7.7 AC Conducted Emission

▣ Test Requirements

For an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies,
within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 μH/50 ohms line impedance stabilization network (LISN).

Frequency Range (MHz)	Conducted Limit (dBuV)	
	Quasi-Peak	Average
0.15 ~ 0.5	66 to 56 *	56 to 46 *
0.5 ~ 5	56	46
5 ~ 30	60	50

* Decreases with the logarithm of the frequency

Compliance with this provision shall be based on the measurement of the radio frequency voltage between each power line (LINE and NEUTRAL) and ground at the power terminals.

▣ Test Configuration

See test photographs for the actual connections between EUT and support equipment.

▣ Test Procedure

Conducted emissions from the EUT were measured according to the ANSI C63.10.

1. The test procedure is performed in a 6.5 m × 3.5 m × 3.5 m (L × W × H) shielded room. The EUT along with its peripherals were placed on a 1.0 m (W) × 1.5 m (L) and 0.8 m in height wooden table and the EUT was adjusted to maintain a 0.4 meter space from a vertical reference plane.
2. The EUT was connected to power mains through a line impedance stabilization network (LISN) which provides 50 ohm coupling impedance for measuring instrument and the chassis ground was bounded to the horizontal ground plane of shielded room.
3. All peripherals were connected to the second LISN and the chassis ground also bounded to the horizontal ground plane of shielded room.
4. The excess power cable between the EUT and the LISN was bundled. The power cables of peripherals were unbundled. All connecting cables of EUT and peripherals were moved to find the maximum emission.

▣ **Measurement Data: Comply**

AC Line Conducted Emissions (Graph)

Test Mode: U-NII 1 & 802.11n(HT20) & 5240 MHz

Results of Conducted Emission

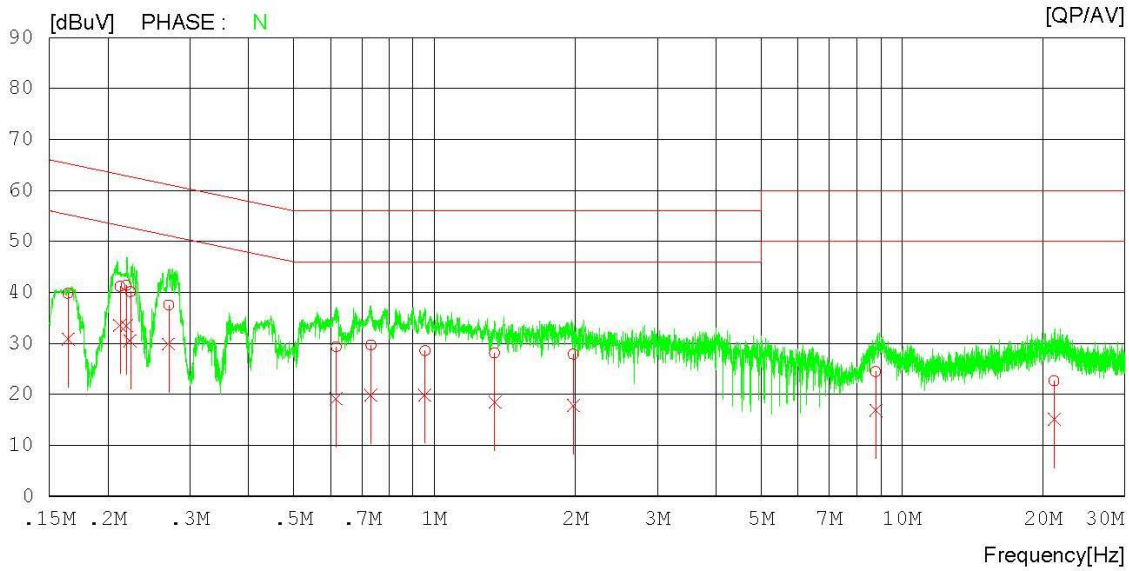
DTNC

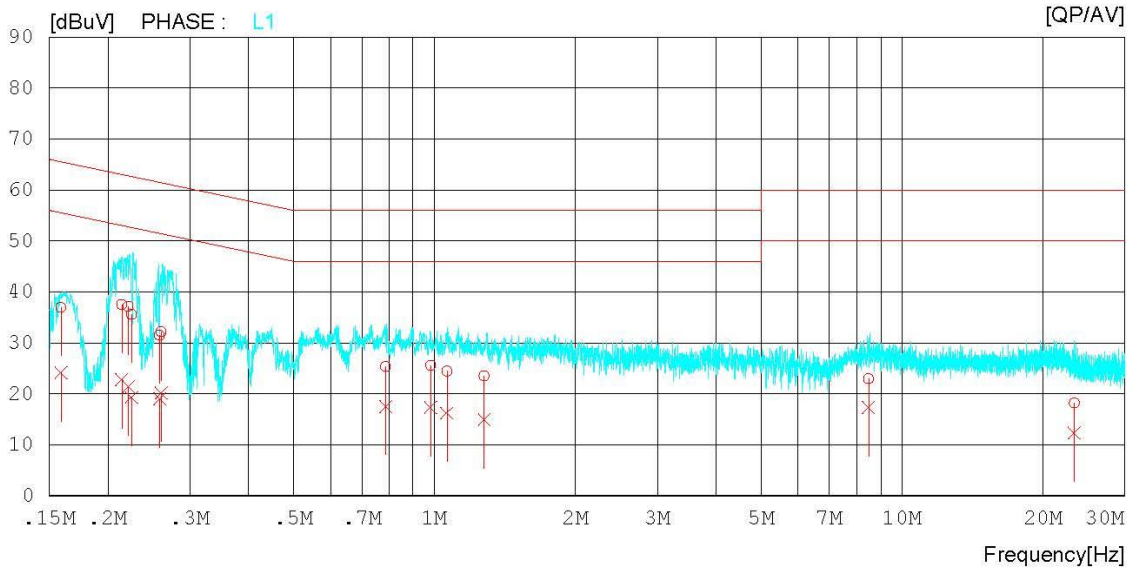
Date : 2017-04-27

Order No.	:	DTNC1703-01704	:
Power Supply	:	AC 120V 60Hz	:
Temp/Humi	:	23 ℃ / 45 %	:
Test Codition	:	802.11 n20 / 5240 MHz	:

Memo :

LIMIT : CISPR class B QP
CISPR class B AV





AC Line Conducted Emissions (Data List)

Test Mode: U-NII 1 & 802.11n(HT20) & 5240 MHz

Results of Conducted Emission

DTNC

Date : 2017-04-27

Order No.	:	DTNC1703-01704	:	
Power Supply	:	AC 120V 60Hz	:	
Temp/Humi	:	23 ℃ / 45 %	:	
Test Codition	:	802.11 n20 / 5240 MHz	:	

Memo :

LIMIT : CISPR class B QP
CISPR class B AV

NO	FREQ	READING QP	READING AV	C.FACTOR	RESULT QP	RESULT AV	LIMIT QP	LIMIT AV	MARGIN QP	MARGIN AV	PHASE
	[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	
1	0.16450	29.6	20.7	10.2	39.8	30.9	65.2	55.2	25.4	24.3	N
2	0.21233	30.9	23.3	10.2	41.1	33.5	63.1	53.1	22.0	19.6	N
3	0.21942	31.2	23.2	10.2	41.4	33.4	62.8	52.8	21.4	19.4	N
4	0.22348	29.9	20.3	10.2	40.1	30.5	62.7	52.7	22.6	22.2	N
5	0.26983	27.3	19.7	10.2	37.5	29.9	61.1	51.1	23.6	21.2	N
6	0.61588	19.1	9.0	10.2	29.3	19.2	56.0	46.0	26.7	26.8	N
7	0.73130	19.4	9.6	10.2	29.6	19.8	56.0	46.0	26.4	26.2	N
8	0.95314	18.4	9.7	10.2	28.6	19.9	56.0	46.0	27.4	26.1	N
9	1.34640	17.9	8.2	10.2	28.1	18.4	56.0	46.0	27.9	27.6	N
10	1.98320	17.6	7.5	10.3	27.9	17.8	56.0	46.0	28.1	28.2	N
11	8.79640	13.8	6.2	10.7	24.5	16.9	60.0	50.0	35.5	33.1	N
12	21.19240	10.9	3.4	11.7	22.6	15.1	60.0	50.0	37.4	34.9	N
13	0.15887	26.8	14.0	10.1	36.9	24.1	65.5	55.5	28.6	31.4	L1
14	0.21424	27.4	12.7	10.1	37.5	22.8	63.0	53.0	25.5	30.2	L1
15	0.22149	27.1	11.3	10.1	37.2	21.4	62.8	52.8	25.6	31.4	L1
16	0.22495	25.4	9.2	10.1	35.5	19.3	62.6	52.6	27.1	33.3	L1
17	0.25821	21.3	8.9	10.1	31.4	19.0	61.5	51.5	30.1	32.5	L1
18	0.25996	22.0	10.0	10.1	32.1	20.1	61.4	51.4	29.3	31.3	L1
19	0.78678	15.1	7.3	10.2	25.3	17.5	56.0	46.0	30.7	28.5	L1
20	0.98100	15.4	7.1	10.2	25.6	17.3	56.0	46.0	30.4	28.7	L1
21	1.06320	14.2	6.0	10.2	24.4	16.2	56.0	46.0	31.6	29.8	L1
22	1.27800	13.2	4.7	10.2	23.4	14.9	56.0	46.0	32.6	31.1	L1
23	8.47520	12.1	6.5	10.8	22.9	17.3	60.0	50.0	37.1	32.7	L1
24	23.36660	6.1	0.2	12.0	18.1	12.2	60.0	50.0	41.9	37.8	L1

AC Line Conducted Emissions (Graph)

Test Mode: U-NII 2A & 802.11n(HT20) & 5320 MHz

Results of Conducted Emission

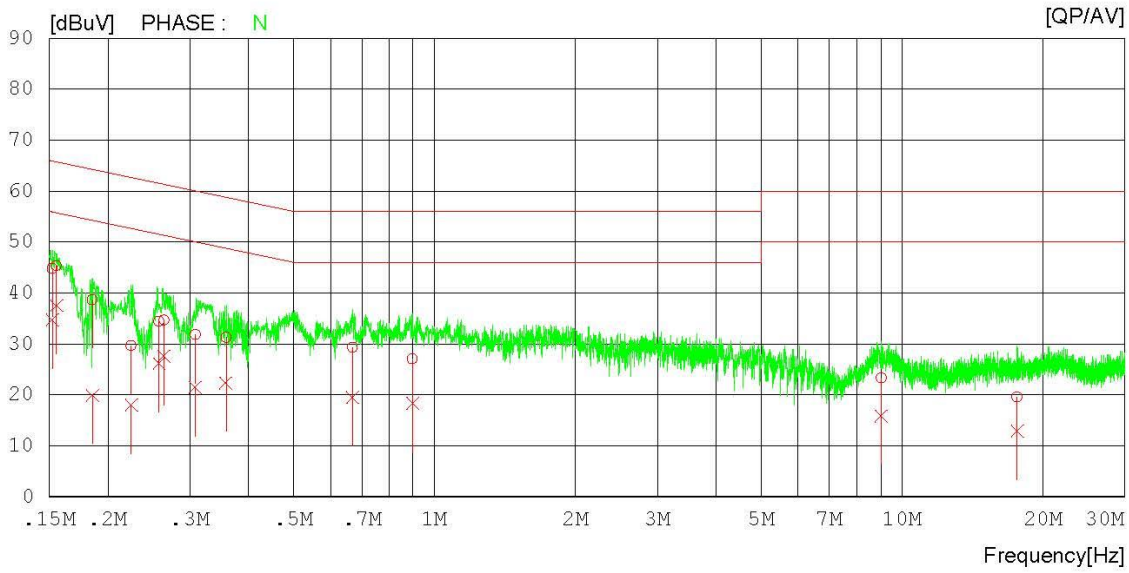
DTNC

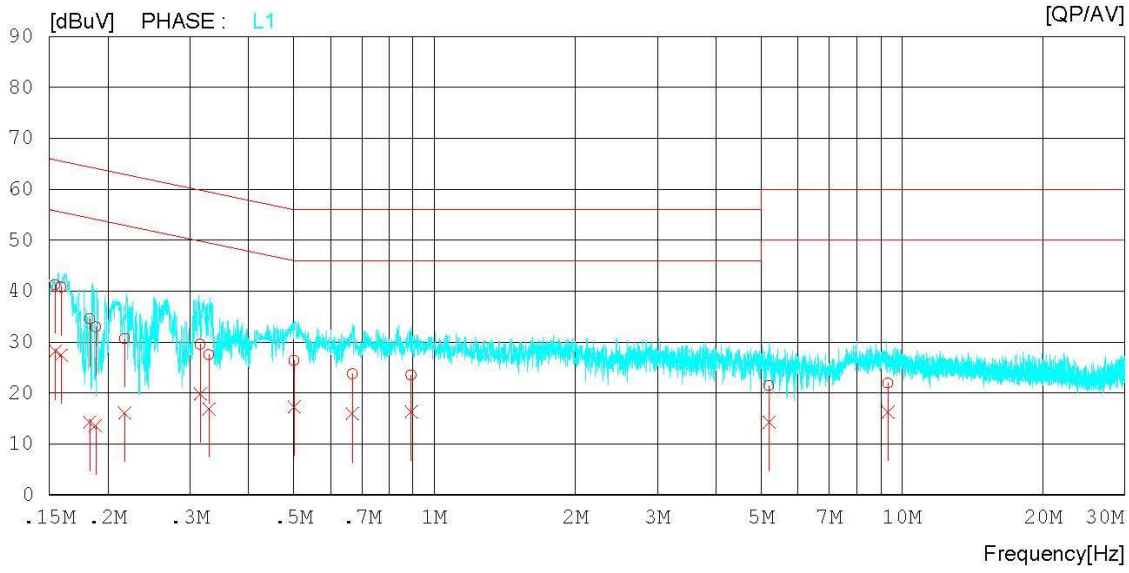
Date : 2017-04-27

Order No.	:	DTNC1703-01704	:	
Power Supply	:	AC 120V 60Hz	:	
Temp/Humi	:	23 ℃ / 45 %	:	
Test Codition	:	802.11 n20 / 5320 MHz	:	

Memo :

LIMIT : CISPR class B QP
CISPR class B AV





AC Line Conducted Emissions (Data List)

Test Mode: U-NII 2A & 802.11n(HT20) & 5320 MHz

Results of Conducted Emission

DTNC

Date : 2017-04-27

Order No.	:	DTNC1703-01704	:	
Power Supply	:	AC 120V 60Hz	:	
Temp/Humi	:	23 ℃ / 45 %	:	
Test Codition	:	802.11 n20 / 5320 MHz	:	

Memo :

LIMIT : CISPR class B QP
CISPR class B AV

NO	FREQ	READING		C.FACTOR	RESULT		LIMIT		MARGIN		PHASE
		QP	AV		QP	AV	QP	AV	QP	AV	
	[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	
1	0.15221	34.6	24.6	10.2	44.8	34.8	65.9	55.9	21.1	21.1	N
2	0.15533	35.1	27.3	10.2	45.3	37.5	65.7	55.7	20.4	18.2	N
3	0.18546	28.5	9.7	10.2	38.7	19.9	64.2	54.2	25.5	34.3	N
4	0.22449	19.5	7.8	10.2	29.7	18.0	62.7	52.7	33.0	34.7	N
5	0.25727	24.3	16.0	10.2	34.5	26.2	61.5	51.5	27.0	25.3	N
6	0.26386	24.5	17.3	10.2	34.7	27.5	61.3	51.3	26.6	23.8	N
7	0.30790	21.6	11.2	10.2	31.8	21.4	60.0	50.0	28.2	28.6	N
8	0.35814	21.0	12.1	10.2	31.2	22.3	58.8	48.8	27.6	26.5	N
9	0.66772	19.1	9.2	10.2	29.3	19.4	56.0	46.0	26.7	26.6	N
10	0.89716	16.8	8.1	10.2	27.0	18.3	56.0	46.0	29.0	27.7	N
11	9.02920	12.7	5.2	10.7	23.4	15.9	60.0	50.0	36.6	34.1	N
12	17.64520	8.3	1.6	11.3	19.6	12.9	60.0	50.0	40.4	37.1	N
13	0.15450	31.1	18.1	10.1	41.2	28.2	65.8	55.8	24.6	27.6	L1
14	0.15891	30.7	17.3	10.1	40.8	27.4	65.5	55.5	24.7	28.1	L1
15	0.18303	24.4	4.1	10.1	34.5	14.2	64.3	54.3	29.8	40.1	L1
16	0.18837	22.8	3.4	10.1	32.9	13.5	64.1	54.1	31.2	40.6	L1
17	0.21754	20.6	5.9	10.1	30.7	16.0	62.9	52.9	32.2	36.9	L1
18	0.31551	19.3	9.6	10.2	29.5	19.8	59.8	49.8	30.3	30.0	L1
19	0.32949	17.3	6.6	10.2	27.5	16.8	59.5	49.5	32.0	32.7	L1
20	0.50109	16.1	7.0	10.2	26.3	17.2	56.0	46.0	29.7	28.8	L1
21	0.66718	13.5	5.7	10.2	23.7	15.9	56.0	46.0	32.3	30.1	L1
22	0.89169	13.3	6.1	10.2	23.5	16.3	56.0	46.0	32.5	29.7	L1
23	5.19980	11.0	3.7	10.5	21.5	14.2	60.0	50.0	38.5	35.8	L1
24	9.33760	11.0	5.5	10.8	21.8	16.3	60.0	50.0	38.2	33.7	L1

AC Line Conducted Emissions (Graph)

Test Mode: U-NII 2C & 802.11n(HT20) & 5700 MHz

Results of Conducted Emission

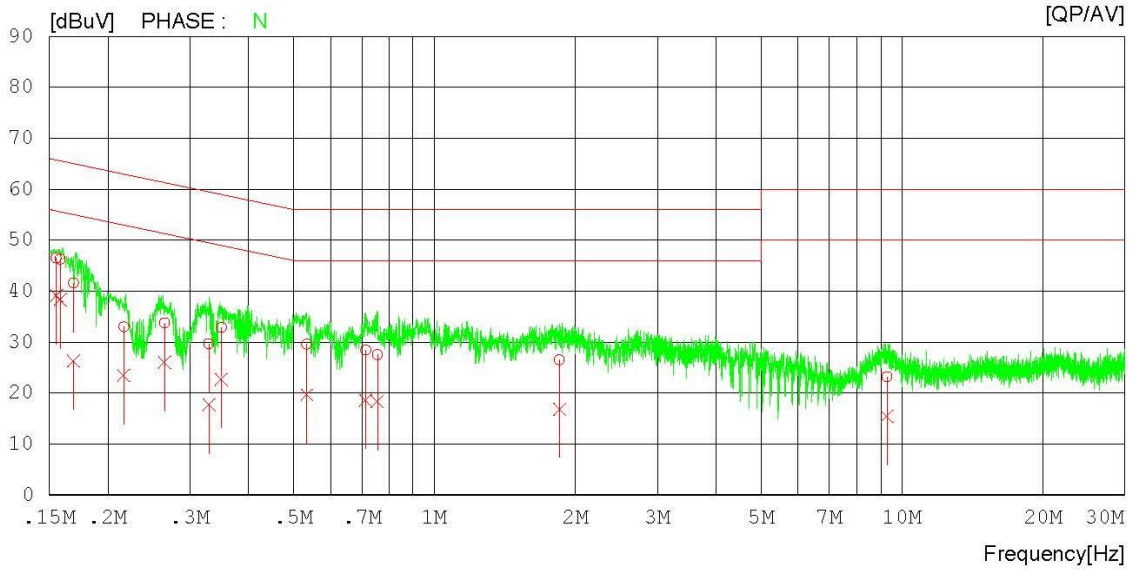
DTNC

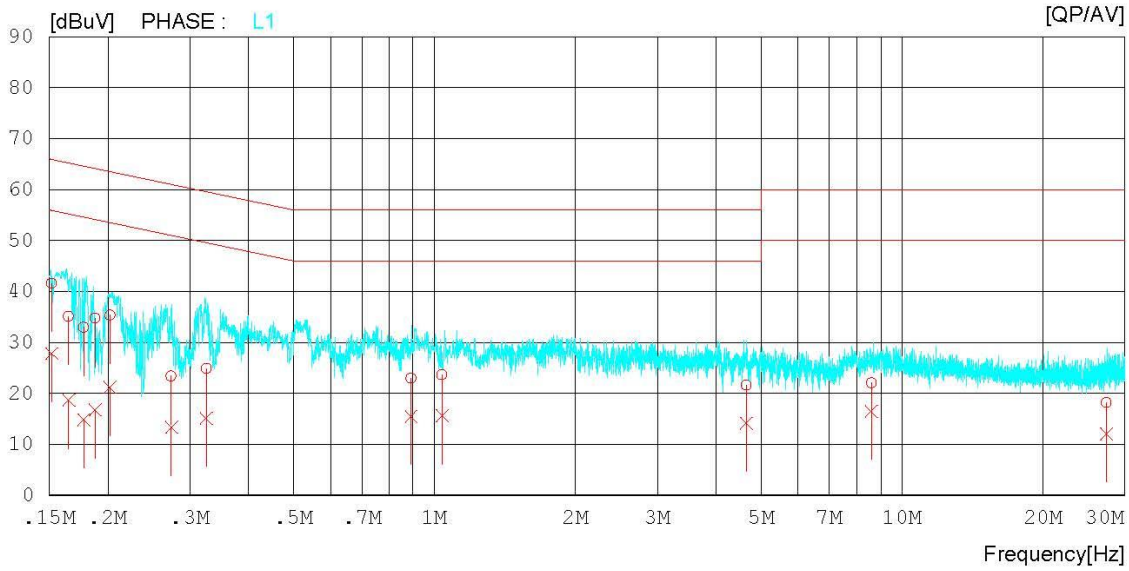
Date : 2017-04-27

Order No.	:	DTNC1703-01704	:	
Power Supply	:	AC 120V 60Hz	:	
Temp/Humi	:	23 ℃ / 45 %	:	
Test Codition	:	802.11 n20 / 5700 MHz	:	

