



TEST REPORT

<p>KCTL KCTL Inc. 65, Sinwon-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Korea TEL: 82-31-285-0894 FAX: 82-505-299-8311 www.kctl.co.kr</p>	<p>Report No.: KR20-SRF0214 Page (1) of (193)</p>	
<p>1. Client</p> <ul style="list-style-type: none"> ◦ Name : Samsung Electronics Co., Ltd. ◦ Address : 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Rep. of Korea ◦ Date of Receipt : 2020-07-01 <p>2. Use of Report : Certification</p> <p>3. Name of Product / Model : Tablet PC / SM-T575</p> <p>4. Manufacturer / Country of Origin : Samsung Electronics Co., Ltd. / Vietnam</p> <p>5. FCC ID : A3LSMT575</p> <p>6. Date of Test : 2020-07-14 to 2020-08-19</p> <p>7. Location of Test : <input checked="" type="checkbox"/> Permanent Testing Lab <input type="checkbox"/> On Site Testing (Address: Address of testing location)</p> <p>8. Test method used : FCC Part 15 Subpart C, 15.247</p> <p>9. Test Results : Refer to the test result in the test report</p>		
<p>Affirmation</p>	<p>Tested by Name : Taeyoung Kim  (Signature)</p>	<p>Technical Manager Name : Seungyong Kim  (Signature)</p>
<p>2020-08-26</p>		
<p>KCTL Inc.</p>		
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REPORT REVISION HISTORY

Date	Revision	Page No
2020-08-26	Originally issued	-

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General remarks for test reports

Nothing significant to report.

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1. General information

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Accreditations : FCC Site Designation No: KR0040, FCC Site Registration No: 687132
VCCI Registration No. : R-20080, G-20078, C-20059, T-20056
Industry Canada Registration No. : 8035A
KOLAS No.: KT231

2. Device information

Equipment under test : Tablet PC
Model : SM-T575
Derivative model : SM-T577
Modulation technique : Bluetooth(BDR/EDR)_GFSK, $\pi/4$ DQPSK, 8DPSK
Bluetooth(BLE)_GFSK
WIFI(802.11a/b/g/n/ac/ax)_DSSS, OFDM, OFDMA
NFC_ASK
LTE_QPSK, 16QAM, 64QAM
WCDMA_QPSK
GSM_GMSK, 8-PSK
Number of channels : Bluetooth(BDR/EDR)_79 ch / Bluetooth(BLE)_40 ch
802.11b/g/n/ac/ax_HT20/VHT20/HE20 : 13 ch
UNII-1: 4 ch (20 MHz), 2 ch (40 MHz), 1 ch (80 MHz)
UNII-2A: 4 ch (20 MHz), 2 ch (40 MHz), 1 ch (80 MHz)
UNII-2C: 12 ch (20 MHz), 6 ch (40 MHz), 3 ch (80 MHz)
UNII-3: 5 ch (20 MHz), 2 ch (40 MHz), 1 ch (80 MHz)
NFC: 1 ch
Power source : DC 3.85 V
Antenna specification : LTE/WCDMA_LDS carrier Antenna
WIFI/Bluetooth(BDR/EDR/BLE)_LDS carrier Antenna
NFC_FPCB Antenna

Antenna gain	: WIFI/Bluetooth(BDR/EDR/BLE): ANT 1: -2.50 dBi, ANT 2: -2.50 dBi UNII-1 ANT 1: -3.20 dBi, ANT 2: -3.70 dBi UNII-2A ANT 1: -3.20 dBi, ANT 2: -3.80 dBi UNII-2C ANT 1: -6.20 dBi, ANT 2: -6.70 dBi UNII-3 ANT 1: -6.50 dBi, ANT 2: -6.40 dBi
Frequency range	: Bluetooth(BDR/EDR/BLE)_2 402 MHz ~ 2 480 MHz 2 412 MHz ~ 2 472 MHz (802.11b/g/n/ac/ax_HT20/VHT20/HE20) UNII-1: 5 180 MHz ~ 5 240 MHz (802.11a/n/ac/ax_HT20/VHT20/HE20) UNII-1: 5 190 MHz ~ 5 230 MHz (802.11n/ac/ax_HT40/VHT40/HE40) UNII-1: 5 210 MHz (802.11ac/ax_VHT80/HE80) UNII-2A: 5 260 MHz ~ 5 320 MHz (802.11a/n/ac/ax_HT20/VHT20/HE20) UNII-2A: 5 270 MHz ~ 5 310 MHz (802.11n/ac/ax_HT40/VHT40/HE40) UNII-2A: 5 290 MHz (802.11ac/ax_VHT80/HE80) UNII-2C: 5 500 MHz ~ 5 720 MHz (802.11a/n/ac/ax_HT20/VHT20/HE20) UNII-2C: 5 510 MHz ~ 5 710 MHz (802.11n/ac/ax_HT40/VHT40/HE40) UNII-2C: 5 530 MHz ~ 5 690 MHz (802.11ac/ax_VHT80/HE80) UNII-3: 5 745 MHz ~ 5 825 MHz (802.11a/n/ac/ax_HT20/VHT20/HE20) UNII-3: 5 755 MHz ~ 5 795 MHz (802.11n/ac/ax_HT40/VHT40/HE40) UNII-3: 5 775 MHz (802.11ac/ax_VHT80/HE80) LTE Band 2_1 850.7 MHz ~ 1 909.3 MHz LTE Band 4_1 710.7 MHz ~ 1 754.3 MHz LTE Band 5_824.7 MHz ~ 848.3 MHz LTE Band 12_699.7 MHz ~ 715.3 MHz LTE Band 13_779.5 MHz ~ 784.5 MHz LTE Band 17_706.5 MHz ~ 713.5 MHz LTE Band 41_2 498.5 MHz ~ 2 687.5 MHz LTE Band 66_1 710.7 MHz ~ 1 779.3 MHz GSM 850_824.2 MHz ~ 848.8 MHz GSM 1900_1 850.2 MHz ~ 1 909.8 MHz WCDMA 850_826.4 MHz ~ 846.6 MHz WCDMA 1700_1 712.4 MHz ~ 1 752.6 MHz WCDMA 1900_1 852.4 MHz ~ 1 907.6 MHz NFC_13.56 MHz
Software version	: T575.001(SM-T575), T577.001(SM-T577)
Hardware version	: REV1.0
Test device serial No.	: Conducted(R32N800373B, R32N400L04T, 2c57b421cb496110) Radiated(R32N6011AEK,2cf1a3f3cabbe910,2c907e7dc049f110)
Operation temperature	: -30 °C ~ 50 °C

Note. The Product equality letter includes detailed information about the differences between basic and derivative model.

2.1. Accessory information

Equipment	Manufacturer	Model	Serial No.	Power source	FCC ID
Travel Adapter	SOLU-M	EP-TA200	R37M12L1AC1 HM3	Input : 100-240V, 50-60Hz (0.5A) Output : 9.0V, 1.67A or 5.0V, 2.0A	-
Data Cable	RFTECH	EP-DT725BBE	-	-	-
External Earphone	ALMUS	EHS64AVF BE	-	-	-
Protective Cover	WILLTECH VINA	GH98-45810A	-	-	-
S-Pen	WACOM	CP-913W-00B	-	-	-

2.2. Frequency/channel operations

This device contains the following capabilities:

WiFi (802.11a/b/g/n/ac/ax), Bluetooth (BDR/EDR/BLE), NFC,
 LTE Band 2, LTE Band 4, LTE Band 5, LTE Band 12, LTE Band 13, LTE Band 17, LTE Band 41,
 LTE Band 66, GSM 850, GSM 1900, WCDMA 850, WCDMA 1700, WCDMA 1900

Ch.	Frequency (MHz)
01	2 412
..	..
06	2 437
..	..
11	2 462
12	2 467
13	2 472

Table 2.2.1. 802.11ax HE 20 mode

2.3. RU allocations

Mode	Tones number in RU	RU offset
HE20	26T	0
		4
		8
	52T	37
		38
		40
	106T	53
		54
	242T	61
	SU	-

Table 2.3.1. Test RU offset for tones

2.4. Simultaneous Tx Condition

For Simultaneous mode (Bluetooth, WLAN), please refer to
Test report #KR20-SRF0215_03436_Samsung Electronics_SM-T575_WiFi (P15.407)_ax.

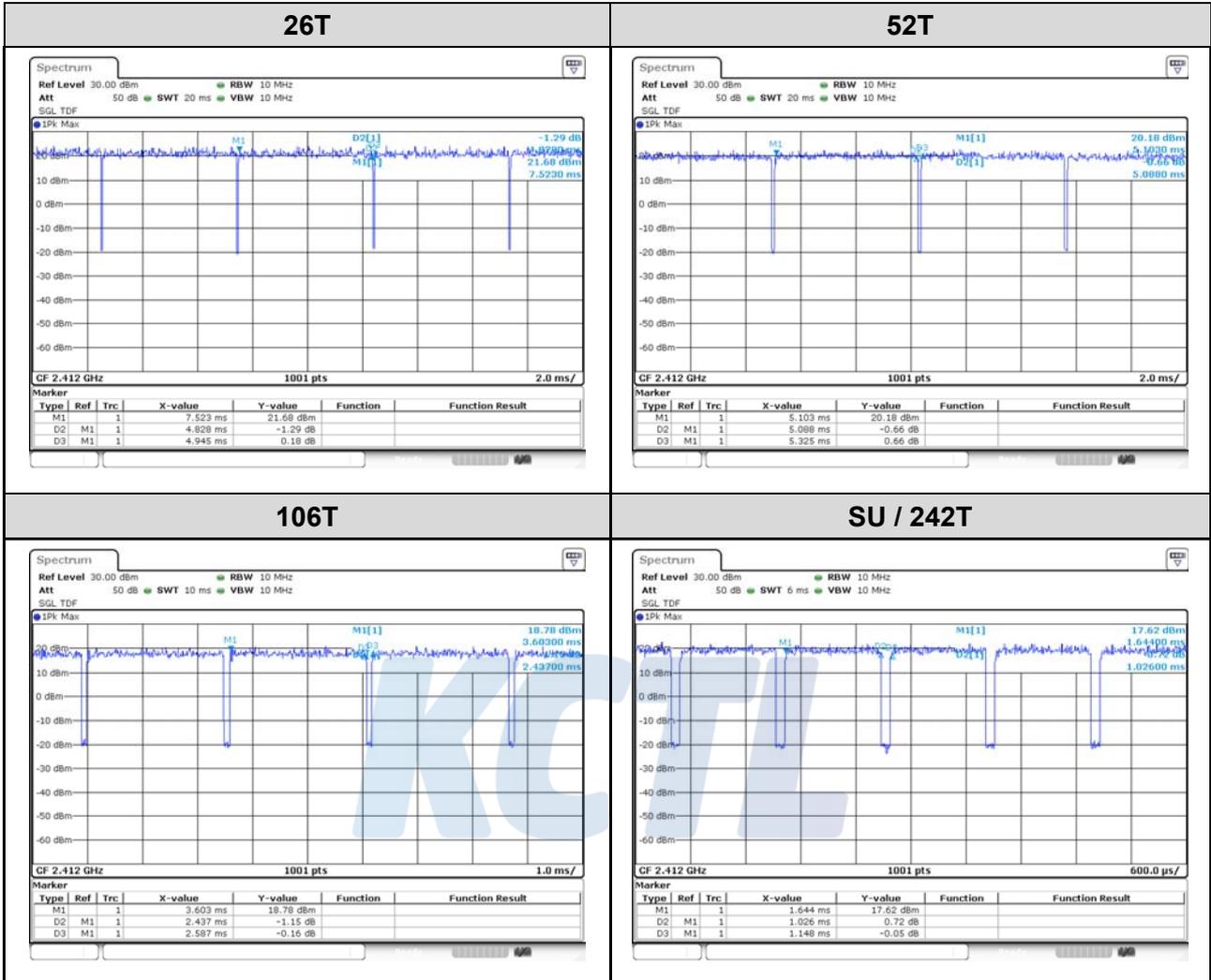
2.5. Duty Cycle Factor

Test mode	Tone	Period (ms)	On time (ms)	Duty cycle		Duty Cycle Factor (dB)
				(Linear)	(%)	
802.11ax HE 20 SISO	26T	4.945	4.828	0.976 3	97.63	0.10
	52T	5.325	5.088	0.955 5	95.55	0.20
	106T	2.587	2.437	0.942 0	94.20	0.26
	SU / 242T	1.148	1.026	0.893 7	89.37	0.49
802.11ax HE 20 MIMO	26T	5.350	5.218	0.975 3	97.53	0.11
	52T	2.750	2.618	0.952 0	95.20	0.21
	106T	1.385	1.268	0.915 5	91.55	0.38
	SU / 242T	0.660	0.538	0.815 2	81.52	0.89

Notes.

1. Duty cycle (Linear) = Ton time / Period
2. DCF(Duty cycle factor) = $10\log(1/\text{duty cycle})$
3. DCF is not compensated to Average result if duty cycle is more than 98%

SISO



MIMO



3. Antenna requirement

Requirement of FCC part 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. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

- The transmitter has permanently attached LDS carrier Antenna (Internal antenna) on board.

3.1 Antenna information

Mode	SISO		CDD	MIMO
	ANT 1	ANT 2	ANT 1 + 2	ANT 1 + 2
802.11ax HE20	√	√	√	√

√ = Support, × = Not support

3.2 Directional Gain Calculations

According to clause F), 2), d), (i) of KDB 662911 D01 Multiple Transmitter Output, Directional gain may be calculated by using the formulas as below.

3.2.1. Directional Antenna Gain

ANT 1 Gain (dBi)	ANT 2 Gain (dBi)	Combined Gain (dBi)
-2.50	-2.50	0.51

Note.

Unequal antenna gains, with equal transmit powers. For antenna gains given by G_1, G_2, \dots, G_N dBi
Directional gain = $10 \log[(10^{G_1/20} + 10^{G_2/20} + \dots + 10^{G_N/20})^2 / N_{ANT}]$ dBi

4. Summary of tests

FCC Part section(s)	Parameter	Test Condition	Test results
15.247(b)(3)	Maximum peak output power	Conducted	Pass
15.247(e)	Peak power spectral density		Pass
15.247(a)(2)	6 dB channel bandwidth		Pass
15.207(a)	AC Conducted emissions		Pass
15.247(d)	Conducted Spurious Emissions		Pass
15.205(a), 15.209(a)	Spurious emission	Radiated	Pass
	Band-edge, restricted band		Pass

Notes:

- All modes of operation and data rates were investigated. The test results shown in the following sections represent the worst case emissions.
- For AC Conducted emission, please refer to test report #KR20-SRF0209_03436_Samsung Electronics_SM-T575_WiFi (P15.247).
- According to exploratory test no any obvious emission were detected from 9 kHz to 30 MHz. Although these tests were performed other than open field site, adequate comparison measurements were confirmed against 30 m open field site. Therefore sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field based on KDB 414788.
- The fundamental of the EUT was investigated in three orthogonal orientations X, Y and Z. It was determined that **X** orientation was worst-case orientation. Therefore, all final radiated testing was performed with the EUT in **X** orientation.
- All the radiated tests have been performed several case.
(Stand-alone, with accessories (earphone, cover, TA etc.))
Worst case: stand alone
- The test procedure(s) in this report were performed in accordance as following.
 - ◆ ANSI C63.10-2013
 - ◆ KDB 558074 D01 V05r02
- The worst-case data rate were : MCS0

5. Measurement uncertainty

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.10-2013.

All measurement uncertainty values are shown with a coverage factor of $k=2$ to indicate a 95 % level of confidence. The measurement data shown herein meets or exceeds the U_{CISPR} measurement uncertainty values specified in CISPR 16-4-2 and thus, can be compared directly to specified limits to determine compliance.

Parameter	Expanded uncertainty (\pm)	
Conducted RF power	1.3 dB	
Conducted spurious emissions	1.3 dB	
Radiated spurious emissions	9 kHz ~ 30 MHz:	2.3 dB
	30 MHz ~ 300 MHz	5.4 dB
	300 MHz ~ 1 000 MHz	5.5 dB
	Above 1 GHz	6.7 dB
Conducted emissions	9 kHz ~ 150 kHz	3.7 dB
	150 kHz ~ 30 MHz	3.3 dB

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6. Measurement results explanation example

The offset level is set in the spectrum analyzer to compensate the RF cable loss factor between EUT conducted output port and spectrum analyzer.

With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

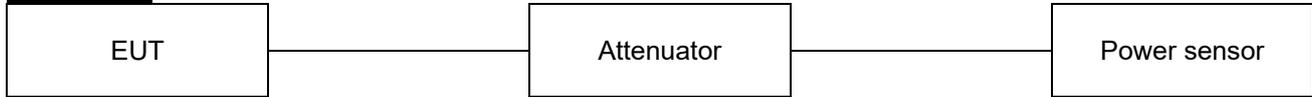
Frequency (MHz)	Factor(dB)	Frequency (MHz)	Factor(dB)
30	9.29	9 000	12.34
50	9.36	10 000	12.61
100	9.43	11 000	12.79
200	9.55	12 000	12.81
300	9.64	13 000	12.85
400	9.73	14 000	12.99
500	9.80	15 000	13.10
600	9.85	16 000	13.52
700	9.89	17 000	13.55
800	9.94	18 000	13.74
900	10.03	19 000	13.77
1 000	10.09	20 000	13.82
2 000	10.85	21 000	14.14
3 000	11.51	22 000	14.44
4 000	11.54	23 000	14.64
5 000	12.03	24 000	14.71
6 000	12.31	25 000	15.01
7 000	12.05	26 000	15.06
8 000	12.26	26 500	15.10

Note : Offset(dB) = RF cable loss(dB) + Attenuator(dB)

7. Test results

7.1. Maximum peak output power

Test setup



Limit

According to §15.247(b)(3), For systems using digital modulation in the 902-928 MHz, 2 400-2 483.5 MHz, and 5 725-5 850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.

According to §15.247(b)(4) The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Test procedure

ANSI C63.10 - Section 11.9

Used test method is section 11.9.1.3 and 11.9.2.3.1

Test settings

General

Section 15.247 permits the maximum conducted (average) output power to be measured as an alternative to the maximum peak conducted output power for demonstrating compliance to the limit. When this option is exercised, the measured power is to be referenced to the OBW rather than the DTS bandwidth (see ANSI C63.10 for measurement guidance).

When using a spectrum analyzer or EMI receiver to perform these measurements, it shall be capable of utilizing a number of measurement points in each sweep that is greater than or equal to twice the span/RBW to set a bin-to-bin spacing of $\leq RBW/2$ so that narrowband signals are not lost between frequency bins.

If possible, configure or modify the operation of the EUT so that it transmits continuously at its maximum power control level. The intent is to test at 100 % duty cycle; however a small reduction in duty cycle (to no lower than 98 %) is permitted, if required by the EUT for amplitude control purposes. Manufacturers are expected to provide software to the test lab to permit such continuous operation.

If continuous transmission (or at least 98 % duty cycle) cannot be achieved due to hardware limitations (e.g., overheating), the EUT shall be operated at its maximum power control level, with the transmit duration as long as possible, and the duty cycle as high as possible during which sweep triggering/signal gating techniques may be used to perform the measurement over the transmission duration.

11.9.1. Maximum peak conducted output power

One of the following procedures may be used to determine the maximum peak conducted output power of a DTS EUT.

11.9.1.1. RBW \geq DTS bandwidth

The following procedure shall be used when an instrument with a resolution bandwidth that is greater than the DTS bandwidth is available to perform the measurement:

- a) Set the RBW \geq DTS bandwidth.
- b) Set VBW $\geq [3 \times RBW]$.
- c) Set span $\geq [3 \times RBW]$.
- d) Sweep time = auto couple.
- e) Detector = peak.
- f) Trace mode = max hold.
- g) Allow trace to fully stabilize.
- h) Use peak marker function to determine the peak amplitude level.

