1 GHz it is taken care of that the EUT is always within the 3 dB cone of radiation BW of the used antenna

(8) Reading in which marked as Peak or AVG means measurements by using are Peak Mode or AVG with Detector BW=1MHz；SPA setting in RBW=1MHz, VBW =1MHz, Swp. Time = 0.3 sec./MHz, AVG Mode with detector BW=1MHz；SPA setting in RBW=1MHz, VBW =10Hz, Swp. Time = 0.3 sec./MHz。

(9) Measured level (dBuV/m)= Raw value (dBuV) + Correction Factor(dB/m).
Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor(dB).
Margin value = Emission level – Limit value.

TX CH39 (Above 1000 MHz, Horizontal)





EUT：	Cisco Edge 300	Model Name ：	CS-E300-AP-K9
Temperature：	25 ℃	Relative Humidity：	58 %
Pressure：	1010hPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	TX 2480MHz –CH78-3Mbps		

Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2480.00	**V**	**68.86**	**28.23**	**31.80**	**100.66**	**60.03**			**X/F**
2483.50	V	29.28	15.69	31.80	61.08	47.49	74.00	54.00	X/E
4960.13	V	48.86	33.62	5.78	54.64	39.40	74.00	54.00	X/H

Remark：

(1) All readings are Peak unless otherwise stated QP in column of『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform。

(2) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency。"F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)

(3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

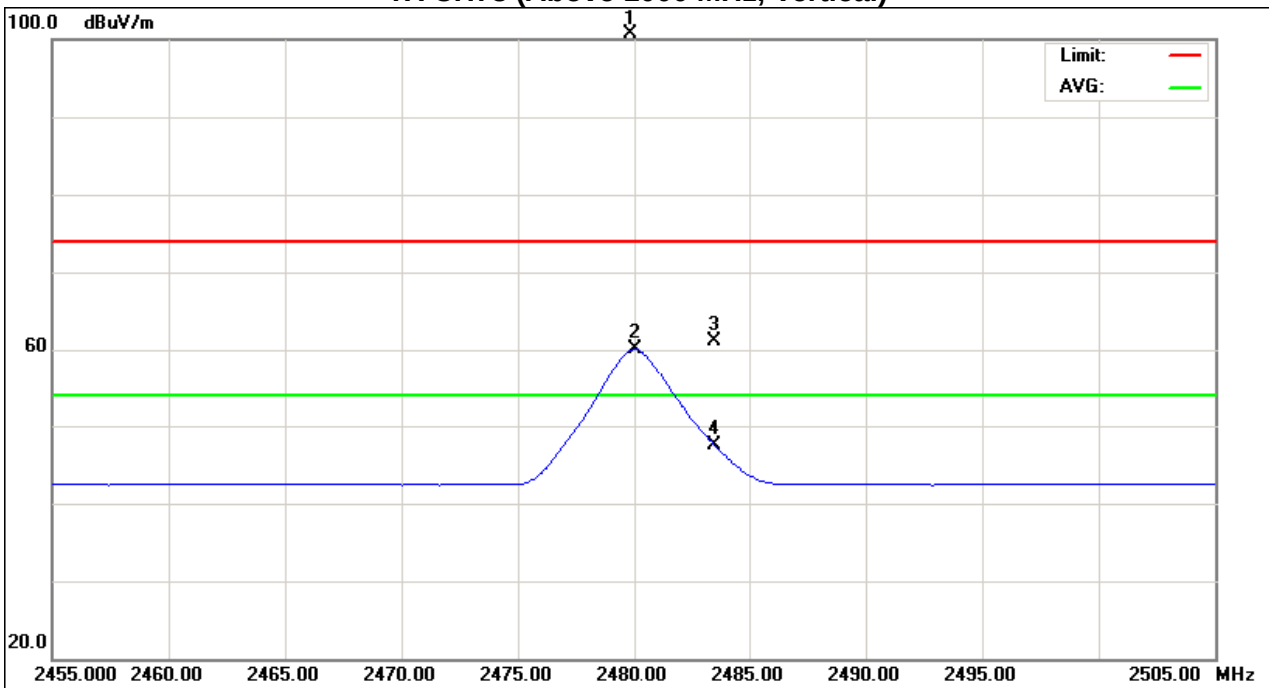
(6) EUT Orthogonal Axis：
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

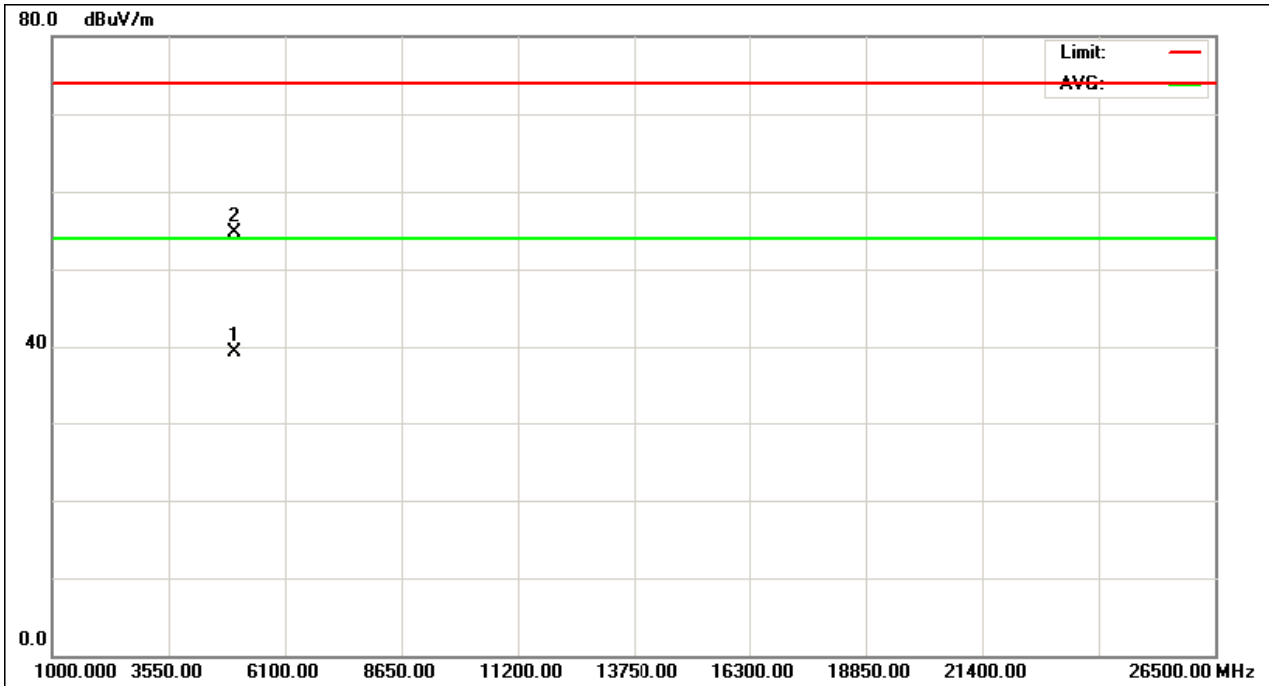
(7) During the measurements above 1 GHz it is taken care of that the EUT is always within the 3 dB cone of radiation BW of the used antenna

(8) Reading in which marked as Peak or AVG means measurements by using are Peak Mode or AVG with Detector BW=1MHz；SPA setting in RBW=1MHz, VBW =1MHz, Swp. Time = 0.3 sec./MHz, AVG Mode with detector BW=1MHz；SPA setting in RBW=1MHz, VBW =10Hz, Swp. Time = 0.3 sec./MHz。

(9) Measured level (dBuV/m)= Raw value (dBuV) + Correction Factor(dB/m).
Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor(dB).
Margin value = Emission level – Limit value.

TX CH78 (Above 1000 MHz, Vertical)





EUT：	Cisco Edge 300	Model Name ：	CS-E300-AP-K9
Temperature：	25 ℃	Relative Humidity：	58 %
Pressure：	1010 hPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	TX 2480MHz –CH78-3Mbps		

Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2480.00	**H**	**64.65**	**27.82**	**31.80**	**96.45**	**59.62**			**X/F**
2483.50	H	27.89	14.80	31.80	59.69	46.60	74.00	54.00	X/E
4960.23	H	47.38	35.25	5.78	53.16	41.03	74.00	54.00	X/H

Remark：

(1) All readings are Peak unless otherwise stated QP in column of『Note』. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform。

(2) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency。"F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)

(3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

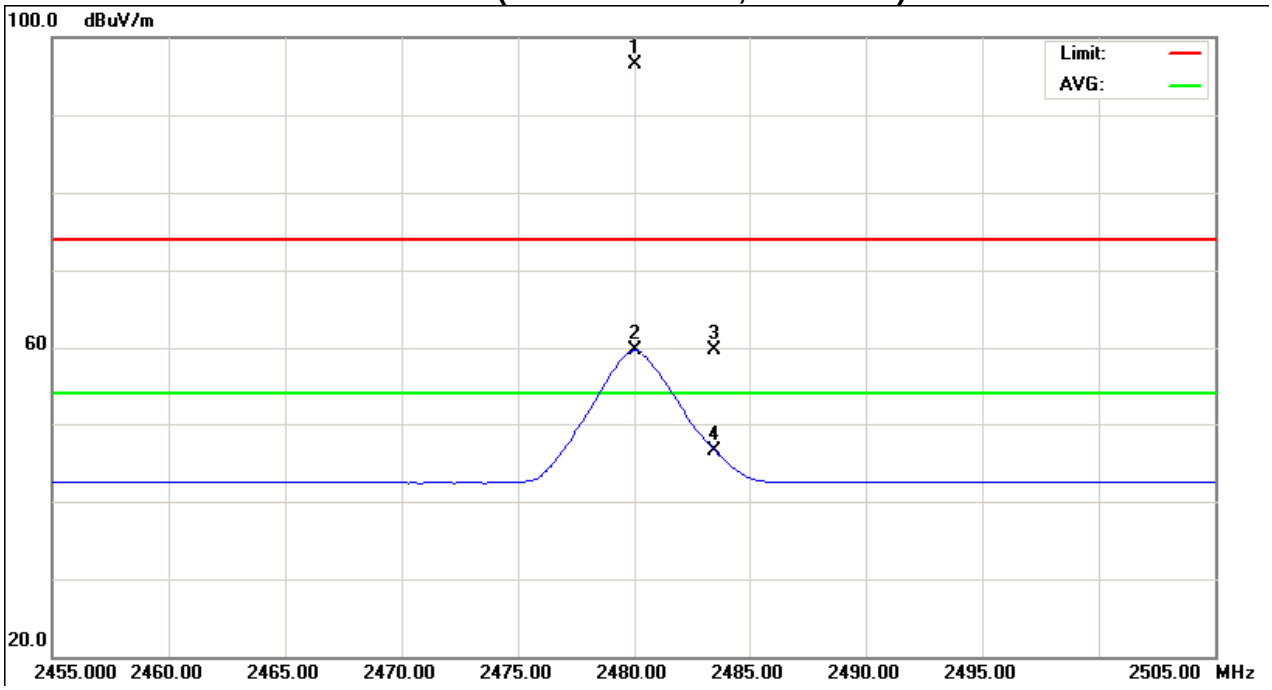
(6) EUT Orthogonal Axis：
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

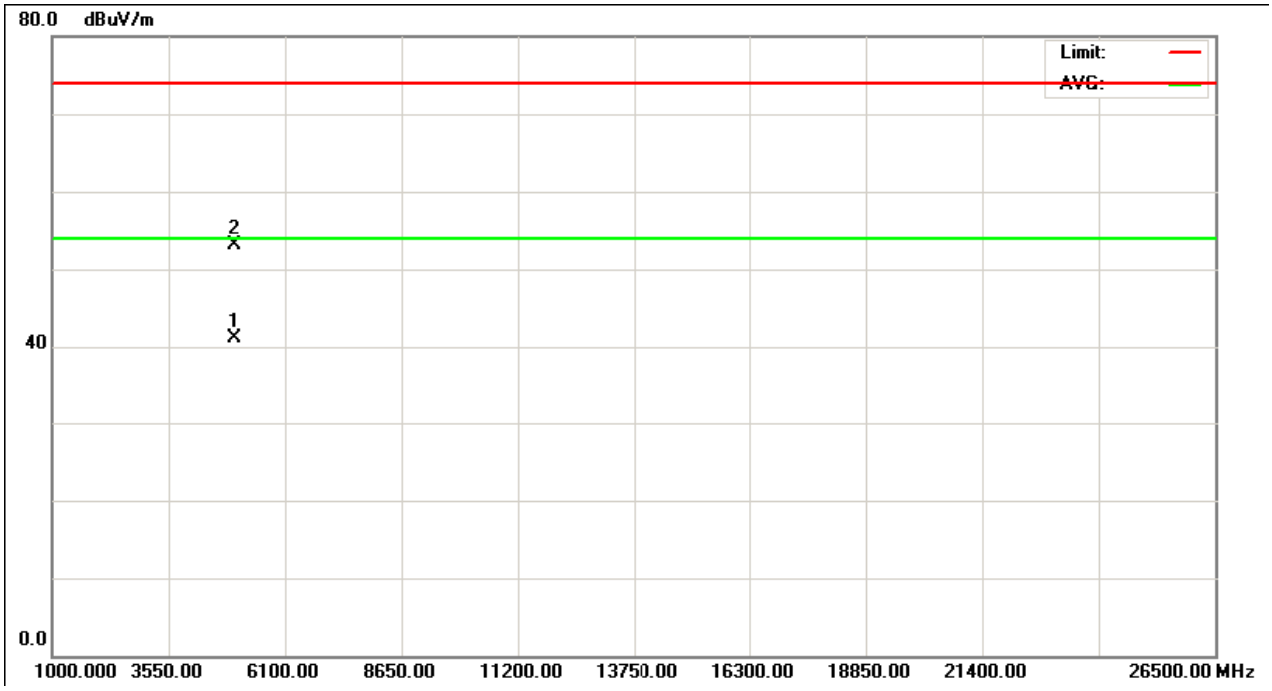
(7) During the measurements above 1 GHz it is taken care of that the EUT is always within the 3 dB cone of radiation BW of the used antenna

(8) Reading in which marked as Peak or AVG means measurements by using are Peak Mode or AVG with Detector BW=1MHz；SPA setting in RBW=1MHz, VBW =1MHz, Swp. Time = 0.3 sec./MHz, AVG Mode with detector BW=1MHz；SPA setting in RBW=1MHz, VBW =10Hz, Swp. Time = 0.3 sec./MHz。

(9) Measured level (dBuV/m)= Raw value (dBuV) + Correction Factor(dB/m).
Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor(dB).
Margin value = Emission level – Limit value.

TX CH78 (Above 1000 MHz, Horizontal)





5. NUMBER OF HOPPING CHANNEL

5.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C			
Section	Test Item	Frequency Range (MHz)	Result
15.247 (a)(1)(iii)	Number of Hopping Channel	2400-2483.5	PASS

5.1.1 MEASUREMENT INSTRUMENTS LIST AND SETTING

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP 40	100185	Nov.26.2011

Remark: ” N/A” denotes No Model Name , Serial No. or No Calibration specified.

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

Spectrum Parameters	Setting
Attenuation	Auto
Span Frequency	> Operating Frequency Range
RB	100 kHz
VB	100 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

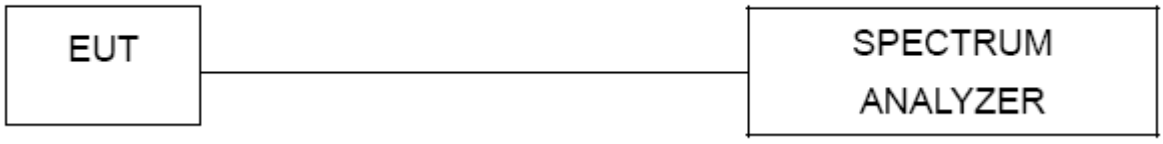
5.1.2 TEST PROCEDURE

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
b. Spectrum Setting : RBW= 100KHz, VBW=100KHz, Sweep time = Auto.

5.1.3 DEVIATION FROM STANDARD

No deviation.

5.1.4 TEST SETUP



5.1.5 EUT OPERATION CONDITIONS

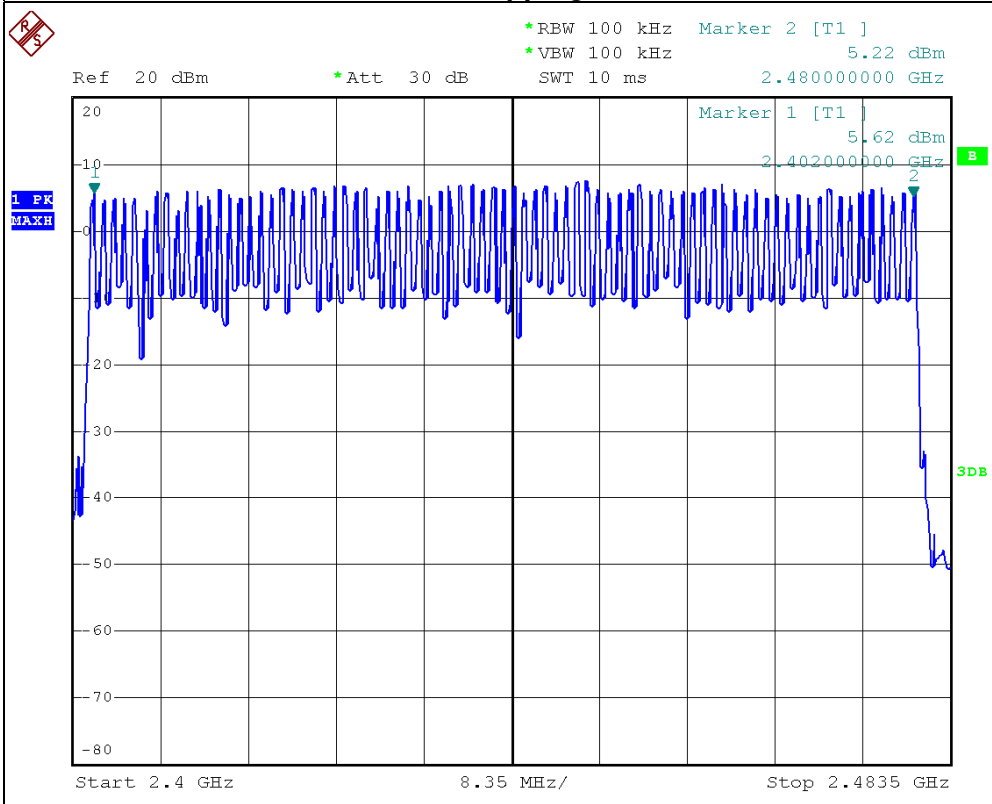
The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.