Memo :

LIMIT : CISPR class B QP
CISPR class B AV





AC Line Conducted Emissions (Data List)

Test Mode: U-NII 2C & 802.11n(HT20) & 5700 MHz

Results of Conducted Emission

DTNC

Date : 2017-04-27

Order No.	:	DTNC1703-01704	:	
Power Supply	:	AC 120V 60Hz	:	
Temp/Humi	:	23 ℃ / 45 %	:	
Test Codition	:	802.11 n20 / 5700 MHz	:	

Memo :

LIMIT : CISPR class B QP
CISPR class B AV

NO	FREQ	READING		C.FACTOR	RESULT		LIMIT		MARGIN		PHASE
		QP	AV		QP	AV	QP	AV	QP	AV	
	[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	
1	0.15533	36.3	29.0	10.2	46.5	39.2	65.7	55.7	19.2	16.5	N
2	0.15825	36.0	28.1	10.2	46.2	38.3	65.6	55.6	19.4	17.3	N
3	0.16908	31.4	16.1	10.2	41.6	26.3	65.0	55.0	23.4	28.7	N
4	0.21655	22.7	13.3	10.2	32.9	23.5	63.0	53.0	30.1	29.5	N
5	0.26450	23.6	15.7	10.2	33.8	25.9	61.3	51.3	27.5	25.4	N
6	0.32930	19.5	7.5	10.2	29.7	17.7	59.5	49.5	29.8	31.8	N
7	0.34998	22.6	12.5	10.2	32.8	22.7	59.0	49.0	26.2	26.3	N
8	0.53299	19.4	9.5	10.2	29.6	19.7	56.0	46.0	26.4	26.3	N
9	0.71269	18.2	8.4	10.2	28.4	18.6	56.0	46.0	27.6	27.4	N
10	0.75475	17.3	8.1	10.2	27.5	18.3	56.0	46.0	28.5	27.7	N
11	1.85300	16.2	6.6	10.3	26.5	16.9	56.0	46.0	29.5	29.1	N
12	9.29200	12.5	4.7	10.7	23.2	15.4	60.0	50.0	36.8	34.6	N
13	0.15184	31.5	17.7	10.1	41.6	27.8	65.9	55.9	24.3	28.1	L1
14	0.16492	25.0	8.6	10.1	35.1	18.7	65.2	55.2	30.1	36.5	L1
15	0.17773	22.9	4.7	10.1	33.0	14.8	64.6	54.6	31.6	39.8	L1
16	0.18786	24.6	6.6	10.1	34.7	16.7	64.1	54.1	29.4	37.4	L1
17	0.20232	25.2	11.0	10.1	35.3	21.1	63.5	53.5	28.2	32.4	L1
18	0.27354	13.3	3.2	10.1	23.4	13.3	61.0	51.0	37.6	37.7	L1
19	0.32515	14.7	4.9	10.2	24.9	15.1	59.6	49.6	34.7	34.5	L1
20	0.89160	12.7	5.2	10.2	22.9	15.4	56.0	46.0	33.1	30.6	L1
21	1.03760	13.4	5.3	10.2	23.6	15.5	56.0	46.0	32.4	30.5	L1
22	4.64760	11.2	3.7	10.4	21.6	14.1	56.0	46.0	34.4	31.9	L1
23	8.60060	11.2	5.7	10.8	22.0	16.5	60.0	50.0	38.0	33.5	L1
24	27.40800	5.7	-0.4	12.4	18.1	12.0	60.0	50.0	41.9	38.0	L1

AC Line Conducted Emissions (Graph)

Test Mode: U-NII 3 & 802.11n(HT20) & 5825 MHz

Results of Conducted Emission

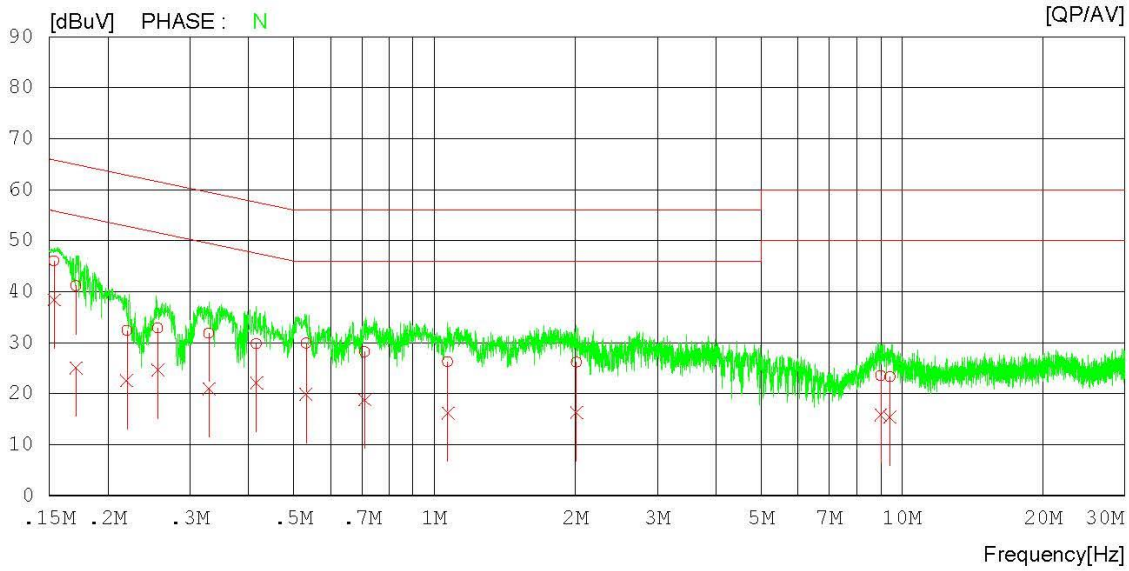
DTNC

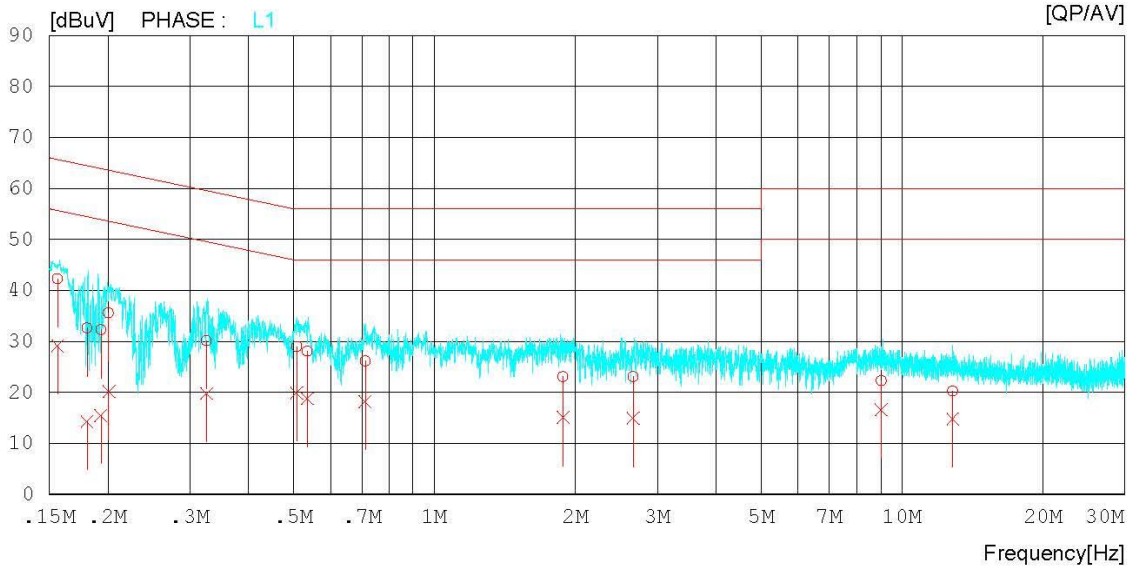
Date : 2017-04-27

Order No.	:	DTNC1703-01704	:
Power Supply	:	AC 120V 60Hz	:
Temp/Humi	:	23 ℃ / 45 %	:
Test Codition	:	802.11 n20 / 5825 MHz	:

Memo :

LIMIT : CISPR class B QP
CISPR class B AV





AC Line Conducted Emissions (Data List)

Test Mode: U-NII 3 & 802.11n(HT20) & 5825 MHz

Results of Conducted Emission

DTNC

Date : 2017-04-27

Order No.	:	DTNC1703-01704	:	
Power Supply	:	AC 120V 60Hz	:	
Temp/Humi	:	23 ℃ / 45 %	:	
Test Codition	:	802.11 n20 / 5825 MHz	:	

Memo :

LIMIT : CISPR class B QP
CISPR class B AV

NO	FREQ	READING		C.FACTOR	RESULT		LIMIT		MARGIN		PHASE
		QP	AV		QP	AV	QP	AV	QP	AV	
	[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	
1	0.15350	35.9	28.2	10.2	46.1	38.4	65.8	55.8	19.7	17.4	N
2	0.17131	30.9	14.8	10.2	41.1	25.0	64.9	54.9	23.8	29.9	N
3	0.21974	22.2	12.3	10.2	32.4	22.5	62.8	52.8	30.4	30.3	N
4	0.25598	22.6	14.4	10.2	32.8	24.6	61.6	51.6	28.8	27.0	N
5	0.32919	21.6	10.8	10.2	31.8	21.0	59.5	49.5	27.7	28.5	N
6	0.41598	19.5	11.9	10.2	29.7	22.1	57.5	47.5	27.8	25.4	N
7	0.53121	19.7	9.6	10.2	29.9	19.8	56.0	46.0	26.1	26.2	N
8	0.70978	18.0	8.6	10.2	28.2	18.8	56.0	46.0	27.8	27.2	N
9	1.06780	16.0	6.0	10.2	26.2	16.2	56.0	46.0	29.8	29.8	N
10	2.01440	15.8	6.0	10.3	26.1	16.3	56.0	46.0	29.9	29.7	N
11	9.01480	12.8	5.2	10.7	23.5	15.9	60.0	50.0	36.5	34.1	N
12	9.42660	12.6	4.7	10.7	23.3	15.4	60.0	50.0	36.7	34.6	N
13	0.15609	32.2	19.0	10.1	42.3	29.1	65.7	55.7	23.4	26.6	L1
14	0.18060	22.5	4.2	10.1	32.6	14.3	64.5	54.5	31.9	40.2	L1
15	0.19333	22.2	5.4	10.1	32.3	15.5	63.9	53.9	31.6	38.4	L1
16	0.20087	25.4	10.0	10.1	35.5	20.1	63.6	53.6	28.1	33.5	L1
17	0.32542	19.9	9.5	10.2	30.1	19.7	59.6	49.6	29.5	29.9	L1
18	0.50782	18.8	9.7	10.2	29.0	19.9	56.0	46.0	27.0	26.1	L1
19	0.53479	17.8	8.5	10.2	28.0	18.7	56.0	46.0	28.0	27.3	L1
20	0.71044	15.9	7.9	10.2	26.1	18.1	56.0	46.0	29.9	27.9	L1
21	1.88560	12.8	4.7	10.3	23.1	15.0	56.0	46.0	32.9	31.0	L1
22	2.66040	12.7	4.6	10.3	23.0	14.9	56.0	46.0	33.0	31.1	L1
23	9.02700	11.4	5.8	10.8	22.2	16.6	60.0	50.0	37.8	33.4	L1
24	12.83880	9.1	3.7	11.1	20.2	14.8	60.0	50.0	39.8	35.2	L1

7.8 Occupied Bandwidth

▣ **Test Requirements, RSS-Gen[6.6]**

When the occupied bandwidth limit is not stated in the applicable RSS or reference measurement method, the transmitted signal bandwidth shall be reported as the 99% emission bandwidth, as calculated or measured.

▣ **Test Configuration**

Refer to the APPENDIX I.

▣ **Test Procedure**

- The transmitter shall be operated at its maximum carrier power measured under normal test conditions.
- The span of the analyzer shall be set to capture all products of the modulation process, including the emission skirts.
- The resolution bandwidth (RBW) shall be in the range of 1% to 5% of the occupied bandwidth (OBW) and video bandwidth (VBW) shall be approximately 3x RBW.

▣ **Test Result : Comply**

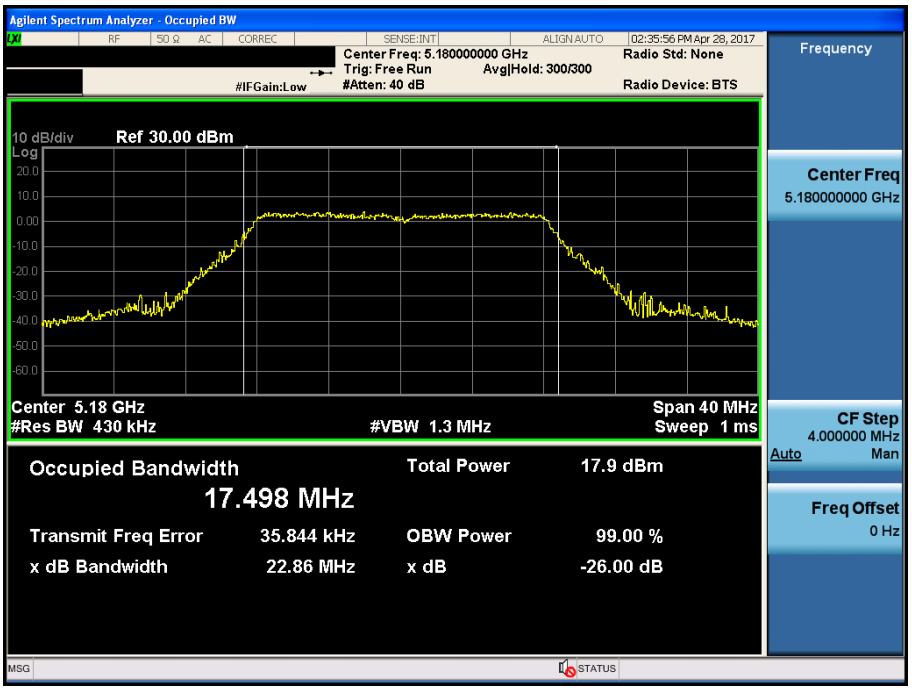
Multiple transmit

Mode	Bands	Channel	Frequency [MHz]	Test Result [MHz]
802.11a	U-NII 1	36	5180	17.498
		40	5200	17.382
		48	5240	17.475
	U-NII 2A	52	5260	17.455
		60	5300	17.475
		64	5320	17.473
	U-NII 2C	100	5500	17.506
		116	5580	17.400
		140	5700	17.432
	U-NII 3	149	5745	17.568
		157	5785	17.360
		165	5825	17.486
802.11n HT20	U-NII 1	36	5180	18.336
		40	5200	18.347
		48	5240	18.421
	U-NII 2A	52	5260	18.313
		60	5300	18.333
		64	5320	18.427
	U-NII 2C	100	5500	18.446
		116	5580	18.379
		140	5700	18.433
	U-NII 3	149	5745	18.356
		157	5785	18.363
		165	5825	18.301
802.11n HT40	U-NII 1	38	5190	36.599
		46	5230	36.613
	U-NII 2A	54	5270	36.619
		62	5310	36.516
	U-NII 2C	102	5510	36.588
		110	5550	36.612
		134	5670	36.492
	U-NII 3	151	5755	36.505
		159	5795	36.472