11.9.1.3. PKPM1 Peak power meter method

The maximum peak conducted output power may be measured using a broadband peak RF power meter. The power meter shall have a video bandwidth that is greater than or equal to the DTS bandwidth and shall use a fast-responding diode detector.

11.9.2.3.1. Measurement using a power meter (PM)

Method AVGPM is a measurement using an RF average power meter, as follows:

- a) As an alternative to spectrum analyzer or EMI receiver measurements, measurements may be performed using a wideband RF power meter with a thermocouple detector or equivalent if all of the conditions listed below are satisfied:
 - 1) The EUT is configured to transmit continuously, or to transmit with a constant duty cycle.
 - 2) At all times when the EUT is transmitting, it shall be transmitting at its maximum power control level.
 - 3) The integration period of the power meter exceeds the repetition period of the transmitted signal by at least a factor of five.
- b) If the transmitter does not transmit continuously, measure the duty cycle, D, of the transmitter output signal as described in 11.6.
- c) Measure the average power of the transmitter. This measurement is an average over both the ON and OFF periods of the transmitter.
- d) Adjust the measurement in dBm by adding $[10 \log(1/D)]$, where D is the duty cycle

Notes:

A peak responding power sensor is used, where the power sensor system video bandwidth is greater than the occupied bandwidth of the EUT.

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Test results**SISO**

Frequency (MHz)	Tone	RU offset	Measured output power						Limit (dBm)	
			Reading (dBm)				DCF (dB)	Result (dBm)		
			Peak		Average			Average		
			ANT 1	ANT 2	ANT 1	ANT 2		ANT 1		ANT 2
2 412	26T	0	24.93	24.49	15.43	15.61	0.10	15.53	15.71	30.00
		4	24.71	24.64	15.81	15.61	0.10	15.91	15.71	
		8	24.65	24.61	15.26	15.77	0.10	15.36	15.87	
	52T	37	24.93	24.57	15.64	15.60	0.20	15.84	15.80	
		38	24.67	24.62	15.50	15.26	0.20	15.70	15.46	
		40	24.87	24.67	15.26	15.72	0.20	15.46	15.92	
	106T	53	24.66	24.43	15.02	14.87	0.26	15.28	15.13	
		54	24.83	24.79	15.35	15.10	0.26	15.61	15.36	
242T	61	24.04	23.82	12.62	12.78	0.49	13.11	13.27		
SU	-	24.63	24.12	12.64	13.04	0.49	13.13	13.53		
2 437	26T	0	24.86	24.85	14.99	15.00	0.10	15.09	15.10	
		4	24.81	24.59	15.10	15.36	0.10	15.20	15.46	
		8	24.98	24.52	15.58	15.69	0.10	15.68	15.79	
	52T	37	24.92	24.54	15.16	14.99	0.20	15.36	15.19	
		38	24.82	24.41	14.75	14.93	0.20	14.95	15.13	
		40	25.05	24.52	15.55	15.55	0.20	15.75	15.75	
	106T	53	24.97	24.89	15.30	15.51	0.26	15.56	15.77	
		54	25.01	24.57	15.61	14.90	0.26	15.87	15.16	
242T	61	24.35	22.84	13.06	12.33	0.49	13.55	12.82		
SU	-	24.83	23.19	13.46	12.54	0.49	13.95	13.03		
2 462	26T	0	25.03	24.59	15.12	15.19	0.10	15.22	15.29	
		4	25.03	24.70	15.88	15.34	0.10	15.98	15.44	
		8	24.53	24.98	14.94	14.97	0.10	15.04	15.07	
	52T	37	25.13	24.67	15.25	15.06	0.20	15.45	15.26	
		38	25.03	24.78	15.71	15.21	0.20	15.91	15.41	
		40	24.61	24.79	15.08	15.00	0.20	15.28	15.20	
	106T	53	25.01	24.87	15.42	15.34	0.26	15.68	15.60	
		54	24.59	24.64	15.24	15.70	0.26	15.50	15.96	
242T	61	24.24	23.57	12.95	12.54	0.49	13.44	13.03		
SU	-	24.43	23.87	13.00	12.76	0.49	13.49	13.25		

Frequency (MHz)	Tone	RU offset	Measured output power							Limit (dBm)
			Reading (dBm)				DCF (dB)	Result (dBm)		
			Peak		Average			Average		
			ANT 1	ANT 2	ANT 1	ANT 2		ANT 1	ANT 2	
2 467	26T	0	17.10	17.93	5.11	5.46	0.10	5.21	5.56	30.00
		4	18.00	17.11	5.42	5.17	0.10	5.52	5.27	
		8	17.34	17.58	4.89	4.84	0.10	4.99	4.94	
	52T	37	18.80	17.84	5.55	5.40	0.20	5.75	5.60	
		38	16.66	17.19	4.72	5.23	0.20	4.92	5.43	
		40	17.25	17.46	5.36	5.03	0.20	5.56	5.23	
	106T	53	19.10	18.35	5.69	4.94	0.26	5.95	5.20	
		54	17.97	17.85	5.60	5.46	0.26	5.86	5.72	
	242T	61	17.67	16.78	5.21	4.47	0.49	5.70	4.96	
SU	-	18.21	17.48	5.30	4.73	0.49	5.79	5.22		
2 472	26T	0	10.10	8.22	-2.63	-2.76	0.10	-2.53	-2.66	
		4	9.89	9.30	-2.14	-2.74	0.10	-2.04	-2.64	
		8	8.60	8.30	-3.40	-3.19	0.10	-3.30	-3.09	
	52T	37	9.50	8.46	-2.95	-2.68	0.20	-2.75	-2.48	
		38	10.20	9.61	-2.28	-2.27	0.20	-2.08	-2.07	
		40	9.70	8.59	-3.35	-2.67	0.20	-3.15	-2.47	
	106T	53	10.70	10.85	-2.78	-2.56	0.26	-2.52	-2.30	
		54	9.70	8.60	-3.05	-2.88	0.26	-2.79	-2.62	
	242T	61	8.80	9.17	-3.54	-3.31	0.49	-3.05	-2.82	
SU	-	9.66	9.80	-3.09	-2.68	0.49	-2.60	-2.19		

Notes:

1. Average result(dB m) = Average Reading (dB m) + DCF(dB)

MIMO

Frequency (MHz)	Tone	RU offset	Measured output power						Limit (dBm)	
			Reading (dBm)				DCF (dB)	Result (dBm)		
			Peak		Average			Peak		Average
			ANT 1	ANT 2	ANT 1	ANT 2				
2 412	26T	0	24.50	24.14	15.79	15.78	0.11	27.33	18.91	30.00
		4	24.59	24.46	15.82	15.71	0.11	27.54	18.89	
		8	24.60	24.49	15.43	15.18	0.11	27.56	18.43	
	52T	37	24.49	24.26	14.97	15.09	0.21	27.39	18.25	
		38	24.41	24.45	15.62	15.52	0.21	27.44	18.79	
		40	24.83	25.03	15.28	16.02	0.21	27.94	18.89	
	106T	53	24.37	24.36	15.15	15.04	0.38	27.38	18.49	
		54	24.69	24.52	15.35	15.30	0.38	27.62	18.72	
	242T	61	23.97	23.80	12.57	12.65	0.89	26.90	16.51	
SU	-	24.40	24.22	12.91	12.83	0.89	27.32	16.77		
2 437	26T	0	24.71	23.96	16.08	15.08	0.11	27.36	18.73	
		4	24.82	24.60	16.08	15.44	0.11	27.72	18.89	
		8	24.77	24.51	15.50	14.76	0.11	27.65	18.27	
	52T	37	24.67	24.52	15.05	14.43	0.21	27.61	17.97	
		38	24.81	24.53	15.80	15.04	0.21	27.68	18.66	
		40	25.03	25.03	15.58	15.79	0.21	28.04	18.91	
	106T	53	25.13	25.23	15.49	15.56	0.38	28.19	18.92	
		54	24.86	24.36	15.58	14.80	0.38	27.63	18.60	
	242T	61	24.00	23.40	12.74	12.00	0.89	26.72	16.29	
SU	-	24.52	23.93	13.01	12.40	0.89	27.25	16.62		
2 462	26T	0	24.68	24.48	15.54	15.26	0.11	27.59	18.52	
		4	24.63	24.56	15.86	15.50	0.11	27.61	18.80	
		8	24.39	24.30	15.00	14.73	0.11	27.36	17.99	
	52T	37	24.87	24.44	15.30	15.09	0.21	27.67	18.42	
		38	24.72	24.50	15.77	15.33	0.21	27.62	18.78	
		40	24.42	24.19	15.05	14.79	0.21	27.32	18.14	
	106T	53	24.66	24.53	15.35	15.02	0.38	27.61	18.58	
		54	24.36	24.21	15.20	14.82	0.38	27.30	18.40	
	242T	61	24.17	23.60	12.73	12.57	0.89	26.90	16.55	
SU	-	24.28	23.66	12.81	12.66	0.89	26.99	16.64		

Frequency (MHz)	Tone	RU offset	Measured output power							Limit (dBm)
			Reading (dBm)				DCF (dB)	Result (dBm)		
			Peak		Average			Peak	Average	
			ANT 1	ANT 2	ANT 1	ANT 2				
2 467	26T	0	17.45	17.36	4.58	5.20	0.11	20.42	8.02	30.00
		4	17.42	17.75	5.56	5.79	0.11	20.60	8.80	
		8	16.82	16.67	4.44	4.66	0.11	19.76	7.67	
	52T	37	16.51	16.63	4.53	5.22	0.21	19.58	8.11	
		38	17.13	17.56	5.15	5.59	0.21	20.36	8.60	
		40	16.41	16.74	4.40	4.82	0.21	19.59	7.84	
	106T	53	17.23	17.17	4.80	5.18	0.38	20.21	8.38	
		54	16.99	16.08	4.80	4.58	0.38	19.57	8.08	
	242T	61	16.77	16.05	4.57	4.01	0.89	19.44	8.20	
	SU	-	17.51	16.51	4.64	4.02	0.89	20.05	8.24	
2 472	26T	0	8.69	8.06	-2.90	-3.01	0.11	11.40	0.17	
		4	9.05	8.57	-1.95	-2.53	0.11	11.83	0.89	
		8	8.22	7.90	-3.30	-3.92	0.11	11.07	-0.48	
	52T	37	8.52	7.28	-2.79	-3.39	0.21	10.95	0.14	
		38	9.50	9.70	-2.67	-2.27	0.21	12.61	0.75	
		40	8.90	9.60	-3.58	-2.91	0.21	12.27	-0.01	
	106T	53	9.50	10.10	-3.05	-2.83	0.38	12.82	0.45	
		54	9.40	9.20	-3.10	-2.99	0.38	12.31	0.35	
	242T	61	7.66	8.17	-4.24	-4.31	0.89	10.93	-0.37	
	SU	-	8.58	8.20	-3.56	-4.25	0.89	11.40	0.01	

Notes:

1. Peak result(dB m) = $10\log(10^{(ANT1/10)}+10^{(ANT2/10)})$ (dB m)
2. Average result(dB m) = $10\log(10^{(ANT1/10)}+10^{(ANT2/10)})$ (dB m) + DCF(dB)

7.2. Peak Power Spectral Density

Test setup



Limit

According to §15.247(e), for digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

Test procedure

ANSI C63.10 - Section 11.10.2

Test settings

Method PKPSD (peak PSD)

The following procedure shall be used if maximum peak conducted output power was used to determine compliance, and it is optional if the maximum conducted (average) output power was used to determine compliance:

- 1) Set analyzer center frequency to DTS channel center frequency.
- 2) Set the span to 1.5 times the DTS bandwidth.
- 3) Set the RBW to: $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$.
- 4) Set the VBW $\geq 3 \times \text{RBW}$.
- 5) Detector = peak.
- 6) Sweep time = auto couple.
- 7) Trace mode = max hold.
- 8) Allow trace to fully stabilize.
- 9) Use the peak marker function to determine the maximum amplitude level within the RBW.
- 10) If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

Test results**SISO**

Frequency (MHz)	Tone	RU offset	Reading(dB m/ 3 kHz)		DCF (dB)	Result(dBm/ 3kHz)		Limit (dBm/ 3kHz)
			ANT 1	ANT 2		ANT 1	ANT 2	
2 412	26T	0	0.25	-0.31	0.10	0.35	-0.21	8.00
		4	-0.96	-0.39	0.10	-0.86	-0.29	
		8	-0.05	-0.13	0.10	0.05	-0.03	
	52T	37	-3.09	-2.71	0.20	-2.89	-2.51	
		38	-3.60	-3.30	0.20	-3.40	-3.10	
		40	-3.69	-0.73	0.20	-3.49	-0.53	
	106T	53	-5.57	-6.26	0.26	-5.31	-6.00	
		54	-6.11	-6.33	0.26	-5.85	-6.07	
	SU	-	-11.64	-11.24	0.49	-11.15	-10.75	
2 437	26T	0	-1.68	-0.43	0.10	-1.58	-0.33	8.00
		4	-1.70	-1.56	0.10	-1.60	-1.46	
		8	-0.30	-0.53	0.10	-0.20	-0.43	
	52T	37	-3.24	-2.21	0.20	-3.04	-2.01	
		38	-4.87	-3.81	0.20	-4.67	-3.61	
		40	-3.41	-2.94	0.20	-3.21	-2.74	
	106T	53	-5.14	-5.14	0.26	-4.88	-4.88	
		54	-6.22	-6.07	0.26	-5.96	-5.81	
	SU	-	-12.25	-11.77	0.49	-11.76	-11.28	
2 462	26T	0	0.26	-0.71	0.10	0.36	-0.61	8.00
		4	-0.33	-1.25	0.10	-0.23	-1.15	
		8	-1.75	-1.50	0.10	-1.65	-1.40	
	52T	37	-1.22	-3.22	0.20	-1.02	-3.02	
		38	-3.05	-3.55	0.20	-2.85	-3.35	
		40	-2.83	-4.00	0.20	-2.63	-3.80	
	106T	53	-5.57	-4.41	0.26	-5.31	-4.15	
		54	-5.40	-5.41	0.26	-5.14	-5.15	
	SU	-	-12.04	-11.04	0.49	-11.55	-10.55	
2 467	26T	0	-10.11	-10.88	0.10	-10.01	-10.78	8.00
		4	-11.16	-10.86	0.10	-11.06	-10.76	
		8	-12.09	-11.92	0.10	-11.99	-11.82	
	52T	37	-13.06	-12.08	0.20	-12.86	-11.88	
		38	-14.33	-13.81	0.20	-14.13	-13.61	
		40	-13.11	-14.92	0.20	-12.91	-14.72	
	106T	53	-15.37	-16.21	0.26	-15.11	-15.95	
		54	-15.93	-16.56	0.26	-15.67	-16.30	
	SU	-	-19.90	-19.88	0.49	-19.41	-19.39	
2 472	26T	0	-19.28	-19.57	0.10	-19.18	-19.47	8.00
		4	-17.96	-17.74	0.10	-17.86	-17.64	
		8	-19.21	-19.98	0.10	-19.11	-19.88	
	52T	37	-21.18	-20.96	0.20	-20.98	-20.76	
		38	-20.51	-21.42	0.20	-20.31	-21.22	
		40	-22.05	-20.65	0.20	-21.85	-20.45	
	106T	53	-24.19	-22.97	0.26	-23.93	-22.71	
		54	-23.54	-24.49	0.26	-23.28	-24.23	
	SU	-	-25.75	-26.45	0.49	-25.26	-25.96	

Notes:

1. Result(dB m) = Reading (dB m) + DCF(dB)

MIMO

Frequency (MHz)	Tone	RU offset	Reading(dB m/ 3 kHz)		DCF (dB)	Result(dBm/ 3kHz)	Limit (dBm/ 3kHz)
			ANT 1	ANT 2			
2 412	26T	0	-1.20	-0.20	0.11	2.45	8.00
		4	-1.76	-0.64	0.11	1.96	
		8	-2.39	0.35	0.11	2.31	
	52T	37	-4.11	-4.00	0.21	-0.83	
		38	-2.45	-3.76	0.21	0.16	
		40	-4.06	-3.58	0.21	-0.59	
	106T	53	-7.30	-6.87	0.38	-3.69	
		54	-6.44	-6.59	0.38	-3.12	
	SU	-	-11.45	-10.63	0.89	-7.12	
	2 437	26T	0	-2.55	-1.32	0.11	
4			-1.45	-1.24	0.11	1.78	
8			-2.79	-2.92	0.11	0.27	
52T		37	-5.15	-4.89	0.21	-1.80	
		38	-3.56	-3.83	0.21	-0.47	
		40	-4.27	-4.62	0.21	-1.22	
106T		53	-8.45	-7.16	0.38	-4.37	
		54	-7.18	-7.52	0.38	-3.96	
SU		-	-11.37	-10.97	0.89	-7.27	
2 462		26T	0	-1.20	-1.47	0.11	1.79
	4		-0.24	-0.36	0.11	2.82	
	8		-1.62	-1.53	0.11	1.55	
	52T	37	-4.17	-3.06	0.21	-0.36	
		38	-4.19	-3.25	0.21	-0.47	
		40	-4.50	-4.19	0.21	-1.12	
	106T	53	-7.05	-5.76	0.38	-2.97	
		54	-6.85	-6.69	0.38	-3.38	
	SU	-	-11.55	-11.30	0.89	-7.52	
	2 467	26T	0	-10.43	-11.75	0.11	-7.92
4			-10.60	-10.83	0.11	-7.59	
8			-11.91	-11.34	0.11	-8.50	
52T		37	-13.82	-14.06	0.21	-10.72	
		38	-13.63	-12.76	0.21	-9.95	
		40	-14.23	-13.40	0.21	-10.57	
106T		53	-16.67	-16.46	0.38	-13.17	
		54	-17.15	-16.67	0.38	-13.51	
SU		-	-19.75	-19.39	0.89	-15.67	
2 472		26T	0	-20.64	-18.02	0.11	-16.02
	4		-17.80	-19.74	0.11	-15.54	
	8		-20.79	-22.21	0.11	-18.32	
	52T	37	-22.20	-20.94	0.21	-18.30	
		38	-22.82	-22.31	0.21	-19.34	
		40	-23.60	-22.78	0.21	-19.95	
	106T	53	-25.94	-24.27	0.38	-21.63	
		54	-26.93	-25.07	0.38	-22.51	
	SU	-	-26.78	-28.21	0.89	-23.54	

Notes:

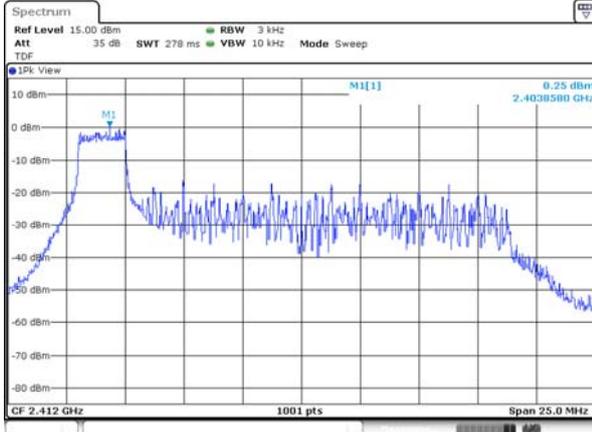
1. Result(dB m) = 10log(10^(Ant1/10)+10^(ant2/10)) (dB m) + DCF(dB)