5.1.6 TEST RESULTS

EUT：	Cisco Edge 300	Model Name ：	CS-E300-AP-K9
Temperature：	25 ℃	Relative Humidity：	60 %
Pressure：	1010 hPa	**Test Voltage** ：	AC 120V/60Hz
Test Mode ：	Hopping Mode-1Mbps		

Number of Hopping Channel	79

Hopping Mode

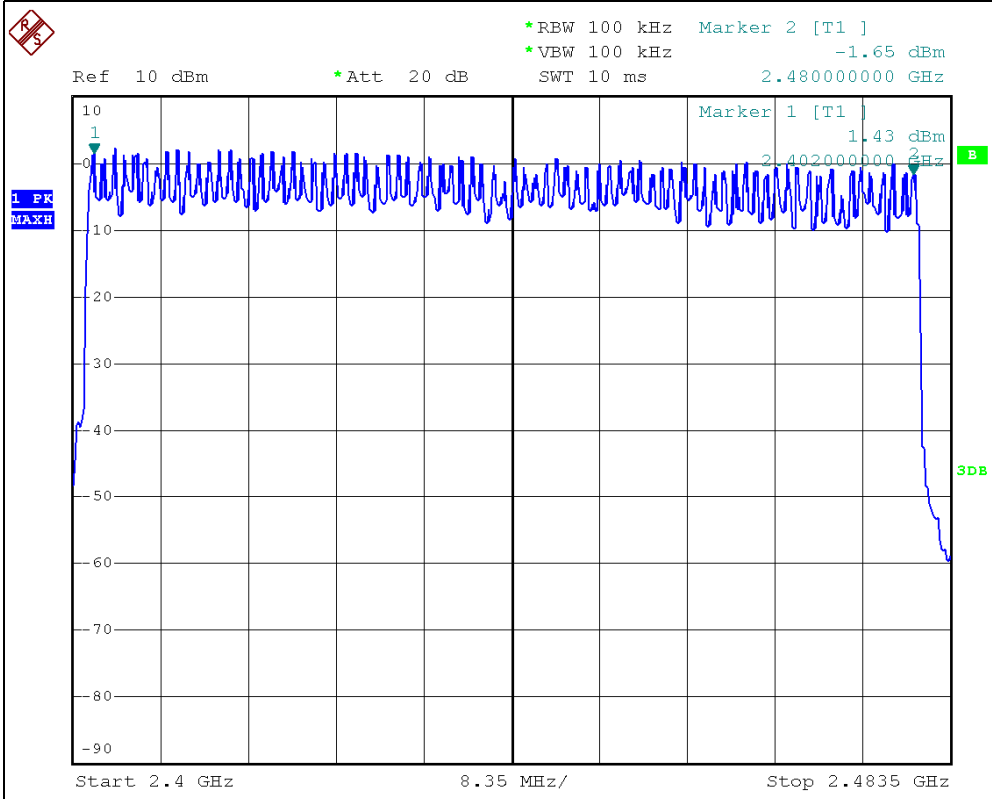


Date: 15.AUG.2011 11:33:11

EUT：	Cisco Edge 300	Model Name ：	CS-E300-AP-K9
Temperature：	25 ℃	Relative Humidity：	60 %
Pressure：	1010 hPa	**Test Voltage** ：	AC 120V/60Hz
Test Mode ：	Hopping Mode-3Mbps		

Number of Hopping Channel	79

Hopping Mode



Date: 17.AUG.2011 18:03:53

6. AVERAGE TIME OF OCCUPANCY

6.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247 (a)(1)(iii)	Average Time of Occupancy	0.4sec	2400-2483.5	PASS

6.1.1 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP 40	100185	Nov.26.2011

Remark: ” N/A” denotes No Model Name , Serial No. or No Calibration specified.

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

6.1.2 TEST PROCEDURE

a. The transmitter output (antenna port) was connected to the spectrum analyzer
b. Set RBW of spectrum analyzer to 1MHz and VBW to 1MHz.
c. Use a video trigger with the trigger level set to enable triggering only on full pulses.
d. Sweep Time is more than once pulse time.
e. Set the center frequency on any frequency would be measure and set the frequency span to zero span.
f. Measure the maximum time duration of one single pulse.
g. Set the EUT for DH5, DH3 and DH1 packet transmitting.
h. Measure the maximum time duration of one single pulse.
i. DH5 Packet permit maximum 1600/ 79 / 6 = 3.37 hops per second in each channel (5 time slots RX, 1 time slot TX). So, the dwell time is the time duration of the pulse times 3.37 x 31.6 = 106.6 within 31.6 seconds.
j. DH3 Packet permit maximum 1600 / 79 / 4 = 5.06 hops per second in each channel (3 time slots RX, 1 time slot TX). So, the dwell time is the time duration of the pulse times 5.06 x 31.6 = 160 within 31.6 seconds.
k. DH1 Packet permit maximum 1600 / 79 /2 = 10.12 hops per second in each channel (1 time slot RX, 1 time slot TX). So, the dwell time is the time duration of the pulse times 10.12 x 31.6 = 320 within 31.6 seconds.

6.1.3 DEVIATION FROM STANDARD

No deviation.

6.1.4 TEST SETUP

6.1.5 EUT OPERATION CONDITIONS

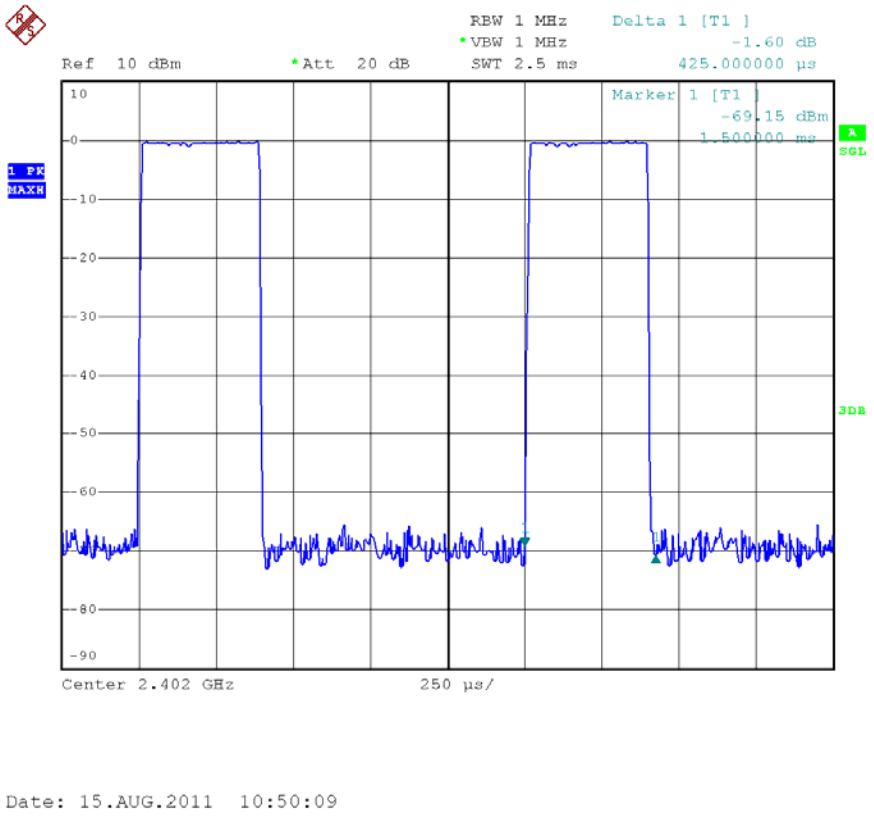
The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.

6.1.6 TEST RESULTS

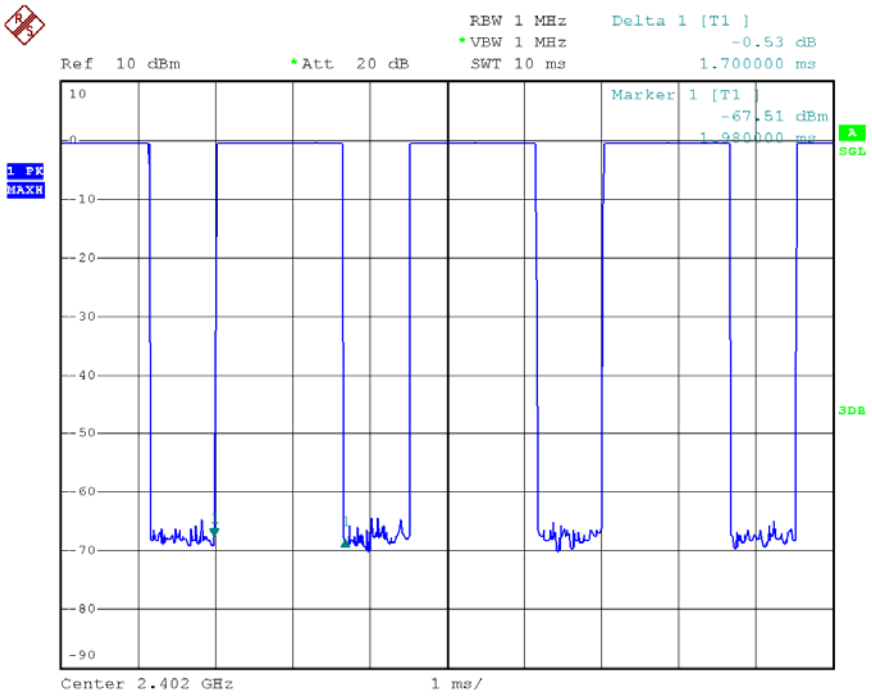
EUT：	Cisco Edge 300	Model Name ：	CS-E300-AP-K9
Temperature：	25 ℃	Relative Humidity：	60 %
Pressure：	1012 hPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	CH00-DH1/DH3/DH5-1Mbps		

Data Packet	Frequency	Pulse Duration (ms)	Dwell Time (s)	Limits (s)
DH5	2402 MHz	2.9800	0.3179	0.4000
DH3	2402 MHz	1.7000	0.2720	0.4000
DH1	2402 MHz	0.4250	0.1360	0.4000

CH00-DH1

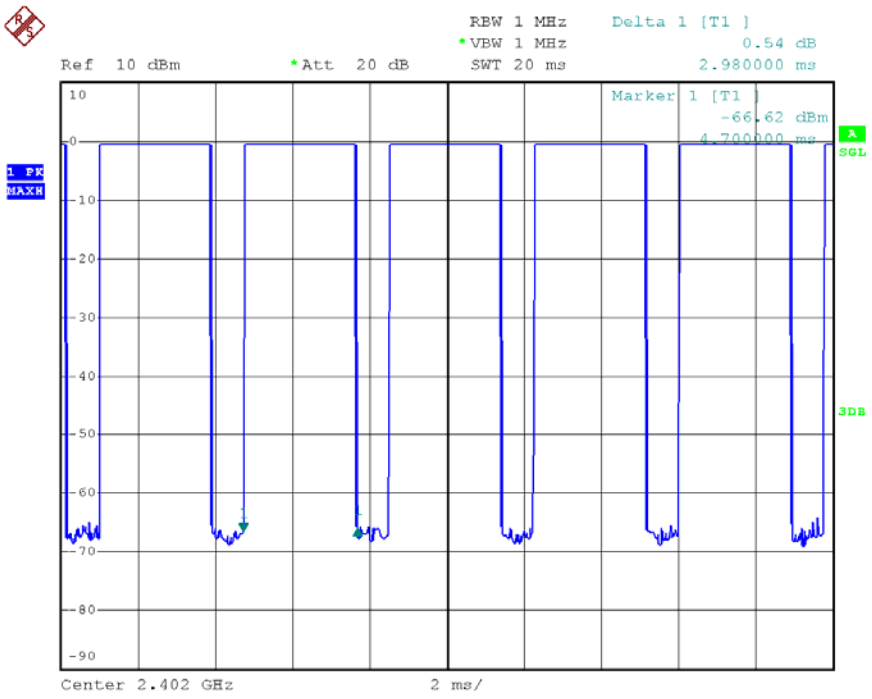


CH00-DH3



Date: 15.AUG.2011 11:05:27

CH00-DH5

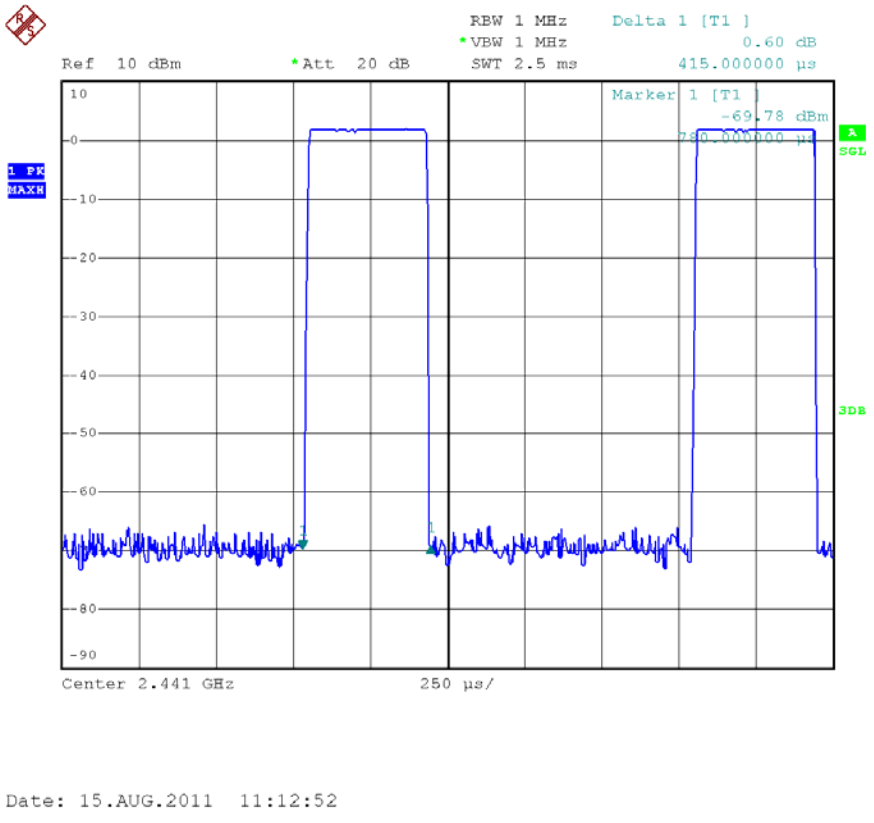


Date: 15.AUG.2011 11:08:11

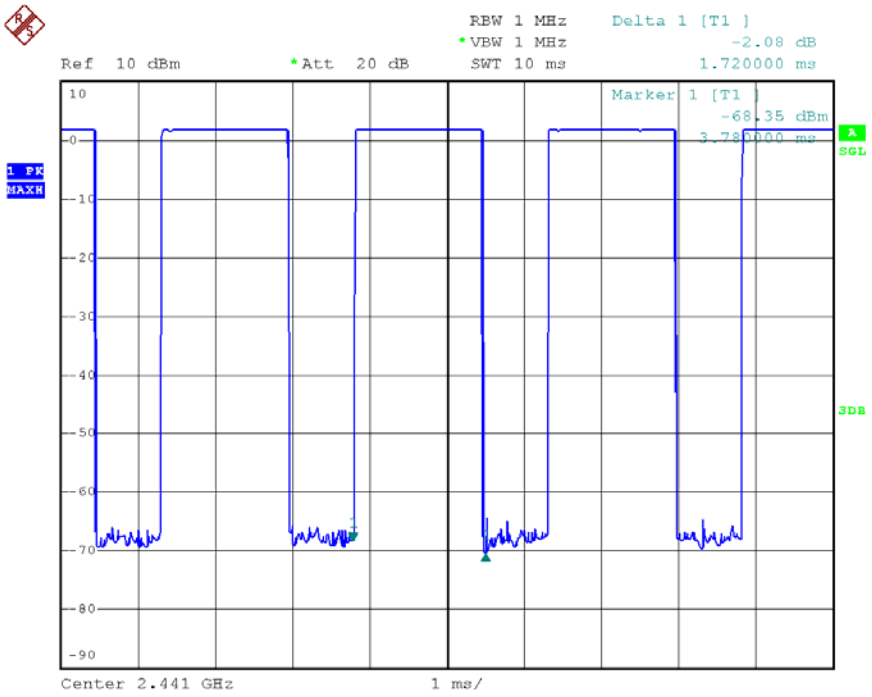
EUT：	Cisco Edge 300	Model Name ：	CS-E300-AP-K9
Temperature：	25 ℃	Relative Humidity：	60 %
Pressure：	1012 hPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	CH39 -DH1/DH3/DH5-1Mbps		

Data Packet	Frequency	Pulse Duration (ms)	Dwell Time (s)	Limits (s)
DH5	2441 MHz	2.9800	0.3179	0.4000
DH3	2441 MHz	1.7200	0.2752	0.4000
DH1	2441 MHz	0.4150	0.1328	0.4000