▣ RESULT PLOTS

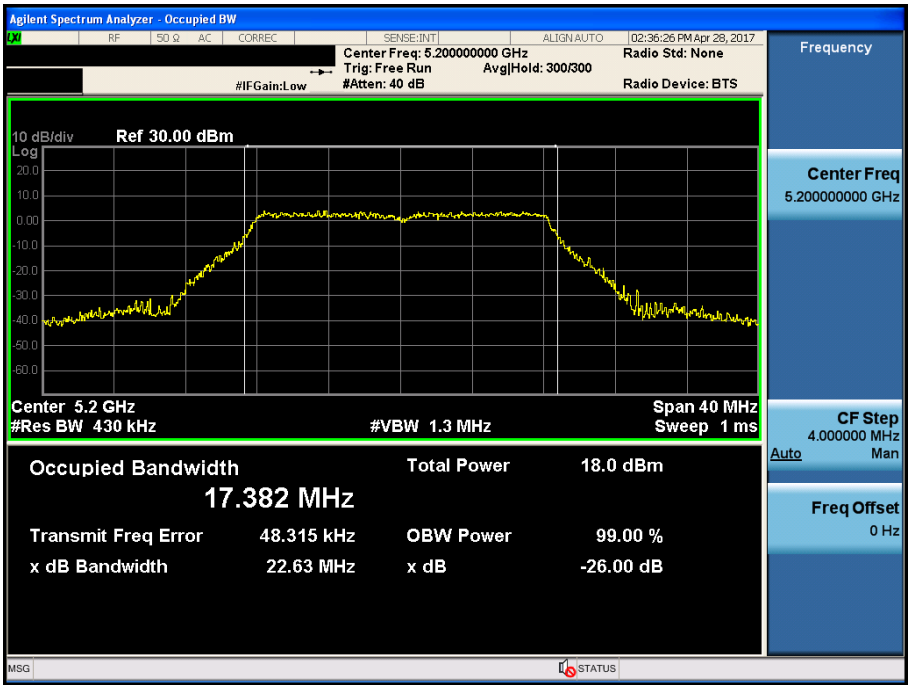
Occupied Bandwidth 99%

Test Mode: 802.11a & Ch.36

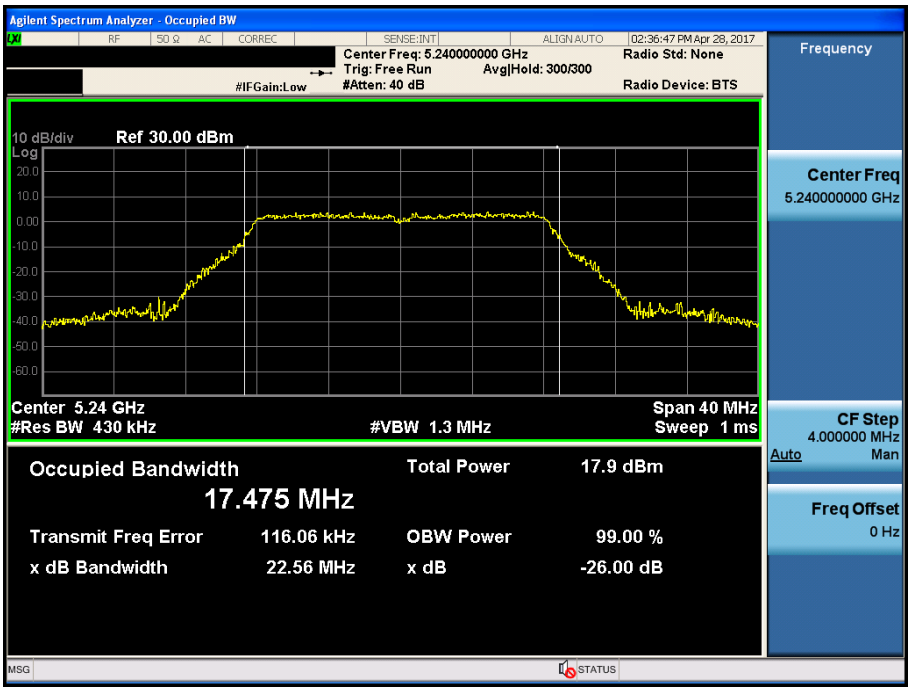


Occupied Bandwidth 99%

Test Mode: 802.11a & Ch.40



Occupied Bandwidth 99% Test Mode: 802.11a & Ch.48



Occupied Bandwidth 99% Test Mode: 802.11a & Ch.52

Occupied Bandwidth 99% Test Mode: 802.11a & Ch.60

Occupied Bandwidth 99% Test Mode: 802.11a & Ch.64

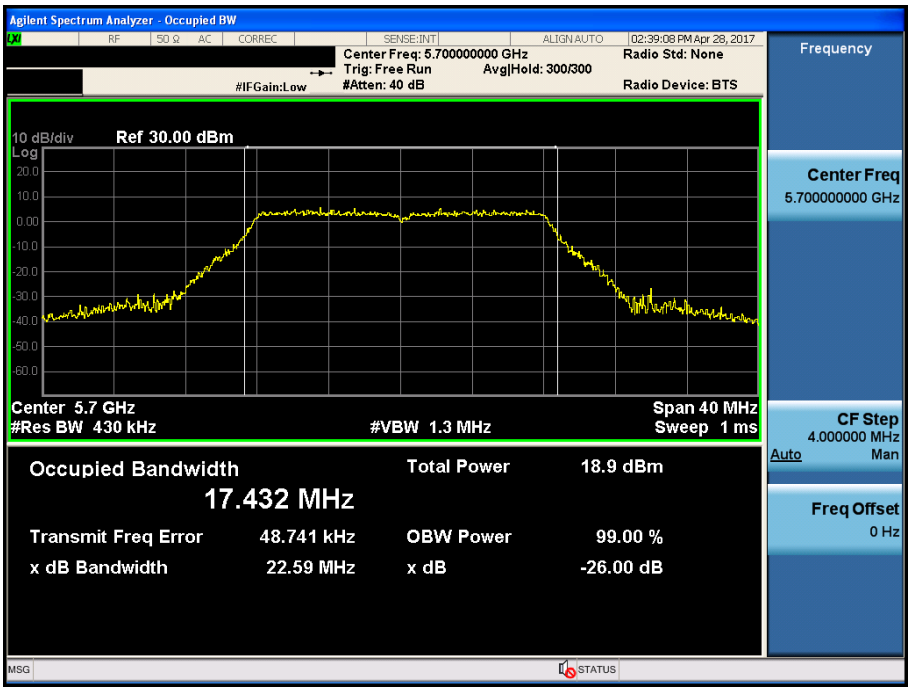
Occupied Bandwidth 99%

Test Mode: 802.11a & Ch.100

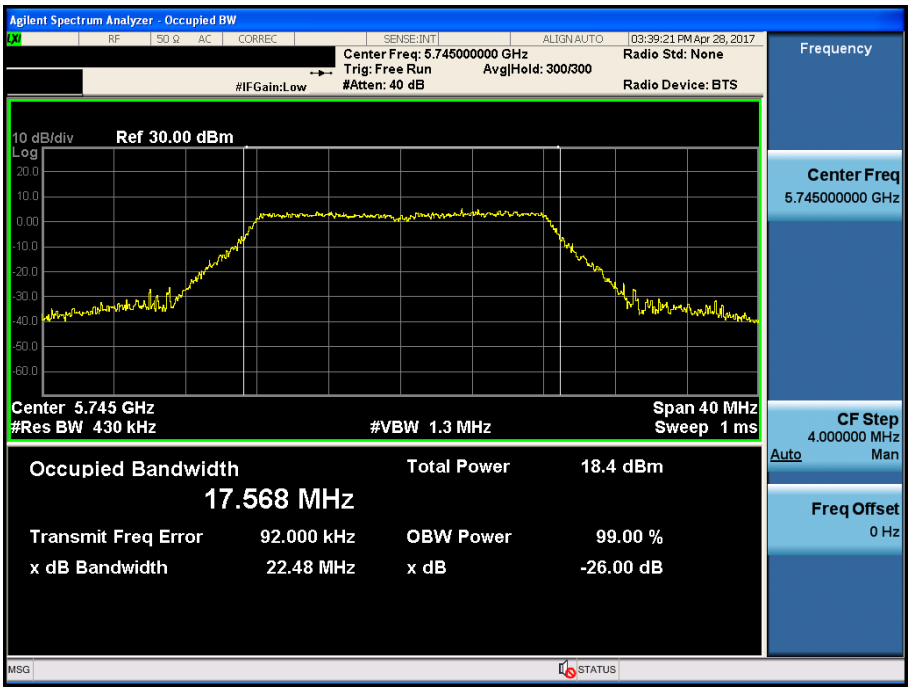
Occupied Bandwidth 99%

Test Mode: 802.11a & Ch.116

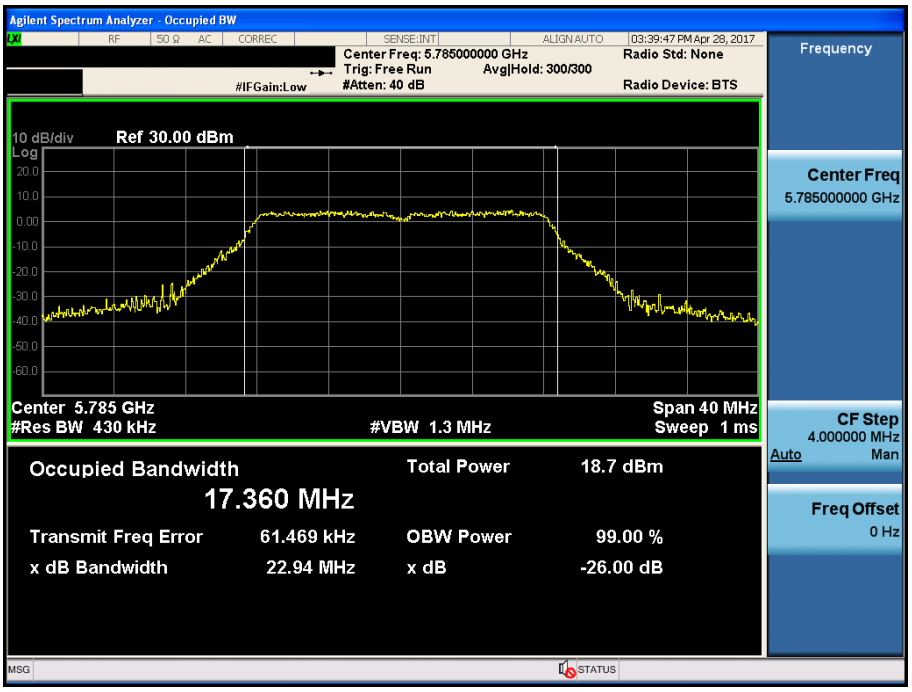
Occupied Bandwidth 99% Test Mode: 802.11a & Ch.140



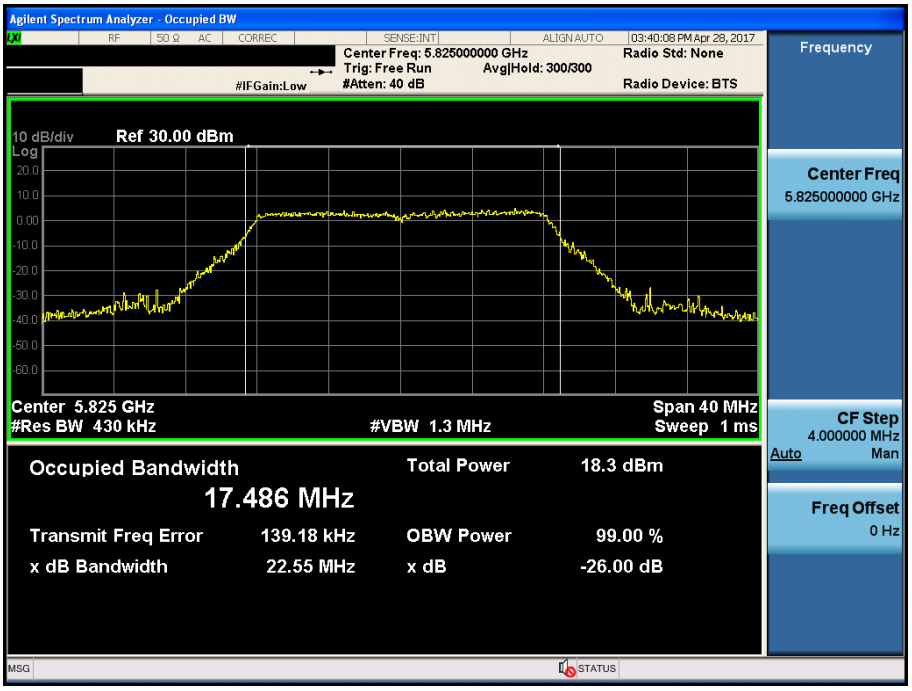
Occupied Bandwidth 99% Test Mode: 802.11a & Ch.149



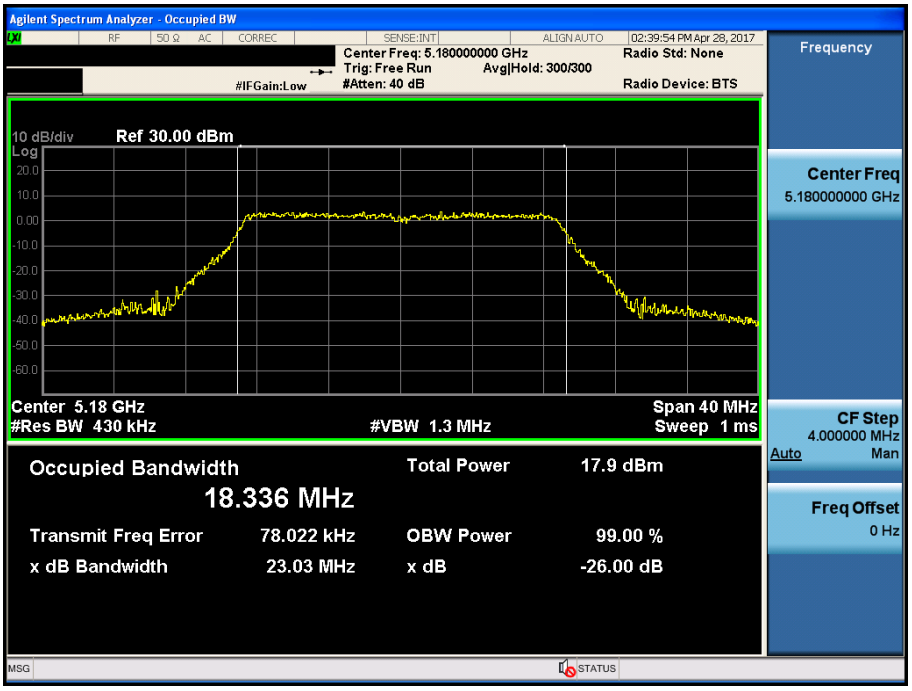
Occupied Bandwidth 99% Test Mode: 802.11a & Ch.157



Occupied Bandwidth 99% Test Mode: 802.11a & Ch.165



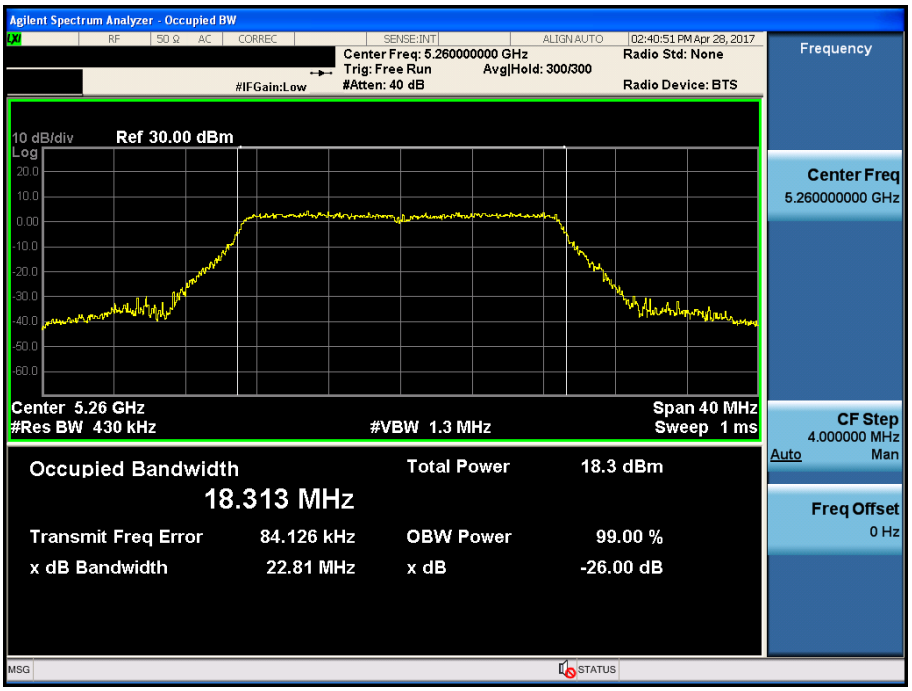
Occupied Bandwidth 99% Test Mode: 802.11n(HT20) & Ch.36



Occupied Bandwidth 99% Test Mode: 802.11n(HT20) & Ch.40

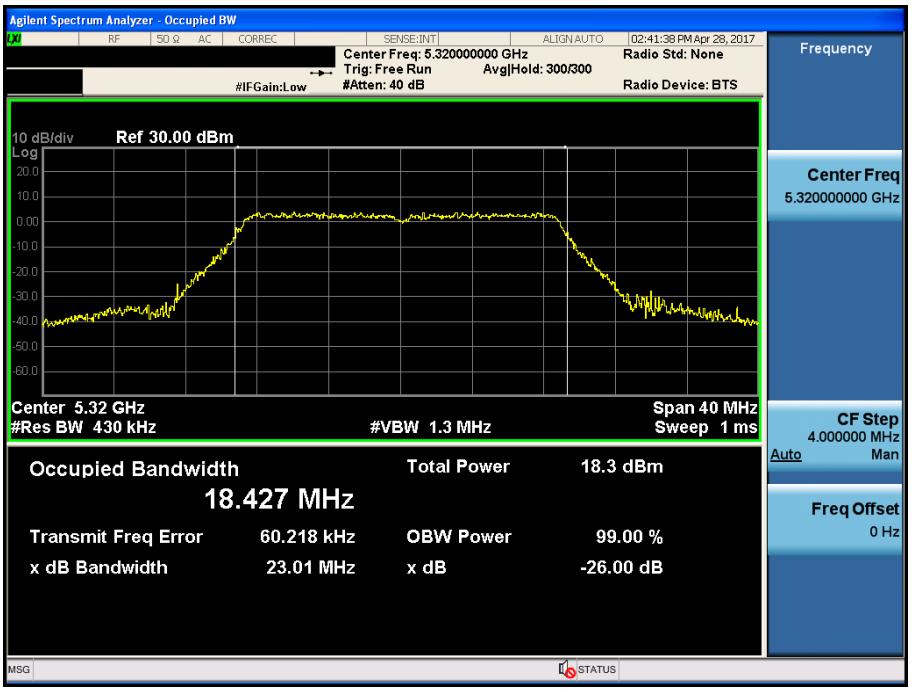
Occupied Bandwidth 99% Test Mode: 802.11n(HT20) & Ch.48

Occupied Bandwidth 99% Test Mode: 802.11n(HT20) & Ch.52

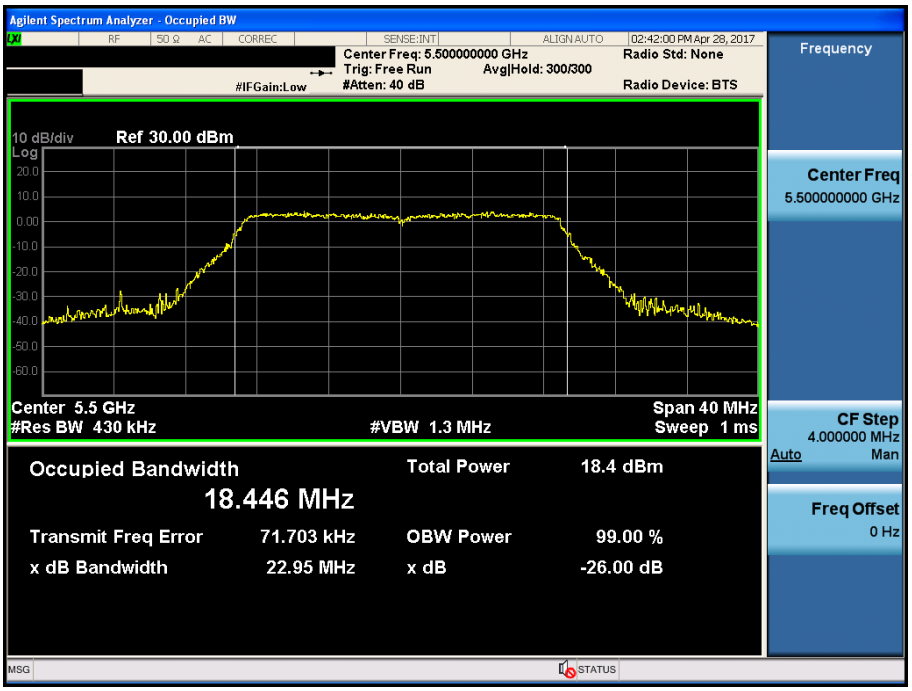


Occupied Bandwidth 99% Test Mode: 802.11n HT20 & Ch.60

Occupied Bandwidth 99% Test Mode: 802.11n(HT20) & Ch.64

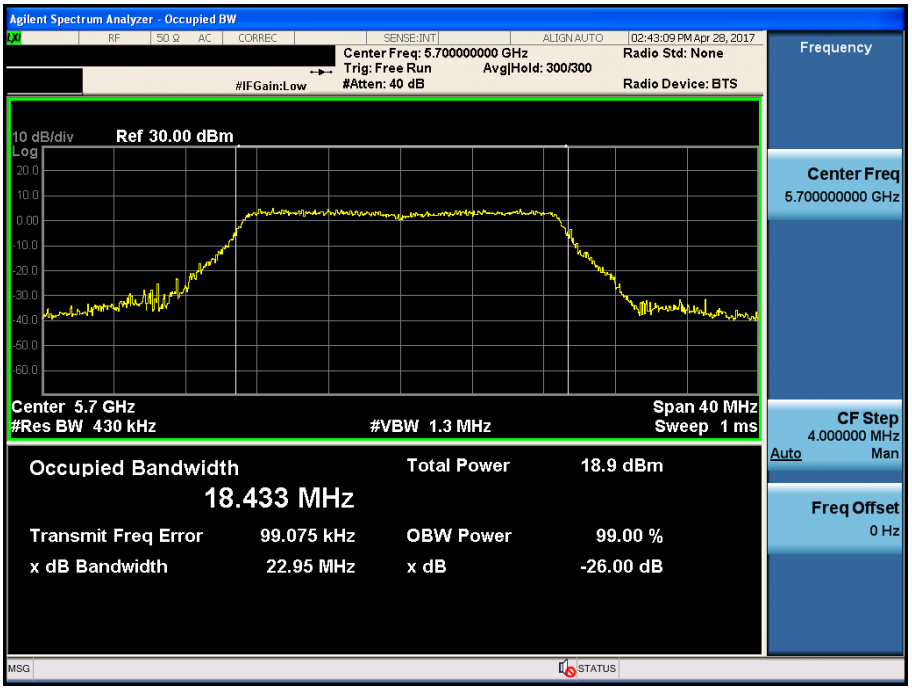


Occupied Bandwidth 99% Test Mode: 802.11n(HT20) & Ch.100

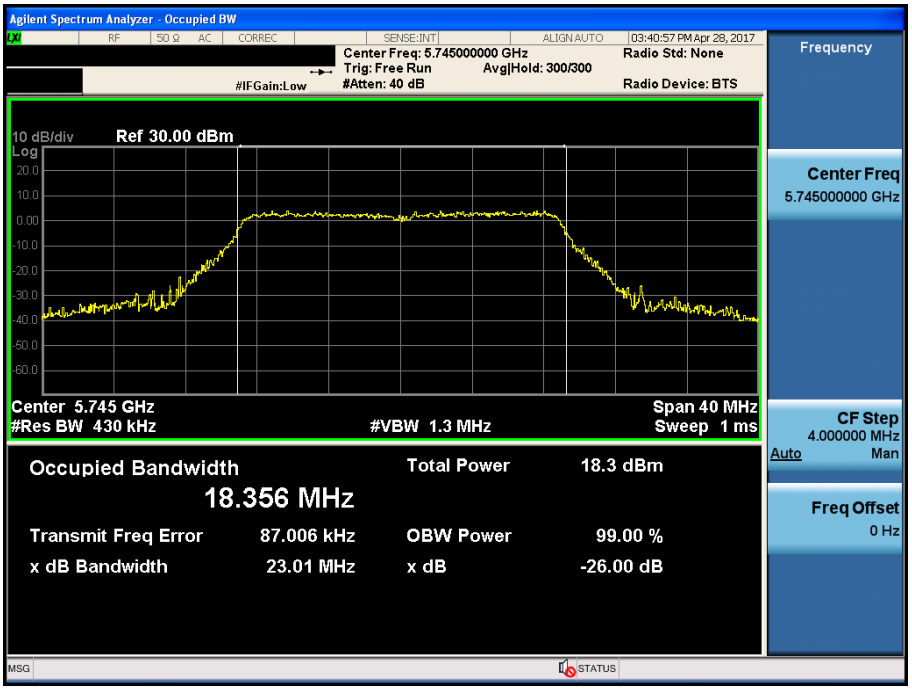


Occupied Bandwidth 99% Test Mode: 802.11n(HT20) & Ch.116

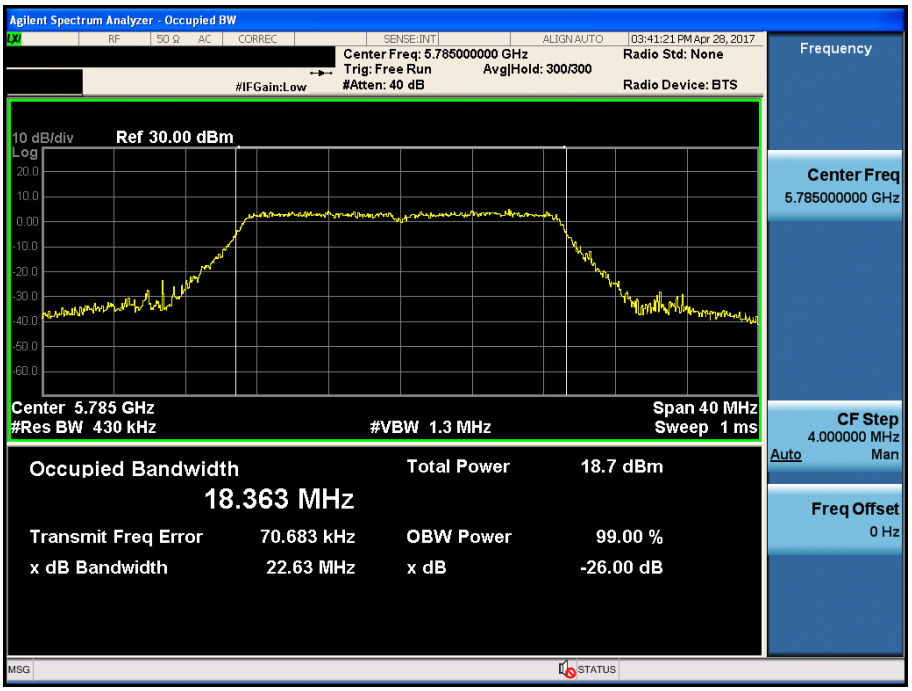
Occupied Bandwidth 99% Test Mode: 802.11n(HT20) & Ch.140



