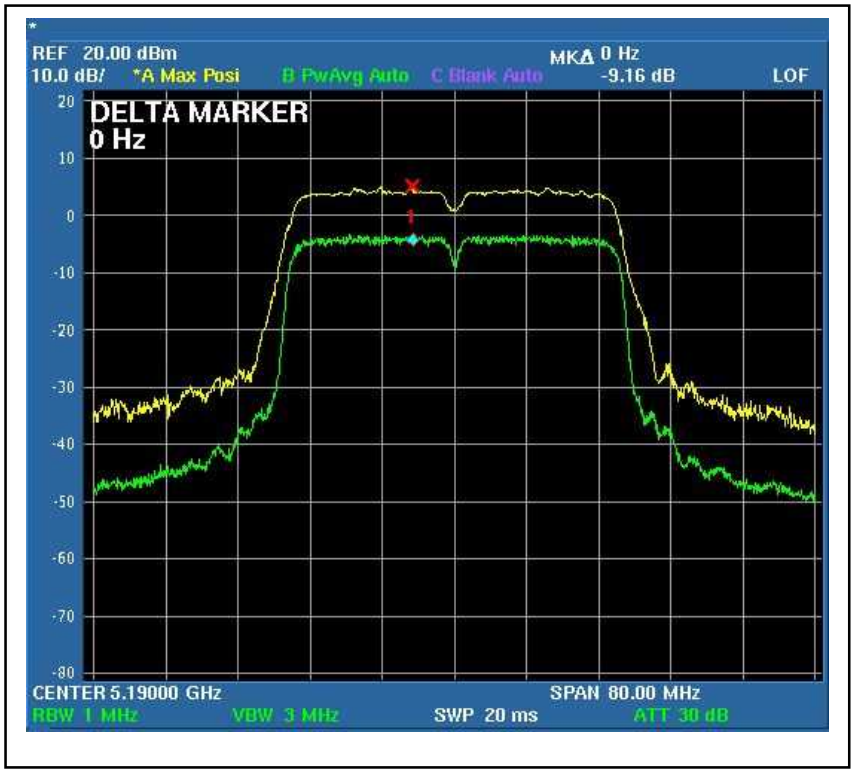
DRAFT 802.11n (40MHz) OFDM MODULATION:

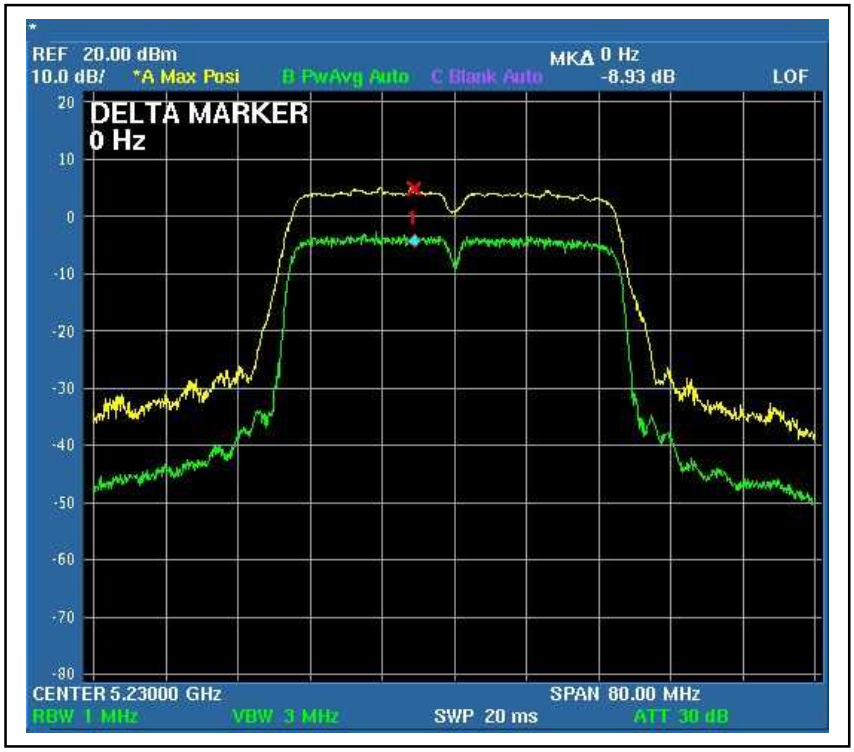
MODULATION TYPE	BPSK	**TRANSFER RATE**	27Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**ENVIRONMENTAL CONDITIONS**	25deg.C, 60%RH, 965hPa
TESTED BY	Rex Huang		

CHANNEL	CHANNEL FREQUENCY (MHz)	PEAK POWER EXCURSION (dB)		PEAK to AVERAGE EXCURSION LIMIT (dB)	PASS/FAIL
		Chain (0)	Chain(1)		
1	5190	9.16	9.89	13	PASS
2	5230	8.93	9.32	13	PASS
3	5270	9.50	9.20	13	PASS
4	5310	9.27	9.48	13	PASS
5	5510	9.03	9.62	13	PASS
7	5590	9.60	9.09	13	PASS
9	5670	9.69	9.01	13	PASS

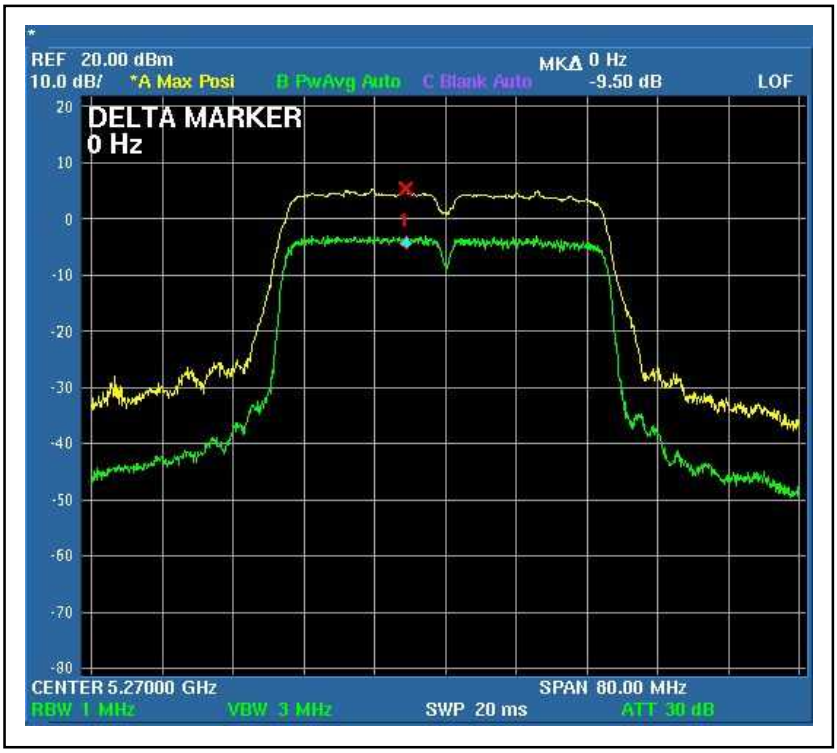
For Chain (0) : CH1



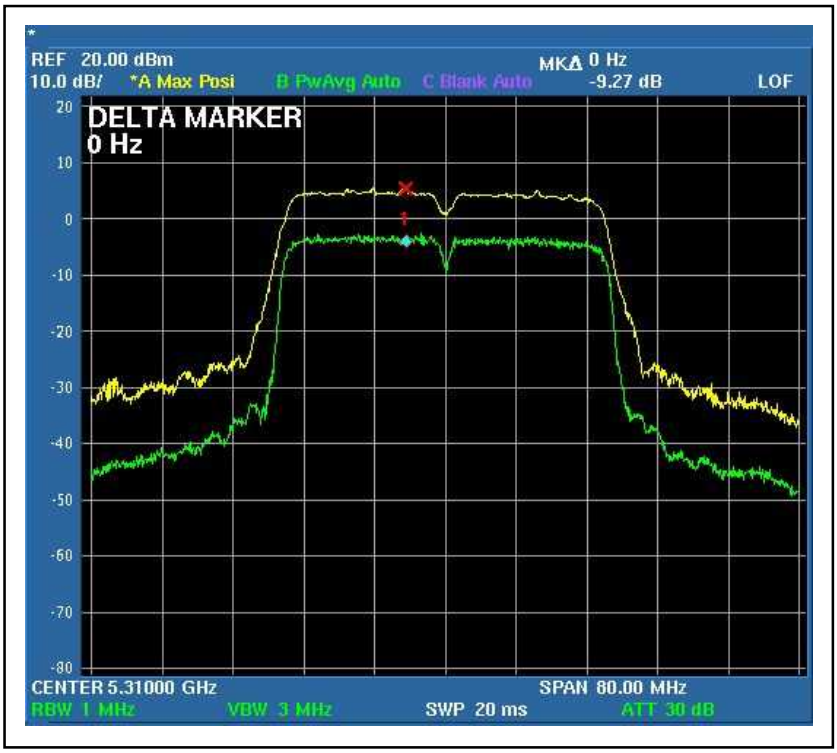
CH2



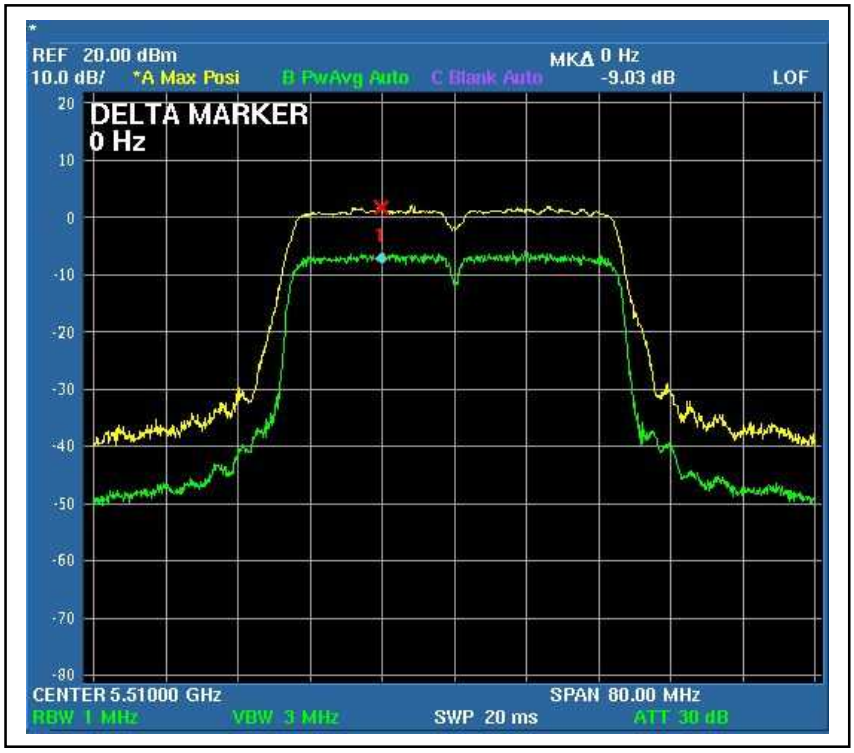
CH3


REF 20.00 dBm
MKΔ 0 Hz
10.0 dB/ *A Max Posi B PwAvg Auto C Blank Auto -9.50 dB LOF
DELTA MARKER
0 Hz
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
CENTER 5.27000 GHz
SPAN 80.00 MHz
RBW 1 MHz VBW 3 MHz SWP 20 ms ATT 30 dB

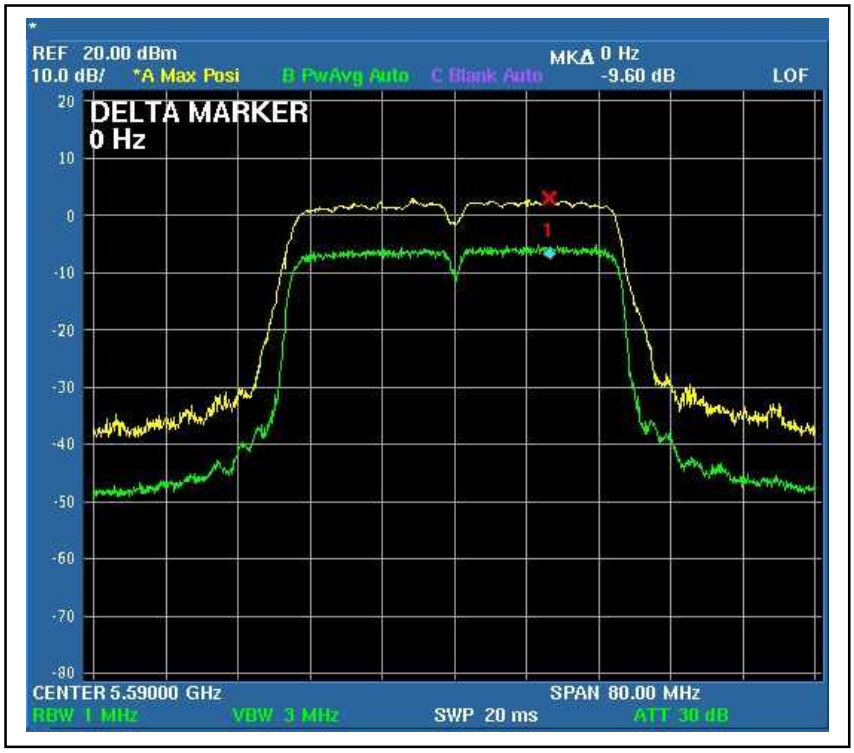
CH4


REF 20.00 dBm
MKΔ 0 Hz
10.0 dB/ *A Max Posi B PwAvg Auto C Blank Auto -9.27 dB LOF
DELTA MARKER
0 Hz
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
CENTER 5.31000 GHz
SPAN 80.00 MHz
RBW 1 MHz VBW 3 MHz SWP 20 ms ATT 30 dB

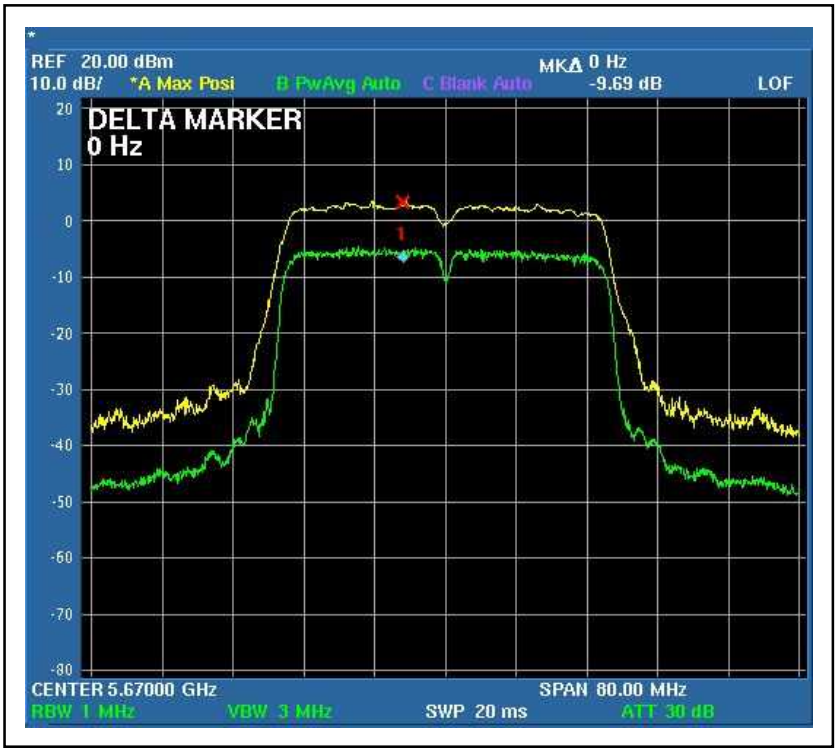
CH5


REF 20.00 dBm
MKΔ 0 Hz
10.0 dB/ *A Max Posi B PwAvg Auto C Blank Auto -9.03 dB LOF
DELTA MARKER
0 Hz
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
CENTER 5.51000 GHz
SPAN 80.00 MHz
RBW 1 MHz VBW 3 MHz SWP 20 ms ATT 30 dB

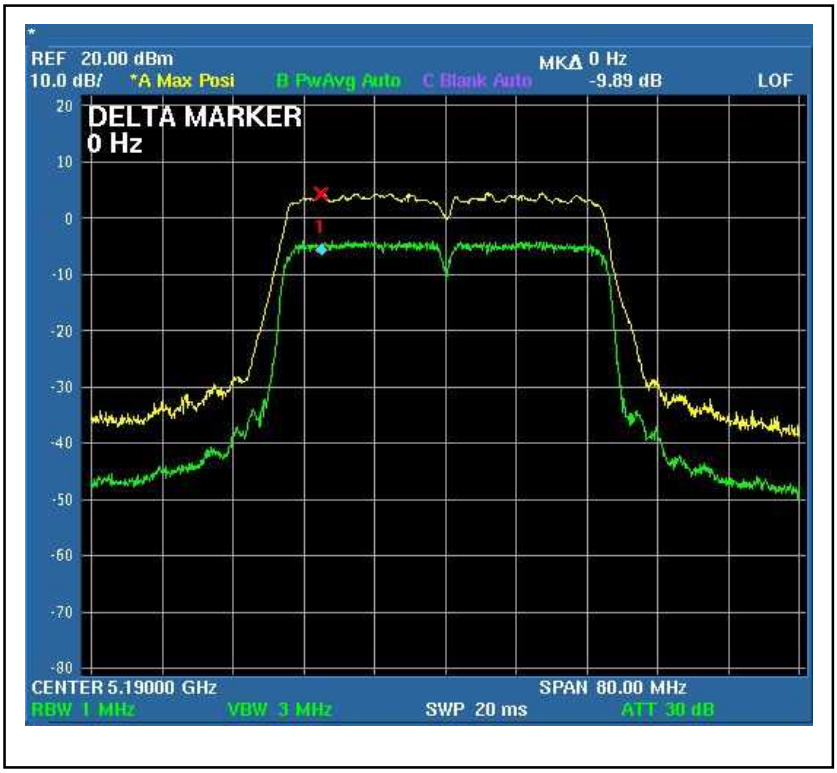
CH7


REF 20.00 dBm
MKΔ 0 Hz
10.0 dB/ *A Max Posi B PwAvg Auto C Blank Auto -9.60 dB LOF
DELTA MARKER
0 Hz
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
CENTER 5.59000 GHz
SPAN 80.00 MHz
RBW 1 MHz VBW 3 MHz SWP 20 ms ATT 30 dB

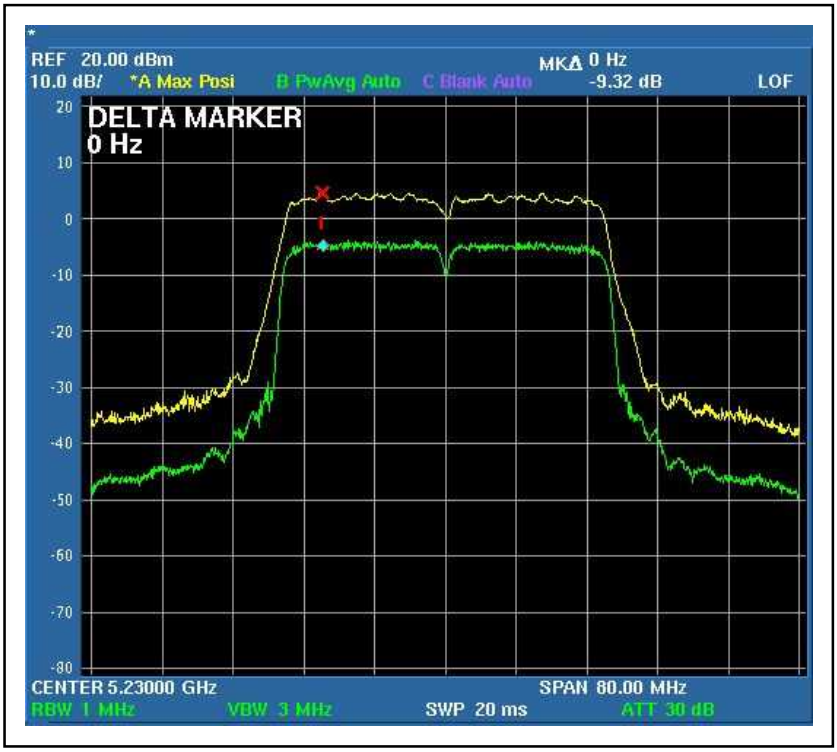
CH9


REF 20.00 dBm
10.0 dB/ *A Max Posi B PwAvg Auto C Blank Auto
MKΔ 0 Hz
-9.69 dB
LOF
DELTA MARKER
0 Hz
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
CENTER 5.67000 GHz
SPAN 80.00 MHz
RBW 1 MHz
VBW 3 MHz
SWP 20 ms
ATT 30 dB

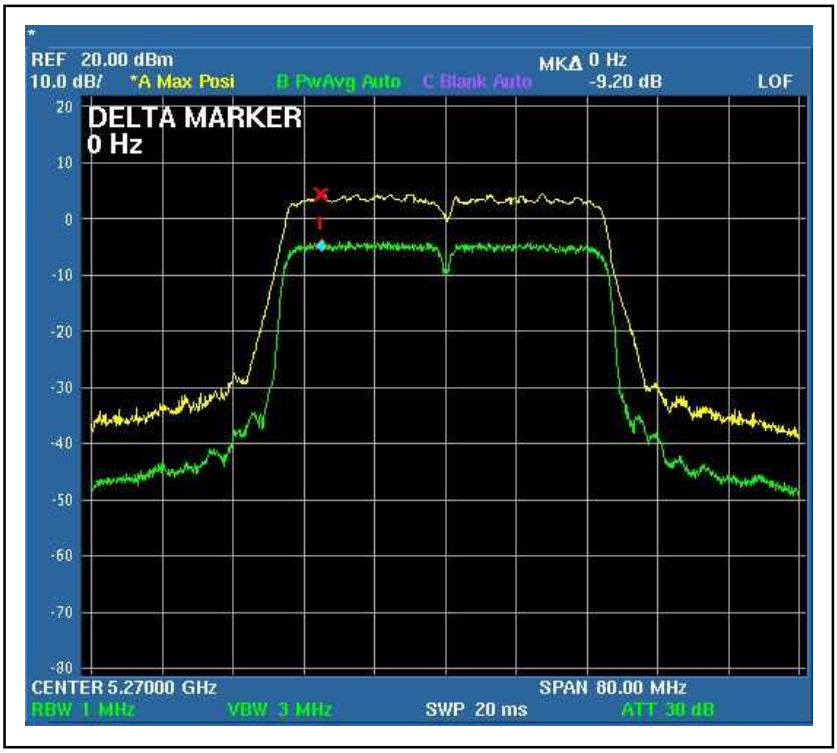
For Chain (1) : CH1



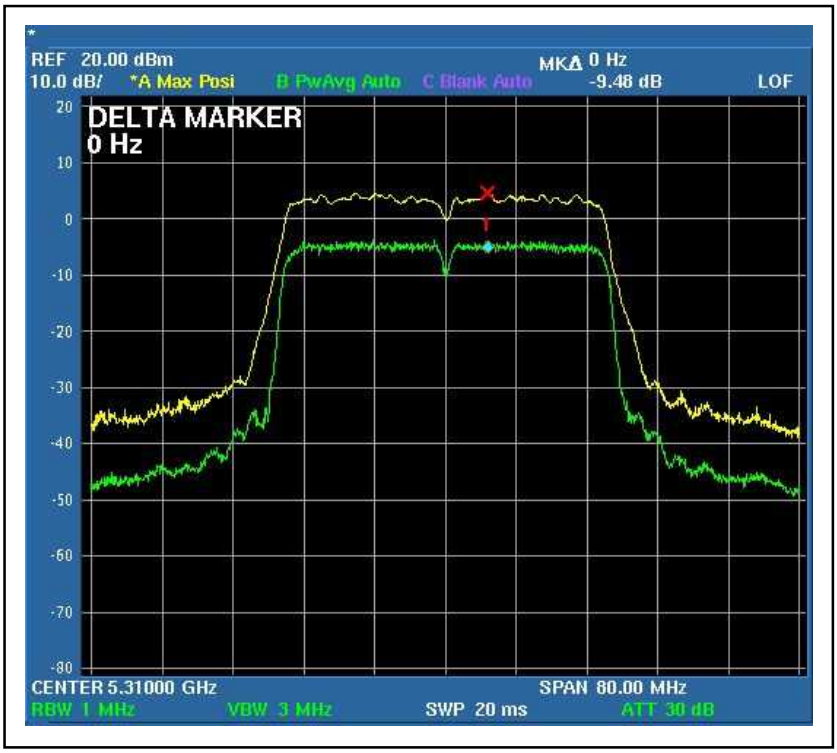
CH2



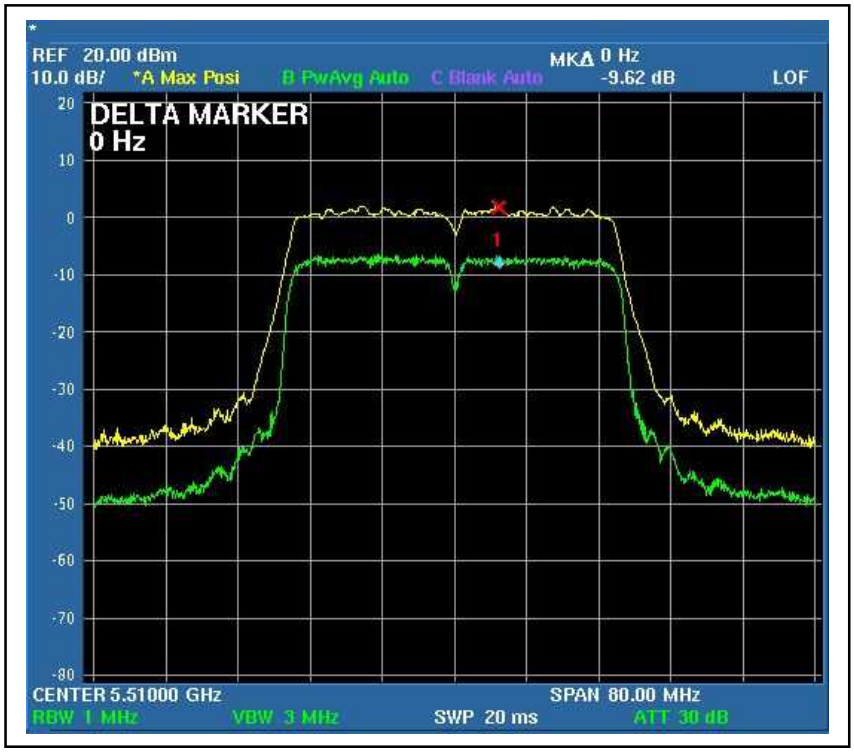
CH3


REF 20.00 dBm
MKΔ 0 Hz
10.0 dB/ *A Max Posi B PwAvg Auto C Blank Auto -9.20 dB LOF
DELTA MARKER
0 Hz
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
CENTER 5.27000 GHz
SPAN 80.00 MHz
RBW 1 MHz VBW 3 MHz SWP 20 ms ATT 30 dB

