



A D T

FCC TEST REPORT (15.407)

REPORT NO.: RF110907E02-1 R1

MODEL NO.: AR5B22

FCC ID: PPD-AR5B22

IC: 4104A-AR5B22

RECEIVED: Sep. 06, 2011

TESTED: Sep. 13 to Dec. 06, 2011

ISSUED: Jan. 19, 2012

APPLICANT: Qualcomm Atheros, Inc.

ADDRESS: 1700 Technology Drive, San Jose, CA
95110

ISSUED BY: Bureau Veritas Consumer Products Services (H.K.)
Ltd., Taoyuan Branch Hsin Chu Laboratory

LAB ADDRESS: No. 81-1, Lu Liao Keng, 9th Ling, Wu Lung Tsuen,
Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan

TEST LOCATION (1): No. 81-1, Lu Liao Keng, 9th Ling, Wu Lung Tsuen,
Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan

TEST LOCATION (2): No. 49, Ln. 206, Wende Rd., Shangshan Tsuen,
Chiung Lin Hsiang, Hsin Chu Hsien 307, Taiwan

This test report consists of 302 pages in total. It may be duplicated completely for legal use with the approval of the applicant. It should not be reproduced except in full, without the written approval of our laboratory. The client should not use it to claim product certification, approval, or endorsement by TAF or any government agencies. The test results in the report only apply to the tested sample.





A D T

Table of Contents

RELEASE CONTROL RECORD.....	4
1. CERTIFICATION.....	5
2. SUMMARY OF TEST RESULTS.....	6
2.1 MEASUREMENT UNCERTAINTY	7
3. GENERAL INFORMATION	8
3.1 GENERAL DESCRIPTION OF EUT.....	8
3.2 DESCRIPTION OF ANTENNA.....	10
3.3 DESCRIPTION OF TEST MODES.....	11
3.3.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL	13
3.4 GENERAL DESCRIPTION OF APPLIED STANDARDS	16
3.5 DESCRIPTION OF SUPPORT UNITS.....	17
3.6 CONFIGURATION OF SYSTEM UNDER TEST	18
4. TEST TYPES AND RESULTS.....	19
4.1 CONDUCTED EMISSION MEASUREMENT	19
4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT.....	19
4.1.2 TEST INSTRUMENTS	19
4.1.3 TEST PROCEDURES.....	20
4.1.4 DEVIATION FROM TEST STANDARD	20
4.1.5 TEST SETUP	21
4.1.6 EUT OPERATING CONDITIONS.....	21
4.1.7 TEST RESULTS.....	22
4.2 RADIATED EMISSION MEASUREMENT	24
4.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT.....	24
4.2.2 LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS.....	26
4.2.3 TEST INSTRUMENTS	27
4.2.4 TEST PROCEDURES.....	29
4.2.5 DEVIATION FROM TEST STANDARD	29
4.2.6 TEST SETUP	30
4.2.7 EUT OPERATING CONDITION	30
4.2.8 TEST RESULTS (FOR TRANSMITTER PART)	31
4.2.9 TEST RESULTS (FOR RECEIVER PART).....	77
4.3 OUTPUT TRANSMIT POWER MEASUREMENT	88
4.3.1 LIMITS OF OUTPUT TRANSMIT POWER MEASUREMENT.....	88
4.3.2 TEST INSTRUMENTS	88
4.3.3 TEST PROCEDURE	89
4.3.4 DEVIATION FROM TEST STANDARD	89
4.3.5 TEST SETUP	90
4.3.6 EUT OPERATING CONDITIONS.....	90
4.3.7 TEST RESULTS.....	91
4.4 AVERAGE OUTPUT POWER	131
4.4.1 FOR REFERENCE.....	131
4.4.2 TEST INSTRUMENTS	131
4.4.3 TEST PROCEDURES.....	132



A D T

4.4.4	TEST SETUP	132
4.4.5	EUT OPERATING CONDITIONS	132
4.4.6	TEST RESULTS	133
4.5	PEAK POWER EXCURSION MEASUREMENT	135
4.5.1	LIMITS OF PEAK POWER EXCURSION MEASUREMENT	135
4.5.2	TEST INSTRUMENTS	135
4.5.3	TEST PROCEDURE	135
4.5.4	DEVIATION FROM TEST STANDARD	135
4.5.5	TEST SETUP	135
4.5.6	EUT OPERATING CONDITIONS	136
4.5.7	TEST RESULTS	137
4.6	PEAK POWER SPECTRAL DENSITY MEASUREMENT	205
4.6.1	LIMITS OF PEAK POWER SPECTRAL DENSITY MEASUREMENT	205
4.6.2	TEST INSTRUMENTS	205
4.6.3	TEST PROCEDURES	205
4.6.4	DEVIATION FROM TEST STANDARD	205
4.6.5	TEST SETUP	205
4.6.6	EUT OPERATING CONDITIONS	205
4.6.7	TEST RESULTS	206
4.7	99% BANDWIDTH MEASUREMENT	242
4.7.1	TEST INSTRUMENTS	242
4.7.2	TEST PROCEDURE	242
4.7.3	TEST SETUP	242
4.7.4	EUT OPERATING CONDITIONS	242
4.7.5	TEST RESULTS	243
4.8	FREQUENCY STABILITY	279
4.8.1	LIMITS OF FREQUENCY STABILITY MEASUREMENT	279
4.8.2	TEST INSTRUMENTS	279
4.8.3	TEST PROCEDURE	279
4.8.4	DEVIATION FROM TEST STANDARD	280
4.8.5	TEST SETUP	280
4.8.6	EUT OPERATING CONDITION	280
4.8.7	TEST RESULTS	281
4.9	CONDUCTED OUT-BAND EMISSION MEASUREMENT	282
4.9.1	TEST INSTRUMENTS	282
4.9.2	TEST PROCEDURE	282
4.9.3	EUT OPERATING CONDITION	282
4.9.4	TEST RESULTS	283
5.	INFORMATION ON THE TESTING LABORATORIES	301
6.	APPENDIX A - MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB	302



A D T

RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF110907E02-1	Original release	Dec. 15, 2011
RF110907E02-1 R1	<ol style="list-style-type: none">1. Revised "PPSD result table" for typing error.2. Revised test data of "Peak Power Excursion".3. Added "composite gain" information on section 4.9.4.4. Added detail information of combination mode on section 3.1.	Jan. 19, 2012



1. CERTIFICATION

PRODUCT: PCIE 802.11a/b/g/n 2.4GHz/5GHz + USB BT 4.0 card
BRAND NAME: Atheros
MODEL NO.: AR5B22
TEST SAMPLE: R&D SAMPLE
APPLICANT: Qualcomm Atheros, Inc.
TESTED: Sep. 13 to Dec. 06, 2011
STANDARDS: FCC Part 15, Subpart E (Section 15.407)
ANSI C63.4-2003
ANSI C63.10-2009
Canada RSS-210 Issue 8 (2010-12)
Canada RSS-Gen Issue 3 (2010-12)

The above equipment (Model: AR5B22) has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and was in compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

PREPARED BY : Midoli Peng, **DATE:** Jan. 19, 2012
(Midoli Peng, Specialist)

APPROVED BY : May Chen, **DATE:** Jan. 19, 2012
(May Chen, Deputy Manager)



A D T

2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 15, Subpart E, RSS-210,RSS-GEN					
Standard Section			Test Type	Result	REMARK
RSS-210	RSS-GEN	FCC Part 15			
-	7.2.4	15.407(b)(5)	AC Power Conducted Emission	PASS	Meet the requirement of limit. Minimum passing margin is -12.05dB at 0.185MHz
A9.2	4.7	15.407(b/1/2/3)(b)(5)	Electric Field Strength Spurious Emissions, 30MHz ~ 40000MHz	PASS	Meet the requirement of limit. Minimum passing margin is -0.5dB at 5725.00MHz
	6.1	-	Receiver Radiated Emissions RSS-Gen Limit: Table 2	PASS	Meet the requirement of limit. Minimum passing margin is -1.8dB at 902.60MHz
A9.2	-	15.407(a/1/2/3)	Output Transmit Power	PASS	Meet the requirement of limit
A9.2		15.407(a)(6)	Peak Power Excursion	PASS	Meet the requirement of limit
A9.2 A9.4(2)	-	15.407(a/1/2/3)	Peak Power Spectral Density	PASS	Meet the requirement of limit
A9.5(5)	4.7	15.407(g)	Frequency Stability	PASS	Meet the requirement of limit
-	7.1.4	15.203	Antenna Requirement	PASS	Antenna connector is IPEX not a standard connector.

NOTE:

1. There are Bluetooth technology and WLAN technology used for the EUT. (The Bluetooth test data please refer "RF110907E02-2 R1")
2. For WLAN: The EUT was operating in 2400 ~ 2483.5MHz, 5.15~5.35GHz, 5.47~5.6GHz & 5.65~5.725GHz and 5.725~5.850GHz frequencies band. This report was recorded the RF parameters including 5.15~5.35GHz, 5.47~5.6GHz & 5.65~5.725GHz. For the 2400 ~ 2483.5MHz and 5.725~5.850GHz RF parameters was recorded in another test report. (RF110907E02 R1).
3. The DFS report was recorded in another test report<Report No.: RF110907E02-3>.



A D T

2.1 MEASUREMENT UNCERTAINTY

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

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.

Measurement	Value
Conducted emissions	2.45 dB
Radiated emissions (30MHz-1GHz)	3.89 dB
Radiated emissions (1GHz -18GHz)	2.19 dB
Radiated emissions (18GHz -40GHz)	2.56 dB



A D T

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	PCIE 802.11a/b/g/n 2.4GHz/5GHz + USB BT 4.0 card
MODEL NO.	AR5B22
FCC ID	PPD-AR5B22
IC	4104A-AR5B22
POWER SUPPLY	DC 3.3V from host equipment
MODULATION TYPE	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
MODULATION TECHNOLOGY	DSSS, OFDM
TRANSFER RATE	802.11b: up to 11Mbps 802.11g: up to 54Mbps 802.11n (20MHz, 800ns GI): up to 130Mbps 802.11n (20MHz, 400ns GI): up to 144.4Mbps 802.11n (40MHz, 800ns GI) : up to 270Mbps 802.11n (40MHz, 400ns GI) : up to 300Mbps
OPERATING FREQUENCY	For 15.407 802.11a: 5.18 ~ 5.24GHz, 5.26 ~ 5.32GHz, 5.5~5.58GHz & 5.66~5.7GHz
	For 15.247 802.11b & 802.11g: 2.412 ~ 2.462GHz 802.11a: 5.745 ~ 5.825GHz
NUMBER OF CHANNEL	For 15.407 16 for 802.11a, 802.11n (20MHz) 7 for 802.11n (40MHz)
	For 15.247(2.4GHz) 11 for 802.11b, 802.11g, 802.11n (20MHz) 7 for 802.11n (40MHz) For 15.247(5GHz) 5 for 802.11a, 802.11n (20MHz) 2 for 802.11n (40MHz)

MAXIMUM OUTPUT POWER	For 15.407 802.11a: 96.9mW 802.11n (20MHz): 72.2mW 802.11n (40MHz): 62.7mW For 15.247(2.4GHz) 802.11b: 179.0mW 802.11g: 478.6mW 802.11n (20MHz): 470.0mW 802.11n (40MHz): 310.5mW For 15.247(5GHz) 802.11a: 205.1mW 802.11n (20MHz): 218.0mW 802.11n (40MHz): 214.4mW
ANTENNA TYPE	See item 3.2
ANTENNA CONNECTOR	See item 3.2
DATA CABLE	NA
I/O PORTS	NA
ASSOCIATED DEVICES	NA

NOTE:

- There are Bluetooth technology and WLAN technology used for the EUT. <the Bluetooth test data please refer "RF110907E02-2 R1">
- The device has three configurations (working mode)
 - WLAN only (2x2 MIMO)
 - BT+WLAN (2x2 MIMO) with reduced power on WLAN
 - BT+WLAN (1x1 mode on a/b/g only, chain 0 is used for BT and chain 1 is used for WLAN)
- Spurious Emission (radiated emission) of the simultaneous operation (WiFi & Bluetooth) have been evaluated and no non-compliance found. The detail combinations of transmitters / frequencies / modes as below table

Mode	Available Channel	Tested Channel	Modulation Technology	Modulation Type
2.4 GHz (802.11g) + Bluetooth	1 to 11	6	OFDM	BPSK
	0 to 78	78	FHSS	8DPSK
5 GHz (802.11n (20MHz)) + Bluetooth	149 to 165	165	OFDM	BPSK
	0 to 78	78	FHSS	8DPSK

4. The EUT was pre-tested under the following modes:

Test Mode	Data rate
Mode A	400ns GI
Mode B	800ns GI

From the above modes, the worst case was found in **Mode B**. Therefore only the test data of the mode was recorded in this report.

5. For radiated : The EUT's antenna was pre-tested under the following modes:

Test Mode	Description
Mode A	X-Y axis
Mode B	Y-Z axis
Mode C	X-Z axis

From the above modes, the worst case was found in **Mode A**. Therefore only the test data of the mode was recorded in this report.

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

3.2 DESCRIPTION OF ANTENNA

There is one set of antenna provided to this EUT, please refer to the following table:

No.	Brand	Model	Antenna Type	Connector	Antenna Gain (dBi)< included cable loss>			
					For 2.4GHz	For 5GHz (5.15~5.35)	For 5GHz (5.47~5.725)	For 5GHz (5.725~5.850)
1&2	WNC	81.EBJ15.005	PIFA	IPEX	3.62	3.08	4.76	4.76

Cable Loss:

No.	Brand	Model	Cable Loss(dB)				Cable Length
			For 2.4GHz	For 5GHz (5.15~5.35)	For 5GHz (5.47~5.725)	For 5GHz (5.725~5.850)	
1&2	WNC	81-EBJ15.005	1.15	1.70	1.74	1.79	300

Note: Above antenna gains of antenna are Total (H+V).



A D T

3.3 DESCRIPTION OF TEST MODES

Operated in 5150MHz ~ 5350MHz bands:

Eight channels are provided for 802.11a and 802.11n (20MHz):

CHANNEL	FREQUENCY
36	5180 MHz
40	5200 MHz
44	5220 MHz
48	5240 MHz
52	5260 MHz
56	5280 MHz
60	5300 MHz
64	5320 MHz

Four channels are provided for 802.11n (40MHz):

CHANNEL	FREQUENCY
38	5190 MHz
46	5230 MHz
54	5270 MHz
62	5310 MHz



A D T

Operated in 5470MHz ~ 5600MHz & 5650MHz ~ 5725MHz bands:

Eight channels are provided for 802.11a and 802.11n (20MHz):

CHANNEL	FREQUENCY
100	5500 MHz
104	5520 MHz
108	5540 MHz
112	5560 MHz
116	5580 MHz
132	5660 MHz
136	5680 MHz
140	5700 MHz

Three channels are provided for 802.11n (40MHz):

CHANNEL	FREQUENCY
102	5510 MHz
110	5550 MHz
134	5670 MHz

3.3.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

EUT CONFIGURE MODE	APPLICABLE TO				DESCRIPTION
	PLC	RE < 1G	RE ≥ 1G	APCM	
-	√	√	√	√	-

Where **PLC**: Power Line Conducted Emission **RE < 1G**: Radiated Emission below 1GHz
RE ≥ 1G: Radiated Emission above 1GHz **APCM**: Antenna Port Conducted Measurement

ANTENNA COMBINATION MODE:

COMBINATION MODE	OPERATION MODE	TX CHAIN(0)	TX CHAIN(1)
A	802.11 a		√
B	802.11 a	√	√
C	802.11n(20MHz)	√	√
D	802.11n(40MHz)	√	√
COMBINATION MODE	OPERATION MODE	RX CHAIN(0)	RX CHAIN(1)
E	Receiver	√	√

Note: 1. The output power setting for each chain is different between 1x1 and 2x2 mode.
2. The above information was declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or user's manual.

POWER LINE CONDUCTED EMISSION TEST:

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- The investigation has been done for the worst-case (1x1 vs. 2x2) on harmonics and band-edge to find out the worst-case for the final tests.
- Following channel(s) was (were) selected for the final test as listed below.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	COMBINATION MODE
For 5 GHz 802.11n (20MHz)	36 to 140	116	OFDM	BPSK	6.5	C

RADIATED EMISSION TEST (BELOW 1 GHz):

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- The receiving mode had show equal or better than Tx mode during the pre-scan and hence the Tx mode data is re-used for Receiving-mode worst-case data.
- The investigation has been done for the worst-case (1x1 vs. 2x2) on harmonics and band-edge to find out the worst-case for the final tests.
- Following channel(s) was (were) selected for the final test as listed below.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	COMBINATION MODE
For 5 GHz 802.11n (20MHz)	36 to 140	116	OFDM	BPSK	6.5	C

RADIATED EMISSION TEST (ABOVE 1 GHz):

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- The investigation has been done for the worst-case (1x1 vs. 2x2) on harmonics and band-edge to find out the worst-case for the final tests.
- Following channel(s) was (were) selected for the final test as listed below.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	COMBINATION
802.11a	36 to 140	36, 40, 48, 52, 60, 64, 100, 116, 132, 140	OFDM	BPSK	6	B
For 5 GHz 802.11n (20MHz)	36 to 140	36, 40, 48, 52, 60, 64, 100, 116, 132, 140	OFDM	BPSK	6.5	C
For 5 GHz 802.11n (40MHz)	38 to 134	38, 46, 54, 62, 102, 110, 134	OFDM	BPSK	13.5	D
For 5 GHz Receiver	36 to 140	36, 40, 48, 52, 60, 64, 100, 116, 132, 140	-	-	-	E



A D T

ANTENNA PORT CONDUCTED MEASUREMENT:

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

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)	COMBINATION
802.11a	36 to 140	36, 64, 100, 140	OFDM	BPSK	6	A, B
For 5 GHz 802.11n (20MHz)	36 to 140	36, 64, 100, 140	OFDM	BPSK	6.5	C
For 5 GHz 802.11n (40MHz)	38 to 134	38, 62, 102, 134	OFDM	BPSK	13.5	D

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER (SYSTEM)	TESTED BY
PLC	25deg. C, 64%RH	120Vac, 60Hz	Mike Hsieh
RE<1G	23deg. C, 69%RH	120Vac, 60Hz	Evan Huang
RE ³ 1G	25deg. C, 70%RH	120Vac, 60Hz	Evan Huang
APCM	25deg. C, 60%RH	120Vac, 60Hz	Rex Huang

3.4 GENERAL DESCRIPTION OF APPLIED STANDARDS

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

FCC Part 15, Subpart E (Section 15.407)

ANSI C63.4-2003

ANSI C63.10-2009

Canada RSS-210 Issue 8 (2010-12)

Canada RSS-Gen Issue 3 (2010-12)

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

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



A D T

3.5 DESCRIPTION OF SUPPORT UNITS

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

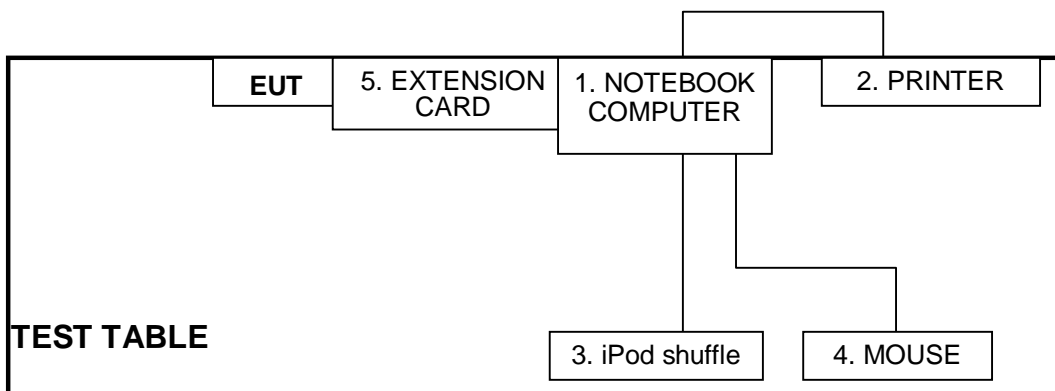
For conducted emission test					
No.	Product	Brand	Model No.	Serial No.	FCC ID
1	NOTEBOOK COMPUTER	DELL	PP21L	CN-0GD366-70166-5B3-09ZX	QDS-BRCM1016
2	PRINTER	EPSON	LQ-300+II	G88Y074083	FCC DoC
3	iPod shuffle	Apple	MC749TA/A	CC4DN25WDFDM	FCC DoC
4	MOUSE	DELL	MOC5UO	I14066PK	FCC DoC
5	extension card	Atheros	NA	NA	NA
For other test items					
No.	Product	Brand	Model No.	Serial No.	FCC ID
1	NOTEBOOK COMPUTER	DELL	PP19L	CN-OHC416-70166-5C A-0448	PIW632500516610
2	EXTENSION CARD	Atheros	NA	NA	NA

For conducted emission test	
No.	Signal cable description
1	NA
2	USB cable(1.8m)
3	USB cable(0.1m)
4	USB cable(1.8m)
5	NA
For other test items	
No.	Signal cable description
1	NA
2	NA

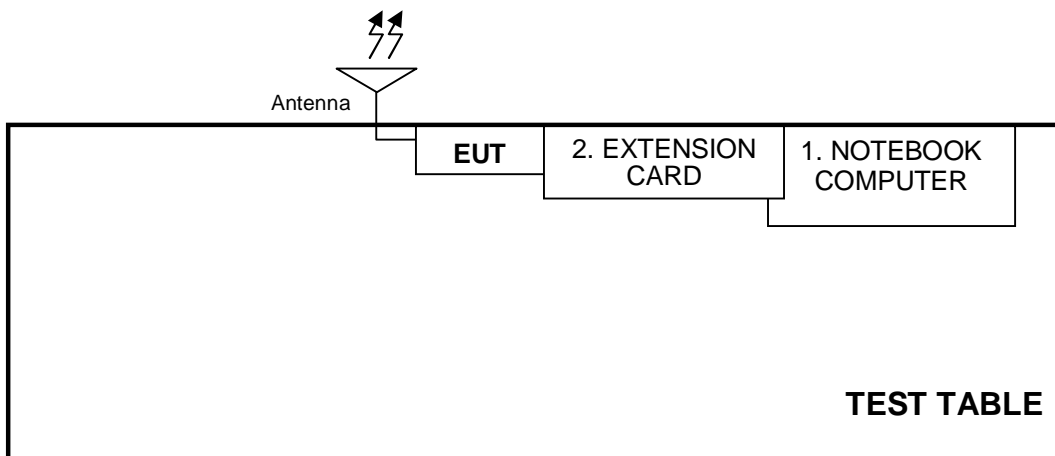
Note: The power cords of the above support units were unshielded (1.8m).

3.6 CONFIGURATION OF SYSTEM UNDER TEST

For conducted emission test



For other test items





A D T

4. TEST TYPES AND RESULTS

4.1 CONDUCTED EMISSION MEASUREMENT

4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (dB μ V)	
	Quasi-peak	Average
0.15-0.5	66 to 56	56 to 46
0.5-5	56	46
5-30	60	50

- NOTE:**
1. The lower limit shall apply at the transition frequencies.
 2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50 MHz.
 3. All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

4.1.2 TEST INSTRUMENTS

Test date: Oct. 11, 2011

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Test Receiver	ESCS 30	100375	Mar. 09, 2011	Mar. 08, 2012
Line-Impedance Stabilization Network (for EUT)	NSLK8127	8127-522	Sep. 07, 2011	Sep. 06, 2012
Line-Impedance Stabilization Network (for Peripheral)	ESH3-Z5	848773/004	Nov. 03, 2010	Nov. 02, 2011
RF Cable (JYEBAO)	5DFB	COCCAB-002	Aug. 29, 2011	Aug. 28, 2012
50 ohms Terminator	50	3	Nov. 03, 2010	Nov. 02, 2011
Software	BV ADT_Cond_V7.3.7	NA	NA	NA

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in Shielded Room No. C.
3. The VCCI Con C Registration No. is C-3611.



A D T

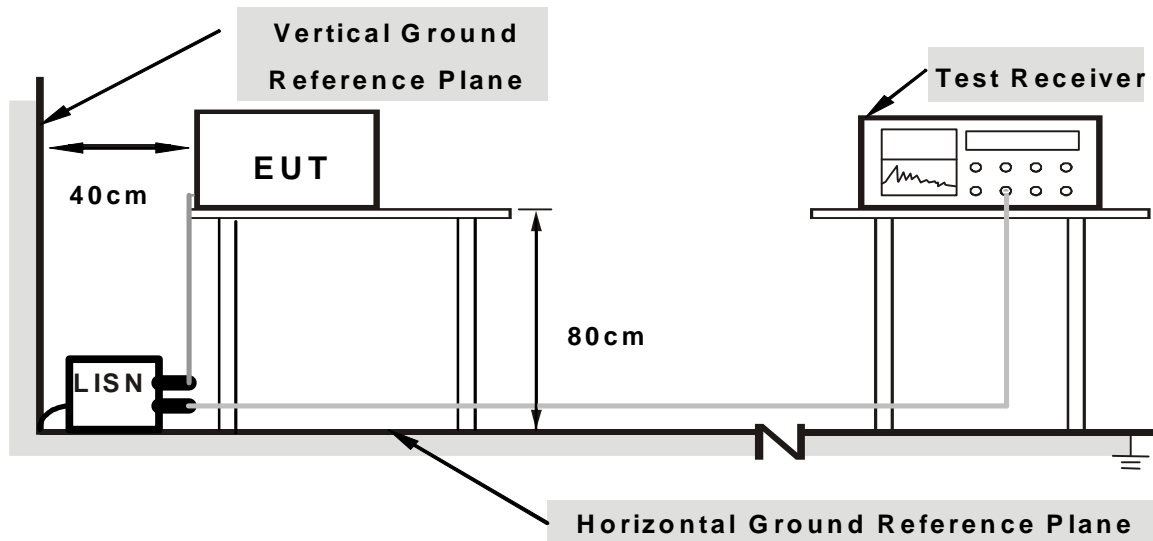
4.1.3 TEST PROCEDURES

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

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

For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

4.1.6 EUT OPERATING CONDITIONS

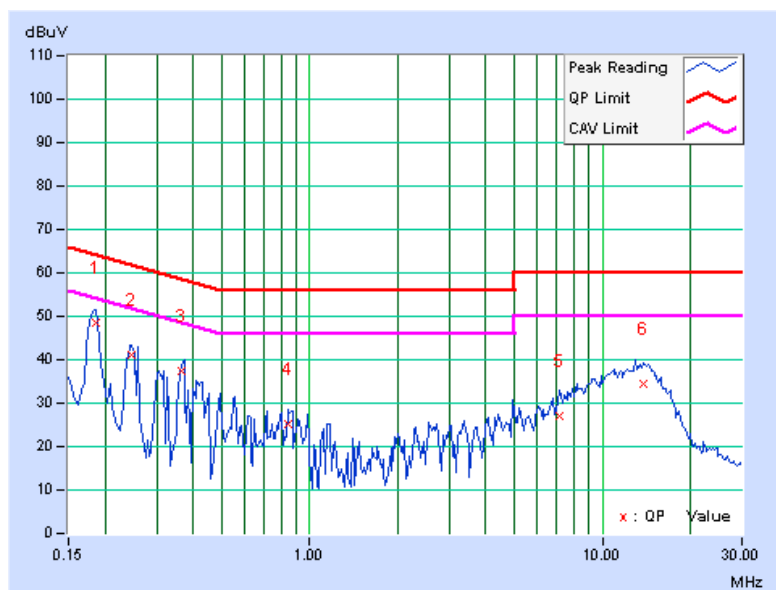
1. Connect the EUT with the support unit 1 (Notebook Computer) which is placed on a testing table.
2. The communication partner run test program “artgui.exe” to enable EUT under transmission/receiving condition continuously at specific channel frequency.

4.1.7 TEST RESULTS

PHASE	Line (L)	6dB BANDWIDTH	9 kHz
--------------	----------	----------------------	-------

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.185	0.10	48.53	42.11	48.63	42.21	64.25	54.25	-15.63	-12.05
2	0.245	0.10	41.16	33.64	41.26	33.74	61.93	51.93	-20.67	-18.19
3	0.363	0.11	37.25	33.86	37.36	33.97	58.66	48.66	-21.30	-14.69
4	0.849	0.14	24.89	22.36	25.03	22.50	56.00	46.00	-30.97	-23.50
5	7.125	0.44	26.53	16.97	26.97	17.41	60.00	50.00	-33.03	-32.59
6	13.863	0.64	33.88	27.45	34.52	28.09	60.00	50.00	-25.48	-21.91

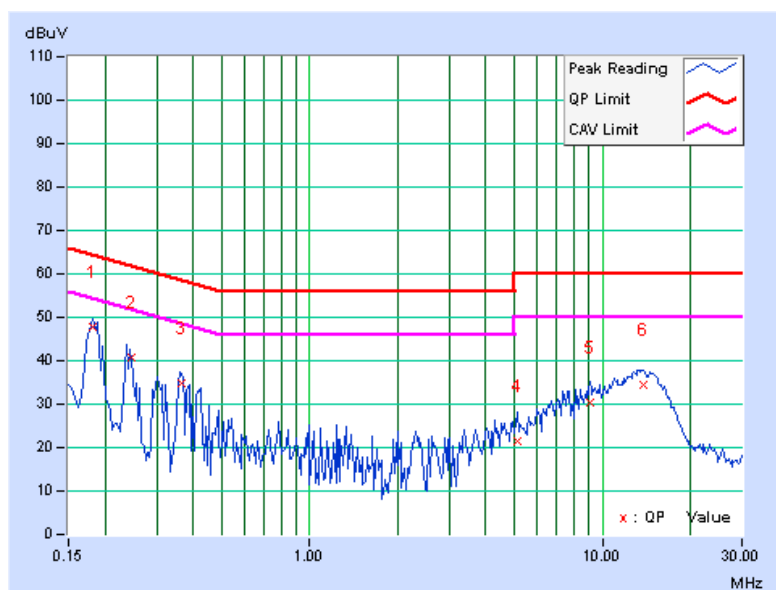
- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. The emission levels of other frequencies were very low against the limit.
 3. Margin value = Emission level - Limit value
 4. Correction factor = Insertion loss + Cable loss
 5. Emission Level = Correction Factor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



PHASE	Neutral (N)	6dB BANDWIDTH	9 kHz
--------------	-------------	----------------------	-------

No	Freq.	Corr.	Reading Value		Emission Level		Limit		Margin	
	[MHz]	Factor	[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
		(dB)	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.181	0.08	47.61	41.38	47.69	41.46	64.43	54.43	-16.73	-12.96
2	0.246	0.09	40.53	34.46	40.62	34.55	61.90	51.90	-21.28	-17.35
3	0.367	0.11	34.77	31.44	34.88	31.55	58.57	48.57	-23.69	-17.02
4	5.148	0.27	21.25	8.76	21.52	9.03	60.00	50.00	-38.48	-40.97
5	9.078	0.38	30.09	21.25	30.47	21.63	60.00	50.00	-29.53	-28.37
6	13.883	0.51	33.77	26.58	34.28	27.09	60.00	50.00	-25.72	-22.91

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



4.2 RADIATED EMISSION MEASUREMENT

4.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

For transmitter part:

Emissions radiated outside of the specified bands, shall be according to the general radiated limits in 15.209 (RSS-Gen table 5, 6) as following:

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

NOTE:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. For frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB.
4. Section 15.205 restricted bands of operation shall compliance with the limits in Section 15.209.



A D T

For receiver part:

Emissions radiated outside of the specified bands, shall be according to the general radiated limits in RSS-Gen table 2 as following:

Frequencies (MHz)	Field strength (microvolts/meter)	Measurement distance (meters)
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

NOTE:

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



A D T

4.2.2 LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS

Frequencies (MHz)	EIRP Limit (dBm)	Equivalent Field Strength at 3m (dB μ V/m) *note 3
5150~5250	-27	68.3
5250~5350	-27	68.3
5470~5725	-27	68.3
5725~5825	-27 *note 1	68.3
	-17 *note 2	78.3

NOTE:

1. For frequencies 10MHz or greater above or below the band edge.
2. All emissions within the frequency range from the band edge to 10MHz above or below the band edge.
3. The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength

$$E = \frac{1000000\sqrt{30P}}{3} \mu\text{V/m, where P is the eirp (Watts)}$$



A D T

4.2.3 TEST INSTRUMENTS

Below 1GHz<Test date: Sep. 13, 2011>

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Agilent Spectrum Analyzer	E4446A	MY48250253	Aug. 29, 2011	Aug. 28, 2012
Agilent Pre-Selector	N9039A	MY46520310	Aug. 29, 2011	Aug. 28, 2012
Agilent Signal Generator	N5181A	MY49060347	July 25, 2011	July 24, 2012
LIG NEX1 Test Receiver	ER-265	L09068005	Oct. 25, 2010	Oct. 24, 2011
Mini-Circuits Pre-Amplifier	ZFL-1000VH2B	AMP-ZFL-04	Nov. 16, 2010	Nov. 15, 2011
Agilent Pre-Amplifier	8449B	3008A02465	Feb. 28, 2011	Feb. 27, 2012
SPACEK LABS	SLKKa-48-6	9K16	Nov. 16, 2010	Nov. 15, 2011
SCHWARZBECK Trilog Broadband Antenna	VULB 9168	9168-361	Apr. 14, 2011	Apr. 13, 2012
AISI Horn_Antenna	AIH.8018	0000220091110	Nov. 22, 2010	Nov. 21, 2011
SCHWARZBECK Horn_Antenna	BBHA 9170	9170-424	Oct. 08, 2010	Oct. 07, 2011
RF CABLE	NA	RF104-205 RF104-207 RF104-202	Dec. 28, 2010	Dec. 27, 2011
RF Cable	NA	CHHCAB_001	Oct. 08, 2010	Oct. 07, 2011
Software	ADT_Radiated_V8.7.05	NA	NA	NA
CT Antenna Tower & Turn Table	NA	NA	NA	NA

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

2. The horn antenna, preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.

3. The test was performed in 966 Chamber No. H.

4. The FCC Site Registration No. is 797305.

5. The CANADA Site Registration No. is IC 7450H-3.



A D T

Above 1GHz<Test date: Dec. 05, 2011>:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Agilent Spectrum Analyzer	E4446A	MY48250253	Aug. 29, 2011	Aug. 28, 2012
Agilent Pre-Selector	N9039A	MY46520310	Aug. 29, 2011	Aug. 28, 2012
Agilent Signal Generator	N5181A	MY49060347	July 25, 2011	July 24, 2012
Mini-Circuits Pre-Amplifier	ZFL-1000VH2B	AMP-ZFL-04	Nov. 15, 2011	Nov. 14, 2012
Agilent Pre-Amplifier	8449B	3008A02465	Feb. 28, 2011	Feb. 27, 2012
SPACEK LABS	SLKKa-48-6	9K16	Nov. 15, 2011	Nov. 14, 2012
SCHWARZBECK Trilog Broadband Antenna	VULB 9168	9168-361	Apr. 14, 2011	Apr. 13, 2012
AISI Horn_Antenna	AIH.8018	0000220091110	Nov. 22, 2011	Nov. 21, 2012
SCHWARZBECK Horn_Antenna	BBHA 9170	9170-424	Oct. 07, 2011	Oct. 06, 2012
RF CABLE	NA	RF104-205 RF104-207 RF104-202	Dec. 28, 2010	Dec. 27, 2011
RF Cable	NA	CHHCAB_001	Oct. 08, 2011	Oct. 07, 2012
Software	ADT_Radiated_V8.7.05	NA	NA	NA
CT Antenna Tower & Turn Table	NA	NA	NA	NA

- Note: 1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The horn antenna, preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
3. The test was performed in 966 Chamber No. H.
4. The FCC Site Registration No. is 797305.
5. The CANADA Site Registration No. is IC 7450H-3.



A D T

4.2.4 TEST PROCEDURES

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meters chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

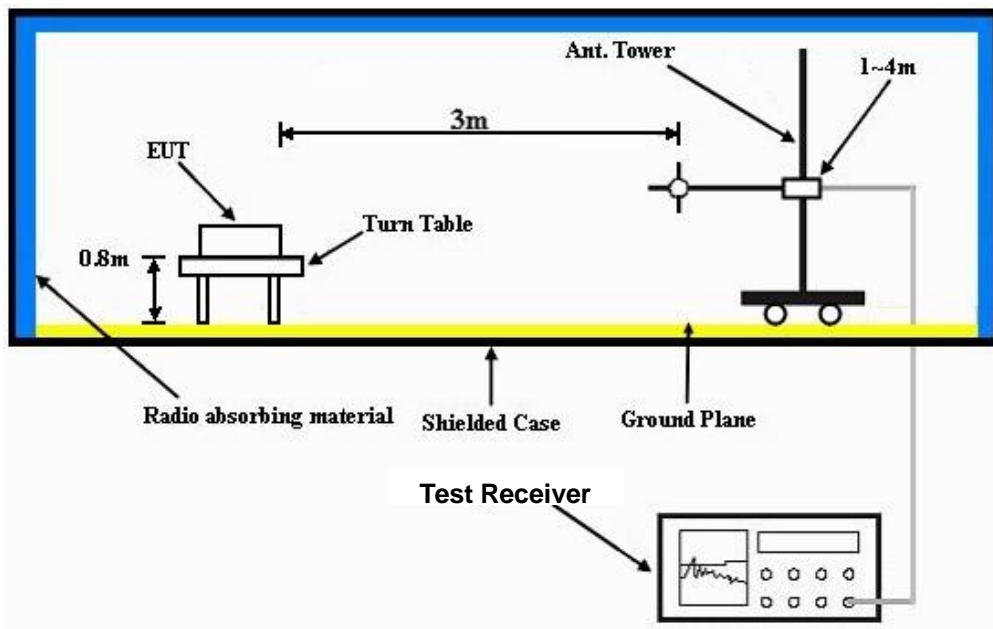
NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 10 Hz for Average detection (AV) at frequency above 1GHz.

4.2.5 DEVIATION FROM TEST STANDARD

No deviation

4.2.6 TEST SETUP



For the actual test configuration, please refer to the related item – Photographs of the Test Configuration.

4.2.7 EUT OPERATING CONDITION

Same as 4.1.6



A D T

4.2.8 TEST RESULTS (FOR TRANSMITTER PART)

BELOW 1GHz WORST-CASE DATA : 802.11n (20MHz) OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 116	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	23deg. C, 69%RH	TESTED BY	Evan Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	35.38	34.4 QP	40.0	-5.7	1.00 H	333	20.98	13.37
2	199.00	36.7 QP	43.5	-6.8	1.75 H	272	25.45	11.29
3	497.40	34.0 QP	46.0	-12.0	1.00 H	236	14.50	19.48
4	602.00	37.3 QP	46.0	-8.7	1.00 H	198	15.69	21.61
5	799.40	37.0 QP	46.0	-9.0	1.25 H	322	12.52	24.47
6	902.60	44.2 QP	46.0	-1.8	1.25 H	77	18.35	25.82
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	35.45	34.3 QP	40.0	-5.8	1.00 V	201	20.87	13.38
2	99.99	32.0 QP	43.5	-11.5	1.50 V	226	22.68	9.31
3	199.94	36.8 QP	43.5	-6.7	1.75 V	293	25.61	11.21
4	600.44	40.9 QP	46.0	-5.1	1.00 V	188	19.30	21.60
5	799.75	37.5 QP	46.0	-8.5	1.25 V	327	12.99	24.47
6	953.34	36.0 QP	46.0	-10.0	1.25 V	118	9.62	26.41

REMARKS: 1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).

2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).

3. The other emission levels were very low against the limit.

4. Margin value = Emission level – Limit value.



A D T

ABOVE 1GHz WORST-CASE DATA

802.11a OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 36	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 70%RH	TESTED BY	Evan Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	68.8 PK	74.0	-5.2	1.03 H	71	28.40	40.40
2	5150.00	51.1 AV	54.0	-2.9	1.03 H	71	10.70	40.40
3	*5180.00	107.7 PK			1.52 H	70	67.25	40.45
4	*5180.00	99.0 AV			1.52 H	70	58.55	40.45
5	#10360.00	64.5 PK	68.3	-3.8	1.75 H	79	17.69	46.81
6	15540.00	61.3 PK	74.0	-12.7	1.01 H	53	10.13	51.17
7	15540.00	48.9 AV	54.0	-5.1	1.01 H	53	-2.27	51.17

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	65.8 PK	74.0	-8.2	1.02 V	235	25.40	40.40
2	5150.00	50.9 AV	54.0	-3.1	1.02 V	235	10.50	40.40
3	*5180.00	108.2 PK			1.00 V	250	67.75	40.45
4	*5180.00	97.5 AV			1.00 V	250	57.05	40.45
5	#10360.00	65.8 PK	68.3	-2.5	1.00 V	92	18.99	46.81
6	15540.00	62.3 PK	74.0	-11.7	1.53 V	68	11.13	51.17
7	15540.00	50.7 AV	54.0	-3.3	1.53 V	68	-0.47	51.17

- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
 3. The other emission levels were very low against the limit.
 4. Margin value = Emission level – Limit value.
 5. “ * “: Fundamental frequency.
 6. "#":The radiated frequency is out the restricted band.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 40	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 70%RH	TESTED BY	Evan Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	110.7 PK			1.55 H	69	70.21	40.49
2	*5200.00	99.5 AV			1.55 H	69	59.01	40.49
3	#10400.00	64.8 PK	68.3	-3.5	1.74 H	80	17.95	46.85
4	15600.00	61.4 PK	74.0	-12.6	1.00 H	53	10.12	51.28
5	15600.00	49.0 AV	54.0	-5.0	1.00 H	53	-2.28	51.28

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	108.4 PK			1.00 V	249	67.91	40.49
2	*5200.00	97.9 AV			1.00 V	249	57.41	40.49
3	#10400.00	65.7 PK	68.3	-2.6	1.00 V	93	18.85	46.85
4	15600.00	62.1 PK	74.0	-11.9	1.52 V	67	10.82	51.28
5	15600.00	50.6 AV	54.0	-3.4	1.52 V	67	-0.68	51.28

- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
 3. The other emission levels were very low against the limit.
 4. Margin value = Emission level – Limit value.
 5. “ * “: Fundamental frequency.
 6. “ # “: The radiated frequency is out the restricted band.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 48	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 70%RH	TESTED BY	Evan Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	111.1 PK			1.54 H	69	70.54	40.56
2	*5240.00	99.5 AV			1.54 H	69	58.94	40.56
3	#10480.00	64.7 PK	68.3	-3.6	1.75 H	81	17.79	46.91
4	15720.00	61.6 PK	74.0	-12.4	1.00 H	50	9.98	51.62
5	15720.00	49.9 AV	54.0	-4.1	1.00 H	50	-1.72	51.62

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	109.3 PK			1.00 V	248	68.74	40.56
2	*5240.00	98.0 AV			1.00 V	248	57.44	40.56
3	#10480.00	65.4 PK	68.3	-2.9	1.00 V	91	18.49	46.91
4	15720.00	62.4 PK	74.0	-11.6	1.53 V	69	10.78	51.62
5	15720.00	50.7 AV	54.0	-3.3	1.53 V	69	-0.92	51.62

- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
 3. The other emission levels were very low against the limit.
 4. Margin value = Emission level – Limit value.
 5. “ * “: Fundamental frequency.
 6. “ # “: The radiated frequency is out the restricted band.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 52	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 70%RH	TESTED BY	Evan Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5260.00	115.6 PK			1.49 H	68	75.00	40.60
2	*5260.00	104.1 AV			1.49 H	68	63.50	40.60
3	#10520.00	64.6 PK	68.3	-3.7	1.72 H	70	17.66	46.94
4	15780.00	60.4 PK	74.0	-13.6	1.00 H	55	8.63	51.77
5	15780.00	49.0 AV	54.0	-5.0	1.00 H	55	-2.77	51.77
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5260.00	113.4 PK			1.00 V	252	72.80	40.60
2	*5260.00	102.6 AV			1.00 V	252	62.00	40.60
3	#10520.00	62.8 PK	68.3	-5.5	1.07 V	113	15.86	46.94
4	15780.00	60.3 PK	74.0	-13.7	1.07 V	266	8.51	51.77
5	15780.00	49.4 AV	54.0	-4.6	1.07 V	266	-2.38	51.77

- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
 3. The other emission levels were very low against the limit.
 4. Margin value = Emission level – Limit value.
 5. “ * “: Fundamental frequency.
 6. “ # “: The radiated frequency is out the restricted band.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 60	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 70%RH	TESTED BY	Evan Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	115.7 PK			1.49 H	68	75.03	40.67
2	*5300.00	104.0 AV			1.49 H	68	63.33	40.67
3	10600.00	64.3 PK	74.0	-9.7	1.75 H	72	17.31	46.99
4	10600.00	51.1 AV	54.0	-2.9	1.75 H	72	4.11	46.99
5	15900.00	60.1 PK	74.0	-13.9	1.00 H	57	8.18	51.92
6	15900.00	48.9 AV	54.0	-5.1	1.00 H	57	-3.02	51.92
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	113.1 PK			1.00 V	251	72.43	40.67
2	*5300.00	102.1 AV			1.00 V	251	61.43	40.67
3	10600.00	63.6 PK	74.0	-10.4	1.34 V	169	16.57	46.99
4	10600.00	52.1 AV	54.0	-1.9	1.34 V	169	5.11	46.99
5	15900.00	59.2 PK	74.0	-14.8	1.00 V	261	7.28	51.92
6	15900.00	48.2 AV	54.0	-5.8	1.00 V	261	-3.72	51.92

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



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 64	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 70%RH	TESTED BY	Evan Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	111.5 PK			1.50 H	69	70.79	40.71
2	*5320.00	100.6 AV			1.50 H	69	59.89	40.71
3	5350.00	68.6 PK	74.0	-5.4	1.50 H	126	27.83	40.77
4	5350.00	53.1 AV	54.0	-0.9	1.50 H	126	12.33	40.77
5	10640.00	64.1 PK	74.0	-9.9	1.76 H	70	17.08	47.02
6	10640.00	50.5 AV	54.0	-3.5	1.76 H	70	3.48	47.02
7	15960.00	60.5 PK	74.0	-13.5	1.00 H	54	8.43	52.07
8	15960.00	49.1 AV	54.0	-4.9	1.00 H	54	-2.97	52.07

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	111.4 PK			1.07 V	289	70.69	40.71
2	*5320.00	99.5 AV			1.07 V	289	58.79	40.71
3	5350.00	69.6 PK	74.0	-4.4	1.00 V	68	28.83	40.77
4	5350.00	52.7 AV	54.0	-1.3	1.00 V	68	11.93	40.77
5	10640.00	63.7 PK	74.0	-10.3	1.00 V	176	16.68	47.02
6	10640.00	52.5 AV	54.0	-1.5	1.00 V	176	5.48	47.02
7	15960.00	63.4 PK	74.0	-10.6	1.00 V	150	11.33	52.07
8	15960.00	50.6 AV	54.0	-3.4	1.00 V	150	-1.47	52.07

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



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 100	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 70%RH	TESTED BY	Evan Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	57.8 PK	74.0	-16.2	1.46 H	66	16.83	40.97
2	5460.00	46.8 AV	54.0	-7.2	1.46 H	66	5.83	40.97
3	#5470.00	62.5 PK	68.3	-5.8	1.47 H	119	21.51	40.99
4	*5500.00	109.9 PK			1.00 H	117	68.85	41.05
5	*5500.00	98.8 AV			1.00 H	117	57.75	41.05
6	11000.00	63.9 PK	74.0	-10.1	1.77 H	71	16.60	47.30
7	11000.00	50.4 AV	54.0	-3.6	1.77 H	71	3.10	47.30
8	#16500.00	61.5 PK	68.3	-6.8	1.00 H	56	8.47	53.03

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	58.6 PK	74.0	-15.4	1.11 V	112	17.63	40.97
2	5460.00	46.8 AV	54.0	-7.2	1.11 V	112	5.83	40.97
3	#5470.00	63.3 PK	68.3	-5.0	1.10 V	111	22.31	40.99
4	*5500.00	110.8 PK			1.00 V	229	69.75	41.05
5	*5500.00	99.3 AV			1.00 V	229	58.25	41.05
6	11000.00	65.2 PK	74.0	-8.8	1.43 V	353	17.90	47.30
7	11000.00	52.5 AV	54.0	-1.5	1.43 V	353	5.20	47.30
8	#16500.00	62.3 PK	68.3	-6.0	1.38 V	15	9.27	53.03

- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
 3. The other emission levels were very low against the limit.
 4. Margin value = Emission level – Limit value.
 5. “ * “: Fundamental frequency.
 6. “#”:The radiated frequency is out the restricted band.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 116	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 70%RH	TESTED BY	Evan Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	109.3 PK			1.00 H	116	68.16	41.14
2	*5580.00	98.1 AV			1.00 H	116	56.96	41.14
3	11160.00	65.2 PK	74.0	-8.8	1.76 H	69	17.86	47.34
4	11160.00	51.8 AV	54.0	-2.2	1.76 H	69	4.46	47.34
5	#16740.00	61.9 PK	68.3	-6.4	1.00 H	54	8.38	53.52

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	112.1 PK			1.00 V	230	70.96	41.14
2	*5580.00	99.9 AV			1.00 V	230	58.76	41.14
3	11160.00	67.0 PK	74.0	-7.0	1.36 V	178	19.66	47.34
4	11160.00	52.3 AV	54.0	-1.7	1.36 V	178	4.96	47.34
5	#16740.00	63.1 PK	68.3	-5.2	1.37 V	12	9.58	53.52

- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
 3. The other emission levels were very low against the limit.
 4. Margin value = Emission level – Limit value.
 5. “ * “: Fundamental frequency.
 6. “#“: The radiated frequency is out the restricted band.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 132	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 70%RH	TESTED BY	Evan Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5660.00	109.7 PK			1.00 H	125	68.47	41.23
2	*5660.00	98.4 AV			1.00 H	125	57.17	41.23
3	11320.00	63.8 PK	74.0	-10.2	1.75 H	78	16.45	47.35
4	11320.00	50.1 AV	54.0	-3.9	1.75 H	78	2.75	47.35
5	#16980.00	61.5 PK	68.3	-6.8	1.21 H	96	7.42	54.08
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5660.00	112.5 PK			1.00 V	257	71.27	41.23
2	*5660.00	100.8 AV			1.00 V	257	59.57	41.23
3	11320.00	63.9 PK	74.0	-10.1	1.52 V	357	16.55	47.35
4	11320.00	52.5 AV	54.0	-1.5	1.52 V	357	5.15	47.35
5	#16980.00	62.9 PK	68.3	-5.4	1.05 V	11	8.82	54.08

- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
 3. The other emission levels were very low against the limit.
 4. Margin value = Emission level – Limit value.
 5. “ * “: Fundamental frequency.
 6. “#”:The radiated frequency is out the restricted band.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 140	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 70%RH	TESTED BY	Evan Huang

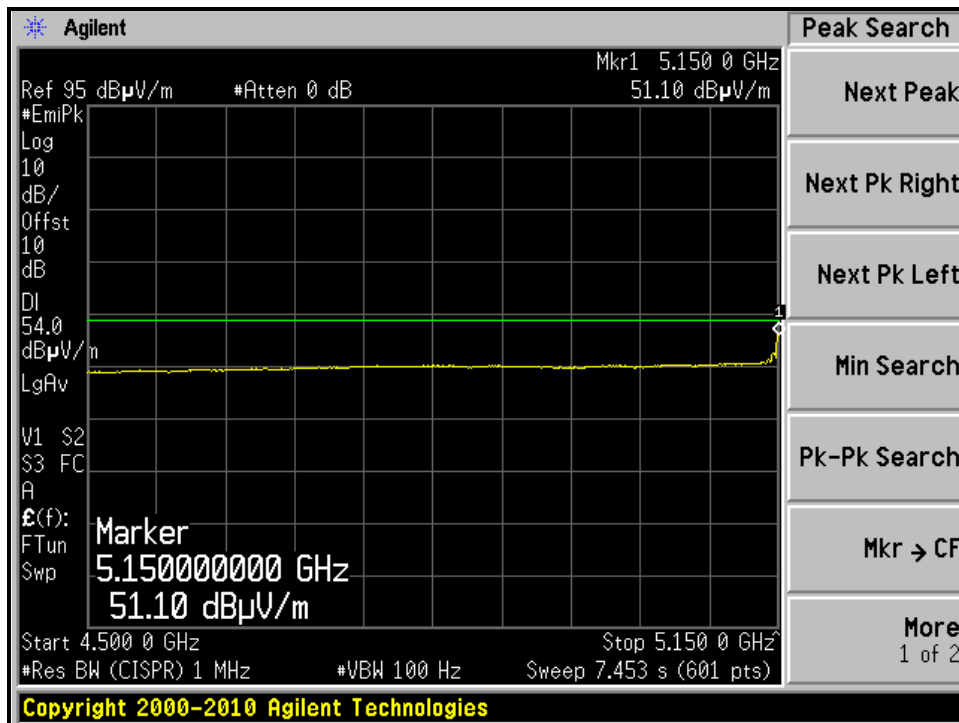
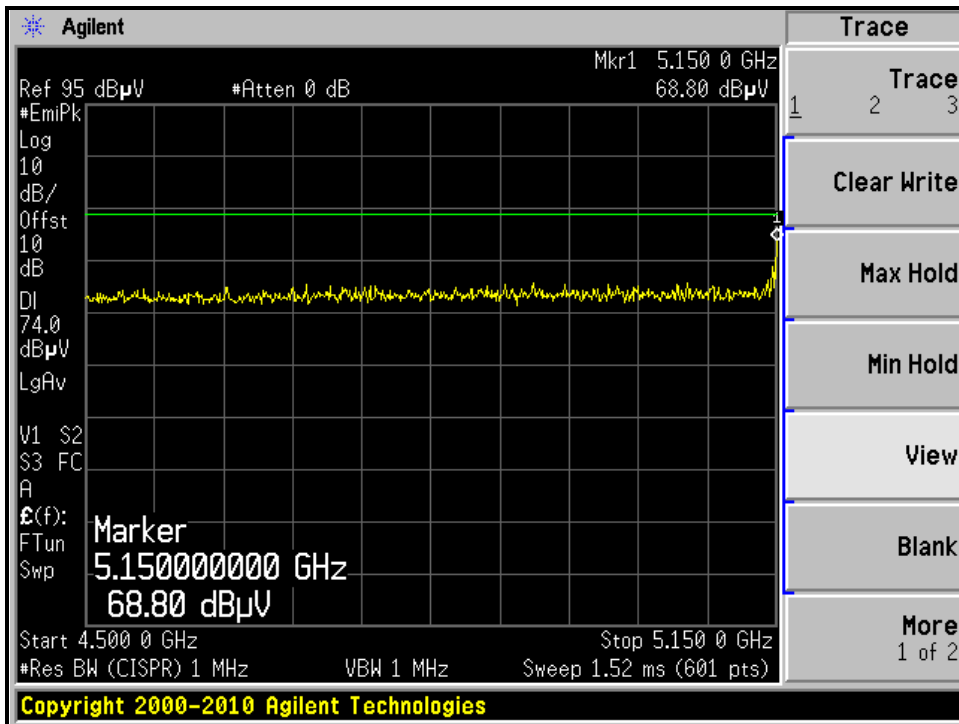
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	109.9 PK			1.47 H	61	68.62	41.28
2	*5700.00	98.7 AV			1.47 H	61	57.42	41.28
3	#5725.00	63.7 PK	68.3	-4.6	1.47 H	100	22.39	41.31
4	11400.00	63.5 PK	74.0	-10.5	1.76 H	77	16.12	47.38
5	11400.00	49.8 AV	54.0	-4.2	1.76 H	77	2.42	47.38
6	#17100.00	62.1 PK	68.3	-6.2	1.21 H	99	7.78	54.32
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	112.3 PK			1.00 V	260	71.02	41.28
2	*5700.00	100.8 AV			1.00 V	260	59.52	41.28
3	#5725.00	66.8 PK	68.3	-1.5	1.00 V	256	25.49	41.31
4	11400.00	66.5 PK	74.0	-7.5	1.50 V	356	19.12	47.38
5	11400.00	52.3 AV	54.0	-1.7	1.50 V	356	4.92	47.38
6	#17100.00	64.2 PK	68.3	-4.1	1.04 V	15	9.88	54.32

- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
 3. The other PK emission levels were very low against the limit.
 4. Margin value = Emission level – Limit value.
 5. “ * “: Fundamental frequency.
 6. “#”:The radiated frequency is out the restricted band.



A D T

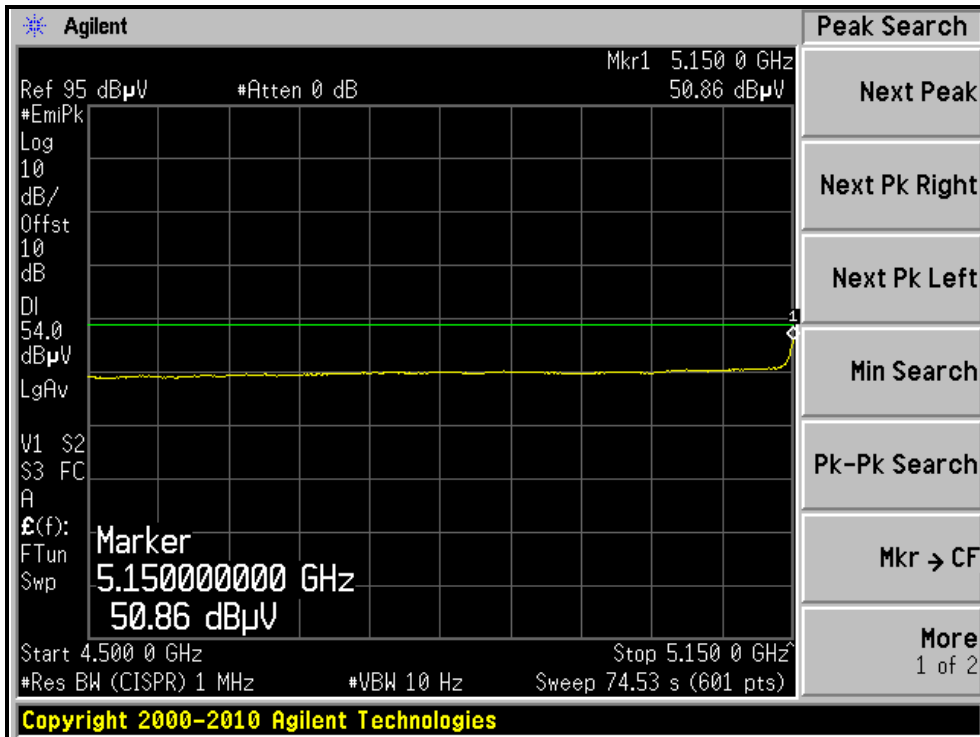
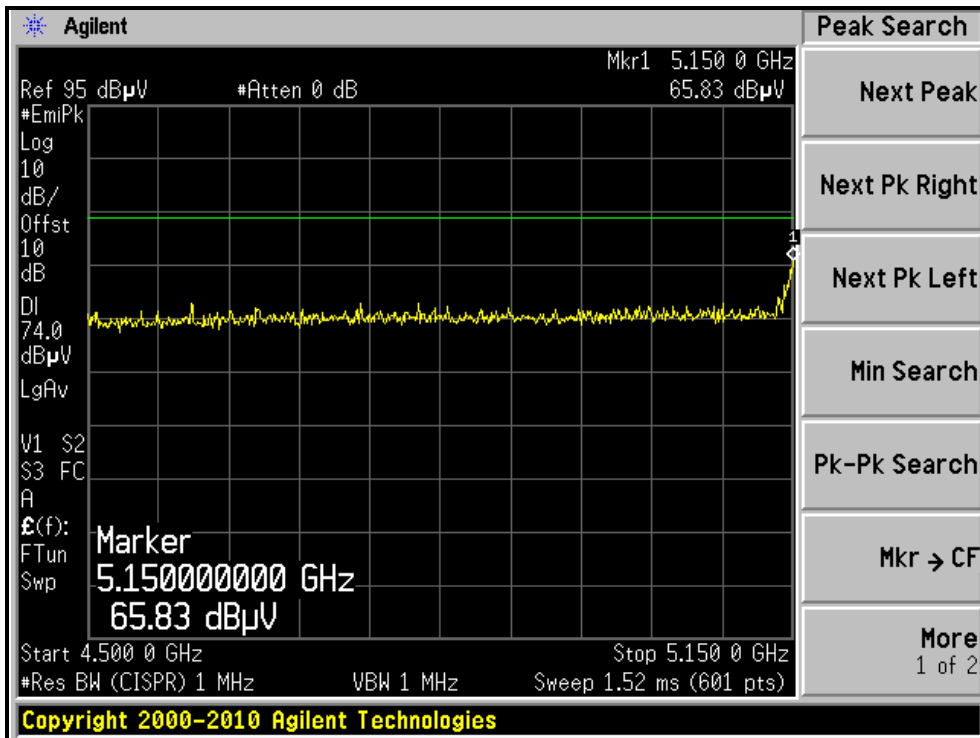
RESTRICTED BANDEDGE (802.11a MODE, CH36, HORIZONTAL)





A D T

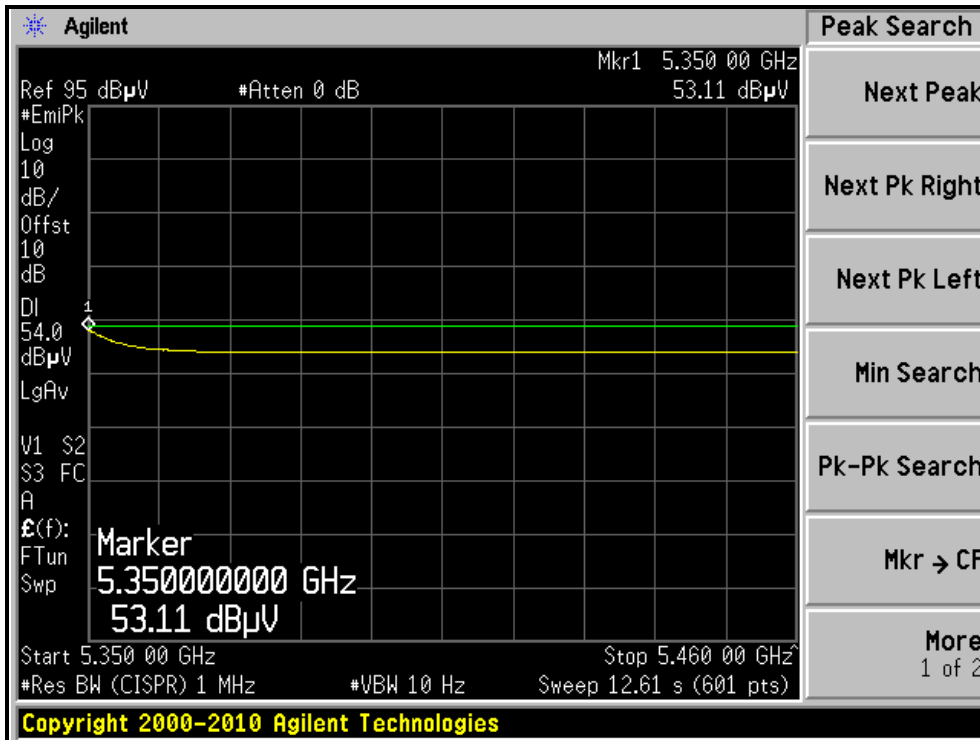
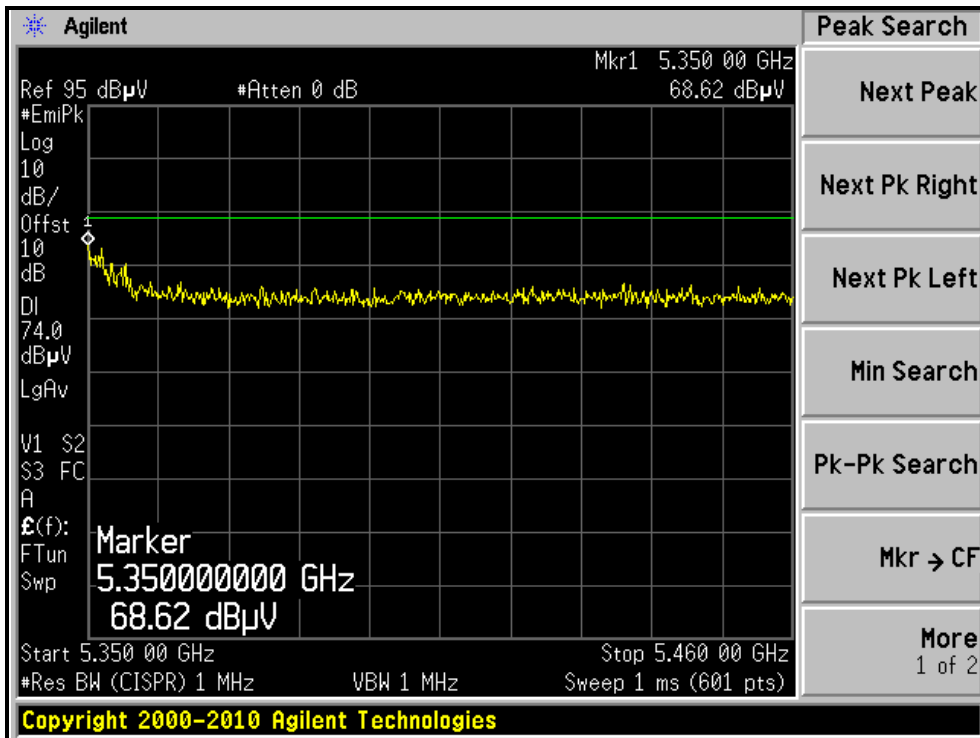
RESTRICTED BANDEDGE (802.11a MODE, CH36, VERTICAL)





A D T

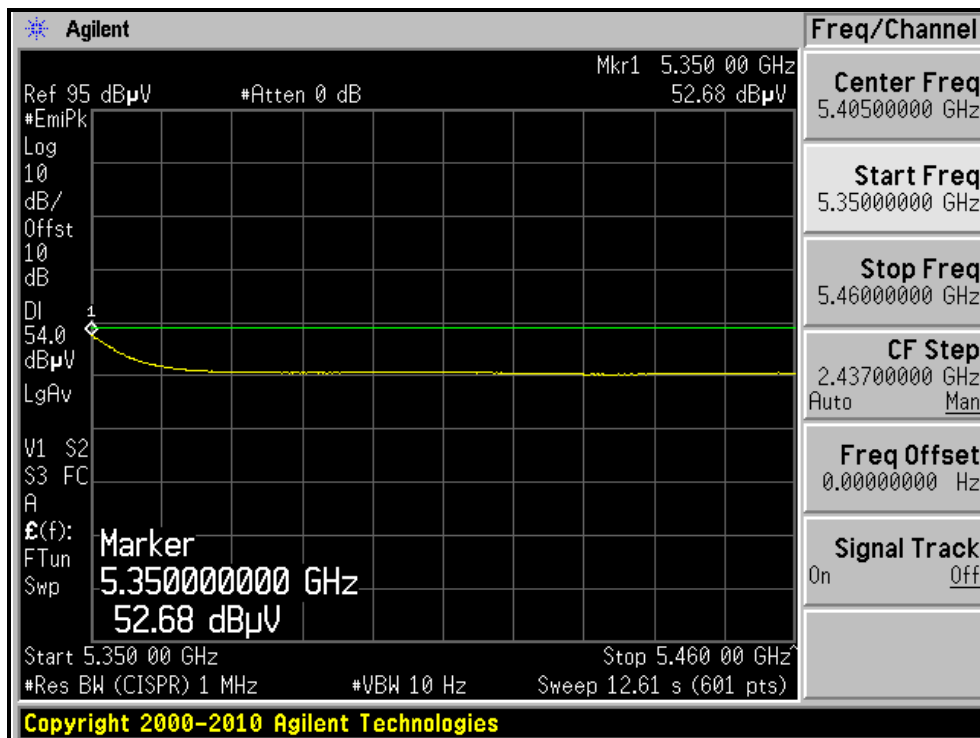
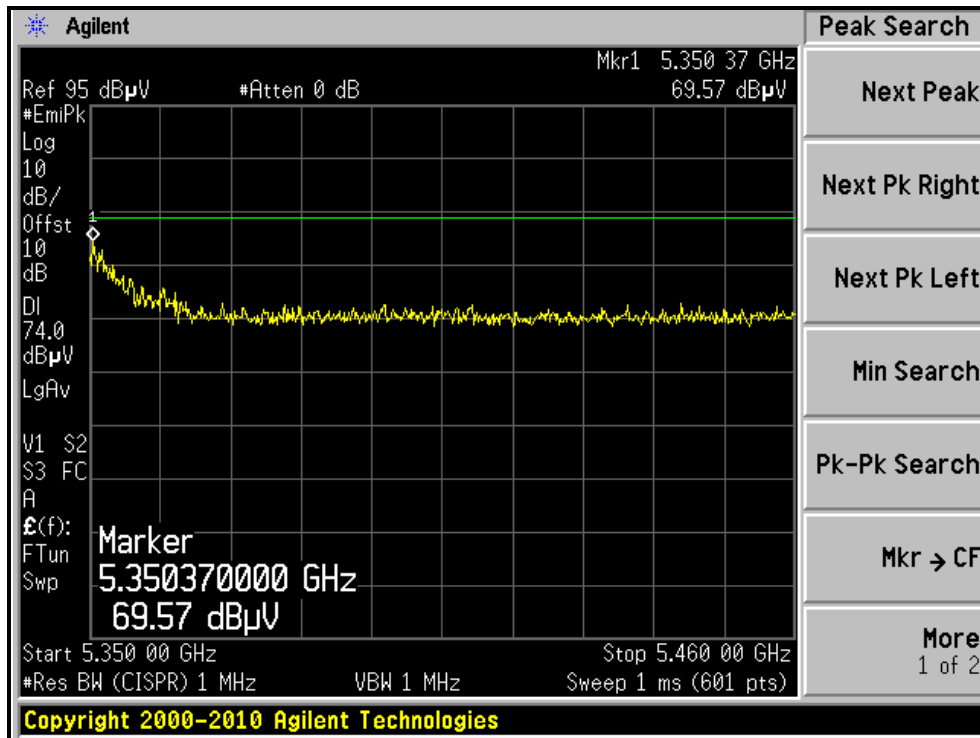
RESTRICTED BANDEDGE (802.11a MODE, CH64, HORIZONTAL)



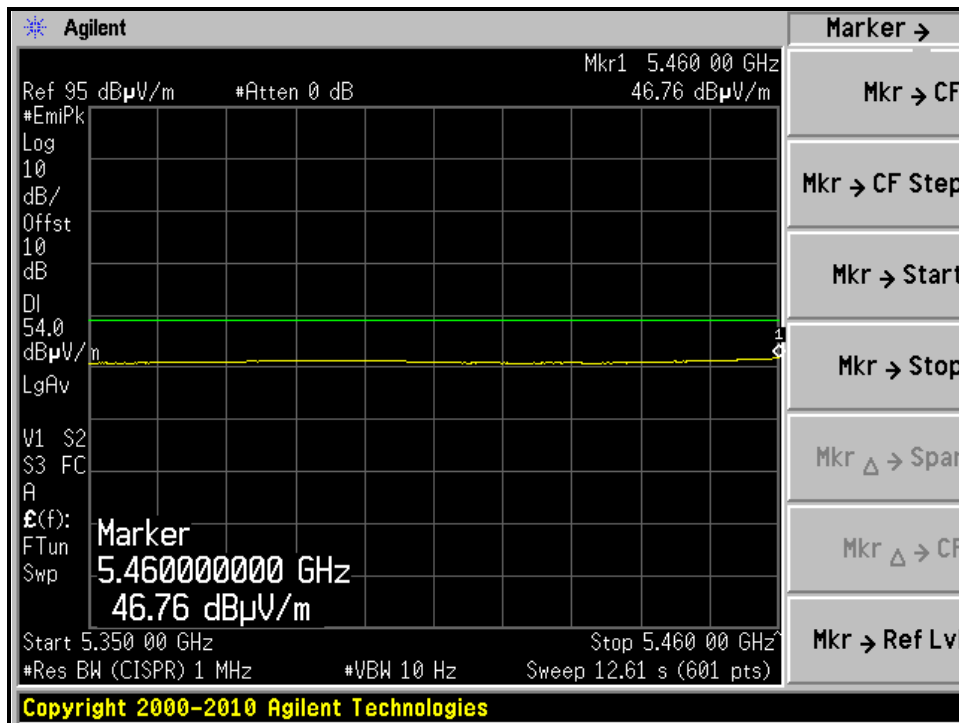
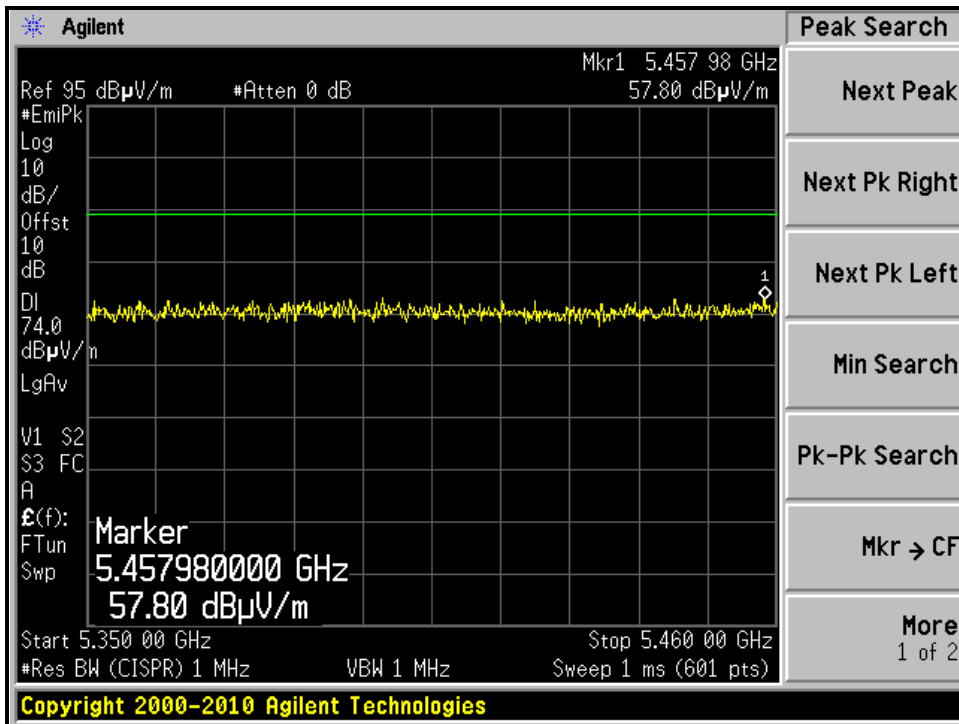


A D T

RESTRICTED BANDEDGE (802.11a MODE, CH64, VERTICAL)



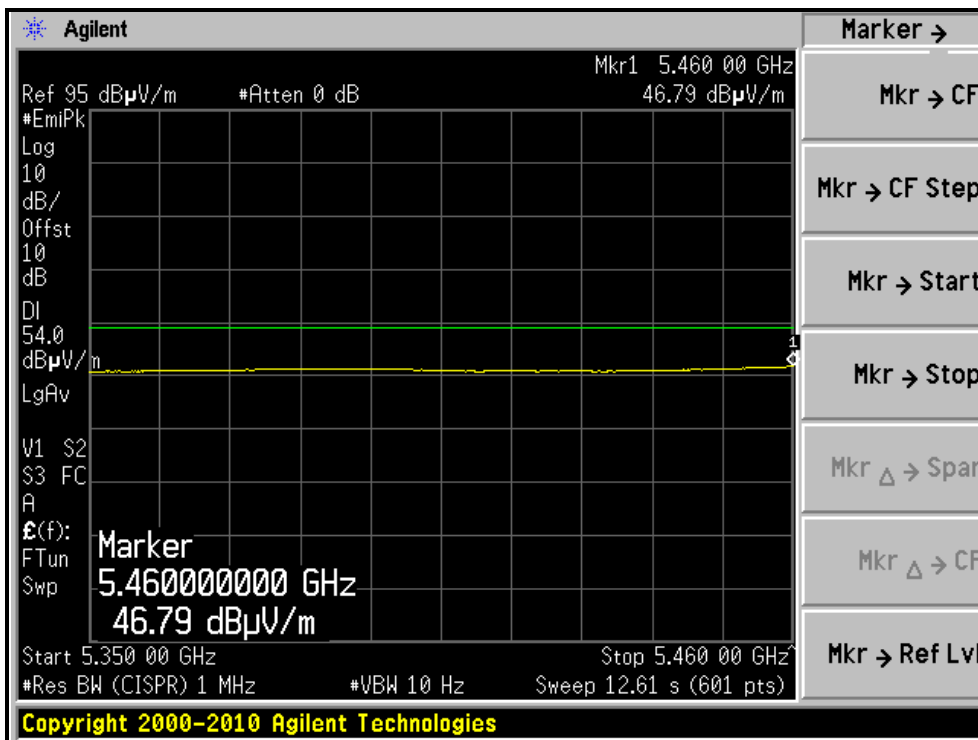
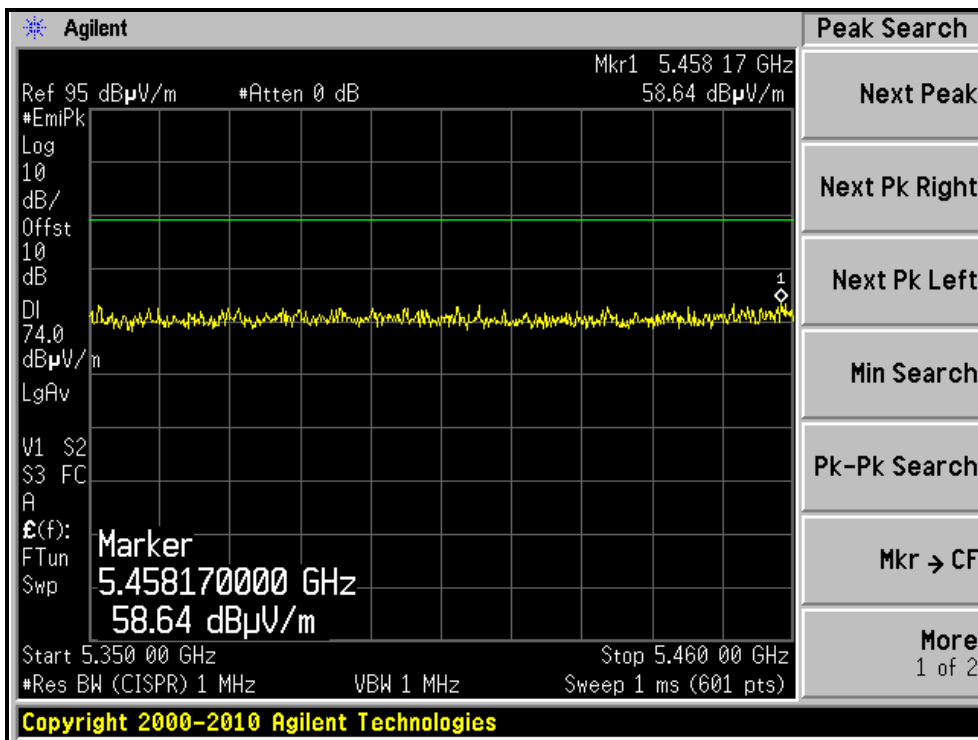
RESTRICTED BANDEDGE (802.11a MODE, CH100, HORIZONTAL)





A D T

RESTRICTED BANDEDGE (802.11a MODE, CH100, VERTICAL)





802.11n (20MHz) OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 36	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 70%RH	TESTED BY	Evan Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	58.5 PK	74.0	-15.5	1.51 H	238	18.10	40.40
2	5150.00	46.6 AV	54.0	-7.4	1.51 H	238	6.20	40.40
3	*5180.00	110.7 PK			1.00 H	237	70.25	40.45
4	*5180.00	99.8 AV			1.00 H	237	59.35	40.45
5	#10360.00	64.4 PK	68.3	-3.9	1.52 H	66	17.59	46.81
6	15540.00	64.3 PK	74.0	-9.7	1.58 H	89	13.13	51.17
7	15540.00	50.4 AV	54.0	-3.6	1.58 H	89	-0.77	51.17

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	65.2 PK	74.0	-8.8	1.13 V	271	24.80	40.40
2	5150.00	51.6 AV	54.0	-2.4	1.13 V	271	11.20	40.40
3	*5180.00	109.7 PK			1.00 V	251	69.25	40.45
4	*5180.00	98.9 AV			1.00 V	251	58.45	40.45
5	#10360.00	65.1 PK	68.3	-3.2	1.40 V	5	18.29	46.81
6	15540.00	64.5 PK	74.0	-9.5	1.30 V	70	13.33	51.17
7	15540.00	50.5 AV	54.0	-3.5	1.30 V	70	-0.67	51.17

- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
 3. The other emission levels were very low against the limit.
 4. Margin value = Emission level – Limit value.
 5. " * ": Fundamental frequency.
 6. "#": The radiated frequency is out the restricted band.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 40	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 70%RH	TESTED BY	Evan Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	110.5 PK			1.00 H	233	70.01	40.49
2	*5200.00	99.6 AV			1.00 H	233	59.11	40.49
3	#10400.00	64.0 PK	68.3	-4.3	1.53 H	64	17.15	46.85
4	15600.00	64.2 PK	74.0	-9.8	1.55 H	87	12.92	51.28
5	15600.00	50.2 AV	54.0	-3.8	1.55 H	87	-1.08	51.28

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5200.00	109.6 PK			1.00 V	249	69.11	40.49
2	*5200.00	98.9 AV			1.00 V	249	58.41	40.49
3	#10400.00	64.7 PK	68.3	-3.6	1.41 V	6	17.85	46.85
4	15600.00	64.1 PK	74.0	-9.9	1.31 V	69	12.82	51.28
5	15600.00	50.1 AV	54.0	-3.9	1.31 V	69	-1.18	51.28

- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
 3. The other emission levels were very low against the limit.
 4. Margin value = Emission level – Limit value.
 5. “ * “: Fundamental frequency.
 6. “#”:The radiated frequency is out the restricted band.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 48	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 70%RH	TESTED BY	Evan Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	110.4 PK			1.00 H	240	69.84	40.56
2	*5240.00	99.5 AV			1.00 H	240	58.94	40.56
3	#10480.00	63.9 PK	68.3	-4.4	1.52 H	70	16.99	46.91
4	15720.00	63.8 PK	74.0	-10.2	1.57 H	83	12.18	51.62
5	15720.00	50.1 AV	54.0	-3.9	1.57 H	83	-1.52	51.62

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5240.00	109.9 PK			1.00 V	255	69.34	40.56
2	*5240.00	98.7 AV			1.00 V	255	58.14	40.56
3	#10480.00	64.2 PK	68.3	-4.1	1.41 V	3	17.29	46.91
4	15720.00	63.9 PK	74.0	-10.1	1.32 V	72	12.28	51.62
5	15720.00	50.2 AV	54.0	-3.8	1.32 V	72	-1.42	51.62

- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
 3. The other emission levels were very low against the limit.
 4. Margin value = Emission level – Limit value.
 5. “ * “: Fundamental frequency.
 6. “ # “: The radiated frequency is out the restricted band.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 52	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 70%RH	TESTED BY	Evan Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5260.00	115.5 PK			1.00 H	230	74.90	40.60
2	*5260.00	104.5 AV			1.00 H	230	63.90	40.60
3	#10520.00	64.4 PK	68.3	-3.9	1.54 H	68	17.46	46.94
4	15780.00	63.9 PK	74.0	-10.1	1.54 H	80	12.13	51.77
5	15780.00	52.5 AV	54.0	-1.5	1.54 H	80	0.73	51.77

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5260.00	113.0 PK			1.00 V	250	72.40	40.60
2	*5260.00	102.4 AV			1.00 V	250	61.80	40.60
3	#10520.00	62.3 PK	68.3	-6.0	1.65 V	170	15.36	46.94
4	15780.00	60.5 PK	74.0	-13.5	1.50 V	176	8.73	51.77
5	15780.00	48.0 AV	54.0	-6.0	1.50 V	176	-3.77	51.77

- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
 3. The other emission levels were very low against the limit.
 4. Margin value = Emission level – Limit value.
 5. “ * “: Fundamental frequency.
 6. “#”:The radiated frequency is out the restricted band.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 60	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 70%RH	TESTED BY	Evan Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	114.2 PK			1.00 H	238	73.53	40.67
2	*5300.00	103.6 AV			1.00 H	238	62.93	40.67
3	10600.00	62.3 PK	74.0	-11.7	1.54 H	67	15.31	46.99
4	10600.00	50.4 AV	54.0	-3.6	1.54 H	67	3.41	46.99
5	15900.00	64.1 PK	74.0	-9.9	1.51 H	79	12.18	51.92
6	15900.00	51.9 AV	54.0	-2.1	1.51 H	79	-0.02	51.92
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5300.00	112.3 PK			1.00 V	258	71.63	40.67
2	*5300.00	101.5 AV			1.00 V	258	60.83	40.67
3	10600.00	65.3 PK	74.0	-8.7	1.64 V	176	18.31	46.99
4	10600.00	52.5 AV	54.0	-1.5	1.64 V	176	5.51	46.99
5	15900.00	59.6 PK	74.0	-14.4	1.51 V	180	7.68	51.92
6	15900.00	48.0 AV	54.0	-6.0	1.51 V	180	-3.92	51.92

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



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 64	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 70%RH	TESTED BY	Evan Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	113.8 PK			1.00 H	239	73.09	40.71
2	*5320.00	103.3 AV			1.00 H	239	62.59	40.71
3	5350.00	69.7 PK	74.0	-4.3	1.00 H	77	28.93	40.77
4	5350.00	52.5 AV	54.0	-1.5	1.00 H	77	11.73	40.77
5	10640.00	61.5 PK	74.0	-12.5	1.53 H	70	14.48	47.02
6	10640.00	50.1 AV	54.0	-3.9	1.53 H	70	3.08	47.02
7	15960.00	63.9 PK	74.0	-10.1	1.52 H	80	11.83	52.07
8	15960.00	51.3 AV	54.0	-2.7	1.52 H	80	-0.77	52.07

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5320.00	112.9 PK			1.00 V	253	72.19	40.71
2	*5320.00	101.8 AV			1.00 V	253	61.09	40.71
3	5350.00	68.3 PK	74.0	-5.7	1.03 V	264	27.53	40.77
4	5350.00	53.4 AV	54.0	-0.6	1.03 V	264	12.63	40.77
5	10640.00	64.2 PK	74.0	-9.8	1.34 V	7	17.18	47.02
6	10640.00	52.5 AV	54.0	-1.5	1.34 V	7	5.48	47.02
7	15960.00	64.3 PK	74.0	-9.7	1.32 V	67	12.23	52.07
8	15960.00	52.1 AV	54.0	-1.9	1.32 V	67	0.03	52.07

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



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 100	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 70%RH	TESTED BY	Evan Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	59.0 PK	74.0	-15.0	1.33 H	225	18.03	40.97
2	5460.00	46.8 AV	54.0	-7.2	1.33 H	225	5.83	40.97
3	#5470.00	66.1 PK	68.3	-2.2	1.51 H	240	25.11	40.99
4	*5500.00	112.8 PK			1.35 H	225	71.75	41.05
5	*5500.00	102.2 AV			1.35 H	225	61.15	41.05
6	11000.00	62.2 PK	74.0	-11.8	1.54 H	68	14.90	47.30
7	11000.00	50.5 AV	54.0	-3.5	1.54 H	68	3.20	47.30
8	#16500.00	63.5 PK	68.3	-4.8	1.55 H	83	10.47	53.03
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	58.9 PK	74.0	-15.1	1.81 V	105	17.93	40.97
2	5460.00	47.1 AV	54.0	-6.9	1.81 V	105	6.13	40.97
3	#5470.00	67.7 PK	68.3	-0.6	1.06 V	117	26.71	40.99
4	*5500.00	114.2 PK			1.83 V	249	73.15	41.05
5	*5500.00	103.9 AV			1.83 V	249	62.85	41.05
6	11000.00	64.1 PK	74.0	-9.9	1.72 V	175	16.80	47.30
7	11000.00	52.2 AV	54.0	-1.8	1.72 V	175	4.90	47.30
8	#16500.00	64.0 PK	68.3	-4.3	1.31 V	64	10.97	53.03

- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
 3. The other emission levels were very low against the limit.
 4. Margin value = Emission level – Limit value.
 5. “ * “: Fundamental frequency.
 6. “#”:The radiated frequency is out the restricted band.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 116	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 70%RH	TESTED BY	Evan Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	113.0 PK			1.50 H	233	71.86	41.14
2	*5580.00	101.6 AV			1.50 H	233	60.46	41.14
3	11160.00	62.1 PK	74.0	-11.9	1.53 H	69	14.76	47.34
4	11160.00	50.4 AV	54.0	-3.6	1.53 H	69	3.06	47.34
5	#16740.00	62.0 PK	68.3	-6.3	1.55 H	90	8.48	53.52

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5580.00	114.3 PK			1.00 V	251	73.16	41.14
2	*5580.00	103.3 AV			1.00 V	251	62.16	41.14
3	11160.00	66.9 PK	74.0	-7.1	1.78 V	173	19.56	47.34
4	11160.00	52.5 AV	54.0	-1.5	1.78 V	173	5.16	47.34
5	#16740.00	63.5 PK	68.3	-4.8	1.32 V	62	9.98	53.52

- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
 3. The other emission levels were very low against the limit.
 4. Margin value = Emission level – Limit value.
 5. " * " : Fundamental frequency.
 6. "#":The radiated frequency is out the restricted band.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 132	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 70%RH	TESTED BY	Evan Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5660.00	112.0 PK			1.43 H	241	70.77	41.23
2	*5660.00	100.7 AV			1.43 H	241	59.47	41.23
3	#5725.00	52.7 PK	68.3	-15.6	1.42 H	235	11.39	41.31
4	11320.00	61.9 PK	74.0	-12.1	1.54 H	71	14.55	47.35
5	11320.00	50.2 AV	54.0	-3.8	1.54 H	71	2.85	47.35
6	#16980.00	61.9 PK	68.3	-6.4	1.55 H	73	7.82	54.08
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5660.00	114.0 PK			1.00 V	275	72.77	41.23
2	*5660.00	102.5 AV			1.00 V	275	61.27	41.23
3	#5725.00	54.3 PK	68.3	-14.0	1.00 V	87	12.99	41.31
4	11320.00	63.9 PK	74.0	-10.1	1.46 V	177	16.55	47.35
5	11320.00	52.5 AV	54.0	-1.5	1.46 V	177	5.15	47.35
6	#16980.00	63.9 PK	68.3	-4.4	1.30 V	61	9.82	54.08

- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
 3. The other emission levels were very low against the limit.
 4. Margin value = Emission level – Limit value.
 5. “ * “: Fundamental frequency.
 6. "#":The radiated frequency is out the restricted band.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 140	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 70%RH	TESTED BY	Evan Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	110.8 PK			1.52 H	220	69.52	41.28
2	*5700.00	99.7 AV			1.52 H	220	58.42	41.28
3	#5725.00	66.5 PK	68.3	-1.8	1.43 H	231	25.19	41.31
4	11400.00	61.7 PK	74.0	-12.3	1.53 H	67	14.32	47.38
5	11400.00	49.9 AV	54.0	-4.1	1.53 H	67	2.52	47.38
6	#17100.00	64.3 PK	68.3	-4.0	1.59 H	95	9.98	54.32

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

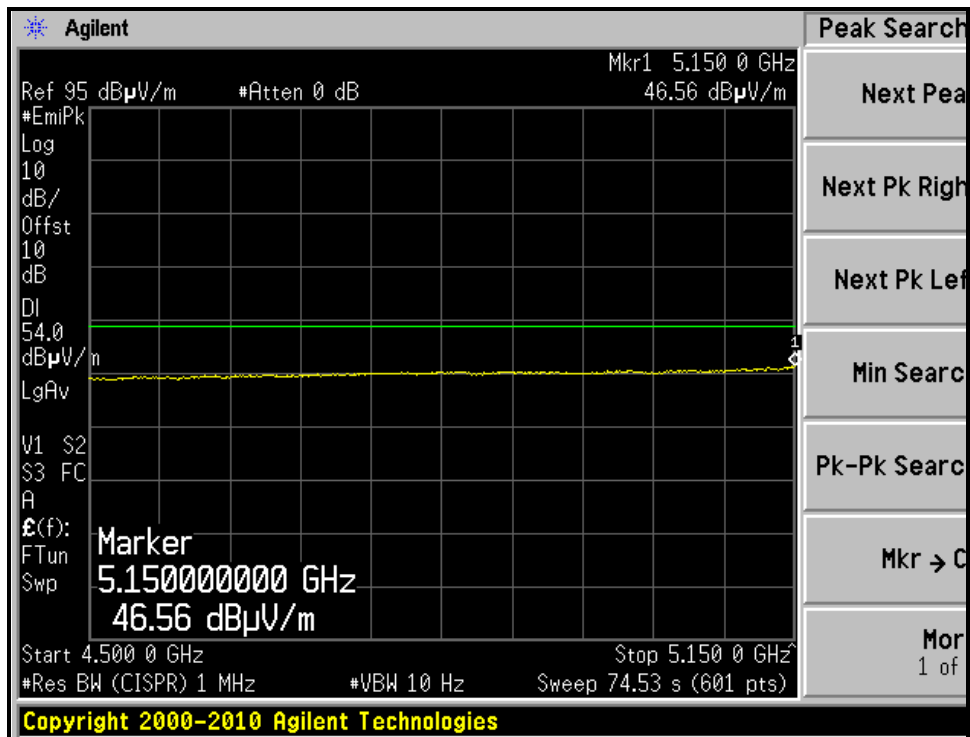
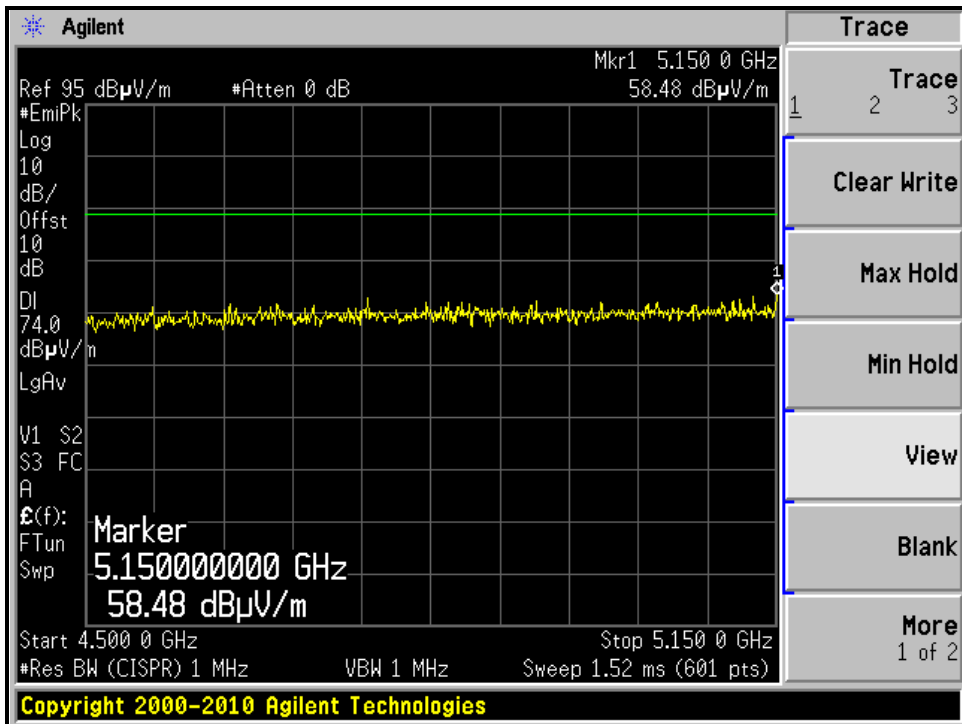
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5700.00	112.7 PK			1.00 V	293	71.42	41.28
2	*5700.00	101.9 AV			1.00 V	293	60.62	41.28
3	#5725.00	67.8 PK	68.3	-0.5	1.81 V	103	26.49	41.31
4	11400.00	65.7 PK	74.0	-8.3	1.04 V	341	18.32	47.38
5	11400.00	52.5 AV	54.0	-1.5	1.04 V	341	5.12	47.38
6	#17100.00	65.3 PK	68.3	-3.0	1.33 V	69	10.98	54.32

- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
 3. The other emission levels were very low against the limit.
 4. Margin value = Emission level – Limit value.
 5. “ * “: Fundamental frequency.
 6. “#“:The radiated frequency is out the restricted band.



A D T

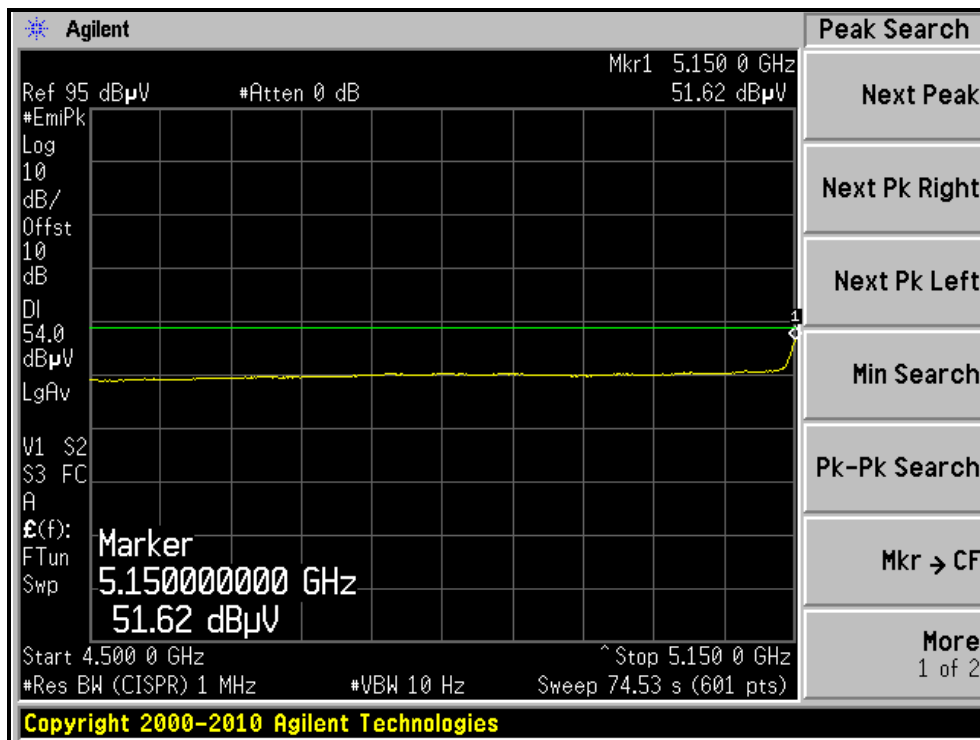
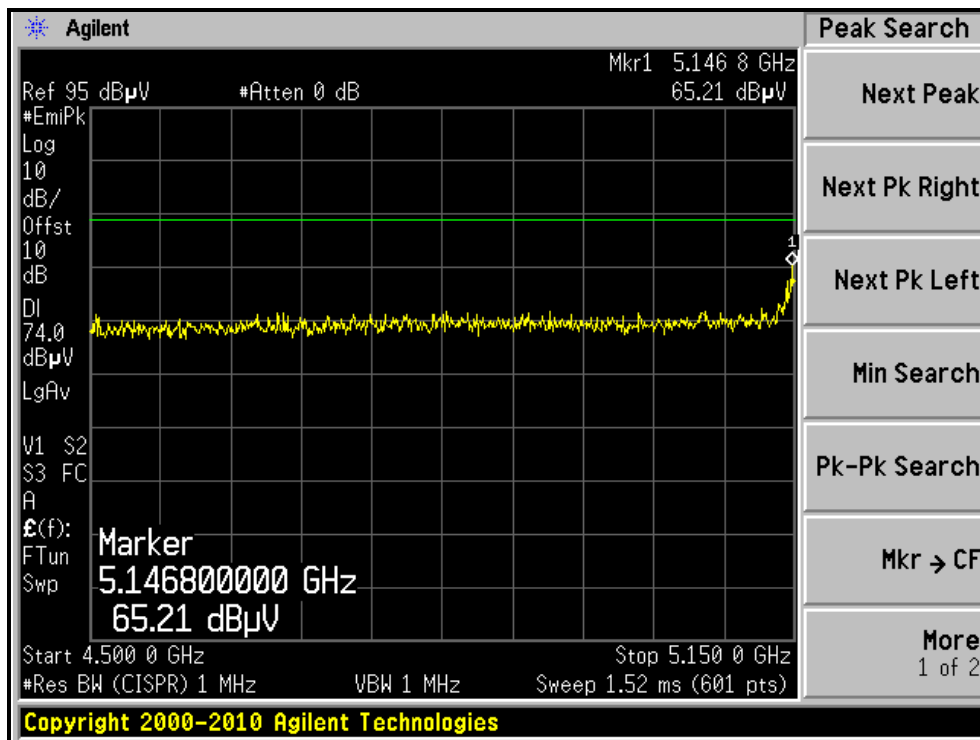
RESTRICTED BANDEDGE (802.11n (20MHz) MODE,CH36, HORIZONTAL)





A D T

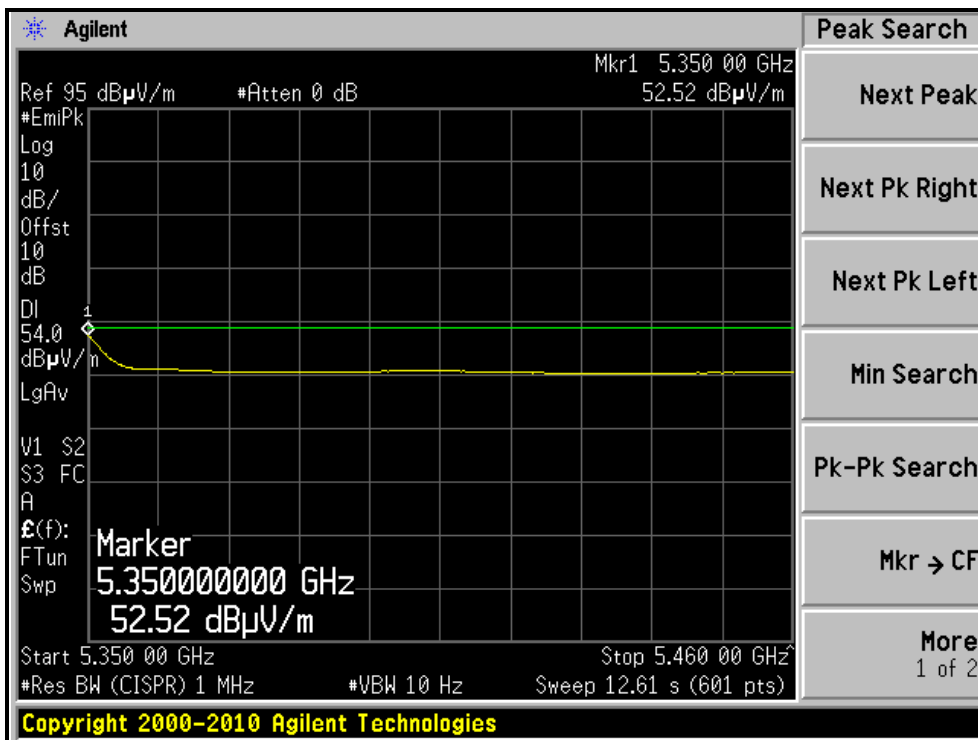
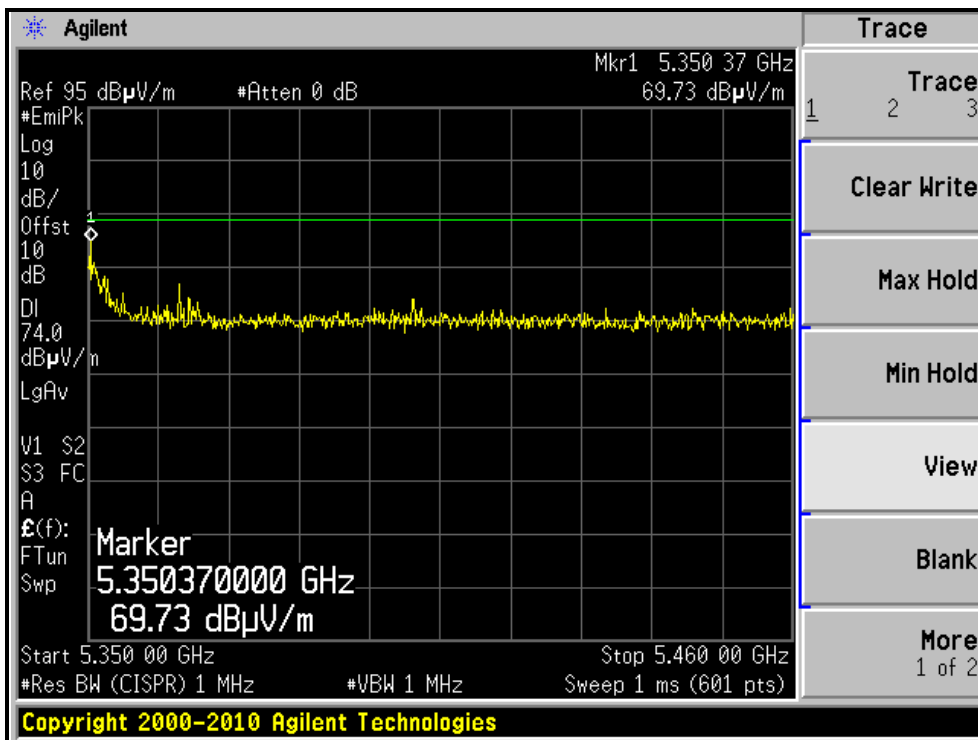
RESTRICTED BANDEDGE (802.11n (20MHz) MODE,CH36, VERTICAL)



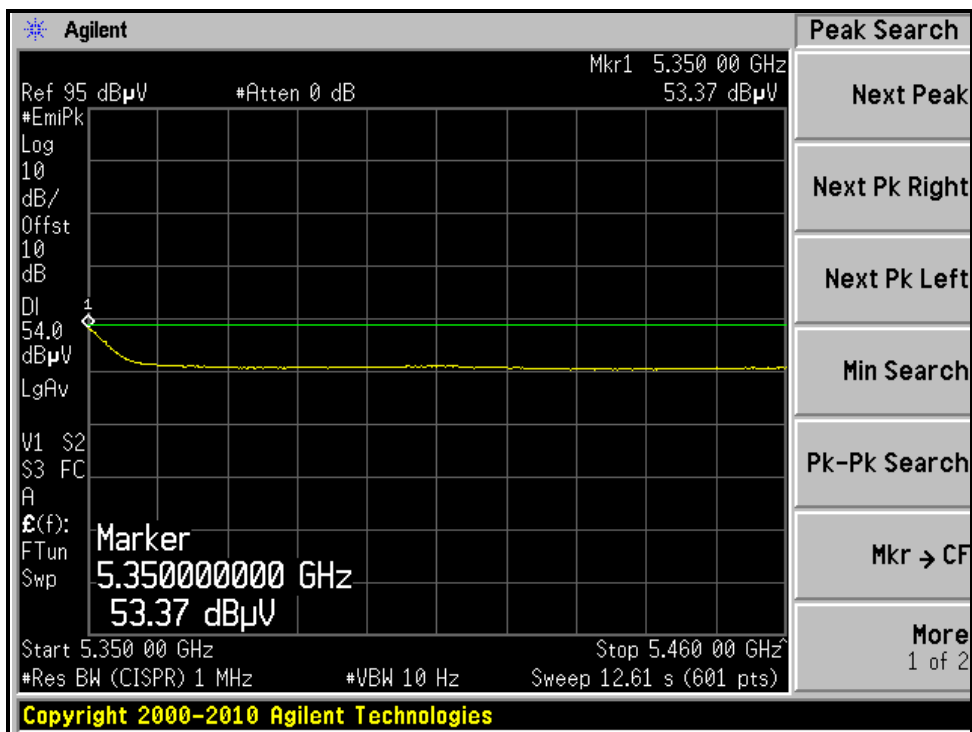
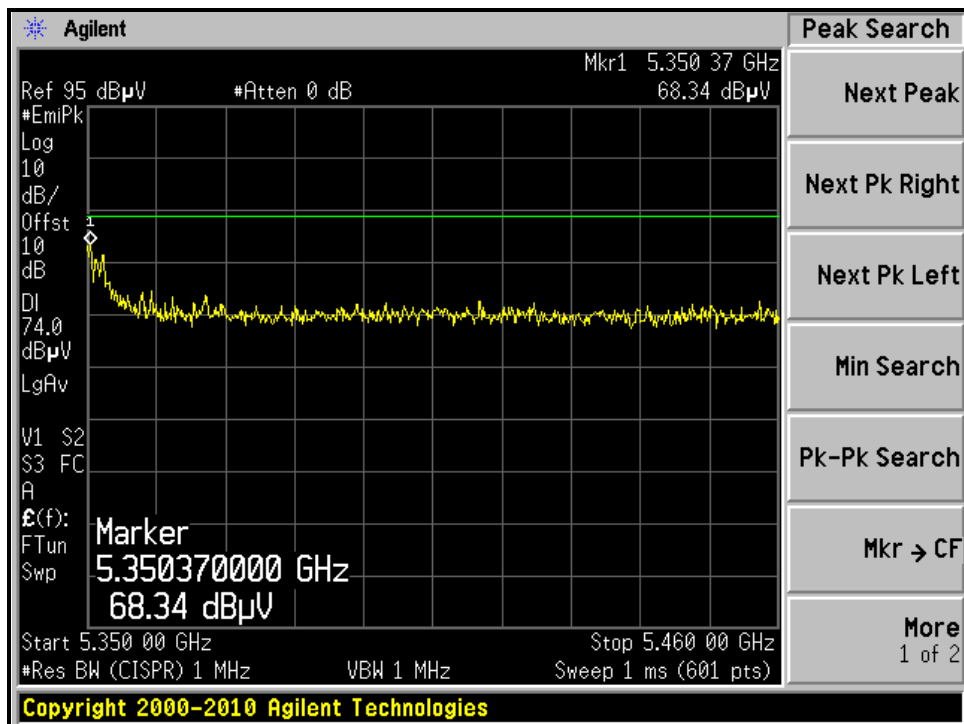


A D T

RESTRICTED BANDEDGE (802.11n (20MHz) MODE,CH 64, HORIZONTAL)



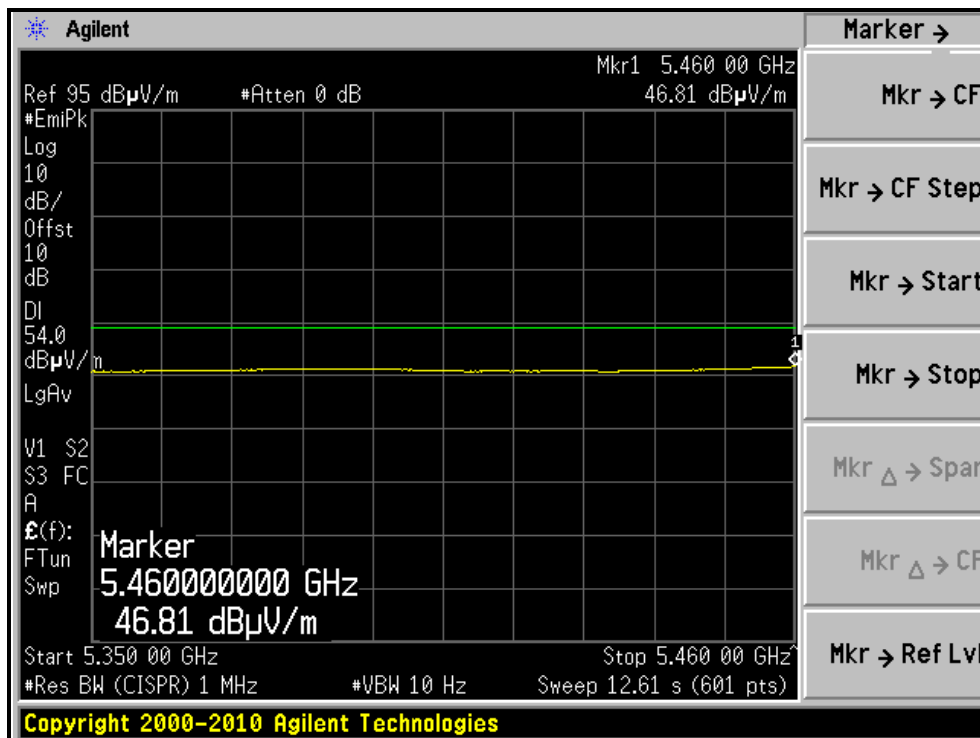
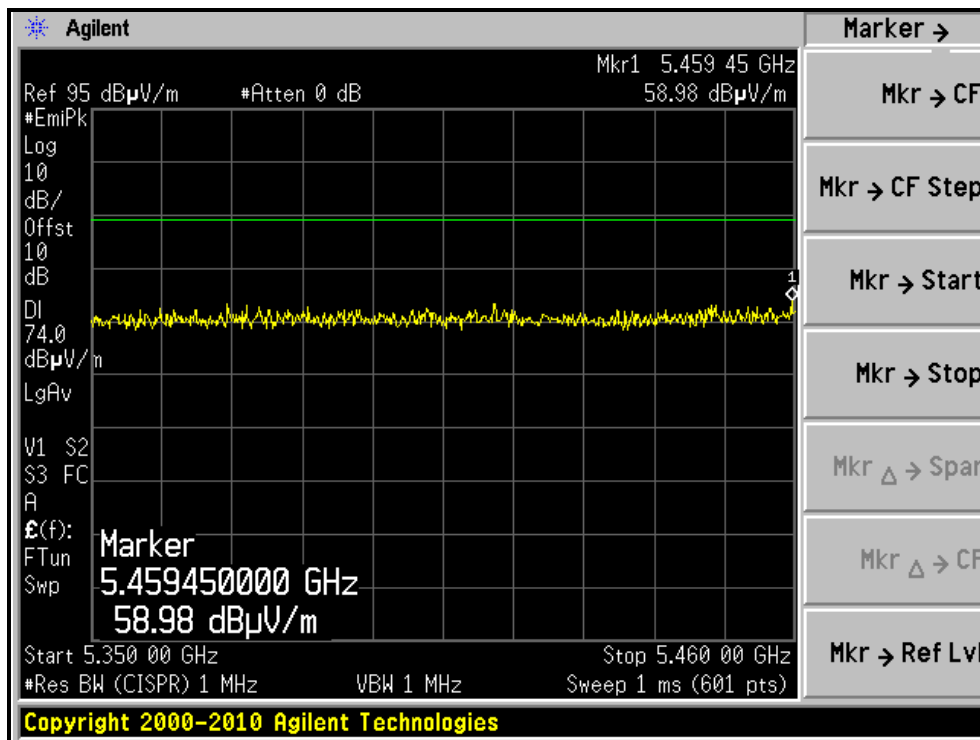
RESTRICTED BANDEDGE (802.11n (20MHz) MODE,CH 64, VERTICAL)





A D T

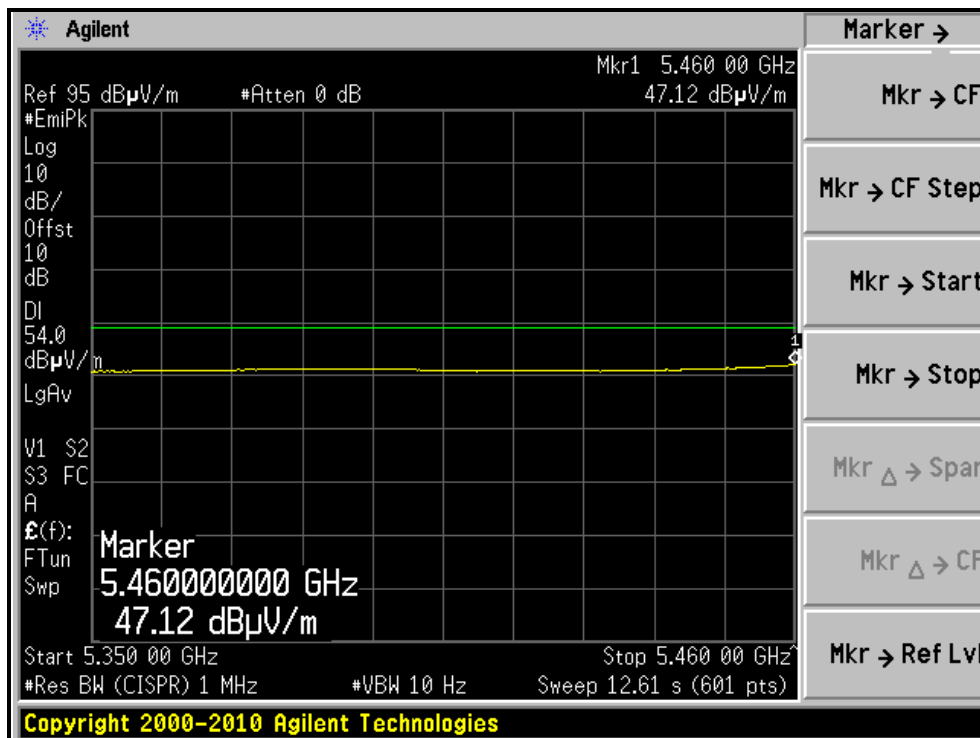
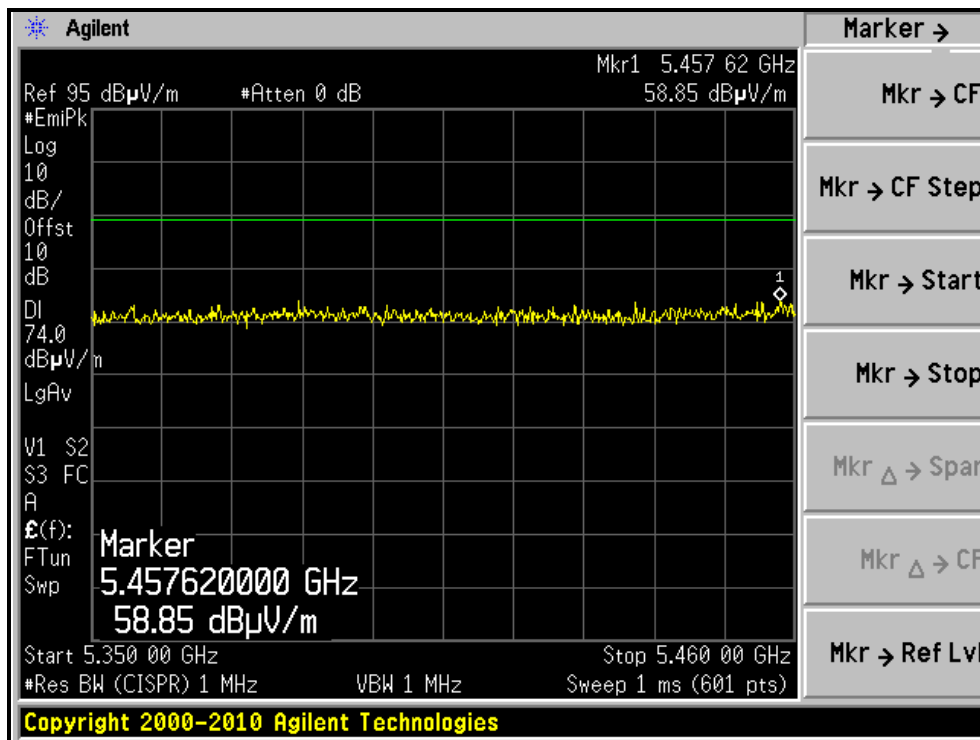
RESTRICTED BANDEDGE (802.11n (20MHz) MODE,CH 100, HORIZONTAL)





A D T

RESTRICTED BANDEDGE (802.11n (20MHz) MODE,CH 100, VERTICAL)





A D T

802.11n (40MHz) OFDM MODULATION

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 38	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 70%RH	TESTED BY	Evan Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	66.9 PK	74.0	-7.1	1.48 H	237	26.50	40.40
2	5150.00	53.4 AV	54.0	-0.6	1.48 H	237	13.00	40.40
3	*5190.00	104.4 PK			1.00 H	68	63.93	40.47
4	*5190.00	93.2 AV			1.00 H	68	52.73	40.47
5	#10380.00	61.5 PK	68.3	-6.8	1.52 H	60	14.67	46.83
6	15570.00	60.1 PK	74.0	-13.9	1.00 H	101	8.88	51.22
7	15570.00	50.5 AV	54.0	-3.5	1.00 H	101	-0.72	51.22

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5150.00	64.8 PK	74.0	-9.2	1.02 V	106	24.40	40.40
2	5150.00	53.4 AV	54.0	-0.6	1.02 V	106	13.00	40.40
3	*5190.00	103.1 PK			1.00 V	247	62.63	40.47
4	*5190.00	91.9 AV			1.00 V	247	51.43	40.47
5	#10380.00	61.9 PK	68.3	-6.4	1.23 V	9	15.07	46.83
6	15570.00	60.9 PK	74.0	-13.1	1.32 V	70	9.68	51.22
7	15570.00	51.0 AV	54.0	-3.0	1.32 V	70	-0.22	51.22

- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
 3. The other emission levels were very low against the limit.
 4. Margin value = Emission level – Limit value.
 5. “ * “: Fundamental frequency.
 6. “#“: The radiated frequency is out the restricted band.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 46	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 70%RH	TESTED BY	Evan Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5230.00	106.7 PK			1.00 H	69	66.16	40.54
2	*5230.00	95.9 AV			1.00 H	69	55.36	40.54
3	#10460.00	61.7 PK	68.3	-6.6	1.53 H	64	14.80	46.90
4	15690.00	60.5 PK	74.0	-13.5	1.00 H	107	8.96	51.54
5	15690.00	50.7 AV	54.0	-3.3	1.00 H	107	-0.84	51.54

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5230.00	107.0 PK			1.00 V	251	66.46	40.54
2	*5230.00	95.6 AV			1.00 V	251	55.06	40.54
3	#10460.00	62.5 PK	68.3	-5.8	1.21 V	10	15.60	46.90
4	15690.00	61.0 PK	74.0	-13.0	1.33 V	67	9.46	51.54
5	15690.00	51.3 AV	54.0	-2.7	1.33 V	67	-0.24	51.54

- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
 3. The other emission levels were very low against the limit.
 4. Margin value = Emission level – Limit value.
 5. “ * “: Fundamental frequency.
 6. “ # “: The radiated frequency is out the restricted band.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 54	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 70%RH	TESTED BY	Evan Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5270.00	112.9 PK			1.00 H	67	72.28	40.62
2	*5270.00	101.4 AV			1.00 H	67	60.78	40.62
3	#10540.00	63.2 PK	68.3	-5.1	1.58 H	65	16.25	46.95
4	15810.00	61.7 PK	74.0	-12.3	1.00 H	109	9.87	51.83
5	15810.00	51.3 AV	54.0	-2.7	1.00 H	109	-0.53	51.83

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5270.00	112.7 PK			1.00 V	262	72.08	40.62
2	*5270.00	100.1 AV			1.00 V	262	59.48	40.62
3	#10540.00	64.5 PK	68.3	-3.8	1.22 V	8	17.55	46.95
4	15810.00	62.5 PK	74.0	-11.5	1.31 V	69	10.67	51.83
5	15810.00	52.5 AV	54.0	-1.5	1.31 V	69	0.67	51.83

- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
 3. The other emission levels were very low against the limit.
 4. Margin value = Emission level – Limit value.
 5. “ * “: Fundamental frequency.
 6. “ # “: The radiated frequency is out the restricted band.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 62	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 70%RH	TESTED BY	Evan Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5310.00	103.6 PK			1.00 H	68	62.91	40.69
2	*5310.00	91.6 AV			1.00 H	68	50.91	40.69
3	5350.00	66.2 PK	74.0	-7.8	1.00 H	61	25.43	40.77
4	5350.00	51.2 AV	54.0	-2.8	1.00 H	61	10.43	40.77
5	10620.00	62.3 PK	74.0	-11.7	1.54 H	70	15.30	47.00
6	10620.00	49.4 AV	54.0	-4.6	1.54 H	70	2.40	47.00
7	15930.00	61.1 PK	74.0	-12.9	1.00 H	101	9.11	51.99
8	15930.00	50.6 AV	54.0	-3.4	1.00 H	101	-1.39	51.99
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5310.00	102.1 PK			1.09 V	264	61.41	40.69
2	*5310.00	91.1 AV			1.09 V	264	50.41	40.69
3	5350.00	66.1 PK	74.0	-7.9	1.83 V	109	25.33	40.77
4	5350.00	53.0 AV	54.0	-1.0	1.83 V	109	12.23	40.77
5	10620.00	63.7 PK	74.0	-10.3	1.21 V	6	16.70	47.00
6	10620.00	51.5 AV	54.0	-2.5	1.21 V	6	4.50	47.00
7	15930.00	62.3 PK	74.0	-11.7	1.11 V	113	10.31	51.99
8	15930.00	52.1 AV	54.0	-1.9	1.11 V	113	0.11	51.99

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



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 102	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 70%RH	TESTED BY	Evan Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	59.4 PK	74.0	-14.6	1.85 H	252	18.43	40.97
2	5460.00	47.7 AV	54.0	-6.3	1.85 H	252	6.73	40.97
3	#5470.00	65.9 PK	68.3	-2.4	1.41 H	241	24.91	40.99
4	*5510.00	105.7 PK			1.46 H	116	64.64	41.06
5	*5510.00	93.8 AV			1.46 H	116	52.74	41.06
6	11020.00	63.5 PK	74.0	-10.5	1.54 H	63	16.20	47.30
7	11020.00	50.7 AV	54.0	-3.3	1.54 H	63	3.40	47.30
8	#16530.00	58.9 PK	68.3	-9.4	1.00 H	103	5.83	53.07

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	5460.00	59.5 PK	74.0	-14.5	1.86 V	113	18.53	40.97
2	5460.00	48.3 AV	54.0	-5.7	1.86 V	113	7.33	40.97
3	#5470.00	67.7 PK	68.3	-0.6	1.06 V	104	26.71	40.99
4	*5510.00	105.3 PK			1.80 V	114	64.24	41.06
5	*5510.00	95.5 AV			1.80 V	114	54.44	41.06
6	11020.00	64.5 PK	74.0	-9.5	1.20 V	81	17.20	47.30
7	11020.00	52.3 AV	54.0	-1.7	1.20 V	81	5.00	47.30
8	#16530.00	60.1 PK	68.3	-8.2	1.12 V	117	7.03	53.07

- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
 3. The other emission levels were very low against the limit.
 4. Margin value = Emission level – Limit value.
 5. “ * “: Fundamental frequency.
 6. “#”:The radiated frequency is out the restricted band.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 110	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 70%RH	TESTED BY	Evan Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5550.00	109.3 PK			1.46 H	114	68.19	41.11
2	*5550.00	97.7 AV			1.46 H	114	56.59	41.11
3	11180.00	64.9 PK	74.0	-9.1	1.53 H	64	17.55	47.35
4	11180.00	52.1 AV	54.0	-1.9	1.53 H	64	4.75	47.35
5	#16770.00	60.0 PK	68.3	-8.3	1.00 H	99	6.38	53.62
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5550.00	110.8 PK			1.01 V	274	69.69	41.11
2	*5550.00	99.1 AV			1.01 V	274	57.99	41.11
3	11100.00	64.3 PK	74.0	-9.7	1.58 V	176	16.99	47.31
4	11100.00	52.5 AV	54.0	-1.5	1.58 V	176	5.19	47.31
5	#16650.00	62.1 PK	68.3	-6.2	1.13 V	120	8.82	53.28

- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
 3. The other emission levels were very low against the limit.
 4. Margin value = Emission level – Limit value.
 5. “ * “: Fundamental frequency.
 6. “#”: The radiated frequency is out the restricted band.