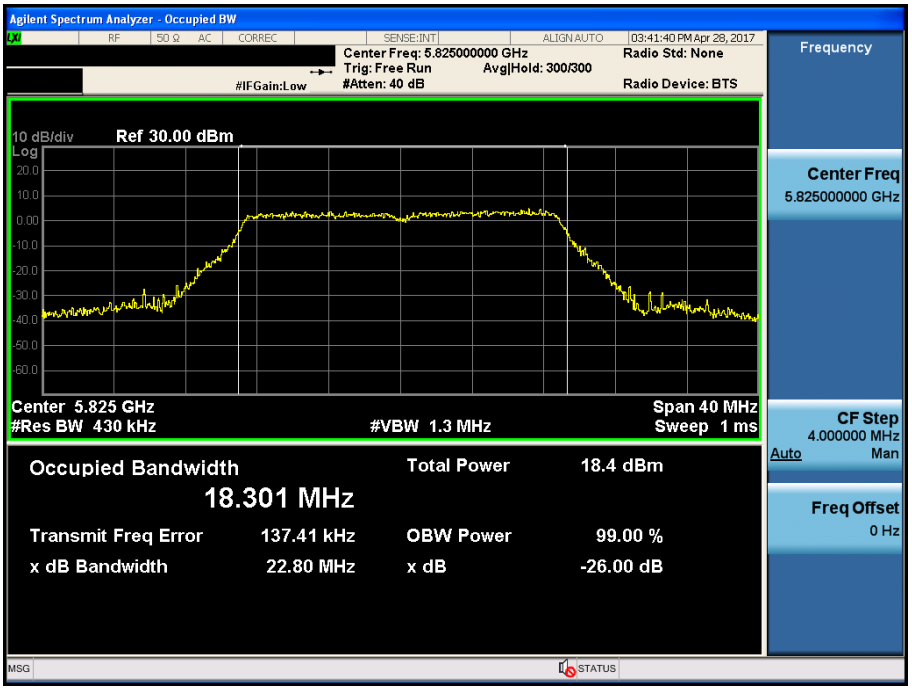
Occupied Bandwidth 99% Test Mode: 802.11n(HT20) & Ch.149



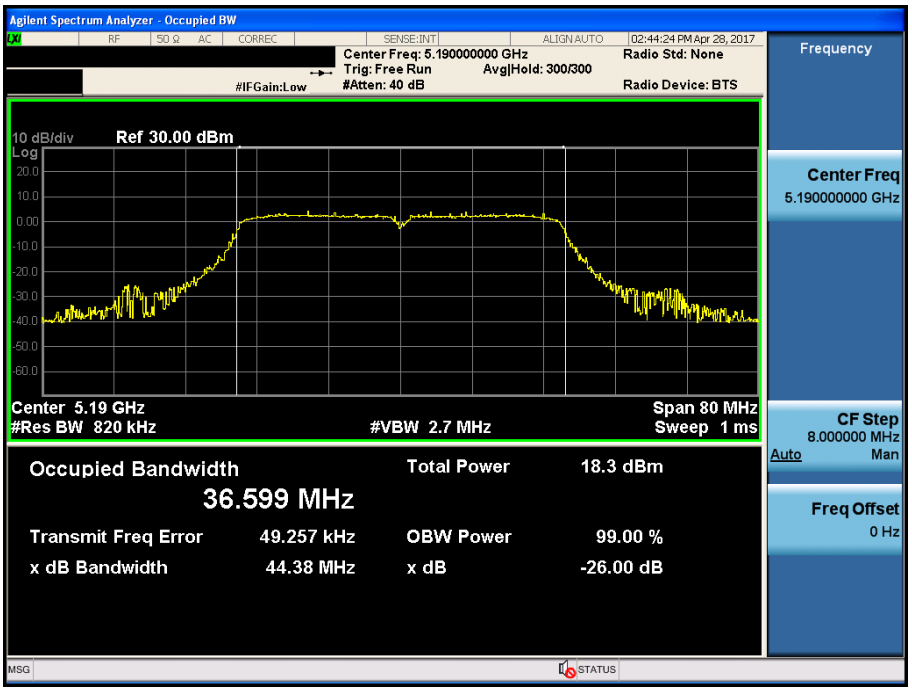
Occupied Bandwidth 99% Test Mode: 802.11n(HT20) & Ch.157



Occupied Bandwidth 99% Test Mode: 802.11n(HT20) & Ch.165



Occupied Bandwidth 99% Test Mode: 802.11n(HT40) & Ch.38



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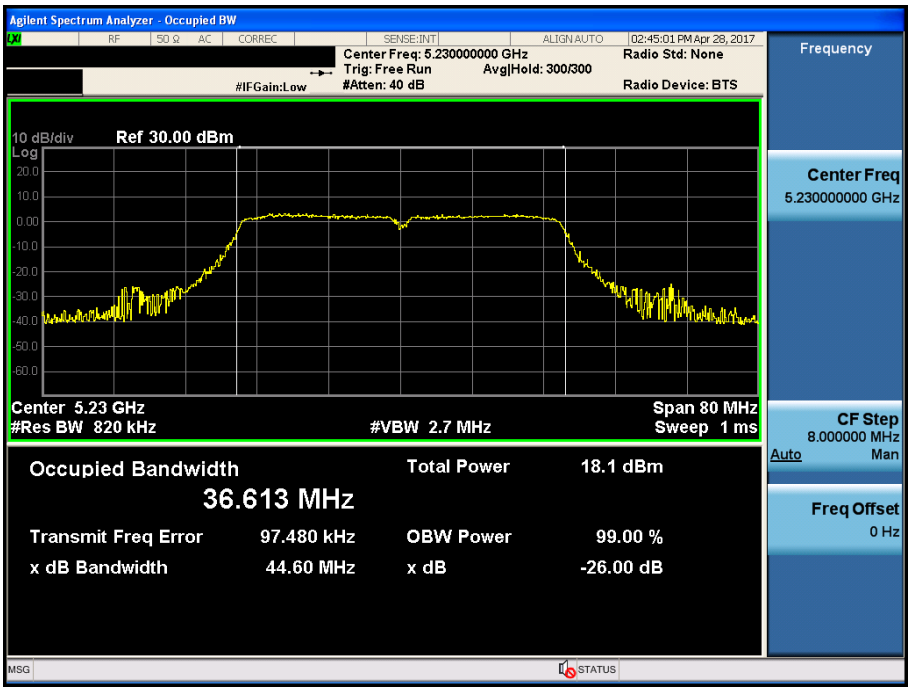

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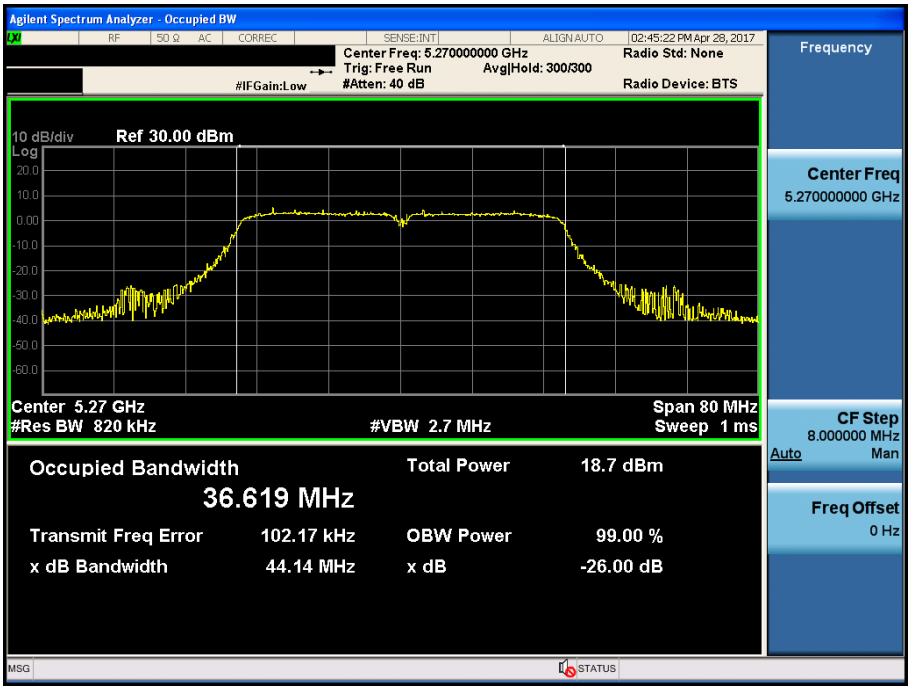
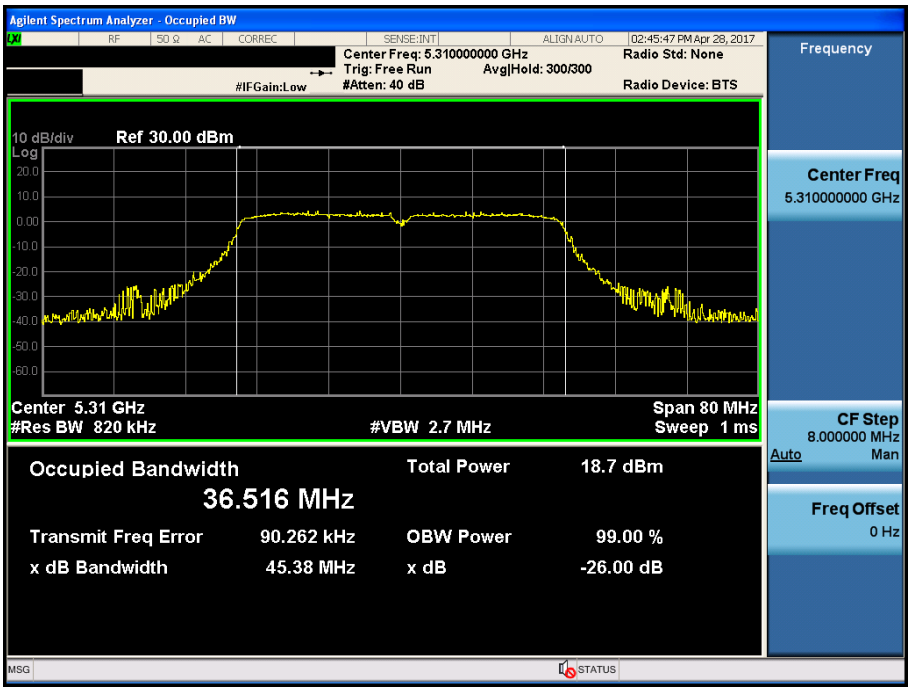
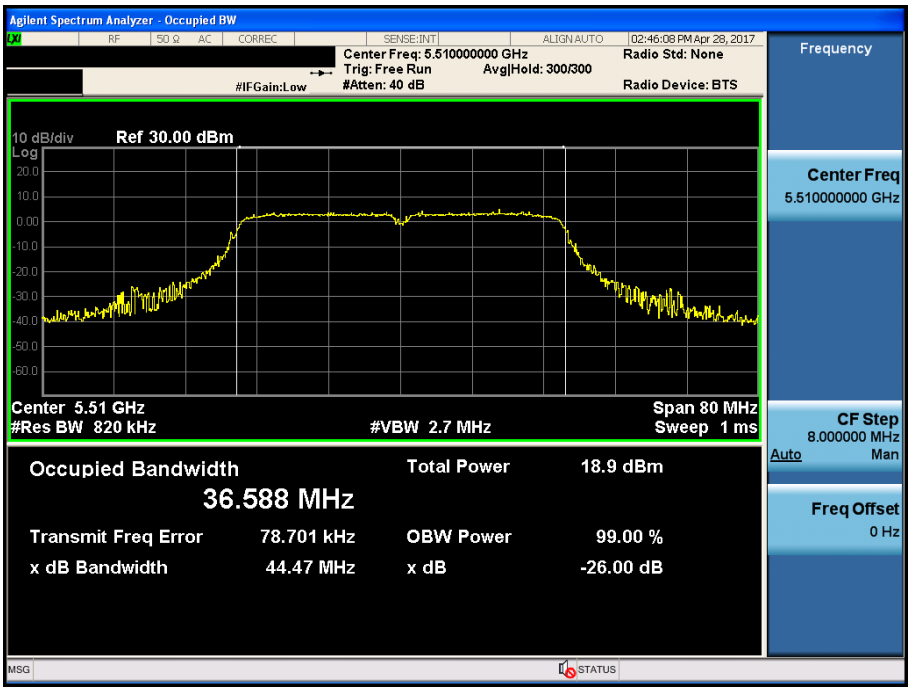


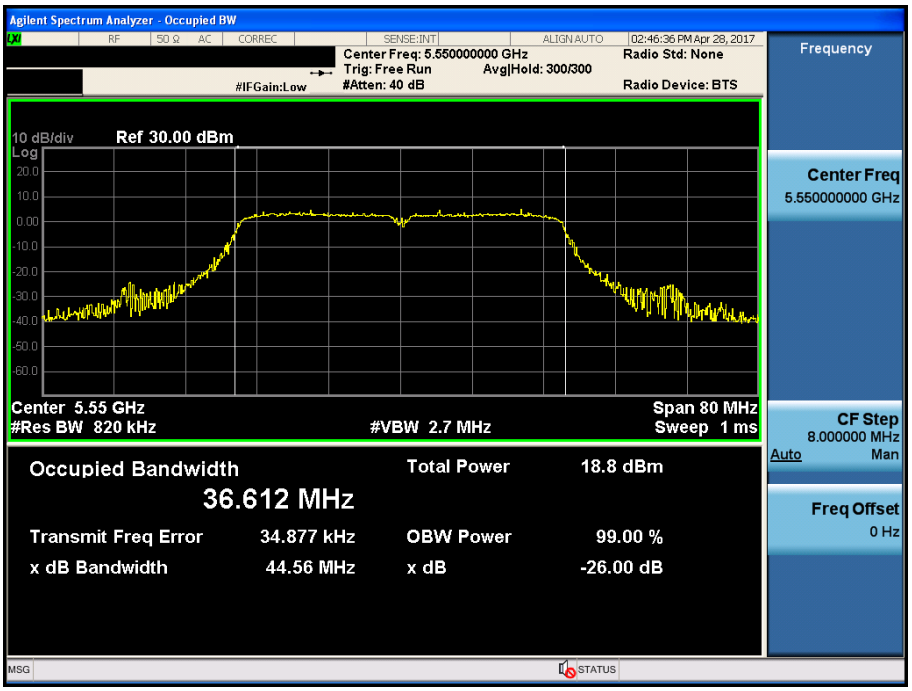
Occupied Bandwidth 99% Test Mode: 802.11n(HT40) & Ch.62



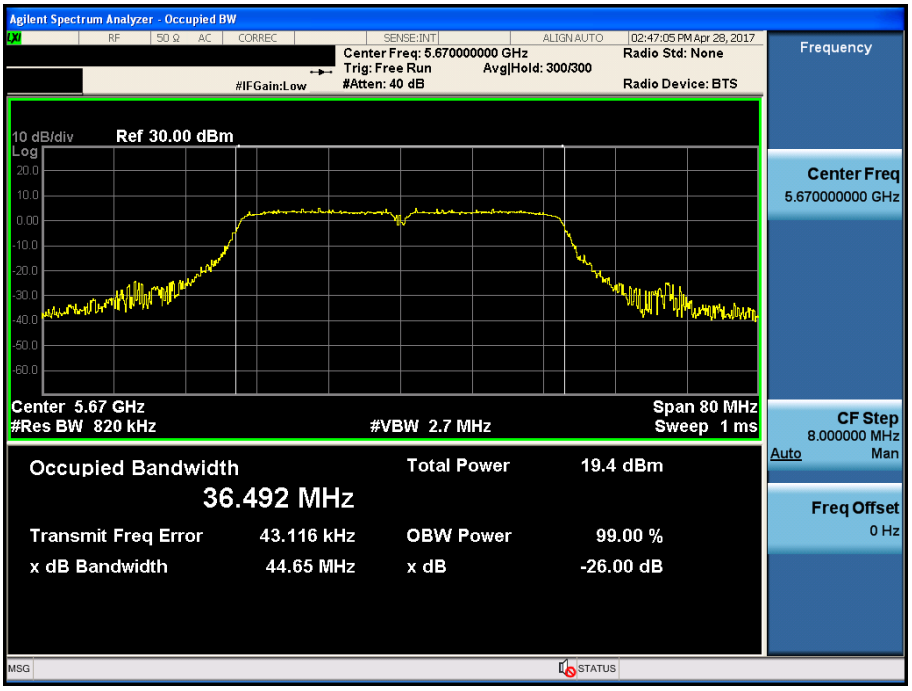
Occupied Bandwidth 99% Test Mode: 802.11n(HT40) & Ch.102



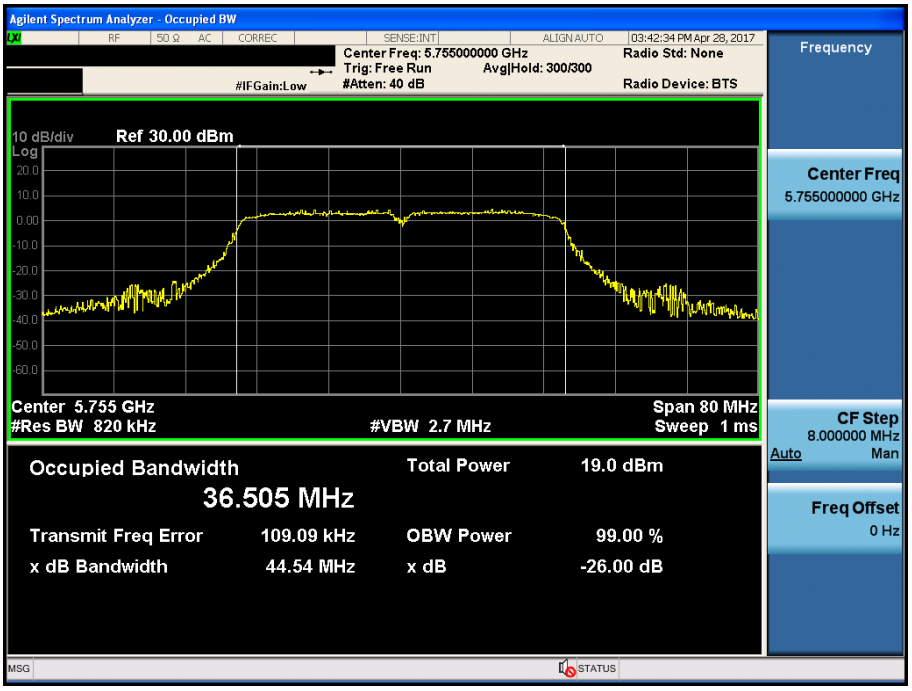
Occupied Bandwidth 99% Test Mode: 802.11n(HT40) & Ch.110



Occupied Bandwidth 99% Test Mode: 802.11n(HT40) & Ch.134



Occupied Bandwidth 99% Test Mode: 802.11n(HT40) & Ch.151



Occupied Bandwidth 99% Test Mode: 802.11n(HT40) & Ch.159

8. LIST OF TEST EQUIPMENT

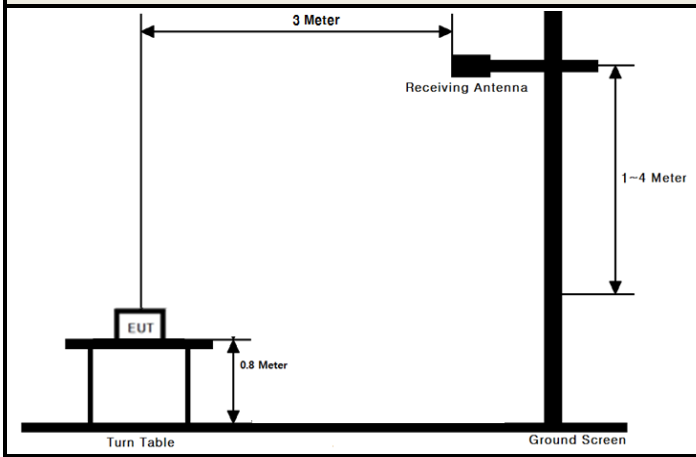
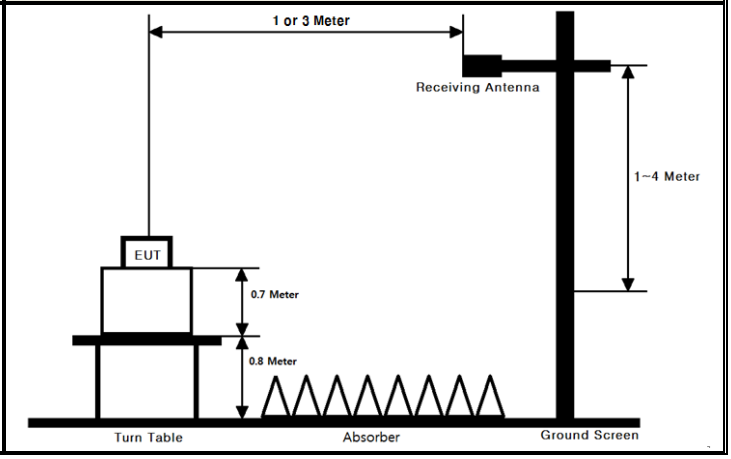
Type	Manufacturer	Model	Cal.Date (yy/mm/dd)	Next.Cal.Date (yy/mm/dd)	S/N
Spectrum Analyzer	Agilent Technologies	N9020A	16/08/18 17/07/12	17/08/18 18/07/12	MY46471601
Spectrum Analyzer	Agilent Technologies	N9020A	16/10/11	17/10/11	MY46471251
Spectrum Analyzer	Agilent Technologies	N9030A	16/10/18	17/10/18	MY53310140
Multimeter	FLUKE	17B	17/04/12	18/04/12	26030065WS
DC Power Supply	Agilent Technologies	66332A	17/01/11	18/01/11	US37473831
Signal Generator	Rohde Schwarz	SMBV100A	17/01/04	18/01/04	255571
Signal Generator	Rohde Schwarz	SMF100A	16/06/23 17/04/21	17/06/23 18/04/21	102341
Thermohygrometer	HCT	HCT-1	16/09/09	17/09/09	NONE
Loop Antenna	Schwarzbeck	FMZB1513	16/04/22	18/04/22	1513-128
Bilog Antenna	Schwarzbeck	VULB 9160	16/05/13	18/05/13	3358
Horn Antenna	ETS-LINDGREN	3117	16/05/03	18/05/03	00140394
Horn Antenna	A.H.Systems Inc.	SAS-574	15/09/03	17/09/03	155
PreAmplifier	Agilent	8449B	17/01/11	18/01/11	3008A00370
PreAmplifier	TSJ	MLA-010K01-B01-27	17/03/06	18/03/06	1844539
PreAmplifier	A.H.Systems Inc.	PAM-1840VH	16/12/04	17/12/04	163
EMI Test Receiver	Rohde Schwarz	ESR7	17/02/16	18/02/16	101061
EMI TEST RECEIVER	R&S	ESCI	17/02/26	18/02/16	100364
Highpass Filter	Wainwright Instruments	WHNX6-6320-8000-26500-40CC	16/09/13	17/09/13	1
Temp & Humi Test Chamber	SJ Science	TEMI850-10	17/01/25	18/01/25	SJ-TH-S50-120203
Power Meter & Wide Bandwidth Sensor	Anritsu	ML2495A MA2490A	16/10/19	17/10/19	1338003 1249304
50W 10dB ATT	SMAJK	SMAJK-50-10	16/10/18	17/10/18	2-50-10
PULSE LIMITER	Rohde Schwarz	ESH3-Z2	17/01/03	18/01/03	101334
SINGLE-PHASE MASTER	NF	4420	16/09/08	17/09/08	3049354420023
Artificial Mains Network	Narda S.T.S. / PMM	PMM L2-16B	17/06/07	18/06/07	000WX20305

Note: The measurement antennas were calibrated in accordance to the requirements of ANSI C63.5-2006.