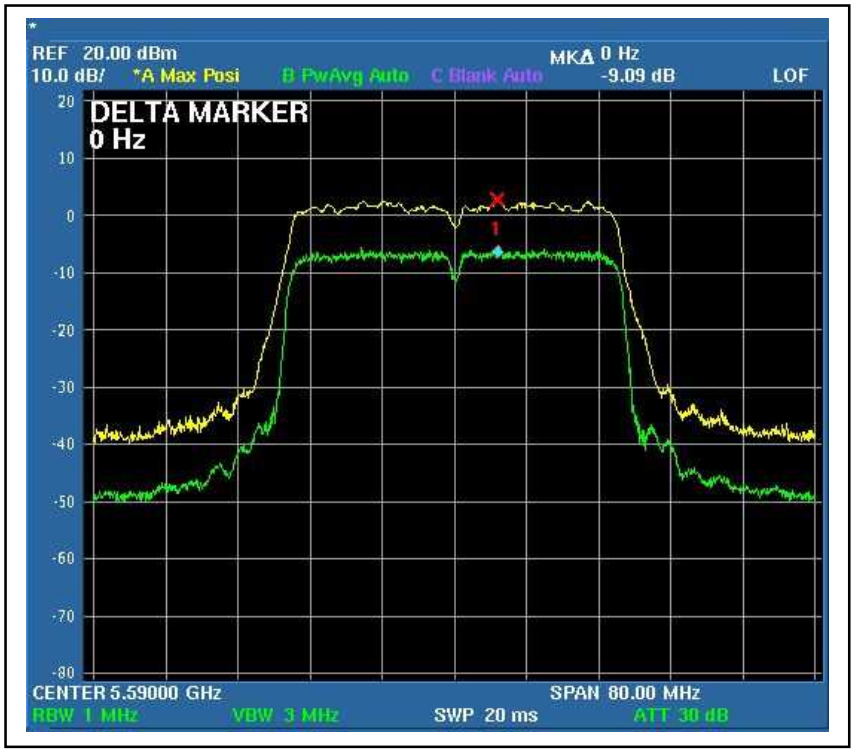
CH4


REF 20.00 dBm
MKΔ 0 Hz
10.0 dB/ *A Max Posi B PwAvg Auto C Blank Auto -9.48 dB LOF
DELTA MARKER
0 Hz
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
CENTER 5.31000 GHz
SPAN 80.00 MHz
RBW 1 MHz VBW 3 MHz SWP 20 ms ATT 30 dB

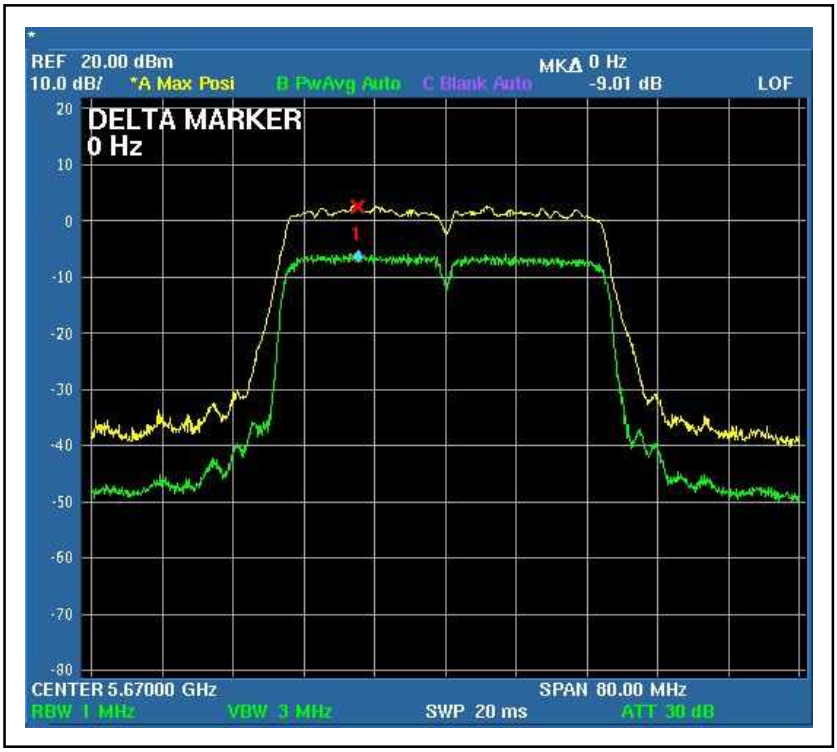
CH5


REF 20.00 dBm
MKΔ 0 Hz
10.0 dB/ *A Max Posi B PwAvg Auto C Blank Auto -9.62 dB LOF
DELTA MARKER
0 Hz
CENTER 5.51000 GHz
SPAN 80.00 MHz
RBW 1 MHz VBW 3 MHz SWP 20 ms ATT 30 dB

CH7


REF 20.00 dBm
MKΔ 0 Hz
10.0 dB/ *A Max Posi B PwAvg Auto C Blank Auto -9.09 dB LOF
DELTA MARKER
0 Hz
CENTER 5.59000 GHz
SPAN 80.00 MHz
RBW 1 MHz VBW 3 MHz SWP 20 ms ATT 30 dB

CH9


REF 20.00 dBm
10.0 dB/
*A Max Posi
B PwAvg Auto
C Blank Auto
MKΔ 0 Hz
-9.01 dB
LOF
DELTA MARKER
0 Hz
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
CENTER 5.67000 GHz
SPAN 80.00 MHz
RBW 1 MHz
VBW 3 MHz
SWP 20 ms
ATT 30 dB

4.5 PEAK POWER SPECTRAL DENSITY MEASUREMENT

4.5.1 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

4.5.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSP40	100037	Aug. 09, 2008	Aug. 08, 2009

NOTE:

1. The measurement uncertainty is less than +/- 2.6dB, which is calculated as per the NAMAS document NIS81. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

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

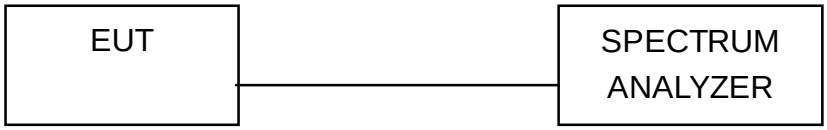
4.5.3 TEST PROCEDURES

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.

4.5.4 DEVIATION FROM TEST STANDARD

No deviation

4.5.5 TEST SETUP



4.5.6 EUT OPERATING CONDITIONS

Same as 4.3.6

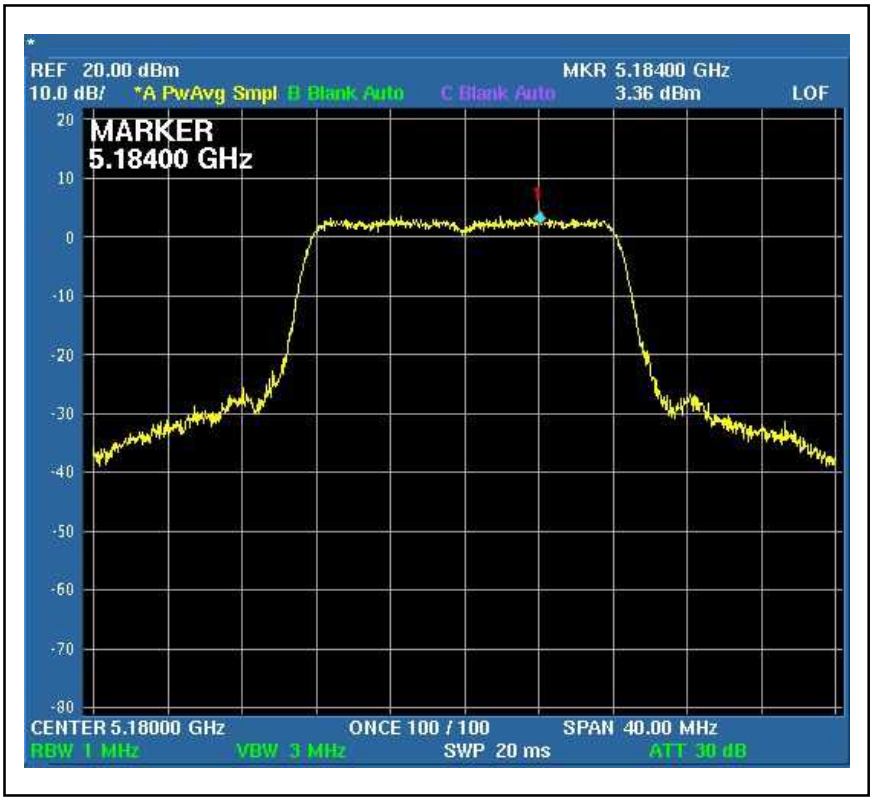
4.5.7 TEST RESULTS

802.11a OFDM modulation

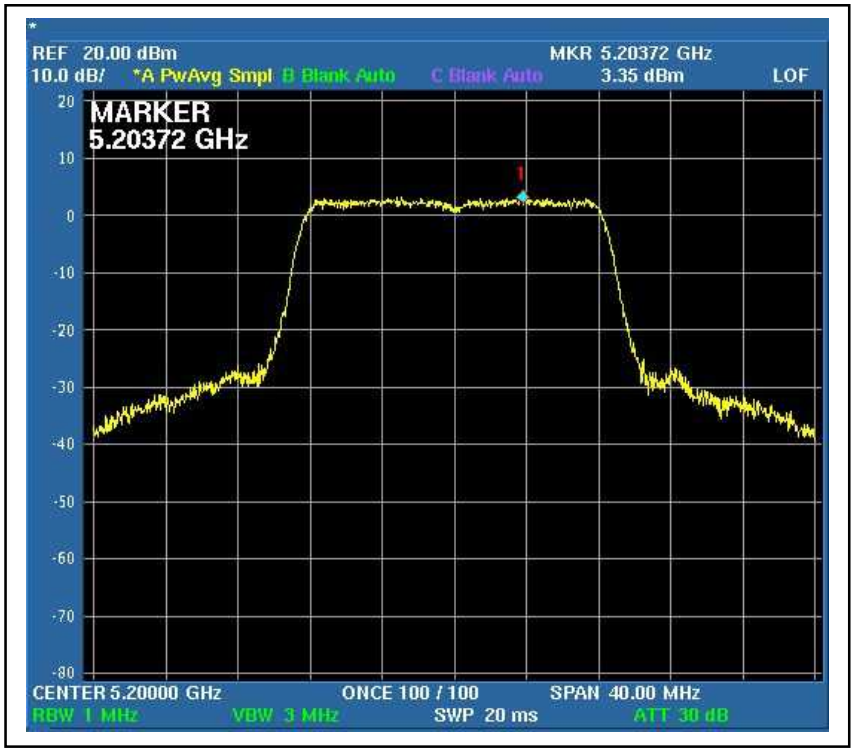
MODULATION TYPE	BPSK	**TRANSFER RATE**	6Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**ENVIRONMENTAL CONDITIONS**	25deg.C, 60%RH, 965hPa
TESTED BY	Rex Huang		

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 1MHz BW (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
1	5180	3.36	4	PASS
2	5200	3.35	4	PASS
4	5240	3.89	11	PASS
5	5260	5.4	11	PASS
7	5300	5.41	11	PASS
8	5320	5.13	11	PASS
9	5500	1.16	11	PASS
14	5600	1.32	11	PASS
19	5700	3.3	11	PASS

CH1


REF 20.00 dBm
MKR 5.18400 GHz
10.0 dB/ *A PwAvg Smpl B Blank Auto C Blank Auto 3.36 dBm LOF
MARKER
5.18400 GHz
CENTER 5.18000 GHz
ONCE 100 / 100
SPAN 40.00 MHz
RBW 1 MHz
VBW 3 MHz
SWP 20 ms
ATT 30 dB

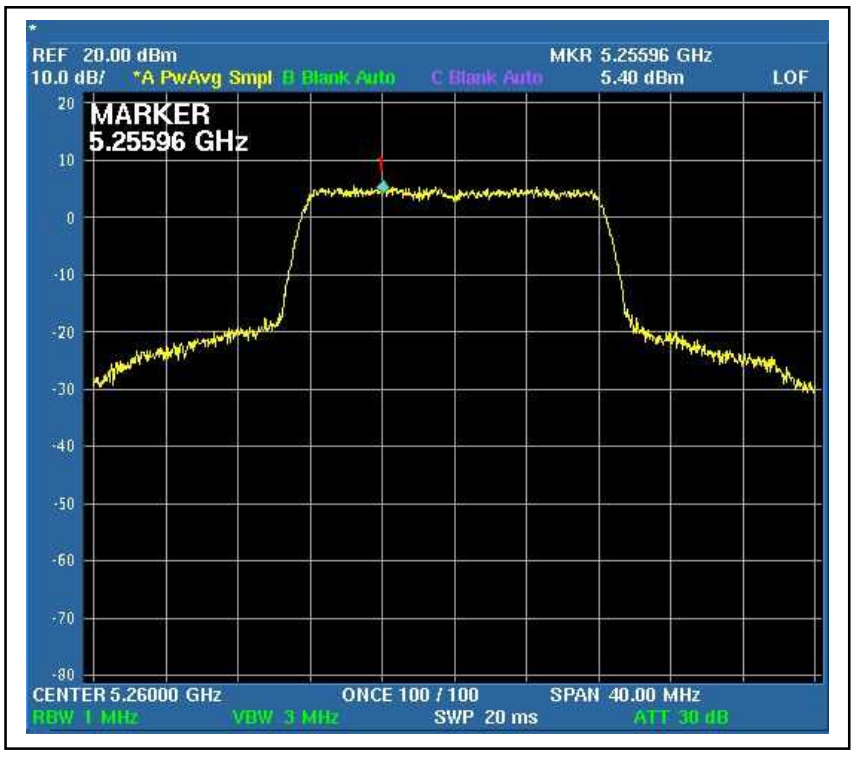
CH2


REF 20.00 dBm
MKR 5.20372 GHz
10.0 dB/ *A PwAvg Smpl B Blank Auto C Blank Auto 3.35 dBm LOF
MARKER
5.20372 GHz
CENTER 5.20000 GHz
ONCE 100 / 100
SPAN 40.00 MHz
RBW 1 MHz
VBW 3 MHz
SWP 20 ms
ATT 30 dB

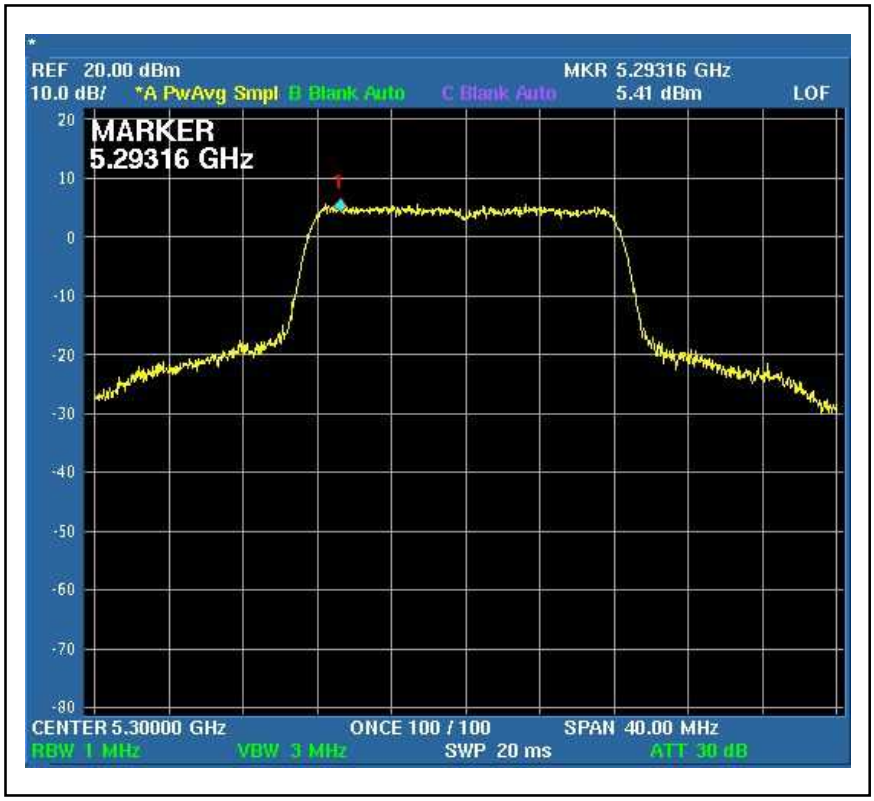
CH4


REF 20.00 dBm
MKR 5.23624 GHz
10.0 dB/ *A PwAvg Smpl B Blank Auto C Blank Auto 3.89 dBm LOF
MARKER
5.23624 GHz
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
CENTER 5.24000 GHz
ONCE 100 / 100
SPAN 40.00 MHz
RBW 1 MHz
VBW 3 MHz
SWP 20 ms
ATT 30 dB

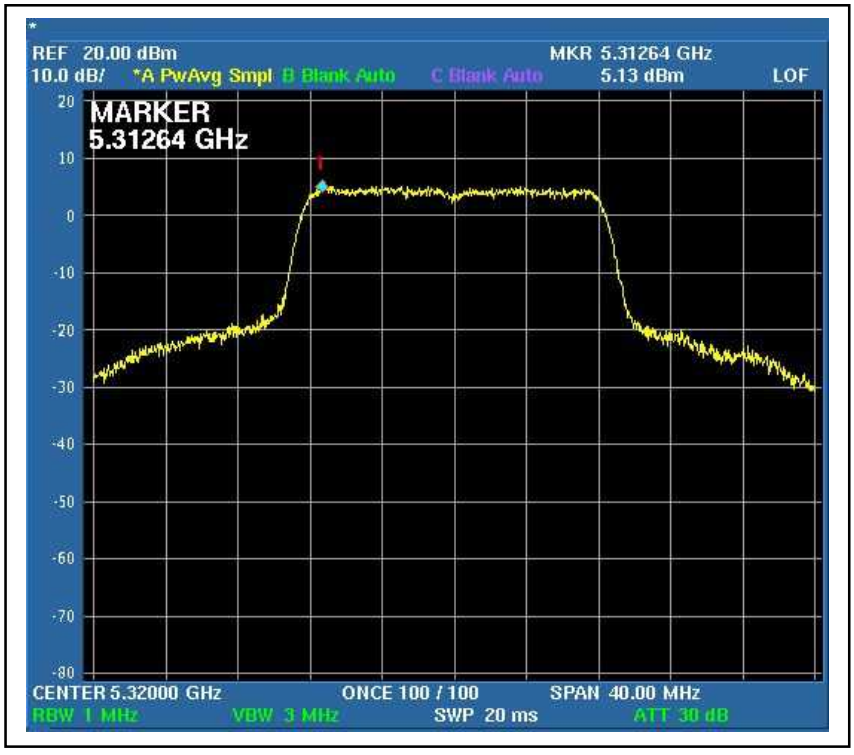
CH5


REF 20.00 dBm
MKR 5.25596 GHz
10.0 dB/ *A PwAvg Smpl B Blank Auto C Blank Auto 5.40 dBm LOF
MARKER
5.25596 GHz
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
CENTER 5.26000 GHz
ONCE 100 / 100
SPAN 40.00 MHz
RBW 1 MHz
VBW 3 MHz
SWP 20 ms
ATT 30 dB

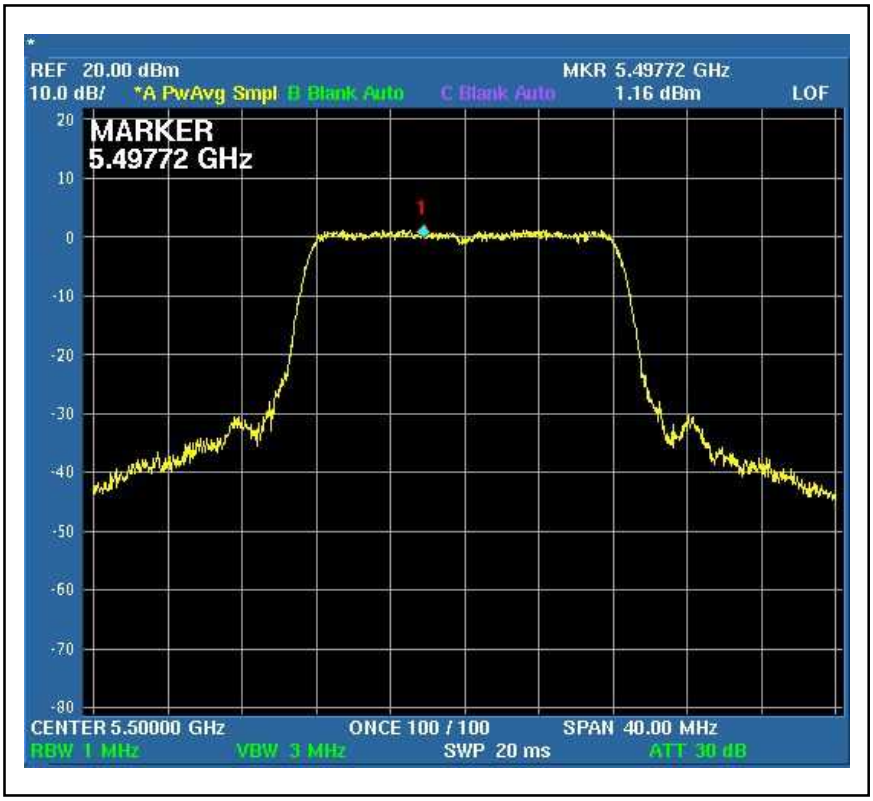
CH7


REF 20.00 dBm
MKR 5.29316 GHz
10.0 dB/ *A PwAvg Smpl B Blank Auto C Blank Auto 5.41 dBm LOF
MARKER
5.29316 GHz
CENTER 5.30000 GHz
ONCE 100 / 100
SPAN 40.00 MHz
RBW 1 MHz
VBW 3 MHz
SWP 20 ms
ATT 30 dB

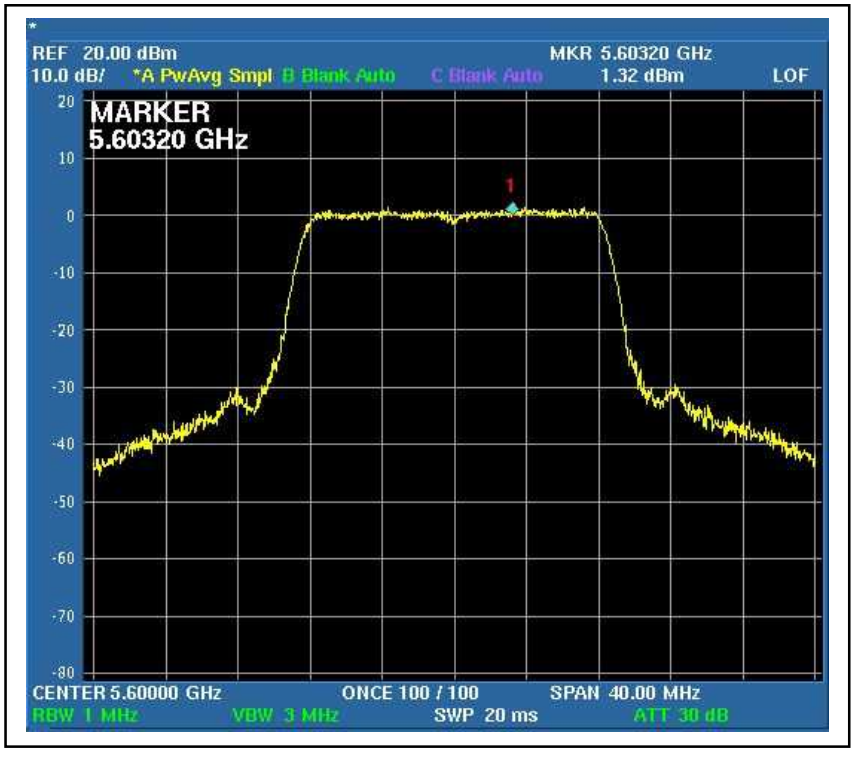
CH8


REF 20.00 dBm
MKR 5.31264 GHz
10.0 dB/ *A PwAvg Smpl B Blank Auto C Blank Auto 5.13 dBm LOF
MARKER
5.31264 GHz
CENTER 5.32000 GHz
ONCE 100 / 100
SPAN 40.00 MHz
RBW 1 MHz
VBW 3 MHz
SWP 20 ms
ATT 30 dB

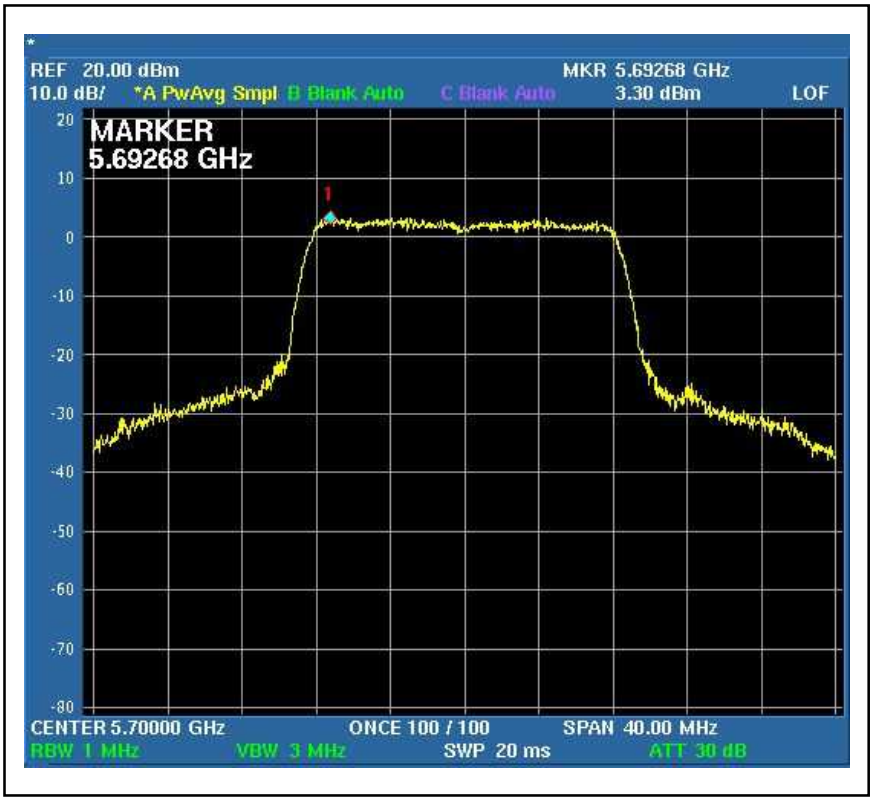
CH9


REF 20.00 dBm
MKR 5.49772 GHz
10.0 dB/ *A PwAvg Smpl B Blank Auto C Blank Auto 1.16 dBm LOF
MARKER
5.49772 GHz
CENTER 5.50000 GHz ONCE 100 / 100 SPAN 40.00 MHz
RBW 1 MHz VBW 3 MHz SWP 20 ms ATT 30 dB

CH14


REF 20.00 dBm
MKR 5.60320 GHz
10.0 dB/ *A PwAvg Smpl B Blank Auto C Blank Auto 1.32 dBm LOF
MARKER
5.60320 GHz
CENTER 5.60000 GHz ONCE 100 / 100 SPAN 40.00 MHz
RBW 1 MHz VBW 3 MHz SWP 20 ms ATT 30 dB