SISO

26T / 2 412 MHz

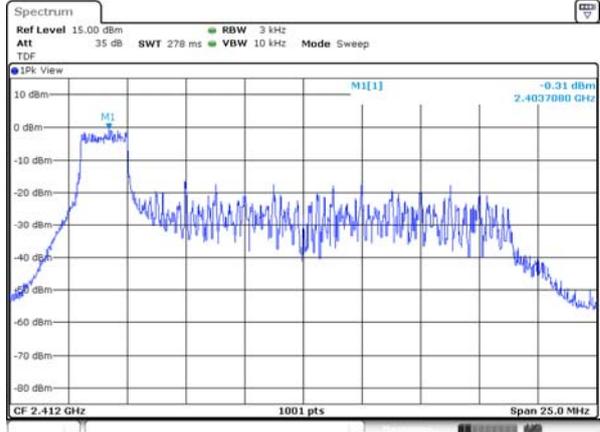
ANT 1

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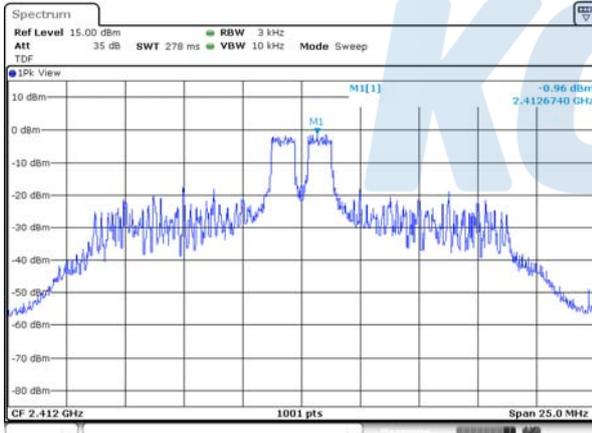


ANT 2

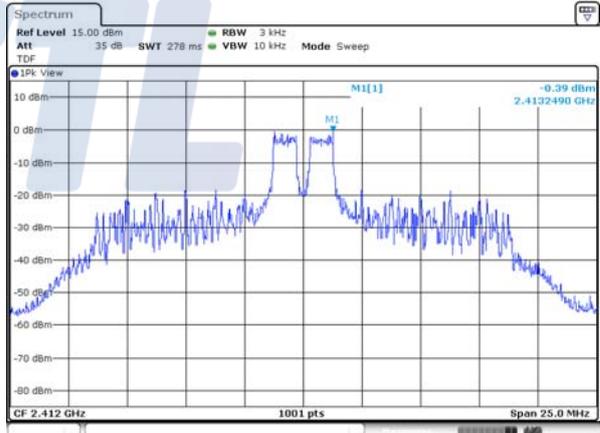
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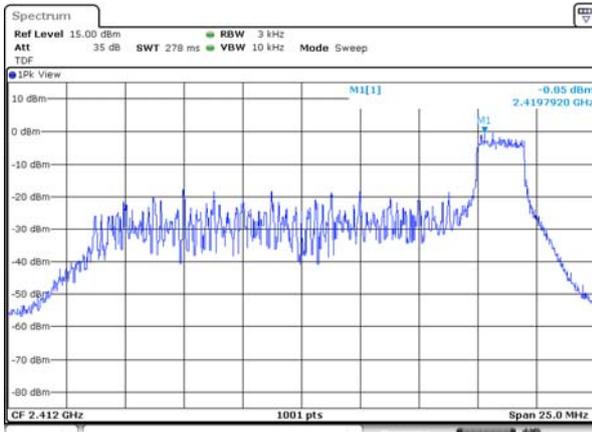
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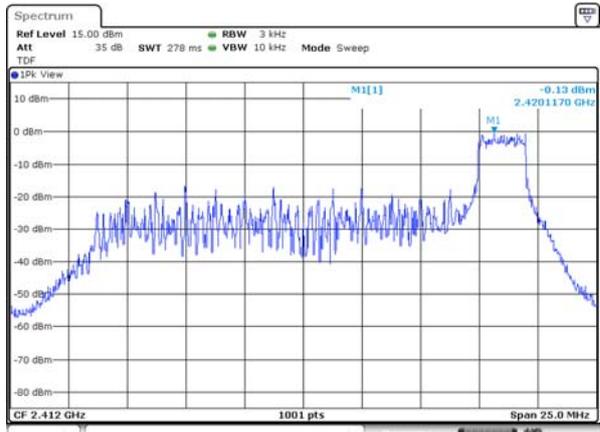
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RU offset 8



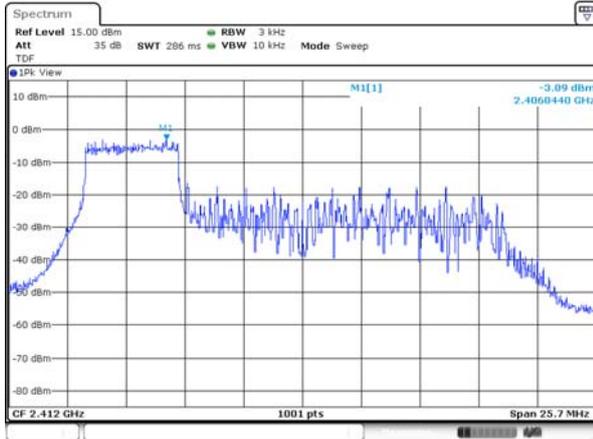
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52T / 2 412 MHz

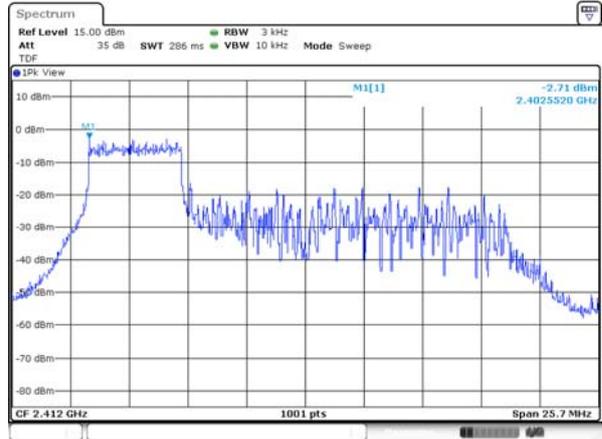
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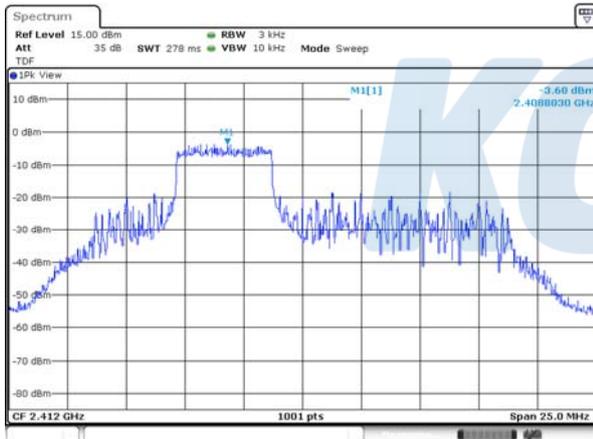


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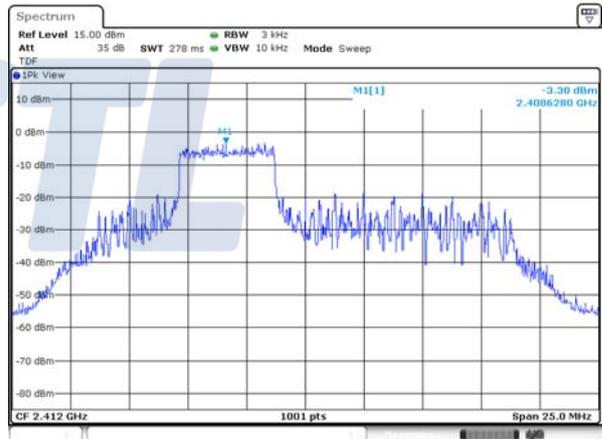
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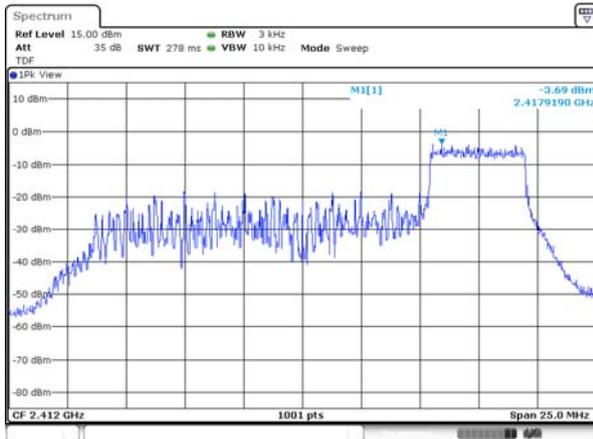
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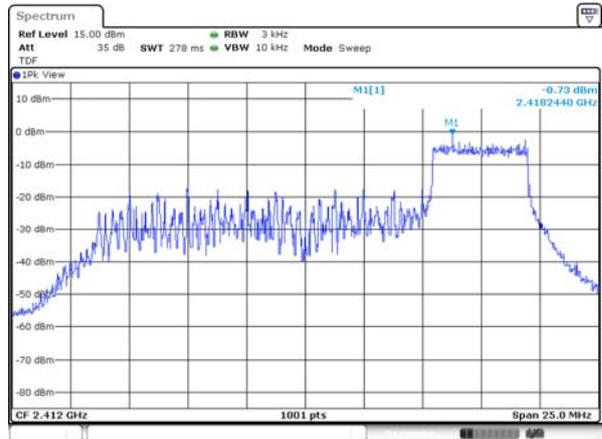
RU offset 38



RU offset 40



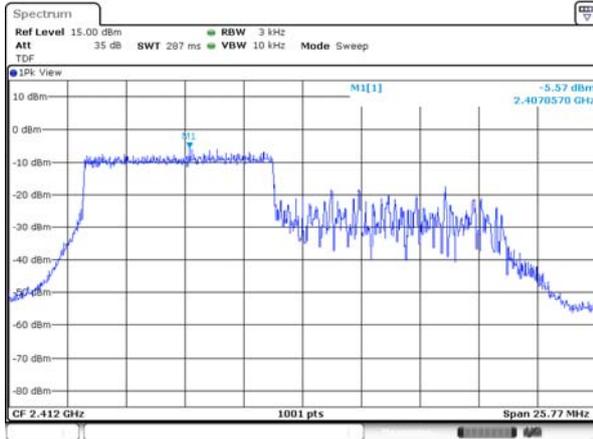
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106T / 2 412 MHz

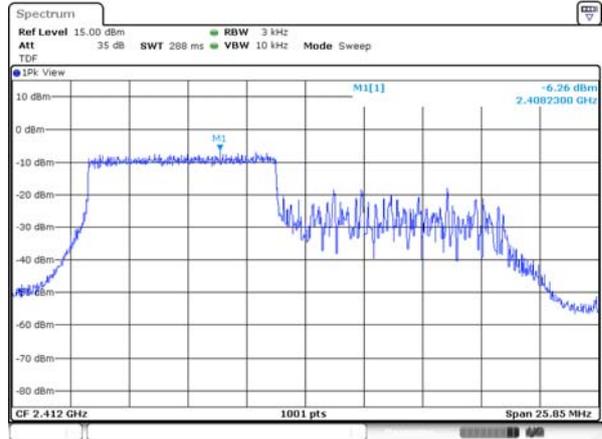
ANT 1

RU offset 53

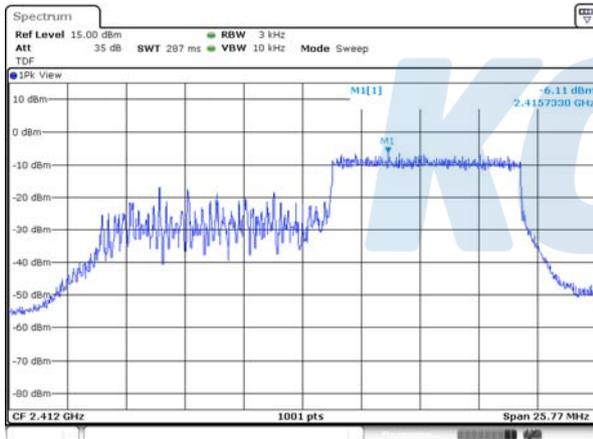


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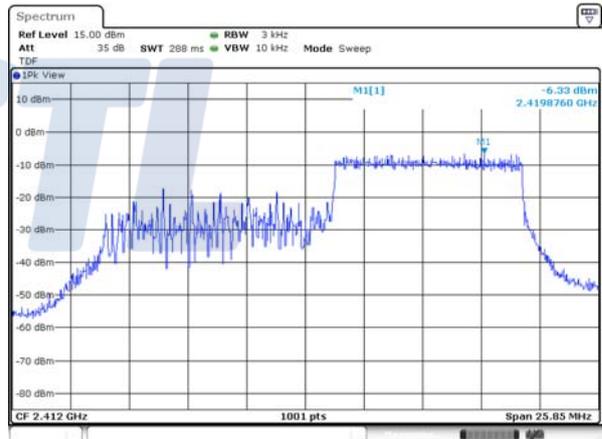
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RU offset 54

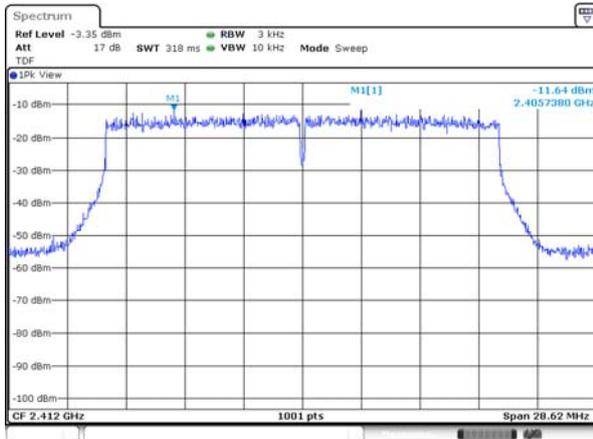


RU offset 54

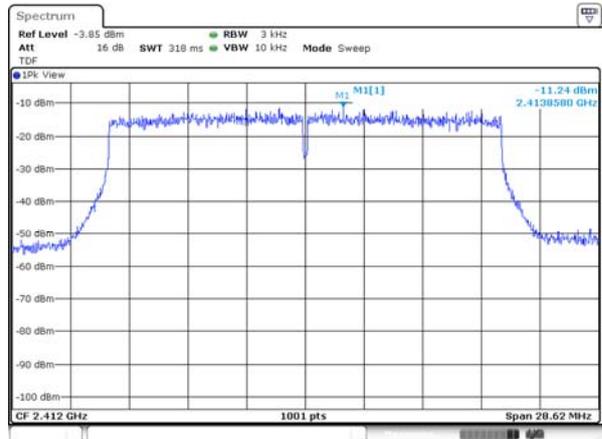


SU / 2 412 MHz

ANT 1



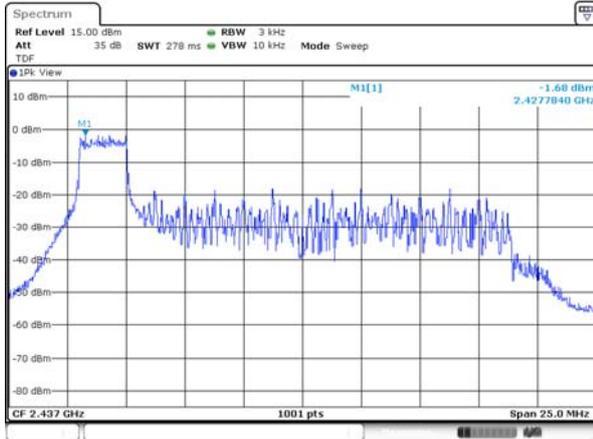
ANT 2



26T / 2 437 MHz

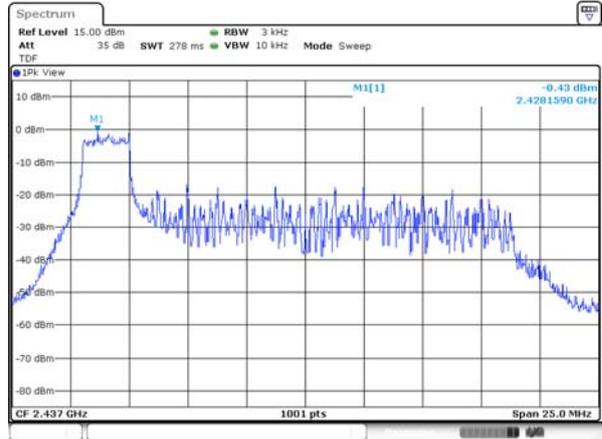
ANT 1

RU offset 0

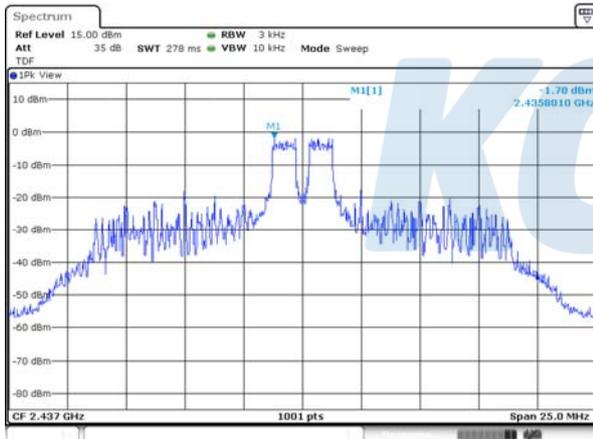


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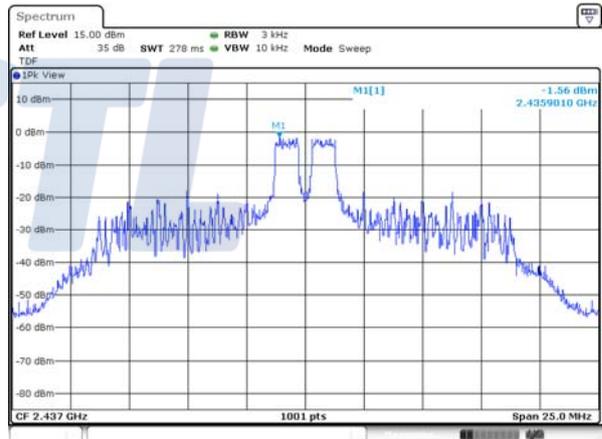
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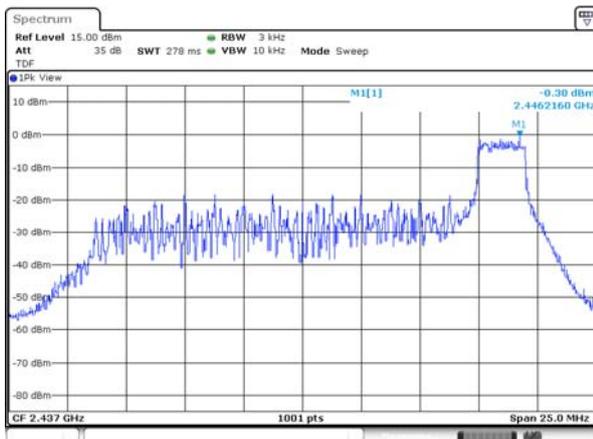
RU offset 4