CH39-DH1

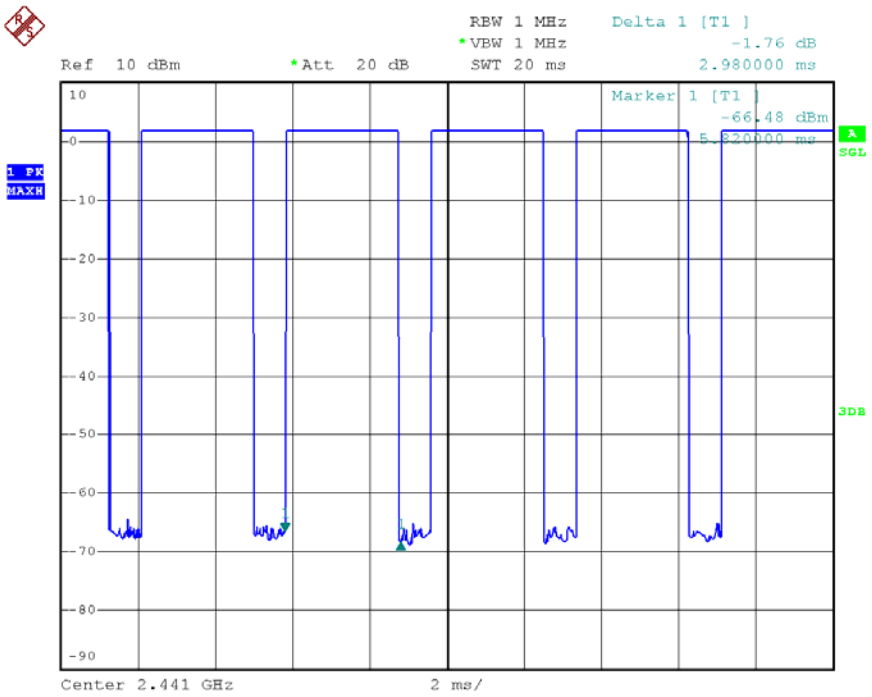


CH39-DH3



Date: 15.AUG.2011 11:11:07

CH39-DH5

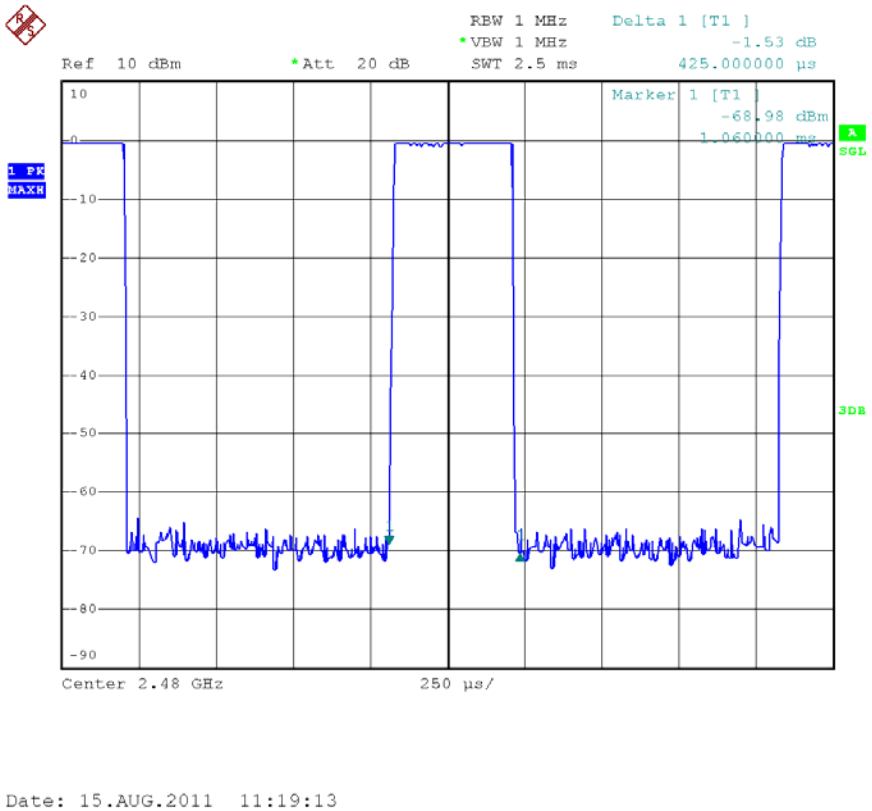


Date: 15.AUG.2011 11:09:57

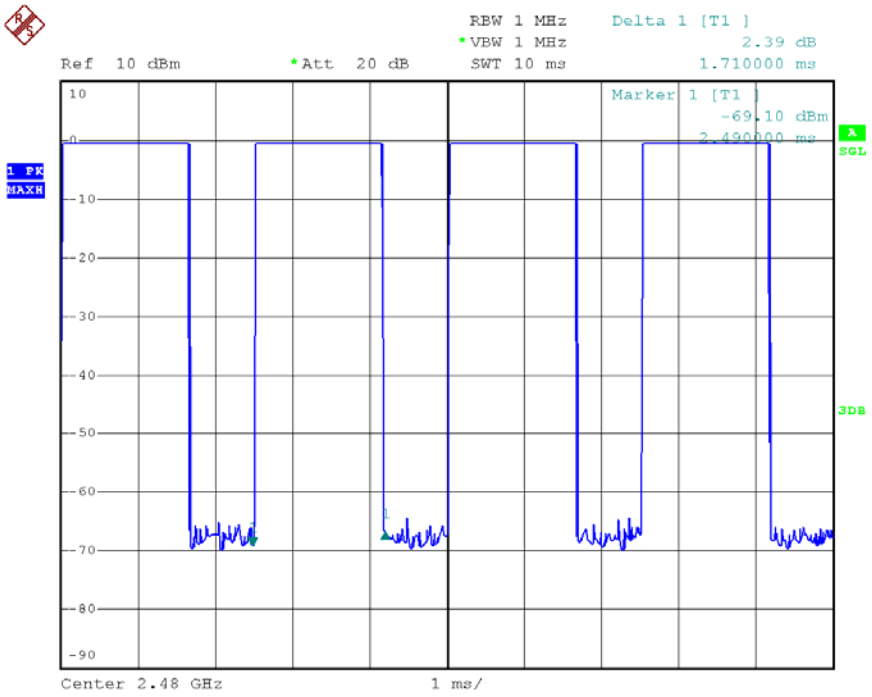
EUT：	Cisco Edge 300	Model Name ：	CS-E300-AP-K9
Temperature：	25 ℃	Relative Humidity：	60 %
Pressure：	1012 hPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	CH78 -DH1/DH3/DH5-1Mbps		

Data Packet	Frequency	Pulse Duration (ms)	Dwell Time (s)	Limits (s)
DH5	2480 MHz	3.0600	0.3264	0.4000
DH3	2480 MHz	1.7100	0.2736	0.4000
DH1	2480 MHz	0.4250	0.1360	0.4000

CH78-DH1

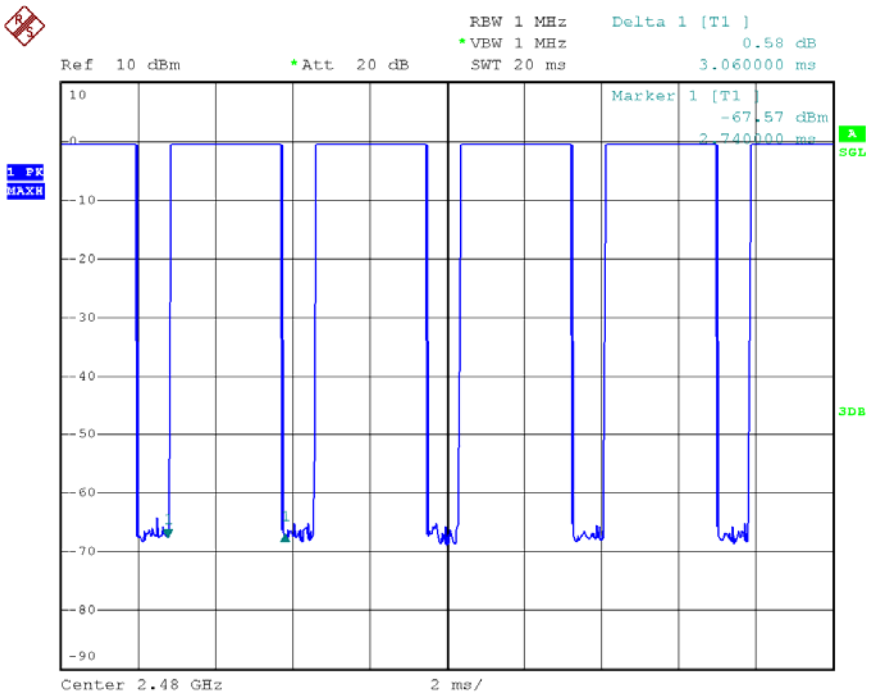


CH78-DH3



Date: 15.AUG.2011 11:18:20

CH78-DH5

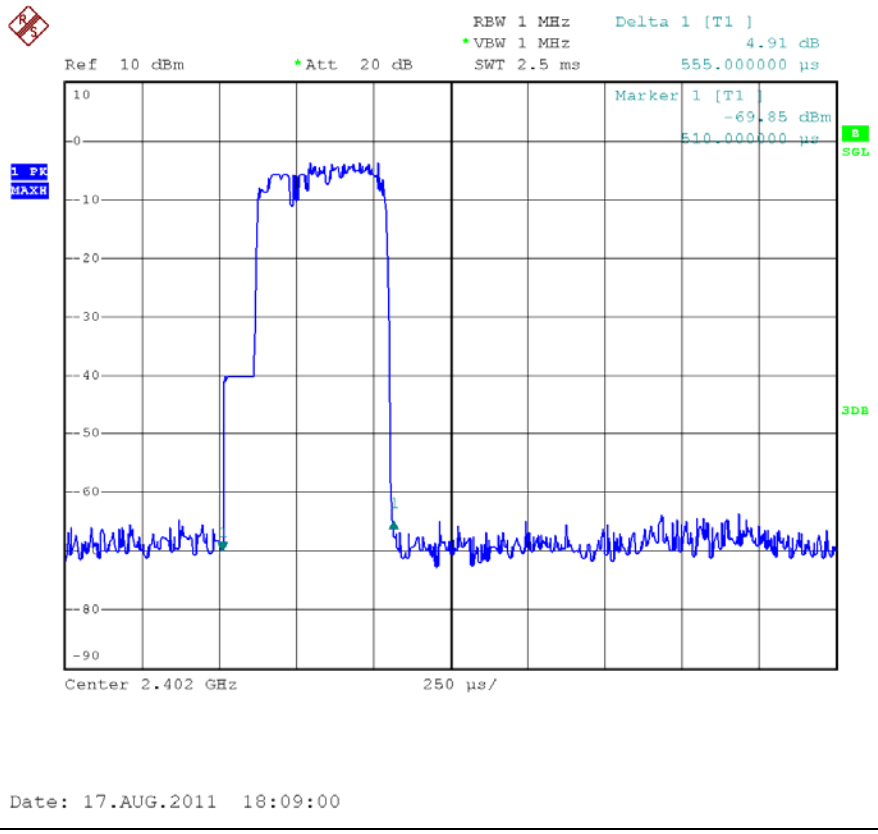


Date: 15.AUG.2011 11:29:29

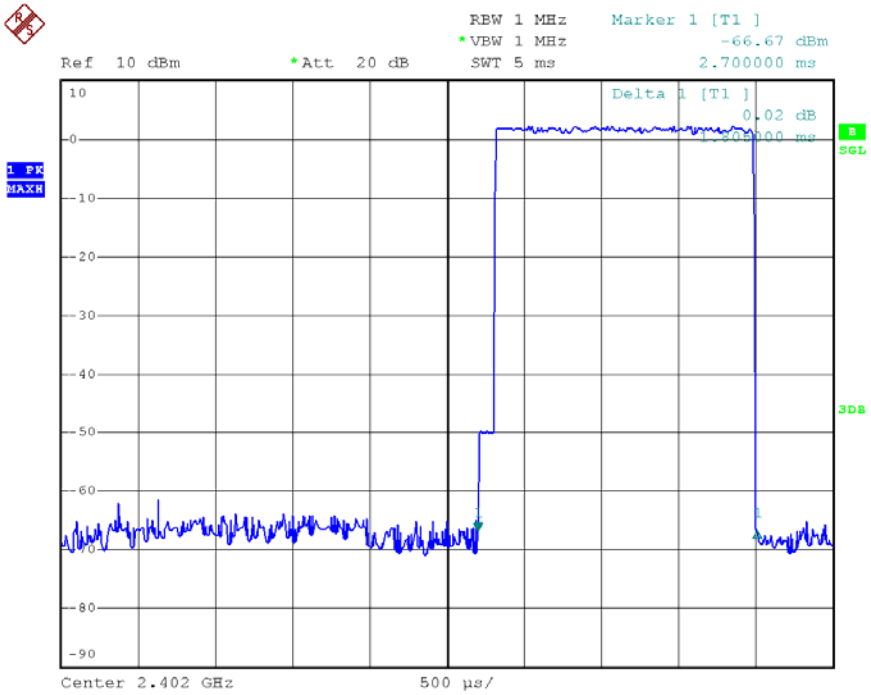
EUT：	Cisco Edge 300	Model Name ：	CS-E300-AP-K9
Temperature：	25 ℃	Relative Humidity：	60 %
Pressure：	1012 hPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	CH00-DH1/DH3/DH5-3Mbps		

Data Packet	Frequency	Pulse Duration (ms)	Dwell Time (s)	Limits (s)
DH5	2402 MHz	3.0850	0.3291	0.4000
DH3	2402 MHz	1.8050	0.2888	0.4000
DH1	2402 MHz	0.5550	0.1776	0.4000

CH00-DH1

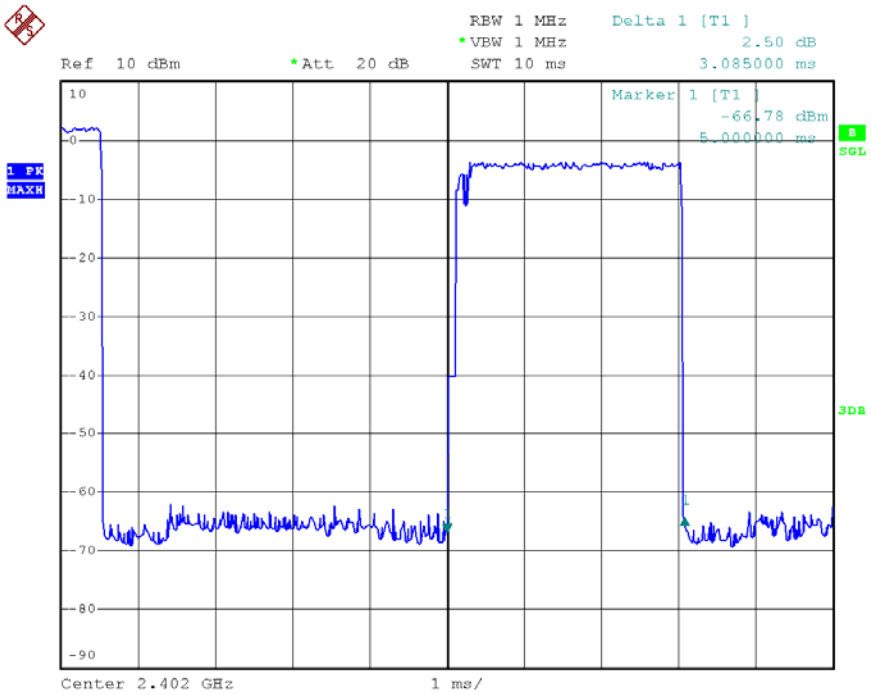


CH00-DH3



Date: 17.AUG.2011 18:11:17

CH00-DH5

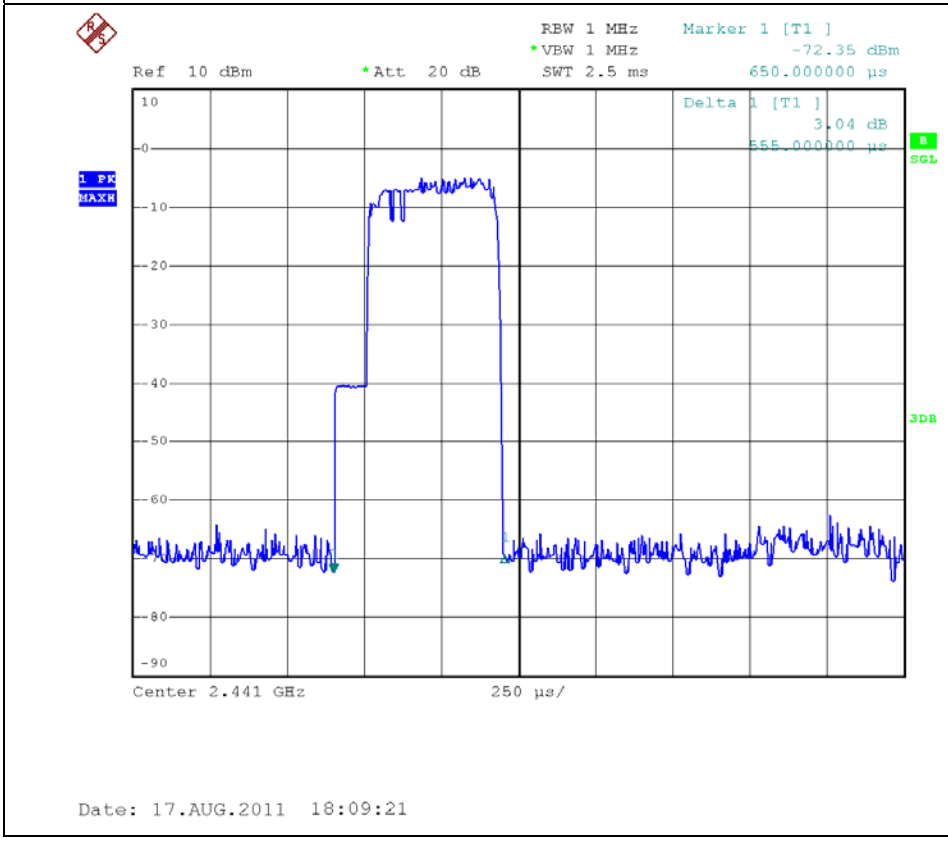


Date: 17.AUG.2011 18:11:59

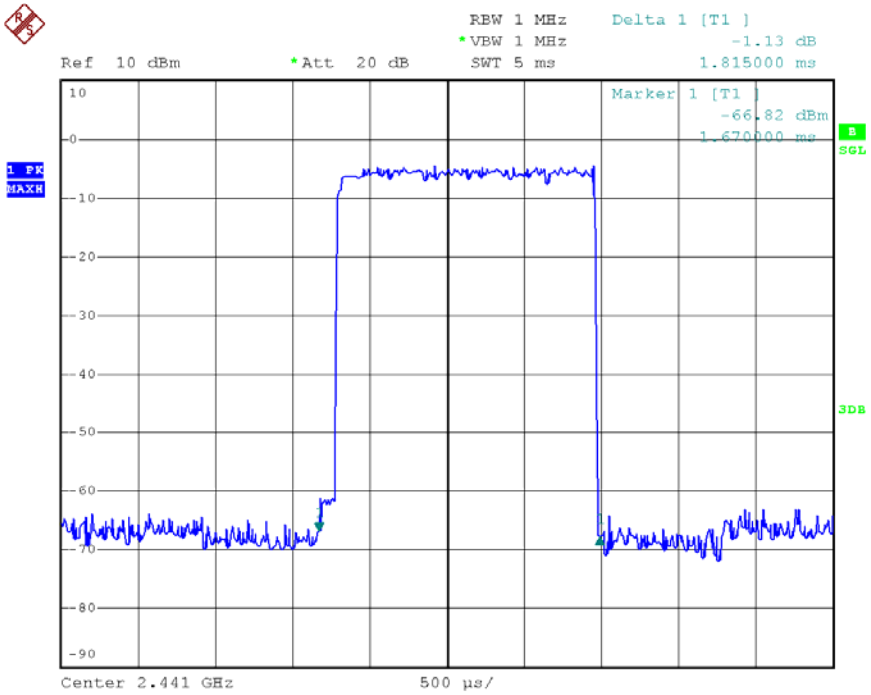
EUT：	Cisco Edge 300	Model Name ：	CS-E300-AP-K9
Temperature：	25 ℃	Relative Humidity：	60 %
Pressure：	1012 hPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	CH39 -DH1/DH3/DH5-3Mbps		

Data Packet	Frequency	Pulse Duration (ms)	Dwell Time (s)	Limits (s)
DH5	2441 MHz	3.1050	0.3312	0.4000
DH3	2441 MHz	1.8150	0.2904	0.4000
DH1	2441 MHz	0.5550	0.1776	0.4000