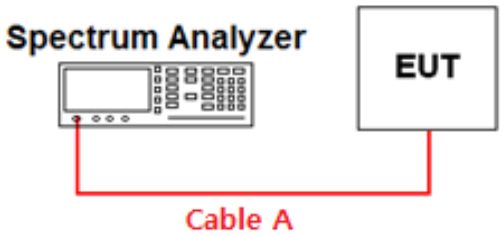
APPENDIX I

Test set up diagrams

- **Radiated Measurement**

Below 1GHz	Above 1GHz
	

- **Conducted Measurement**



APPENDIX II

Duty Cycle Information

▣ Test Procedure

Duty Cycle [X = On Time / (On + Off time)] is measured using Measurement Procedure **of KDB789033 D02 V01**

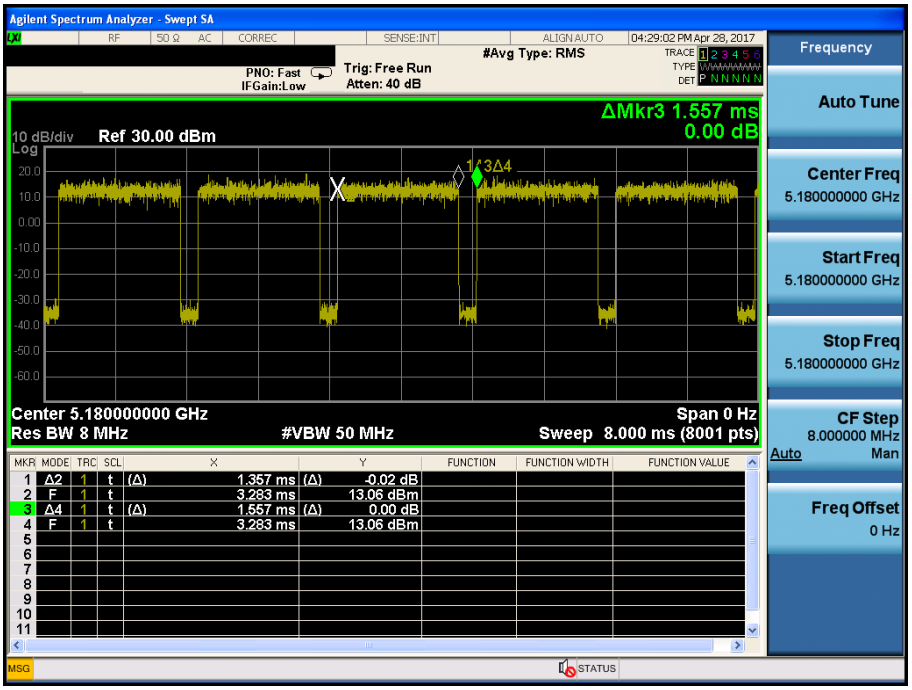
1. Set the center frequency of the spectrum analyzer to the center frequency of the transmission.
2. Set RBW ≥ EBW if possible; otherwise, set RBW to the largest available value.
3. Set VBW ≥ RBW. Set detector = peak.
4. Note : The zero-span measurement method shall not be used unless both **RBW and VBW are> 50/*T***, where *T* is defined in section II.B.1.a), and **the number of sweep points across duration *T* exceeds 100**. (For example, if VBW and/or RBW are limited to 3 MHz, then the zero-span method of measuring duty cycle shall not be used if *T* ≤ 16.7 microseconds.)

   T : The minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.
   (***T* = On time** of the above table since the EUT operates with above fixed Duty Cycle and it is the minimum On time)

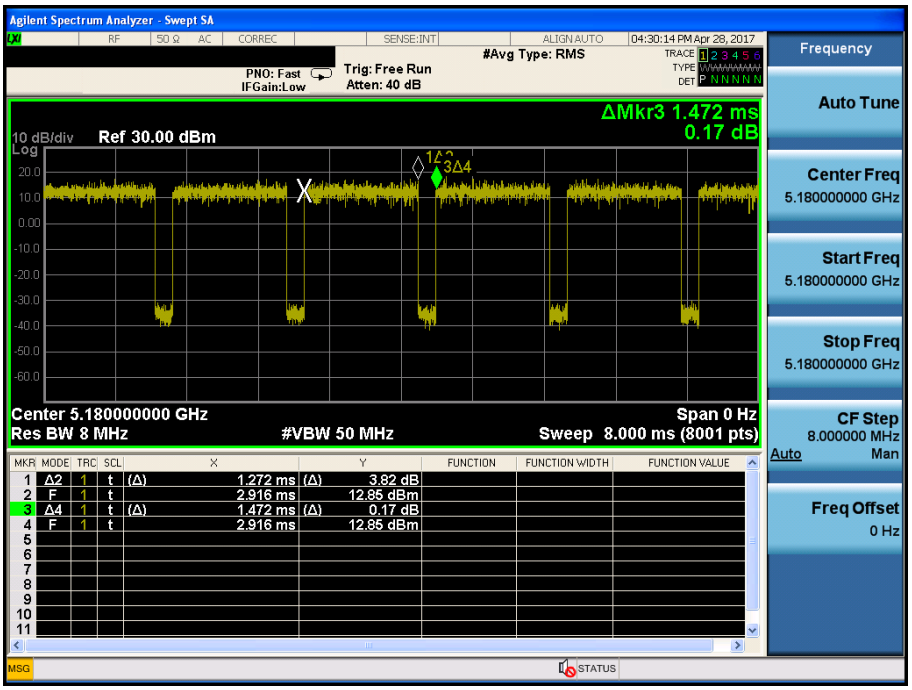
▣ Test Results:

Mode	Channel	Tested Frequency [MHz]	Maximum Achievable Duty Cycle (*x*) = On / (On+Off)			Duty Cycle Correction Factor [dB]	1/T [Hz]
			On Time [ms]	On+OffTime [ms]	*x*		
802.11a	36	5180	1.357	1.557	0.87	0.61	736.92
802.11n (HT20)	36	5180	1.272	1.472	0.86	0.66	786.17
802.11n (HT40)	38	5190	0.631	0.831	0.75	1.25	1584.79

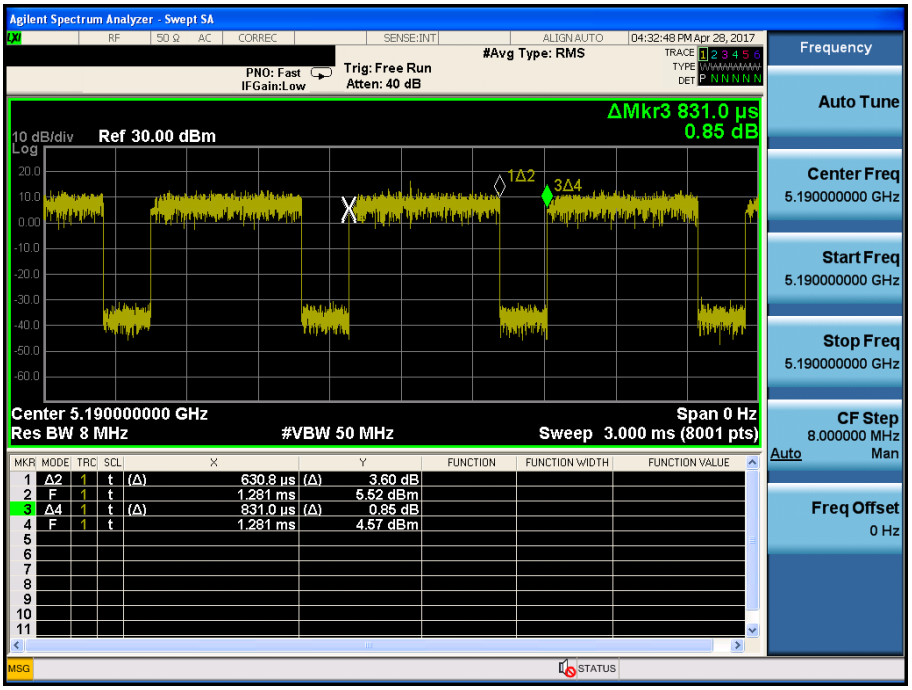
Duty Cycle Test Mode: 802.11a & Ch.36



Duty Cycle Test Mode: 802.11n(HT20) & Ch.36



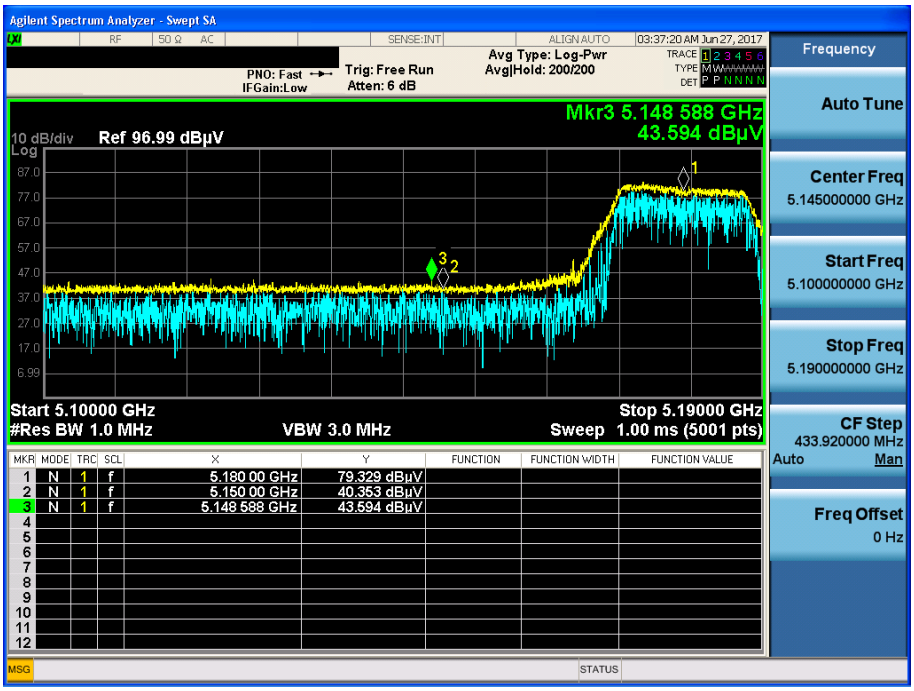
Duty Cycle Test Mode: 802.11n(HT40) & Ch.38



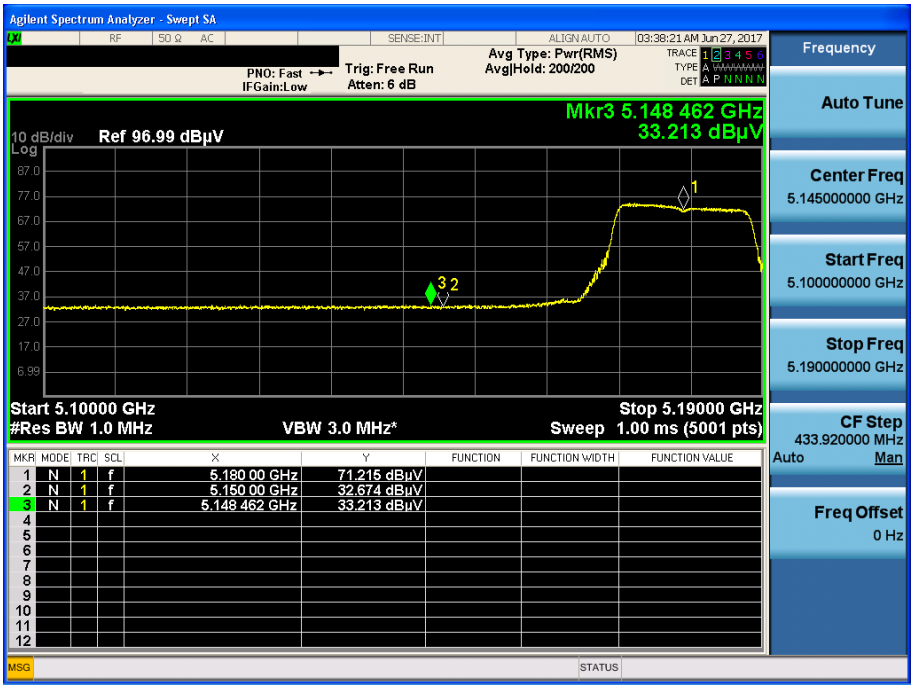
APPENDIX III

Unwanted Emissions (Radiated) Test Plot

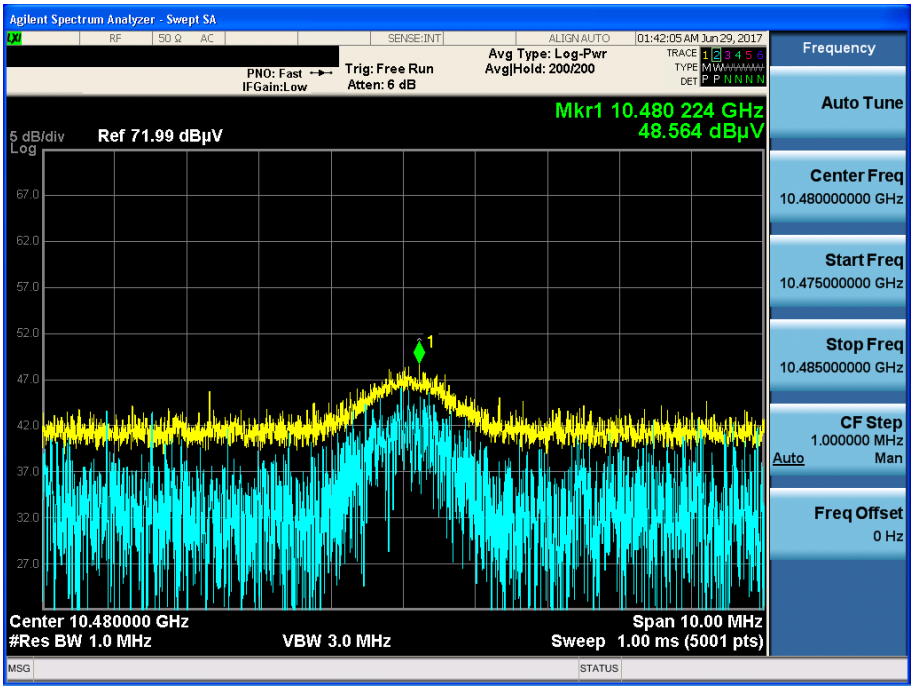
802.11a & U-NII 1 & Ch.36 & X axis & Hor **Detector Mode : PK**



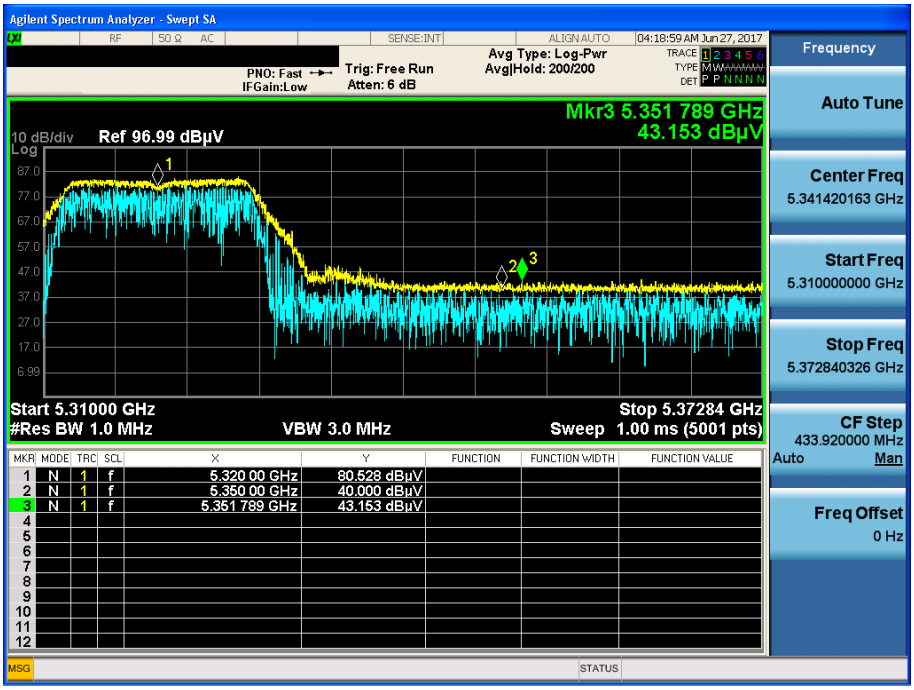
802.11a & U-NII 1 & Ch.36 & X axis & Hor **Detector Mode : AV**



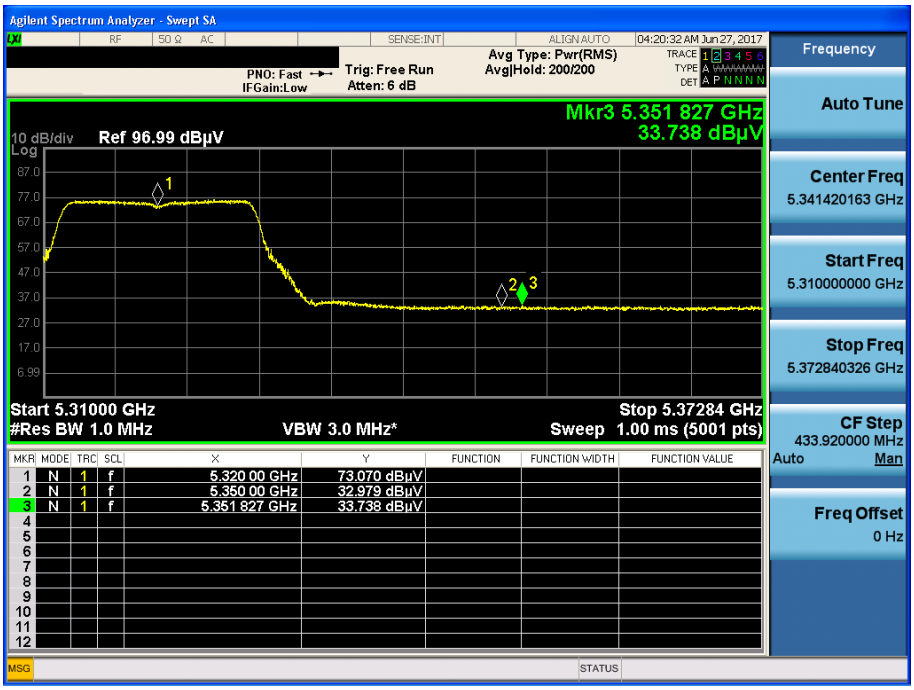
802.11a & U-NII 1 & Ch.48 & Z axis & Ver **Detector Mode : PK**



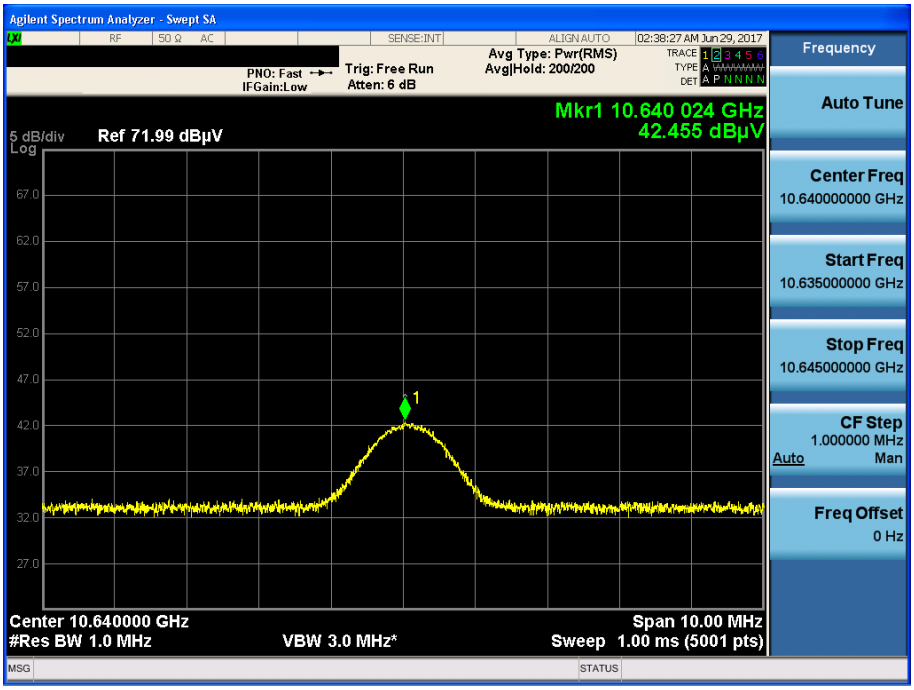
802.11a & U-NII 2A & Ch.64 & X axis & Ver **Detector Mode : PK**