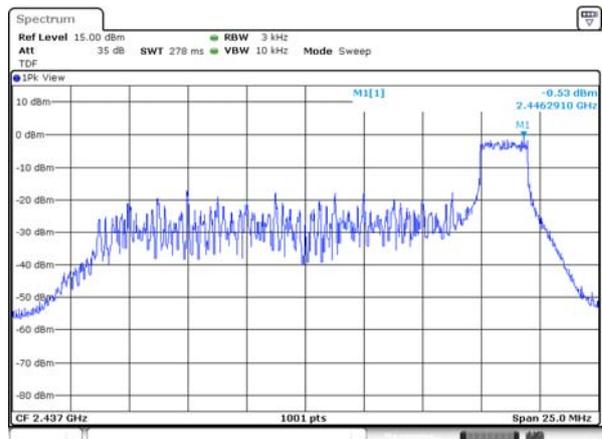
RU offset 4



RU offset 8



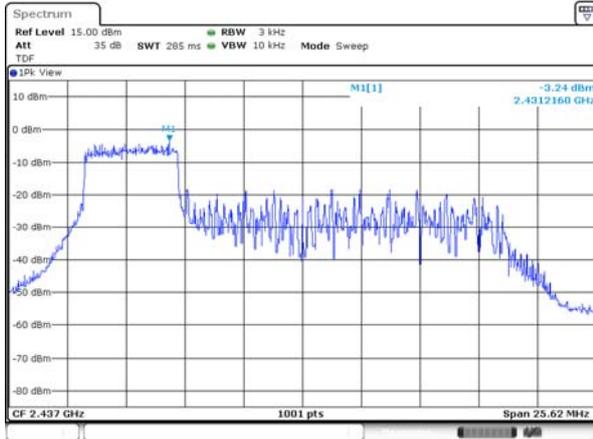
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52T / 2 437 MHz

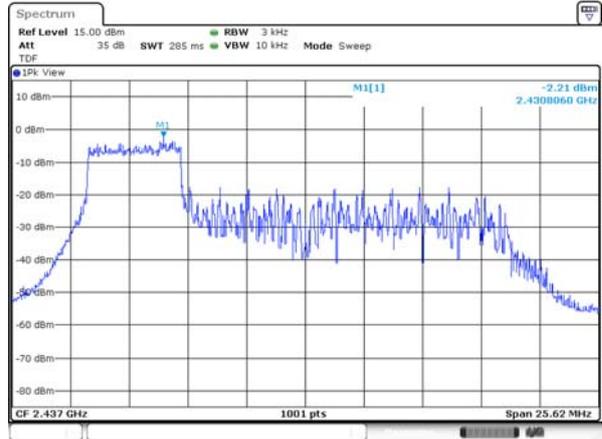
ANT 1

RU offset 37

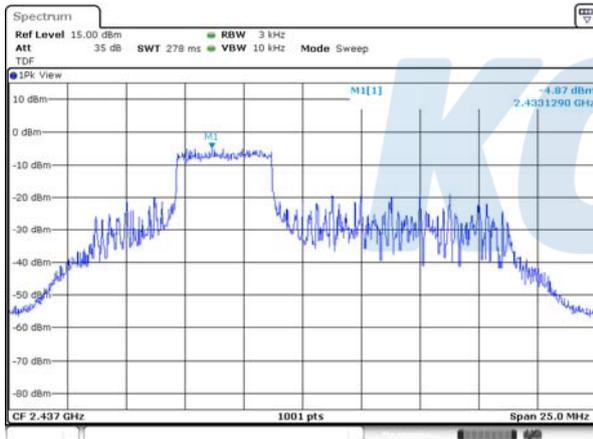


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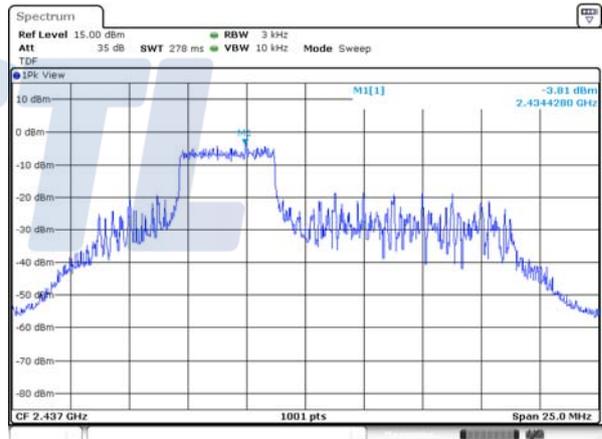
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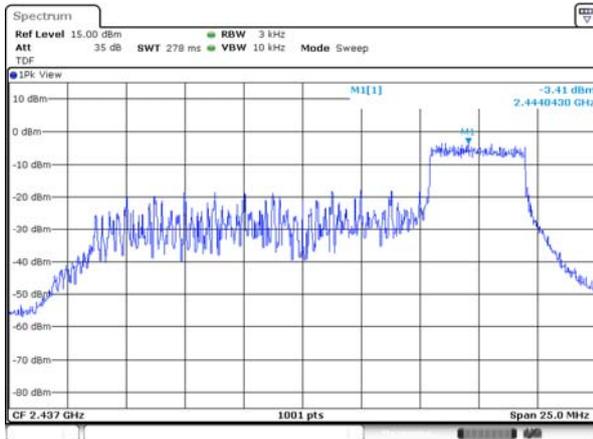
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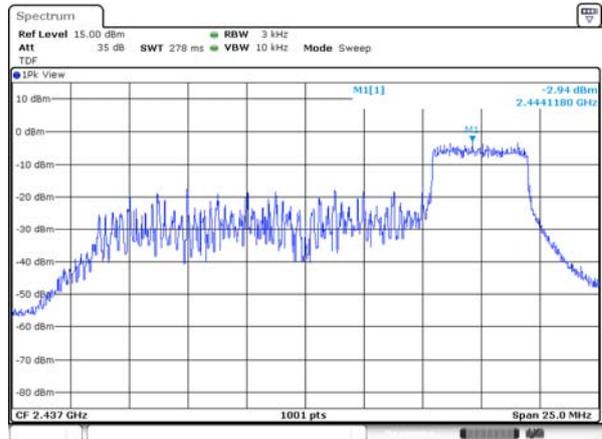
RU offset 38



RU offset 40



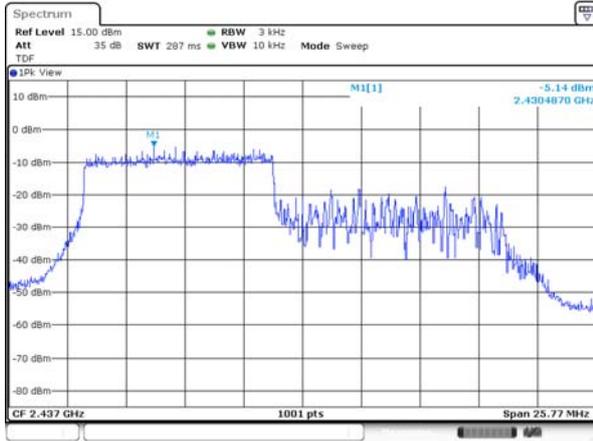
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106T / 2 437 MHz

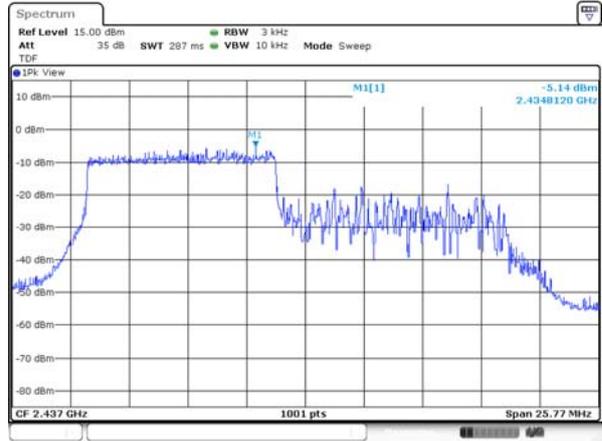
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RU offset 53

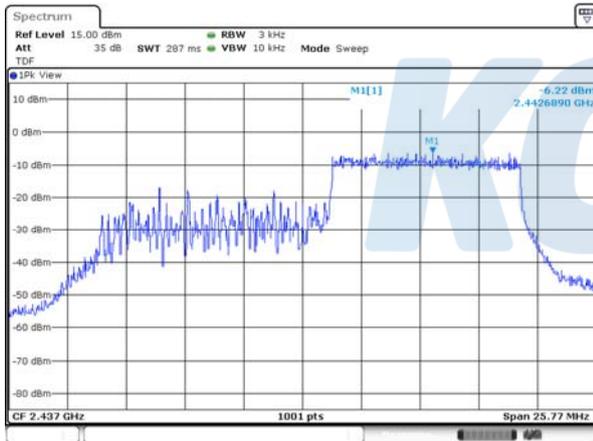


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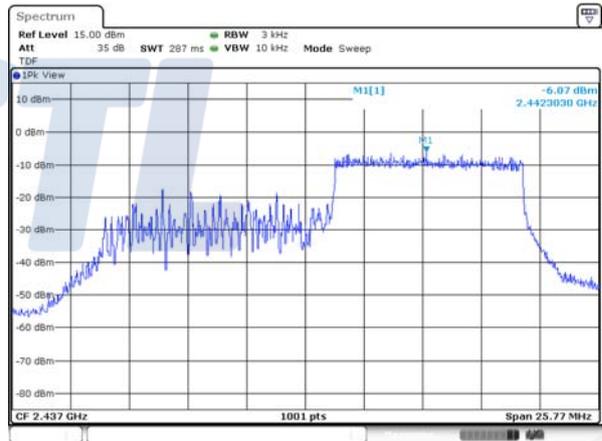
RU offset 53



RU offset 54

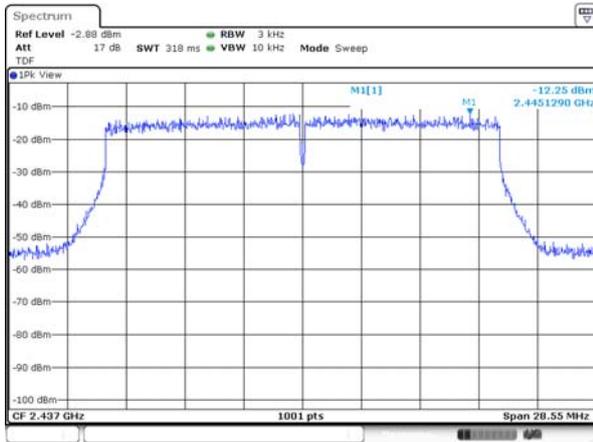


RU offset 54

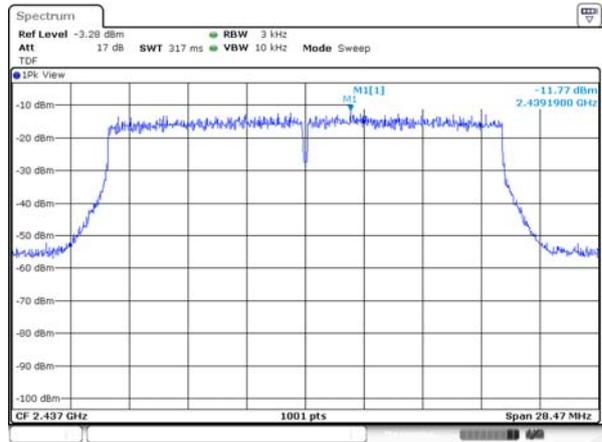


SU / 2 437 MHz

ANT 1



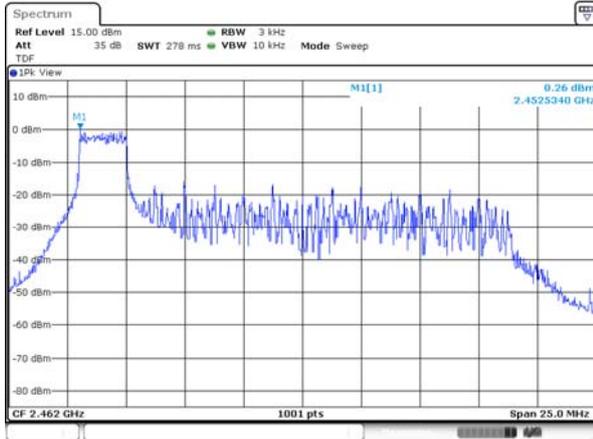
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26T / 2 462 MHz

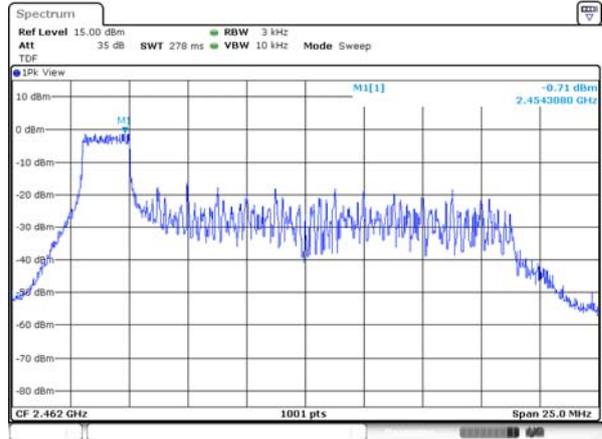
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RU offset 0

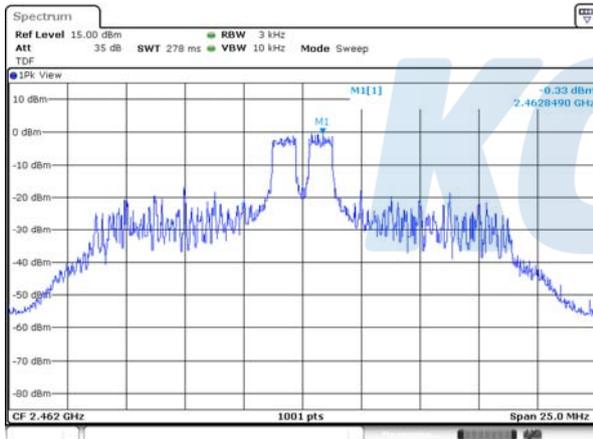


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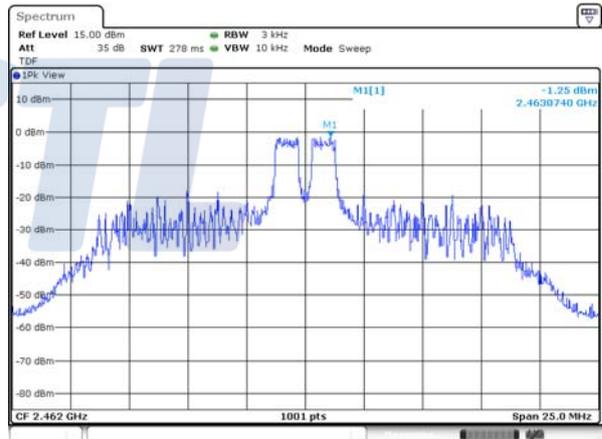
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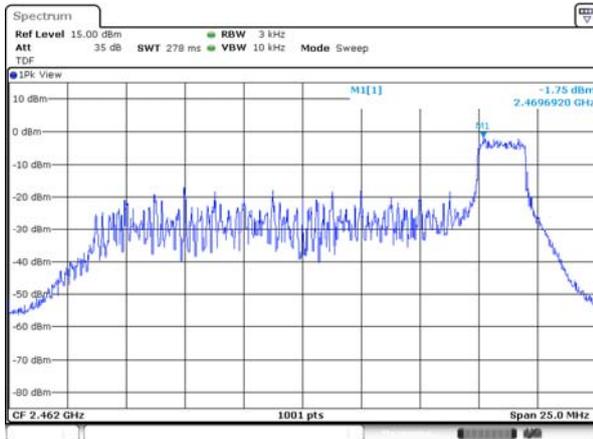
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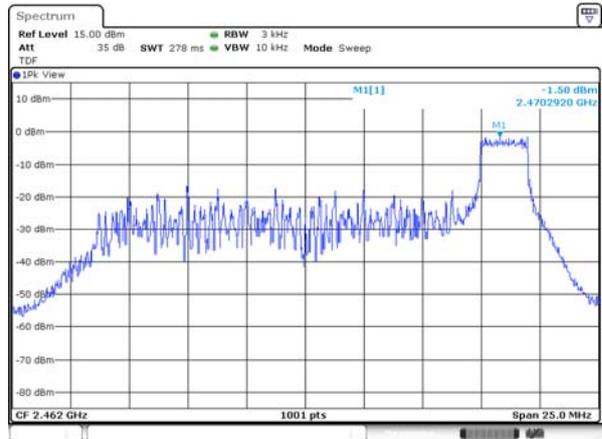
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RU offset 8



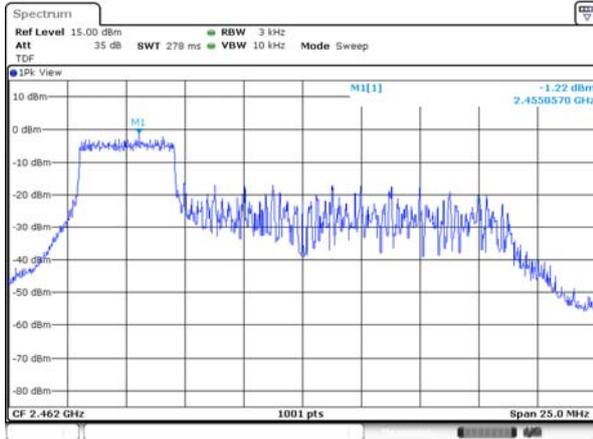
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52T / 2 462 MHz