CH19

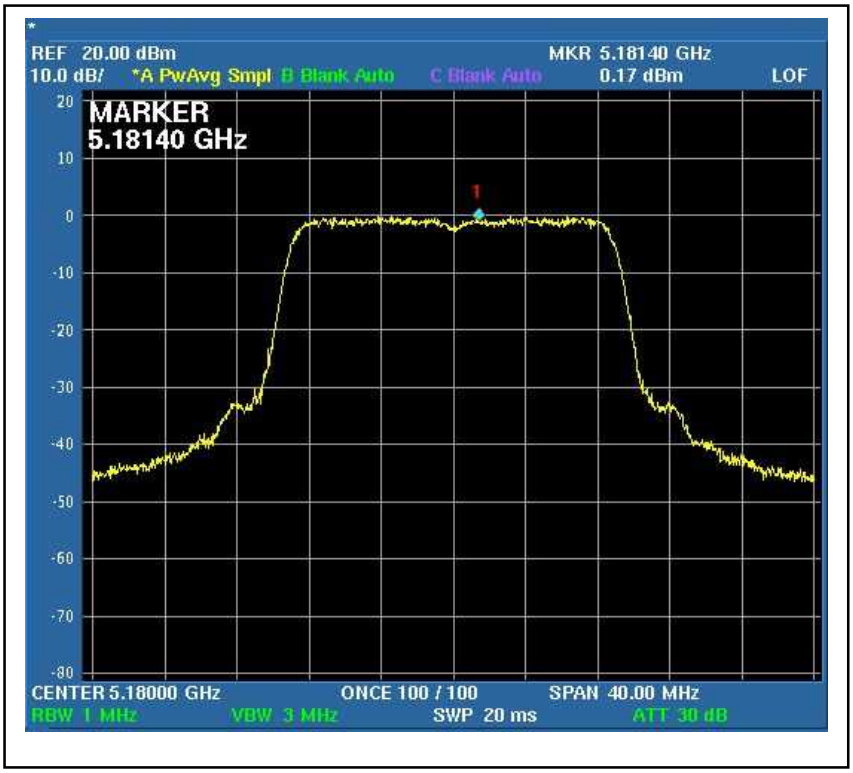

REF 20.00 dBm
MKR 5.69268 GHz
10.0 dB/ *A PwAvg Smpl B Blank Auto C Blank Auto 3.30 dBm LOF
MARKER
5.69268 GHz
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
CENTER 5.70000 GHz
ONCE 100 / 100
SPAN 40.00 MHz
RBW 1 MHz
VBW 3 MHz
SWP 20 ms
ATT 30 dB

DRAFT 802.11n (20MHz) OFDM MODULATION:

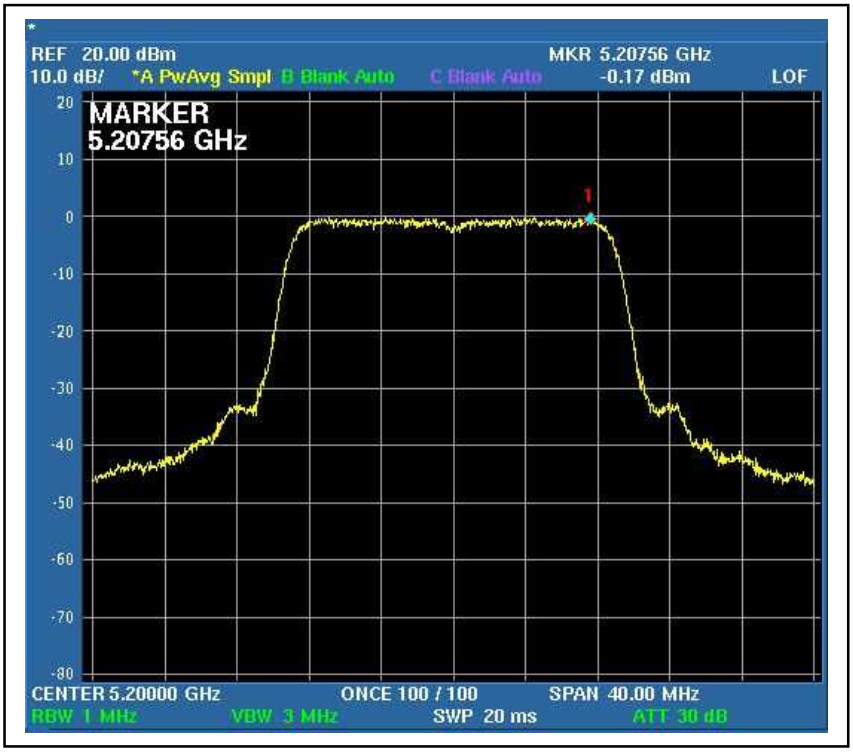
MODULATION TYPE	BPSK	**TRANSFER RATE**	13Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**ENVIRONMENTAL CONDITIONS**	25deg.C, 60%RH, 965hPa
TESTED BY	Rex Huang		

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 1MHz BW (dBm)		TOTAL OUTPUT POWER DENSITY (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
		Chain (0)	Chain(1)			
1	5180	0.17	-0.04	3.08	4	PASS
2	5200	-0.17	-0.16	2.85	4	PASS
4	5240	0.93	-0.20	3.41	11	PASS
5	5260	2.18	2.01	5.11	11	PASS
7	5300	2.49	1.92	5.22	11	PASS
8	5320	2.24	2.14	5.20	11	PASS
9	5500	-1.13	-0.43	2.25	11	PASS
14	5600	-0.83	0.02	2.63	11	PASS
19	5700	-1.13	1.16	3.17	11	PASS

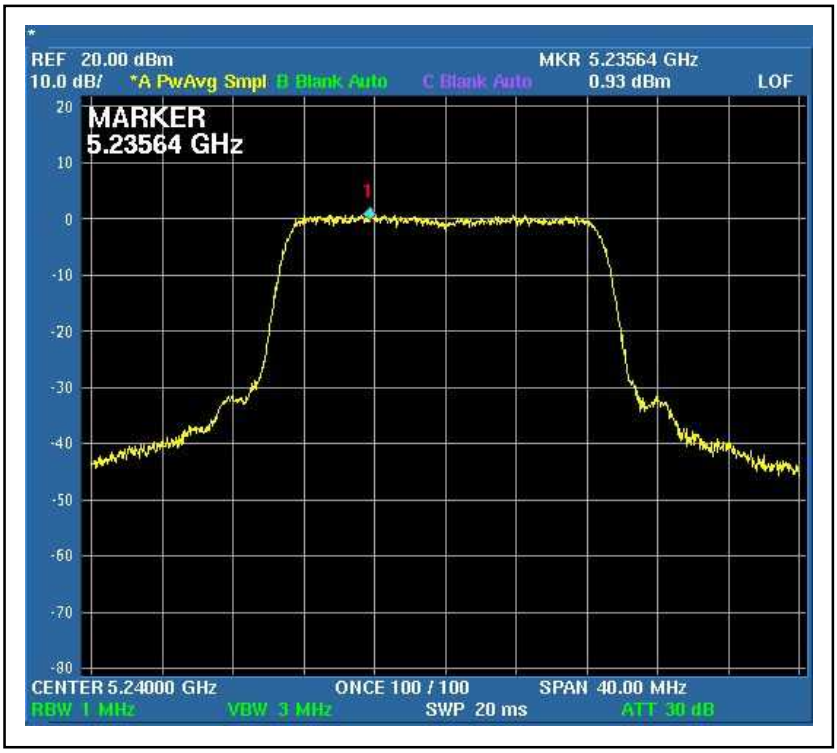
For Chain (0) : CH1



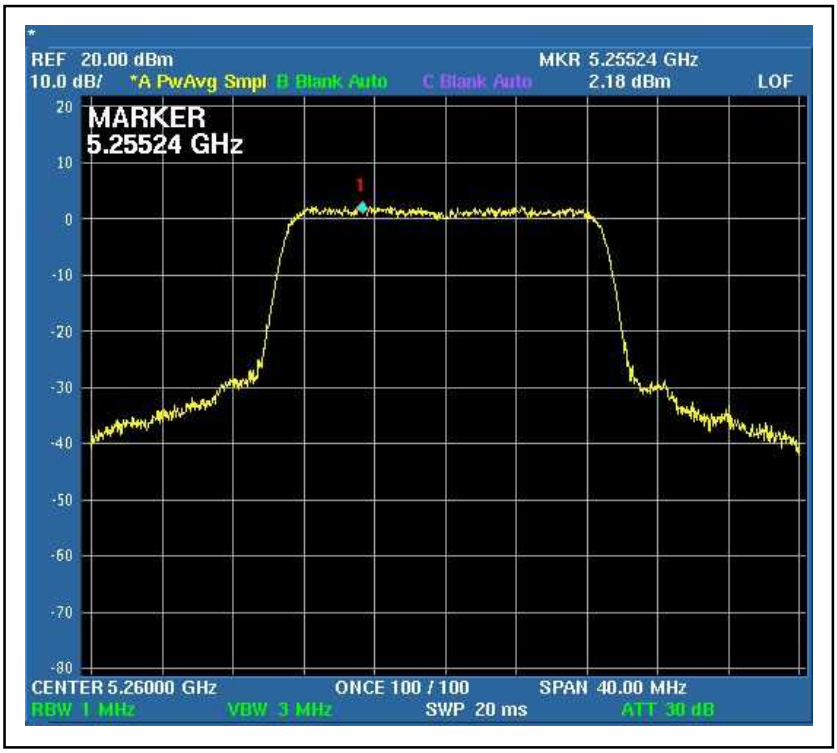
CH2



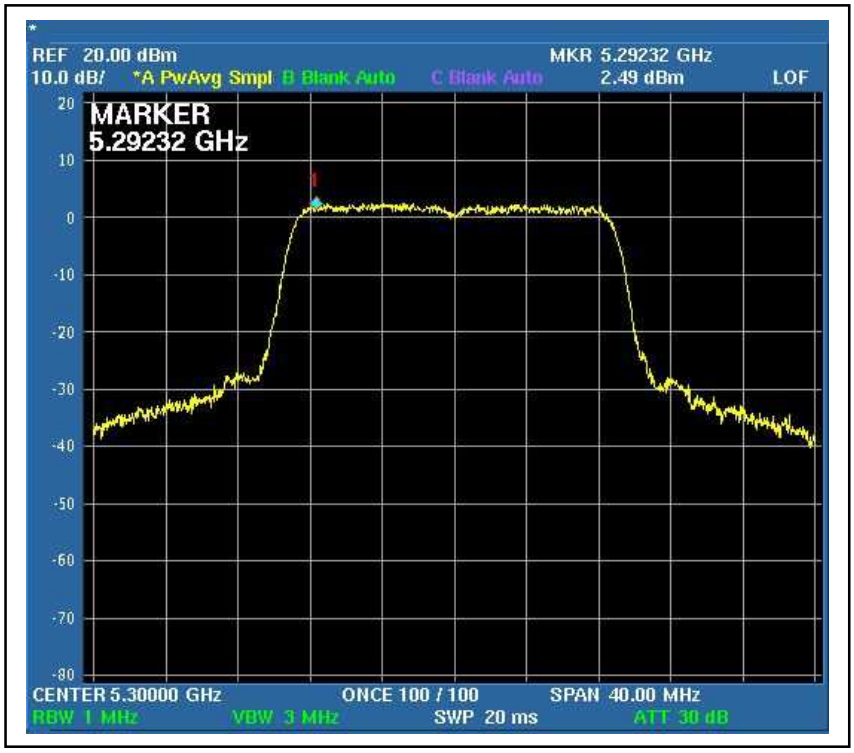
CH4


REF 20.00 dBm
MKR 5.23564 GHz
10.0 dB/ *A PwAvg Smpl B Blank Auto C Blank Auto 0.93 dBm LOF
MARKER
5.23564 GHz
CENTER 5.24000 GHz ONCE 100 / 100 SPAN 40.00 MHz
RBW 1 MHz VBW 3 MHz SWP 20 ms ATT 30 dB

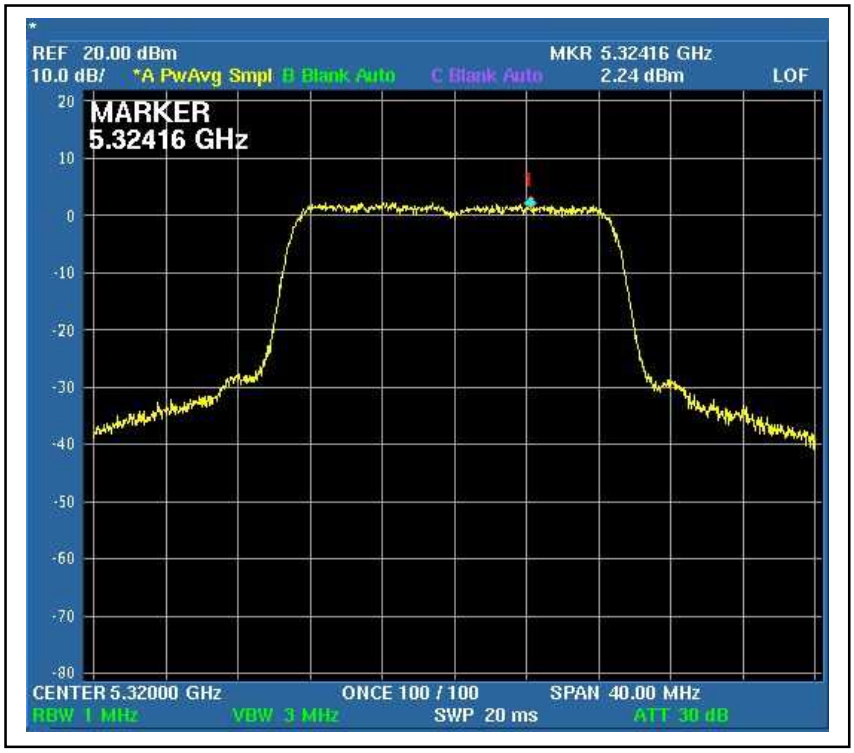
CH5


REF 20.00 dBm
MKR 5.25524 GHz
10.0 dB/ *A PwAvg Smpl B Blank Auto C Blank Auto 2.18 dBm LOF
MARKER
5.25524 GHz
CENTER 5.26000 GHz ONCE 100 / 100 SPAN 40.00 MHz
RBW 1 MHz VBW 3 MHz SWP 20 ms ATT 30 dB

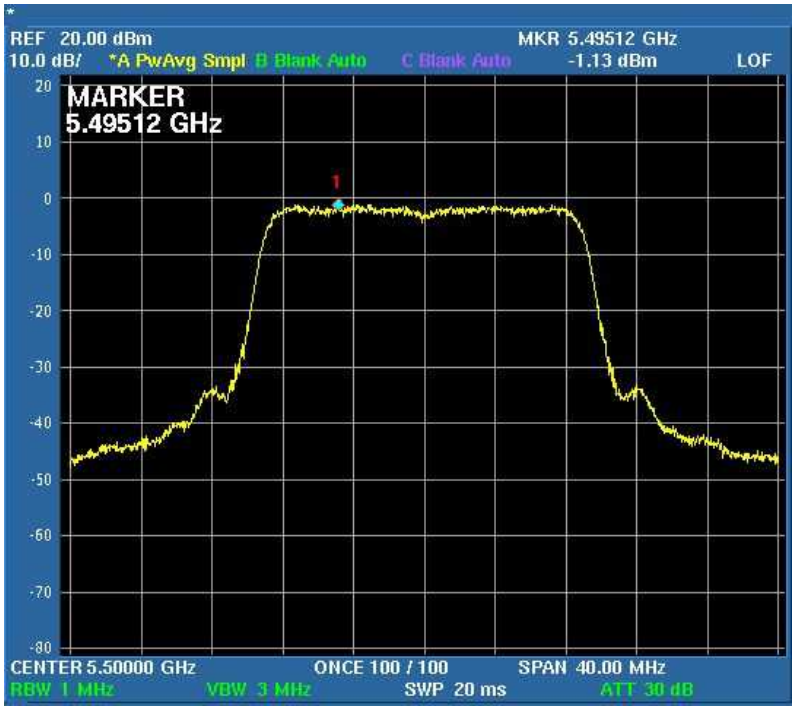
CH7


REF 20.00 dBm
MKR 5.29232 GHz
10.0 dB/ *A PwAvg Smpl B Blank Auto C Blank Auto 2.49 dBm LOF
MARKER
5.29232 GHz
CENTER 5.30000 GHz ONCE 100 / 100 SPAN 40.00 MHz
RBW 1 MHz VBW 3 MHz SWP 20 ms ATT 30 dB

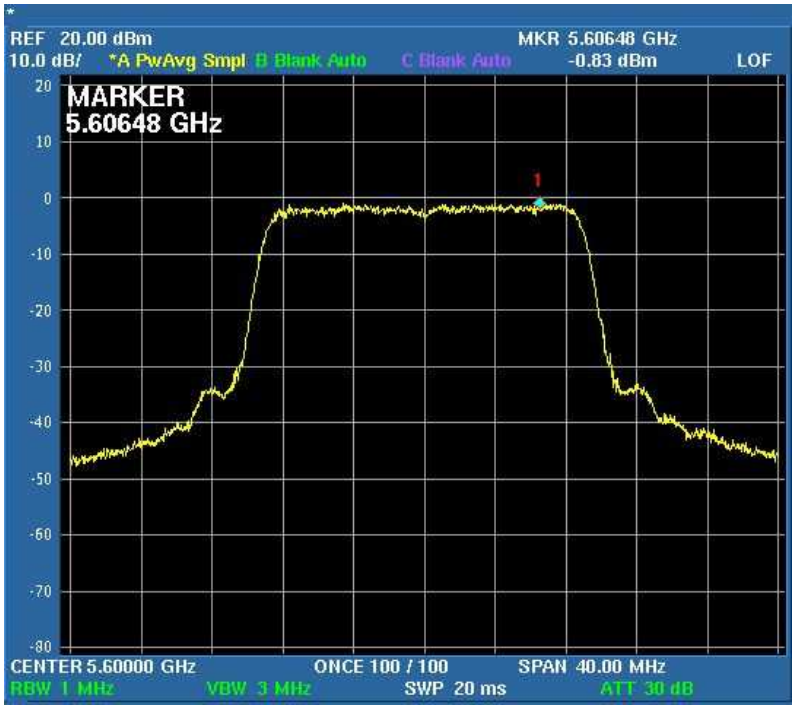
CH8


REF 20.00 dBm
MKR 5.32416 GHz
10.0 dB/ *A PwAvg Smpl B Blank Auto C Blank Auto 2.24 dBm LOF
MARKER
5.32416 GHz
CENTER 5.32000 GHz ONCE 100 / 100 SPAN 40.00 MHz
RBW 1 MHz VBW 3 MHz SWP 20 ms ATT 30 dB

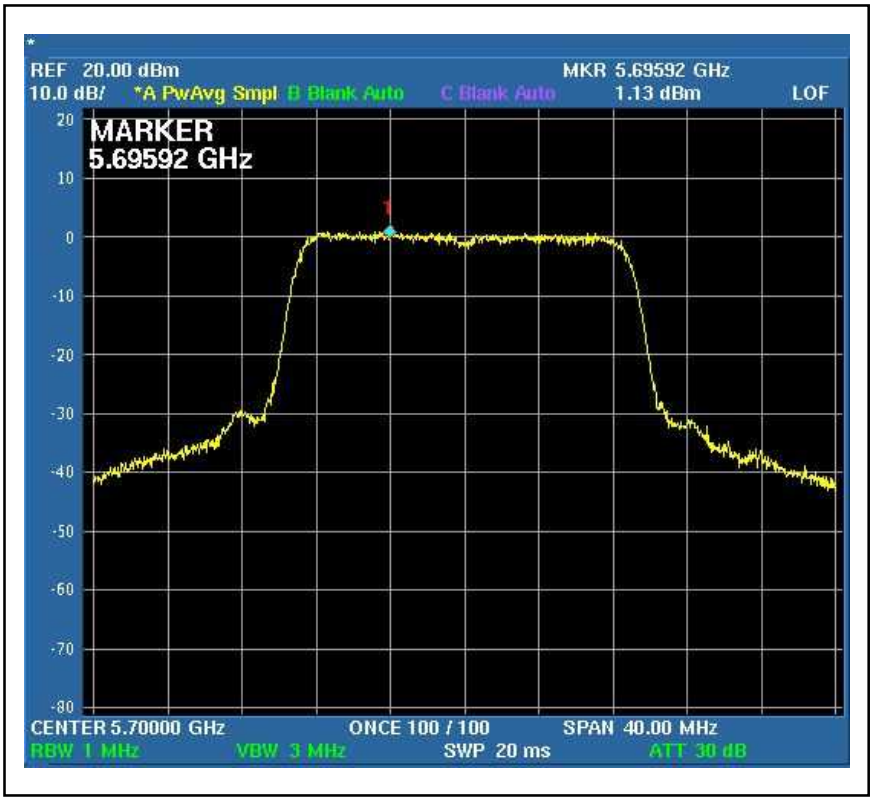
CH9


REF 20.00 dBm
MKR 5.49512 GHz
10.0 dB/ *A PwAvg Smpl B Blank Auto C Blank Auto -1.13 dBm LOF
MARKER
5.49512 GHz
CENTER 5.50000 GHz ONCE 100 / 100 SPAN 40.00 MHz
RBW 1 MHz VBW 3 MHz SWP 20 ms ATT 30 dB

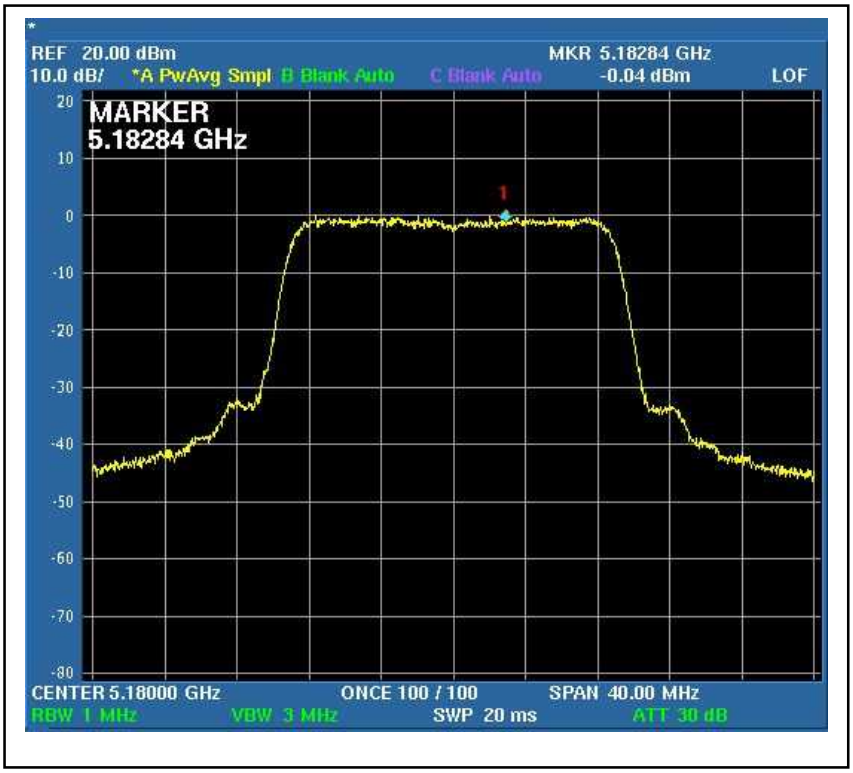
CH14


REF 20.00 dBm
MKR 5.60648 GHz
10.0 dB/ *A PwAvg Smpl B Blank Auto C Blank Auto -0.83 dBm LOF
MARKER
5.60648 GHz
CENTER 5.60000 GHz ONCE 100 / 100 SPAN 40.00 MHz
RBW 1 MHz VBW 3 MHz SWP 20 ms ATT 30 dB

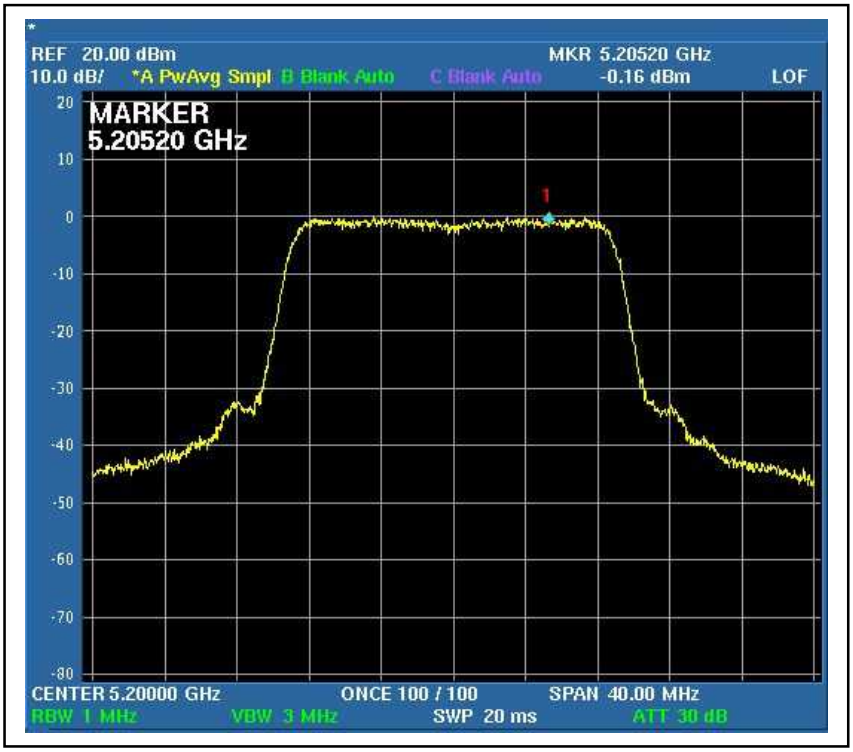
CH19


REF 20.00 dBm
MKR 5.69592 GHz
10.0 dB/ *A PwAvg Smpl B Blank Auto C Blank Auto 1.13 dBm LOF
MARKER
5.69592 GHz
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
CENTER 5.70000 GHz
ONCE 100 / 100
SPAN 40.00 MHz
RBW 1 MHz
VBW 3 MHz
SWP 20 ms
ATT 30 dB