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 134	FREQUENCY RANGE	1 ~ 40GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 70%RH	TESTED BY	Evan Huang

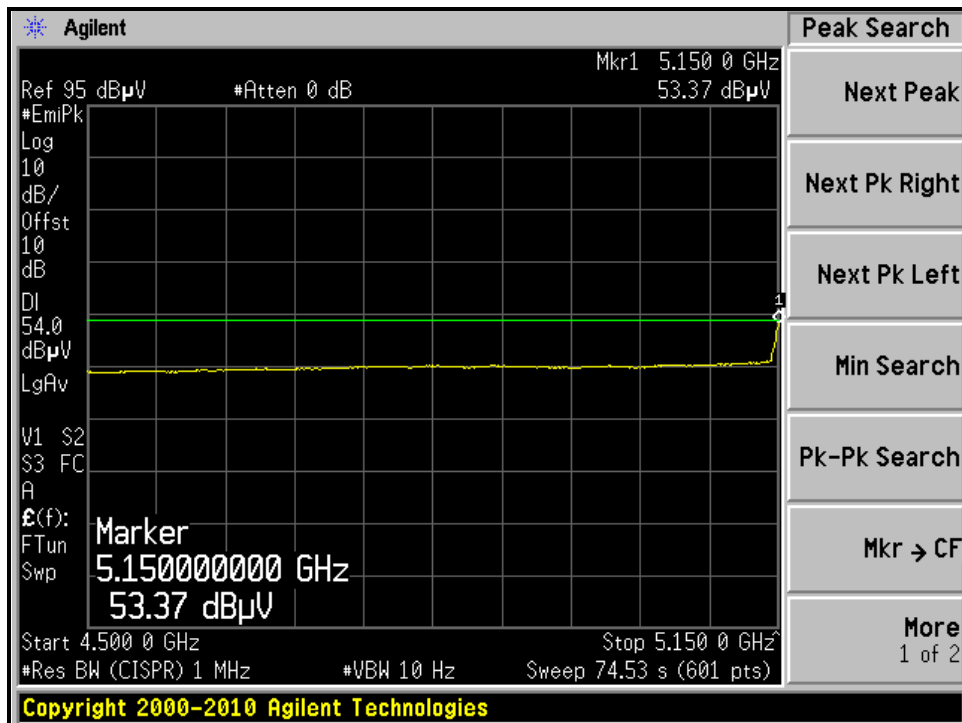
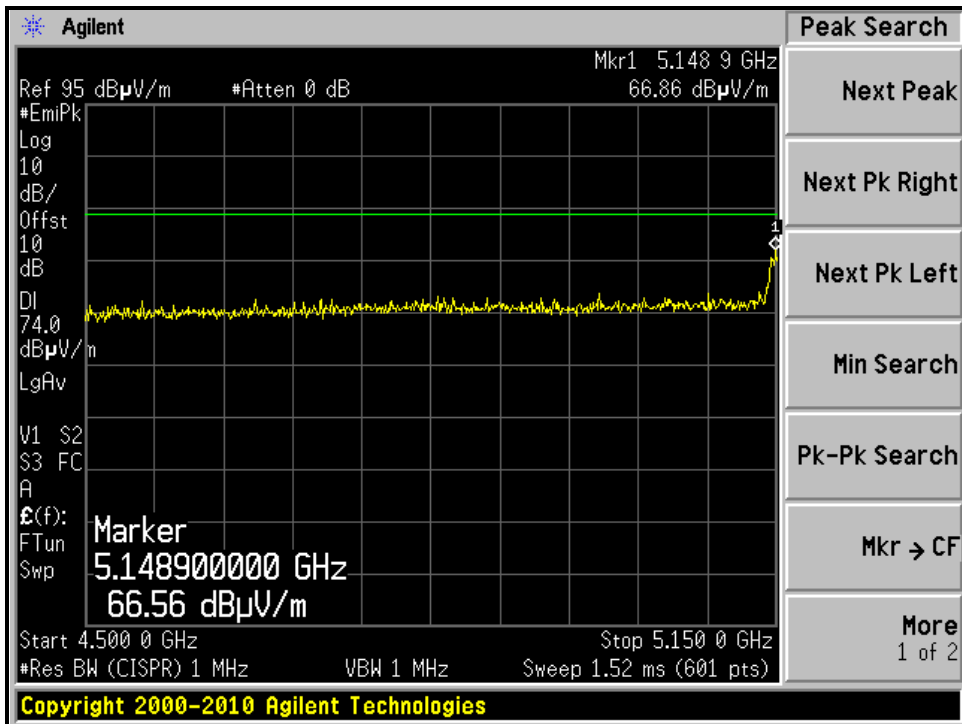
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5670.00	108.4 PK			1.46 H	115	67.16	41.24
2	*5670.00	97.2 AV			1.46 H	115	55.96	41.24
3	#5725.00	66.4 PK	68.3	-1.9	1.45 H	236	25.09	41.31
4	11340.00	63.9 PK	74.0	-10.1	1.66 H	42	16.54	47.36
5	11340.00	50.8 AV	54.0	-3.2	1.66 H	42	3.44	47.36
6	#17010.00	59.0 PK	68.3	-9.3	1.00 H	103	4.87	54.13
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	*5670.00	111.5 PK			1.01 V	259	70.26	41.24
2	*5670.00	99.8 AV			1.01 V	259	58.56	41.24
3	#5725.00	64.4 PK	68.3	-3.9	1.83 V	94	23.09	41.31
4	11340.00	66.0 PK	74.0	-8.0	1.20 V	82	18.64	47.36
5	11340.00	52.3 AV	54.0	-1.7	1.20 V	82	4.94	47.36
6	#17010.00	60.7 PK	68.3	-7.6	1.12 V	115	6.57	54.13

- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
 3. The other emission levels were very low against the limit.
 4. Margin value = Emission level – Limit value.
 5. “ * “: Fundamental frequency.
 6. “ # “: The radiated frequency is out the restricted band.



A D T

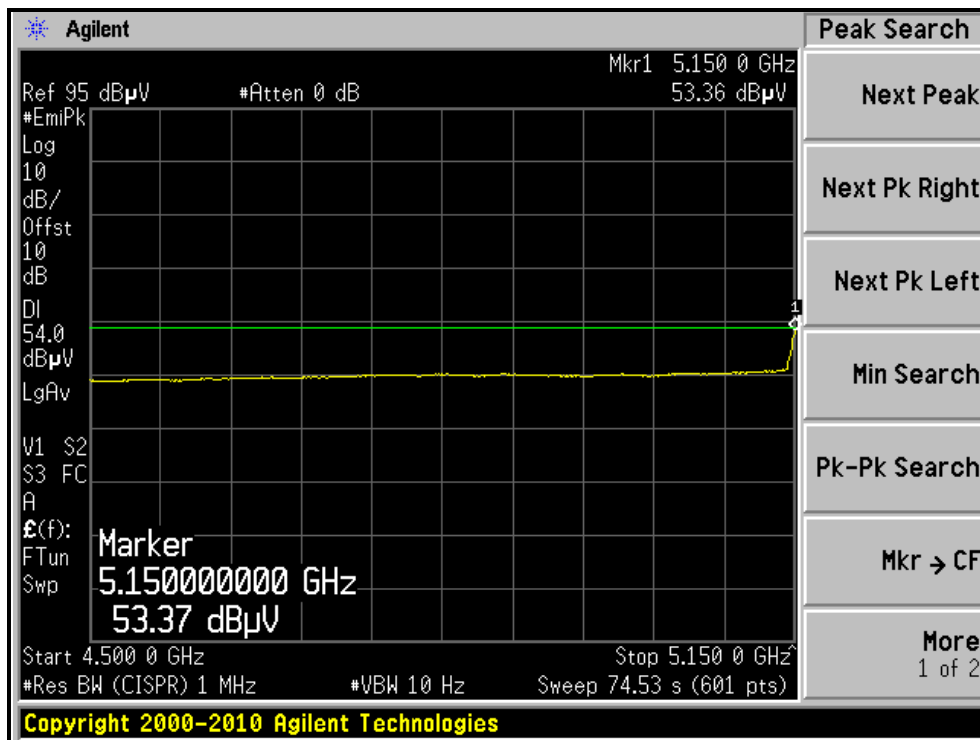
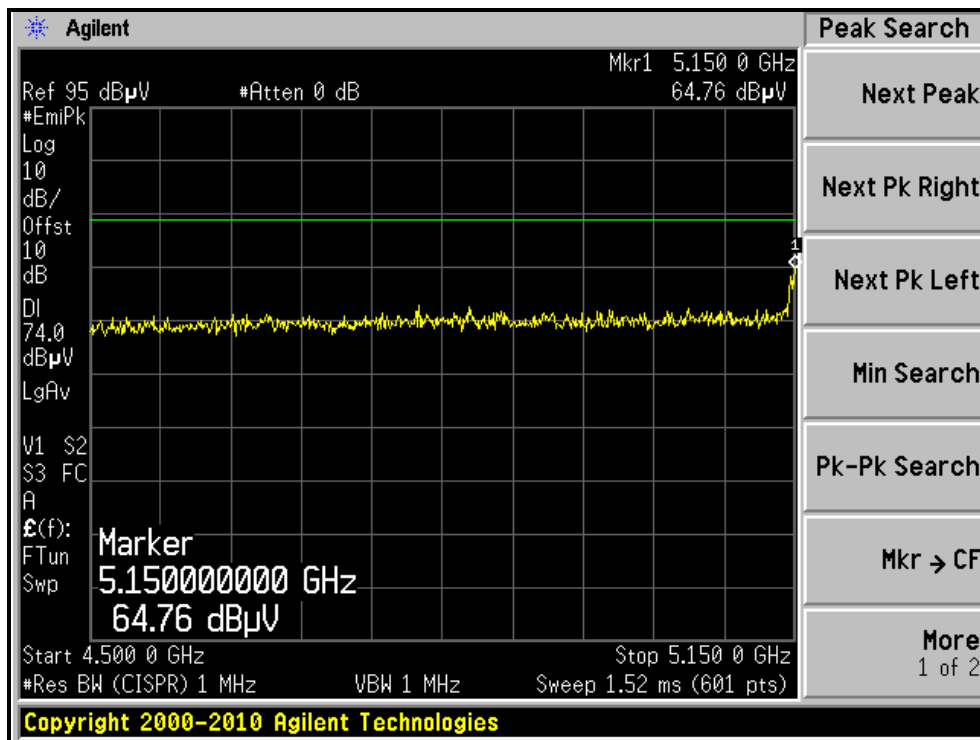
RESTRICTED BANDEDGE (802.11n (40MHz) MODE, CH38, HORIZONTAL)





A D T

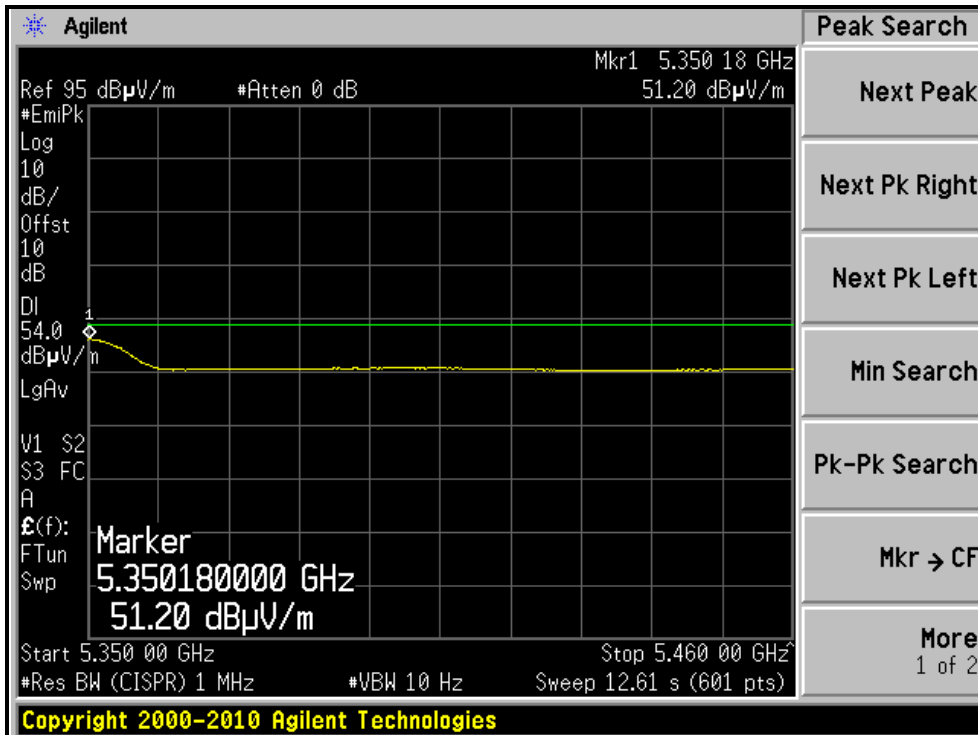
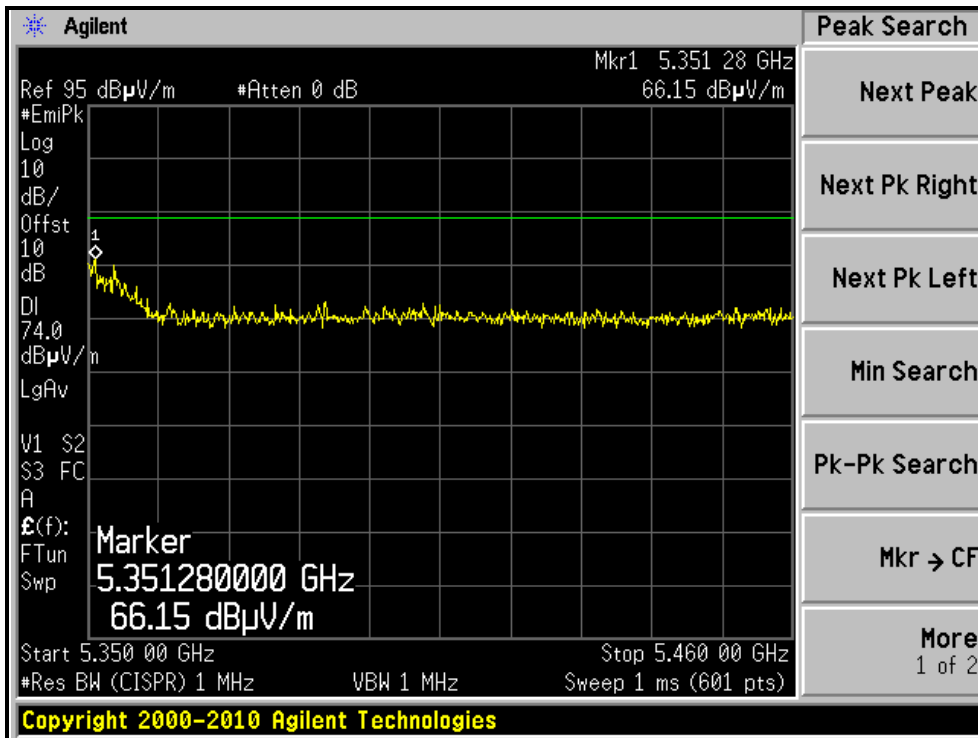
RESTRICTED BANDEDGE (802.11n (40MHz) MODE,CH38, VERTICAL)





A D T

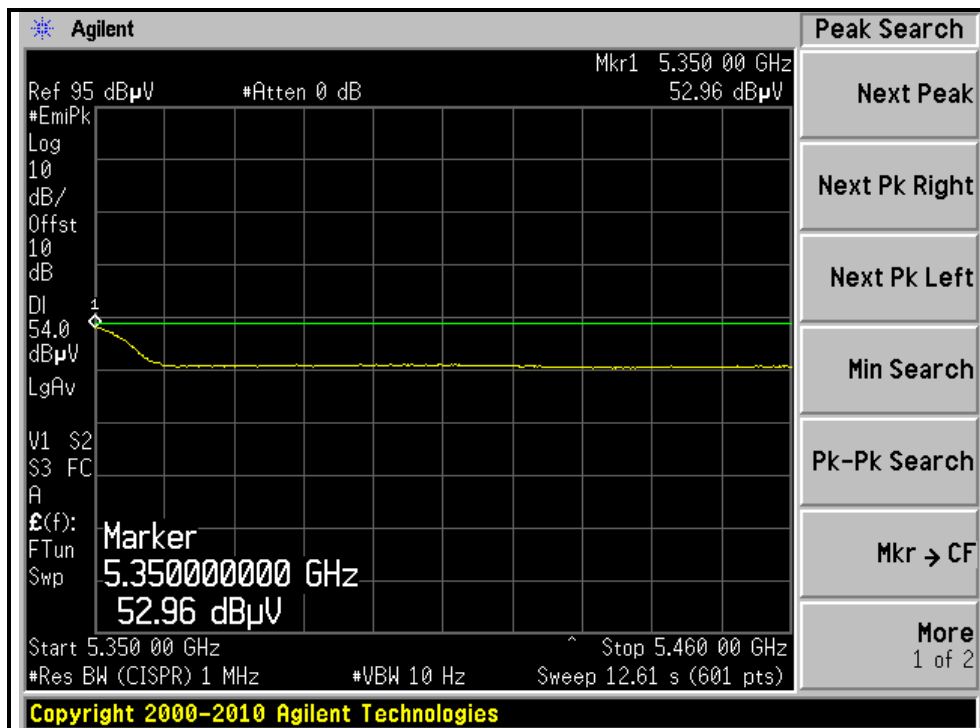
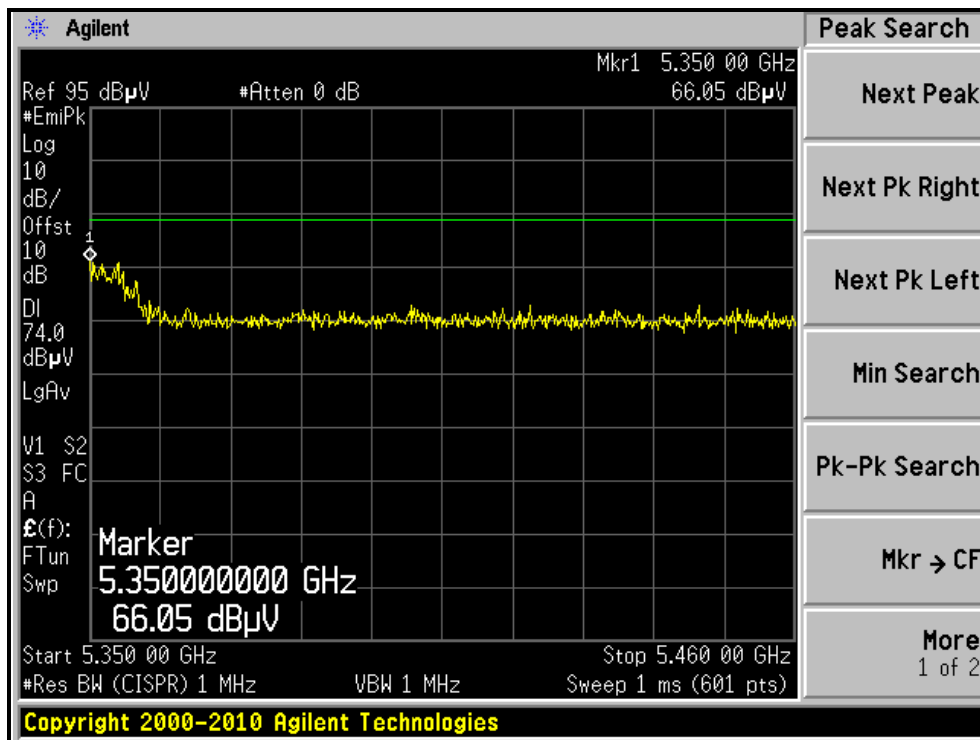
RESTRICTED BANDEDGE (802.11n (40MHz) MODE, CH62, HORIZONTAL)





A D T

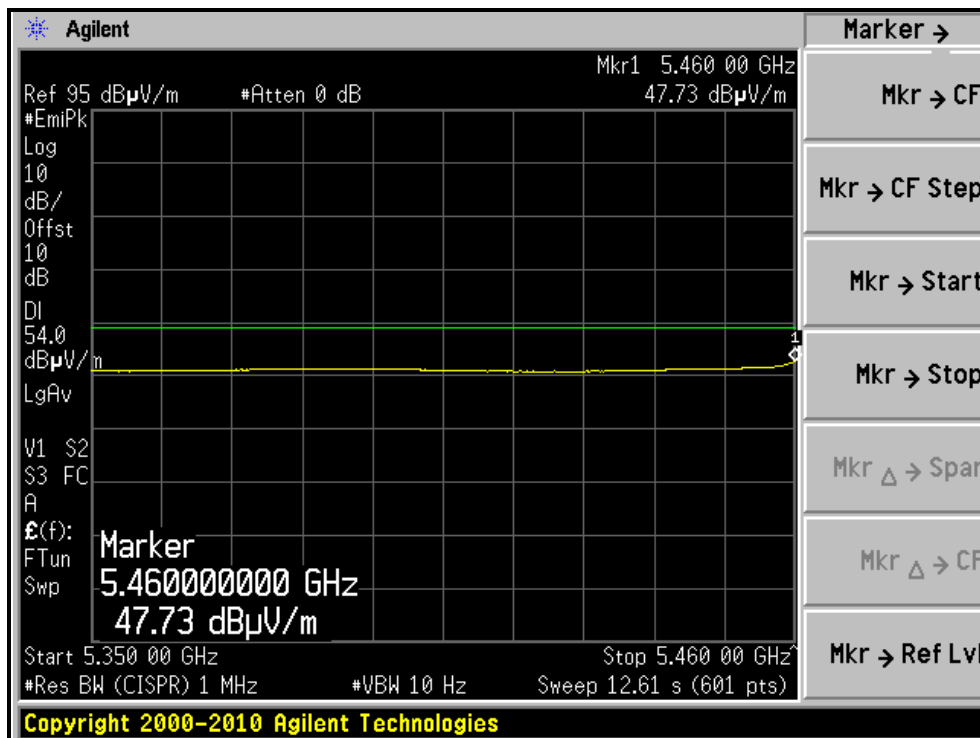
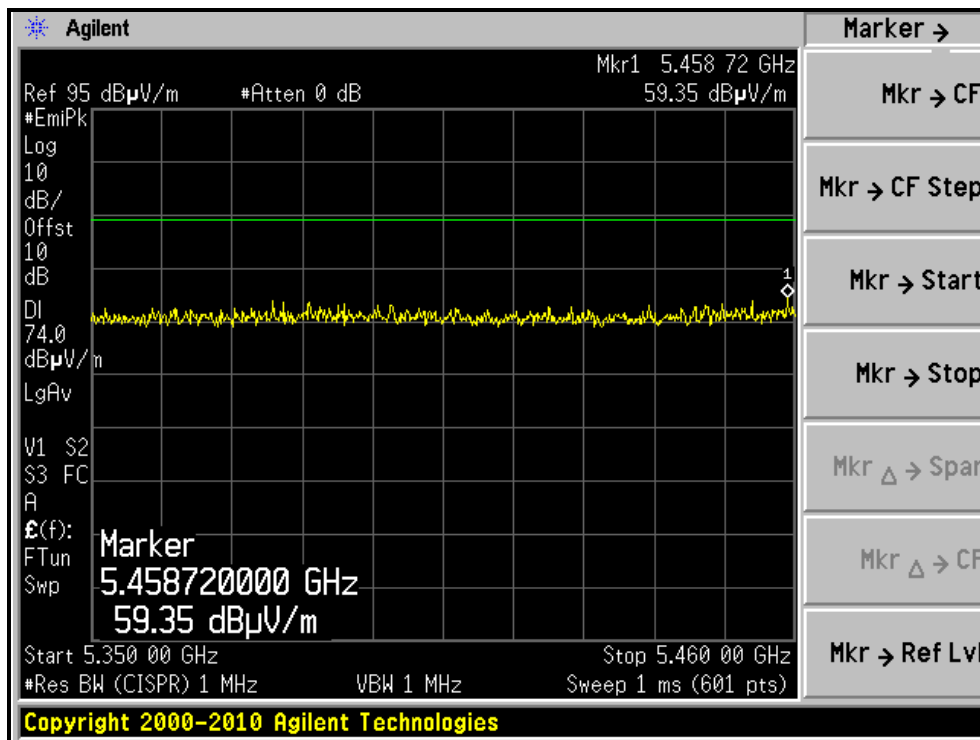
RESTRICTED BANDEDGE (802.11n (40MHz) MODE, CH62, VERTICAL)



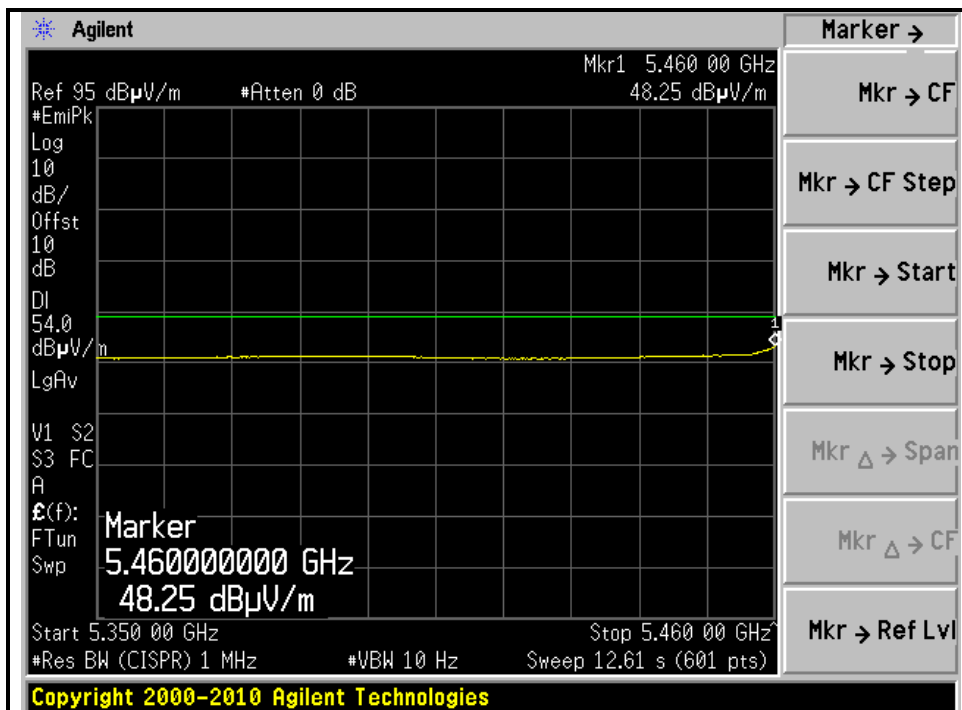
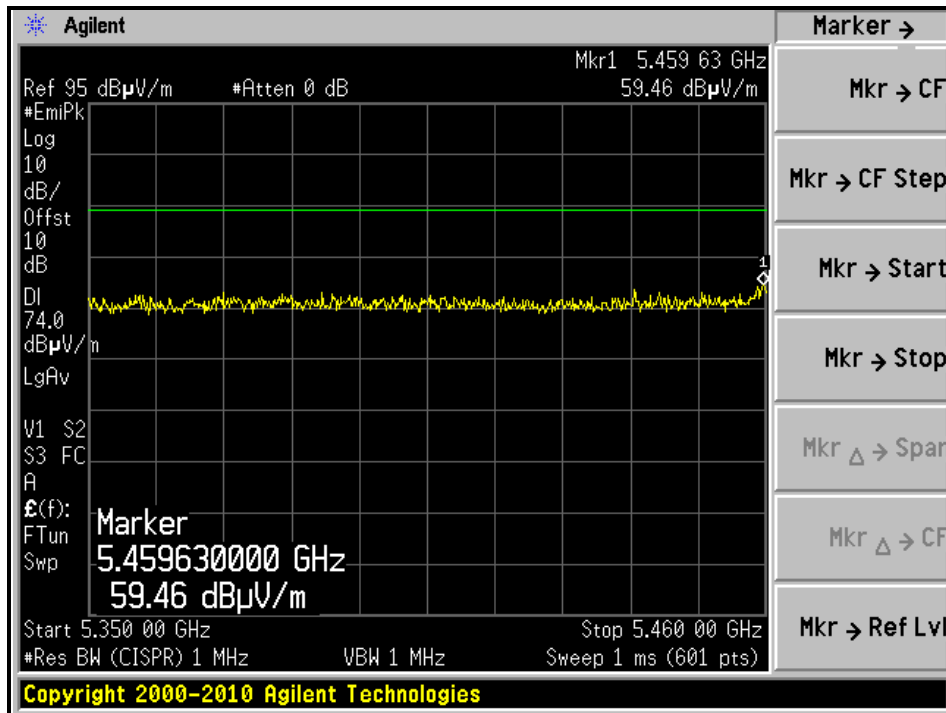


A D T

RESTRICTED BANDEDGE (802.11n (40MHz) MODE, CH102, HORIZONTAL)



RESTRICTED BANDEDGE (802.11n (40MHz) MODE, CH102, VERTICAL)





A D T

4.2.9 TEST RESULTS (FOR RECEIVER PART)

BELOW 1GHz WORST-CASE DATA :

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 60	FREQUENCY RANGE	Below 1000MHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Quasi-Peak
ENVIRONMENTAL CONDITIONS	23deg. C, 69%RH	TESTED BY	Evan Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	35.38	34.4 QP	40.0	-5.7	1.00 H	333	20.98	13.37
2	199.00	36.7 QP	43.5	-6.8	1.75 H	272	25.45	11.29
3	497.40	34.0 QP	46.0	-12.0	1.00 H	236	14.50	19.48
4	602.00	37.3 QP	46.0	-8.7	1.00 H	198	15.69	21.61
5	799.40	37.0 QP	46.0	-9.0	1.25 H	322	12.52	24.47
6	902.60	44.2 QP	46.0	-1.8	1.25 H	77	18.35	25.82
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	35.45	34.3 QP	40.0	-5.8	1.00 V	201	20.87	13.38
2	99.99	32.0 QP	43.5	-11.5	1.50 V	226	22.68	9.31
3	199.94	36.8 QP	43.5	-6.7	1.75 V	293	25.61	11.21
4	600.44	40.9 QP	46.0	-5.1	1.00 V	188	19.30	21.60
5	799.75	37.5 QP	46.0	-8.5	1.25 V	327	12.99	24.47
6	953.34	36.0 QP	46.0	-10.0	1.25 V	118	9.62	26.41

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



A D T

ABOVE 1GHz WORST-CASE DATA

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 36	FREQUENCY RANGE	1 ~ 15.9GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 70%RH	TESTED BY	Evan Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	3453.33	46.2 PK	74.0	-27.8	1.31 H	280	12.17	34.03
2	3453.33	41.5 AV	54.0	-12.5	1.31 H	280	7.47	34.03
3	6906.67	57.3 PK	74.0	-16.7	1.41 H	271	13.82	43.48
4	6906.67	45.3 AV	54.0	-8.7	1.41 H	271	1.82	43.48
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	3453.33	52.4 PK	74.0	-21.6	1.31 V	341	18.37	34.03
2	3453.33	44.3 AV	54.0	-9.7	1.31 V	341	10.27	34.03
3	6906.67	53.7 PK	74.0	-20.3	1.23 V	133	10.22	43.48
4	6906.67	42.4 AV	54.0	-11.6	1.23 V	133	-1.08	43.48

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



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 40	FREQUENCY RANGE	1 ~ 15.9GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 70%RH	TESTED BY	Evan Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	3466.67	46.3 PK	74.0	-27.7	1.28 H	288	12.23	34.07
2	3466.67	41.8 AV	54.0	-12.2	1.28 H	288	7.73	34.07
3	6933.33	57.4 PK	74.0	-16.6	1.37 H	283	13.84	43.56
4	6933.33	45.6 AV	54.0	-8.4	1.37 H	283	2.04	43.56
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	3466.67	52.4 PK	74.0	-21.6	1.36 V	347	18.33	34.07
2	3466.67	44.2 AV	54.0	-9.8	1.36 V	347	10.13	34.07
3	6933.33	53.7 PK	74.0	-20.3	1.18 V	140	10.14	43.56
4	6933.33	42.3 AV	54.0	-11.7	1.18 V	140	-1.26	43.56

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



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 48	FREQUENCY RANGE	1 ~ 15.9GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 70%RH	TESTED BY	Evan Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	3493.33	46.2 PK	74.0	-27.8	1.23 H	296	12.05	34.15
2	3493.33	42.0 AV	54.0	-12.0	1.23 H	296	7.85	34.15
3	6986.67	57.4 PK	74.0	-16.6	1.41 H	271	13.68	43.72
4	6986.67	45.8 AV	54.0	-8.2	1.41 H	271	2.08	43.72
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	3493.33	52.7 PK	74.0	-21.3	1.39 V	339	18.55	34.15
2	3493.33	44.5 AV	54.0	-9.5	1.39 V	339	10.35	34.15
3	6986.67	54.1 PK	74.0	-19.9	1.17 V	137	10.38	43.72
4	6986.67	42.6 AV	54.0	-11.4	1.17 V	137	-1.12	43.72

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



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 52	FREQUENCY RANGE	1 ~ 16.2GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 70%RH	TESTED BY	Evan Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	3506.67	46.0 PK	74.0	-28.0	1.26 H	298	11.80	34.20
2	3506.67	41.8 AV	54.0	-12.2	1.26 H	298	7.60	34.20
3	7013.33	57.2 PK	74.0	-16.8	1.39 H	267	13.43	43.77
4	7013.33	45.6 AV	54.0	-8.4	1.39 H	267	1.83	43.77
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	3506.67	52.9 PK	74.0	-21.1	1.41 V	347	18.70	34.20
2	3506.67	44.4 AV	54.0	-9.6	1.41 V	347	10.20	34.20
3	7013.33	54.2 PK	74.0	-19.8	1.21 V	133	10.43	43.77
4	7013.33	42.5 AV	54.0	-11.5	1.21 V	133	-1.27	43.77

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



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 60	FREQUENCY RANGE	1 ~ 16.2GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 70%RH	TESTED BY	Evan Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	3533.33	46.1 PK	74.0	-27.9	1.24 H	298	11.80	34.30
2	3533.33	42.0 AV	54.0	-12.0	1.24 H	298	7.70	34.30
3	7066.67	57.2 PK	74.0	-16.8	1.38 H	254	13.38	43.82
4	7066.67	45.8 AV	54.0	-8.2	1.38 H	254	1.98	43.82
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	3533.33	53.0 PK	74.0	-21.0	1.39 V	336	18.70	34.30
2	3533.33	44.3 AV	54.0	-9.7	1.39 V	336	10.00	34.30
3	7066.67	54.4 PK	74.0	-19.6	1.17 V	143	10.58	43.82
4	7066.67	42.4 AV	54.0	-11.6	1.17 V	143	-1.42	43.82

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



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 64	FREQUENCY RANGE	1 ~ 16.2GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 70%RH	TESTED BY	Evan Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	3546.67	46.2 PK	74.0	-27.8	1.27 H	293	11.85	34.35
2	3546.67	42.4 AV	54.0	-11.6	1.27 H	293	8.05	34.35
3	7093.33	57.4 PK	74.0	-16.6	1.35 H	246	13.56	43.84
4	7093.33	46.2 AV	54.0	-7.8	1.35 H	246	2.36	43.84
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	3546.67	52.7 PK	74.0	-21.3	1.33 V	334	18.35	34.35
2	3546.67	44.2 AV	54.0	-9.8	1.33 V	334	9.85	34.35
3	7093.33	54.1 PK	74.0	-19.9	1.22 V	149	10.26	43.84
4	7093.33	42.3 AV	54.0	-11.7	1.22 V	149	-1.54	43.84

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



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 100	FREQUENCY RANGE	1 ~ 17.4GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 70%RH	TESTED BY	Evan Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	3666.67	46.2 PK	74.0	-27.8	1.22 H	279	11.39	34.81
2	3666.67	42.5 AV	54.0	-11.5	1.22 H	279	7.69	34.81
3	7333.33	57.5 PK	74.0	-16.5	1.37 H	237	13.37	44.13
4	7333.33	46.3 AV	54.0	-7.7	1.37 H	237	2.17	44.13

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	3666.67	52.7 PK	74.0	-21.3	1.34 V	330	17.89	34.81
2	3666.67	44.3 AV	54.0	-9.7	1.34 V	330	9.49	34.81
3	7333.33	54.1 PK	74.0	-19.9	1.24 V	163	9.97	44.13
4	7333.33	42.4 AV	54.0	-11.6	1.24 V	163	-1.73	44.13

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



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 116	FREQUENCY RANGE	1 ~ 17.4GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 70%RH	TESTED BY	Evan Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	3720.00	46.1 PK	74.0	-27.9	1.27 H	279	11.09	35.01
2	3720.00	42.3 AV	54.0	-11.7	1.27 H	279	7.29	35.01
3	7440.00	57.2 PK	74.0	-16.8	1.38 H	242	12.96	44.24
4	7440.00	46.1 AV	54.0	-7.9	1.38 H	242	1.86	44.24

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	3720.00	52.8 PK	74.0	-21.2	1.31 V	328	17.79	35.01
2	3720.00	44.3 AV	54.0	-9.7	1.31 V	328	9.29	35.01
3	7440.00	54.1 PK	74.0	-19.9	1.21 V	152	9.86	44.24
4	7440.00	42.4 AV	54.0	-11.6	1.21 V	152	-1.84	44.24

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



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 132	FREQUENCY RANGE	1 ~ 17.4GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 70%RH	TESTED BY	Evan Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	3773.33	46.3 PK	74.0	-27.7	1.26 H	266	11.08	35.22
2	3773.33	42.5 AV	54.0	-11.5	1.26 H	266	7.28	35.22
3	7546.67	57.1 PK	74.0	-16.9	1.36 H	252	12.71	44.39
4	7546.67	46.3 AV	54.0	-7.7	1.36 H	252	1.91	44.39

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	3773.33	53.0 PK	74.0	-21.0	1.30 V	331	17.78	35.22
2	3773.33	44.3 AV	54.0	-9.7	1.30 V	331	9.08	35.22
3	7546.67	54.0 PK	74.0	-20.0	1.20 V	145	9.61	44.39
4	7546.67	42.4 AV	54.0	-11.6	1.20 V	145	-1.99	44.39

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



A D T

EUT TEST CONDITION		MEASUREMENT DETAIL	
CHANNEL	Channel 140	FREQUENCY RANGE	1 ~ 17.4GHz
INPUT POWER (SYSTEM)	120Vac, 60Hz	DETECTOR FUNCTION	Peak (PK) Average (AV)
ENVIRONMENTAL CONDITIONS	25deg. C, 70%RH	TESTED BY	Evan Huang

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	3800.00	46.5 PK	74.0	-27.5	1.22 H	264	11.17	35.33
2	3800.00	42.9 AV	54.0	-11.1	1.22 H	264	7.57	35.33
3	7600.00	57.4 PK	74.0	-16.6	1.38 H	249	12.92	44.48
4	7600.00	46.7 AV	54.0	-7.3	1.38 H	249	2.22	44.48
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M								
NO.	FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA HEIGHT (m)	TABLE ANGLE (Degree)	RAW VALUE (dBuV)	CORRECTION FACTOR (dB/m)
1	3800.00	52.8 PK	74.0	-21.2	1.35 V	342	17.47	35.33
2	3800.00	44.2 AV	54.0	-9.8	1.35 V	342	8.87	35.33
3	7600.00	53.9 PK	74.0	-20.1	1.17 V	158	9.42	44.48
4	7600.00	42.3 AV	54.0	-11.7	1.17 V	158	-2.18	44.48

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

4.3 OUTPUT TRANSMIT POWER MEASUREMENT

4.3.1 LIMITS OF OUTPUT TRANSMIT POWER MEASUREMENT

Frequency Band	Limit
5.15 – 5.25GHz	The lesser of 50mW (17dBm) or 4dBm + 10logB
5.25 – 5.35GHz	The lesser of 250mW (24dBm) or 11dBm + 10logB
5.47 – 5.725GHz	The lesser of 250mW (24dBm) or 11dBm + 10logB
5.725 – 5.825GHz	The lesser of 1W (30dBm) or 17dBm + 10logB

NOTE: Where B is the 26dB emission bandwidth in MHz.

4.3.2 TEST INSTRUMENTS

FOR POWER OUTPUT MEASUREMENT

Test date: Dec. 06, 2011

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Peak Power Meter	ML2495A	0824006	May 04, 2011	May 03, 2012
Power Sensor	MA2411B	0738172	May 03, 2011	May 02, 2012

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

FOR 26dB OCCUPIED BANDWIDTH

Test date: Dec. 06, 2011

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Spectrum Analyzer	E4446A	MY48250254	July 12, 2011	July 11, 2012

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

4.3.3 TEST PROCEDURE

FOR POWER OUTPUT MEASUREMENT

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

FOR 26dB OCCUPIED BANDWIDTH

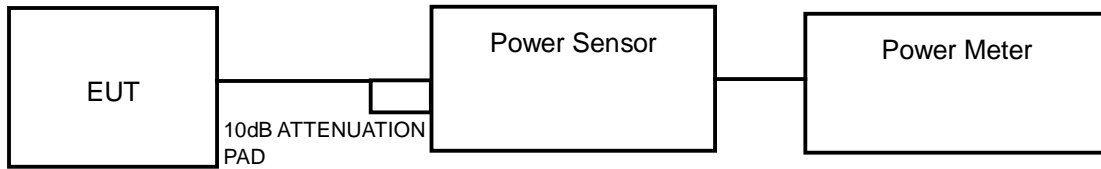
The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with 300kHz RBW and 1MHz VBW. The 26dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 26dB.

4.3.4 DEVIATION FROM TEST STANDARD

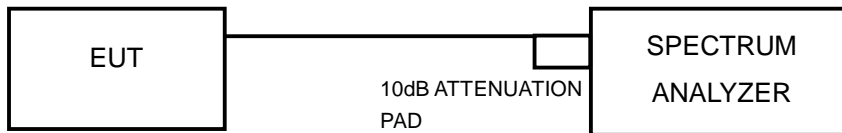
No deviation

4.3.5 TEST SETUP

FOR POWER OUTPUT MEASUREMENT



FOR 26dB OCCUPIED BANDWIDTH



4.3.6 EUT OPERATING CONDITIONS

The software provided by client to enable the EUT under transmission condition continuously at specific channel frequencies individually.



A D T

4.3.7 TEST RESULTS

POWER OUTPUT : Single chain - 802.11a OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	OUTPUT POWER (mW)	OUTPUT POWER (dBm)	OUTPUT POWER LIMIT (dBm)	PASS/FAIL
36	5180	30.2	14.8	17	PASS
40	5200	29.5	14.7	17	PASS
48	5240	30.2	14.8	17	PASS
52	5260	97.7	19.9	24	PASS
60	5300	100.0	20.0	24	PASS
64	5320	57.5	17.6	24	PASS
100	5500	28.8	14.6	24	PASS
116	5580	56.2	17.5	24	PASS
132	5660	47.9	16.8	24	PASS
140	5700	23.4	13.7	24	PASS



A D T

POWER OUTPUT : Multiple chain - 802.11a OFDM MODULATION:

CHAN.	CHAN. FREQ. (MHz)	POWER OUTPUT (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		CHAIN (0)	CHAIN (1)				
36	5180	11.5	11.4	27.9	14.5	16.91	PASS
40	5200	11.4	11.3	27.3	14.4	16.91	PASS
48	5240	11.7	11.3	28.3	14.5	16.91	PASS
52	5260	17.0	15.8	88.1	19.4	23.91	PASS
60	5300	17.0	16.7	96.9	19.9	23.91	PASS
64	5320	14.5	14.2	54.5	17.4	23.91	PASS
100	5500	11.1	11.9	28.4	14.5	22.23	PASS
116	5580	14.2	14.8	56.5	17.5	22.23	PASS
132	5660	14.0	13.6	48.0	16.8	22.23	PASS
140	5700	10.2	11.1	23.4	13.7	22.23	PASS

For Operated in 5150MHz ~ 5250MHz bands:

Directional gain = gain of antenna element + 10 log (# of TX antenna elements)

Effective Legacy Gain (dBi) = 6.09

The effective legacy gain is 6.09dBi, therefore the limit needs to reduce.

For Operated in 5250MHz ~ 5350MHz bands:

Directional gain = gain of antenna element + 10 log (# of TX antenna elements)

Effective Legacy Gain (dBi) = 6.09

The effective legacy gain is 6.09dBi, therefore the limit needs to reduce.

For Operated in 5470MHz ~ 5600MHz & 5650MHz ~ 5725MHz bands:

Directional gain = gain of antenna element + 10 log (# of TX antenna elements)

Effective Legacy Gain (dBi) = 7.77

The effective legacy gain is 7.77dBi, therefore the limit needs to reduce.



A D T

POWER OUTPUT : 802.11n (20MHz) OFDM MODULATION:

CHAN.	CHAN. FREQ. (MHz)	POWER OUTPUT (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		CHAIN (0)	CHAIN (1)				
36	5180	11.2	11.1	26.1	14.2	16.91	PASS
40	5200	11.3	11.0	26.1	14.2	16.91	PASS
48	5240	11.0	10.9	24.9	14.0	16.91	PASS
52	5260	15.0	14.3	58.5	17.7	23.91	PASS
60	5300	14.5	14.2	54.5	17.4	23.91	PASS
64	5320	14.2	14.1	52.0	17.2	23.91	PASS
100	5500	12.1	13.1	36.6	15.6	22.23	PASS
116	5580	14.4	16.5	72.2	18.6	22.23	PASS
132	5660	14.5	14.8	58.4	17.7	22.23	PASS
140	5700	11.6	12.8	33.5	15.3	22.23	PASS

For Operated in 5150MHz ~ 5250MHz bands:

Directional gain = gain of antenna element + 10 log (# of TX antenna elements)

Effective Legacy Gain (dBi) = 6.09

The effective legacy gain is 6.09dBi, therefore the limit needs to reduce.

For Operated in 5250MHz ~ 5350MHz bands:

Directional gain = gain of antenna element + 10 log (# of TX antenna elements)

Effective Legacy Gain (dBi) = 6.09

The effective legacy gain is 6.09dBi, therefore the limit needs to reduce.

For Operated in 5470MHz ~ 5600MHz & 5650MHz ~ 5725MHz bands:

Directional gain = gain of antenna element + 10 log (# of TX antenna elements)

Effective Legacy Gain (dBi) = 7.77

The effective legacy gain is 7.77dBi, therefore the limit needs to reduce.



A D T

POWER OUTPUT : 802.11n (40MHz) OFDM MODULATION:

CHAN.	CHAN. FREQ. (MHz)	POWER OUTPUT (dBm)		TOTAL POWER (mW)	TOTAL POWER (dBm)	POWER LIMIT (dBm)	PASS / FAIL
		CHAIN (0)	CHAIN (1)				
38	5190	9.6	9.4	17.8	12.5	16.91	PASS
46	5230	13.8	13.2	44.9	16.5	16.91	PASS
54	5270	15.3	14.6	62.7	18.0	23.91	PASS
62	5310	9.7	9.5	18.2	12.6	23.91	PASS
102	5510	8.5	8.9	14.8	11.7	22.23	PASS
110	5550	14.2	15.6	62.6	18.0	22.23	PASS
134	5670	11.3	12.8	32.5	15.1	22.23	PASS

For Operated in 5150MHz ~ 5250MHz bands:

Directional gain = gain of antenna element + 10 log (# of TX antenna elements)

Effective Legacy Gain (dBi) = 6.09

The effective legacy gain is 6.09dBi, therefore the limit needs to reduce.

For Operated in 5250MHz ~ 5350MHz bands:

Directional gain = gain of antenna element + 10 log (# of TX antenna elements)

Effective Legacy Gain (dBi) = 6.09

The effective legacy gain is 6.09dBi, therefore the limit needs to reduce.

For Operated in 5470MHz ~ 5600MHz & 5650MHz ~ 5725MHz bands:

Directional gain = gain of antenna element + 10 log (# of TX antenna elements)

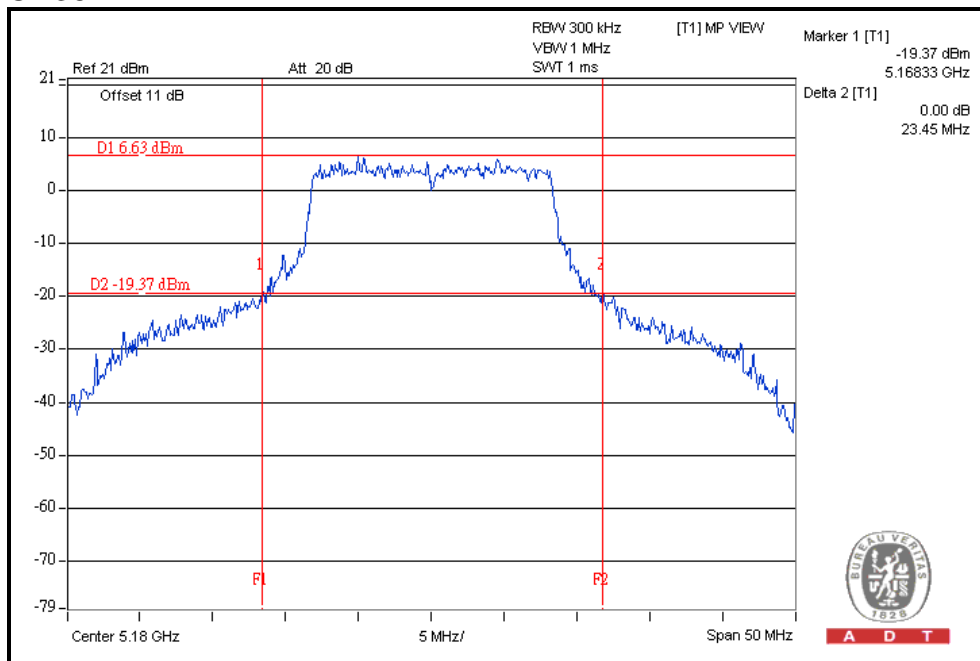
Effective Legacy Gain (dBi) = 7.77

The effective legacy gain is 7.77dBi, therefore the limit needs to reduce.

26dB OCCUPIED BANDWIDTH: Single chain - 802.11a OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc OCCUPIED BANDWIDTH (MHz)
36	5180	23.45
40	5200	24.30
48	5240	23.71
52	5260	41.79
60	5300	42.93
64	5320	34.92
100	5500	45.03
116	5580	42.95
132	5660	37.46
140	5700	40.06

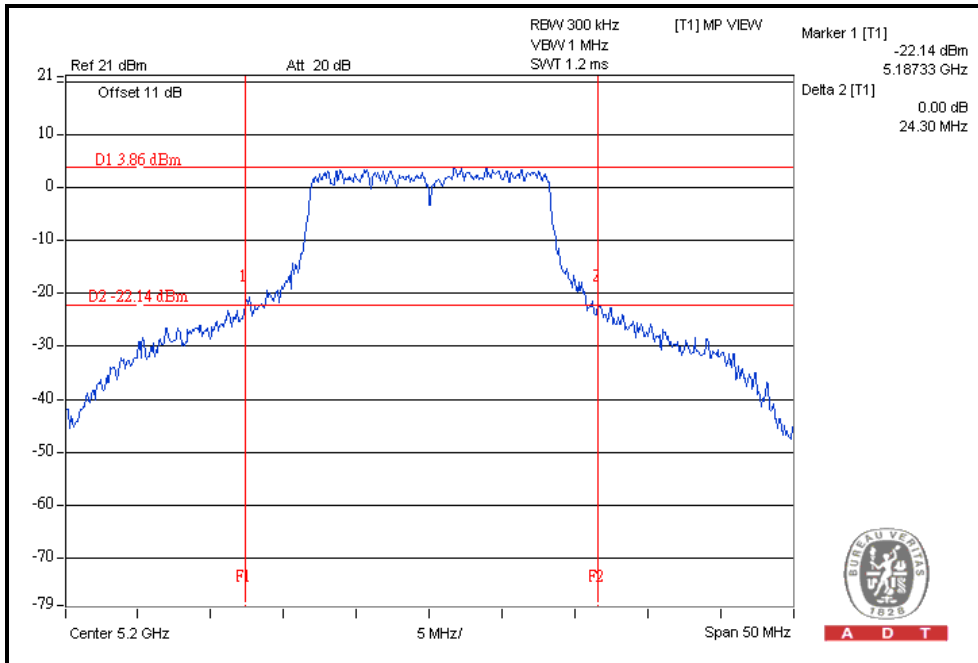
CH36



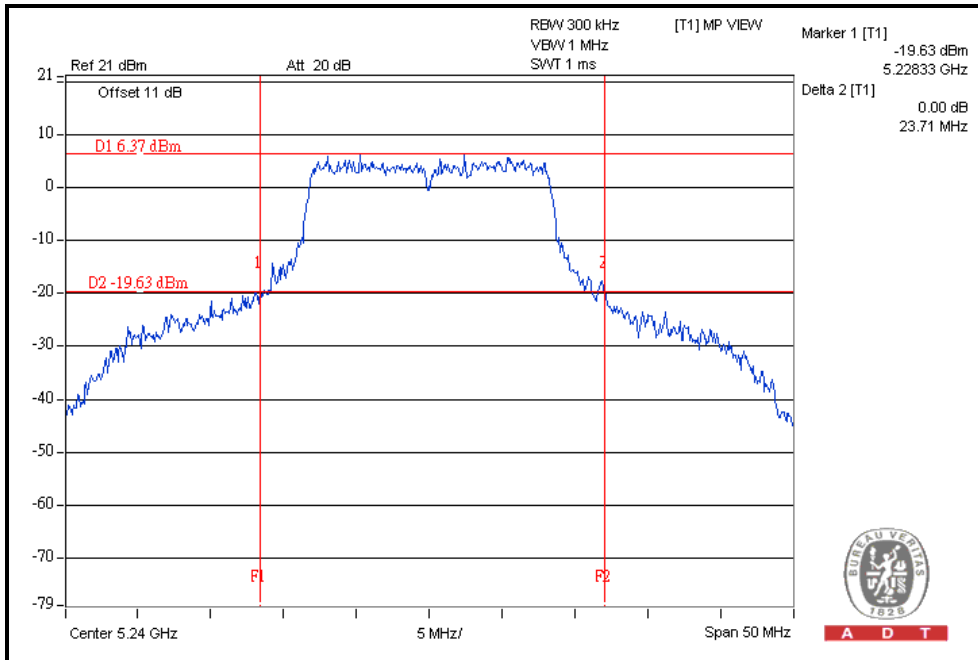


A D T

CH40



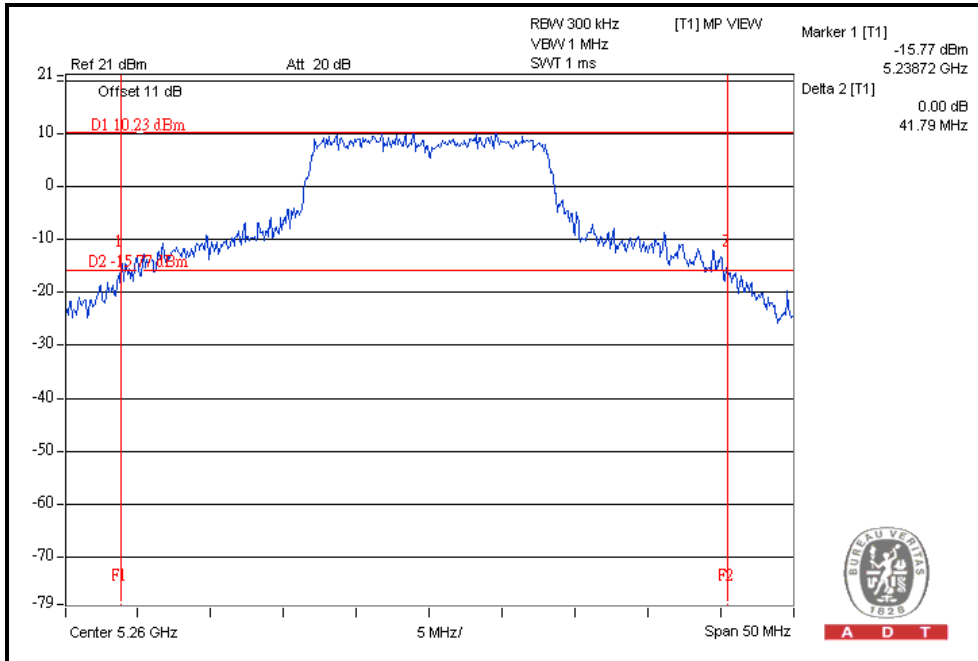
CH48



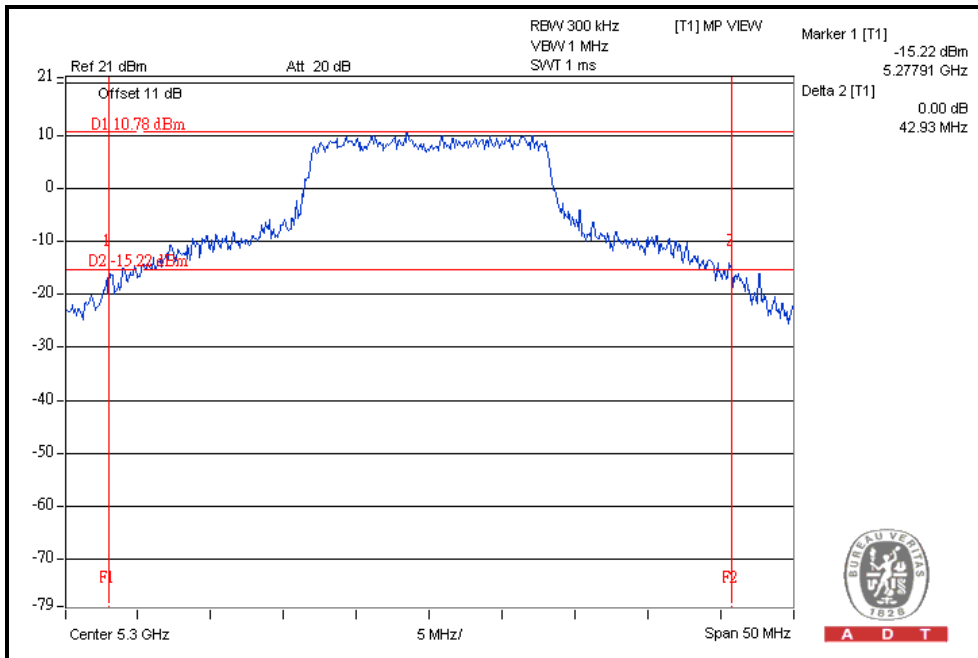


A D T

CH52



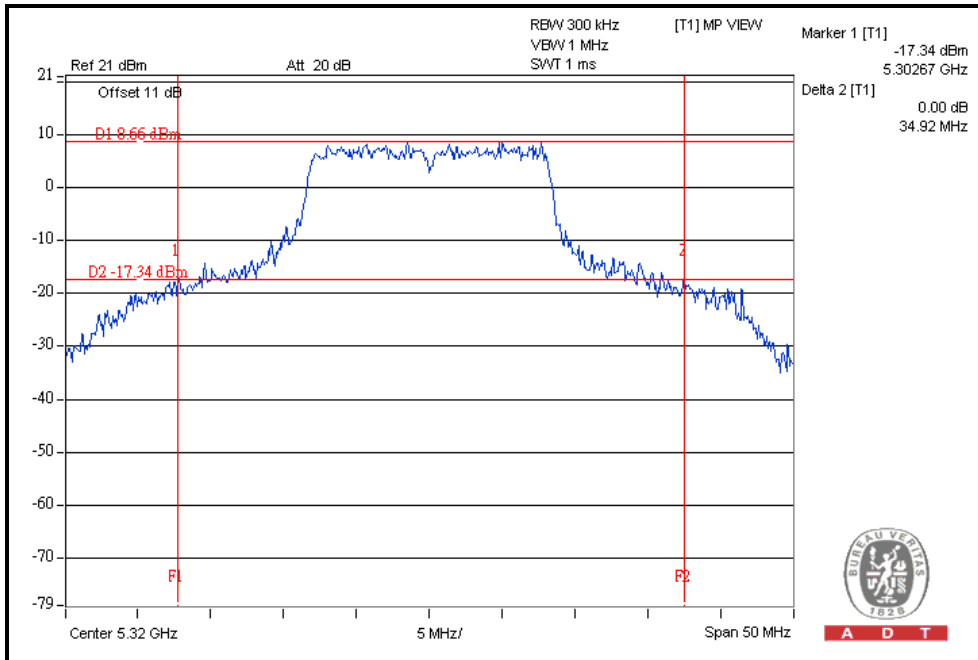
CH60



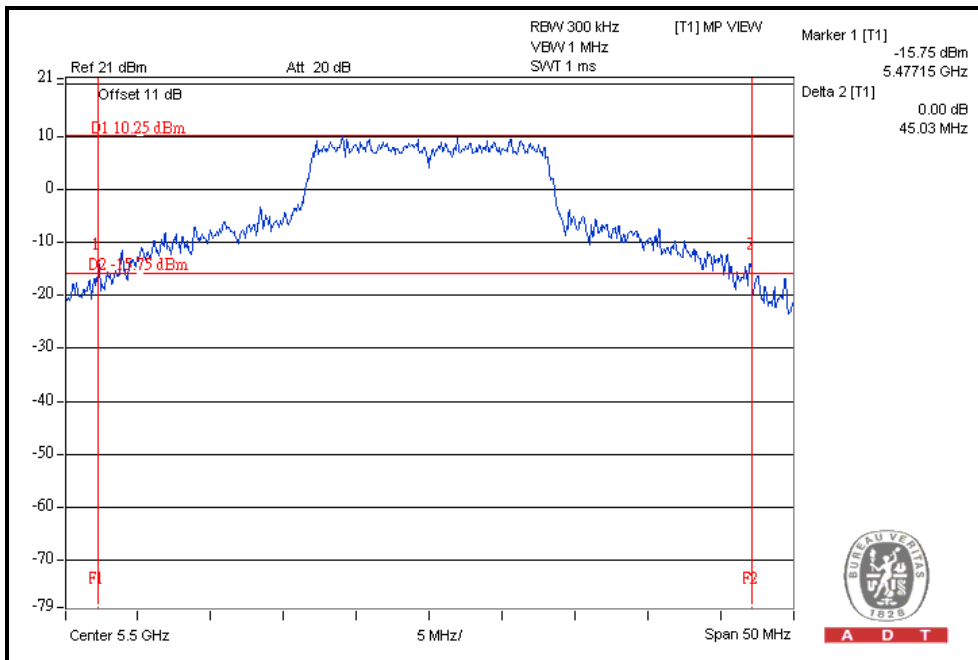


A D T

CH64



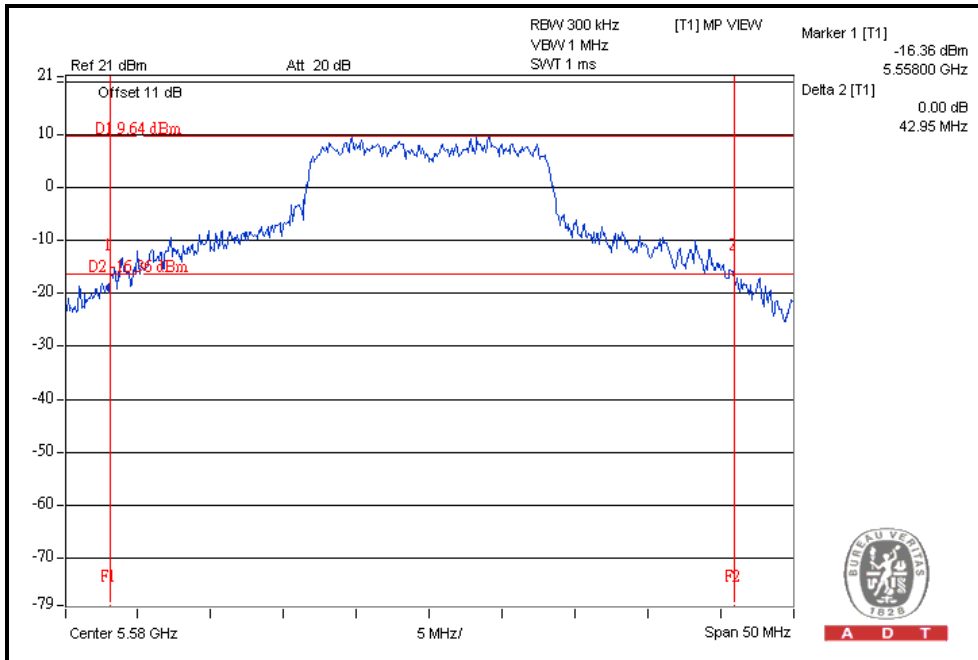
CH100



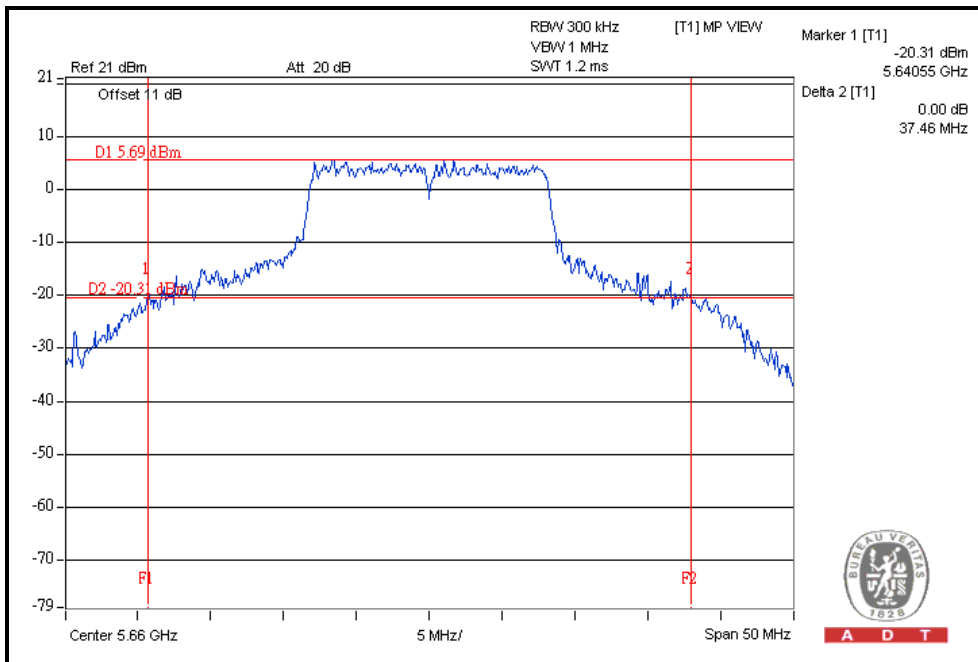


A D T

CH116



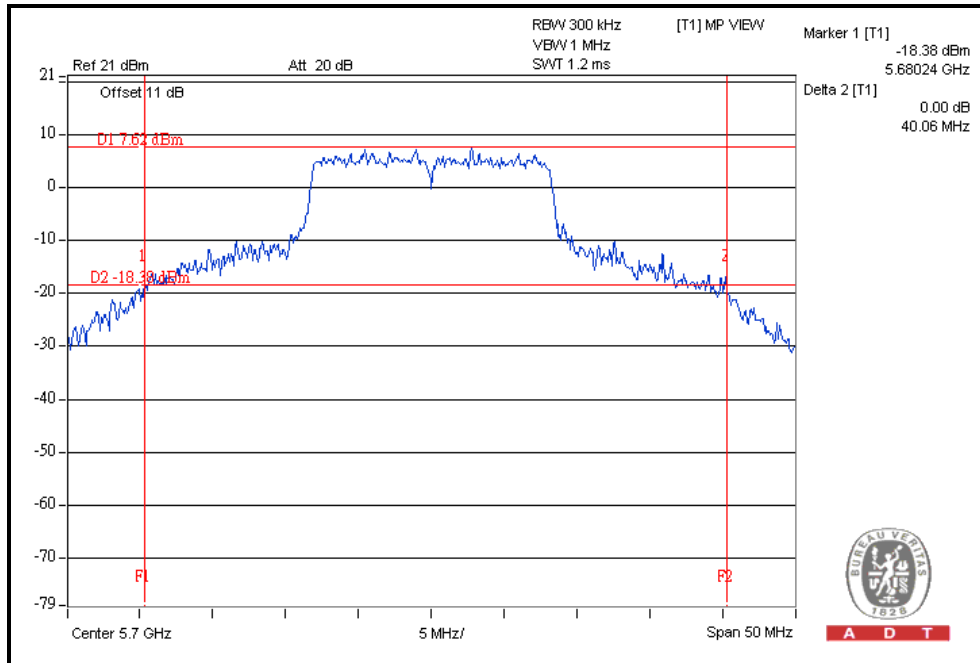
CH132





A D T

CH140



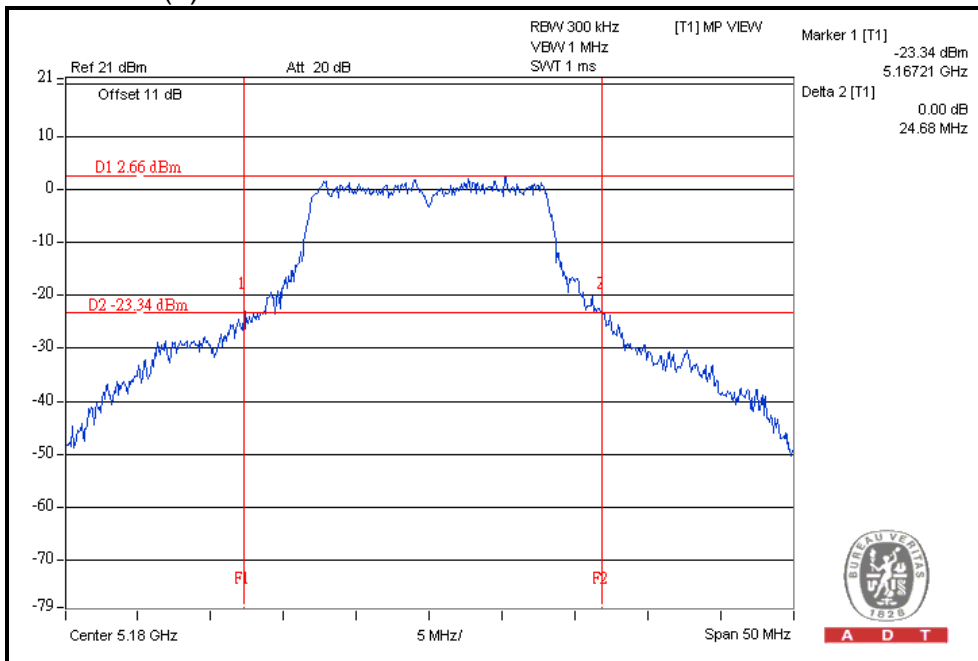


A D T

26dB OCCUPIED BANDWIDTH: Multiple chain - 802.11a OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc OCCUPIED BANDWIDTH (MHz)	
		CHAIN (0)	CHAIN (1)
36	5180	24.68	23.70
40	5200	24.14	23.69
48	5240	24.60	24.88
52	5260	38.12	35.12
60	5300	36.23	36.02
64	5320	26.00	24.97
100	5500	40.34	26.84
116	5580	37.21	31.72
132	5660	30.52	26.21
140	5700	37.98	31.70

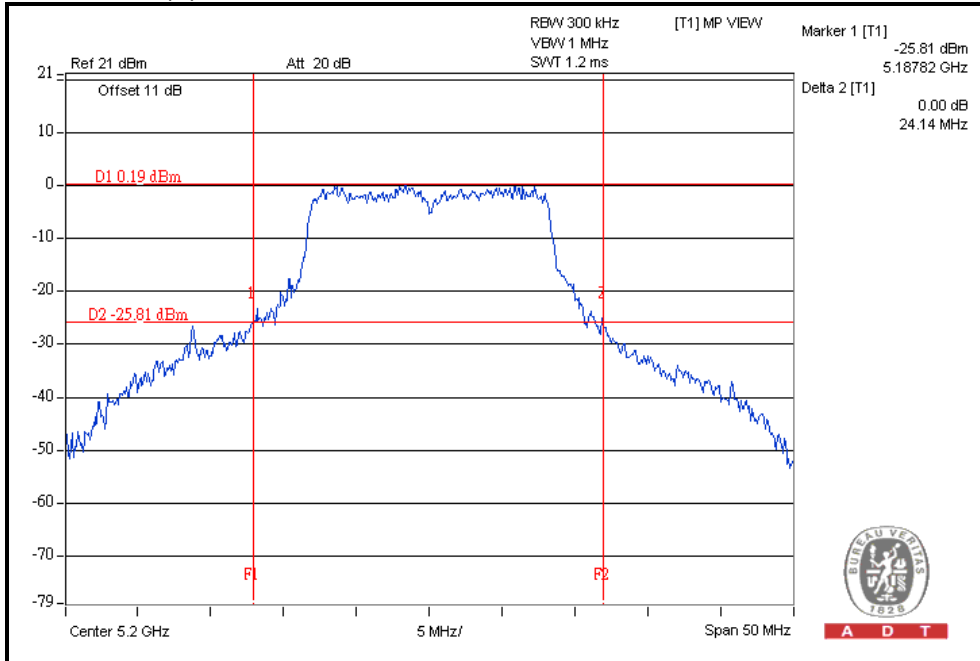
For CHAIN(0) : CH36



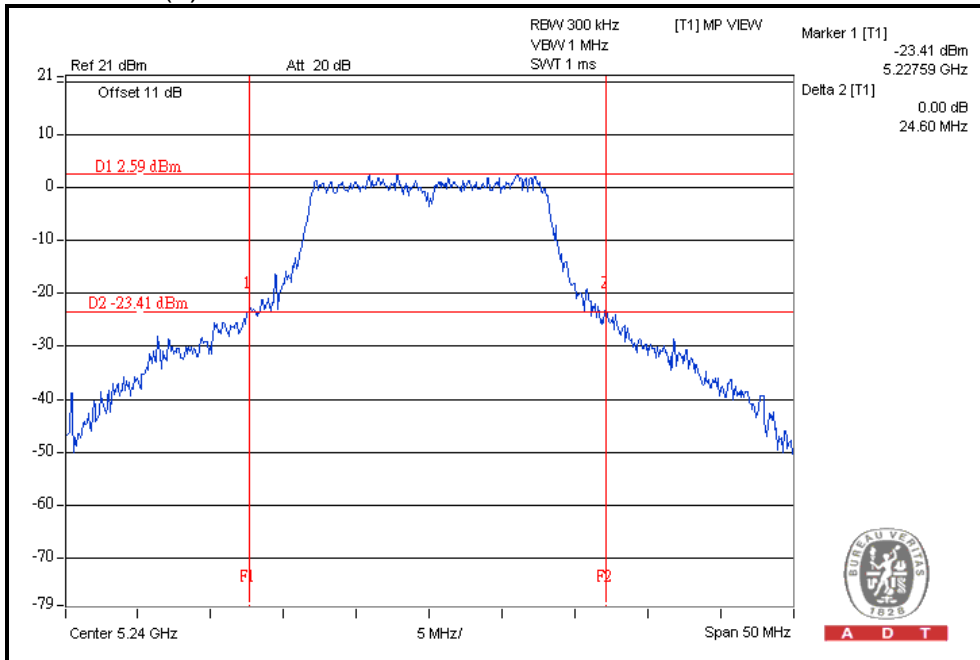


A D T

For CHAIN(0) : CH40



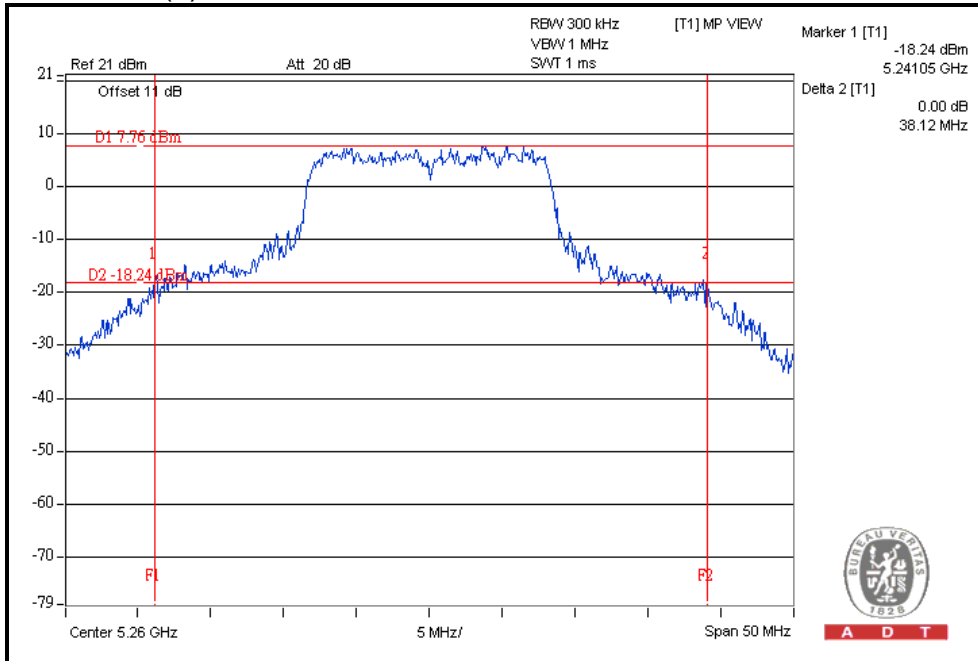
For CHAIN(0) : CH48



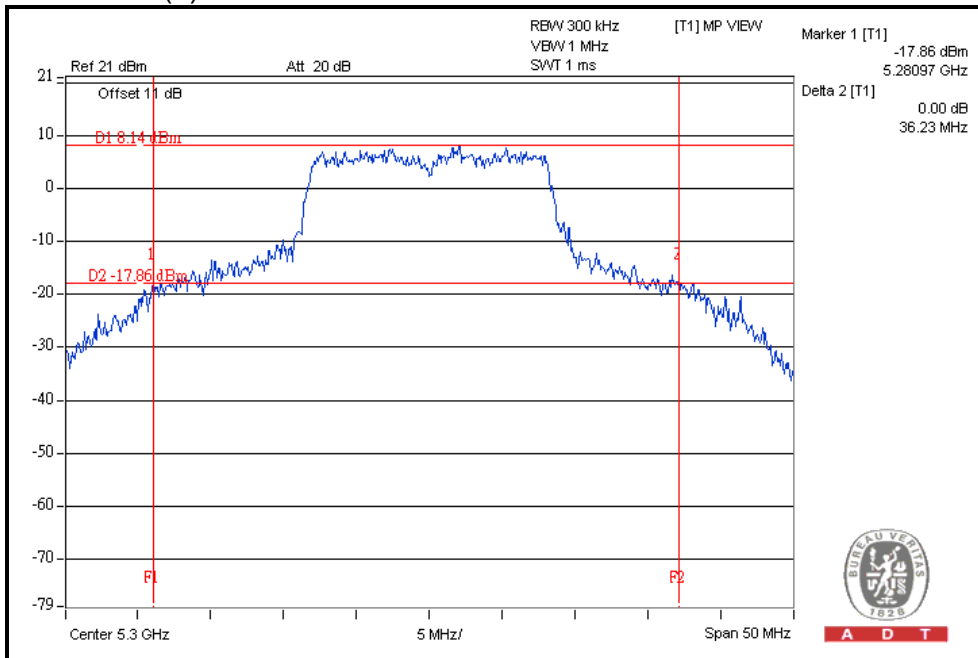


A D T

For CHAIN(0) : CH52



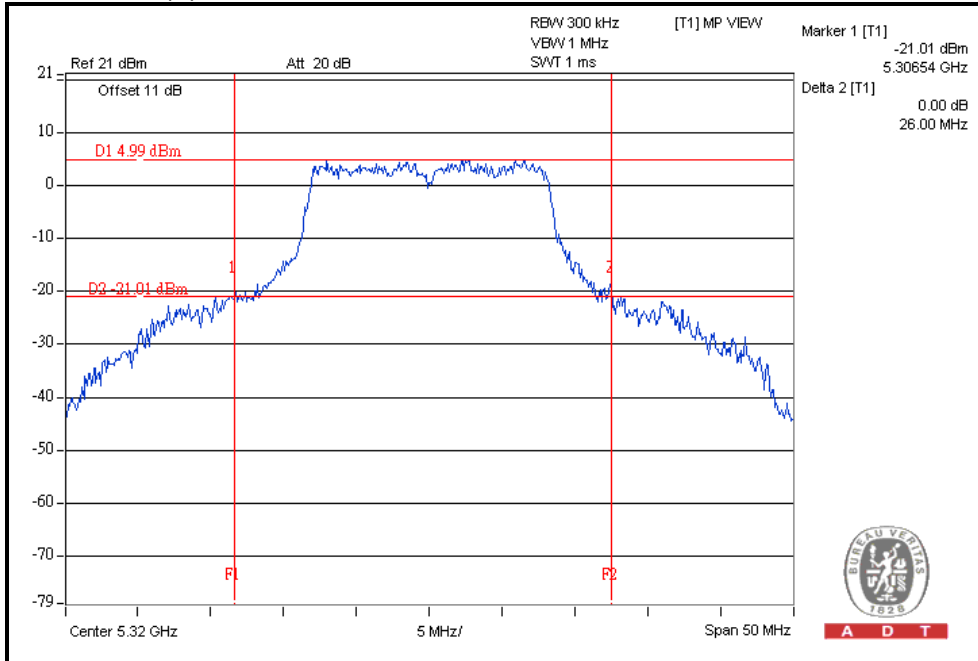
For CHAIN(0) : CH60



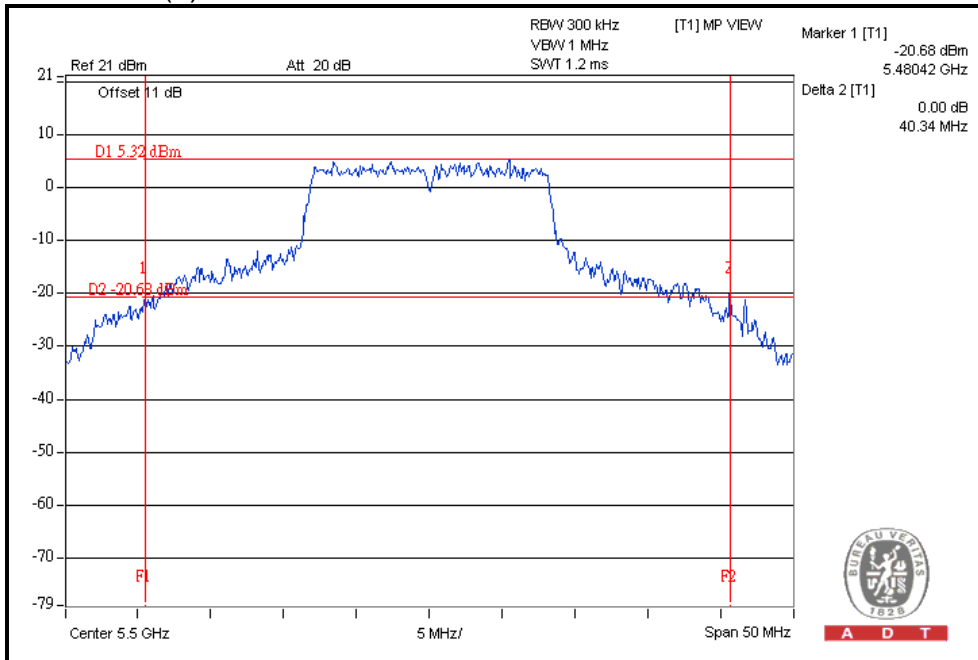


A D T

For CHAIN(0) : CH64



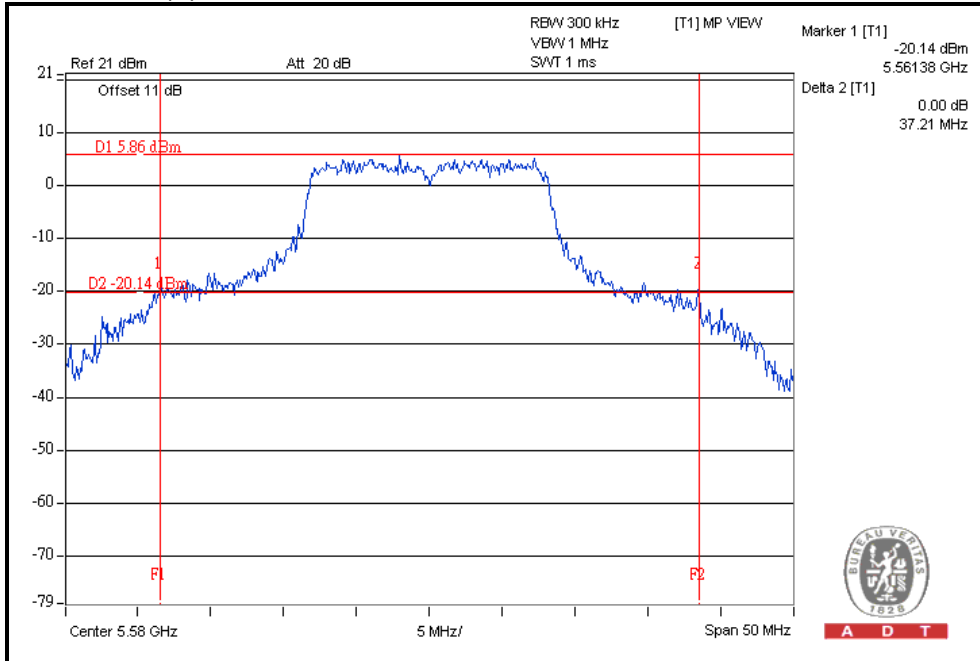
For CHAIN(0) : CH100





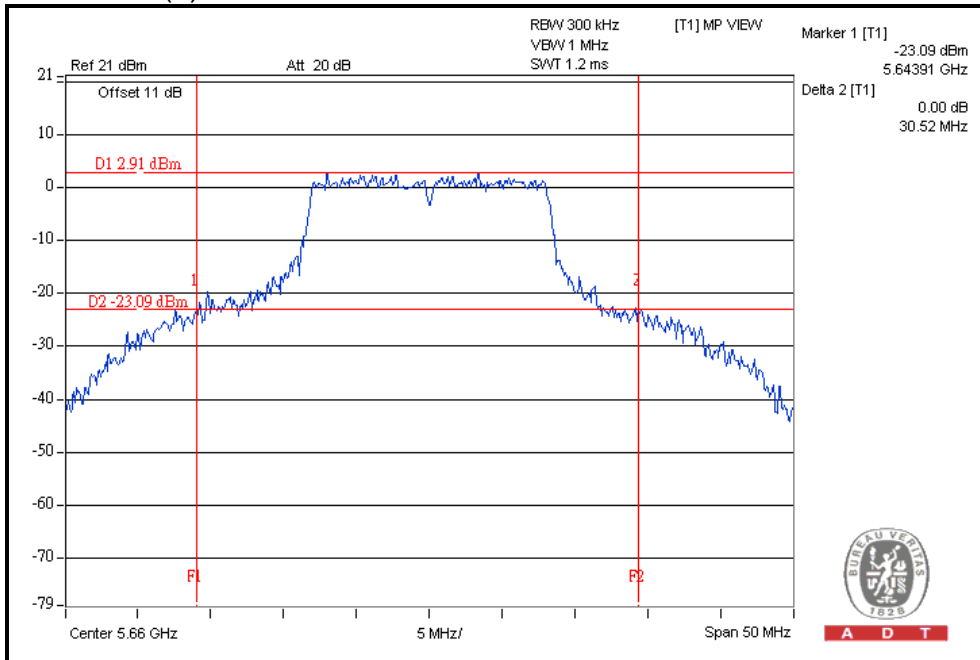
A D T

For CHAIN(0) : CH116



A D T

For CHAIN(0) : CH132

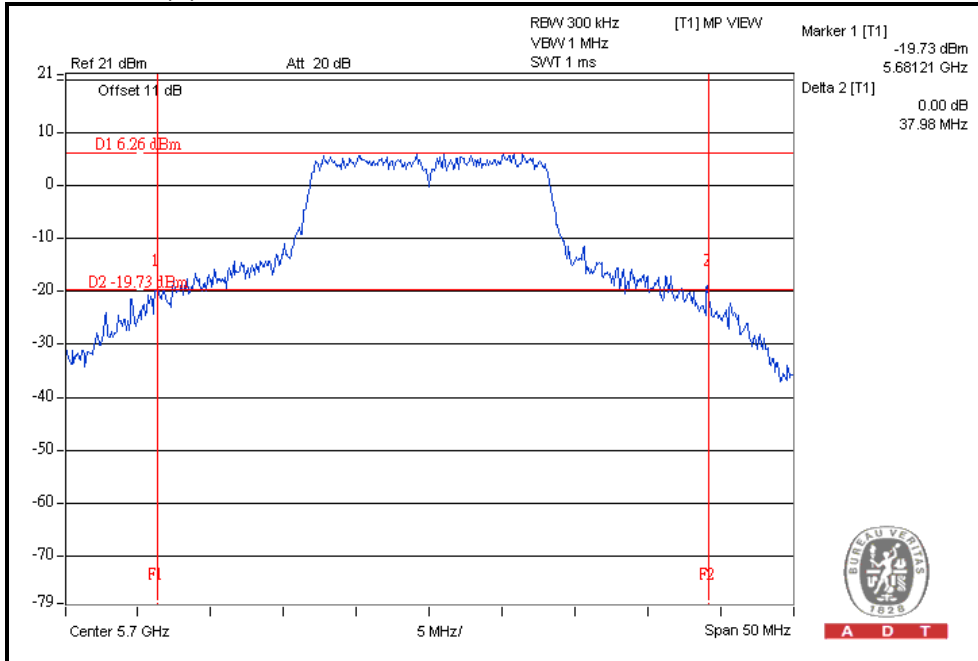


A D T

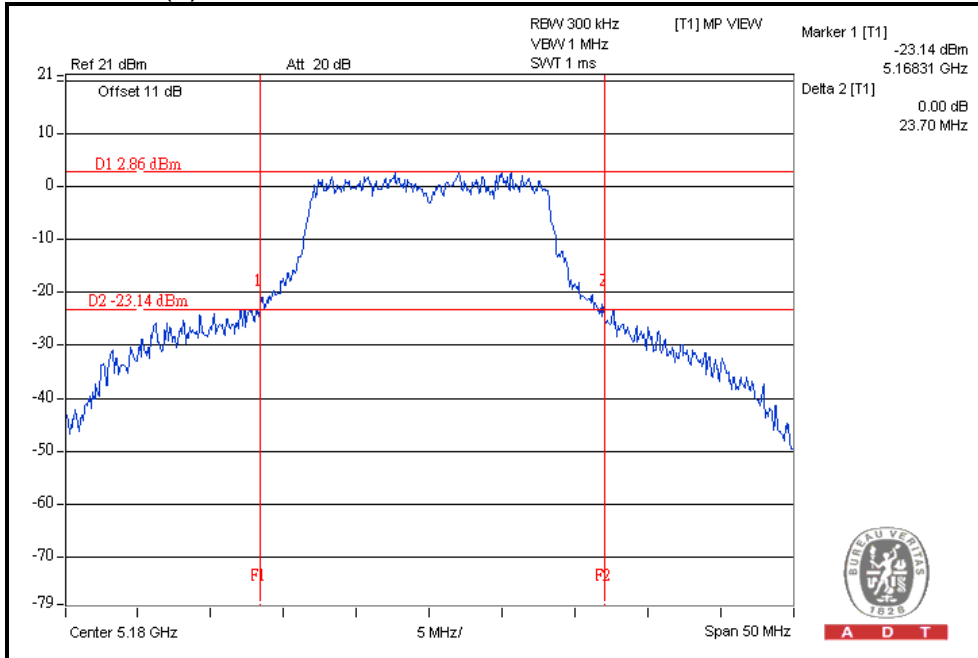


A D T

For CHAIN(0) : CH140



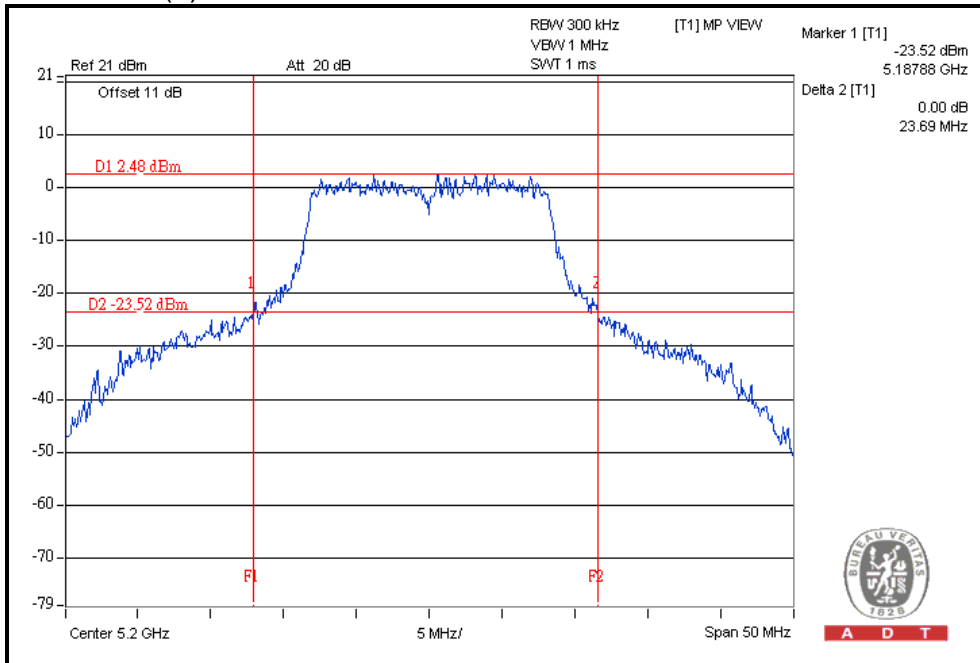
For CHAIN(1) : CH36



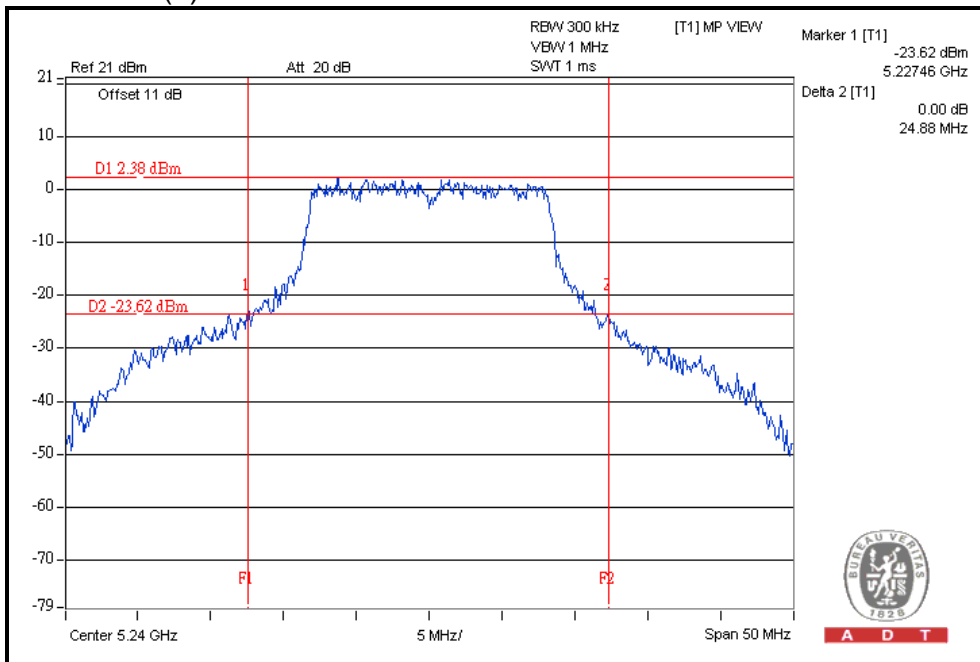


A D T

For CHAIN(1) : CH40



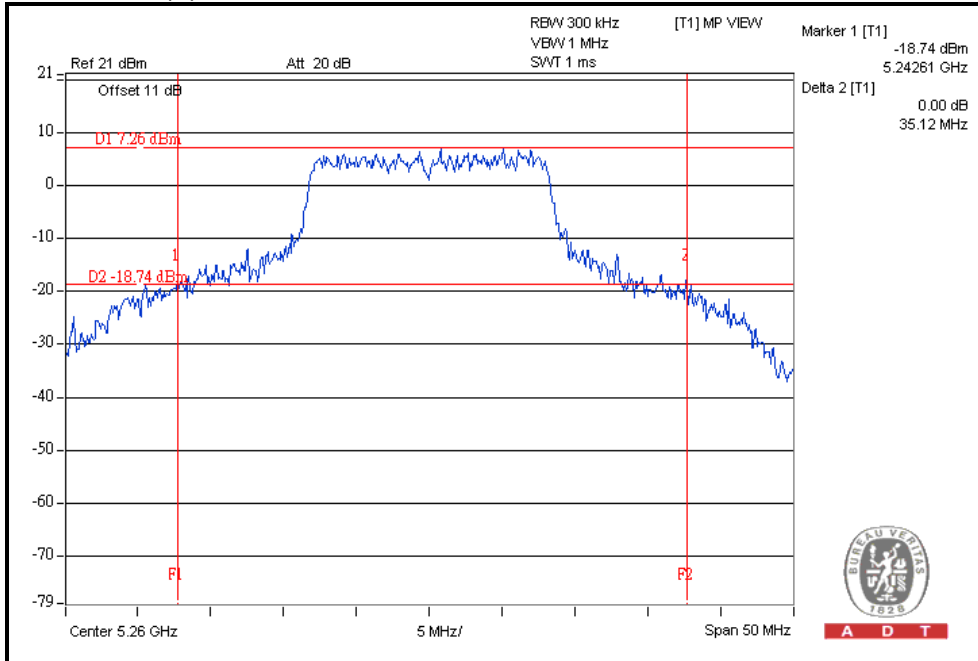
For CHAIN(1) : CH48



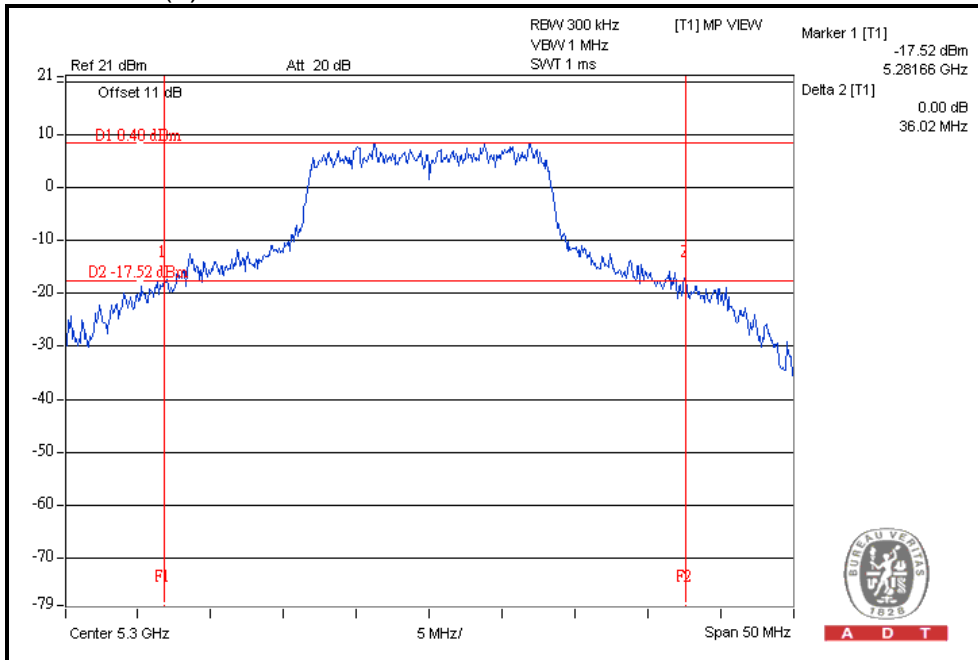


A D T

For CHAIN(1) : CH52



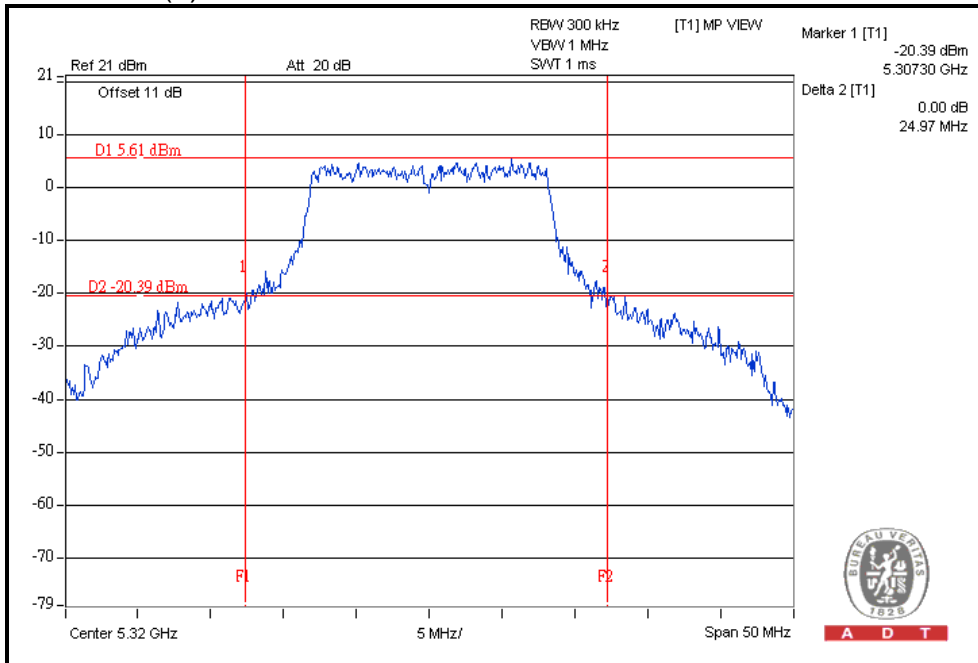
For CHAIN(1) : CH60



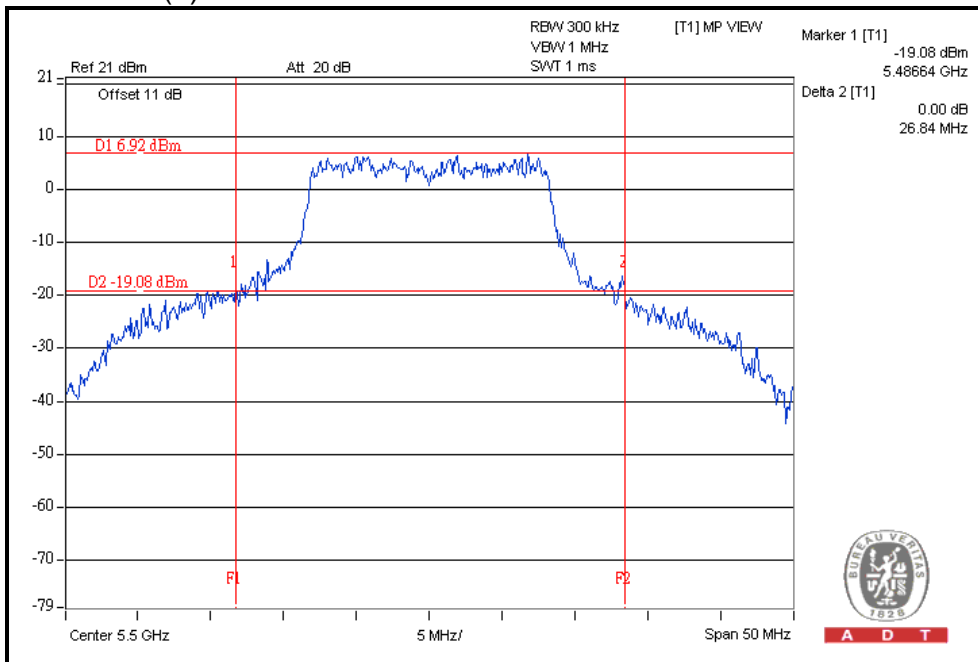


A D T

For CHAIN(1) : CH64



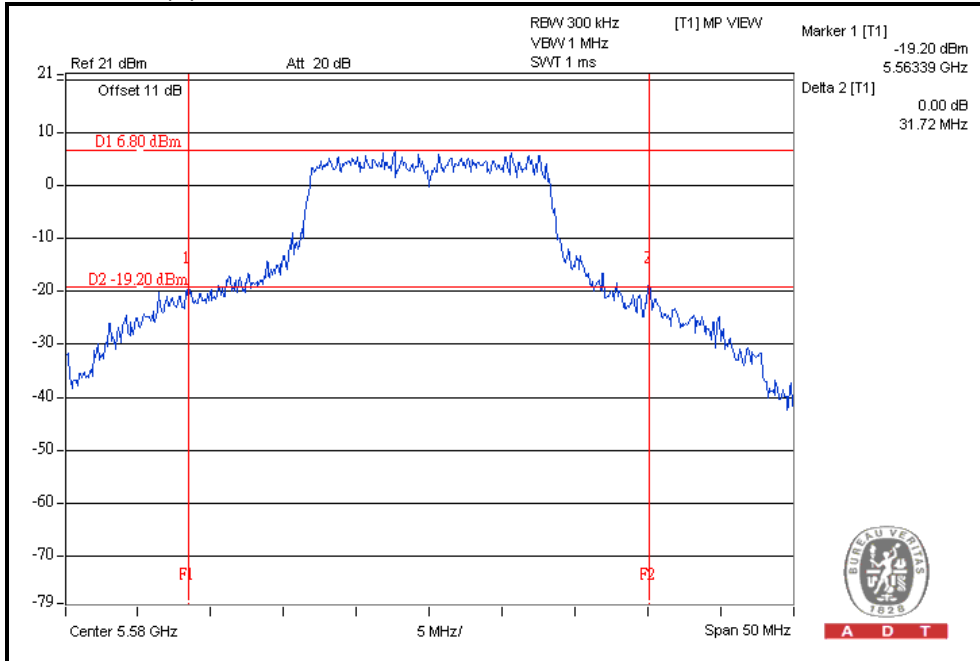
For CHAIN(1) : CH100



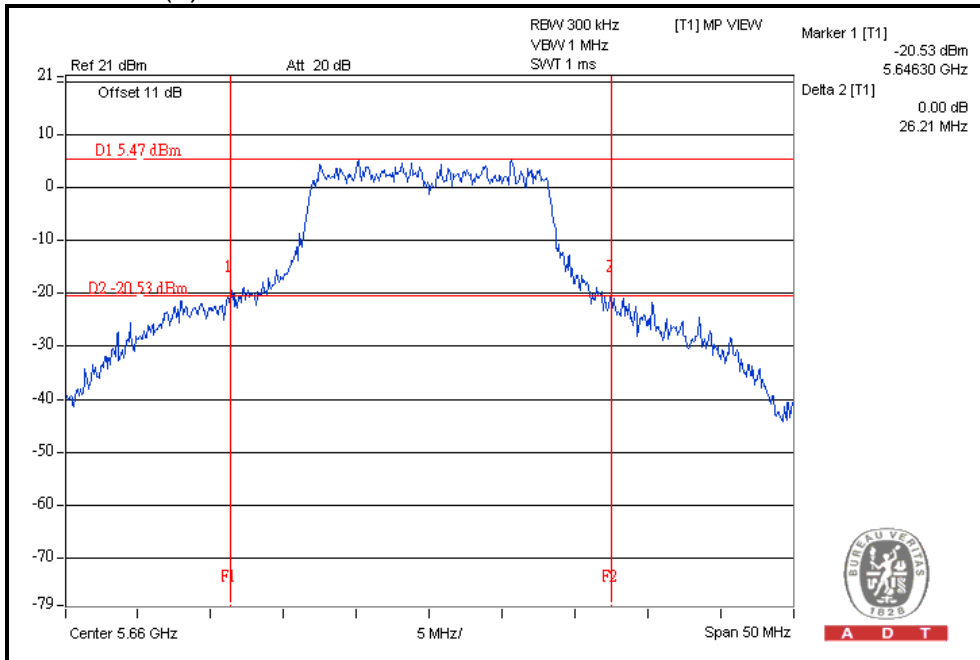


A D T

For CHAIN(1) : CH116



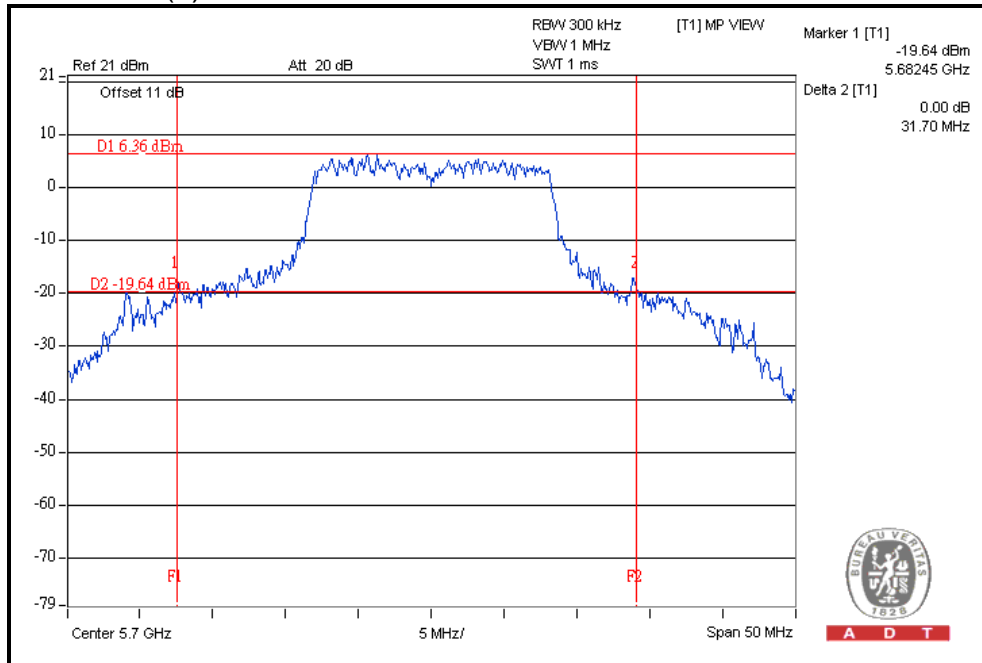
For CHAIN(1) : CH132





A D T

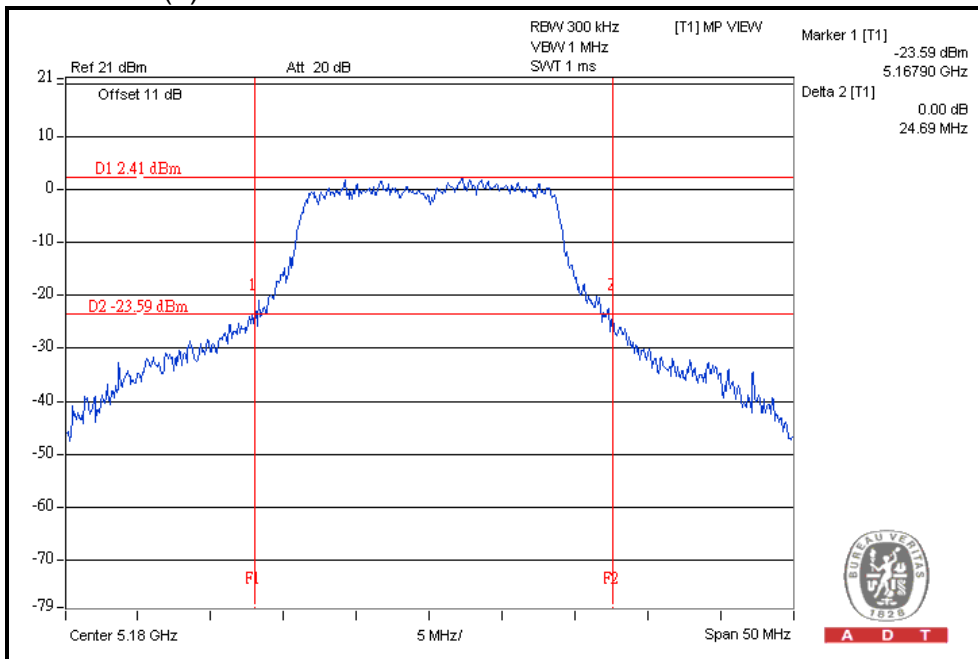
For CHAIN(1) : CH140



26dB OCCUPIED BANDWIDTH: 802.11n (20MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc OCCUPIED BANDWIDTH (MHz)	
		CHAIN (0)	CHAIN (1)
36	5180	24.69	29.31
40	5200	23.38	26.78
48	5240	24.40	27.05
52	5260	26.89	32.70
60	5300	26.35	30.66
64	5320	26.54	27.61
100	5500	29.11	28.81
116	5580	32.68	36.94
132	5660	33.66	31.48
140	5700	28.34	30.70

