FCC TEST REPORT

For

Macro Radio Remote Unit

Model Number: ZXSDR R8854 S2600

FCC ID: Q78-R8854S2600

Report Number : WT178008129

Test Laboratory	:	Shenzhen Academy of Metrology and Quality Inspection National Digital Electronic Product Testing Center
Site Location	:	NETC Building, No.4 Tongan Rd., Lili, Nanshan, Shenzhen, China
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Test report declaration

Applicant	:	ZTE Corporation
Address	:	ZTE Plaza, Hi-tech Park, Nanshan District, Shenzhen, Guangdong, China 518057
Manufacturer	:	ZTE Corporation
Address	:	ZTE Plaza, Hi-tech Park, Nanshan District, Shenzhen, Guangdong, China 518057
EUT Description	:	Macro Radio Remote Unit
Model No	:	ZXSDR R8854 S2600
Trade mark	:	ZTE
Serial Number	:	/
FCC ID	:	Q78-R8854S2600

Test Standards:

FCC PART 27

The EUT described above is tested by Shenzhen Academy of Metrology and Quality Inspection EMC Laboratory to determine the maximum emissions from the EUT. Shenzhen Academy of Metrology and Quality Inspection EMC Laboratory is assumed full responsibility for the accuracy of the test results. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI/TIA-603-E (2016) & KDB971168 and the energy emitted by the sample EUT tested as described in this report is in compliance with FCC Rules Part 27.
The test report is valid for above tested sample only and shall not be reproduced in part without written approval of the laboratory.

Project Engineer:	(Chen Silin 陈司林)	Date:	Jan.16, 2018
Checked by:	(Lin Yixiang 林奕翔)	Date:	Jan.16, 2018
Approved by:	(Lin Bin 林斌)	Date:	Jan.16, 2018

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TEST Results Summary

Table 1 Test Results Summary

FCC RULES	DESCRIPTION OF TEST	RESULT
§ 2.1046 , §27.50	Transmitter output Power	Compliant
§ 2.1091 , §1.1037	RF Exposure	Compliant
§ 2.1047	Modulation Characteristic	Compliant
§ 2.1053, §27.53	Spurious Radiated Emissions	Compliant
§ 2.1051, §27.53	Spurious Emissions AT Antenna Terminals	Compliant
§ 2.1049	Occupied Bandwidth	Compliant
§ 2.1051, §27.53	Band Edge	Compliant
§ 2.1055, §27.54	Frequency stability	Compliant

CFR 47 (FCC) Part 27.

Remark: “N/A” means “Not applicable.”
The tests documented in this report were performed in accordance with ANSI/TIA-603-E (2016) & KDB971168, FCC CFR 47 Part 2, and Part 27.

1. GENERAL INFORMATION

1.1. Report information

This report is not a certificate of quality; it only applies to the sample of the specific product/equipment given at the time of its testing. The results are not used to indicate or imply that they are application to the similar items. In addition, such results must not be used to indicate or imply that SMQ approves recommends or endorses the manufacture, supplier or use of such product/equipment, or that SMQ in any way guarantees the later performance of the product/equipment.

The samples mentioned in this report is/are supplied by Applicant, SMQ therefore assumes no responsibility for the accuracy of information on the brand name, model number, origin of manufacture or any information supplied.

Additional copies of the report are available to the Applicant at an additional fee. No third part can obtain a copy of this report through SMQ, unless the applicant has authorized SMQ in writing to do so.

1.2. Laboratory Accreditation and Relationship to Customer

The testing report were performed by the Shenzhen Academy of Metrology and The testing report were performed by the Shenzhen Academy of Metrology and quality Inspection EMC Laboratory (Guangdong EMC compliance testing center), in their facilities located at NETC Building, No.4 Tongfa Rd., Xili, Nanshan, Shenzhen, China. At the time of testing, Laboratory is accredited by the following organizations:

China National Accreditation Service for Conformity Assessment (CNAS) accredits the Laboratory for conformance to FCC standards, EMC international standards and EN standards. The Registration Number is CNAS L0579.

The Laboratory is listed in the United States of American Federal Communications Commission (FCC), and the registration number is 582918.

The Laboratory is registered to perform emission tests with Industry Canada (IC), and the registration number is 11177A-1 11177A-2.

TUV Rhineland accredits the Laboratory for conformance to IEC and EN standards, the registration number is E2024086Z02.

1.3. Measurement Uncertainty

For a 95% confidence level (k = 2), the measurement expanded uncertainties for defined systems, in accordance with the recommendations of ISO 17025 as following:
Radiated Emission
30MHz~1000MHz 4.5dB
1GHz~26.5GHz 4.6dB

2. PRODUCT DESCRIPTION

2.1. EUT Description

The ZTE Corporation’s product, model number: ZXSDR R8854 S2600 or the "EUT" as referred to in this report is a Macro Radio Remote Unit.

Technical specification:
Size: 415 mm x 296 mm x 104 mm (HxWxD)
Input voltage: -37V~-60V
Frequency range: 2620MHz~2690 MHz
(Bottom frequency is about 2622.5MHz, Middle frequency is about 2655MHz, Top frequency is about 2687.5MHz).
Max RF output power: 46dBm
Gain of the antenna: 18dBi
Appearance of EUT:

FIGURE 1 APPEARANCE OF ZXSDR R8854 S2600

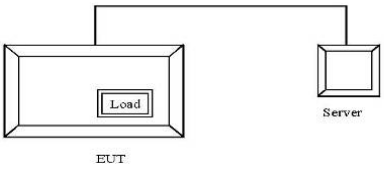
2.2. Related Submittal(s) / Grant (s)

This submittal(s) (test report) is intended for FCC ID: **Q78-R8854S2600** filing to comply with FCC PART 27.

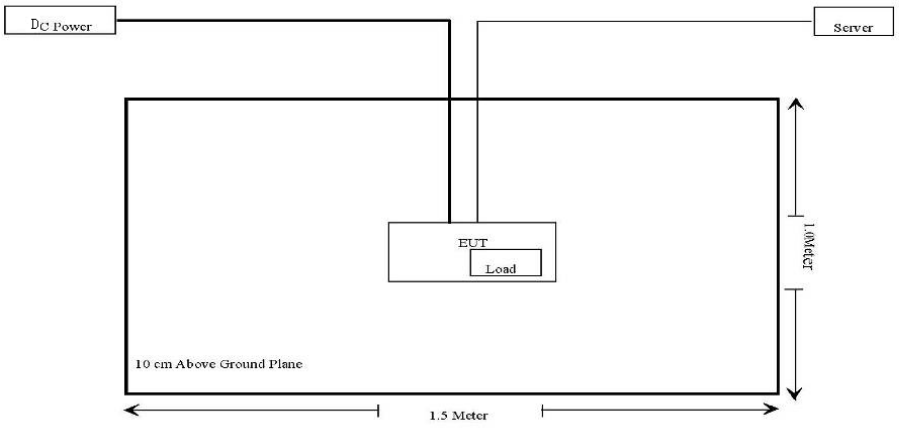
2.3. Operating Condition of EUT

Justification
The EUT was configured for testing according to ANSI/TIA-603-E (2016).
The final qualification test was performed with EUT operating at normal mode.
Equipment Modifications
SMQ has not done any modification on the EUT.
Date of test：Nov.1, 2017 – Nov.16, 2017
Date of EUT Receive：Nov.1, 2017

Configuration of Test Setup



Block Diagram of Test Setup



3. TEST RESULTS

3.1. RF Power Output

3.1.1.Applicable Standard：FCC §2.1046, §27.50

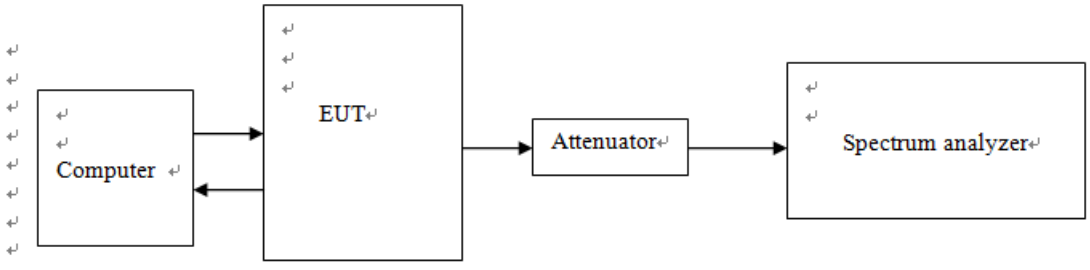
According to FCC §2.1046 &27.50, the ERP (equivalent radiated power) must not exceed 1000 Watts.
Note: ERP= Max output Power+ Antenna gain-Cable loss-2.15

3.1.2.Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Signal & Spectrum Analyzer	FSW26	SB12724/01	2017.6.19	2018.6.18
DTS	DTS 40dB Attenuator	DTS100-40-3-1	09112005	2017.03.15	2018.03.15

*__statement of traceability:__ SMQ attests that all calibration has been performed per the A2LA requirements, traceable to NIM.

3.1.3.Test Procedure



The RF output of the transmitter was connected to the input of the spectrum analyzer through sufficient attenuation. External attenuation Loss is 40dB, Cable Loss is about 2dB.

3.1.4.Environmental Conditions

Temperature:	20 °C
Relative Humidity:	53 %
ATM Pressure:	1009 mbar

3.1.5.Test Result: Pass

3.1.6.Test Mode: Transmitting LTE

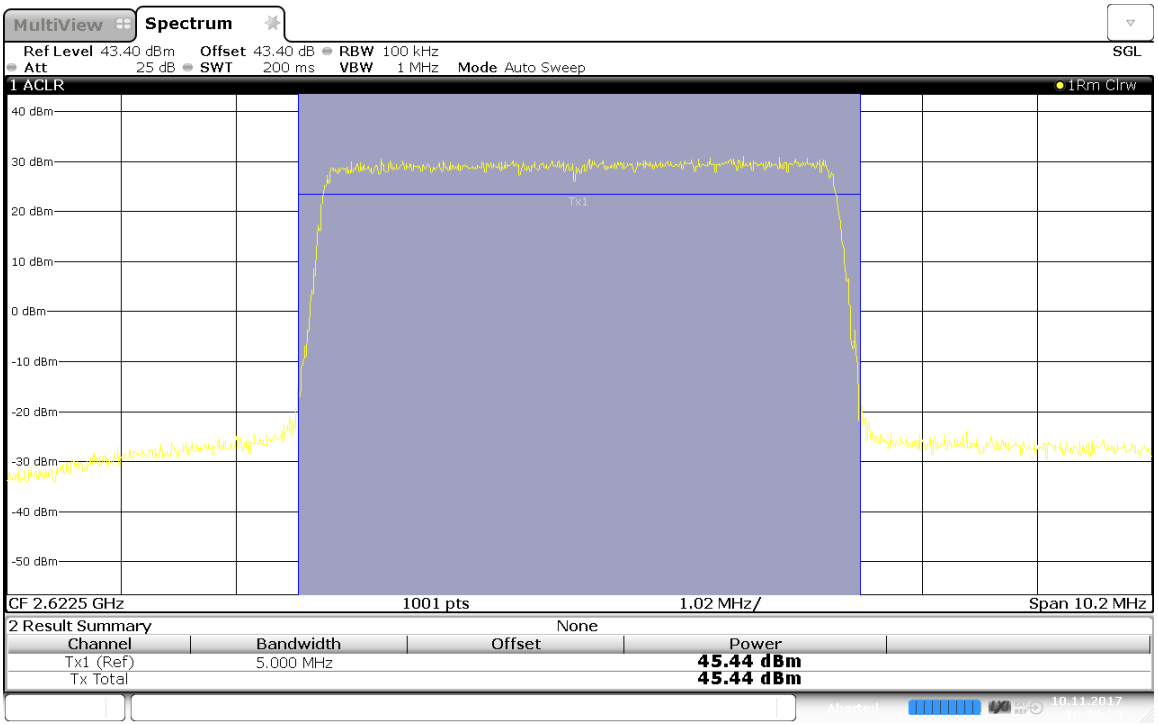
3.1.7.Test Data:

Single Carrier:

Channel Bandwidth :5M

Center Freq. (MHz)	Port	Max output Power in dBm	Antenna gain dBi	Cable Loss dB	Dipole Antenna	Total Power in W Of single antenna
2622.5	1	45.44	18	2	2.15	849.18
	2	45.46	18	2	2.15	853.10
	3	45.44	18	2	2.15	849.18
	4	45.44	18	2	2.15	849.18
2655	1	45.14	18	2	2.15	792.50
	2	45.22	18	2	2.15	807.24
	3	45.2	18	2	2.15	803.53
	4	45.19	18	2	2.15	801.68
2678.5	1	45.41	18	2	2.15	843.33
	2	45.41	18	2	2.15	843.33
	3	45.4	18	2	2.15	841.40
	4	45.41	18	2	2.15	843.33

5M -2622.5MHz-Port 1~4:



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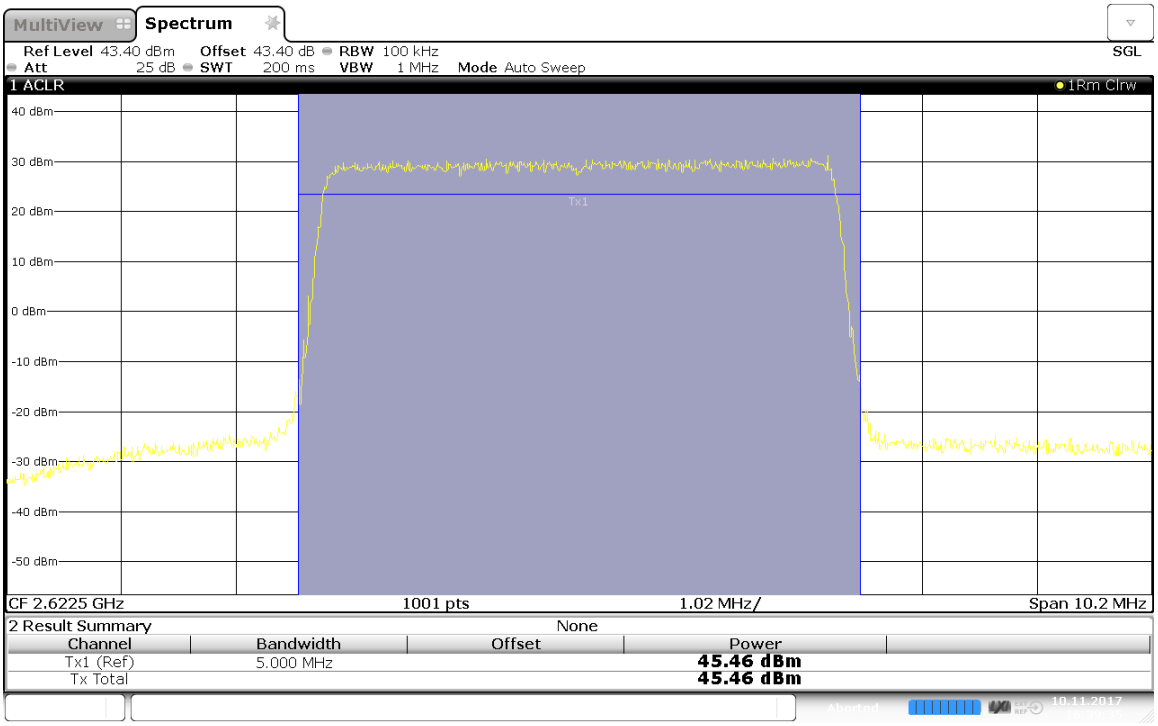

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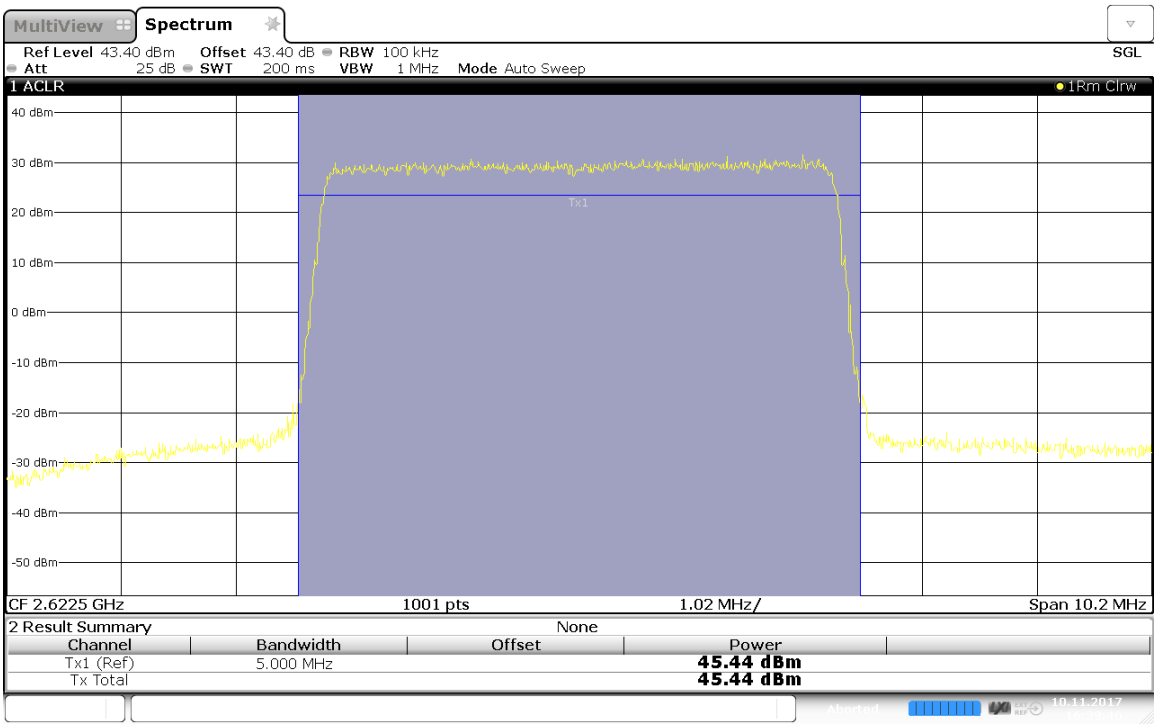

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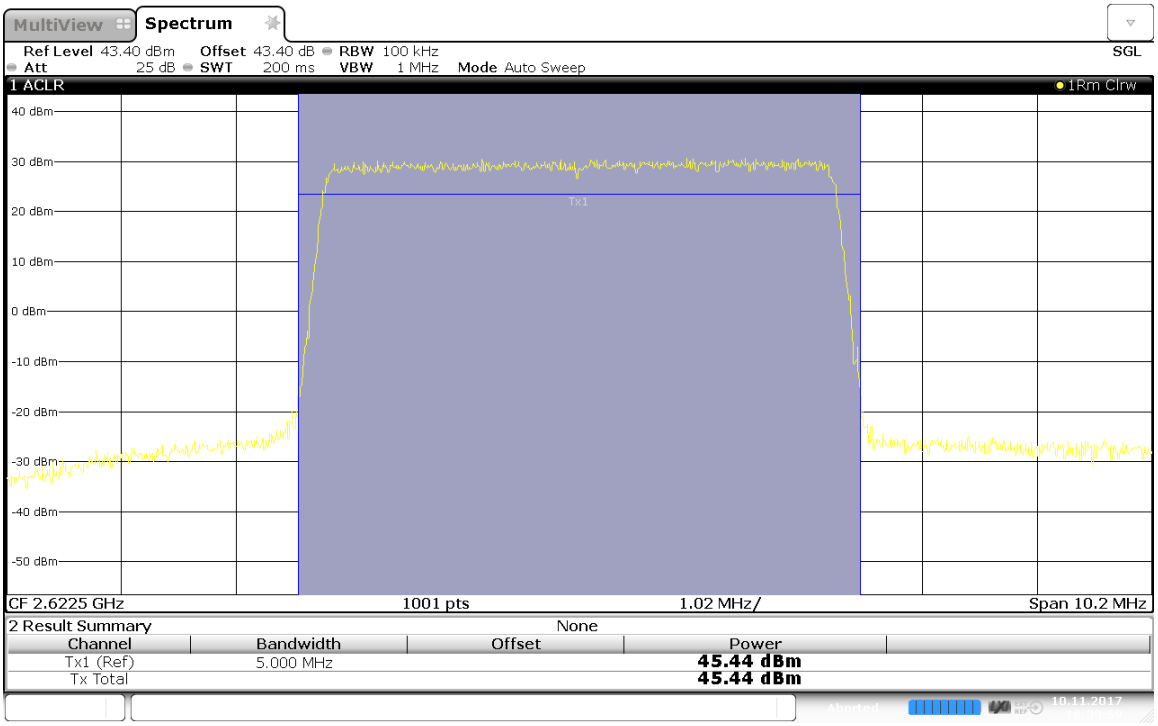

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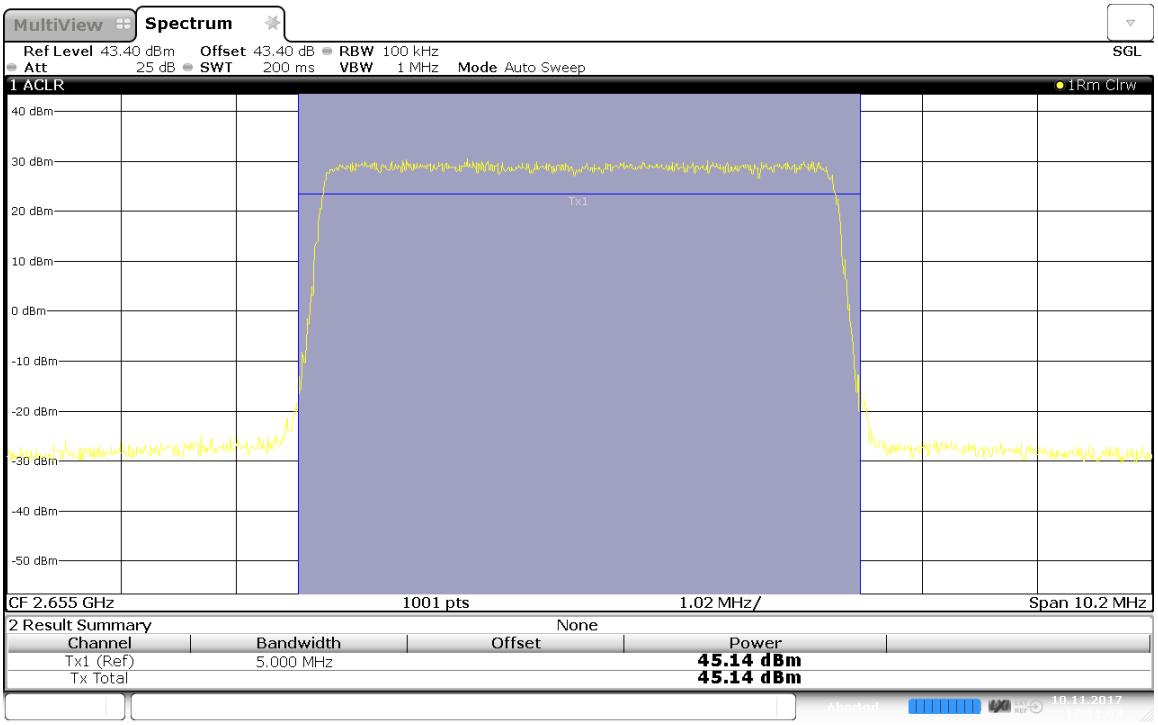
5M -2655MHz-Port 1~4:



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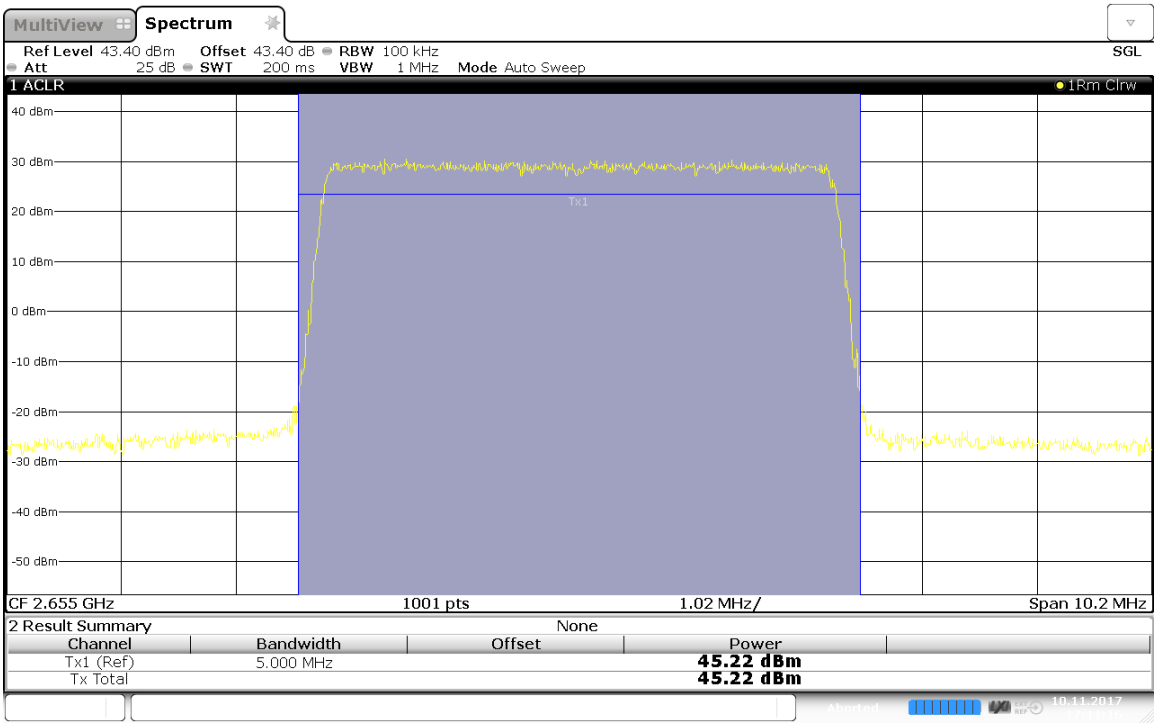