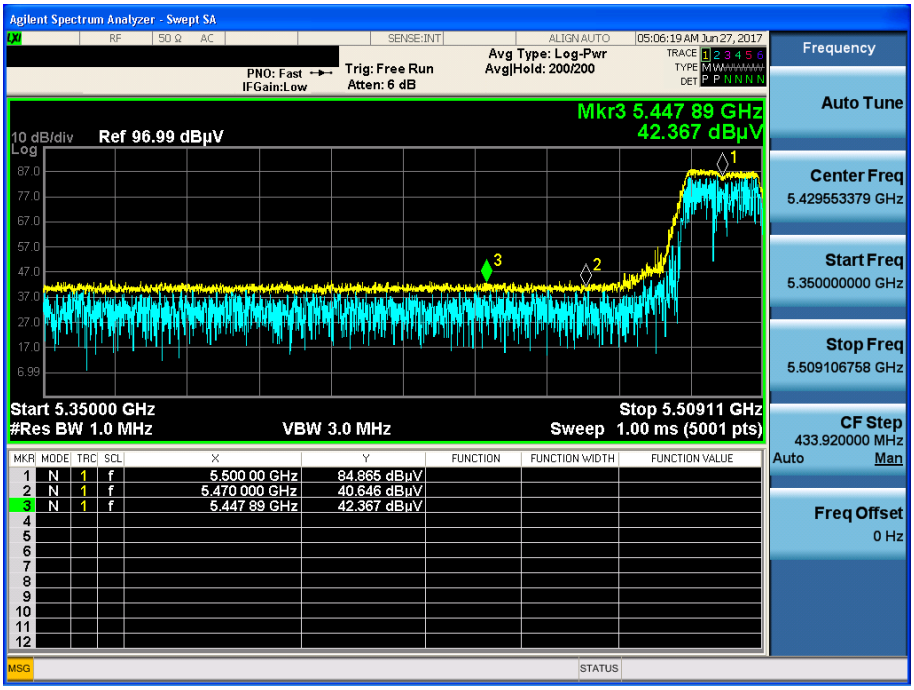
802.11a & U-NII 2A & Ch.64 & X axis & Ver **Detector Mode : AV**



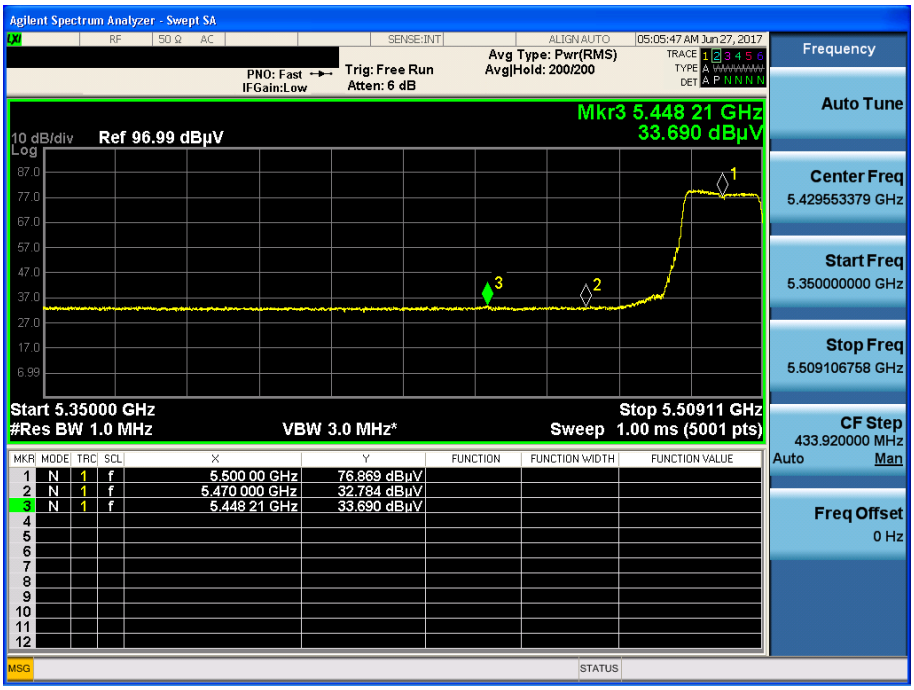
802.11a & U-NII 2A & Ch.64 & Z axis & Ver **Detector Mode : AV**



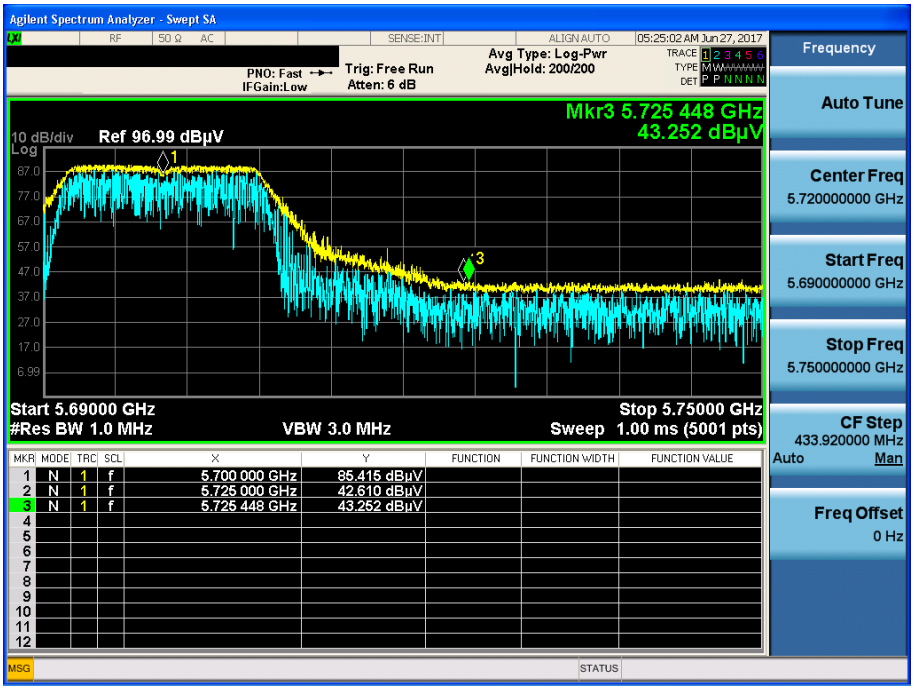
802.11a & U-NII 2C & Ch.100 & X axis & Ver **Detector Mode : PK**



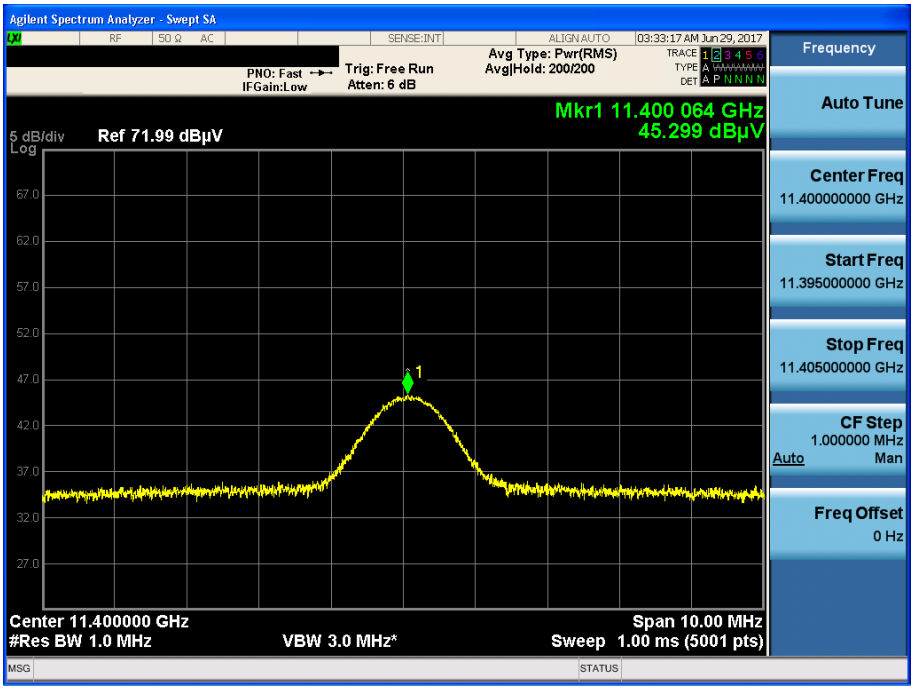
802.11a & U-NII 2C & Ch.100 & X axis & Ver **Detector Mode : AV**



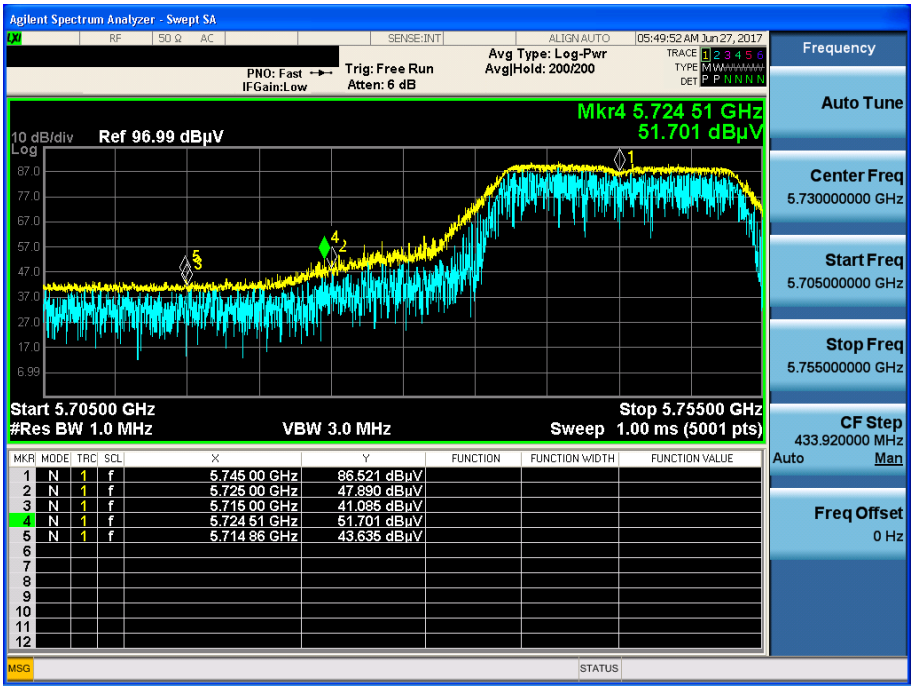
802.11a & U-NII 2C & Ch.140 & X axis & Ver **Detector Mode : PK**



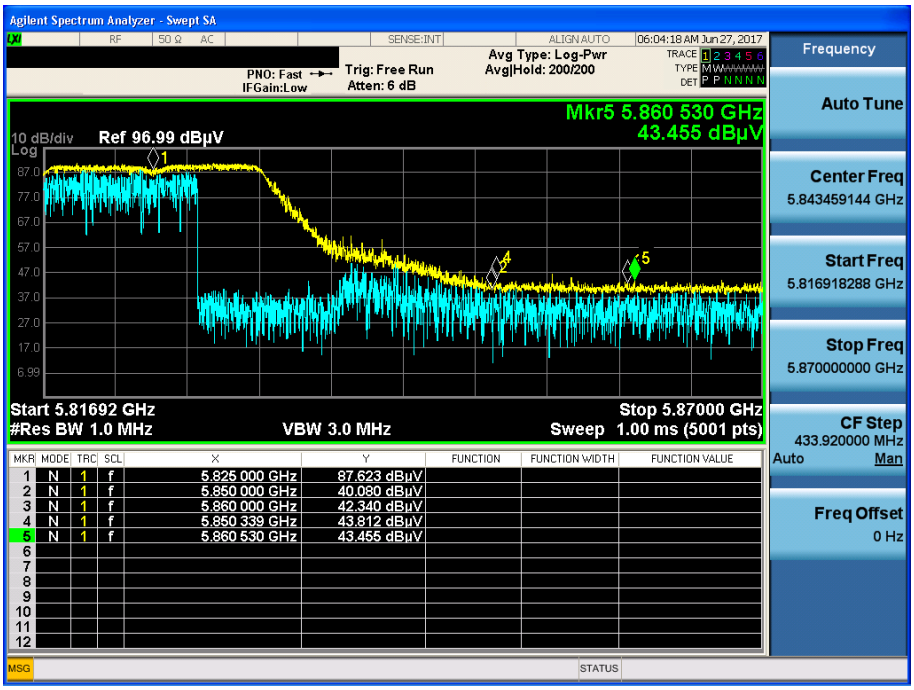
802.11a & U-NII 2C & Ch.140 & Z axis & Ver **Detector Mode : PK**



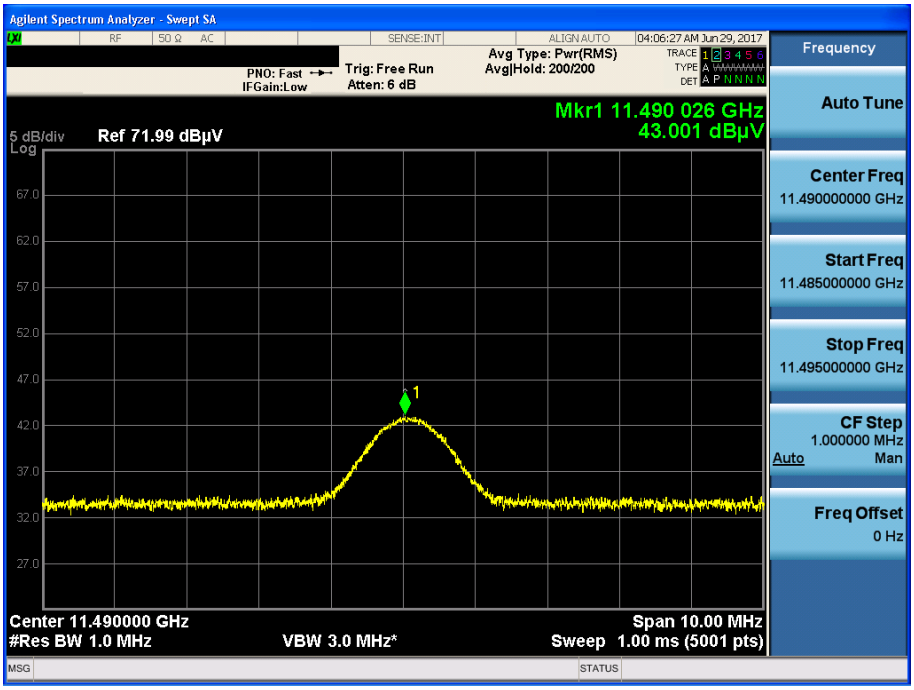
802.11a & U-NII 3 & Ch.149 & Z axis & Ver **Detector Mode : PK**



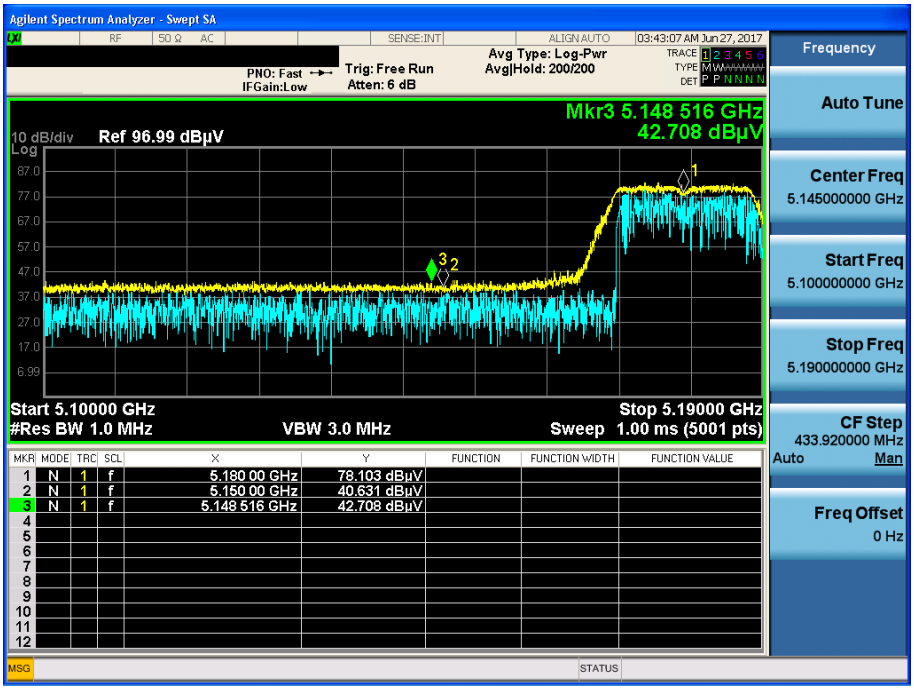
802.11a & U-NII 3 & Ch.165 & Z axis & Ver **Detector Mode : PK**



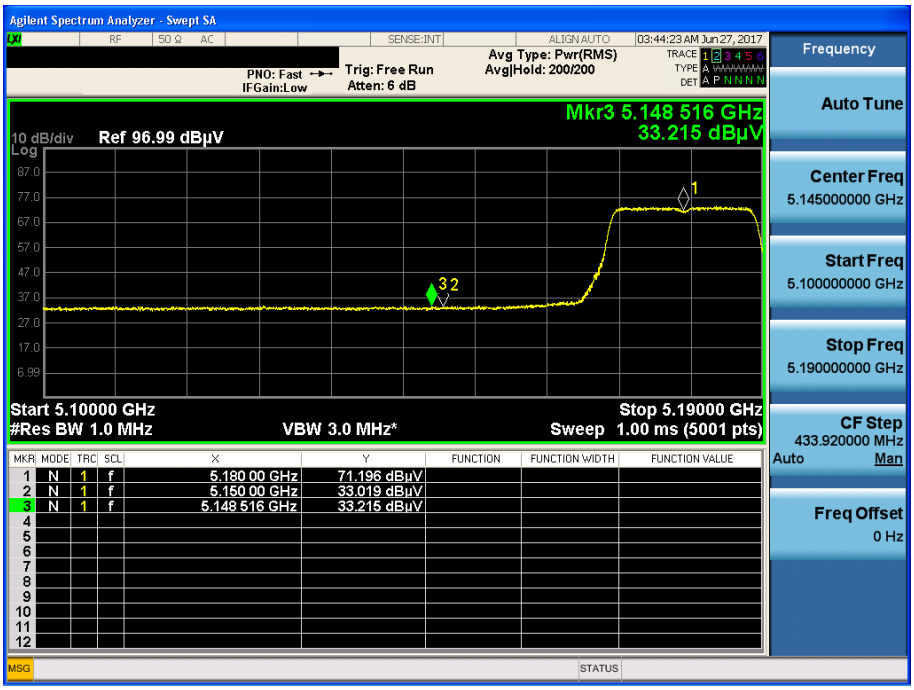
802.11a & U-NII 3 & Ch.149 & Z axis & Ver **Detector Mode : AV**