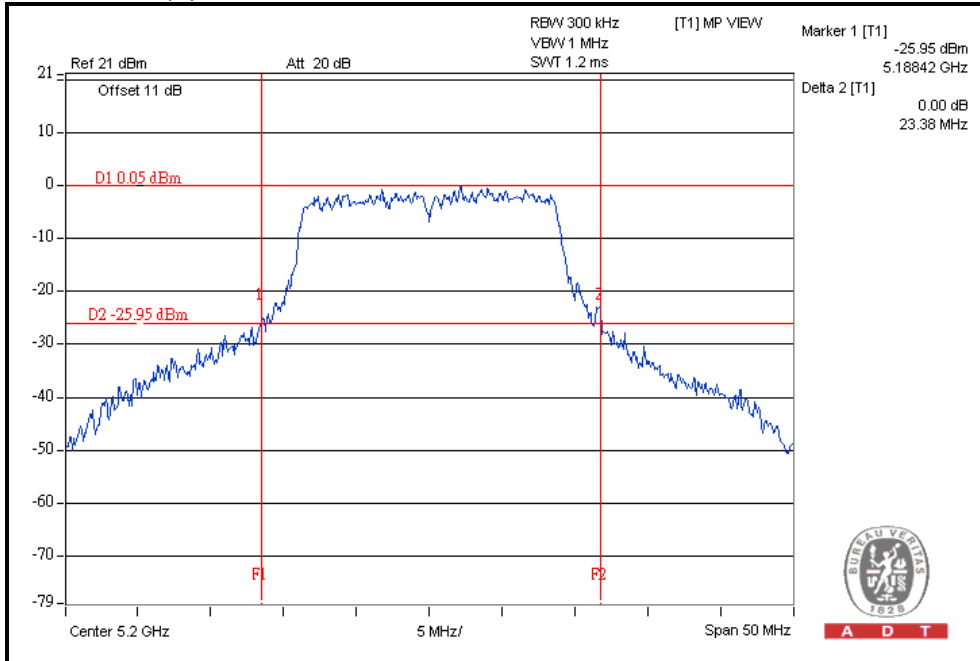
For CHAIN(0) : CH36



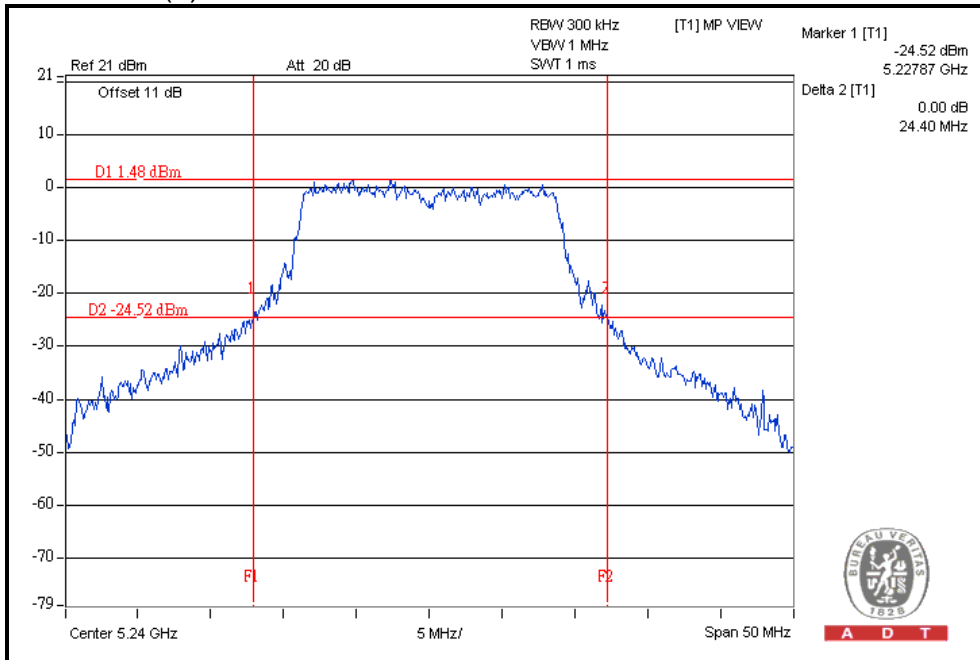


A D T

For CHAIN(0) : CH40



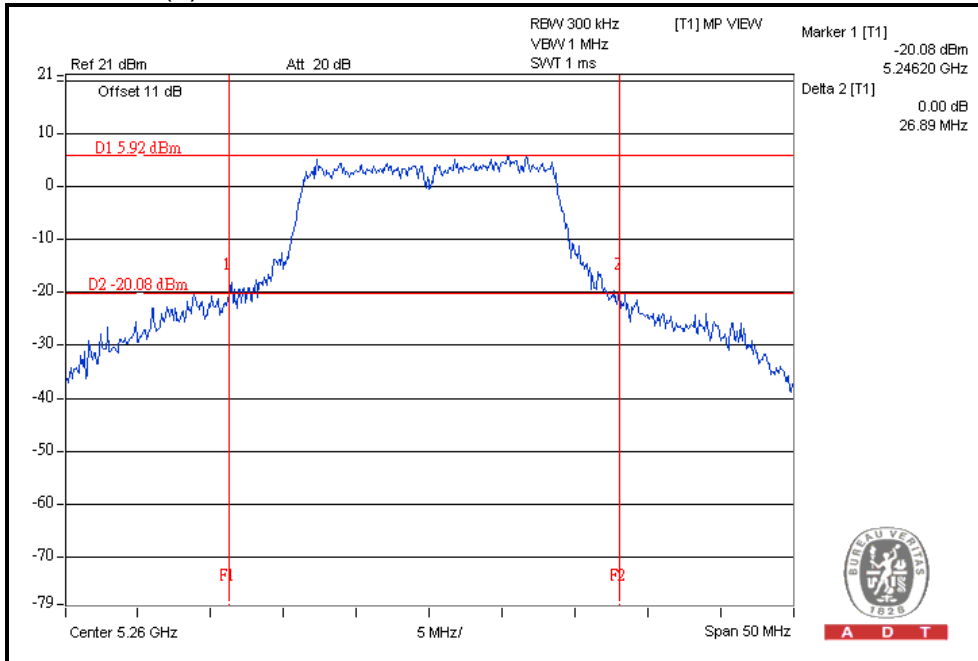
For CHAIN(0) : CH48



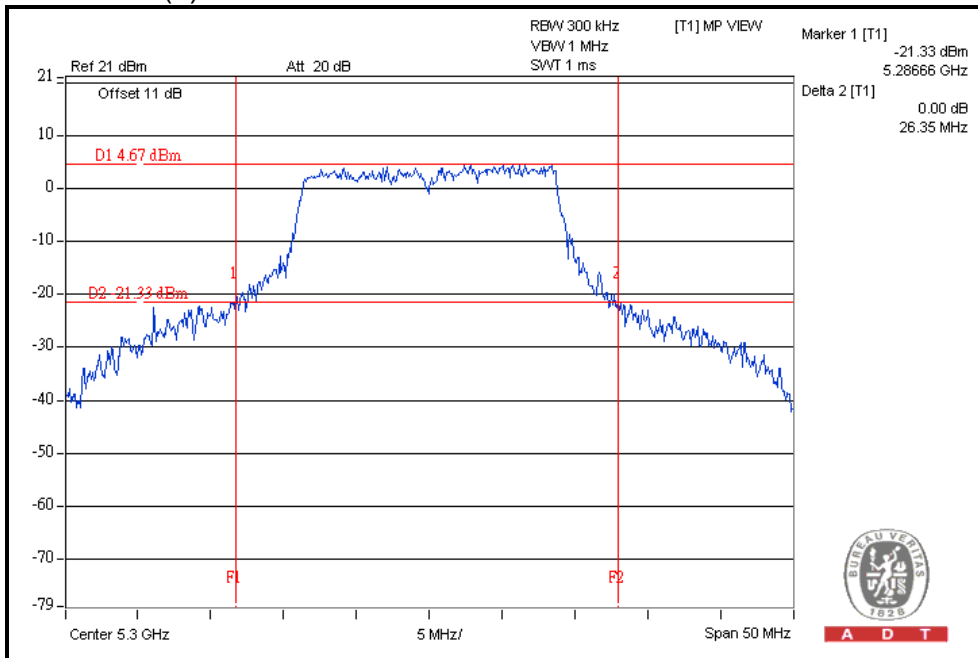


A D T

For CHAIN(0) : CH52



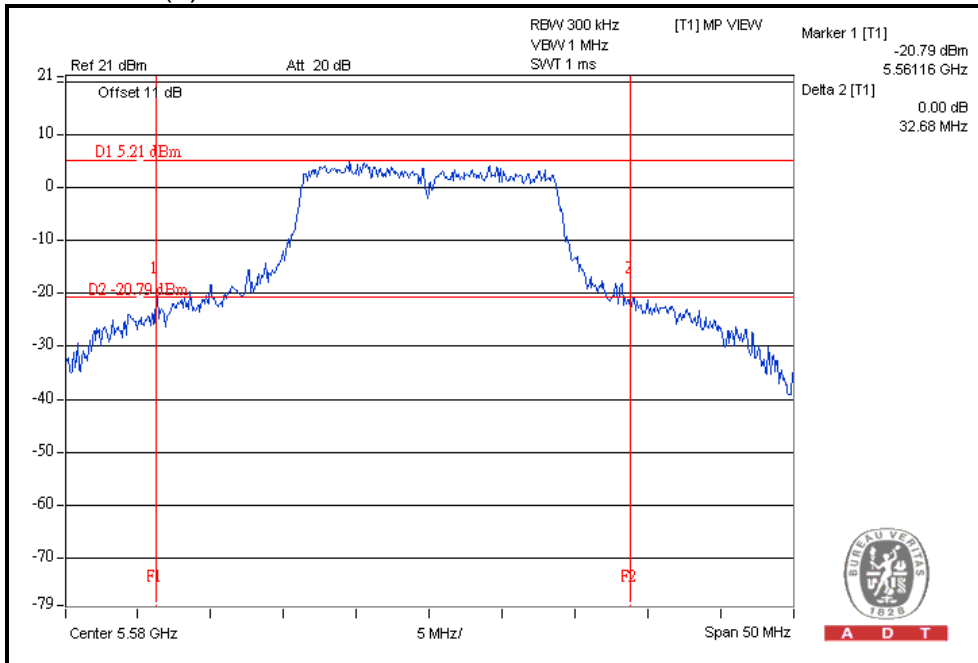
For CHAIN(0) : CH60



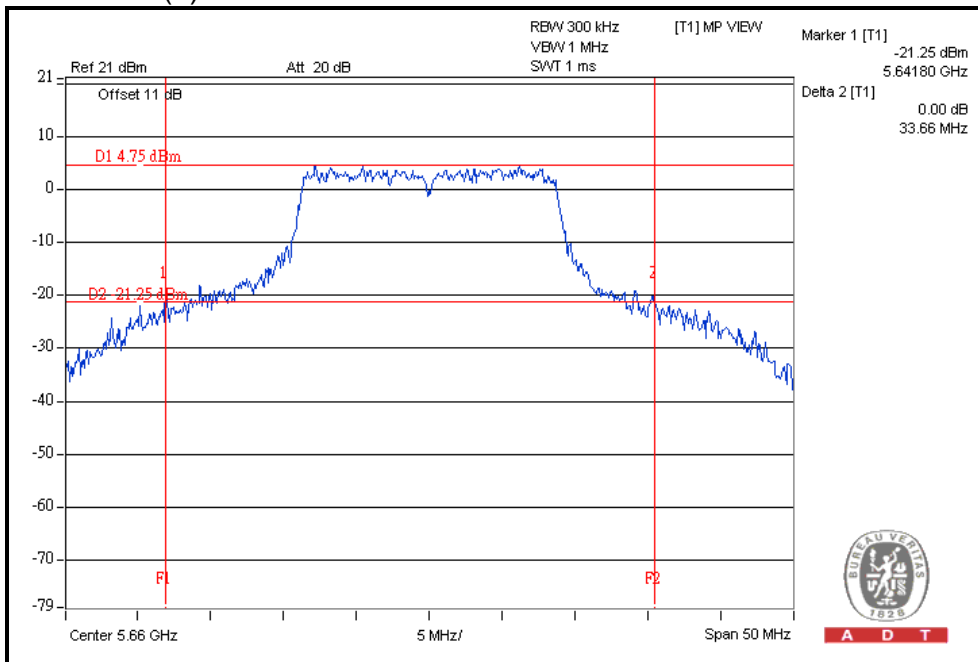


A D T

For CHAIN(0) : CH116



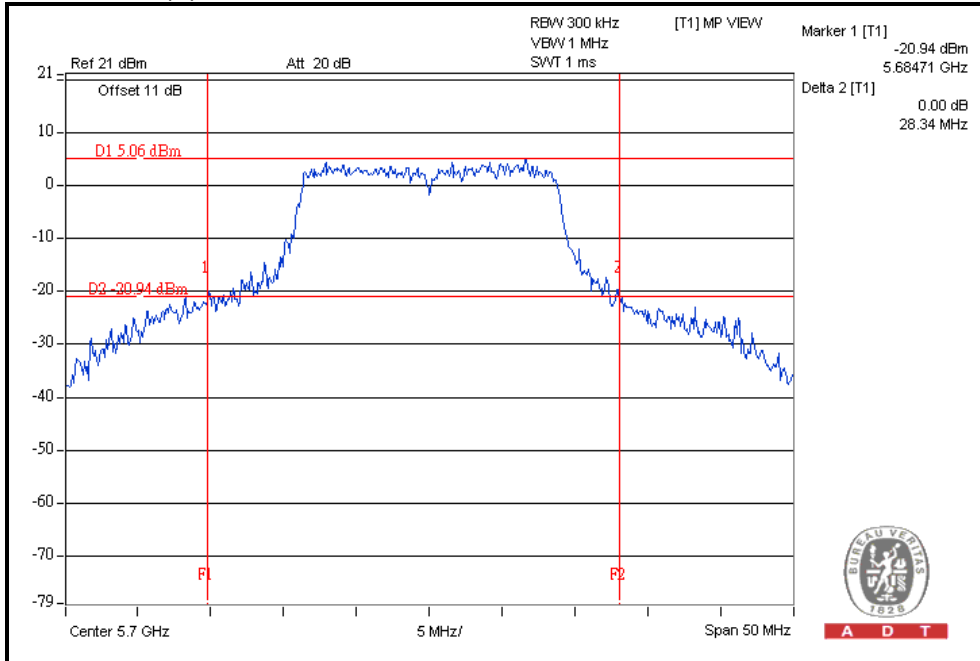
For CHAIN(0) : CH132



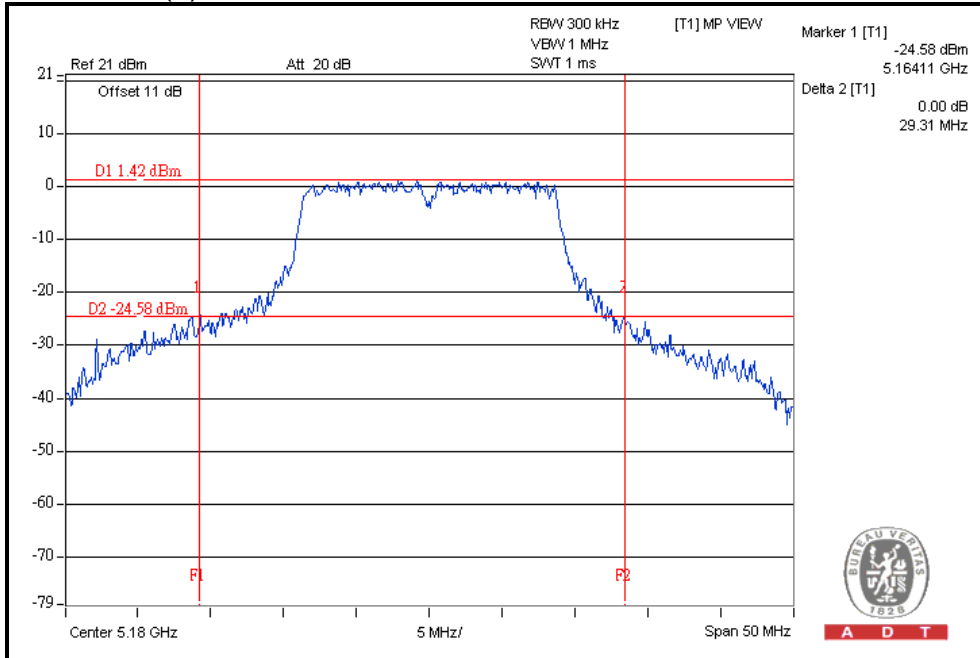


A D T

For CHAIN(0) : CH140



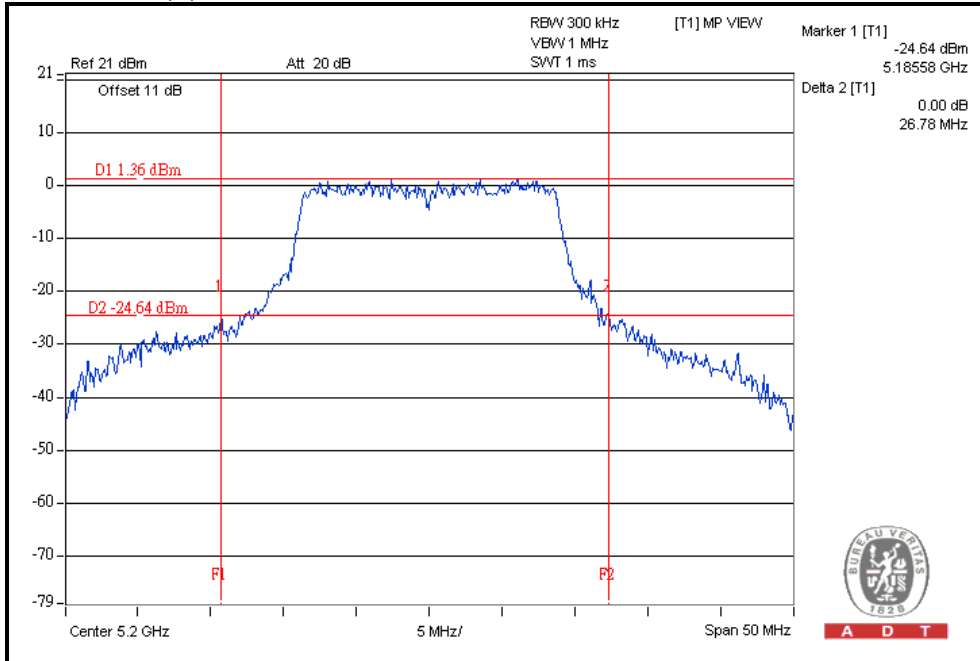
For CHAIN(1) : CH36





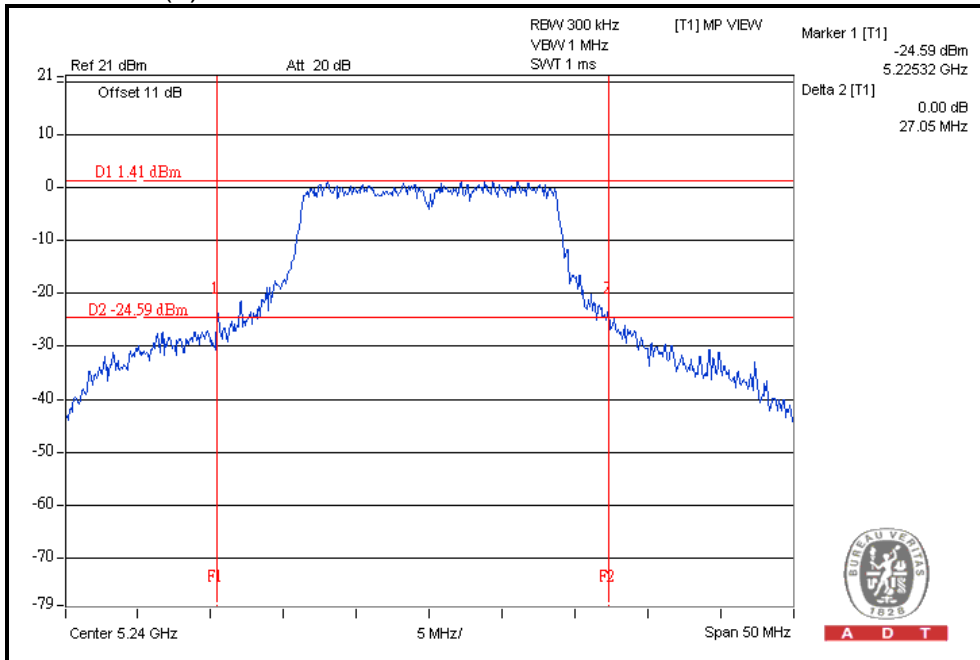
A D T

For CHAIN(1) : CH40



A D T

For CHAIN(1) : CH48

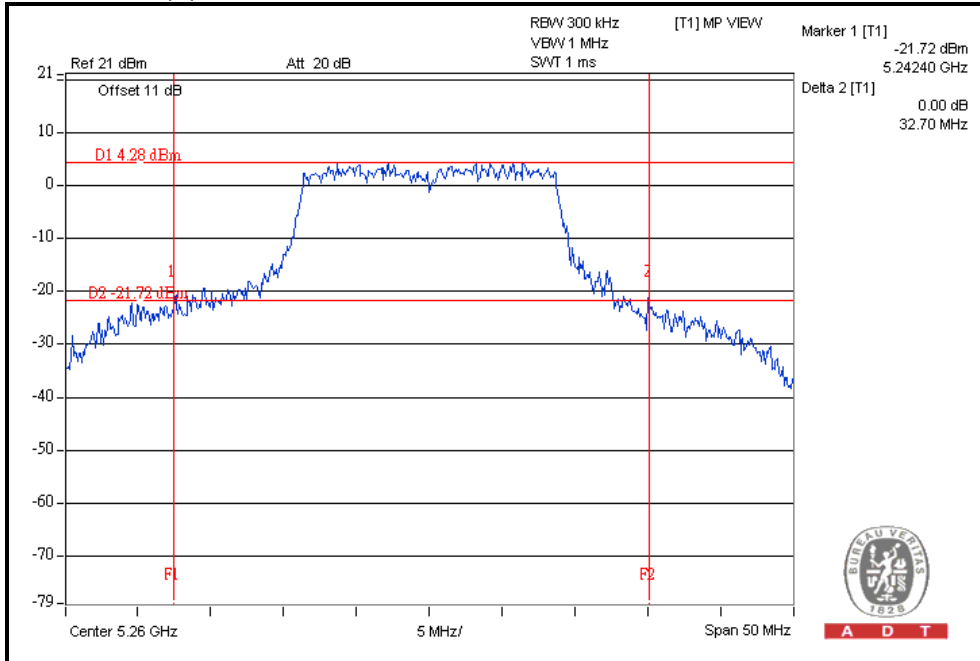


A D T

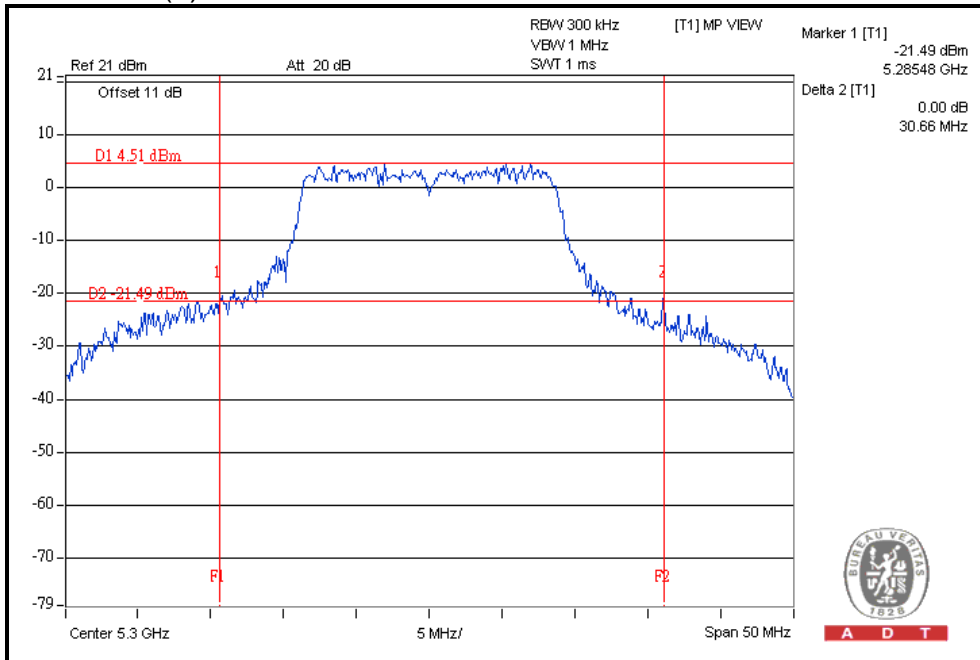


A D T

For CHAIN(1) : CH52



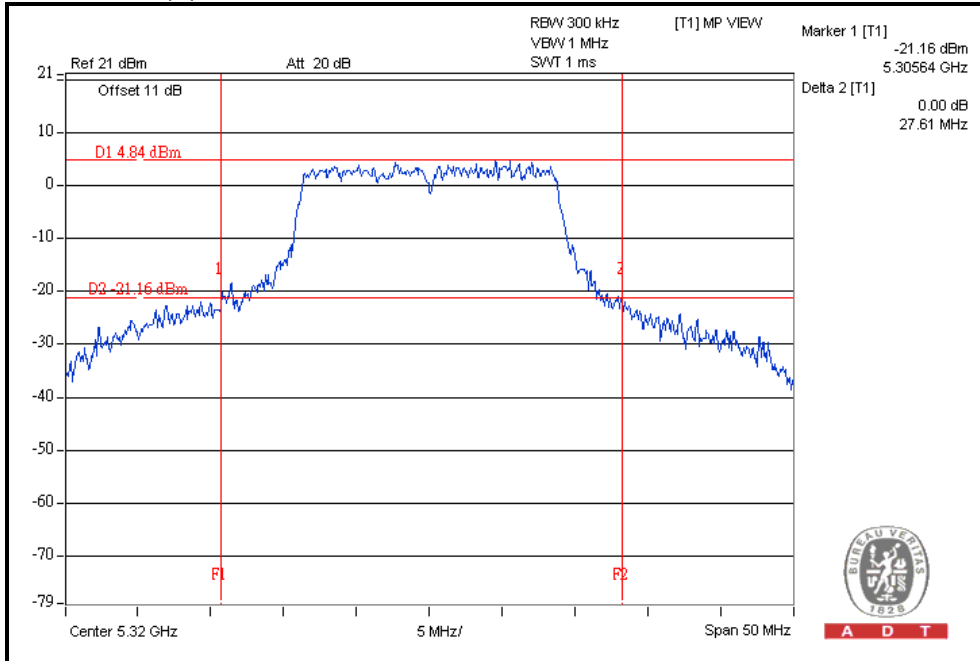
For CHAIN(1) : CH60



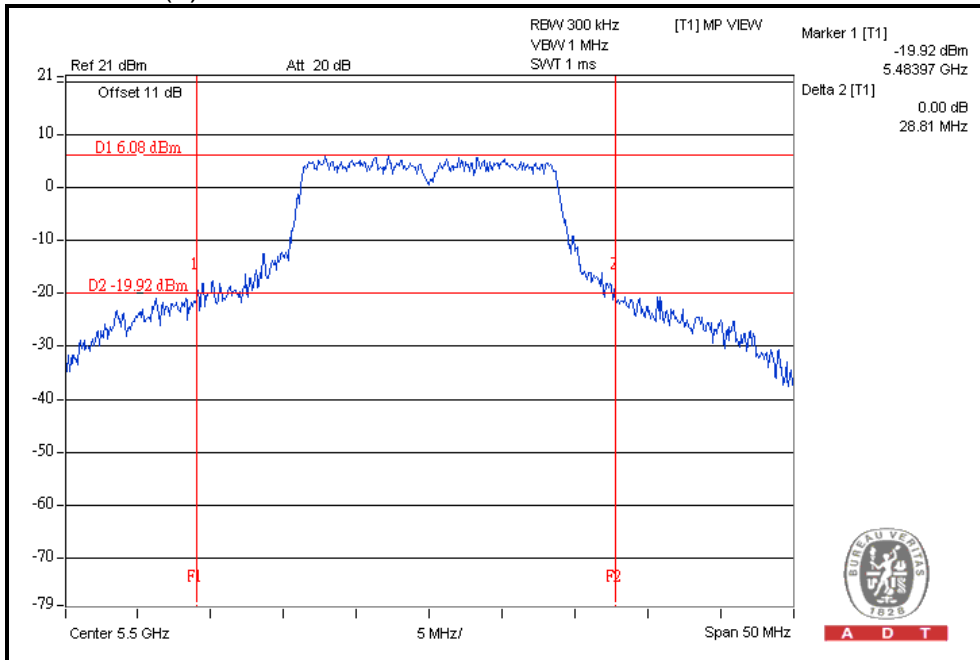


A D T

For CHAIN(1) : CH64



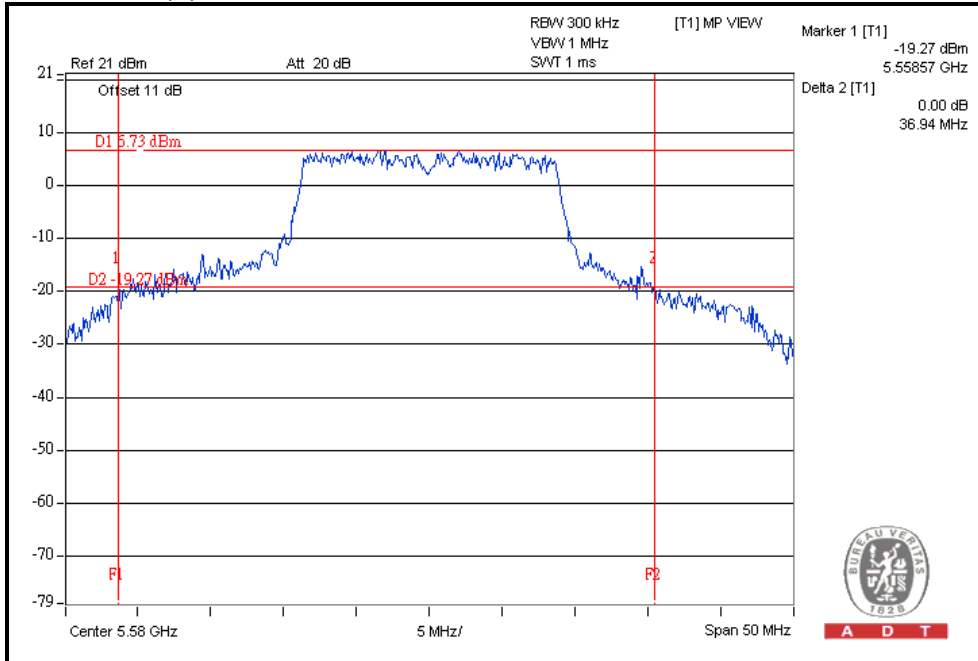
For CHAIN(1) : CH100





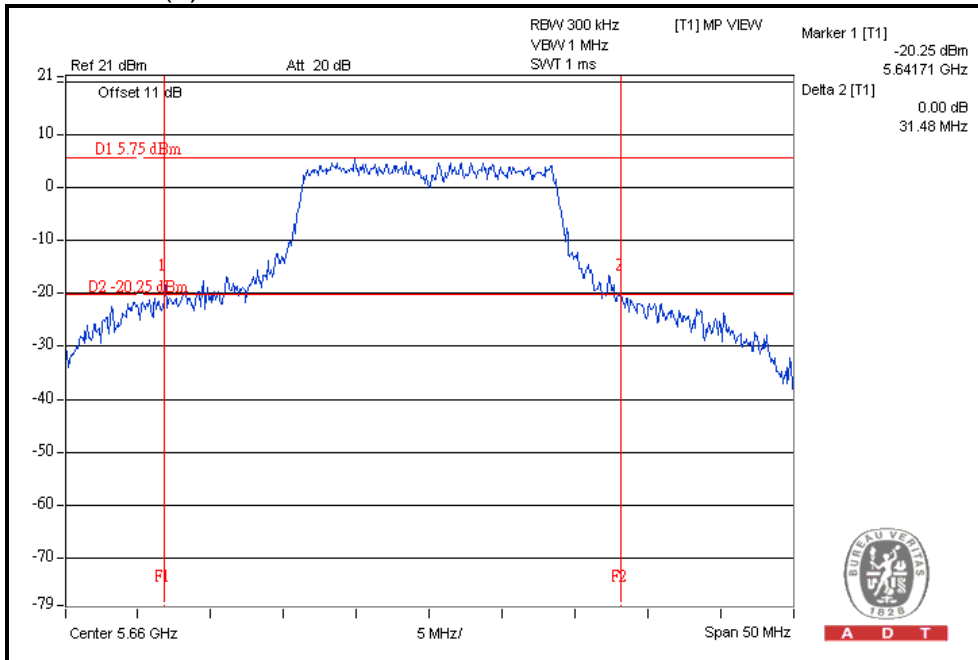
A D T

For CHAIN(1) : CH116



A D T

For CHAIN(1) : CH132

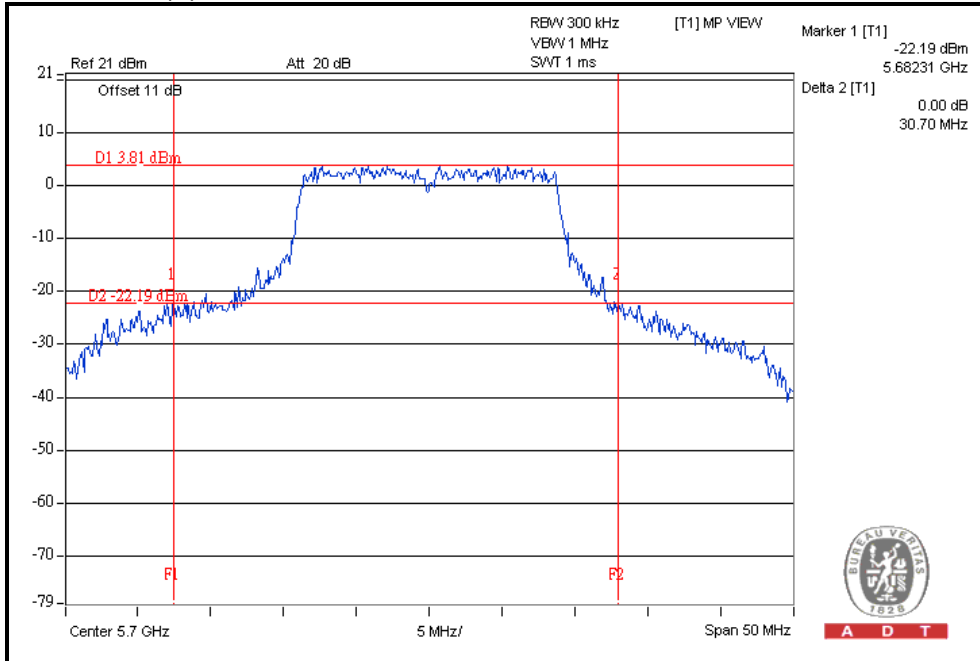


A D T



A D T

For CHAIN(1) : CH140



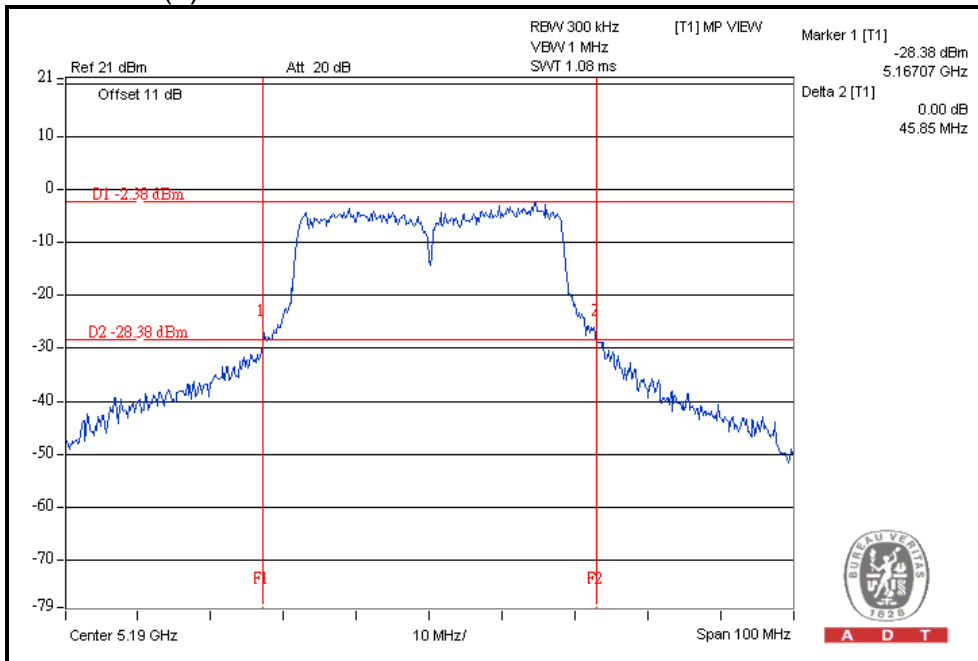


A D T

26dB OCCUPIED BANDWIDTH: 802.11n (40MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	26dBc OCCUPIED BANDWIDTH (MHz)	
		CHAIN (0)	CHAIN (1)
38	5190	45.85	48.14
46	5230	50.39	48.93
54	5270	67.32	65.75
62	5310	47.13	45.28
102	5510	48.89	48.11
110	5550	70.21	62.36
134	5670	47.82	50.15

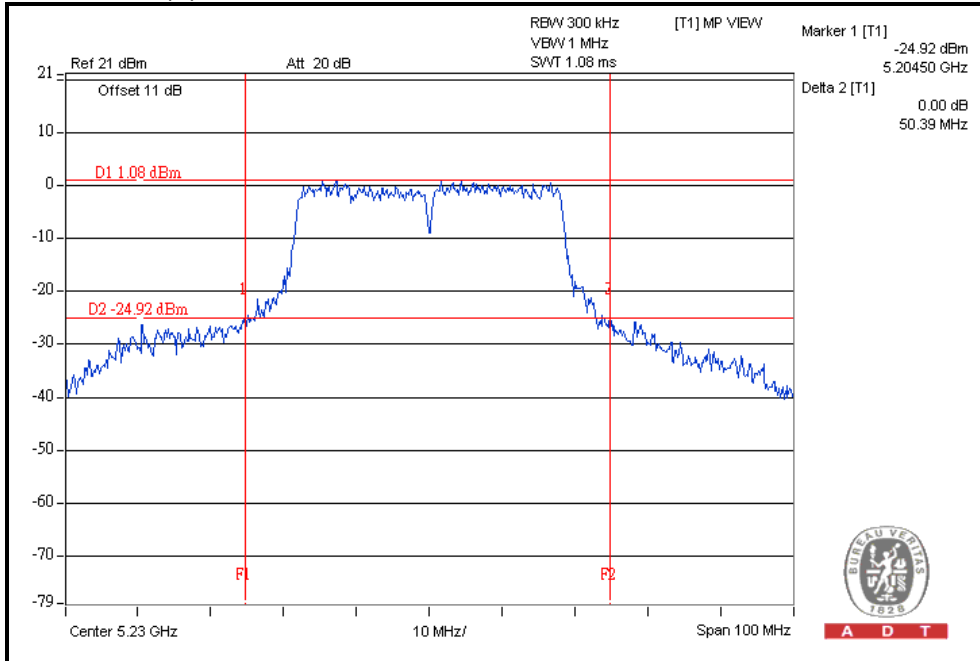
For CHAIN(0) : CH38





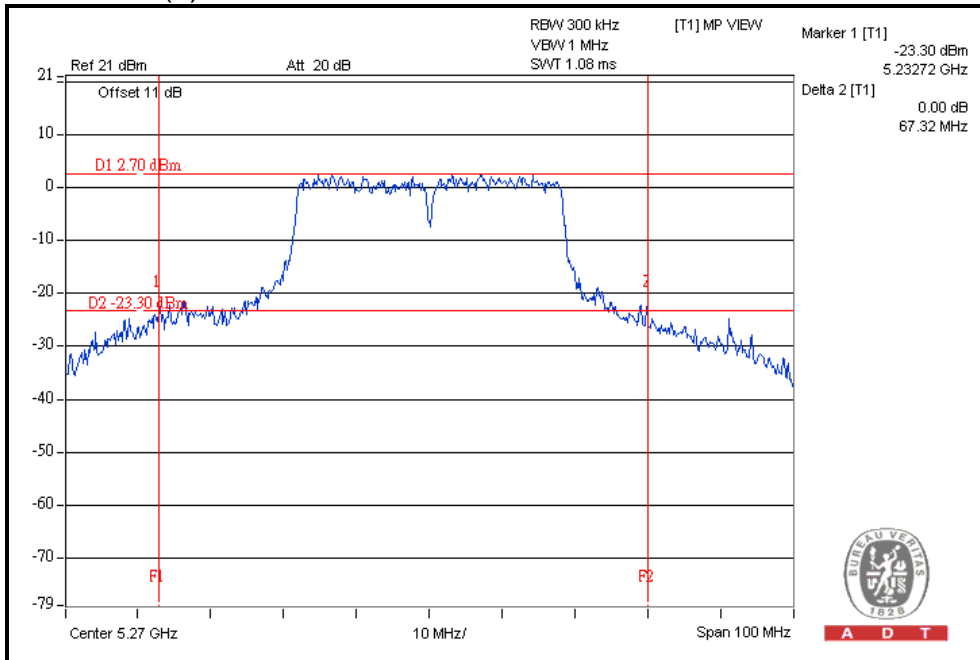
A D T

For CHAIN(0) : CH46



A D T

For CHAIN(0) : CH54

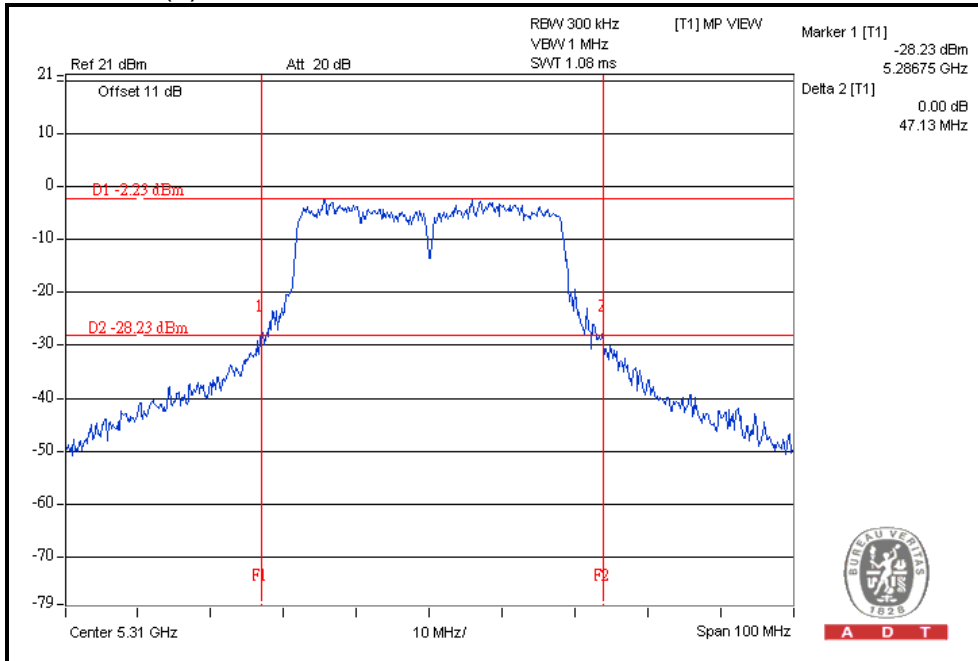


A D T

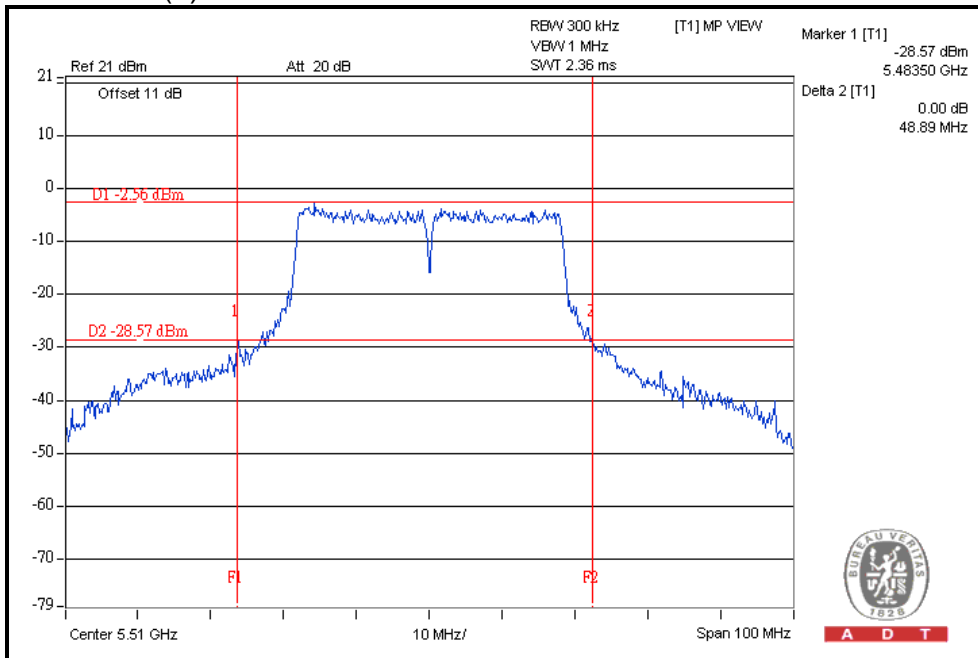


A D T

For CHAIN(0) : CH62



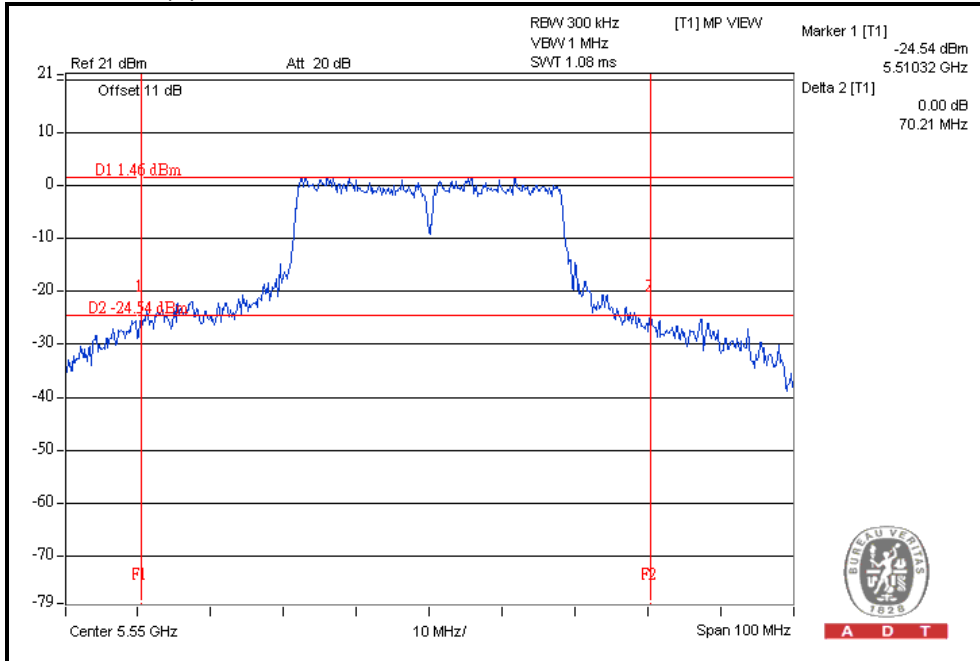
For CHAIN(0) : CH102



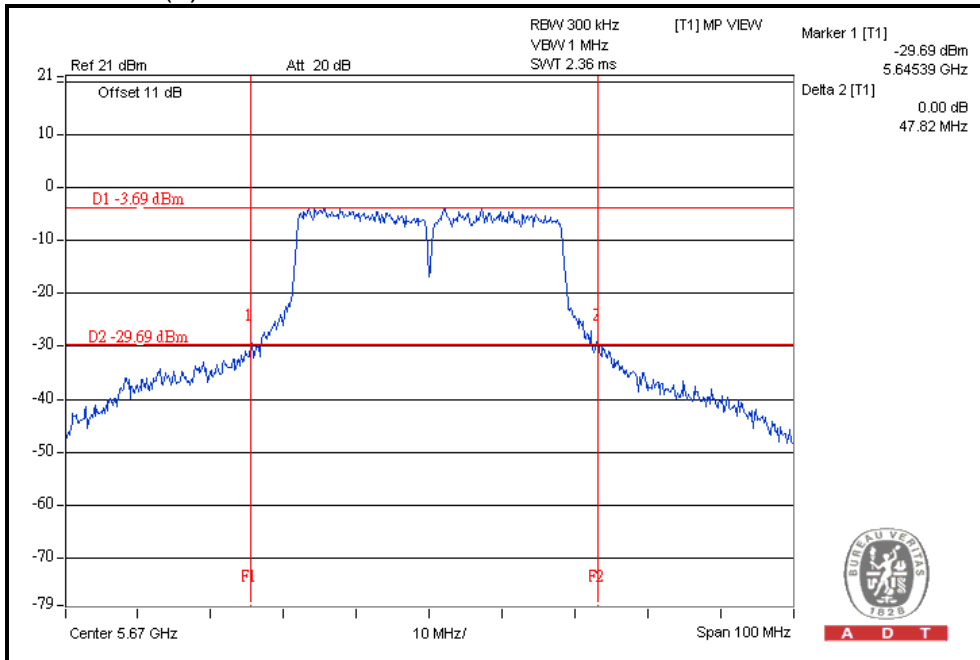


A D T

For CHAIN(0) : CH110



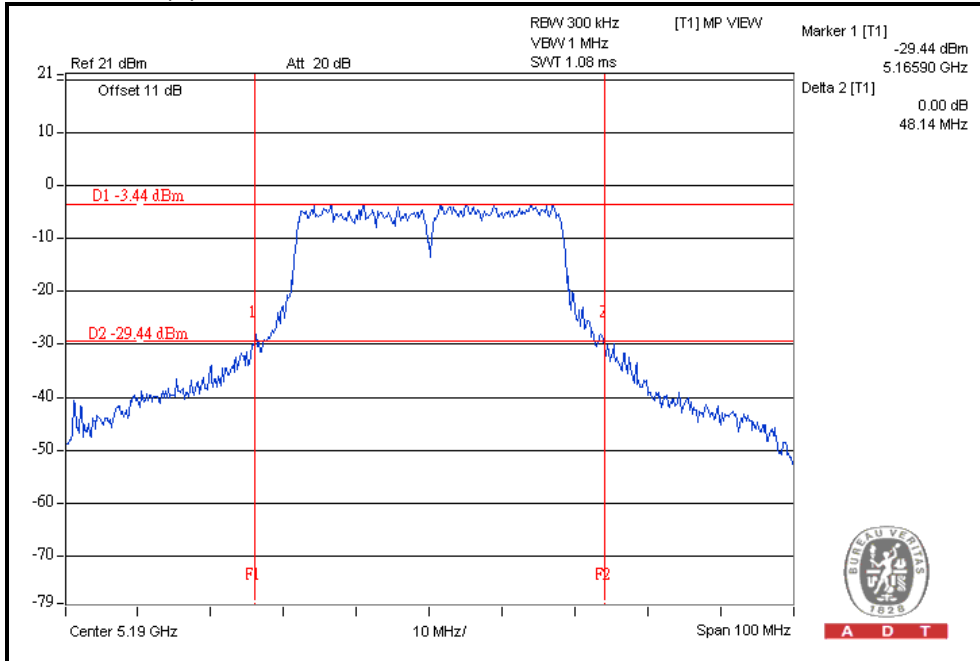
For CHAIN(0) : CH134



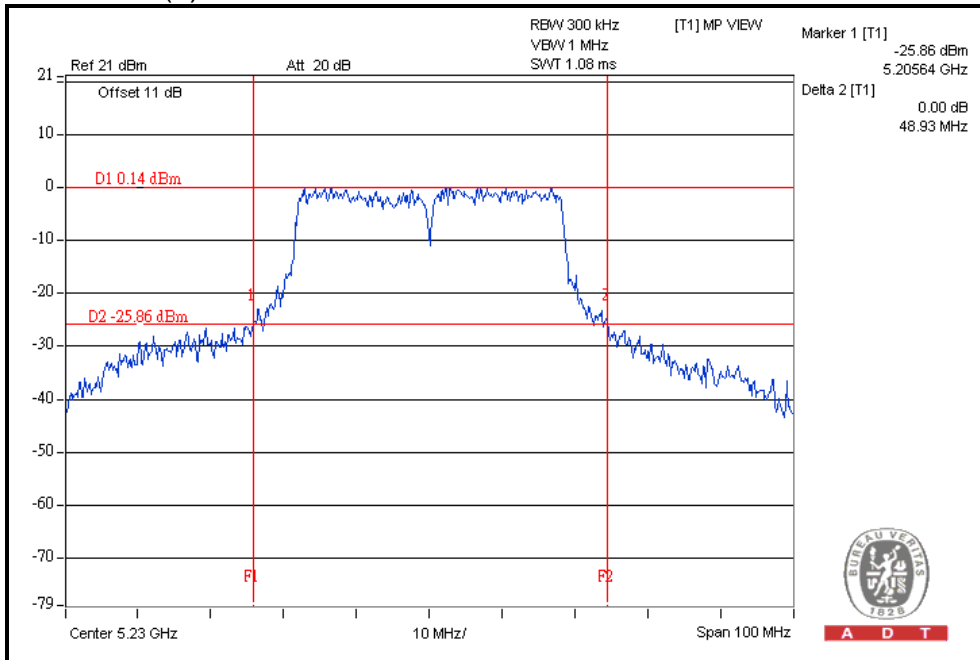


A D T

For CHAIN(1) : CH38



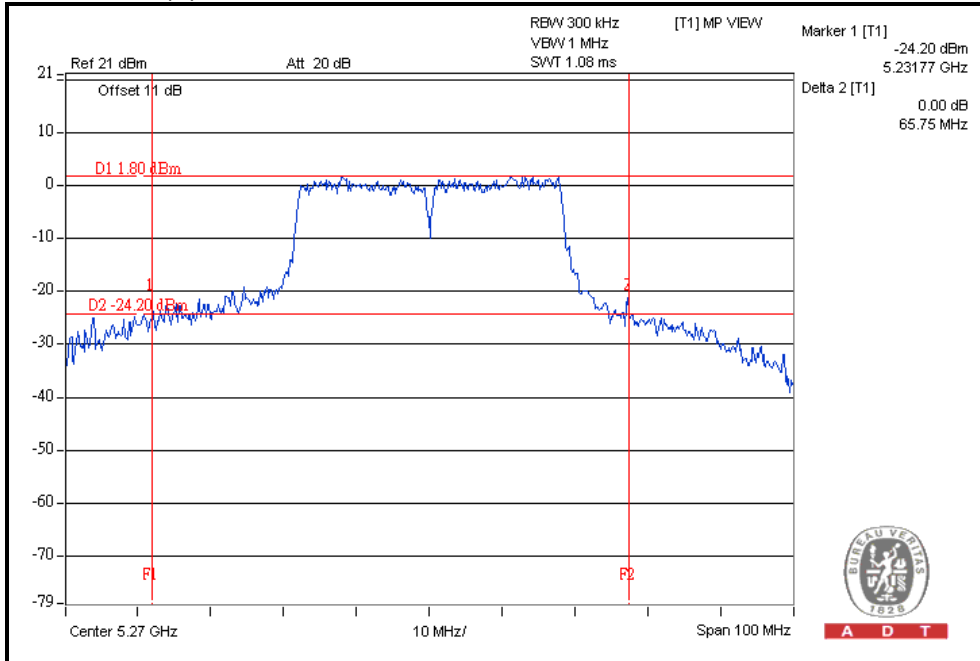
For CHAIN(1) : CH46



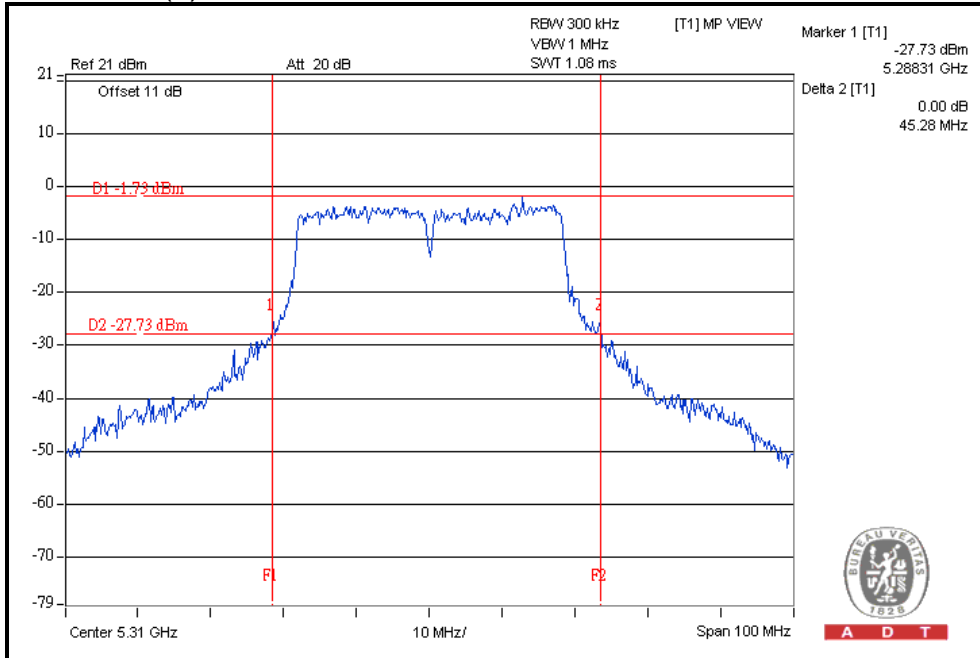


A D T

For CHAIN(1) : CH54



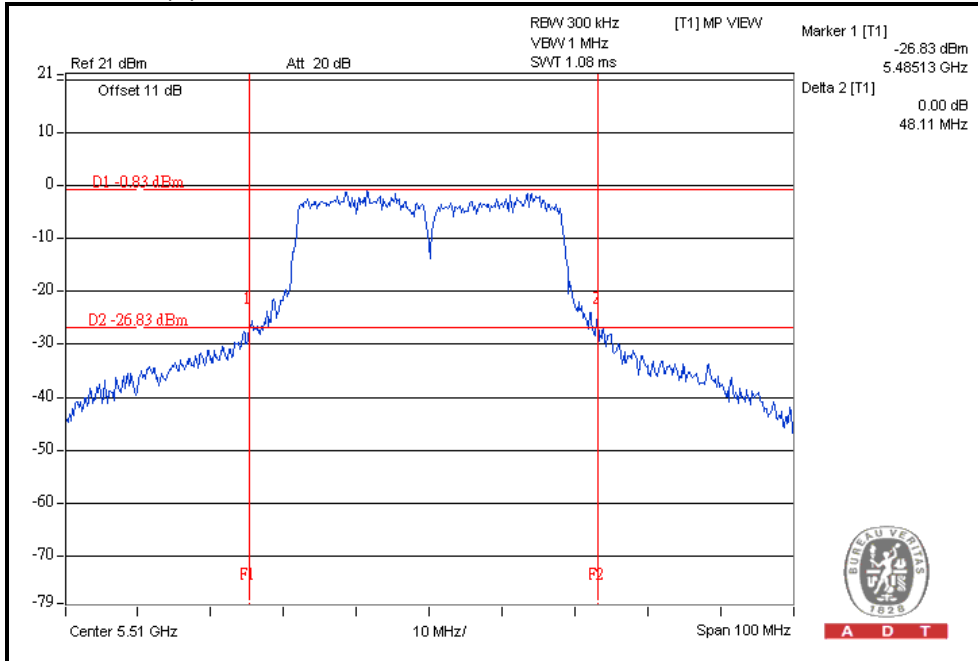
For CHAIN(1) : CH62





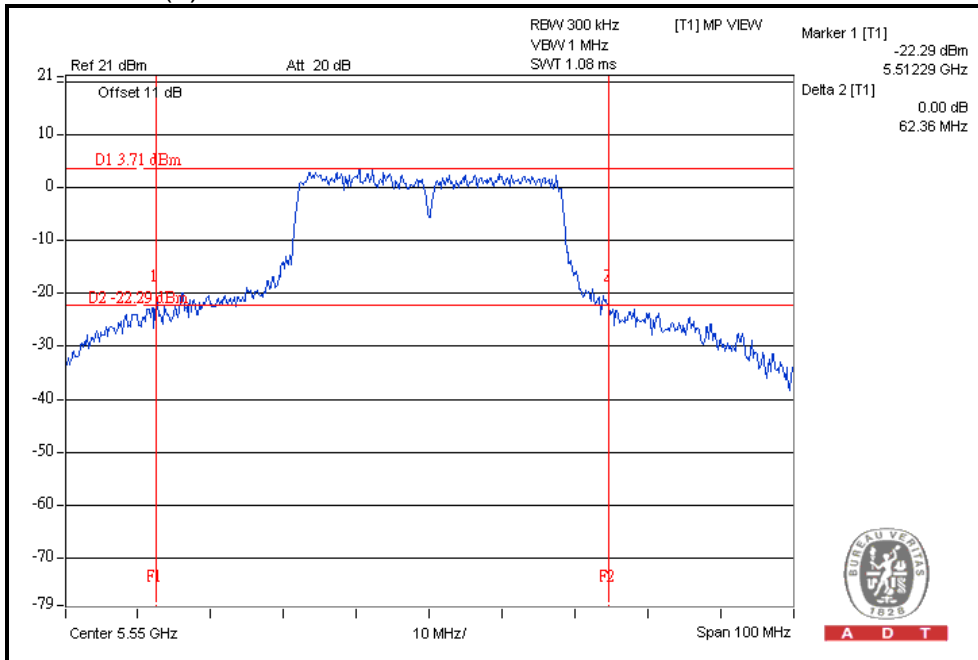
A D T

For CHAIN(1) : CH102



A D T

For CHAIN(1) : CH110

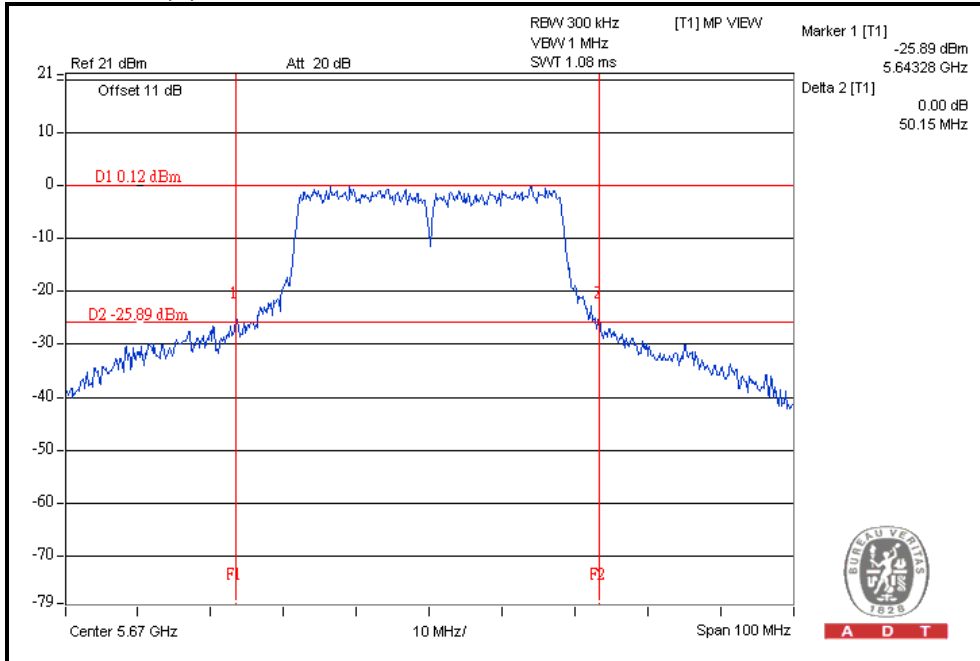


A D T



A D T

For CHAIN(1) : CH134



A D T



A D T

4.4 AVERAGE OUTPUT POWER

4.4.1 FOR REFERENCE.

4.4.2 TEST INSTRUMENTS

Test date: Dec. 06, 2011

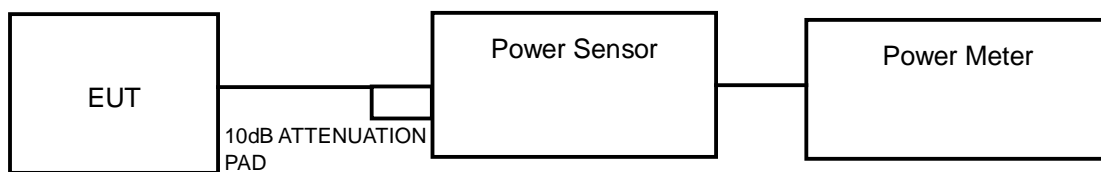
DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Peak Power Meter	ML2495A	0824006	May 04, 2011	May 03, 2012
Power Sensor	MA2411B	0738172	May 03, 2011	May 02, 2012

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

4.4.3 TEST PROCEDURES

1. The transmitter output was connected to the power meter through an attenuator; the bandwidth of the fundamental frequency was measured with the power meter.
2. Record the average power level.

4.4.4 TEST SETUP



4.4.5 EUT OPERATING CONDITIONS

Same as Item 4.3.5

4.4.6 TEST RESULTS

Single chain - 802.11a OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER OUTPUT (dBm)
36	5180	14.8
40	5200	14.7
48	5240	14.8
52	5260	19.9
60	5300	20.0
64	5320	17.6
100	5500	14.6
116	5580	17.5
132	5660	16.8
140	5700	13.7

Multiple chain - 802.11a OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER OUTPUT (dBm)		AVERAGE POWER OUTPUT (dBm)
		Chain(0)	Chain(1)	
36	5180	11.5	11.4	14.5
40	5200	11.4	11.3	14.4
48	5240	11.7	11.3	14.5
52	5260	17.0	15.8	19.5
60	5300	17.0	16.7	19.9
64	5320	14.5	14.2	17.4
100	5500	11.1	11.9	14.5
116	5580	14.2	14.8	17.5
132	5660	14.0	13.6	16.8
140	5700	10.2	11.1	13.7



802.11n (20MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER OUTPUT (dBm)		AVERAGE POWER OUTPUT (dBm)
		Chain(0)	Chain(1)	
36	5180	11.2	11.1	14.2
40	5200	11.3	11.0	14.2
48	5240	11.0	10.9	14.0
52	5260	15.0	14.3	17.7
60	5300	14.5	14.2	17.4
64	5320	14.2	14.1	17.2
100	5500	12.1	13.1	15.6
116	5580	14.4	16.5	18.6
132	5660	14.5	14.8	17.7
140	5700	11.6	12.8	15.3

802.11n (40MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	AVERAGE POWER OUTPUT (dBm)		AVERAGE POWER OUTPUT (dBm)
		Chain(0)	Chain(1)	
38	5190	9.6	9.4	12.5
46	5230	13.8	13.2	16.5
54	5270	15.3	14.6	18.0
62	5310	9.7	9.5	12.6
102	5510	8.5	8.9	11.7
118	5590	14.2	15.6	18.0
134	5670	11.3	12.8	15.1



A D T

4.5 PEAK POWER EXCURSION MEASUREMENT

4.5.1 LIMITS OF PEAK POWER EXCURSION MEASUREMENT

Frequency Band	Limit
5.15 – 5.25 GHz	13dB
5.25 – 5.35 GHz	13dB
5.47 – 5.725GHz	13dB
5.725 – 5.825 GHz	13dB

4.5.2 TEST INSTRUMENTS

Test date: Dec. 06, 2011

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Spectrum Analyzer	E4446A	MY48250254	July 12, 2011	July 11, 2012

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

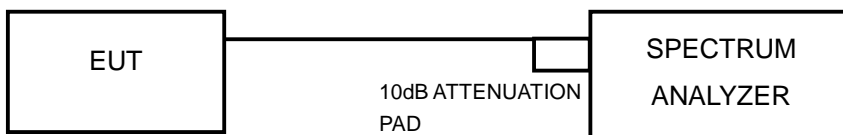
4.5.3 TEST PROCEDURE

- 1) Set RBW = 1 MHz, VBW ≤ 3 MHz, Detector = peak.
- 2) Trace mode = max-hold. Allow the sweeps to continue until the trace stabilizes.
- 3) Use the peak search function to find the peak of the spectrum.
- 4) Measure the PPSD.
- 5) Compute the ratio of the maximum of the peak-max-hold spectrum to the PPSD.

4.5.4 DEVIATION FROM TEST STANDARD

No deviation

4.5.5 TEST SETUP



4.5.6 EUT OPERATING CONDITIONS

The software provided by client to enable the EUT under transmission condition continuously at specific channel frequencies individually.



A D T

4.5.7 TEST RESULTS

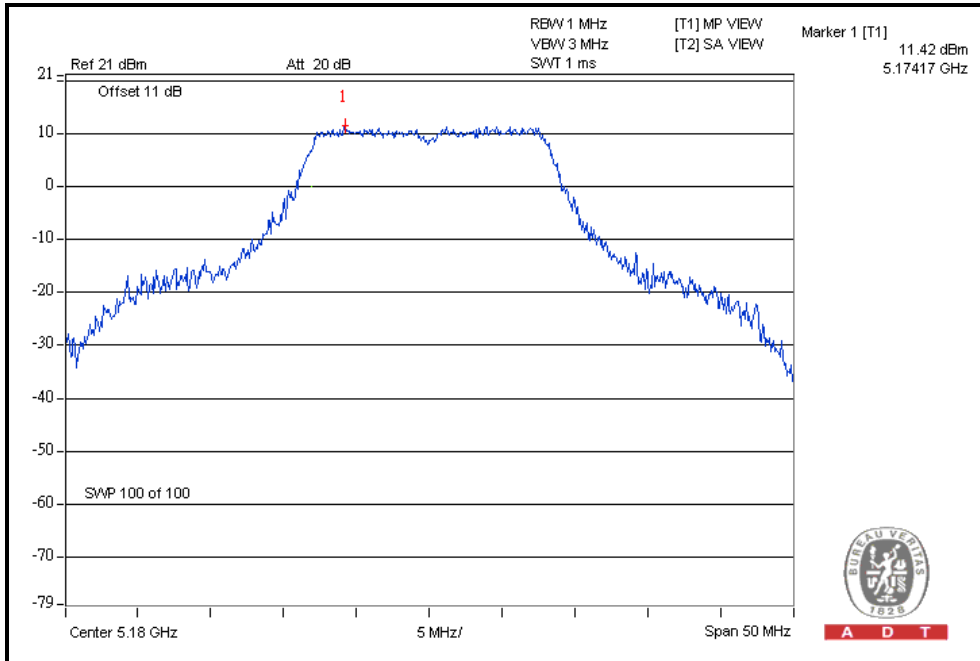
Single chain - 802.11a OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK VALUE (dBm)	PPSD (dBm)	PEAK POWER EXCURSION (dB)	PEAK POWER EXCURSION LIMIT (dB)	PASS/FAIL
36	5180	11.4	2.7	8.7	13	PASS
40	5200	12.3	2.8	9.5	13	PASS
48	5240	12.6	2.5	10.1	13	PASS
52	5260	16.4	8.9	7.5	13	PASS
60	5300	16.6	9.4	7.2	13	PASS
64	5320	15.4	5.7	9.7	13	PASS
100	5500	15.9	3.5	12.4	13	PASS
116	5580	14.6	6.4	8.2	13	PASS
132	5660	13.2	5.5	7.7	13	PASS
140	5700	14.6	2.4	12.2	13	PASS

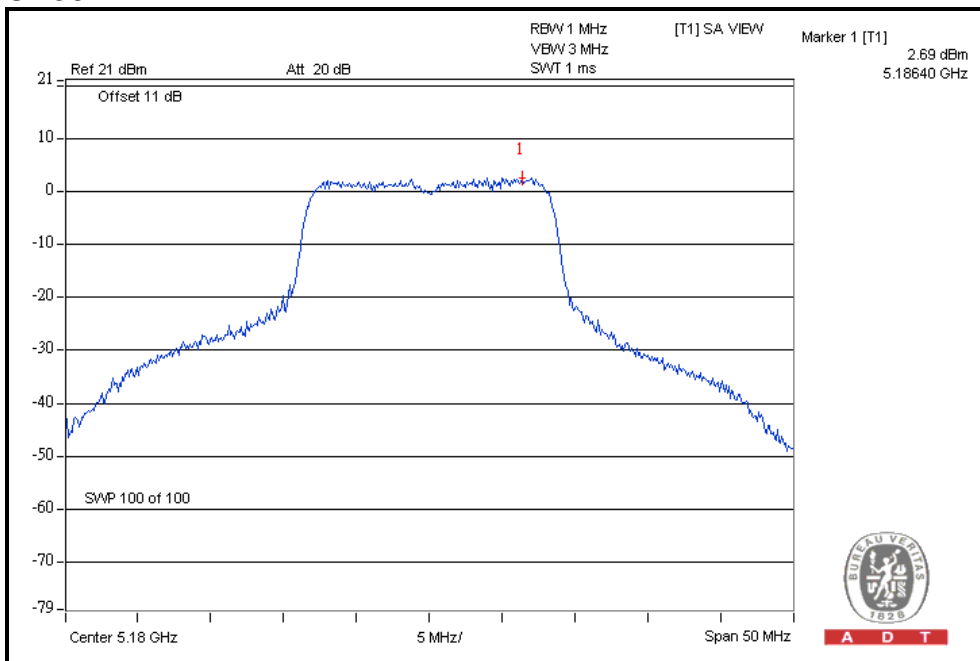


A D T

PEAK VALUE CH36



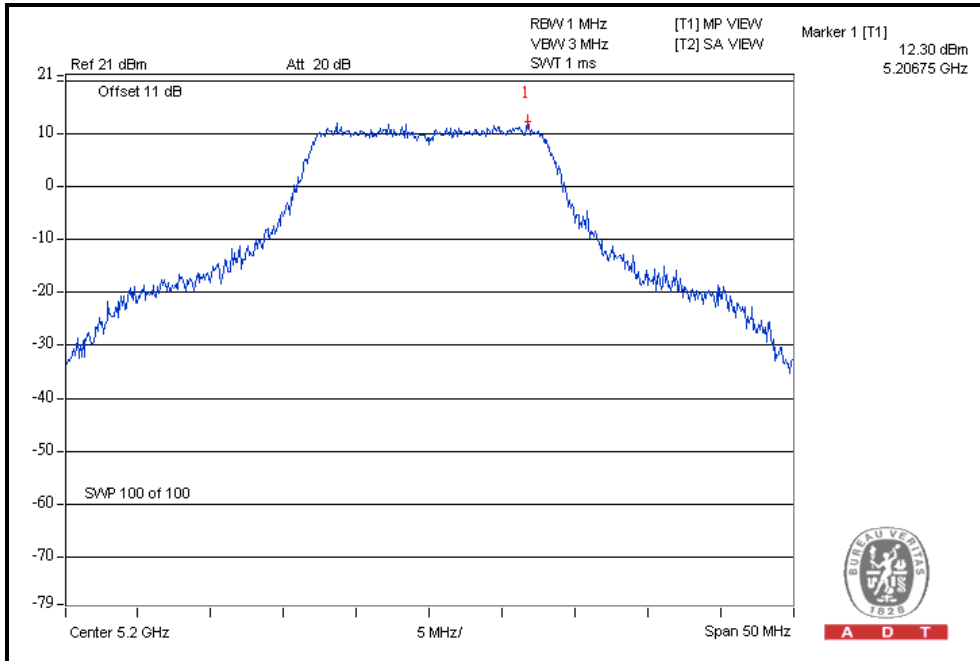
PPSD CH36



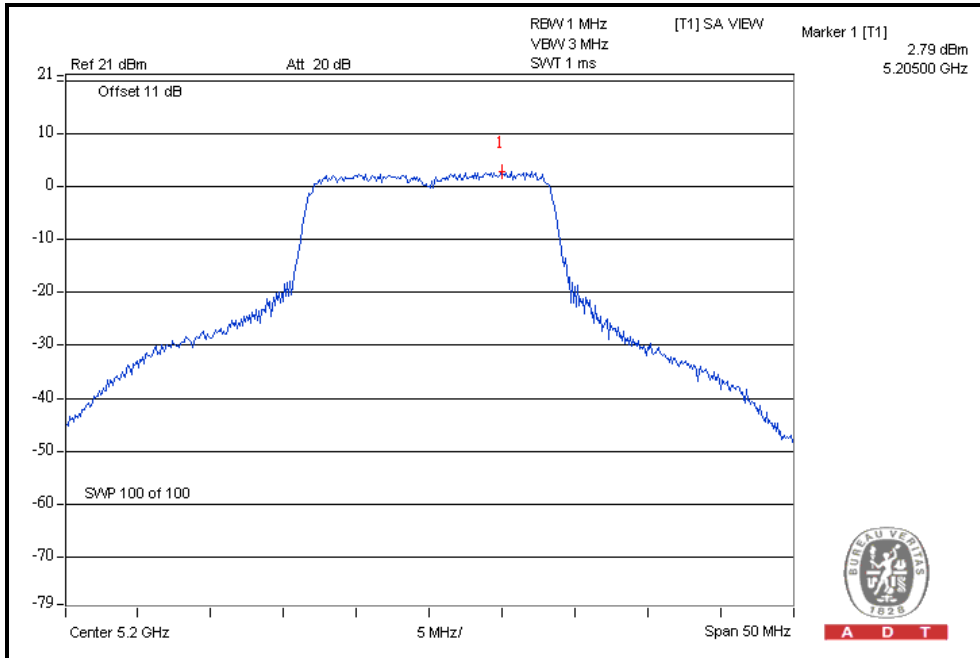


A D T

PEAK VALUE CH40



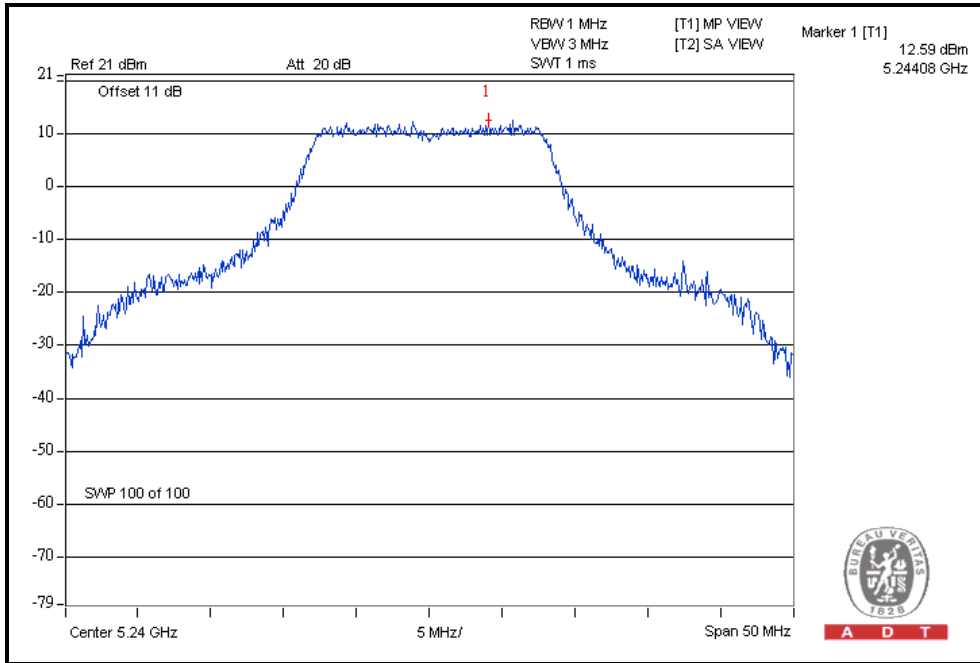
PPSD CH40



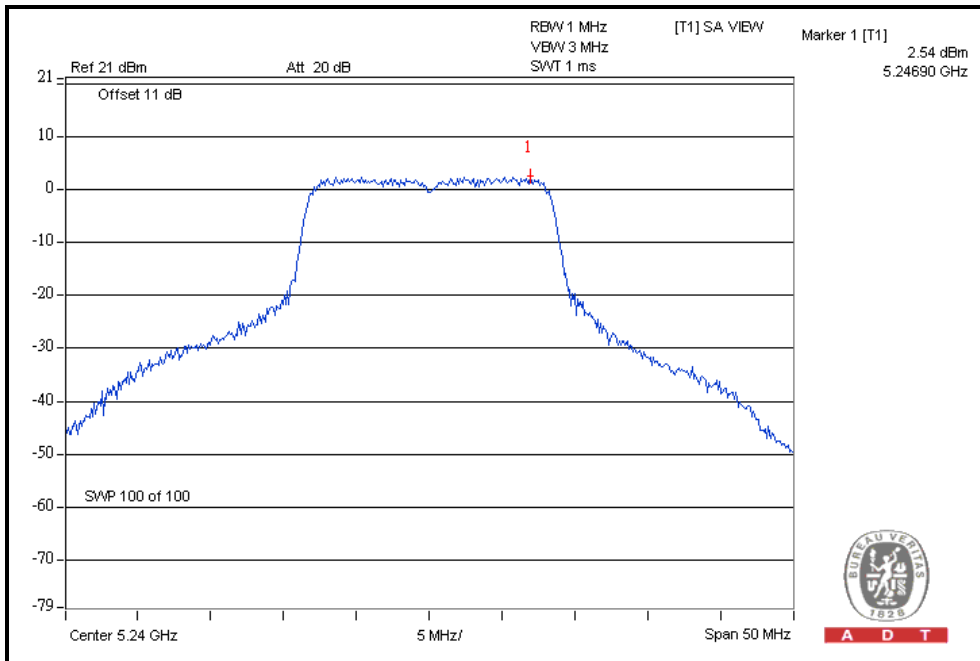


A D T

PEAK VALUE CH48



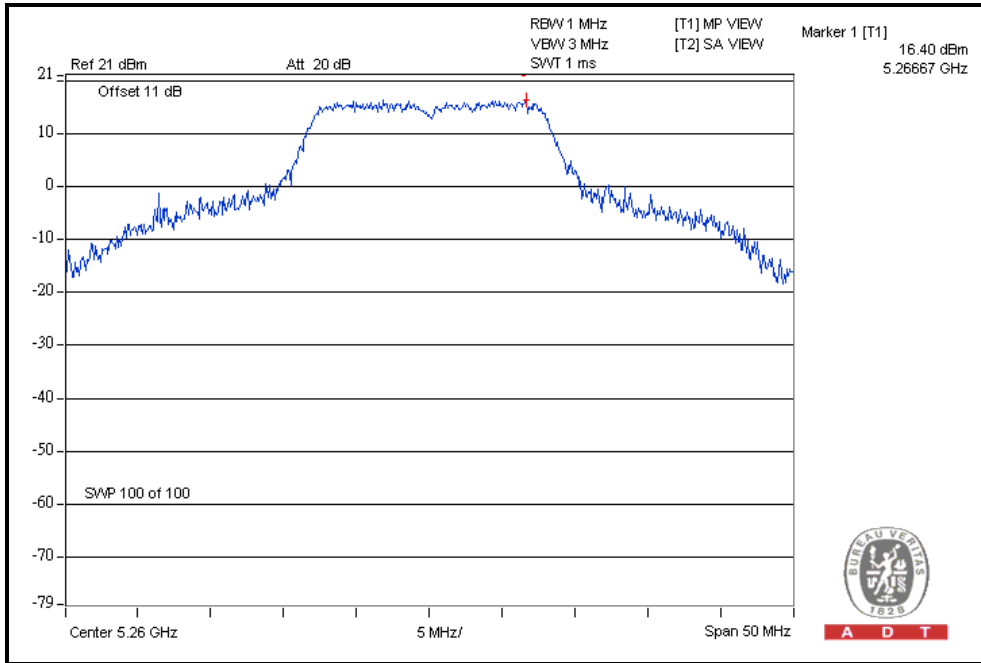
PPSD CH48



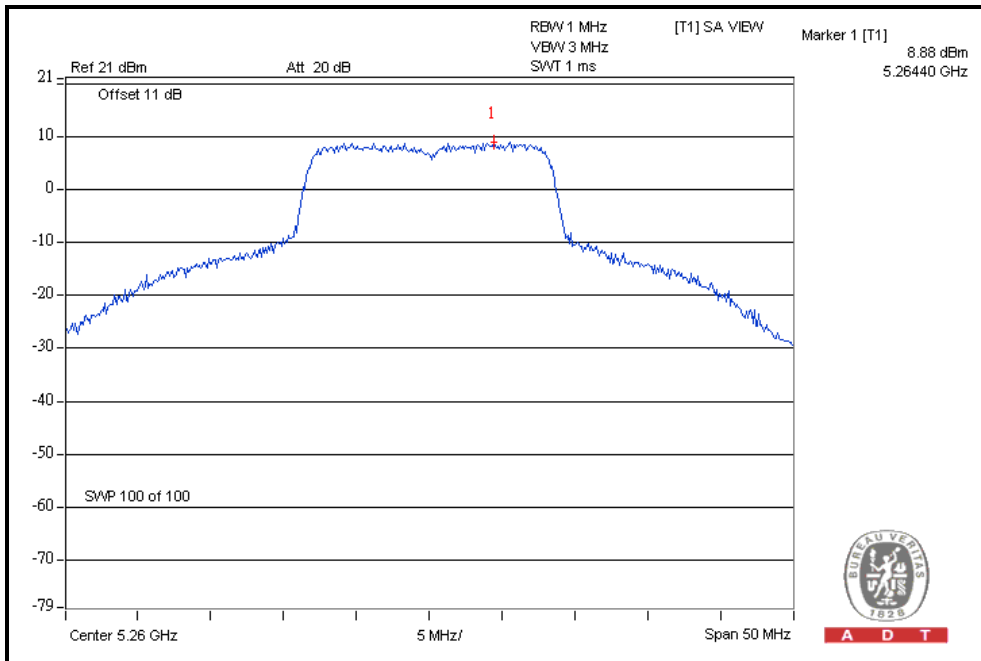


A D T

PEAK VALUE CH52



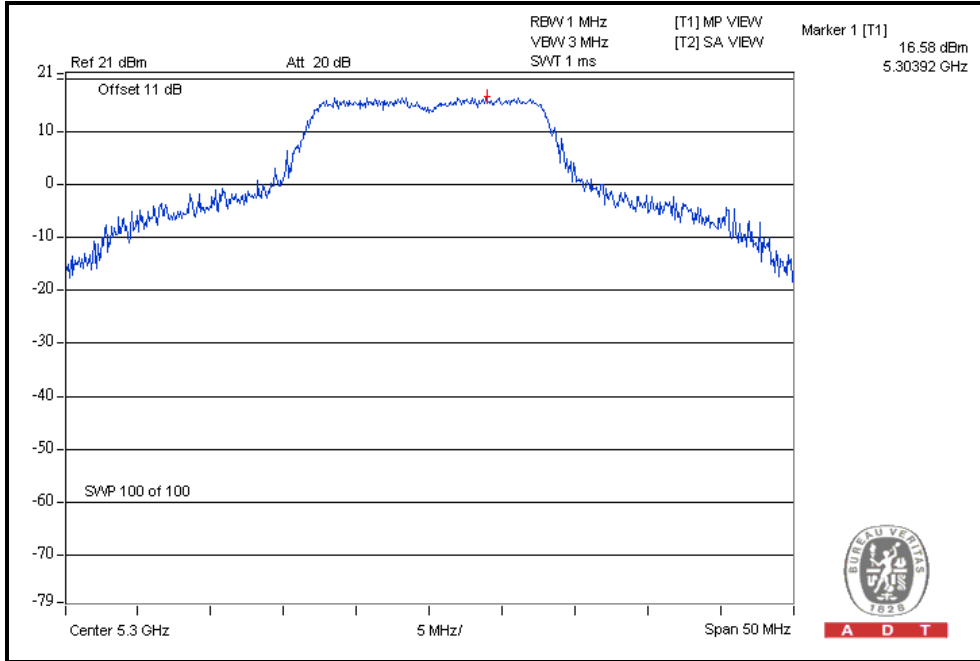
PPSD CH52



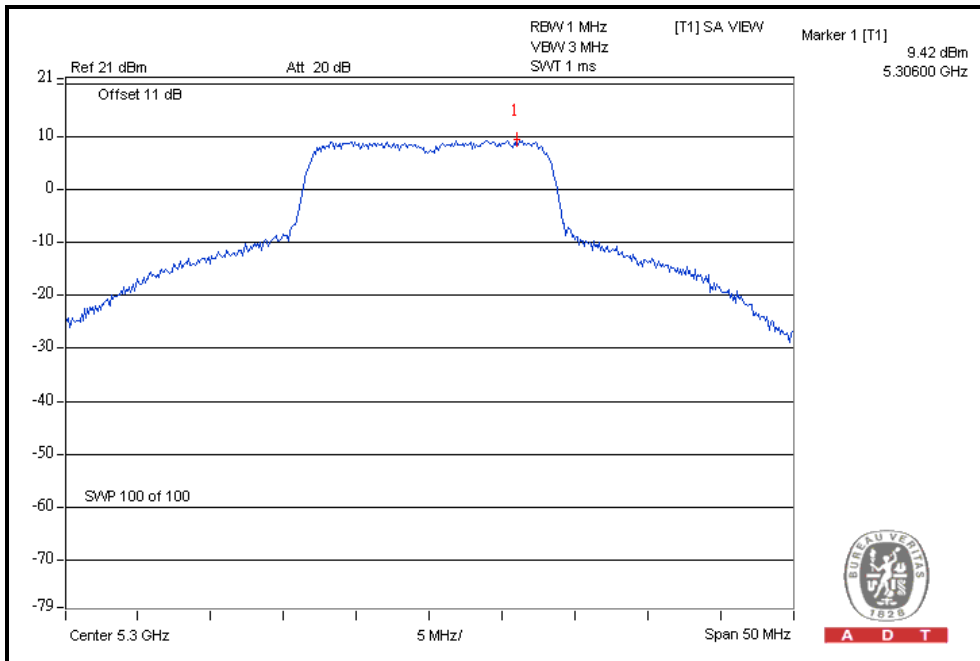


A D T

PEAK VALUE CH60



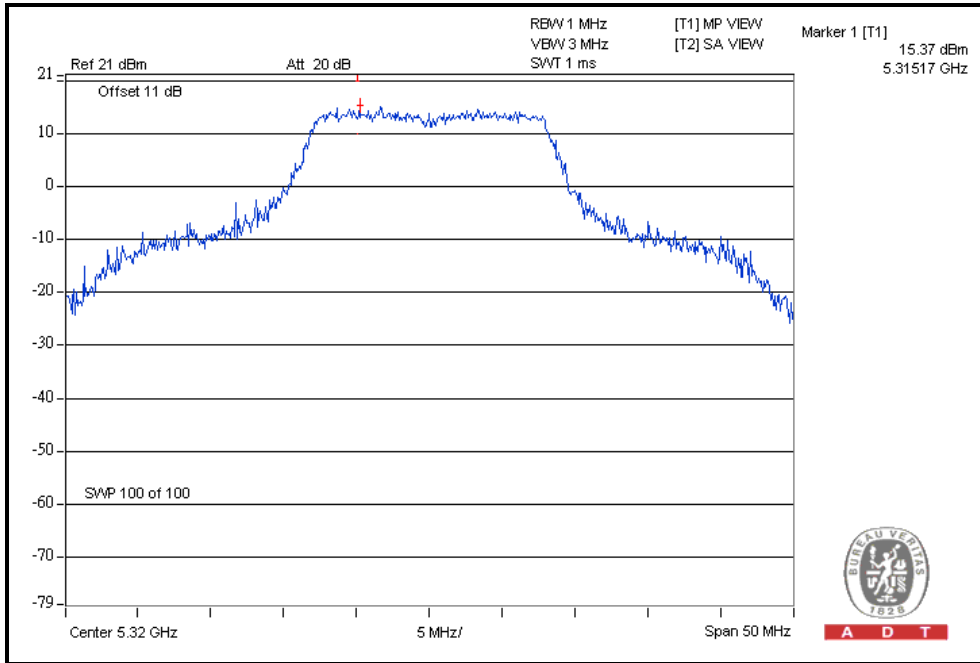
PPSD CH60



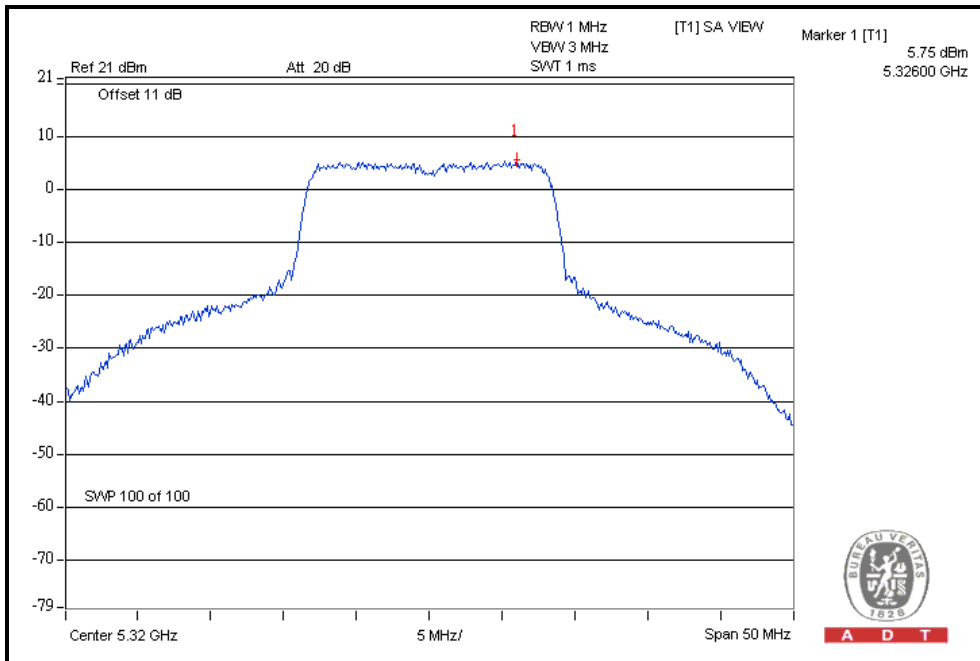


A D T

PEAK VALUE CH64



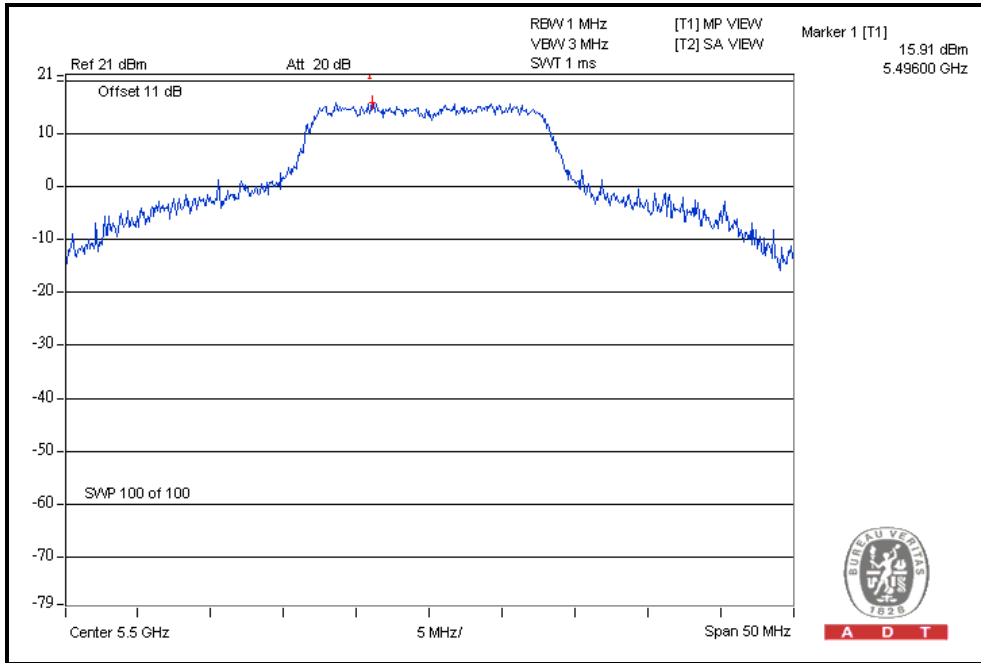
PPSD CH64



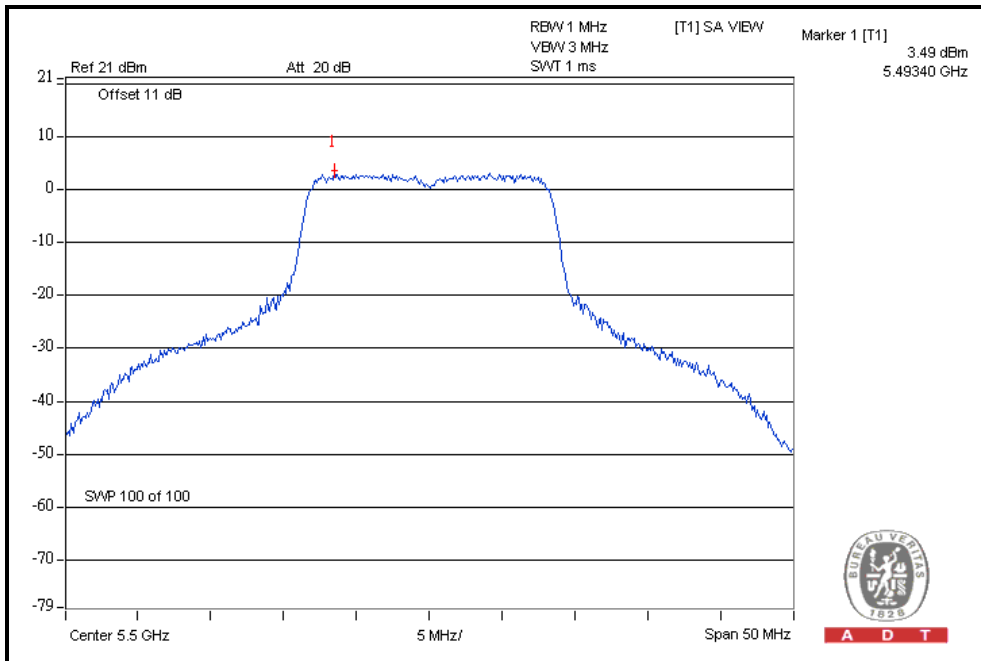


A D T

PEAK VALUE CH100



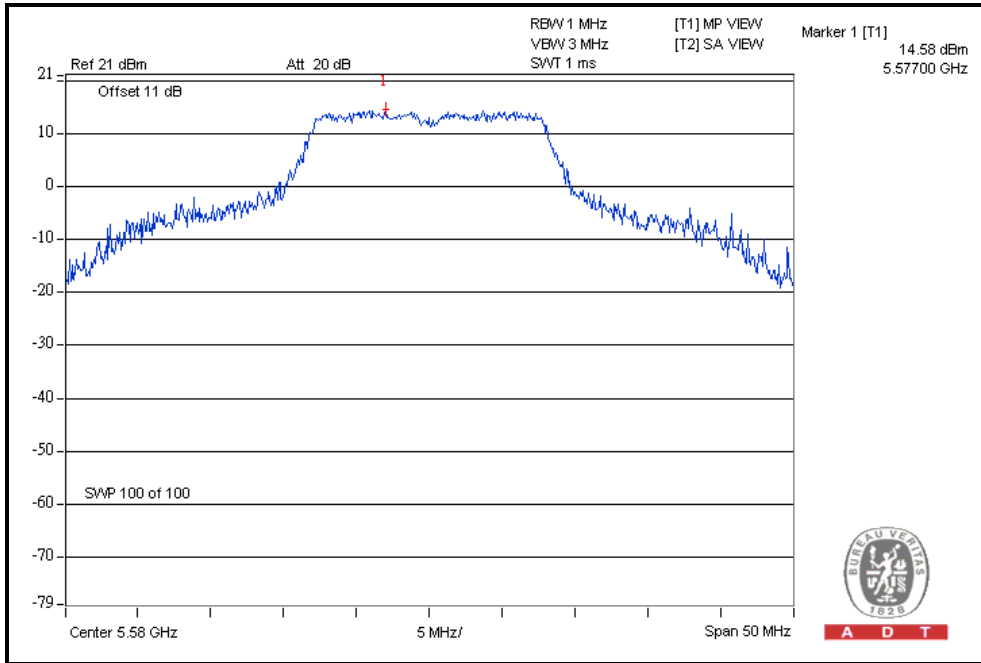
PPSD CH100



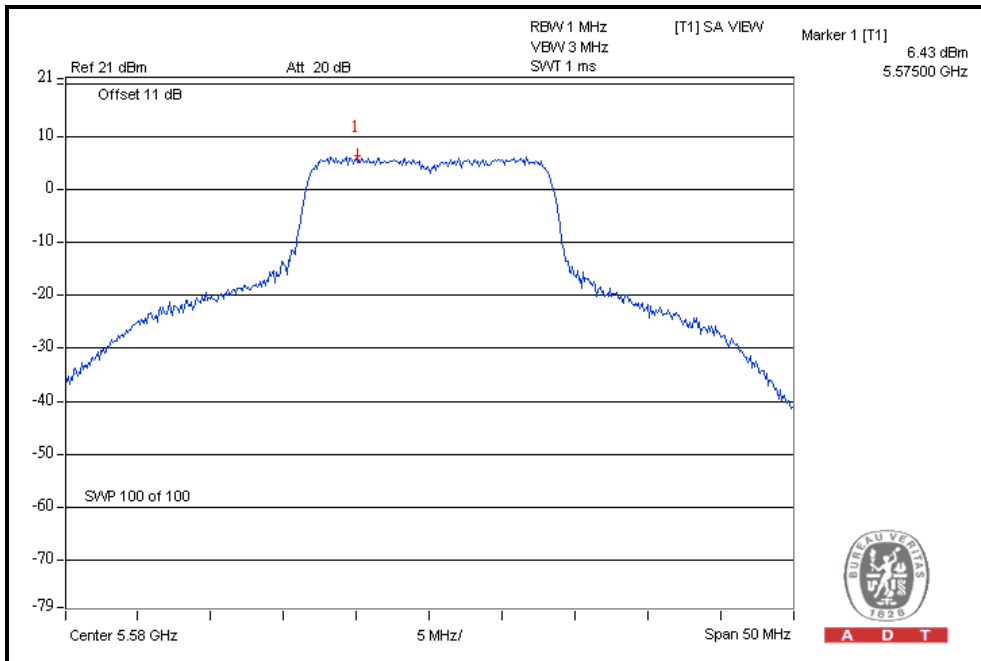


A D T

PEAK VALUE CH116



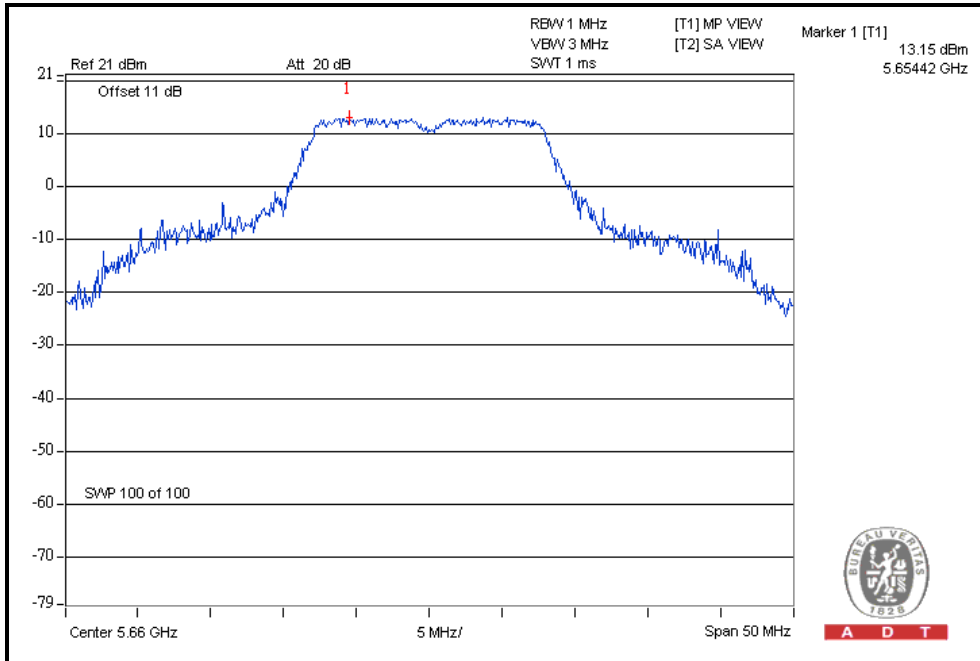
PPSD CH116



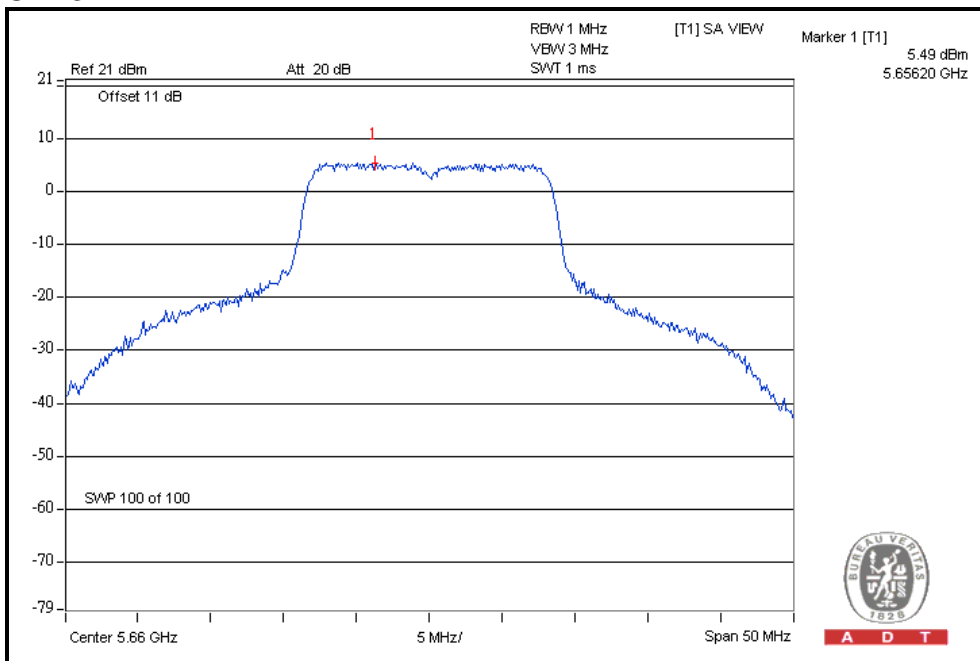


A D T

PEAK VALUE CH132



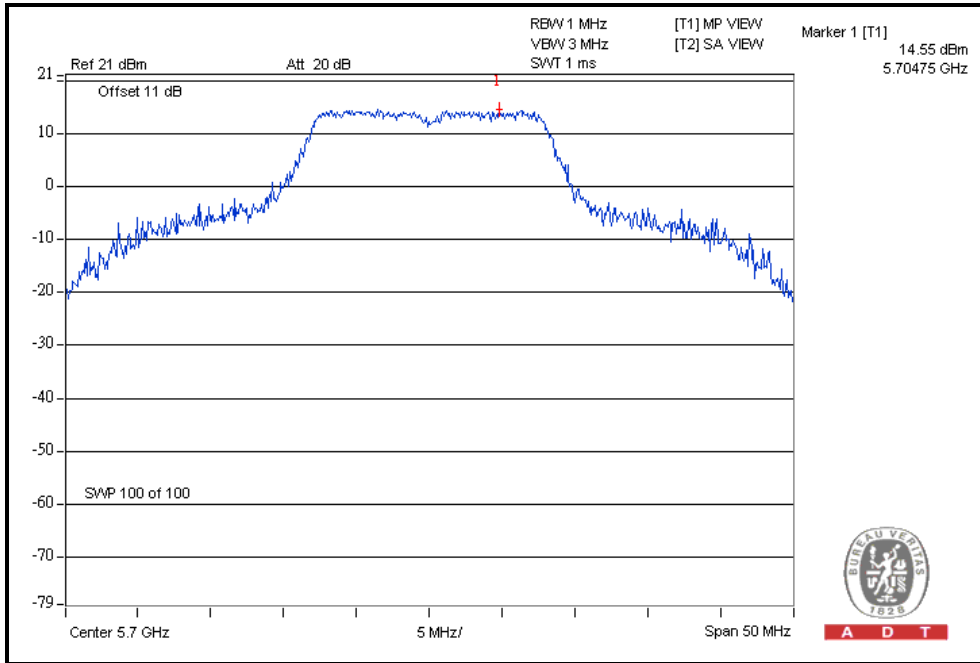
PPSD CH132



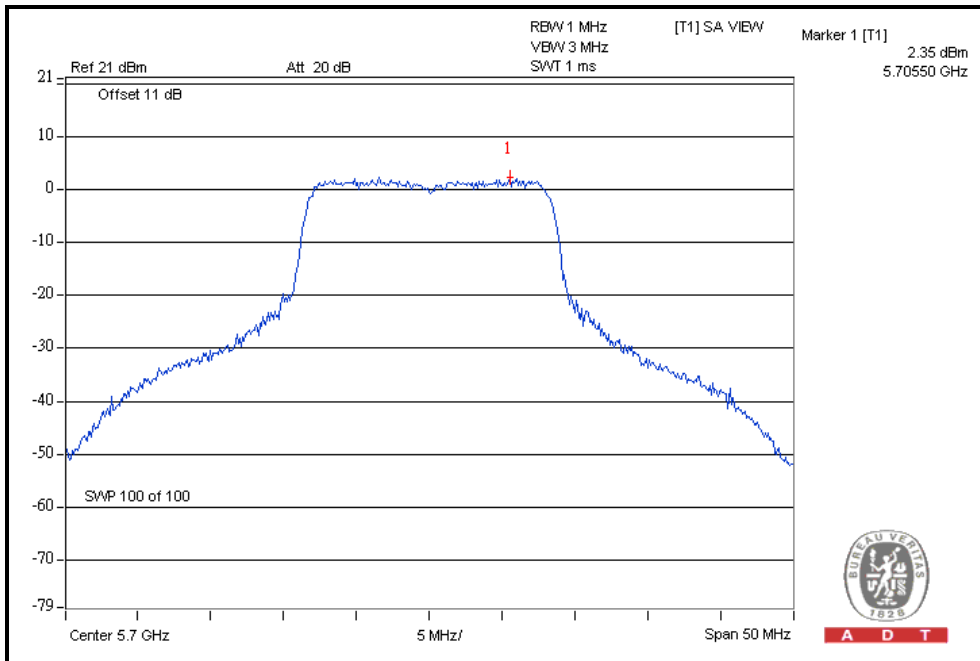


A D T

PEAK VALUE CH140



PPSD CH140





A D T

Multiple chain - 802.11a OFDM MODULATION:

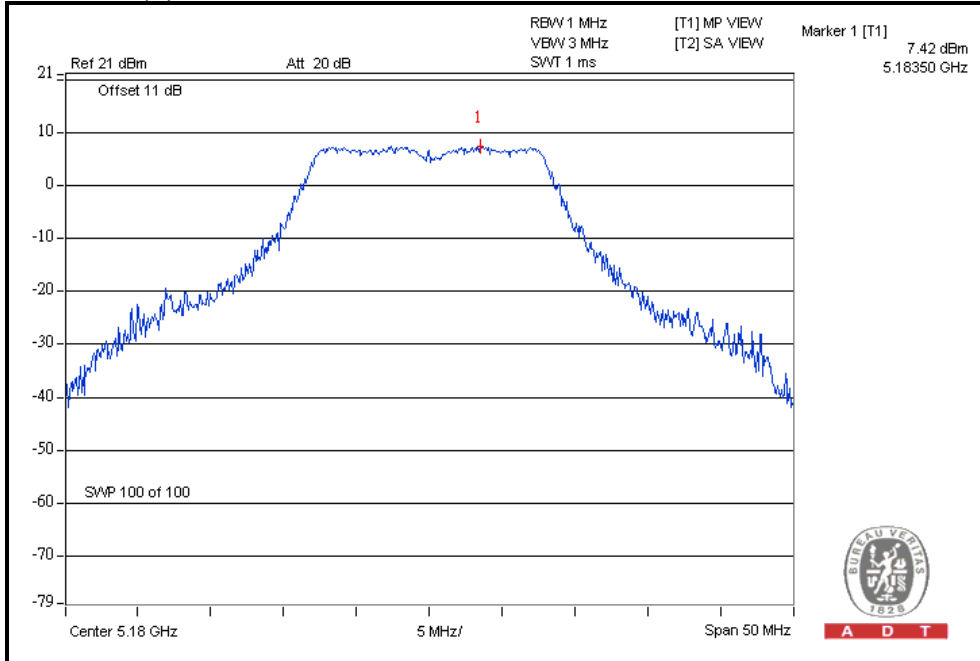
TX chain	CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK VALUE (dBm)	PPSD (dBm)	PEAK POWER EXCURSION (dB)	PEAK POWER EXCURSION LIMIT (dB)	PASS/ FAIL
0	36	5180	7.4	-0.2	7.6	13	PASS
	40	5200	7.8	0.5	7.3	13	PASS
	48	5240	8.7	0.3	8.4	13	PASS
	52	5260	13.2	5.8	7.4	13	PASS
	60	5300	13.8	5.0	8.8	13	PASS
	64	5320	11.6	2.5	9.1	13	PASS
	100	5500	12.5	-0.2	12.7	13	PASS
	116	5580	11.2	2.9	8.3	13	PASS
	132	5660	10.2	1.4	8.8	13	PASS
	140	5700	11.2	-0.6	11.8	13	PASS
1	36	5180	9	0.1	8.9	13	PASS
	40	5200	9.7	0.7	9.0	13	PASS
	48	5240	9	1.2	7.8	13	PASS
	52	5260	13.7	5.8	7.9	13	PASS
	60	5300	15.4	6.3	9.1	13	PASS
	64	5320	12	3.4	8.6	13	PASS
	100	5500	13.8	1.0	12.8	13	PASS
	116	5580	12.5	3.6	8.9	13	PASS
	132	5660	11	2.4	8.6	13	PASS
	140	5700	12.7	-0.1	12.8	13	PASS



A D T

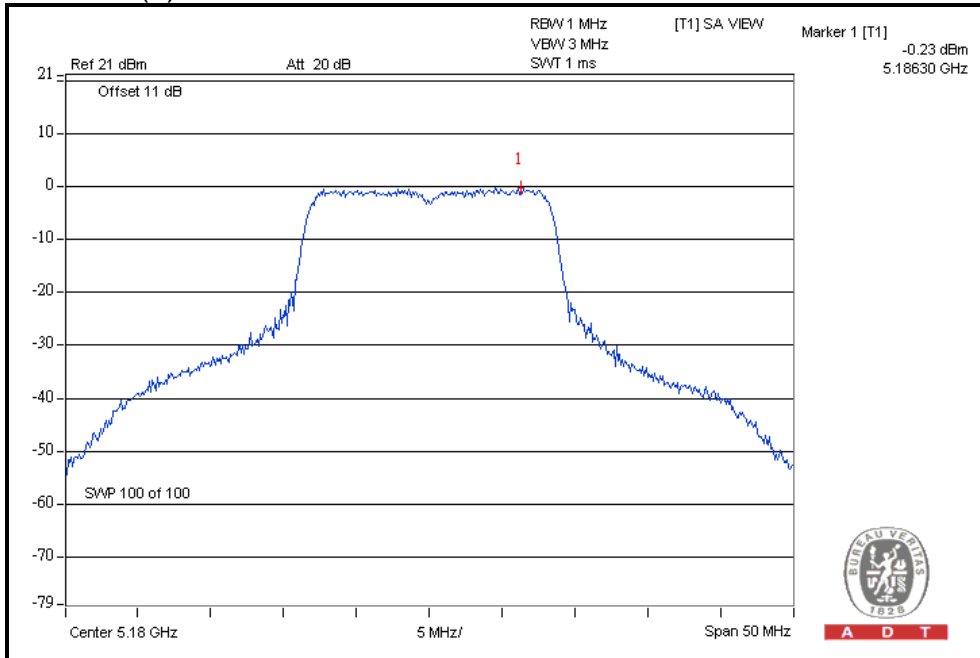
PEAK VALUE

For chain(0) : CH36



PPSD

For chain(0) : CH36

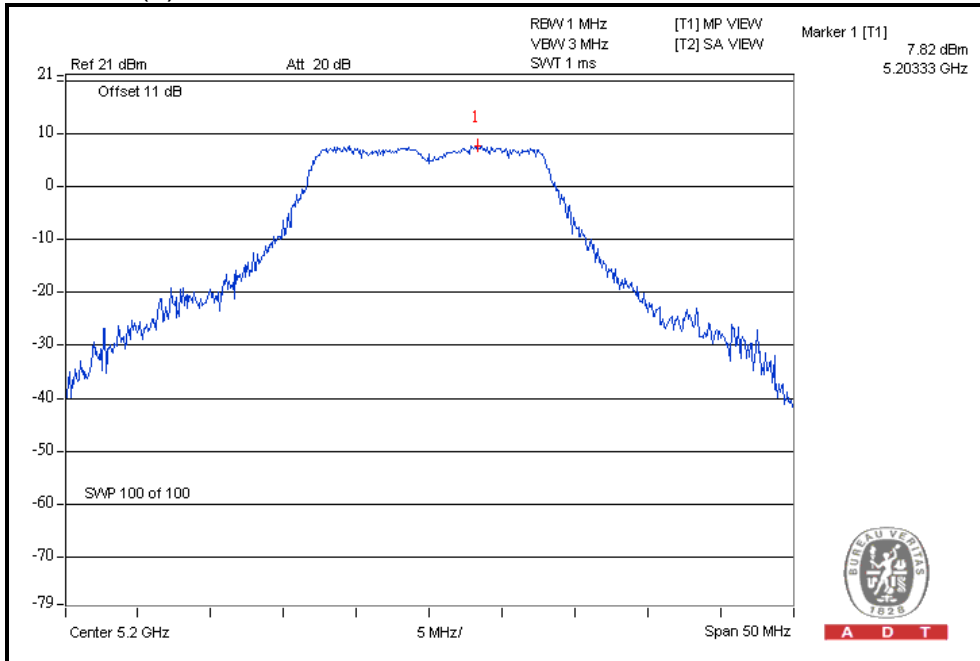




A D T

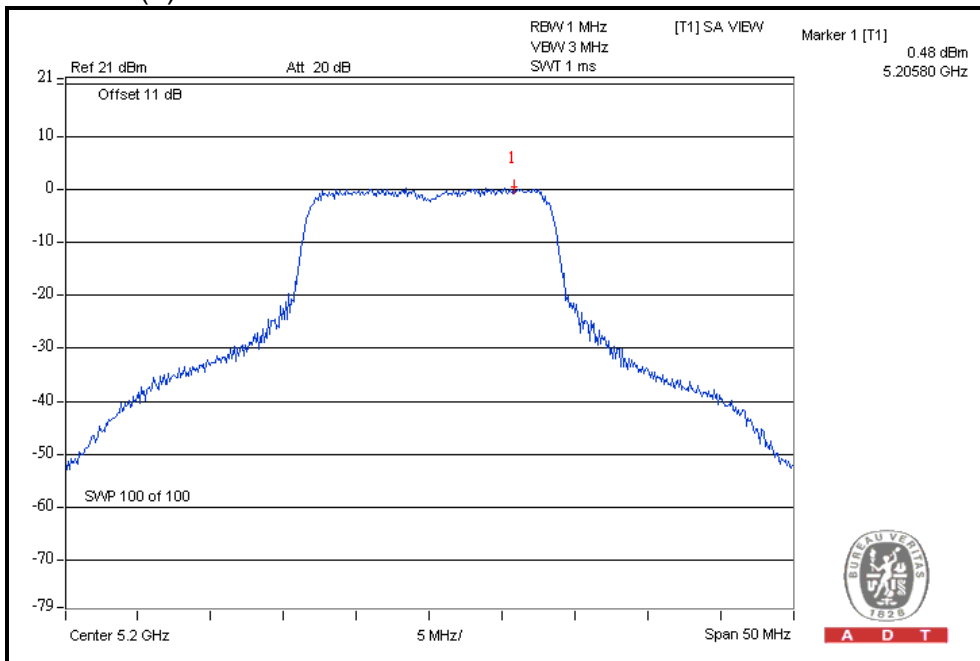
PEAK VALUE

For chain(0) : CH40



PPSD

For chain(0) : CH40

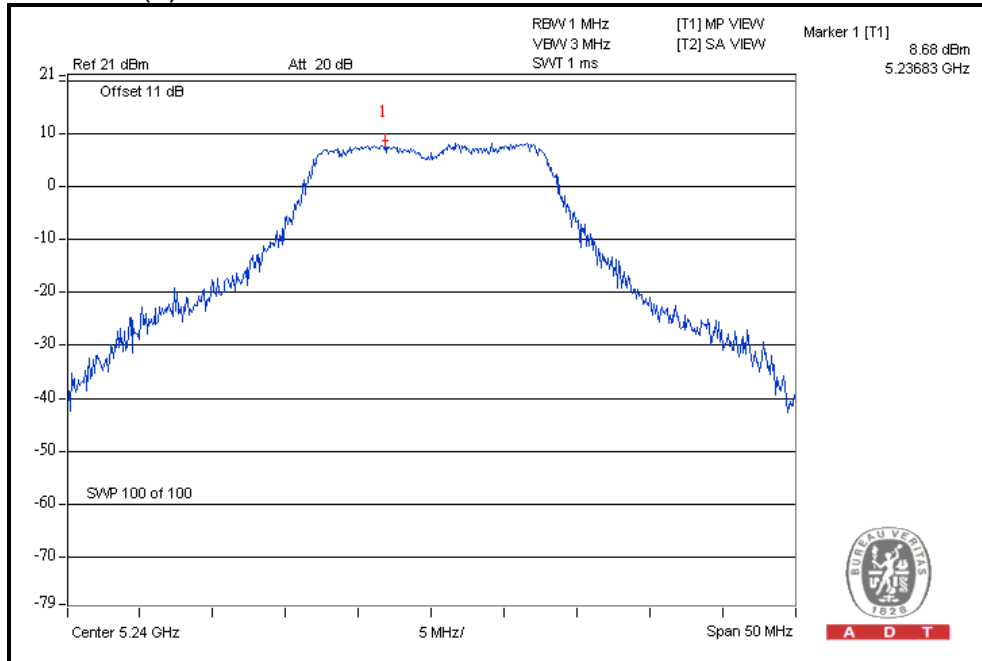




A D T

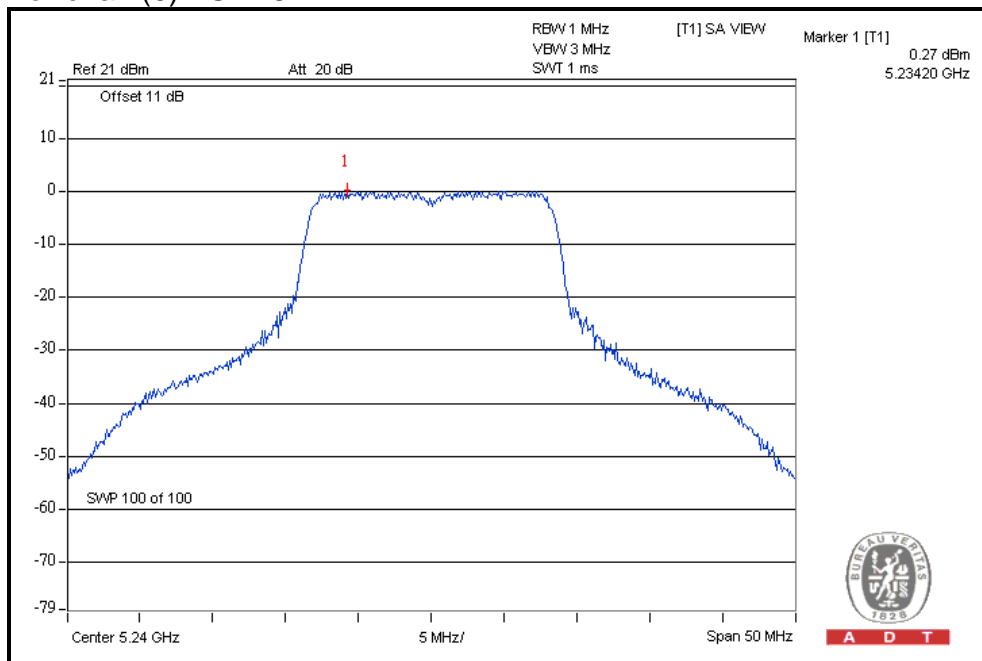
PEAK VALUE

For chain(0) : CH48



PPSD

For chain(0) : CH48

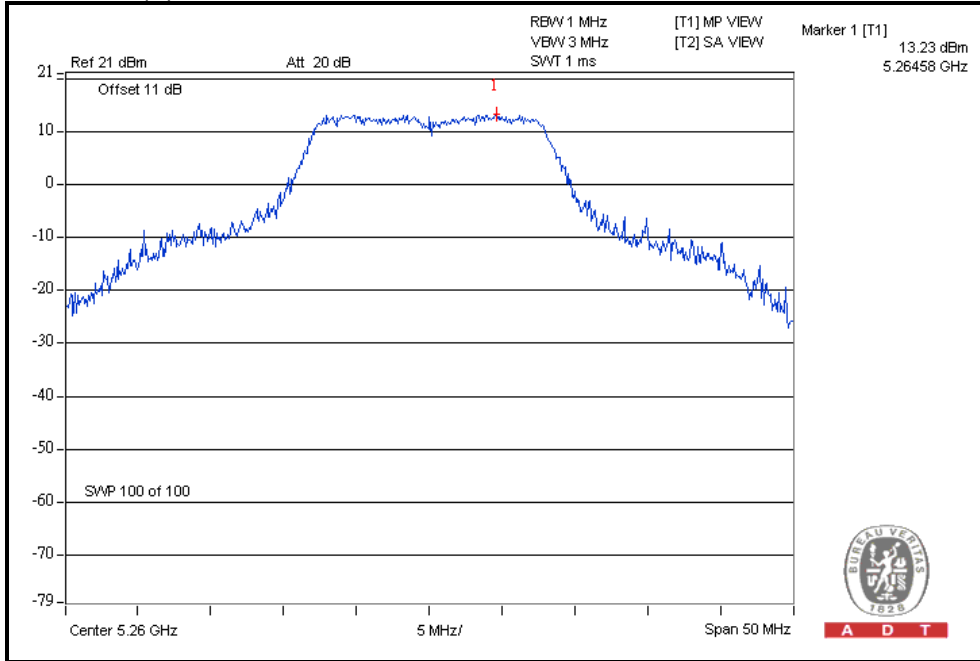




A D T

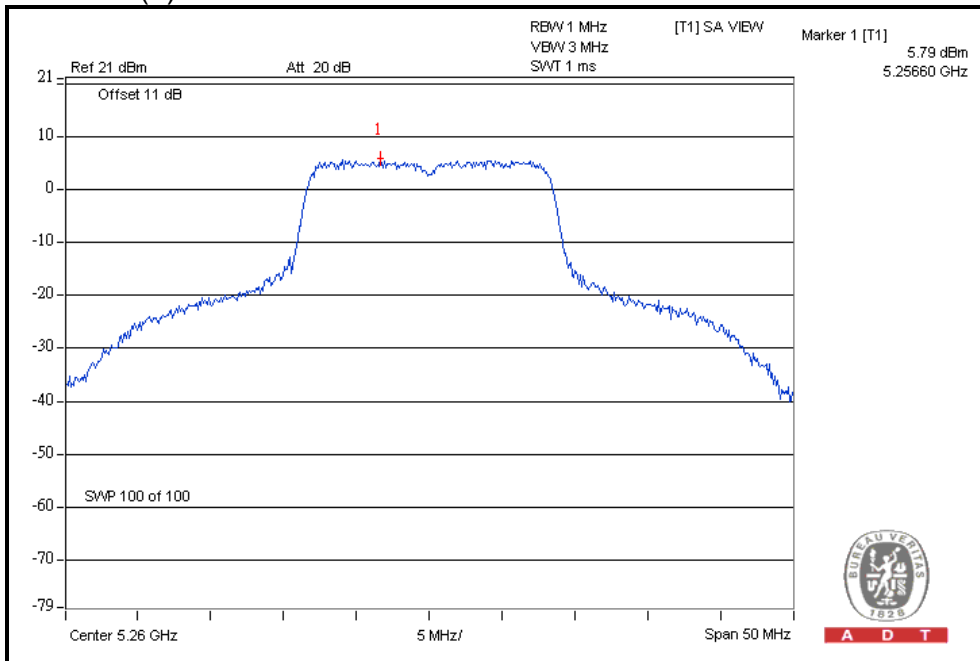
PEAK VALUE

For chain(0) : CH52



PPSD

For chain(0) : CH52

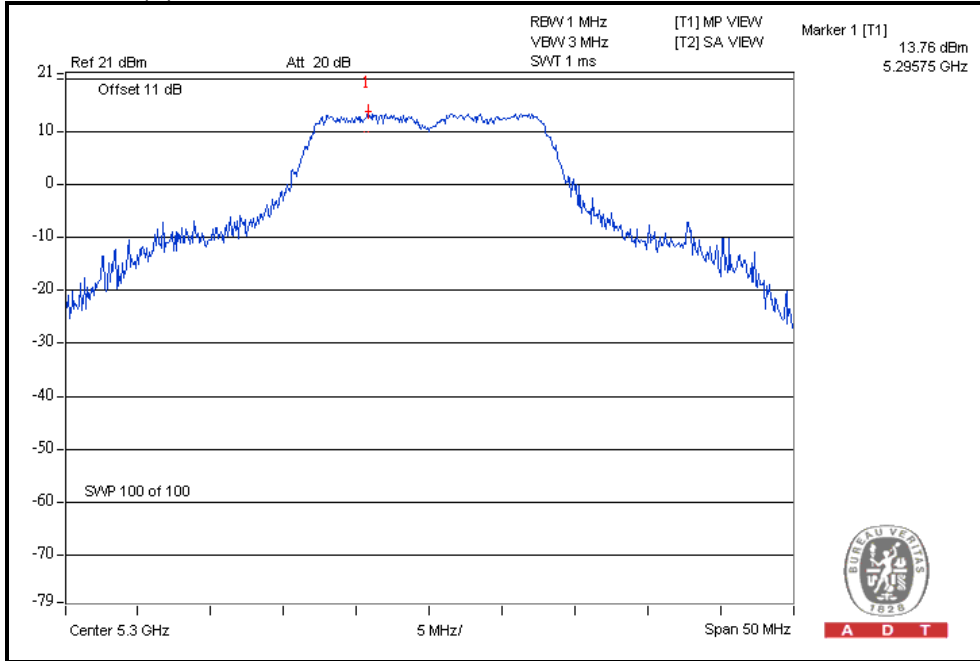




A D T

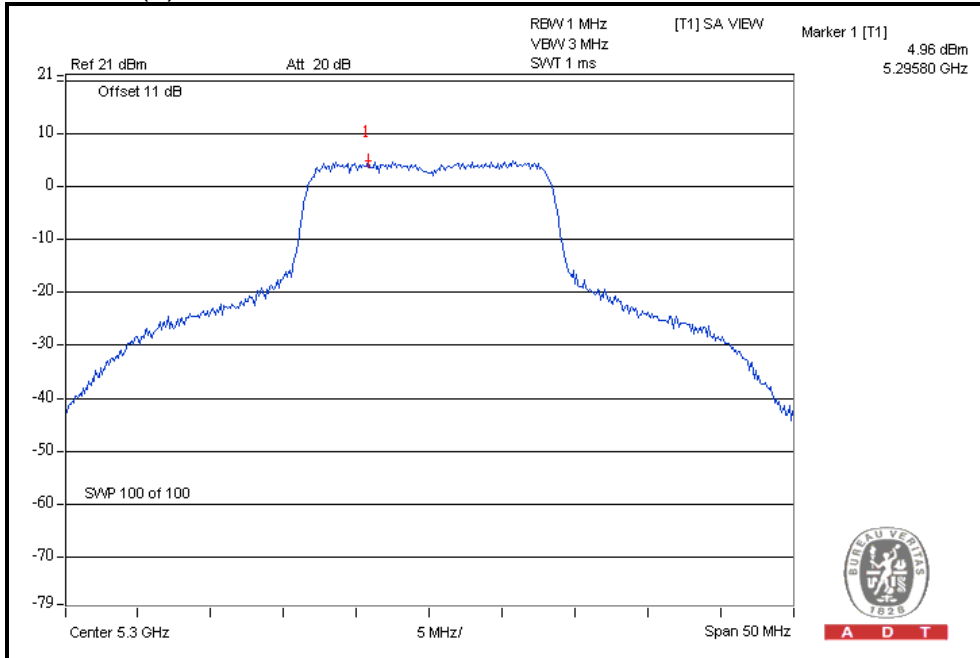
PEAK VALUE

For chain(0) : CH60



PPSD

For chain(0) : CH60

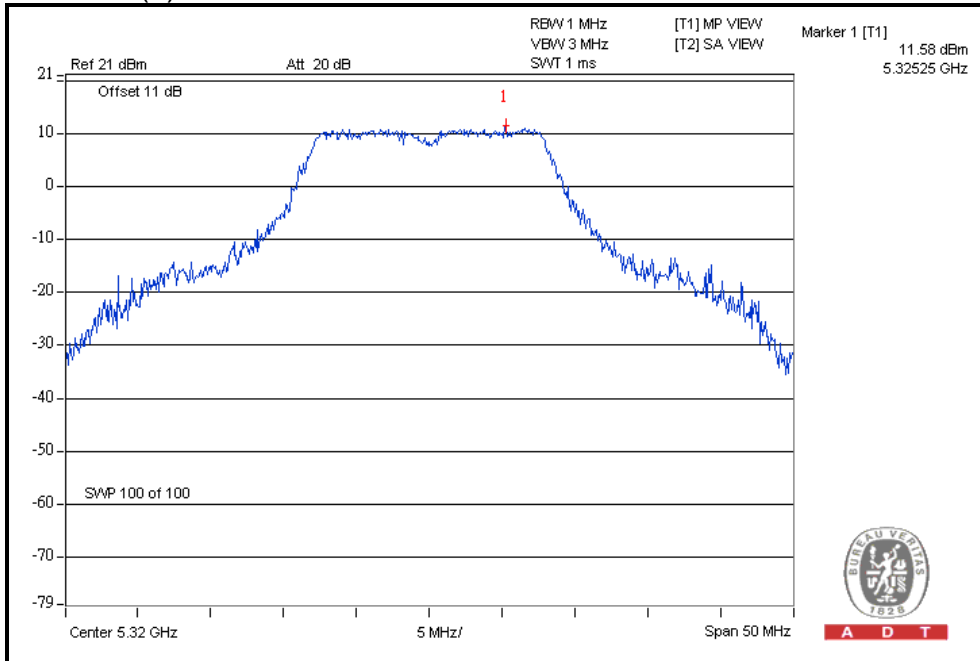




A D T

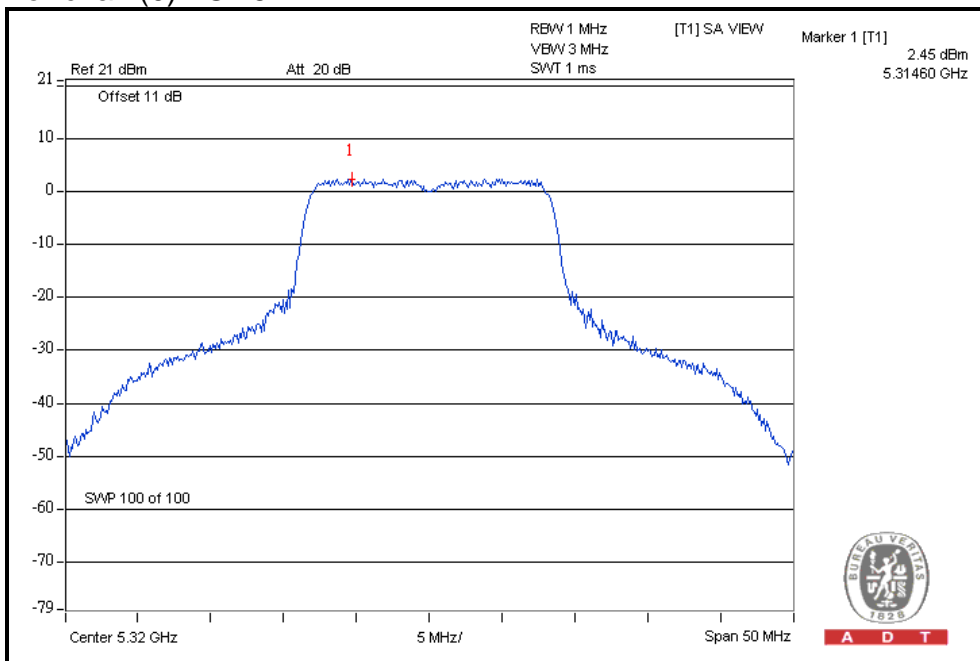
PEAK VALUE

For chain(0) : CH64



PPSD

For chain(0) : CH64

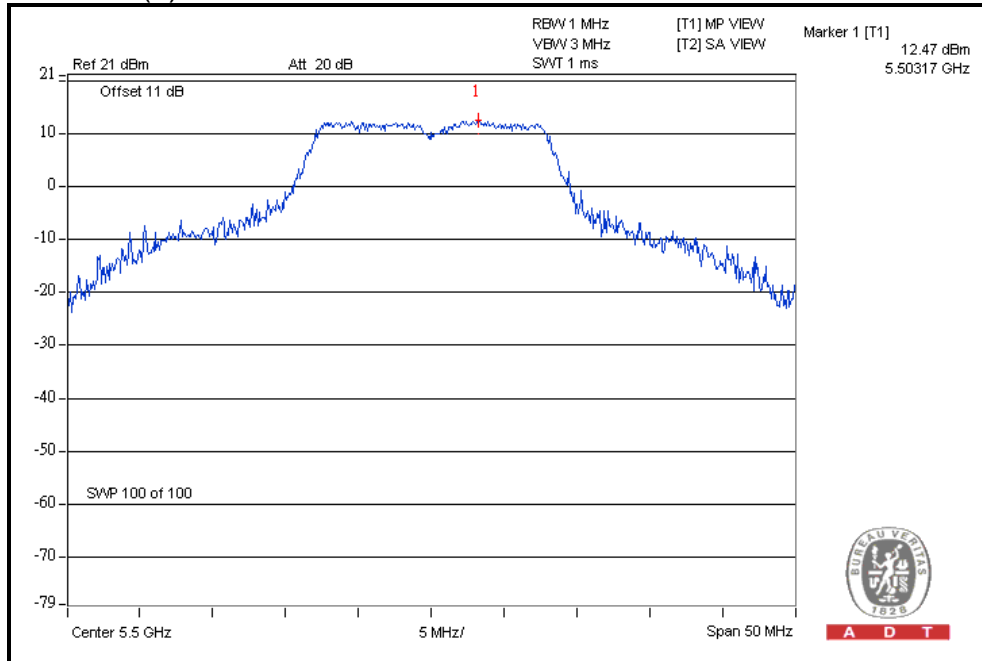




A D T

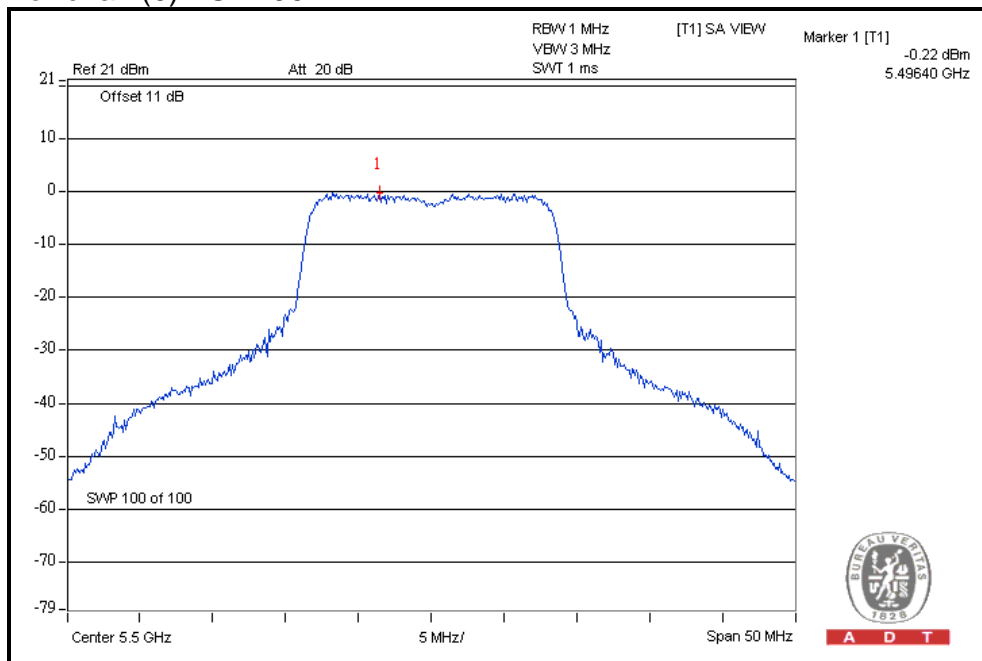
PEAK VALUE

For chain(0) : CH100



PPSD

For chain(0) : CH100

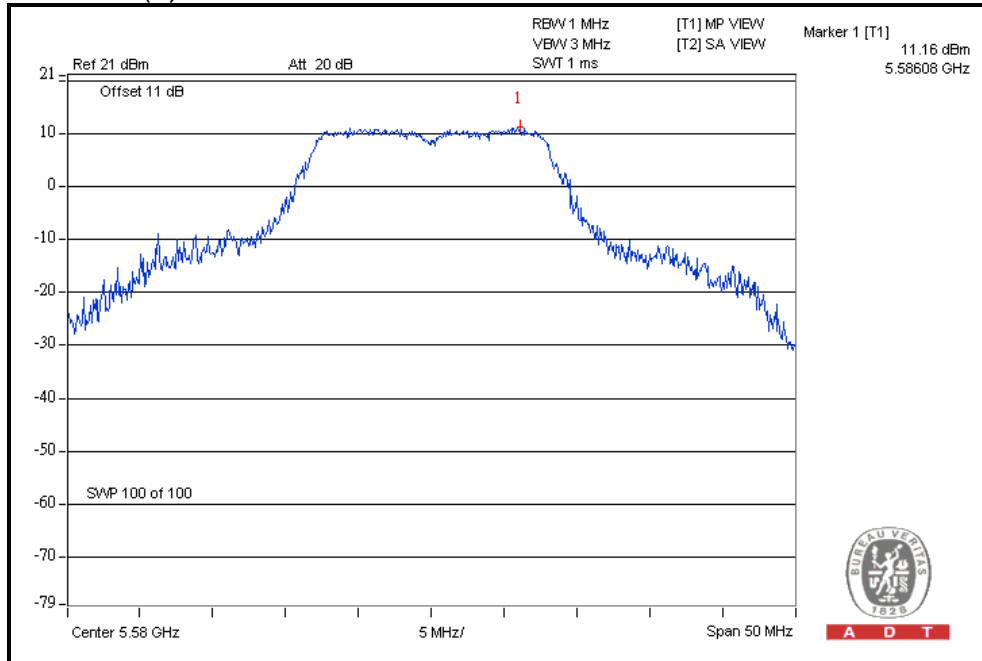




A D T

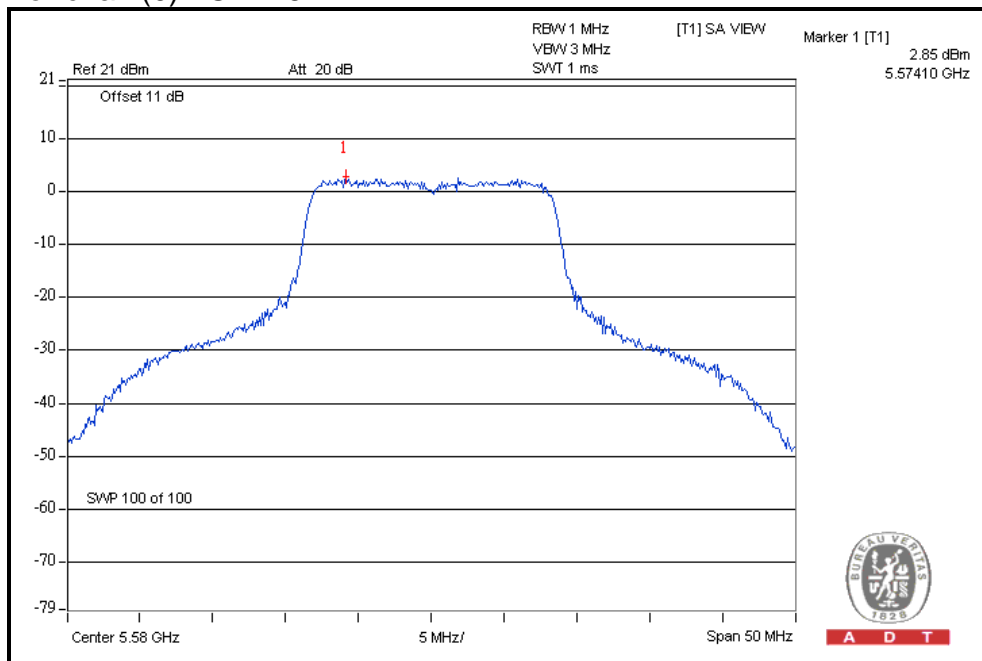
PEAK VALUE

For chain(0) : CH116



PPSD

For chain(0) : CH116

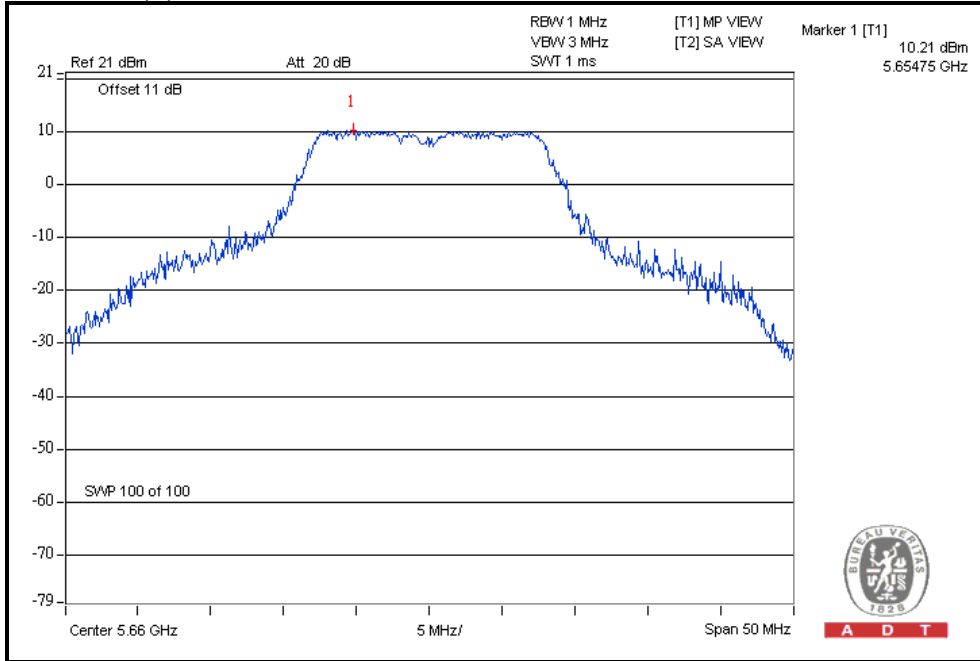




A D T

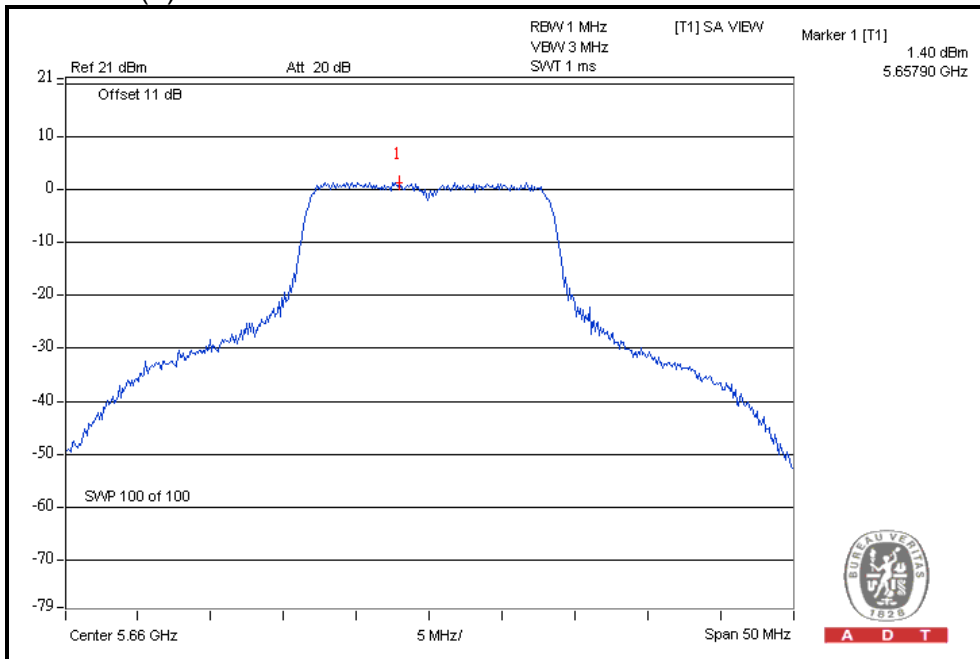
PEAK VALUE

For chain(0) : CH132



PPSD

For chain(0) : CH132

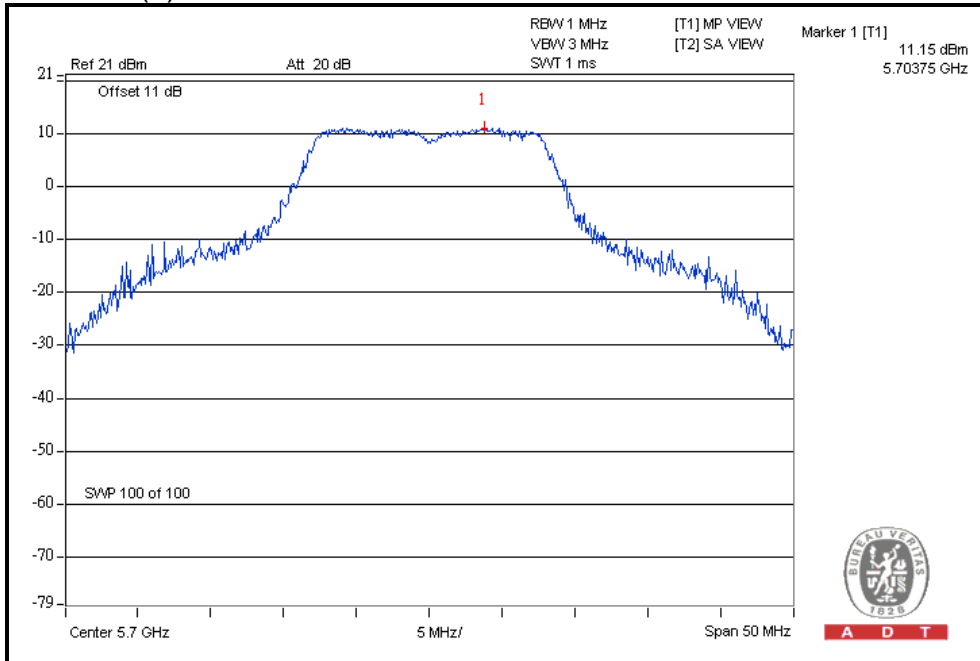




A D T

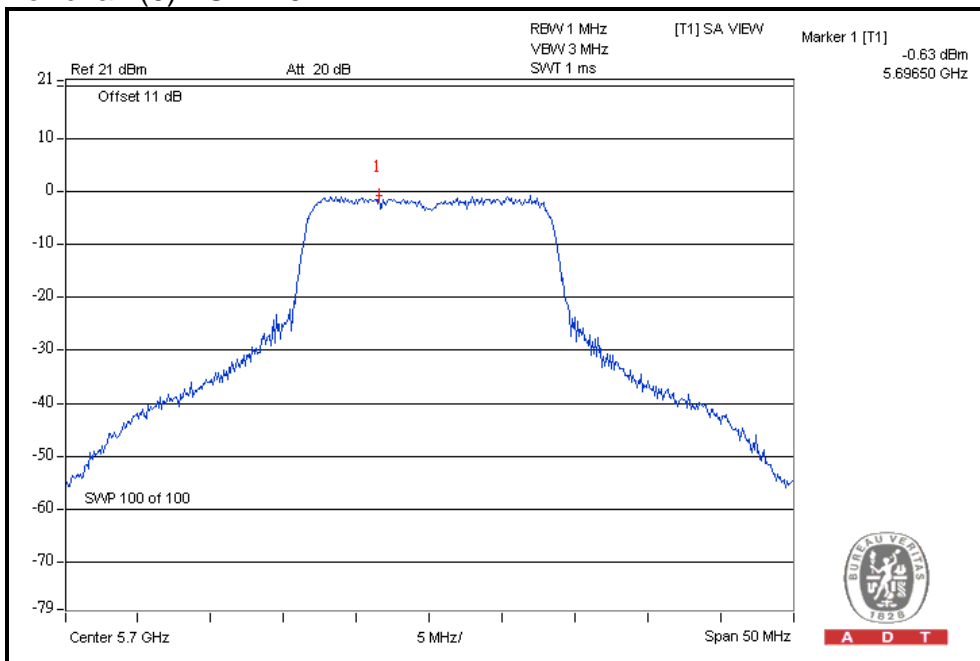
PEAK VALUE

For chain(0) : CH140



PPSD

For chain(0) : CH140

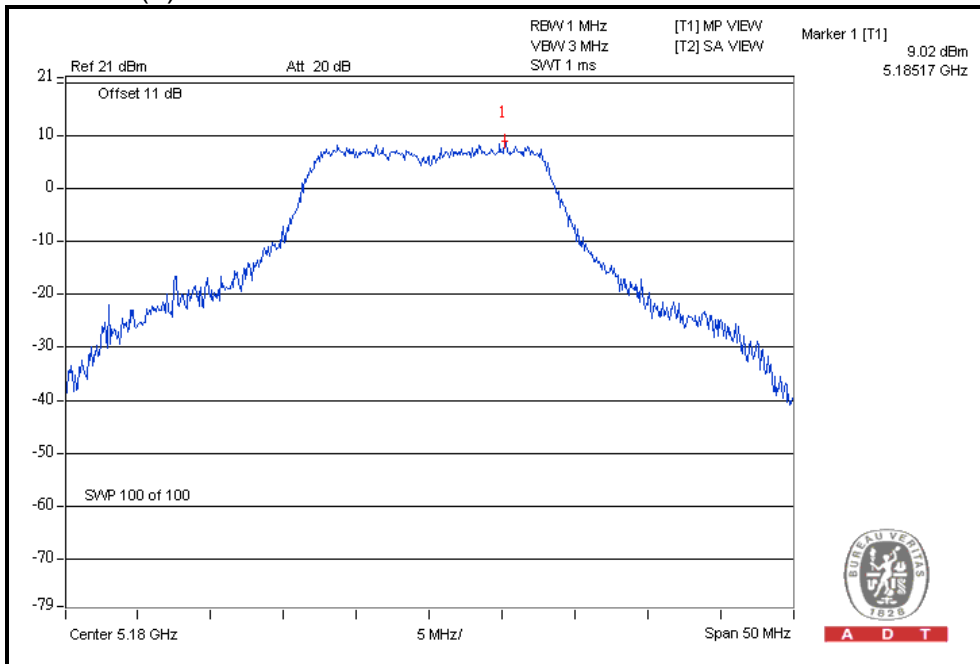




A D T

PEAK VALUE

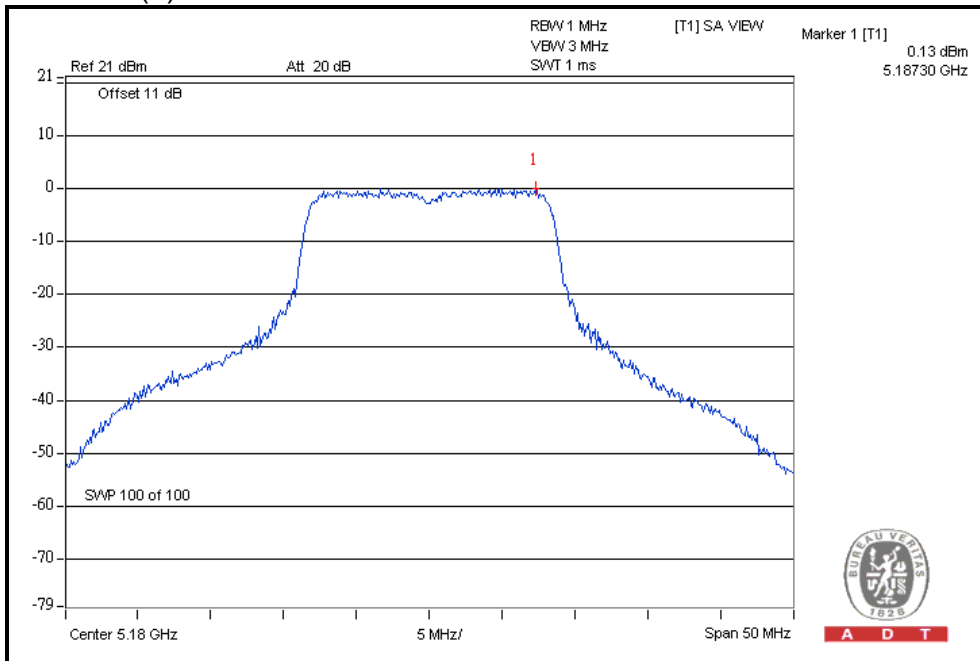
For chain(1) : CH36



A D T

PPSD

For chain(1) : CH36



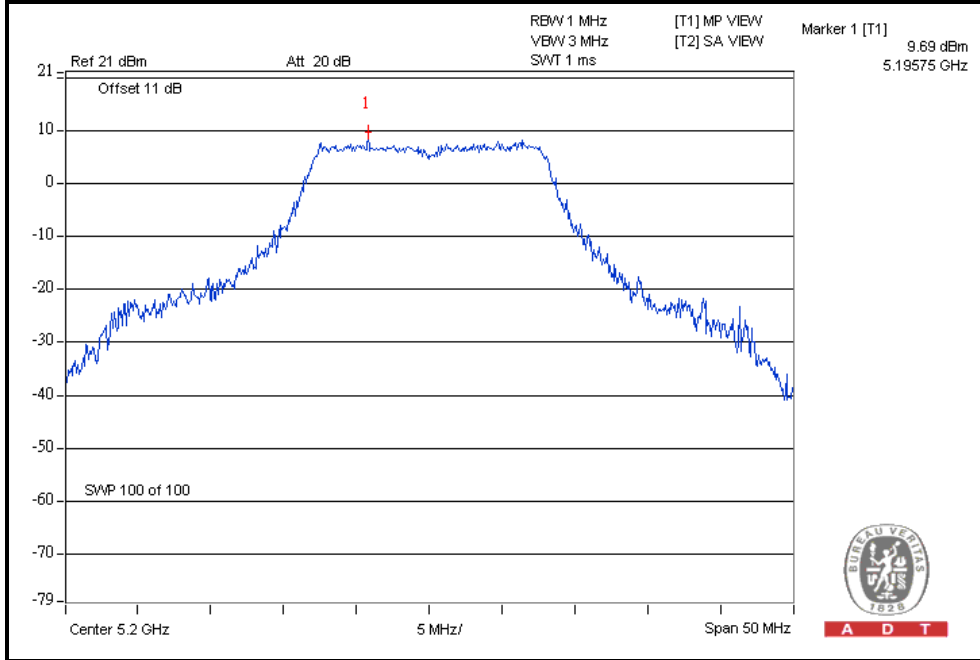
A D T



A D T

PEAK VALUE

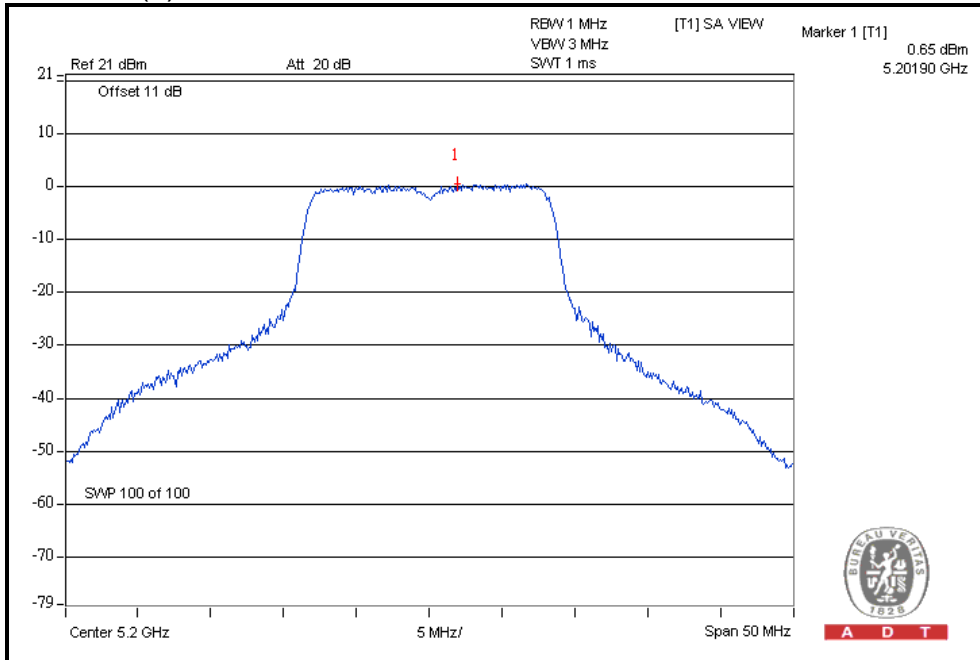
For chain(1) : CH40



A D T

PPSD

For chain(1) : CH40



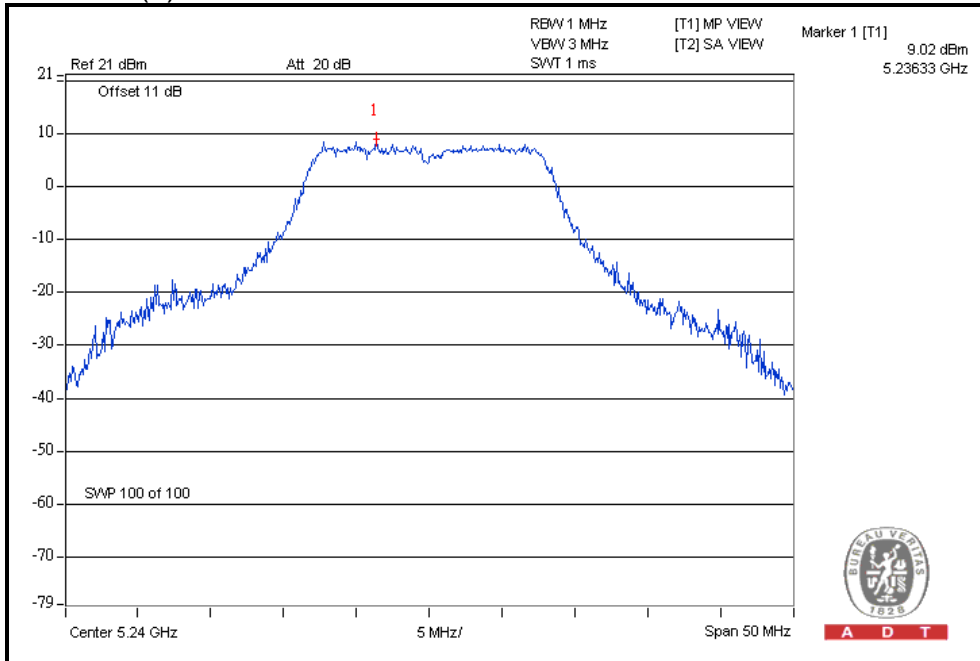
A D T



A D T

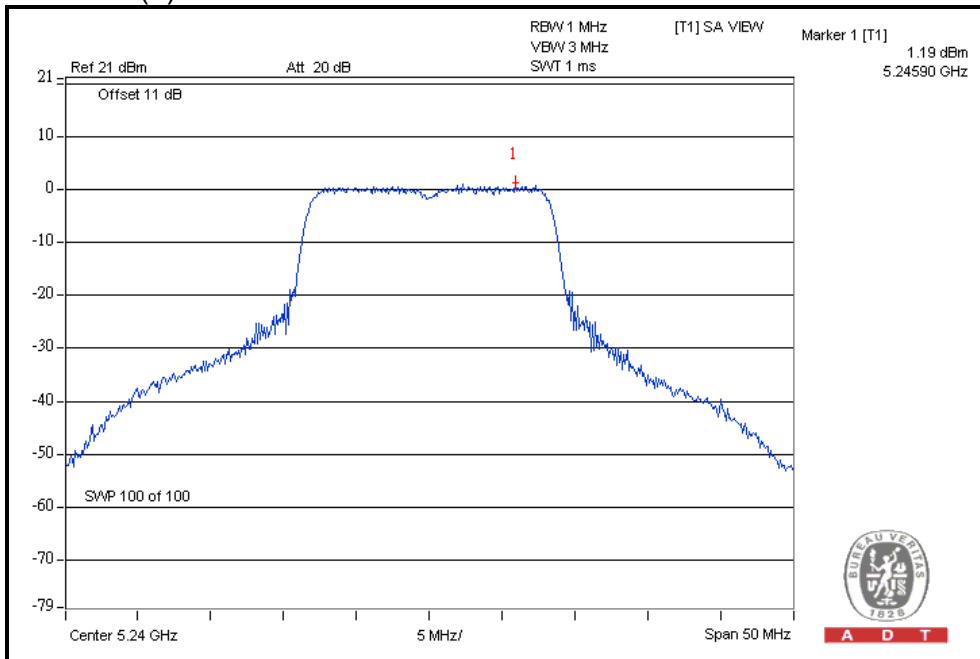
PEAK VALUE

For chain(1) : CH48



PPSD

For chain(1) : CH48

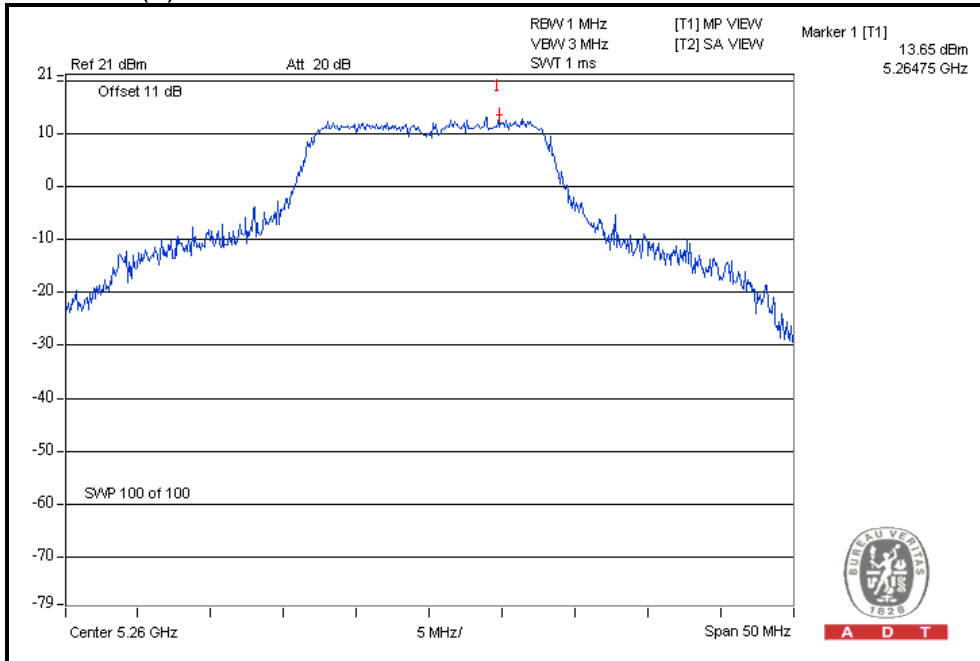




A D T

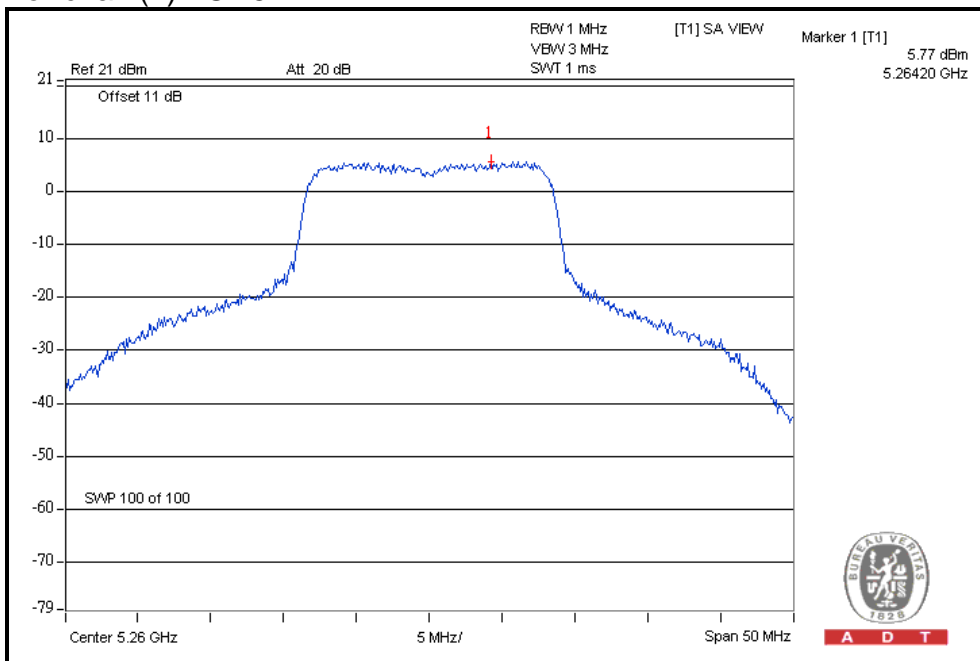
PEAK VALUE

For chain(1) : CH52



PPSD

For chain(1) : CH52

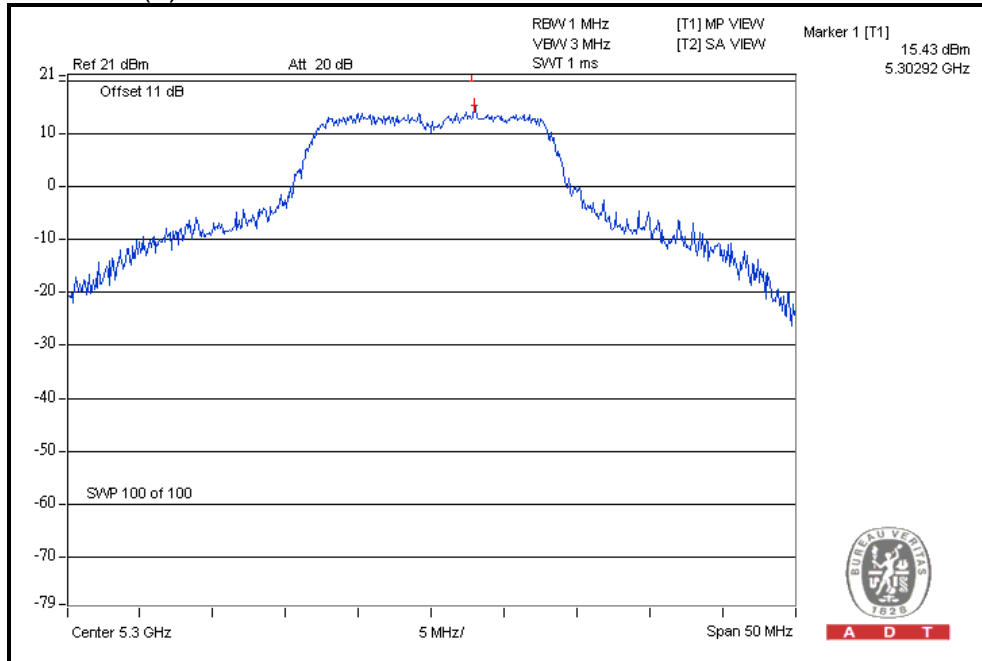




A D T

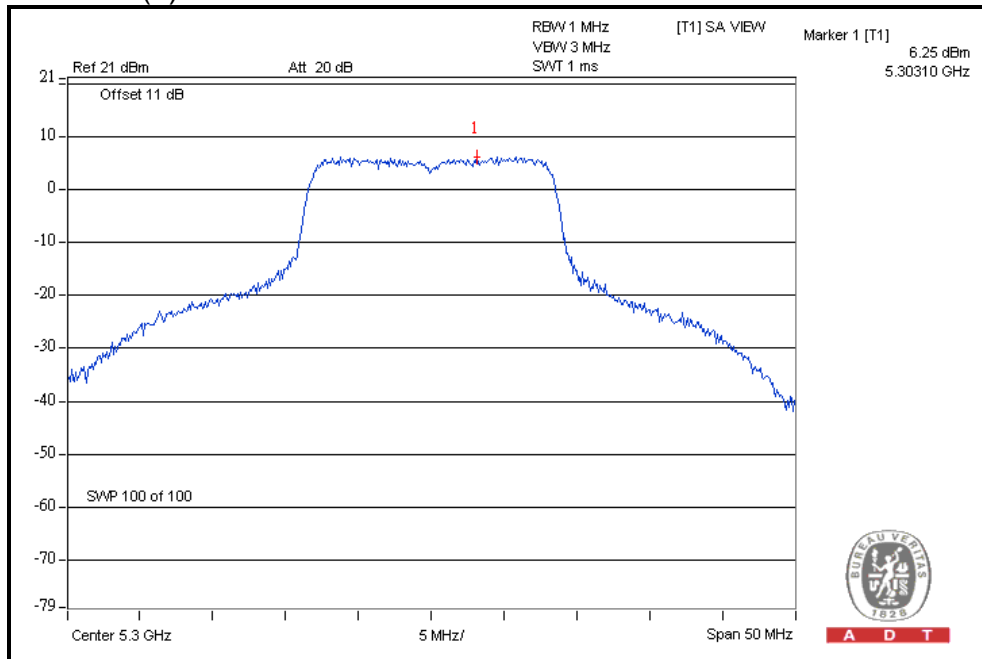
PEAK VALUE

For chain(1) : CH60



PPSD

For chain(1) : CH60

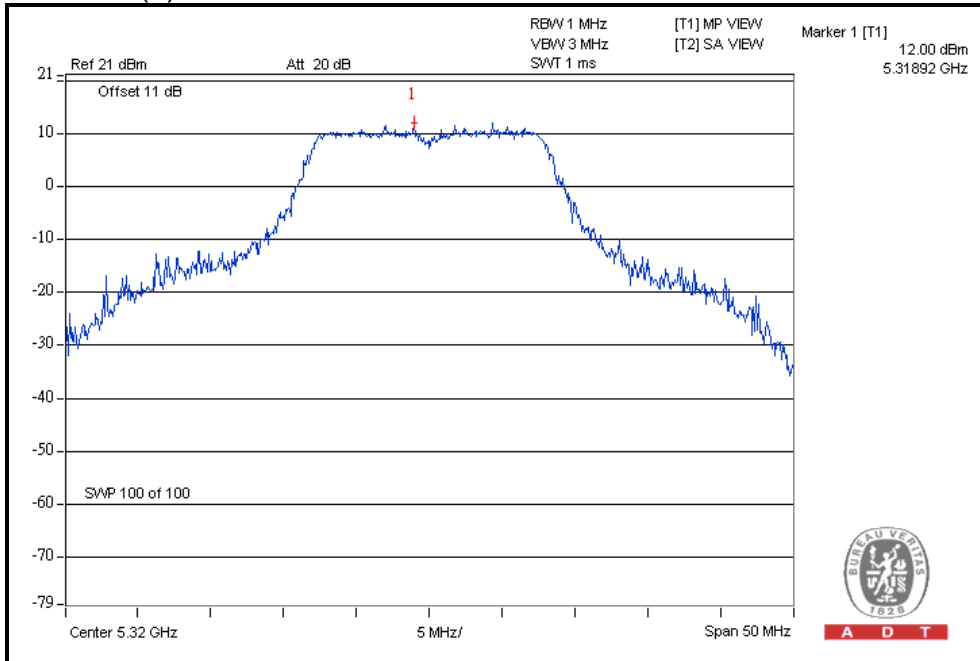




A D T

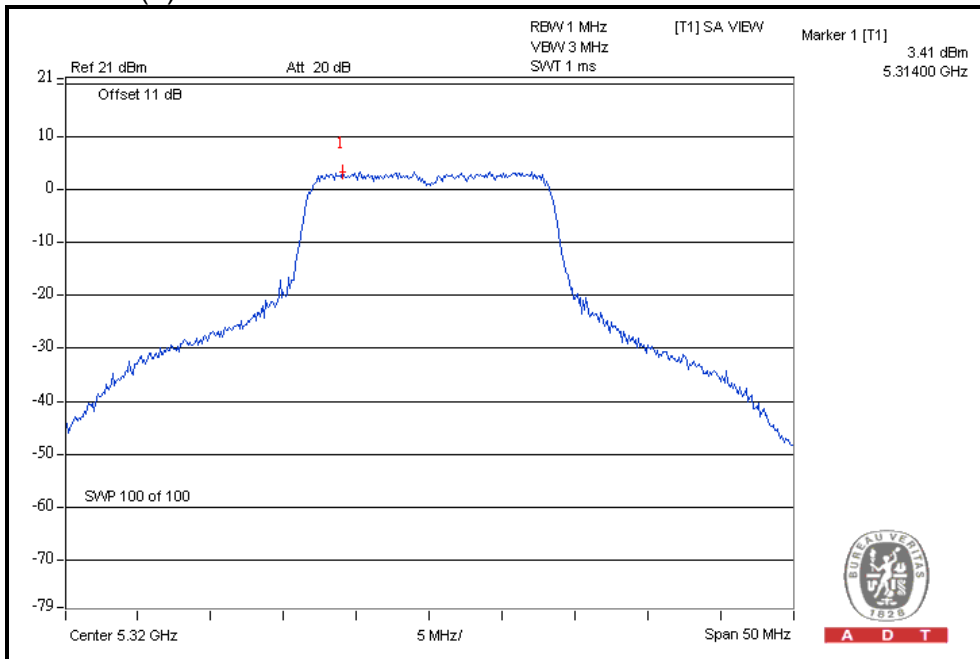
PEAK VALUE

For chain(1) : CH64



PPSD

For chain(1) : CH64

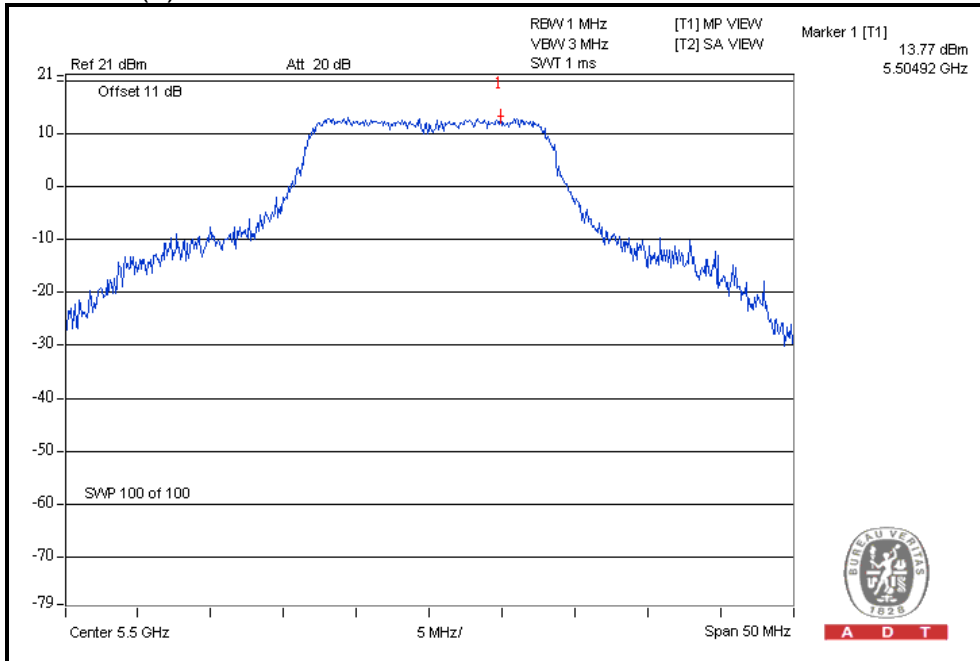




A D T

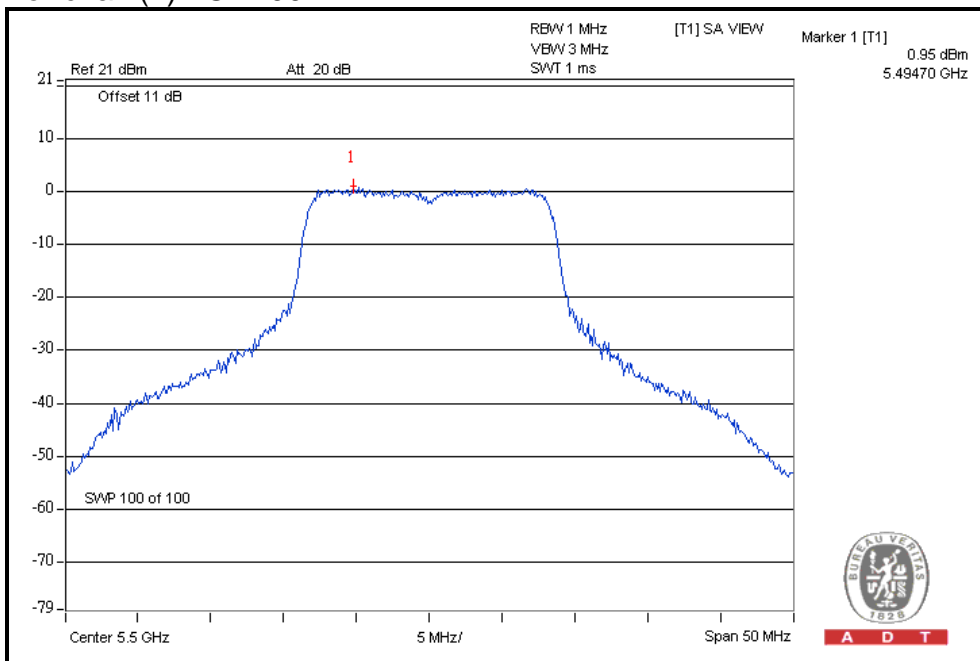
PEAK VALUE

For chain(1) : CH100



PPSD

For chain(1) : CH100

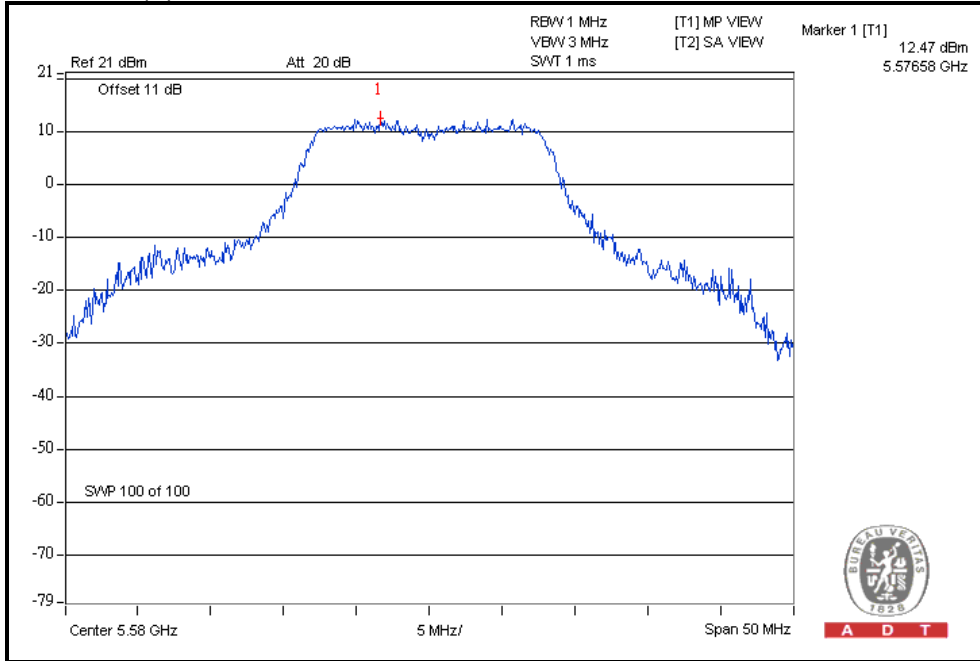




A D T

PEAK VALUE

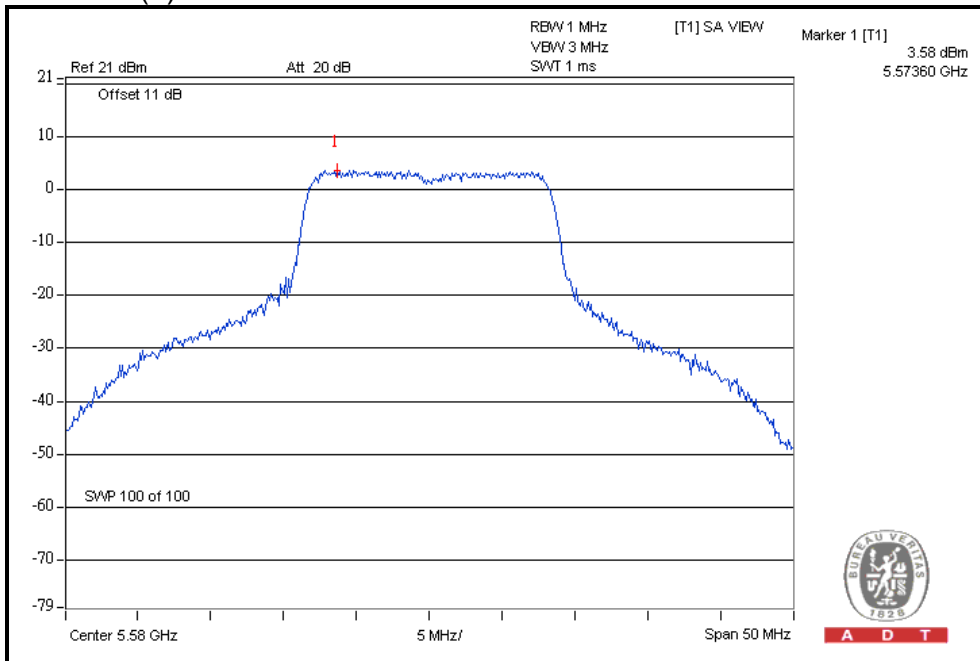
For chain(1) : CH116



A D T

PPSD

For chain(1) : CH116



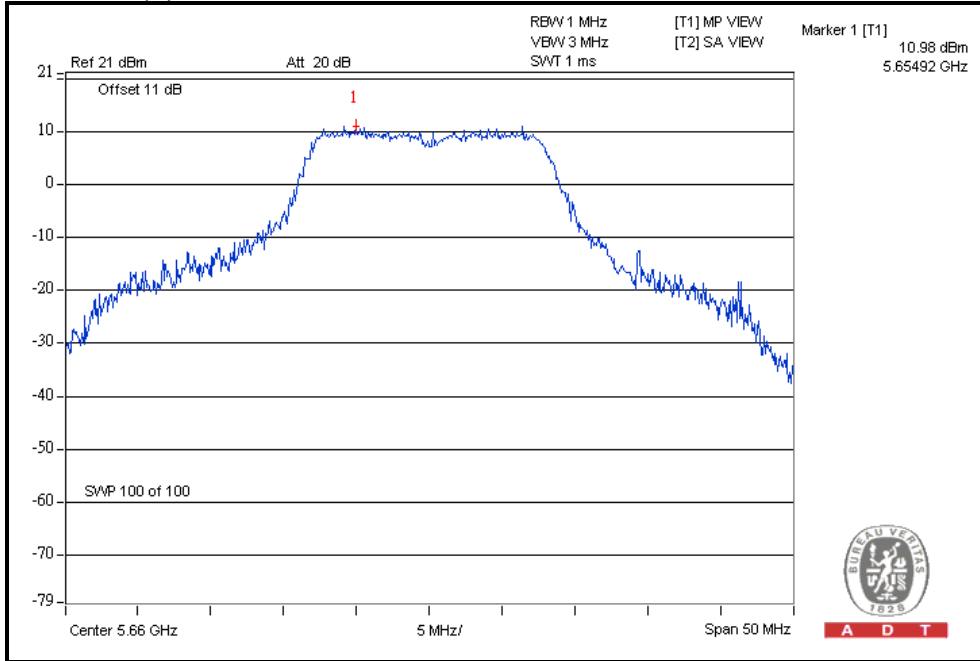
A D T



A D T

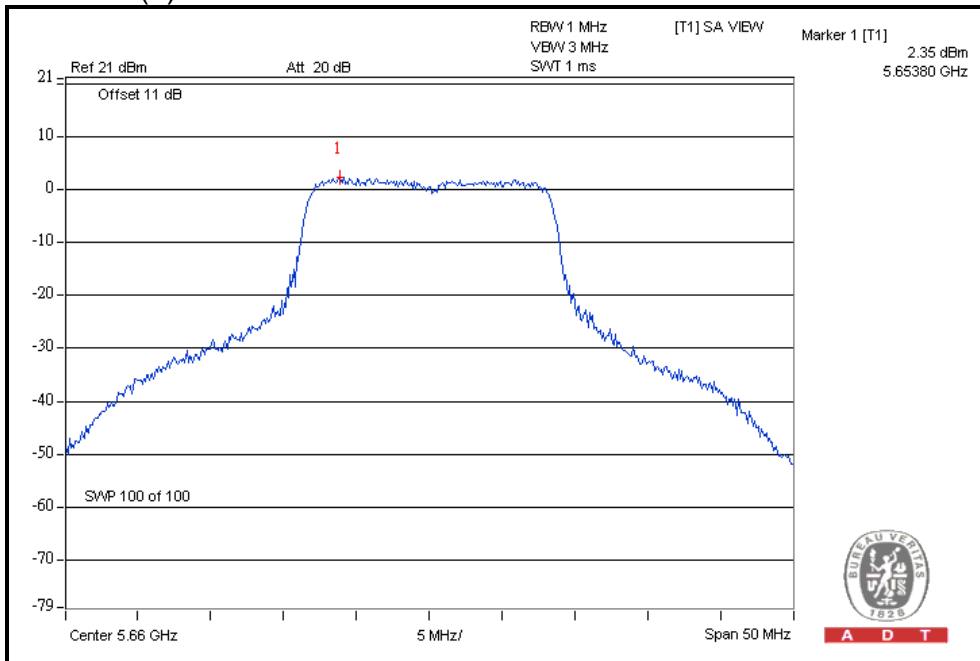
PEAK VALUE

For chain(1) : CH132



PPSD

For chain(1) : CH132

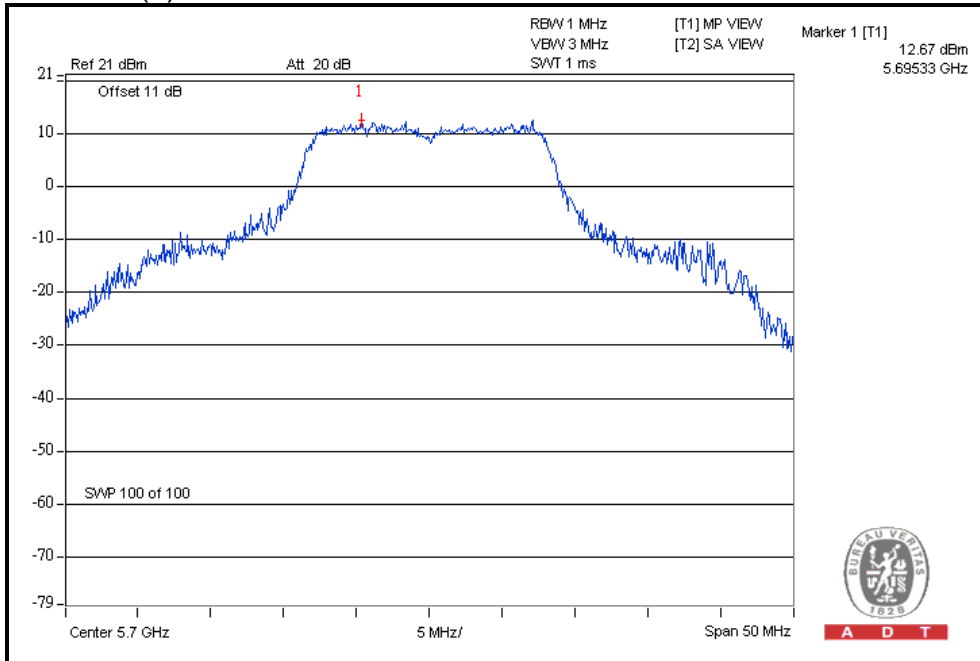




A D T

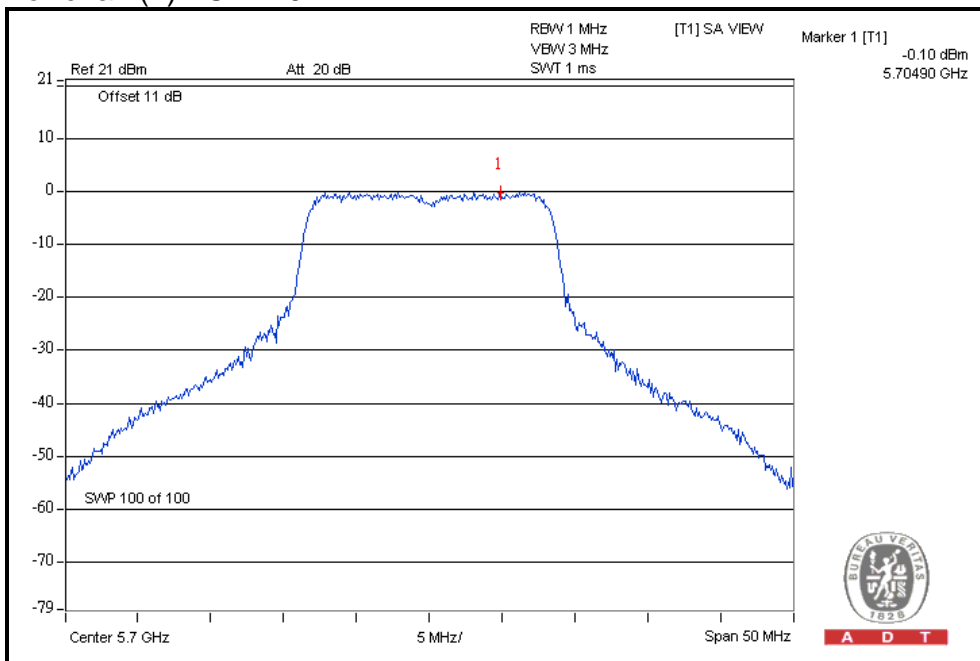
PEAK VALUE

For chain(1) : CH140



PPSD

For chain(1) : CH140





A D T

802.11n (20MHz) OFDM MODULATION:

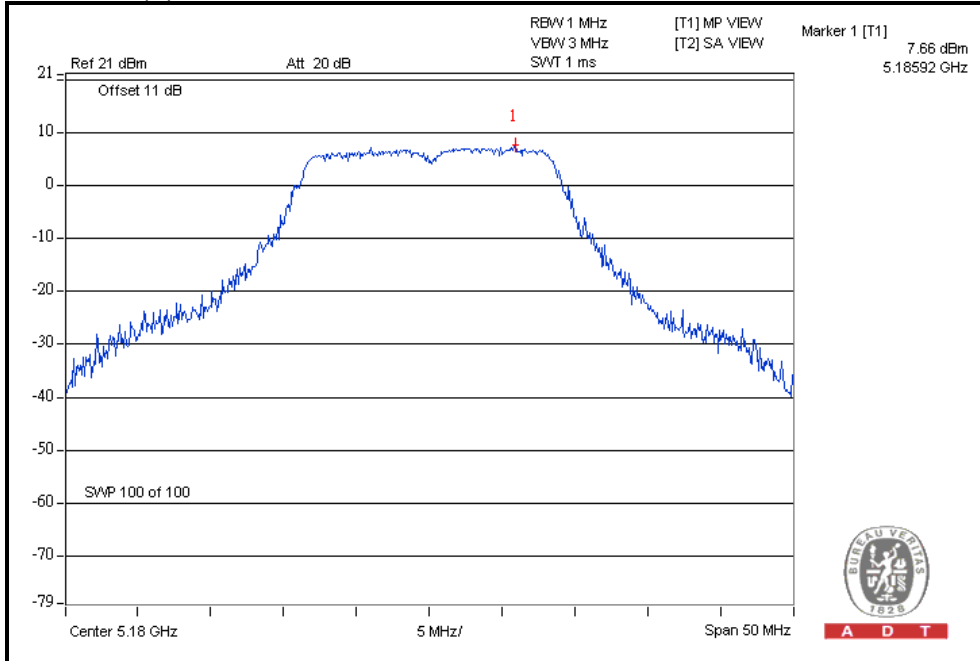
TX chain	CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK VALUE (dBm)	PPSD (dBm)	PEAK POWER EXCURSION (dB)	PEAK POWER EXCURSION LIMIT (dB)	PASS/ FAIL
0	36	5180	7.7	0.1	7.6	13	PASS
	40	5200	7	-0.2	7.2	13	PASS
	48	5240	7.3	-0.2	7.5	13	PASS
	52	5260	11.7	3.0	8.7	13	PASS
	60	5300	11	2.1	8.9	13	PASS
	64	5320	10.4	2.6	7.8	13	PASS
	100	5500	11	0.7	10.3	13	PASS
	116	5580	10.6	2.8	7.8	13	PASS
	132	5660	10.6	2.6	8.0	13	PASS
	140	5700	10.6	0.0	10.6	13	PASS
1	36	5180	7.6	-0.4	8.0	13	PASS
	40	5200	6.8	-0.4	7.2	13	PASS
	48	5240	7.6	0.3	7.3	13	PASS
	52	5260	10.2	3.1	7.1	13	PASS
	60	5300	10.6	3.0	7.6	13	PASS
	64	5320	10.3	2.9	7.4	13	PASS
	100	5500	12.4	0.3	12.1	13	PASS
	116	5580	12.8	3.9	8.9	13	PASS
	132	5660	11.7	2.7	9.0	13	PASS
	140	5700	10.3	1.0	9.3	13	PASS