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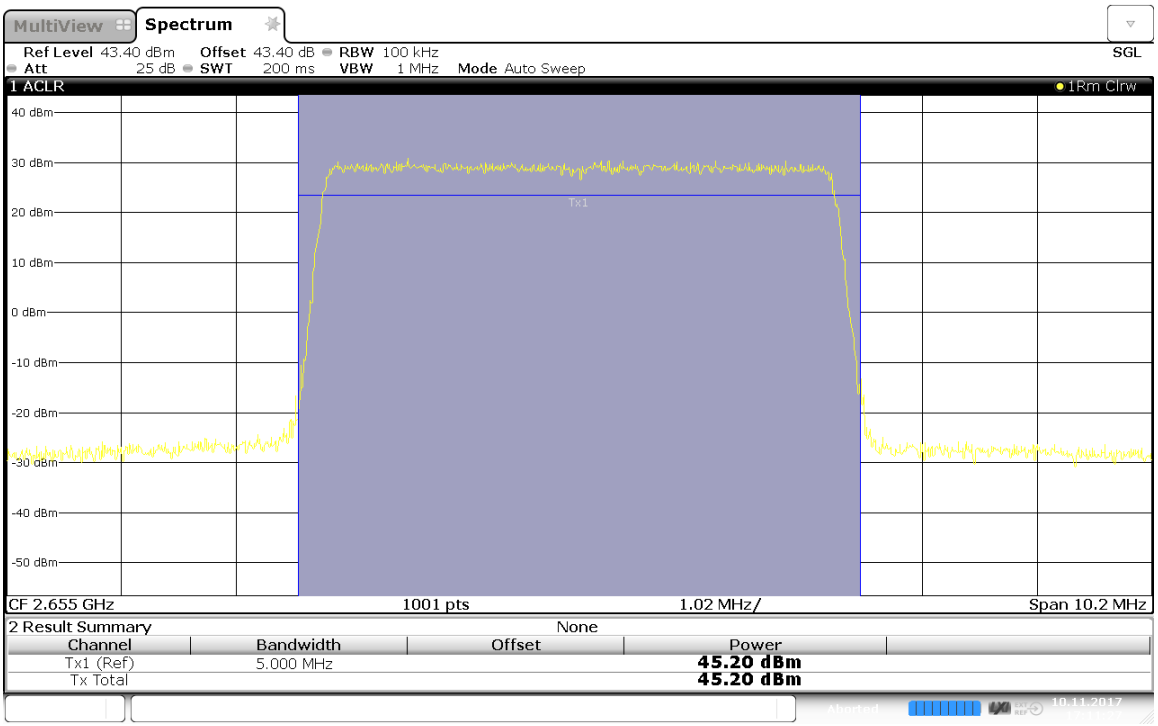

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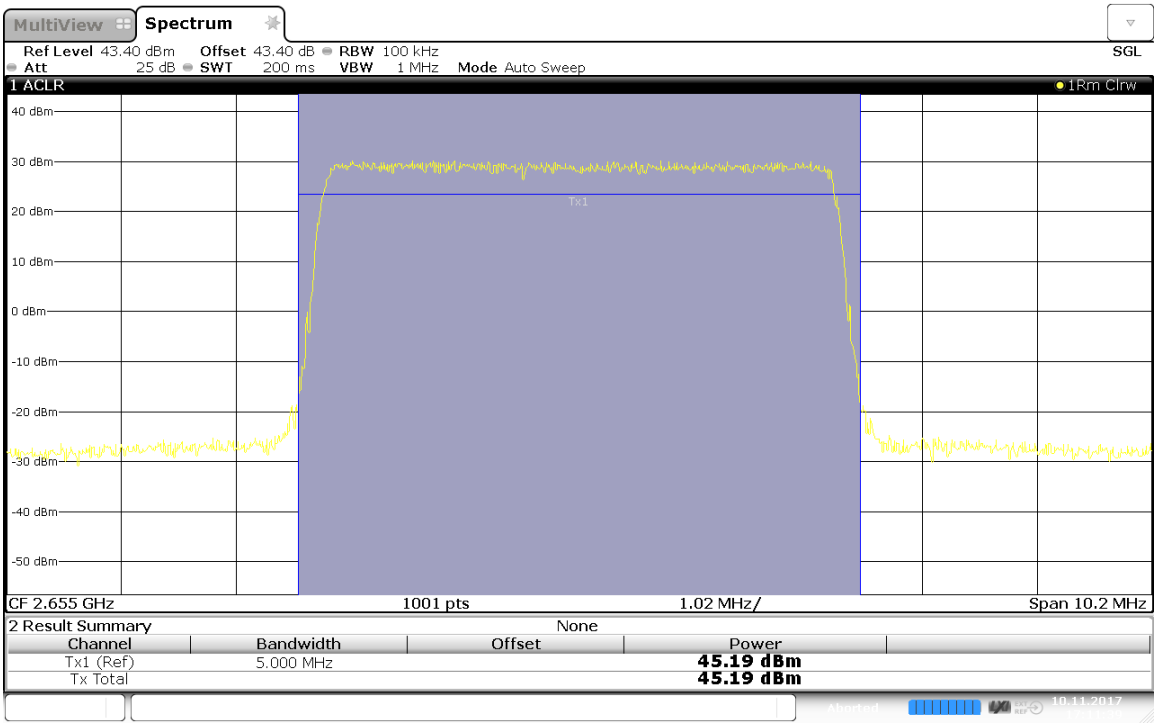

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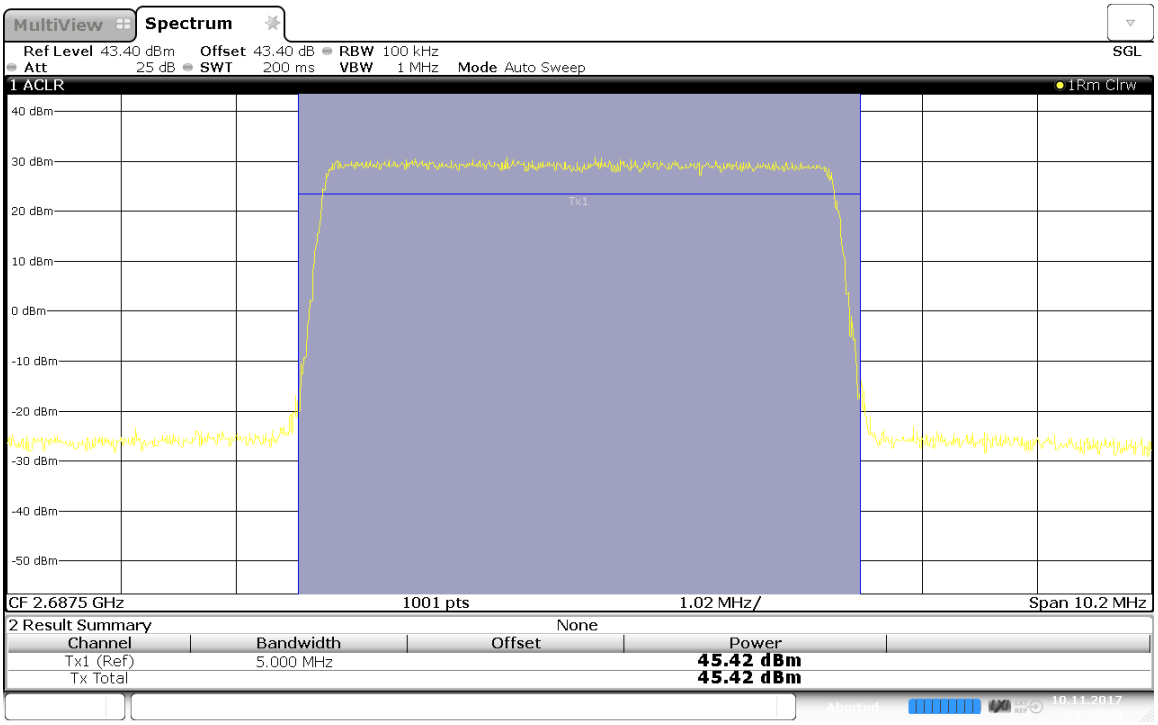
5M -2678.5MHz-Port 1~4:



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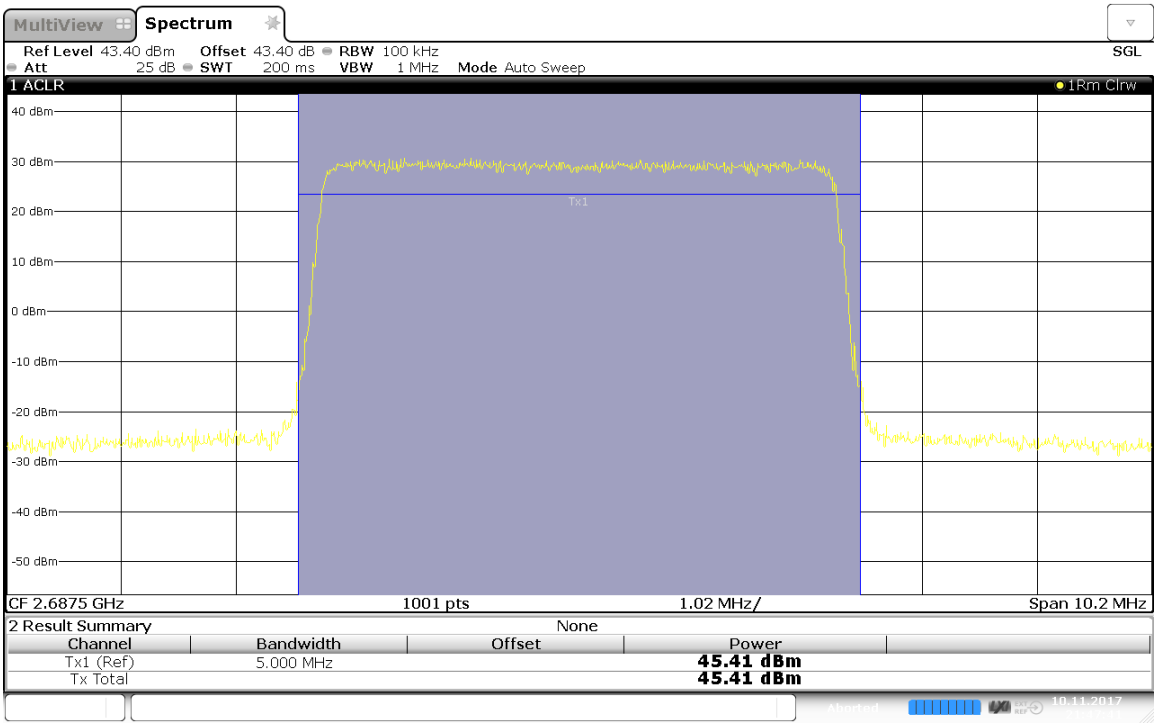

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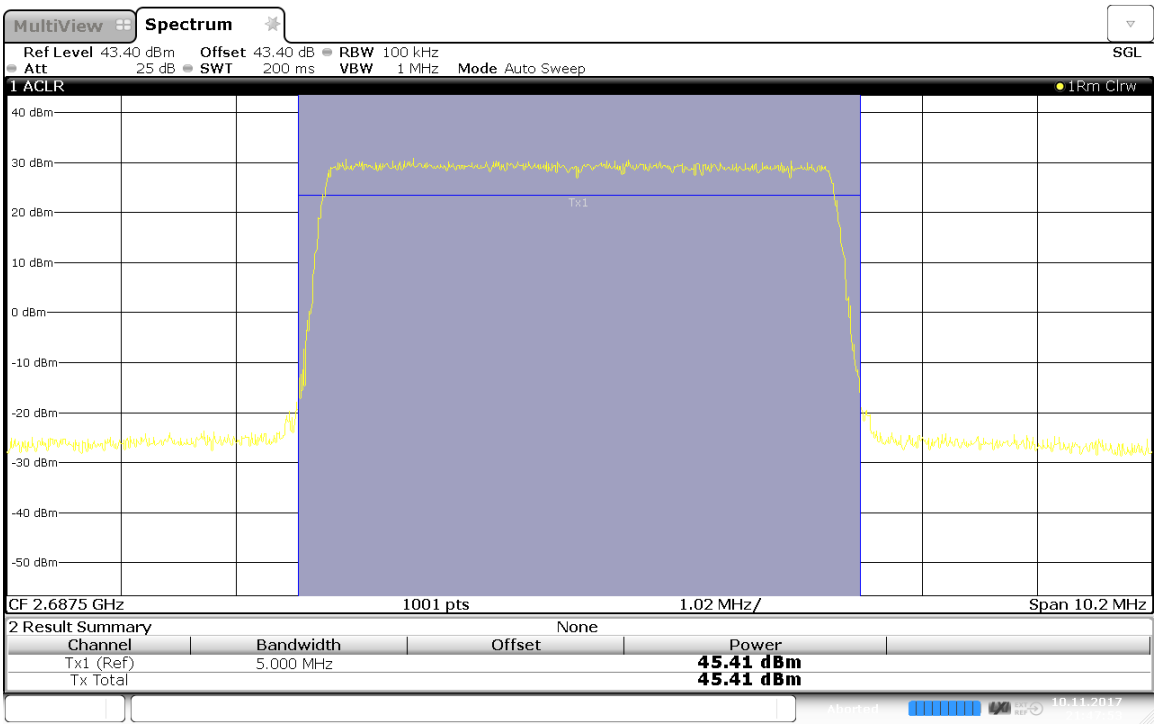

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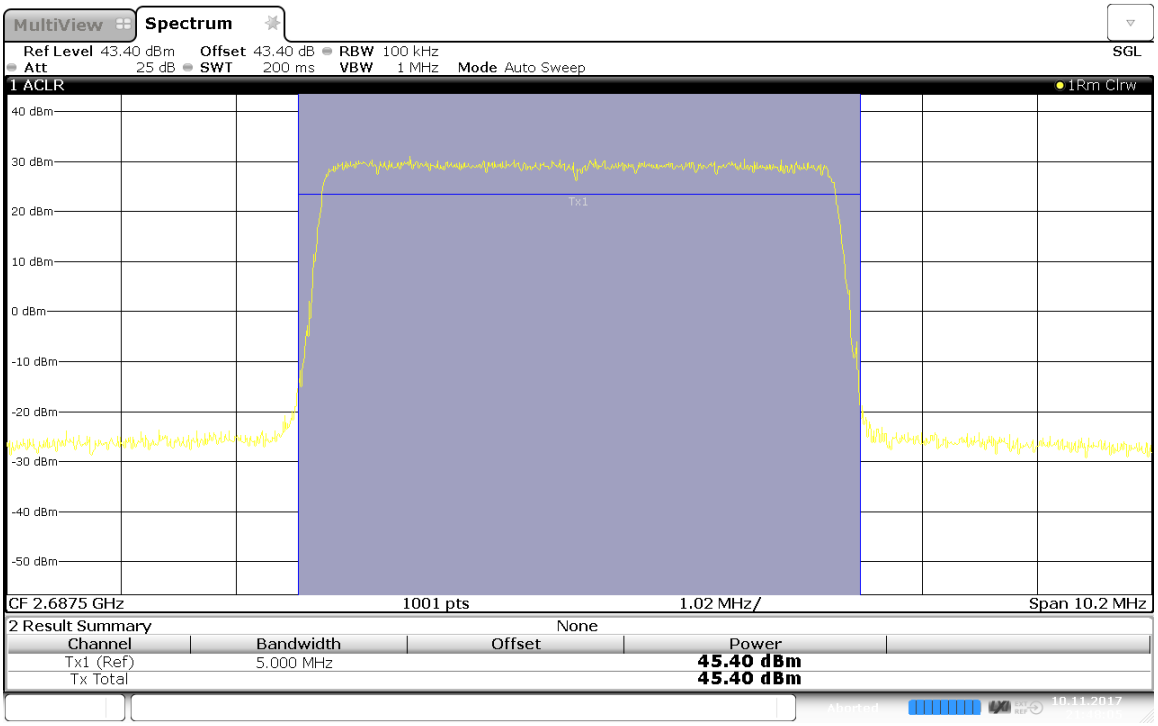

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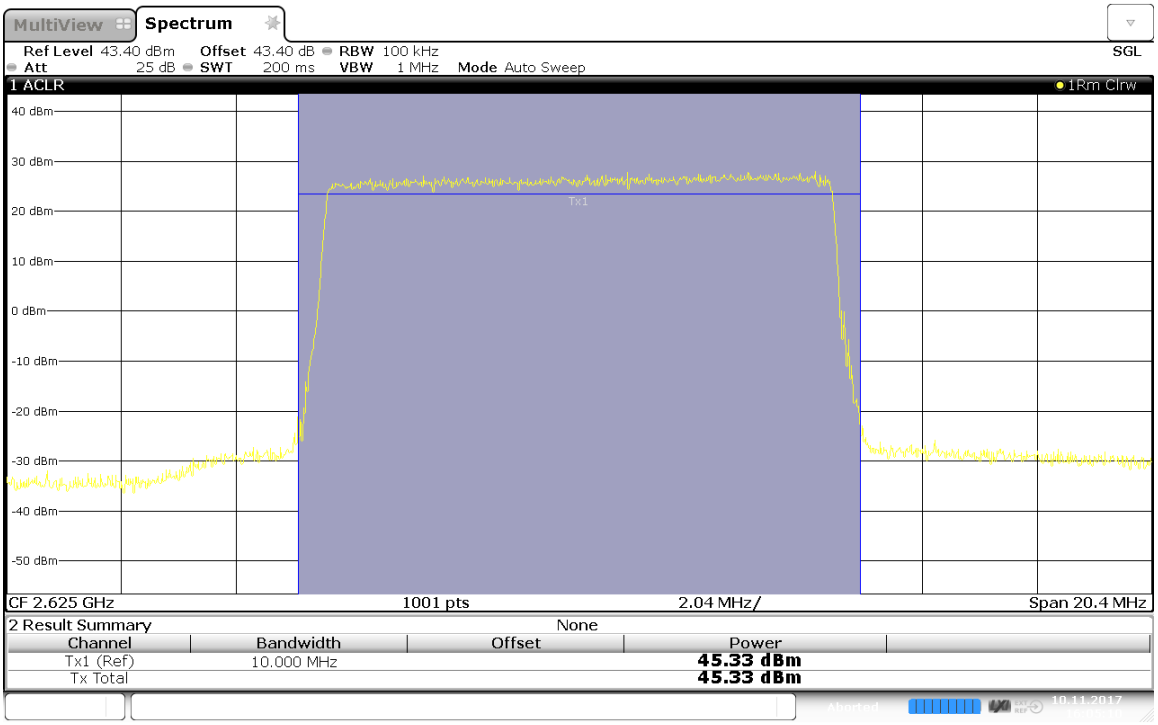
Channel Bandwidth :10M

Center Freq. (MHz)	Port	Max output Power in dBm	Antenna gain dBi	Cable Loss dB	Dipole Antenna	Total Power in W Of single antenna
2625	1	45.33	18	2	2.15	827.94
	2	45.3	18	2	2.15	822.24
	3	45.28	18	2	2.15	818.46
	4	45.28	18	2	2.15	818.46
2655	1	45.32	18	2	2.15	826.04
	2	45.27	18	2	2.15	816.58
	3	45.24	18	2	2.15	810.96
	4	45.29	18	2	2.15	820.35
2685	1	45.36	18	2	2.1`5	833.68
	2	45.25	18	2	2.15	812.83
	3	45.16	18	2	2.15	796.16
	4	45.18	18	2	2.15	799.83

10M -2625MHz-Port 1~4:



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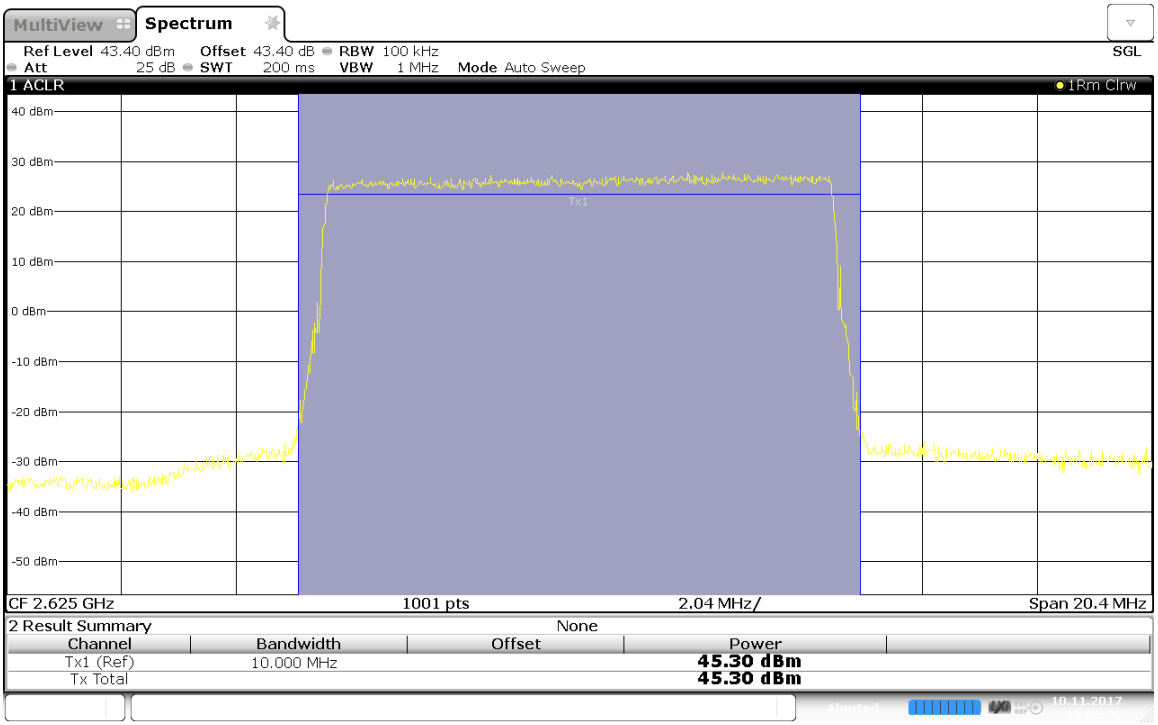

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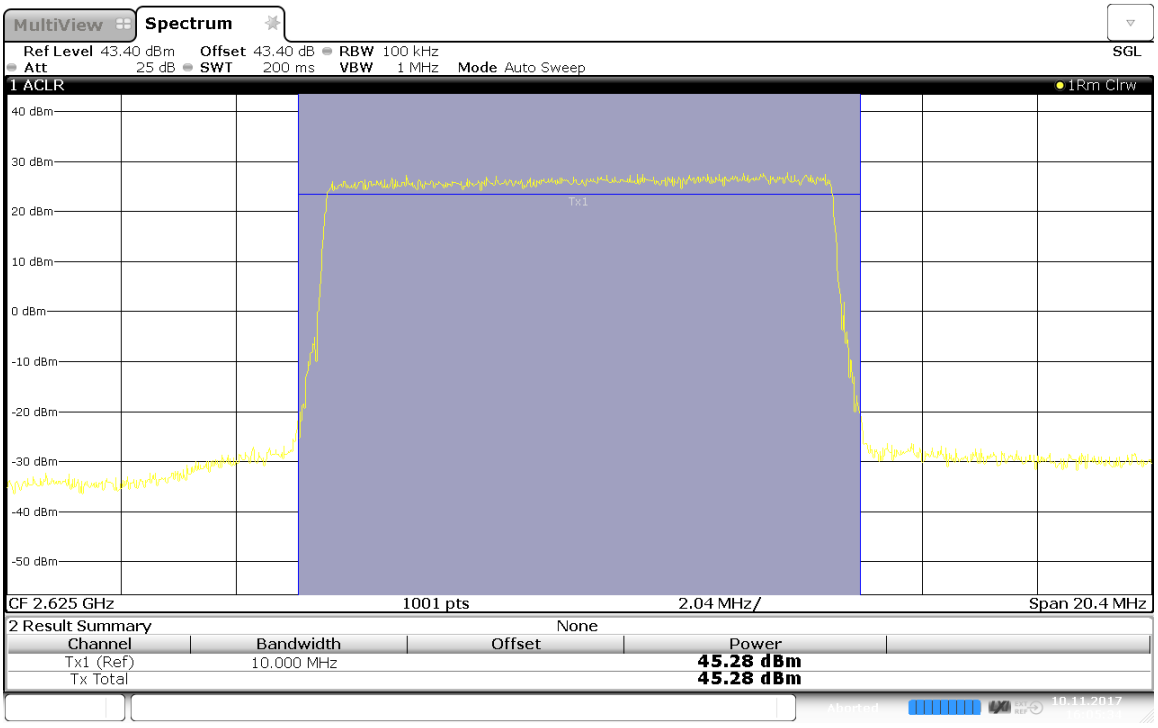