CH39-DH1

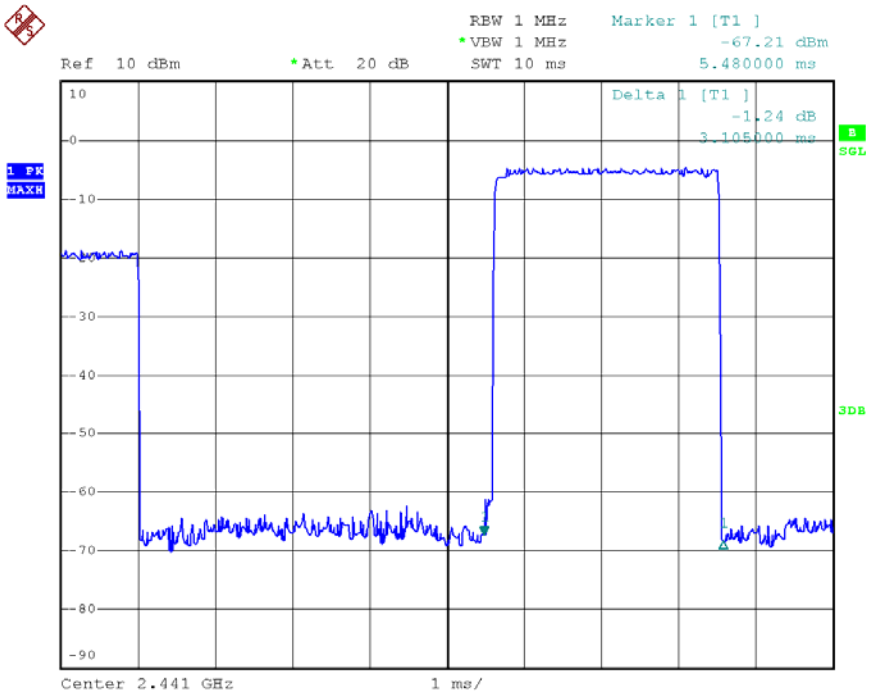


CH39-DH3



Date: 17.AUG.2011 18:10:57

CH39-DH5

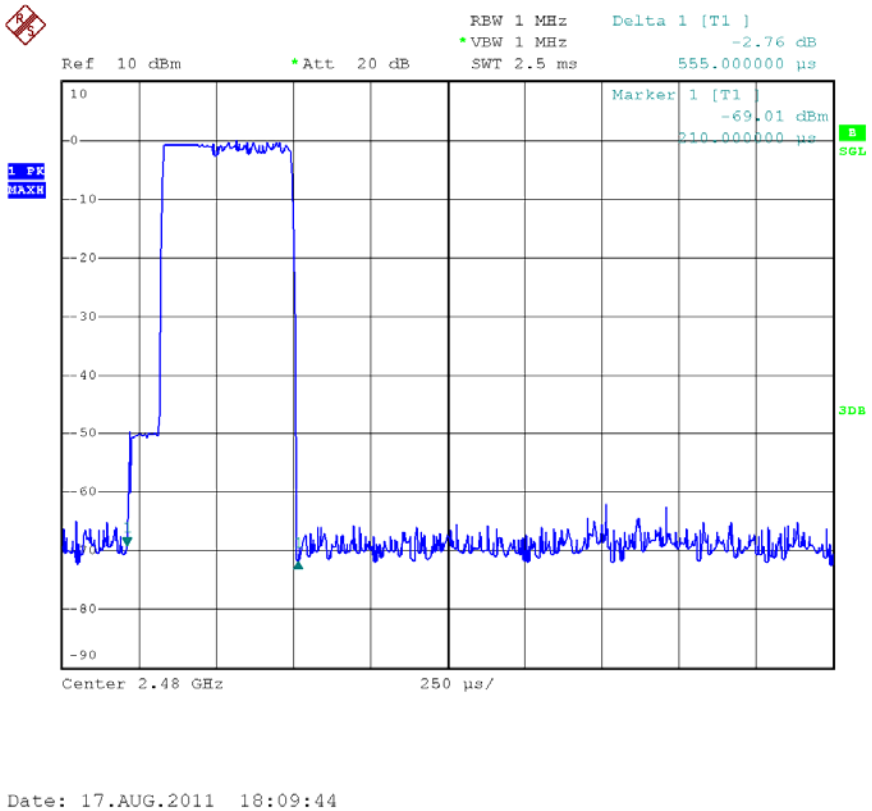


Date: 17.AUG.2011 18:12:29

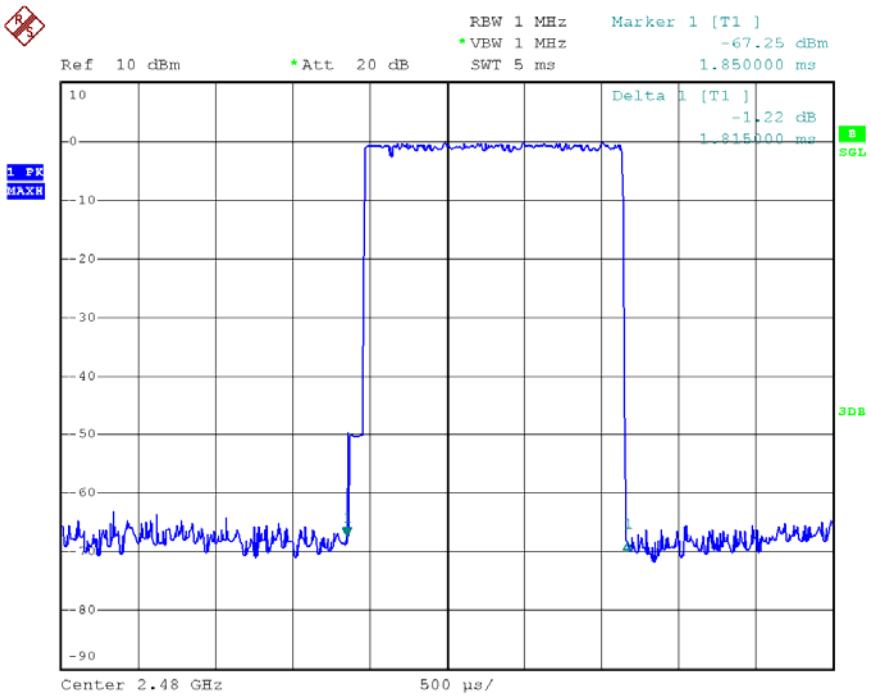
EUT：	Cisco Edge 300	Model Name ：	CS-E300-AP-K9
Temperature：	25 ℃	Relative Humidity：	60 %
Pressure：	1012 hPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	CH78 -DH1/DH3/DH5-3Mbps		

Data Packet	Frequency	Pulse Duration (ms)	Dwell Time (s)	Limits (s)
DH5	2480 MHz	3.0850	0.3291	0.4000
DH3	2480 MHz	1.8150	0.2904	0.4000
DH1	2480 MHz	0.5550	0.1776	0.4000

CH78-DH1

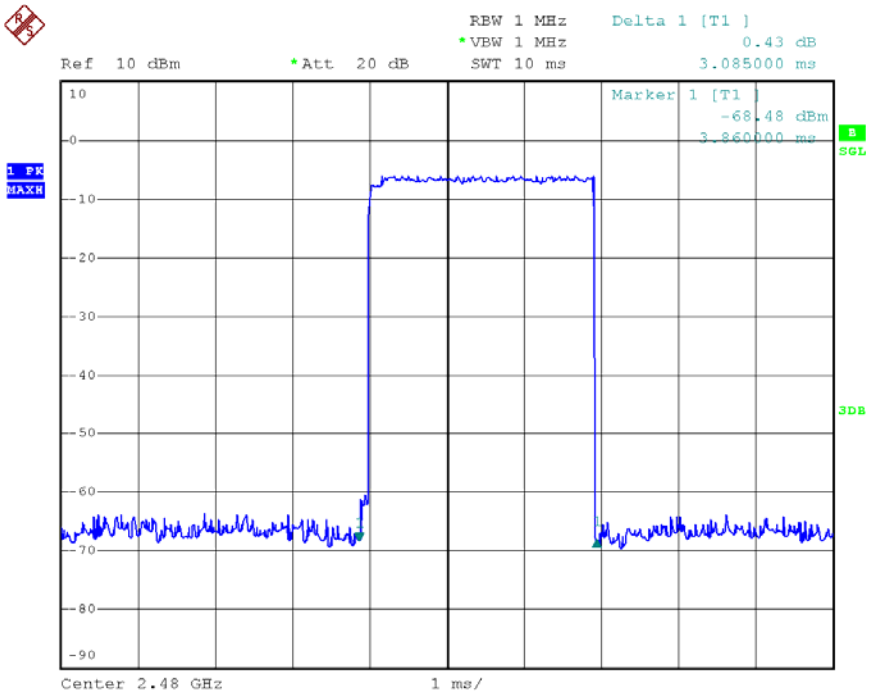


CH78-DH3



Date: 17.AUG.2011 18:10:35

CH78-DH5



Date: 17.AUG.2011 18:12:50

7. HOPPING CHANNEL SEPARATION MEASUREMENT

7.1 APPLIED PROCEDURES / LIMIT

Frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater.

7.1.1 MEASUREMENT INSTRUMENTS LIST AND SETTING

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP 40	100185	Nov.26.2011

Remark: ” N/A” denotes No Model Name , Serial No. or No Calibration specified.

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

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	> Measurement Bandwidth or Channel Separation
RB	30 kHz (20dB Bandwidth) / 30 kHz (Channel Separation)
VB	100 kHz (20dB Bandwidth) / 100 kHz (Channel Separation)
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

7.1.2 TEST PROCEDURE

a. The transmitter output (antenna port) was connected to the spectrum analyser in peak hold mode.
b. The resolution bandwidth of 30 kHz and the video bandwidth of 100 kHz were utilised for 20 dB bandwidth measurement.
c. The resolution bandwidth of 30 kHz and the video bandwidth of 100 kHz were utilised for channel separation measurement.

7.1.3 DEVIATION FROM STANDARD

No deviation.

7.1.4 TEST SETUP

7.1.5 EUT OPERATION CONDITIONS

The EUT was programmed to be in Hopping on mode.

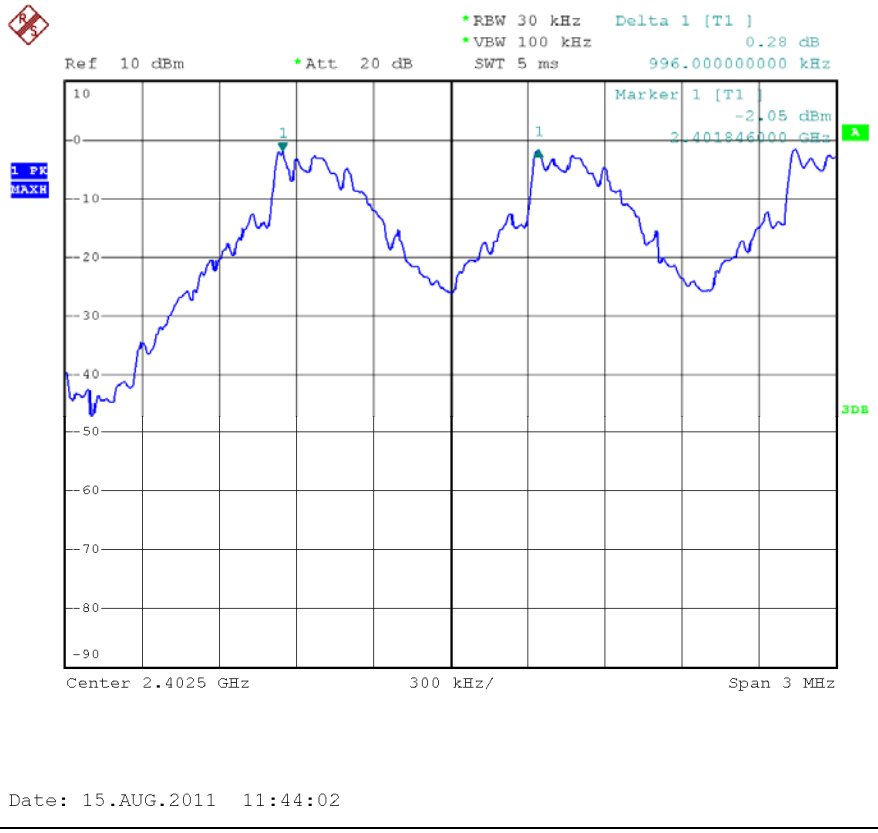
7.1.6 TEST RESULTS

EUT：	Cisco Edge 300	Model Name ：	CS-E300-AP-K9
Temperature：	25 ℃	Relative Humidity：	60 %
Pressure：	1012 hPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	Hopping on -CH00 / CH39 /CH78-1Mbps		

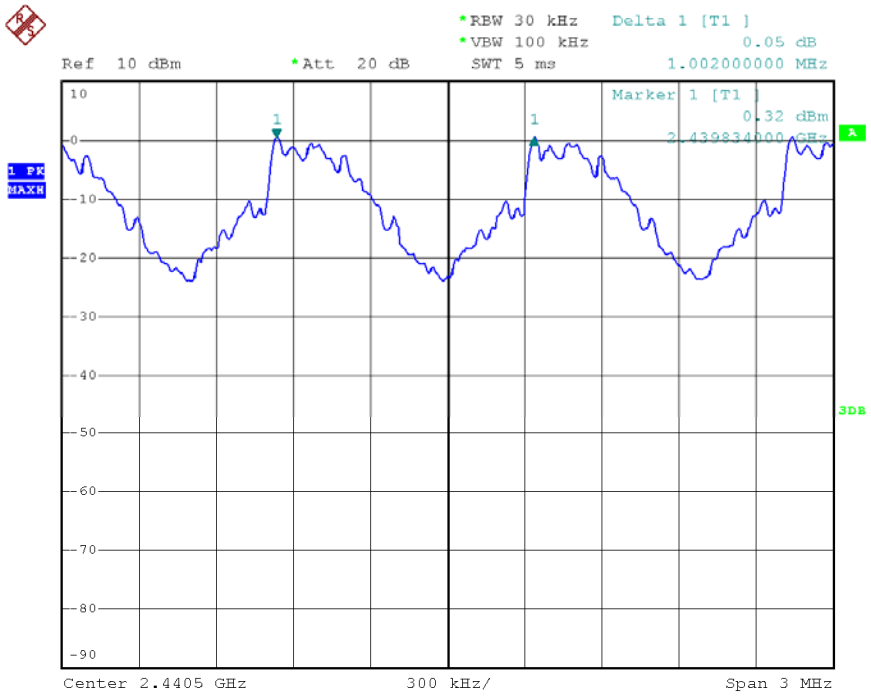
Frequency	Ch. Separation (MHz)	20dB Bandwidth (kHz)	Result
2402 MHz	1	870.00	**Complies**
2441 MHz	1	850.00	**Complies**
2480 MHz	1	850.00	**Complies**

Ch. Separation Limits: >20dB bandwidth or >2/3 of 20dB bandwidth

CH00 -1Mbps

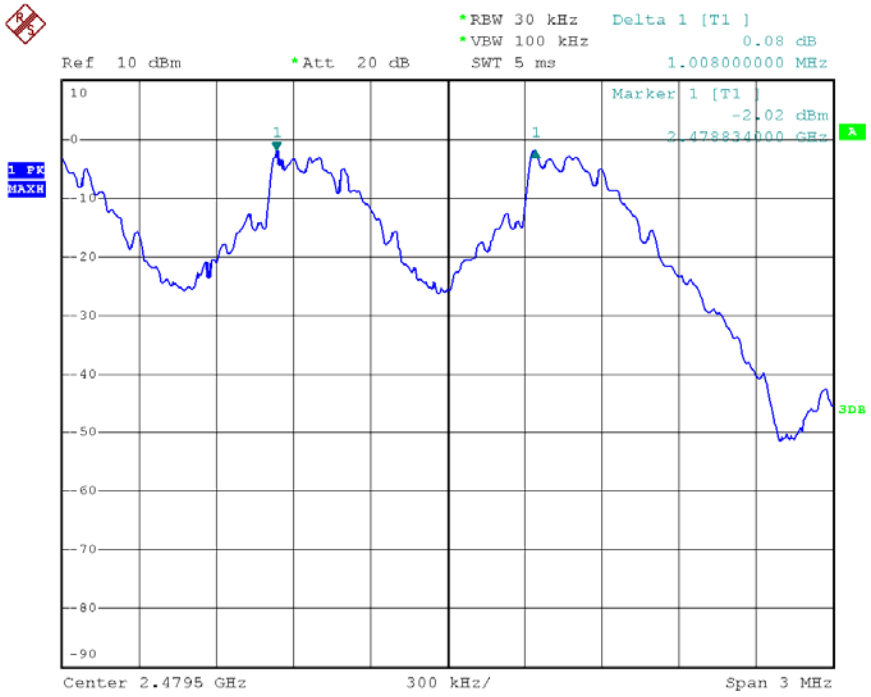


CH39 -1Mbps



Date: 15.AUG.2011 11:42:27

CH78 -1Mbps



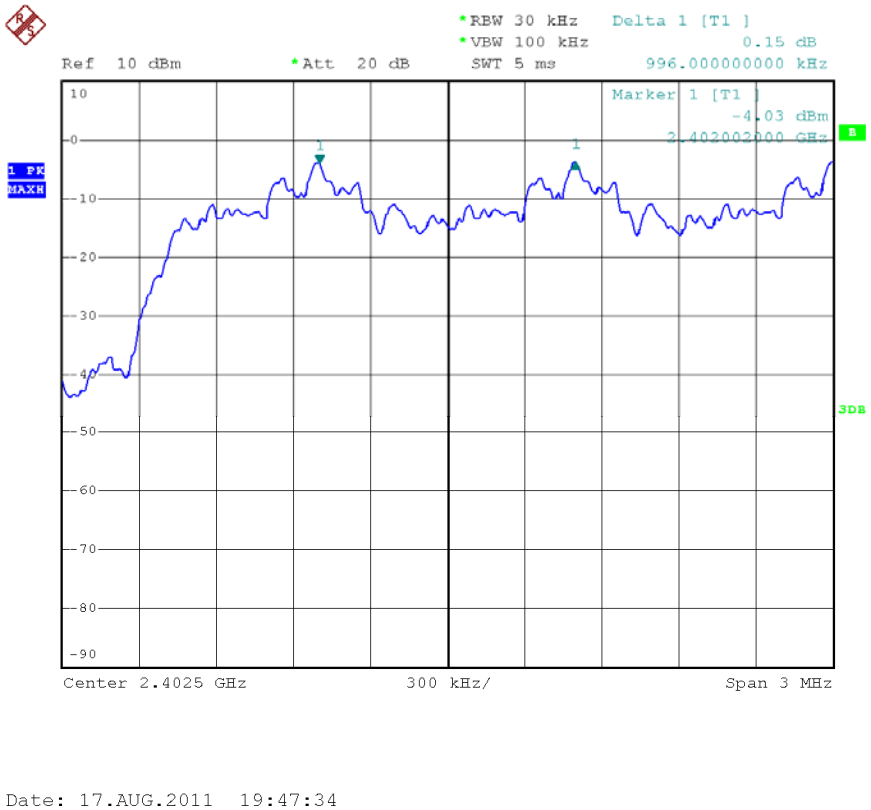
Date: 15.AUG.2011 11:43:19

EUT：	Cisco Edge 300	Model Name ：	CS-E300-AP-K9
Temperature：	25 ℃	Relative Humidity：	60 %
Pressure：	1012 hPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	Hopping on -CH00 / CH39 /CH78-3Mbps		

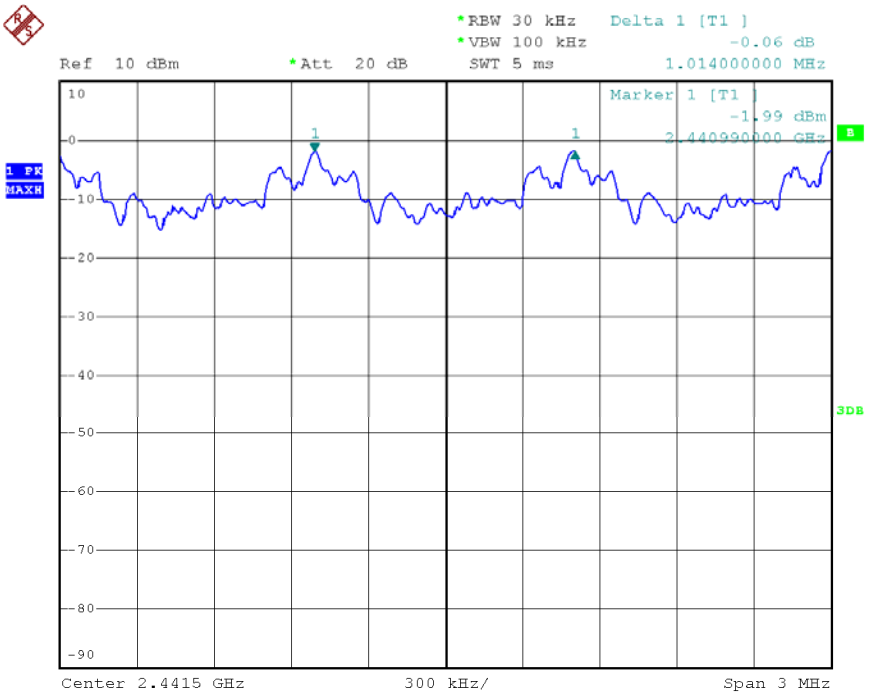
Frequency	Ch. Separation (MHz)	20dB Bandwidth (kHz)	Result
2402 MHz	1	1210.00	**Complies**
2441 MHz	1	1220.00	**Complies**
2480 MHz	1	1220.00	**Complies**