A D T

PEAK VALUE

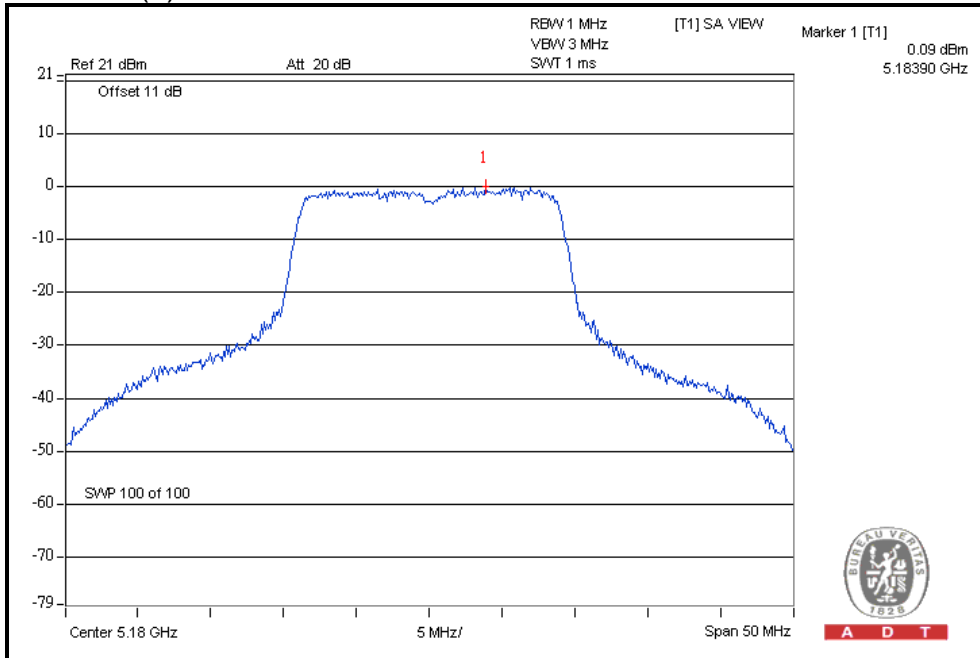
For chain(0) : CH36



A D T

PPSD

For chain(0) : CH36



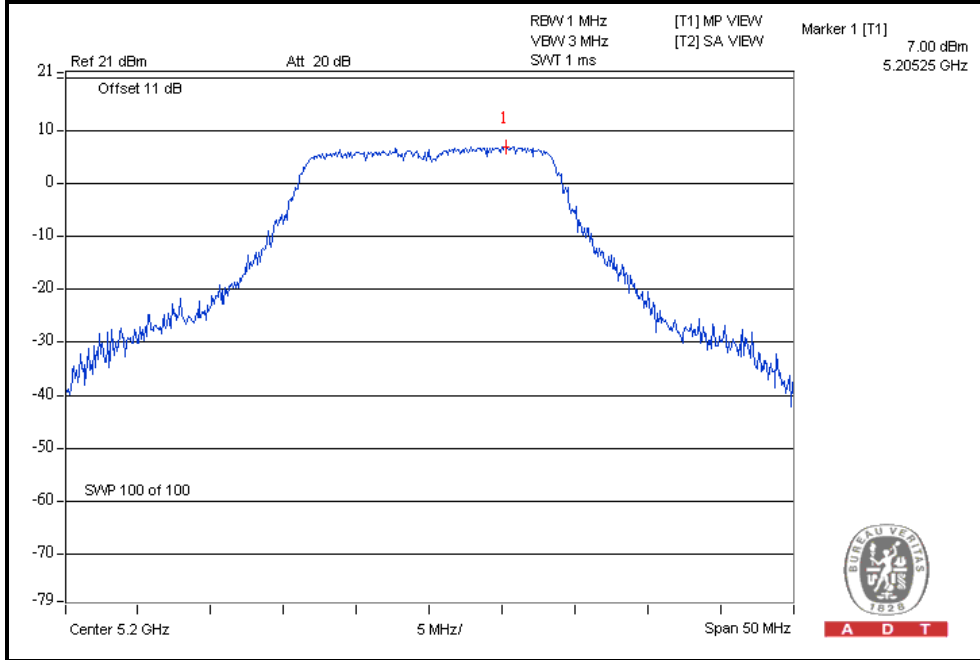
A D T



A D T

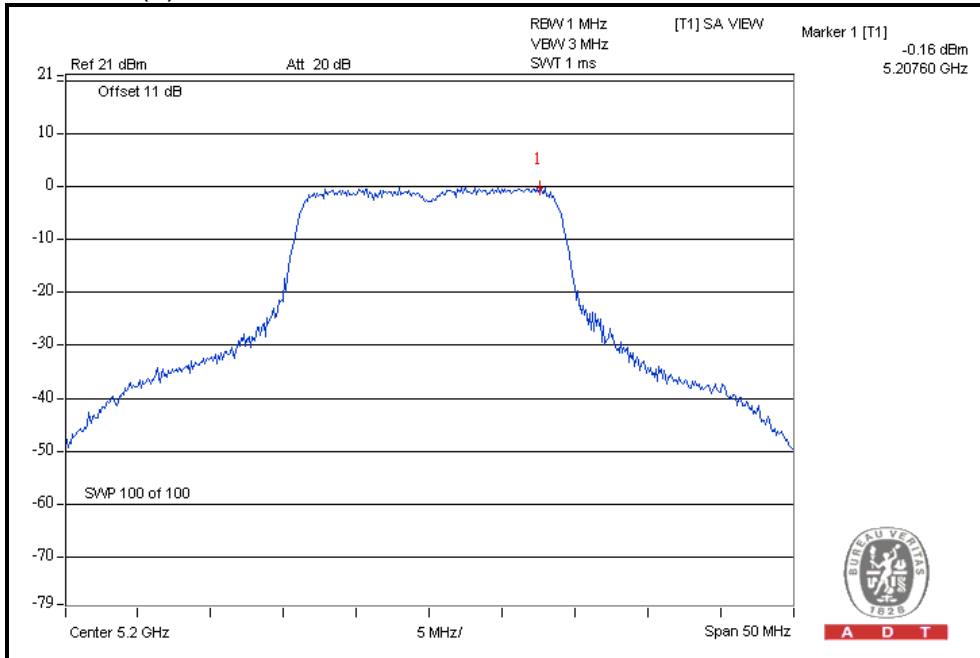
PEAK VALUE

For chain(0) : CH40



PPSD

For chain(0) : CH40

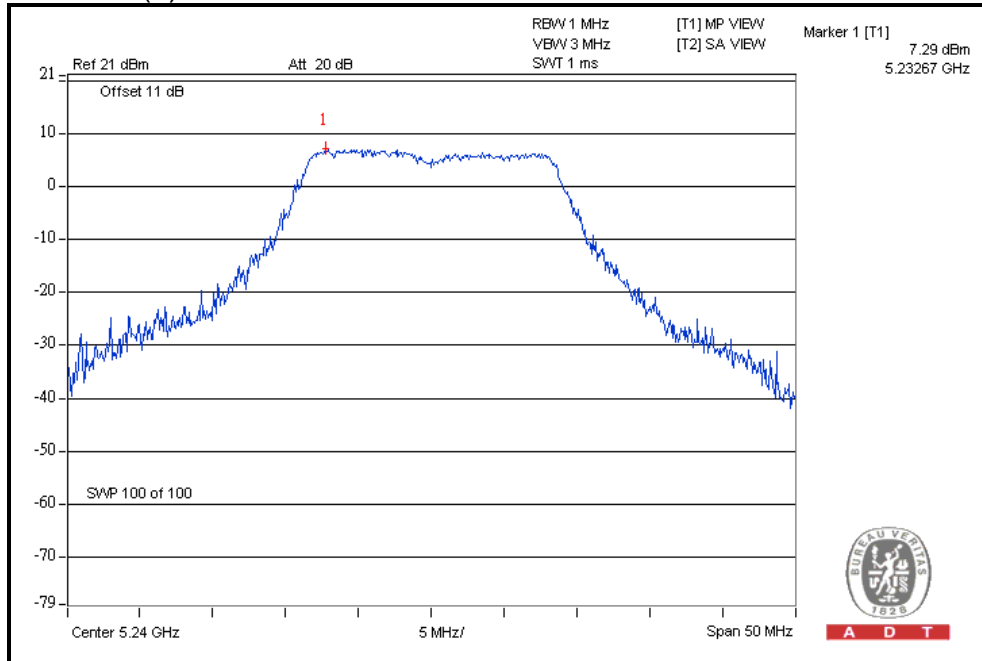




A D T

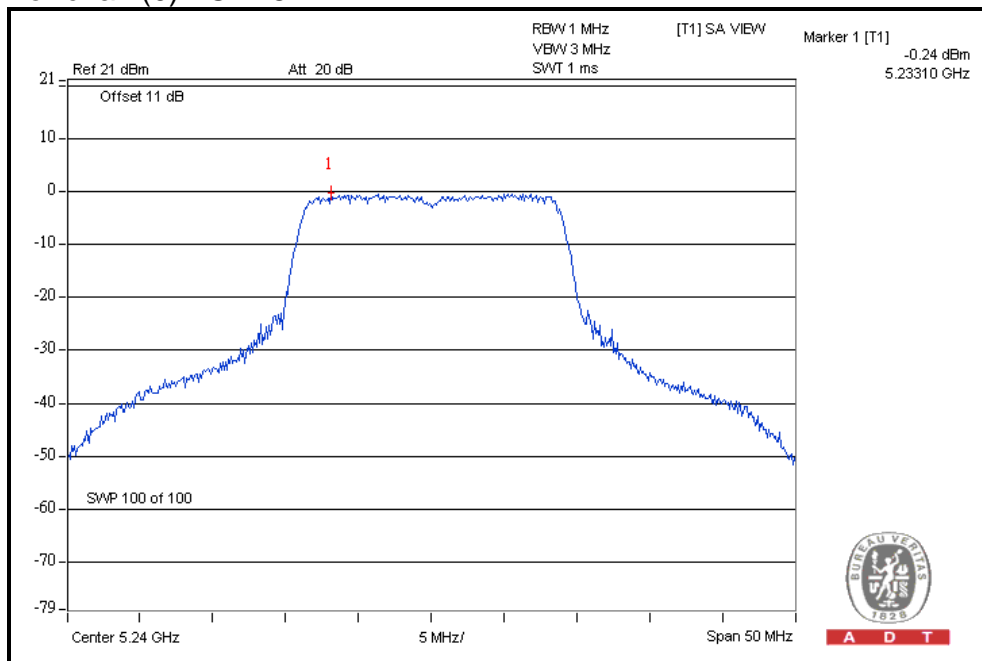
PEAK VALUE

For chain(0) : CH48



PPSD

For chain(0) : CH48

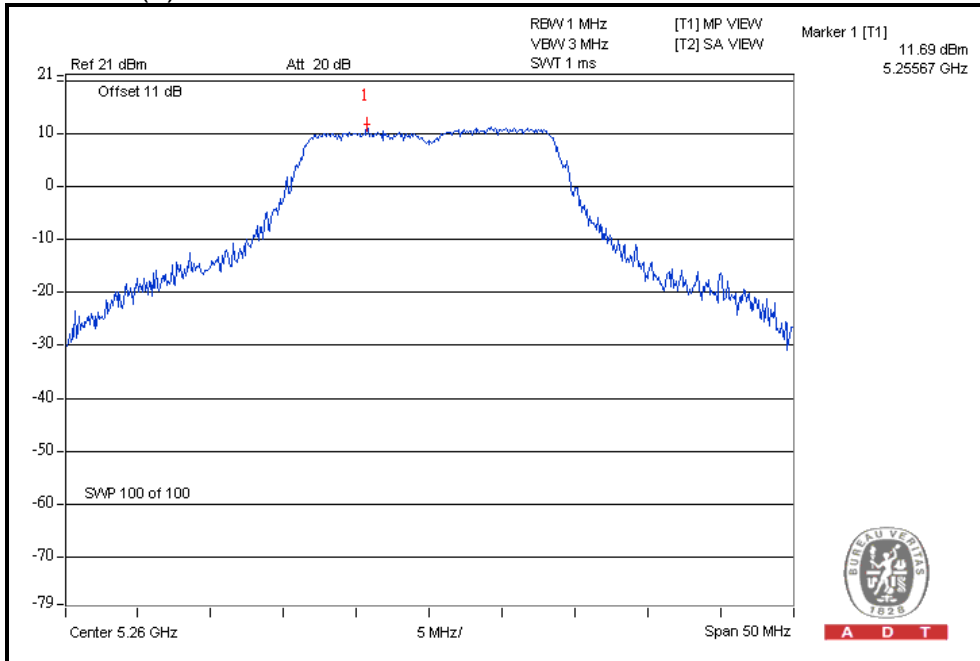




A D T

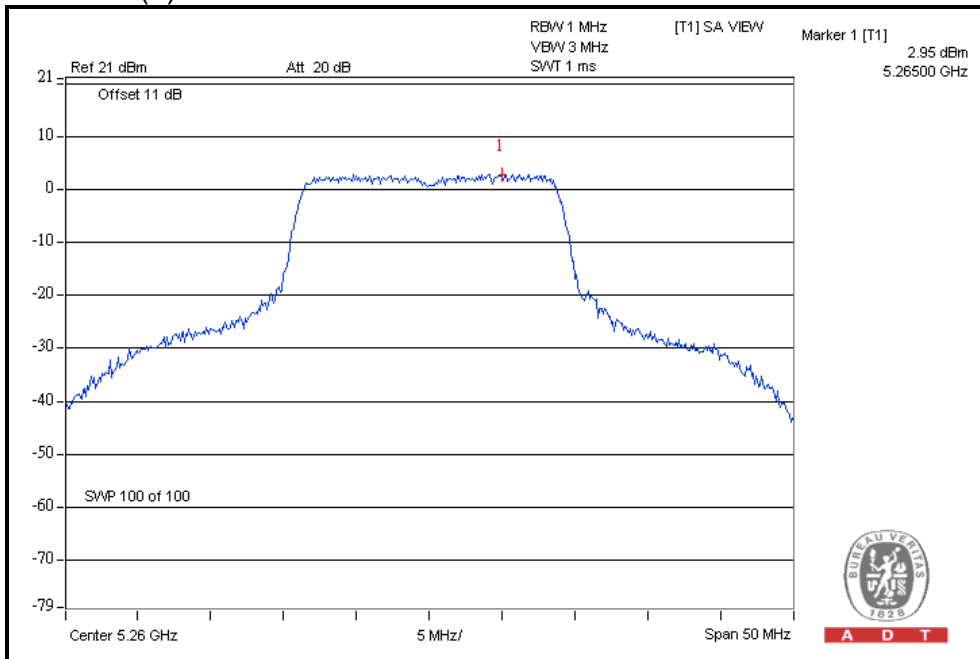
PEAK VALUE

For chain(0) : CH52



PPSD

For chain(0) : CH52

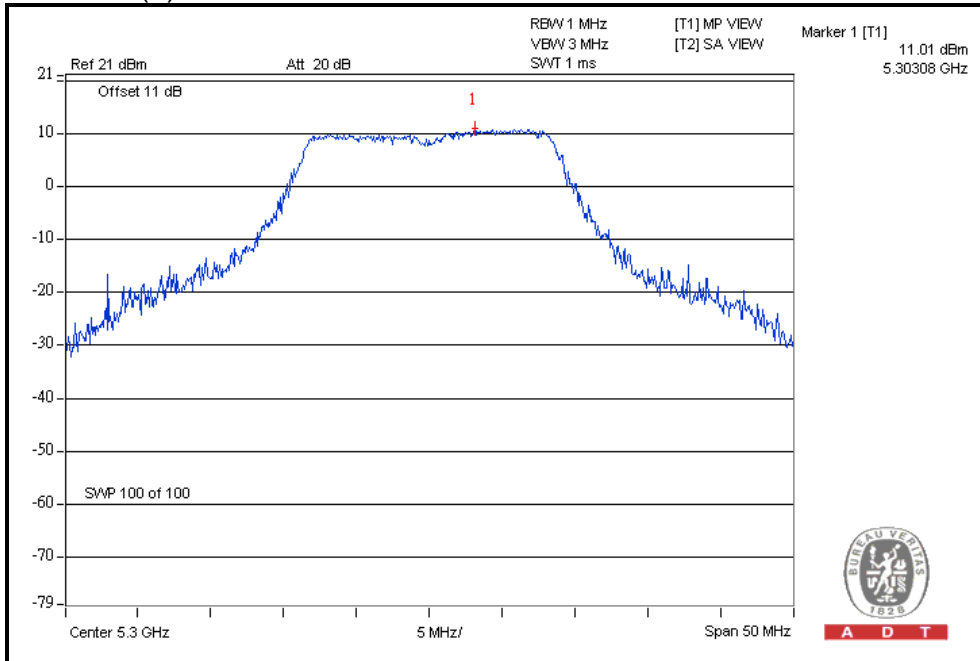




A D T

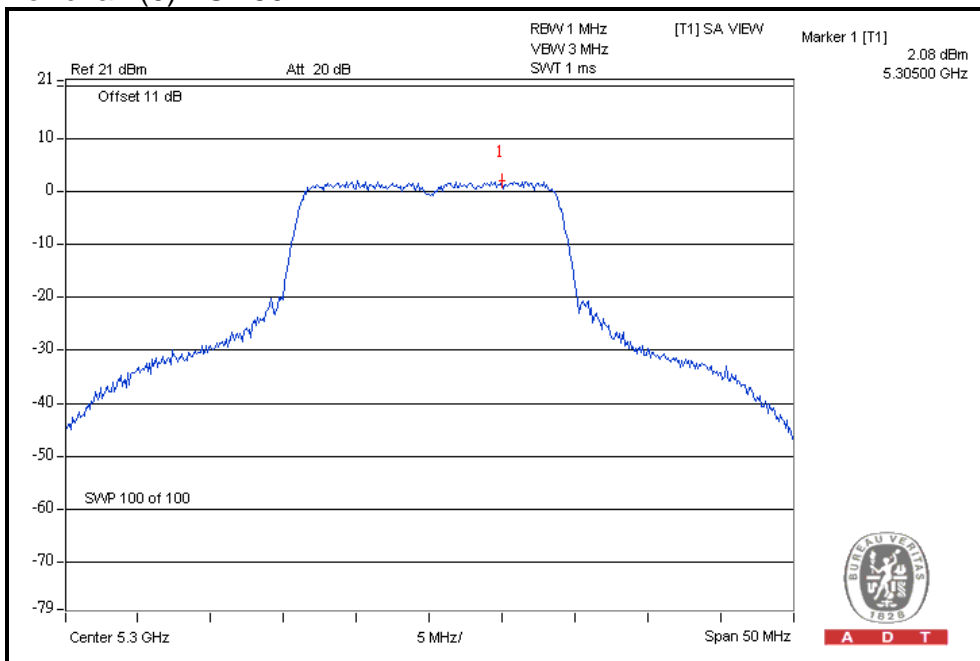
PEAK VALUE

For chain(0) : CH60



PPSD

For chain(0) : CH60

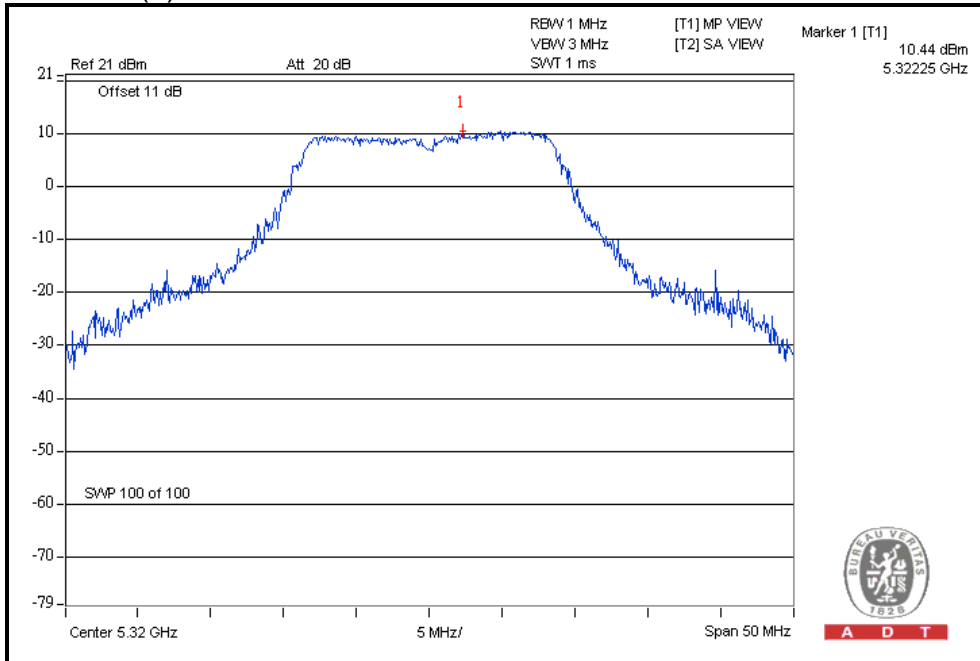




A D T

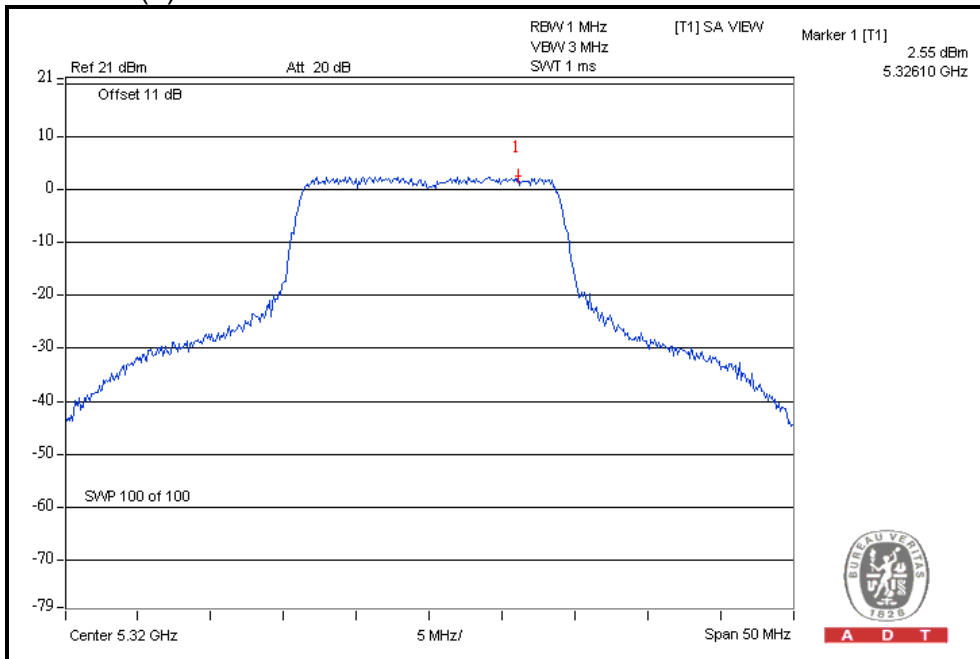
PEAK VALUE

For chain(0) : CH64



PPSD

For chain(0) : CH64

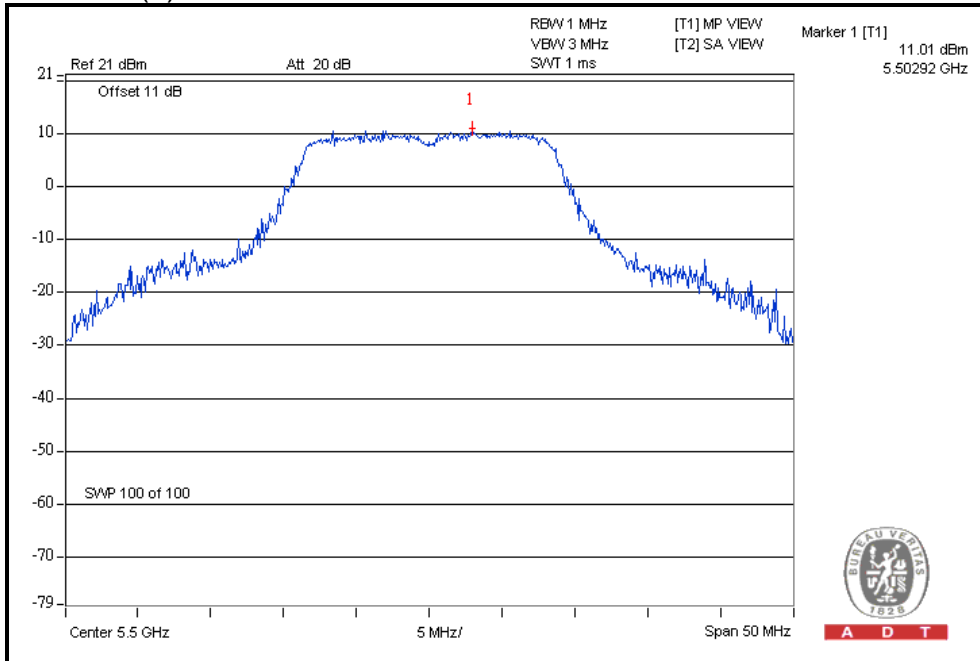




A D T

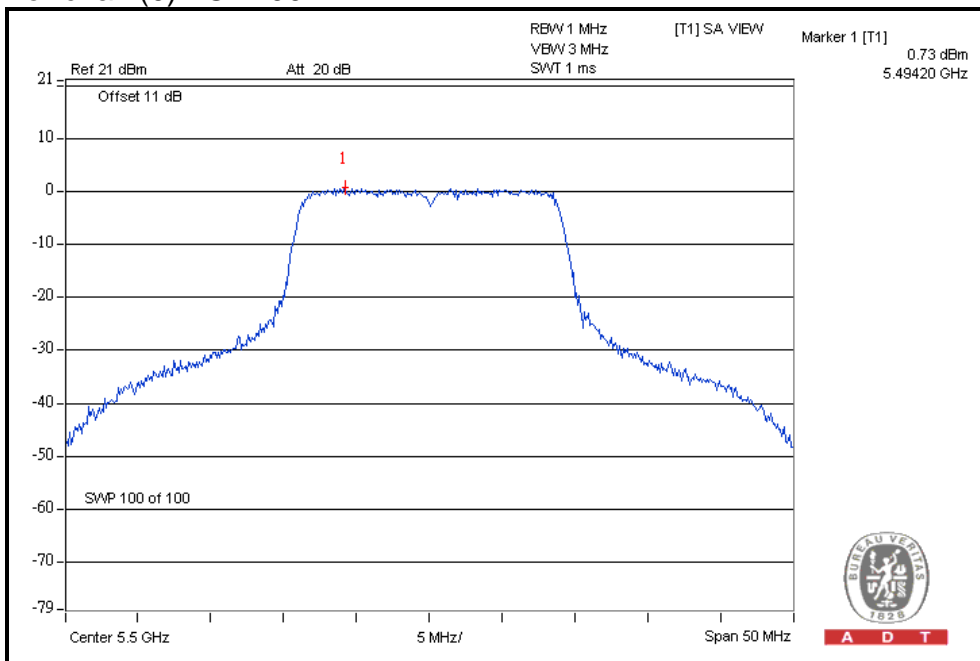
PEAK VALUE

For chain(0) : CH100



PPSD

For chain(0) : CH100

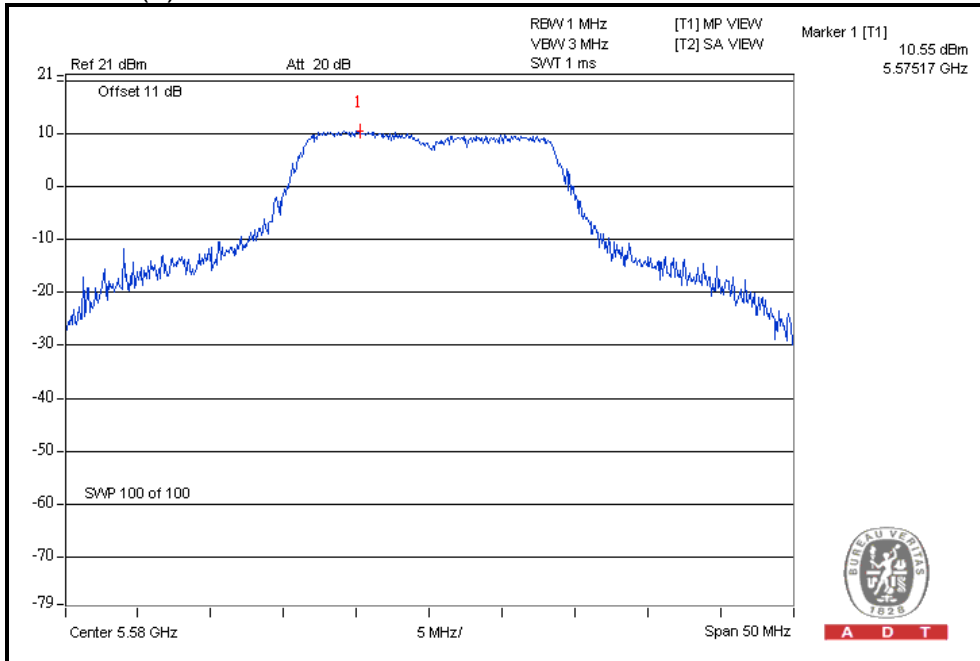




A D T

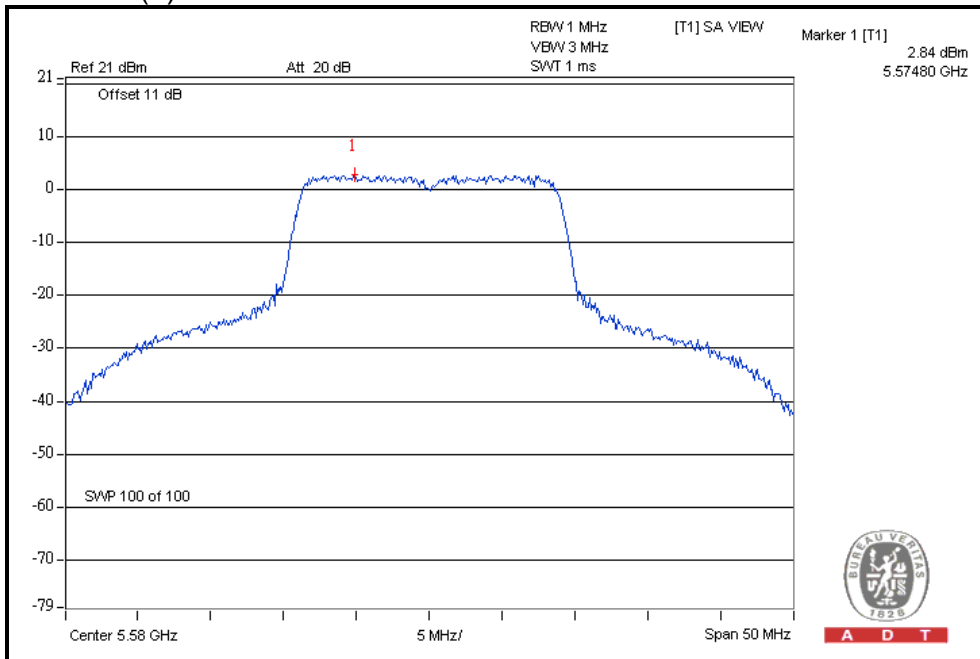
PEAK VALUE

For chain(0) : CH116



PPSD

For chain(0) : CH116

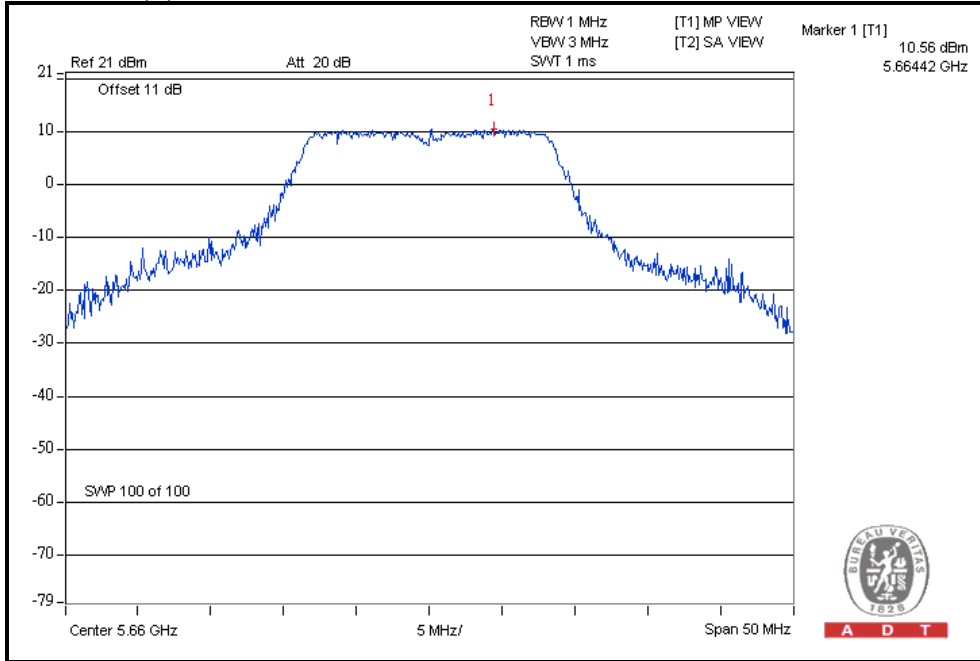




A D T

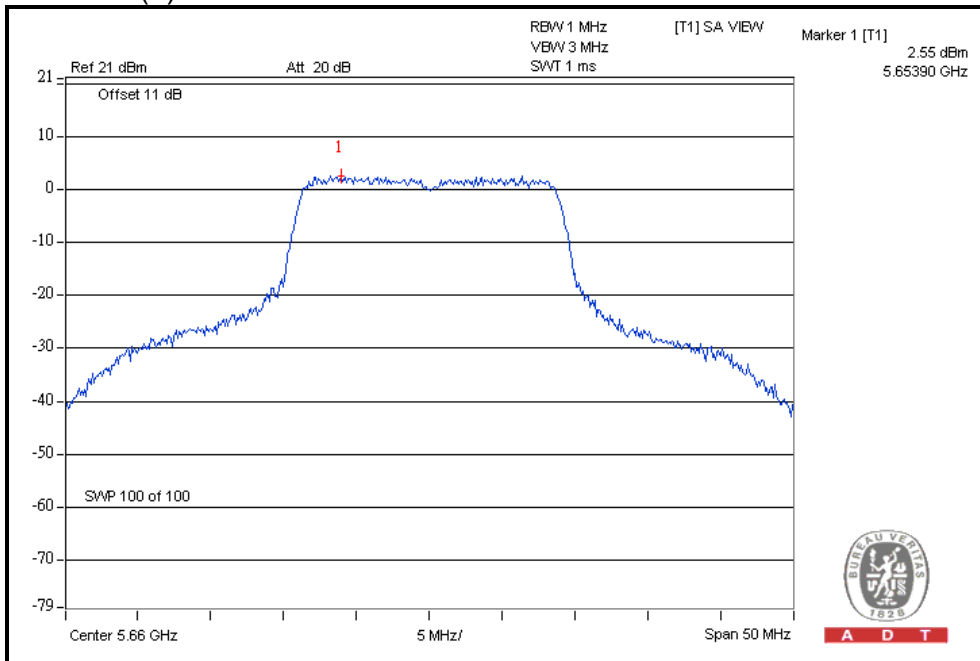
PEAK VALUE

For chain(0) : CH132



PPSD

For chain(0) : CH132

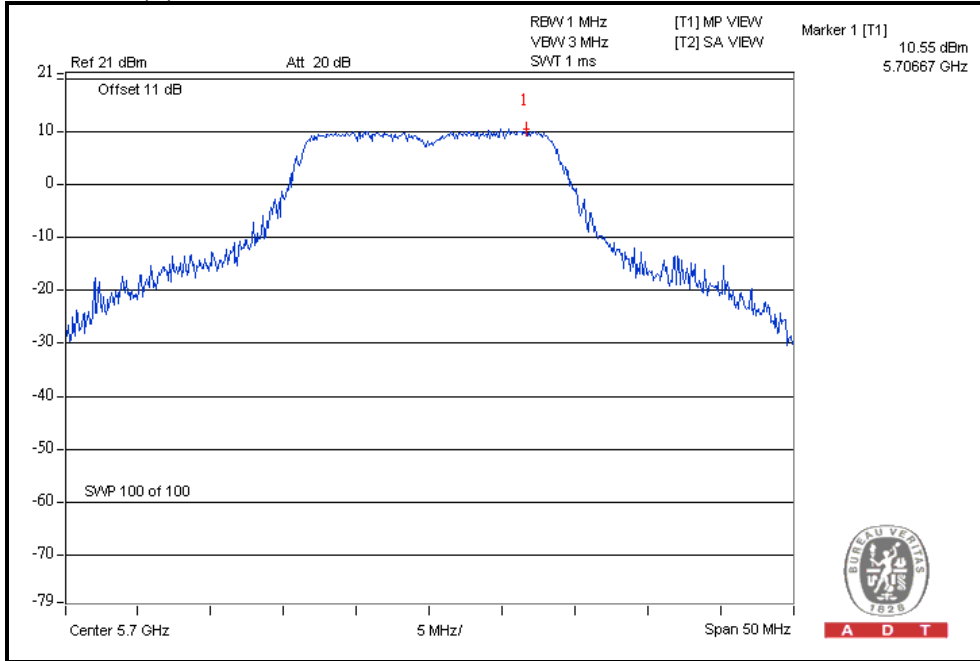




A D T

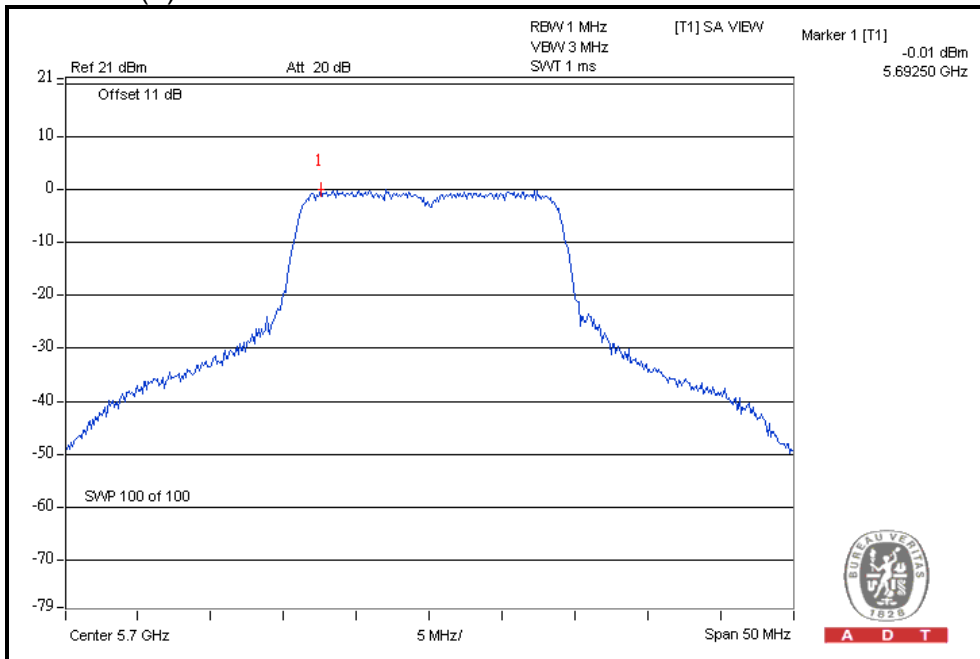
PEAK VALUE

For chain(0) : CH140



PPSD

For chain(0) : CH140

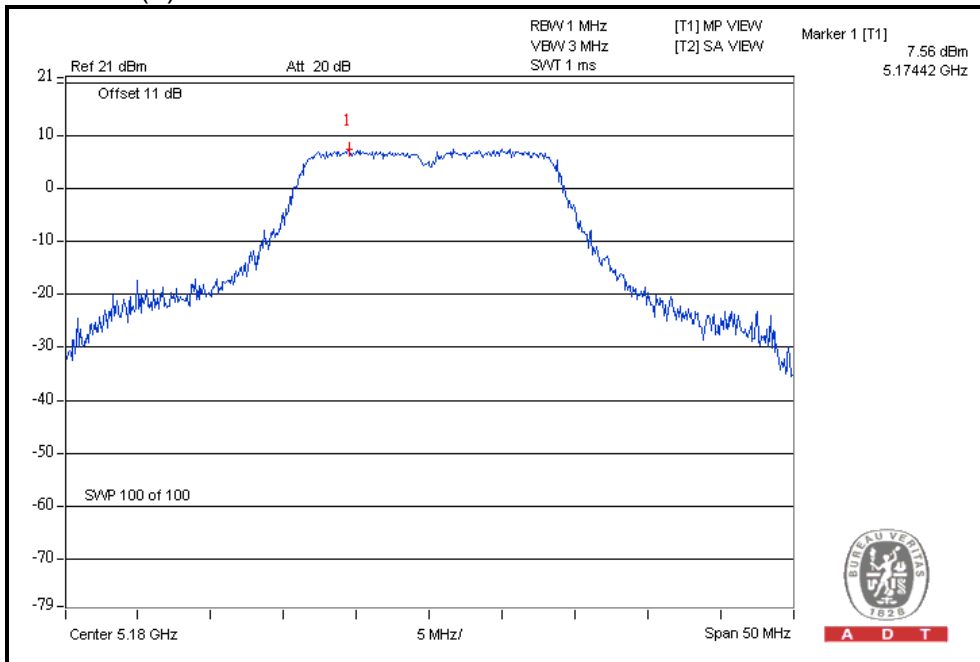




A D T

PEAK VALUE

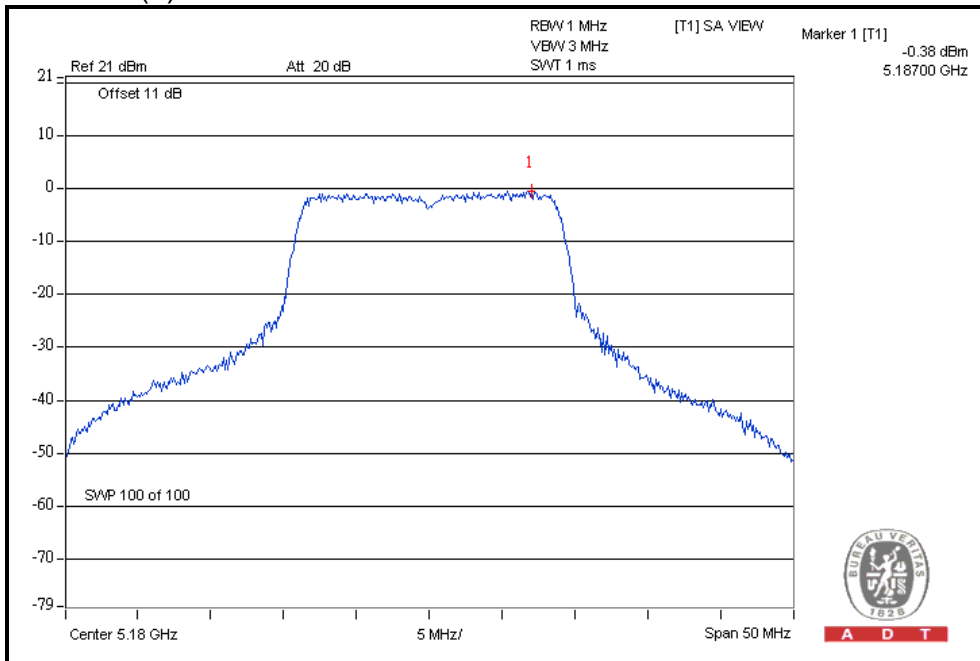
For chain(1) : CH36



A D T

PPSD

For chain(1) : CH36



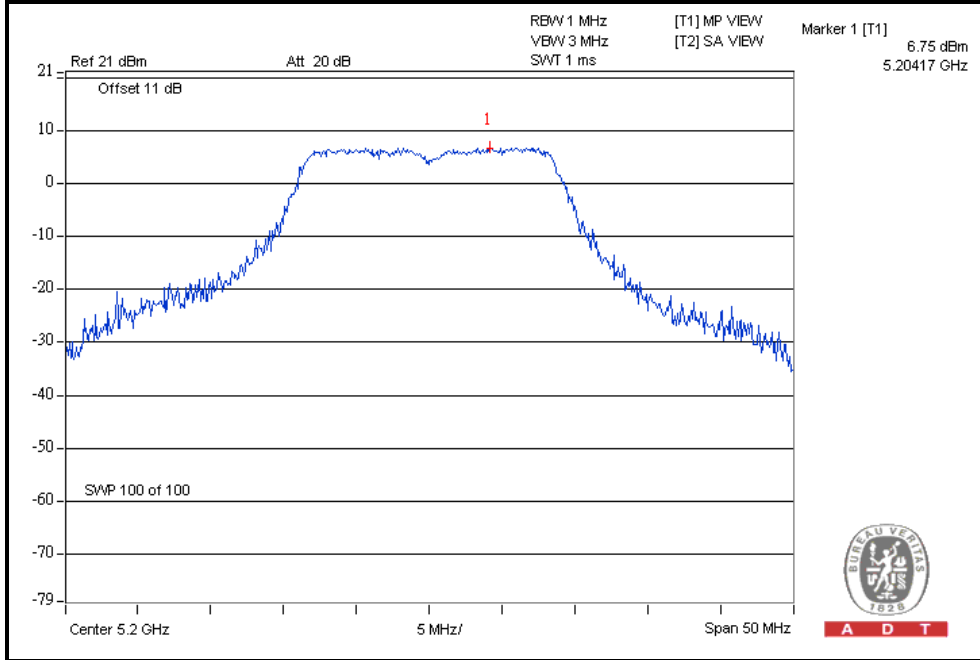
A D T



A D T

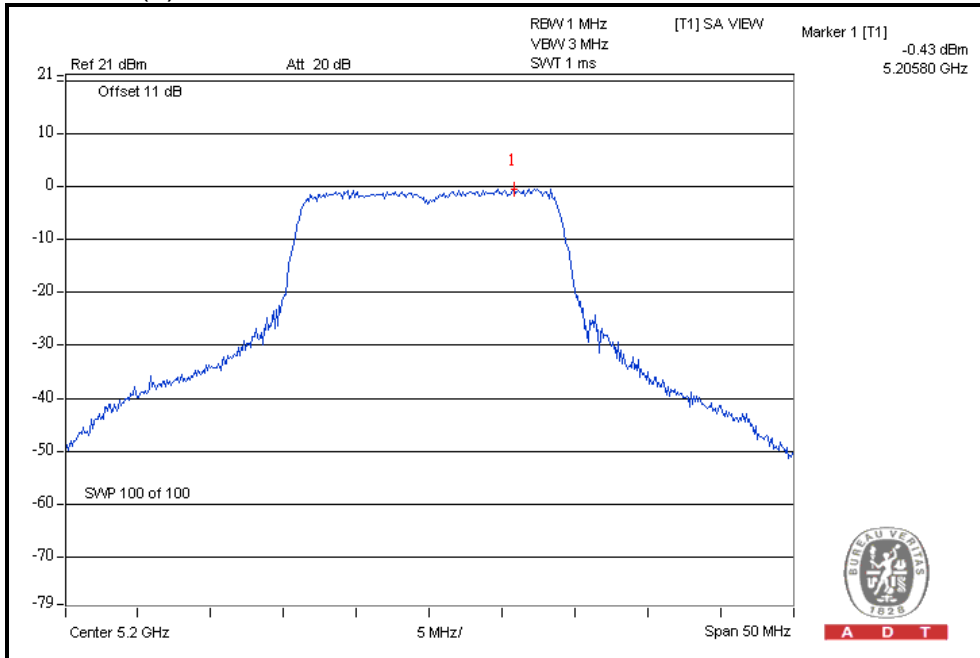
PEAK VALUE

For chain(1) : CH40



PPSD

For chain(1) : CH40

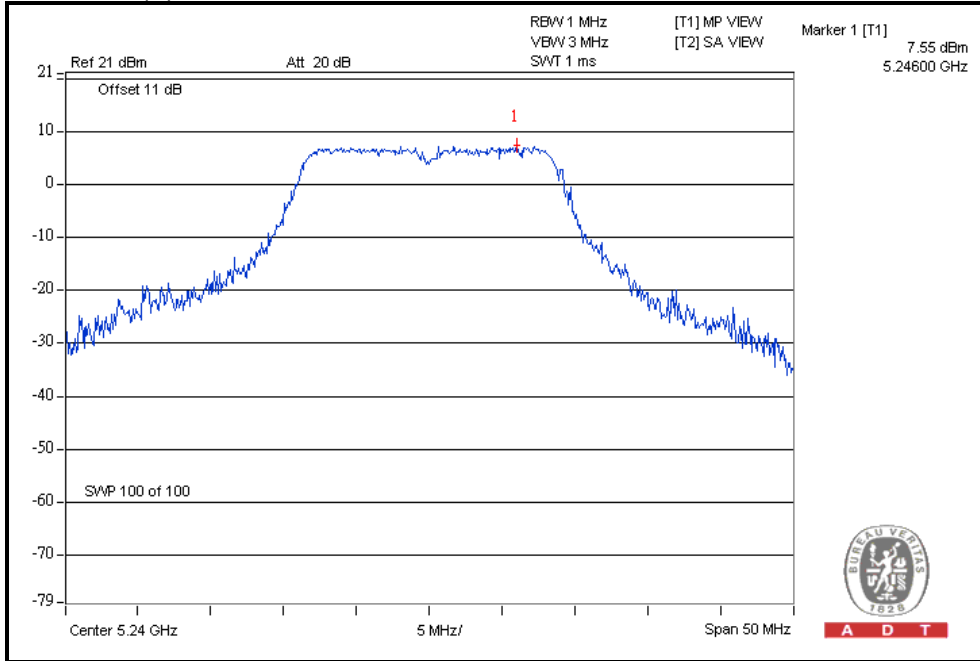




A D T

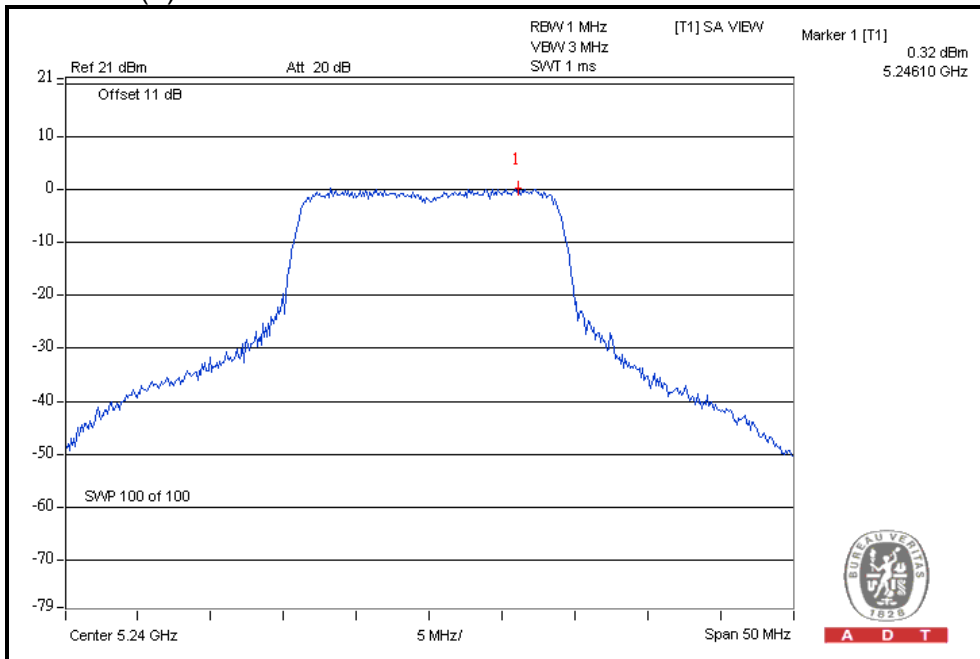
PEAK VALUE

For chain(1) : CH48



PPSD

For chain(1) : CH48

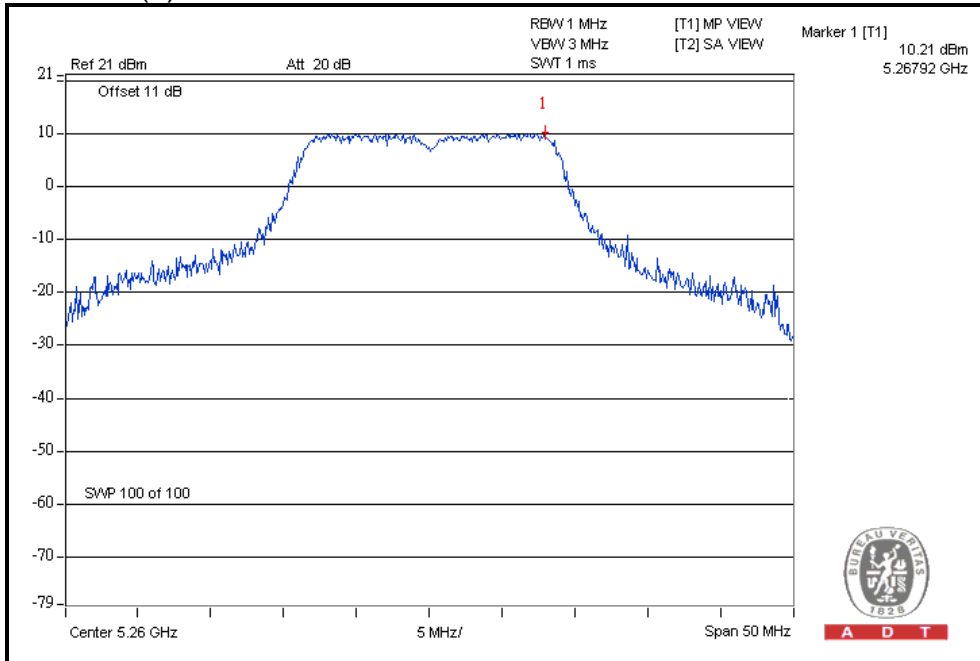




A D T

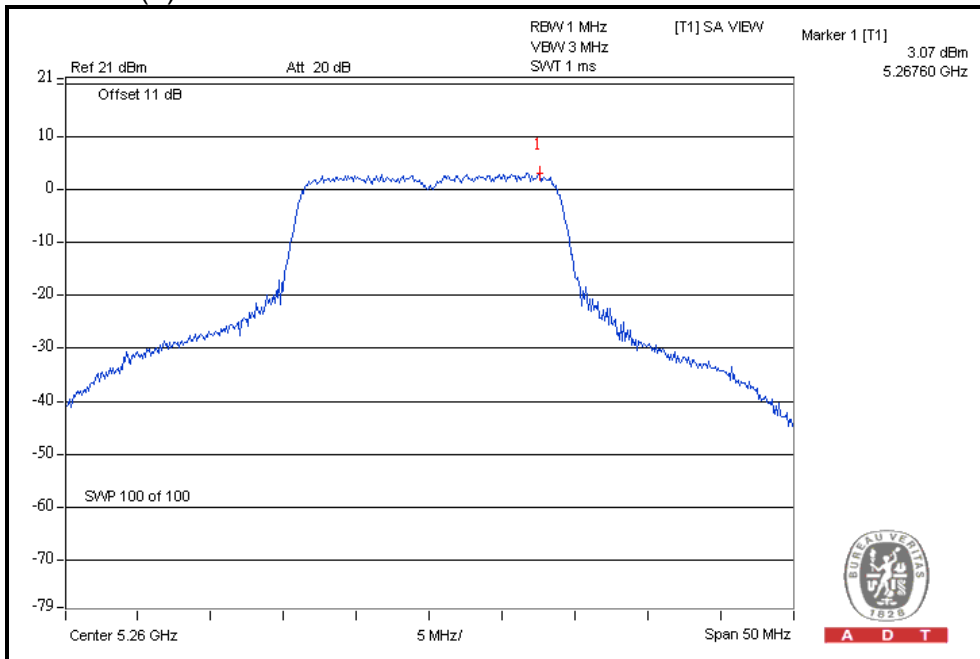
PEAK VALUE

For chain(1) : CH52



PPSD

For chain(1) : CH52

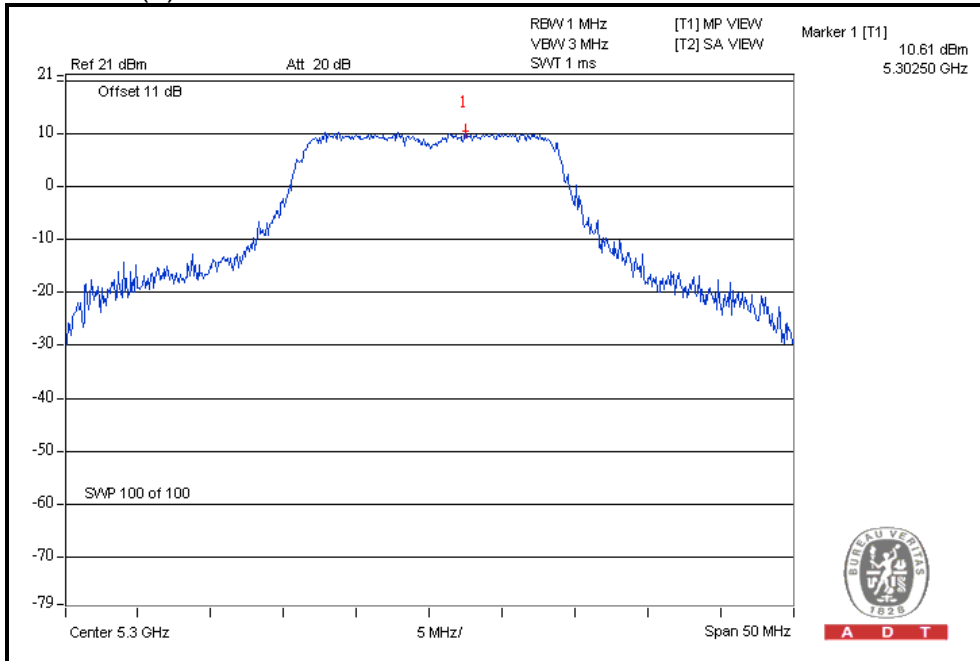




A D T

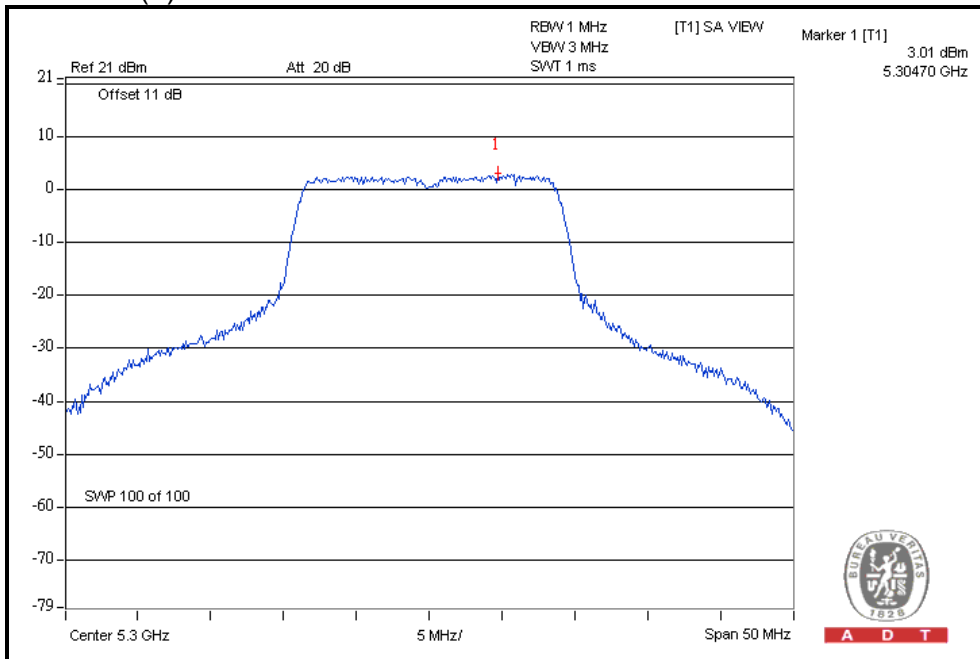
PEAK VALUE

For chain(1) : CH60



PPSD

For chain(1) : CH60

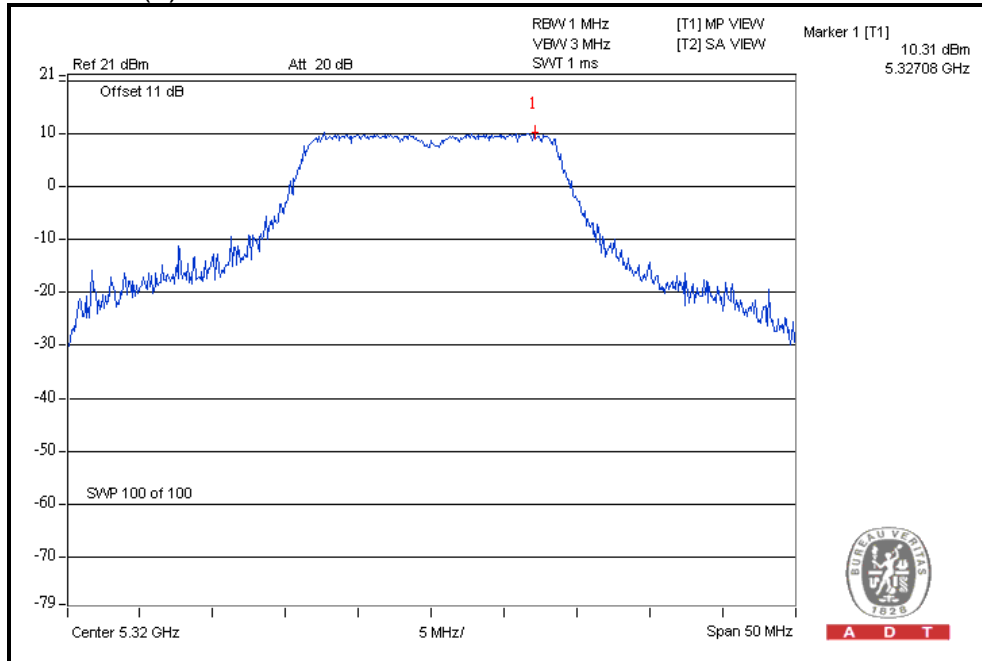




A D T

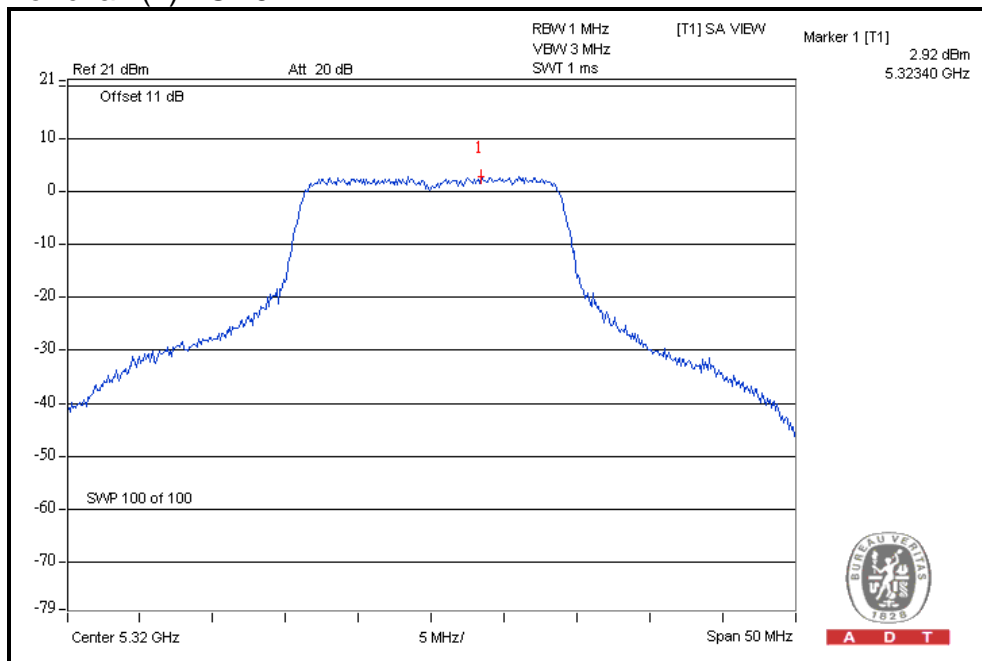
PEAK VALUE

For chain(1) : CH64



PPSD

For chain(1) : CH64

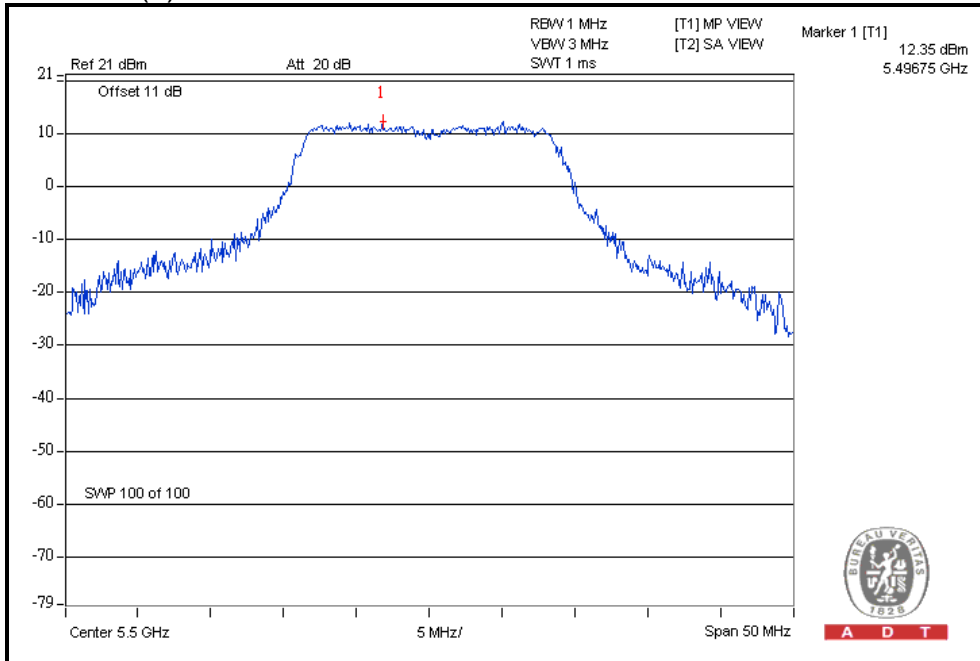




A D T

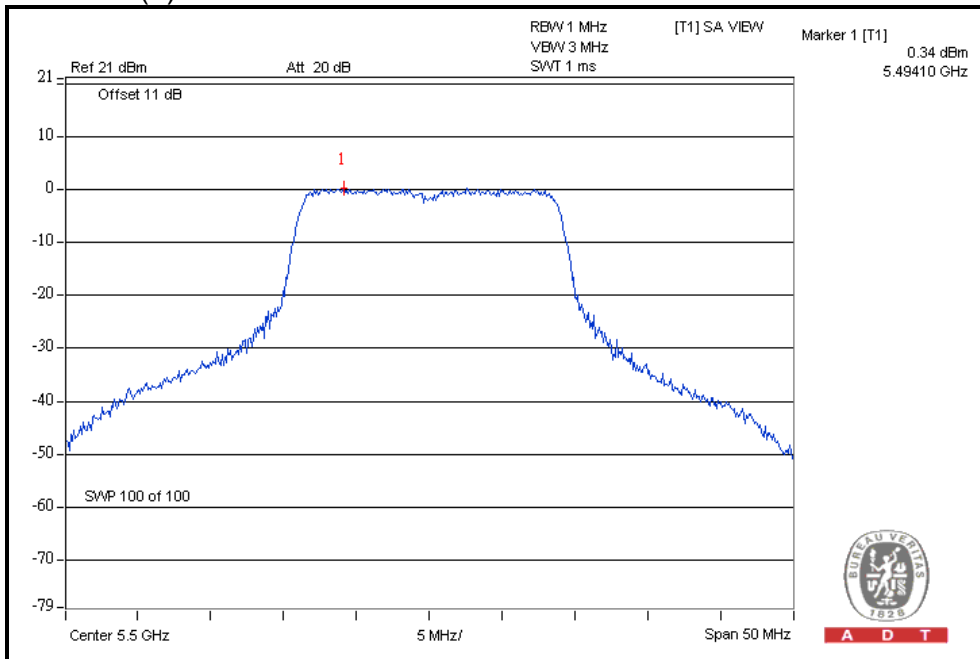
PEAK VALUE

For chain(1) : CH100



PPSD

For chain(1) : CH100

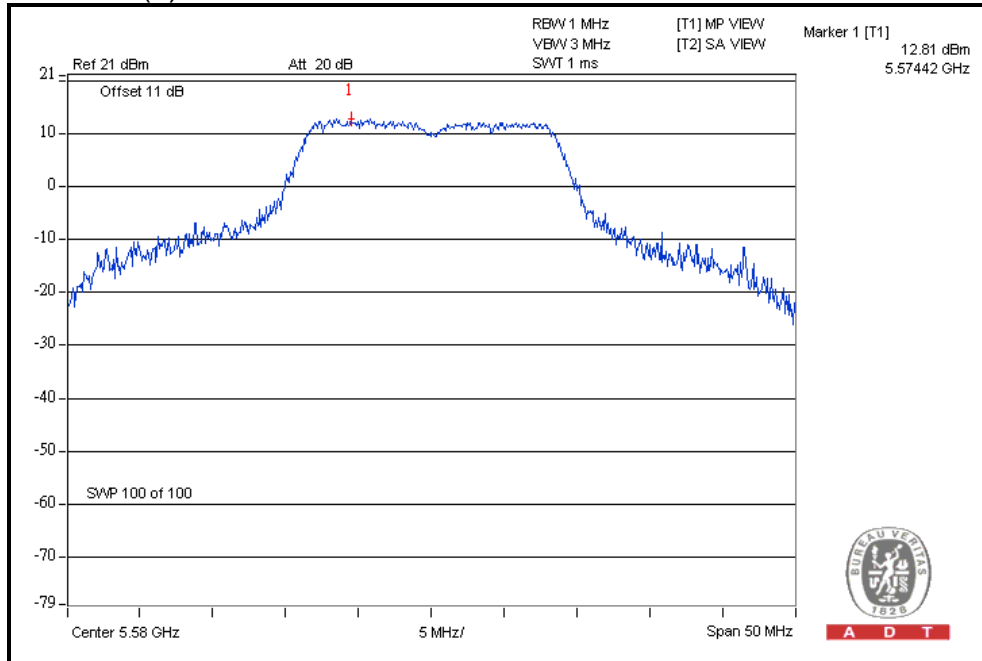




A D T

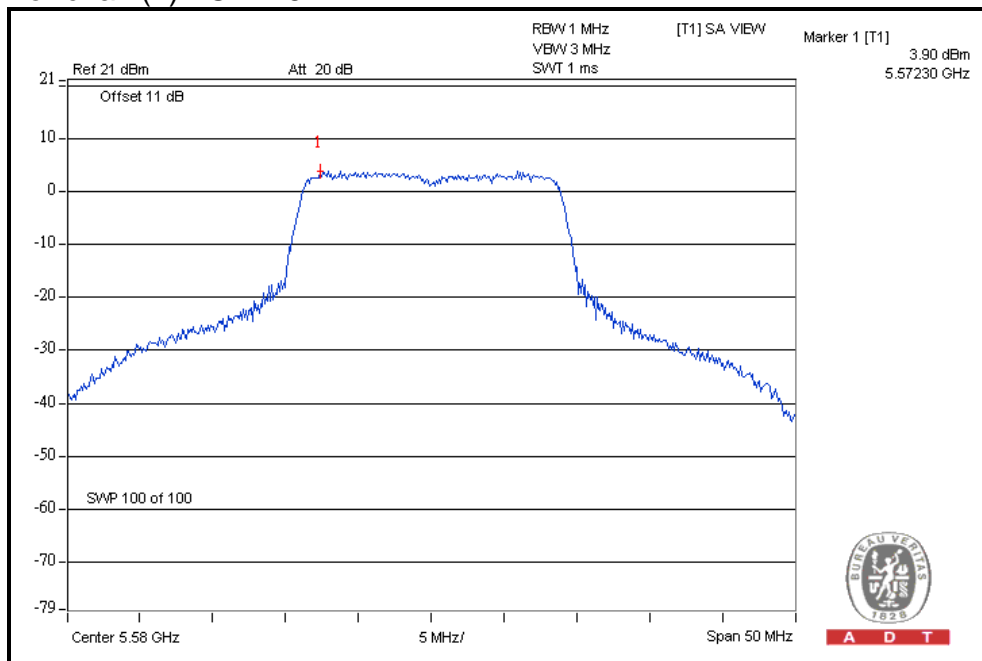
PEAK VALUE

For chain(1) : CH116



PPSD

For chain(1) : CH116

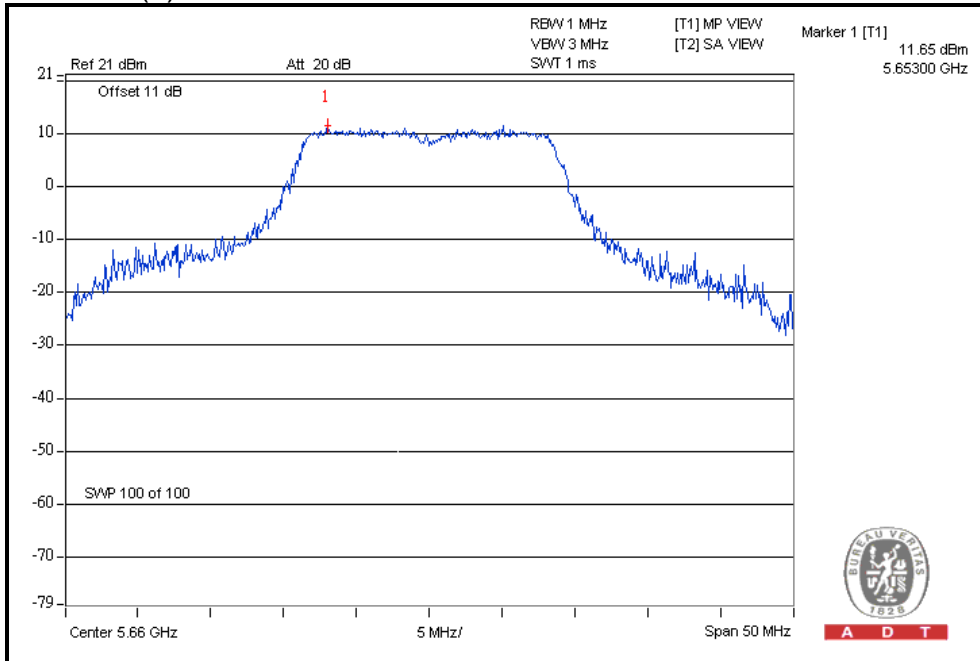




A D T

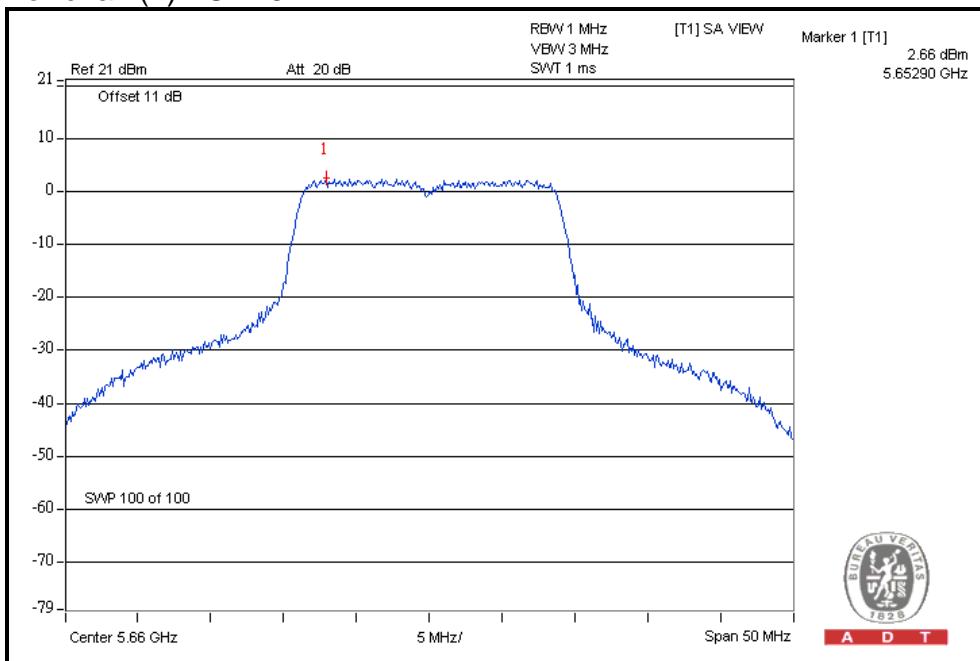
PEAK VALUE

For chain(1) : CH132



PPSD

For chain(1) : CH132

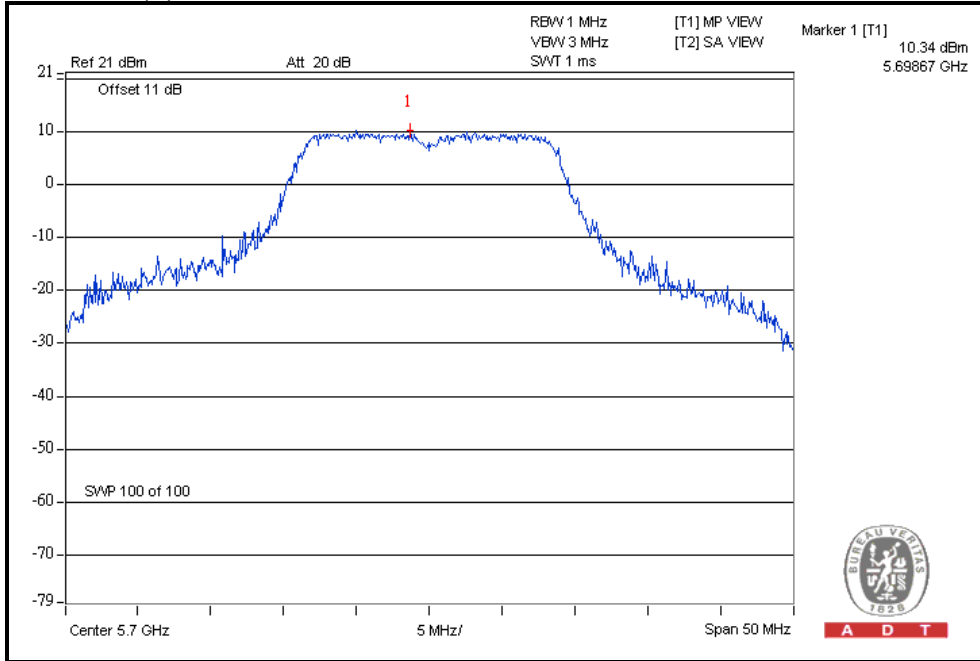




A D T

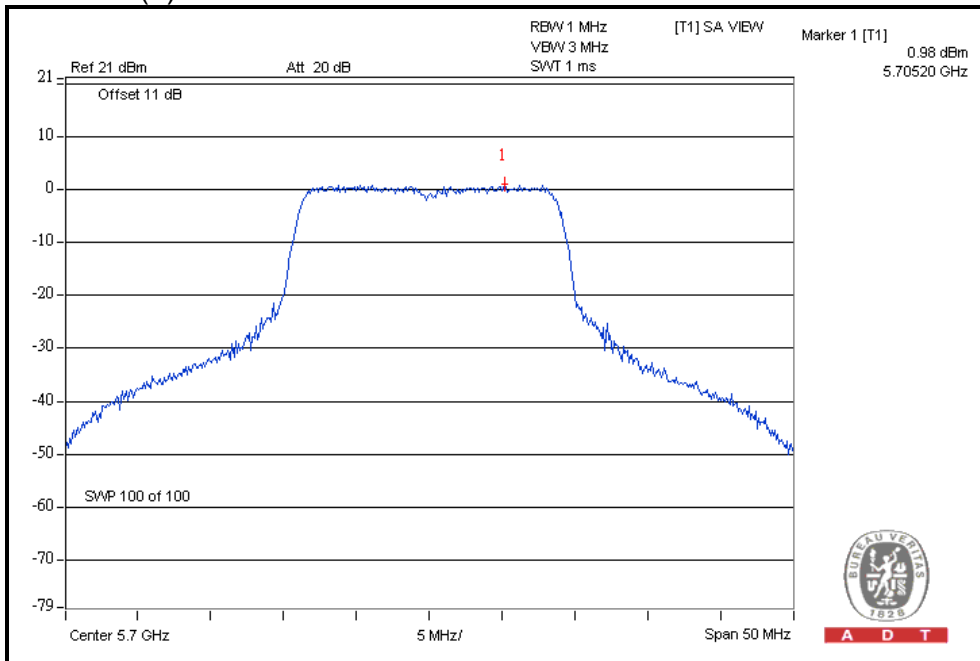
PEAK VALUE

For chain(1) : CH140



PPSD

For chain(1) : CH140





A D T

802.11n (40MHz) OFDM MODULATION:

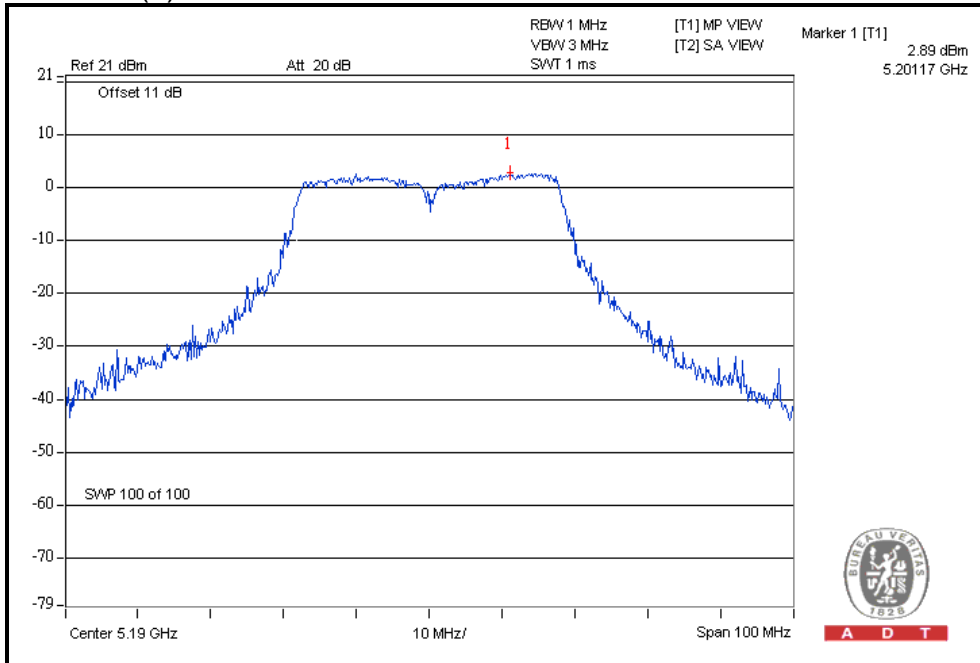
TX chain	CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK VALUE (dBm)	PPSD (dBm)	PEAK POWER EXCURSION (dB)	PEAK POWER EXCURSION LIMIT (dB)	PASS/ FAIL
0	38	5190	2.9	-6.0	8.9	13	PASS
	46	5230	7.3	-0.9	8.2	13	PASS
	54	5270	8.6	0.5	8.1	13	PASS
	62	5310	3.6	-4.5	8.1	13	PASS
	102	5510	4.3	-6.0	10.3	13	PASS
	110	5550	7.8	-0.3	8.1	13	PASS
	134	5670	4.2	-3.7	7.9	13	PASS
1	38	5190	2.2	-6.0	8.2	13	PASS
	46	5230	6.5	-2.2	8.7	13	PASS
	54	5270	9	1.5	7.5	13	PASS
	62	5310	3	-3.7	6.7	13	PASS
	102	5510	4.4	-5.9	10.3	13	PASS
	110	5550	10.9	0.1	10.8	13	PASS
	134	5670	6	-3.1	9.1	13	PASS



A D T

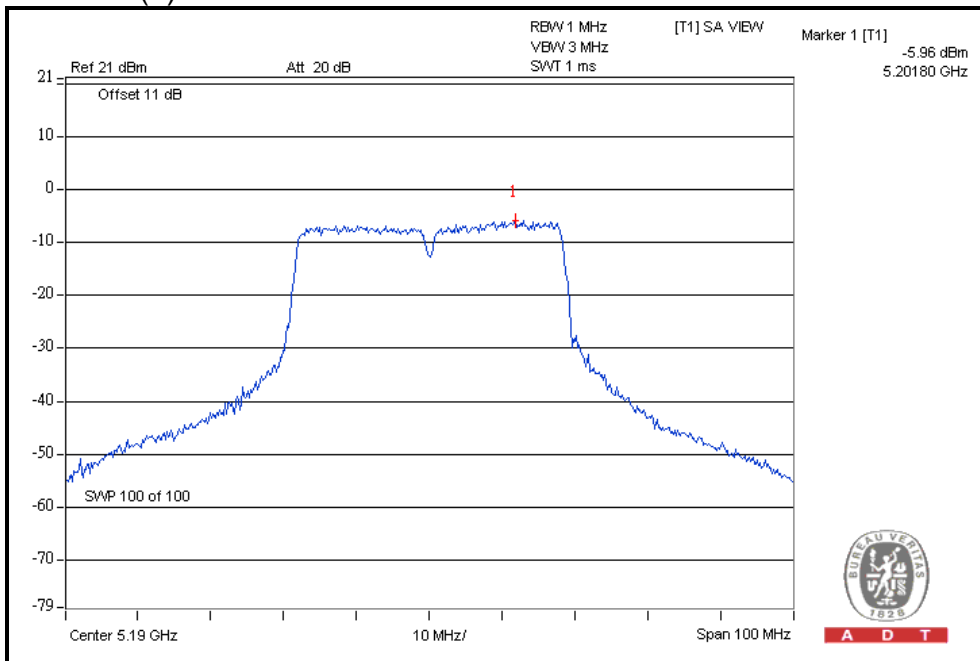
PEAK VALUE

For chain(0) : CH38



PPSD

For chain(0) : CH38

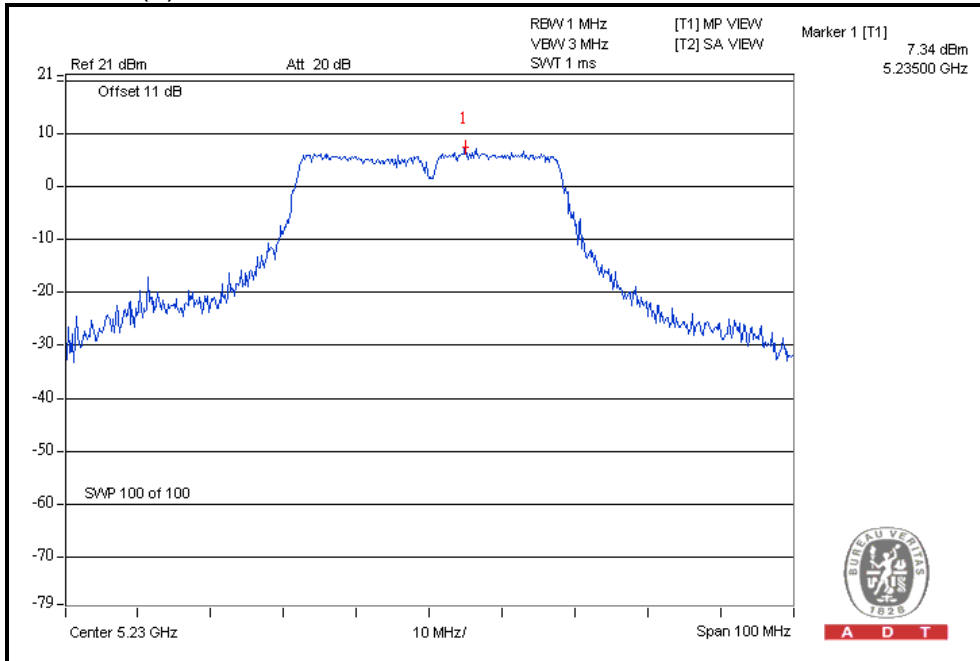




A D T

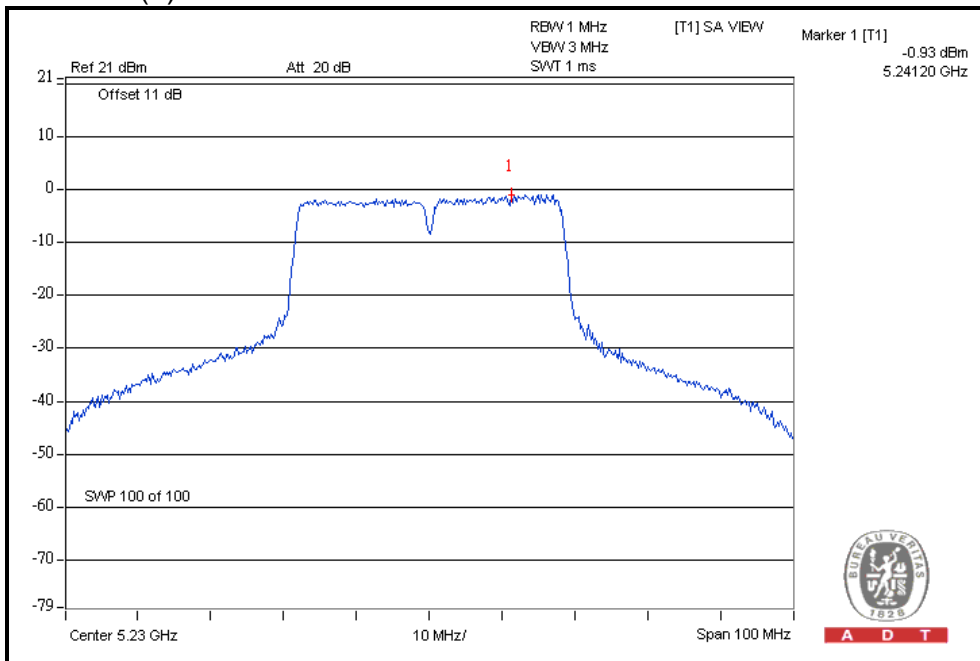
PEAK VALUE

For chain(0) : CH46



PPSD

For chain(0) : CH46

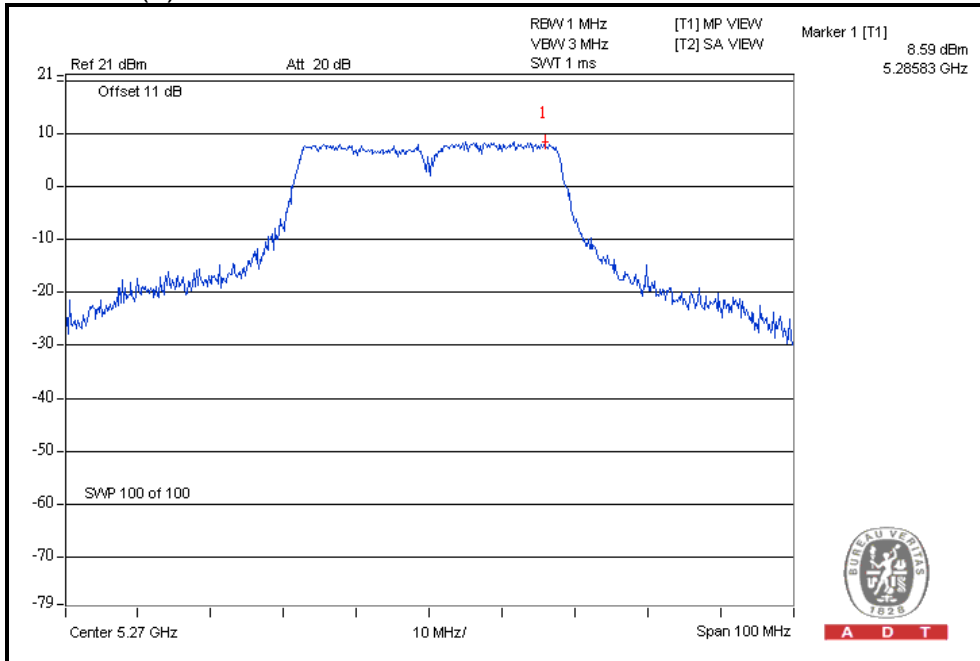




A D T

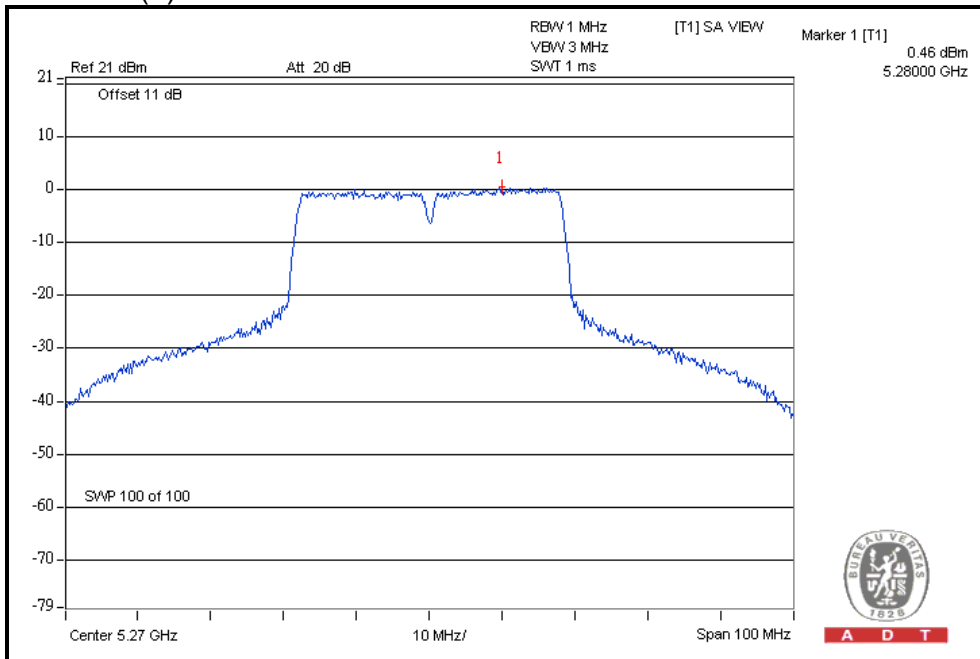
PEAK VALUE

For chain(0) : CH54



PPSD

For chain(0) : CH54

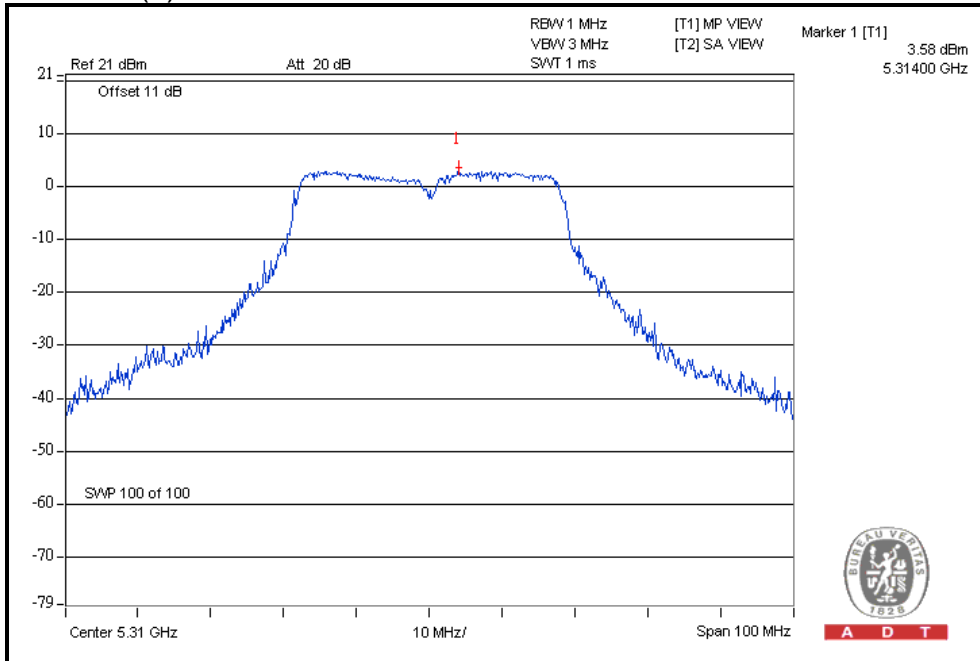




A D T

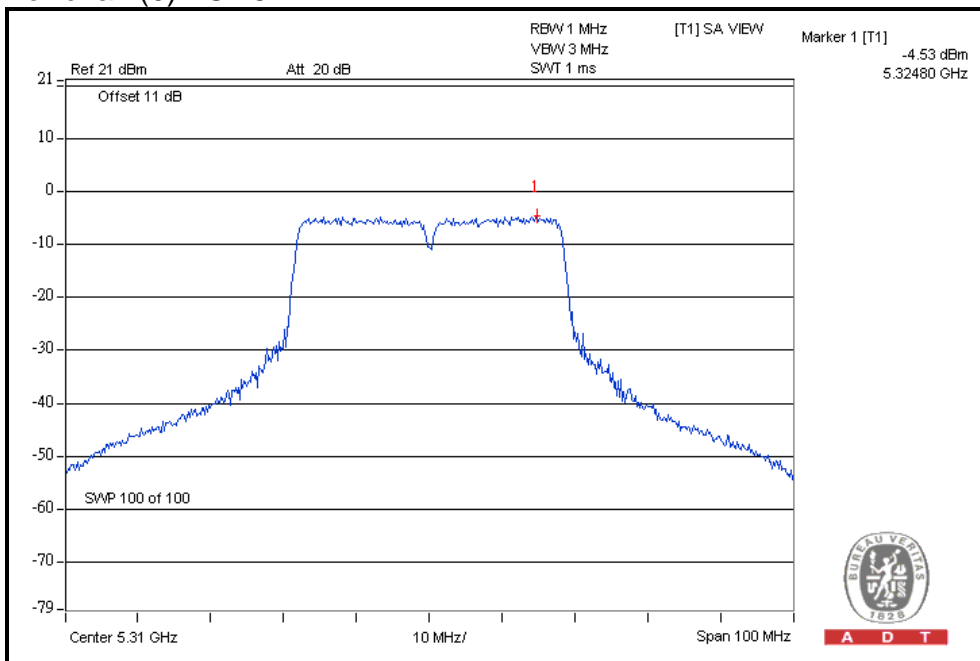
PEAK VALUE

For chain(0) : CH62



PPSD

For chain(0) : CH62

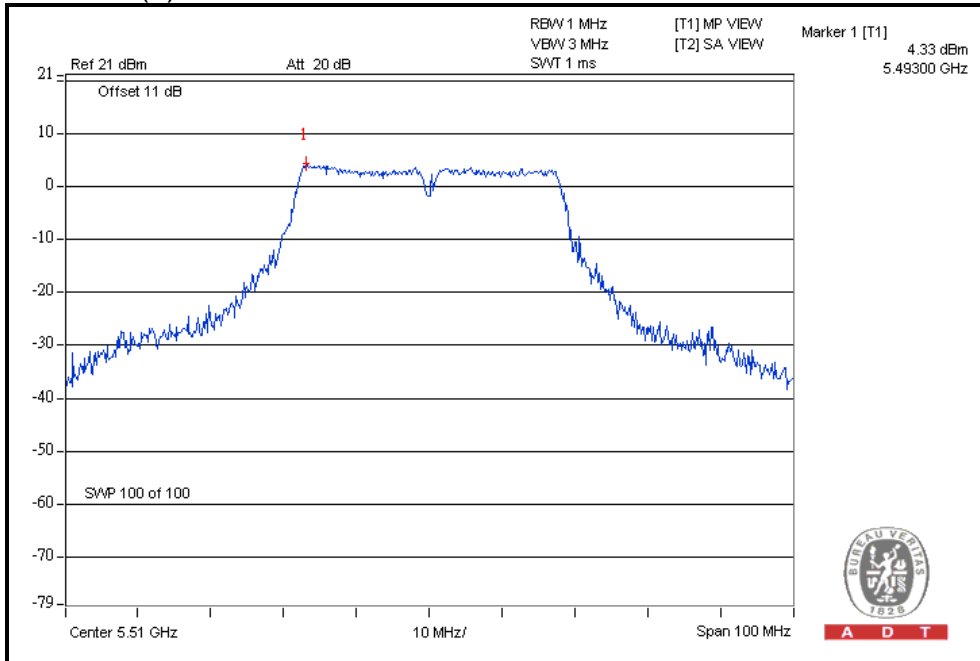




A D T

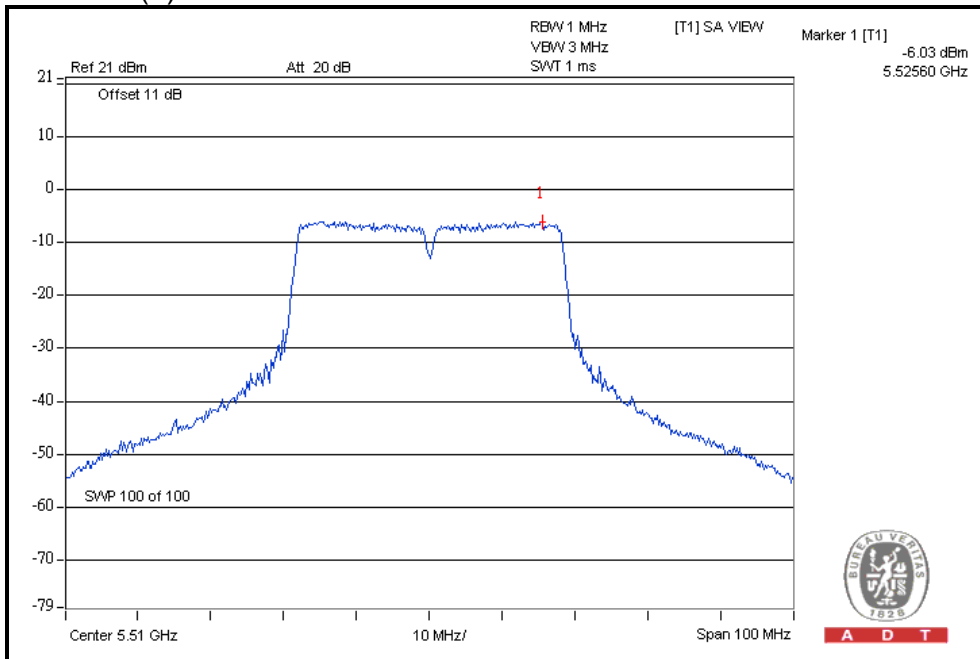
PEAK VALUE

For chain(0) : CH102



PPSD

For chain(0) : CH102

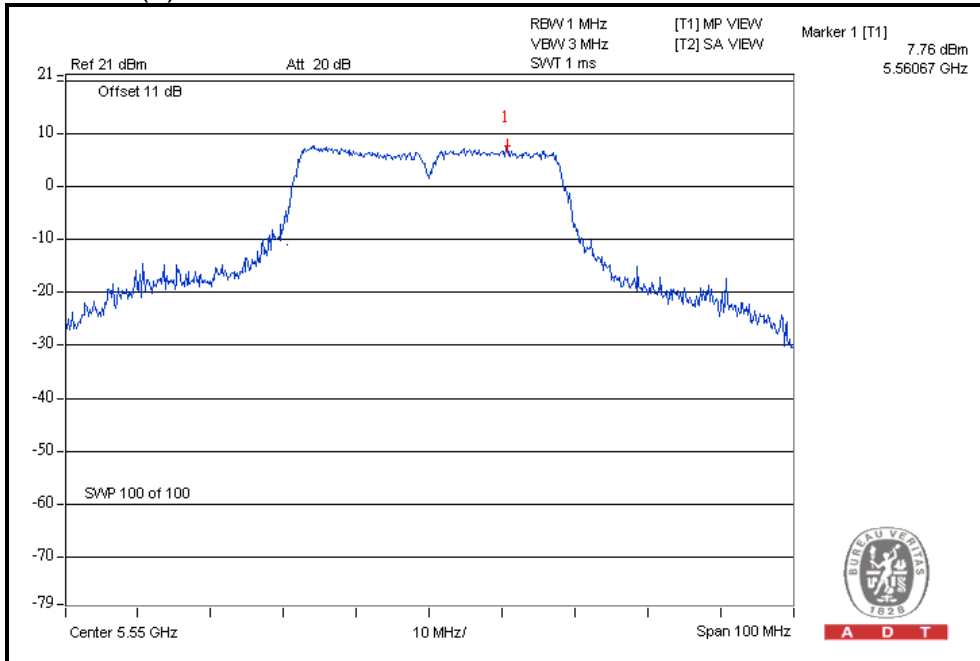




A D T

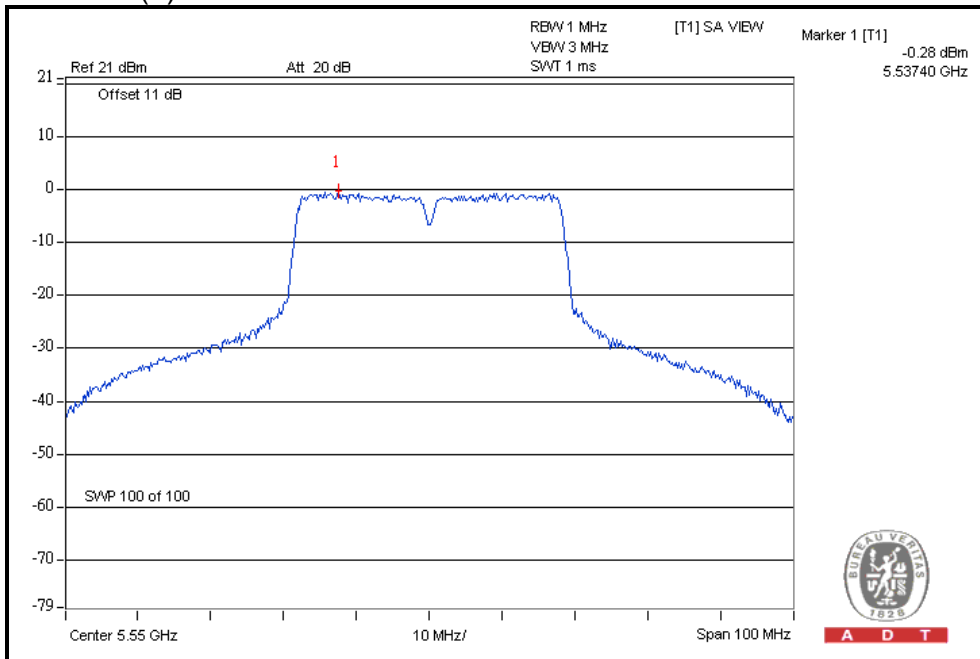
PEAK VALUE

For chain(0) : CH110



PPSD

For chain(0) : CH110

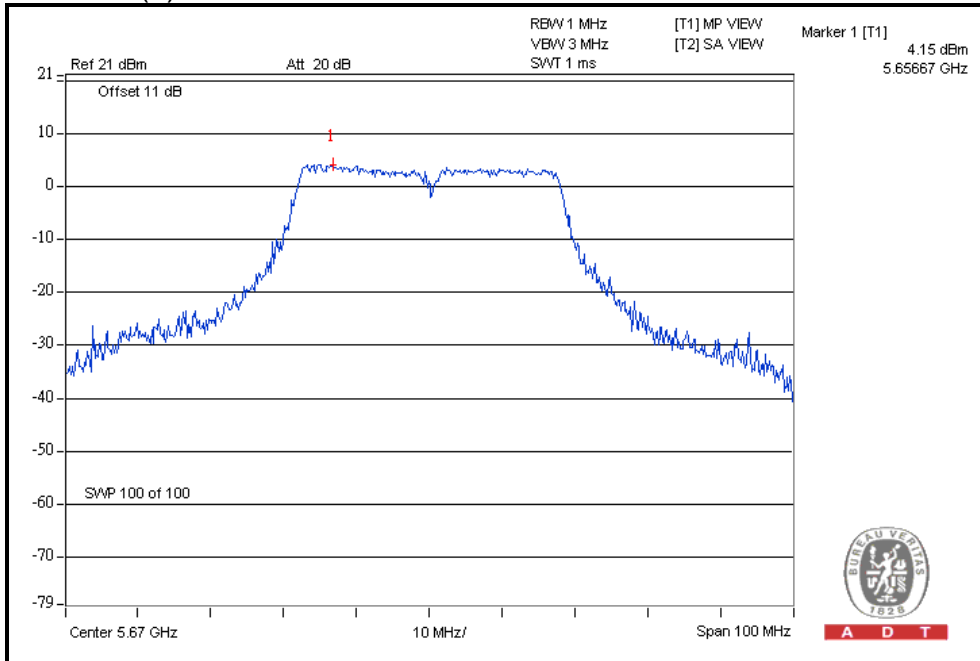




A D T

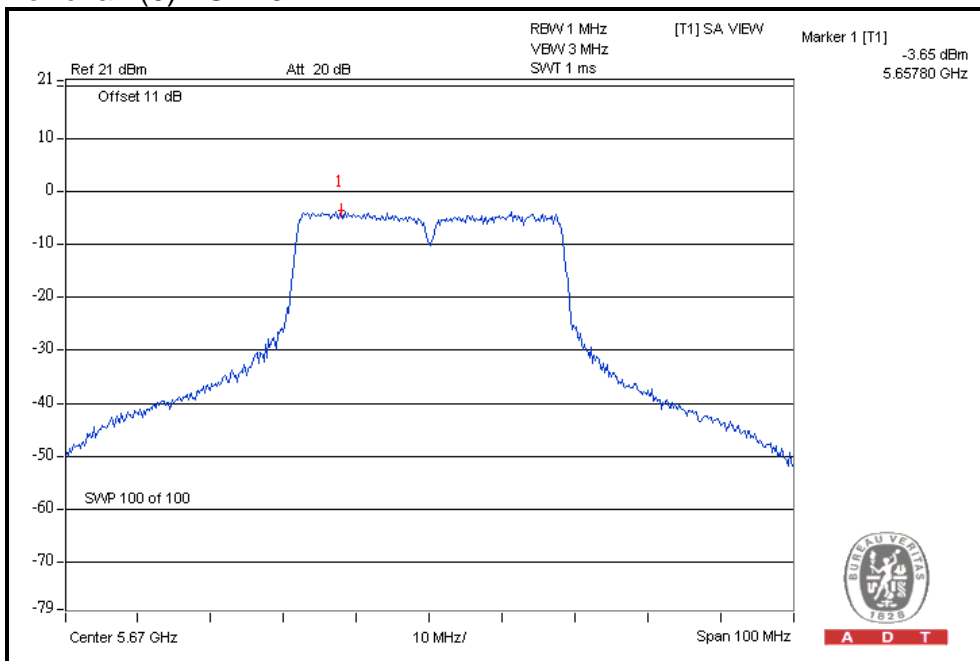
PEAK VALUE

For chain(0) : CH134



PPSD

For chain(0) : CH134

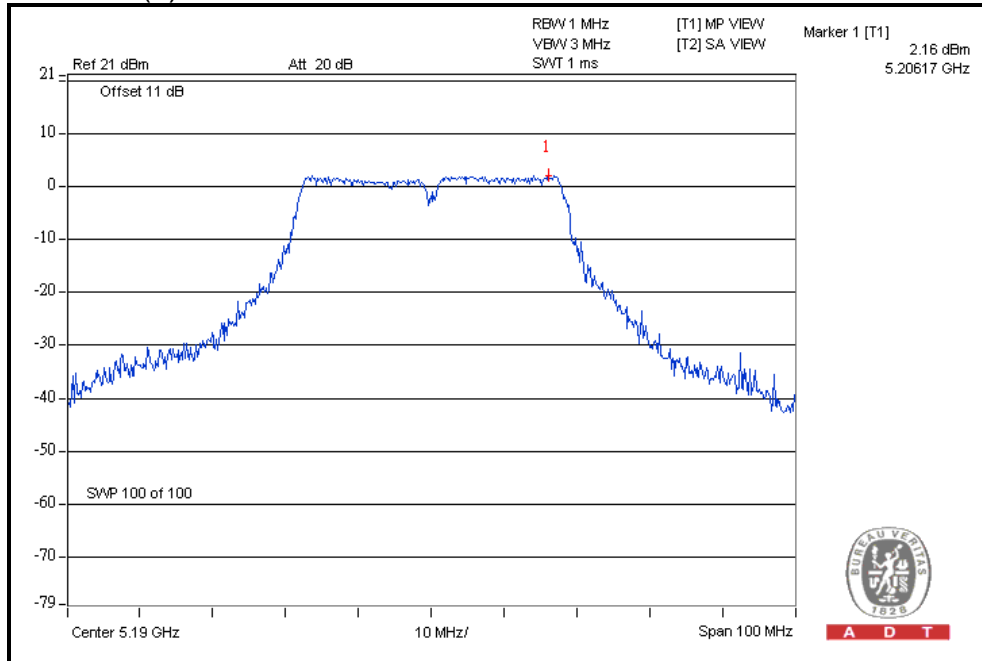




A D T

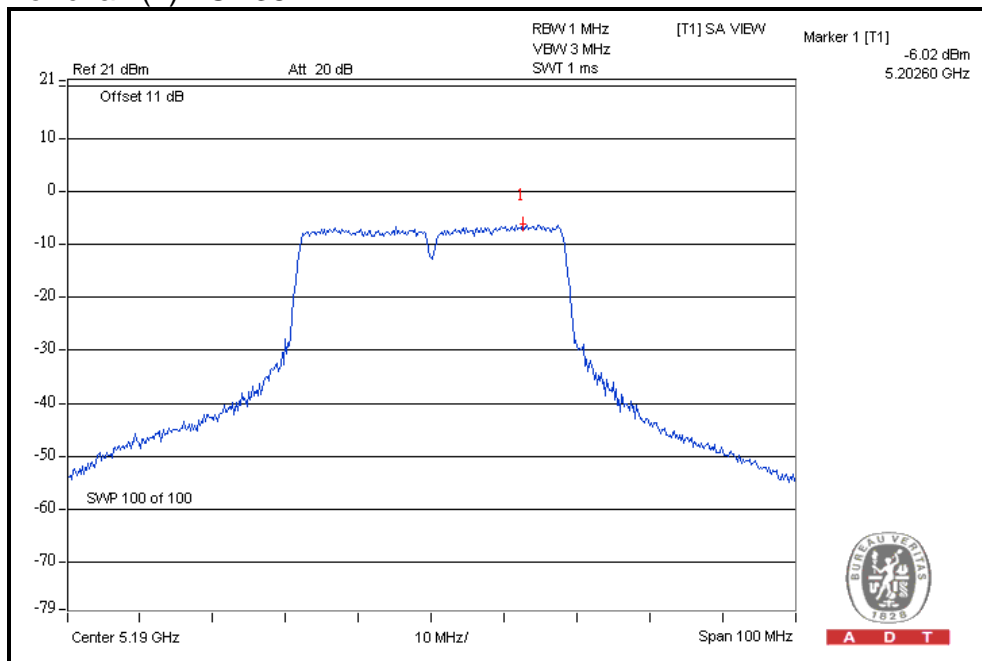
PEAK VALUE

For chain(1) : CH38



PPSD

For chain(1) : CH38

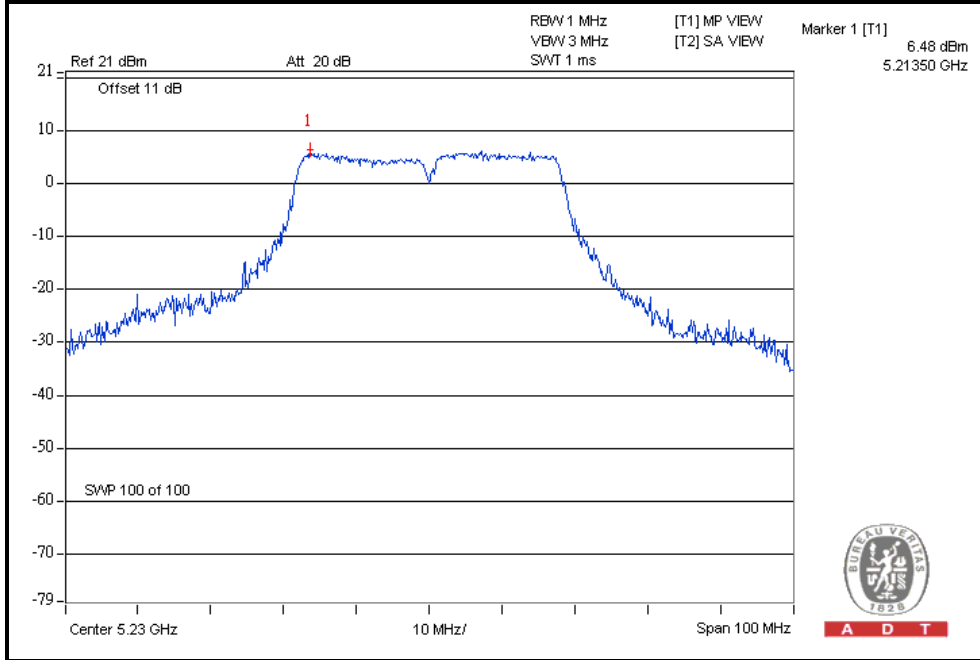




A D T

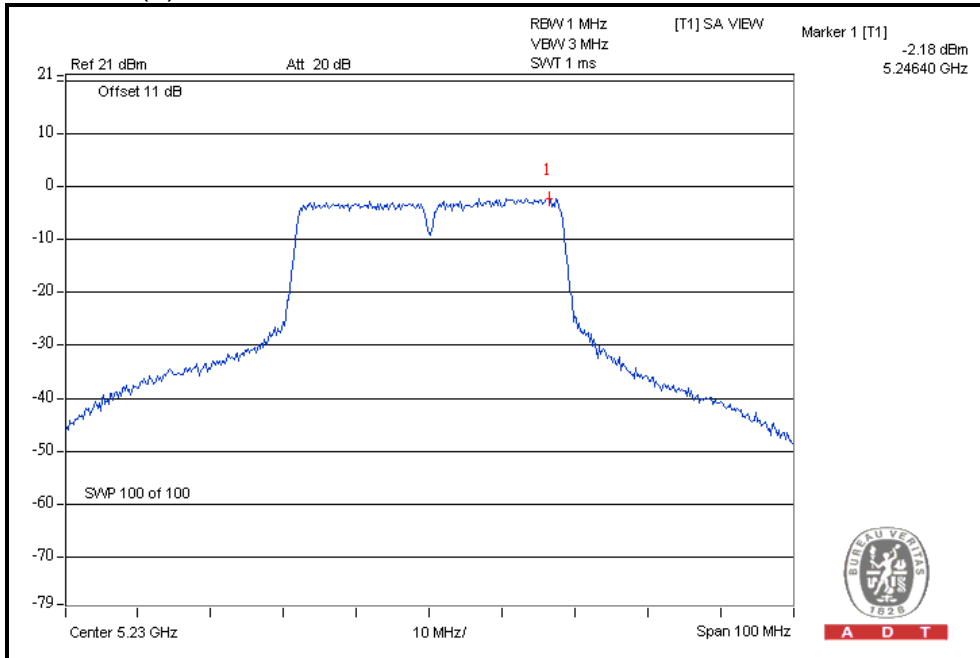
PEAK VALUE

For chain(1) : CH46



PPSD

For chain(1) : CH46

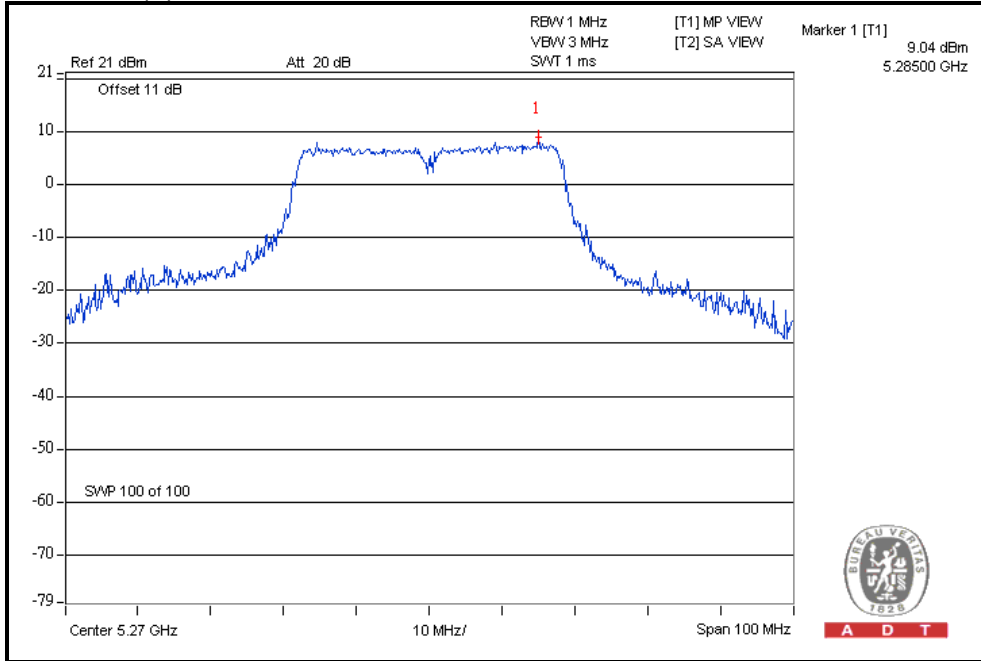




A D T

PEAK VALUE

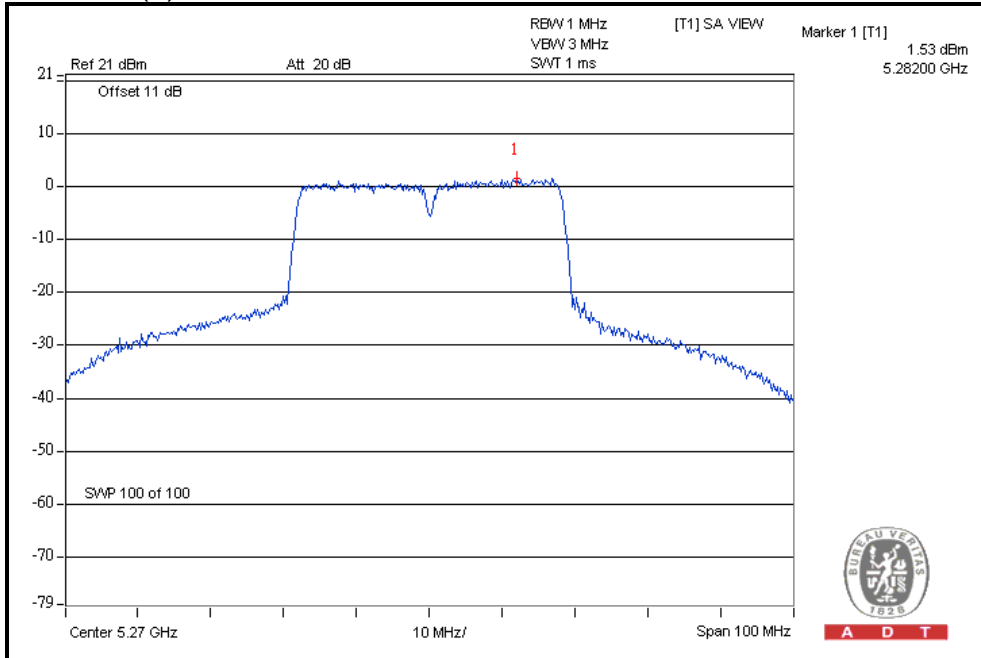
For chain(1) : CH54



A D T

PPSD

For chain(1) : CH54



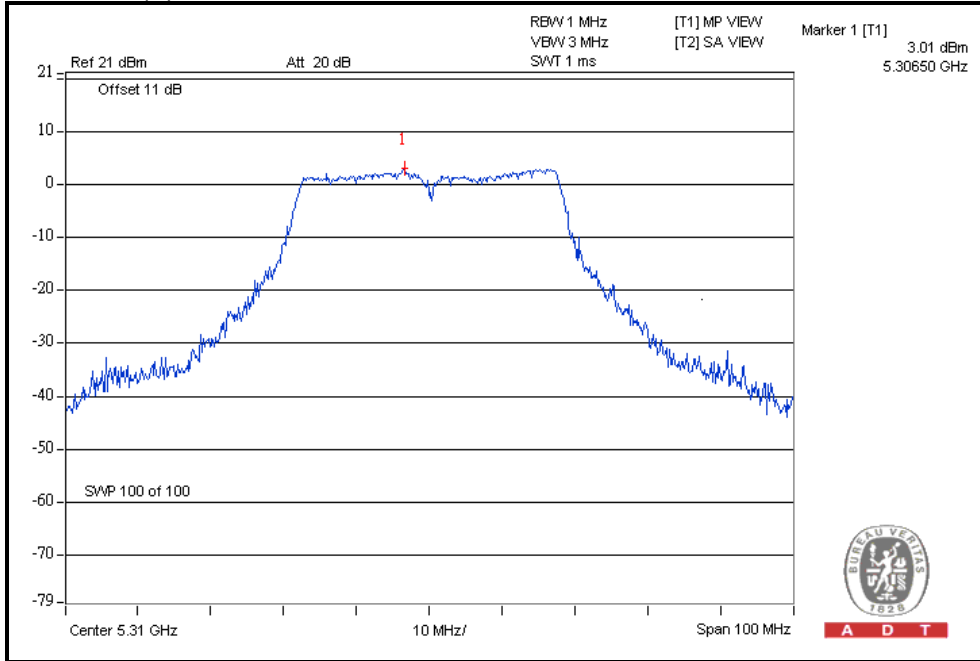
A D T



A D T

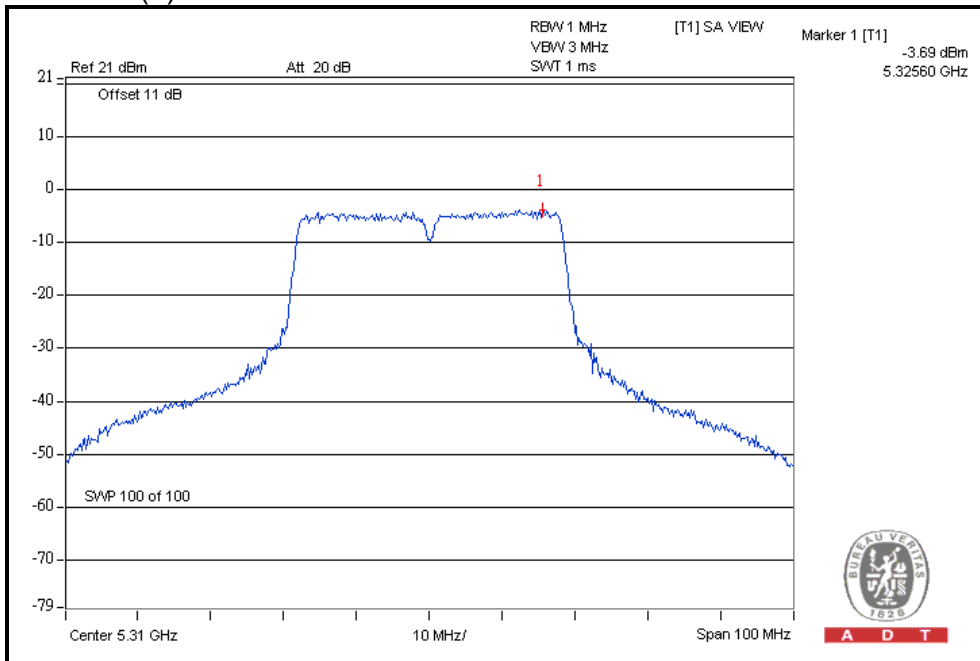
PEAK VALUE

For chain(1) : CH62



PPSD

For chain(1) : CH62

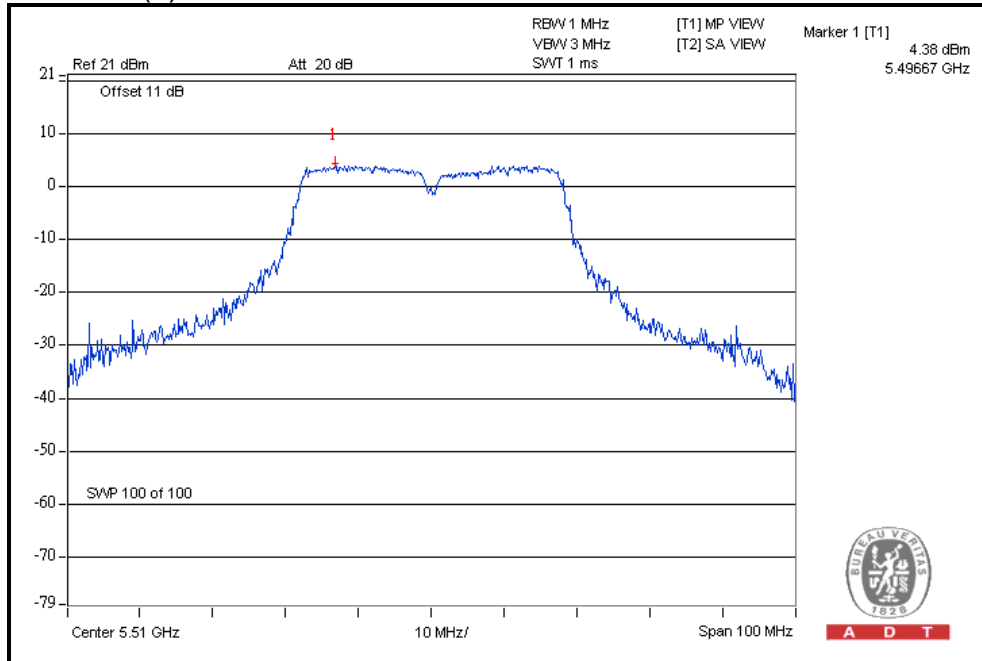




A D T

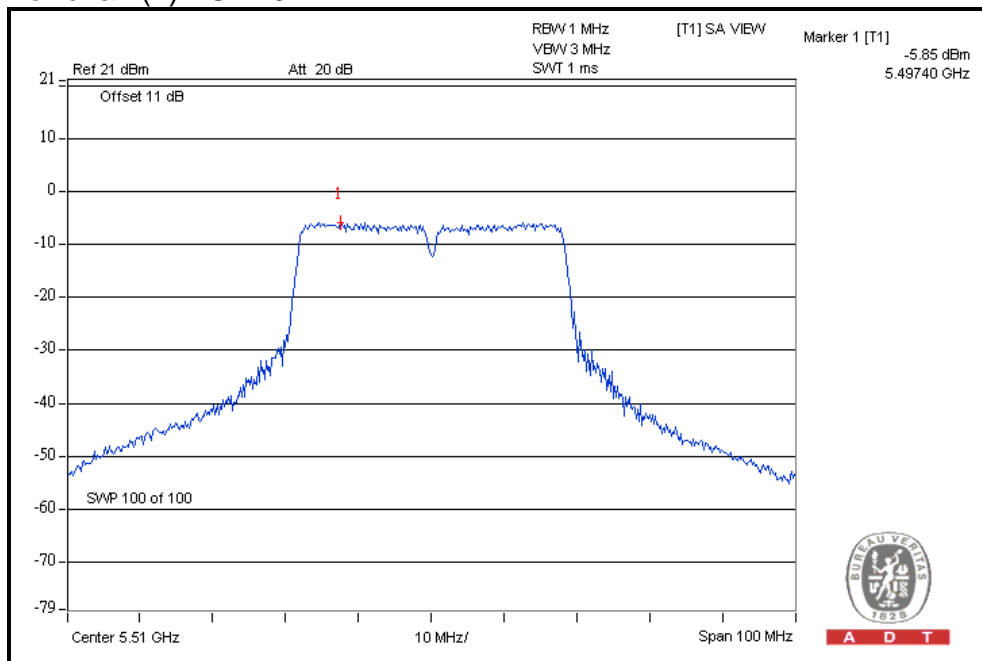
PEAK VALUE

For chain(1) : CH102



PPSD

For chain(1) : CH102

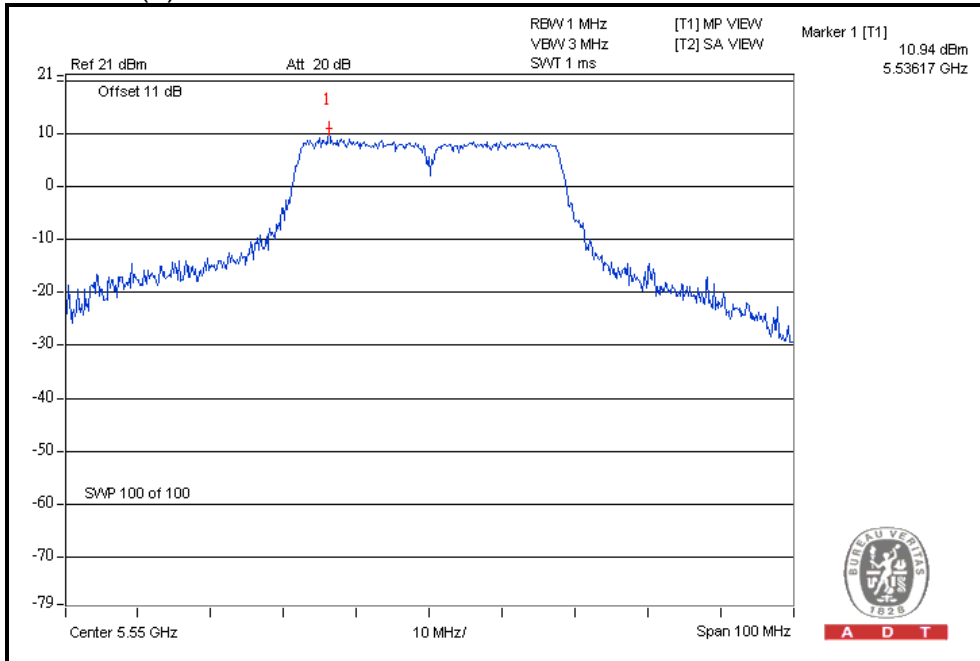




A D T

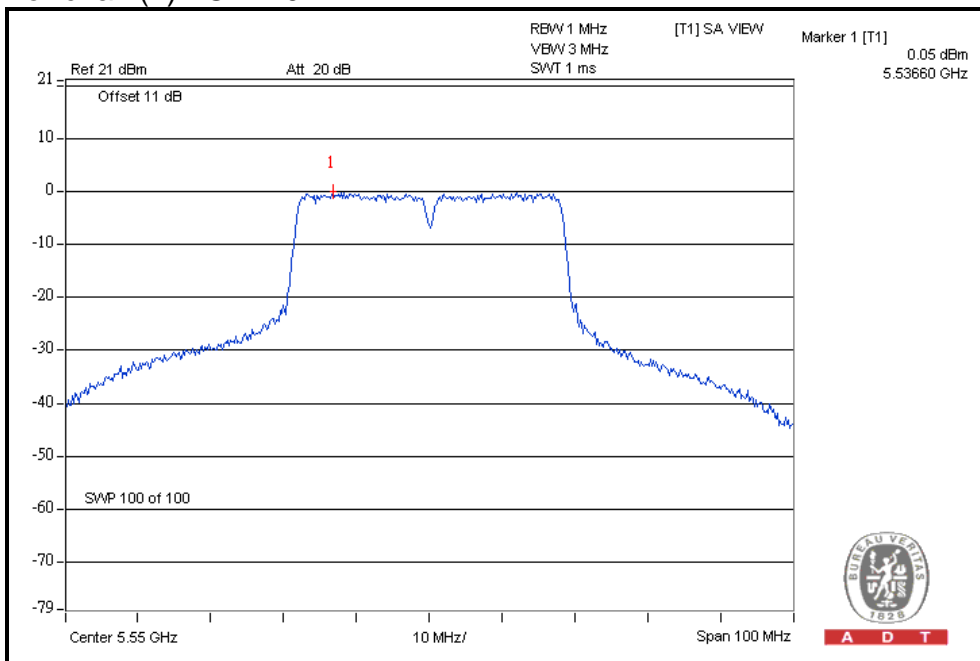
PEAK VALUE

For chain(1) : CH110



PPSD

For chain(1) : CH110

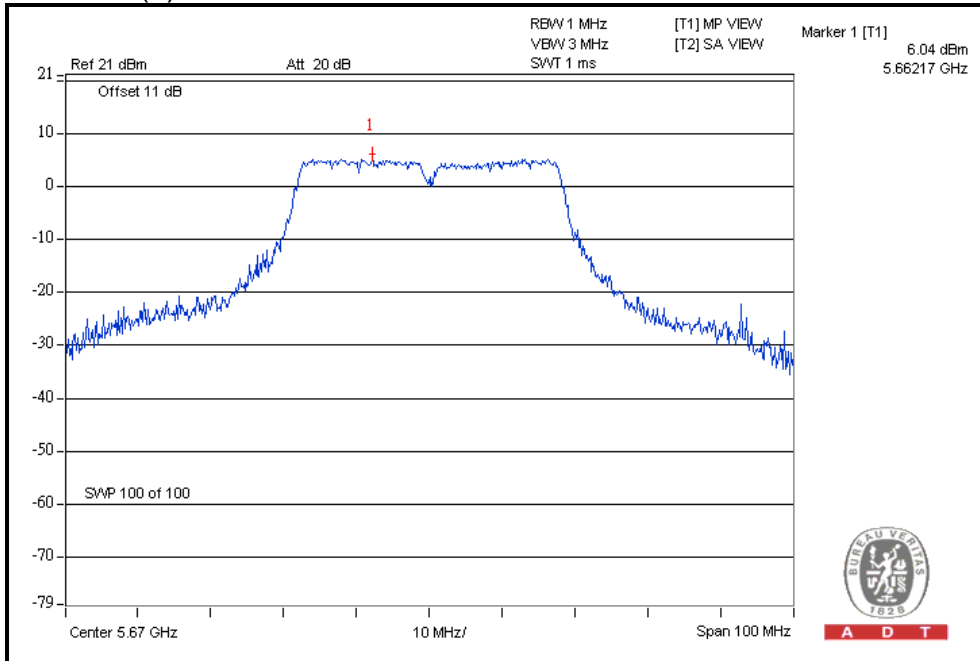




A D T

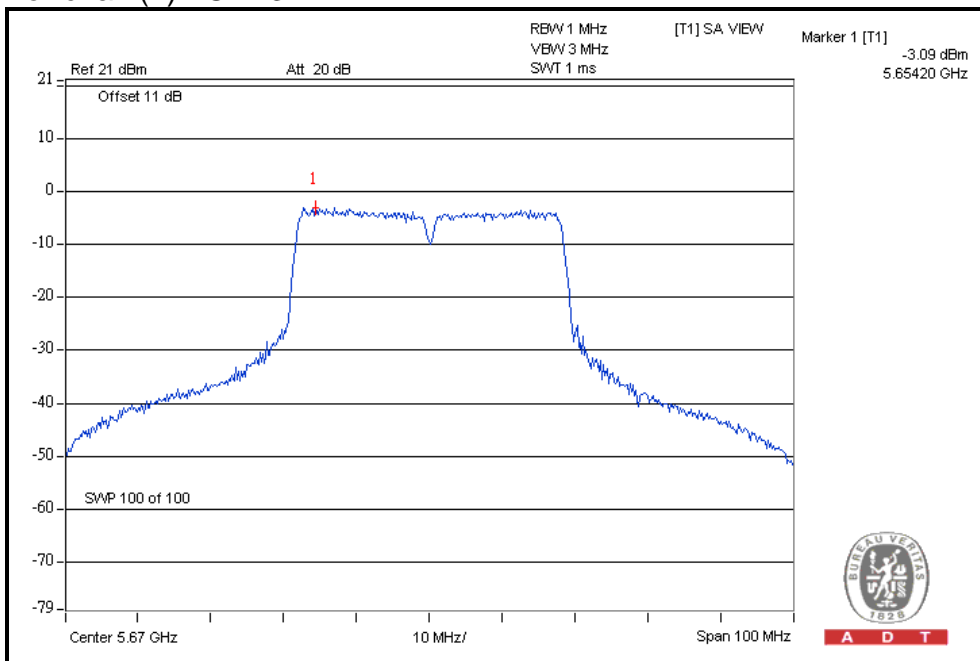
PEAK VALUE

For chain(1) : CH134



PPSD

For chain(1) : CH134



4.6 PEAK POWER SPECTRAL DENSITY MEASUREMENT

4.6.1 LIMITS OF PEAK POWER SPECTRAL DENSITY MEASUREMENT

Frequency Band	Limit
5.15 ~ 5.25GHz	4dBm
5.25 ~ 5.35GHz	11dBm
5.47 – 5.725GHz	11dBm
5.725 ~ 5.825GHz	17dBm

4.6.2 TEST INSTRUMENTS

Test date: Dec. 06, 2011

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Spectrum Analyzer	E4446A	MY48250254	July 12, 2011	July 11, 2012

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

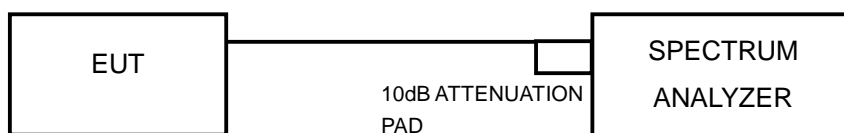
4.6.3 TEST PROCEDURES

1. The transmitter output was connected to the spectrum analyzer.
2. Set RBW=1MHz, VBW=3MHz. The PPSD is the highest level found across the emission in any 1MHz band.