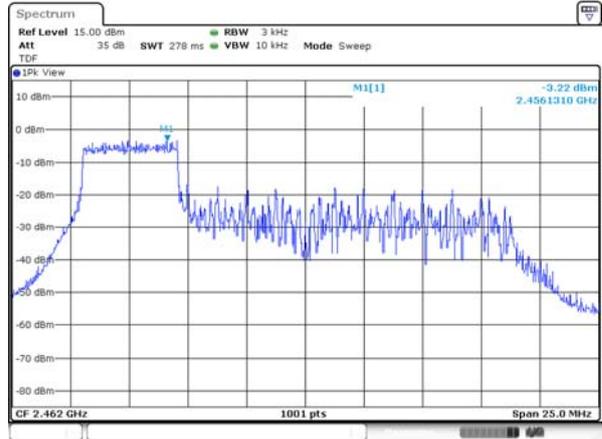
ANT 1

RU offset 37

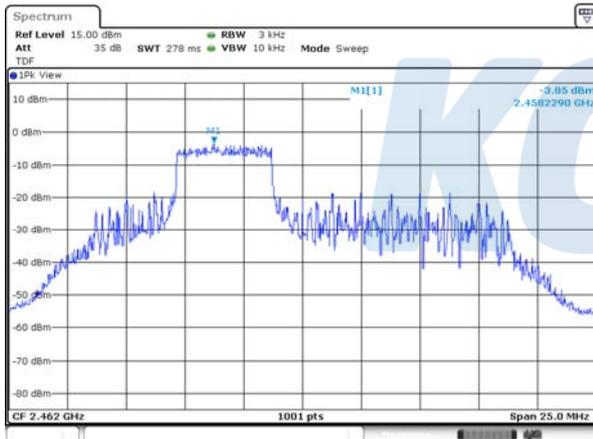


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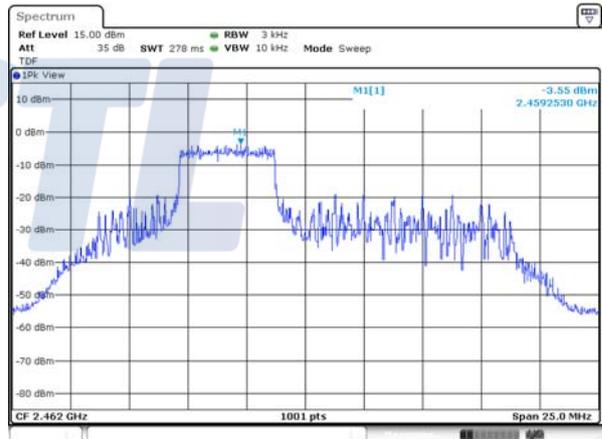
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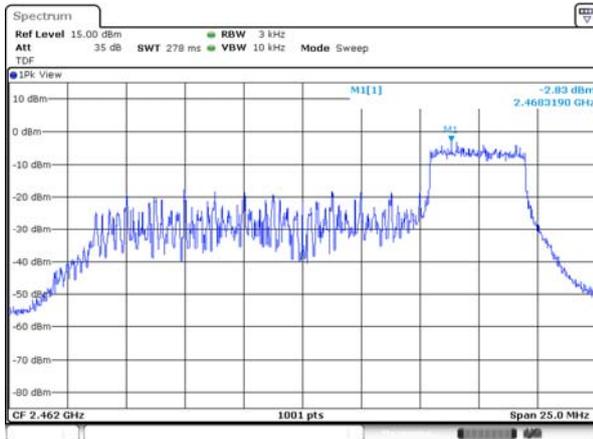
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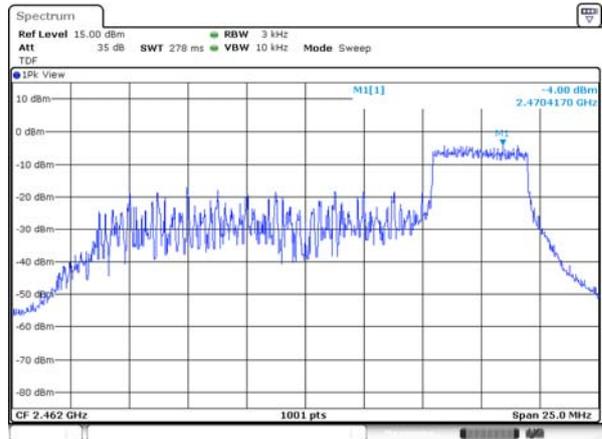
RU offset 38



RU offset 40



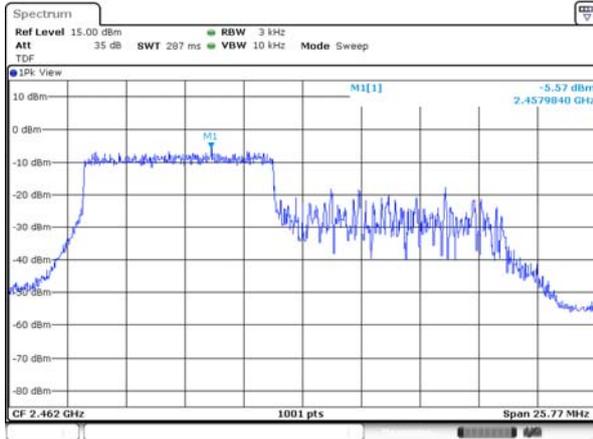
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106T / 2 462 MHz

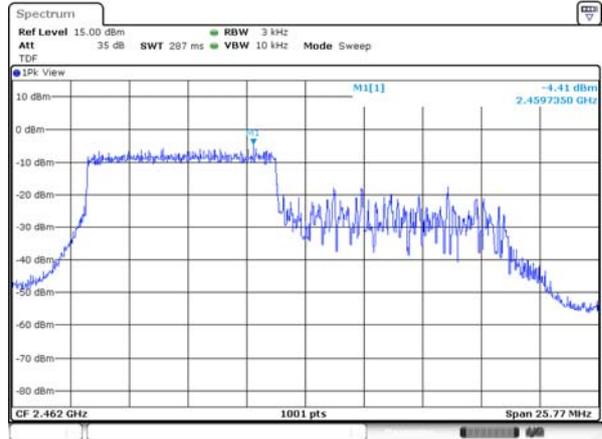
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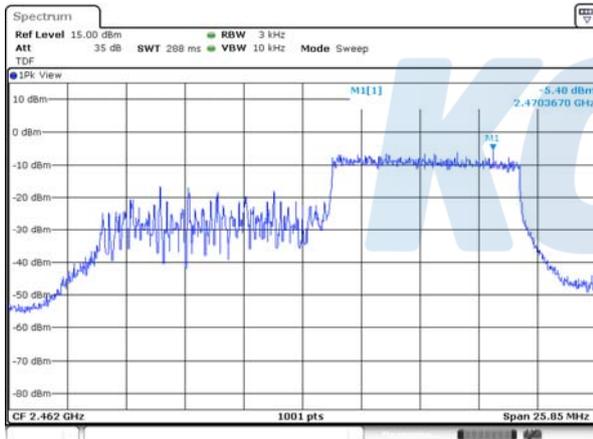


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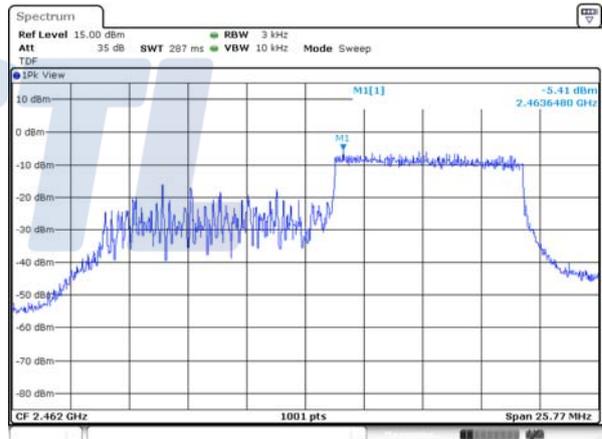
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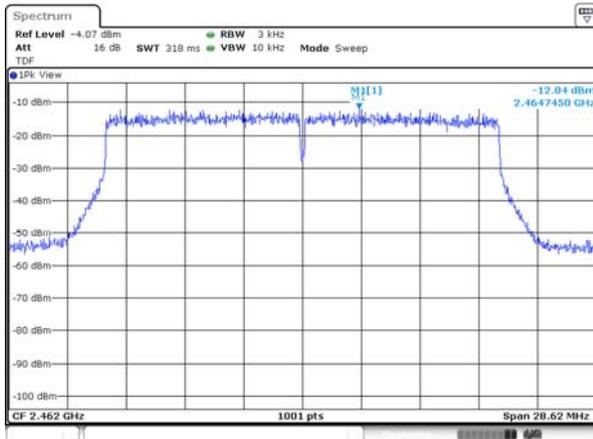


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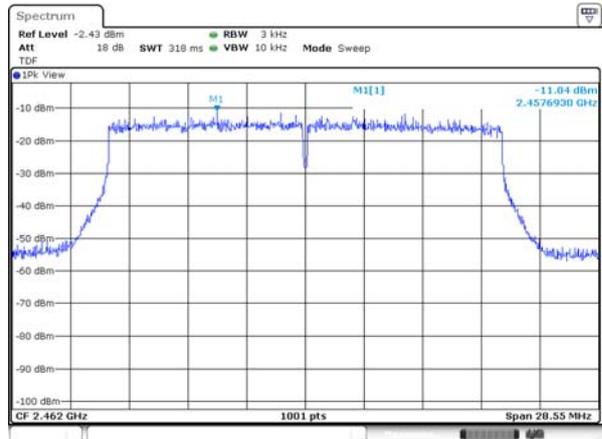


SU / 2 462 MHz

ANT 1



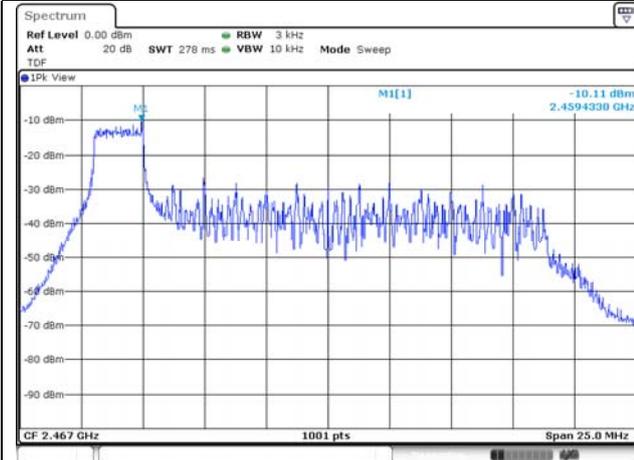
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26T / 2 467 MHz

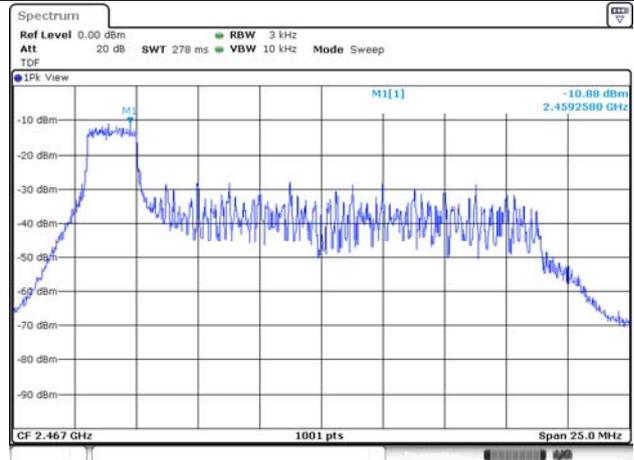
ANT 1

RU offset 0

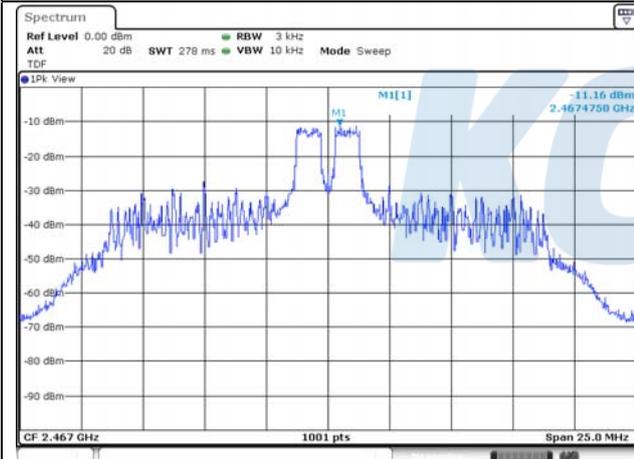


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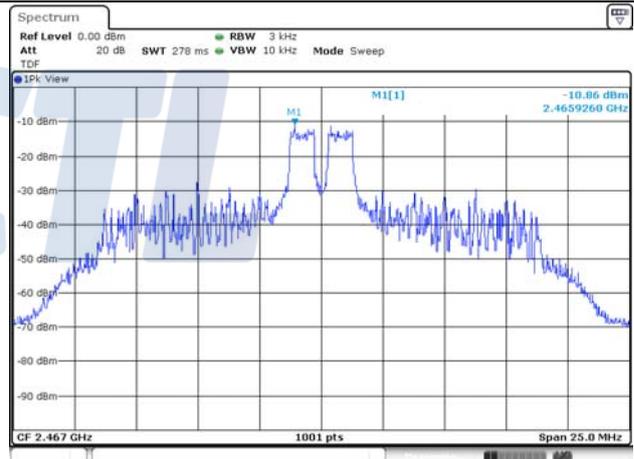
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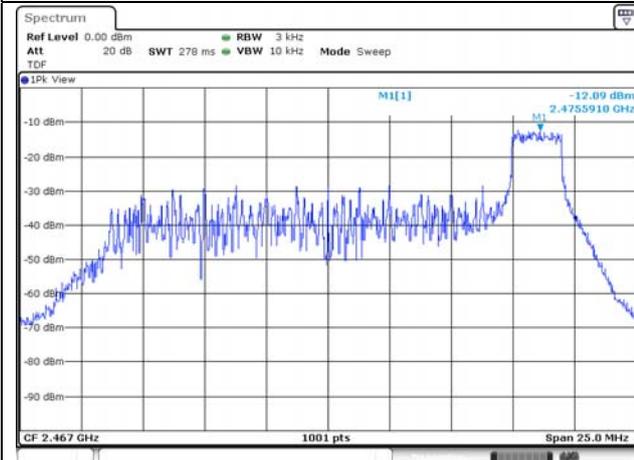
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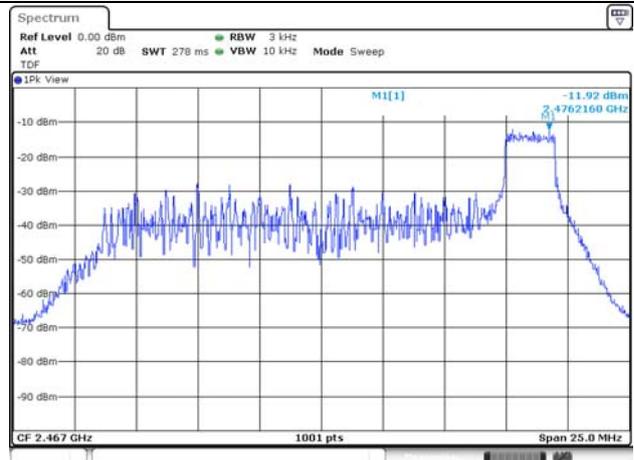
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RU offset 8



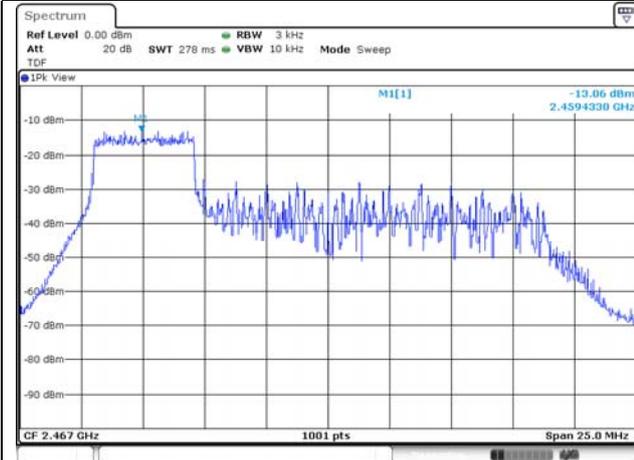
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52T / 2 467 MHz

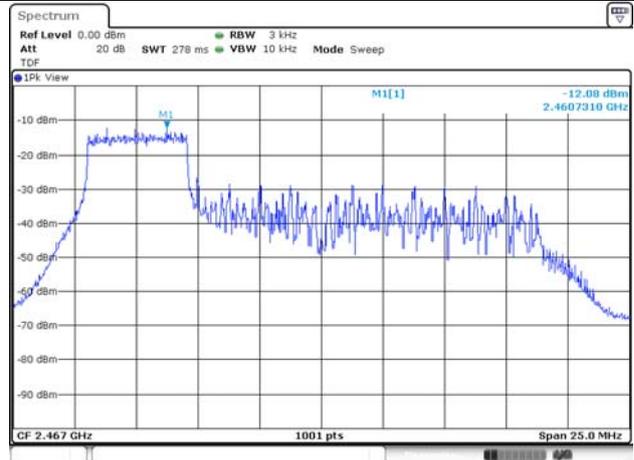
ANT 1

RU offset 37

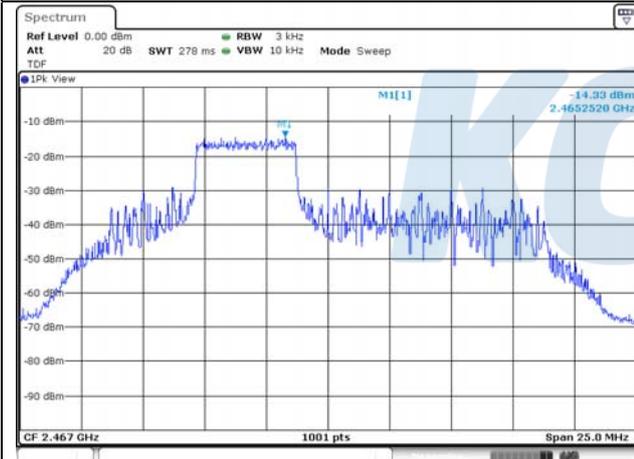


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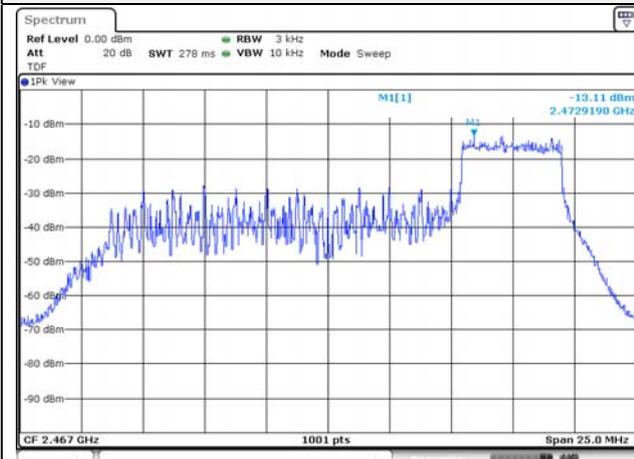
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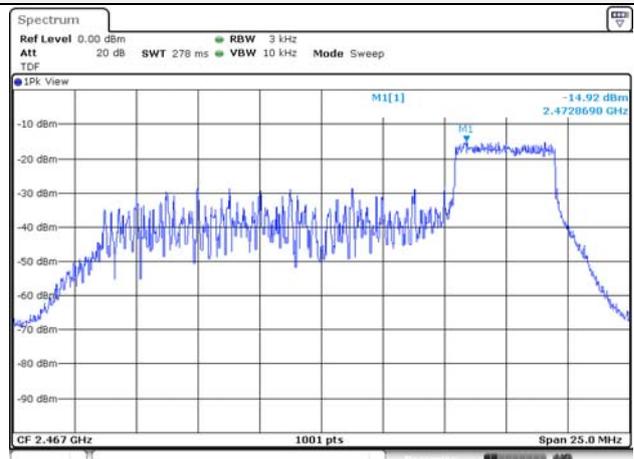
RU offset 38



RU offset 40



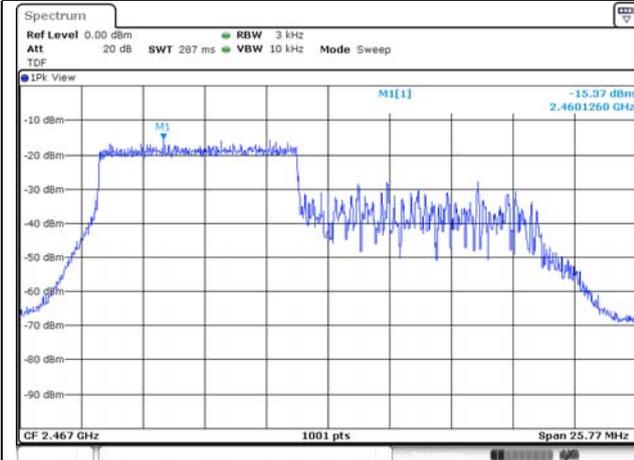
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106T / 2 467 MHz