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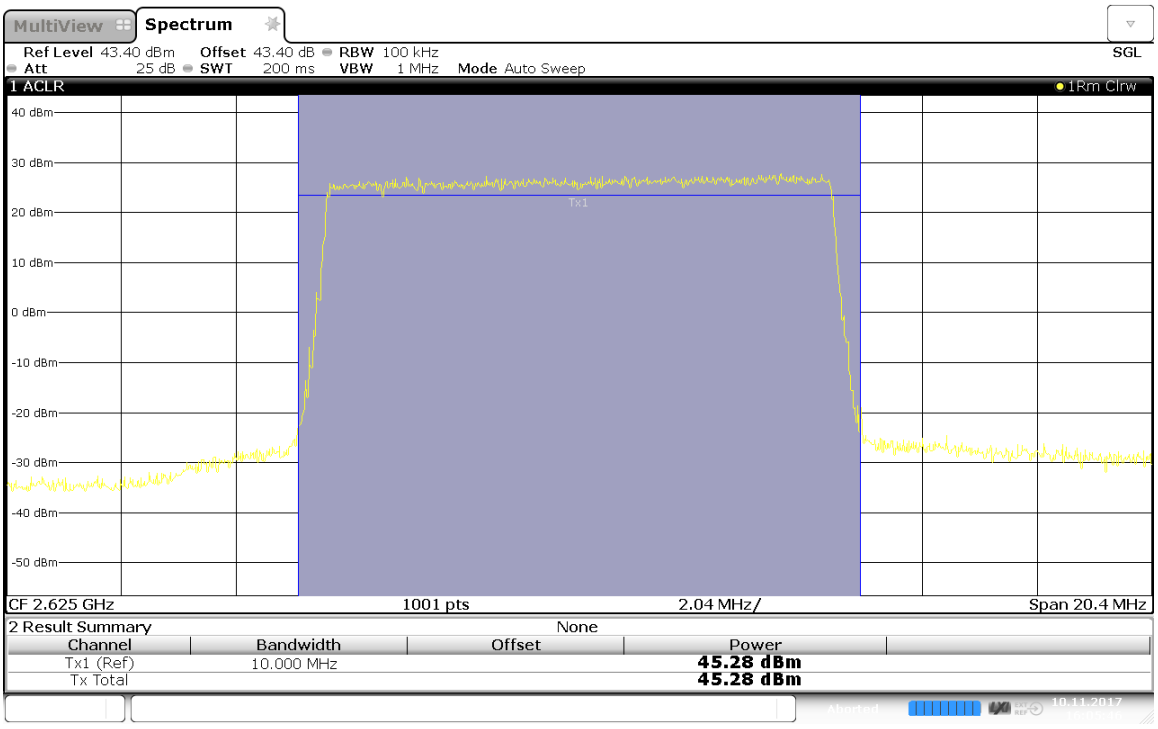

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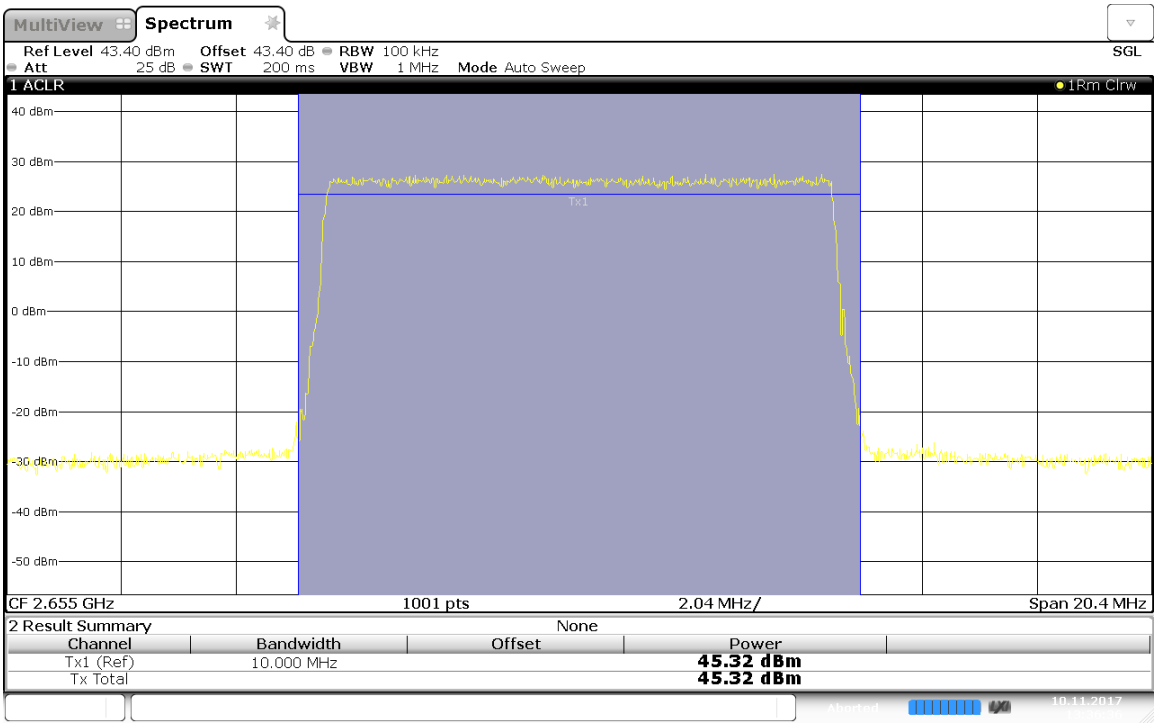
10M -2655MHz-Port 1~4:



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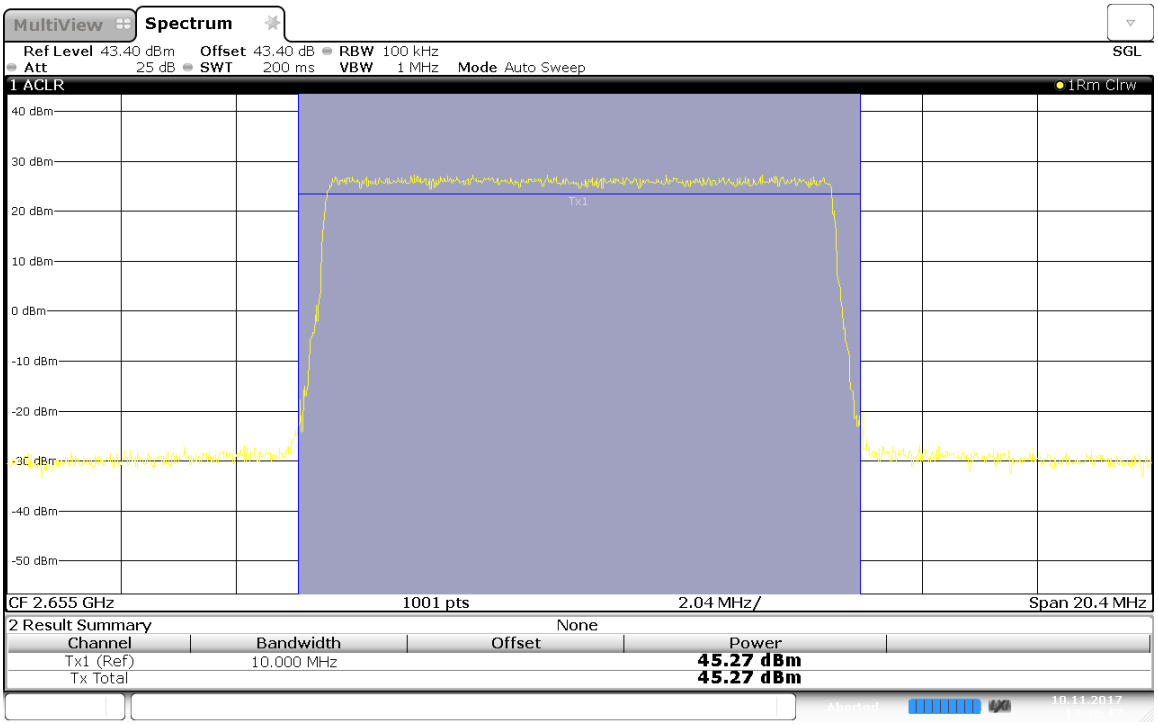

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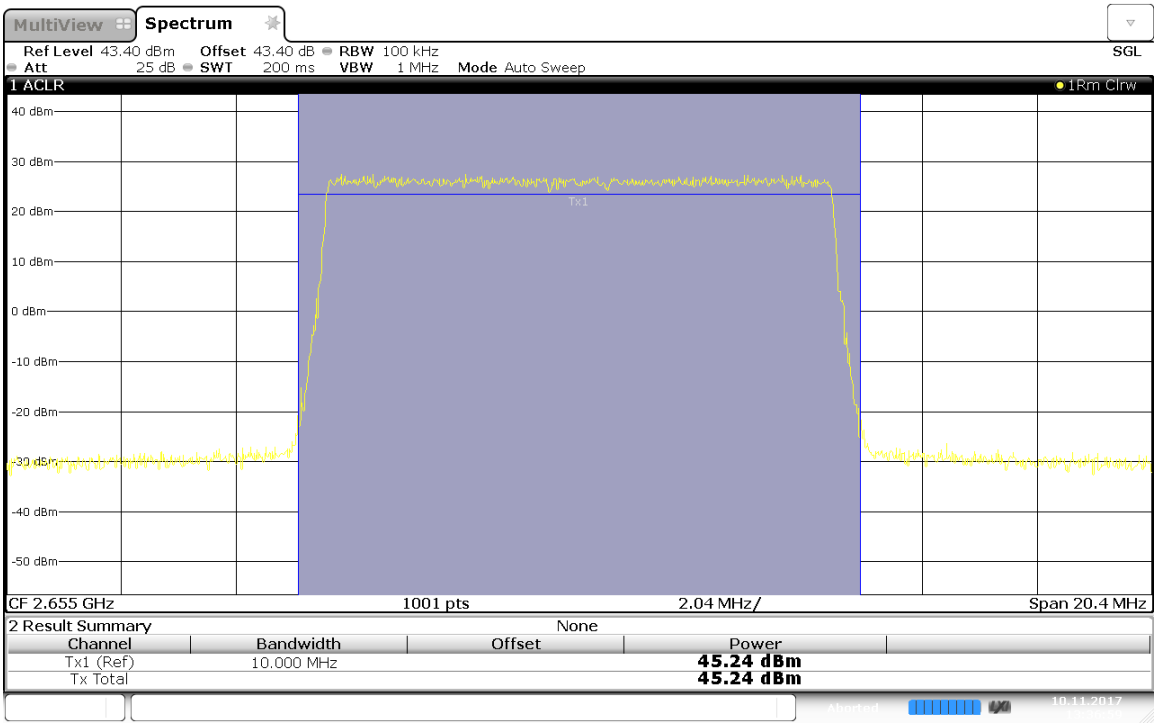

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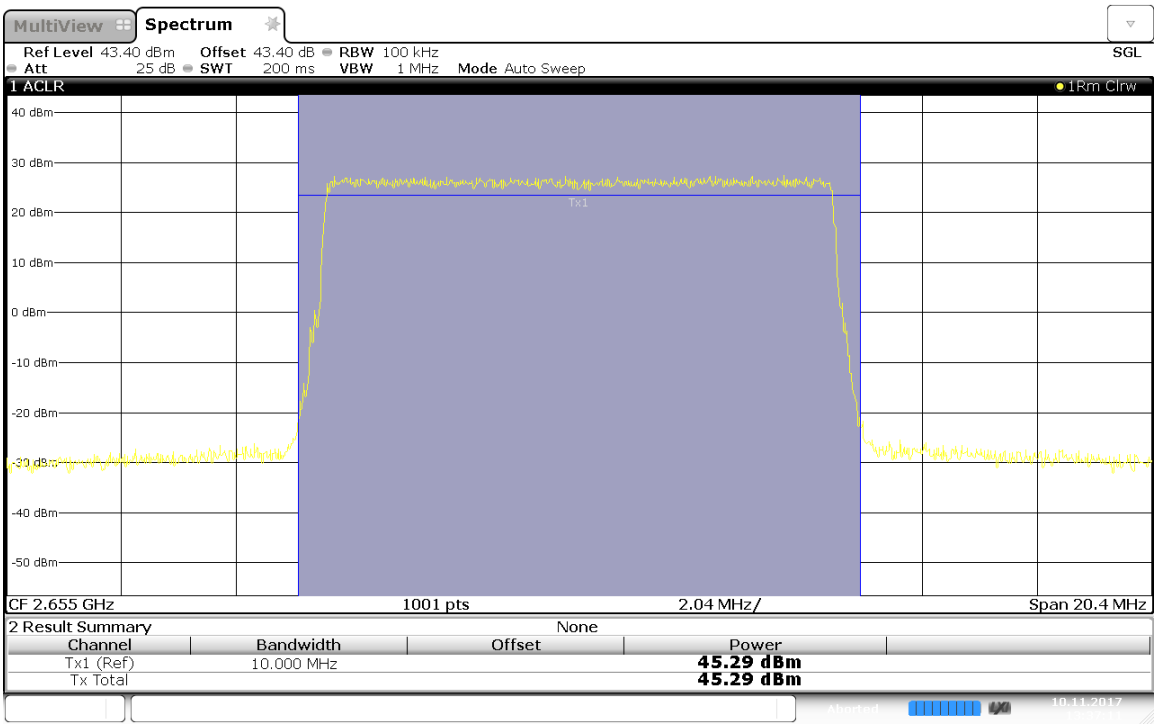

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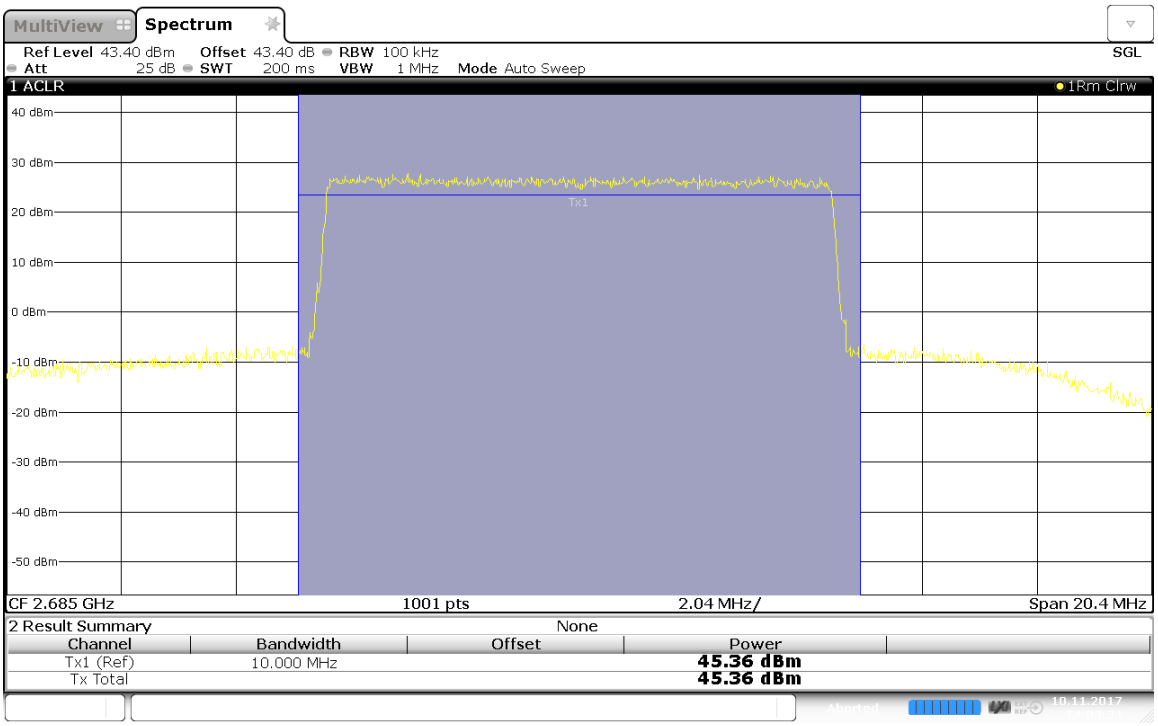
10M -2685MHz-Port 1~4:



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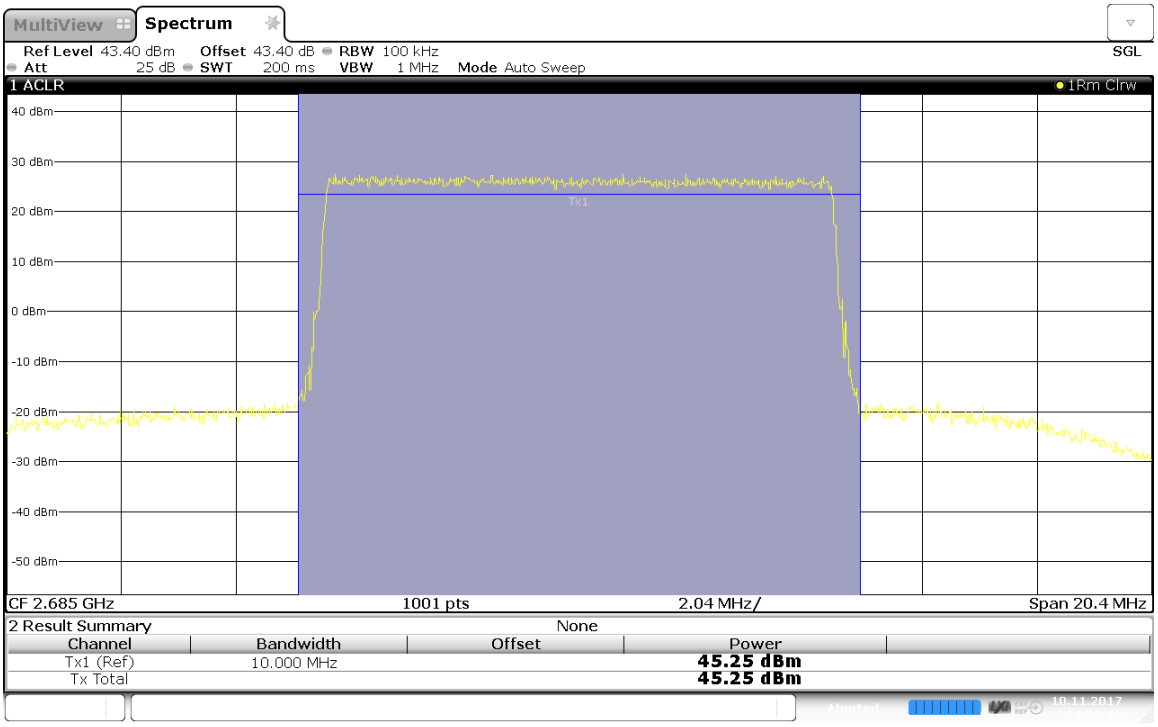

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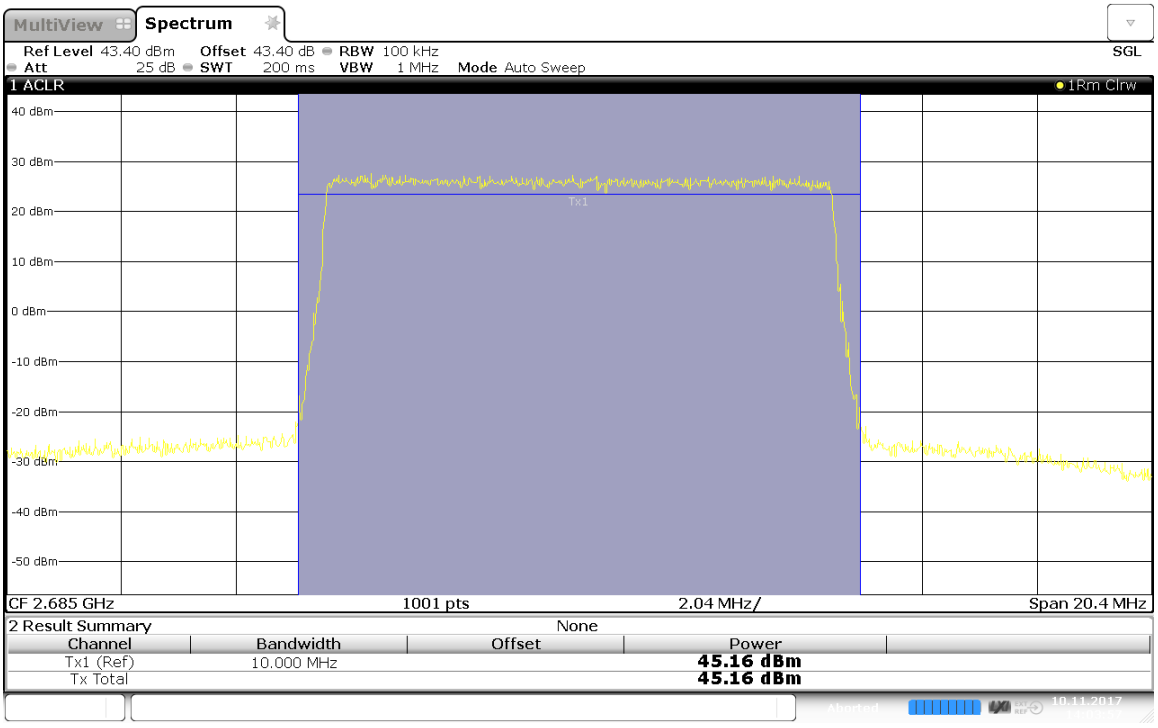

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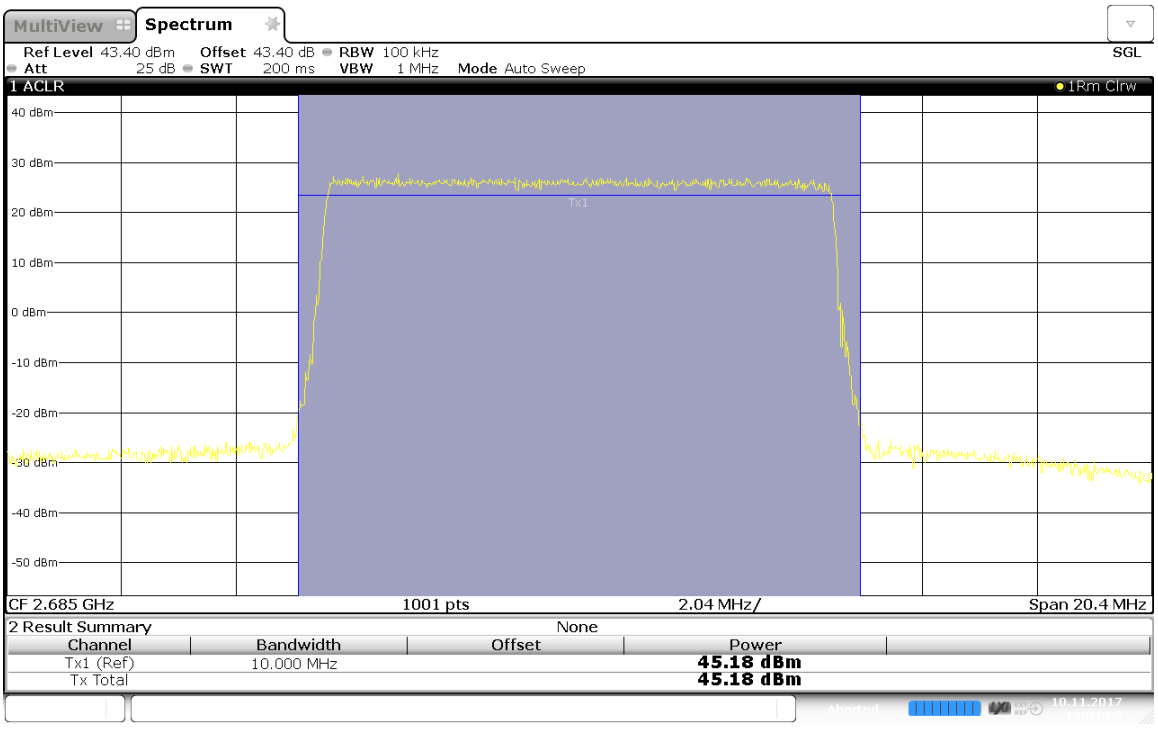

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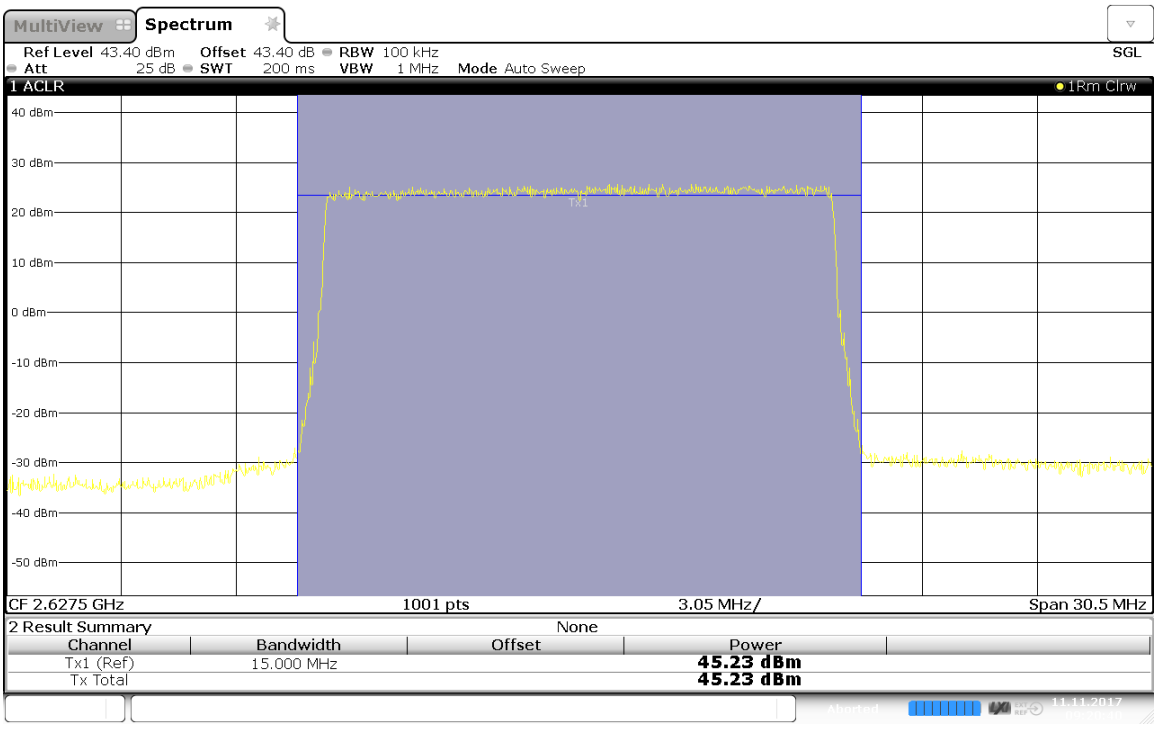
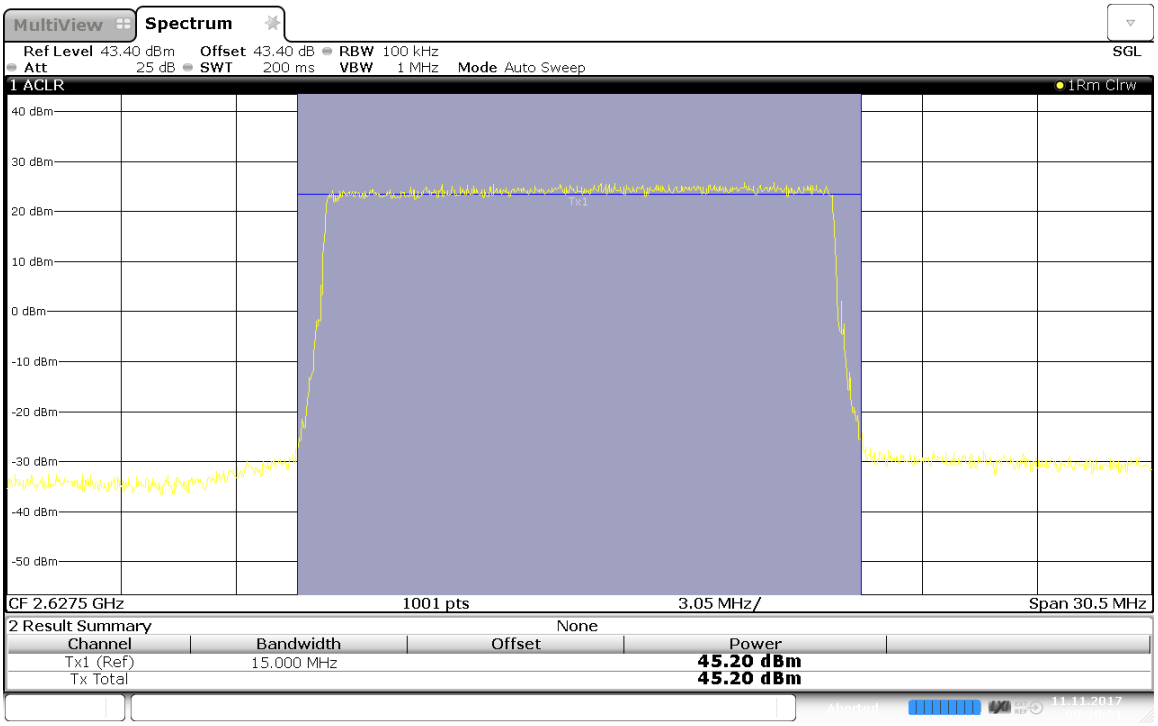
Channel Bandwidth :15M