Ch. Separation Limits: >20dB bandwidth or >2/3 of 20dB bandwidth

CH00 -3Mbps

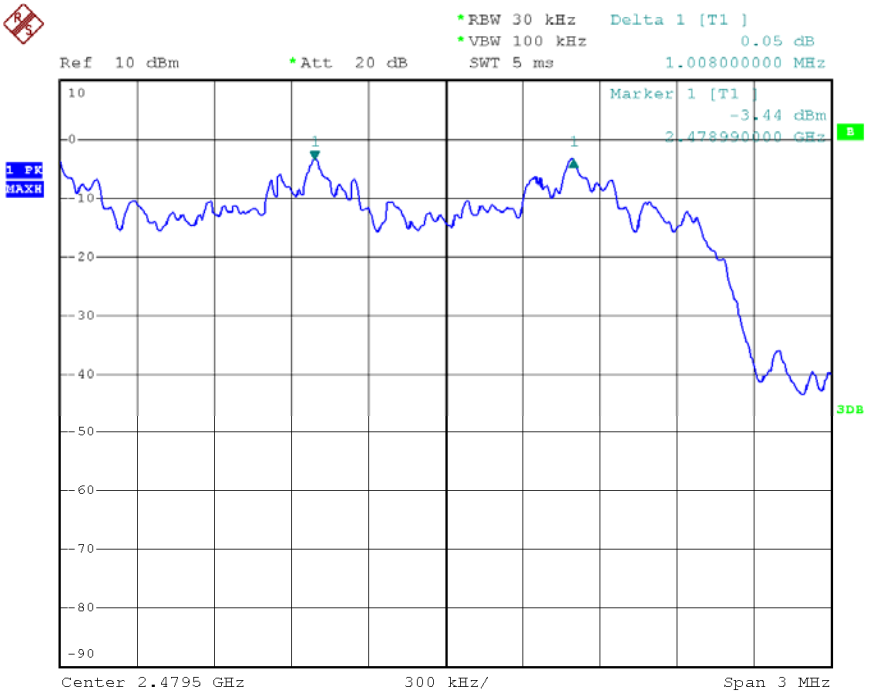


CH39 -3Mbps



Date: 17.AUG.2011 19:48:31

CH78 -3Mbps



Date: 17.AUG.2011 19:49:30

8. BANDWIDTH TEST

8.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247 (a)(2)	Bandwidth	None	2400-2483.5	PASS

8.1.1 MEASUREMENT INSTRUMENTS LIST AND SETTING

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP 40	100185	Nov.26.2011

Remark: ” N/A” denotes No Model Name , Serial No. or No Calibration specified.

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

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	> Measurement Bandwidth or Channel Separation
RB	30 kHz (20dB Bandwidth) / 30 kHz (Channel Separation)
VB	100 kHz (20dB Bandwidth) / 100 kHz (Channel Separation)
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

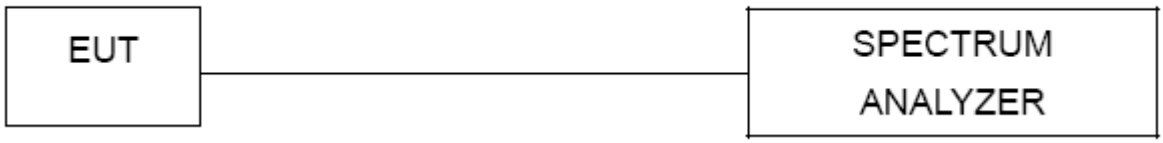
8.1.2 TEST PROCEDURE

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
b. Spectrum Setting : RBW= 30KHz, VBW=100KHz, Sweep time = Auto.

8.1.3 DEVIATION FROM STANDARD

No deviation.

8.1.4 TEST SETUP



8.1.5 EUT OPERATION CONDITIONS

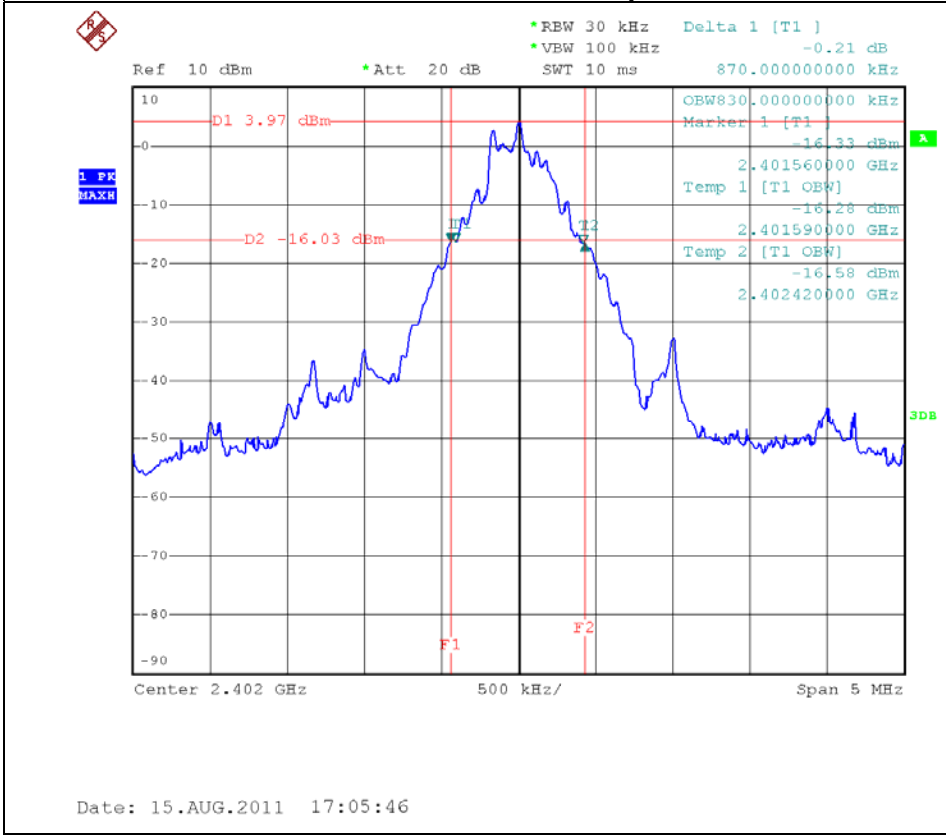
The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.

8.1.6 TEST RESULTS

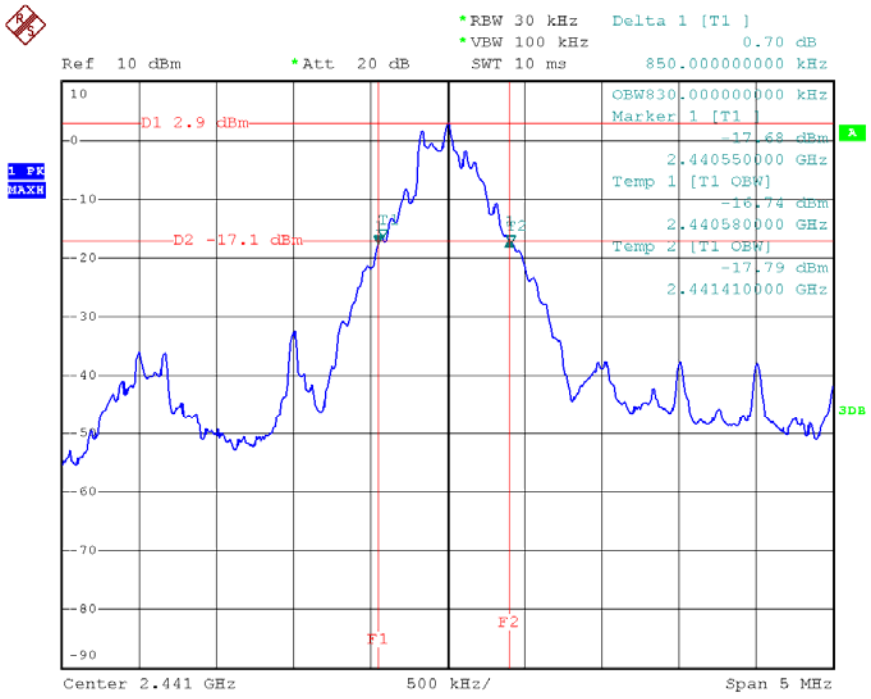
EUT：	Cisco Edge 300	Model Name ：	CS-E300-AP-K9
Temperature：	25 ℃	Relative Humidity：	51 %
Pressure：	1012 hPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	CH00 / CH39 /CH78-1Mbps		

Frequency	20dB Bandwidth (KHz)	Channel Separation (MHz)	Result
2402 MHz	870.00	<= 1MHz	**PASS**
2441 MHz	850.00	<= 1MHz	**PASS**
2480 MHz	850.00	<= 1MHz	**PASS**

CH00 -1Mbps

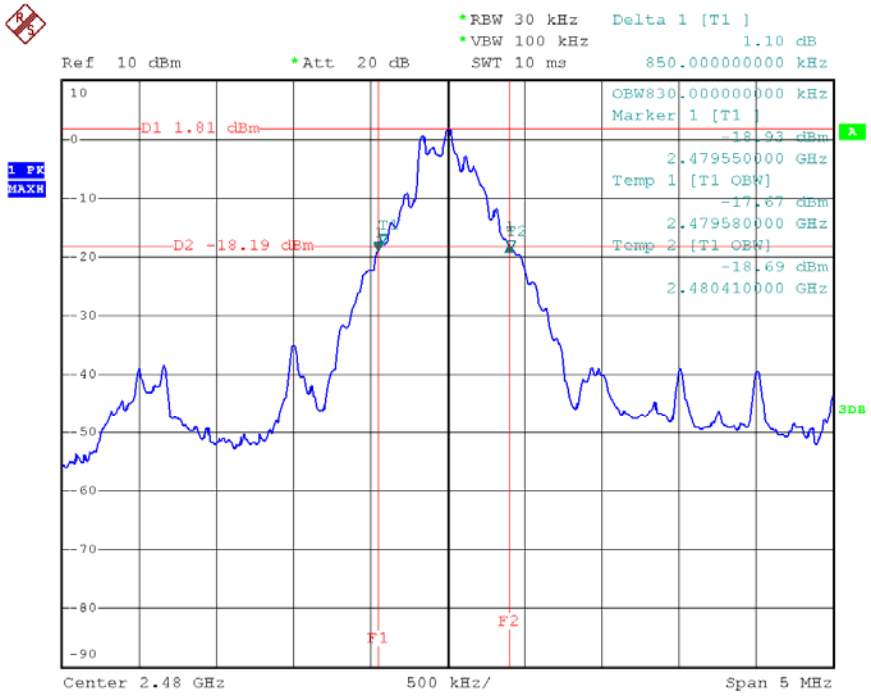


CH39 -1Mbps



Date: 15.AUG.2011 17:04:58

CH78 -1Mbps

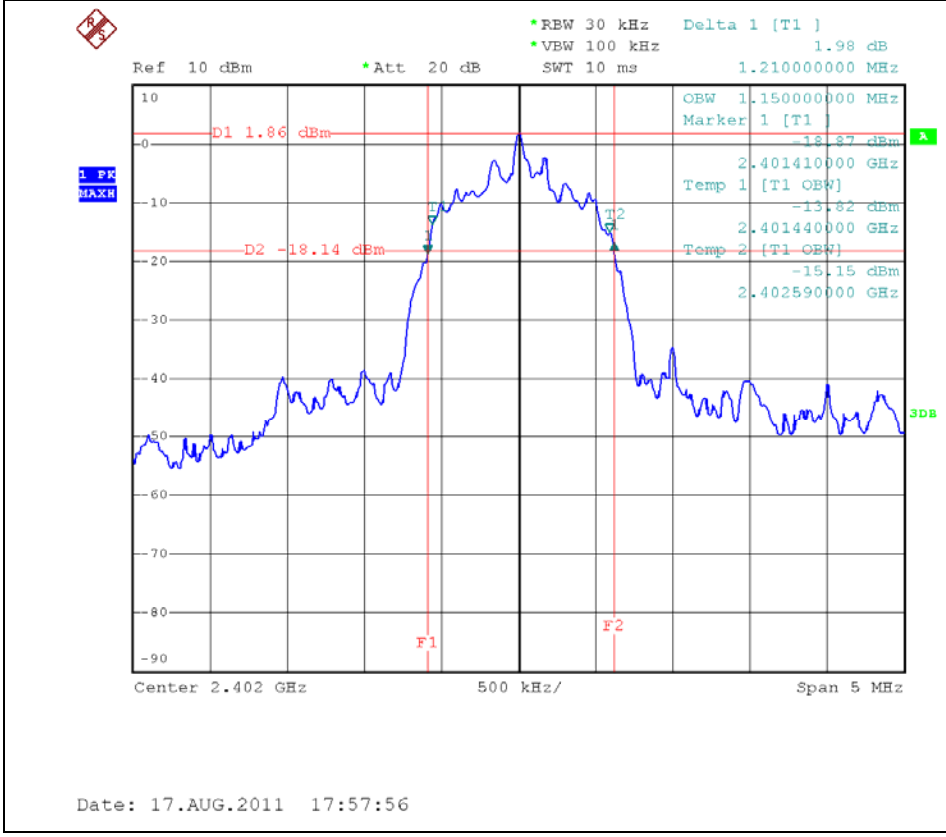


Date: 15.AUG.2011 17:03:21

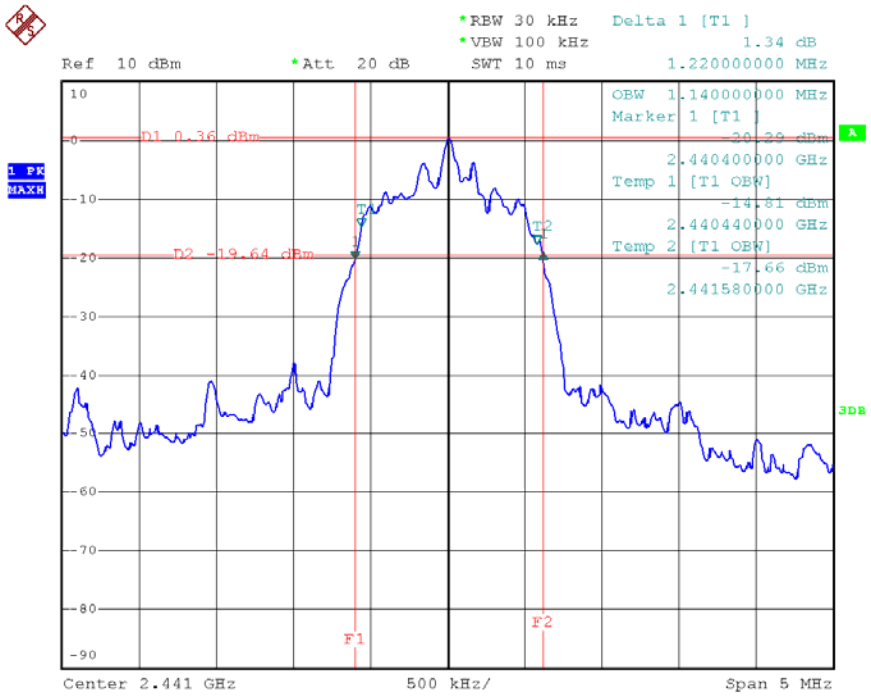
EUT：	Cisco Edge 300	Model Name ：	CS-E300-AP-K9
Temperature：	25 ℃	Relative Humidity：	51 %
Pressure：	1012 hPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	CH00 / CH39 /CH78-3Mbps		

Frequency	20dB Bandwidth (KHz)	Channel Separation (MHz)	Result
2402 MHz	1210.00	<= 1MHz	**PASS**
2441 MHz	1220.00	<= 1MHz	**PASS**
2480 MHz	1220.00	<= 1MHz	**PASS**

CH00 -3Mbps

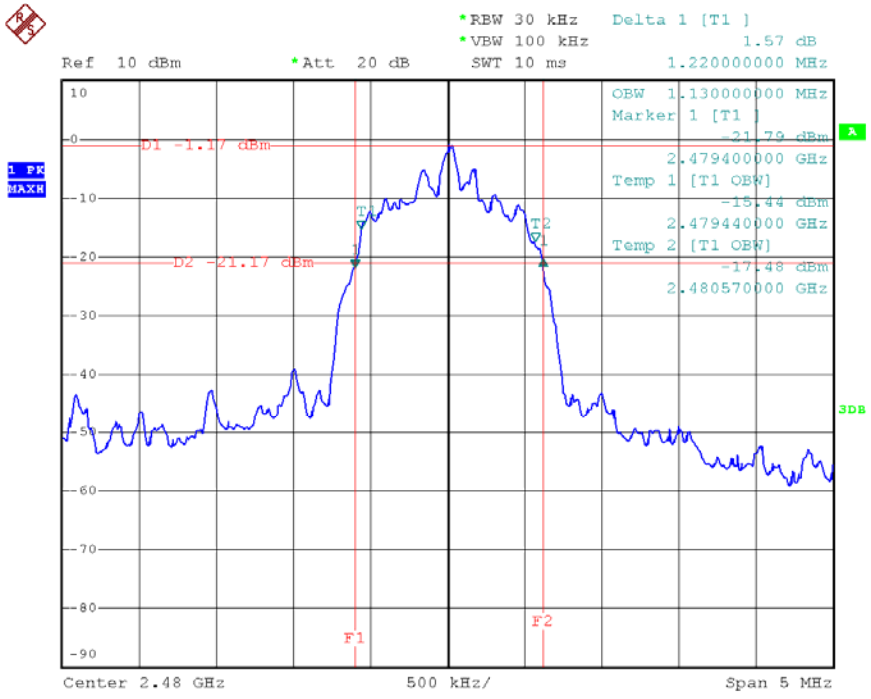


CH39 -3Mbps



Date: 17.AUG.2011 17:57:09

CH78 -3Mbps



Date: 17.AUG.2011 17:56:10

9. PEAK OUTPUT POWER TEST

9.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247 (b)(1)	Peak Output Power	0.125watt or 21dBm	2400-2483.5	PASS

9.1.1 MEASUREMENT INSTRUMENTS LIST AND SETTING

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP 40	100185	Nov.26.2011

Remark: ” N/A” denotes No Model Name , Serial No. or No Calibration specified.

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

9.1.2 TEST PROCEDURE

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
b. Spectrum Setting : RBW= 1MHz, VBW= 1MHz, Sweep time = Auto. (BT rate:1Mbps)
Spectrum Setting : RBW= 3MHz, VBW= 3MHz, Sweep time = Auto. (BT rate:3Mbps)

9.1.3 DEVIATION FROM STANDARD

No deviation.