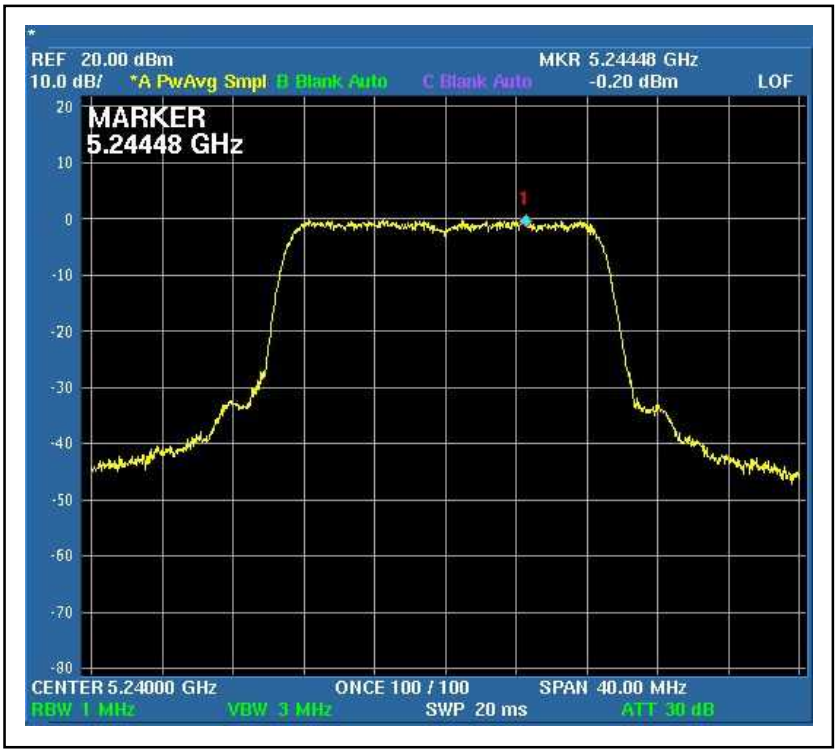
For Chain (1) : CH1



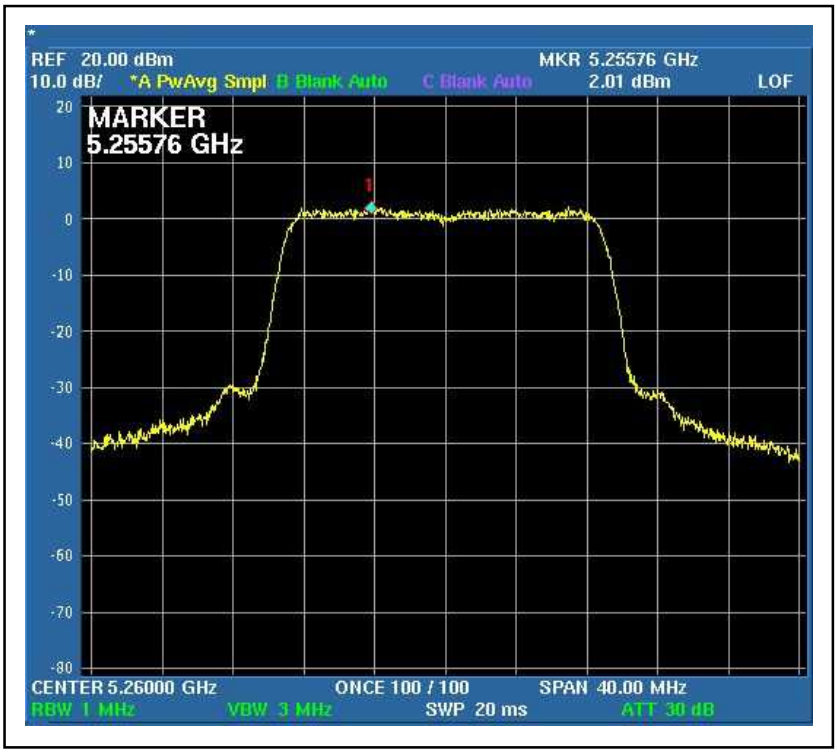
CH2



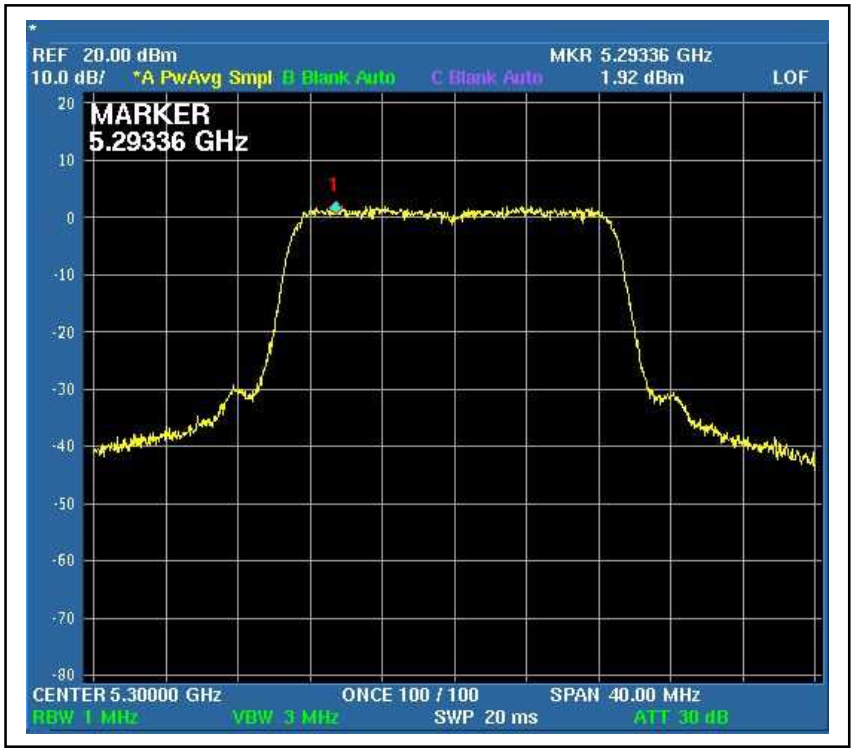
CH4


REF 20.00 dBm
MKR 5.24448 GHz
10.0 dB/ *A PwAvg Smpl B Blank Auto C Blank Auto -0.20 dBm LOF
MARKER
5.24448 GHz
CENTER 5.24000 GHz
ONCE 100 / 100
SPAN 40.00 MHz
RBW 1 MHz
VBW 3 MHz
SWP 20 ms
ATT 30 dB

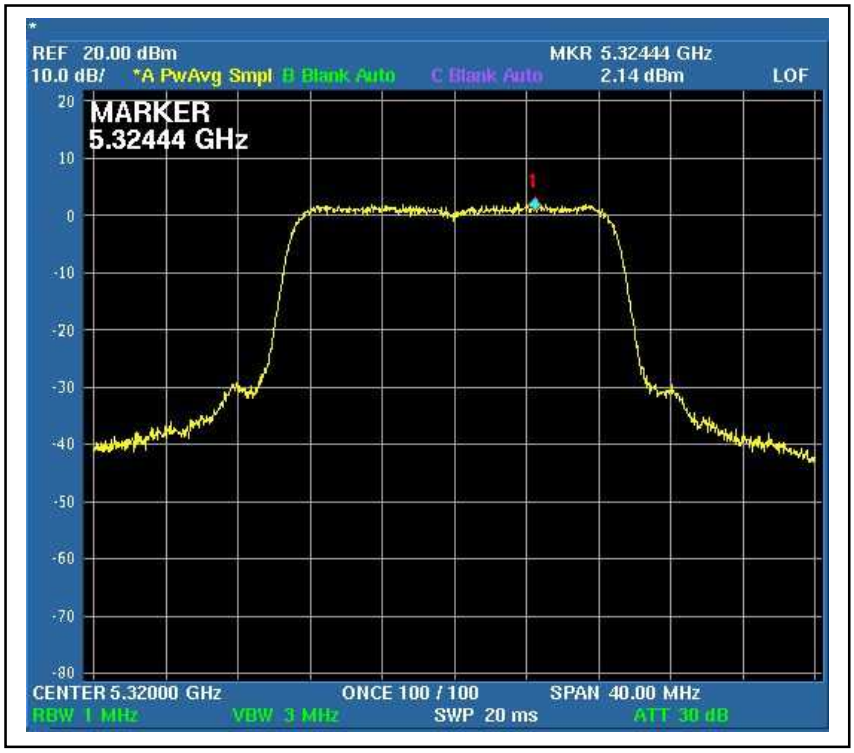
CH5


REF 20.00 dBm
MKR 5.25576 GHz
10.0 dB/ *A PwAvg Smpl B Blank Auto C Blank Auto 2.01 dBm LOF
MARKER
5.25576 GHz
CENTER 5.26000 GHz
ONCE 100 / 100
SPAN 40.00 MHz
RBW 1 MHz
VBW 3 MHz
SWP 20 ms
ATT 30 dB

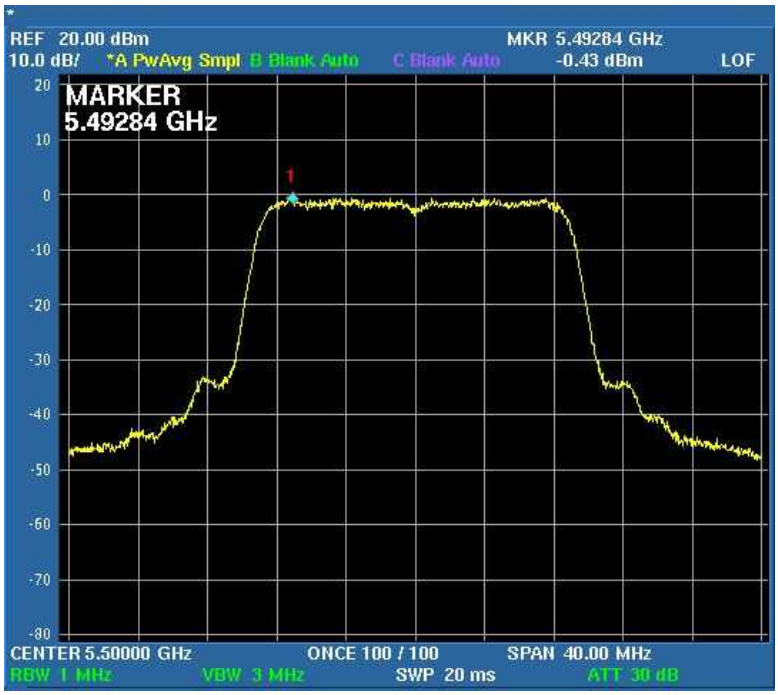
CH7


REF 20.00 dBm
MKR 5.29336 GHz
10.0 dB/ *A PwAvg Smpl B Blank Auto C Blank Auto 1.92 dBm LOF
MARKER
5.29336 GHz
CENTER 5.30000 GHz ONCE 100 / 100 SPAN 40.00 MHz
RBW 1 MHz VBW 3 MHz SWP 20 ms ATT 30 dB

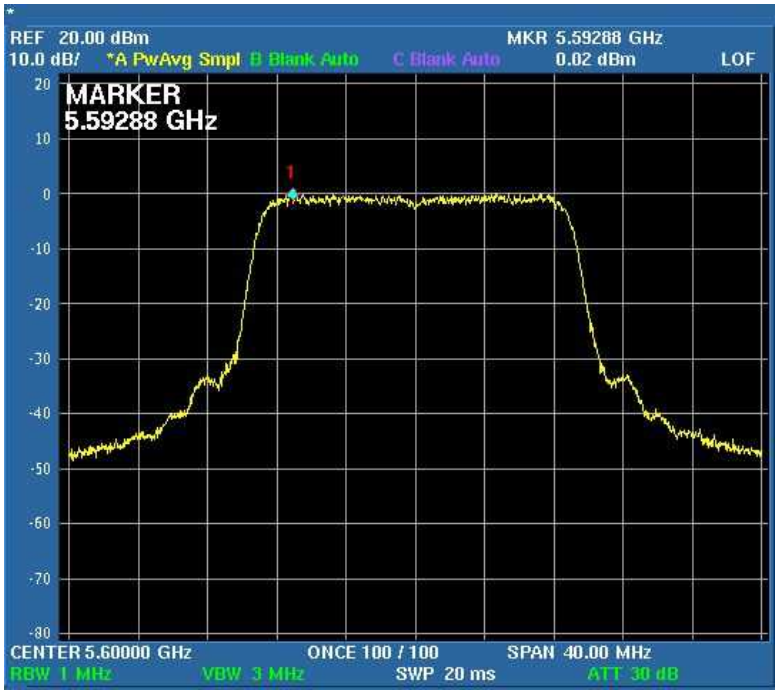
CH8


REF 20.00 dBm
MKR 5.32444 GHz
10.0 dB/ *A PwAvg Smpl B Blank Auto C Blank Auto 2.14 dBm LOF
MARKER
5.32444 GHz
CENTER 5.32000 GHz ONCE 100 / 100 SPAN 40.00 MHz
RBW 1 MHz VBW 3 MHz SWP 20 ms ATT 30 dB

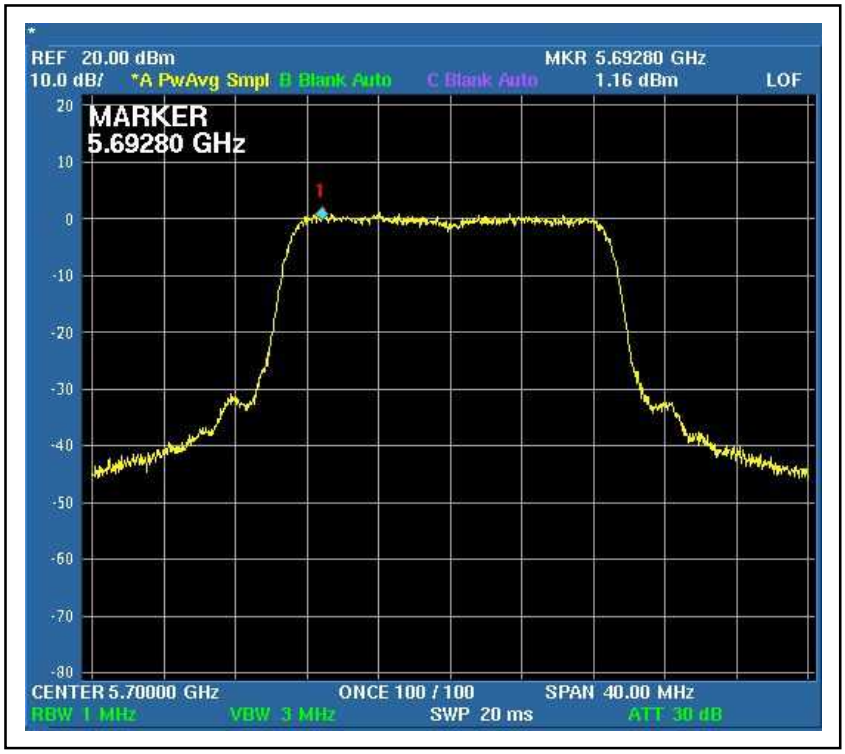
CH9


REF 20.00 dBm
MKR 5.49284 GHz
10.0 dB/ *A PwAvg Smpl B Blank Auto C Blank Auto -0.43 dBm LOF
MARKER
5.49284 GHz
CENTER 5.50000 GHz
ONCE 100 / 100
SPAN 40.00 MHz
RBW 1 MHz
VBW 3 MHz
SWP 20 ms
ATT 30 dB

CH14


REF 20.00 dBm
MKR 5.59288 GHz
10.0 dB/ *A PwAvg Smpl B Blank Auto C Blank Auto 0.02 dBm LOF
MARKER
5.59288 GHz
CENTER 5.60000 GHz
ONCE 100 / 100
SPAN 40.00 MHz
RBW 1 MHz
VBW 3 MHz
SWP 20 ms
ATT 30 dB

CH19

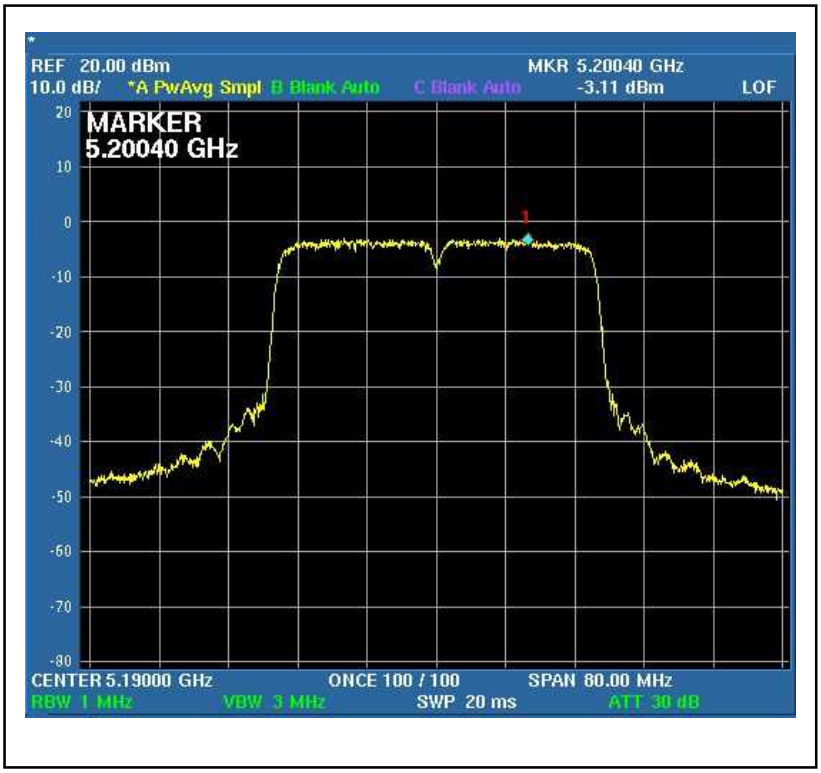

REF 20.00 dBm
MKR 5.69280 GHz
10.0 dB/ *A PwAvg Smpl B Blank Auto C Blank Auto 1.16 dBm LOF
MARKER
5.69280 GHz
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
CENTER 5.70000 GHz
ONCE 100 / 100
SPAN 40.00 MHz
RBW 1 MHz
VBW 3 MHz
SWP 20 ms
ATT 30 dB

DRAFT 802.11n (40MHz) OFDM MODULATION:

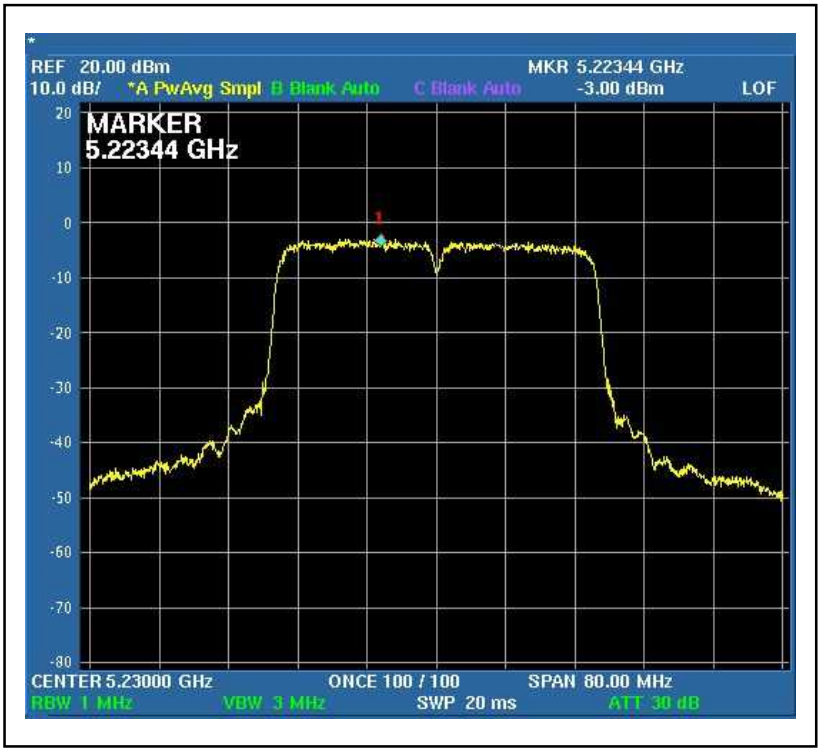
MODULATION TYPE	BPSK	**TRANSFER RATE**	27Mbps
INPUT POWER (SYSTEM)	120Vac, 60 Hz	**ENVIRONMENTAL CONDITIONS**	25deg.C, 60%RH, 965hPa
TESTED BY	Rex Huang		

CHANNEL	CHANNEL FREQUENCY (MHz)	RF POWER LEVEL IN 1MHz BW (dBm)		TOTAL OUTPUT POWER DENSITY (dBm)	MAXIMUM LIMIT (dBm)	PASS/FAIL
		Chain (0)	Chain(1)			
1	5190	-3.11	-3.72	-0.39	4	PASS
2	5230	-3.00	-3.72	-0.33	4	PASS
3	5270	-2.70	-3.76	-0.19	11	PASS
4	5310	-2.71	-4.04	-0.32	11	PASS
5	5510	-6.08	-6.40	-3.22	11	PASS
7	5590	-5.23	-5.84	-2.51	11	PASS
9	5670	-4.37	-5.69	-1.97	11	PASS

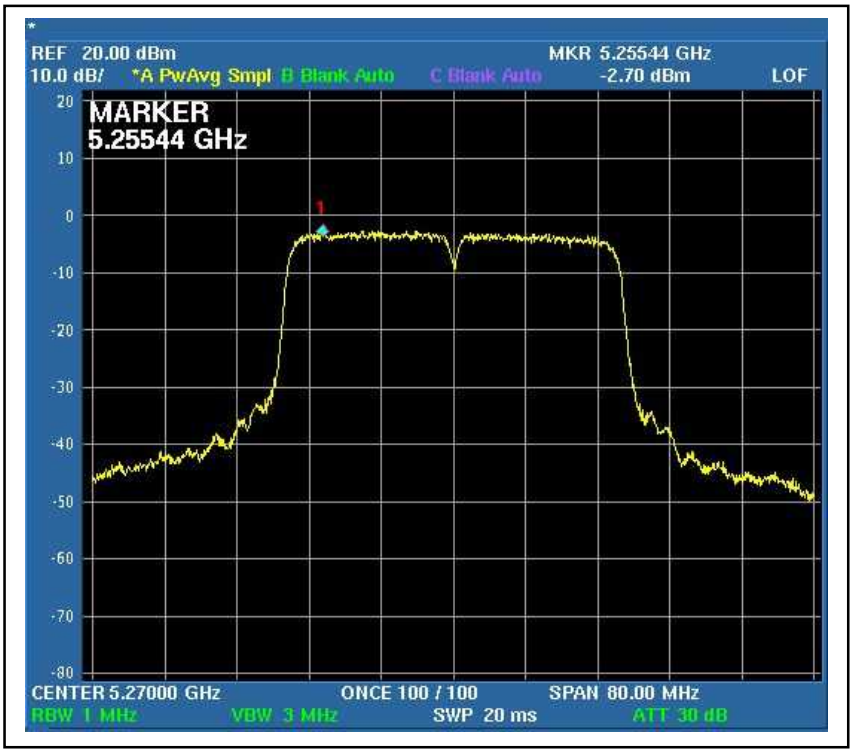
For Chain (0) : CH1



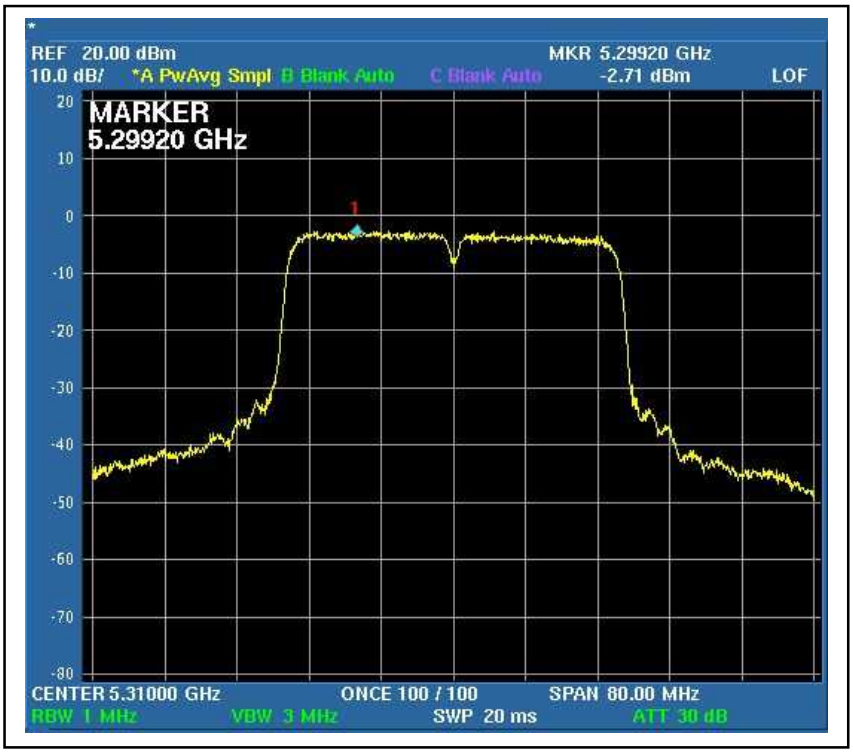
CH2



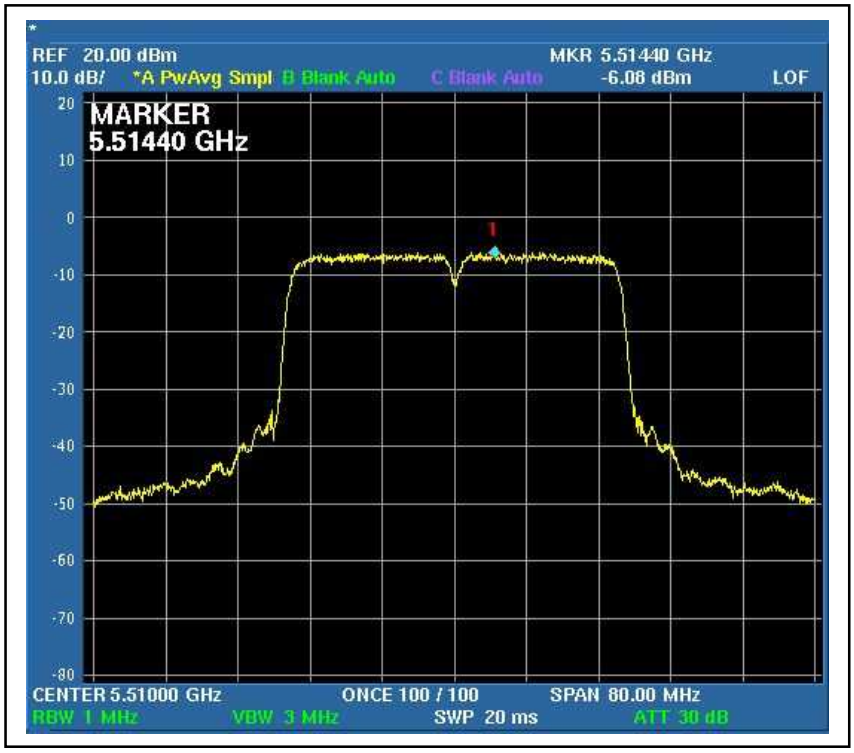
CH3


REF 20.00 dBm
MKR 5.25544 GHz
10.0 dB/ *A PwAvg Smpl B Blank Auto C Blank Auto -2.70 dBm LOF
MARKER
5.25544 GHz
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
CENTER 5.27000 GHz ONCE 100 / 100 SPAN 80.00 MHz
RBW 1 MHz VBW 3 MHz SWP 20 ms ATT 30 dB