4.6.4 DEVIATION FROM TEST STANDARD

No deviation

4.6.5 TEST SETUP



4.6.6 EUT OPERATING CONDITIONS

Same as 4.3.6



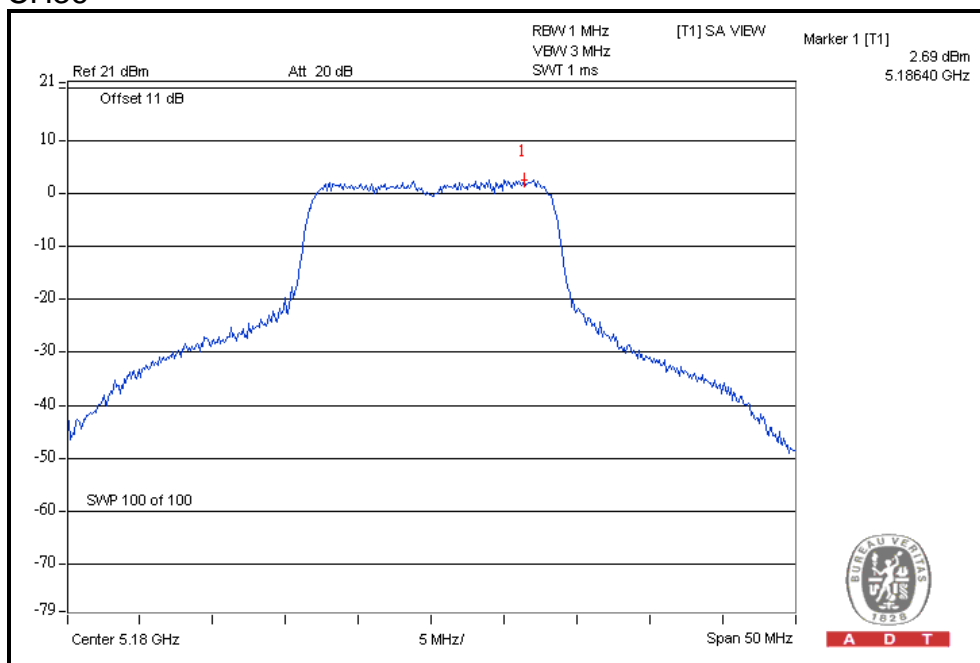
A D T

4.6.7 TEST RESULTS

Single chain - 802.11a OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 1MHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS / FAIL
36	5180	2.7	4	PASS
40	5200	2.8	4	PASS
48	5240	2.5	4	PASS
52	5260	8.9	11	PASS
60	5300	9.4	11	PASS
64	5320	5.7	11	PASS
100	5500	3.5	11	PASS
116	5580	6.4	11	PASS
132	5660	5.5	11	PASS
140	5700	2.4	11	PASS

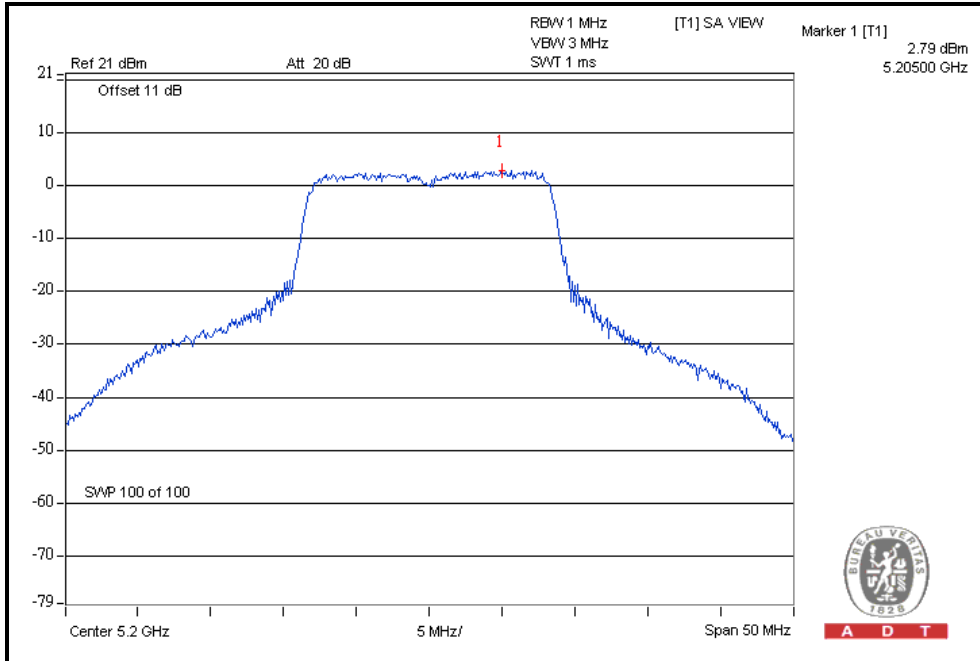
CH36



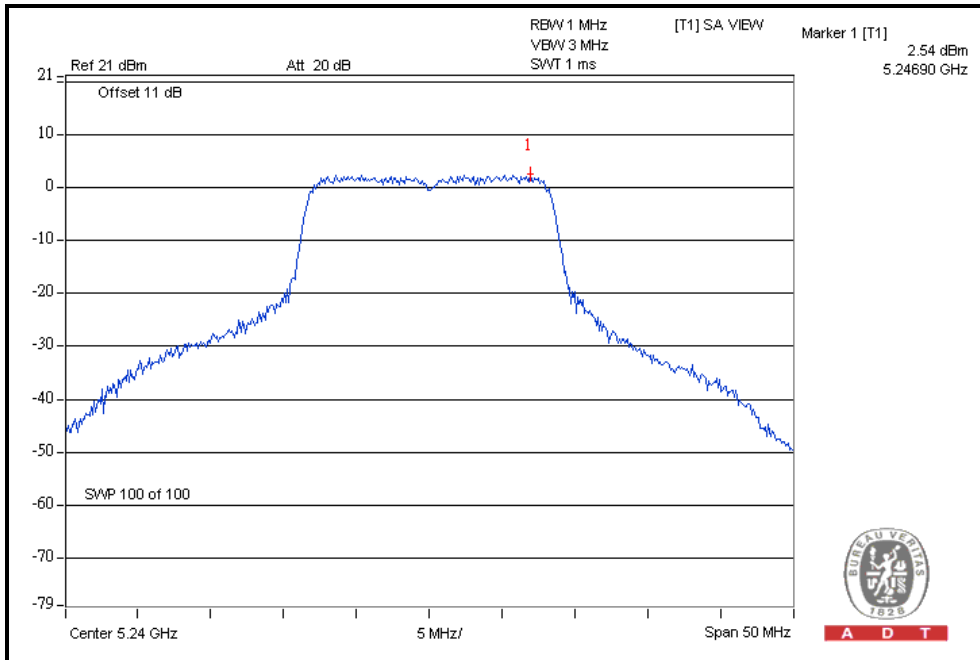


A D T

CH40



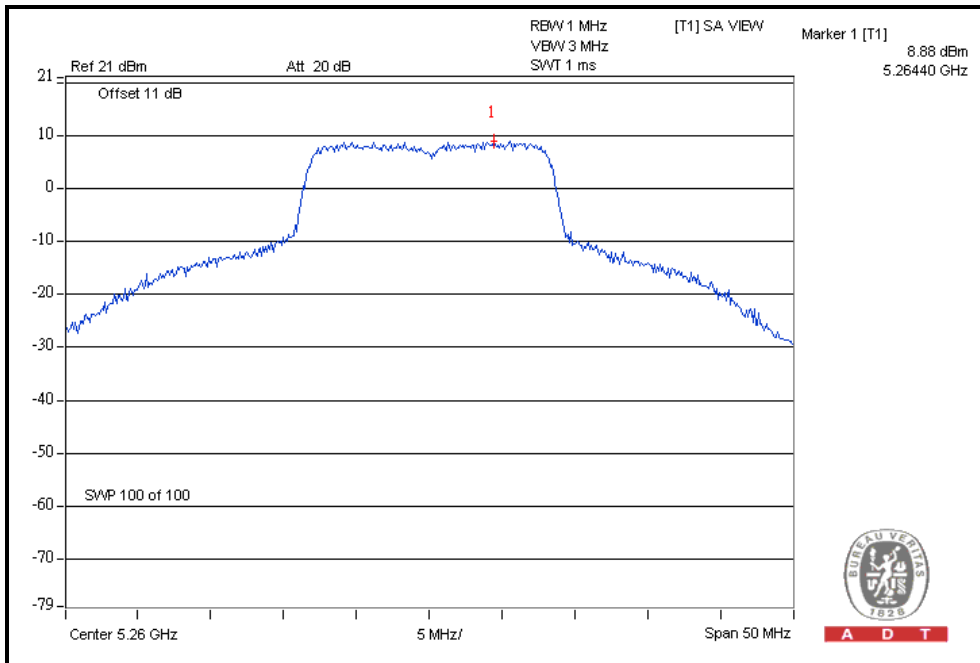
CH48



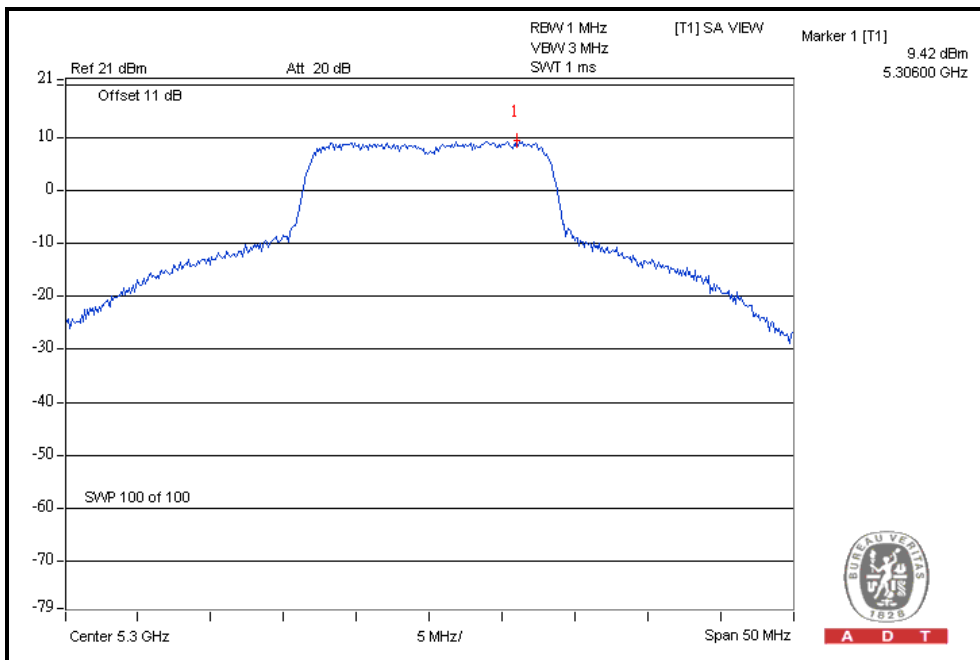


A D T

CH52



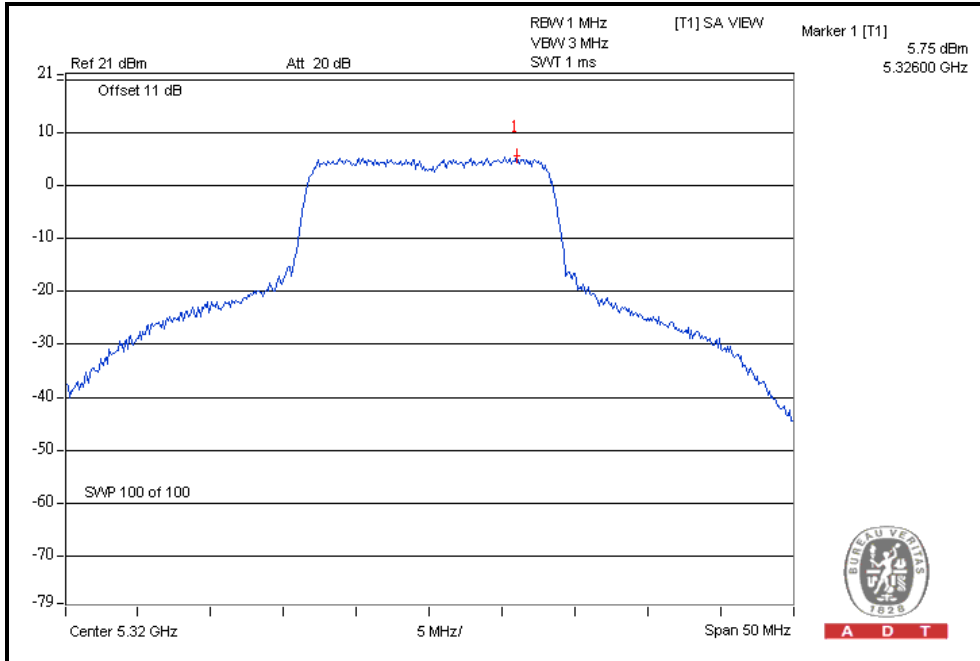
CH60



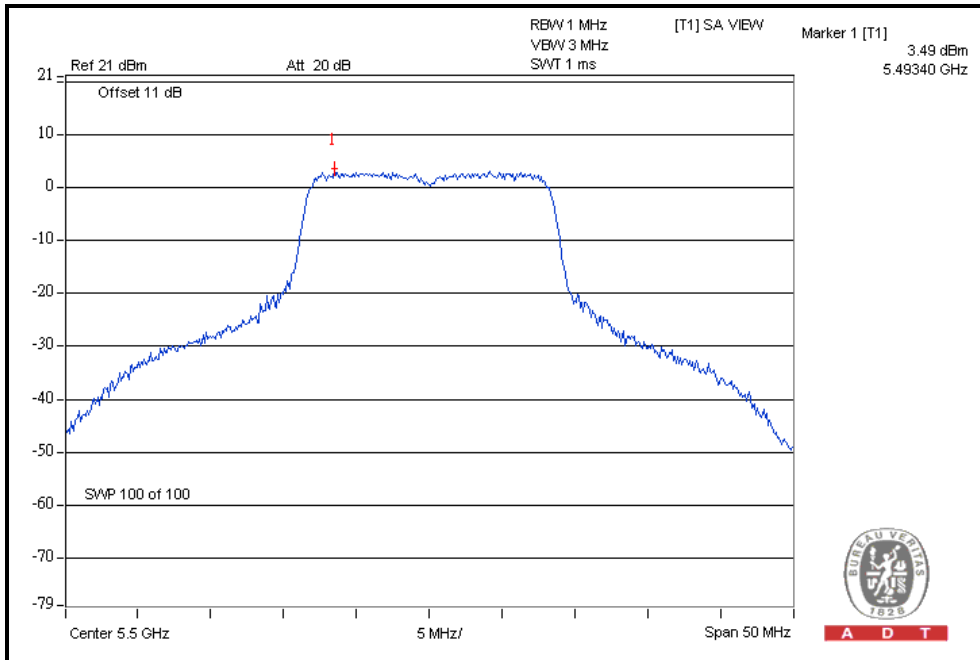


A D T

CH64



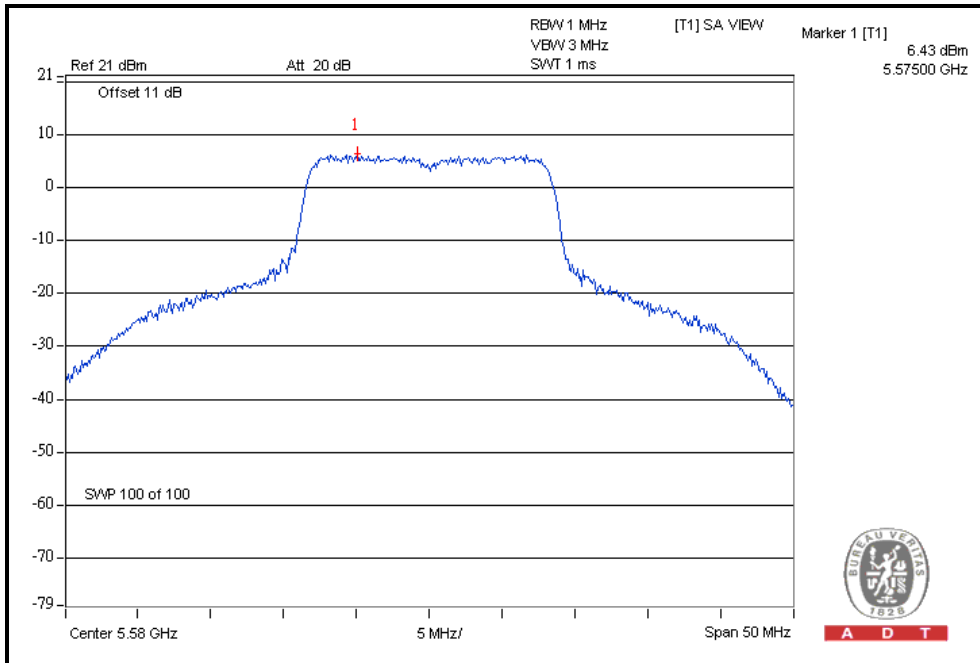
CH100



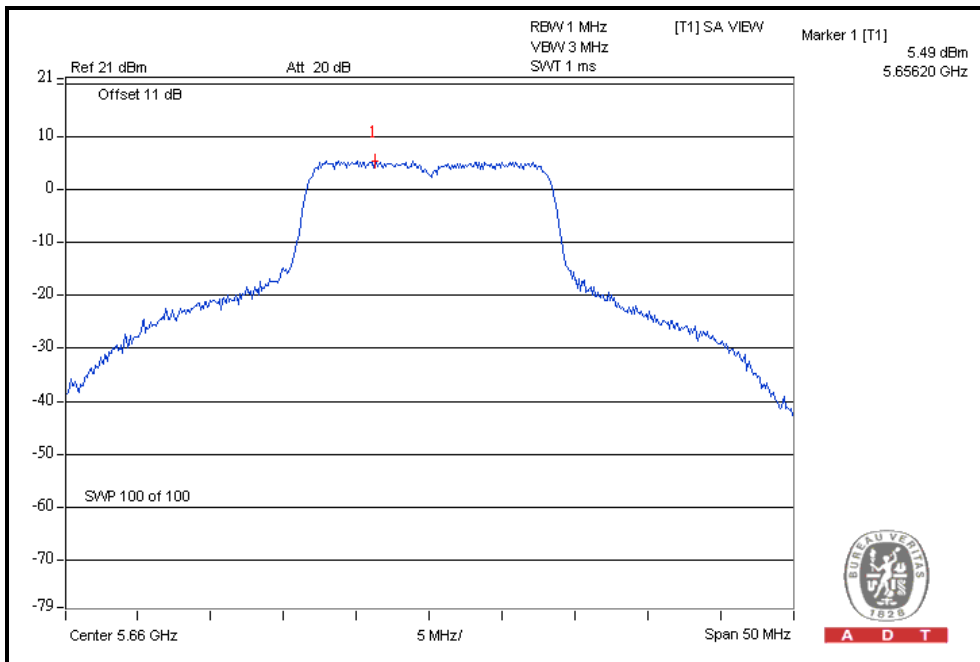


A D T

CH116



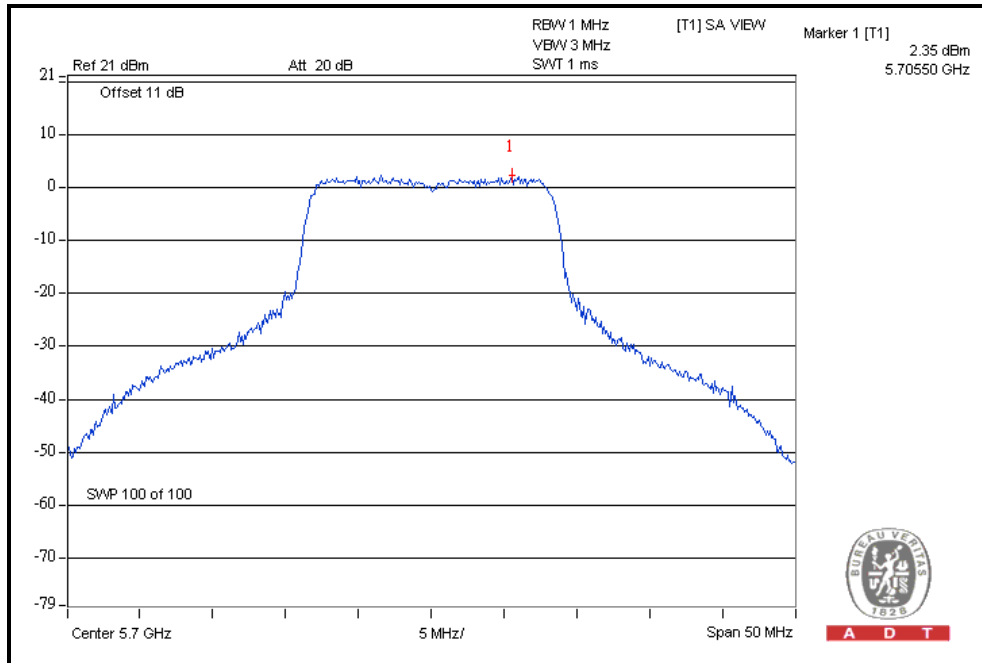
CH132





A D T

CH140





A D T

Multiple chain - 802.11a OFDM MODULATION:

CHAN.	CHAN. FREQ. (MHz)	RF POWER LEVEL IN 1MHz BW (dBm)		TOTAL POWER DENSITY (dBm)	MAX. LIMIT (dBm)	PASS / FAIL
		CHAIN (0)	CHAIN (1)			
36	5180	-0.2	0.1	2.8	3.91	PASS
40	5200	0.5	0.7	3.3	3.91	PASS
48	5240	0.3	1.2	3.3	3.91	PASS
52	5260	5.8	5.8	8.6	10.91	PASS
60	5300	5.0	6.3	8.3	10.91	PASS
64	5320	2.5	3.4	5.8	10.91	PASS
100	5500	-0.2	1.0	3.1	9.23	PASS
116	5580	2.9	3.6	5.9	9.23	PASS
132	5660	1.4	2.4	4.7	9.23	PASS
140	5700	-0.6	-0.1	2.3	9.23	PASS

Note: Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer

For Operated in 5150MHz ~ 5250MHz bands:

Directional gain = gain of antenna element + 10 log (# of TX antenna elements)

Effective Legacy Gain (dBi) = 6.09

The effective legacy gain is 6.09dBi, therefore the limit needs to reduce.

For Operated in 5250MHz ~ 5350MHz bands:

Directional gain = gain of antenna element + 10 log (# of TX antenna elements)

Effective Legacy Gain (dBi) = 6.09

The effective legacy gain is 6.09dBi, therefore the limit needs to reduce.

For Operated in 5470MHz ~ 5600MHz & 5650MHz ~ 5725MHz bands:

Directional gain = gain of antenna element + 10 log (# of TX antenna elements)

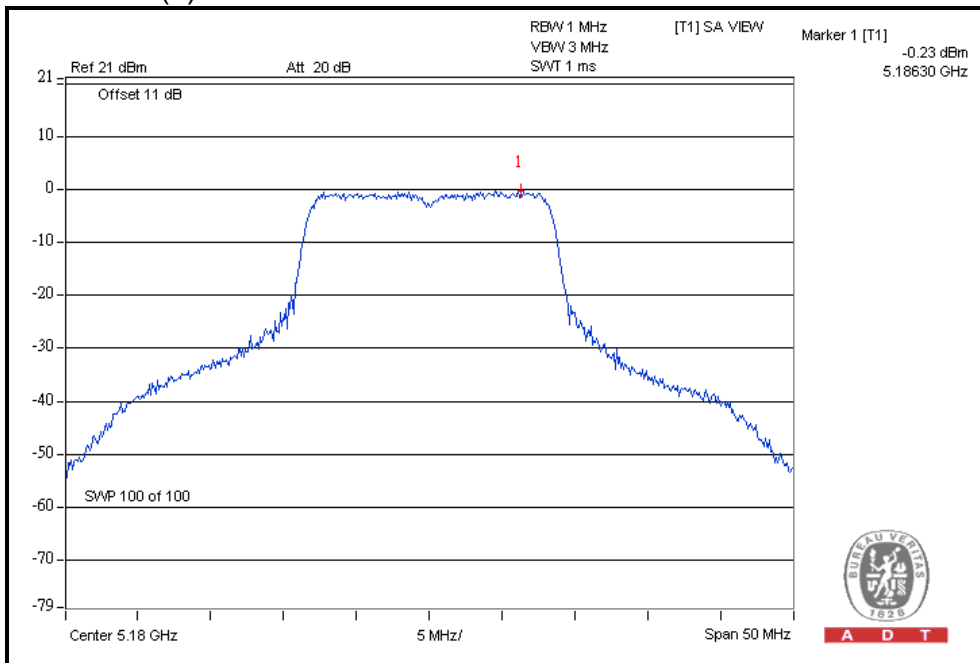
Effective Legacy Gain (dBi) = 7.77

The effective legacy gain is 7.77dBi, therefore the limit needs to reduce.

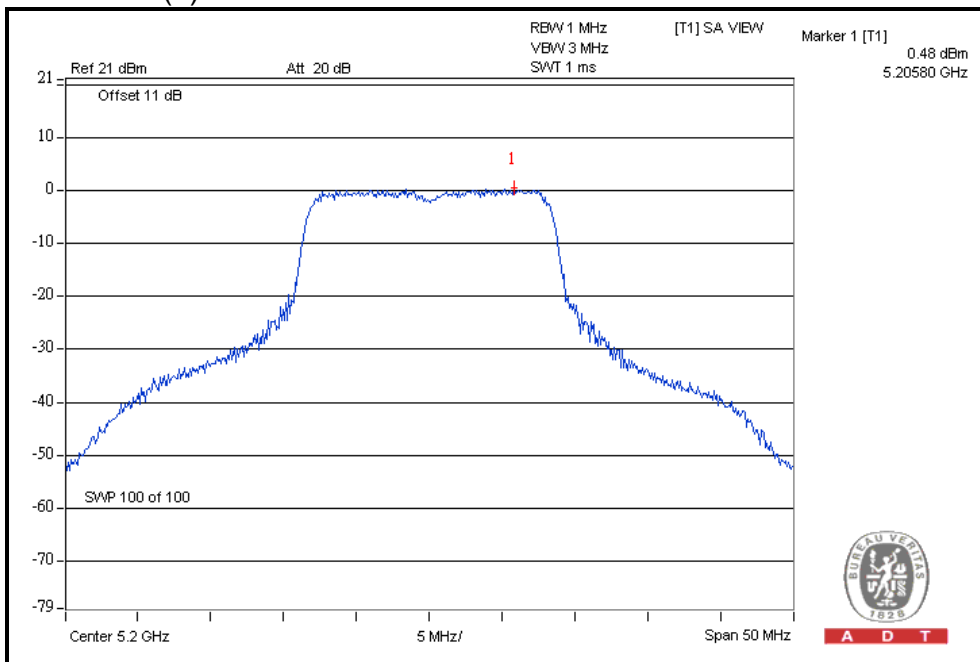


A D T

For CHAIN(0) : CH36



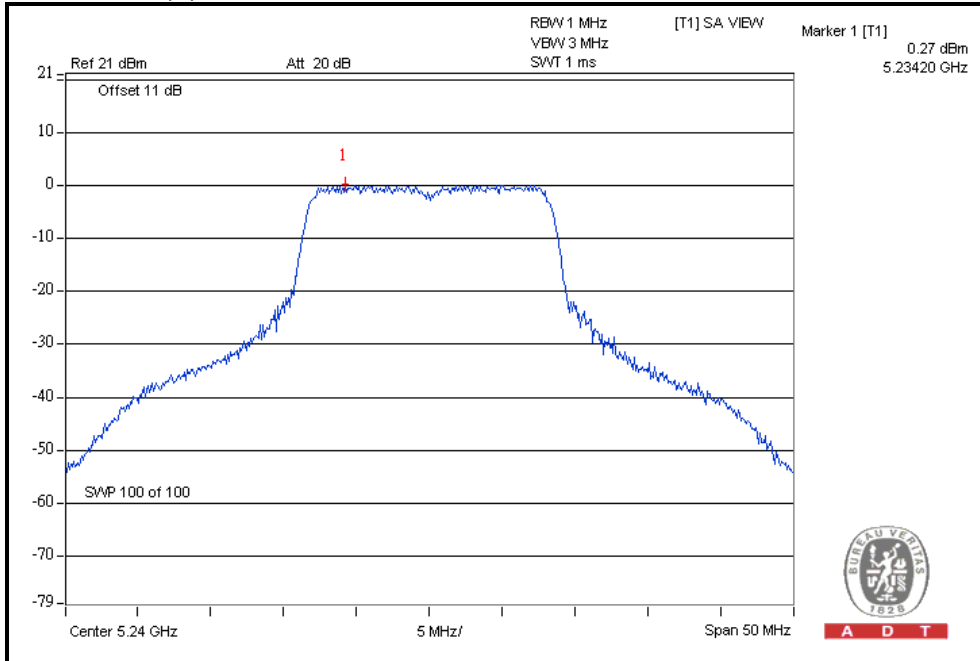
For CHAIN(0) : CH40





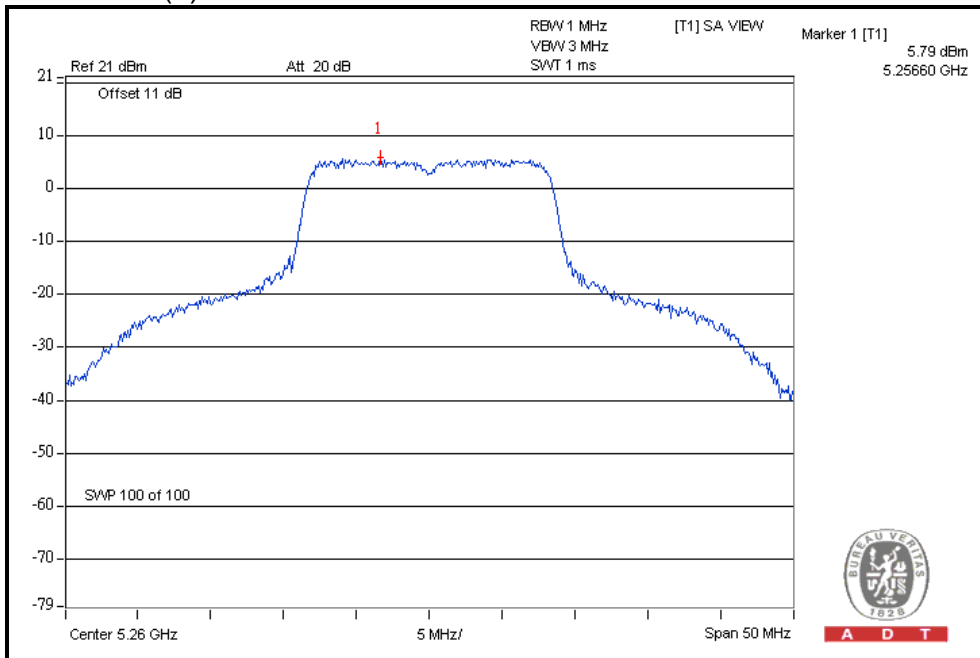
A D T

For CHAIN(0) : CH48



A D T

For CHAIN(0) : CH52

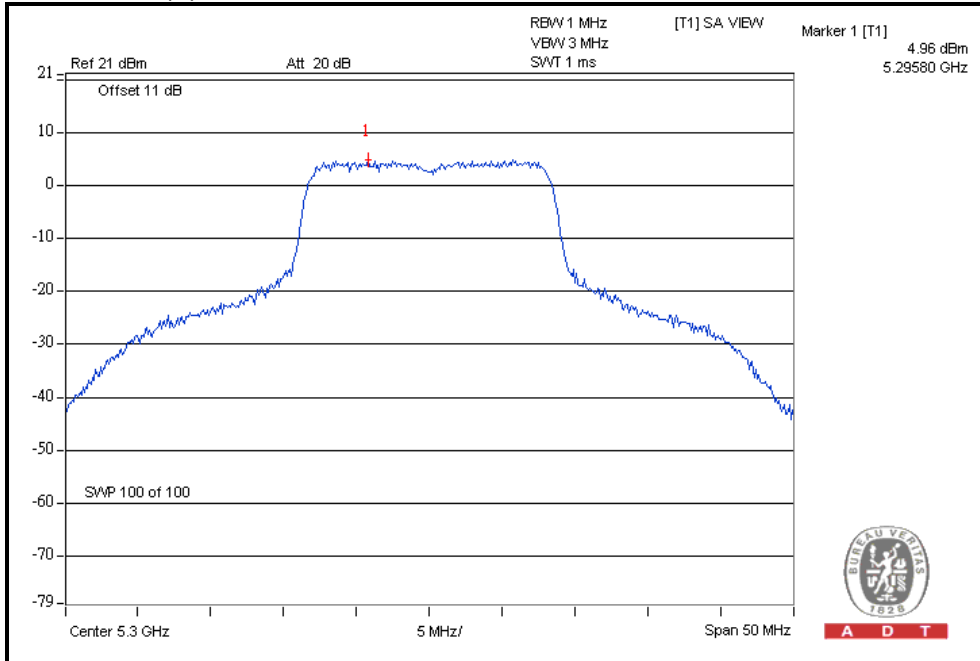


A D T



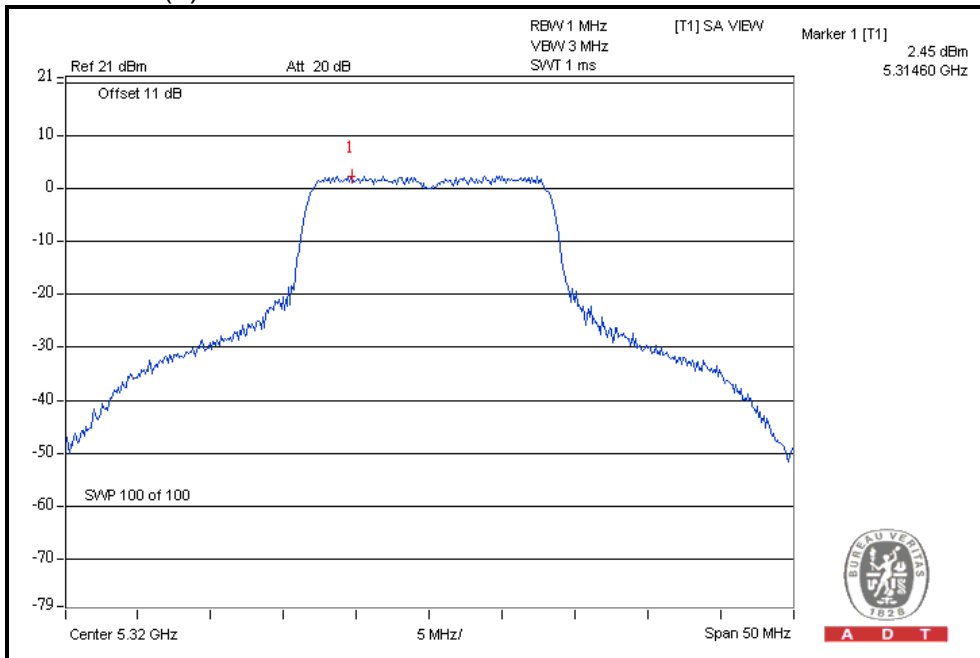
A D T

For CHAIN(0) : CH60



A D T

For CHAIN(0) : CH64

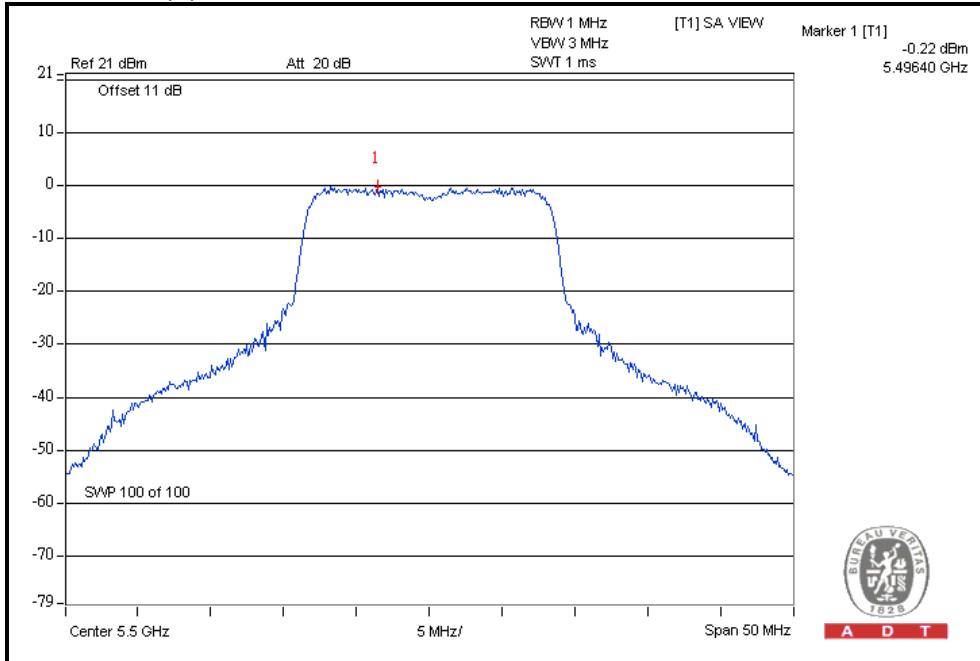


A D T

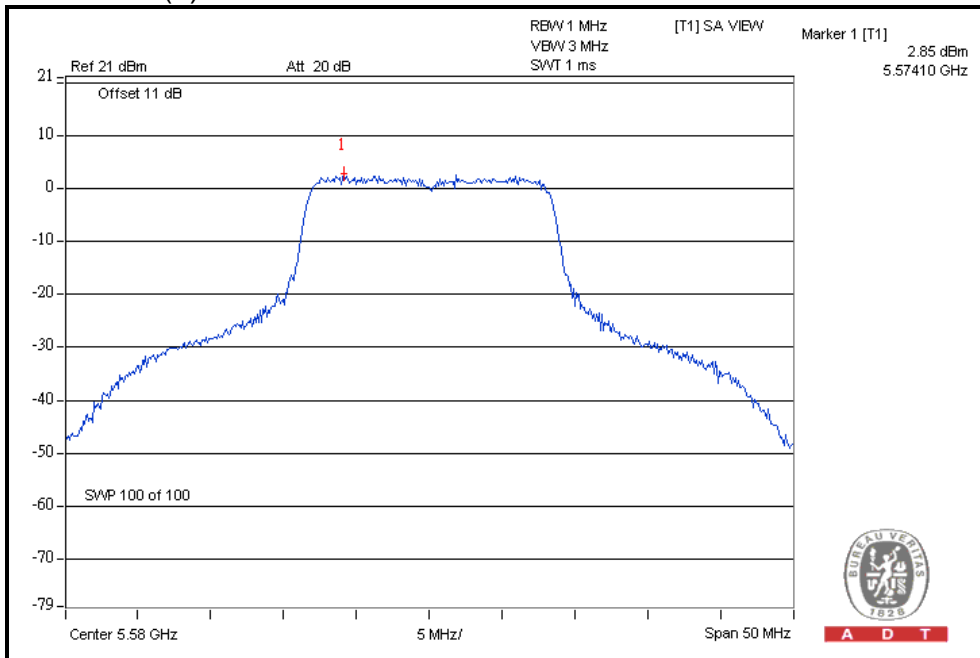


A D T

For CHAIN(0) : CH100



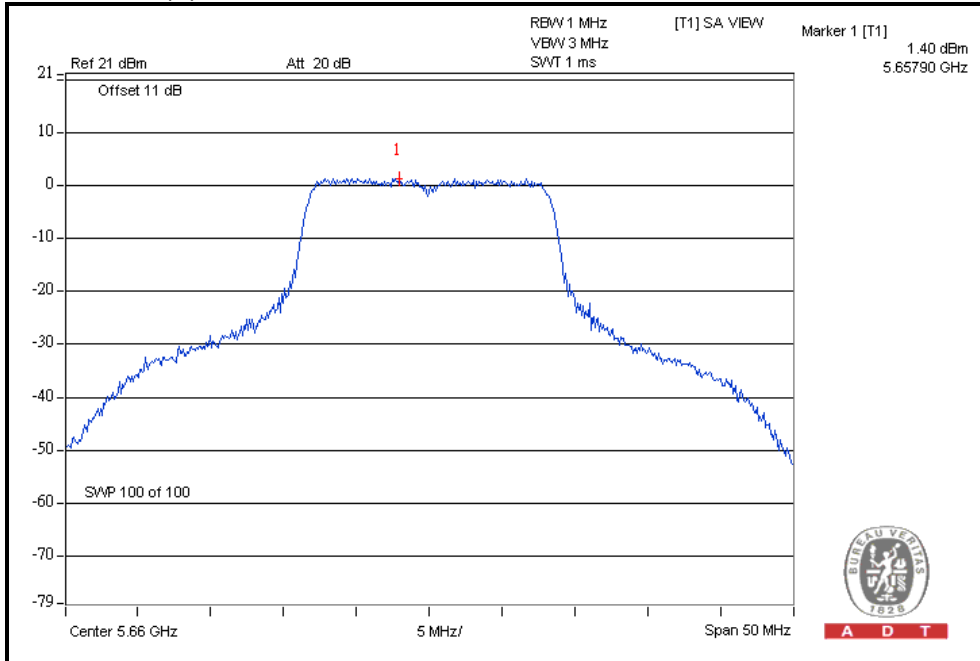
For CHAIN(0) : CH116



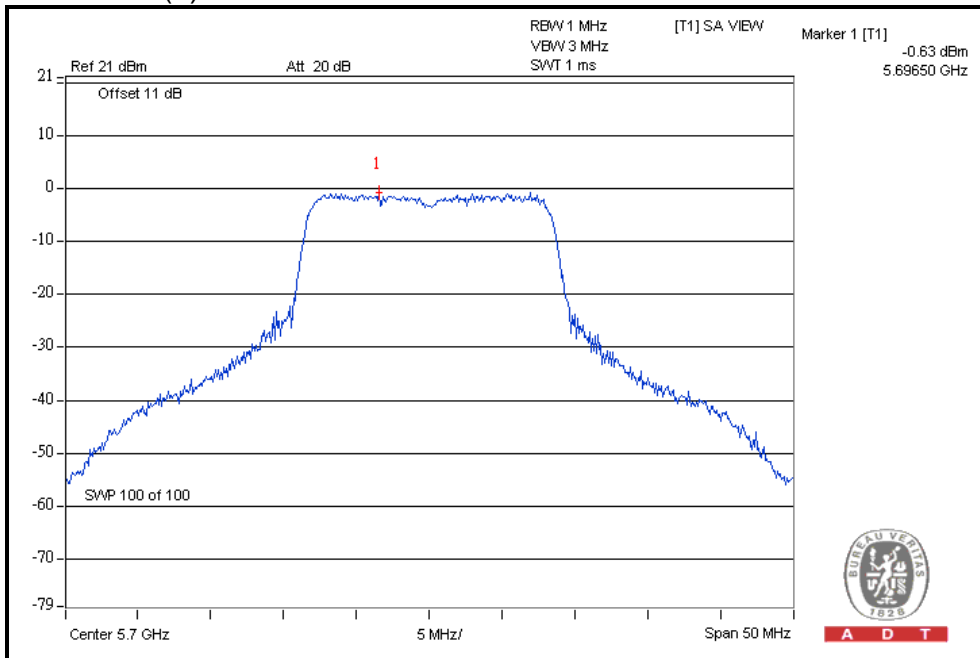


A D T

For CHAIN(0) : CH132



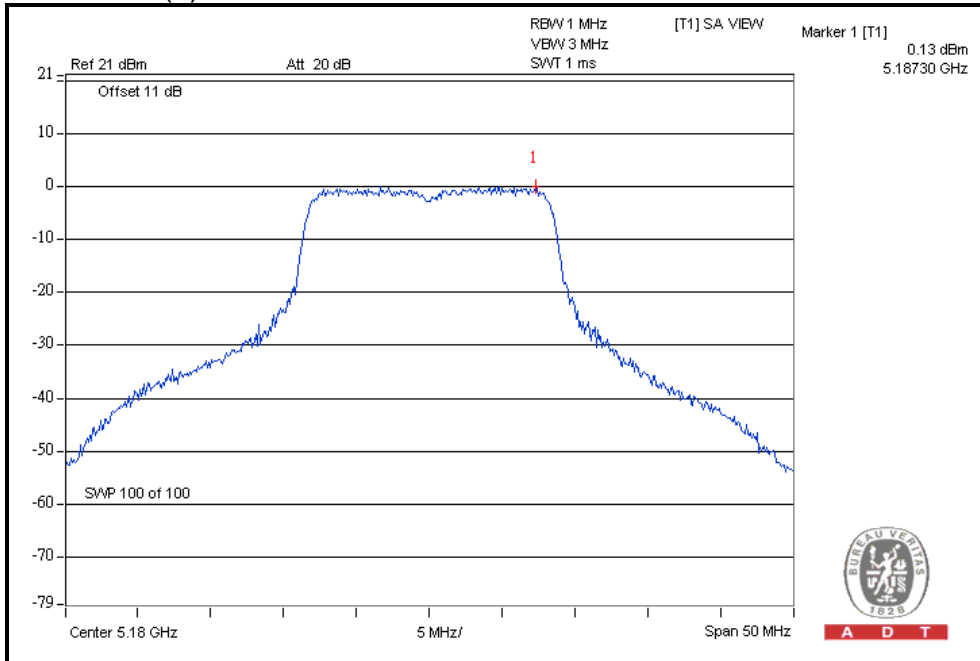
For CHAIN(0) : CH140



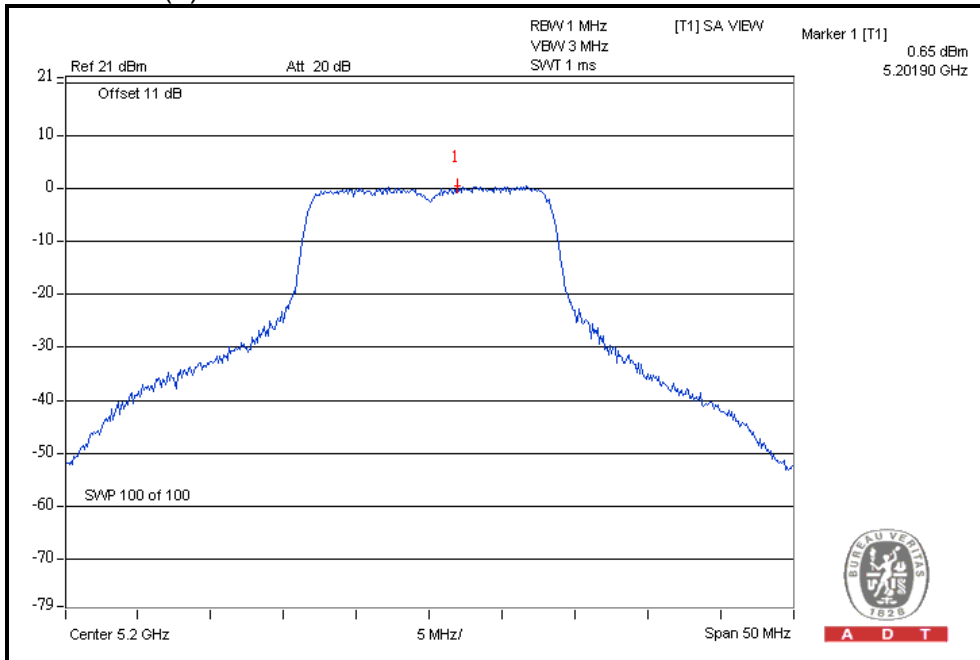


A D T

For CHAIN(1) : CH36



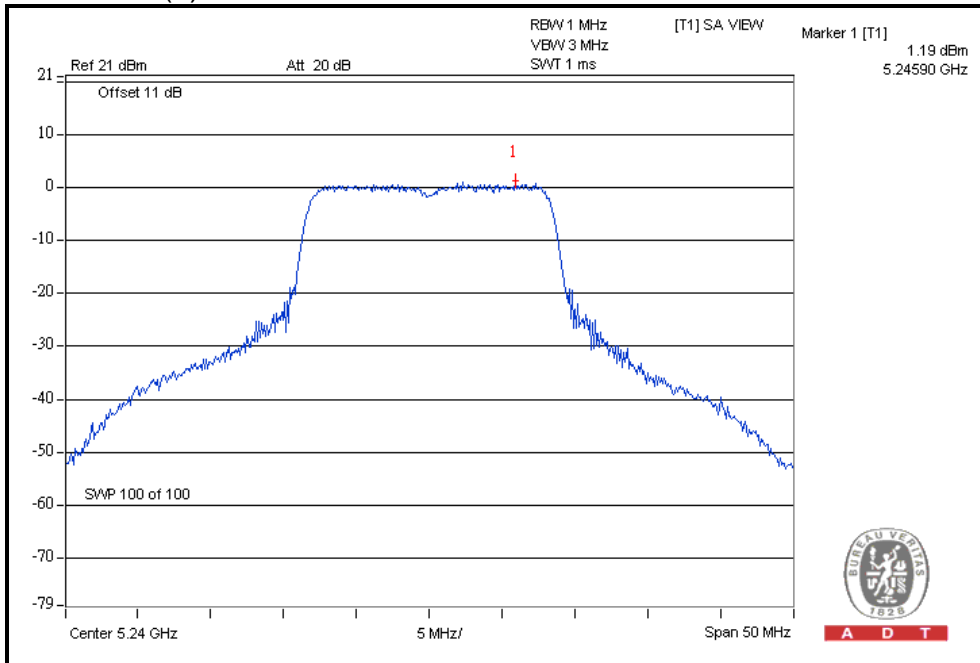
For CHAIN(1) : CH40



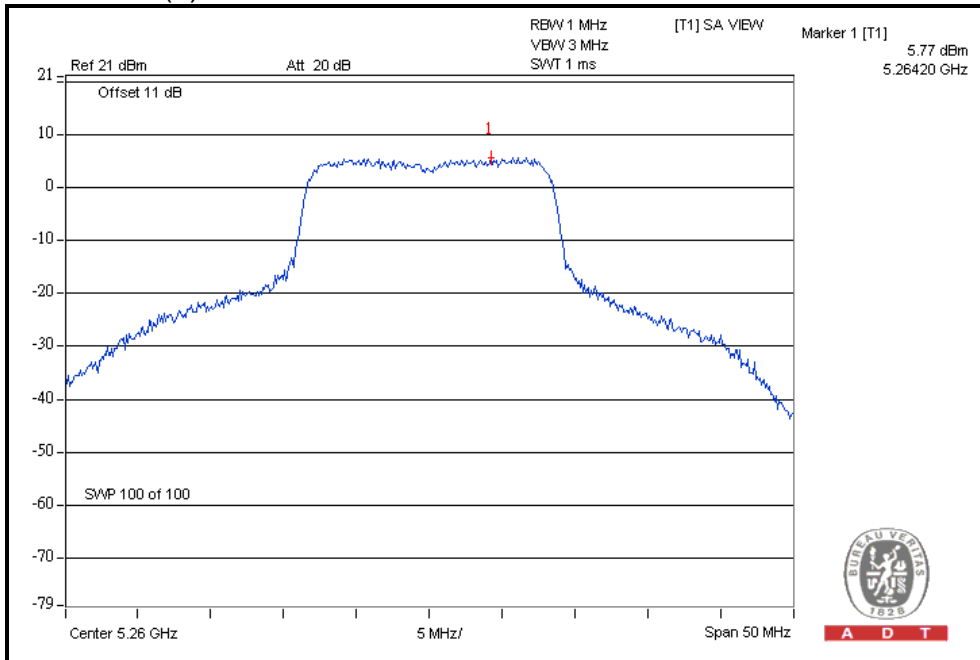


A D T

For CHAIN(1) : CH48



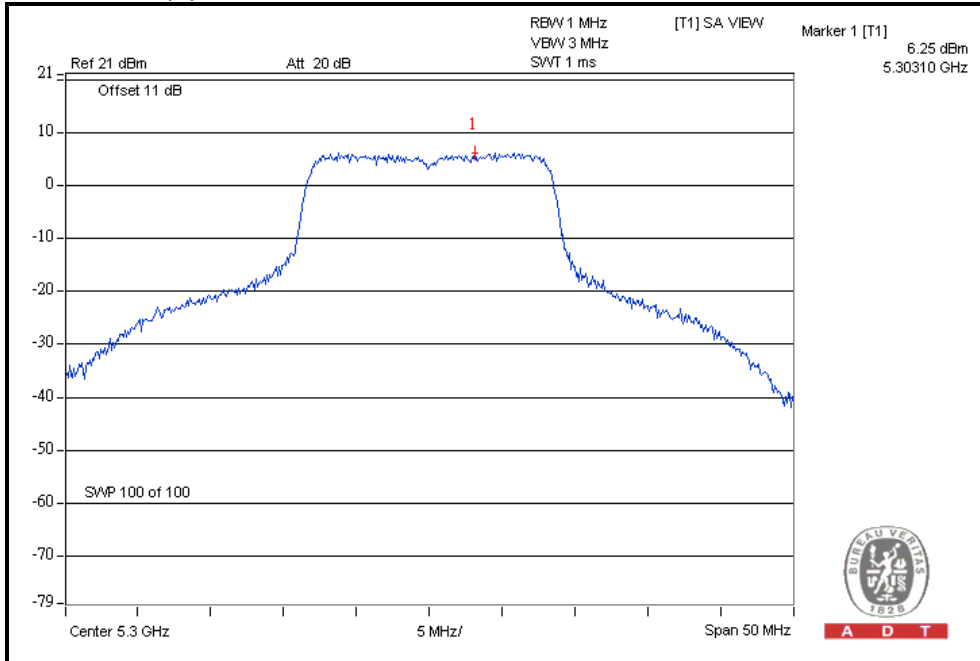
For CHAIN(1) : CH52





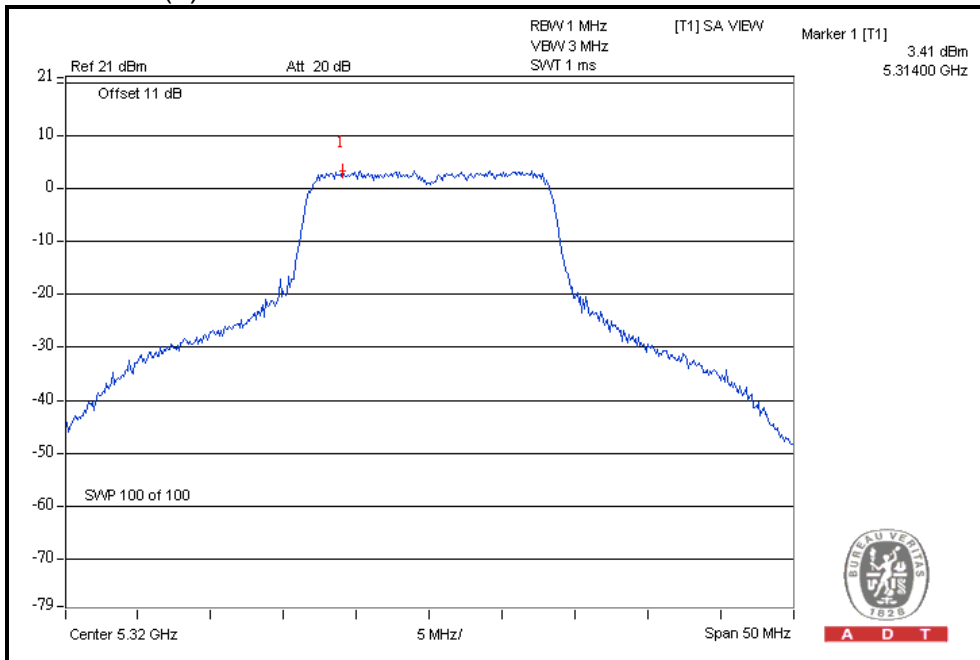
A D T

For CHAIN(1) : CH60



A D T

For CHAIN(1) : CH64

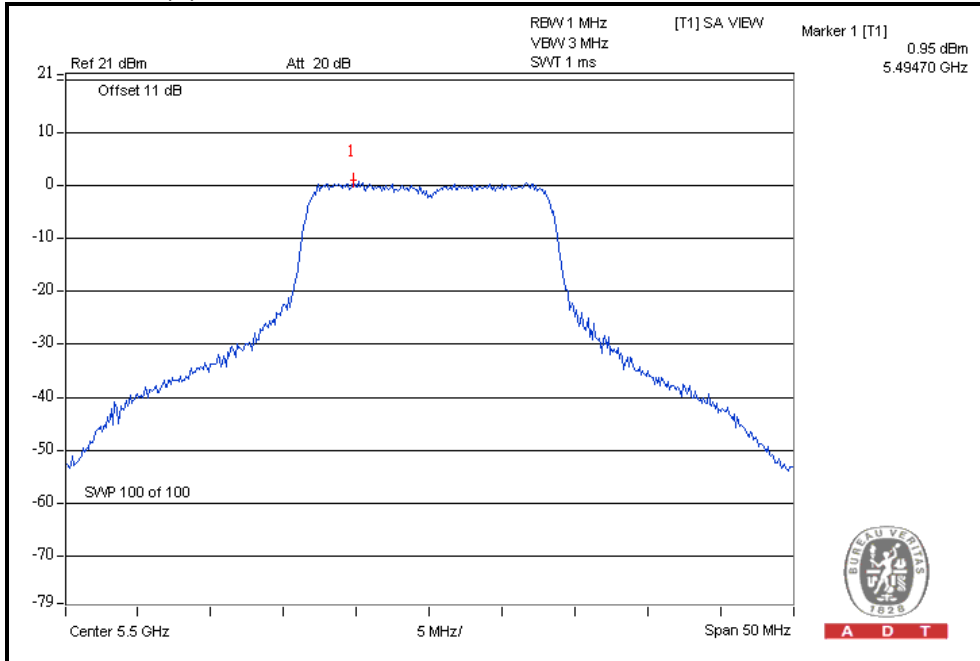


A D T

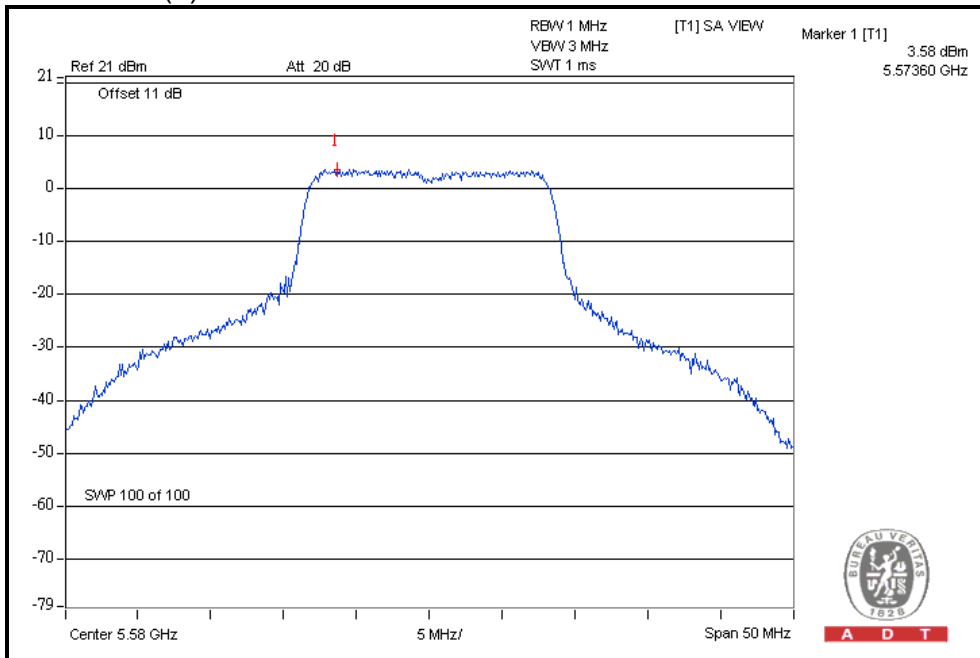


A D T

For CHAIN(1) : CH100



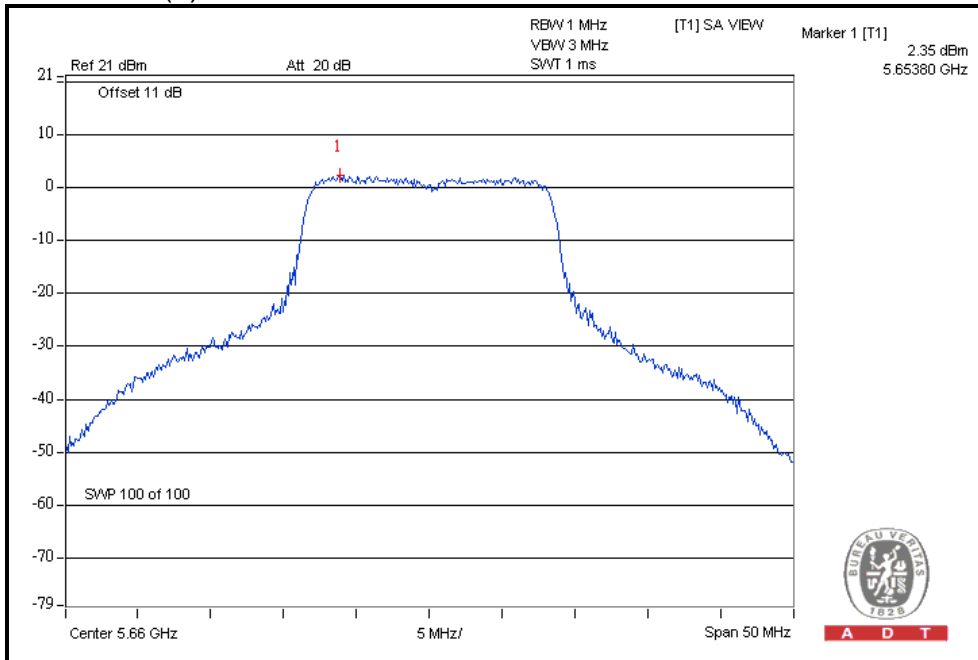
For CHAIN(1) : CH116



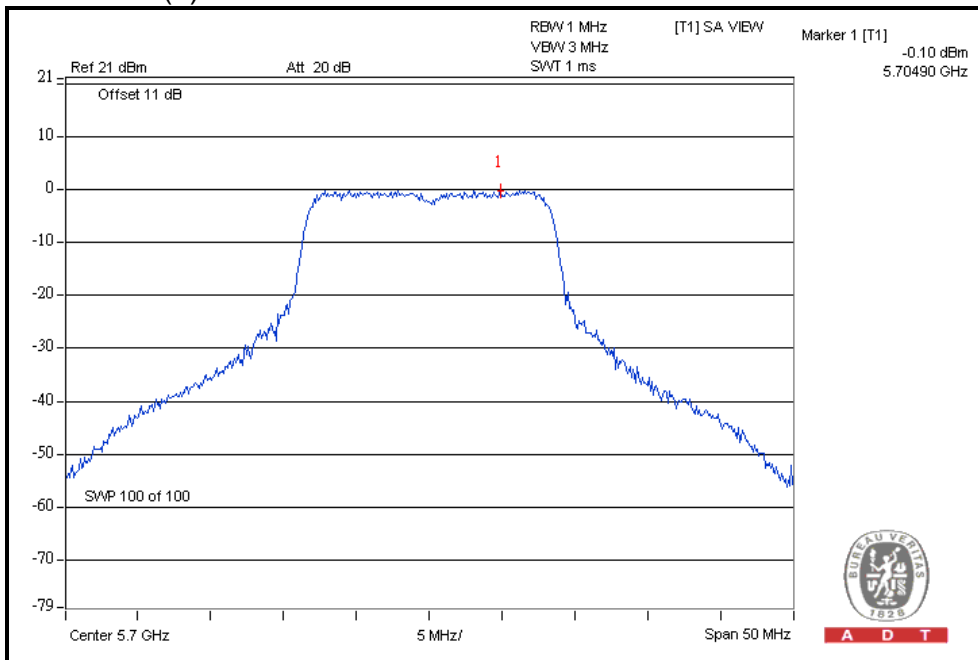


A D T

For CHAIN(1) : CH132



For CHAIN(1) : CH140





A D T

802.11n (20MHz) OFDM MODULATION:

CHAN.	CHAN. FREQ. (MHz)	RF POWER LEVEL IN 1MHz BW (dBm)		TOTAL POWER DENSITY (dBm)	MAX. LIMIT (dBm)	PASS / FAIL
		CHAIN (0)	CHAIN (1)			
36	5180	0.1	-0.4	2.5	3.91	PASS
40	5200	-0.2	-0.4	2.6	3.91	PASS
48	5240	-0.2	0.3	2.8	3.91	PASS
52	5260	3.0	3.1	5.9	10.91	PASS
60	5300	2.1	3.0	5.3	10.91	PASS
64	5320	2.6	2.9	5.6	10.91	PASS
100	5500	0.7	0.3	3.4	9.23	PASS
116	5580	2.8	3.9	6.3	9.23	PASS
132	5660	2.6	2.7	5.2	9.23	PASS
140	5700	0.0	1.0	3.2	9.23	PASS

Note: Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer

For Operated in 5150MHz ~ 5250MHz bands:

Directional gain = gain of antenna element + 10 log (# of TX antenna elements)

Effective Legacy Gain (dBi) = 6.09

The effective legacy gain is 6.09dBi, therefore the limit needs to reduce.

For Operated in 5250MHz ~ 5350MHz bands:

Directional gain = gain of antenna element + 10 log (# of TX antenna elements)

Effective Legacy Gain (dBi) = 6.09

The effective legacy gain is 6.09dBi, therefore the limit needs to reduce.

For Operated in 5470MHz ~ 5600MHz & 5650MHz ~ 5725MHz bands:

Directional gain = gain of antenna element + 10 log (# of TX antenna elements)

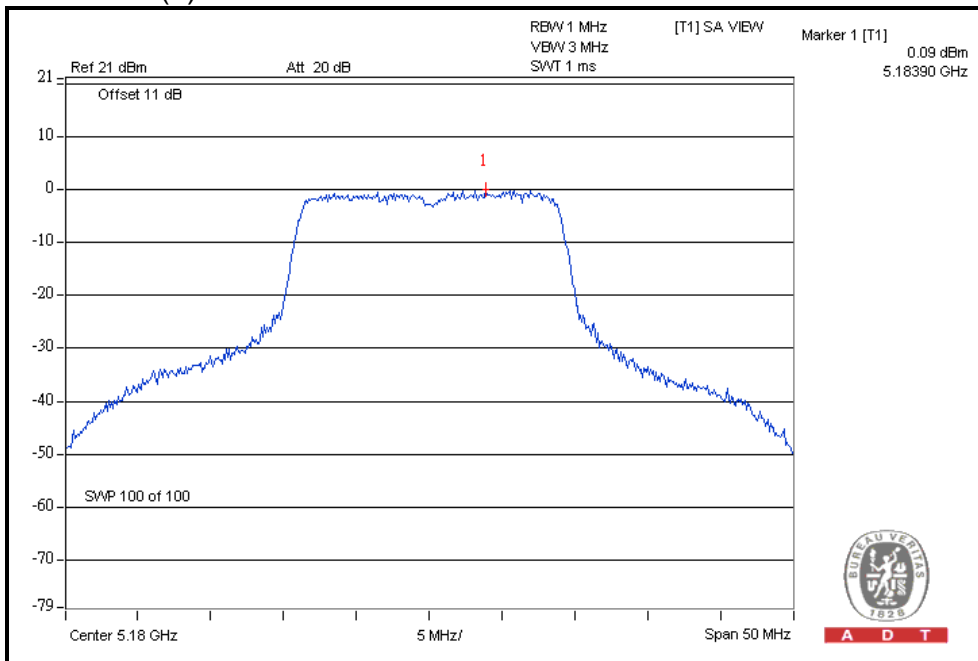
Effective Legacy Gain (dBi) = 7.77

The effective legacy gain is 7.77dBi, therefore the limit needs to reduce.

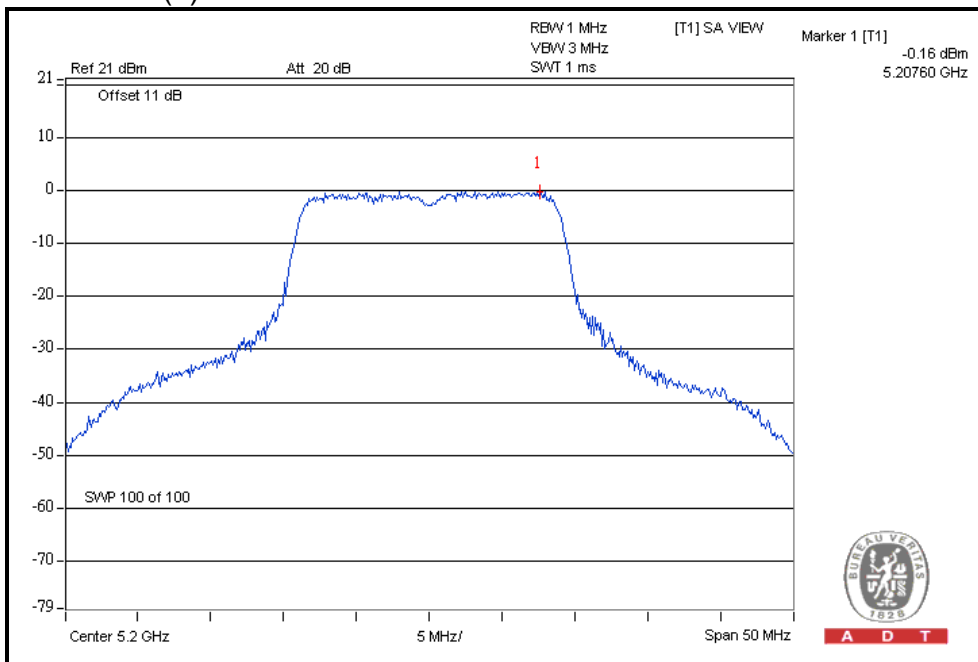


A D T

For CHAIN(0) : CH36



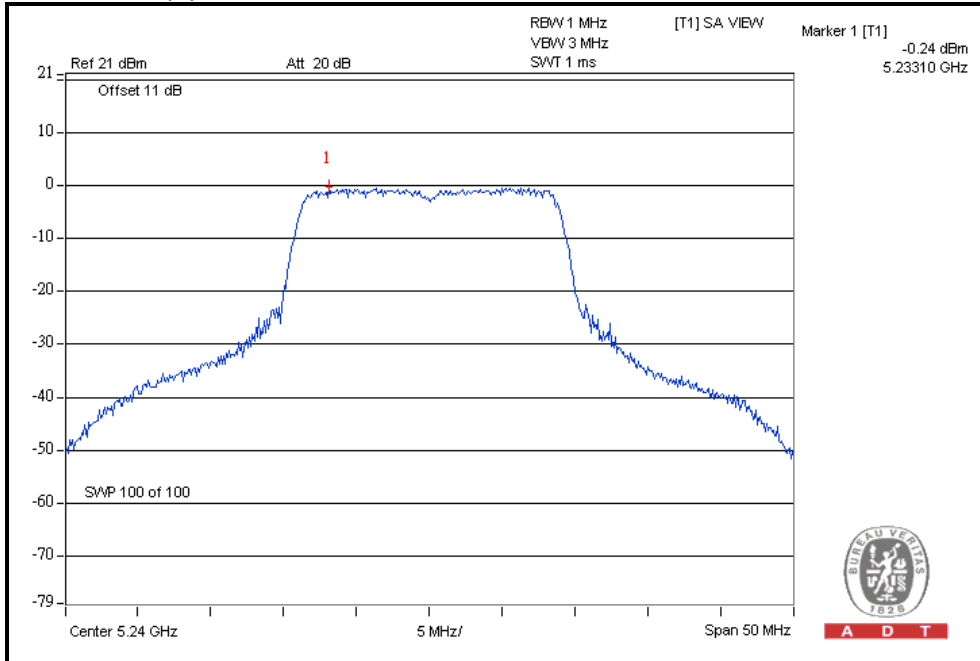
For CHAIN(0) : CH40



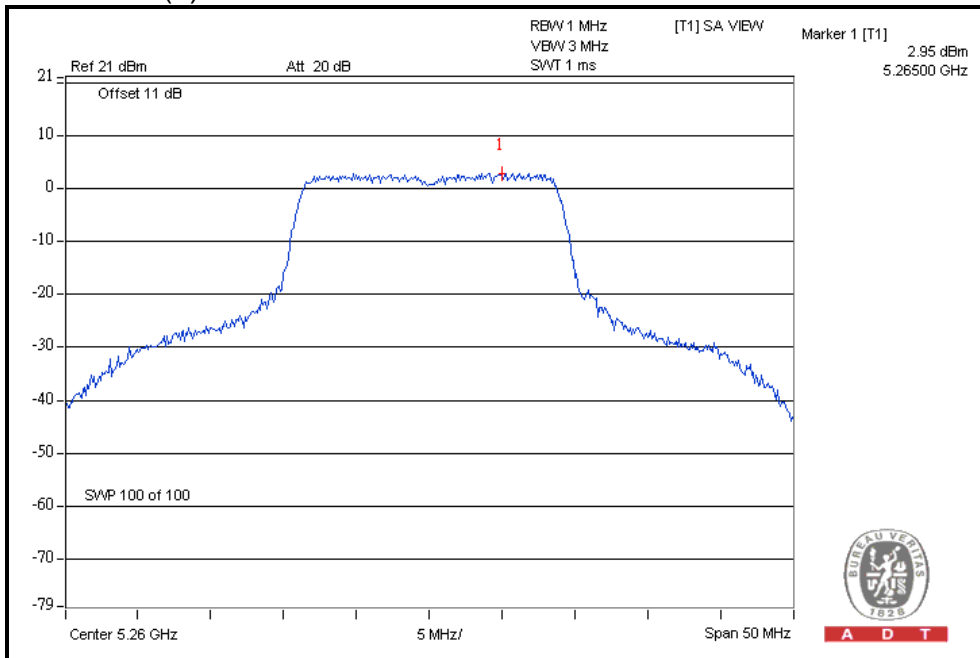


A D T

For CHAIN(0) : CH48



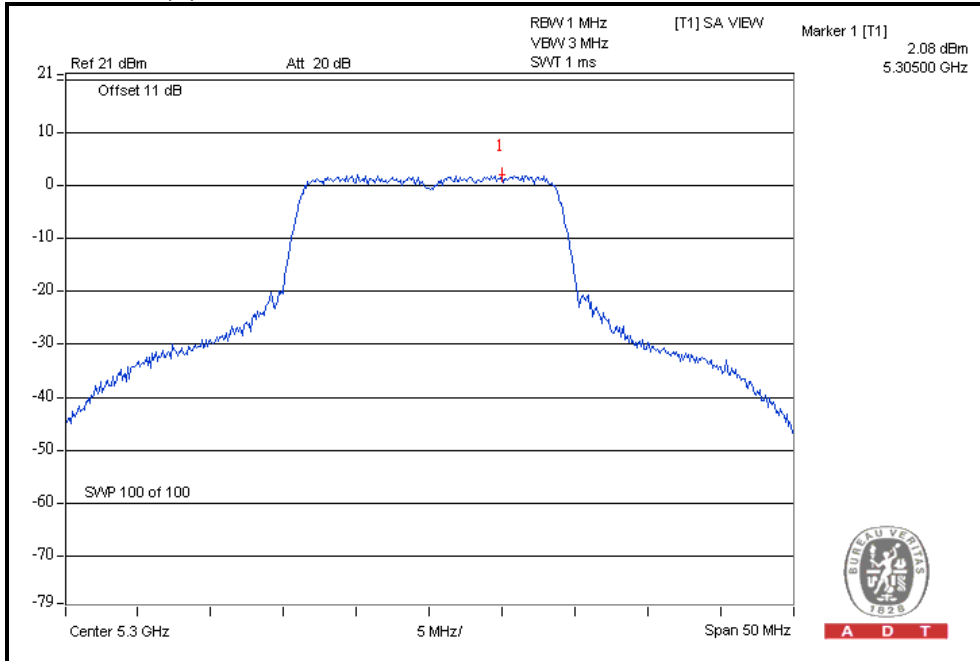
For CHAIN(0) : CH52





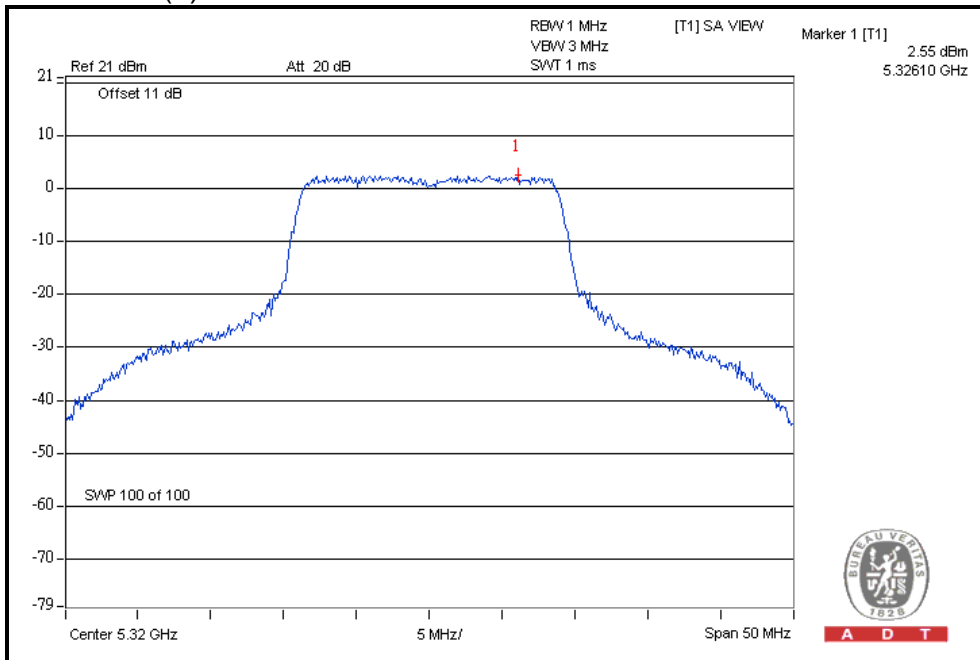
A D T

For CHAIN(0) : CH60



A D T

For CHAIN(0) : CH64

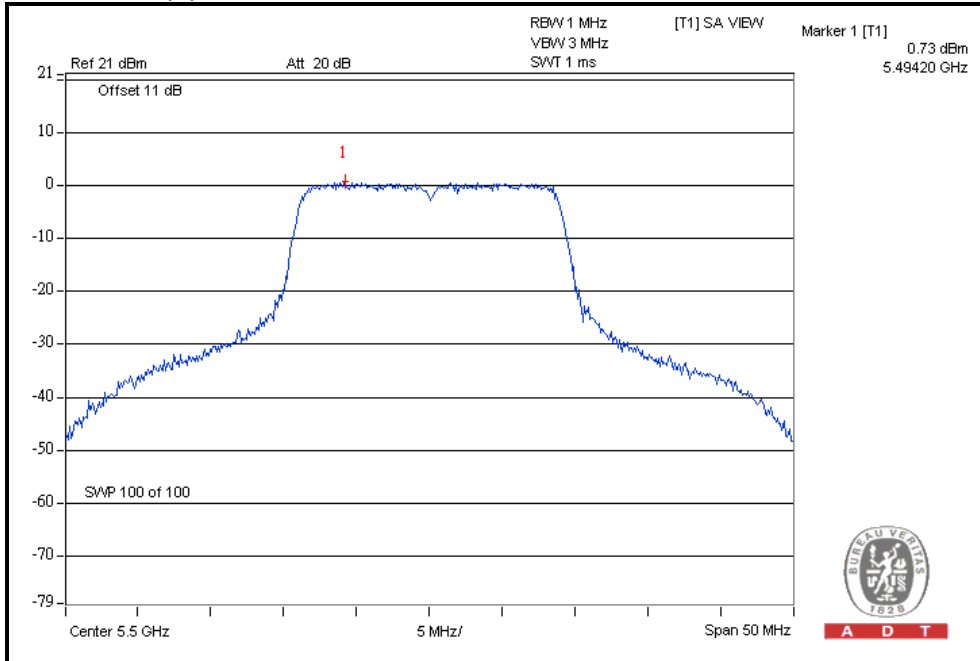


A D T

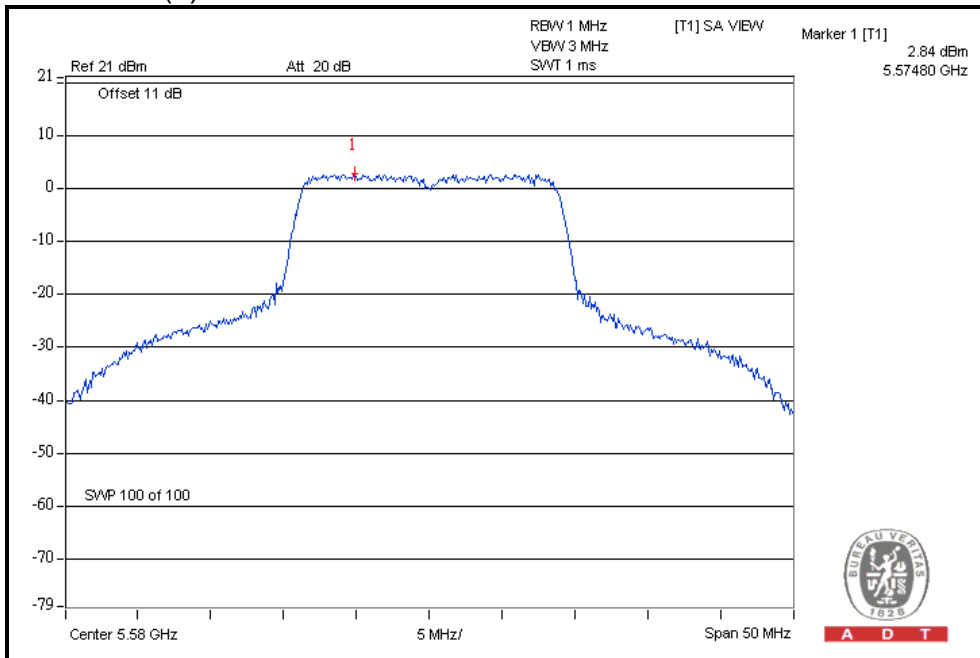


A D T

For CHAIN(0) : CH100



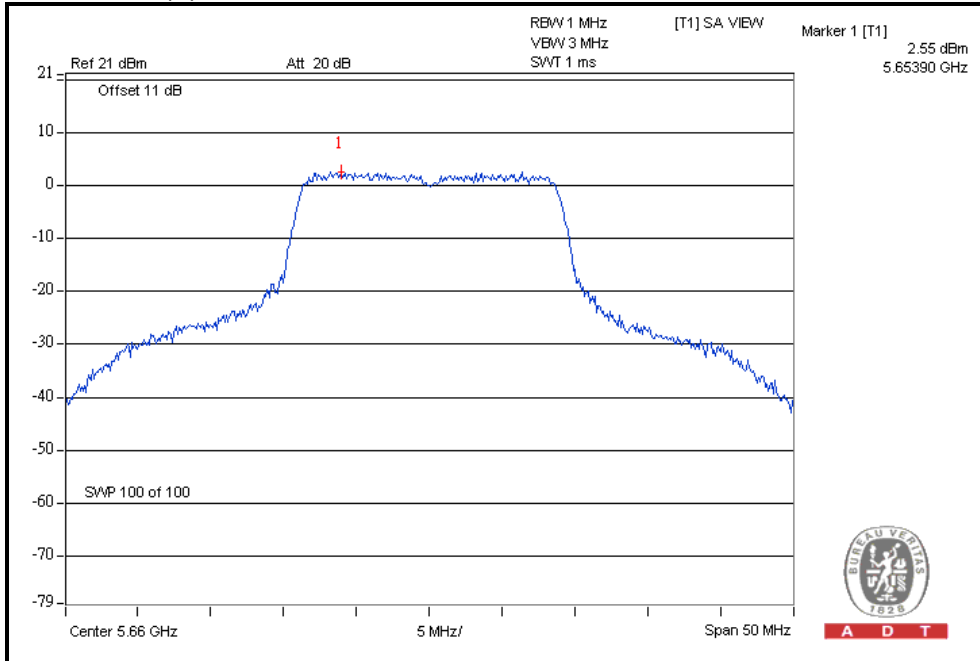
For CHAIN(0) : CH116



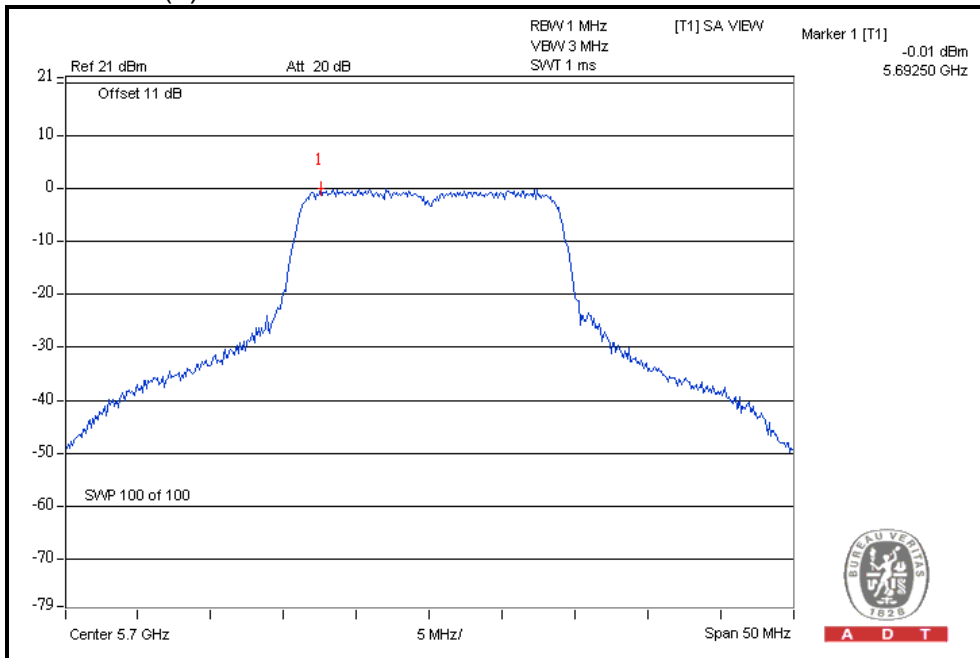


A D T

For CHAIN(0) : CH132



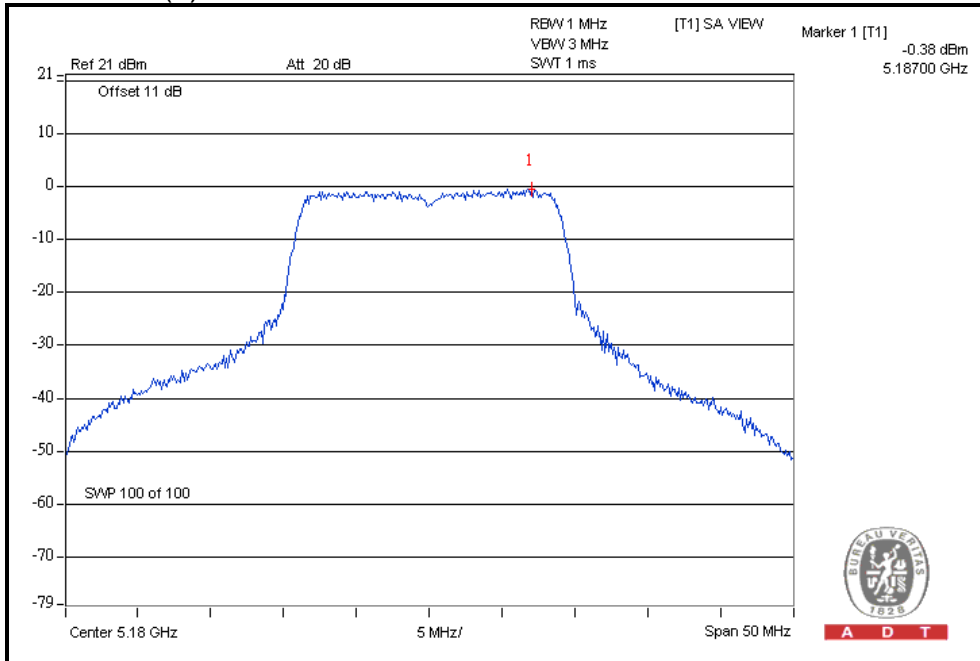
For CHAIN(0) : CH140



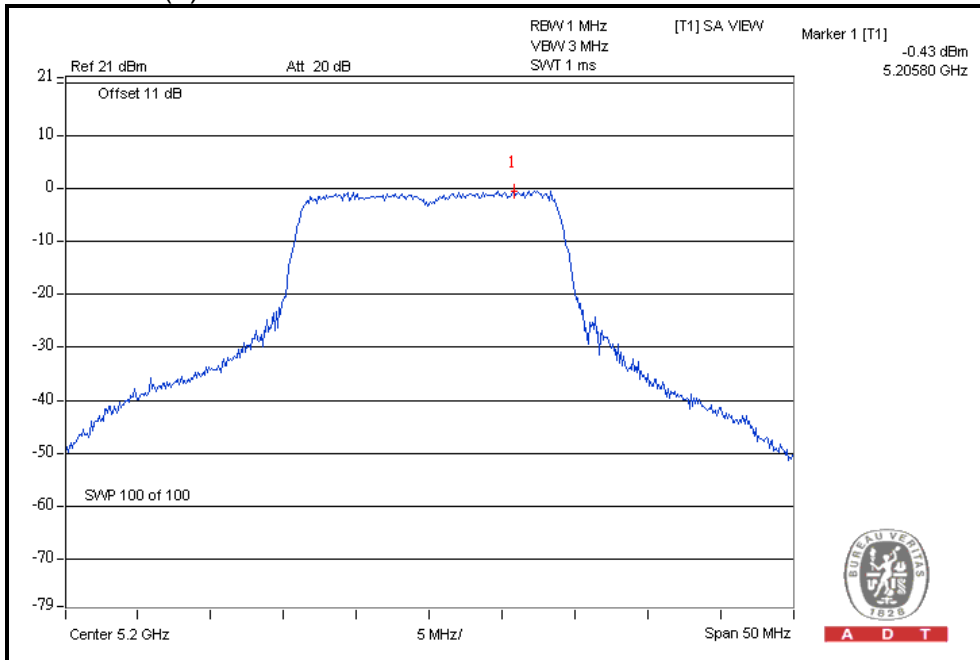


A D T

For CHAIN(1) : CH36



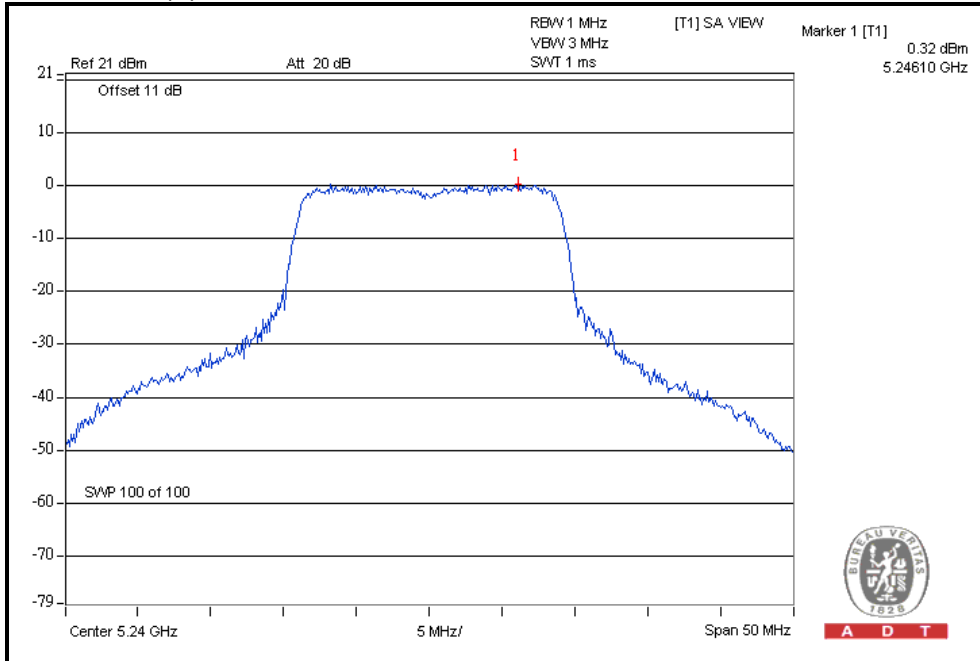
For CHAIN(1) : CH40



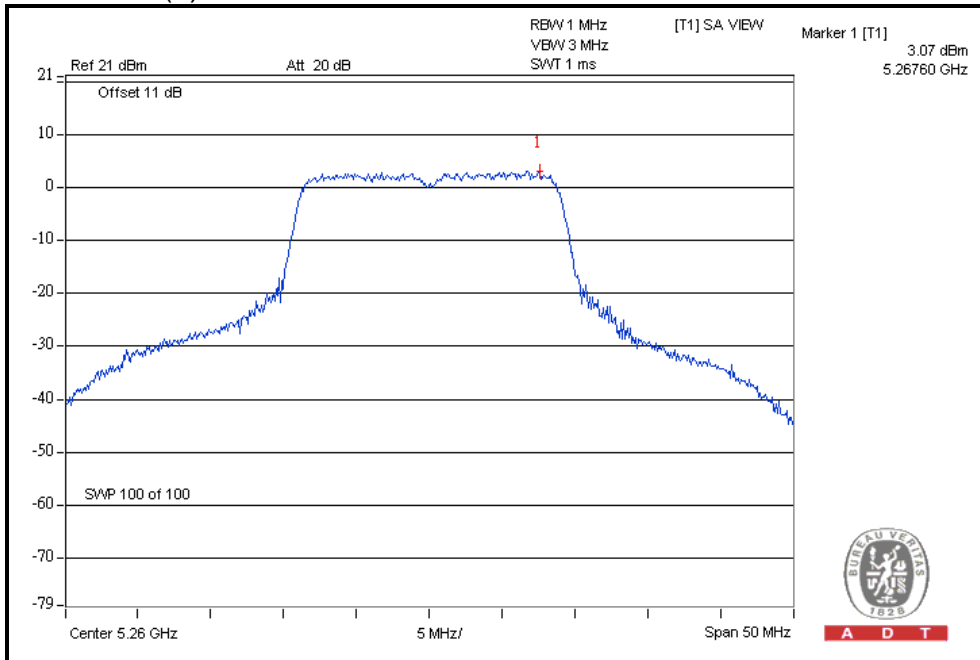


A D T

For CHAIN(1) : CH48



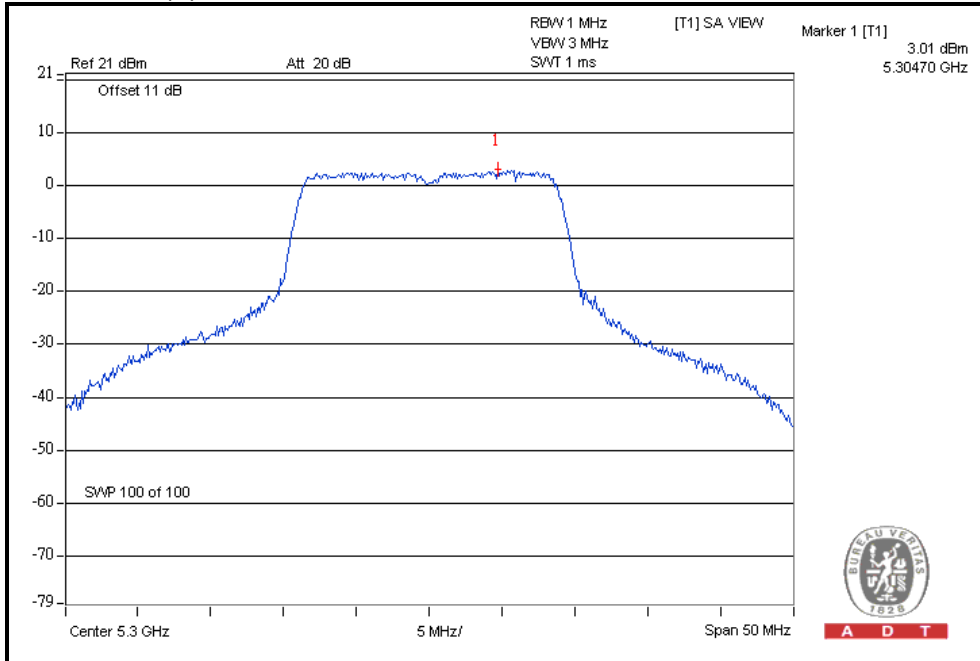
For CHAIN(1) : CH52



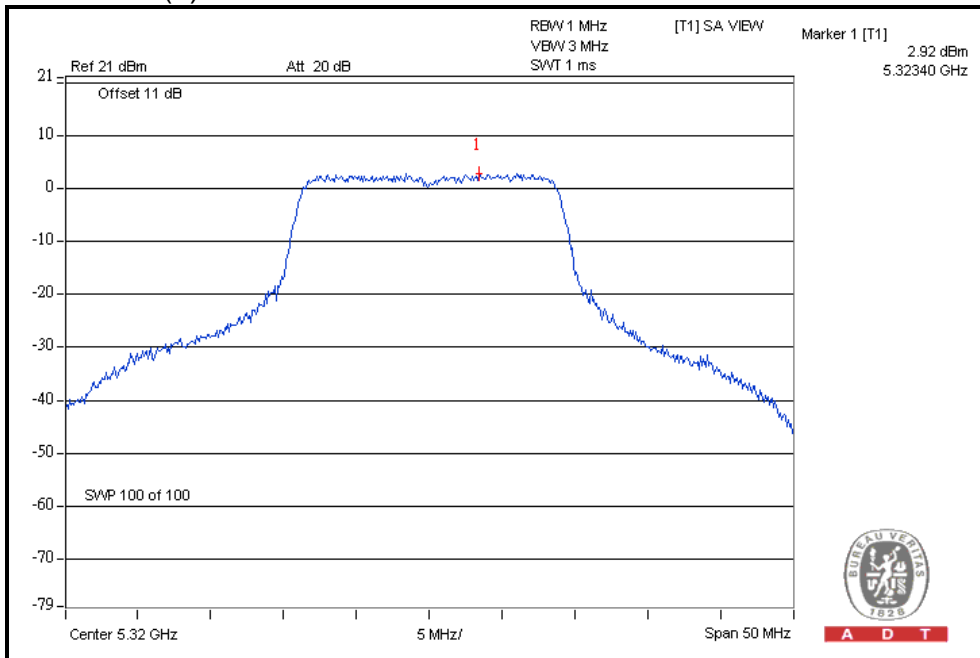


A D T

For CHAIN(1) : CH60



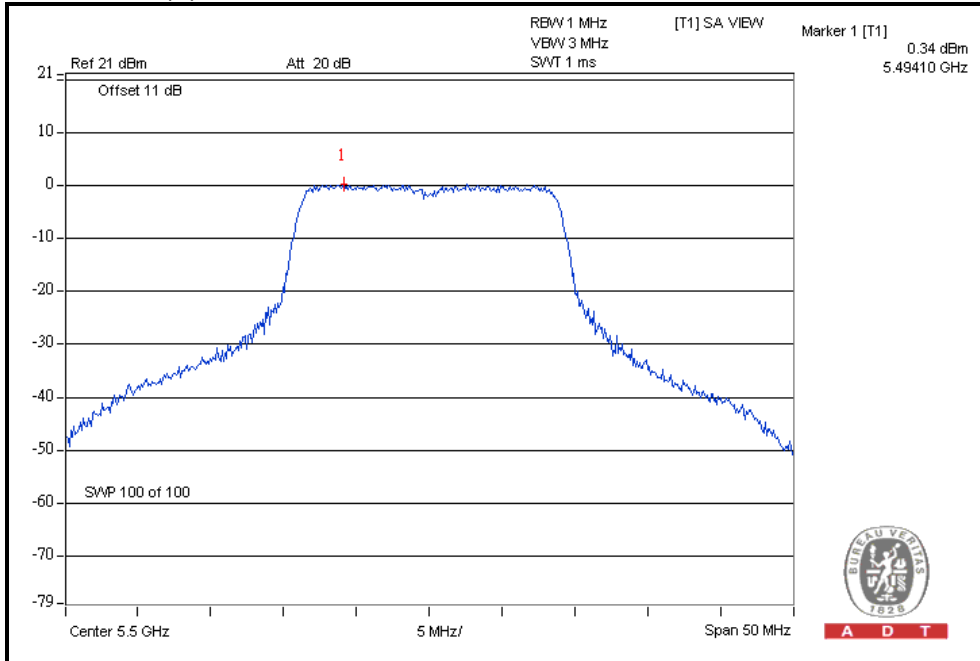
For CHAIN(1) : CH64





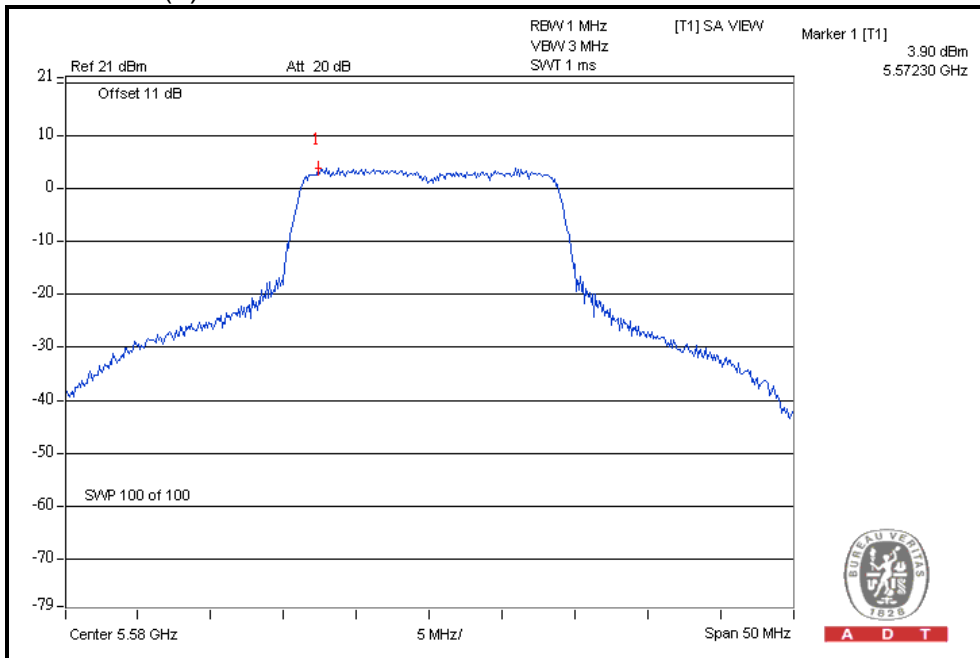
A D T

For CHAIN(1) : CH100



A D T

For CHAIN(1) : CH116

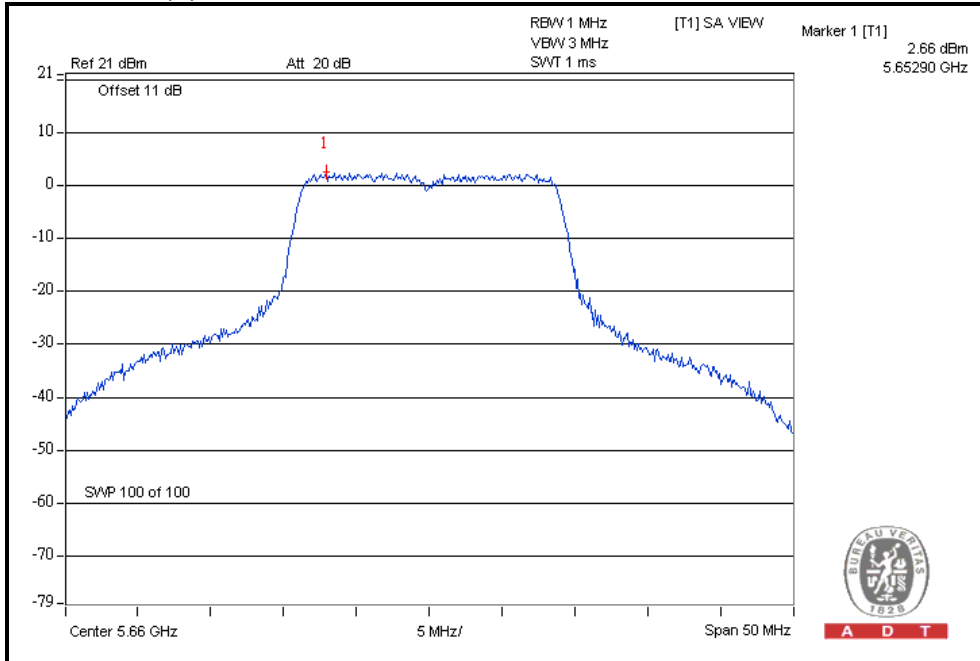


A D T

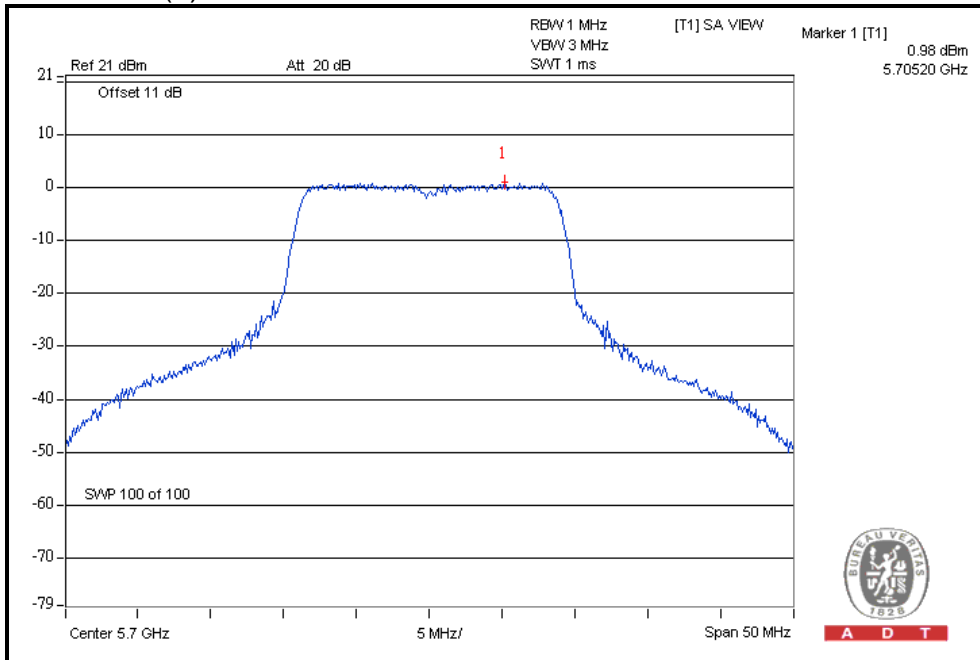


A D T

For CHAIN(1) : CH132



For CHAIN(1) : CH140





A D T

802.11n (40MHz) OFDM MODULATION:

CHAN.	CHAN. FREQ. (MHz)	RF POWER LEVEL IN 1MHz BW (dBm)		TOTAL POWER DENSITY (dBm)	MAX. LIMIT (dBm)	PASS / FAIL
		CHAIN (0)	CHAIN (1)			
38	5190	-6.0	-6.0	-3.2	3.91	PASS
46	5230	-0.9	-2.2	1.4	3.91	PASS
54	5270	0.5	1.5	3.9	10.91	PASS
62	5310	-4.5	-3.7	-1.4	10.91	PASS
102	5510	-6.0	-5.9	-3.1	9.23	PASS
110	5550	-0.3	0.1	2.7	9.23	PASS
134	5670	-3.7	-3.1	-0.6	9.23	PASS

Note: Method 1 of power density measurement of KDB 662911 is using for calculating total power density. Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer

For Operated in 5150MHz ~ 5250MHz bands:

Directional gain = gain of antenna element + 10 log (# of TX antenna elements)

Effective Legacy Gain (dBi) = 6.09

The effective legacy gain is 6.09dBi, therefore the limit needs to reduce.

For Operated in 5250MHz ~ 5350MHz bands:

Directional gain = gain of antenna element + 10 log (# of TX antenna elements)

Effective Legacy Gain (dBi) = 6.09

The effective legacy gain is 6.09dBi, therefore the limit needs to reduce.

For Operated in 5470MHz ~ 5600MHz & 5650MHz ~ 5725MHz bands:

Directional gain = gain of antenna element + 10 log (# of TX antenna elements)

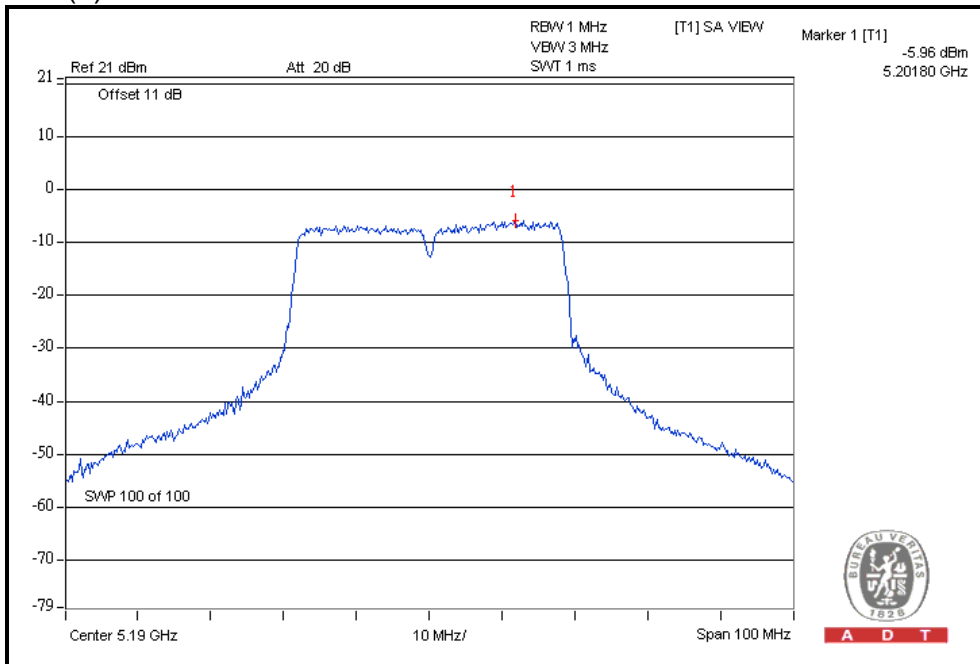
Effective Legacy Gain (dBi) = 7.77

The effective legacy gain is 7.77dBi, therefore the limit needs to reduce.