9.1.4 TEST SETUP

9.1.5 EUT OPERATION CONDITIONS

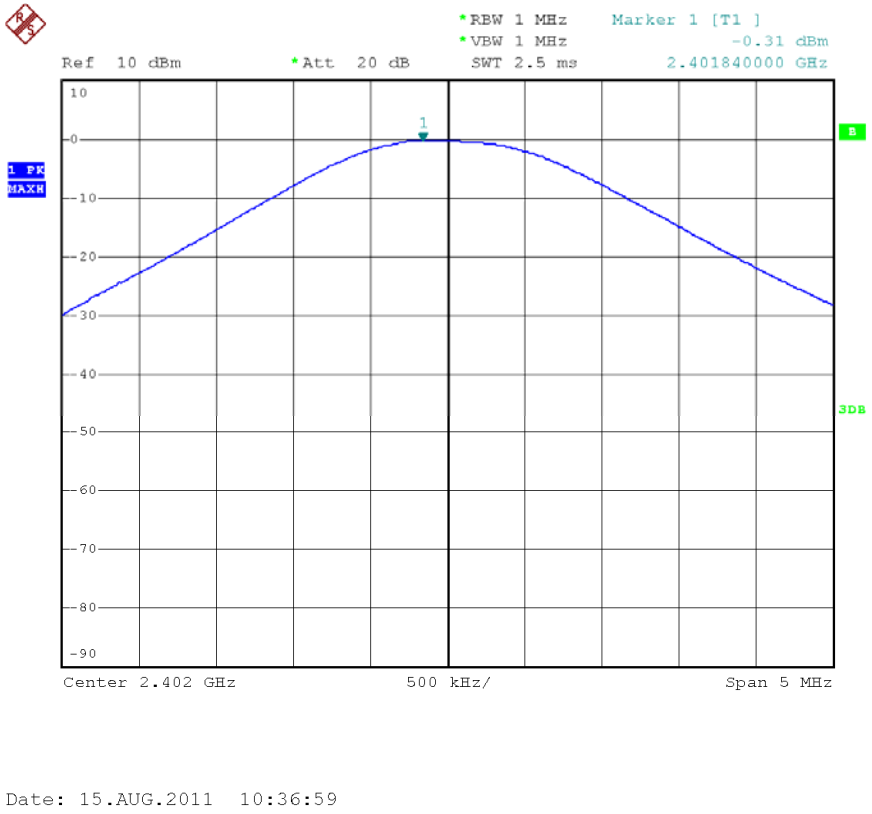
The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.

9.1.6 TEST RESULTS

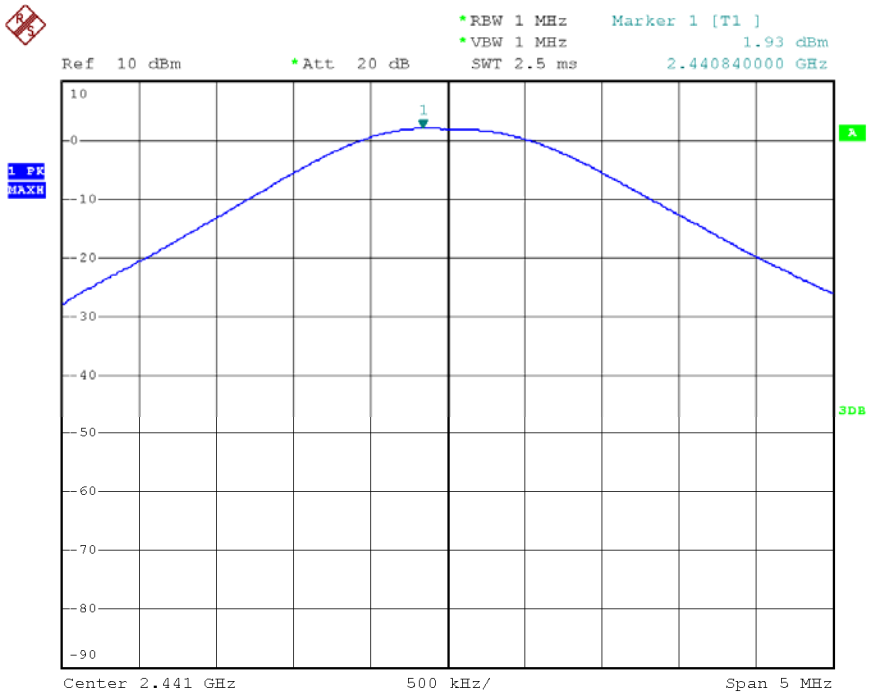
EUT：	Cisco Edge 300	Model Name ：	CS-E300-AP-K9
Temperature：	25 ℃	Relative Humidity：	51 %
Pressure：	1012 hPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	CH00/ CH39 /CH78 -1Mbps		

Test Channel	Frequency (MHz)	Peak Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
CH00	2402	-0.31	21	0.125
CH39	2441	1.93	21	0.125
CH78	2480	-0.41	21	0.125

CH00 -1Mbps

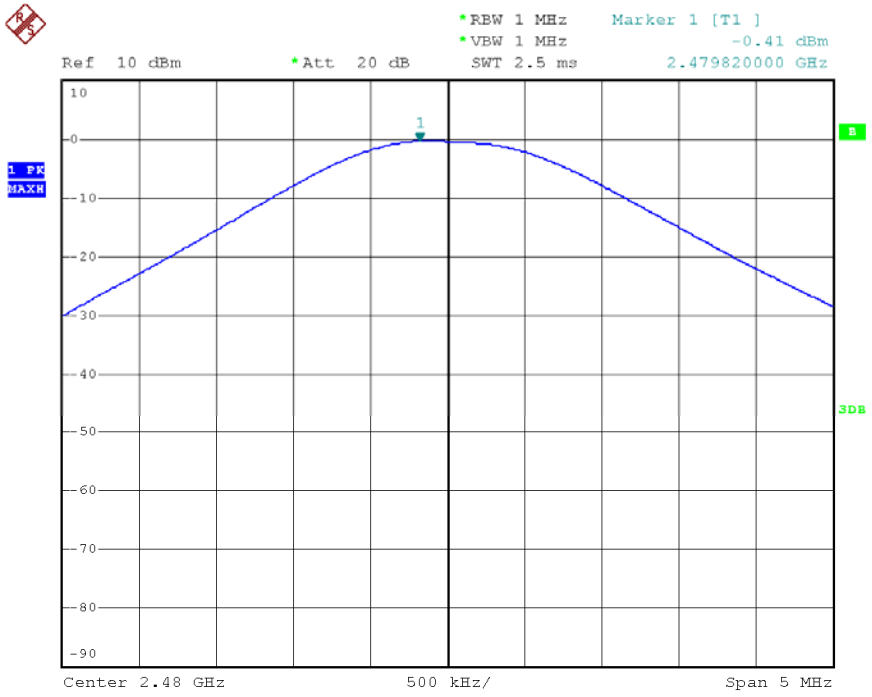


CH39 -1Mbps



Date: 15.AUG.2011 11:46:52

CH78 -1Mbps

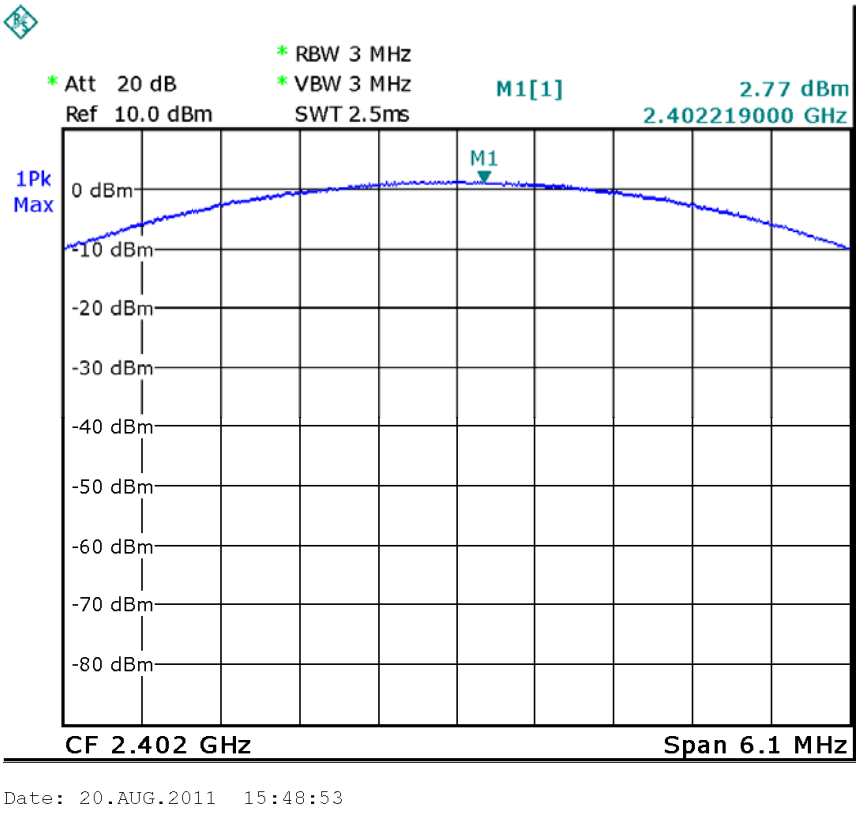


Date: 15.AUG.2011 11:22:58

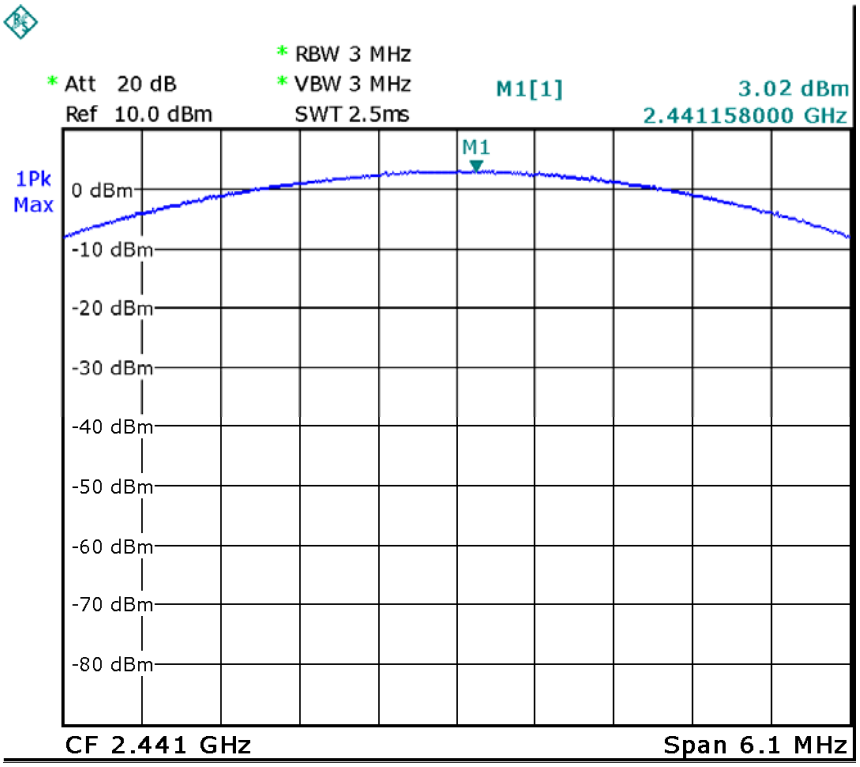
EUT：	Cisco Edge 300	Model Name ：	CS-E300-AP-K9
Temperature：	25 ℃	Relative Humidity：	51 %
Pressure：	1012 hPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	CH00/ CH39 /CH78 -3Mbps		

Test Channel	Frequency (MHz)	Peak Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
CH00	2402	2.77	21	0.125
CH39	2441	3.02	21	0.125
CH78	2480	2.57	21	0.125

CH00 -3Mbps

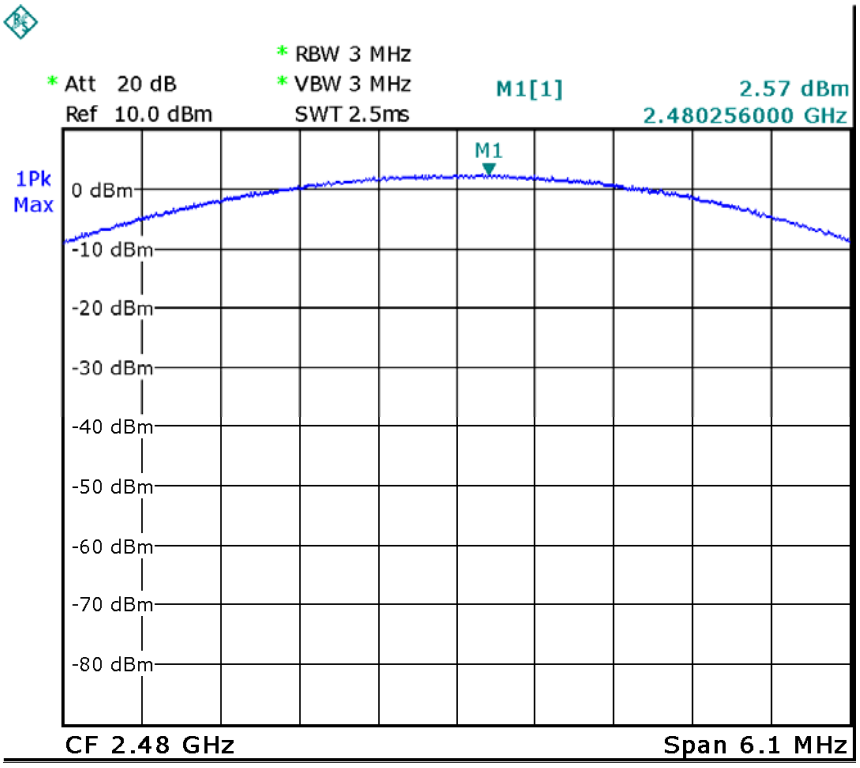


CH39 -3Mbps



Date: 20.AUG.2011 15:50:02

CH78 -3Mbps



Date: 20.AUG.2011 15:46:07

10. ANTENNA CONDUCTED SPURIOUS EMISSION

10.1 APPLIED PROCEDURES / LIMIT

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

10.1.1 MEASUREMENT INSTRUMENTS LIST AND SETTING

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP 40	100185	Nov.26.2011

Remark: ” N/A” denotes No Model Name , Serial No. or No Calibration specified.

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

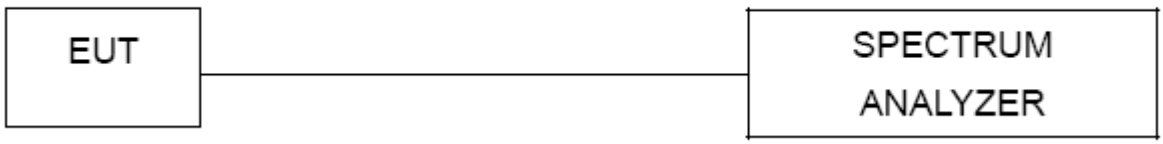
10.1.2 TEST PROCEDURE

a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
b. Spectrum Setting : RBW= 100KHz, VBW=100KHz, Sweep time = Auto.

10.1.3 DEVIATION FROM STANDARD

No deviation.

10.1.4 TEST SETUP



10.1.5 EUT OPERATION CONDITIONS

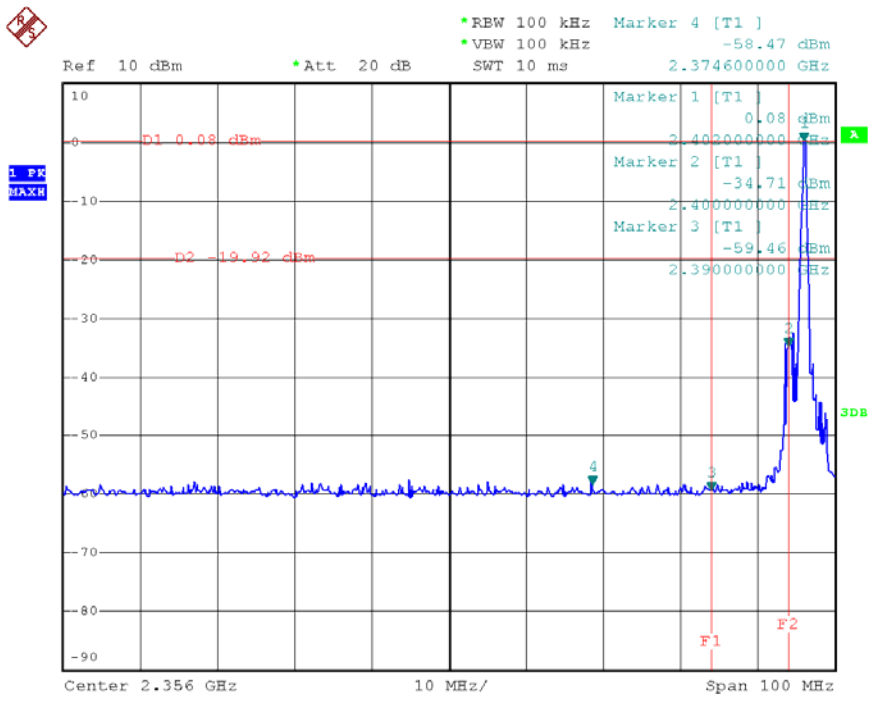
The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.

10.1.6 TEST RESULTS

EUT：	Cisco Edge 300	Model Name ：	CS-E300-AP-K9
Temperature：	25 ℃	Relative Humidity：	51 %
Pressure：	1012 hPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	CH00 / CH39 / CH78-1Mbps & Hopping on mode		

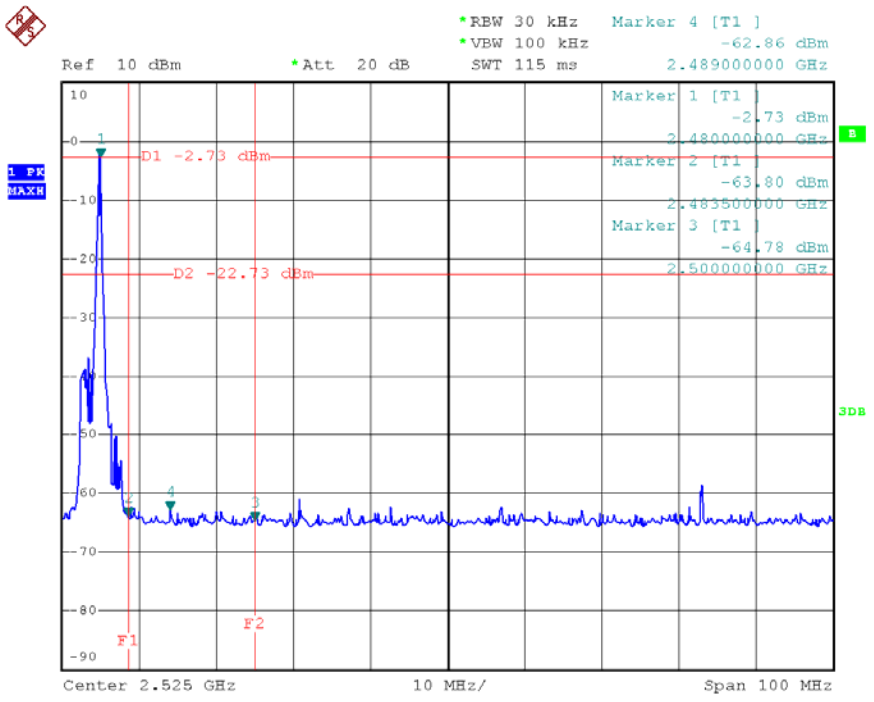
The max. radio frequency power in any 100kHz bandwidth outside the frequency band		The max. radio frequency power in any 100 kHz bandwidth within the frequency band.	
FREQUENCY(MHz)	POWER(dBm)	FREQUENCY(MHz)	POWER(dBm)
2374.60	-58.47	2489.00	-62.86
Result			
In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest lever of the desired power.			