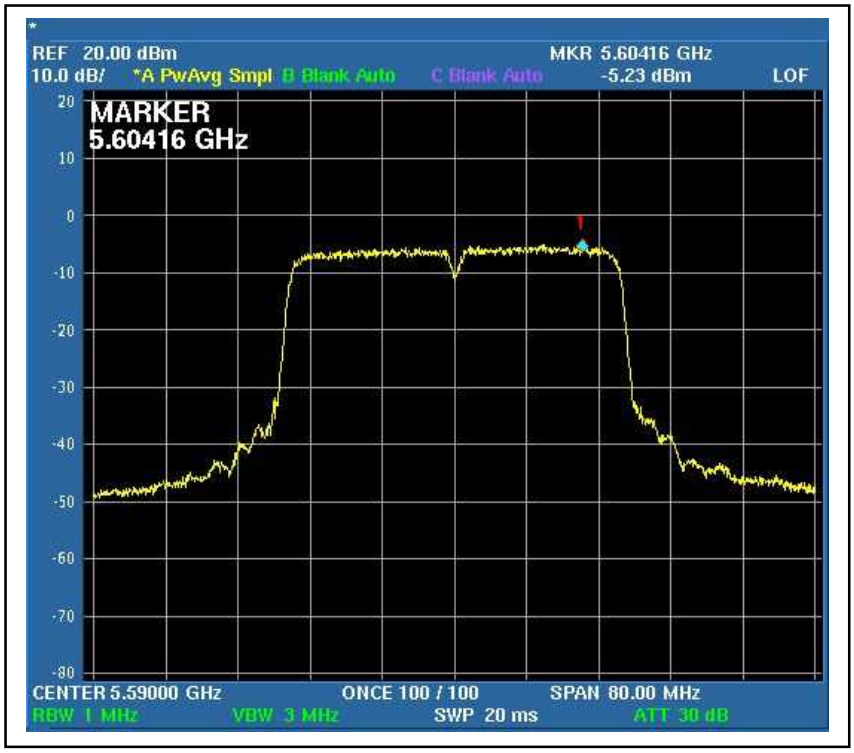
CH4


REF 20.00 dBm
MKR 5.29920 GHz
10.0 dB/ *A PwAvg Smpl B Blank Auto C Blank Auto -2.71 dBm LOF
MARKER
5.29920 GHz
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
CENTER 5.31000 GHz ONCE 100 / 100 SPAN 80.00 MHz
RBW 1 MHz VBW 3 MHz SWP 20 ms ATT 30 dB

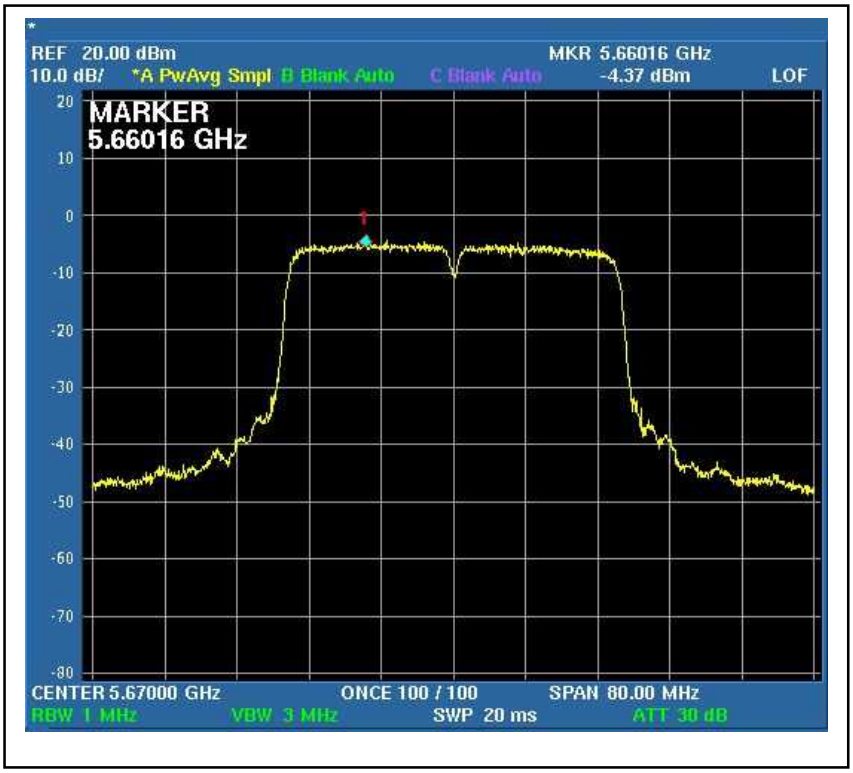
CH5


REF 20.00 dBm
MKR 5.51440 GHz
10.0 dB/ *A PwAvg Smpl B Blank Auto C Blank Auto -6.08 dBm LOF
MARKER
5.51440 GHz
CENTER 5.51000 GHz ONCE 100 / 100 SPAN 80.00 MHz
RBW 1 MHz VBW 3 MHz SWP 20 ms ATT 30 dB

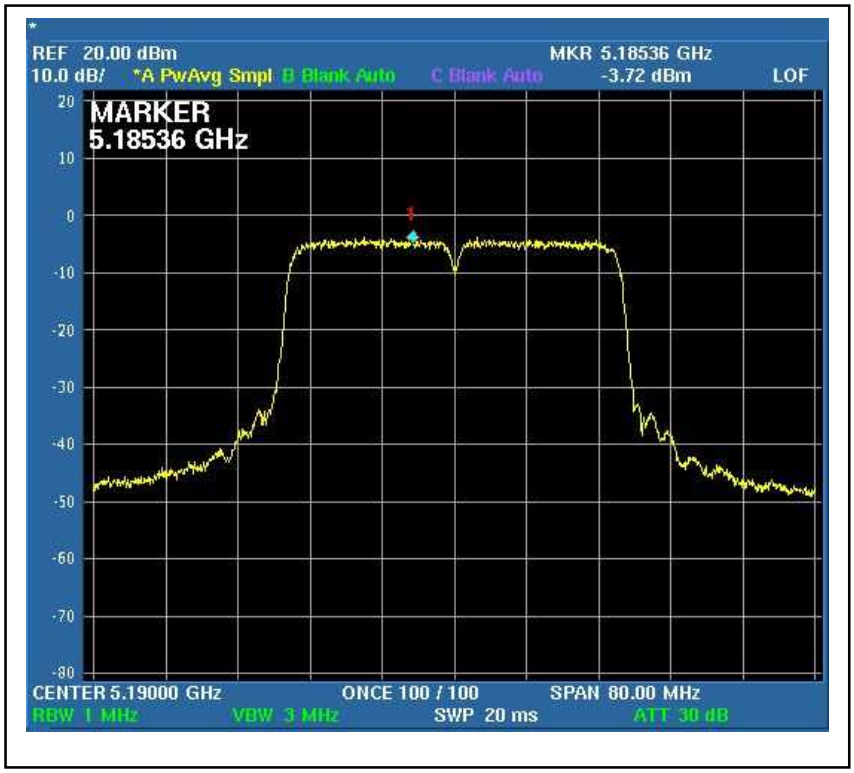
CH7


REF 20.00 dBm
MKR 5.60416 GHz
10.0 dB/ *A PwAvg Smpl B Blank Auto C Blank Auto -5.23 dBm LOF
MARKER
5.60416 GHz
CENTER 5.59000 GHz ONCE 100 / 100 SPAN 80.00 MHz
RBW 1 MHz VBW 3 MHz SWP 20 ms ATT 30 dB

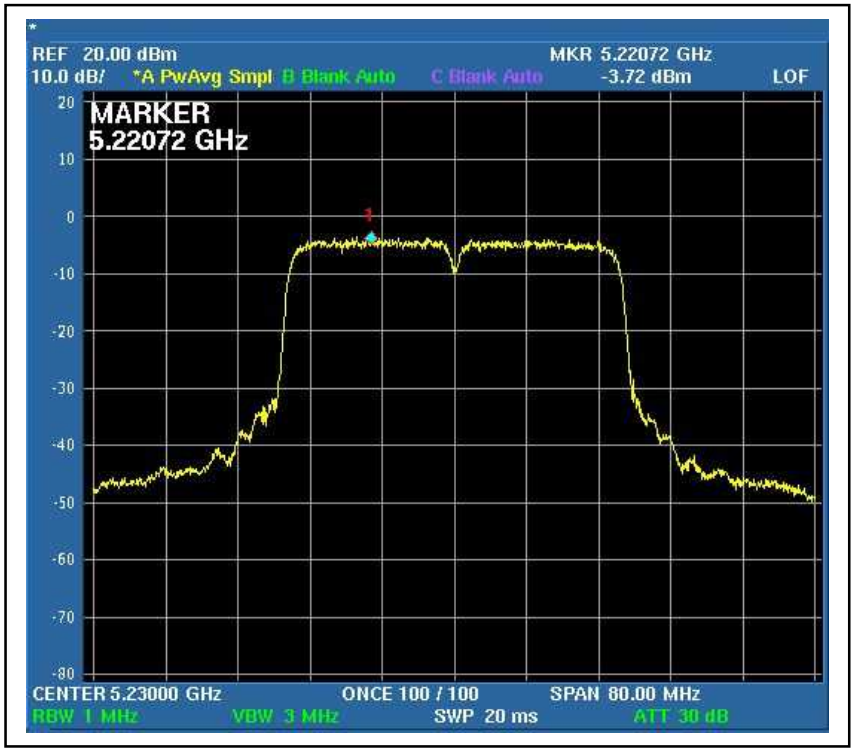
CH9


REF 20.00 dBm
MKR 5.66016 GHz
10.0 dB/ *A PwAvg Smpl B Blank Auto C Blank Auto -4.37 dBm LOF
MARKER
5.66016 GHz
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
CENTER 5.67000 GHz
ONCE 100 / 100
SPAN 80.00 MHz
RBW 1 MHz
VBW 3 MHz
SWP 20 ms
ATT 30 dB

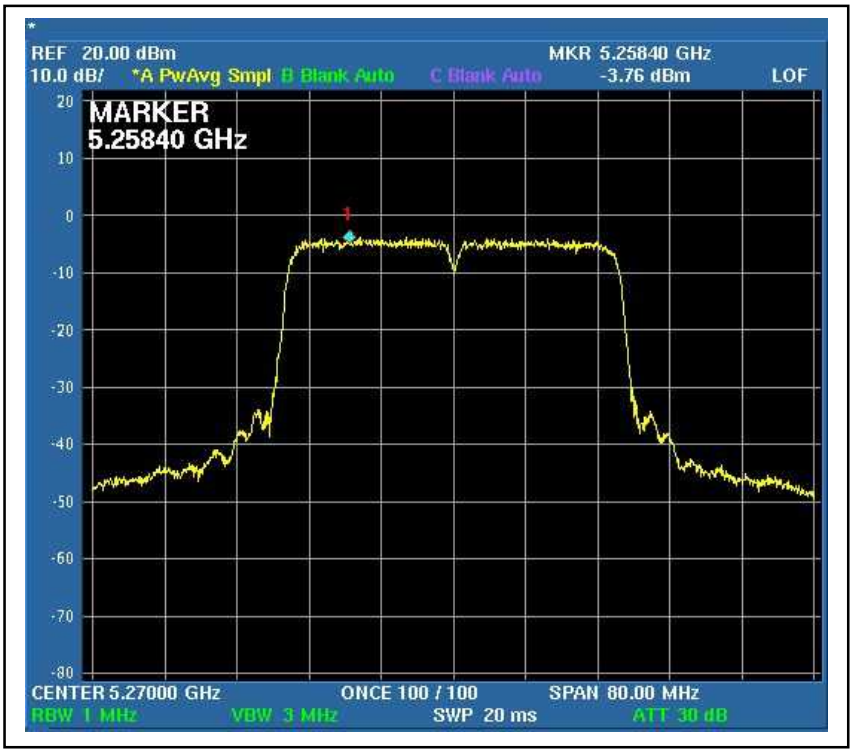
For Chain (1) : CH1



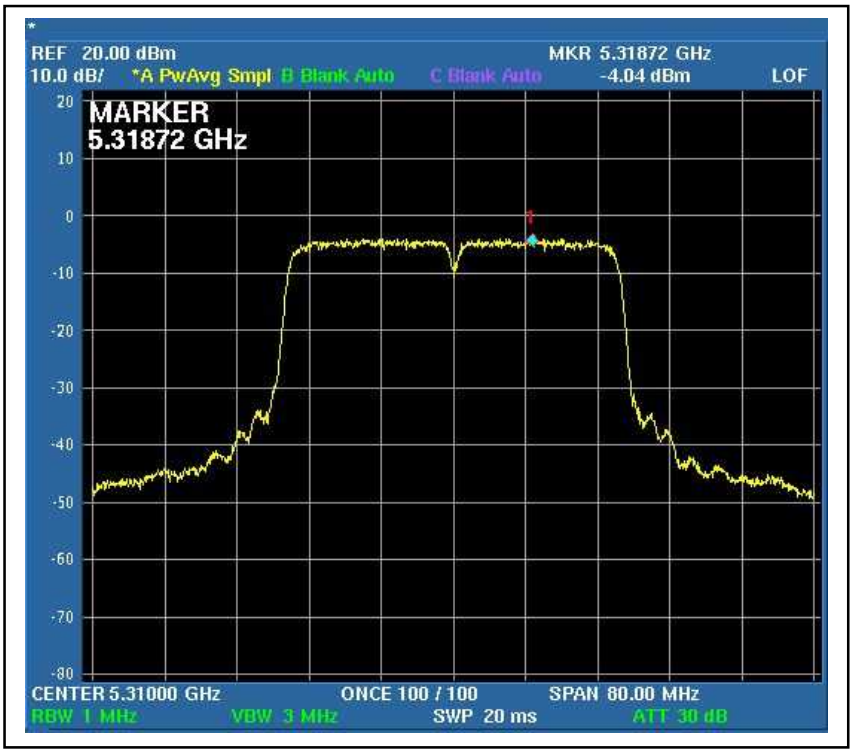
CH2



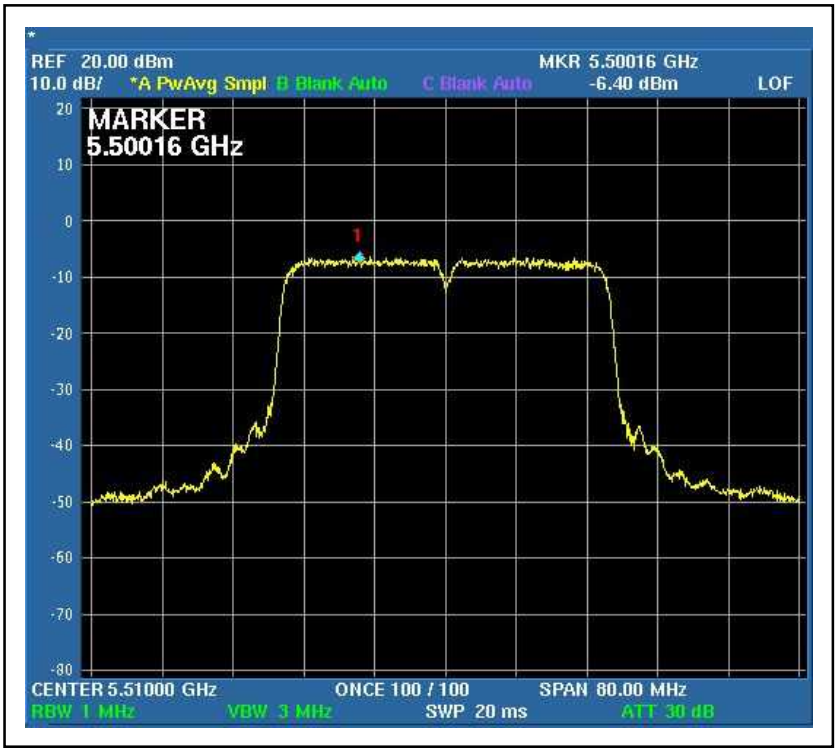
CH3


REF 20.00 dBm
MKR 5.25840 GHz
10.0 dB/ *A PwAvg Smpl B Blank Auto C Blank Auto -3.76 dBm LOF
MARKER
5.25840 GHz
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
CENTER 5.27000 GHz
ONCE 100 / 100
SPAN 80.00 MHz
RBW 1 MHz
VBW 3 MHz
SWP 20 ms
ATT 30 dB

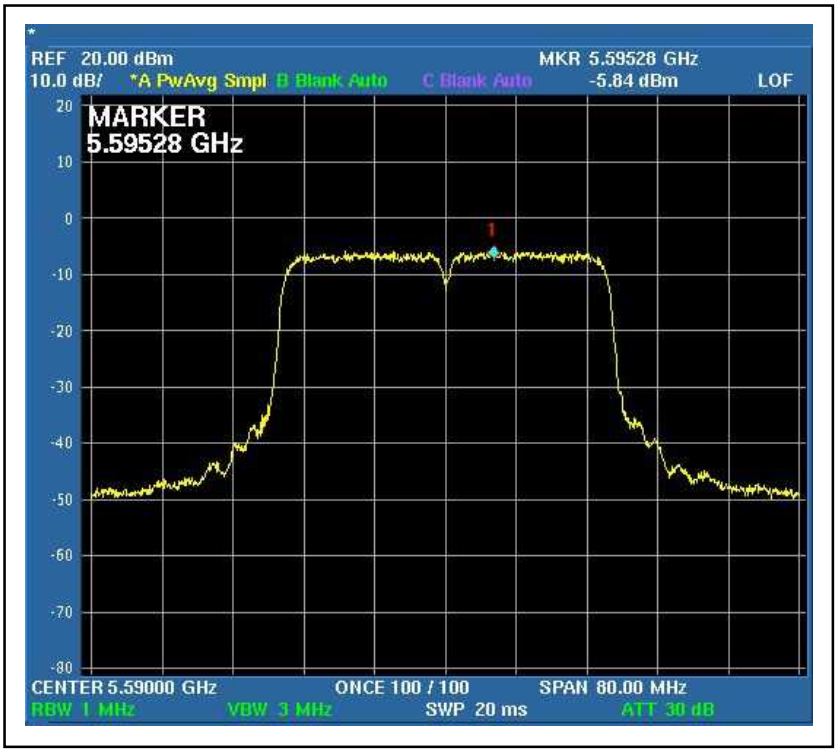
CH4


REF 20.00 dBm
MKR 5.31872 GHz
10.0 dB/ *A PwAvg Smpl B Blank Auto C Blank Auto -4.04 dBm LOF
MARKER
5.31872 GHz
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
CENTER 5.31000 GHz
ONCE 100 / 100
SPAN 80.00 MHz
RBW 1 MHz
VBW 3 MHz
SWP 20 ms
ATT 30 dB

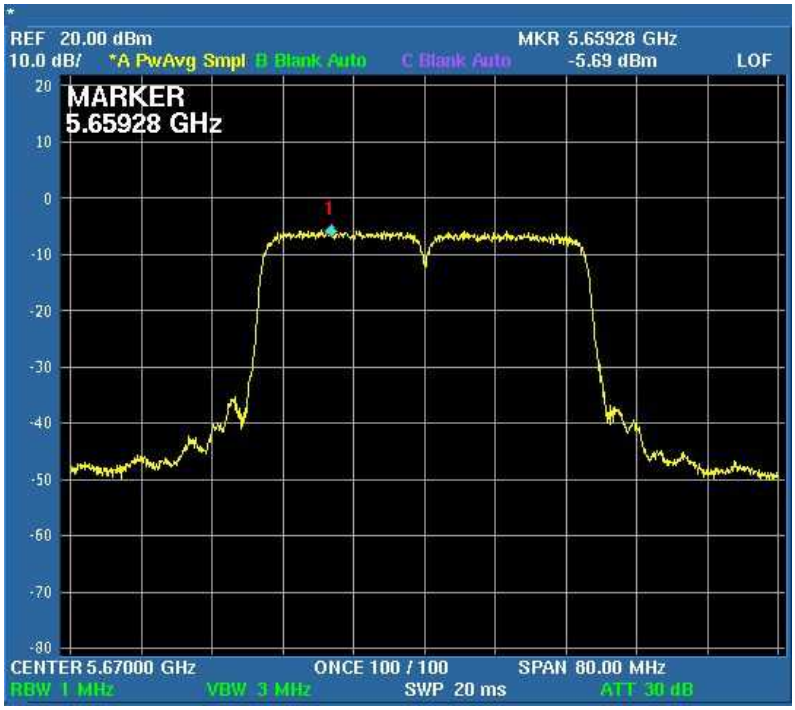
CH5


REF 20.00 dBm
MKR 5.50016 GHz
10.0 dB/ *A PwAvg Smpl B Blank Auto C Blank Auto -6.40 dBm LOF
MARKER
5.50016 GHz
CENTER 5.51000 GHz
ONCE 100 / 100
SPAN 80.00 MHz
RBW 1 MHz
VBW 3 MHz
SWP 20 ms
ATT 30 dB

CH7


REF 20.00 dBm
MKR 5.59528 GHz
10.0 dB/ *A PwAvg Smpl B Blank Auto C Blank Auto -5.84 dBm LOF
MARKER
5.59528 GHz
CENTER 5.59000 GHz
ONCE 100 / 100
SPAN 80.00 MHz
RBW 1 MHz
VBW 3 MHz
SWP 20 ms
ATT 30 dB

CH9


REF 20.00 dBm
MKR 5.65928 GHz
10.0 dB/ *A PwAvg Smpl B Blank Auto C Blank Auto -5.69 dBm LOF
MARKER
5.65928 GHz
20
10
0
-10
-20
-30
-40
-50
-60
-70
-80
CENTER 5.67000 GHz
ONCE 100 / 100
SPAN 80.00 MHz
RBW 1 MHz
VBW 3 MHz
SWP 20 ms
ATT 30 dB

4.6 FREQUENCY STABILITY

4.6.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

The frequency tolerance of the carrier signal shall be maintained within +/- 0.02% 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.

4.6.2 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSP40	100037	Aug. 09, 2008	Aug. 08, 2009

NOTE:

1. The measurement uncertainty is less than +/- 2.6dB, which is calculated as per the NAMAS document NIS81. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

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

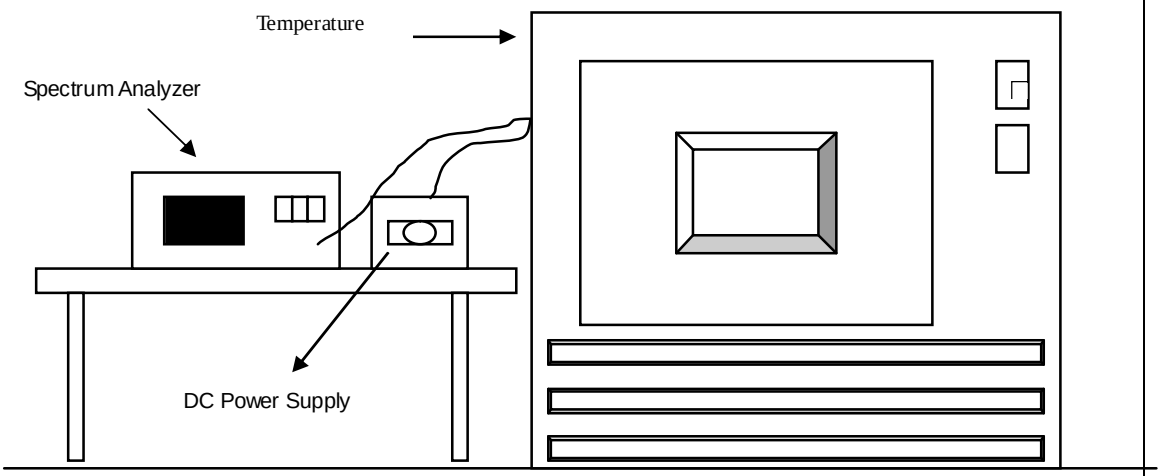
4.6.3 TEST PROCEDURE

1. The EUT was placed inside the environmental test chamber and powered by nominal DC 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.

4.6.4 DEVIATION FROM TEST STANDARD

No deviation

4.6.5 TEST SETUP



4.6.6 EUT OPERATING CONDITION

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

4.6.7 TEST RESULTS

Operating frequency: 5320MHz				Limit : ± 0.02%			
Temp. (℃)	Power supply (VAC)	2 minute		5 minute		10 minute	
		(MHz)	(%)	(MHz)	(%)	(MHz)	(%)
50	126.5	5320.0064	0.000120	5319.9994	0.000011	5319.9964	0.000068
	110	5320.0064	0.000120	5320.0024	0.000045	5319.9974	0.000049
	93.5	5320.0044	0.000083	5319.9994	0.000011	5319.9964	0.000068
40	126.5	5320.014	0.000263	5320.0104	0.000195	5320.0054	0.000102
	110	5320.0138	0.000259	5320.0124	0.000233	5320.0074	0.000139
	93.5	5320.0138	0.000259	5320.0094	0.000177	5320.0054	0.000102
30	126.5	5319.9756	0.000459	5319.9733	0.000502	5319.9701	0.000562
	110	5319.9756	0.000459	5319.9735	0.000498	5319.9702	0.000560
	93.5	5319.9756	0.000459	5319.9733	0.000502	5319.9700	0.000564
20	126.5	5319.9715	0.000536	5319.979	0.000395	5319.9757	0.000457
	110	5319.9716	0.000534	5319.979	0.000395	5319.9759	0.000453
	93.5	5319.9815	0.000348	5319.9793	0.000389	5319.9756	0.000459
10	126.5	5320.0134	0.000252	5320.0064	0.000120	5319.9994	0.000011
	110	5320.0134	0.000252	5320.0094	0.000177	5320.0024	0.000045
	93.5	5320.0134	0.000252	5320.0054	0.000102	5320.0004	0.000008
0	126.5	5319.9950	0.000094	5319.9925	0.000141	5319.9892	0.000203
	110	5319.9950	0.000094	5319.9927	0.000137	5319.9895	0.000197
	93.5	5319.9950	0.000094	5319.9925	0.000141	5319.9892	0.000203
-10	126.5	5319.9958	0.000079	5319.9936	0.000120	5319.9903	0.000182
	110	5319.9958	0.000079	5319.9936	0.000120	5319.9905	0.000179
	93.5	5319.9958	0.000079	5319.9935	0.000122	5319.9902	0.000184
-20	126.5	5319.9905	0.000179	5319.9882	0.000222	5319.9849	0.000284
	110	5319.9906	0.000177	5319.9886	0.000214	5319.9853	0.000276
	93.5	5319.9905	0.000179	5319.9882	0.000222	5319.9849	0.000284
-30	126.5	5320.0198	0.000372	5320.0181	0.000340	5320.0152	0.000286
	110	5320.0198	0.000372	5320.018	0.000338	5320.0152	0.000286
	93.5	5320.0200	0.000376	5320.0178	0.000335	5320.0152	0.000286

4.7 CONDUCTED OUT-BAND EMISSION MEASUREMENT

4.7.1 TEST INSTRUMENTS

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
R&S SPECTRUM ANALYZER	FSP40	100037	Aug. 09, 2008	Aug. 08, 2009

NOTE:

1. The measurement uncertainty is less than +/- 2.6dB, which is calculated as per the NAMAS document NIS81. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

2. 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 via a low lose cable. Set RBW of spectrum analyzer to 1MHz with suitable frequency span including 100 MHz bandwidth from band edge. The band edges was measured and recorded.