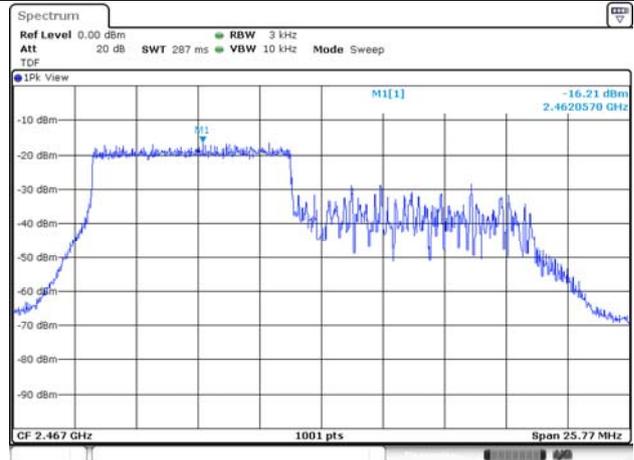
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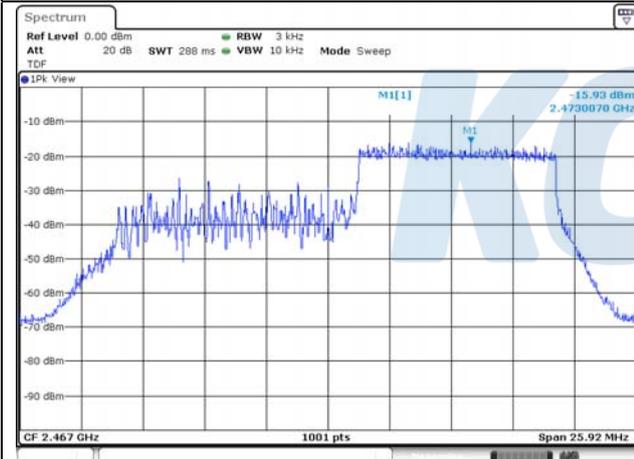


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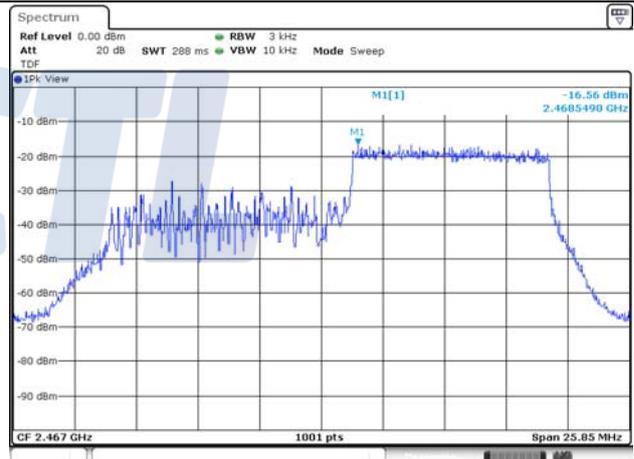
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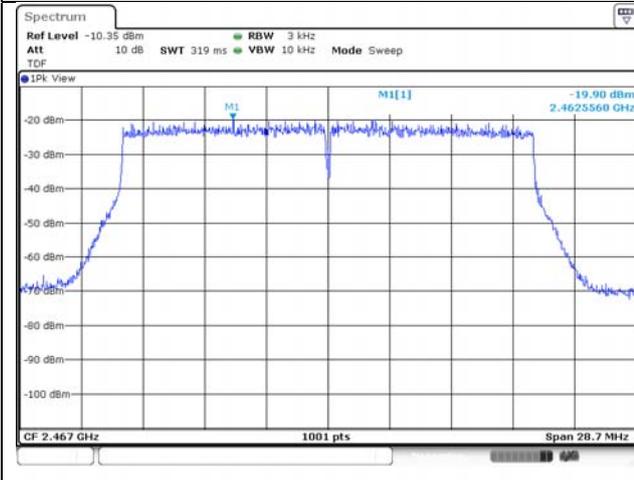


RU offset 54

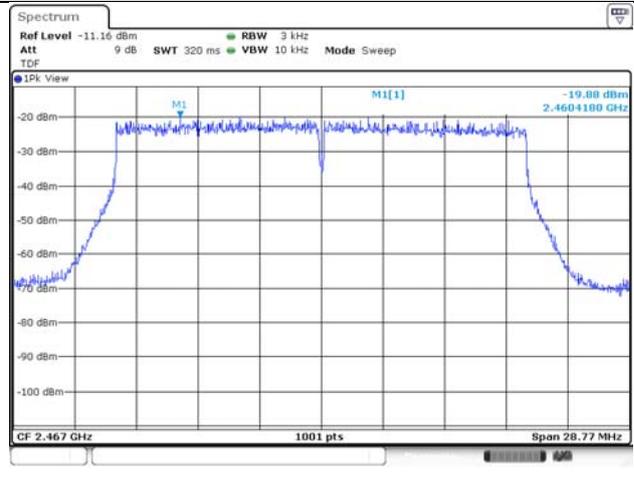


SU / 2 467 MHz

ANT 1



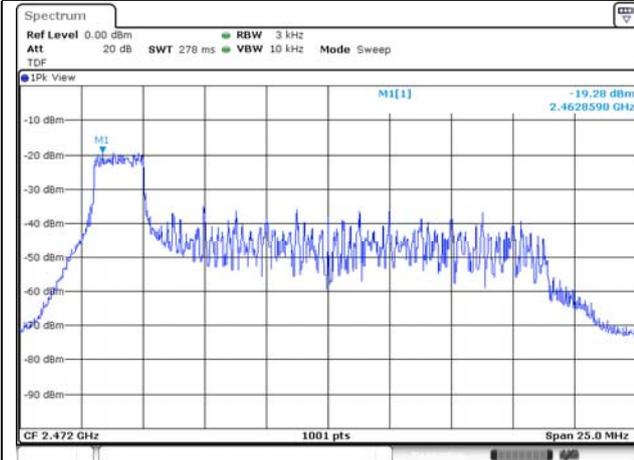
ANT 2



26T / 2 472 MHz

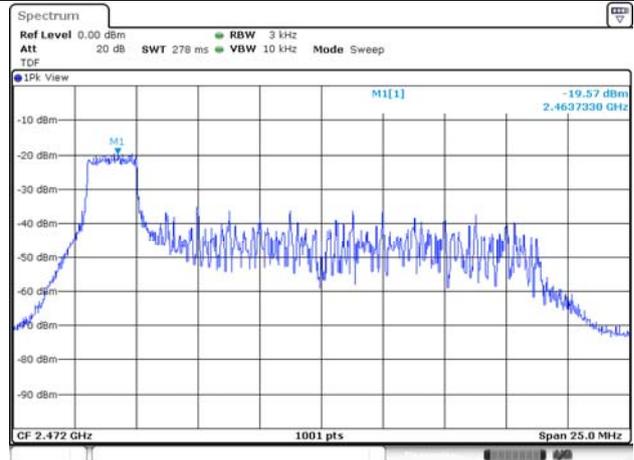
ANT 1

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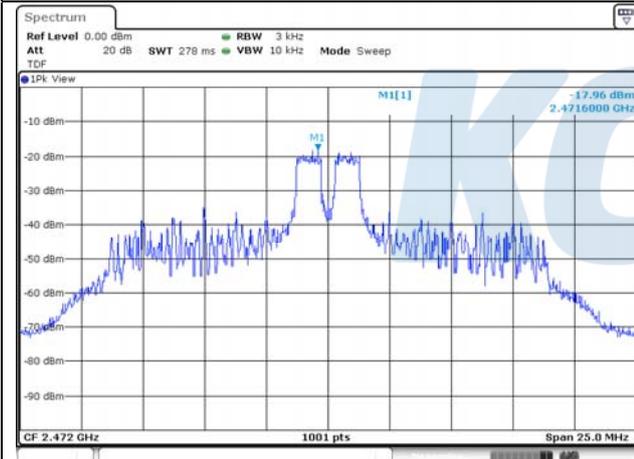


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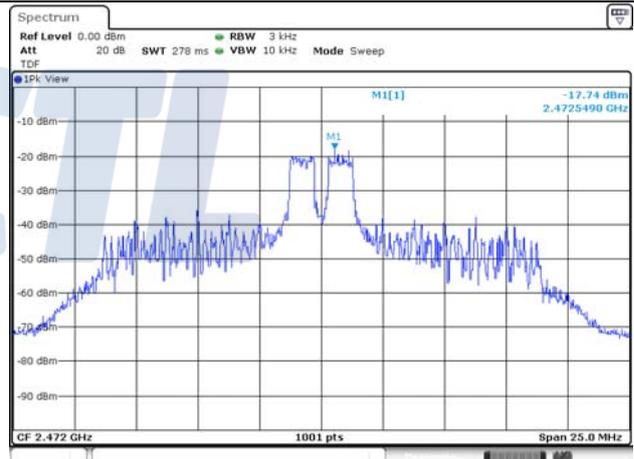
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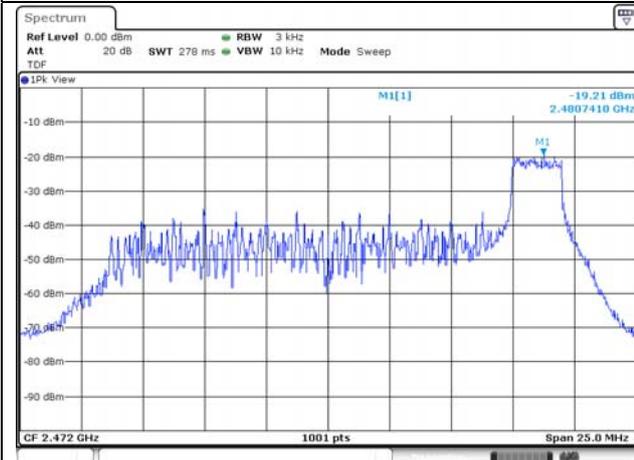
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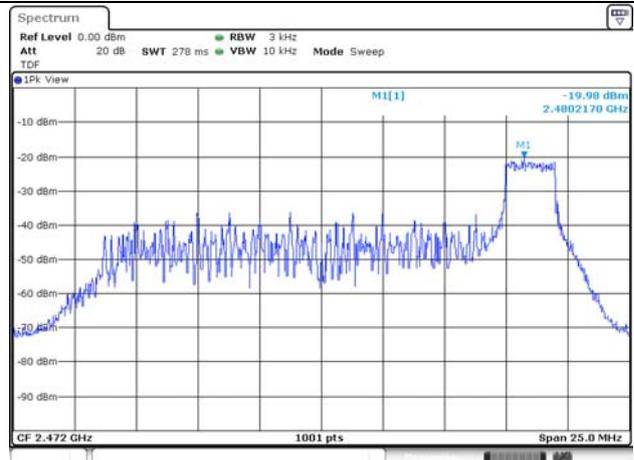
RU offset 4



RU offset 8



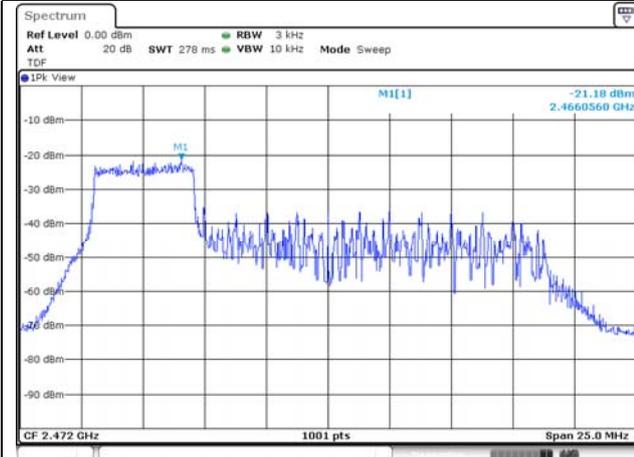
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52T / 2 472 MHz

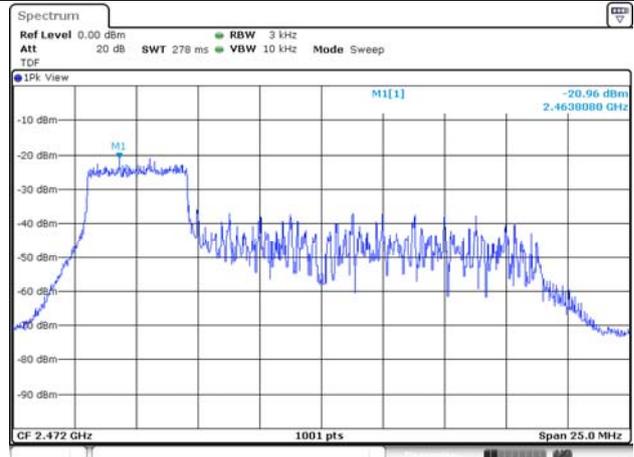
ANT 1

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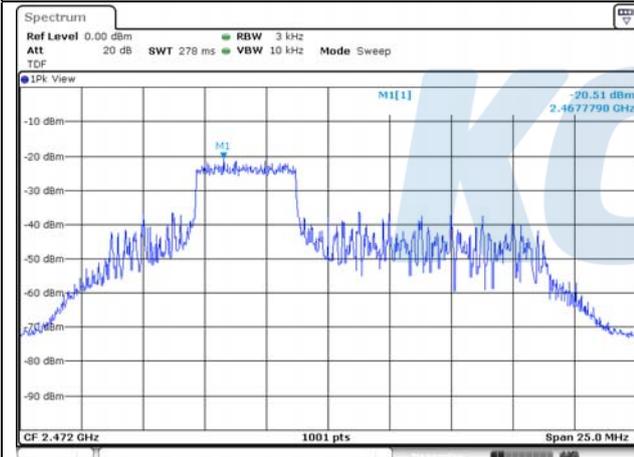


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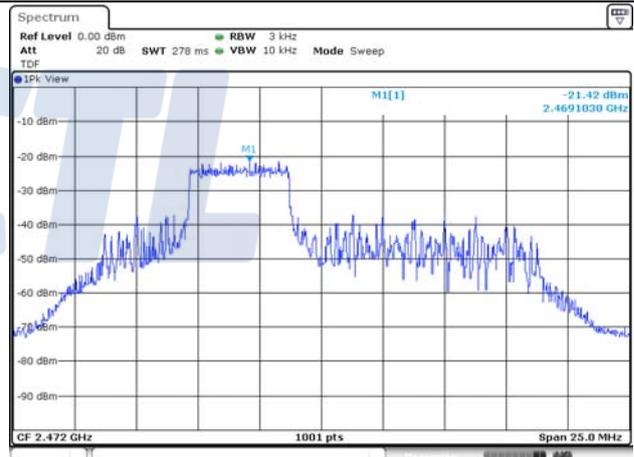
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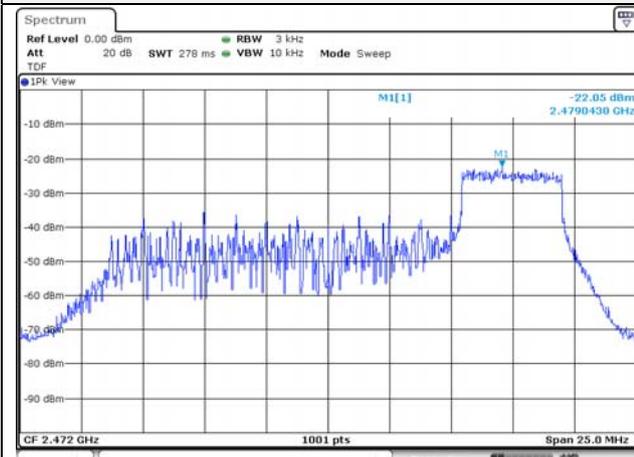
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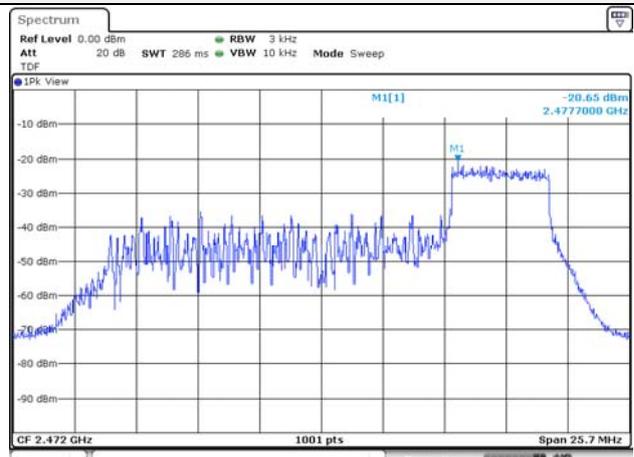
RU offset 38



RU offset 40



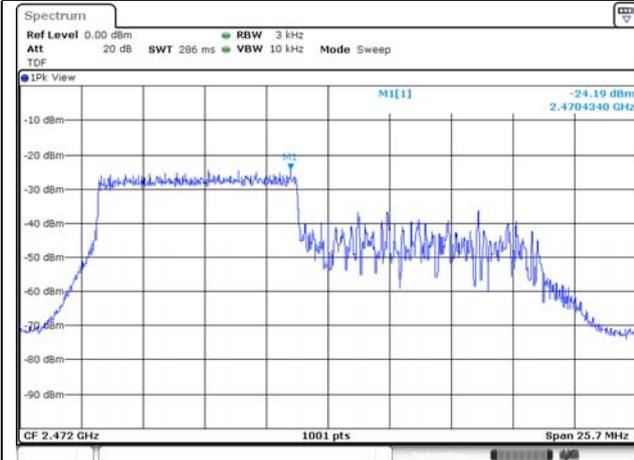
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106T / 2 472 MHz

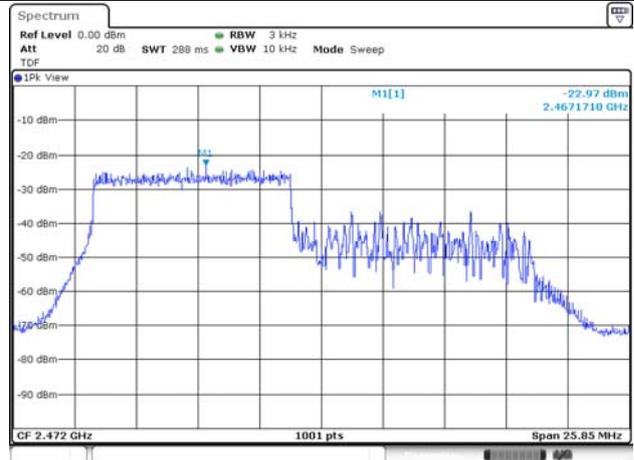
ANT 1

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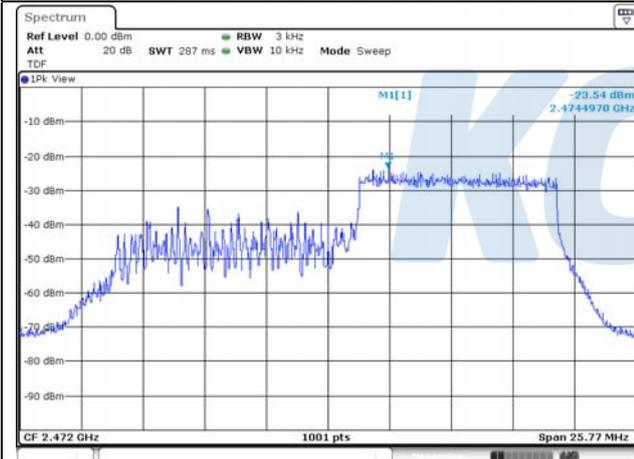