802.11n(HT20) & U-NII 1 & Ch.36 & X axis & Hor **Detector Mode : PK**



802.11n(HT20) & U-NII 1 & Ch.36 & X axis & Hor **Detector Mode : AV**



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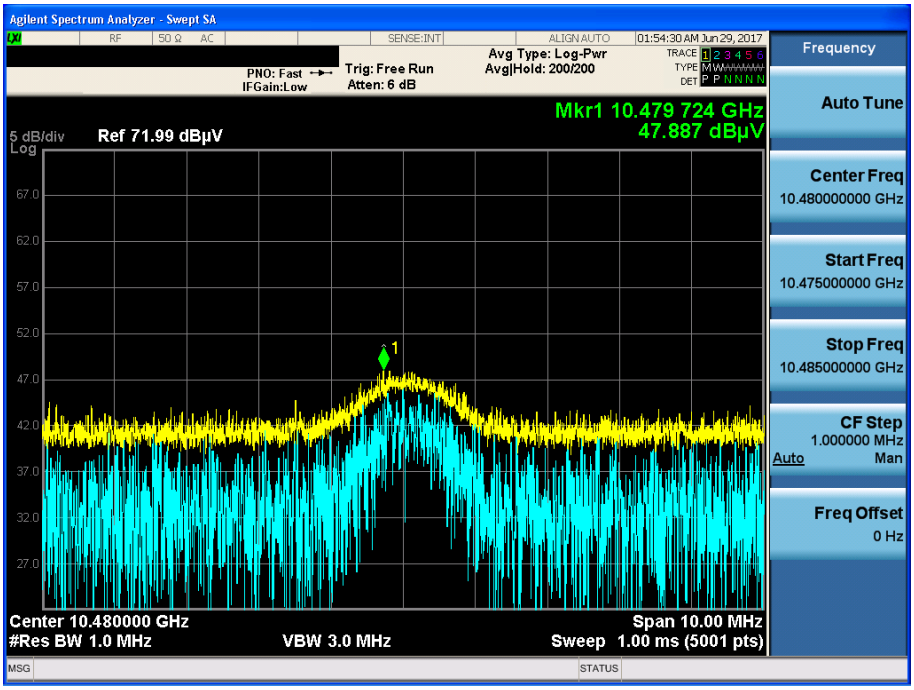
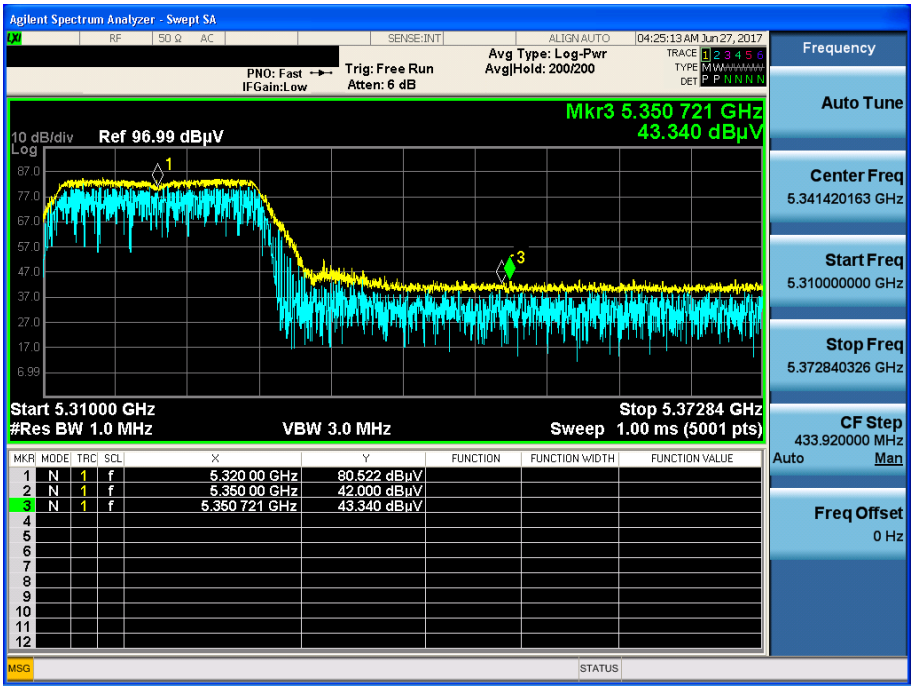
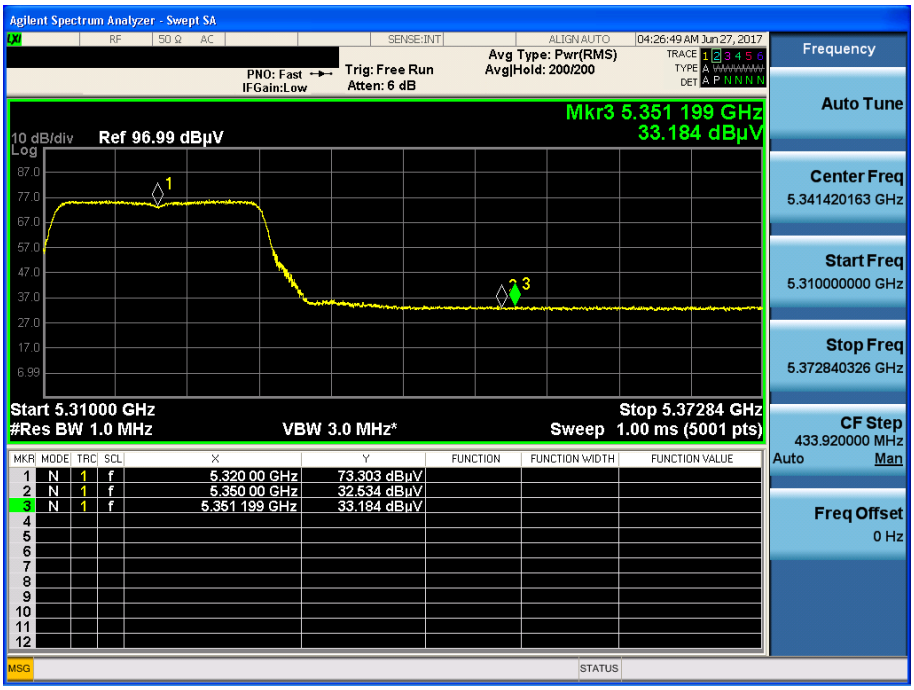


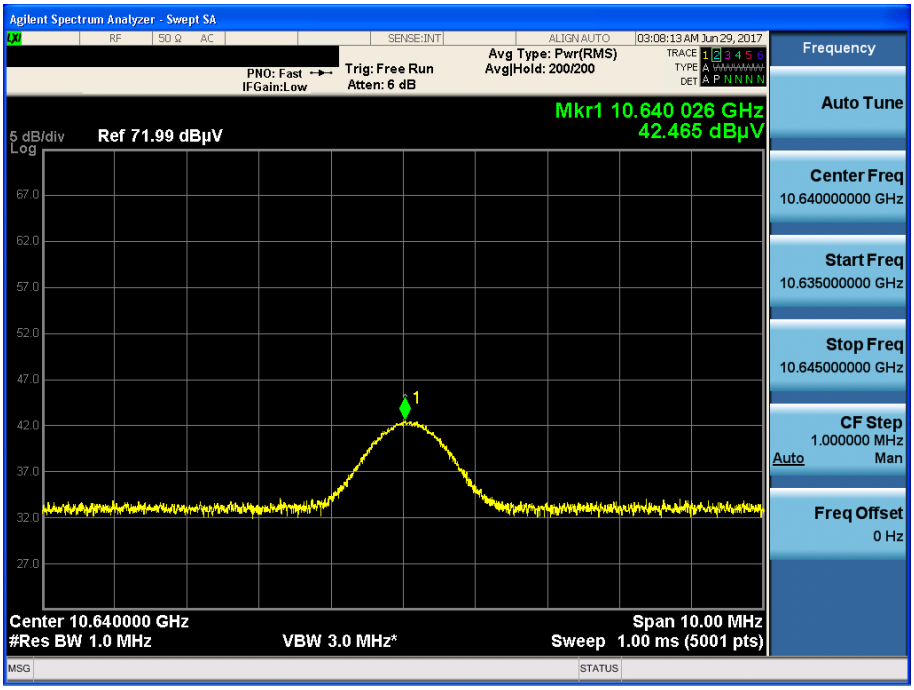
802.11n(HT20) & U-NII 2A & Ch.64 & X axis & Ver **Detector Mode : PK**



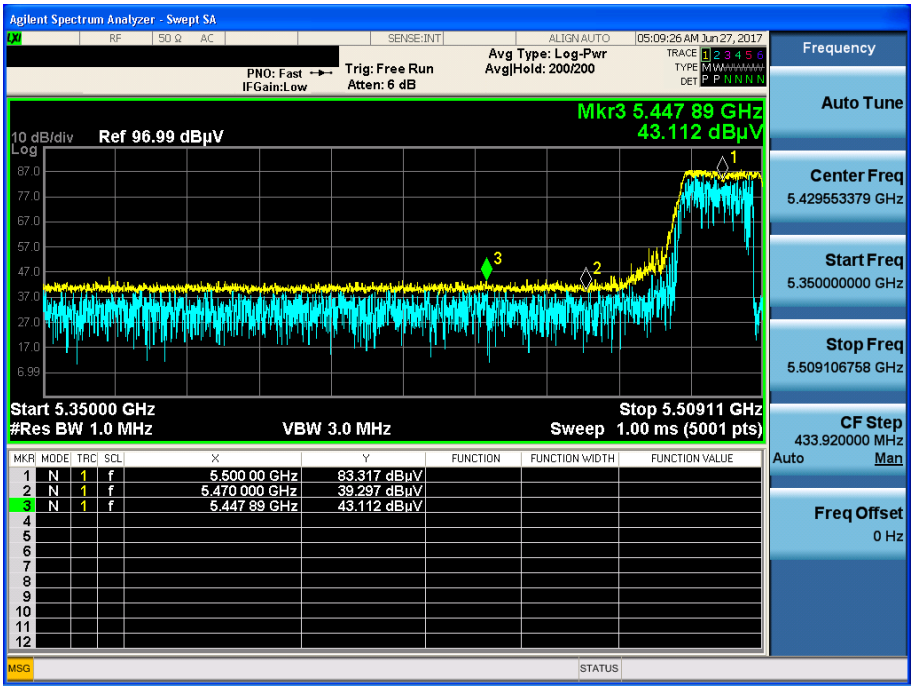
802.11n(HT20) & U-NII 2A & Ch.64 & X axis & Ver **Detector Mode : AV**



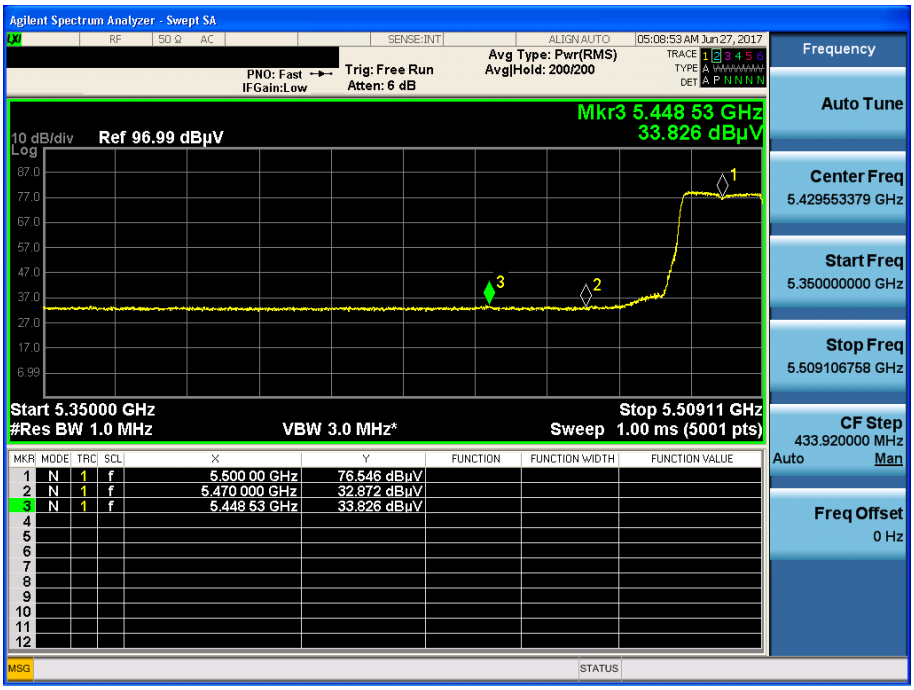
802.11n(HT20) & U-NII 2A & Ch.64 & Z axis & Ver Detector Mode : AV



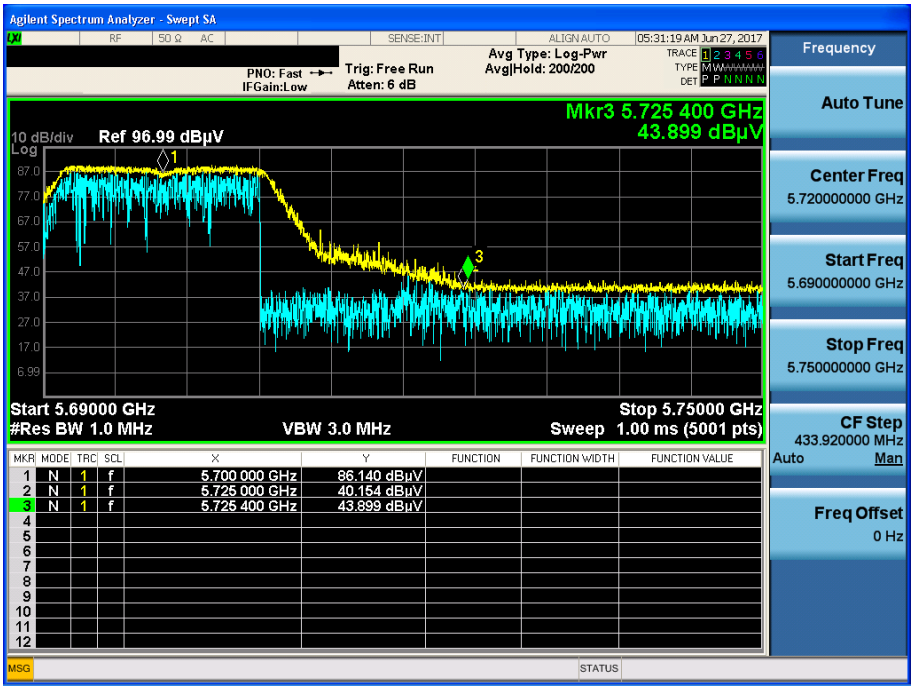
802.11n(HT20) & U-NII 2C & Ch.100 & X axis & Ver Detector Mode : PK



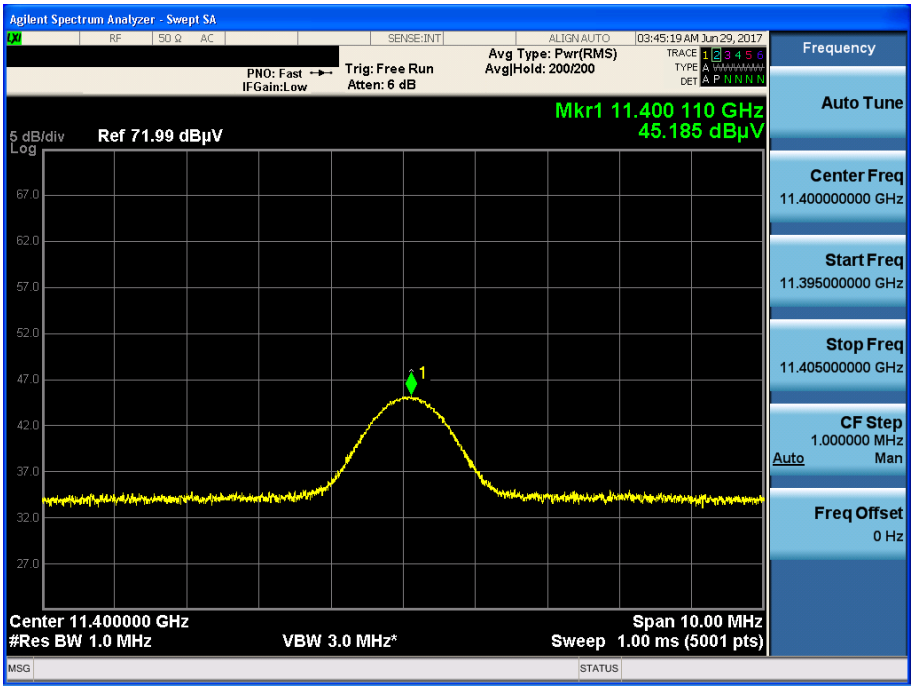
802.11n(HT20) & U-NII 2C & Ch.100 & X axis & Ver Detector Mode : AV



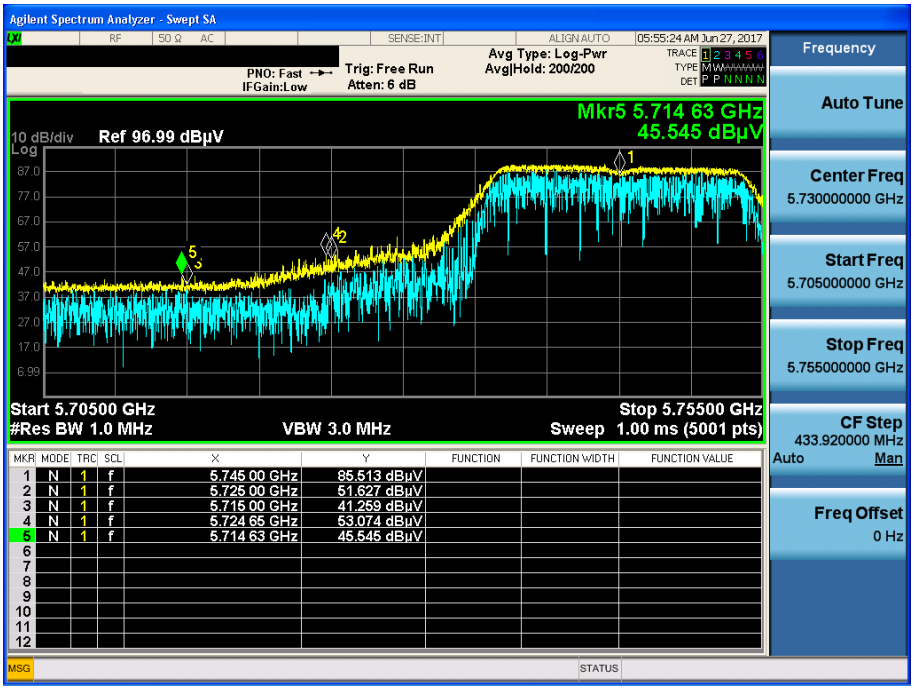
802.11n(HT20) & U-NII 2C & Ch.140 & X axis & Ver Detector Mode : PK



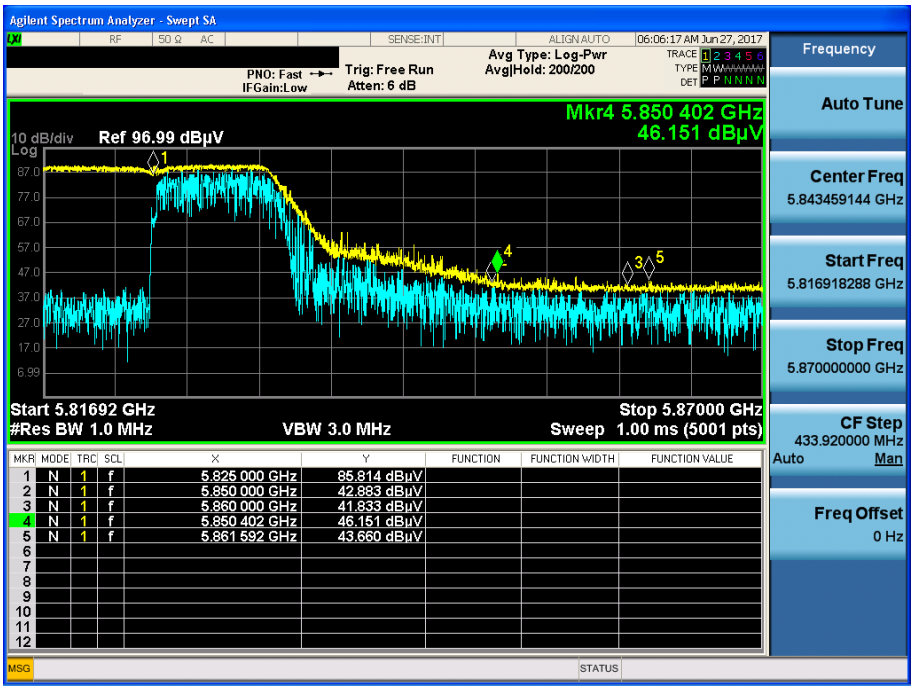
802.11n(HT20) & U-NII 2C & Ch.140 & Z axis & Ver Detector Mode : AV



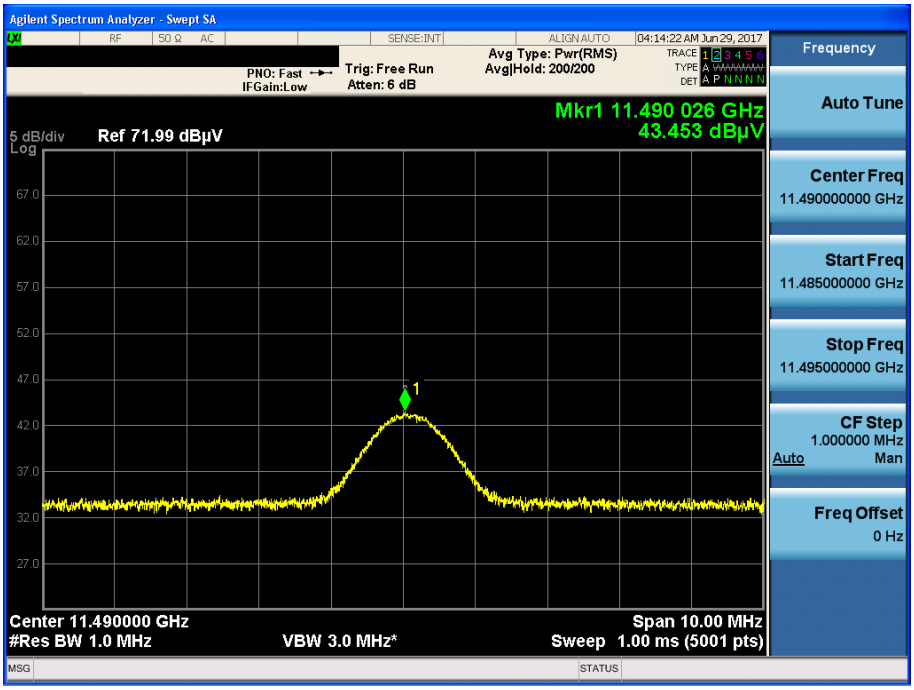
802.11n(HT20) & U-NII 3 & Ch.149 & Z axis & Ver **Detector Mode : PK**



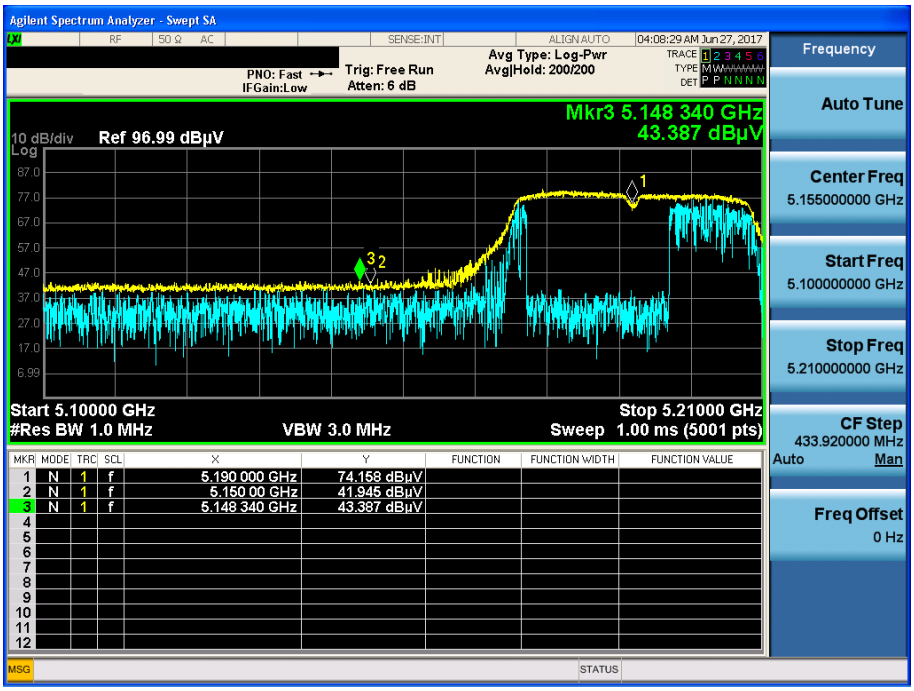
802.11n(HT20) & U-NII 3 & Ch.165 & Y axis & Hor **Detector Mode : PK**