Center Freq. (MHz)	Port	Max output Power in dBm	Antenna gain dBi	Cable Loss dB	Dipole Antenna	Total Power in W Of single antenna
2627.5	1	45.23	18	2	2.15	809.10
	2	45.2	18	2	2.15	803.53
	3	45.28	18	2	2.15	818.46
	4	45.3	18	2	2.15	822.24
2655	1	45.35	18	2	2.15	831.76
	2	45.35	18	2	2.15	831.76
	3	45.31	18	2	2.15	824.14
	4	45.33	18	2	2.15	827.94
2682.5	1	45.18	18	2	2.1`5	799.83
	2	45.26	18	2	2.15	814.70
	3	45.19	18	2	2.15	801.68
	4	45.16	18	2	2.15	796.16

15M -2627.5MHz-Port 1~4:





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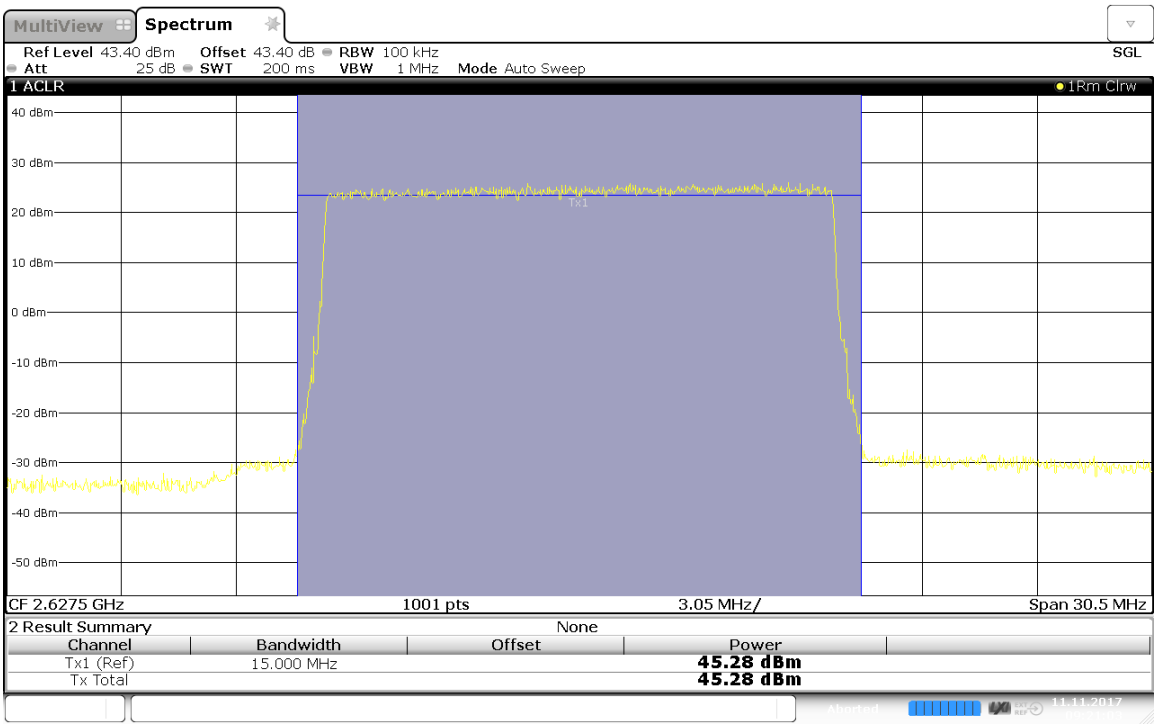

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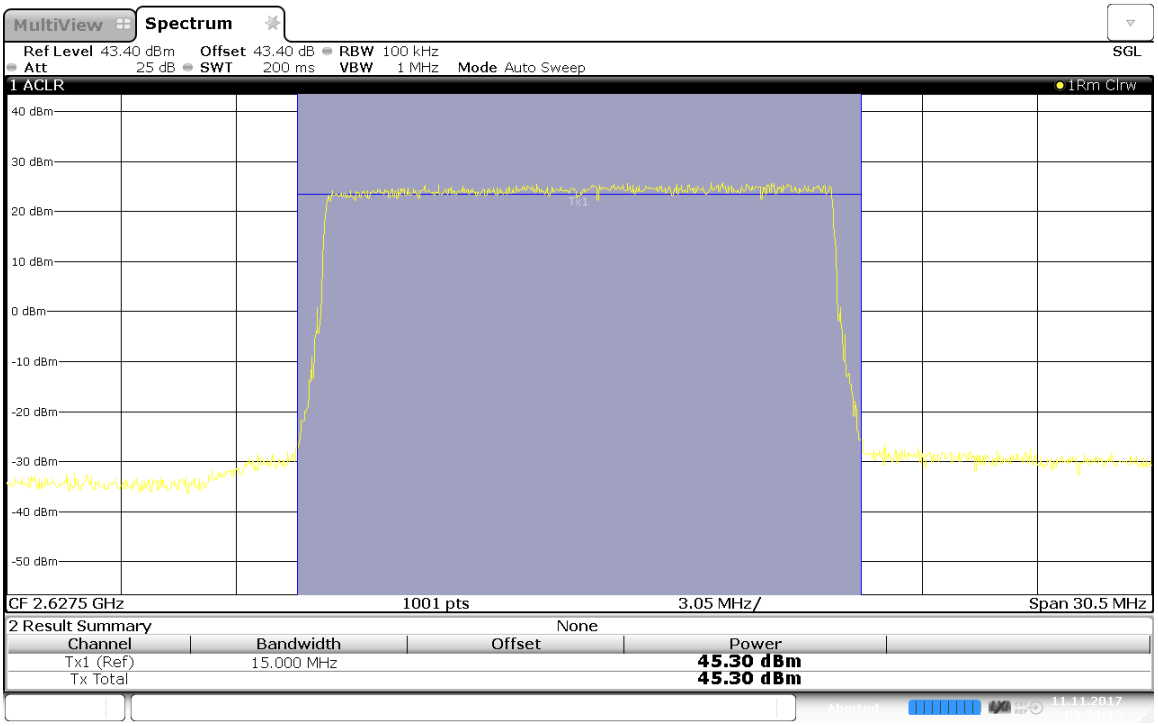

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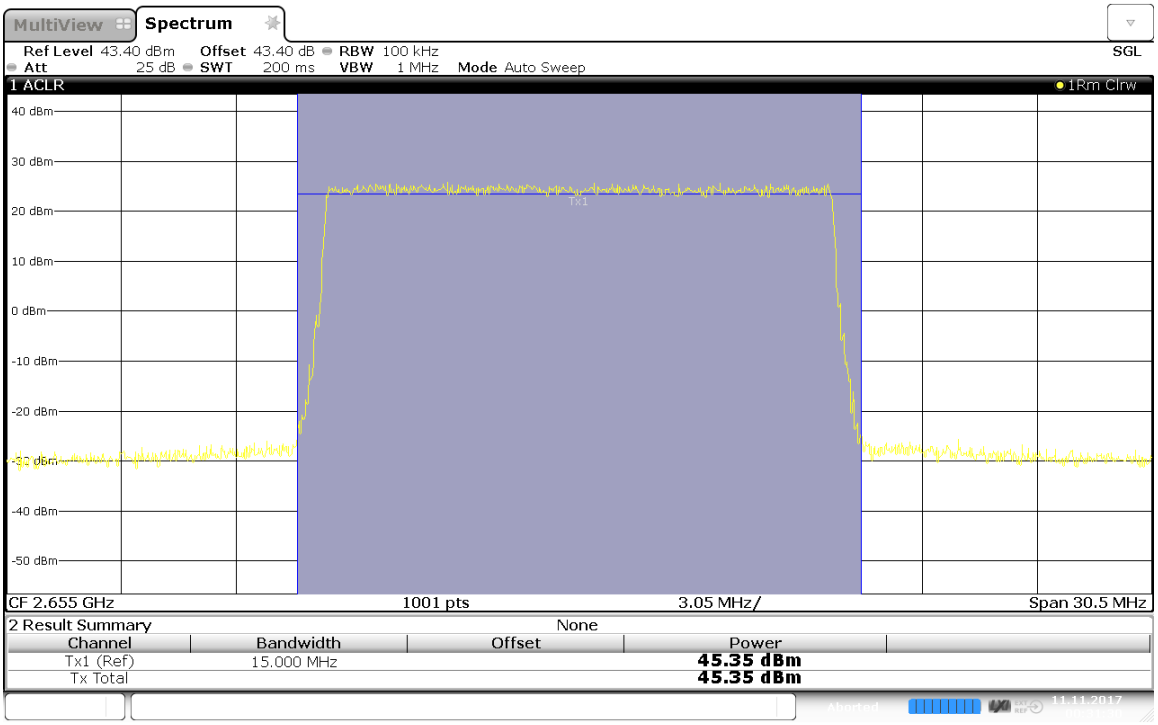
15M -2655MHz-Port 1~4:



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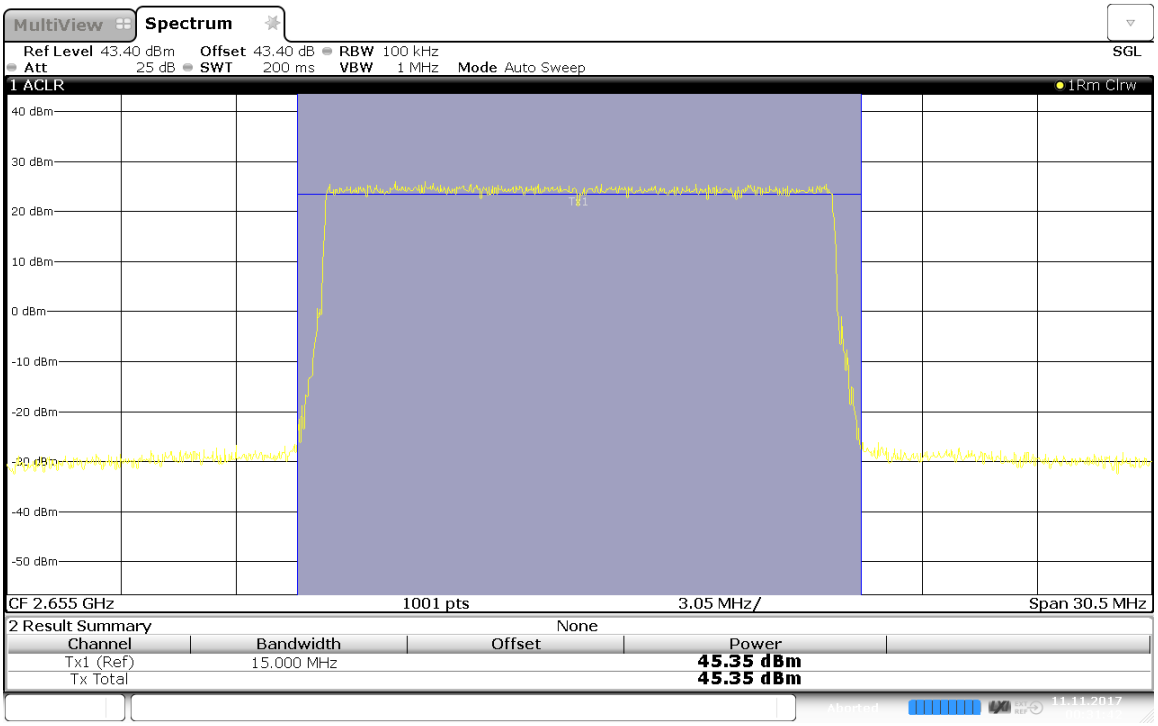

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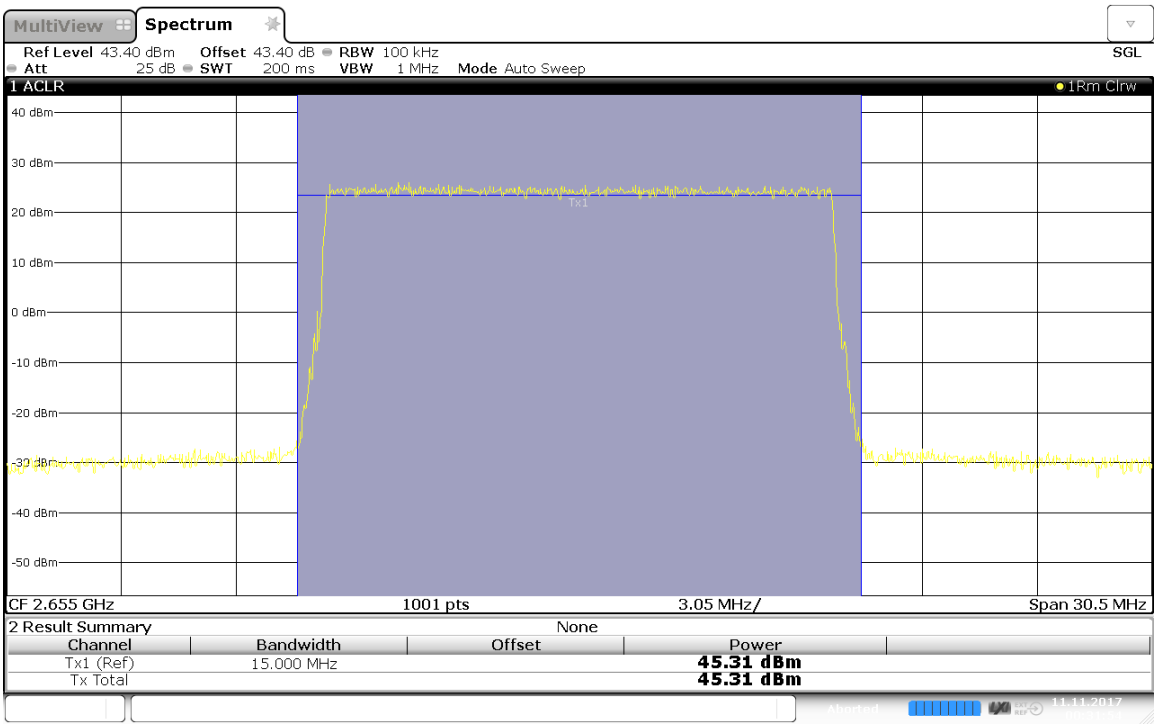

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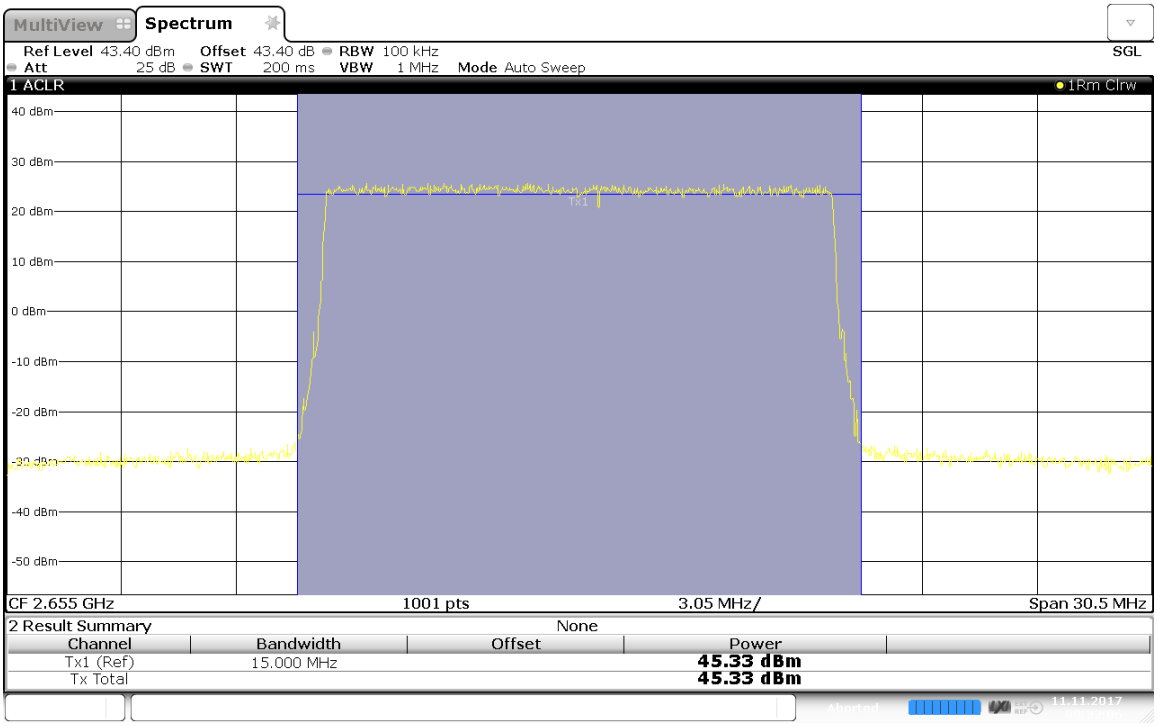
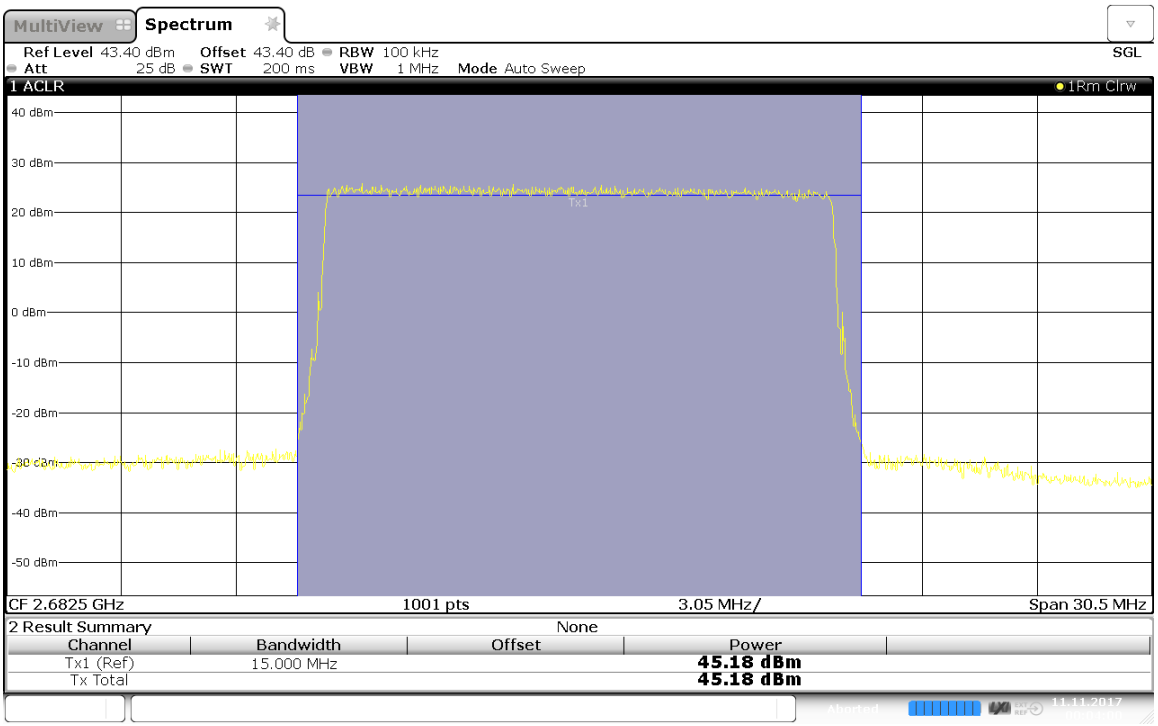
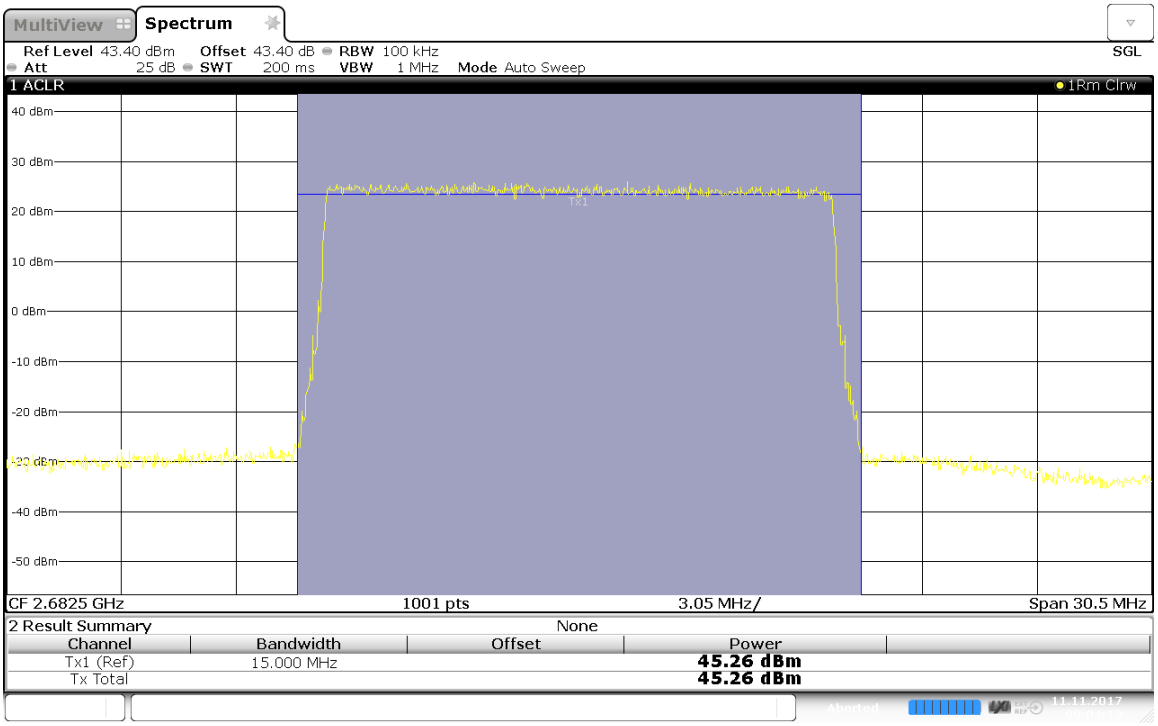


00:32:06 11.11.2017

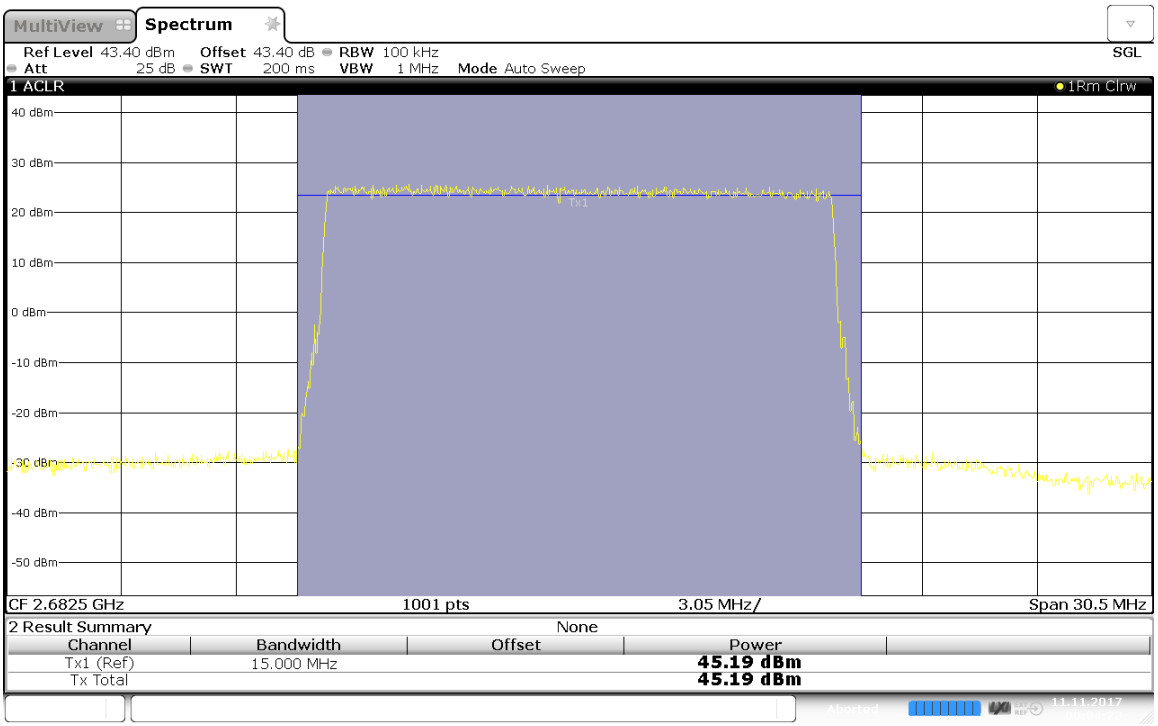
15M -2682.5MHz-Port 1~4:



00:04:00 11.11.2017



00:04:12 11.11.2017



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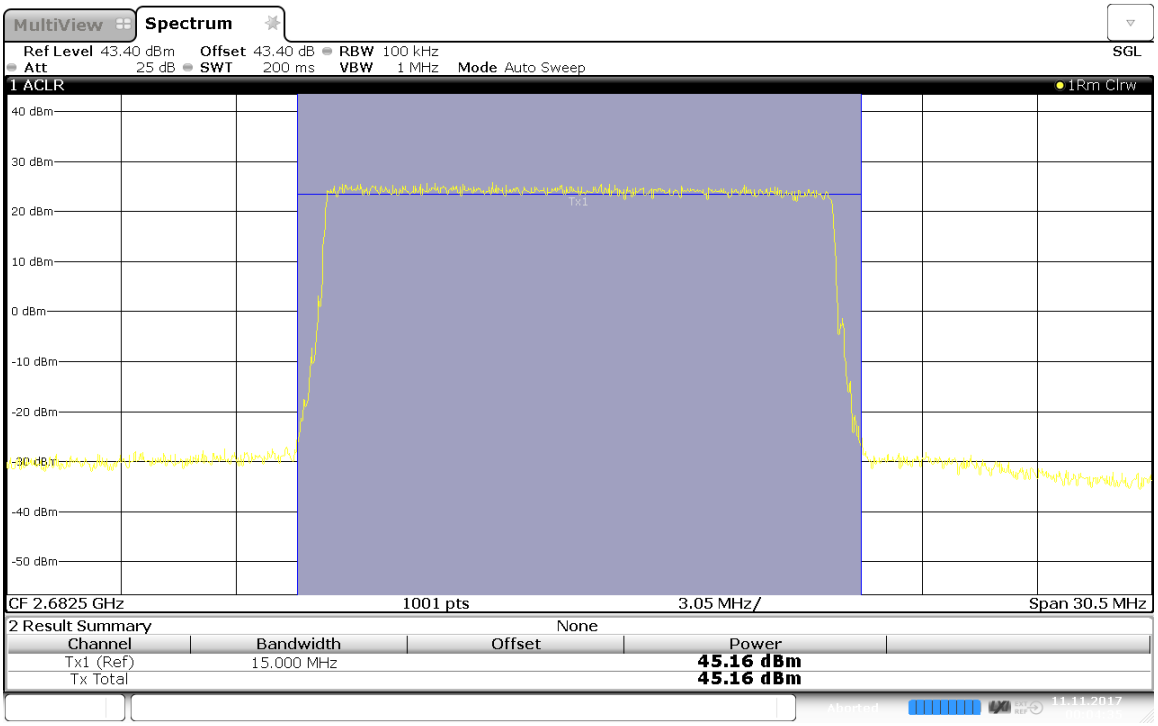
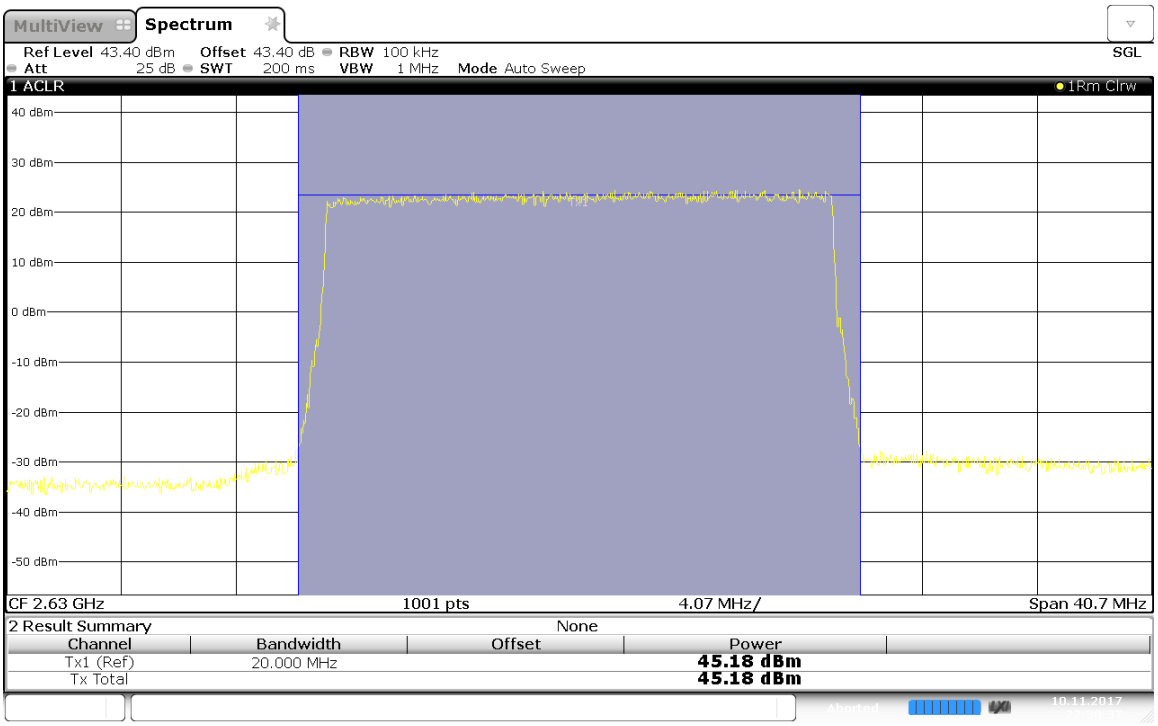


00:04:36 11.11.2017

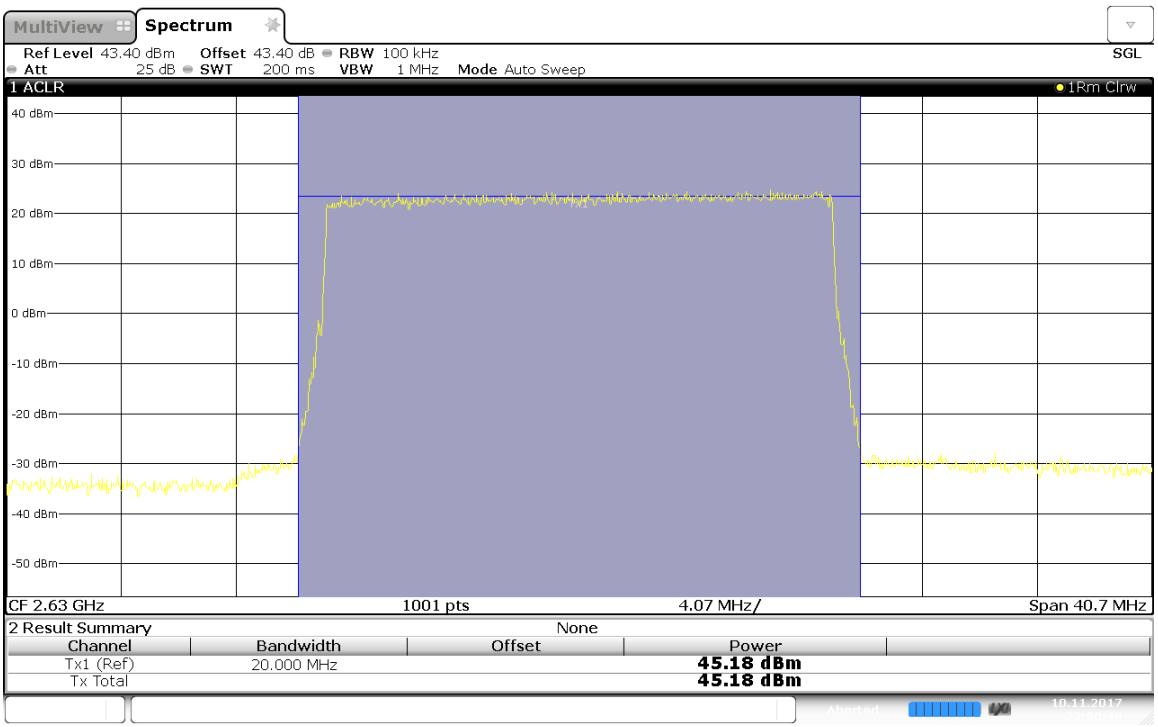
Channel Bandwidth :20M

Center Freq. (MHz)	Port	Max output Power in dBm	Antenna gain dBi	Cable Loss dB	Dipole Antenna	Total Power in W Of single antenna
2630	1	45.18	18	2	2.15	799.83
	2	45.18	18	2	2.15	799.83
	3	45.19	18	2	2.15	801.68
	4	45.18	18	2	2.15	799.83
2655	1	45.42	18	2	2.15	845.28
	2	45.43	18	2	2.15	847.23
	3	45.38	18	2	2.15	837.53
	4	45.38	18	2	2.15	837.53
2680	1	45.22	18	2	2.1`5	807.24
	2	45.22	18	2	2.15	807.24
	3	45.25	18	2	2.15	812.83
	4	45.2	18	2	2.15	803.53

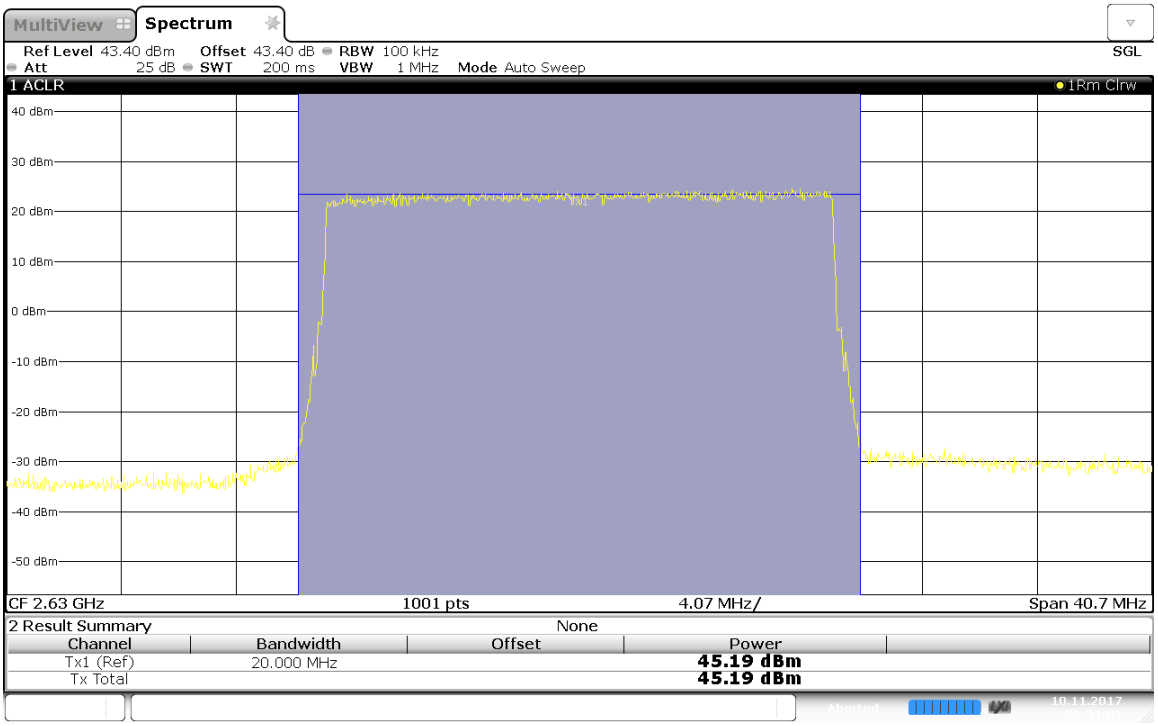
20M -2630MHz-Port 1~4:



22:30:38 10.11.2017



22:30:50 10.11.2017



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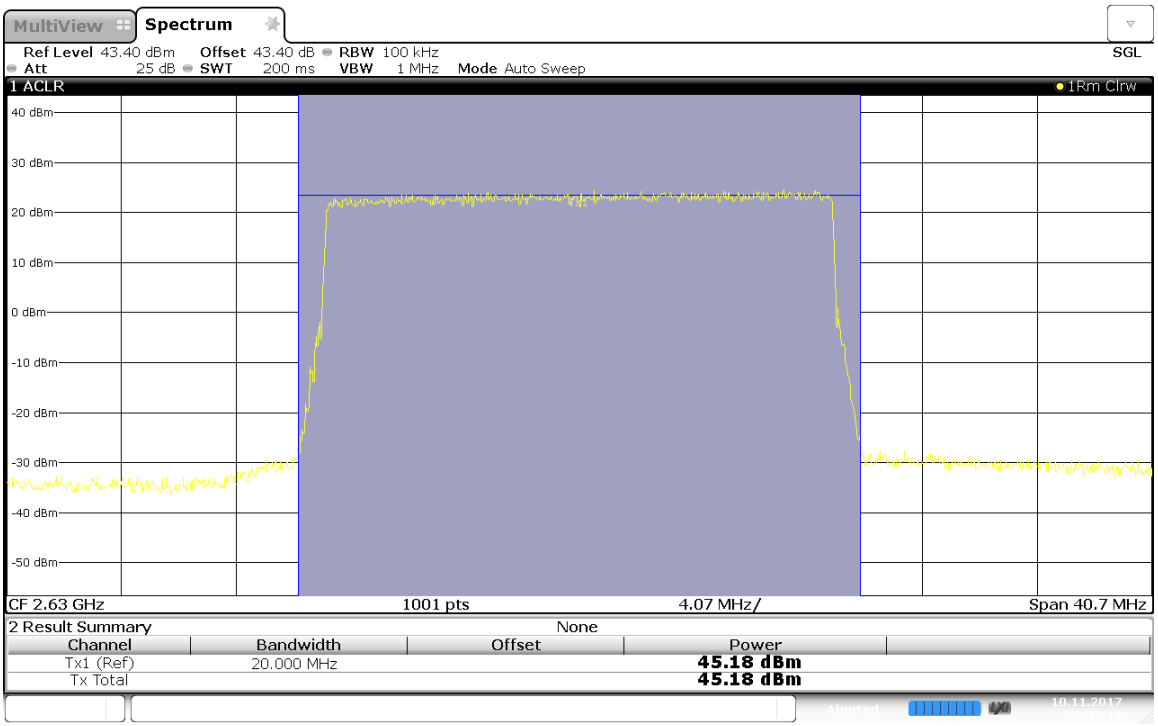
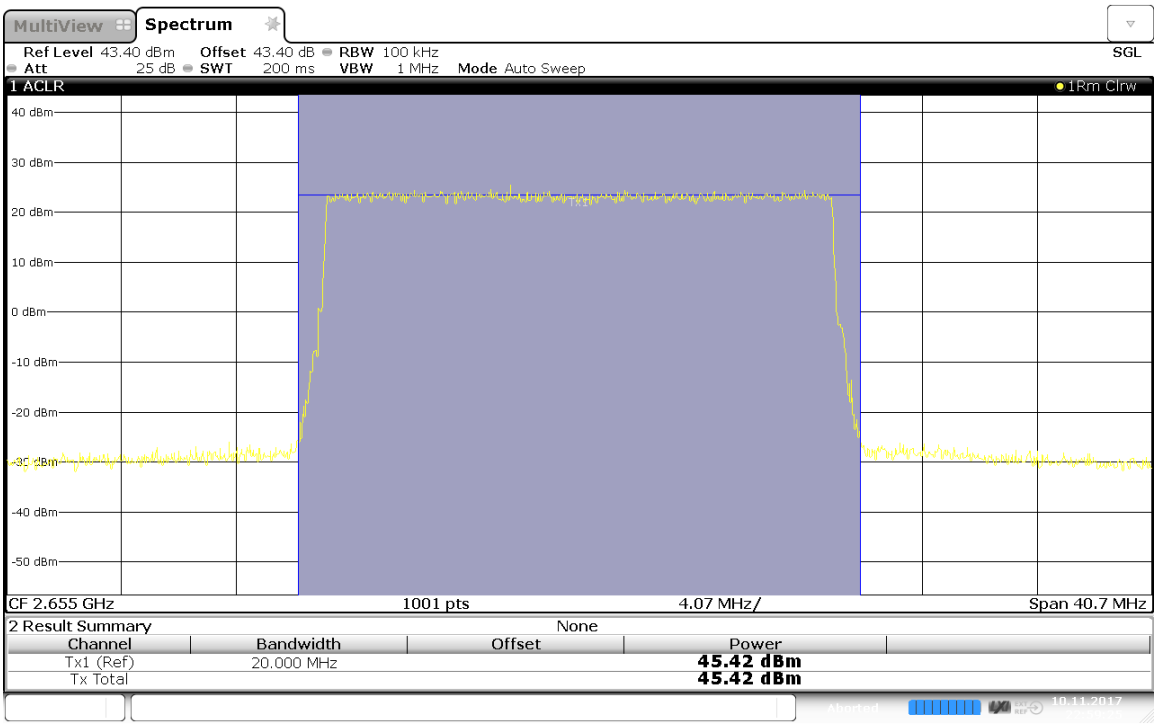


22:31:14 10.11.2017

20M -2655MHz-Port 1~4:



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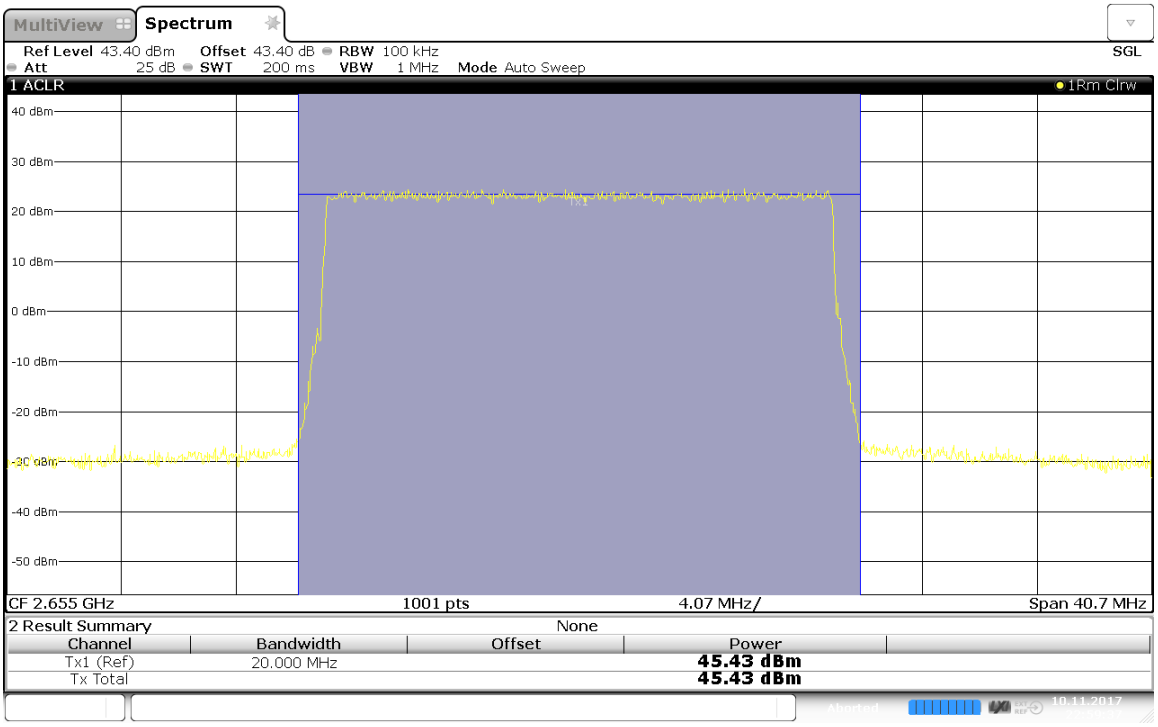
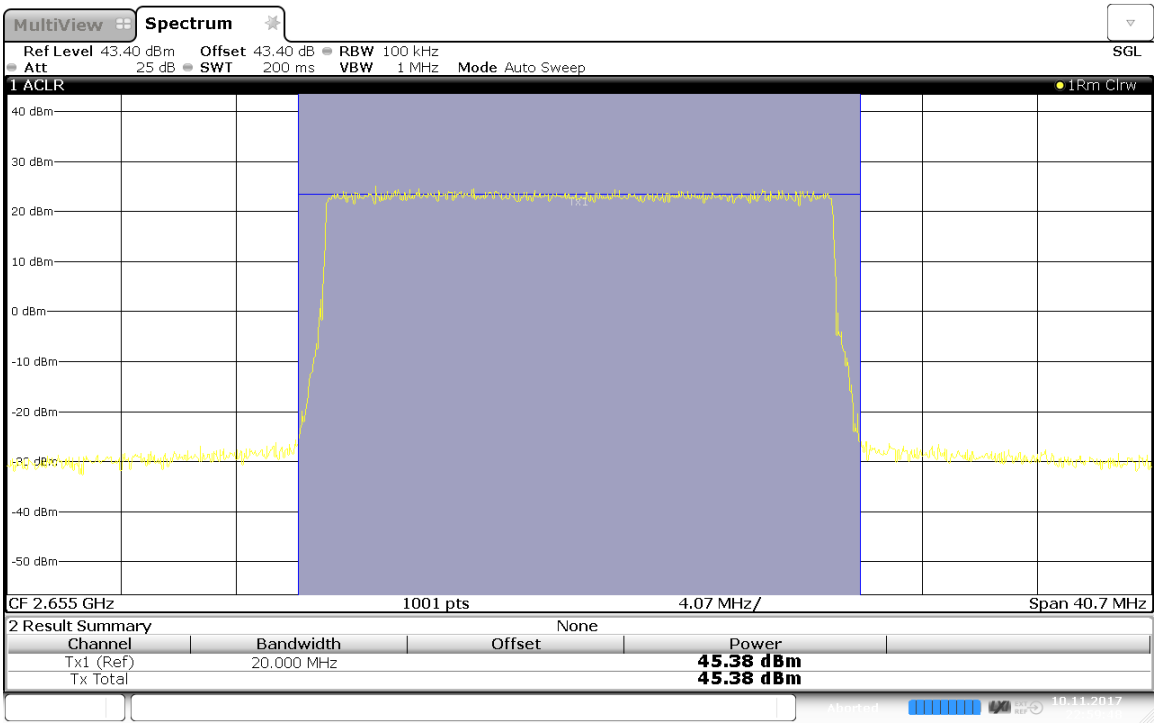