CH00 (Lower) -1Mbps



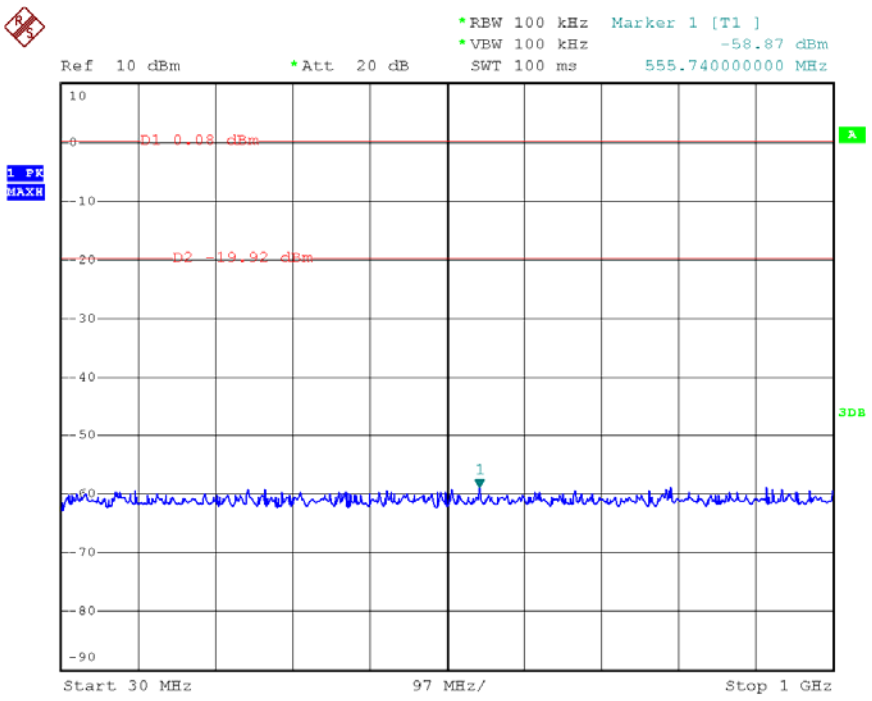
Date: 15.AUG.2011 10:40:41

CH 78 (Upper) -1Mbps



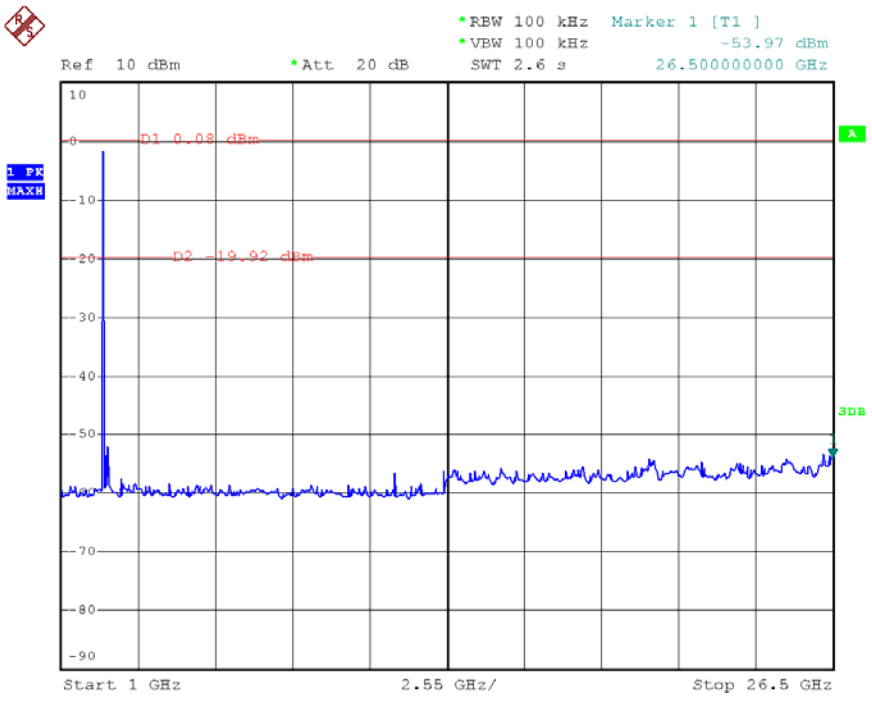
Date: 15.AUG.2011 11:25:49

TX CH00 (30MHz~1GHz)



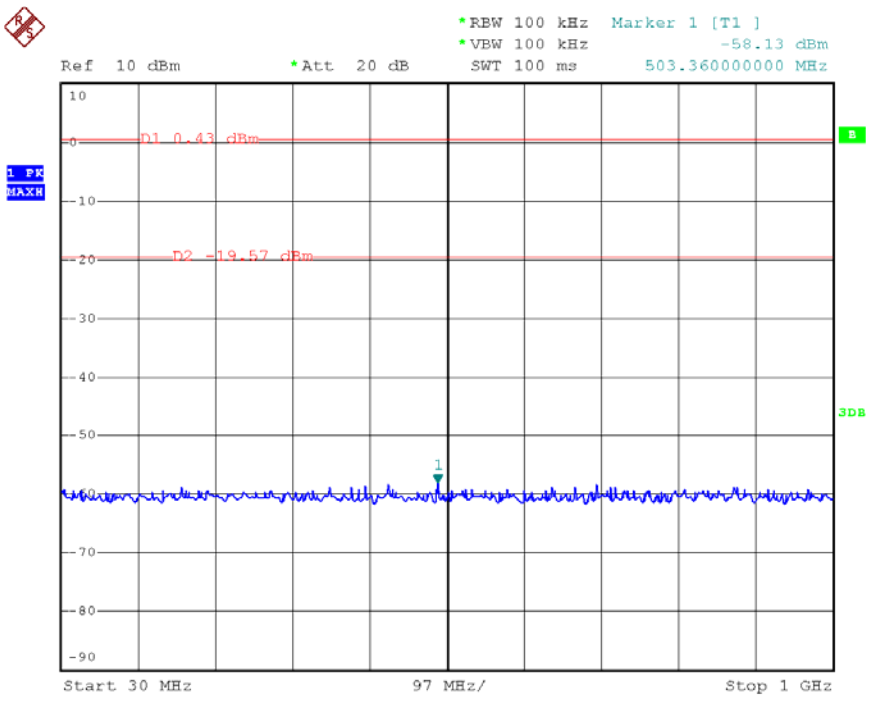
Date: 15.AUG.2011 10:41:32

TX CH00(1GHz～10th Harmonic)



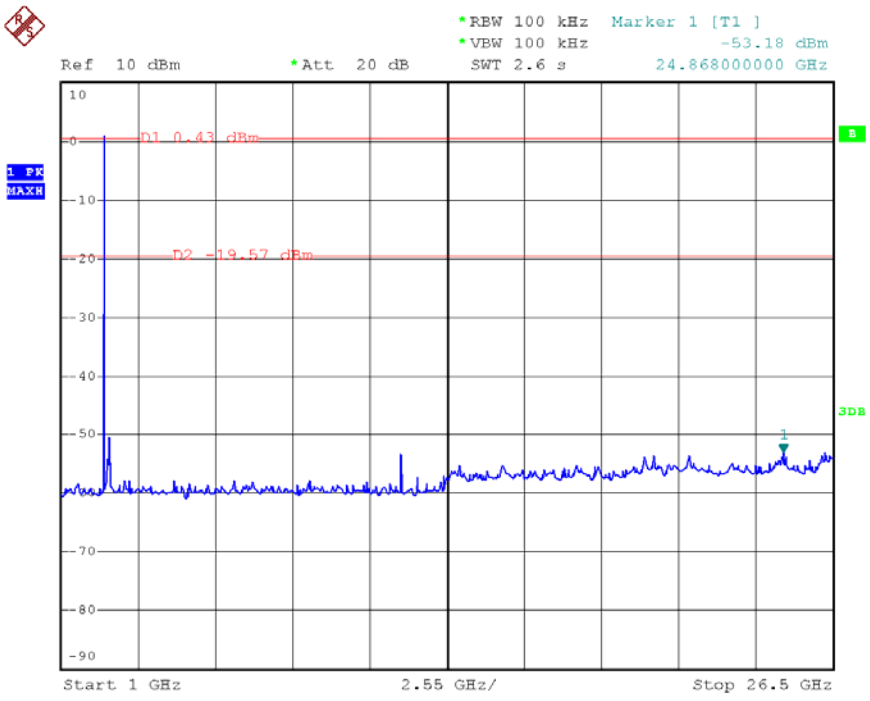
Date: 15.AUG.2011 10:41:18

TX CH39 (30MHz~1GHz)



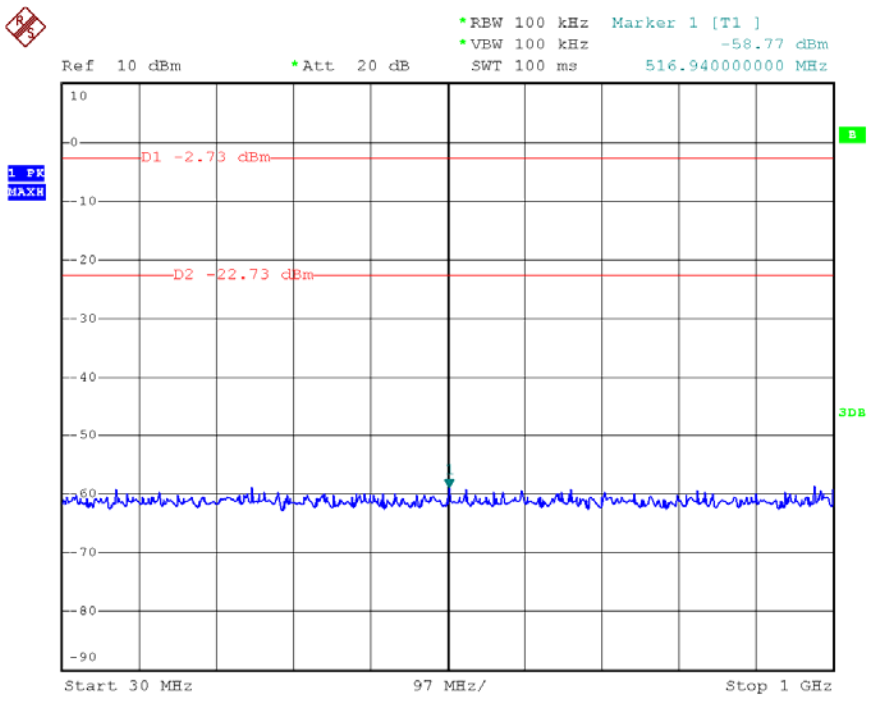
Date: 15.AUG.2011 11:15:55

TX CH39(1GHz～10th Harmonic)



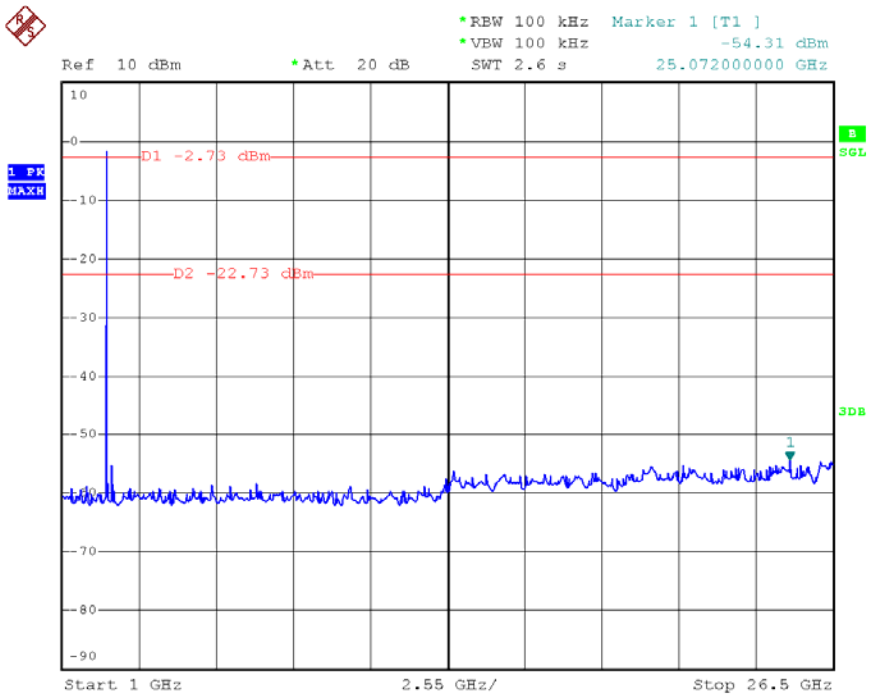
Date: 15.AUG.2011 11:15:27

TX CH78(30MHz~1GHz)



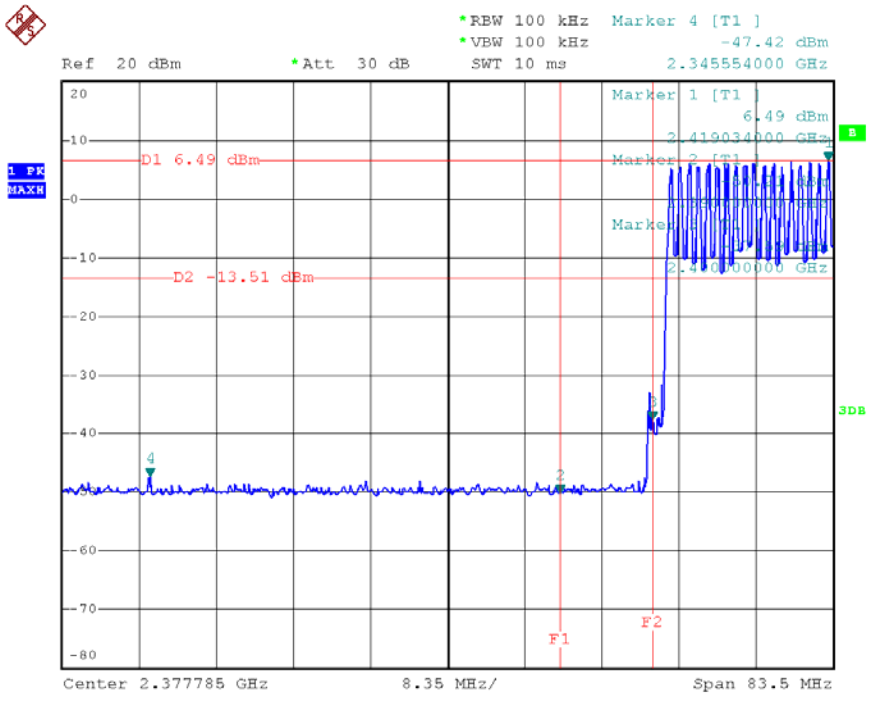
Date: 15.AUG.2011 11:27:20

TX CH 78(1GHz～10th Harmonic)



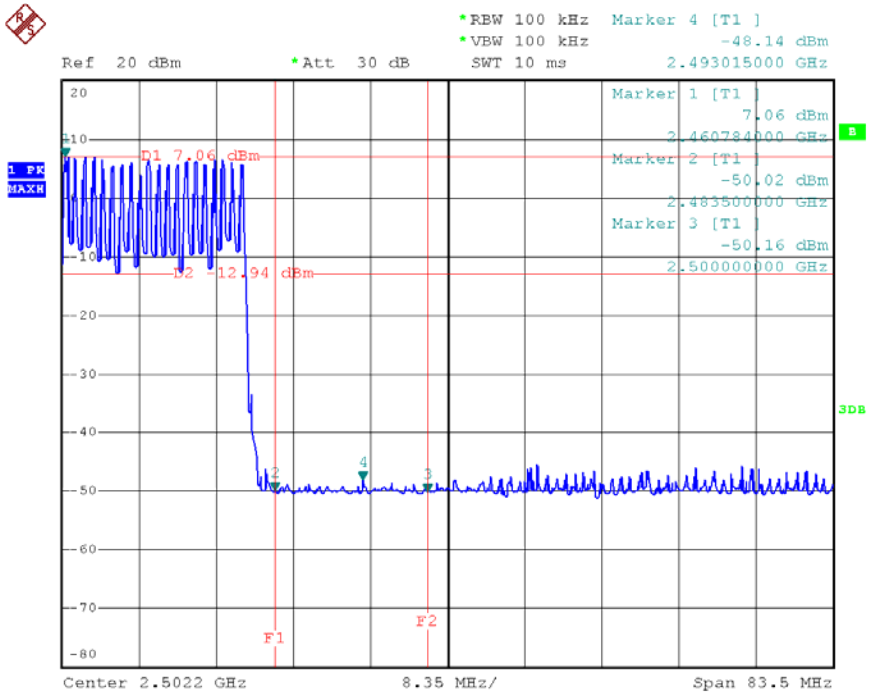
Date: 15.AUG.2011 11:26:58

Hopping on mode (Lower)



Date: 15.AUG.2011 11:36:14

Hopping on mode (Upper)

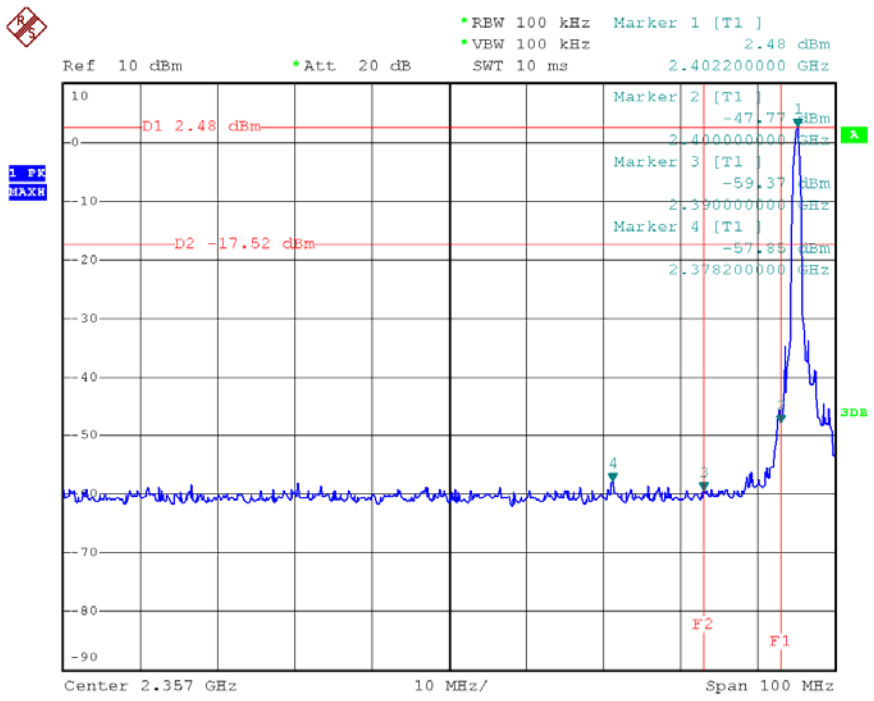


Date: 15.AUG.2011 11:37:58

EUT：	Cisco Edge 300	Model Name ：	CS-E300-AP-K9
Temperature：	25 ℃	Relative Humidity：	51 %
Pressure：	1012 hPa	Test Voltage ：	AC 120V/60Hz
Test Mode ：	CH00 / CH39 / CH78-3Mbps & Hopping on mode		

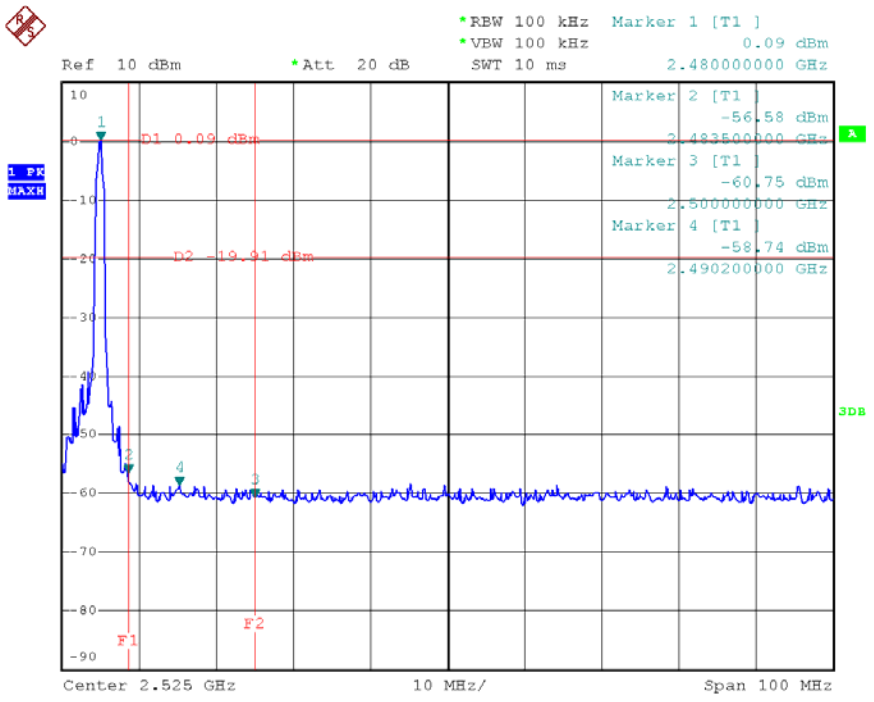
The max. radio frequency power in any 100kHz bandwidth outside the frequency band		The max. radio frequency power in any 100 kHz bandwidth within the frequency band.	
FREQUENCY(MHz)	POWER(dBm)	FREQUENCY(MHz)	POWER(dBm)
2378.02	-57.85	2483.50	-56.58
Result			
In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest lever of the desired power.			