4.7.3 EUT OPERATING CONDITION

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

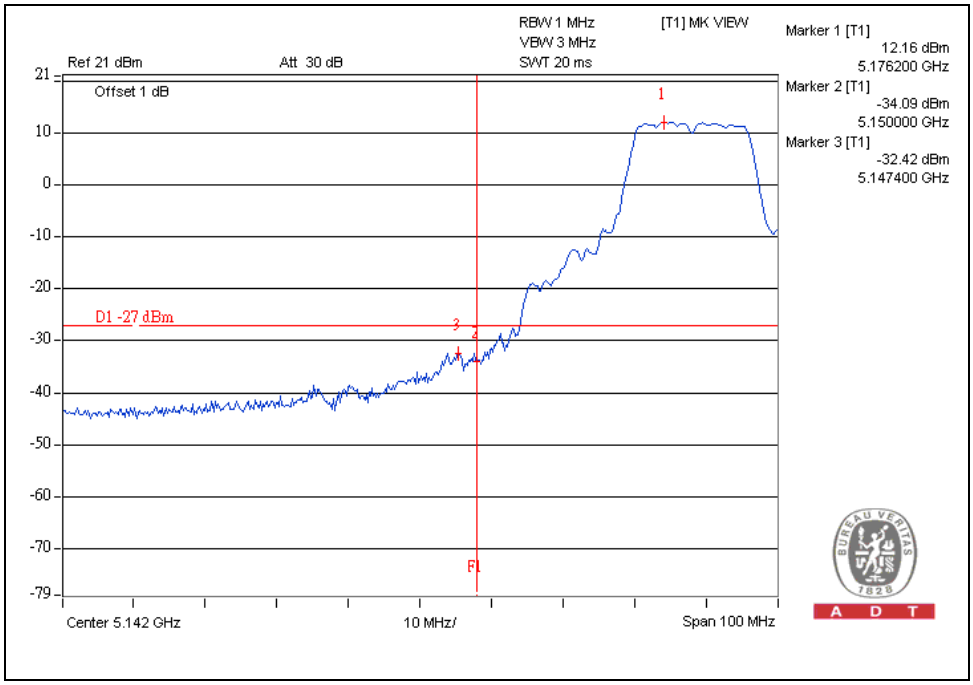
4.7.4 TEST RESULTS

For 5.15 to 5.35GHz band:

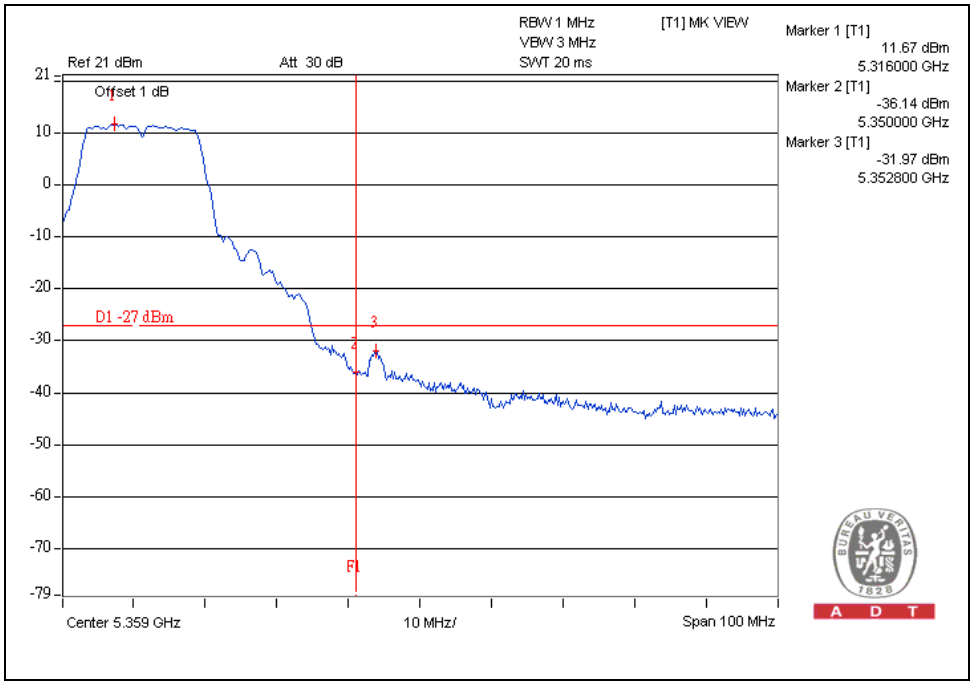
The spectrum plots (Peak RBW=1MHz, VBW=3MHz) are attached on the following pages.

802.11a OFDM modulation

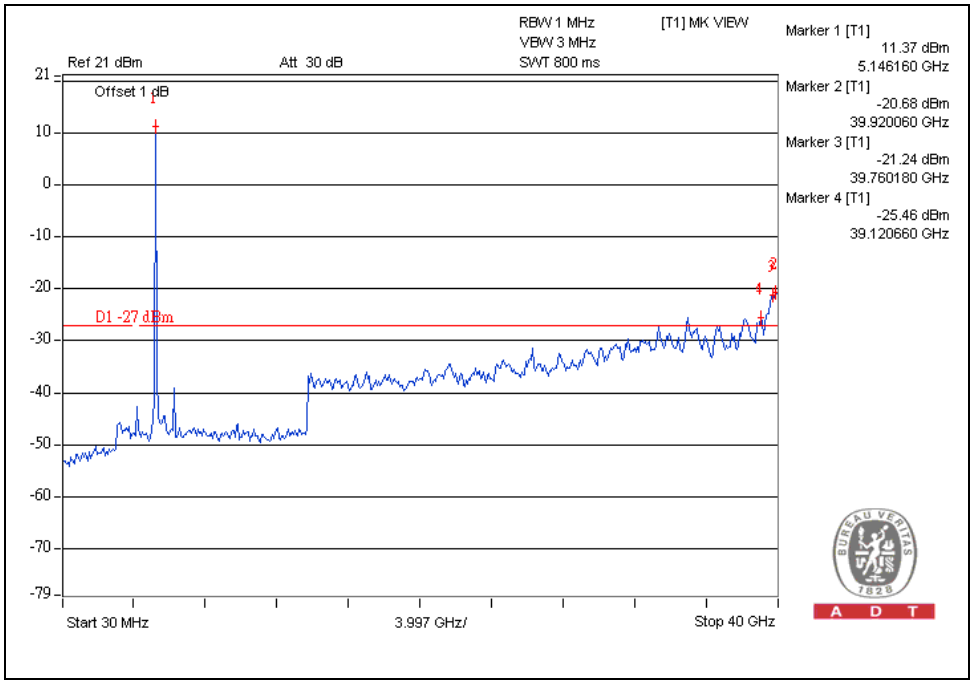
CH 1



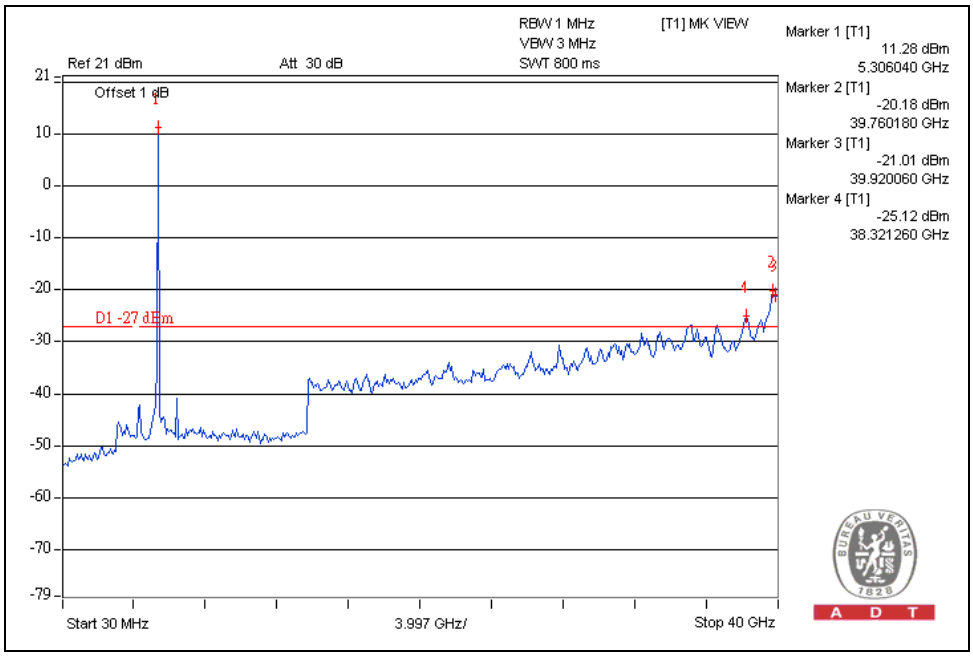
CH 8



CH 1


RBW 1 MHz
VBW 3 MHz
SWT 800 ms
[T1] MK VIEW
Ref 21 dBm
Att 30 dB
Offset 1 dB
D1 -27 dBm
Marker 1 [T1]
11.37 dBm
5.146160 GHz
Marker 2 [T1]
-20.68 dBm
39.920060 GHz
Marker 3 [T1]
-21.24 dBm
39.760180 GHz
Marker 4 [T1]
-25.46 dBm
39.120660 GHz
21
10
0
-10
-20
-30
-40
-50
-60
-70
-79
Start 30 MHz
3.997 GHz/
Stop 40 GHz

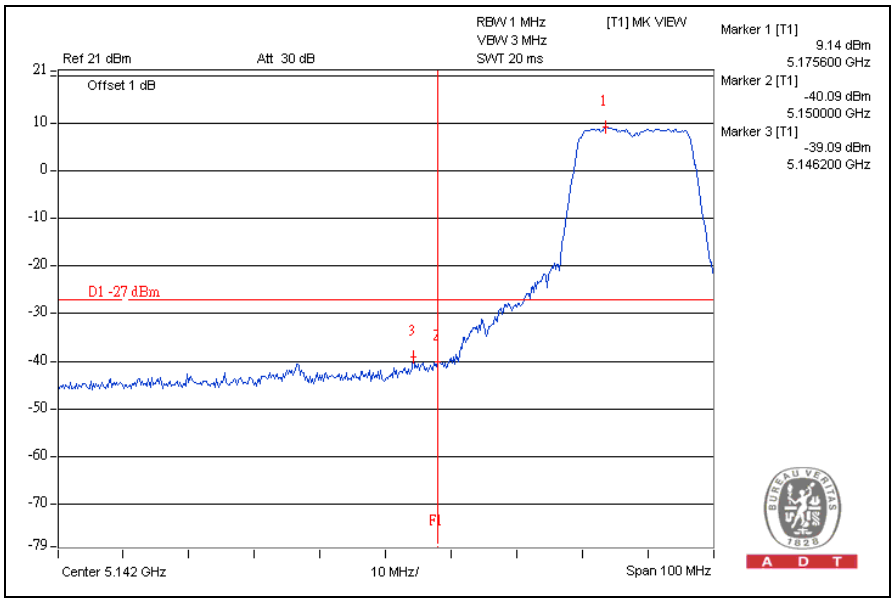
CH 8


RBW 1 MHz
VBW 3 MHz
SWT 800 ms
[T1] MK VIEW
Ref 21 dBm
Att 30 dB
Offset 1 dB
D1 -27 dBm
Marker 1 [T1]
11.28 dBm
5.306040 GHz
Marker 2 [T1]
-20.18 dBm
39.760180 GHz
Marker 3 [T1]
-21.01 dBm
39.920060 GHz
Marker 4 [T1]
-25.12 dBm
38.321260 GHz
21
10
0
-10
-20
-30
-40
-50
-60
-70
-79
Start 30 MHz
3.997 GHz/
Stop 40 GHz

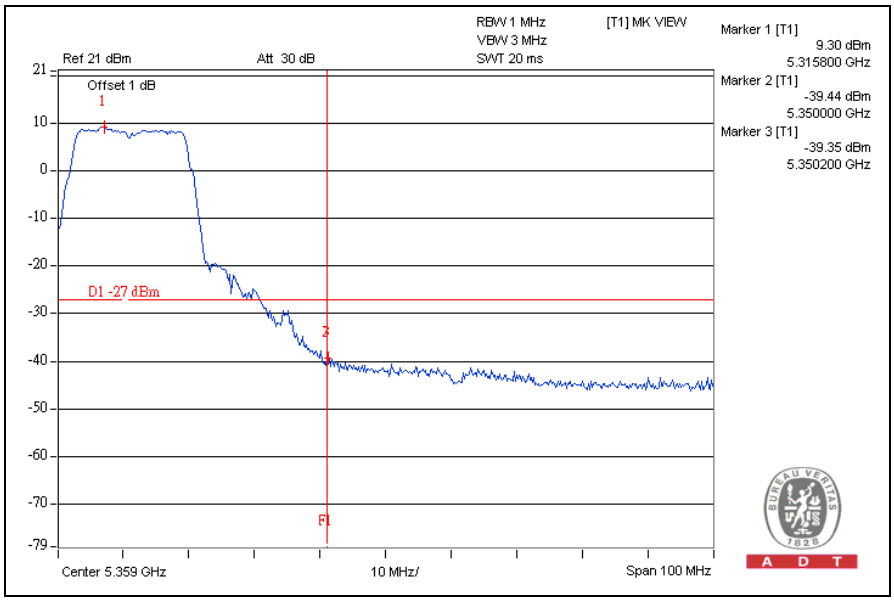
DRAFT 802.11n (20MHz) OFDM MODULATION:

For chain (0):

CH1

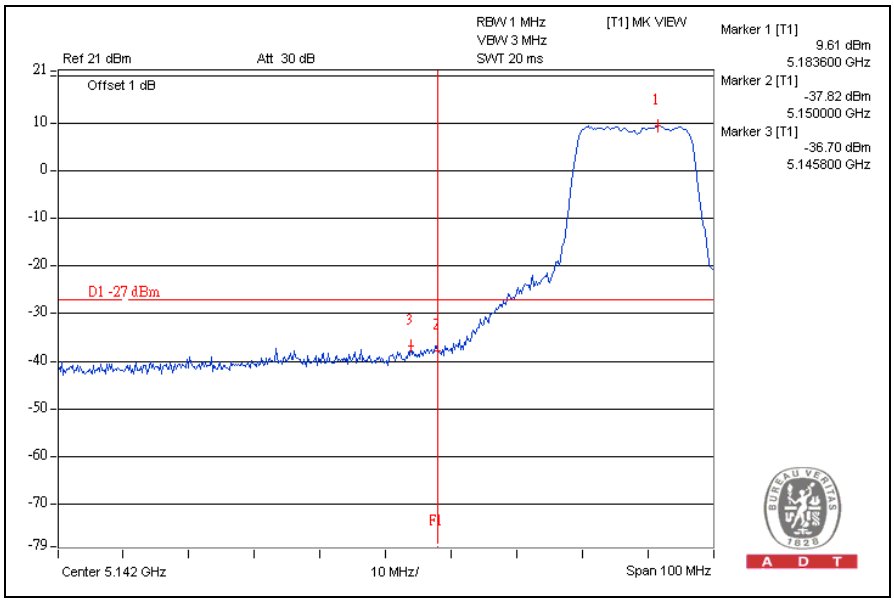


CH8

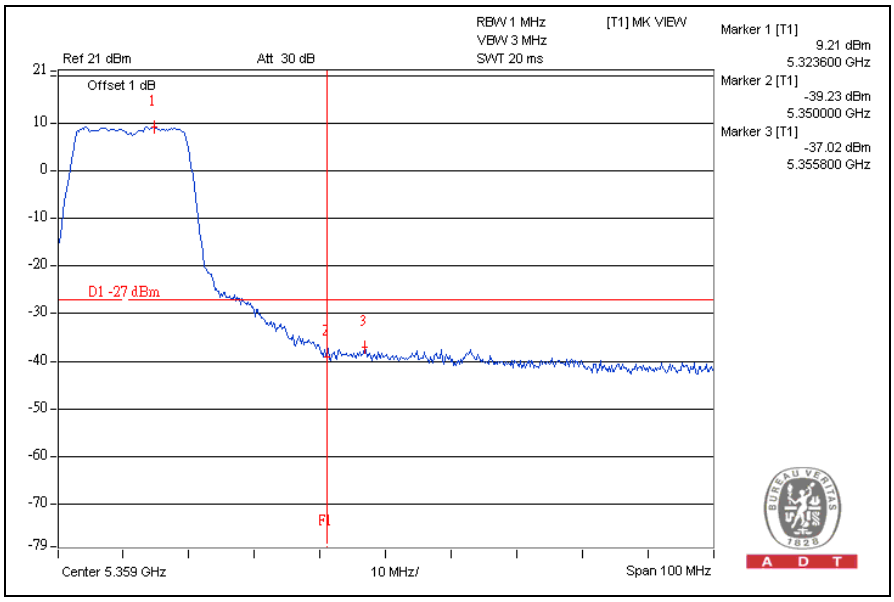


For chain (1):

CH1

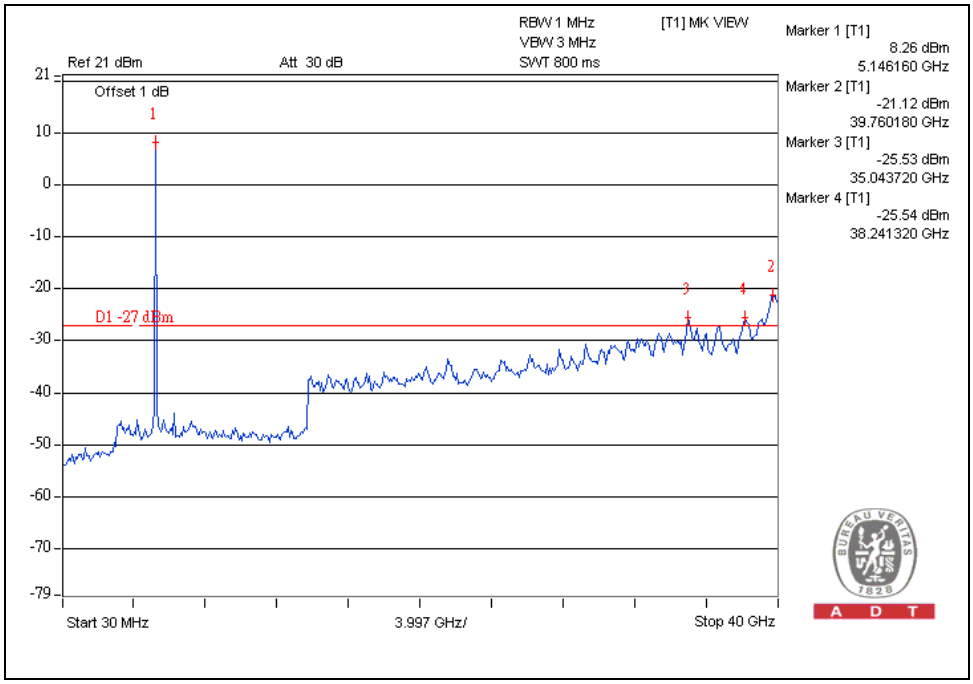


CH8

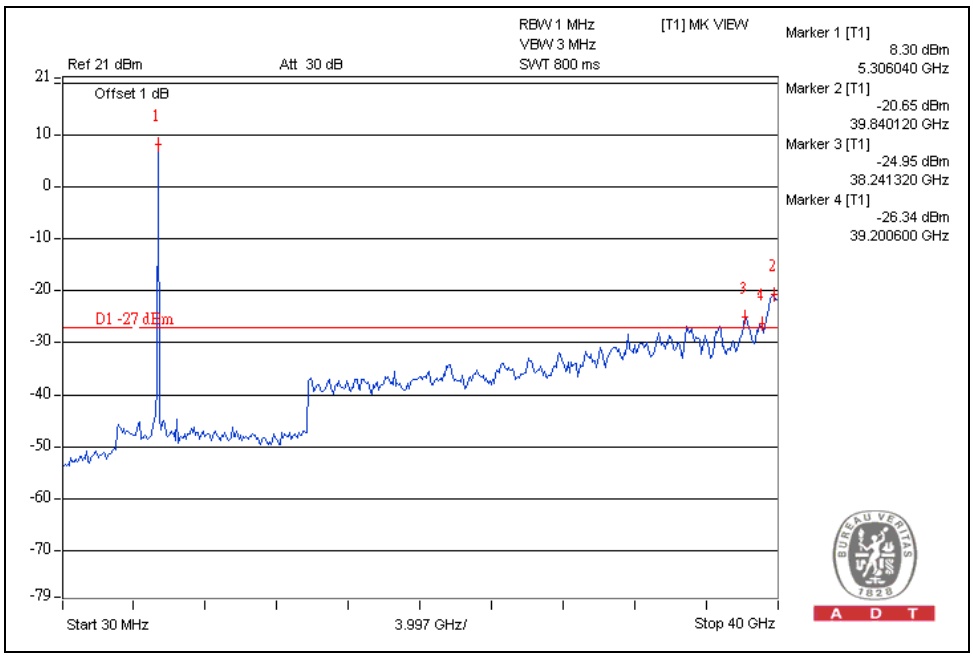


For chain (0):

CH1

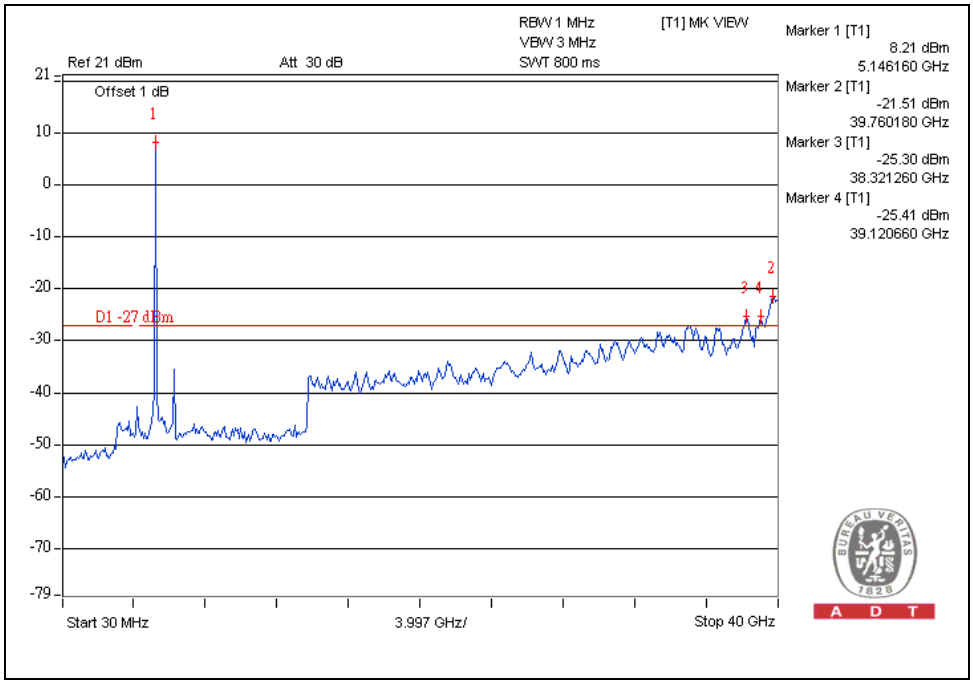


CH8

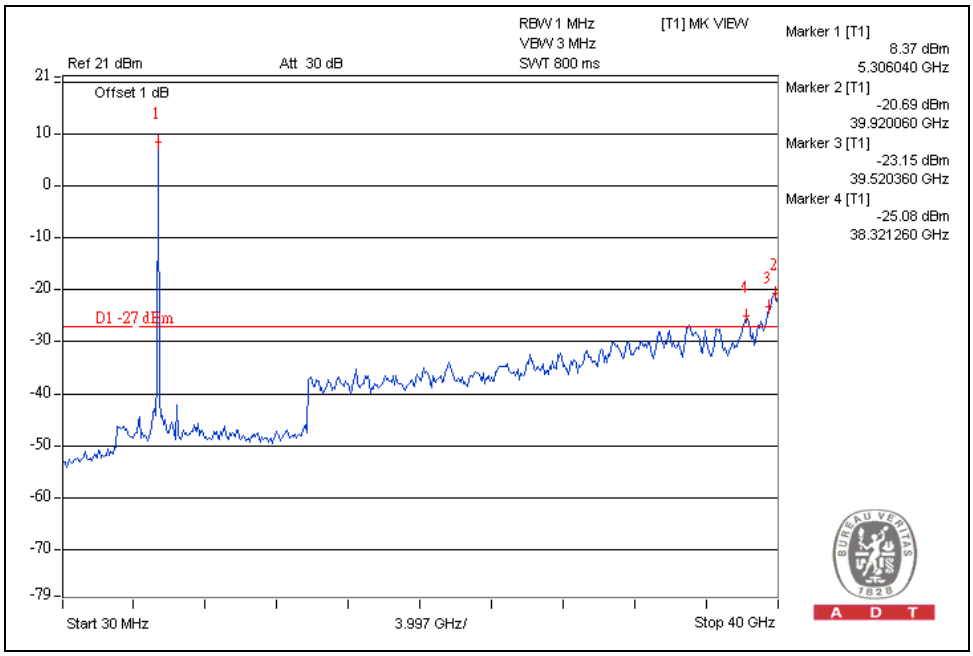


For chain (1):

CH1



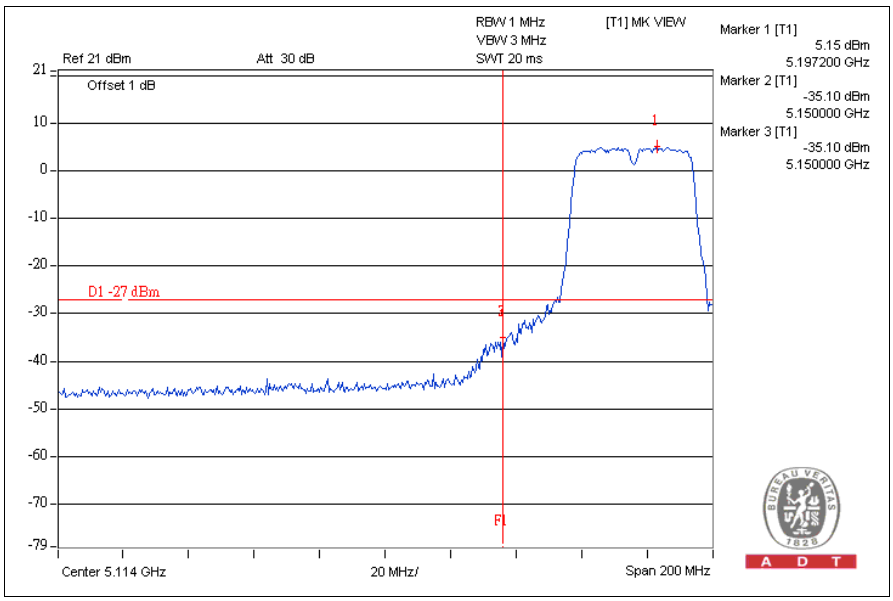
CH8



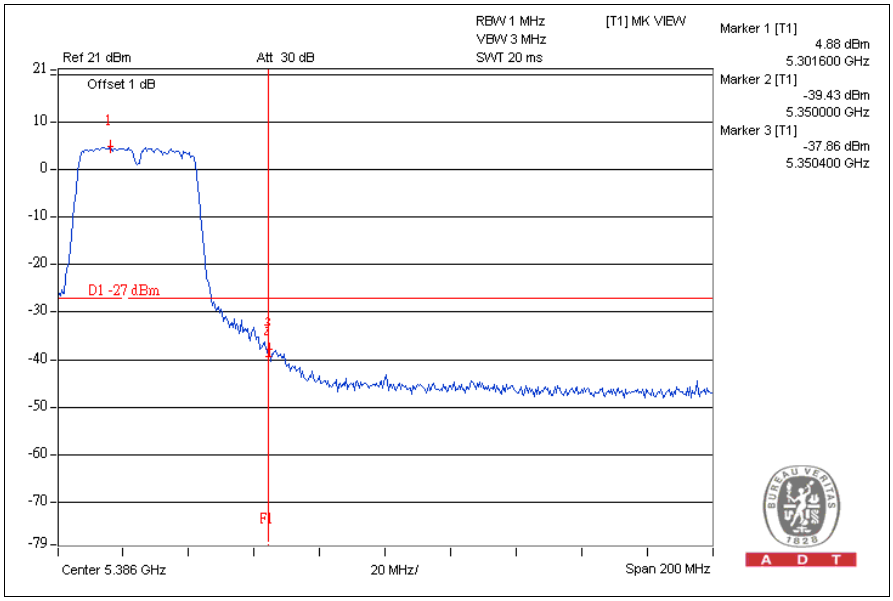
DRAFT 802.11n (40MHz) OFDM MODULATION:

For chain (0):

CH1

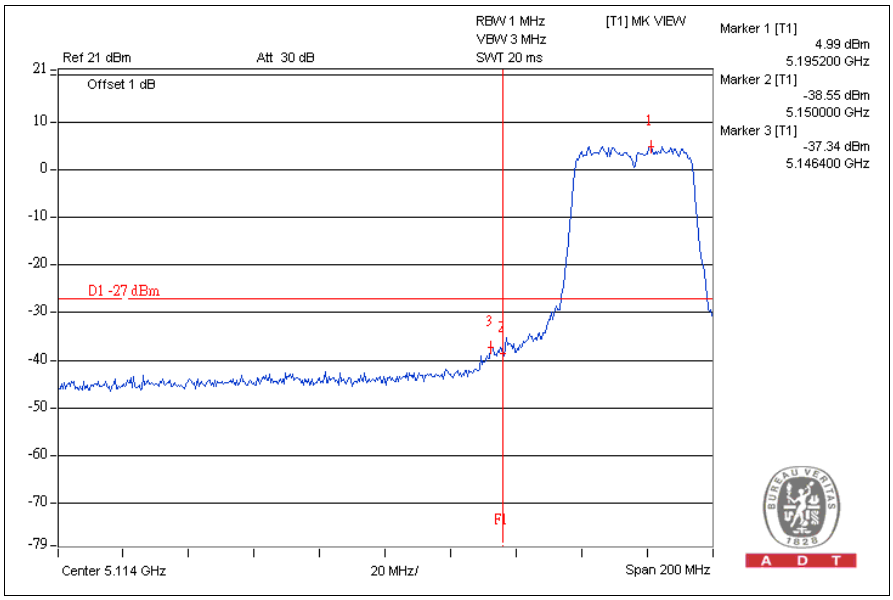


CH4

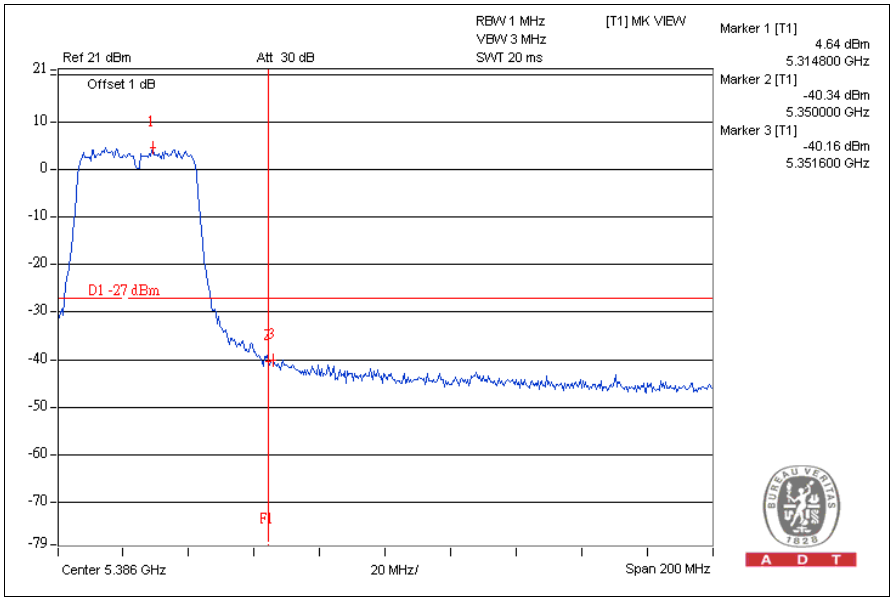


For chain (1):

CH1

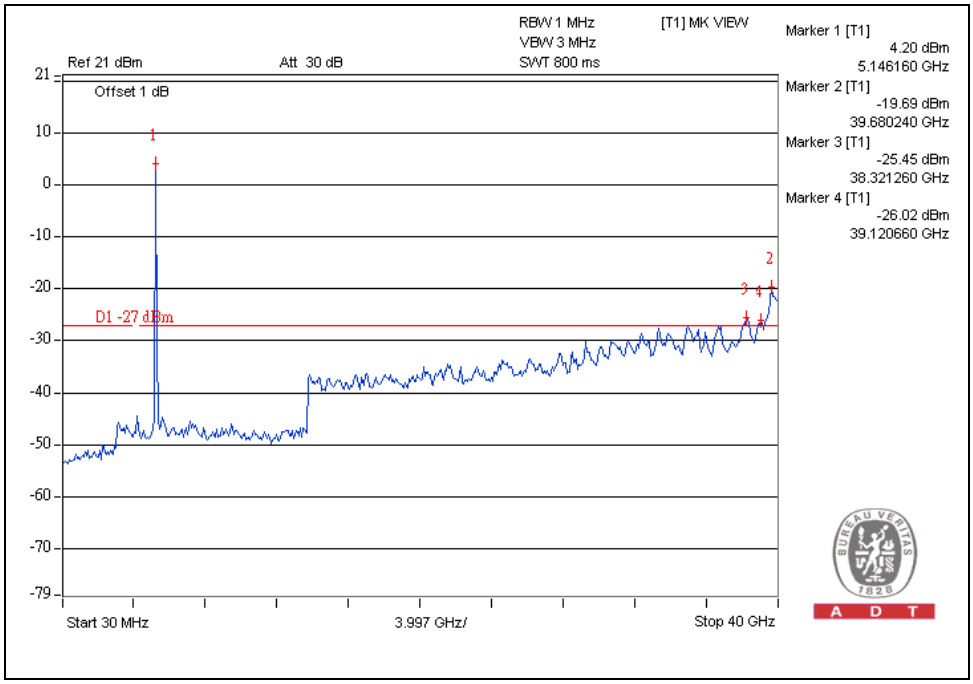


CH4

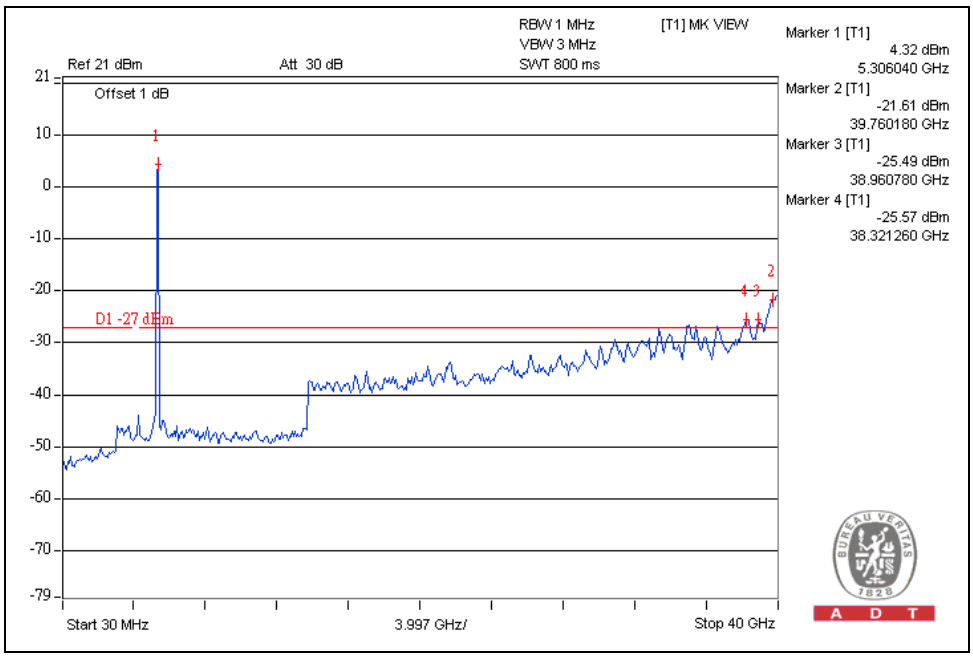


For chain (0):

CH1

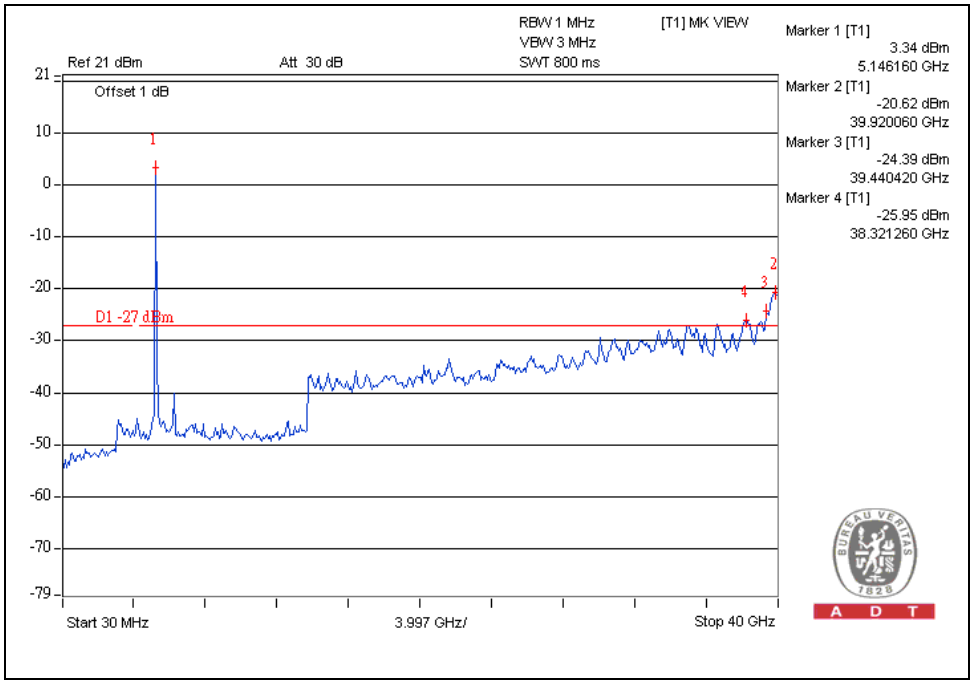


CH4

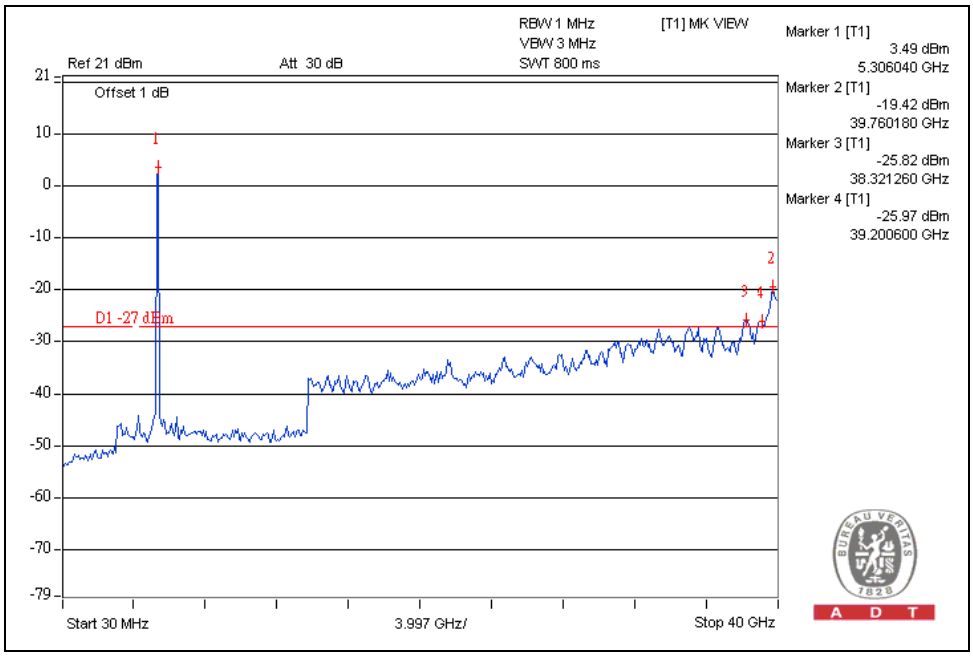


For chain (1):

CH1



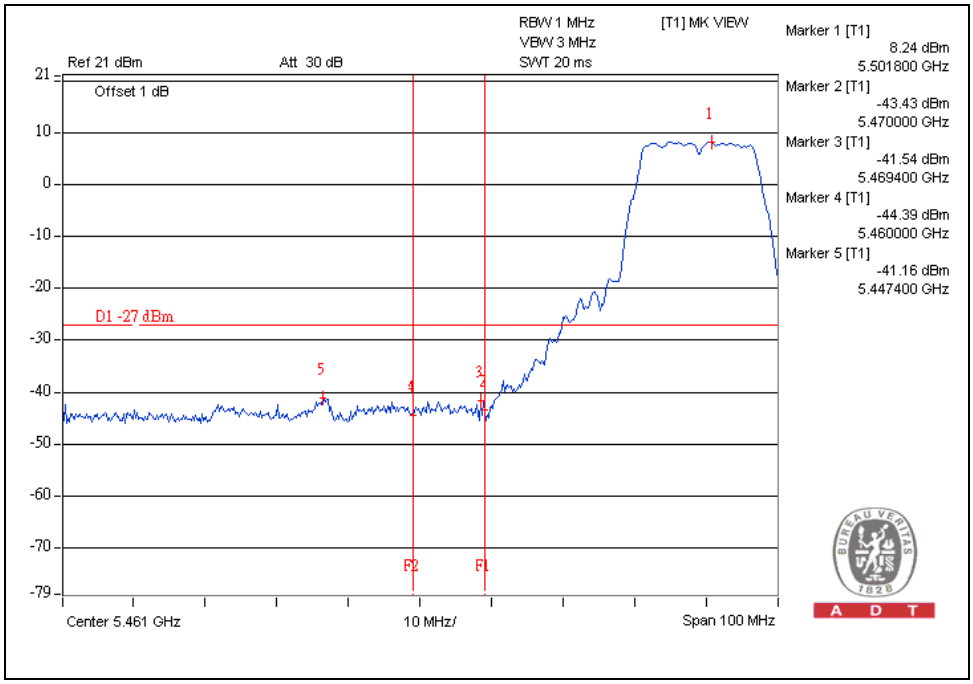
CH4



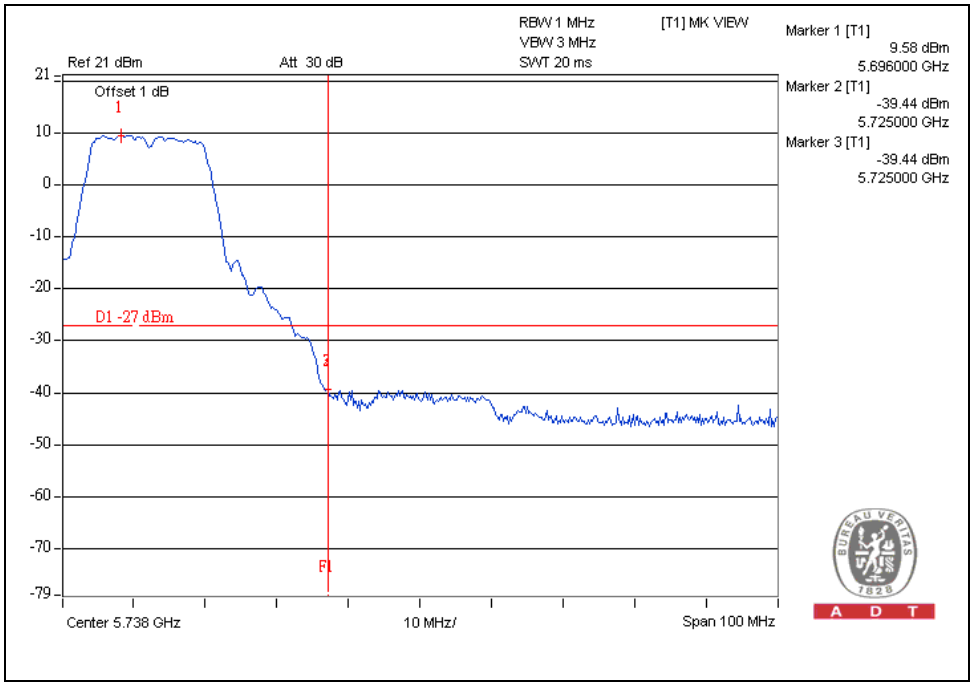
For 5.47 to 5.725GHz band:
The spectrum plots (Peak RBW=1MHz, VBW=3MHz) are attached on the following pages.

802.11a OFDM modulation

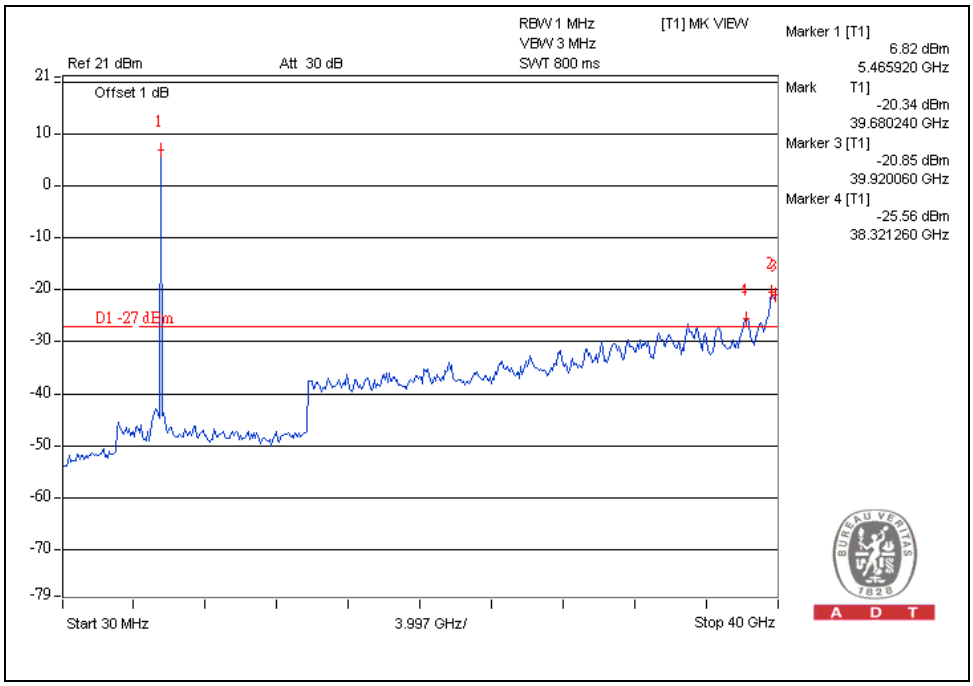
CH 9



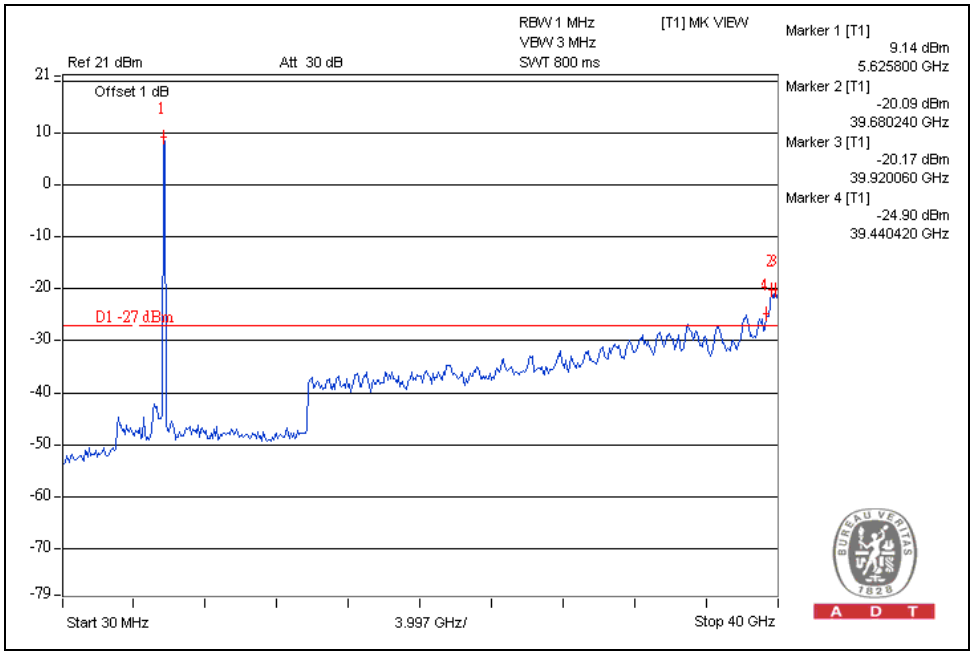
CH 19



CH 9


RBW 1 MHz
VBW 3 MHz
SWT 800 ms
[T1] MK VIEW
Ref 21 dBm
Att 30 dB
Offset 1 dB
D1 -27 dBm
Marker 1 [T1]
6.82 dBm
5.465920 GHz
Mark T1]
-20.34 dBm
39.680240 GHz
Marker 3 [T1]
-20.85 dBm
39.920060 GHz
Marker 4 [T1]
-25.56 dBm
38.321260 GHz
Start 30 MHz
3.997 GHz/
Stop 40 GHz

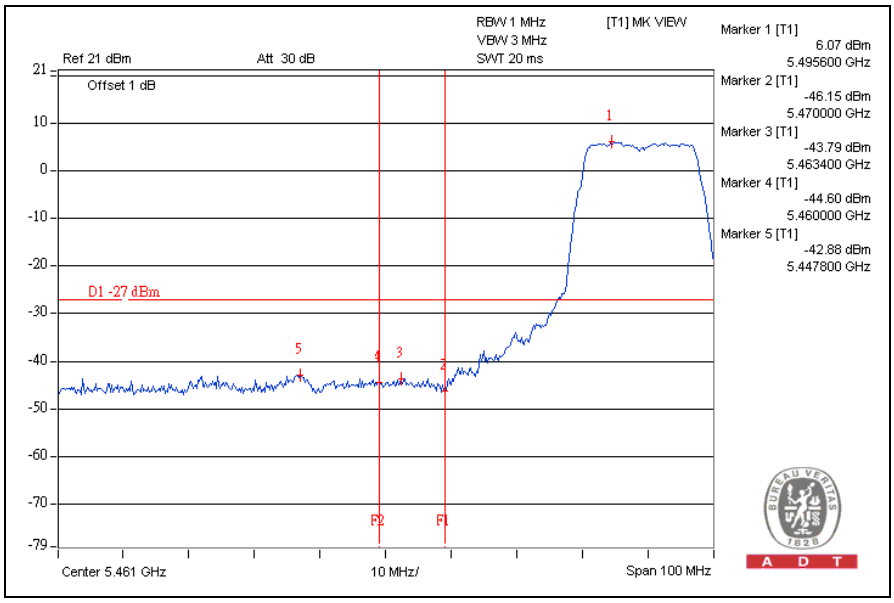
CH 19


RBW 1 MHz
VBW 3 MHz
SWT 800 ms
[T1] MK VIEW
Ref 21 dBm
Att 30 dB
Offset 1 dB
D1 -27 dBm
Marker 1 [T1]
9.14 dBm
5.625800 GHz
Marker 2 [T1]
-20.09 dBm
39.680240 GHz
Marker 3 [T1]
-20.17 dBm
39.920060 GHz
Marker 4 [T1]
-24.90 dBm
39.440420 GHz
Start 30 MHz
3.997 GHz/
Stop 40 GHz

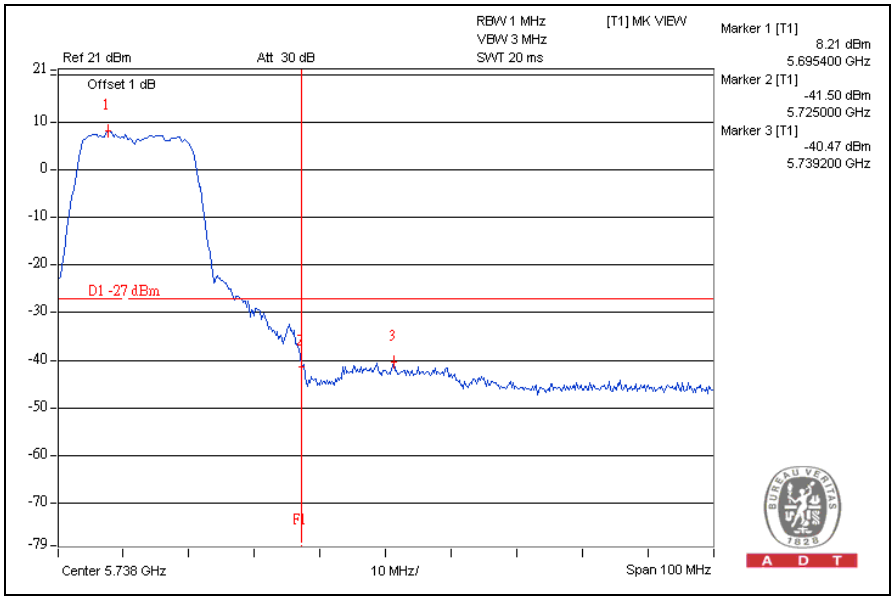
DRAFT 802.11n (20MHz) OFDM MODULATION:

For chain (0):