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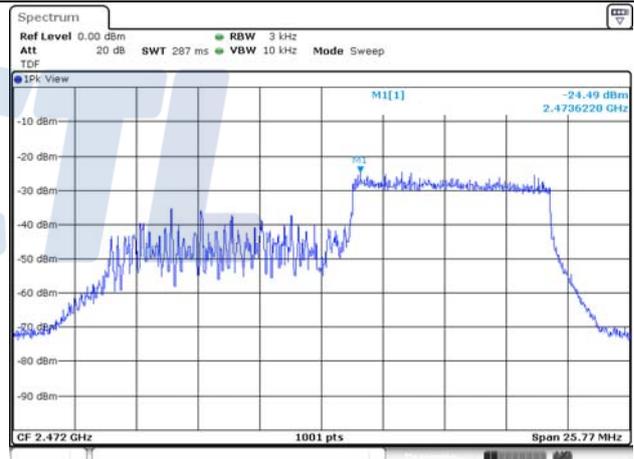
RU offset 53



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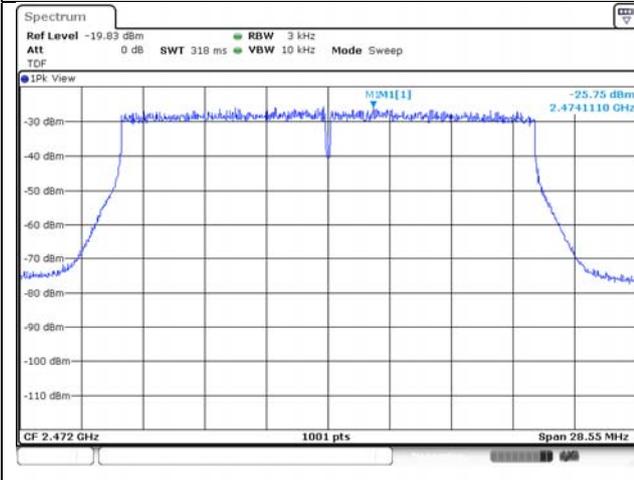


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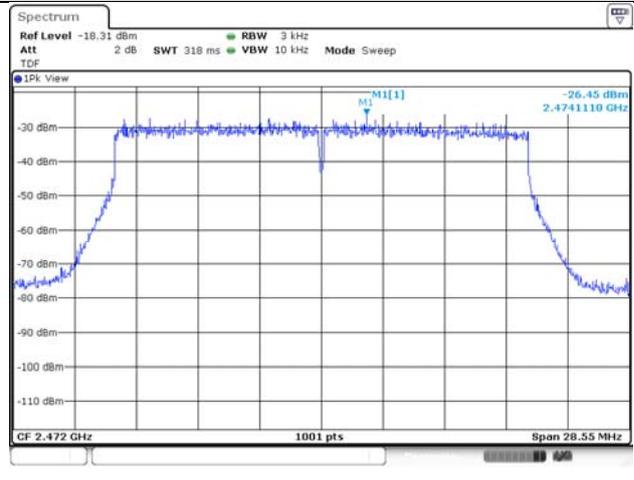


SU / 2 472 MHz

ANT 1



ANT 2

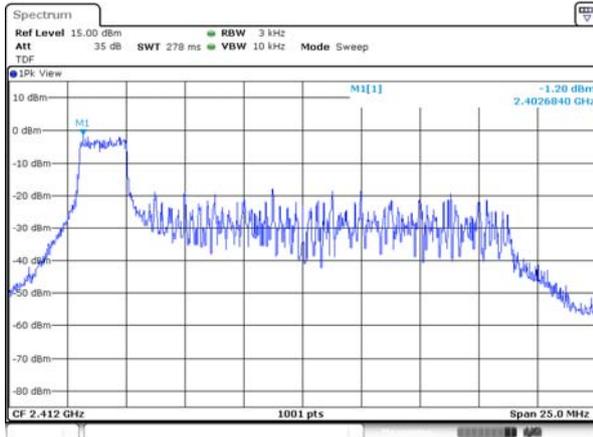


MIMO

26T / 2 412 MHz

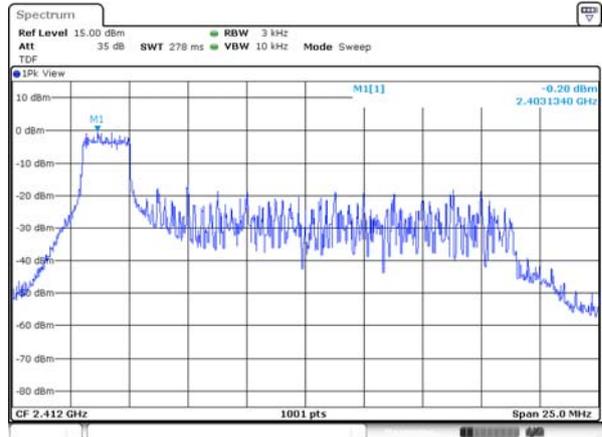
ANT 1

RU offset 0

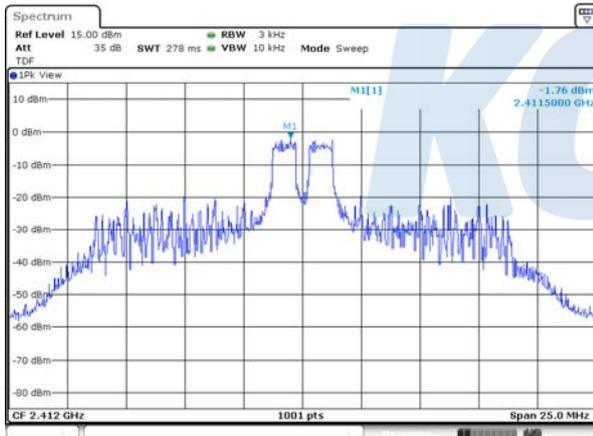


ANT 2

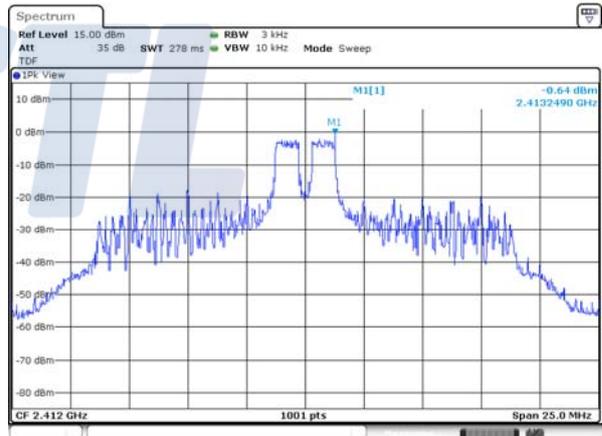
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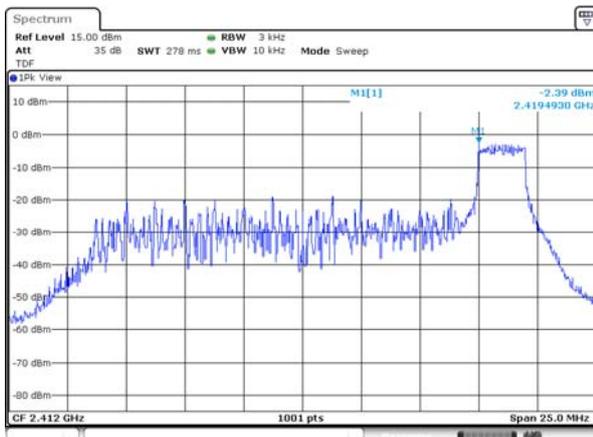
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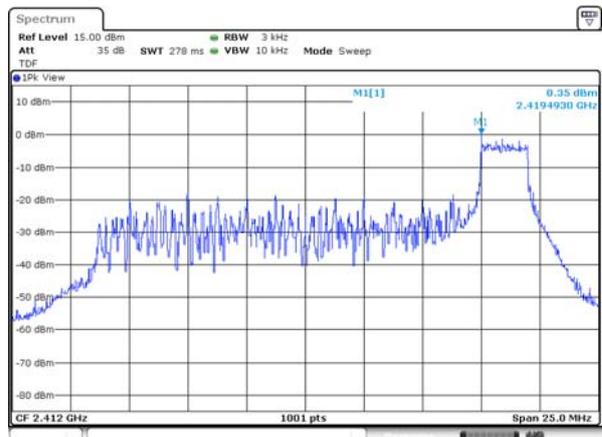
RU offset 4



RU offset 8



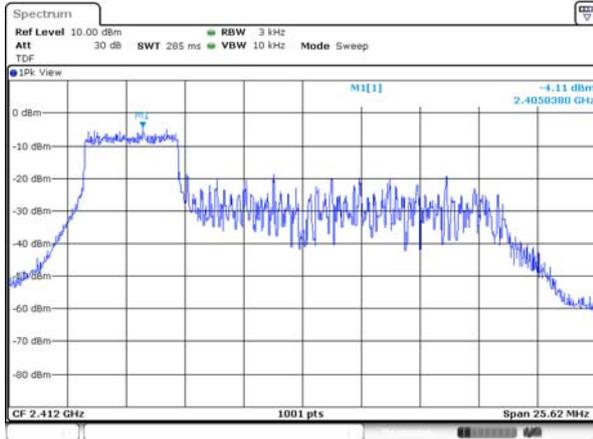
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52T / 2 412 MHz

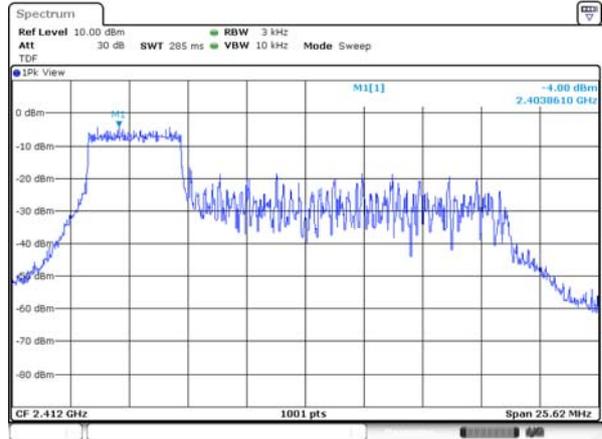
ANT 1

RU offset 37

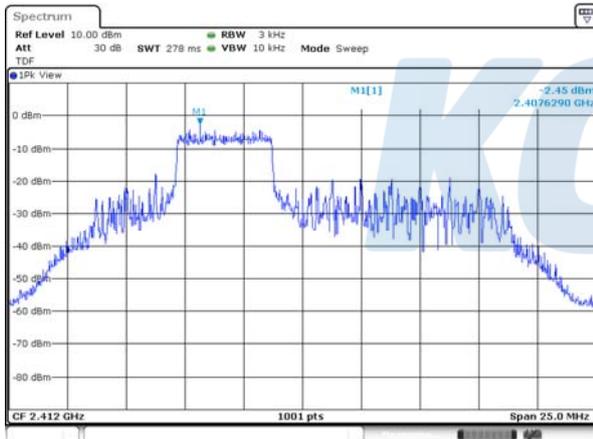


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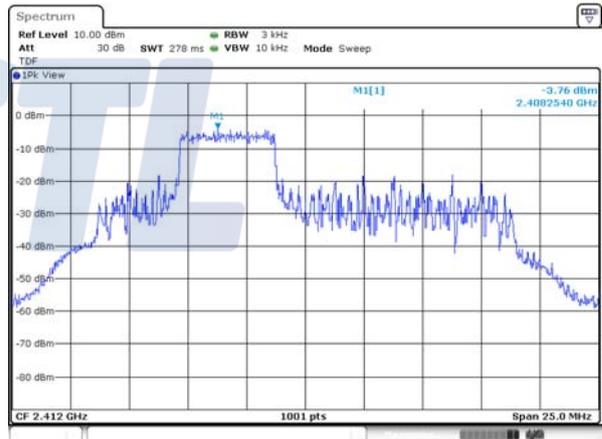
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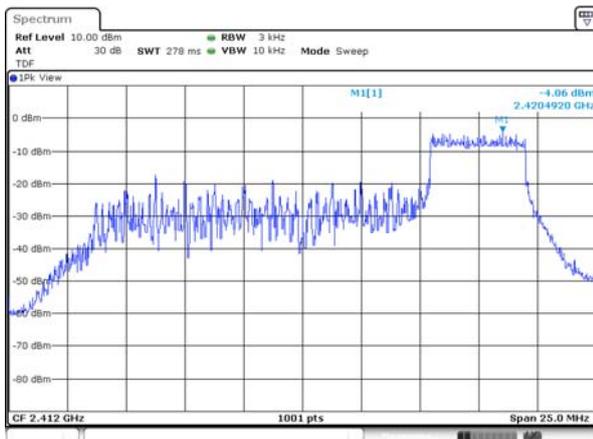
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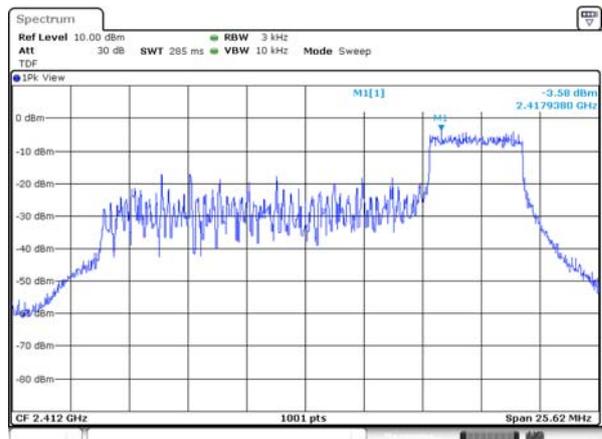
RU offset 38



RU offset 40



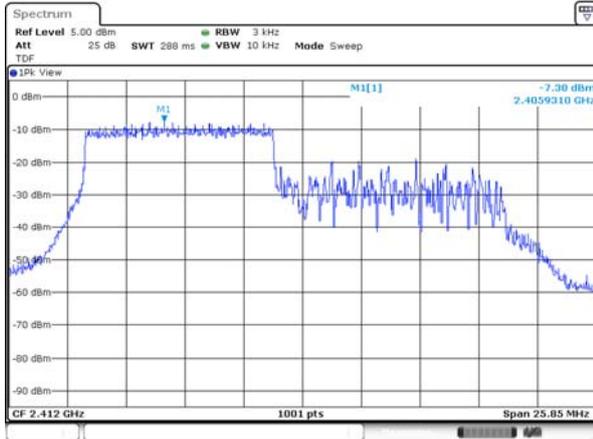
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106T / 2 412 MHz

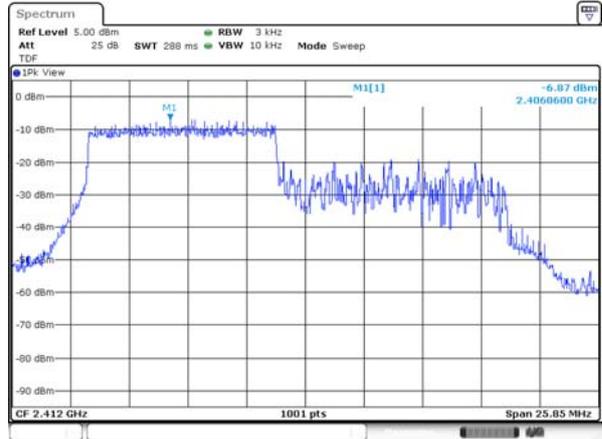
ANT 1

RU offset 53

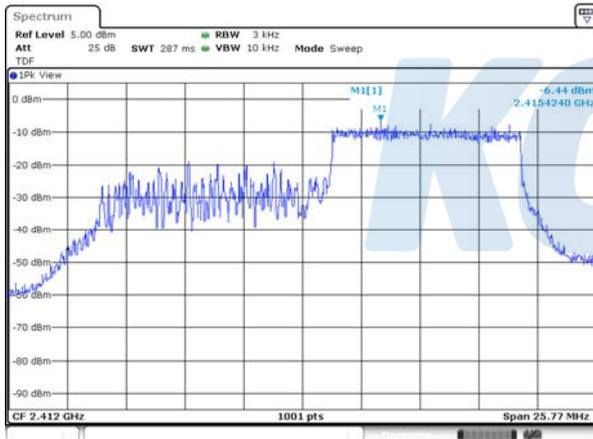


ANT 2

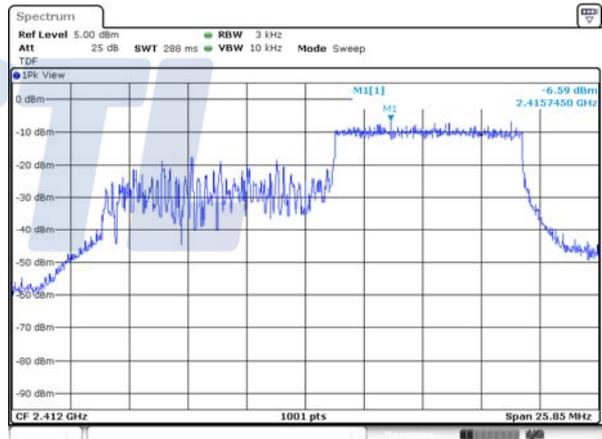
RU offset 53



RU offset 54

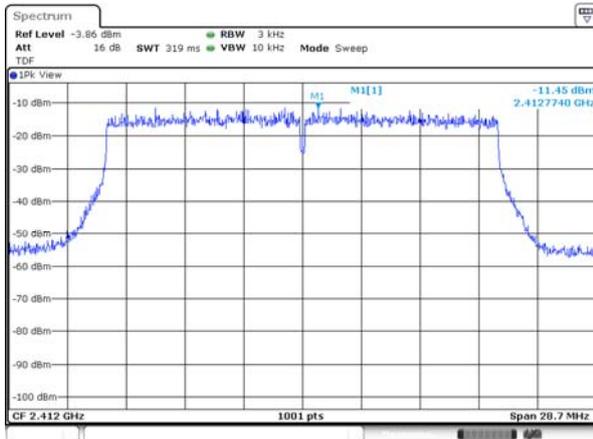


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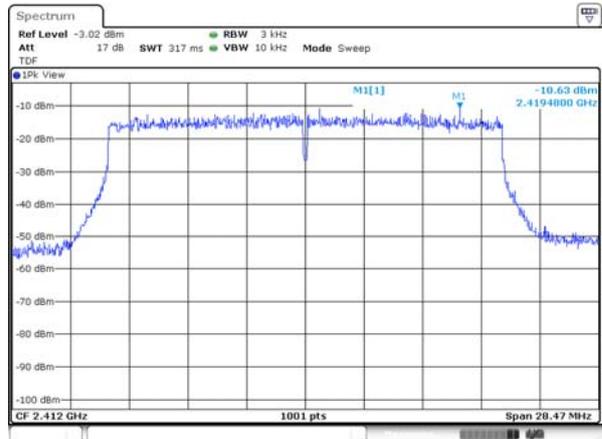