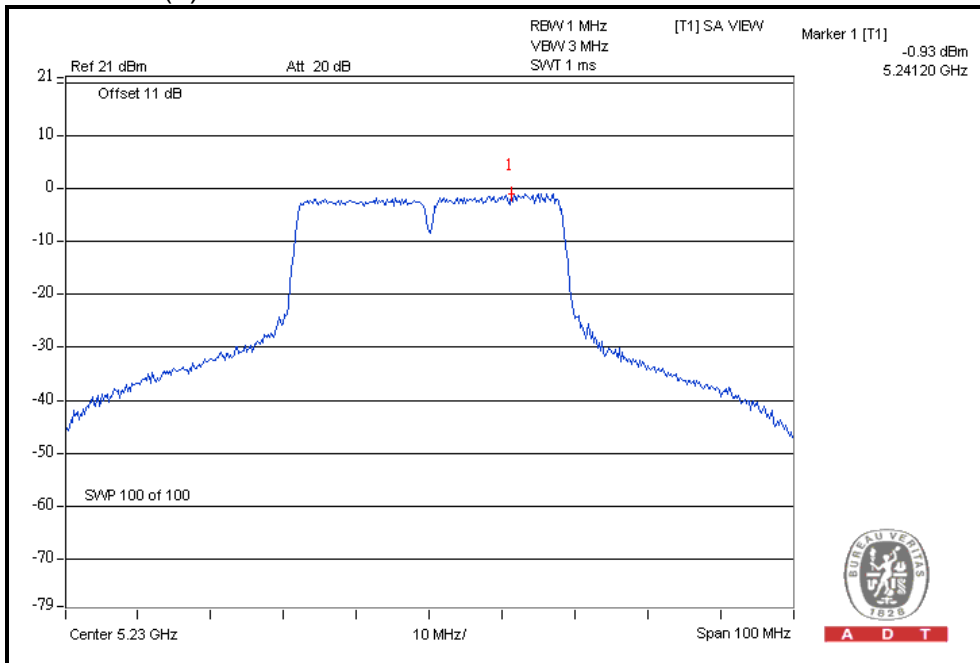


A D T

For CHAIN(0) : CH38



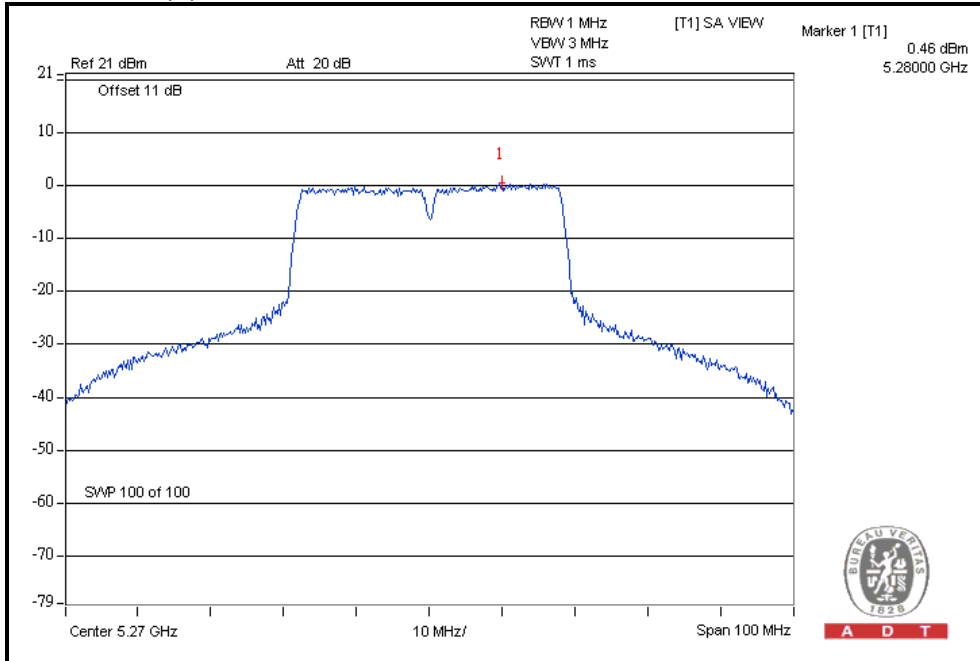
For CHAIN(0) : CH46



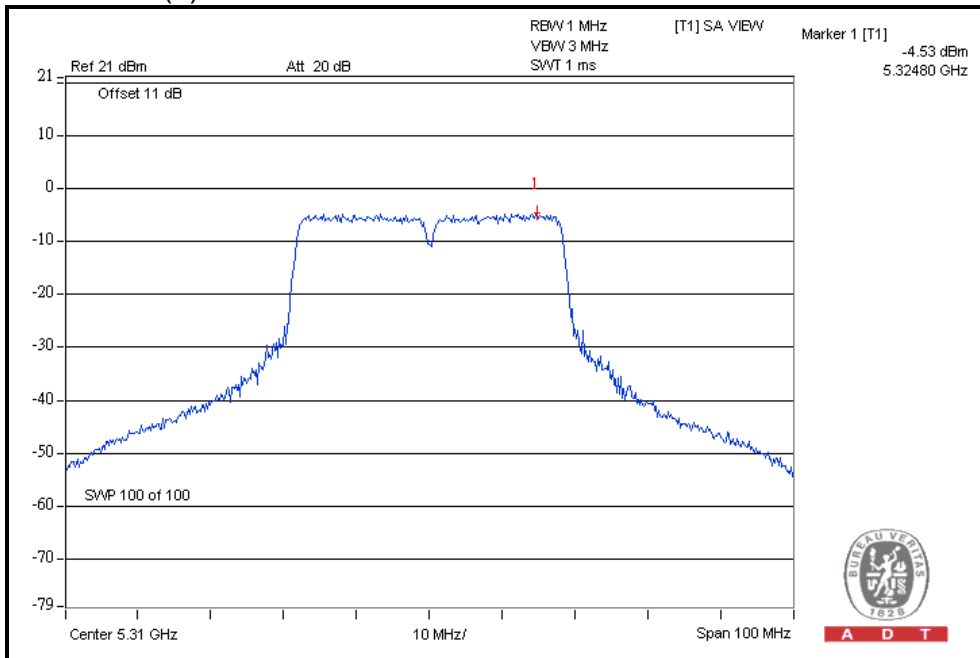


A D T

For CHAIN(0) : CH54



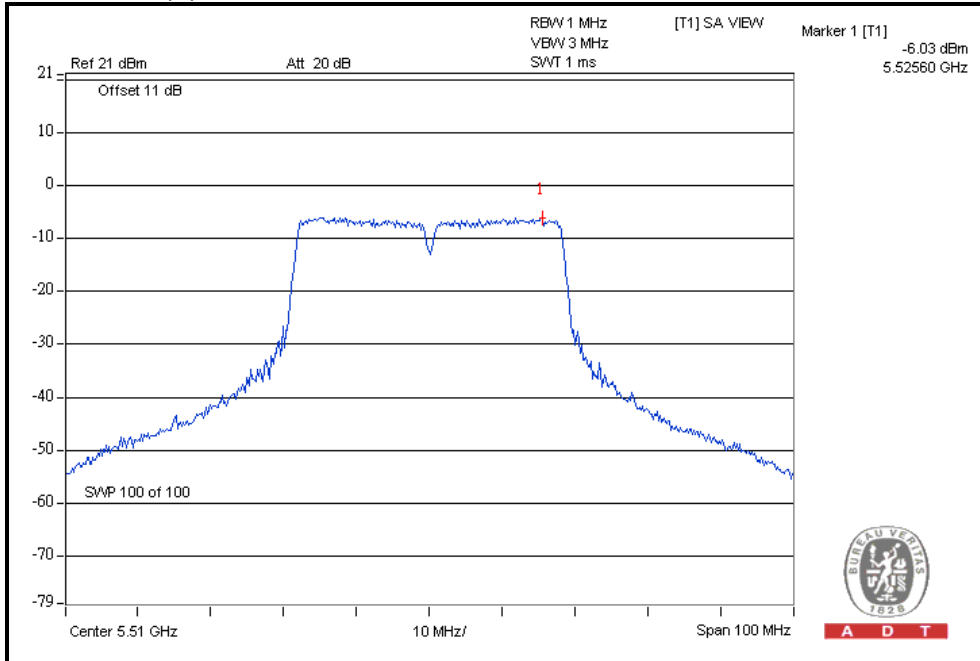
For CHAIN(0) : CH62



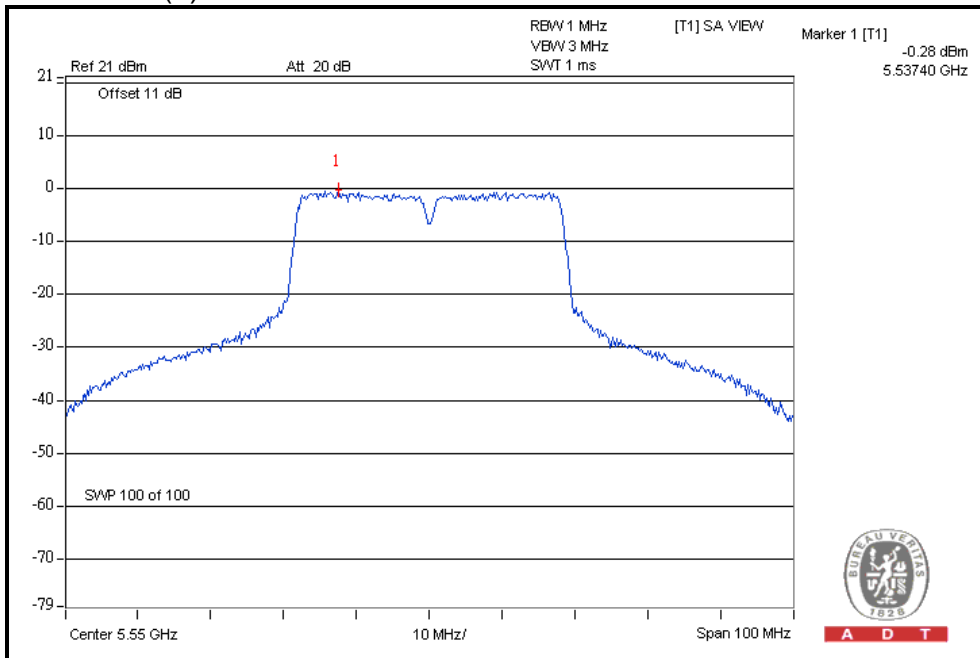


A D T

For CHAIN(0) : CH102



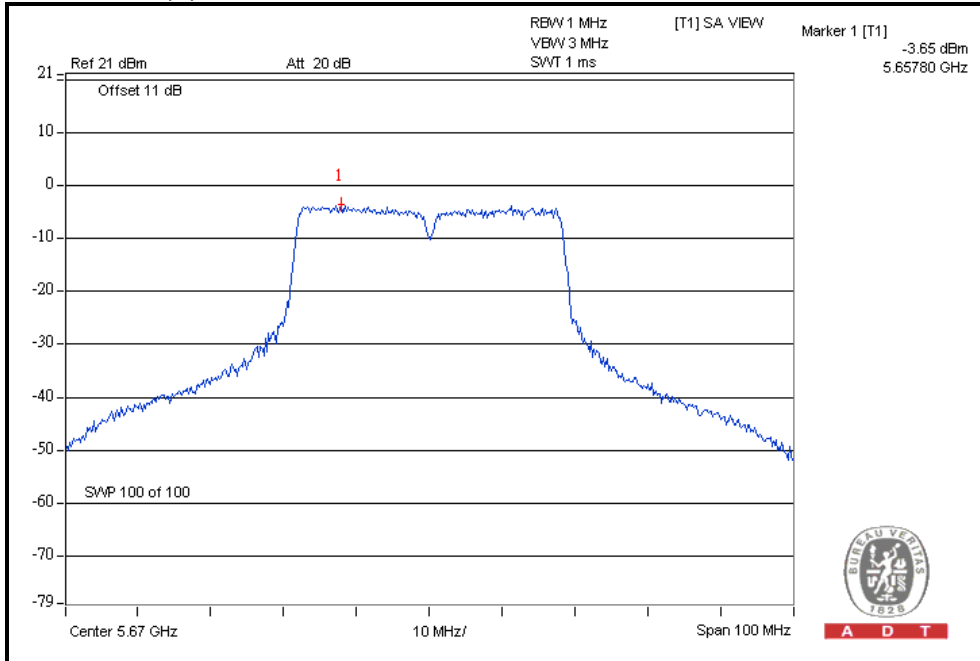
For CHAIN(0) : CH110





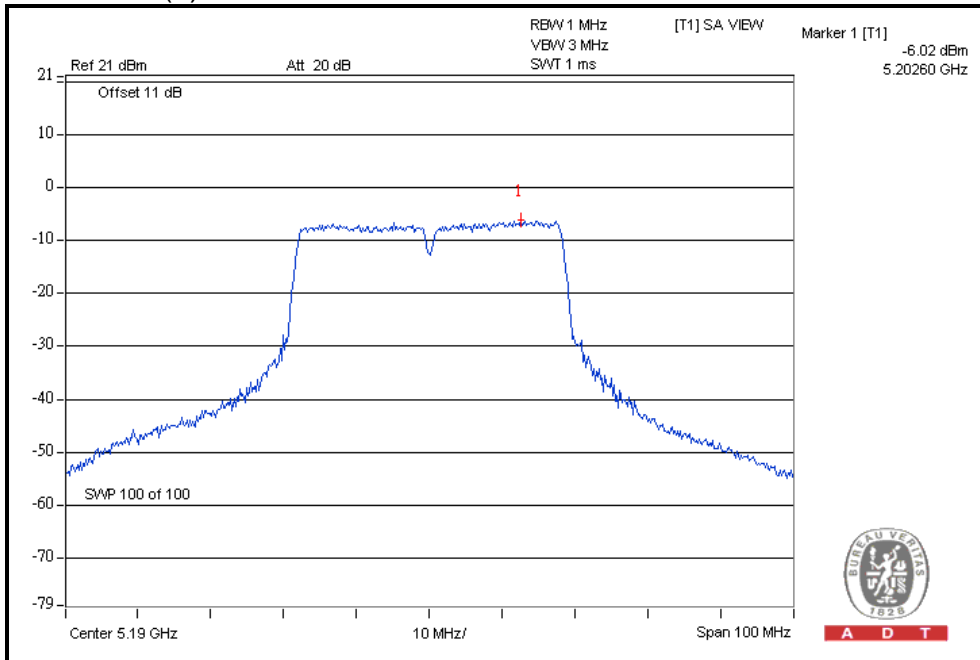
A D T

For CHAIN(0) : CH134



A D T

For CHAIN(1) : CH38

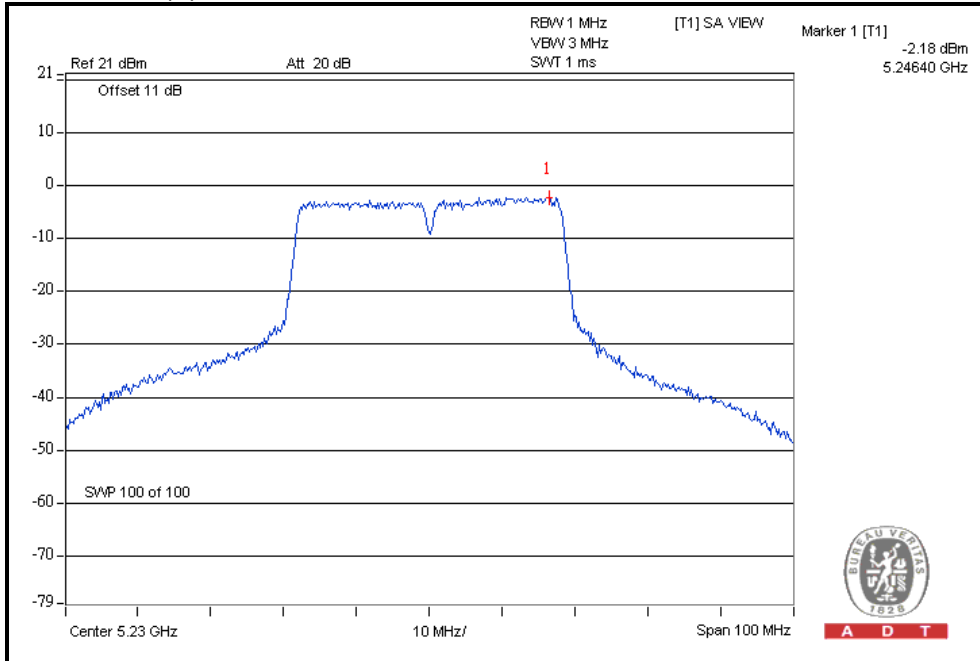


A D T

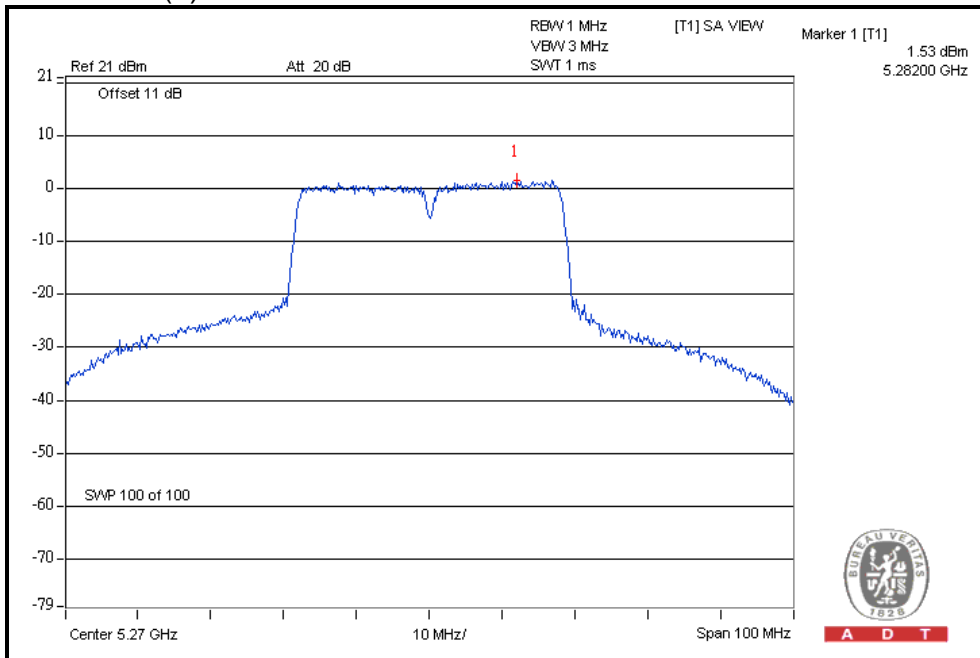


A D T

For CHAIN(1) : CH46



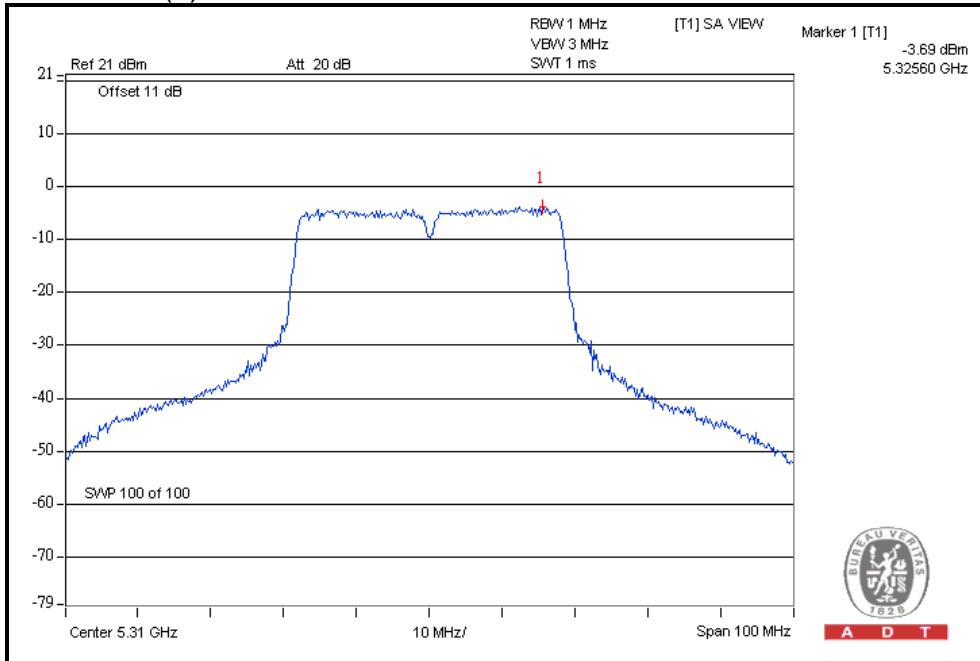
For CHAIN(1) : CH54



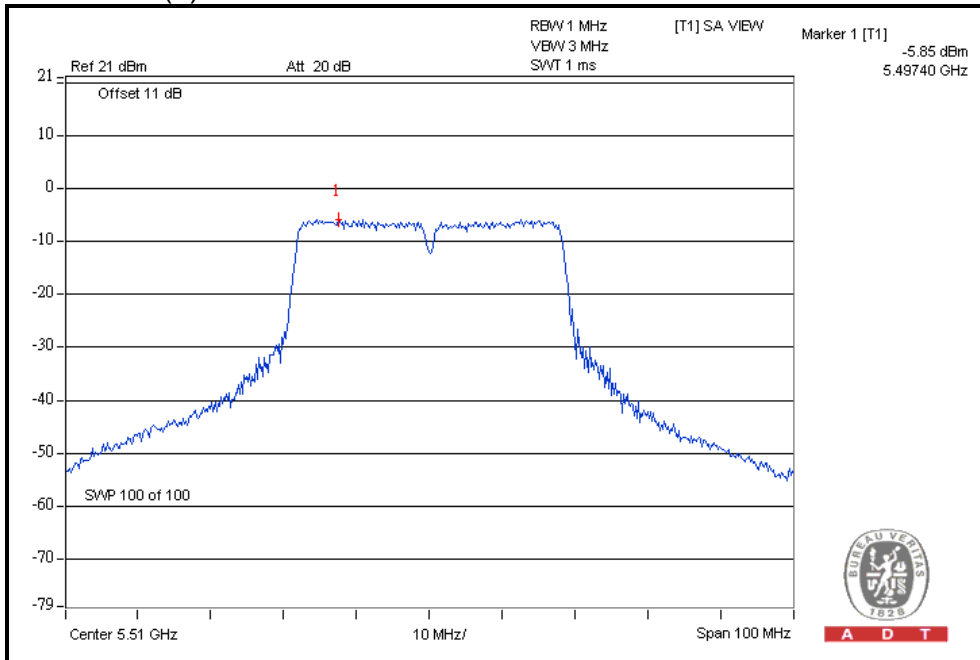


A D T

For CHAIN(1) : CH62



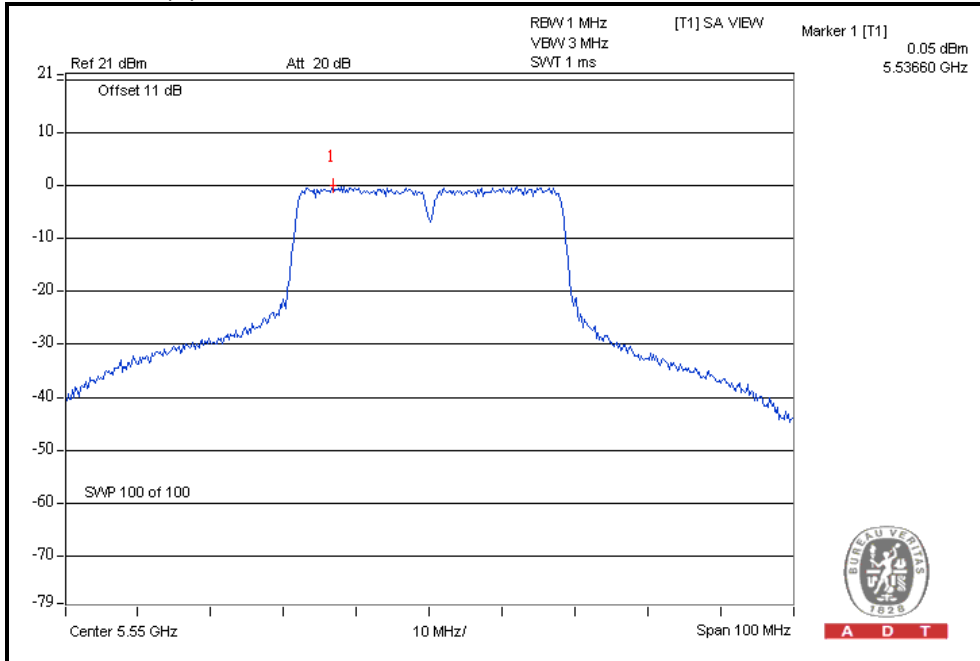
For CHAIN(1) : CH102





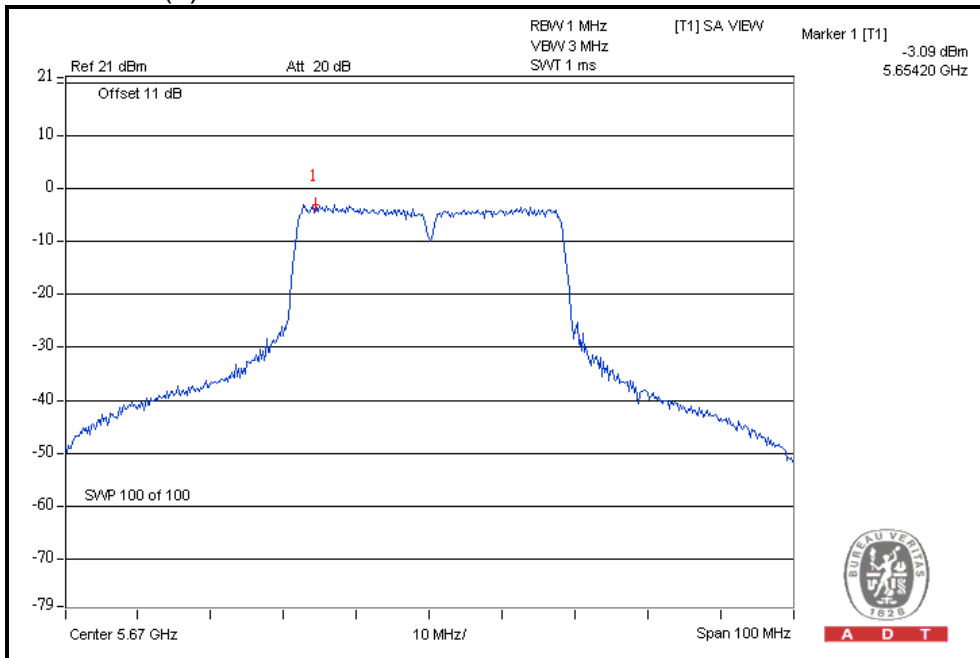
A D T

For CHAIN(1) : CH110



A D T

For CHAIN(1) : CH134



A D T



A D T

4.7 99% BANDWIDTH MEASUREMENT

4.7.1 TEST INSTRUMENTS

Test date: Dec. 06, 2011

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
R&S Spectrum Analyzer	FSP 40	100060	May 11, 2011	May 10, 2012

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

4.7.2 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with 300kHz RBW and 1MHz VBW.

4.7.3 TEST SETUP



4.7.4 EUT OPERATING CONDITIONS

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



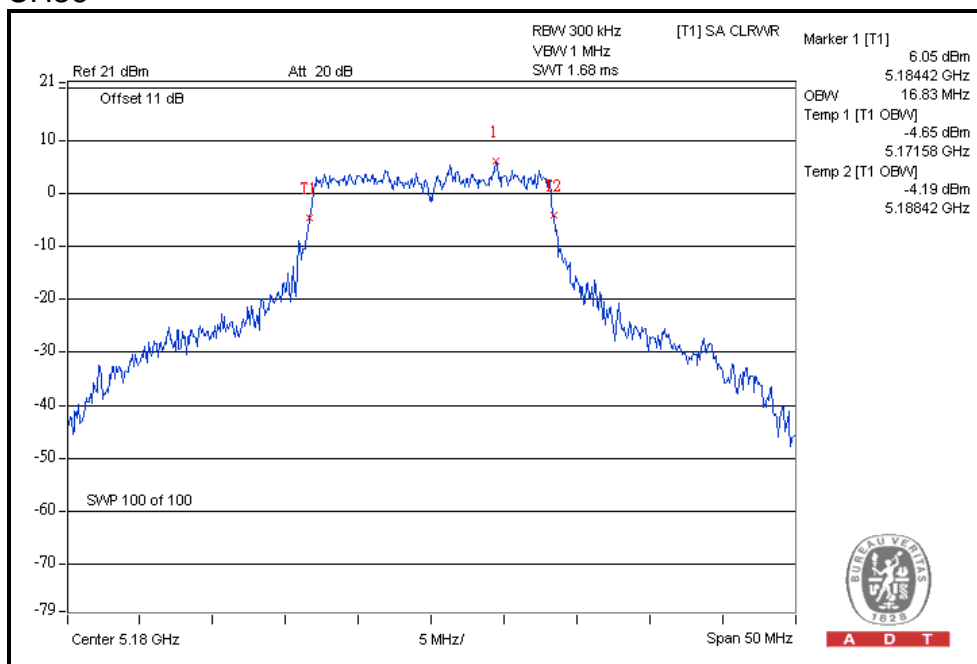
A D T

4.7.5 TEST RESULTS

Single chain - 802.11a OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	99% BANDWIDTH (MHz)
36	5180	16.83
40	5200	16.92
48	5240	16.83
52	5260	23.42
60	5300	24.50
64	5320	17.50
100	5500	28.92
116	5580	24.17
132	5660	19.25
140	5700	21.50

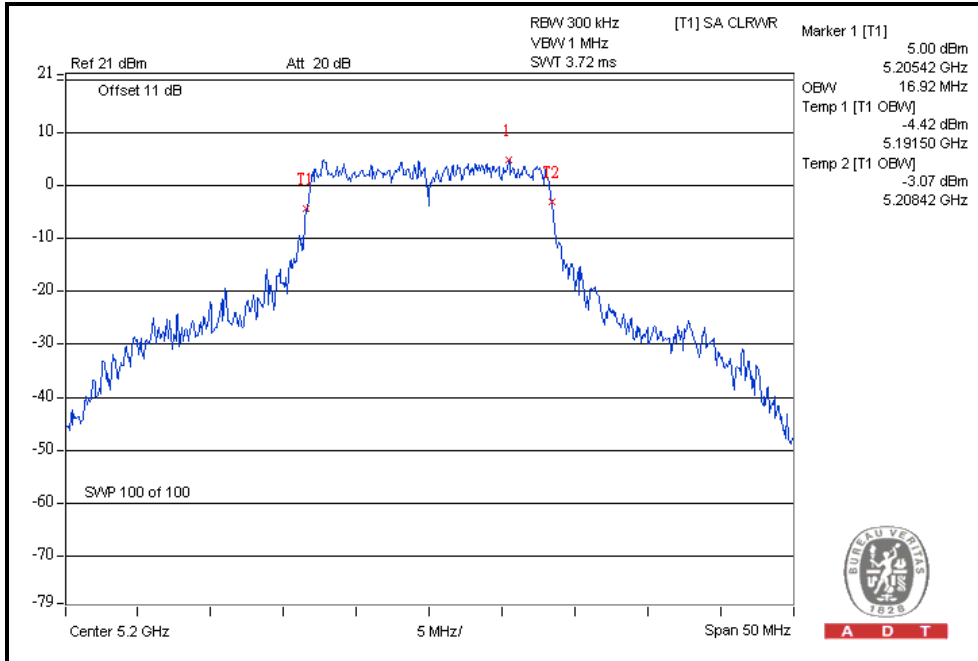
CH36





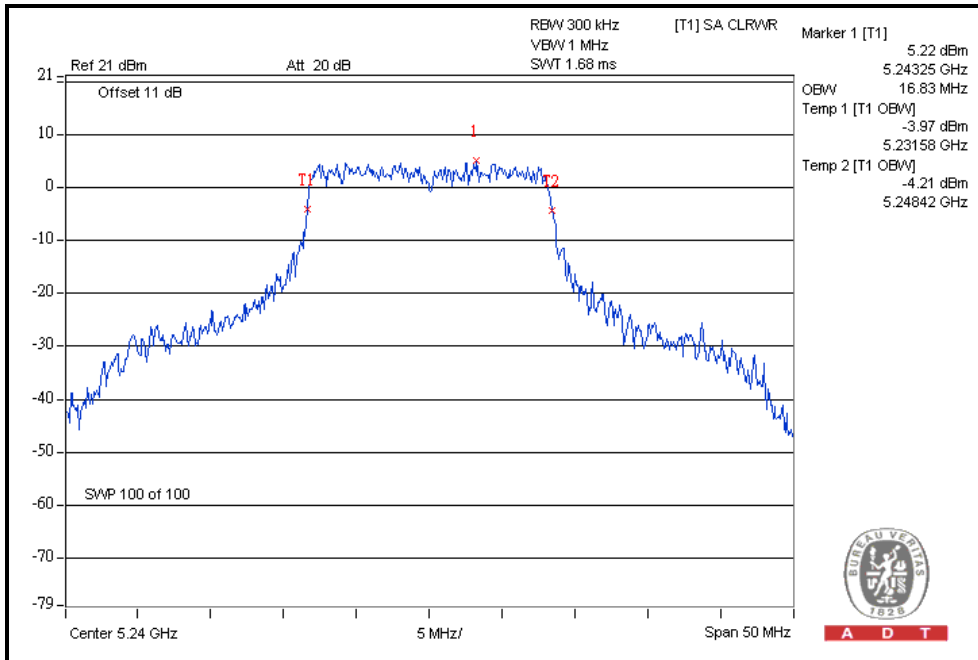
A D T

CH40



A D T

CH48

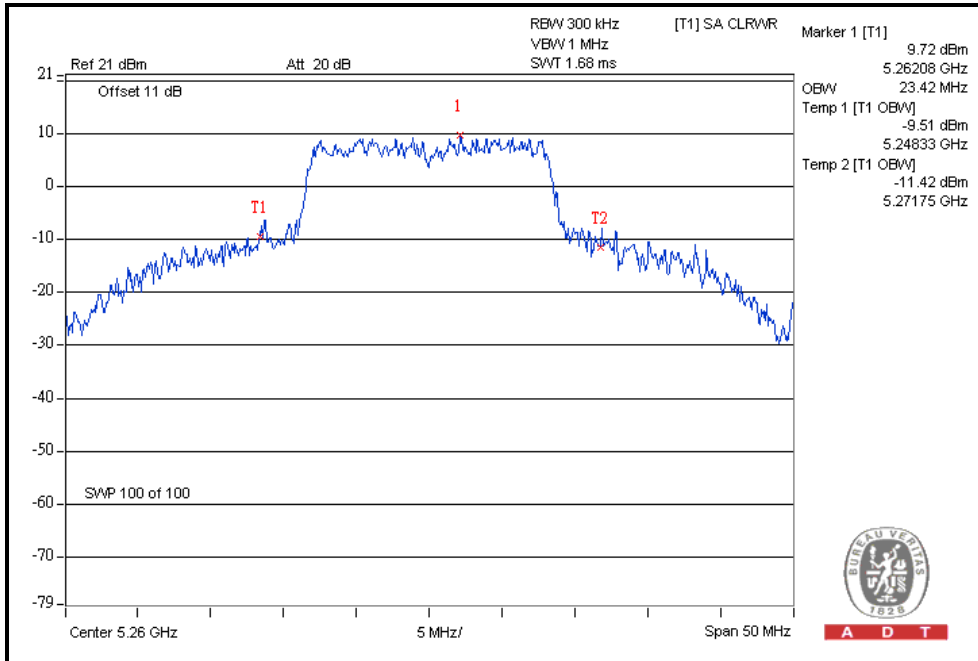


A D T

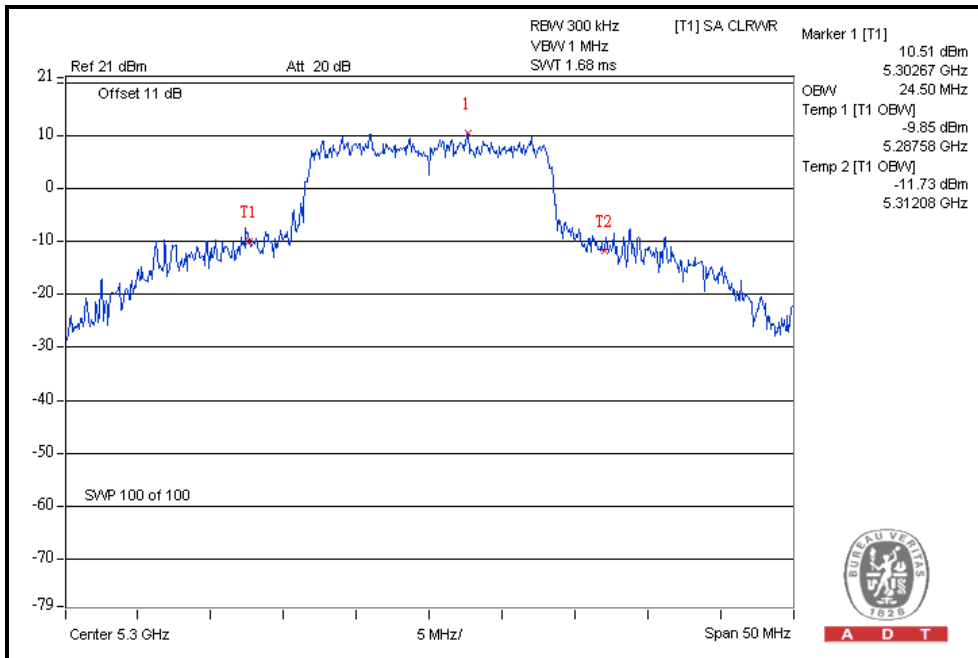


A D T

CH52



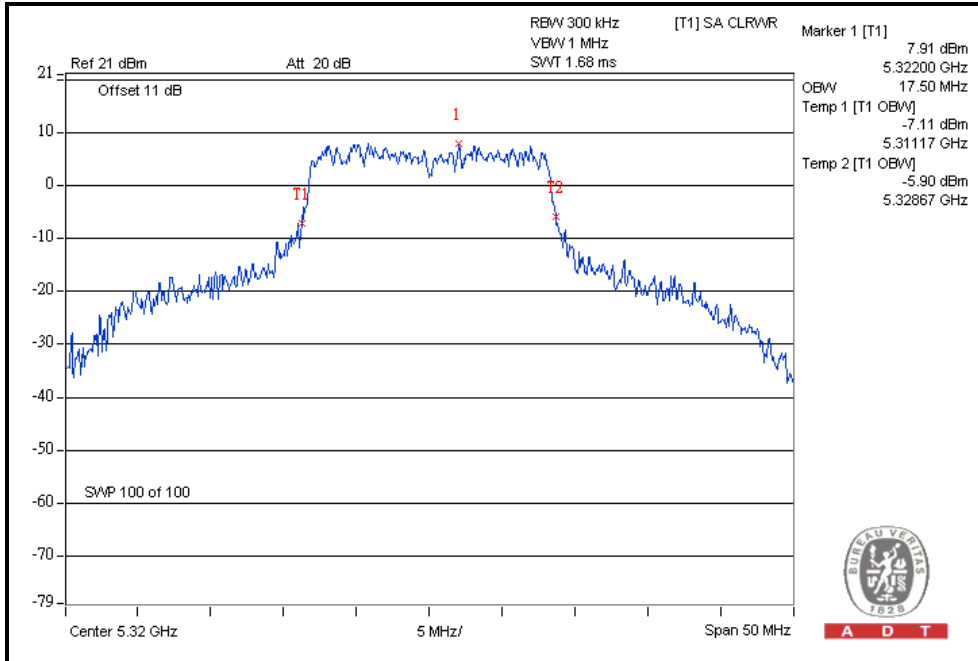
CH60





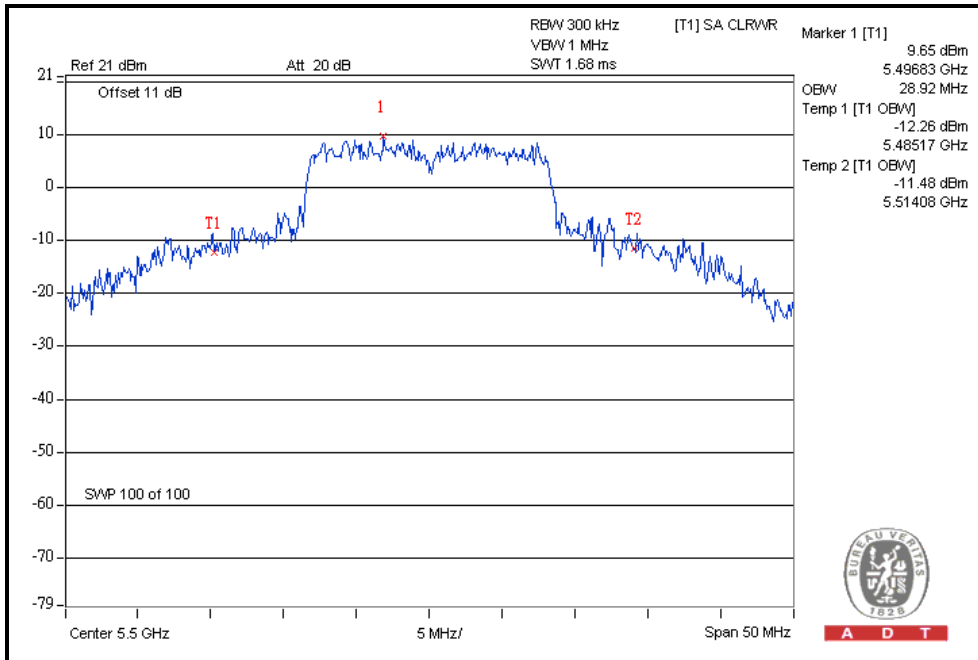
A D T

CH64



A D T

CH100

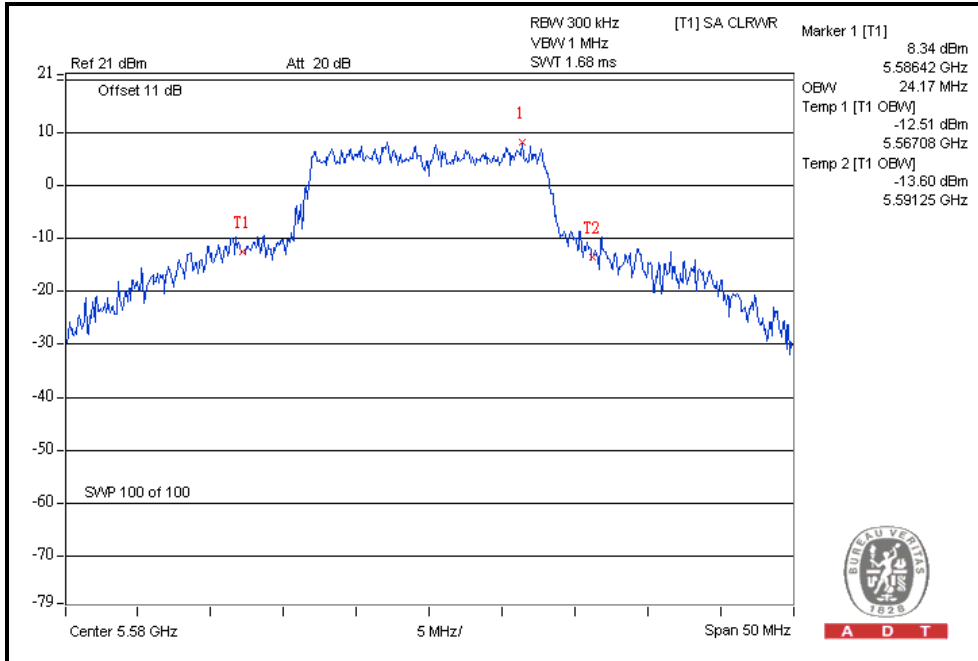


A D T

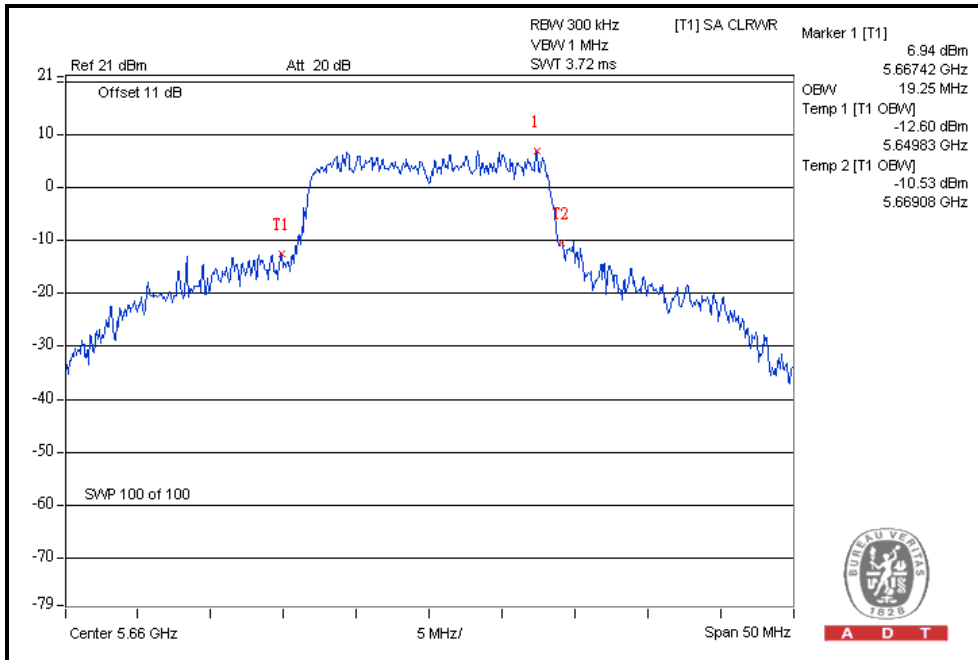


A D T

CH116



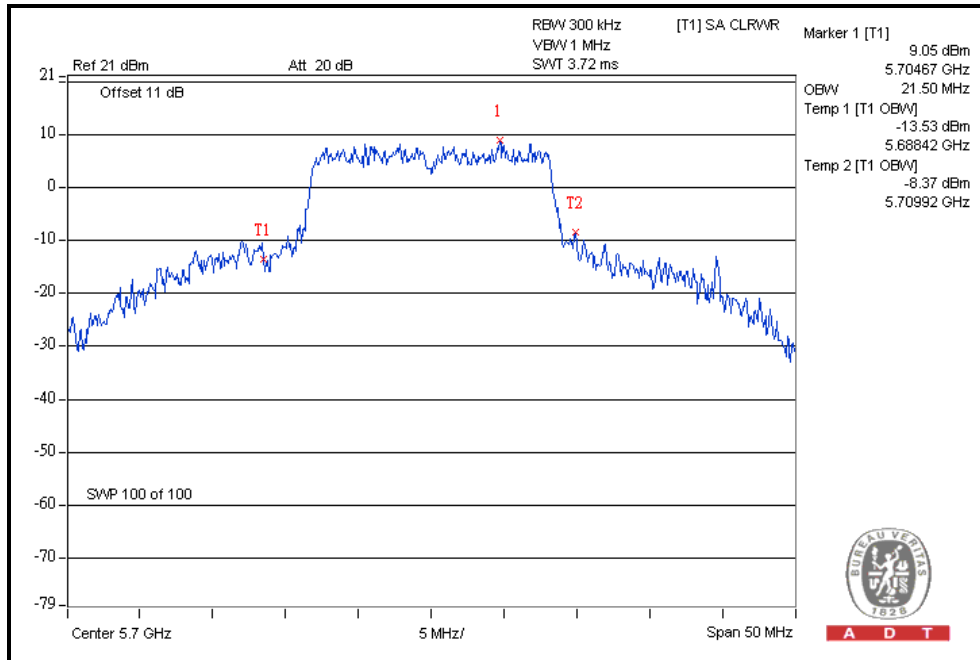
CH132





A D T

CH140



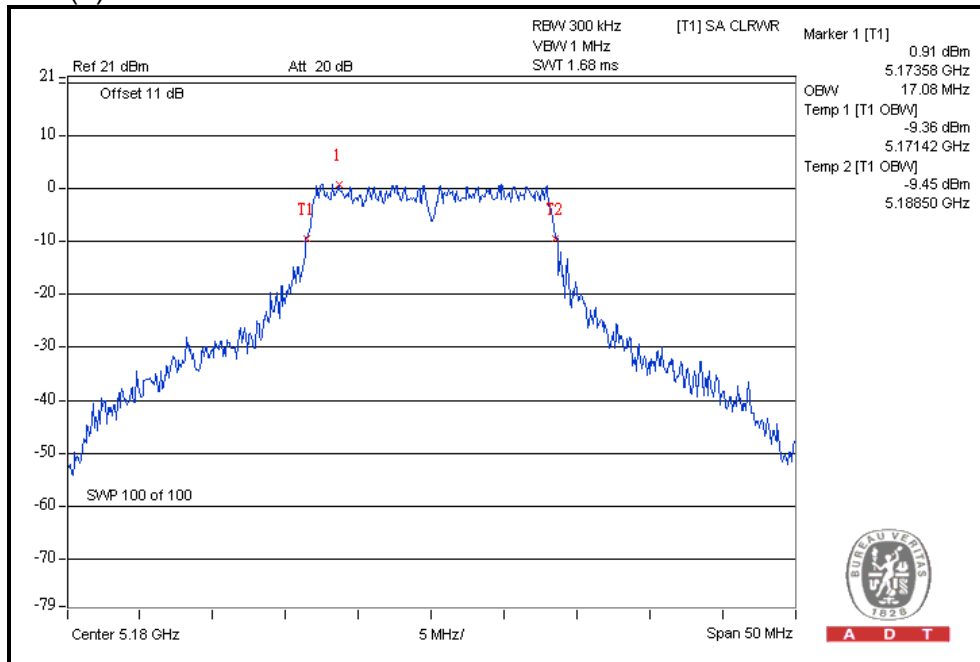


A D T

Multiple chain - 802.11a OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	99% BANDWIDTH (MHz)	
		CHAIN(0)	CHAIN(1)
36	5180	17.08	17.17
40	5200	16.92	17.08
48	5240	17.00	16.92
52	5260	18.17	18.50
60	5300	17.83	19.42
64	5320	17.17	17.25
100	5500	20.83	17.58
116	5580	18.00	17.17
132	5660	17.42	17.25
140	5700	17.33	17.58

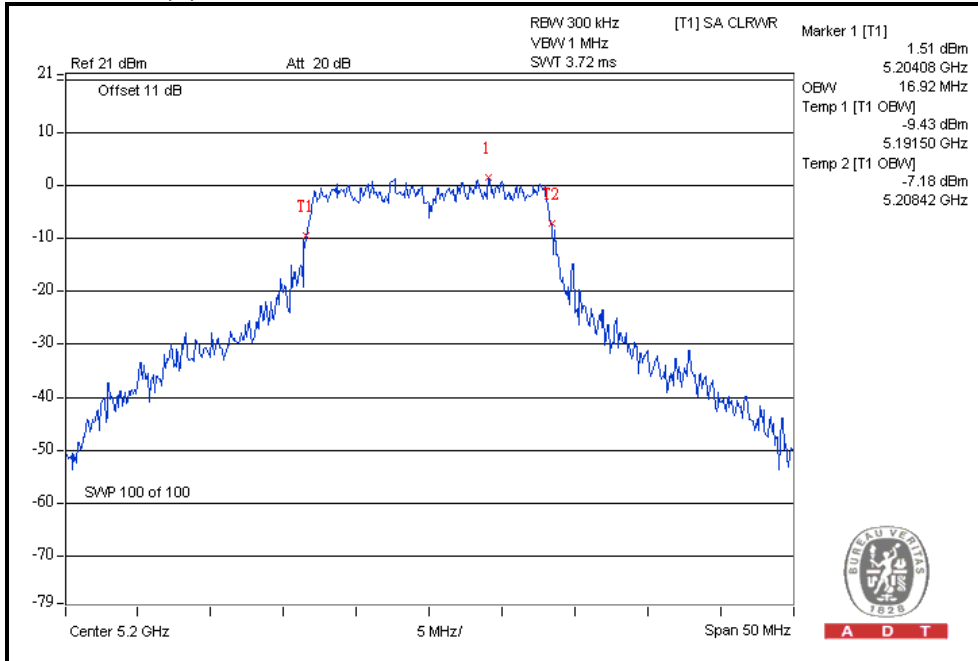
For CHAIN(0) : CH36





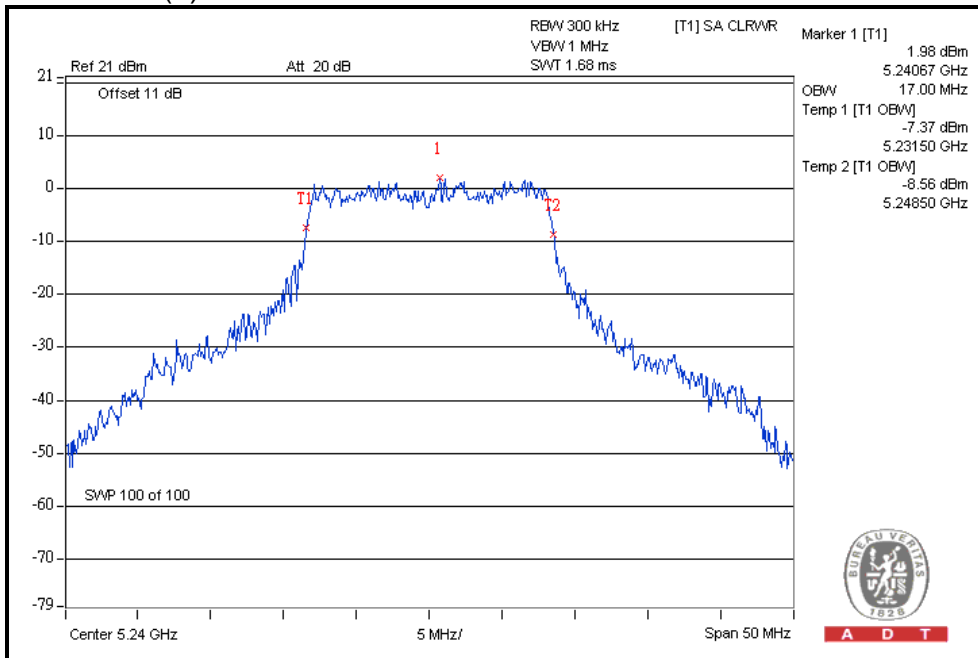
A D T

For CHAIN(0) : CH40



A D T

For CHAIN(0) : CH48

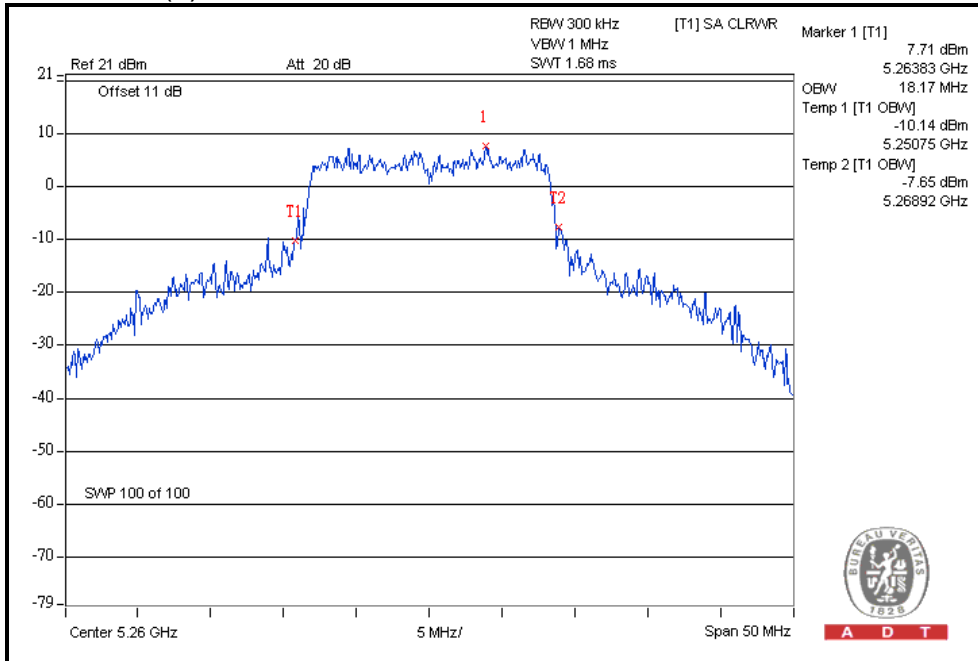


A D T



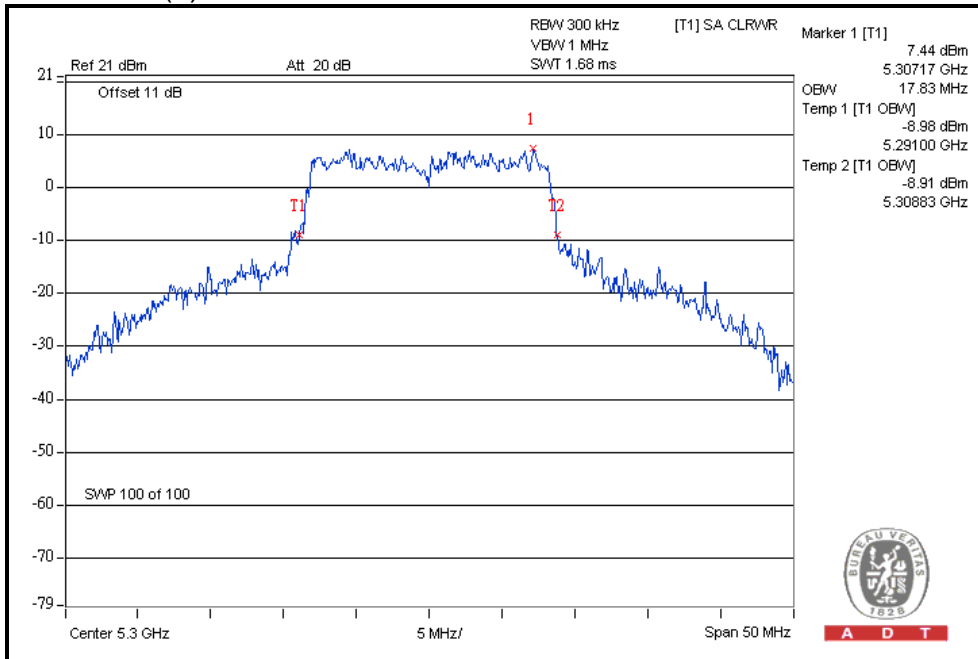
A D T

For CHAIN(0) : CH52



A D T

For CHAIN(0) : CH60

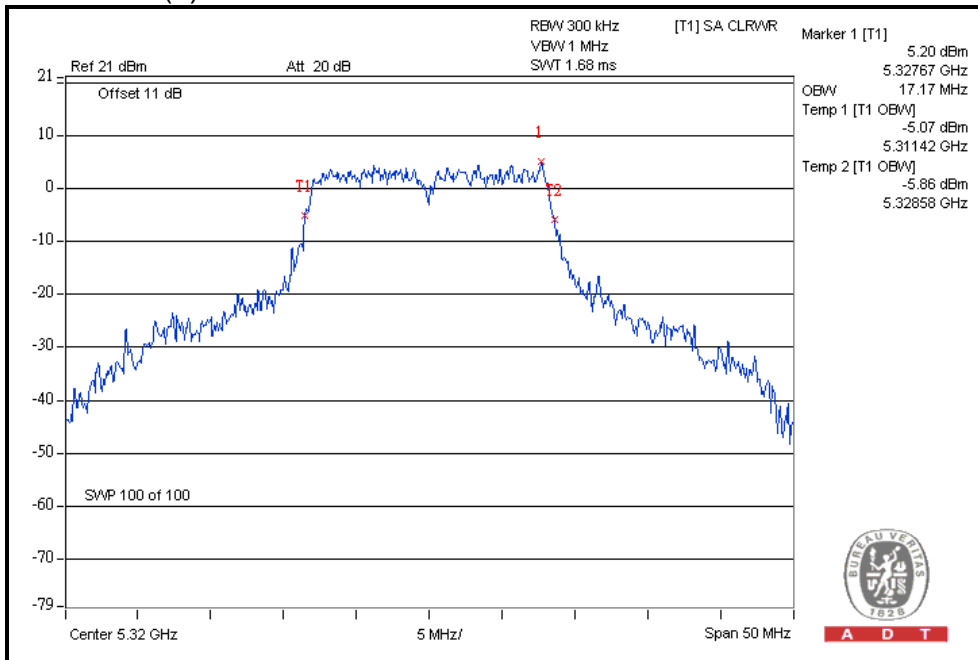


A D T

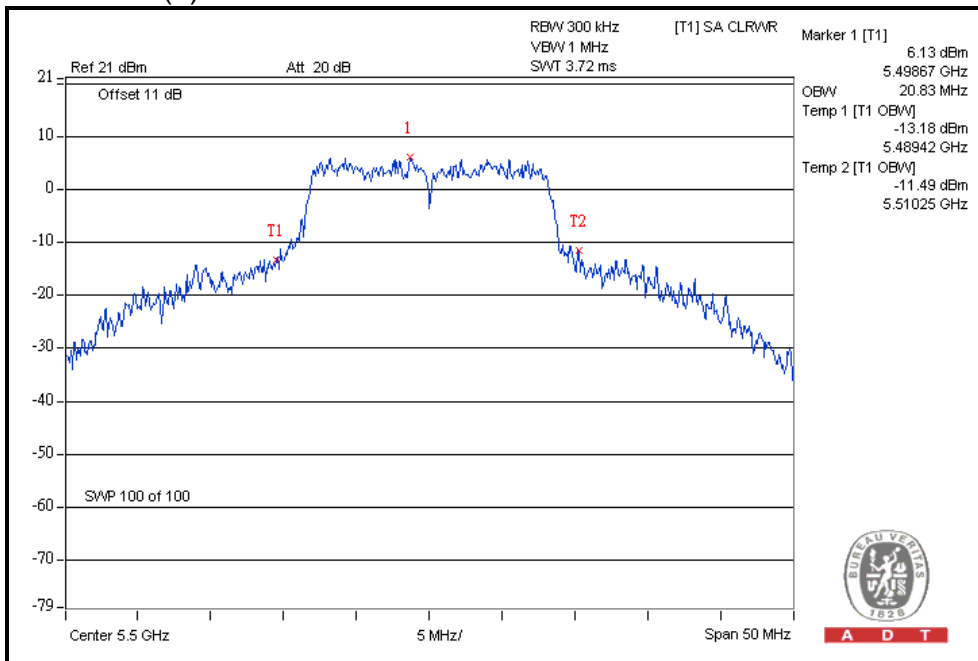


A D T

For CHAIN(0) : CH64



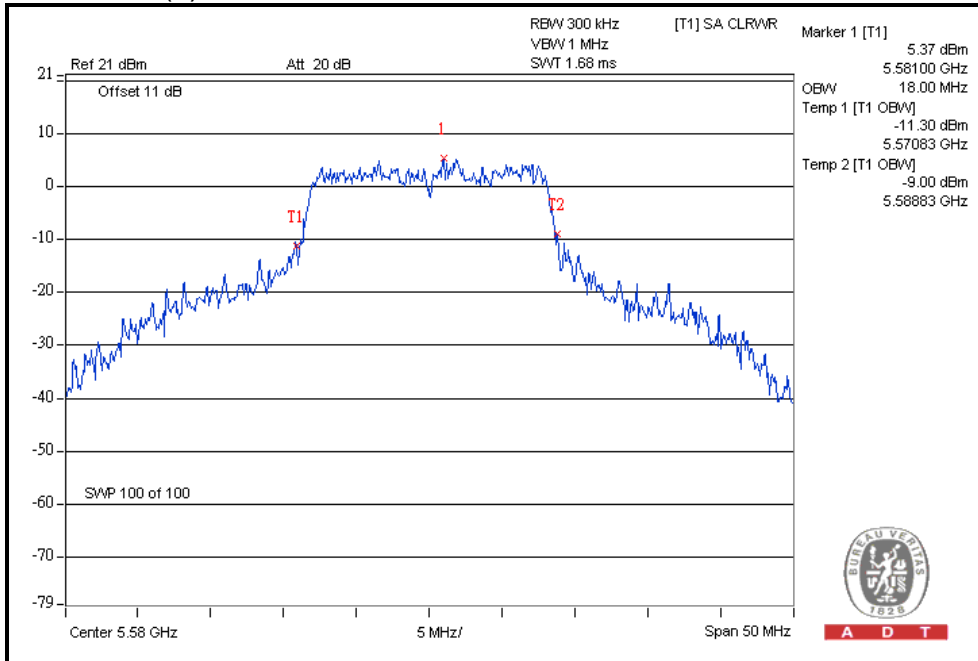
For CHAIN(0) : CH100





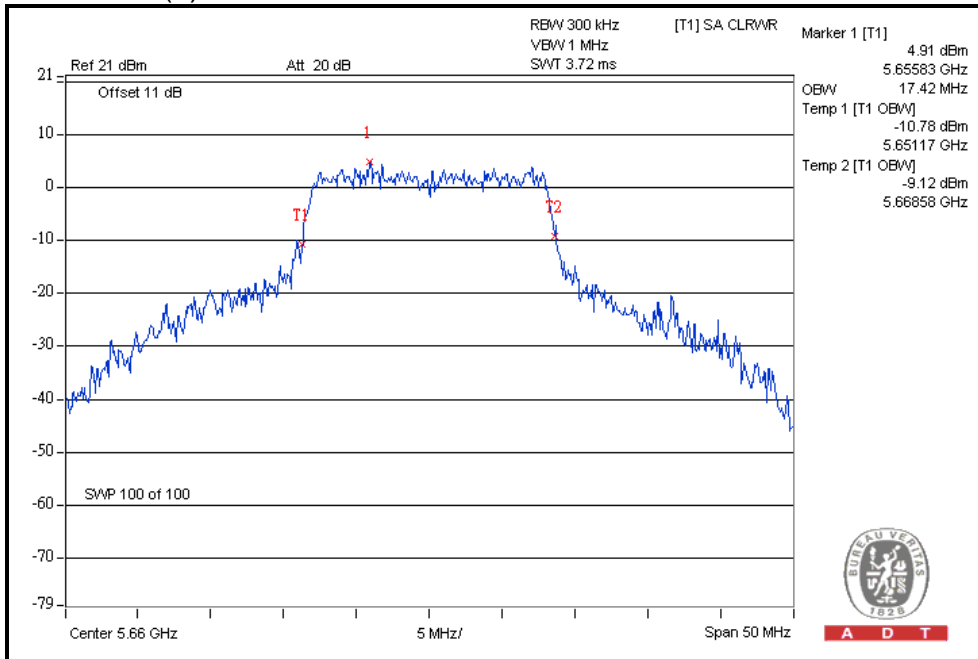
A D T

For CHAIN(0) : CH116



A D T

For CHAIN(0) : CH132

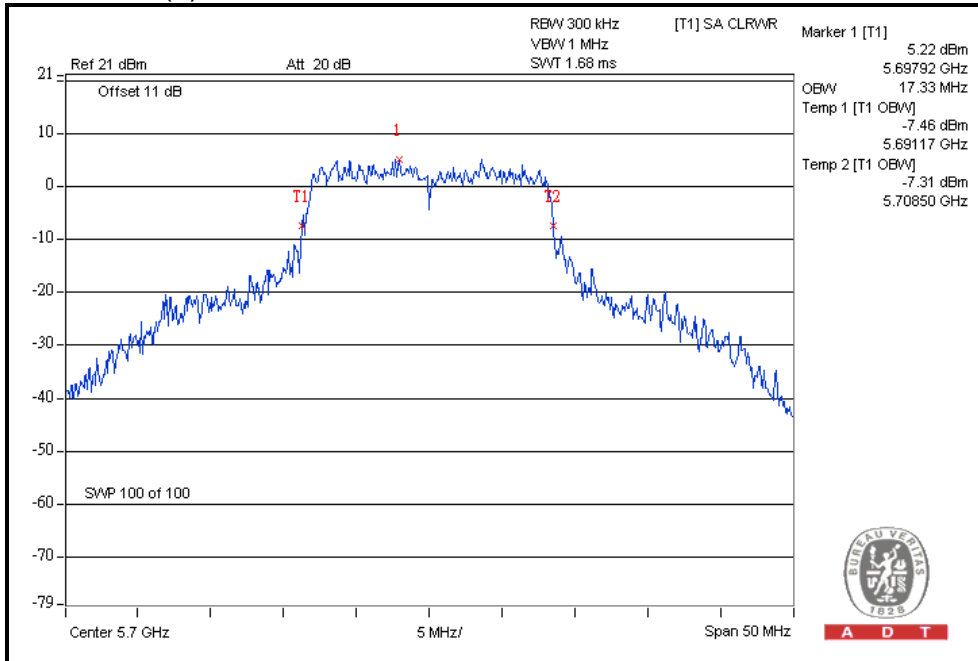


A D T

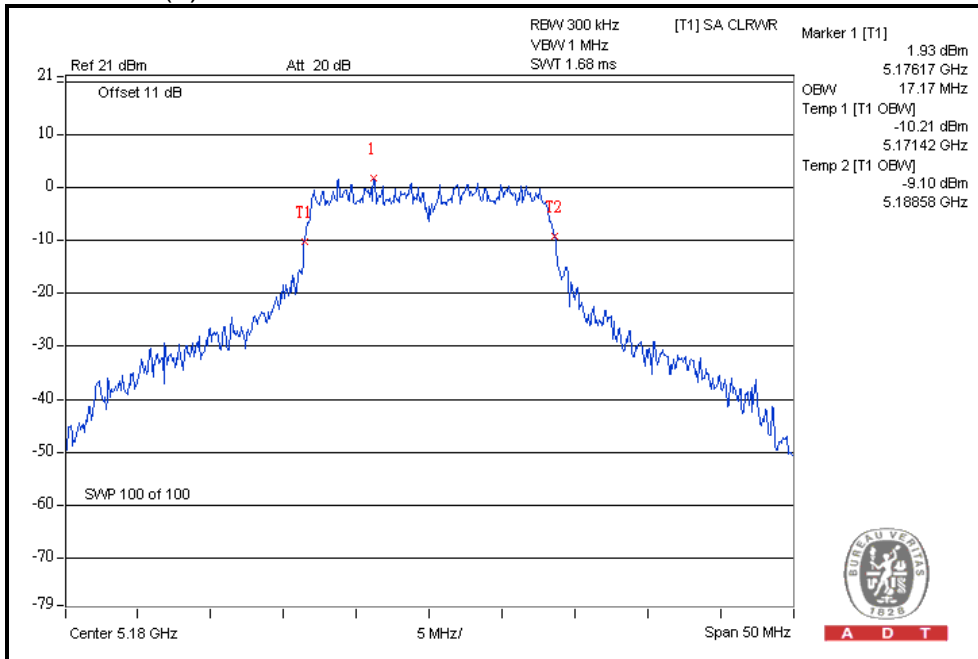


A D T

For CHAIN(0) : CH140



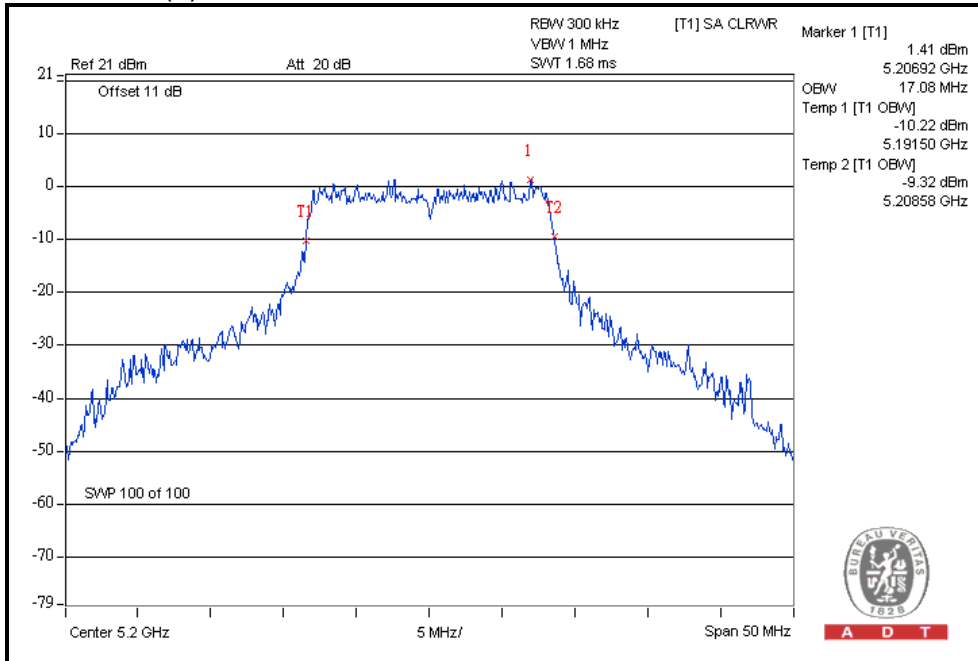
For CHAIN(1) : CH36



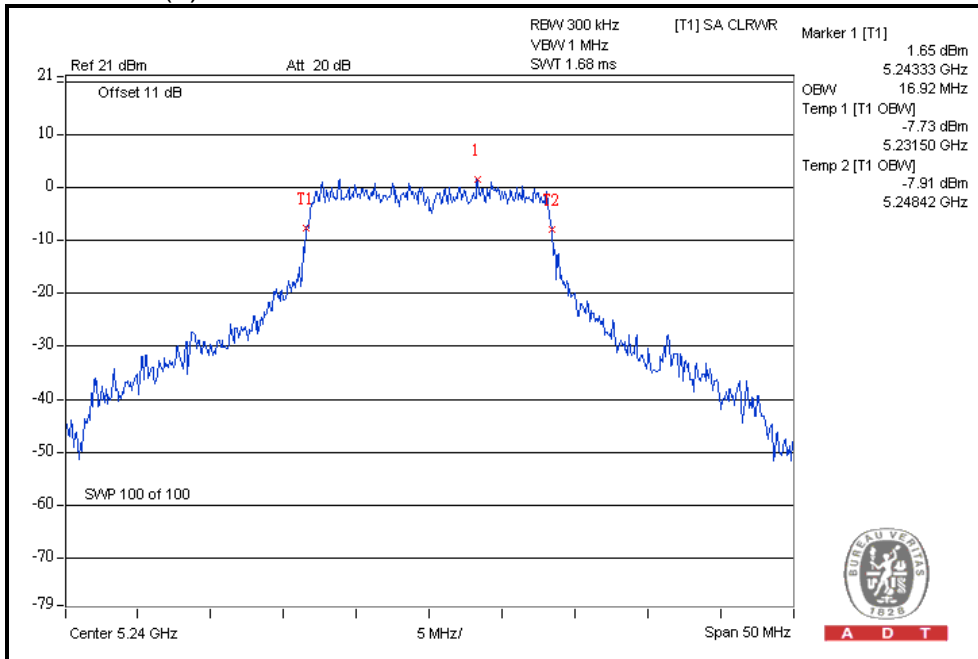


A D T

For CHAIN(1) : CH40



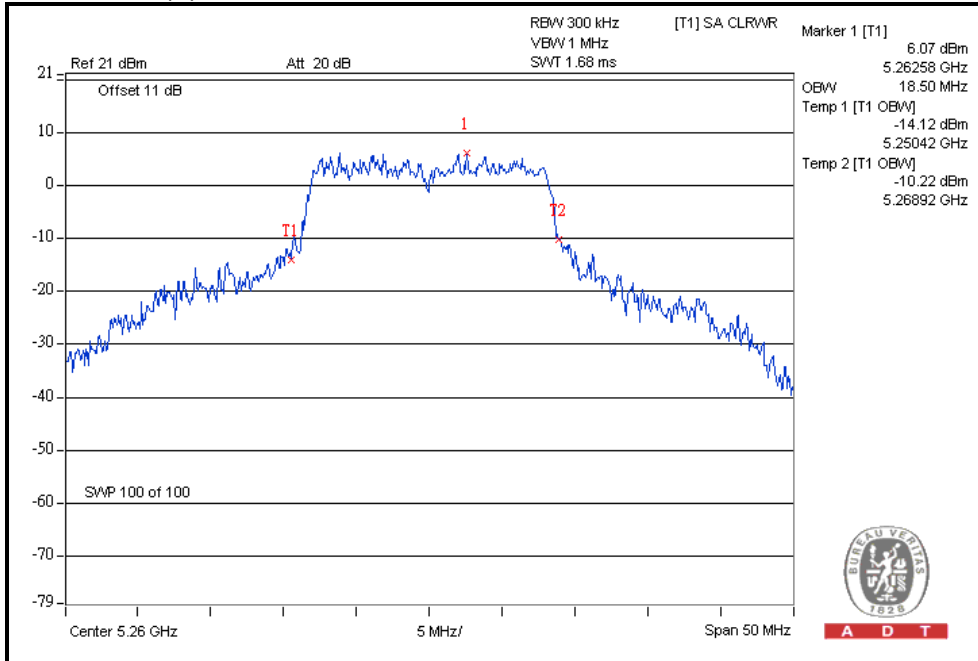
For CHAIN(1) : CH48



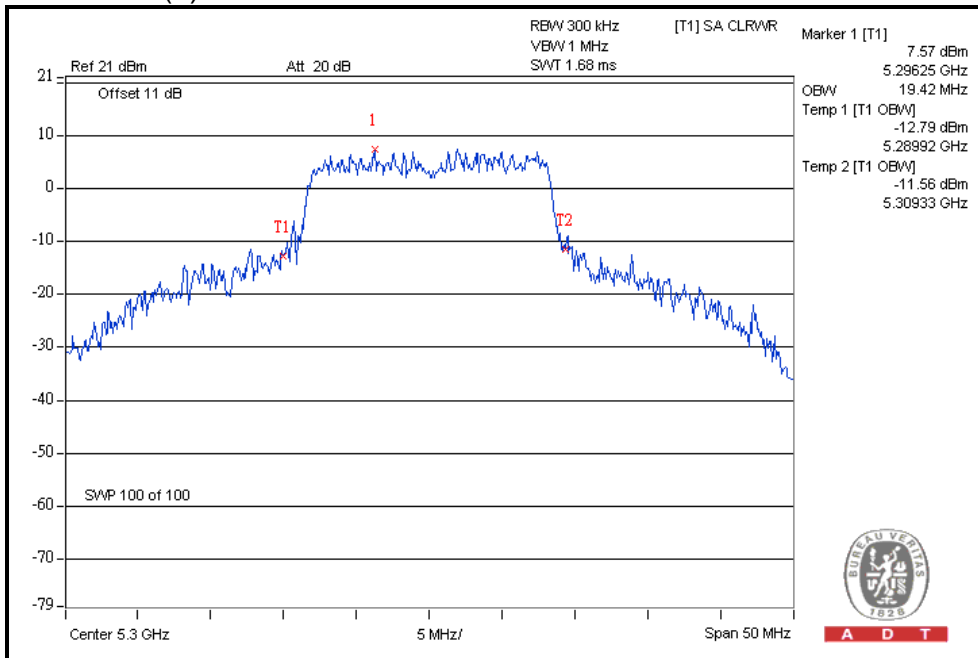


A D T

For CHAIN(1) : CH52



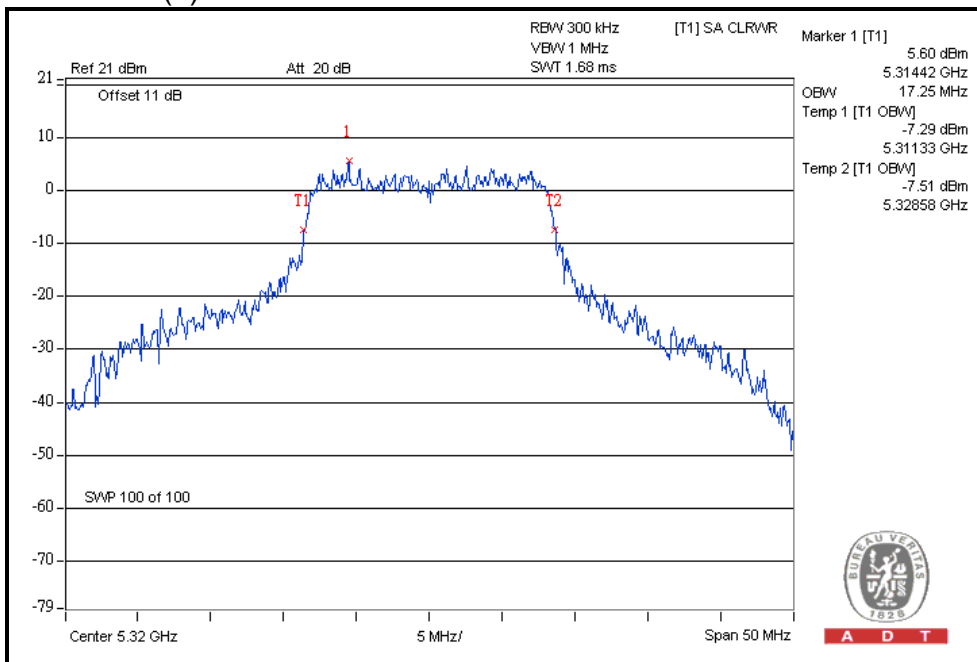
For CHAIN(1) : CH60



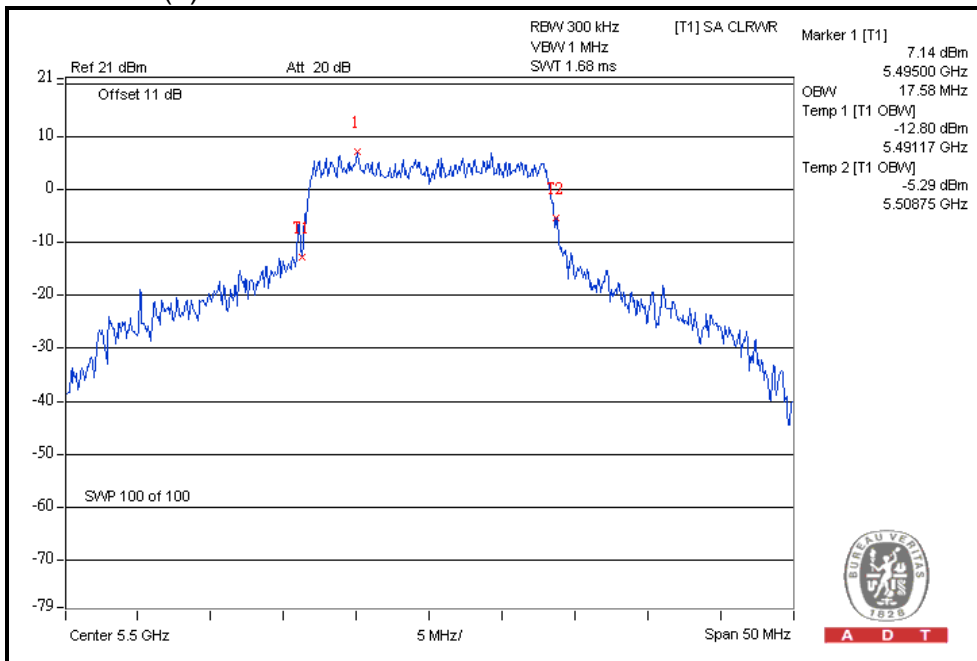


A D T

For CHAIN(1) : CH64



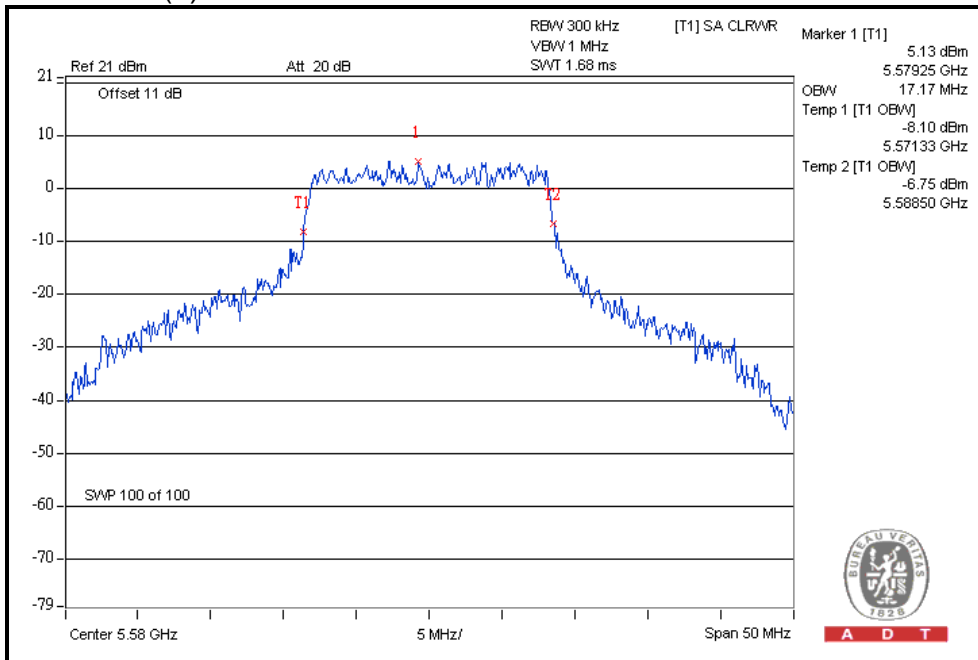
For CHAIN(1) : CH100





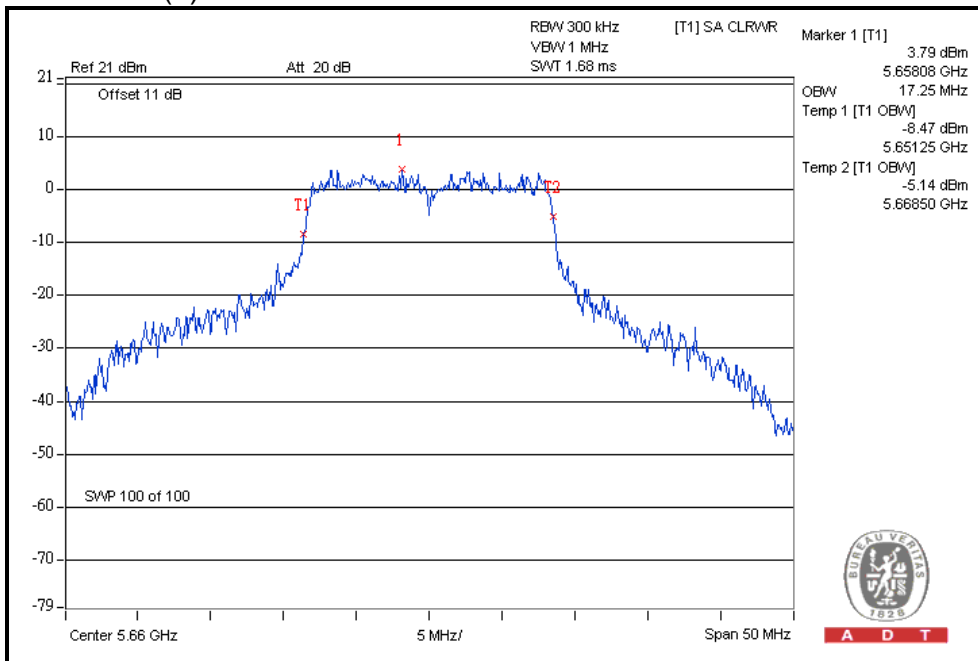
A D T

For CHAIN(1) : CH116



A D T

For CHAIN(1) : CH132

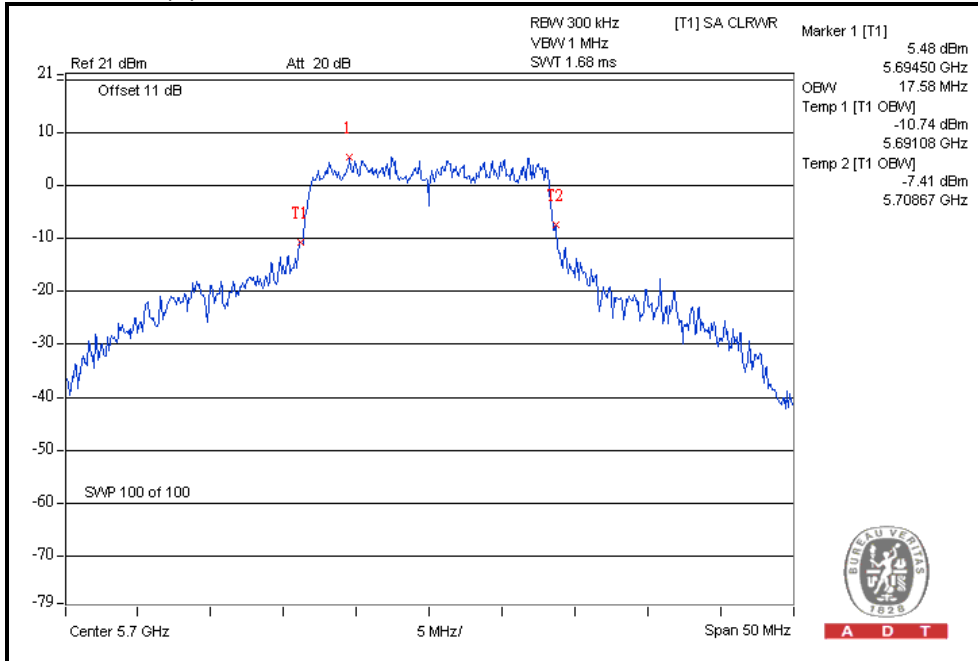


A D T



A D T

For CHAIN(1) : CH140



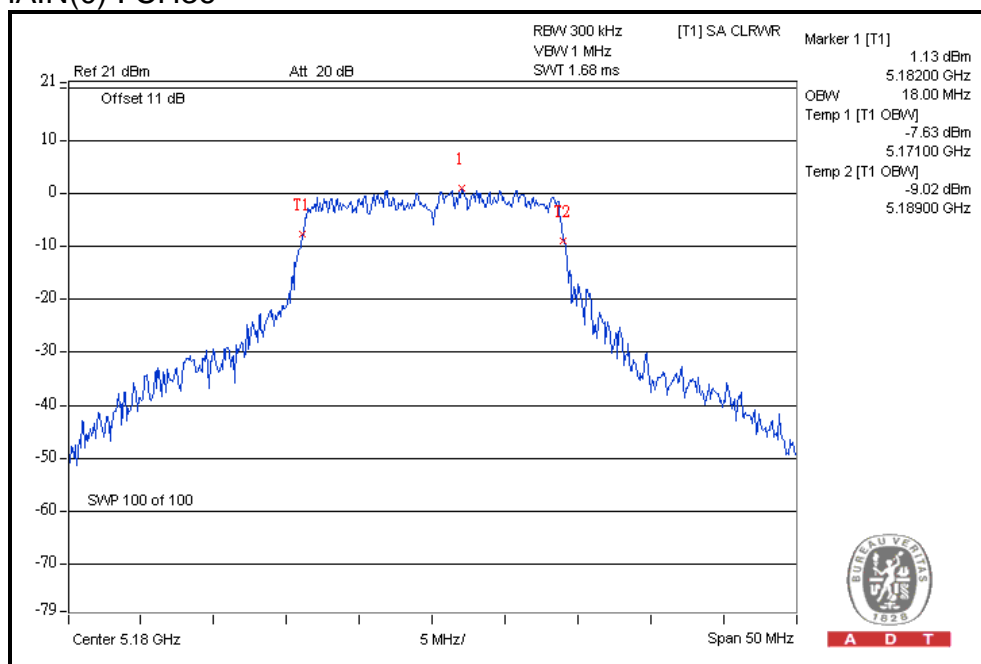


A D T

802.11n (20MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	99% BANDWIDTH (MHz)	
		CHAIN(0)	CHAIN(1)
36	5180	18.00	18.08
40	5200	17.92	18.08
48	5240	18.17	18.08
52	5260	18.08	18.33
60	5300	18.08	18.17
64	5320	18.08	18.33
100	5500	18.42	18.33
116	5580	18.33	18.58
132	5660	18.58	18.25
140	5700	18.33	18.17

For CHAIN(0) : CH36

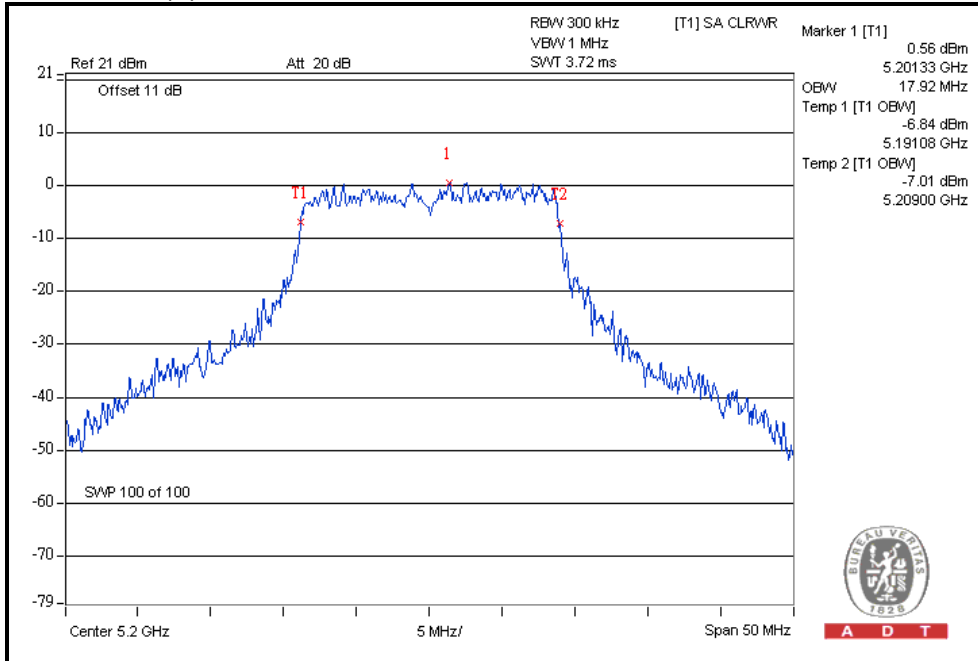


A D T

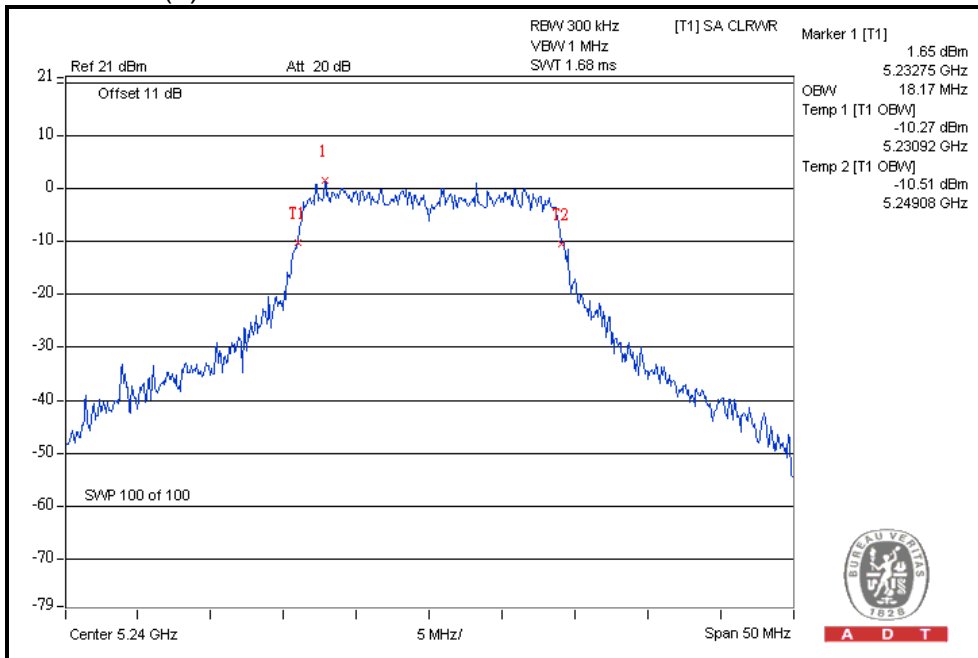


A D T

For CHAIN(0) : CH40



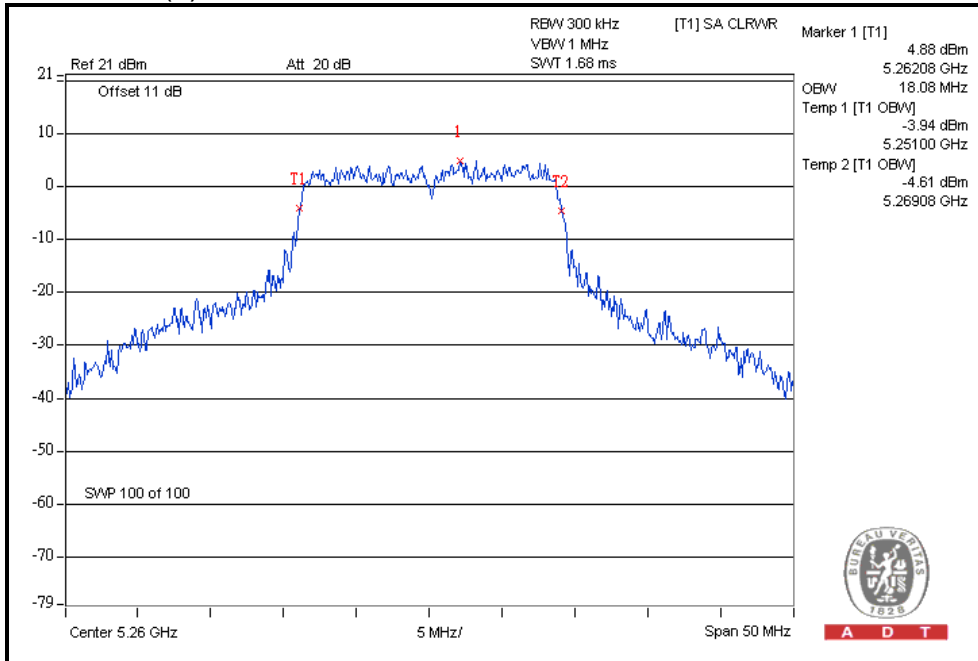
For CHAIN(0) : CH48





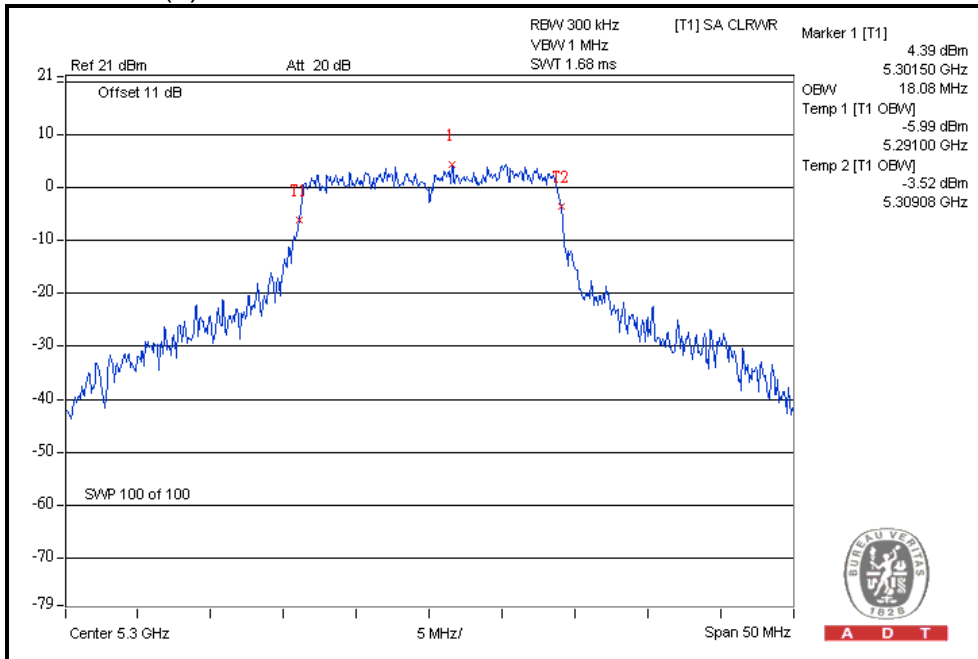
A D T

For CHAIN(0) : CH52



A D T

For CHAIN(0) : CH60

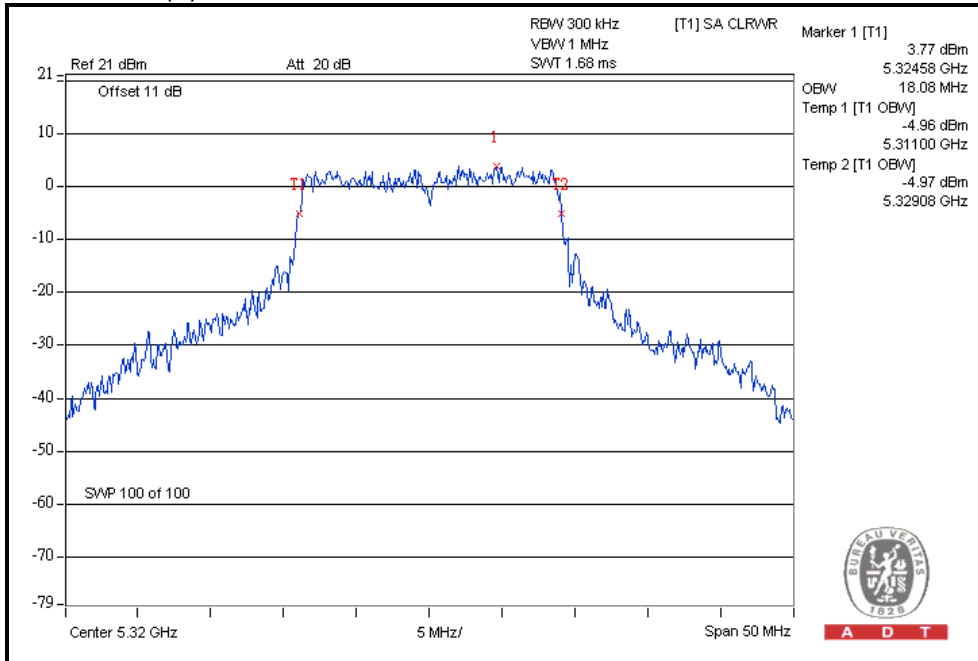


A D T

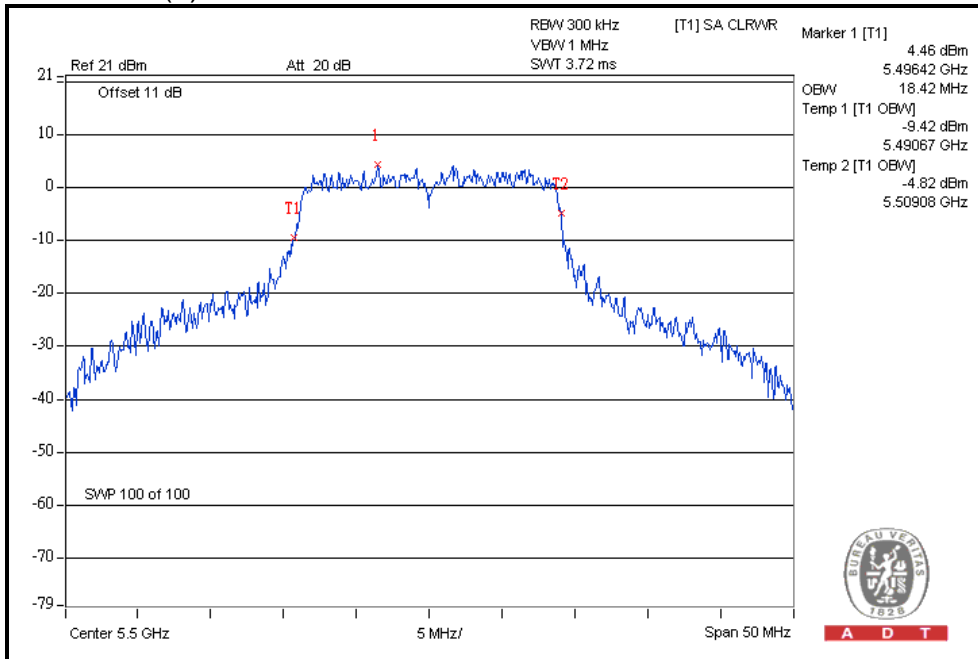


A D T

For CHAIN(0) : CH64



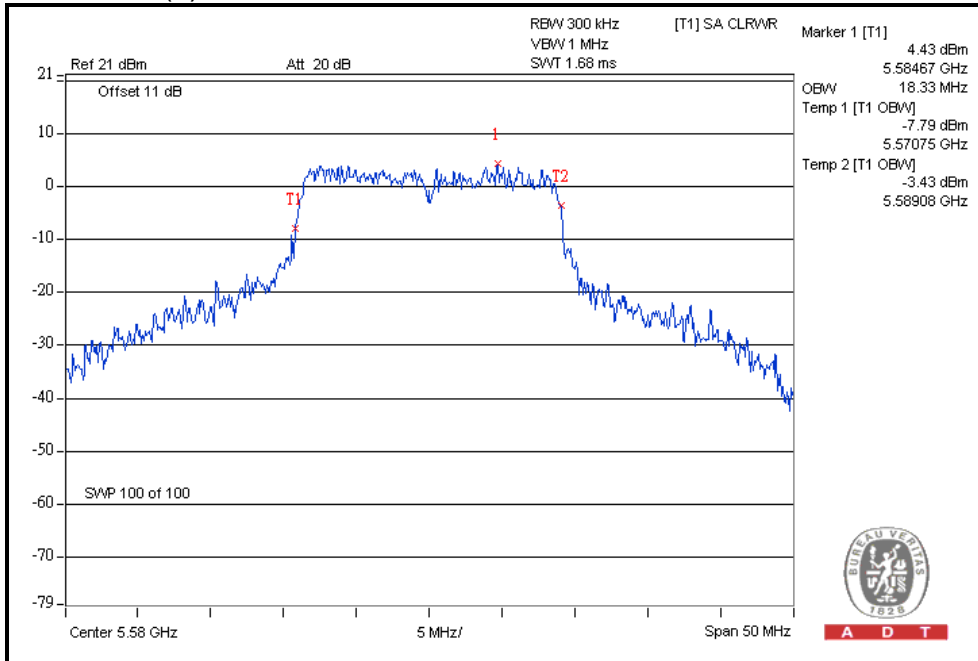
For CHAIN(0) : CH100





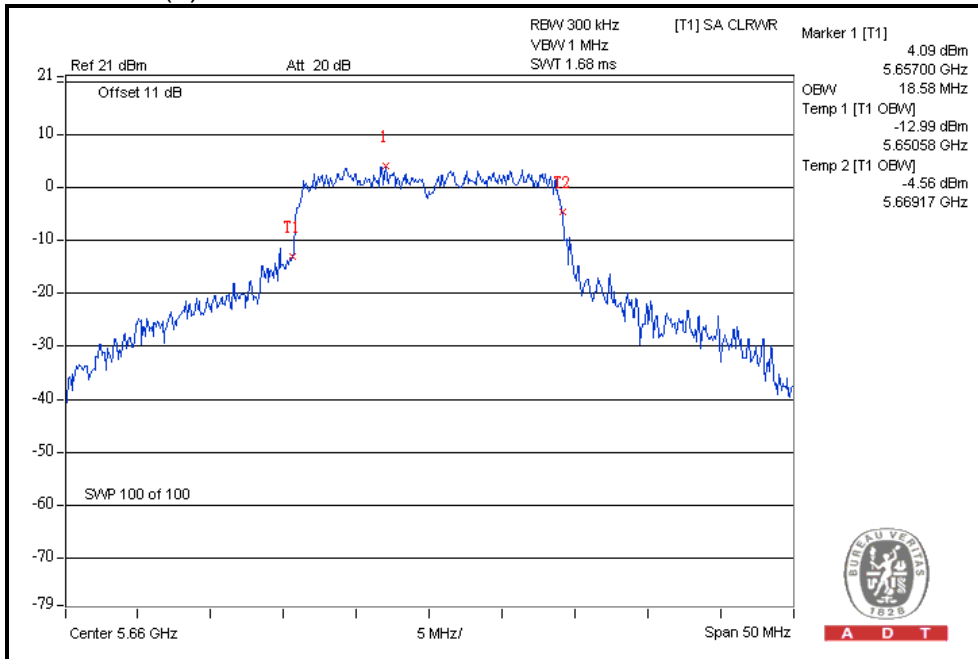
A D T

For CHAIN(0) : CH116



A D T

For CHAIN(0) : CH132

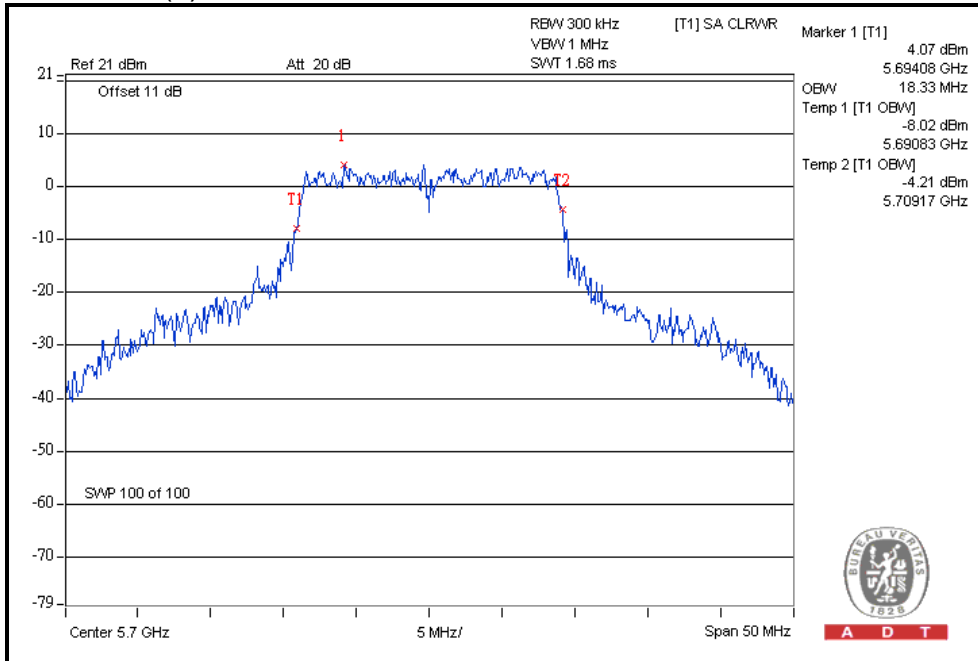


A D T

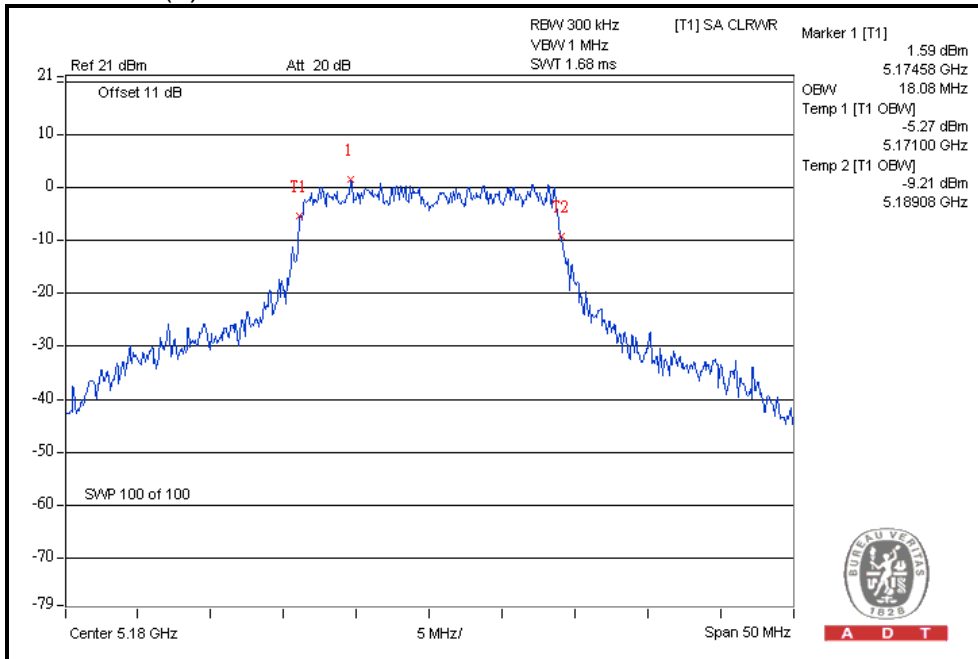


A D T

For CHAIN(0) : CH140



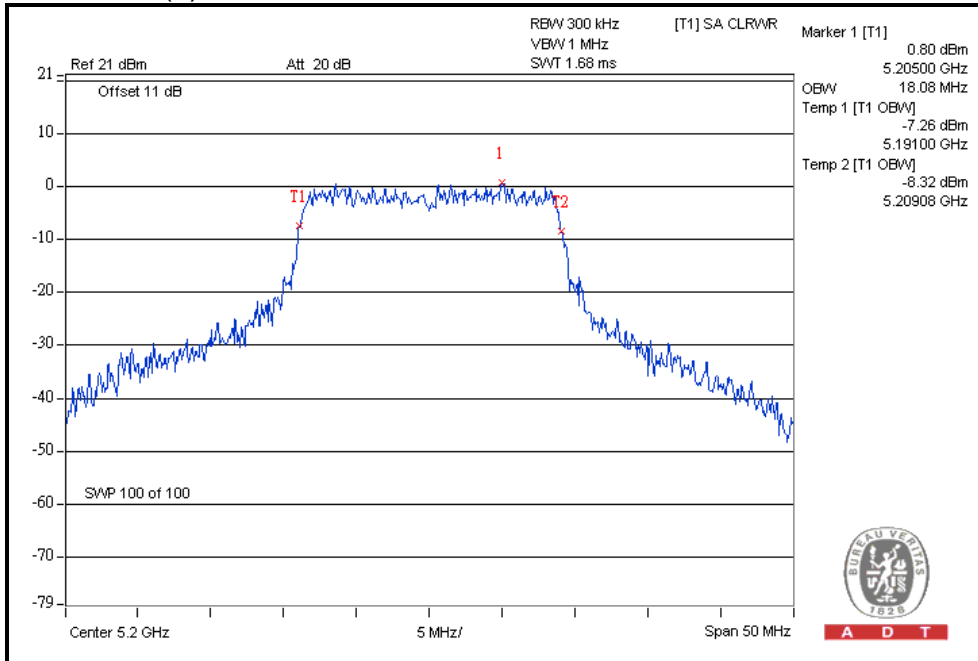
For CHAIN(1) : CH36



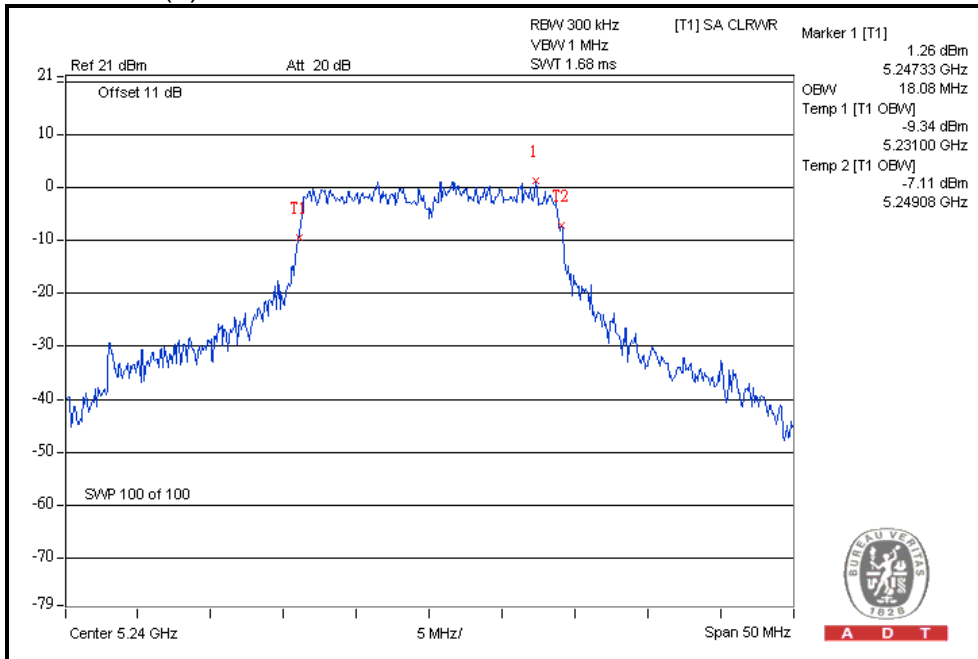


A D T

For CHAIN(1) : CH40



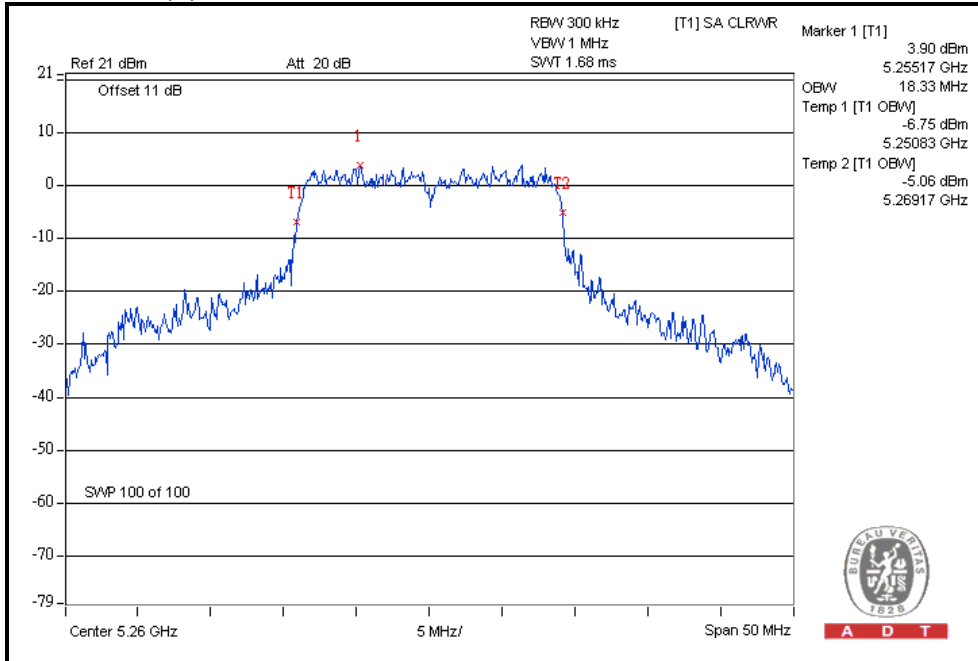
For CHAIN(1) : CH48



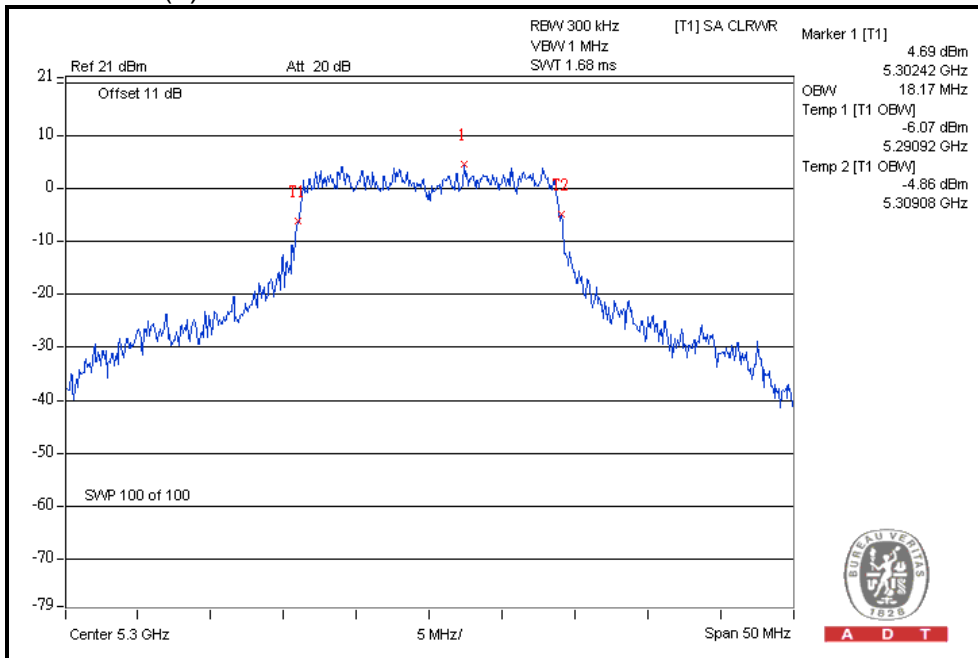


A D T

For CHAIN(1) : CH52



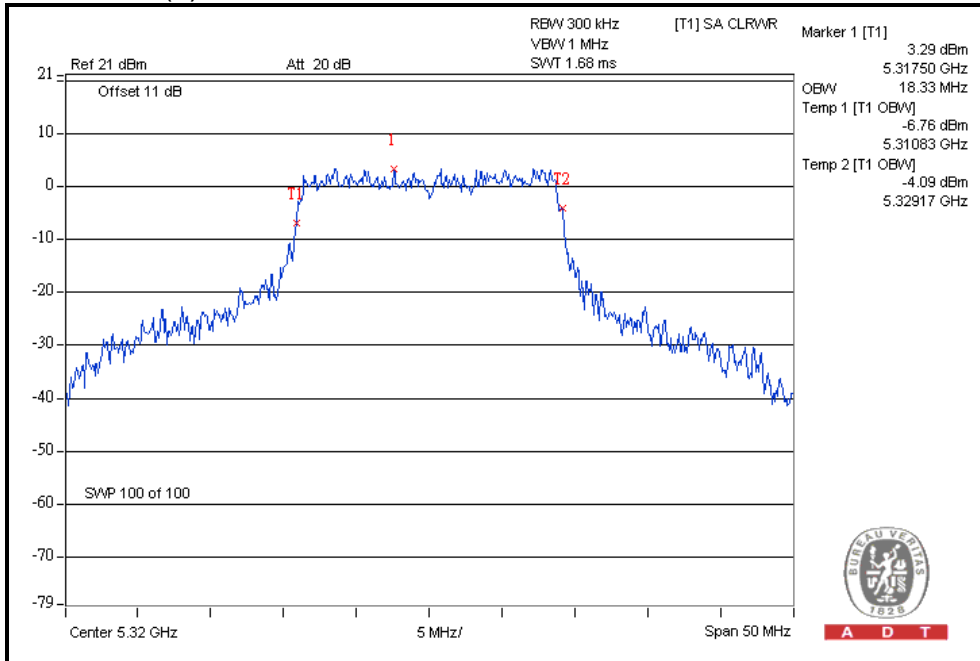
For CHAIN(1) : CH60



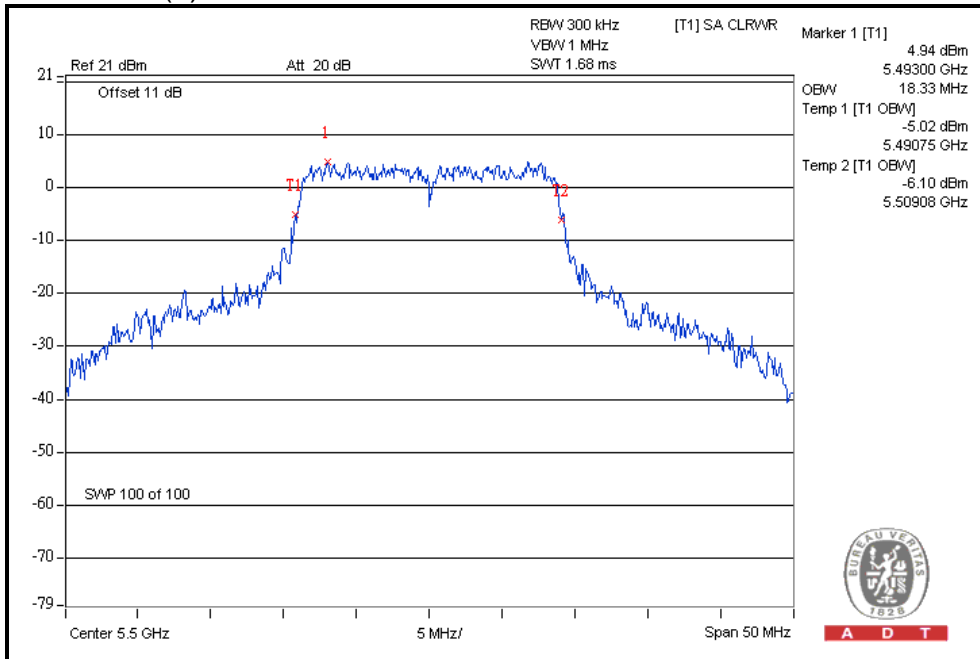


A D T

For CHAIN(1) : CH64



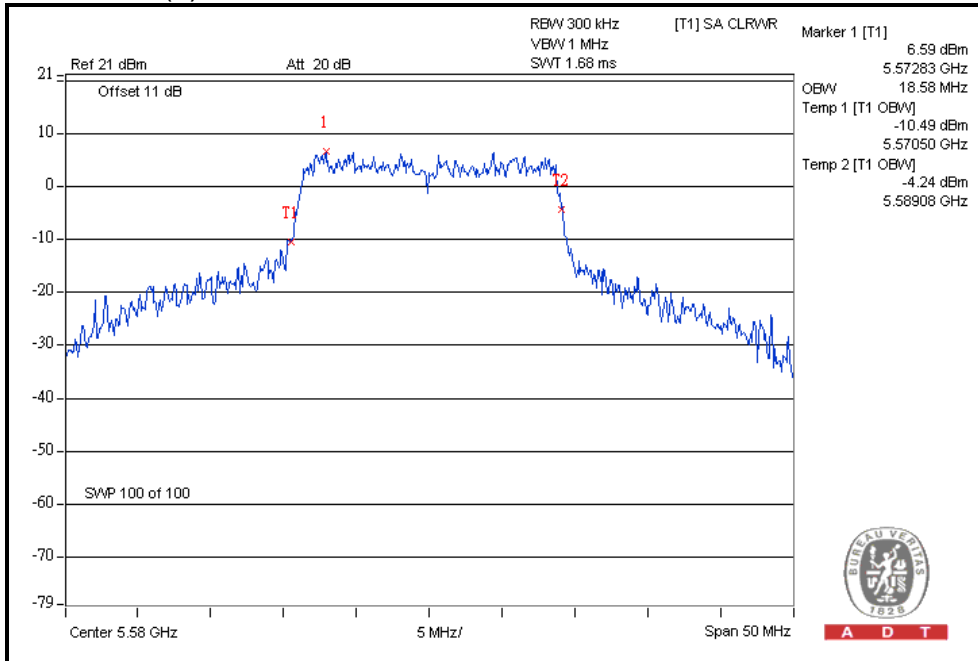
For CHAIN(1) : CH100



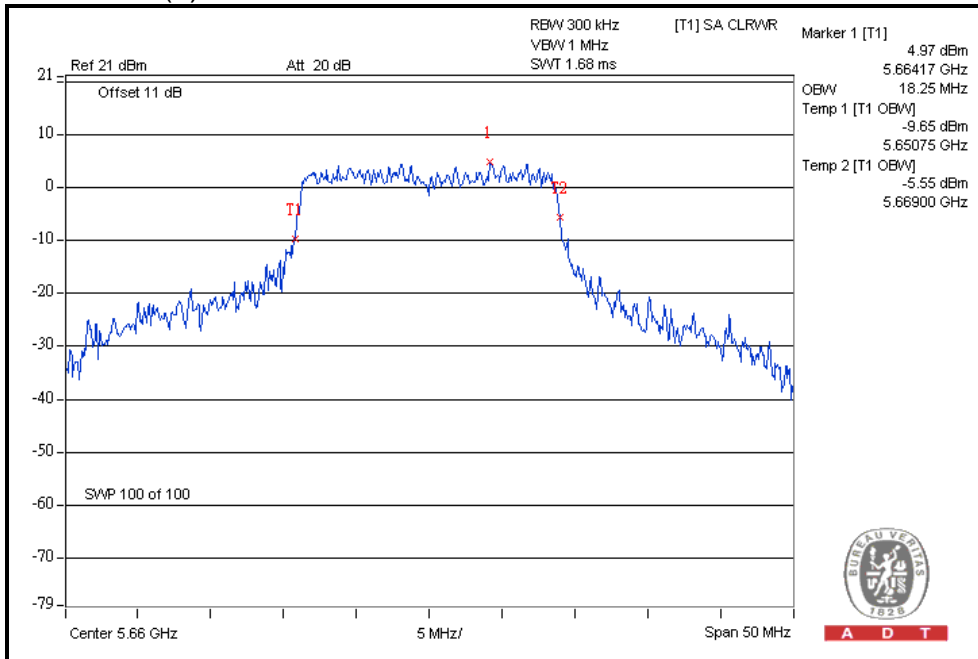


A D T

For CHAIN(1) : CH116



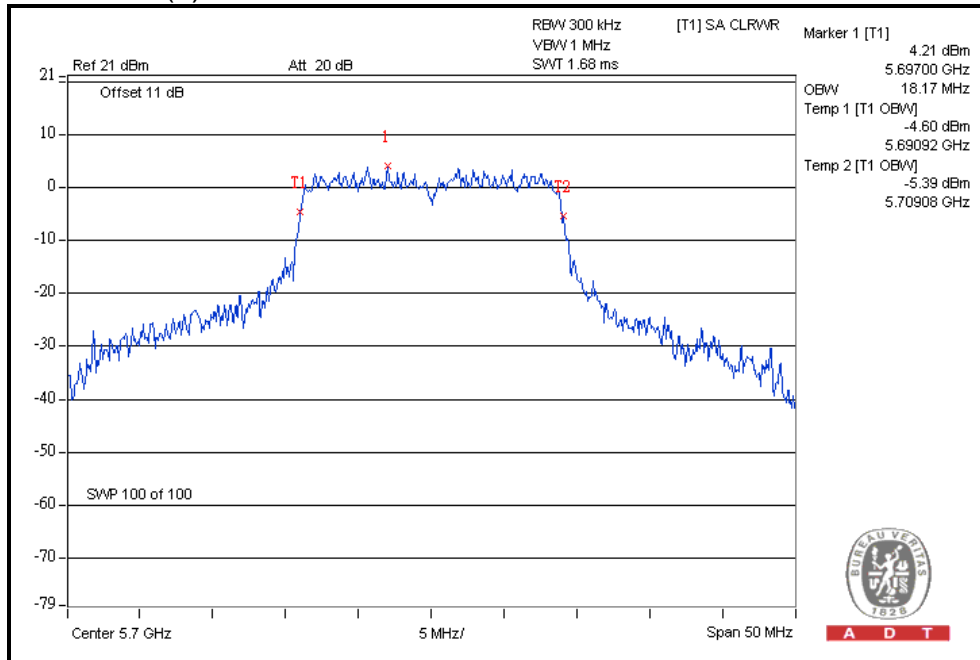
For CHAIN(1) : CH132





A D T

For CHAIN(1) : CH140



A D T

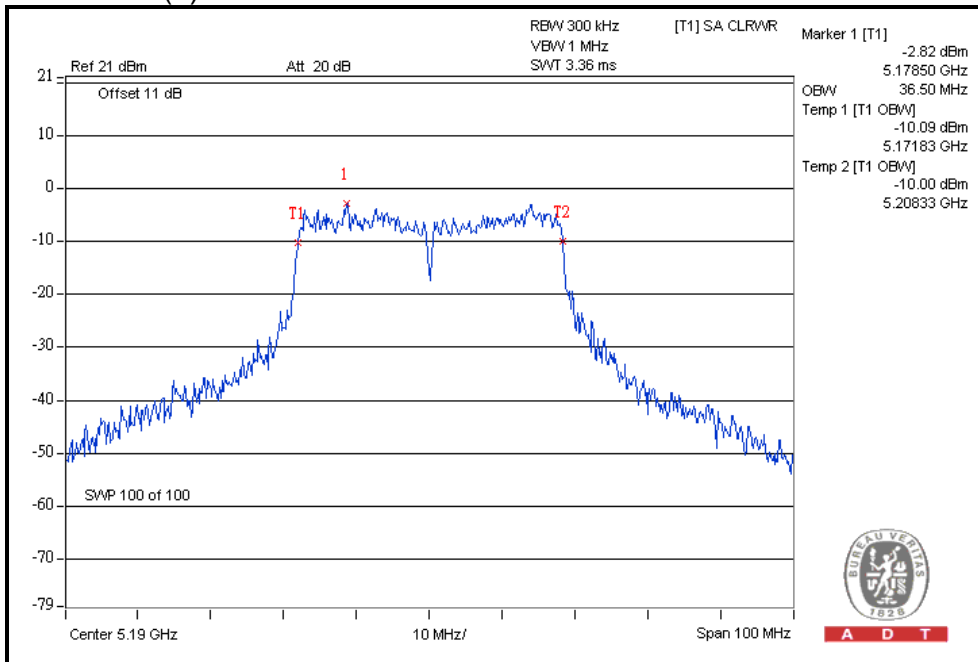


A D T

802.11n (40MHz) OFDM MODULATION:

CHANNEL	CHANNEL FREQUENCY (MHz)	99% BANDWIDTH (MHz)	
		CHAIN(0)	CHAIN(1)
38	5190	36.50	36.83
46	5230	36.67	36.67
54	5270	36.67	36.83
62	5310	36.50	36.50
102	5510	36.67	36.33
110	5550	36.83	37.00
134	5670	36.67	36.50

For CHAIN(0) : CH38

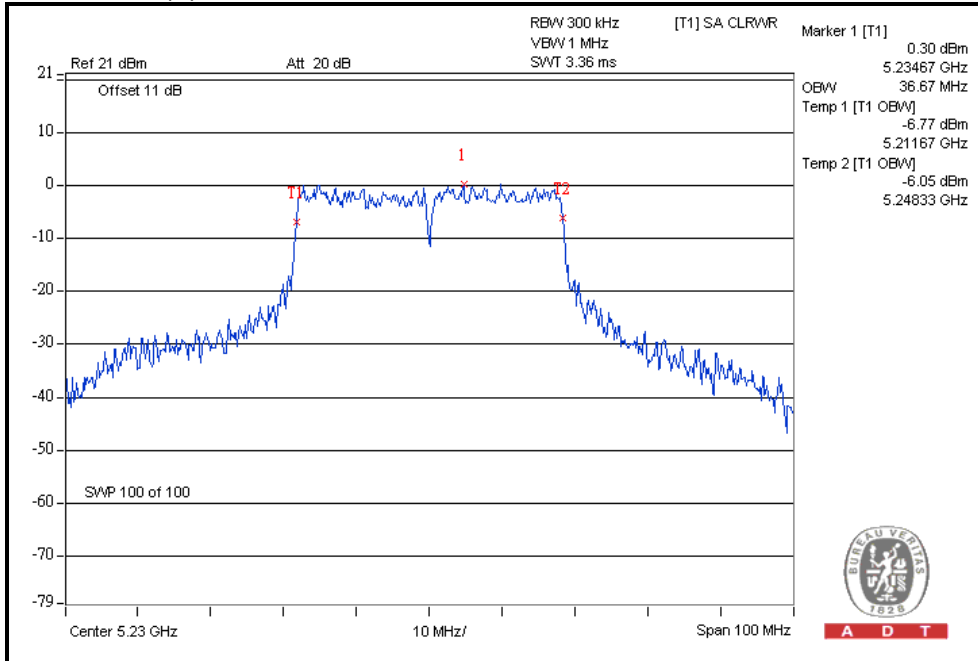


A D T



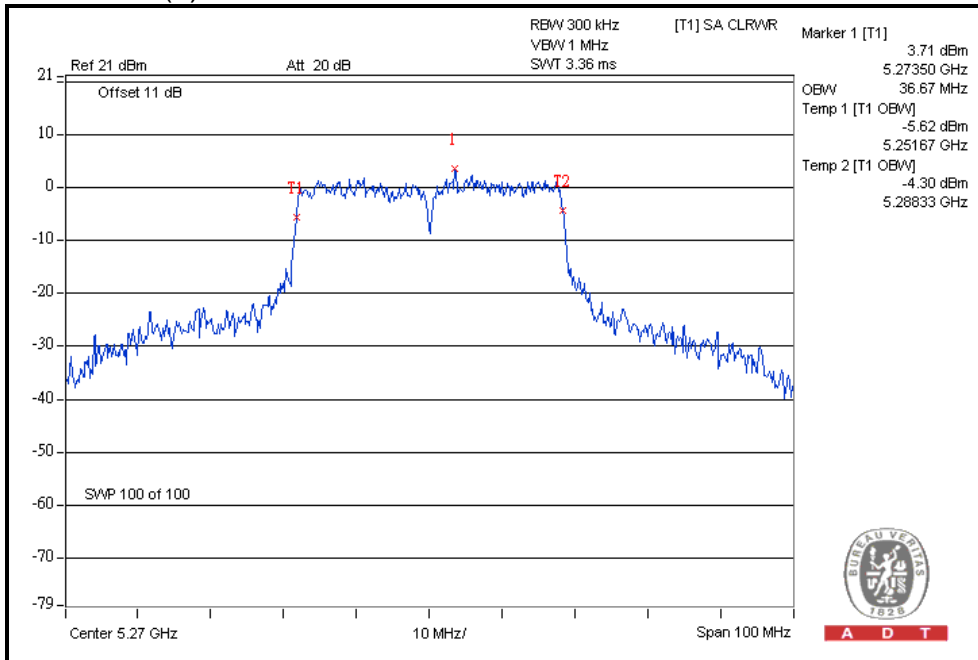
A D T

For CHAIN(0) : CH46



A D T

For CHAIN(0) : CH54

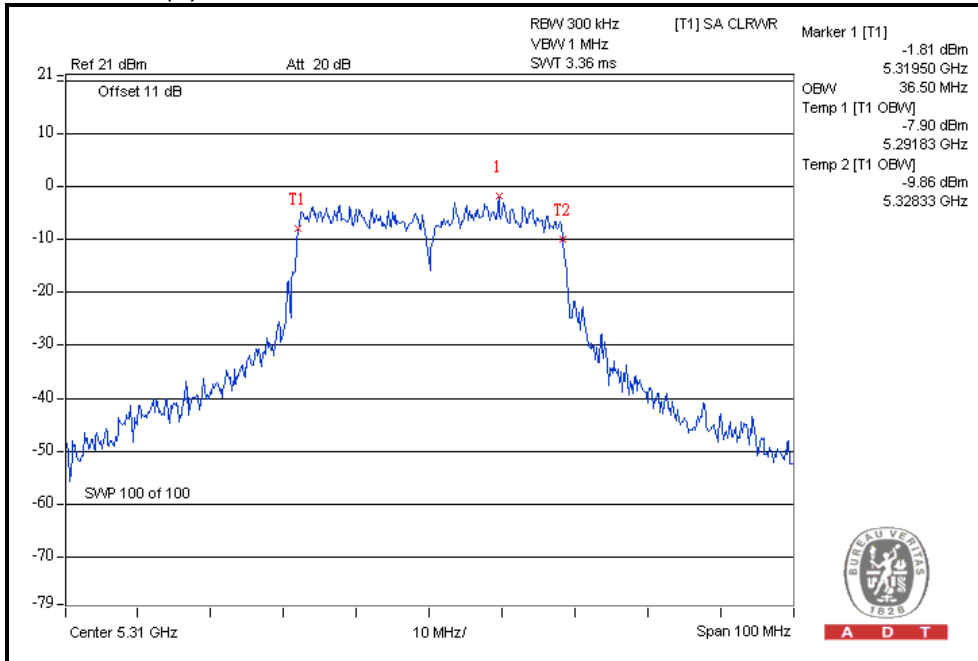


A D T



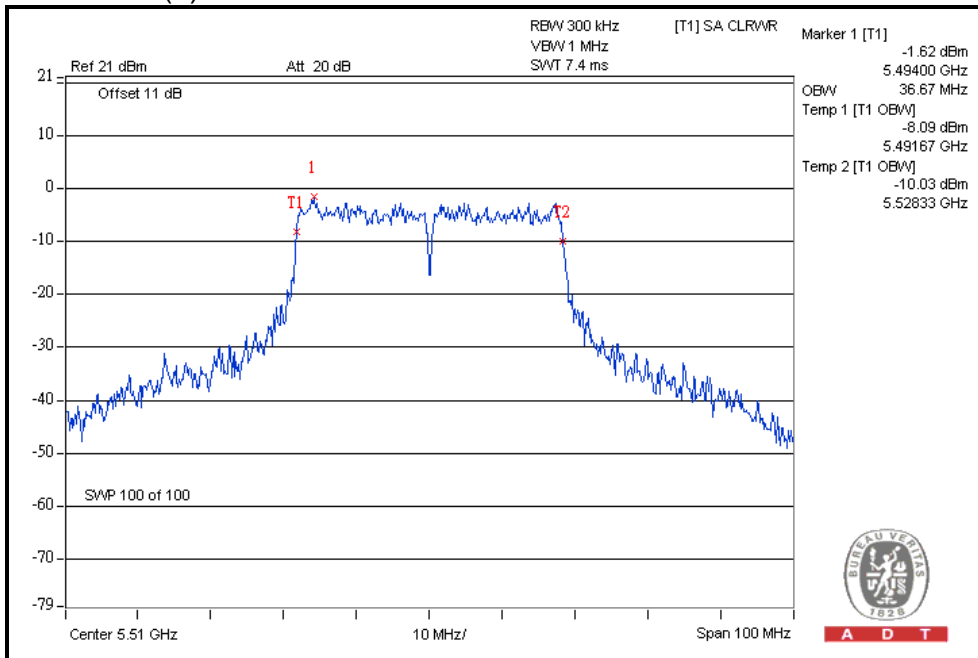
A D T

For CHAIN(0) : CH62



A D T

For CHAIN(0) : CH102

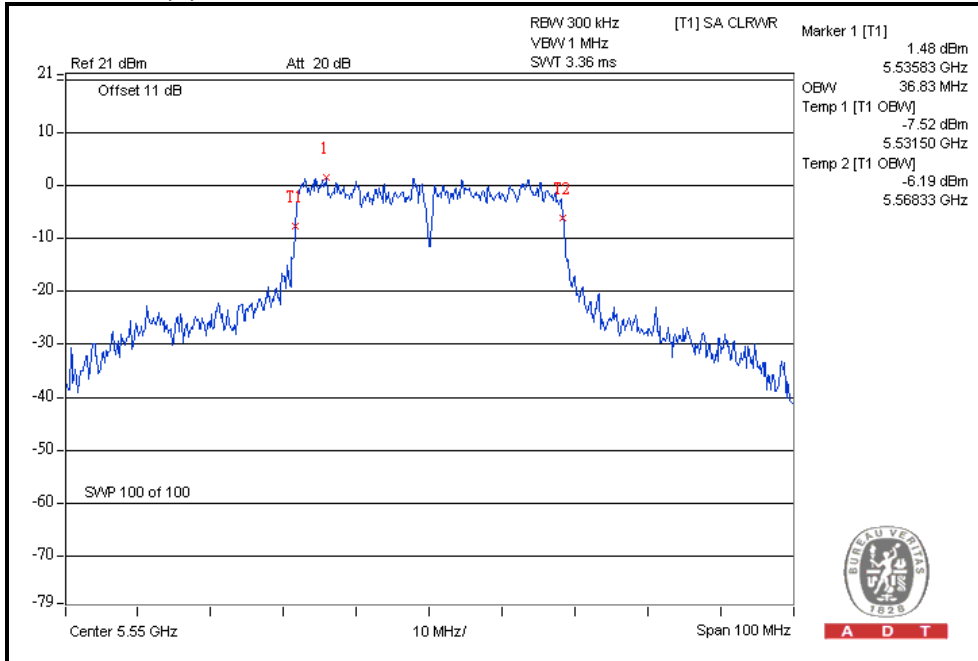


A D T

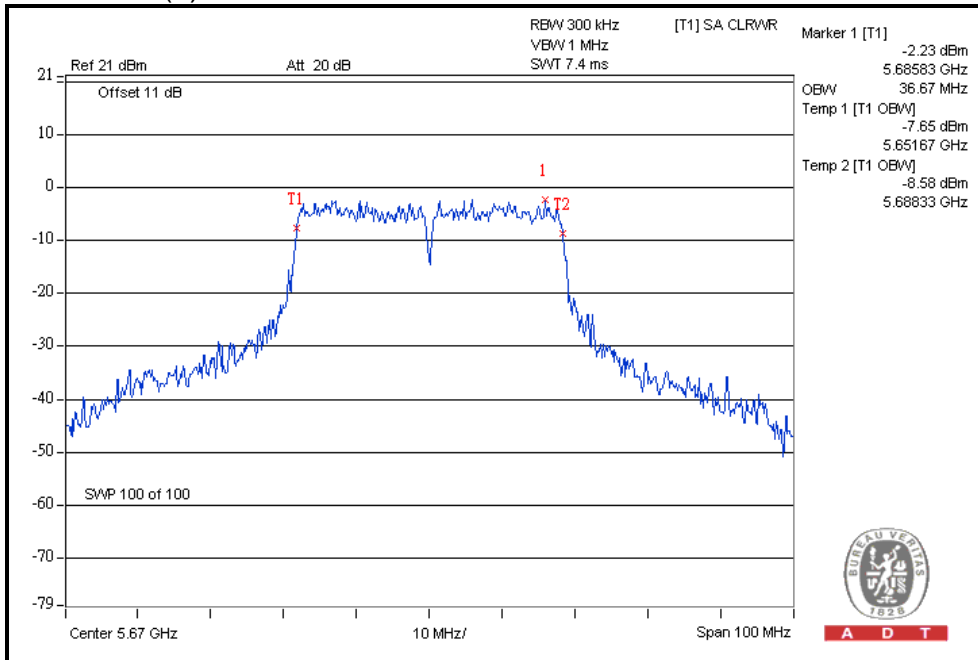


A D T

For CHAIN(0) : CH110



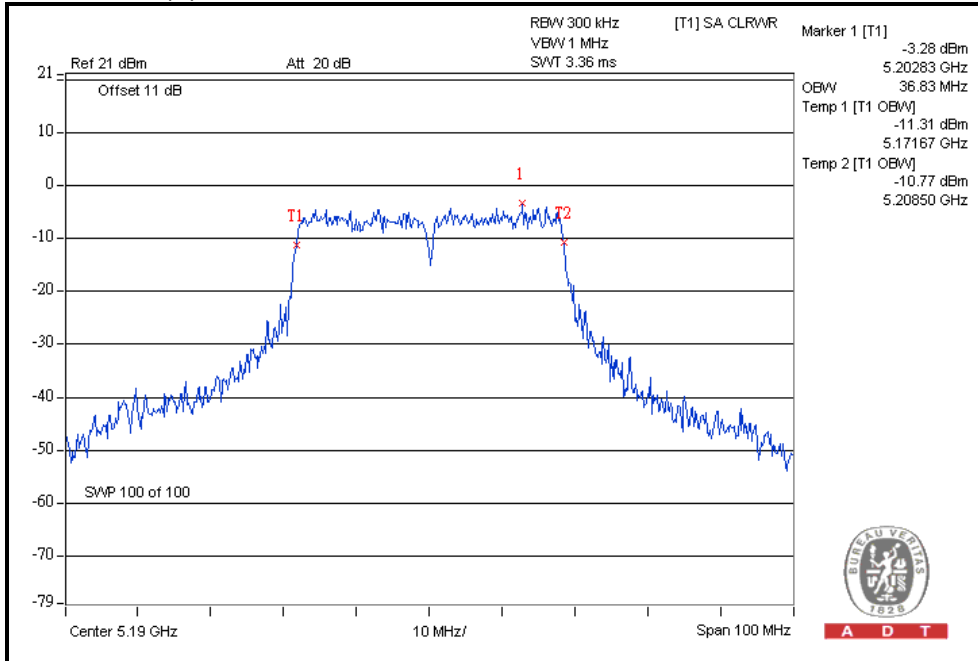
For CHAIN(0) : CH134





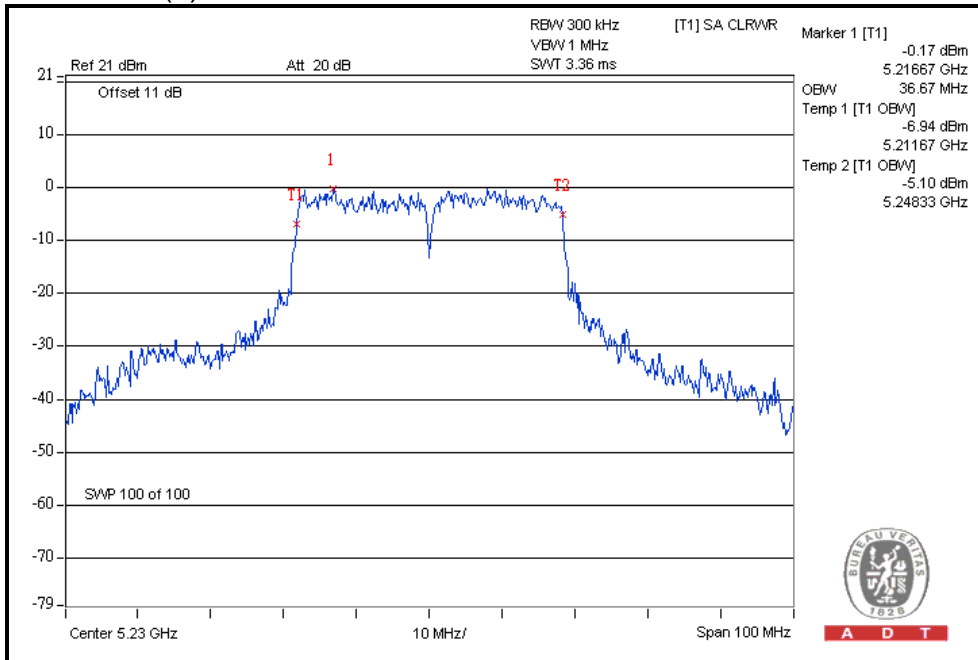
A D T

For CHAIN(1) : CH38



A D T

For CHAIN(1) : CH46

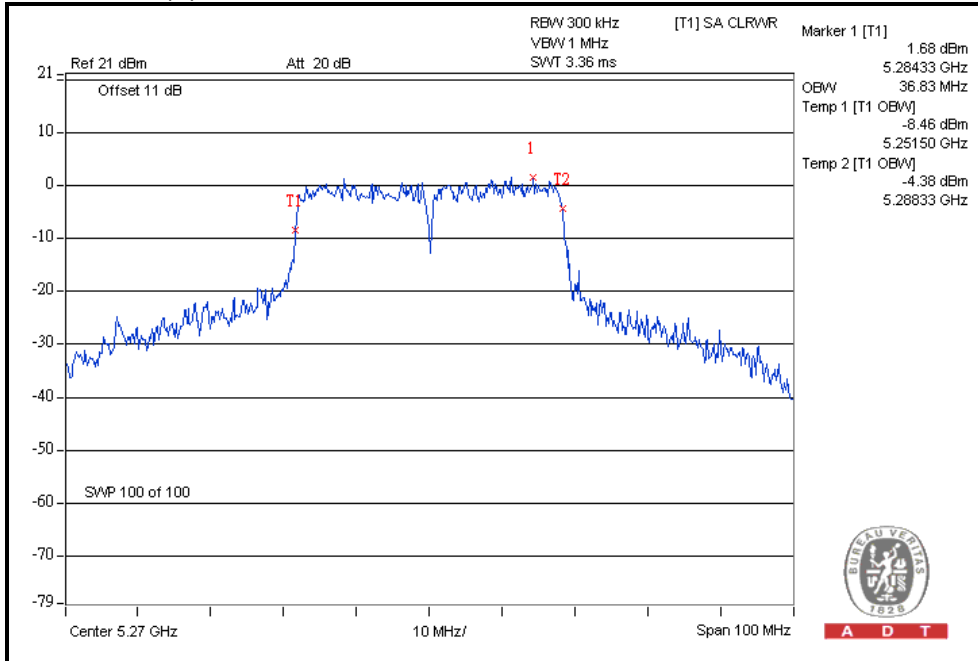


A D T

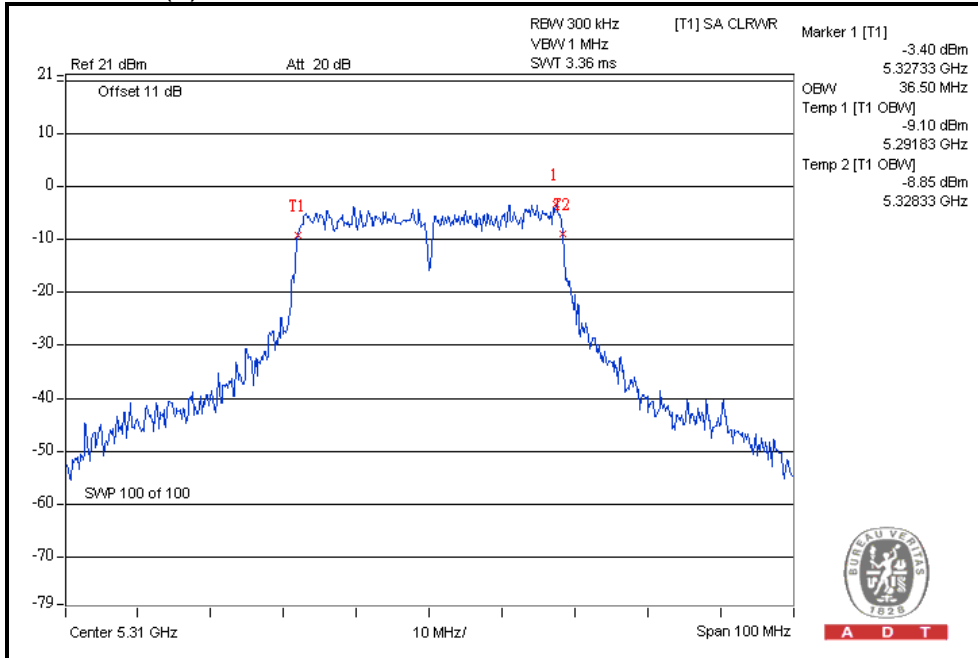


A D T

For CHAIN(1) : CH54



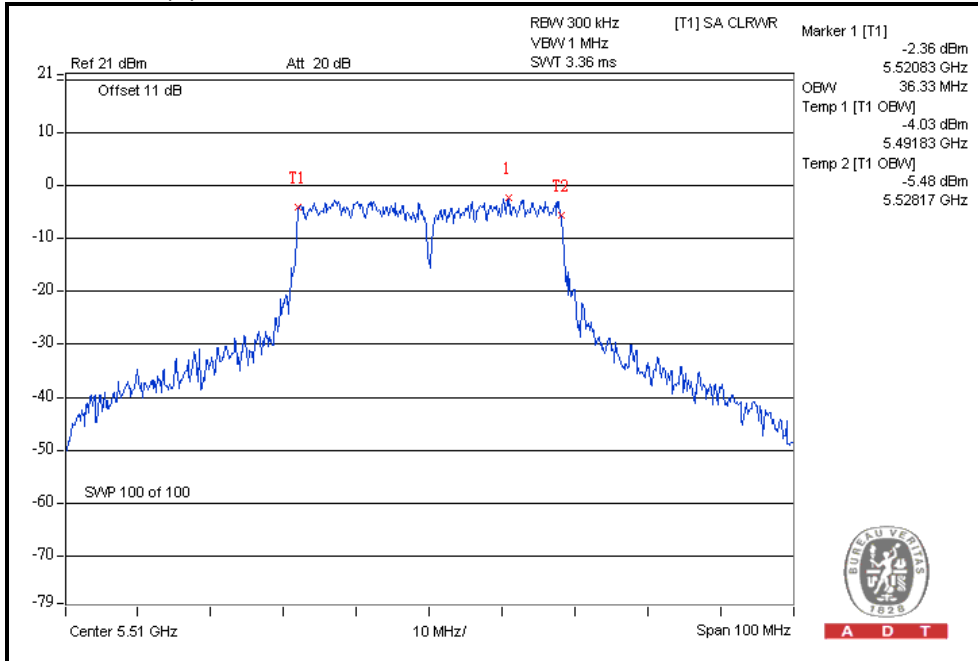
For CHAIN(1) : CH62



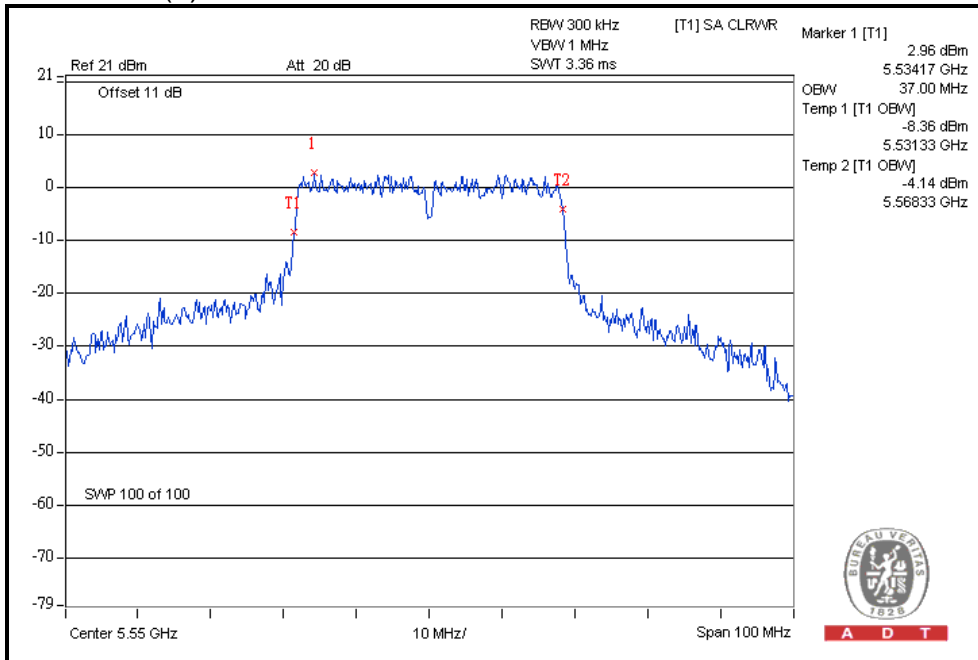


A D T

For CHAIN(1) : CH102



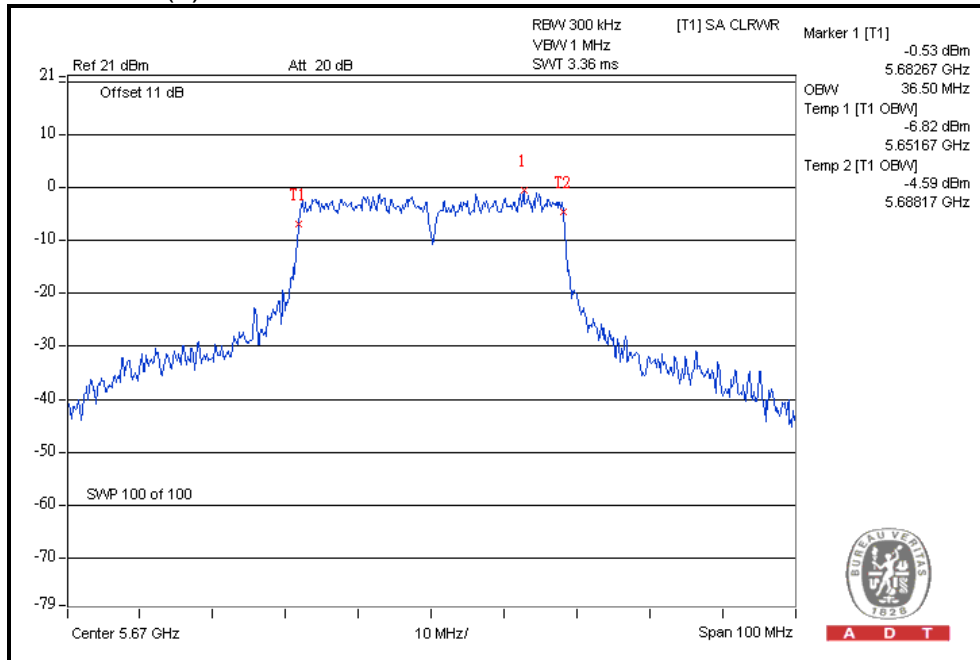
For CHAIN(1) : CH110





A D T

For CHAIN(1) : CH134



4.8 FREQUENCY STABILITY

4.8.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

The frequency tolerance of the carrier signal shall be maintained within the band of the operating frequency over a temperature variation of –30 degrees to 50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C.

4.8.2 TEST INSTRUMENTS

Test date: Dec. 06, 2011

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
R&S Spectrum Analyzer	FSP 40	100060	May 11, 2011	May 10, 2012

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

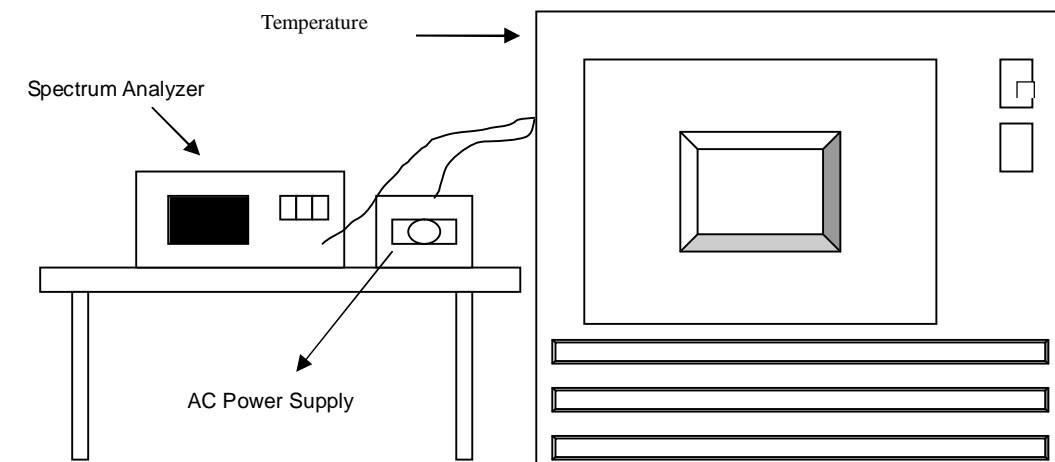
4.8.3 TEST PROCEDURE

1. The EUT was placed inside the environmental test chamber and powered by nominal AC voltage.
2. Turn the EUT on and couple its output to a spectrum analyzer.
3. Turn the EUT off and set the chamber to the highest temperature specified.
4. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency after 2, 5, and 10 minutes.
5. Repeat step 2 and 3 with the temperature chamber set to the lowest temperature.
6. The test chamber was allowed to stabilize at +20 degree C for a minimum of 30 minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.

4.8.4 DEVIATION FROM TEST STANDARD

No deviation

4.8.5 TEST SETUP



4.8.6 EUT OPERATING CONDITION

The software provided by client to enable the EUT under transmission condition continuously at specific channel frequencies individually.



A D T

4.8.7 TEST RESULTS

Operating frequency: 5320MHz									
Temp. (°C)	Power supply (VAC)	0 minute		2 minute		5 minute		10 minute	
		(MHz)	(ppm)	(MHz)	(ppm)	(MHz)	(ppm)	(MHz)	(ppm)
50	138	5319.994	-1.1278	5319.9916	-1.5789	5319.991	-1.6917	5319.9939	-1.1466
	120	5319.9925	-1.4098	5319.9913	-1.6353	5319.9905	-1.7857	5319.9949	-0.9586
	102	5319.9932	-1.2782	5319.9926	-1.3910	5319.9908	-1.7293	5319.995	-0.9398
40	138	5319.9826	-3.2707	5319.9868	-2.4812	5319.9817	-3.4398	5319.9851	-2.8008
	120	5319.9837	-3.0639	5319.9866	-2.5188	5319.9819	-3.4023	5319.9852	-2.7820
	102	5319.9826	-3.2707	5319.9869	-2.4624	5319.9818	-3.4211	5319.985	-2.8195
30	138	5319.9851	-2.8008	5319.9857	-2.6880	5319.9831	-3.1767	5319.9836	-3.0827
	120	5319.9867	-2.5000	5319.9845	-2.9135	5319.9822	-3.3459	5319.9841	-2.9887
	102	5319.9858	-2.6692	5319.9843	-2.9511	5319.9838	-3.0451	5319.9835	-3.1015
20	138	5319.9787	-4.0038	5319.9818	-3.4211	5319.9844	-2.9323	5319.9806	-3.6466
	120	5319.9803	-3.7030	5319.982	-3.3835	5319.9851	-2.8008	5319.9808	-3.6090
	102	5319.9794	-3.8722	5319.9812	-3.5338	5319.9848	-2.8571	5319.9798	-3.7970
10	138	5319.987	-2.4436	5319.9909	-1.7105	5319.9891	-2.0489	5319.991	-1.6917
	120	5319.9861	-2.6128	5319.9922	-1.4662	5319.9885	-2.1617	5319.9924	-1.4286
	102	5319.9878	-2.2932	5319.9914	-1.6165	5319.9891	-2.0489	5319.992	-1.5038
0	138	5320.01	1.8797	5320.0136	2.5564	5320.0091	1.7105	5320.0084	1.5789
	120	5320.01	1.8797	5320.0147	2.7632	5320.0095	1.7857	5320.0087	1.6353
	102	5320.01	1.8797	5320.0134	2.5188	5320.0097	1.8233	5320.0087	1.6353
-10	138	5320.005	0.9398	5320.0039	0.7331	5320.0072	1.3534	5320.01	1.8797
	120	5320.0065	1.2218	5320.0041	0.7707	5320.0072	1.3534	5320.0099	1.8609
	102	5320.0057	1.0714	5320.0053	0.9962	5320.0084	1.5789	5320.0097	1.8233
-20	138	5319.9858	-2.6692	5319.9825	-3.2895	5319.9773	-4.2669	5319.9782	-4.0977
	120	5319.9873	-2.3872	5319.9827	-3.2519	5319.9787	-4.0038	5319.9791	-3.9286
	102	5319.9863	-2.5752	5319.9832	-3.1579	5319.979	-3.9474	5319.9788	-3.9850
-30	138	5319.9863	-2.5752	5319.9867	-2.5000	5319.9855	-2.7256	5319.9816	-3.4586
	120	5319.9868	-2.4812	5319.9864	-2.5564	5319.9853	-2.7632	5319.9809	-3.5902
	102	5319.9864	-2.5564	5319.9877	-2.3120	5319.9845	-2.9135	5319.981	-3.5714

4.9 CONDUCTED OUT-BAND EMISSION MEASUREMENT

4.9.1 TEST INSTRUMENTS

Test date: Dec. 06, 2011

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
R&S Spectrum Analyzer	FSP 40	100060	May 11, 2011	May 10, 2012

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

4.9.2 TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer via a low loss cable. Set RBW of spectrum analyzer to 1MHz with suitable frequency span including 100 MHz or 200 MHz bandwidth from band edge. The band edges was measured and recorded.

4.9.3 EUT OPERATING CONDITION

The software provided by client to enable the EUT under transmission condition continuously at specific channel frequencies individually.

4.9.4 TEST RESULTS

For 5.15 to 5.35GHz band:

The spectrum plots (Peak RBW=1MHz, VBW=3MHz) are attached on the following pages.

Follow KDB 662911 document , the composite gain as below:

Single chain

For Operated in 5150MHz ~ 5250MHz bands:

Directional gain = 3.08 dBi.

For Operated in 5250MHz ~ 5350MHz bands:

Directional gain = 3.08 dBi.

Multiple chain

For Operated in 5150MHz ~ 5250MHz bands:

Directional gain = gain of antenna element + 10 log (# of TX antenna elements)

The effective legacy gain is 6.09dBi.

For Operated in 5250MHz ~ 5350MHz bands:

Directional gain = gain of antenna element + 10 log (# of TX antenna elements)

The effective legacy gain is 6.09dBi.

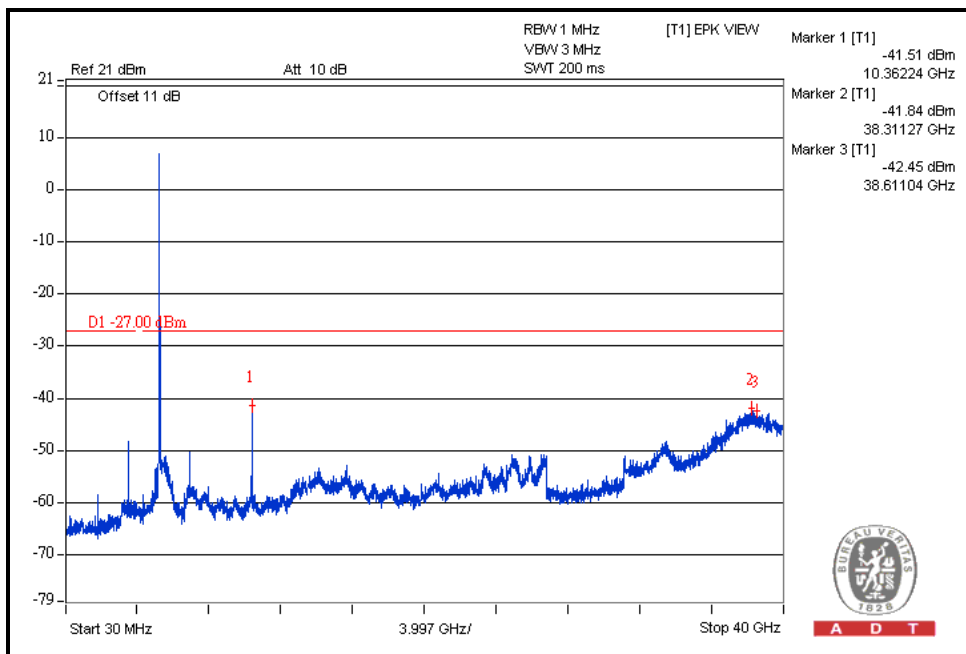
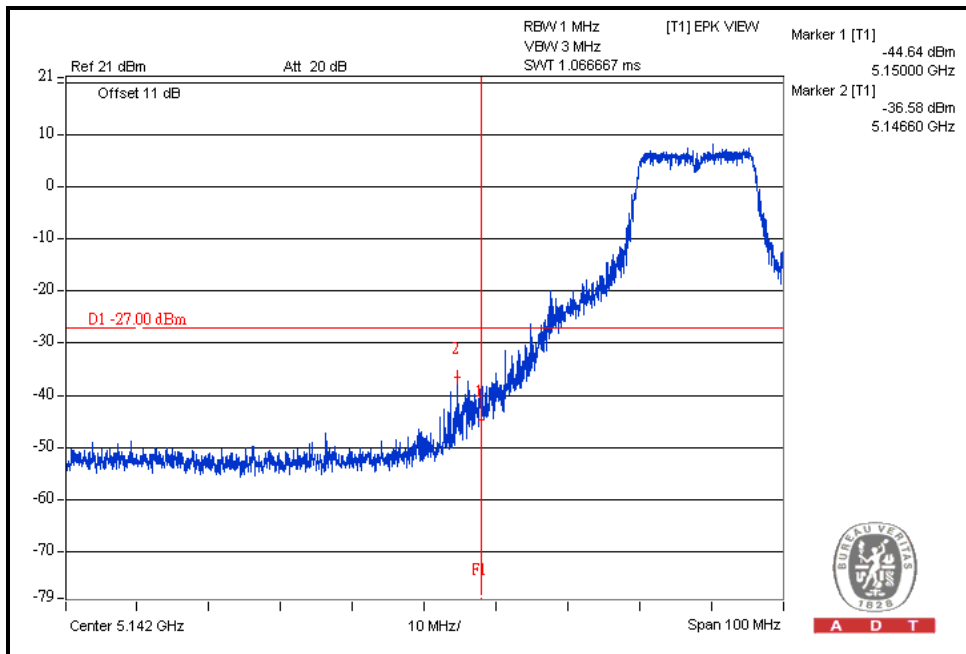
※ **The conducted emission test results are compliance after compute composite gain.**



A D T

Performing measurements: Measure and add 10 log(N) dB Single chain - 802.11a OFDM MODULATION

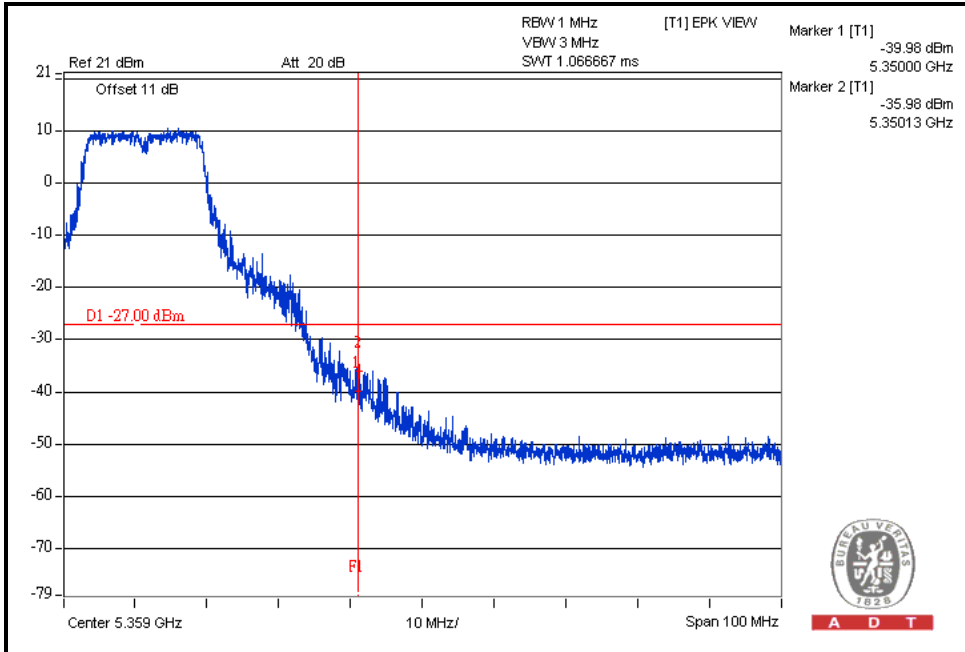
CH36



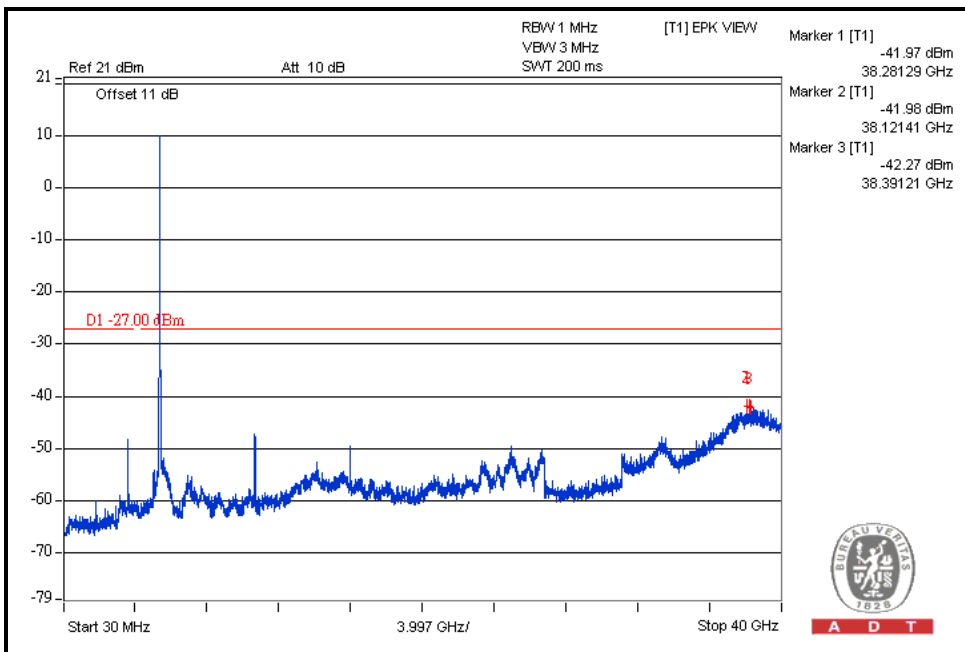


A D T

CH64



A D T



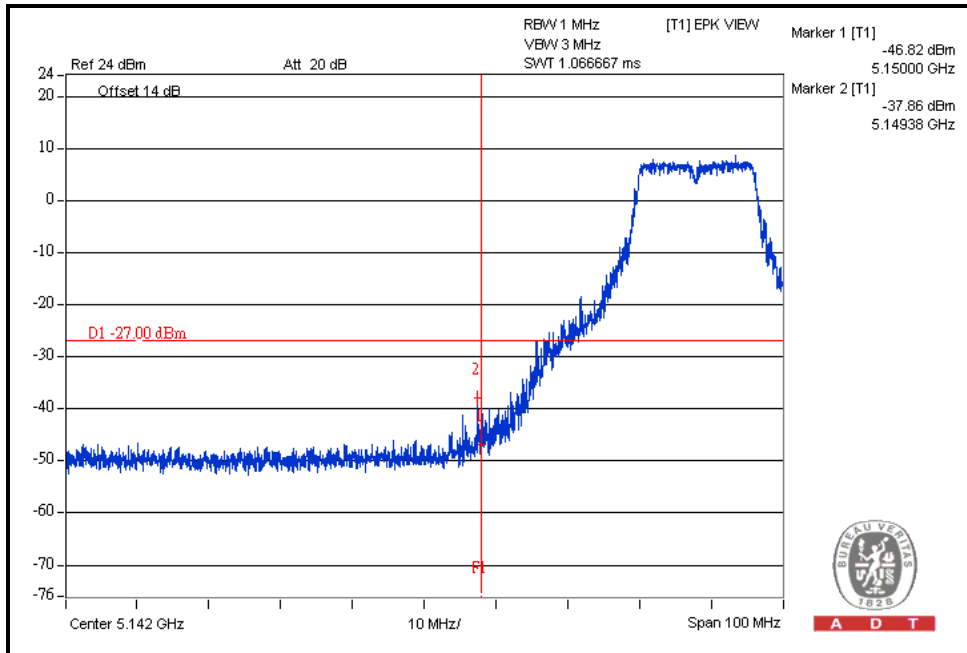
A D T



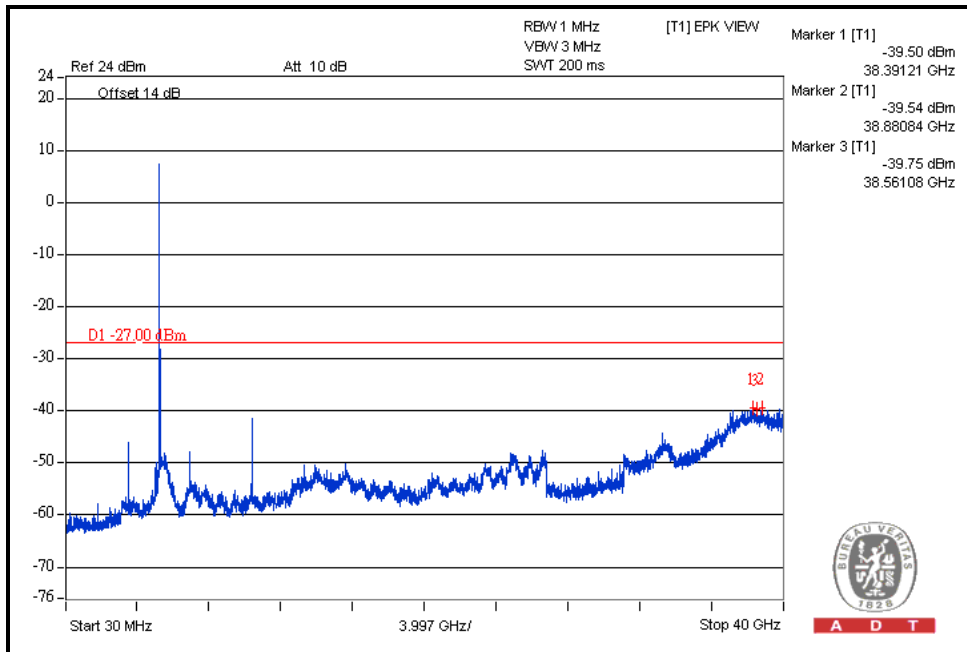
A D T

Multiple chain - 802.11a OFDM MODULATION

CH36



A D T

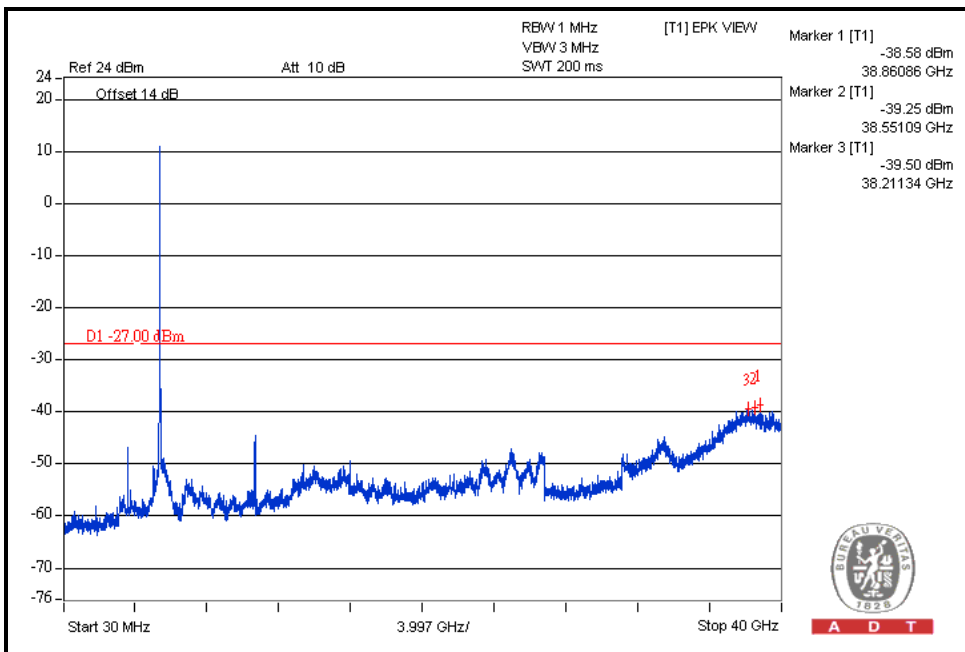
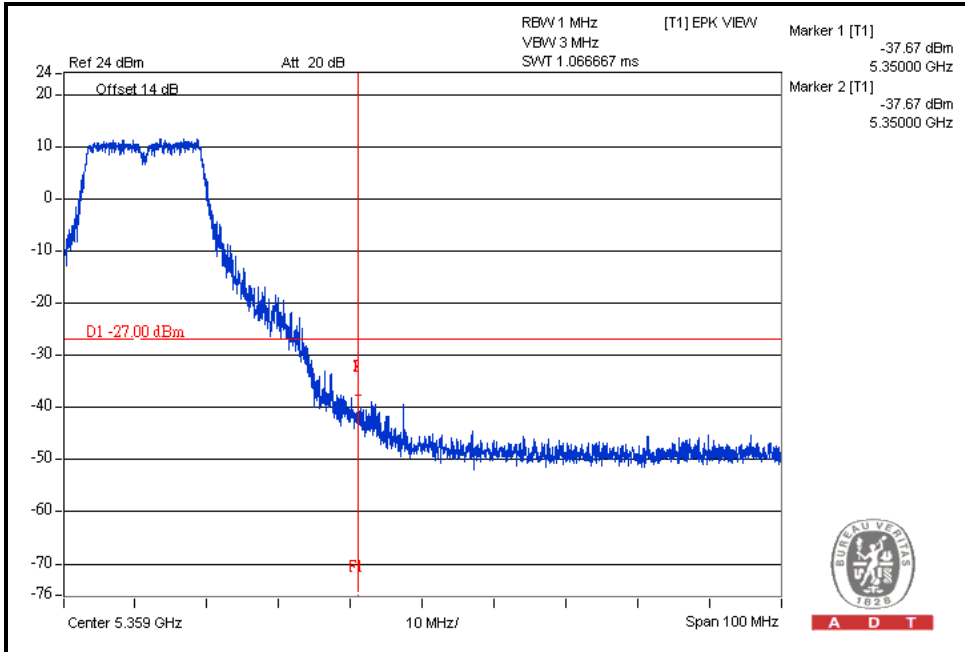


A D T



A D T

CH64

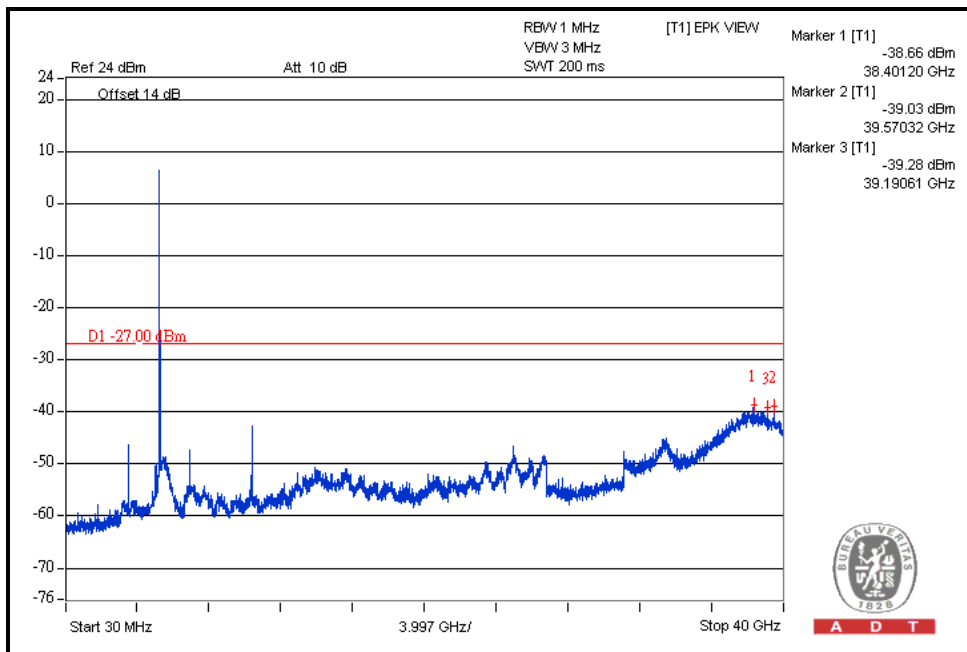
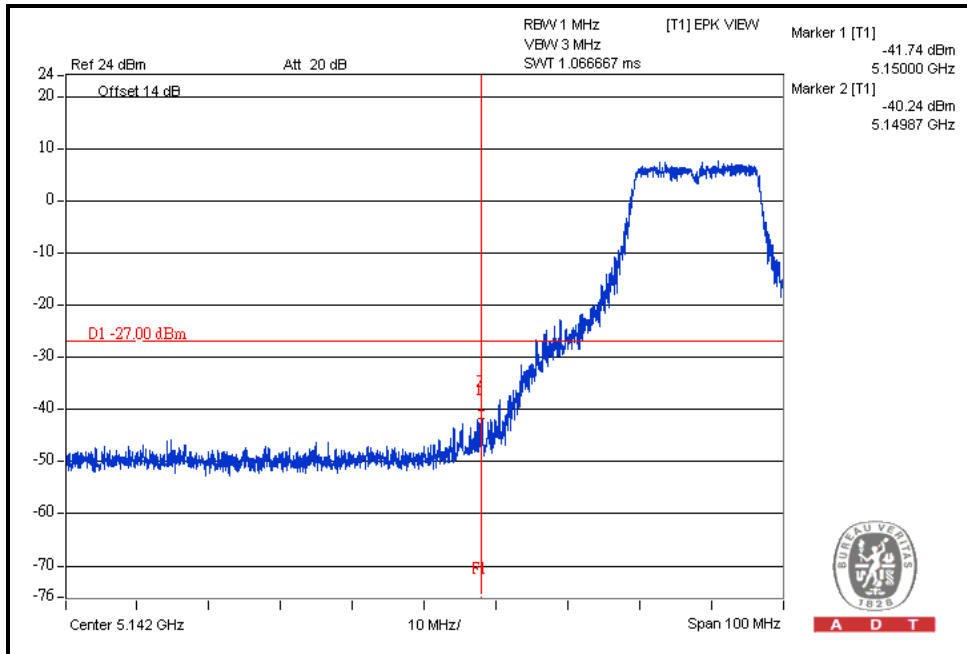




A D T

802.11n (20MHz) OFDM MODULATION:

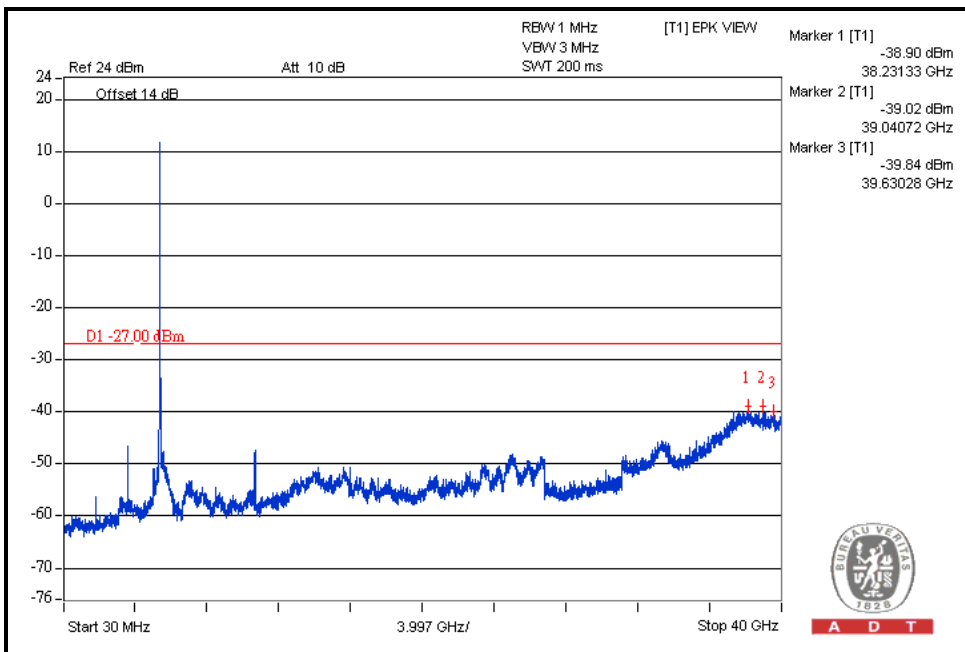
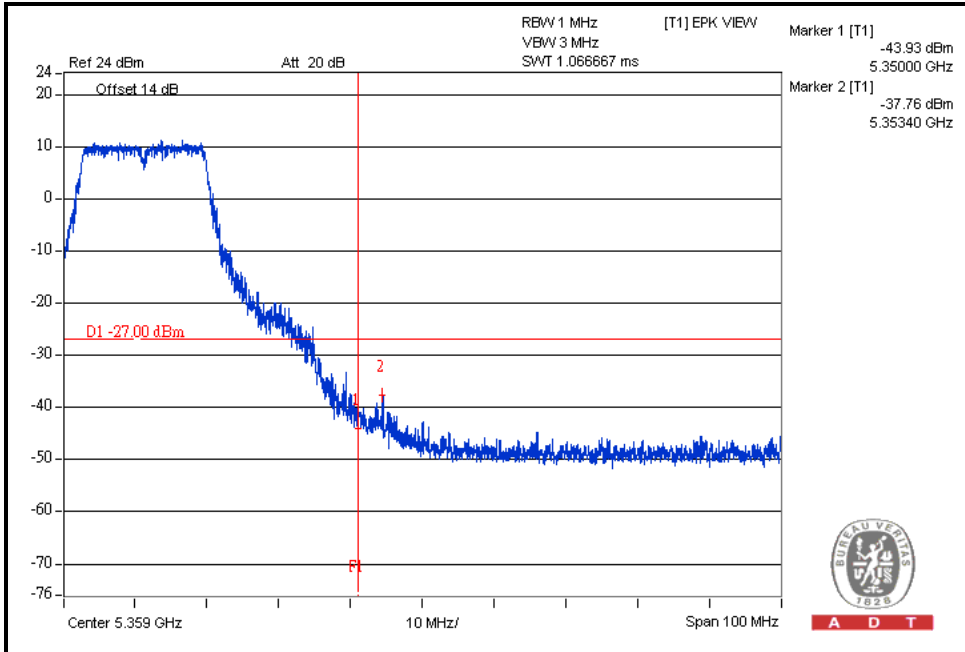
CH36





A D T

CH64

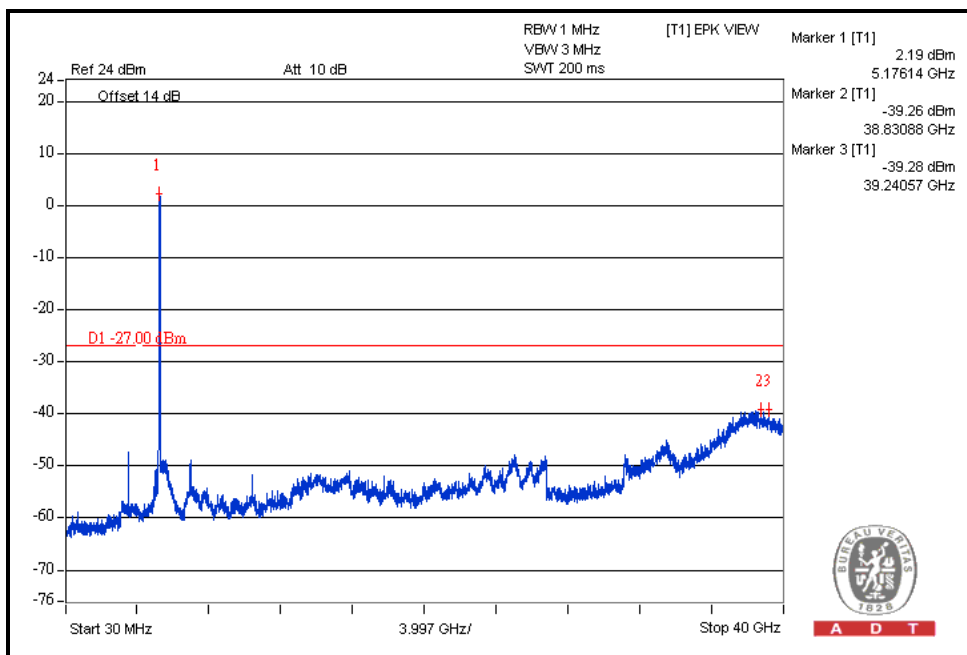
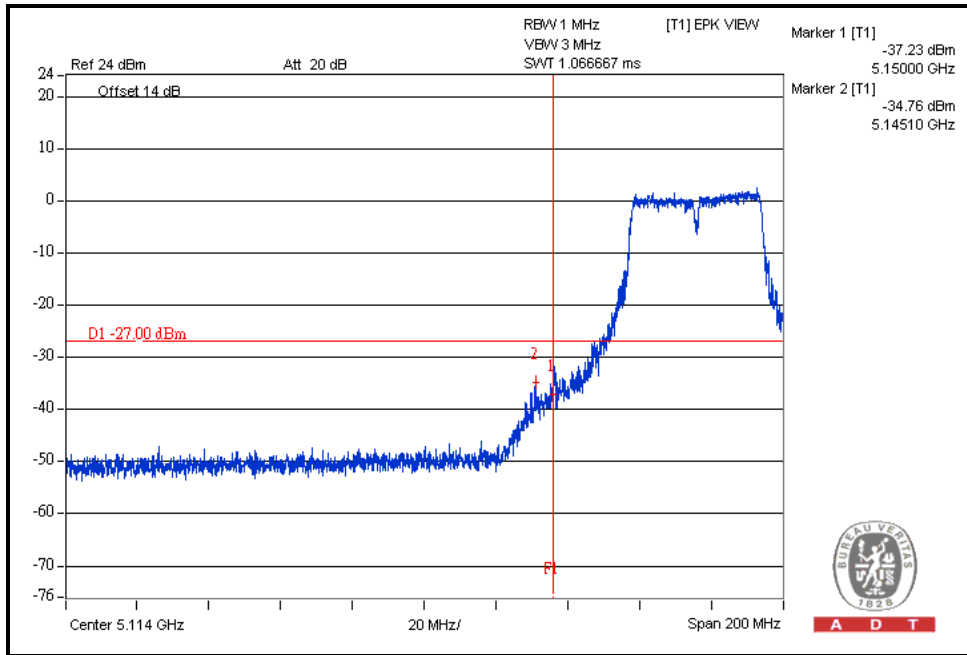




A D T

802.11n (40MHz) OFDM MODULATION:

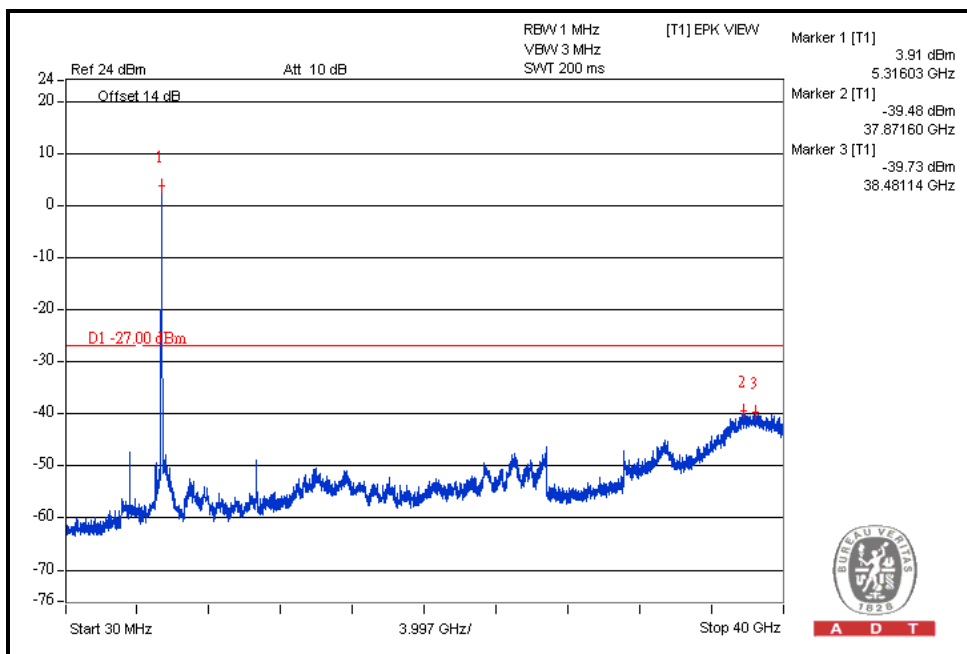
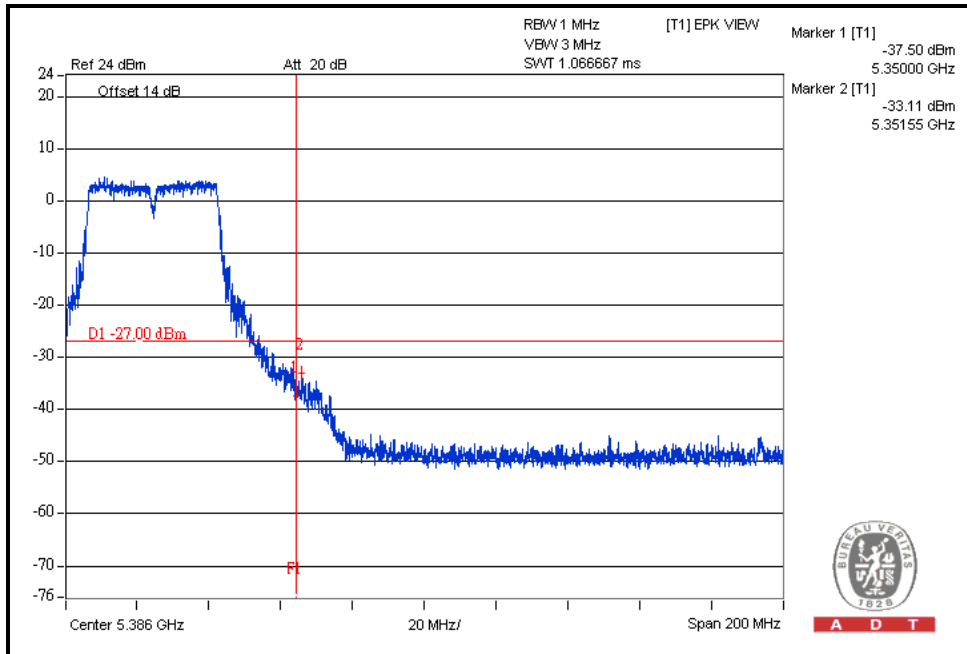
CH38





A D T

CH62



For 5.47 to 5.6 GHz & 5.65 to 5.725GHz band:

The spectrum plots (Peak RBW=1MHz, VBW=3MHz) are attached on the following pages.

Follow KDB 662911 document , the composite gain as below:

Single chain

For Operated in 5470MHz ~ 5600MHz & 5650MHz ~ 5725MHz bands:

Directional gain = 4.76 dBi.

Multiple chain

For Operated in 5470MHz ~ 5600MHz & 5650MHz ~ 5725MHz bands:

Directional gain = gain of antenna element + 10 log (# of TX antenna elements)

The effective legacy gain is 7.77dBi.

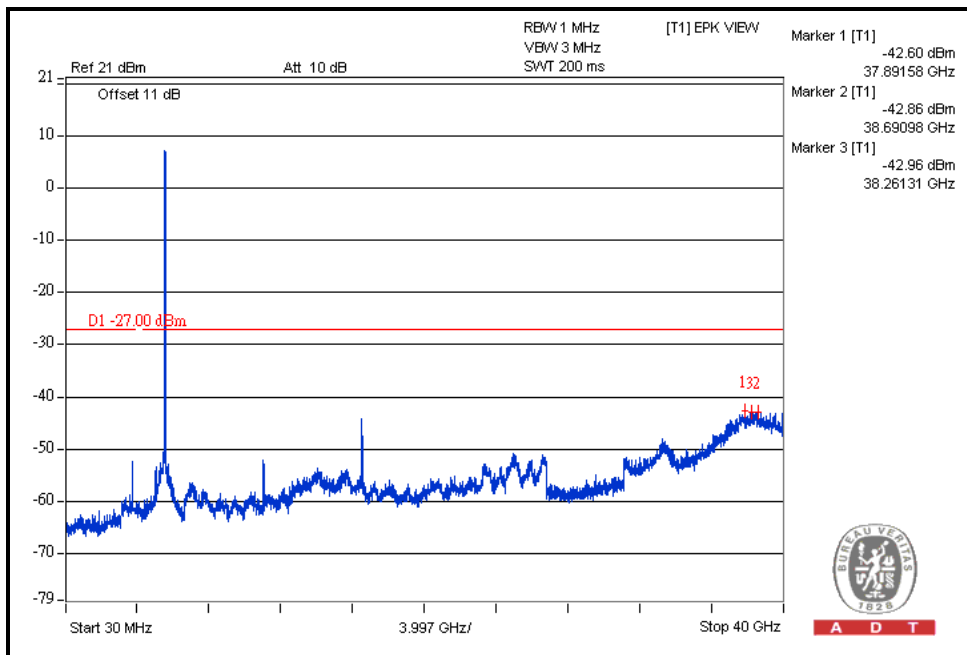
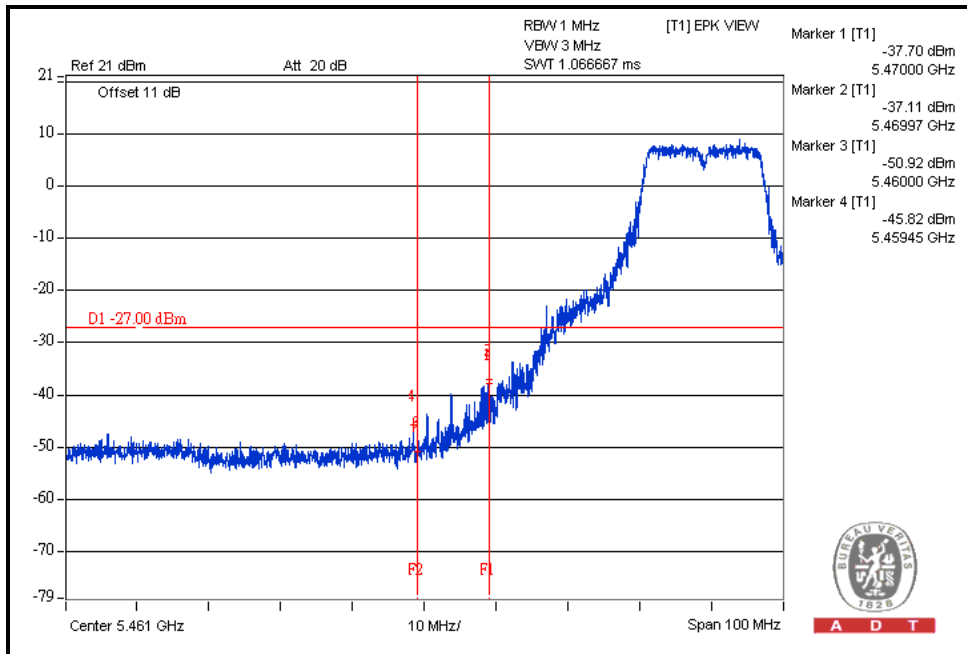
✘ **The conducted emission test results are compliance after compute composite gain.**



A D T

Performing measurements: Measure and add 10 log(N) dB Single chain - 802.11a OFDM MODULATION

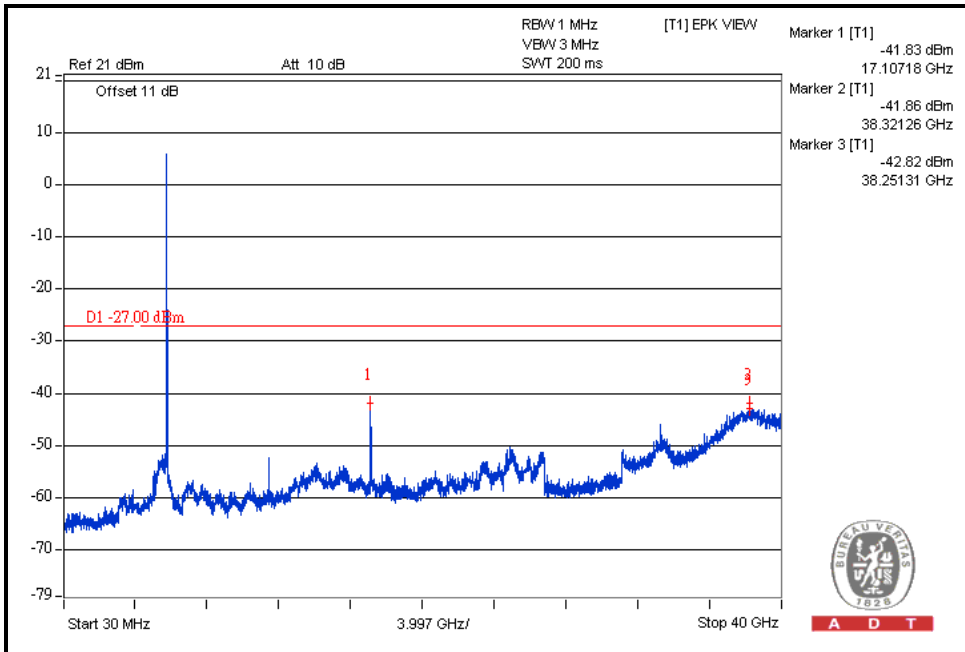
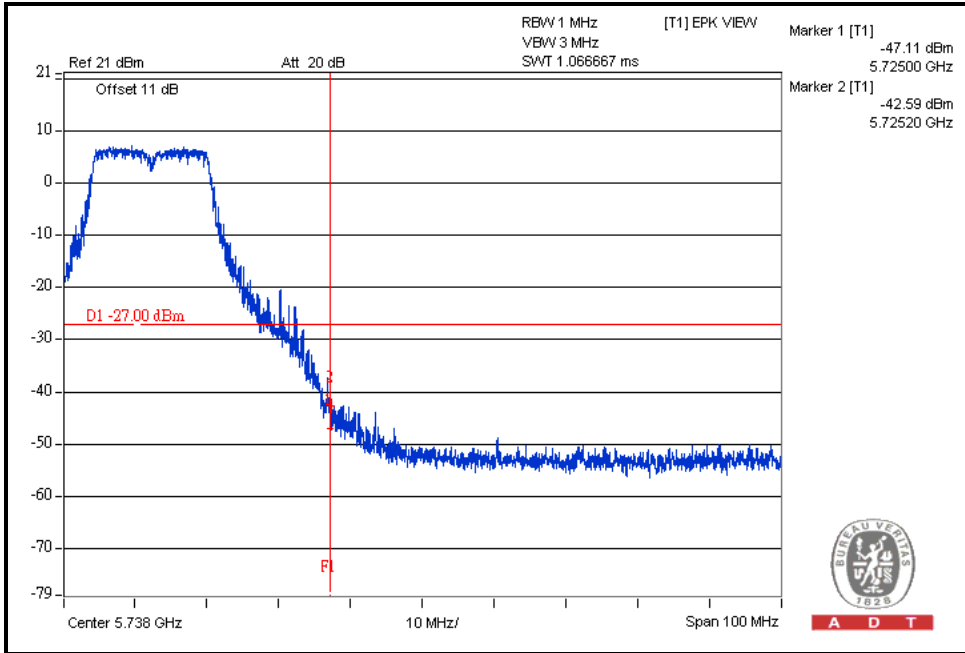
CH100





A D T

CH140

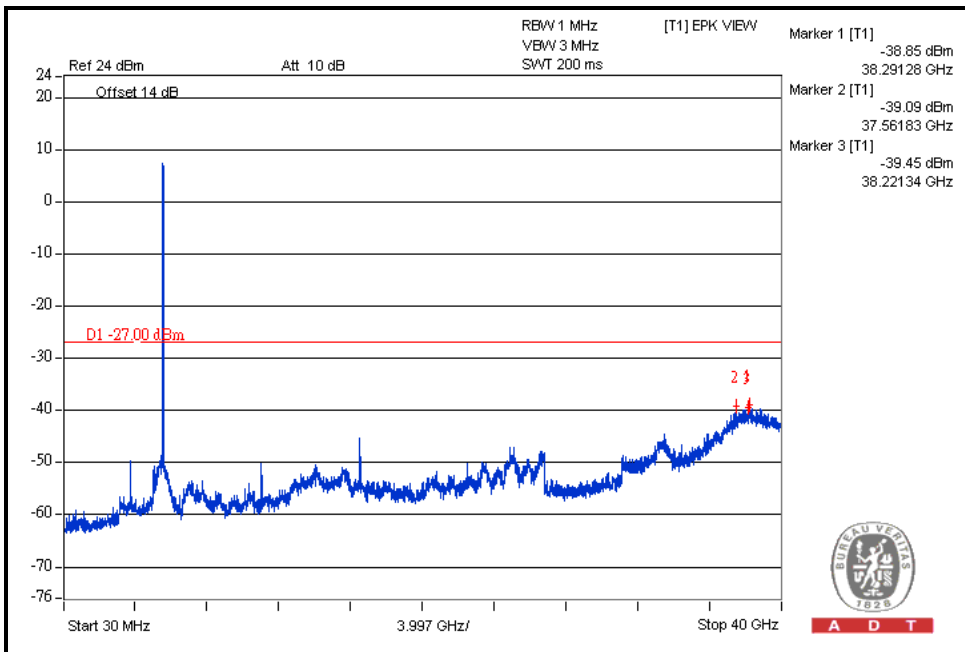
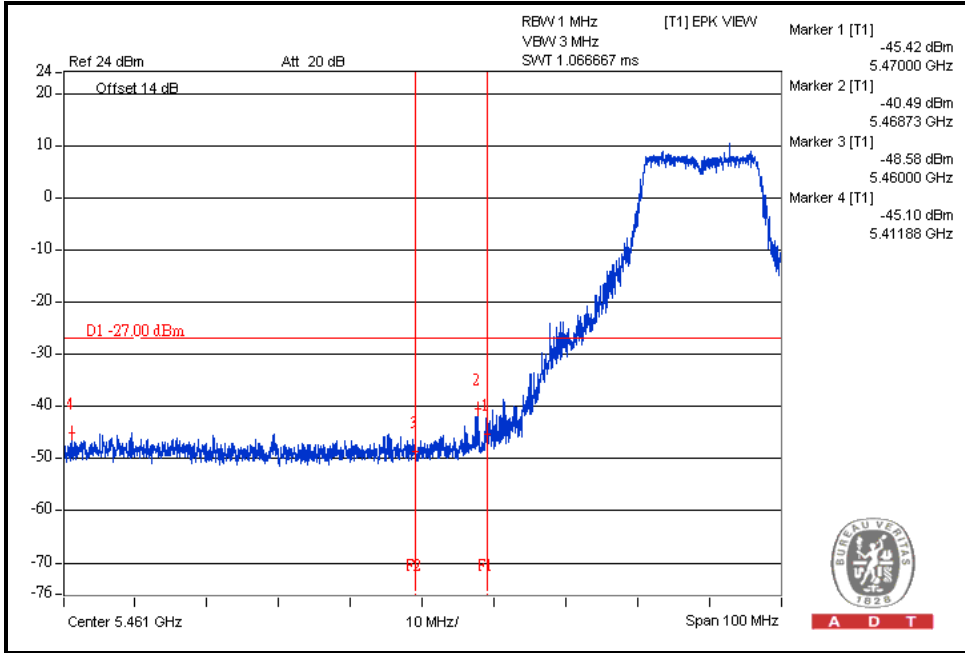




A D T

Multiple chain - 802.11a OFDM MODULATION

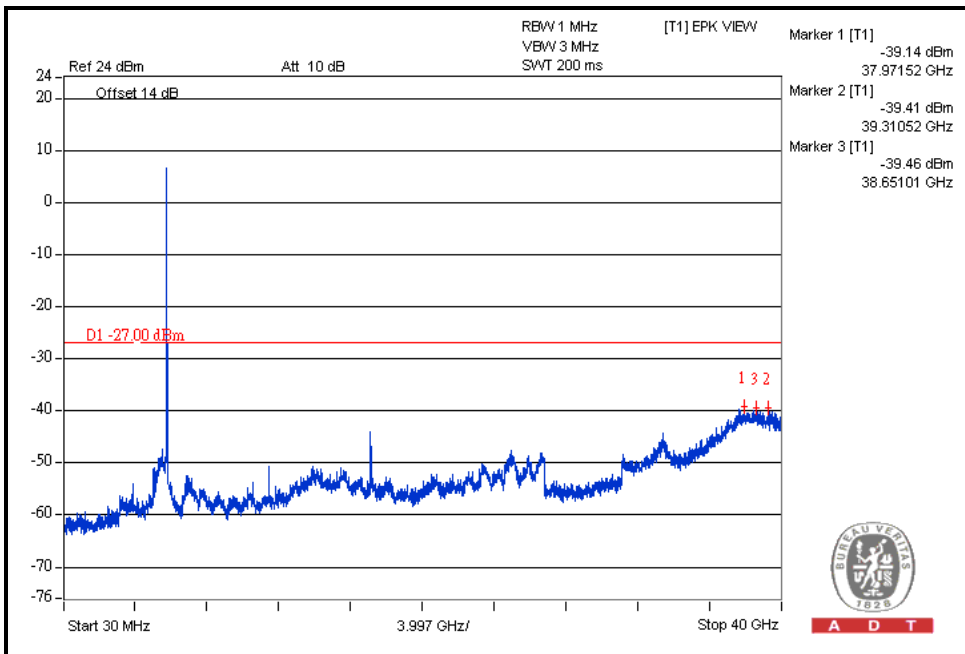
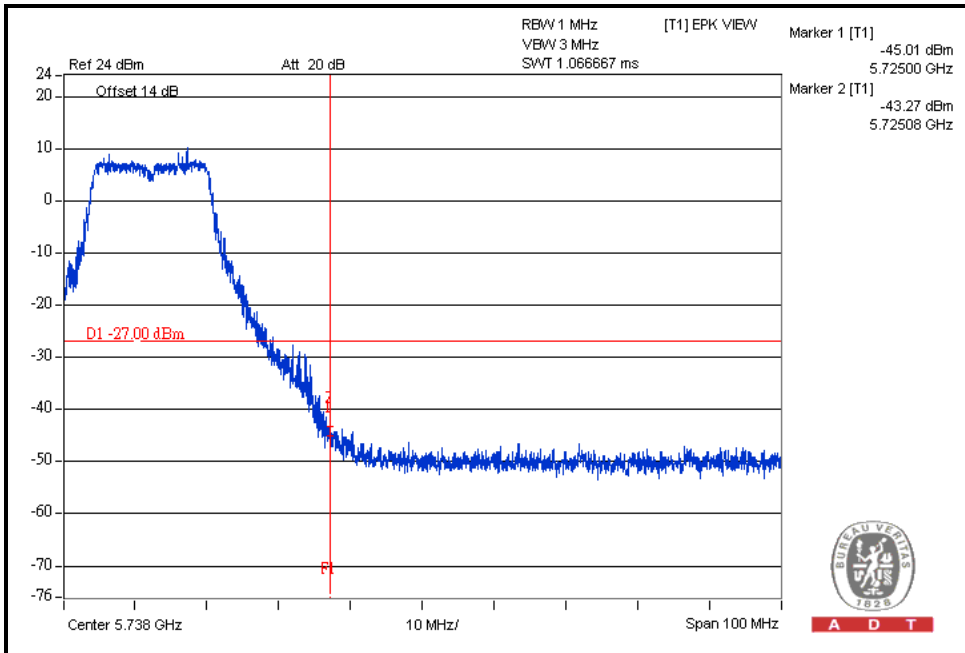
CH100





A D T

CH140

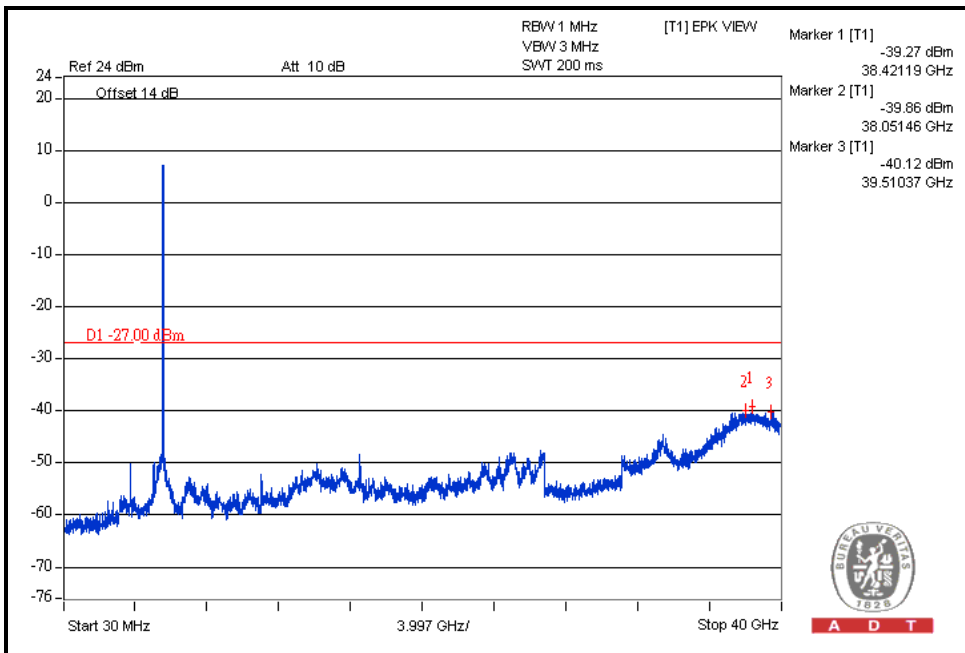
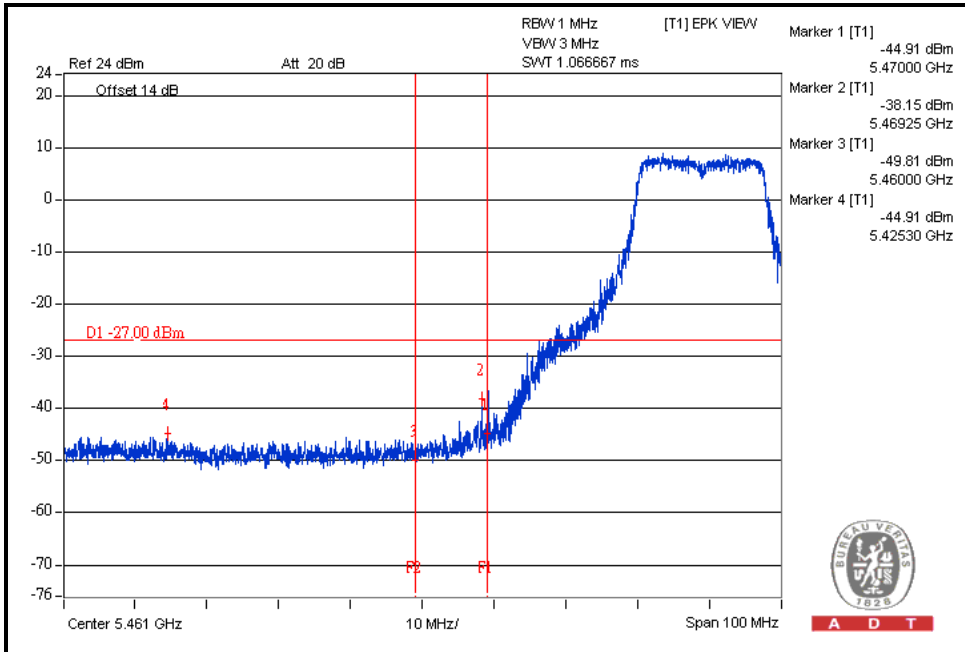




A D T

802.11n (20MHz) OFDM MODULATION:

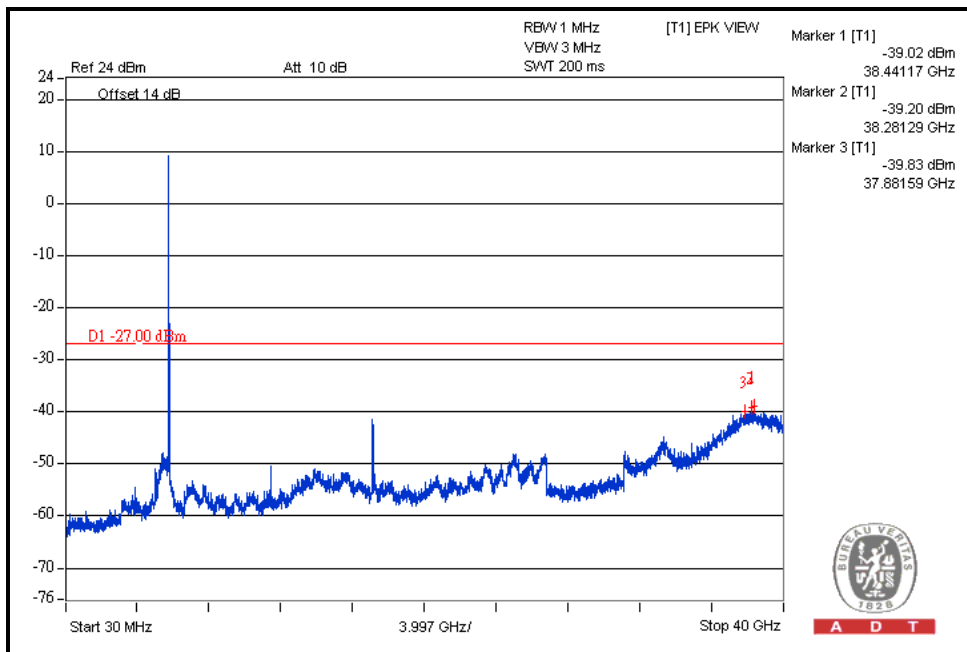
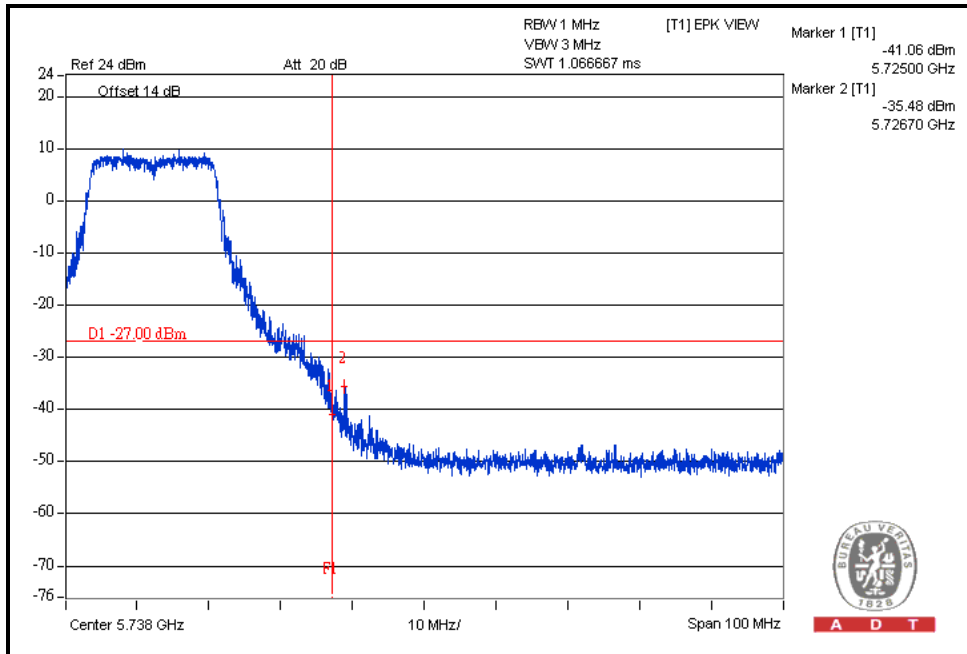
CH100





A D T

CH140

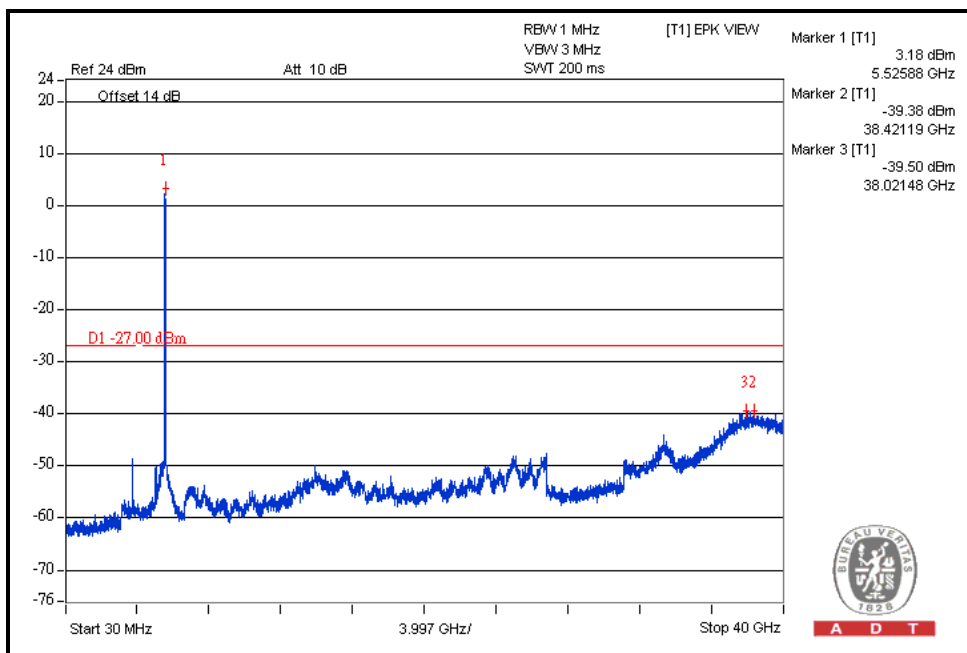
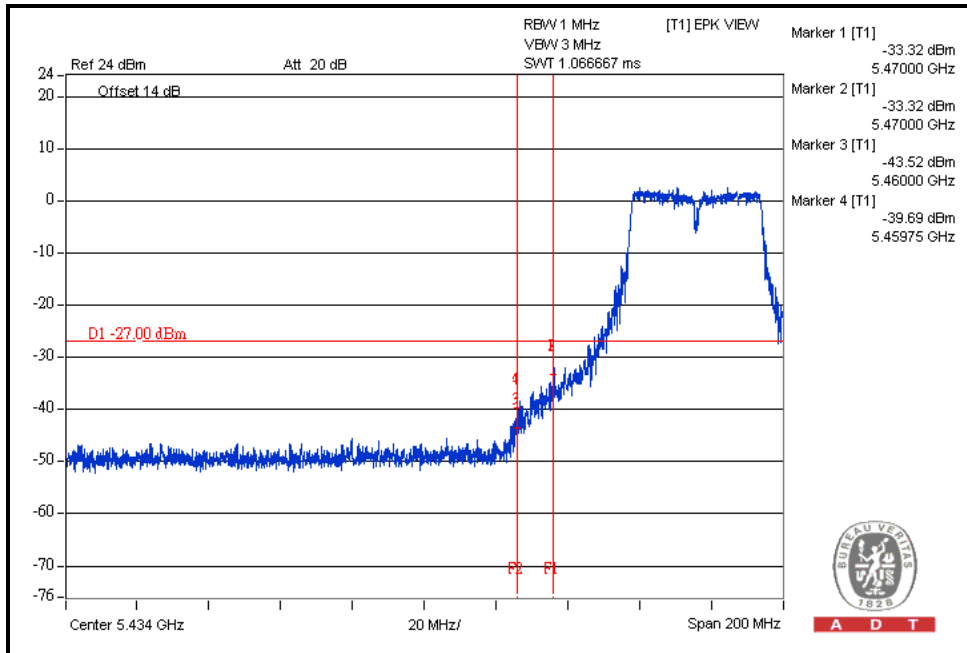




A D T

802.11n (40MHz) OFDM MODULATION:

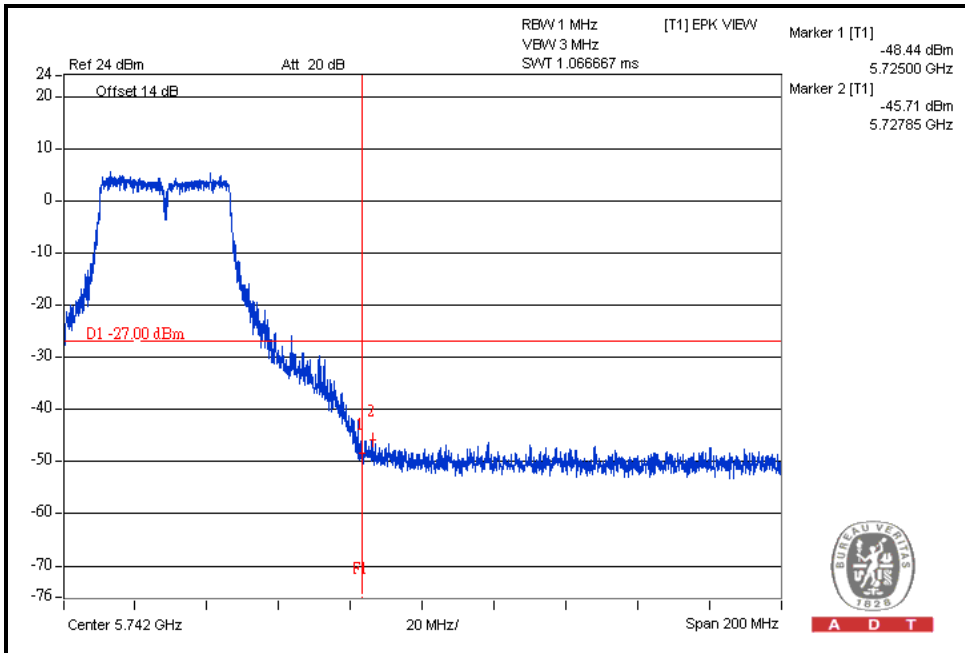
CH102



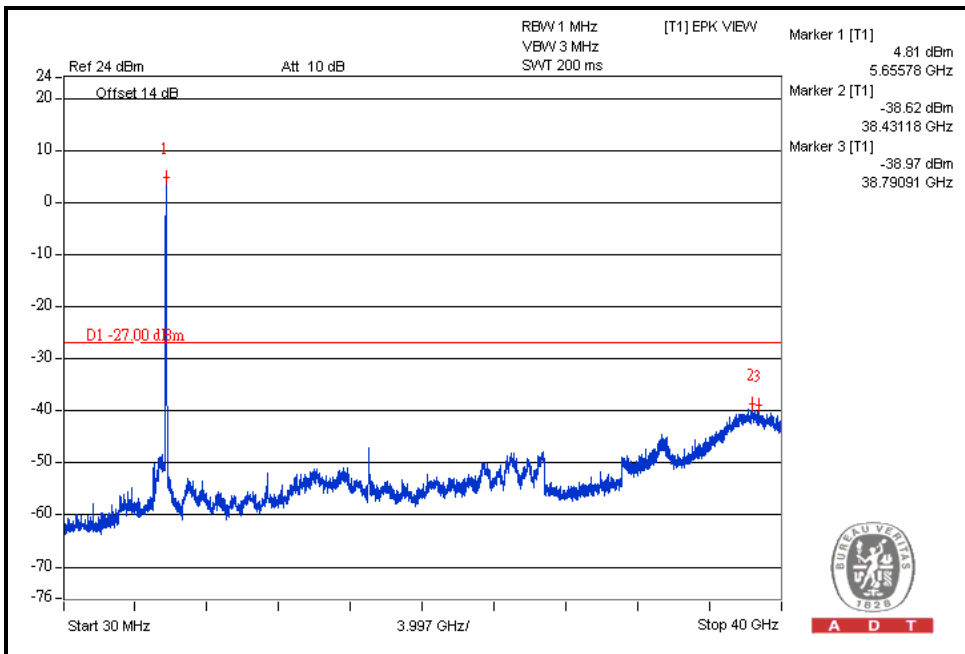


A D T

CH134



A D T



A D T



5. INFORMATION ON THE TESTING LABORATORIES

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

Copies of accreditation and authorization certificates of our laboratories obtained from approval agencies can be downloaded from our web site:

www.adt.com.tw/index.5.phtml.

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

Linko EMC/RF Lab:

Tel: 886-2-26052180

Fax: 886-2-26052943

Hsin Chu EMC/RF Lab:

Tel: 886-3-5935343

Fax: 886-3-5935342

Hwa Ya EMC/RF/Safety/Telecom Lab:

Tel: 886-3-3183232

Fax: 886-3-3185050

Email: service.adt@tw.bureauveritas.com

Web Site: www.adt.com.tw

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



A D T

6.APPENDIX A - MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No modifications were made to the EUT by the lab during the test.

--- END ---