CH9

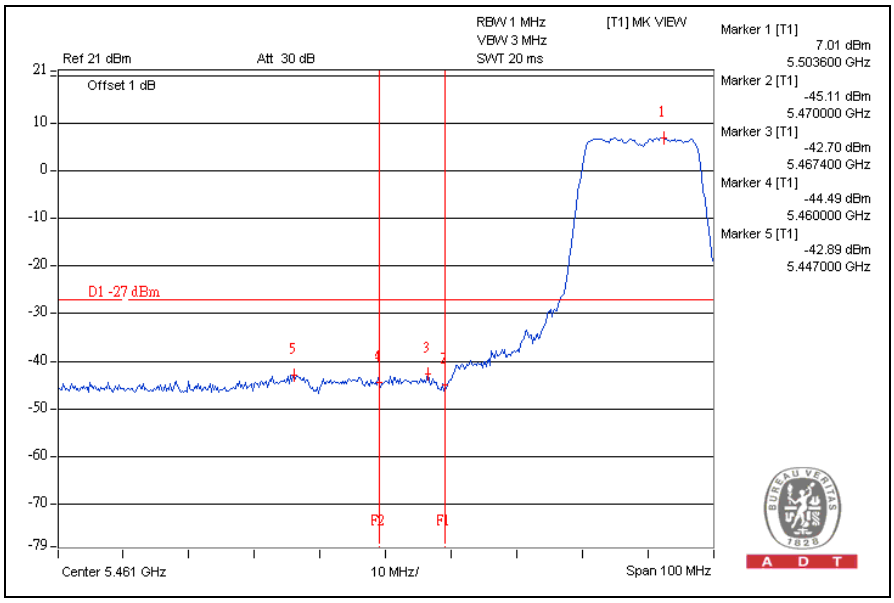


CH19

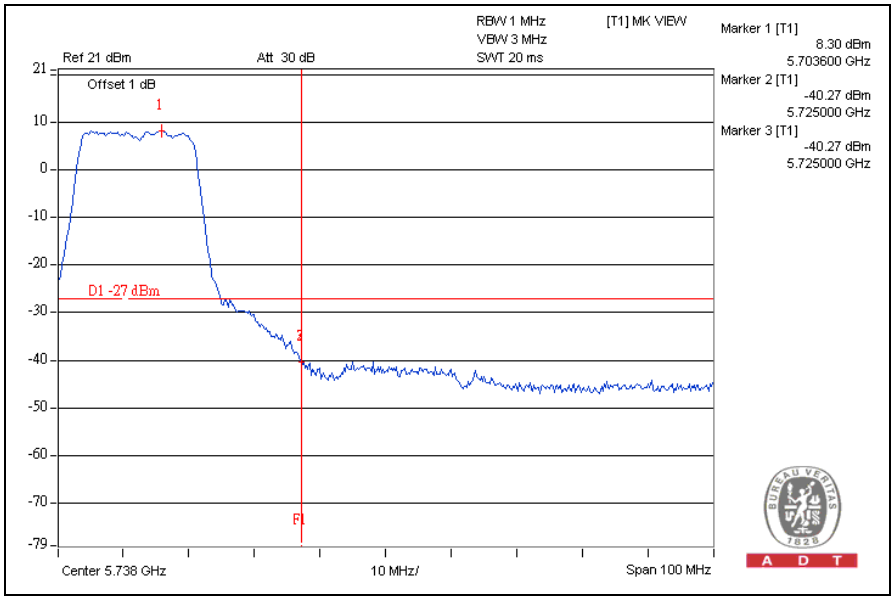


For chain (1):

CH9

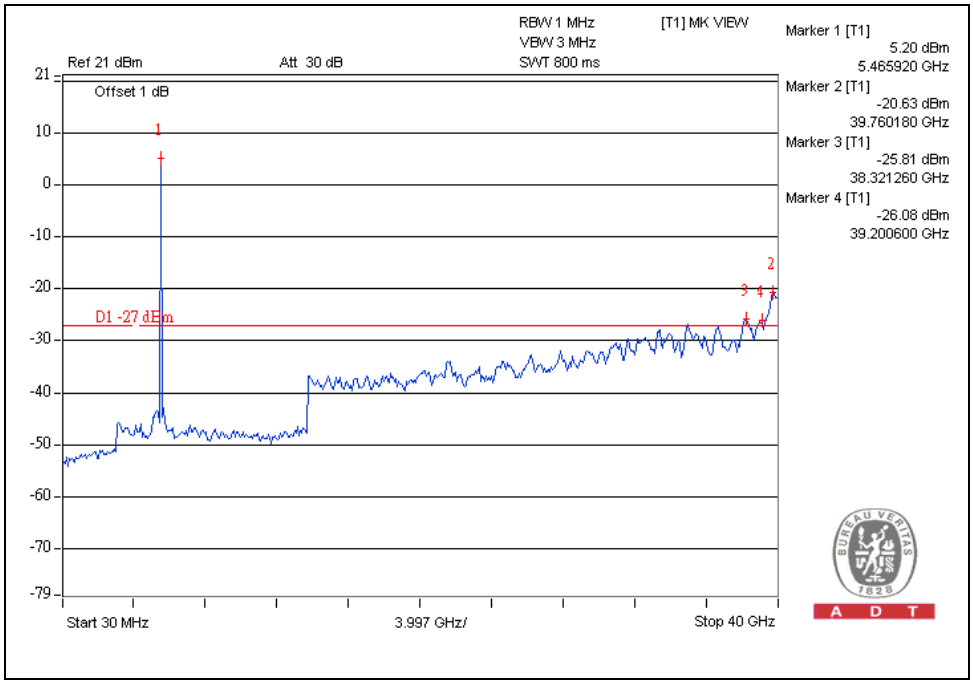


CH19

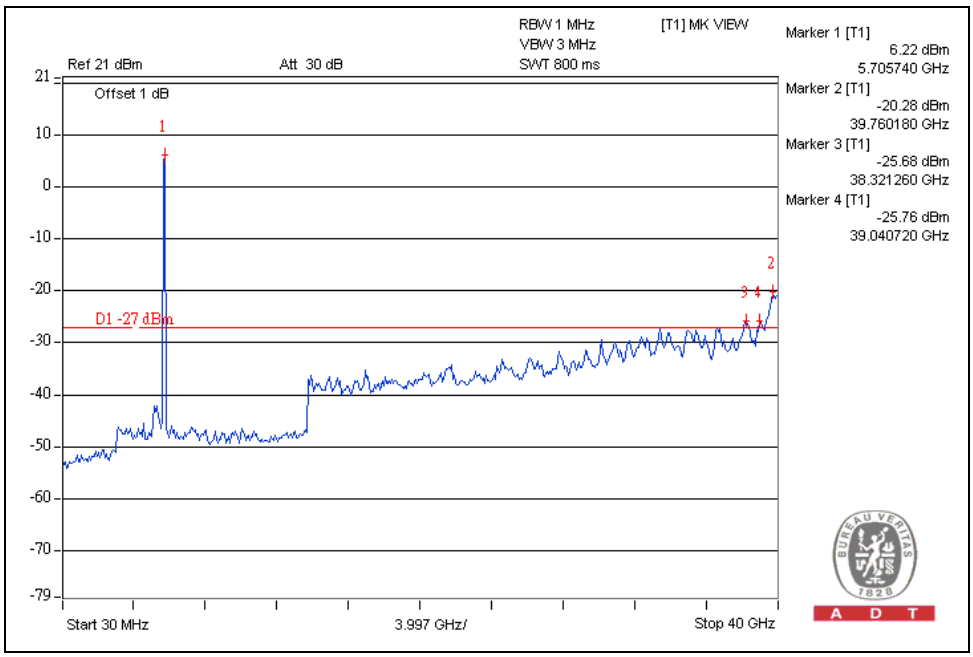


For chain (0):

CH9

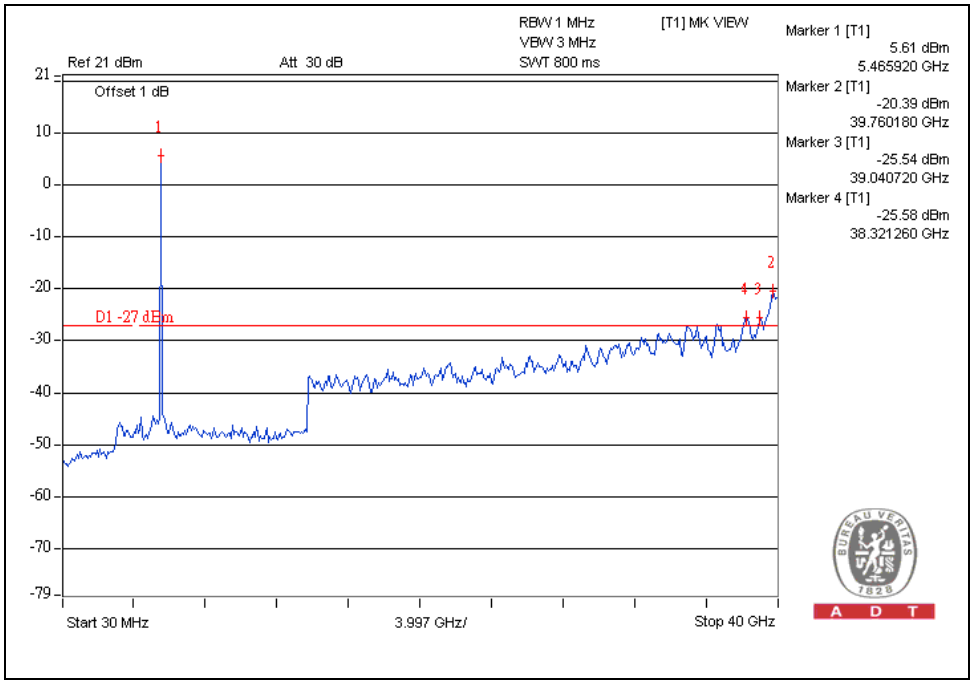


CH19

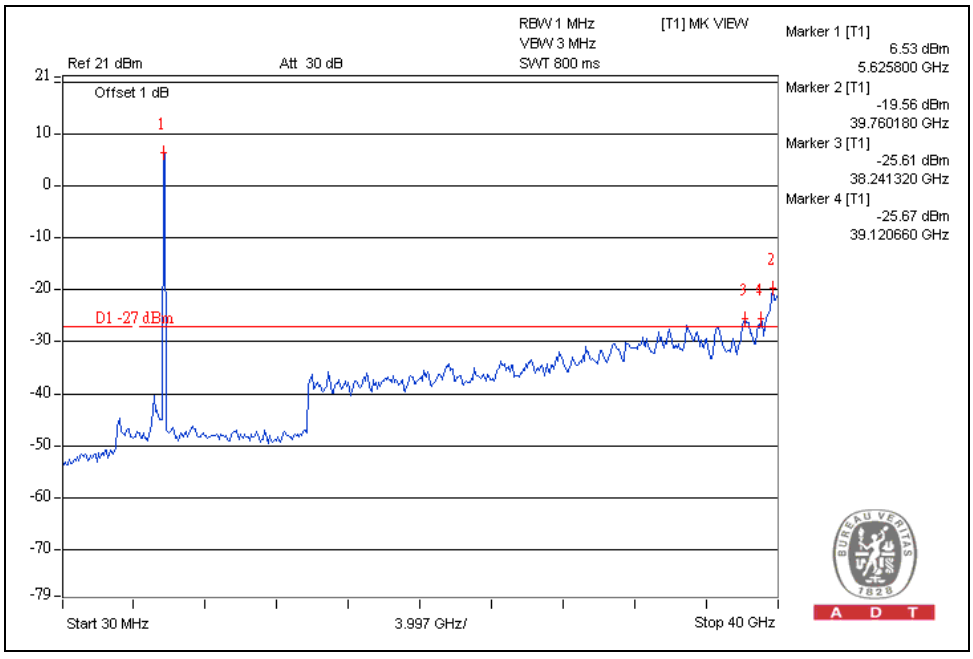


For chain (1):

CH9



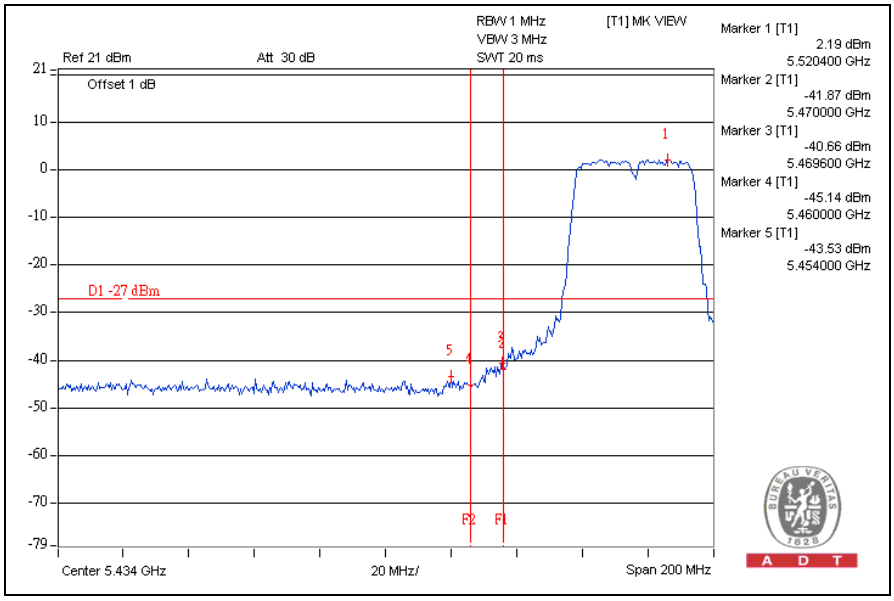
CH19



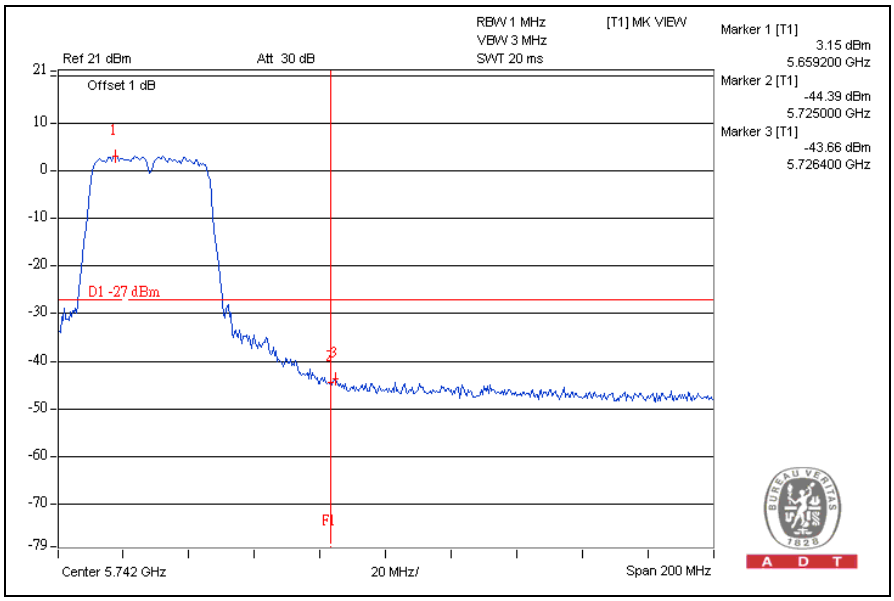
DRAFT 802.11n (40MHz) OFDM MODULATION:

For chain (0):

CH5

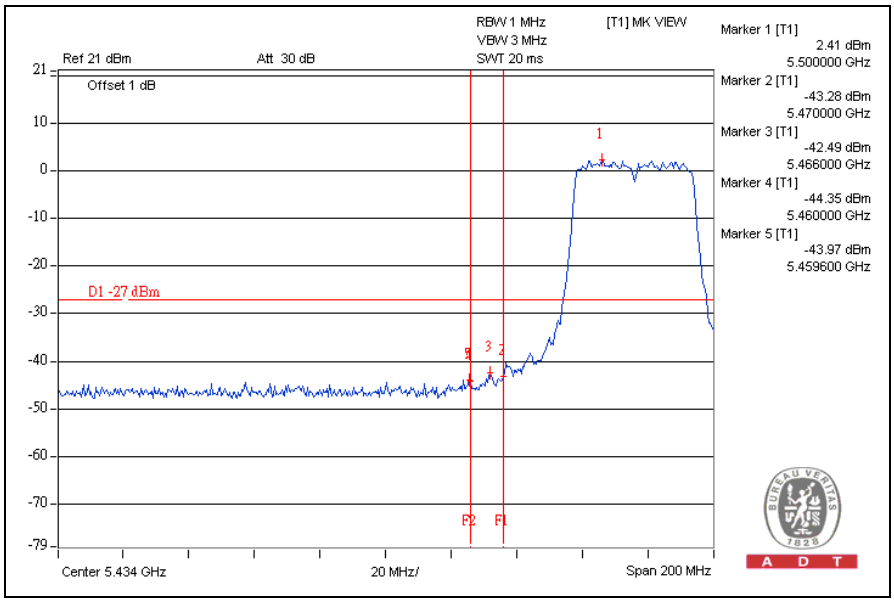


CH9

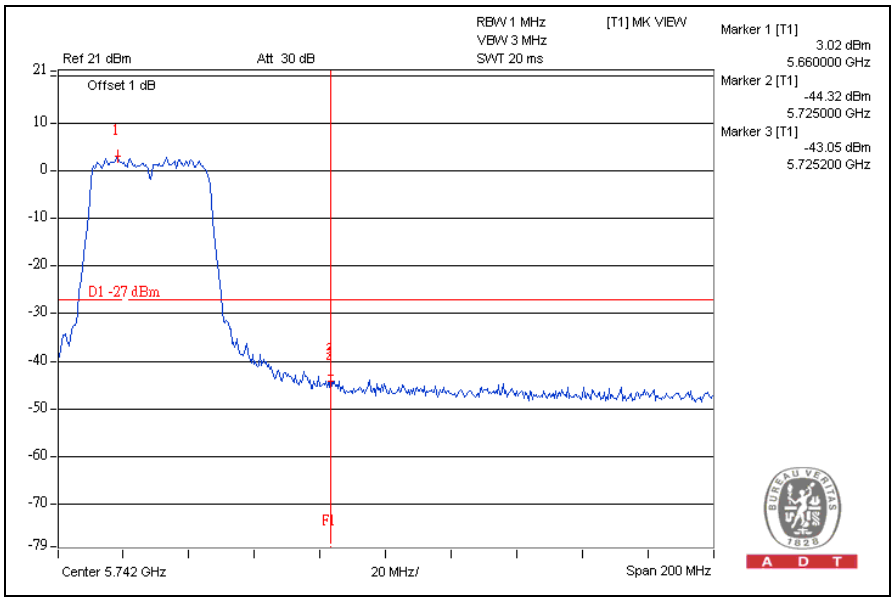


For chain (1):

CH5

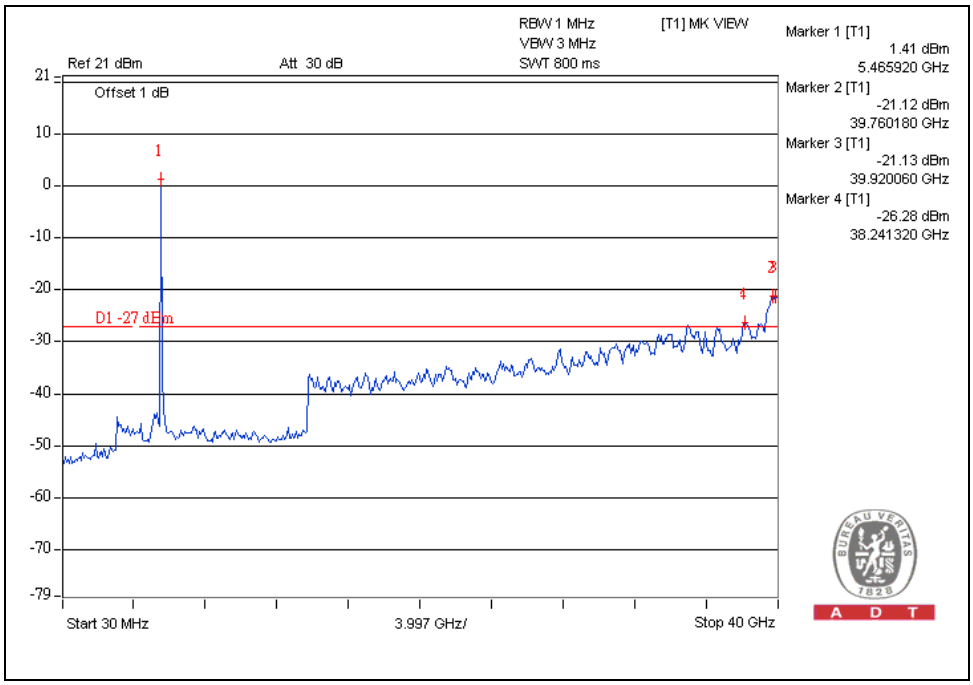


CH9

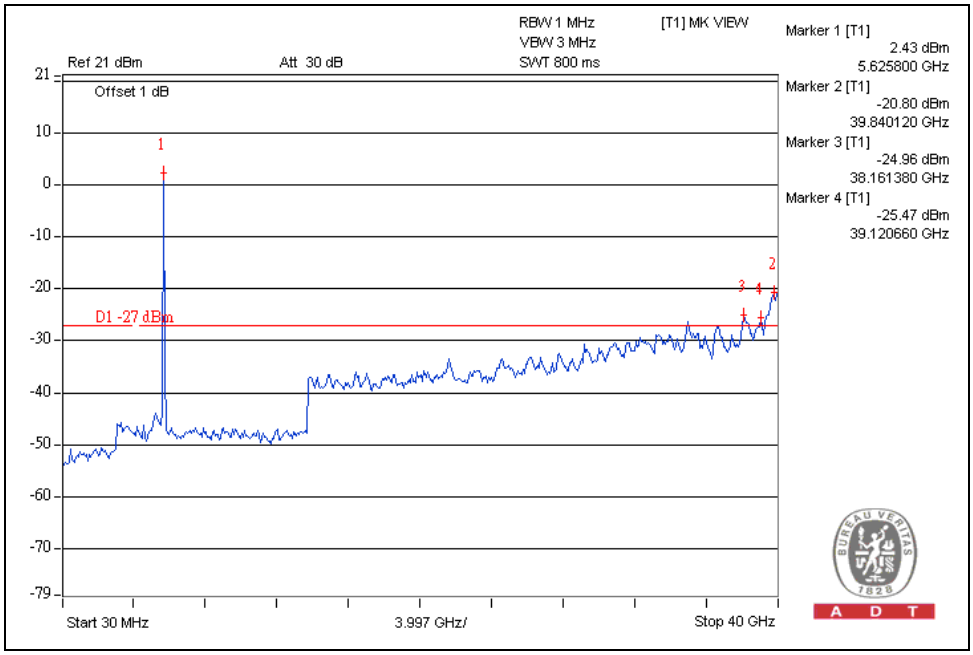


For chain (0):

CH5

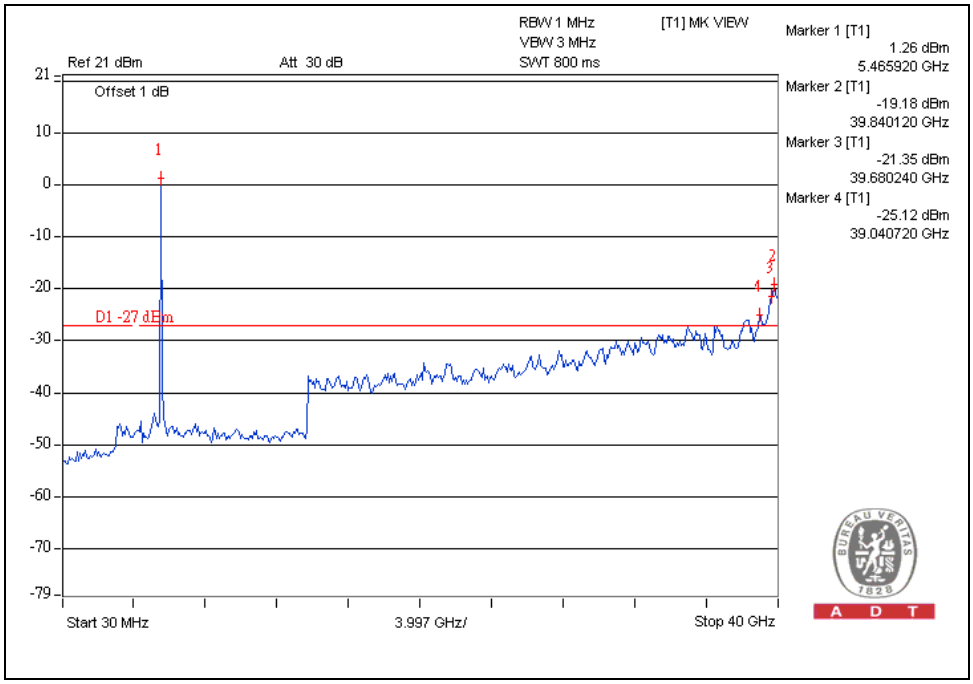


CH9

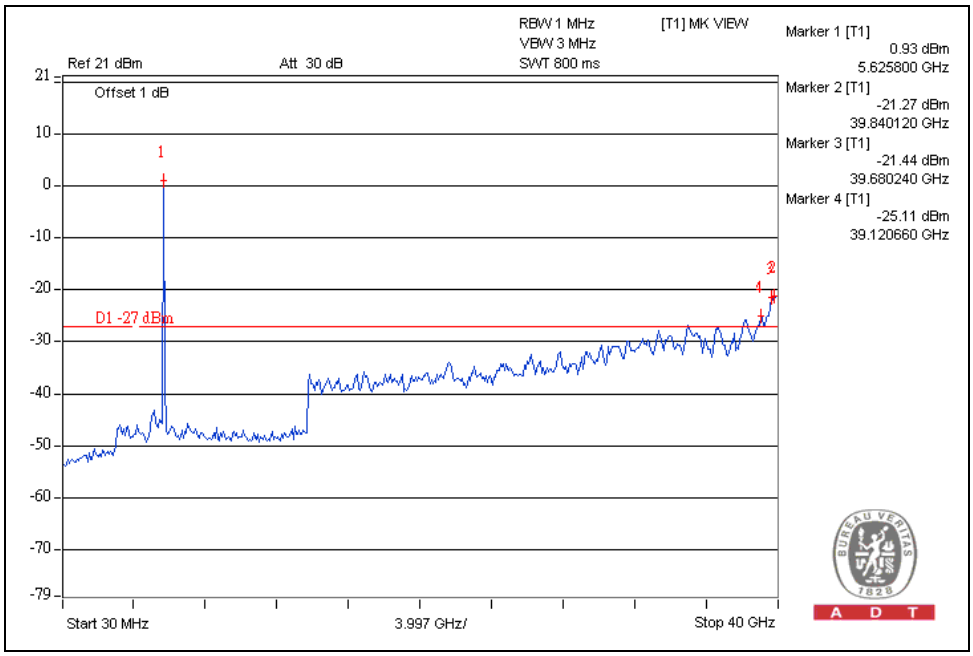


For chain (1):

CH5



CH9



4.8 ANTENNA REQUIREMENT

4.8.1 STANDARD APPLICABLE

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

And according to FCC 47 CFR Section 15.407(a), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

4.8.2 ANTENNA CONNECTED CONSTRUCTION

There two antennas provided to this EUT, please refer to the following table:

Transmitter Circuit	Antenna Type	For 2.4GHz Gain (dBi)	For 5.15~ 5.25GHz Gain (dBi)	For 5.25~ 5.47GHz Gain (dBi)	For 5.47~ 5.725GHz Gain (dBi)	For 5.725~ 5.85GHz Gain (dBi)	Antenna Connector
Chain(0)	PCB	-1.98	-0.85	-0.61	0.6	0.57	NA
Chain(1)	PCB	-2.46	-0.51	0.83	1.07	1.08	NA

5. INFORMATION ON THE TESTING LABORATORIES

We, ADT Corp., were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved by the following approval agencies according to ISO/IEC 17025:

USA	FCC, UL
Germany	TUV Rheinland
Japan	VCCI
Norway	NEMKO
Canada	INDUSTRY CANADA , CSA
R.O.C.	TAF, BSMI, NCC
Netherlands	Telefication
Singapore	GOST-ASIA(MOU)
Russia	CERTIS(MOU)

Copies of accreditation 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

Web Site: www.adt.com.tw

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

6. APPENDIX-A- Modifications recorders for engineering changes to the eut BY THE LAB

No any modifications are made to the EUT by the lab during the test.

---END---