SU / 2 412 MHz

ANT 1



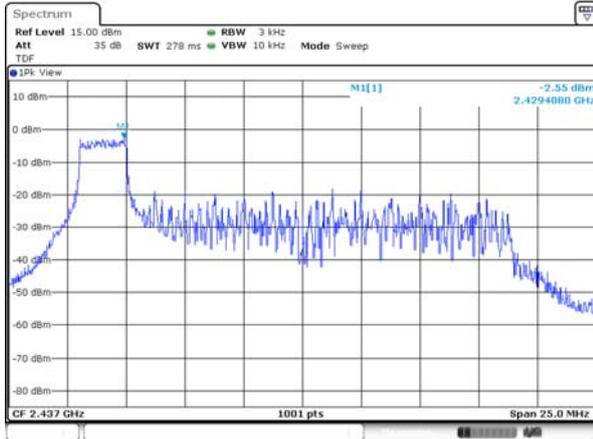
ANT 2



26T / 2 437 MHz

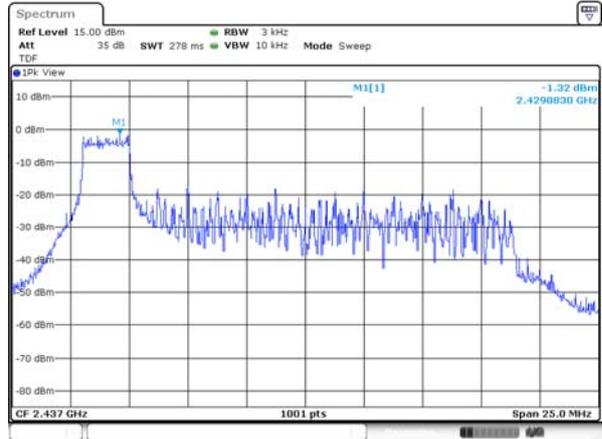
ANT 1

RU offset 0

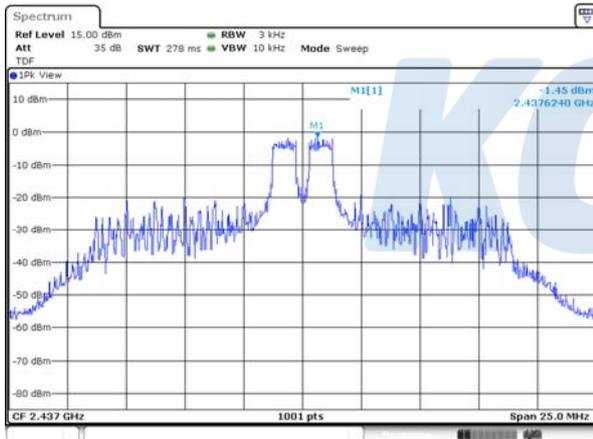


ANT 2

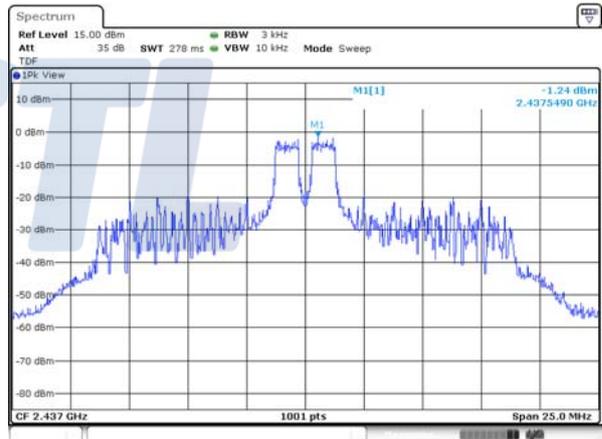
RU offset 0



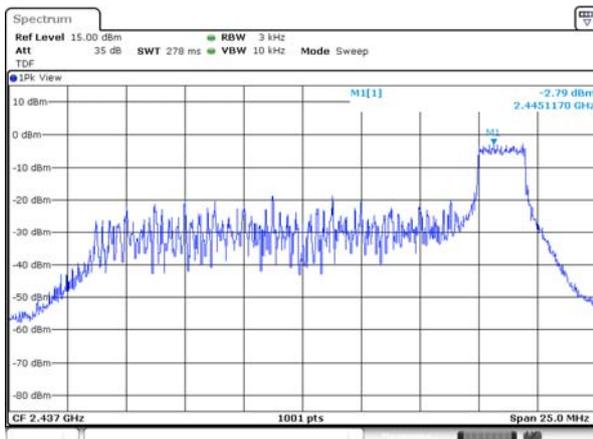
RU offset 4



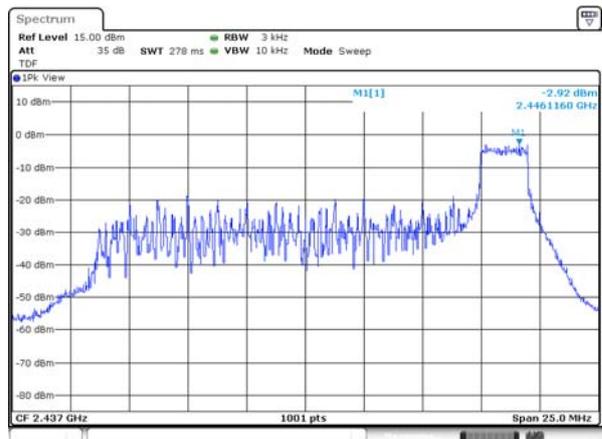
RU offset 4



RU offset 8



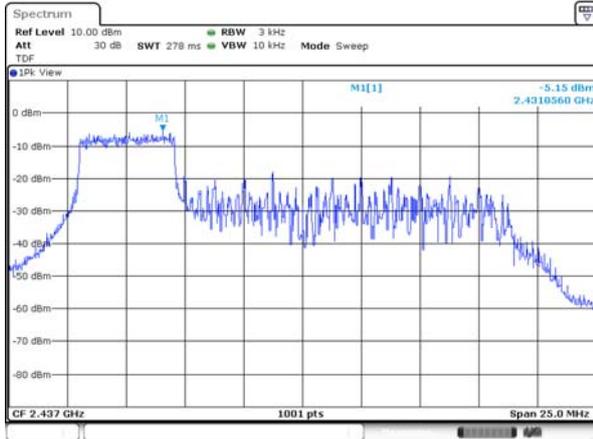
RU offset 8



52T / 2 437 MHz

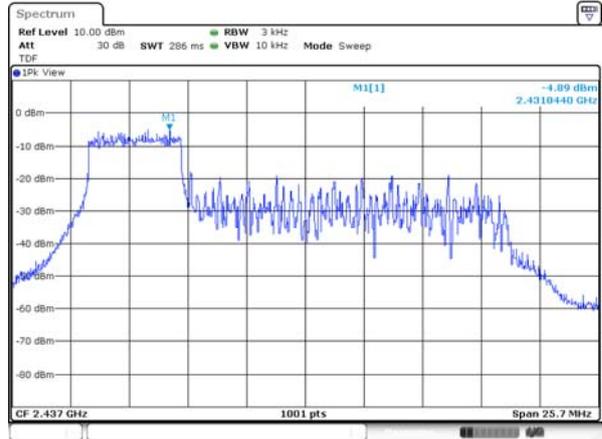
ANT 1

RU offset 37

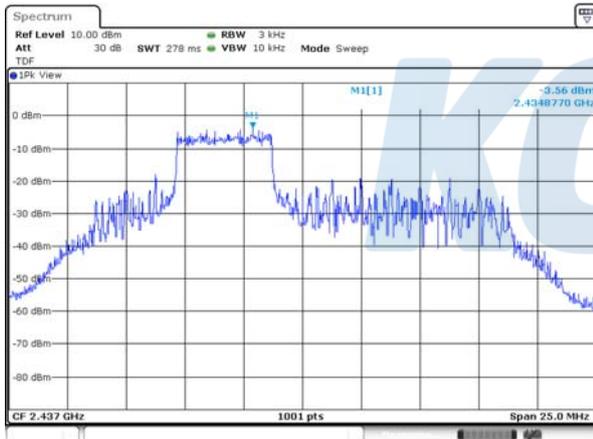


ANT 2

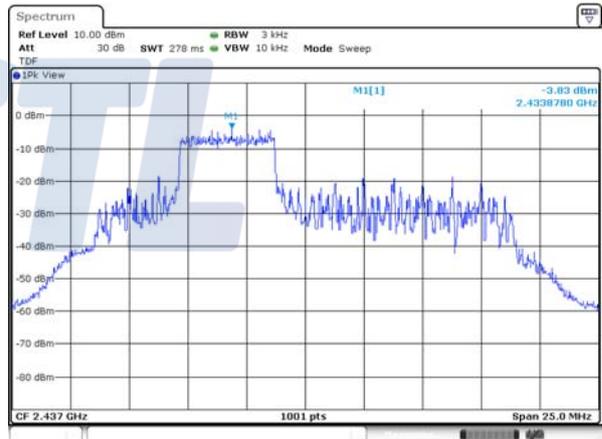
RU offset 37



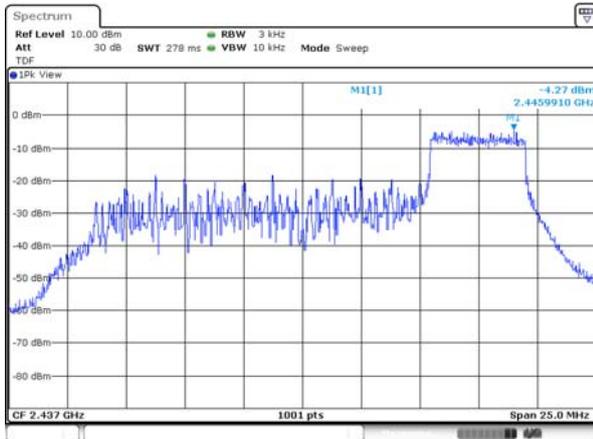
RU offset 38



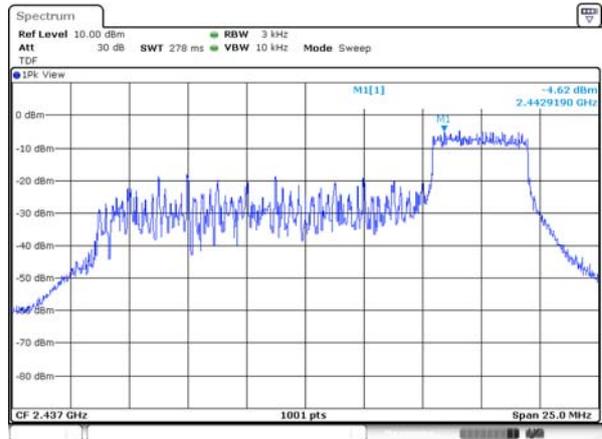
RU offset 38



RU offset 40



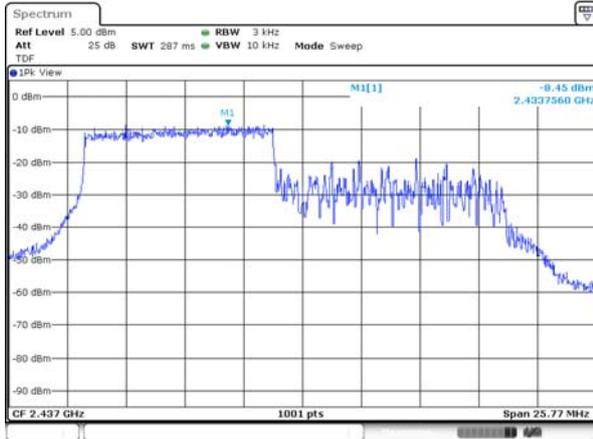
RU offset 40



106T / 2 437 MHz

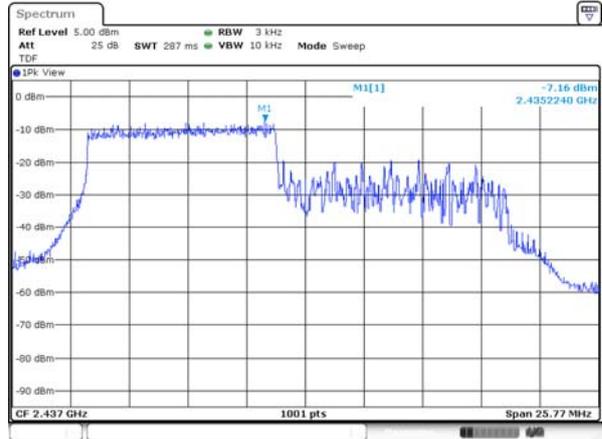
ANT 1

RU offset 53

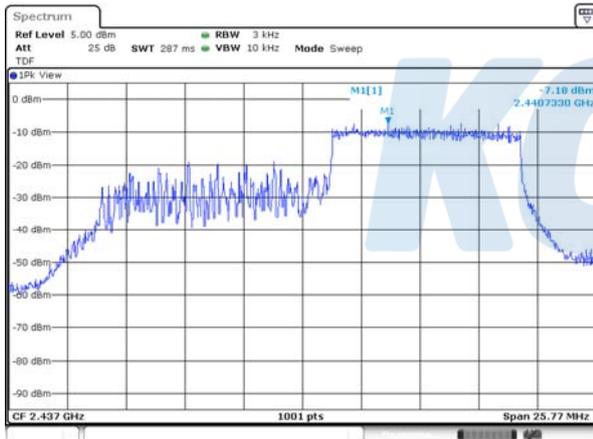


ANT 2

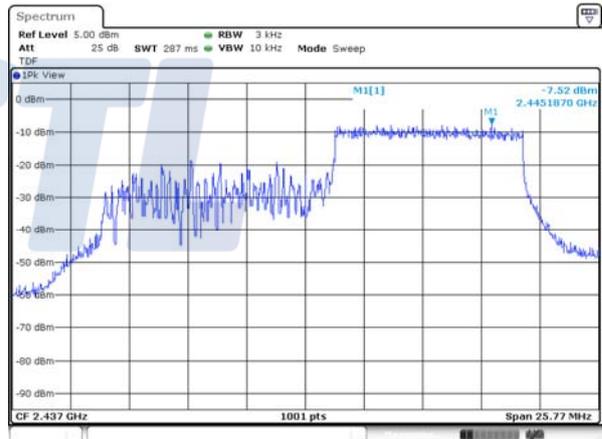
RU offset 53



RU offset 54

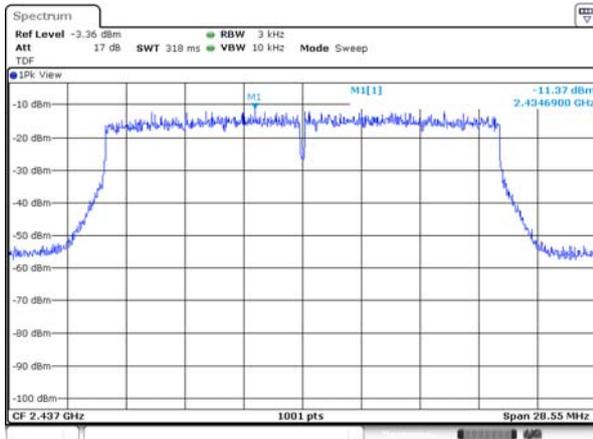


RU offset 54

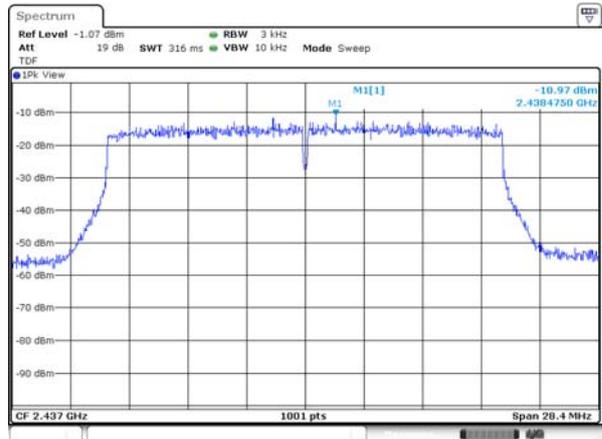


SU / 2 437 MHz

ANT 1



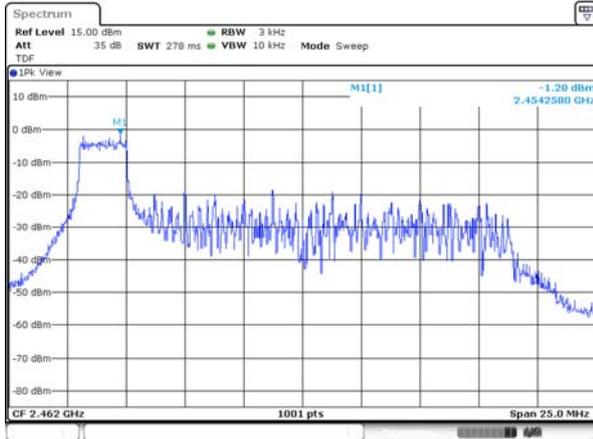
ANT 2



26T / 2 462 MHz

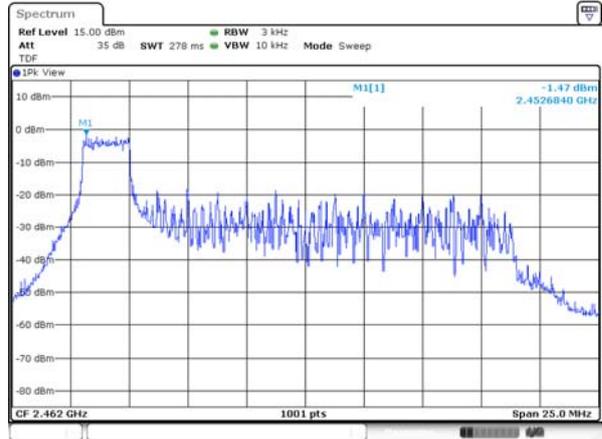
ANT 1

RU offset 0

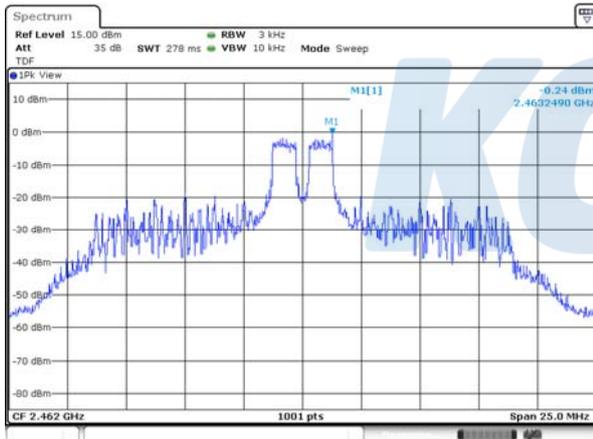


ANT 2

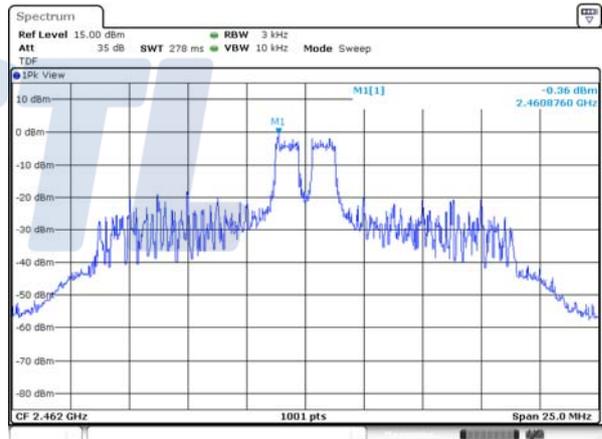
RU offset 0



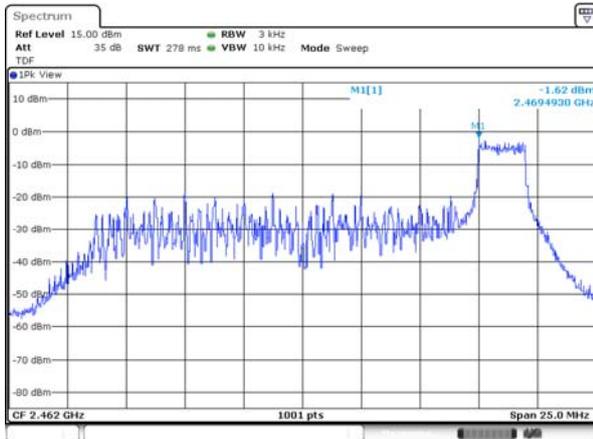
RU offset 4



RU offset 4



RU offset 8



RU offset 8