CH00 (Lower) -3Mbps



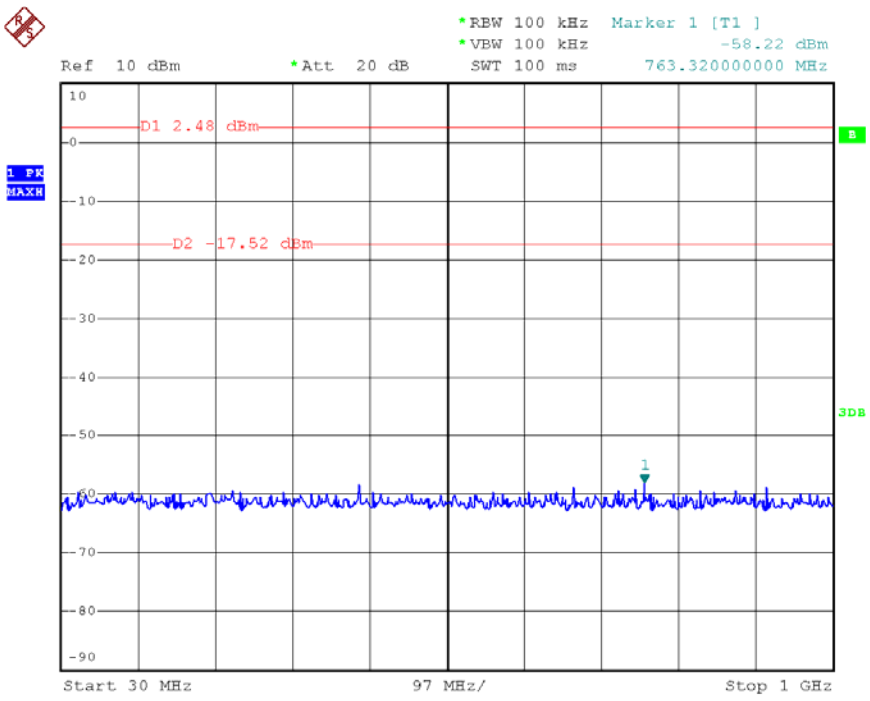
Date: 17.AUG.2011 17:58:54

CH 78 (Upper) -3Mbps



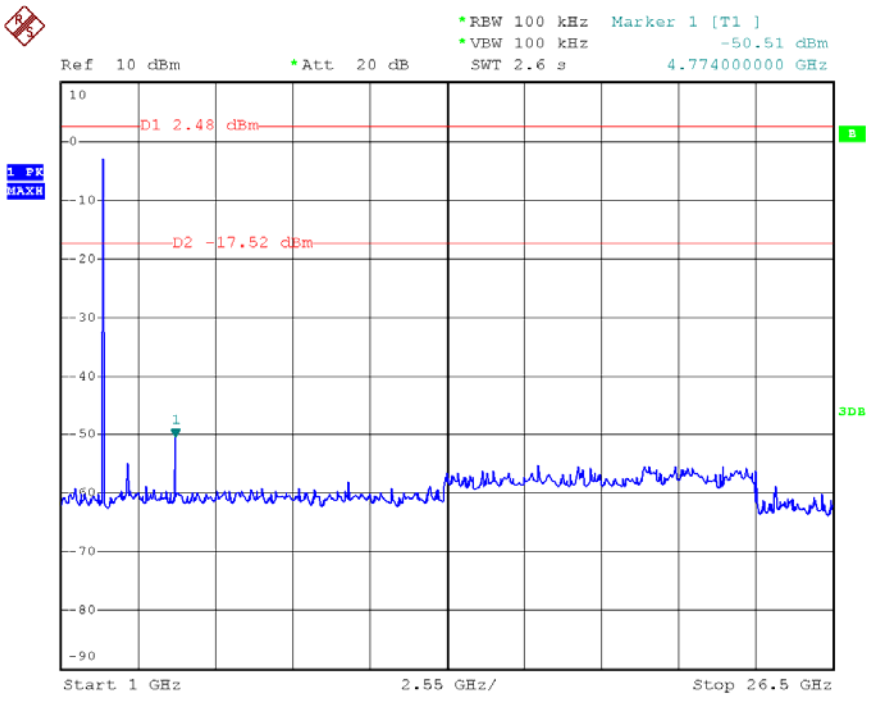
Date: 17.AUG.2011 18:01:09

TX CH00 (30MHz~1GHz)



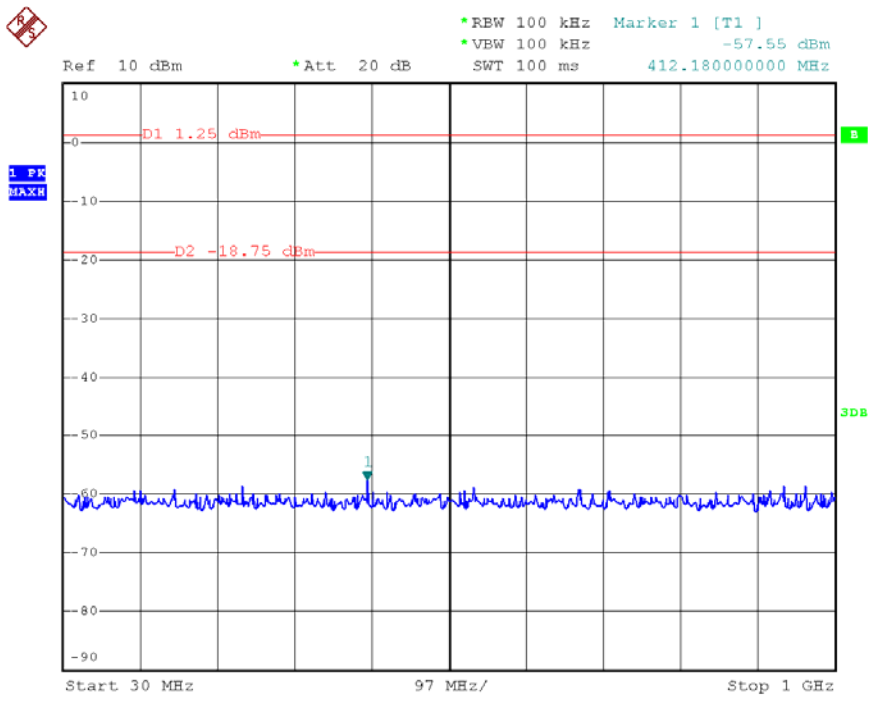
Date: 17.AUG.2011 17:59:24

TX CH00(1GHz～10th Harmonic)



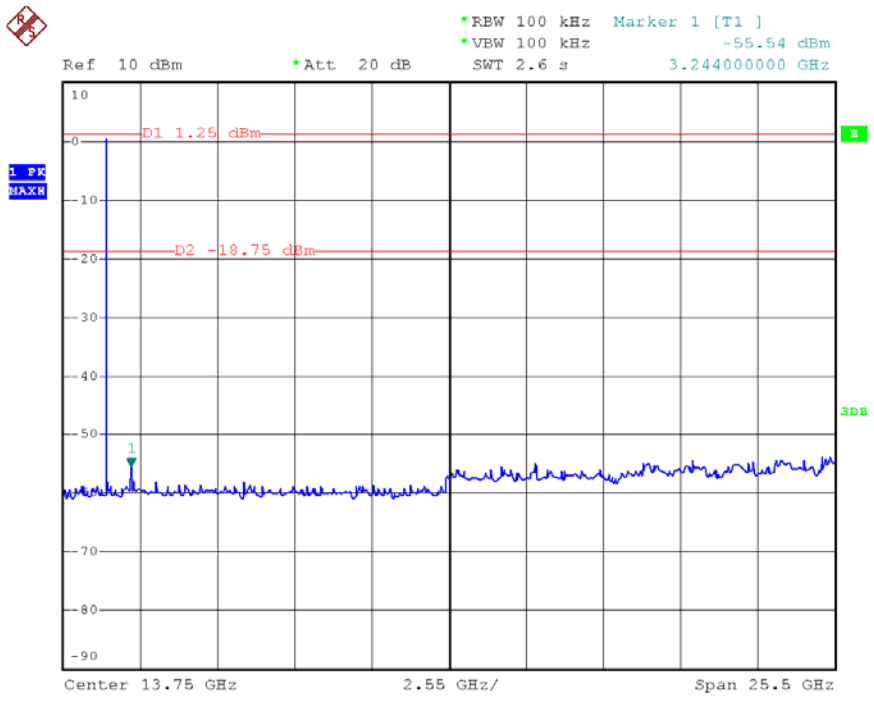
Date: 17.AUG.2011 17:59:34

TX CH39 (30MHz~1GHz)



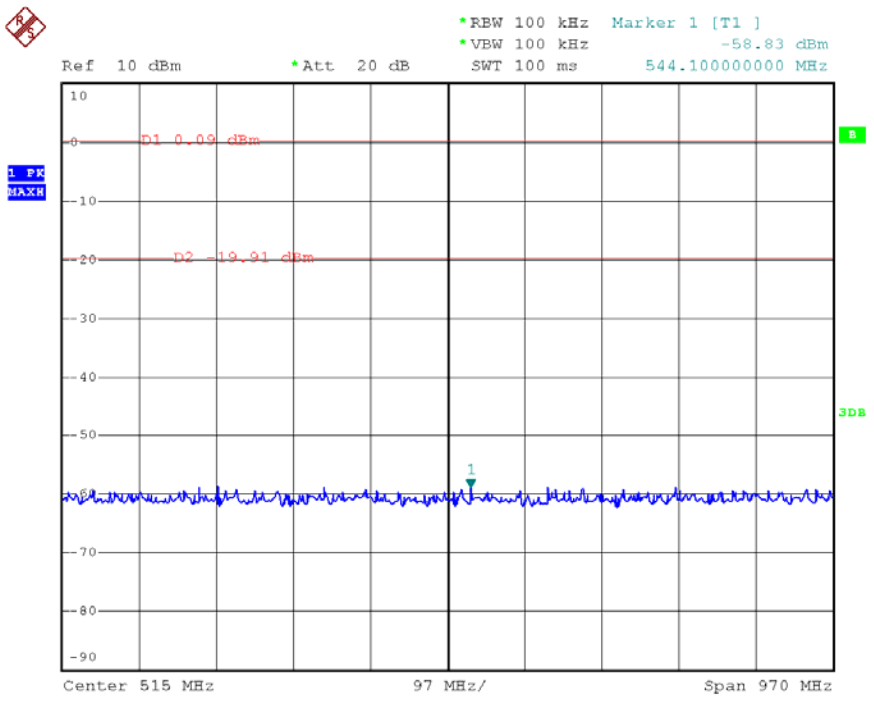
Date: 17.AUG.2011 18:00:30

TX CH39(1GHz～10th Harmonic)



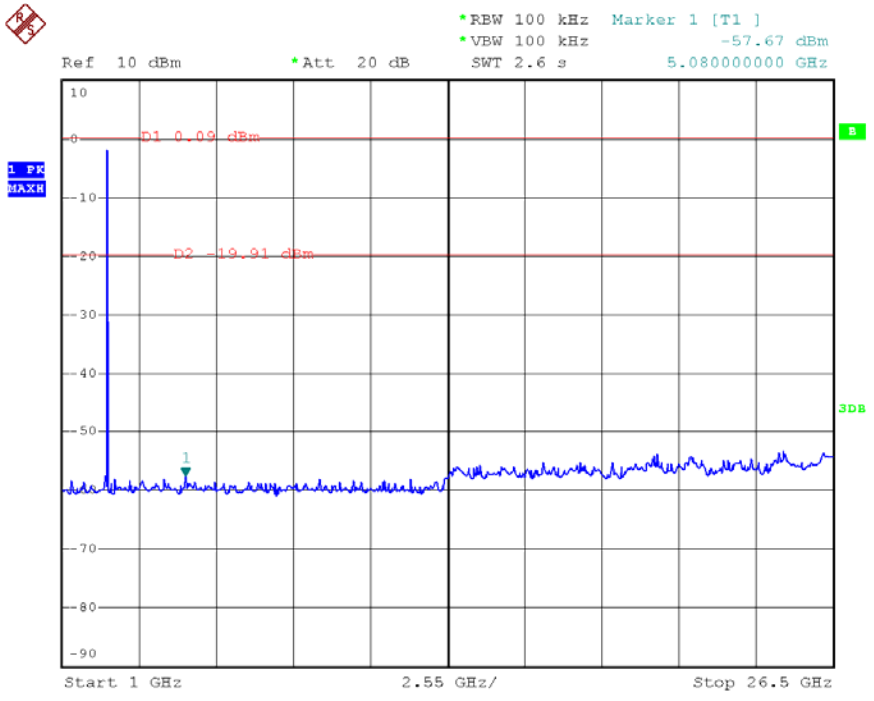
Date: 17.AUG.2011 18:00:17

TX CH78(30MHz~1GHz)



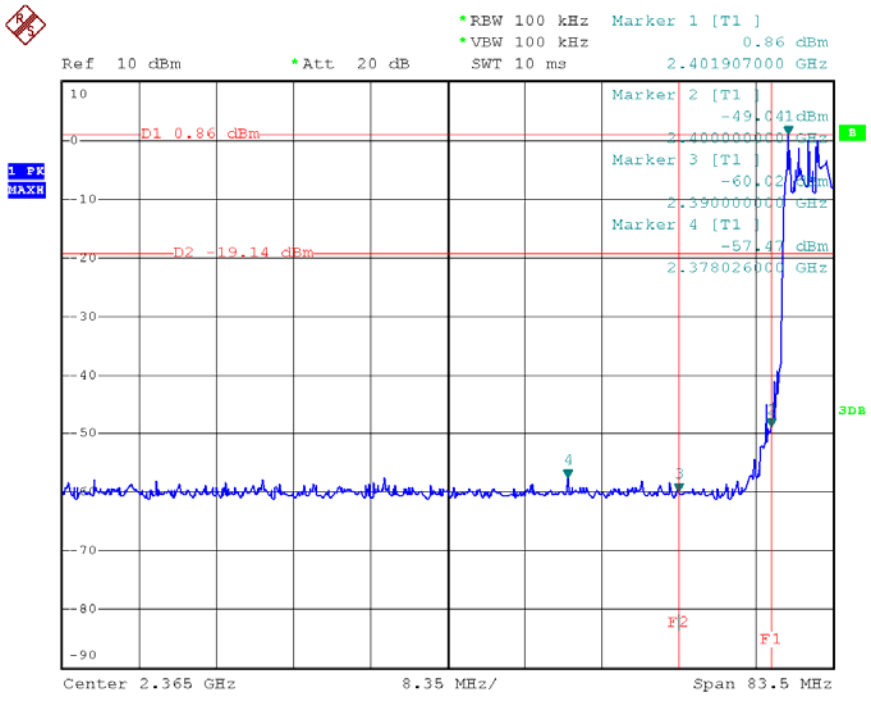
Date: 17.AUG.2011 18:01:30

TX CH 78(1GHz～10th Harmonic)



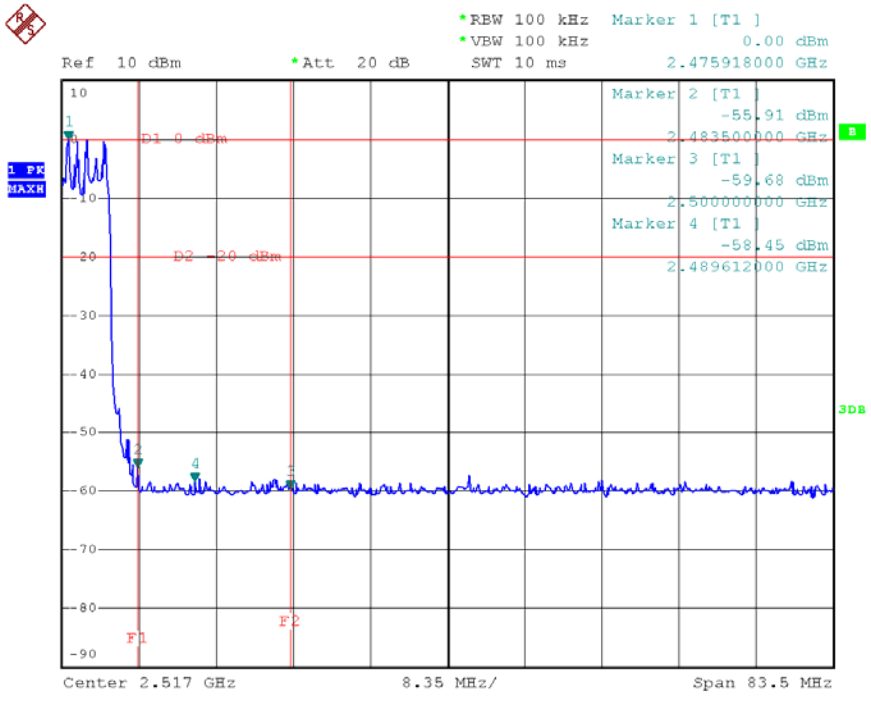
Date: 17.AUG.2011 18:02:09

Hopping on mode (Lower)



Date: 17.AUG.2011 18:04:49

Hopping on mode (Upper)



Date: 17.AUG.2011 18:06:48

11. EUT TEST PHOTO

Conducted Measurement Photos

Radiated Measurement Photos