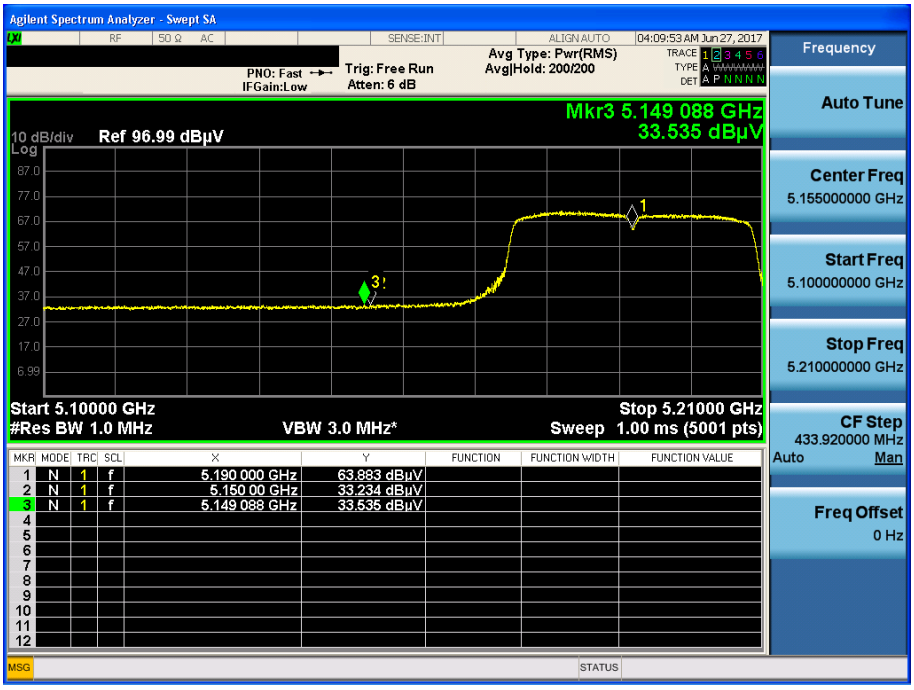
802.11n(HT20) & U-NII 3 & Ch.149 & Z axis & Ver Detector Mode : AV



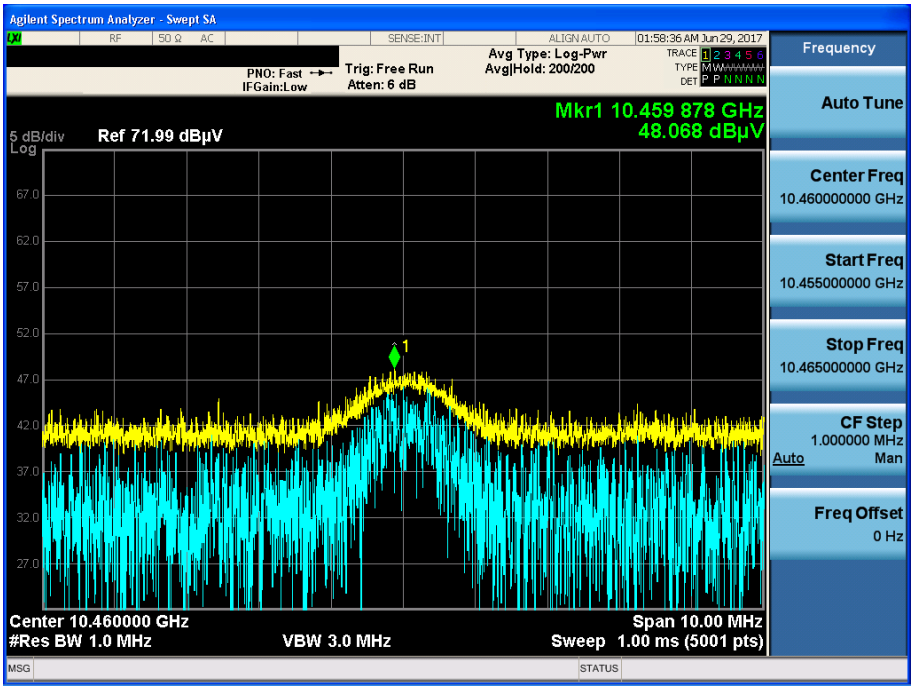
802.11n(HT40) & U-NII 1 & Ch.38 & X axis & Hor **Detector Mode : PK**



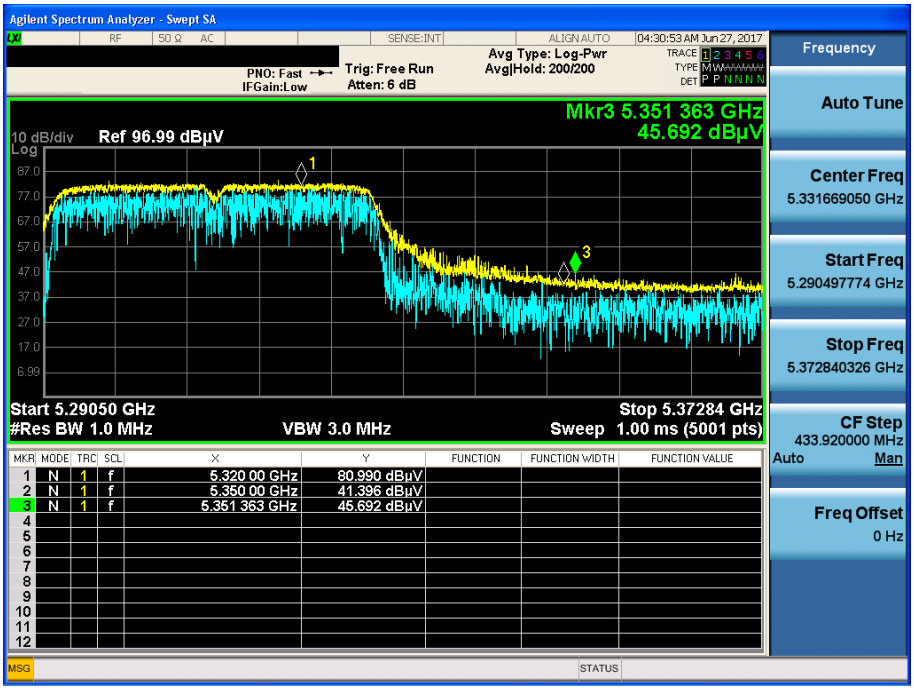
802.11n(HT40) & U-NII 1 & Ch.38 & X axis & Hor **Detector Mode : AV**



802.11n(HT40) & U-NII 1 & Ch.46 & Z axis & Ver Detector Mode : PK

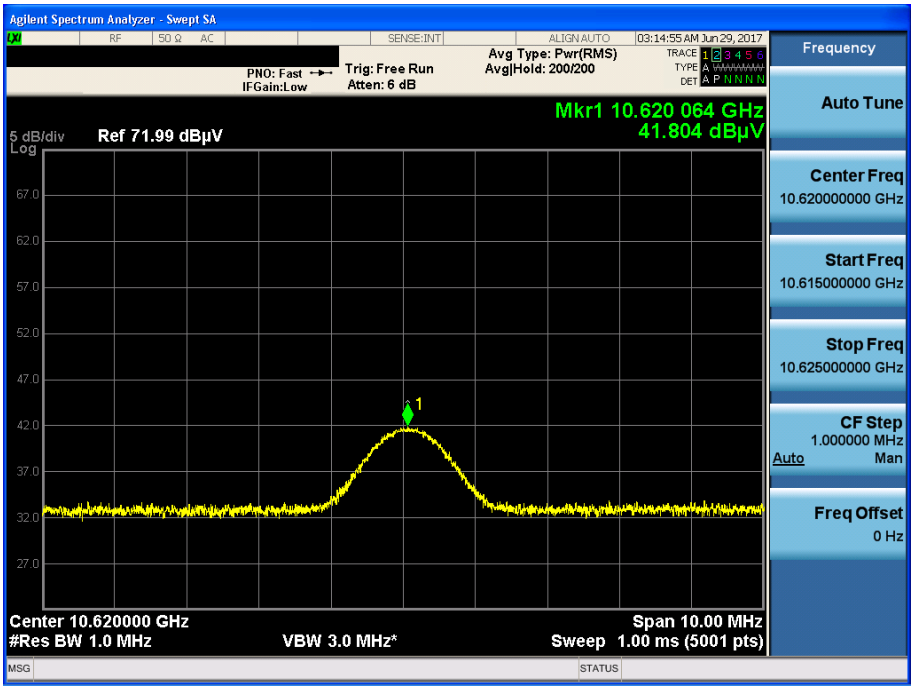


802.11n(HT40) & U-NII 2A & Ch.62 & X axis & Hor **Detector Mode : PK**

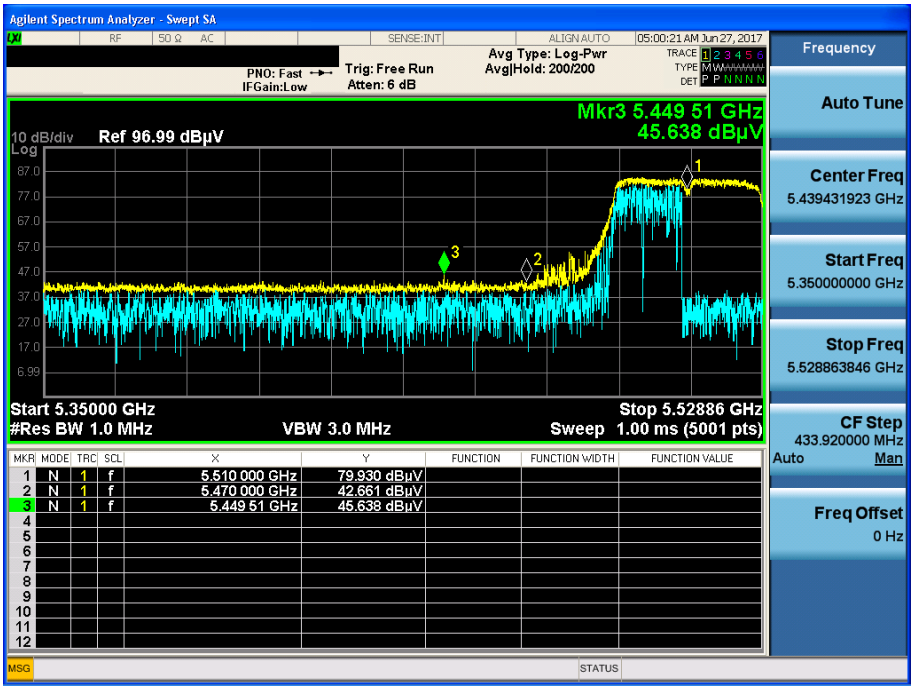


802.11n(HT40) & U-NII 2A & Ch.62 & X axis & Hor **Detector Mode : AV**

802.11n(HT40) & U-NII 2A & Ch.62 & Z axis & Ver Detector Mode : AV



802.11n(HT40) & U-NII 2C & Ch.102 & X axis & Hor Detector Mode : PK



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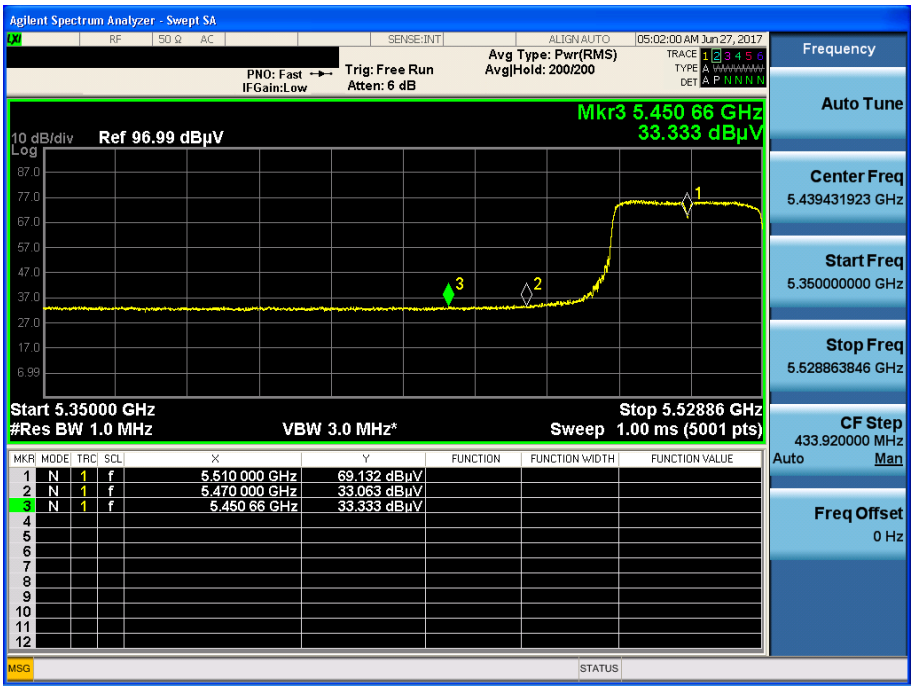
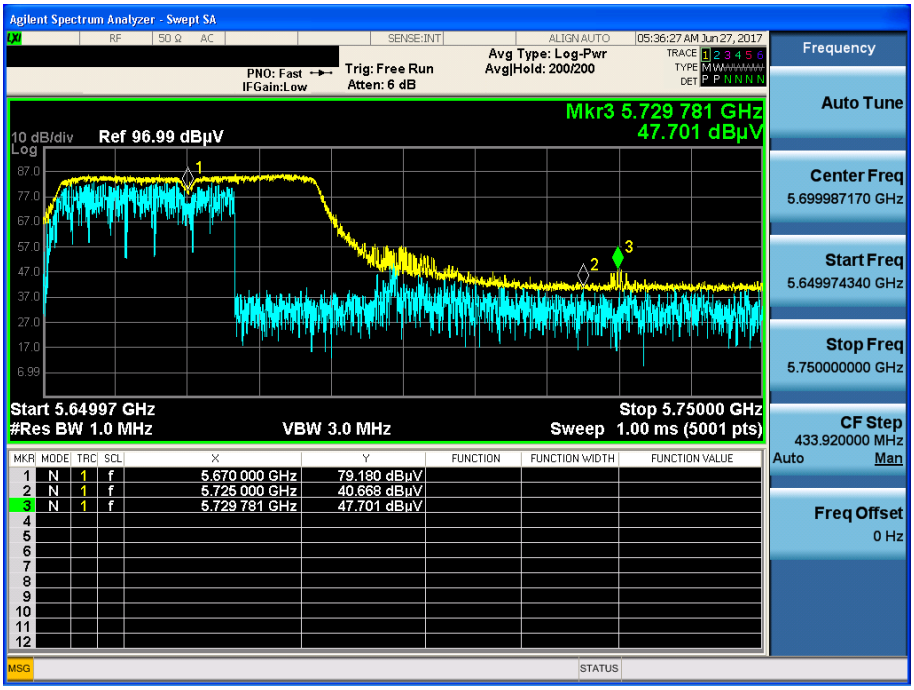
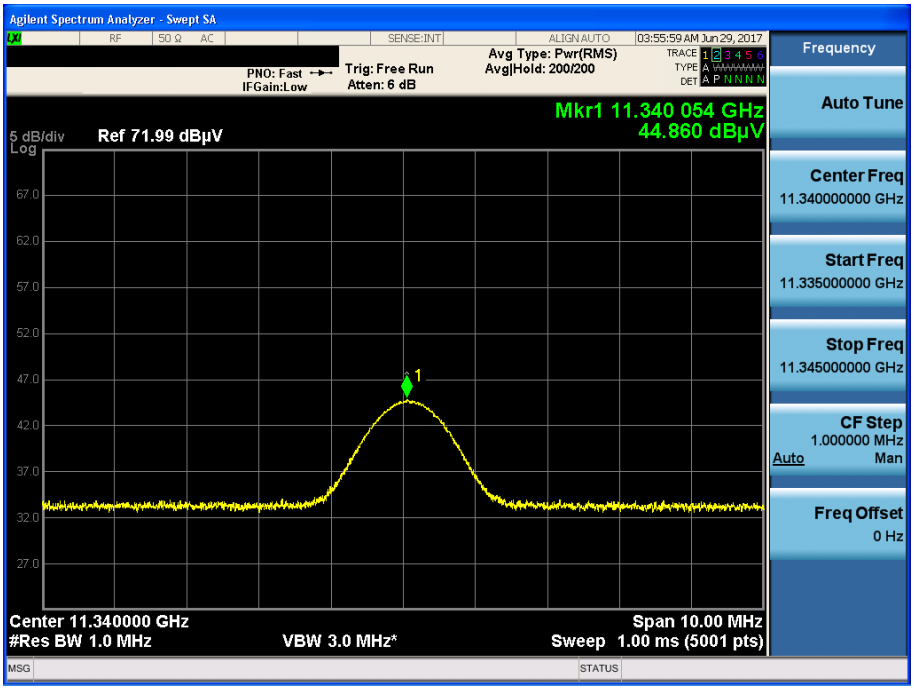


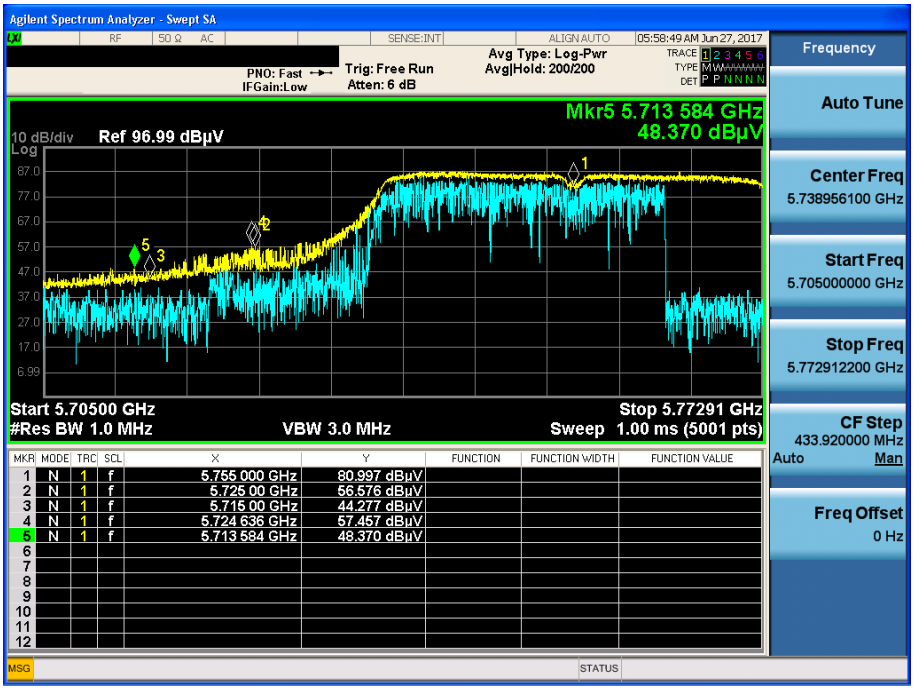
802.11n(HT40) & U-NII 2C & Ch.134 & Y axis & Hor Detector Mode : PK



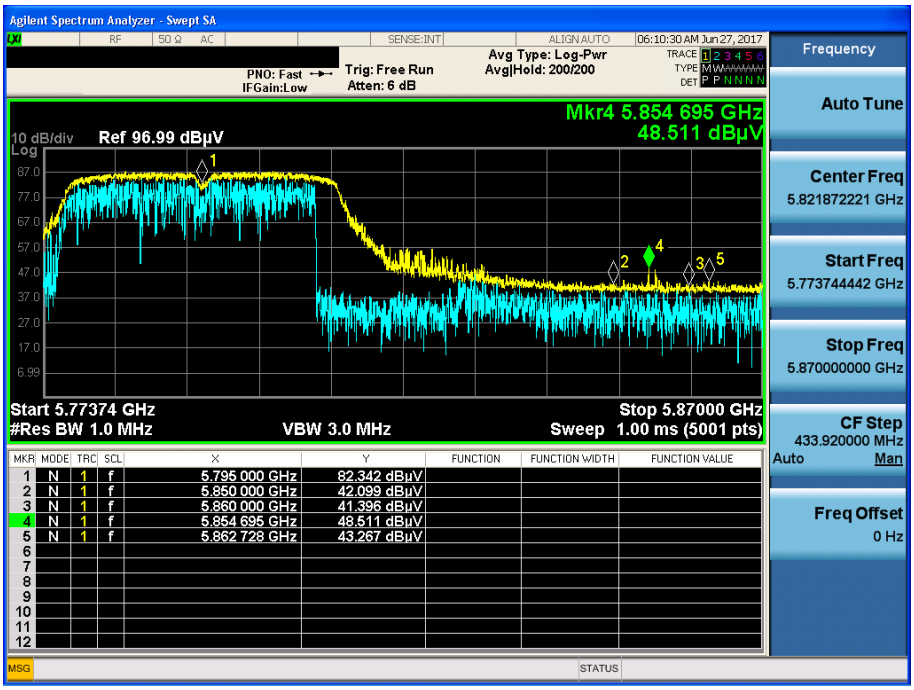
802.11n(HT40) & U-NII 2C & Ch.134 & Z axis & Ver Detector Mode : AV



802.11n(HT40) & U-NII 3 & Ch.151 & Z axis & Ver **Detector Mode : PK**



802.11n(HT40) & U-NII 3 & Ch.159 & Z axis & Ver **Detector Mode : PK**



802.11n(HT40) & U-NII 3 & Ch.151 & Z axis & Ver Detector Mode : AV