22:59:38 10.11.2017



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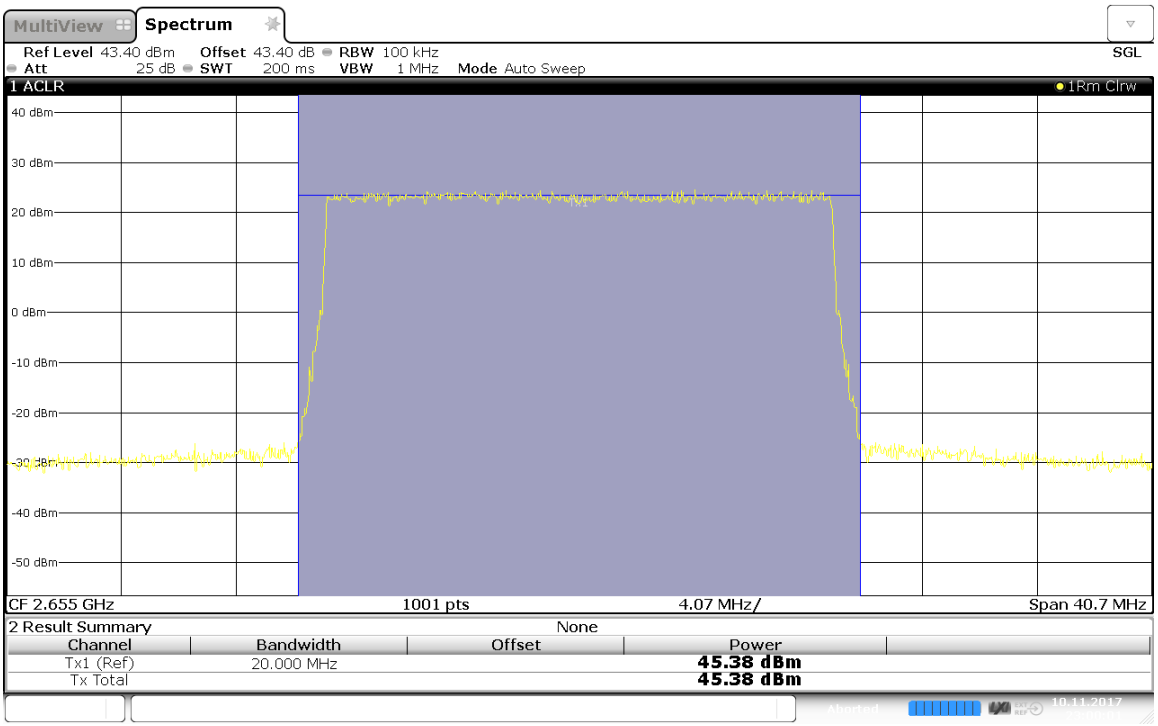
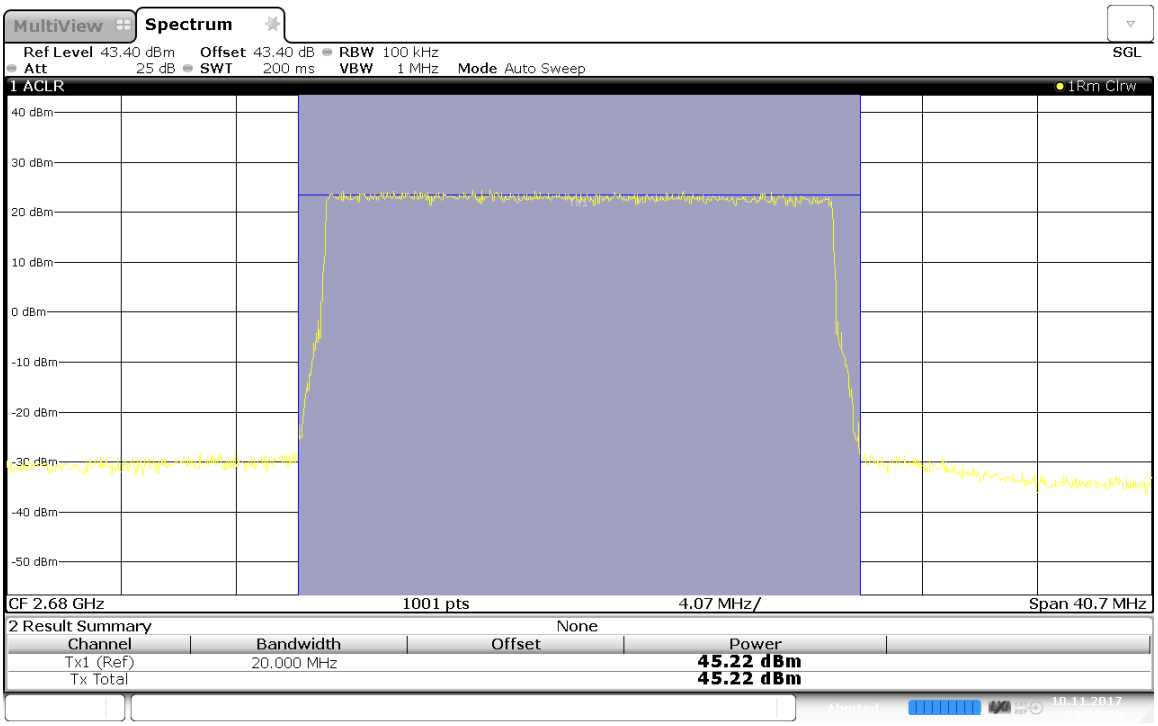
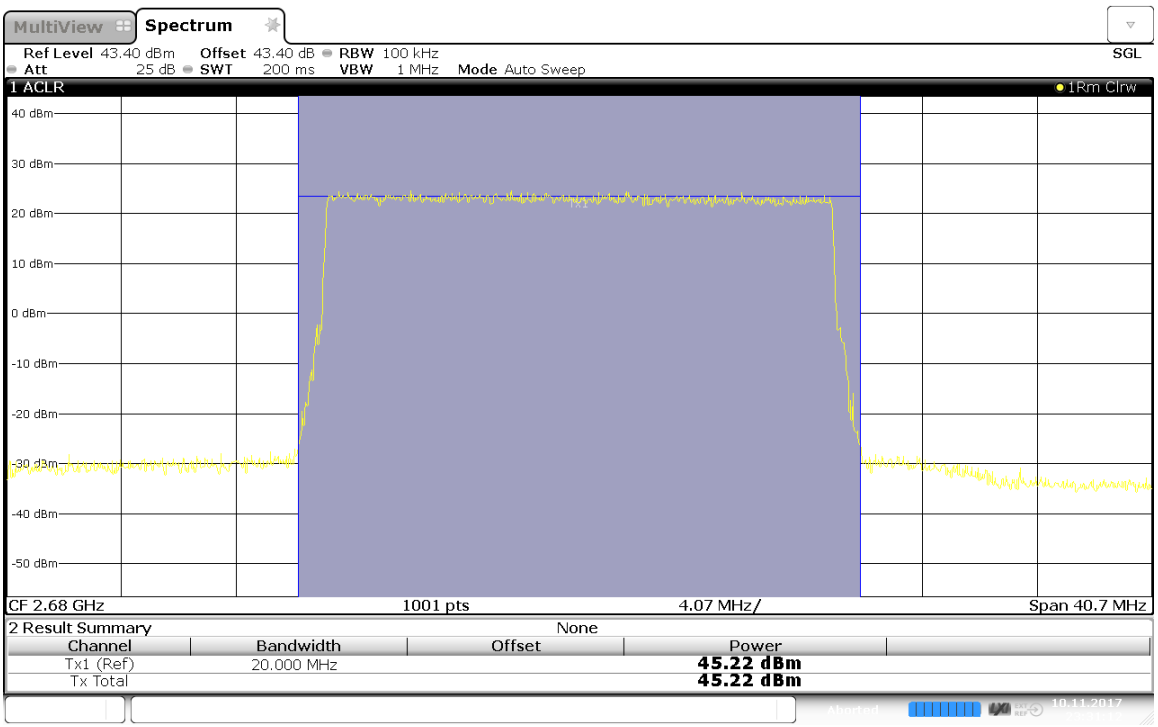


23:00:02 10.11.2017

20M -2680MHz-Port 1~4:



23:31:00 10.11.2017



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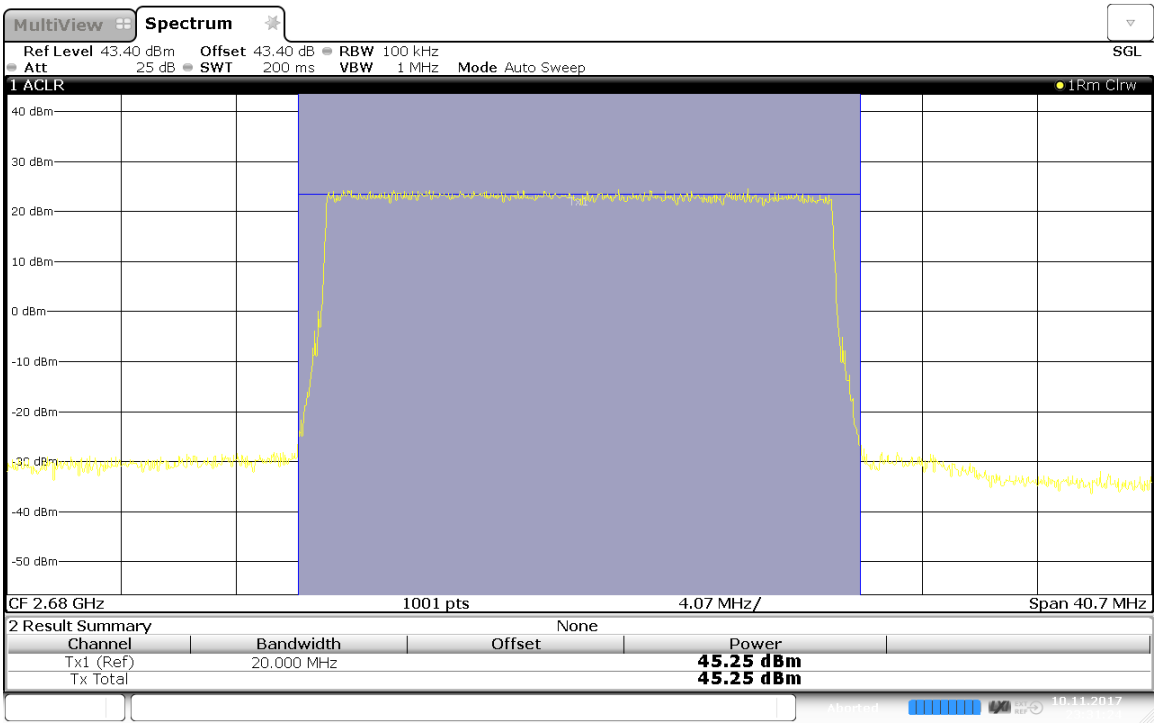

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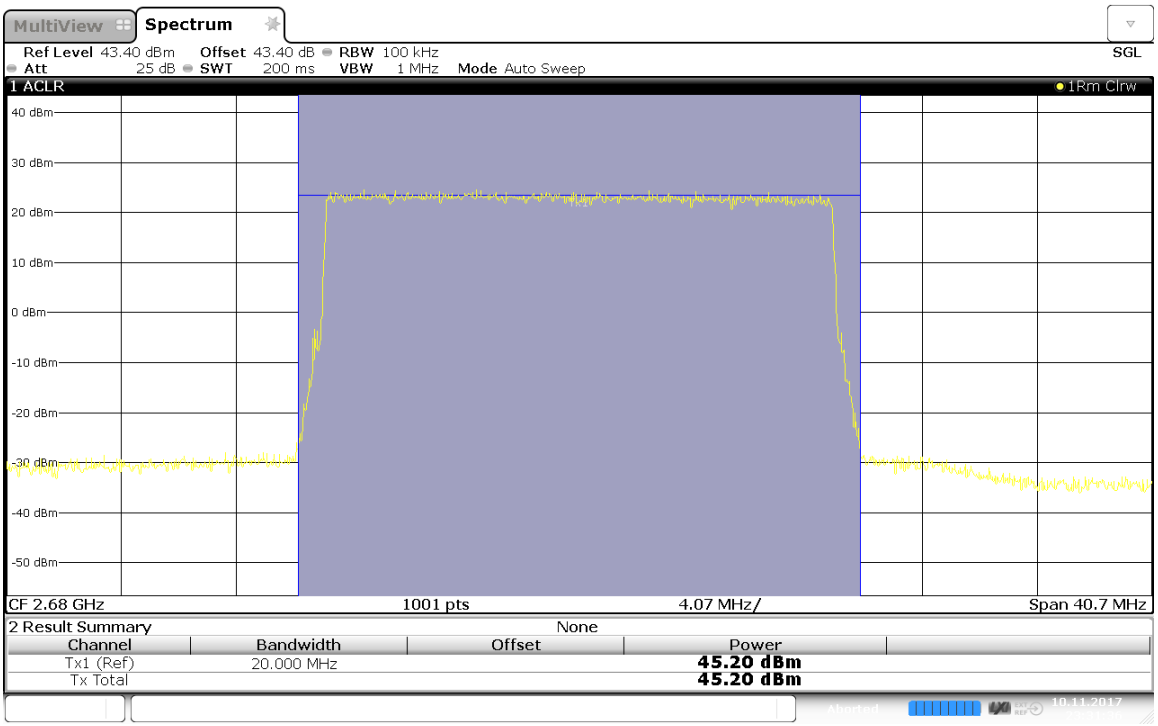


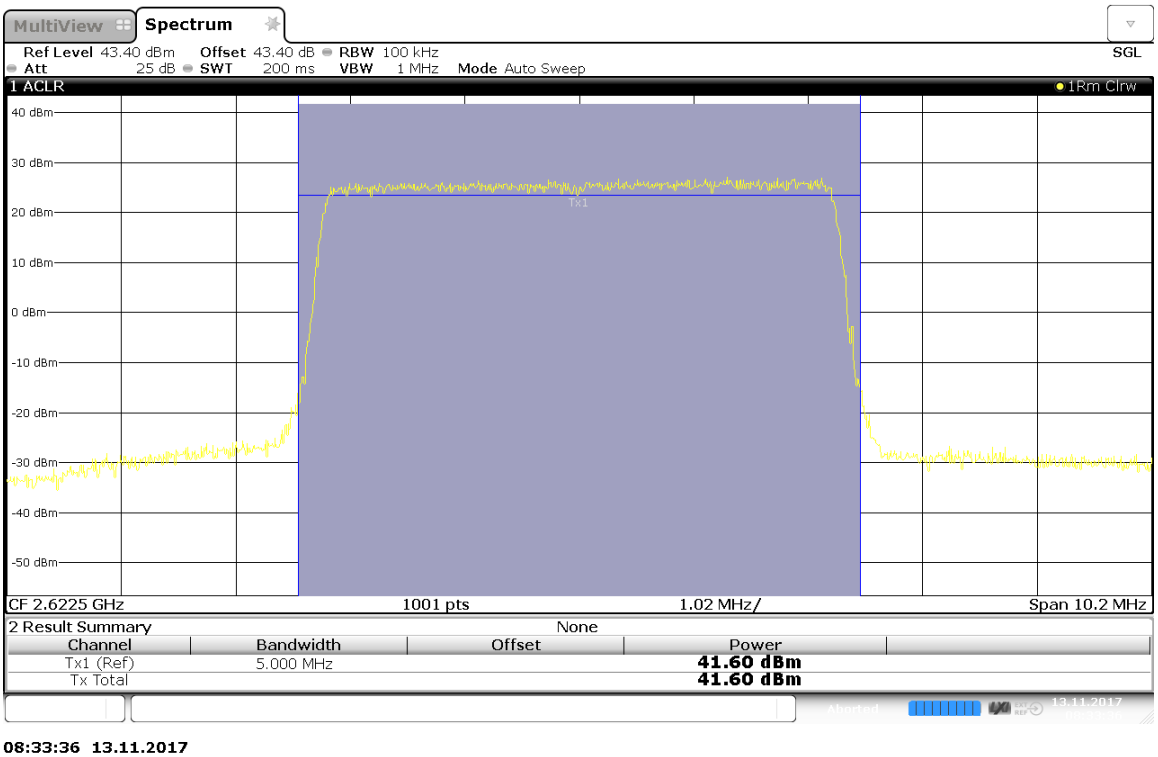
23:31:36 10.11.2017

Double Carrier:

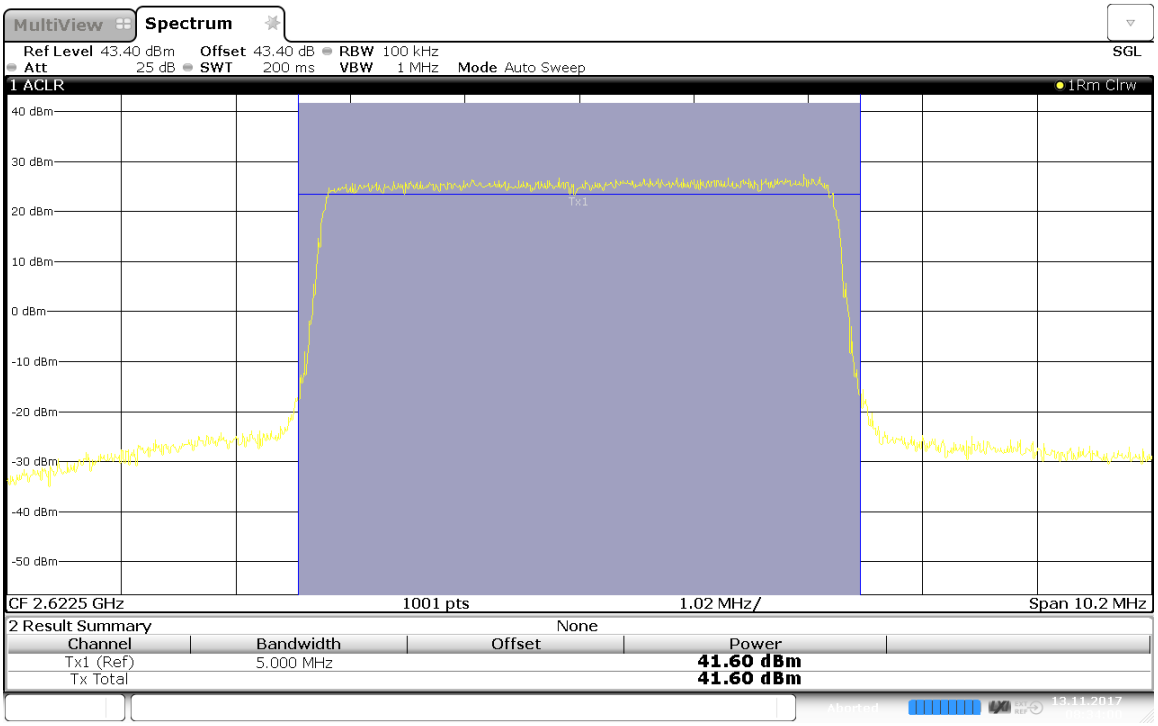
Channel Bandwidth :5M+5M(2622.5MHz & 2657.5MHz)

Port	Carry1 Center Freq. (MHz)	Carry1 Max output Power in dBm	Carry2 Center Freq. (MHz)	Carry2 Max output Power in dBm	Antenna gain dBi	Cable Loss dB	Dipole Antenna	Total Power in W Of single antenna
1	2622.5	41.6	2657.5	42.72	18	2	2.15	804.69
2		41.6		42.75	18	2	2.15	807.84
3		41.59		42.78	18	2	2.15	810.20
4		41.58		42.76	18	2	2.15	807.28

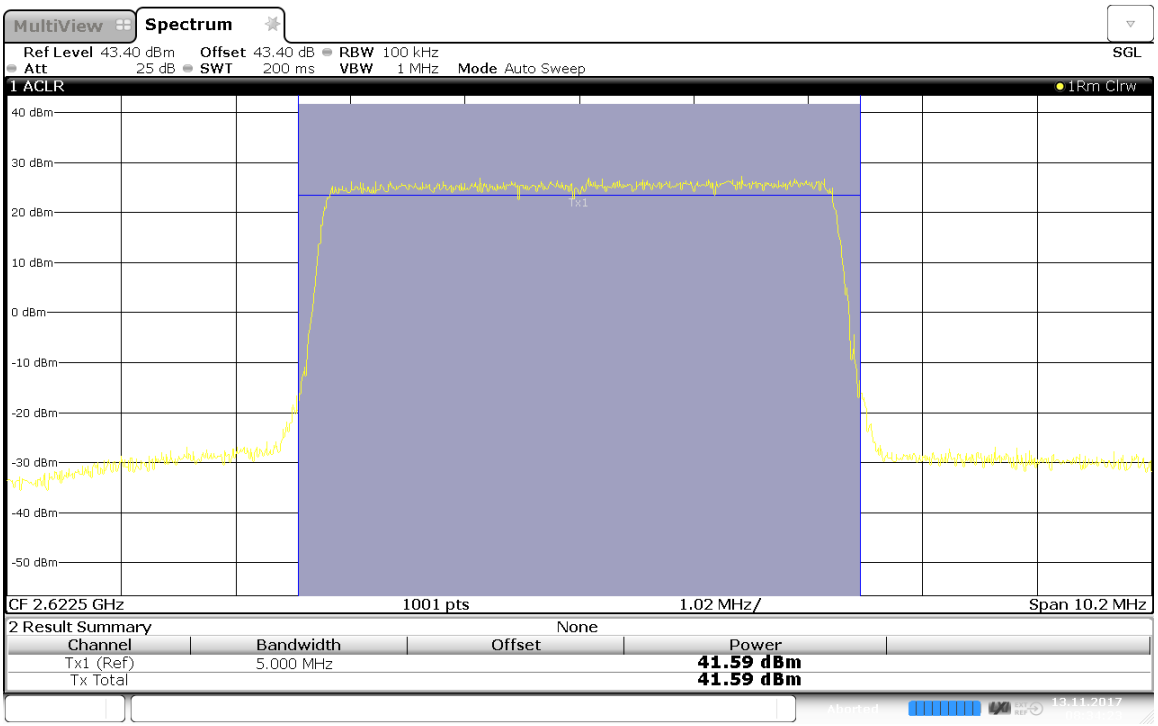
5M+5M - carry1-2622.5MHz-Port 1~4:



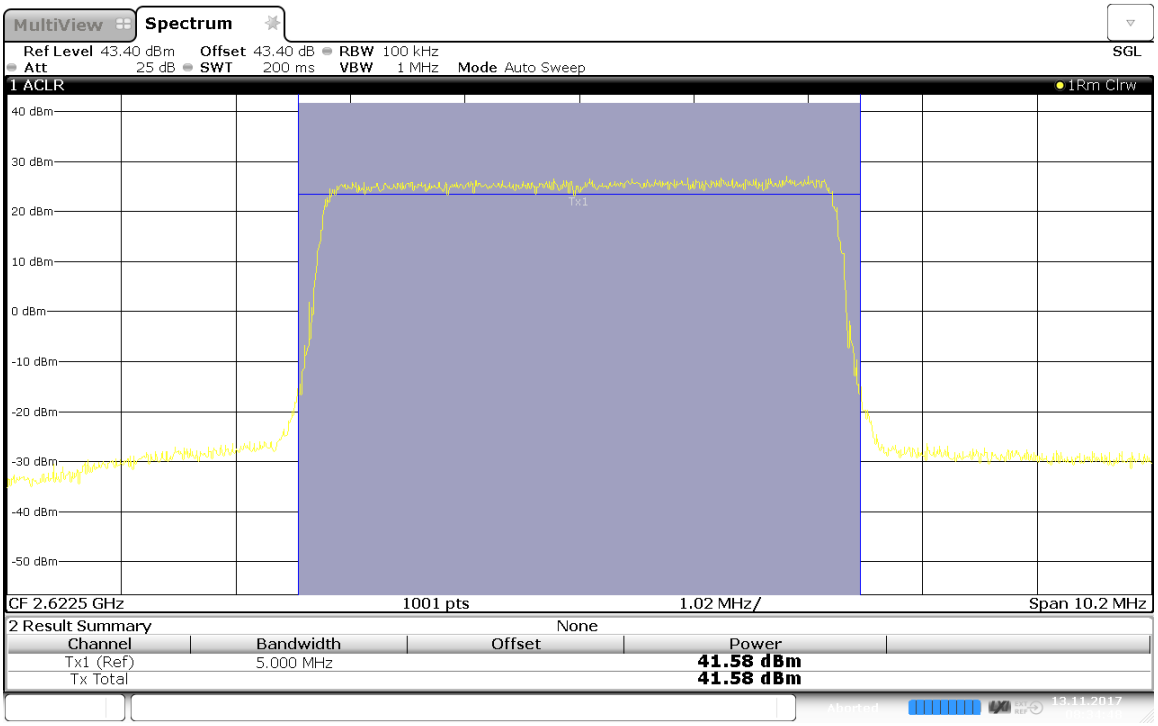
08:33:36 13.11.2017



08:34:00 13.11.2017



08:34:24 13.11.2017



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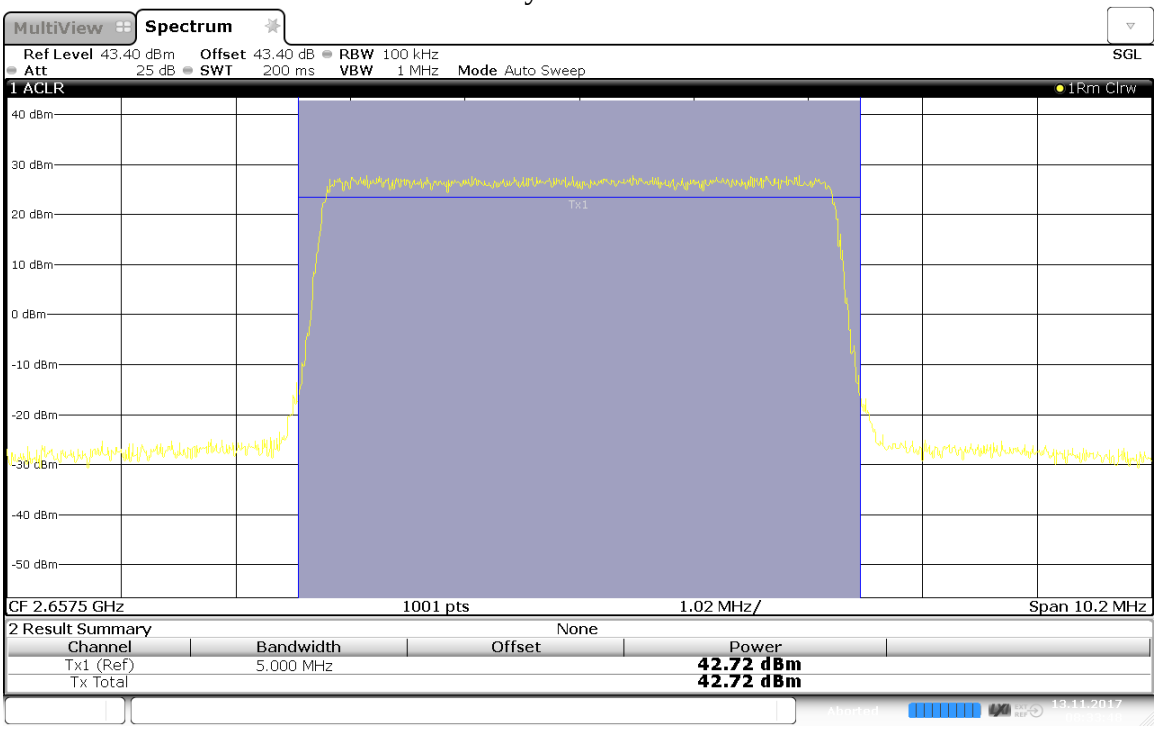
5M+5M - carry2-2657.5MHz-Port 1~4:



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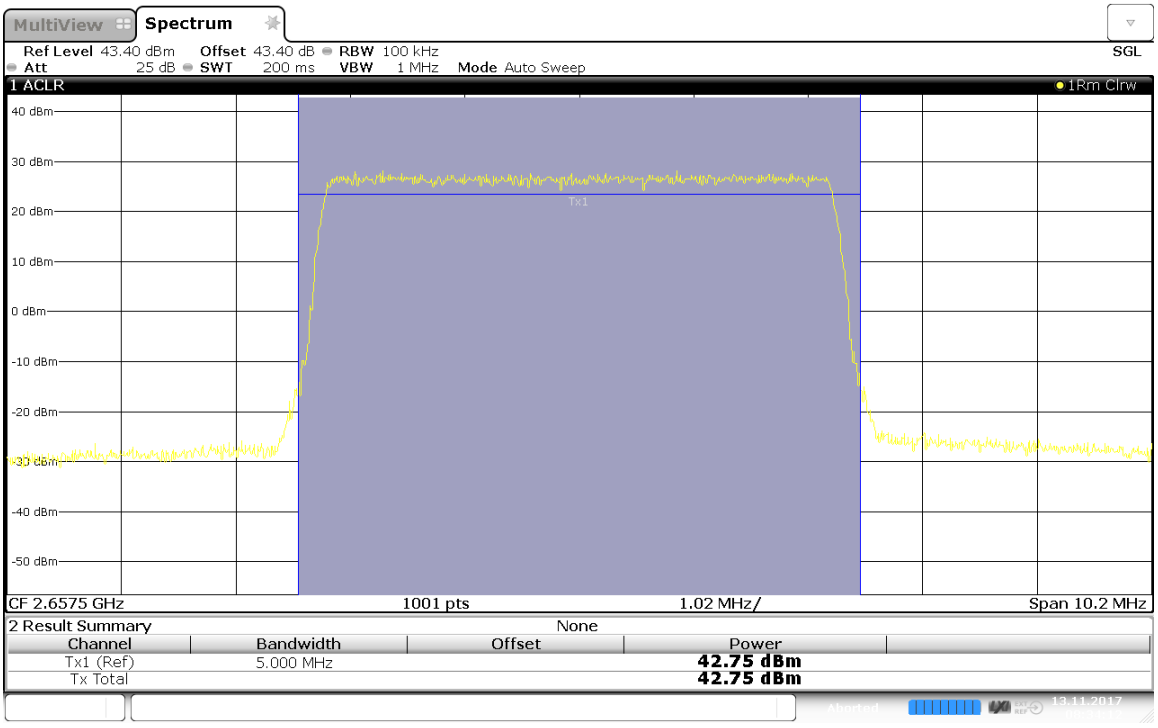
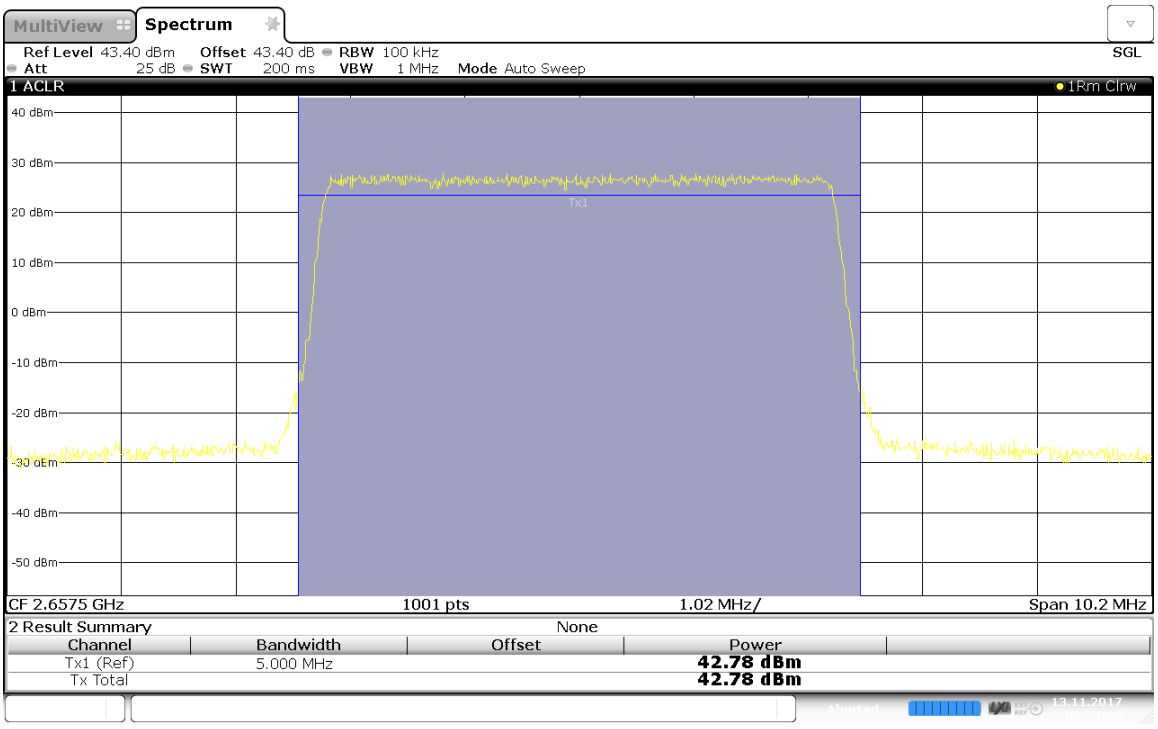


08:34:12 13.11.2017



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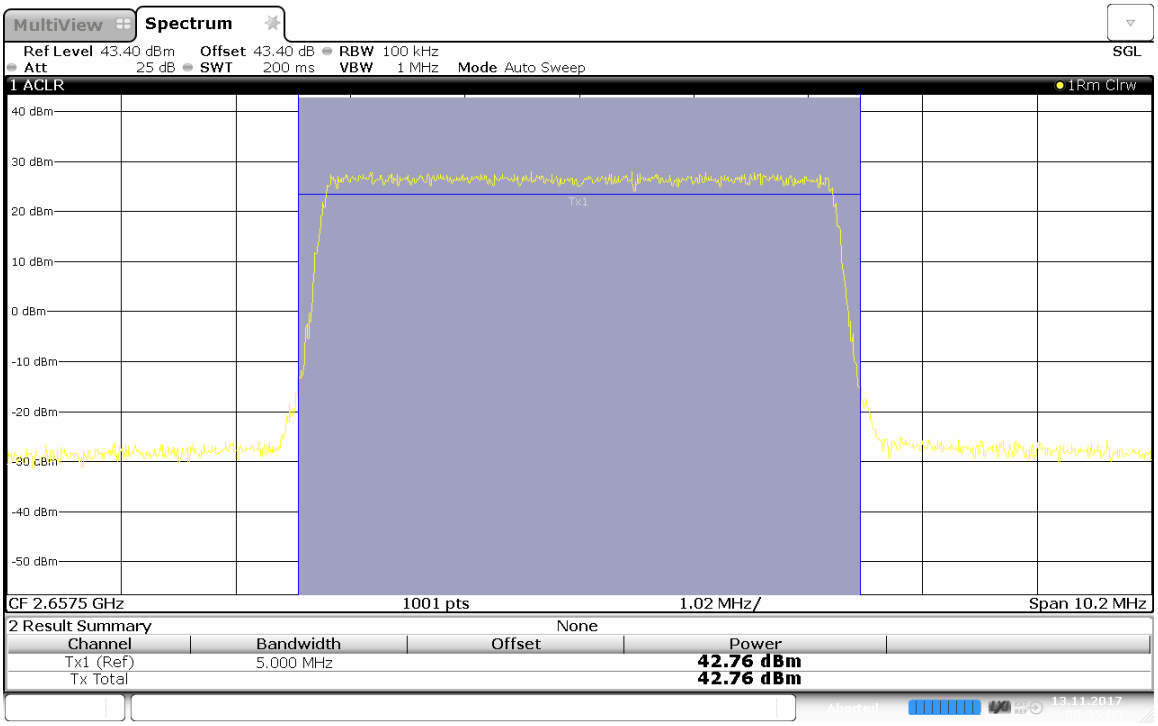
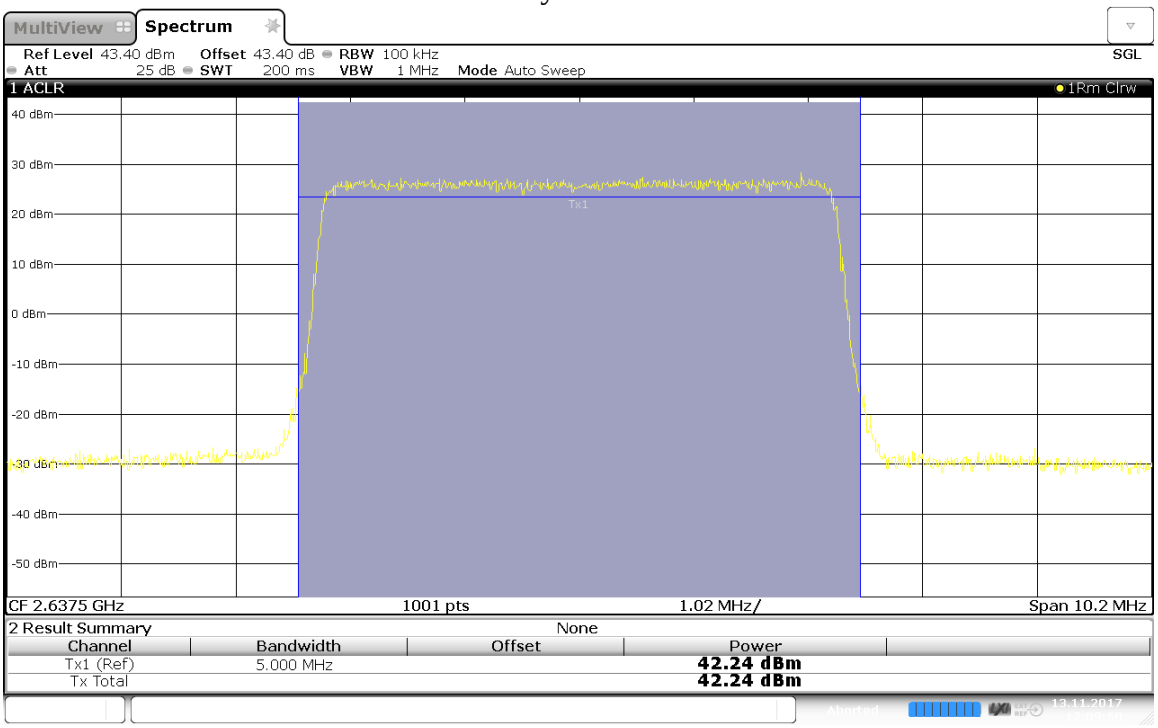


08:35:00 13.11.2017

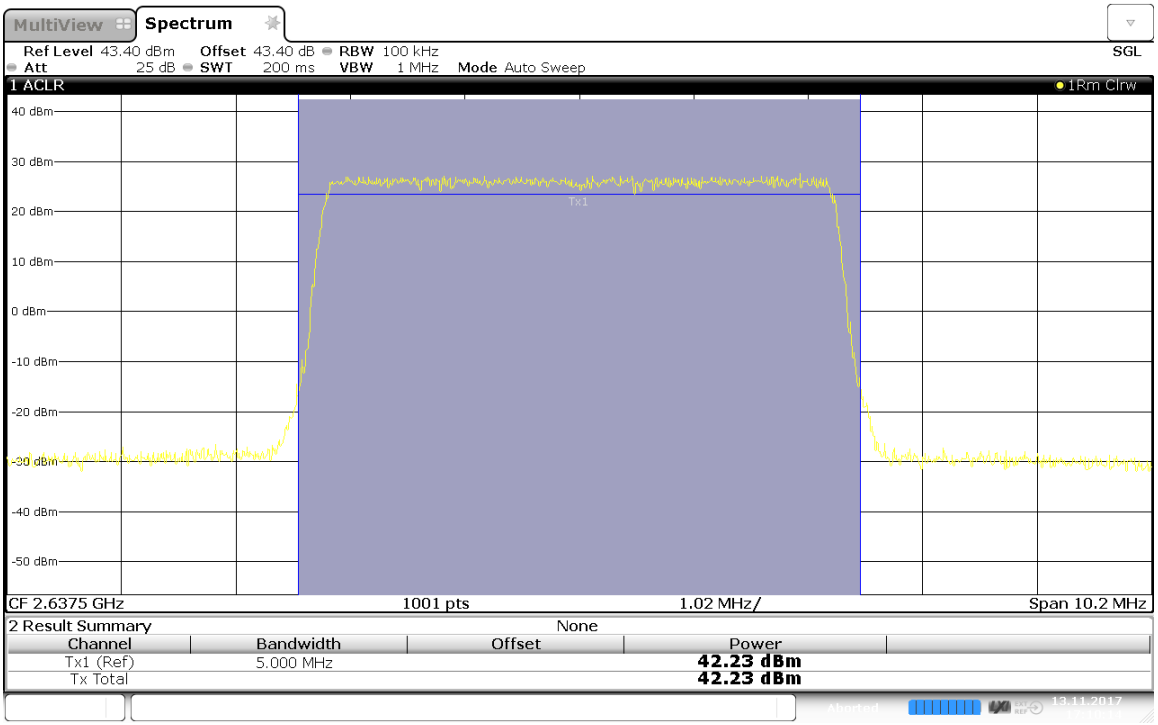
Channel Bandwidth :5M+5M(2637.5MHz & 2672.5MHz)

Port	Carry1 Center Freq. (MHz)	Carry1 Max output Power in dBm	Carry2 Center Freq. (MHz)	Carry2 Max output Power in dBm	Antenna gain dBi	Cable Loss dB	Dipole Antenna	Total Power in W Of single antenna
1	2637.5	42.24	2672.5	42.11	18	2	2.15	800.90
2		42.23		42.11	18	2	2.15	799.97
3		42.23		42.06	18	2	2.15	795.45
4		42.12		42	18	2	2.15	779.96

5M+5M - carry1-2637.5MHz-Port 1~4:



17:09:51 13.11.2017



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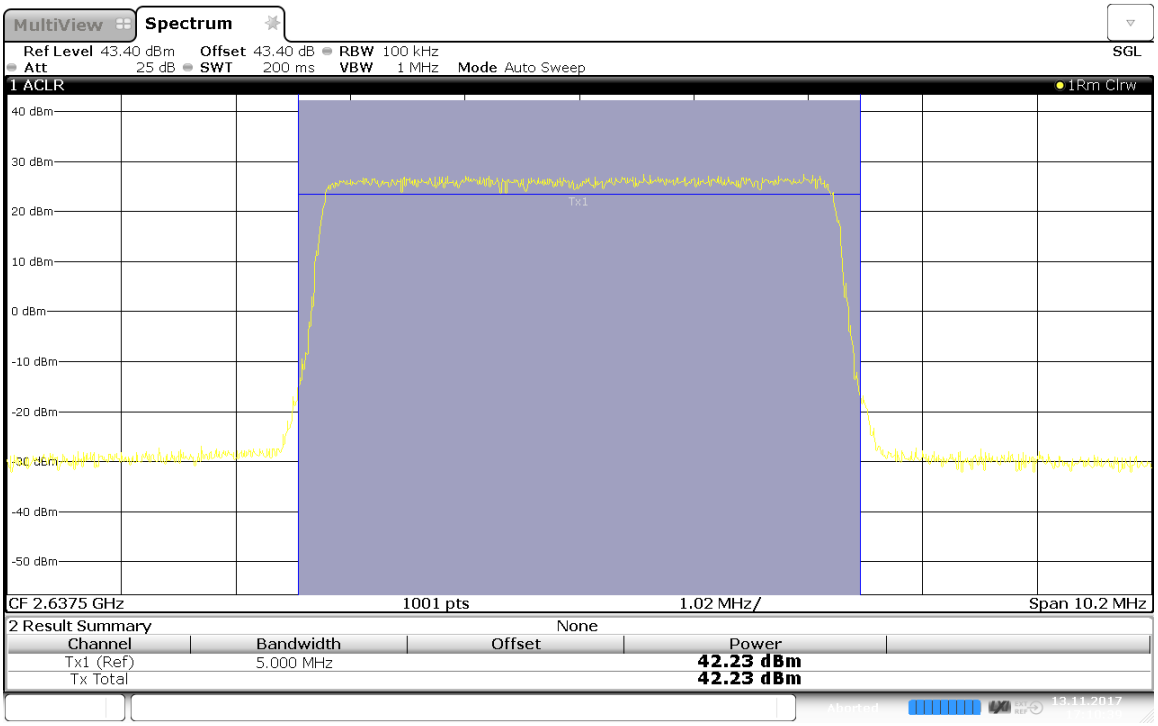
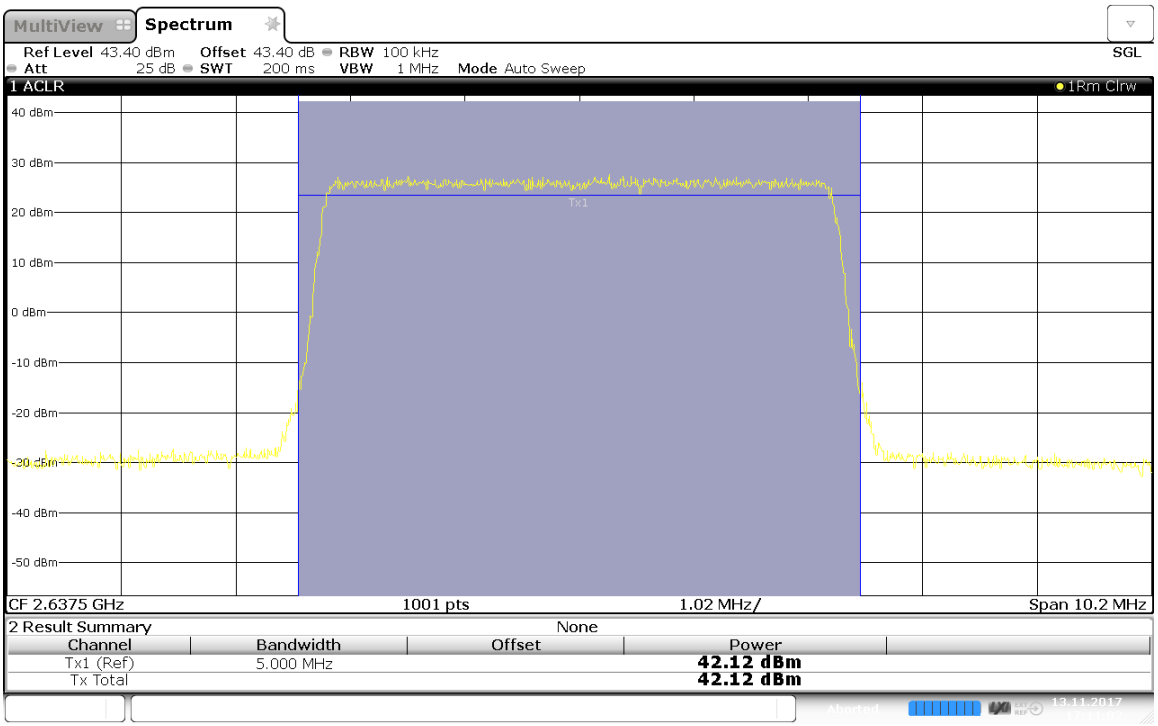
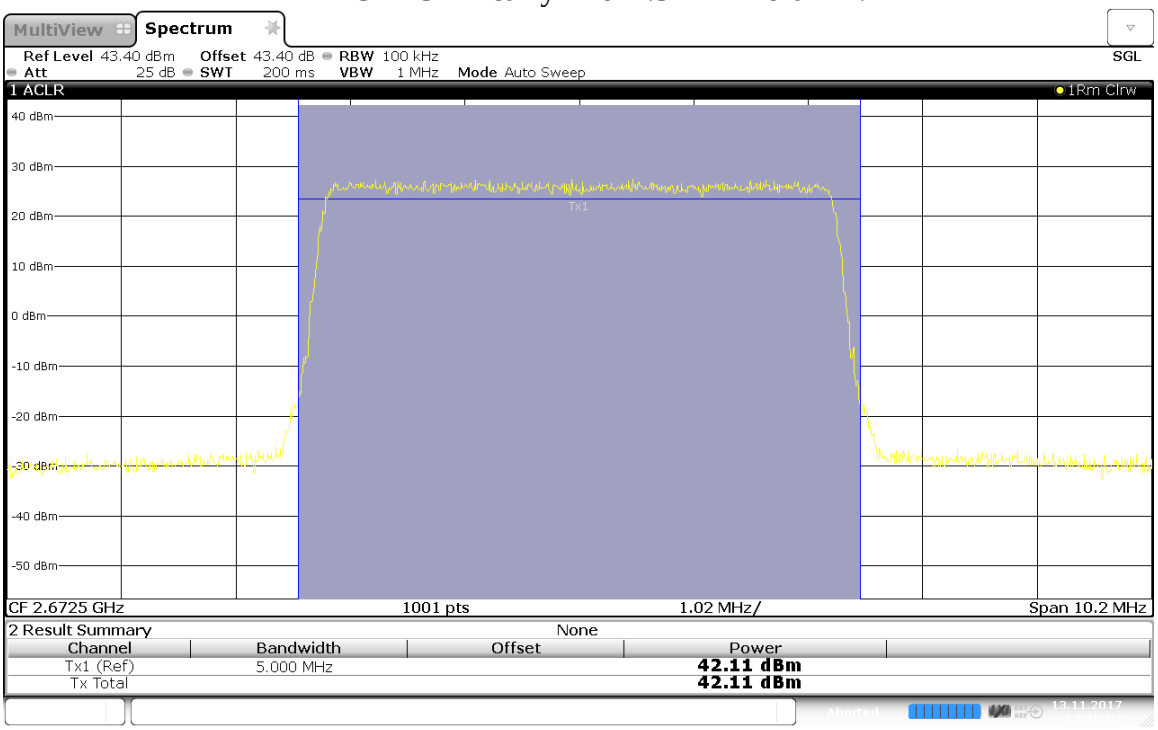


17:10:39 13.11.2017

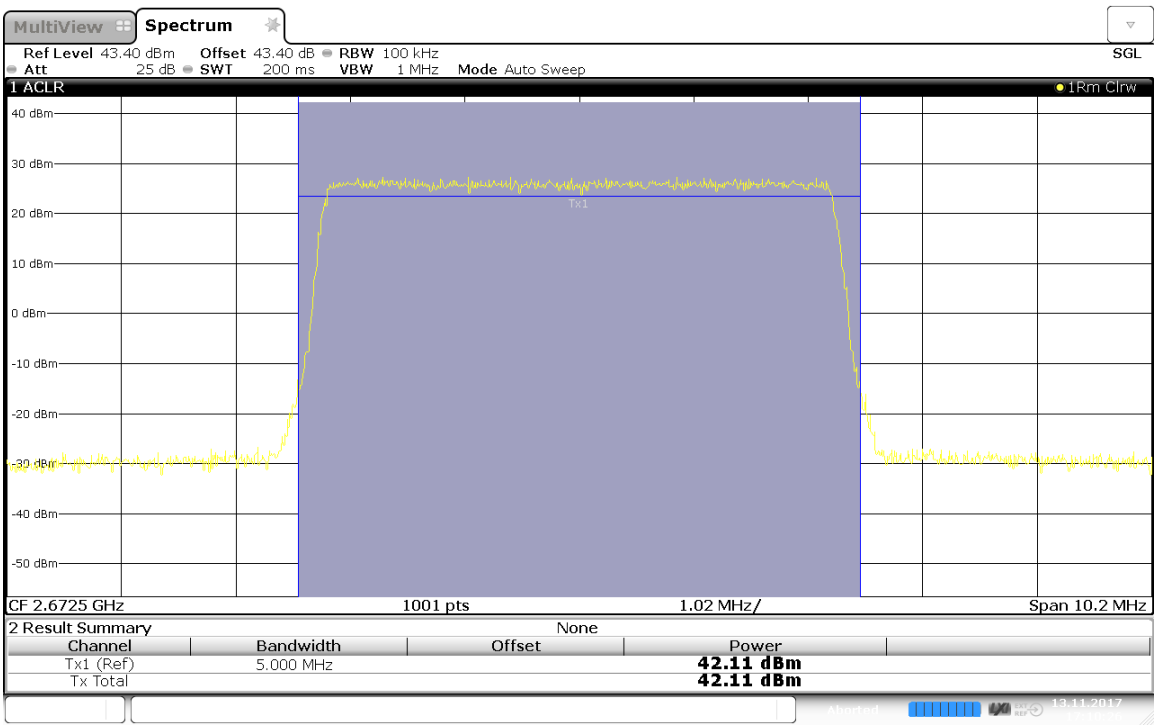


17:11:03 13.11.2017

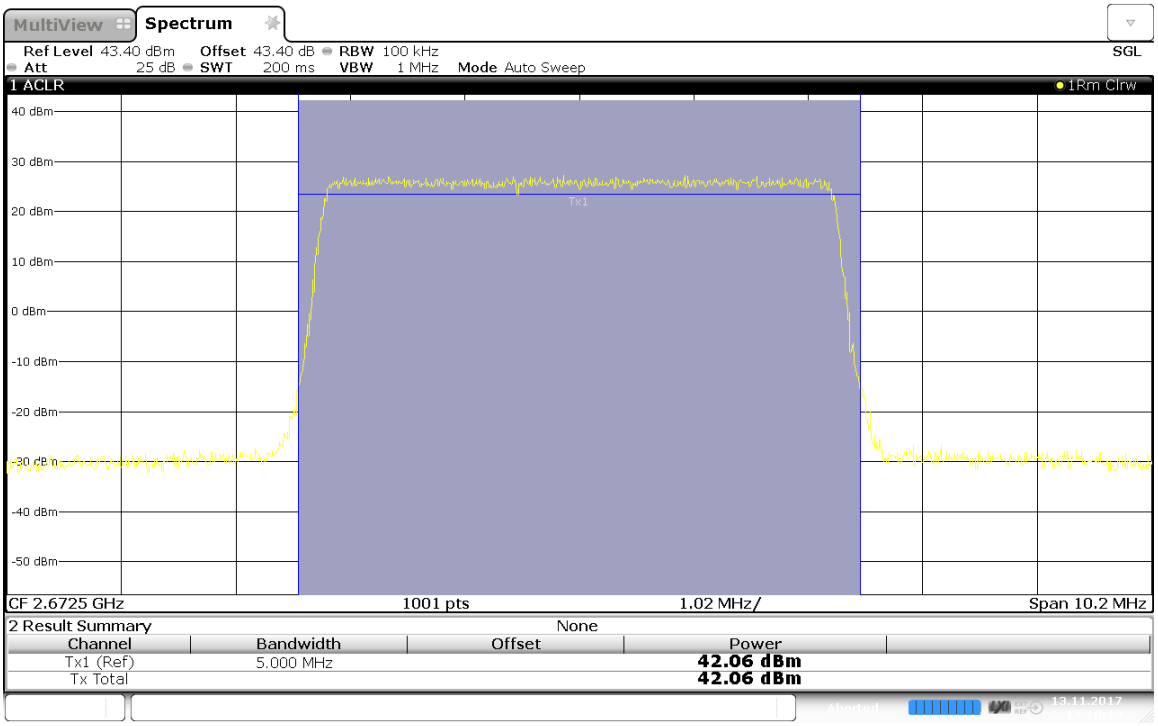
5M+5M - carry2-2672.5MHz-Port 1~4:



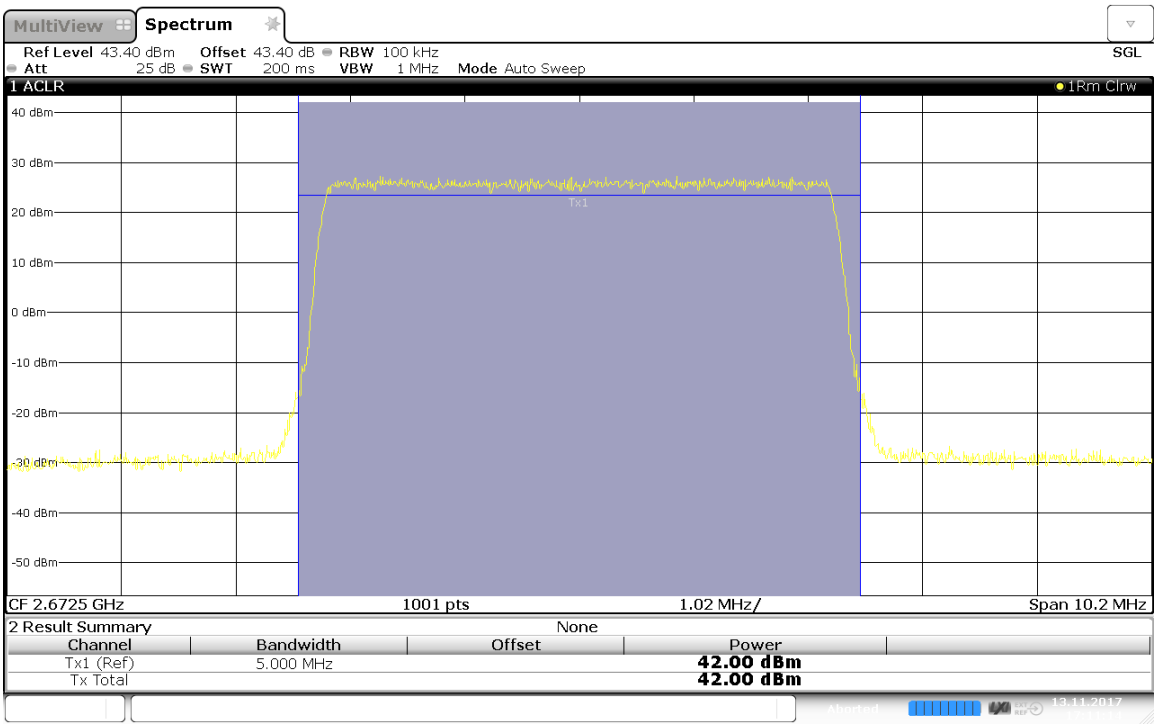
17:10:03 13.11.2017



17:10:27 13.11.2017



17:10:51 13.11.2017

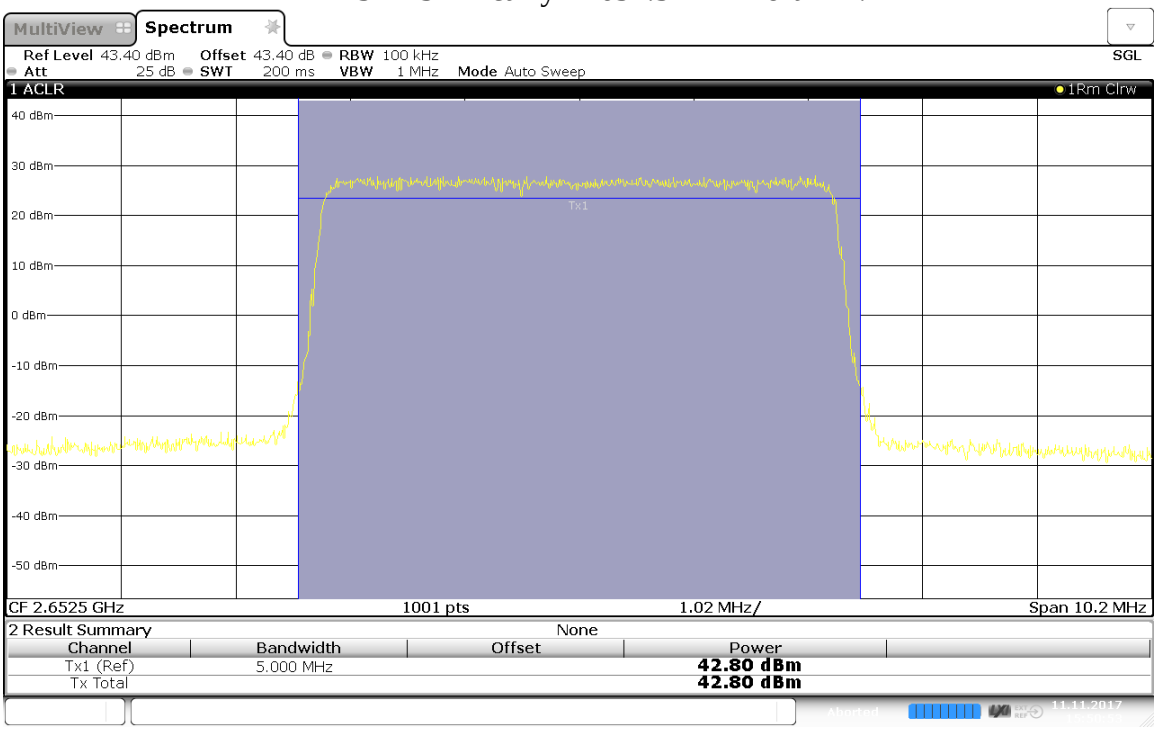


17:11:15 13.11.2017

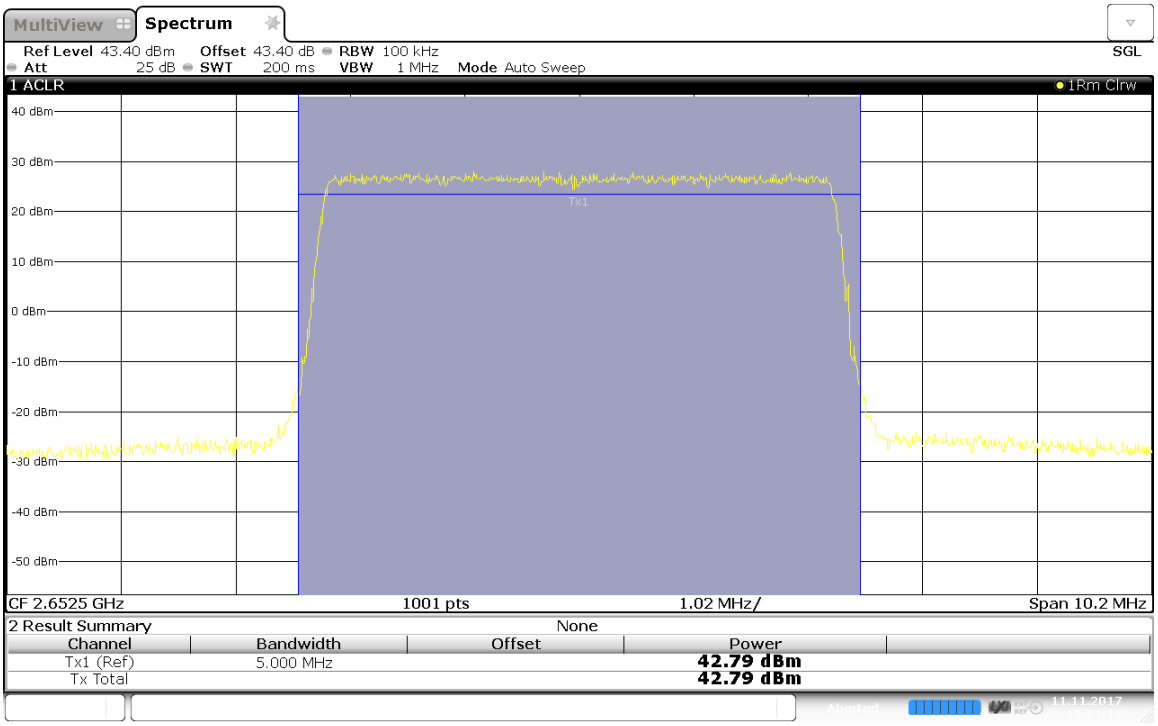
Channel Bandwidth :10M+10M(2652.5MHz & 2687.5MHz)

Port	Carry1 Center Freq. (MHz)	Carry1 Max output Power in dBm	Carry2 Center Freq. (MHz)	Carry2 Max output Power in dBm	Antenna gain dBi	Cable Loss dB	Dipole Antenna	Total Power in W Of single antenna
1	2652.5	42.8	2687.5	41.85	18	2	2.15	833.92
2		42.79		41.83	18	2	2.15	831.15
3		42.79		41.84	18	2	2.15	832.00
4		42.77		41.87	18	2	2.15	832.45

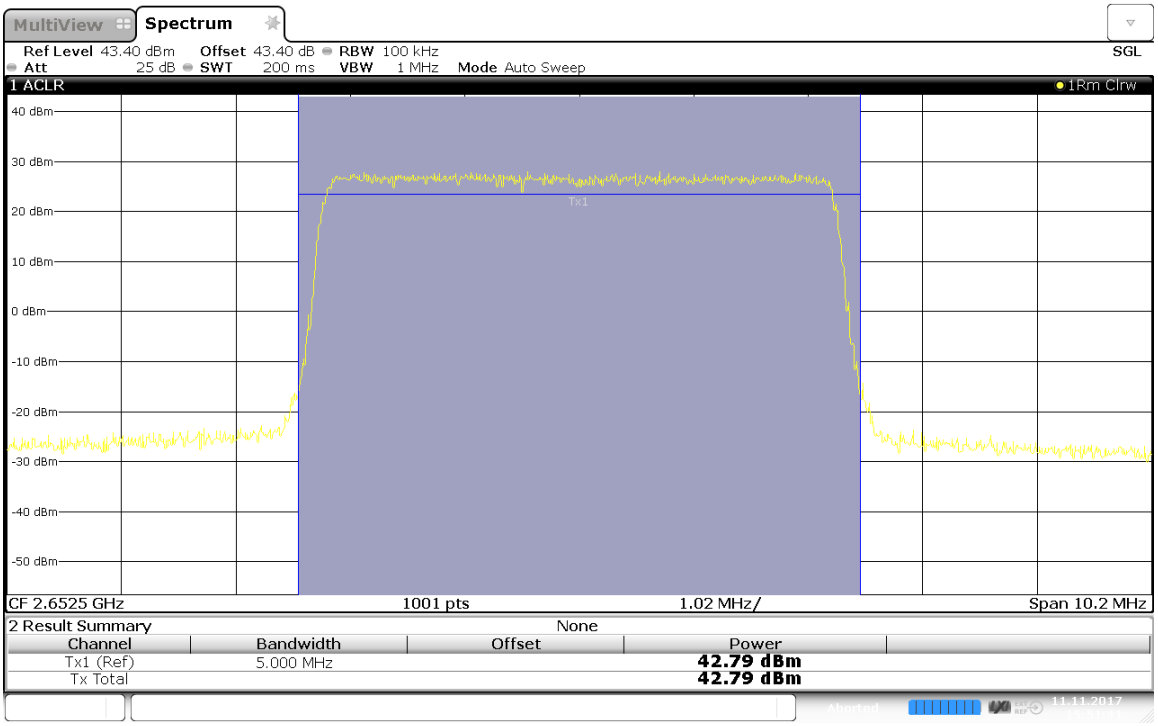
5M+5M - carry1-2652.5MHz-Port 1~4:



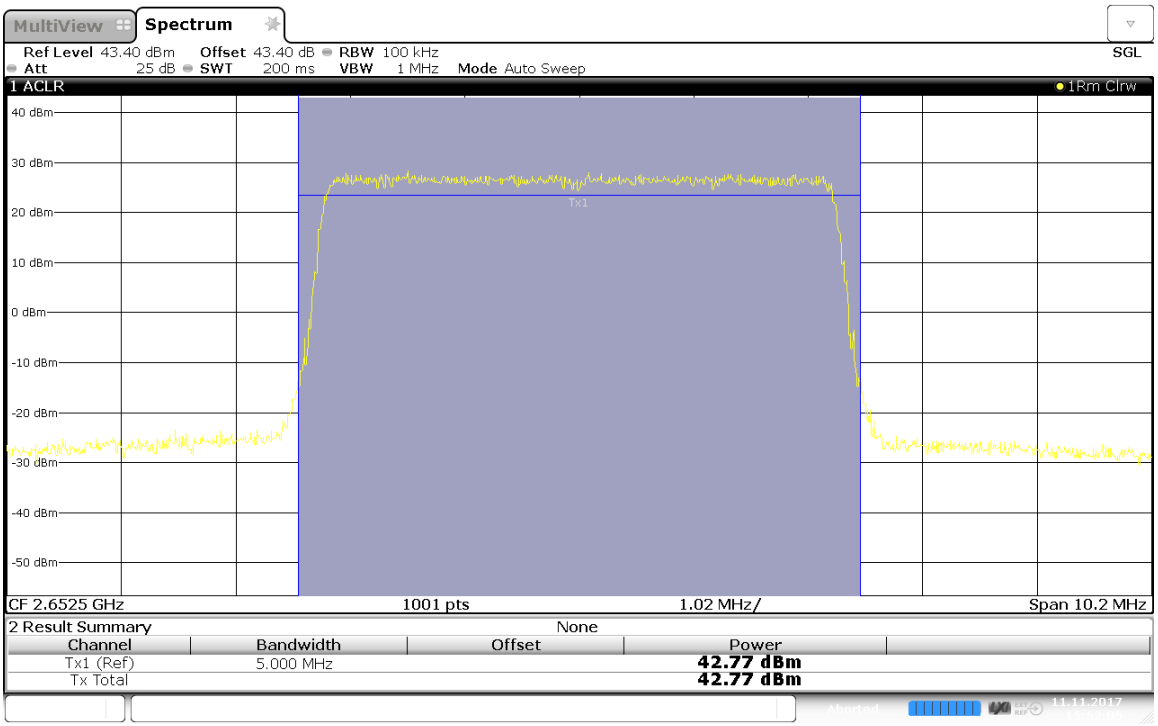
15:50:54 11.11.2017



15:51:18 11.11.2017

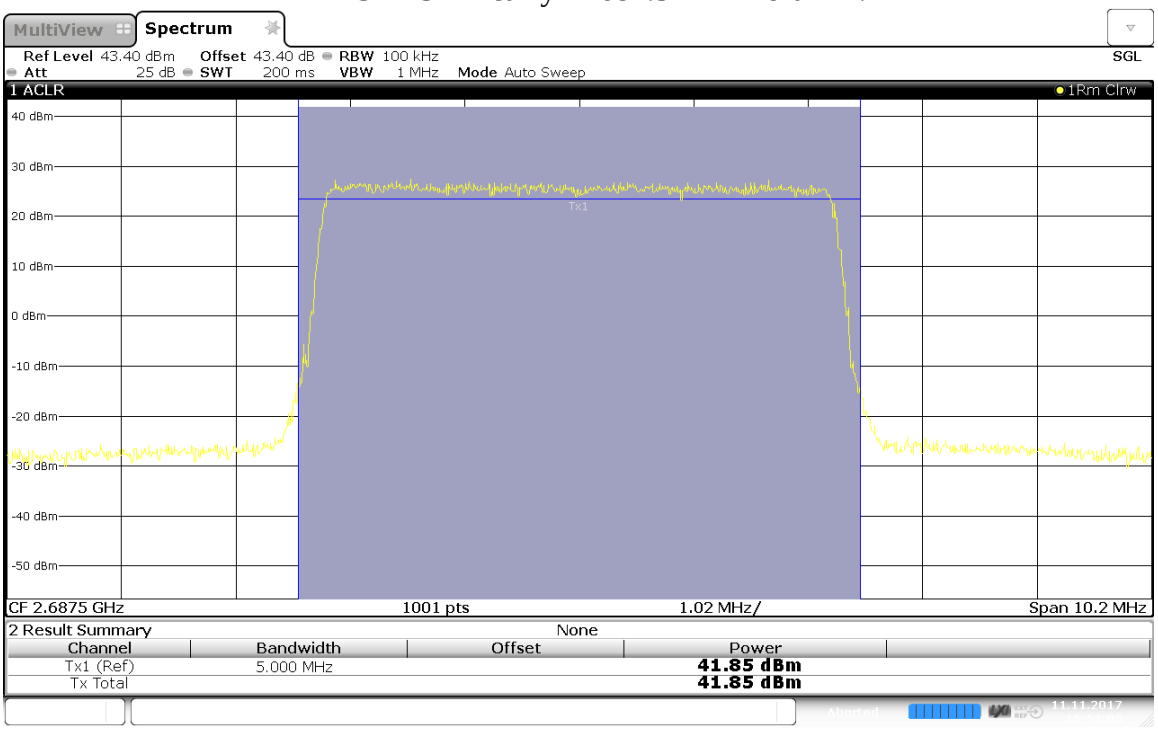


15:51:42 11.11.2017

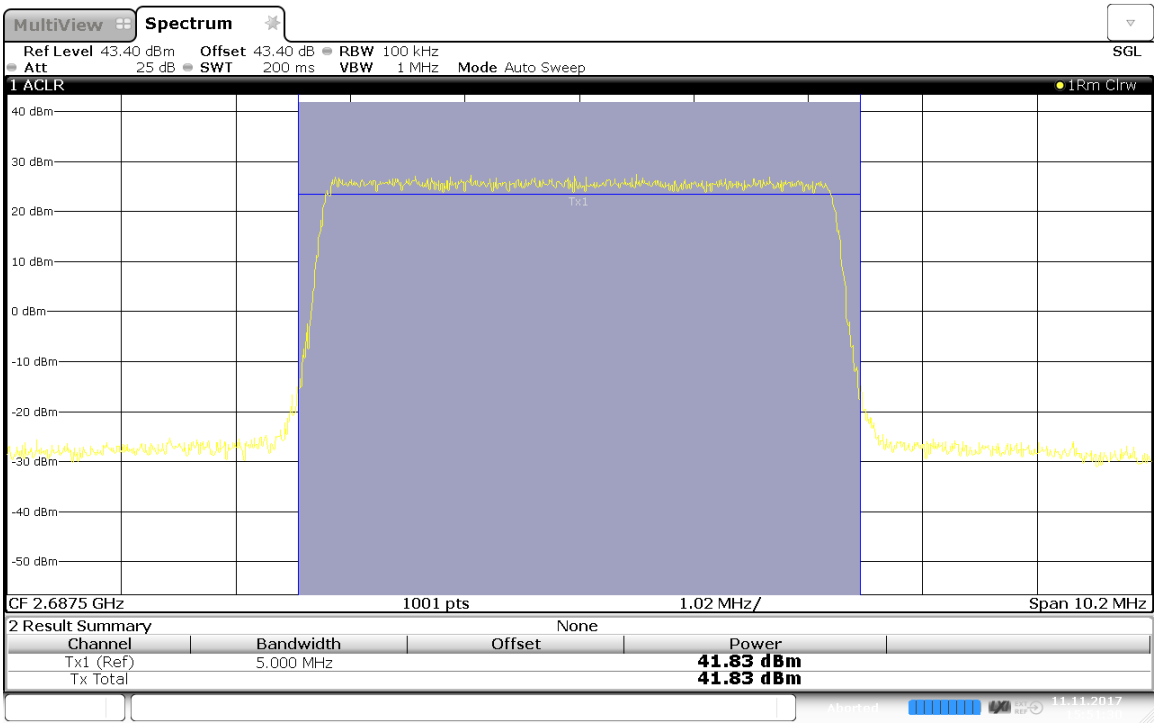


15:52:06 11.11.2017

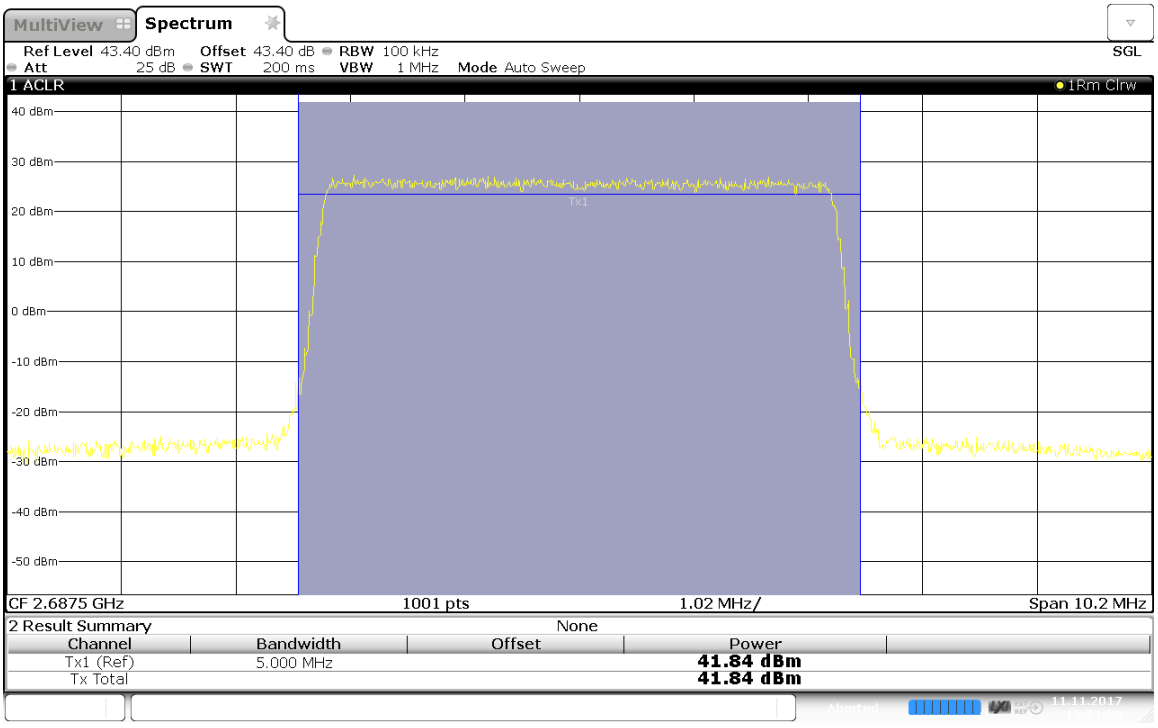
5M+5M - carry2-2687.5MHz-Port 1~4:



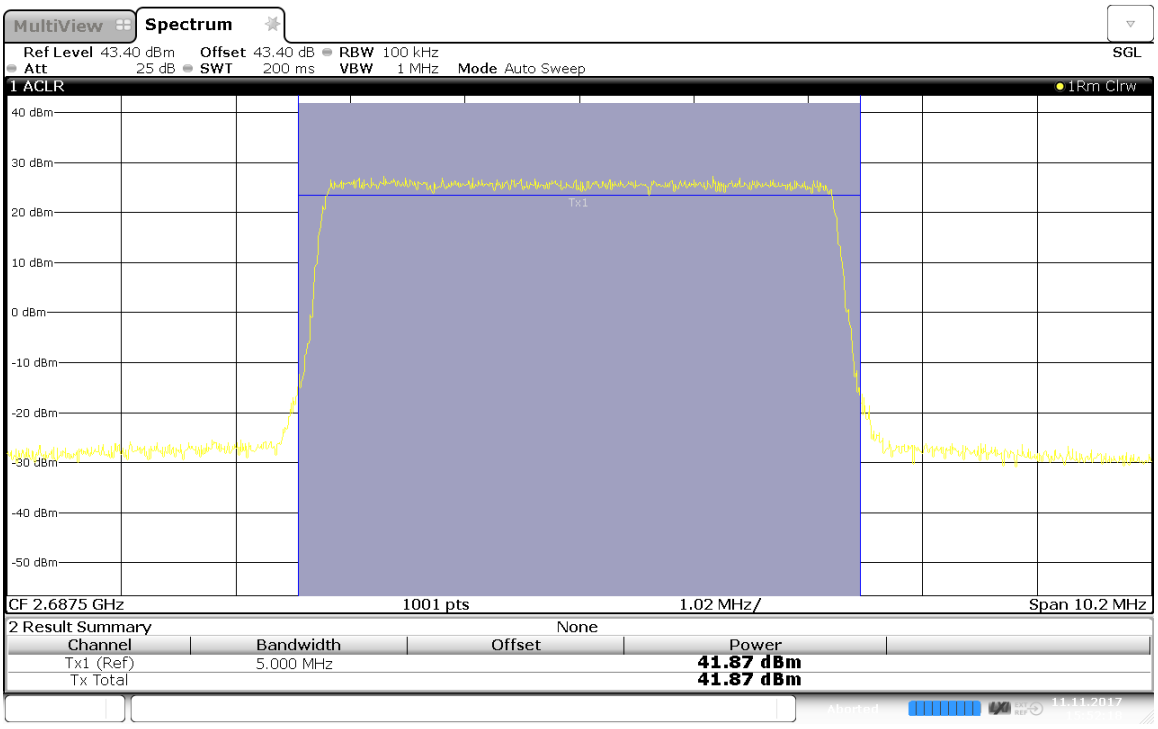
15:51:06 11.11.2017



15:51:30 11.11.2017



15:51:54 11.11.2017

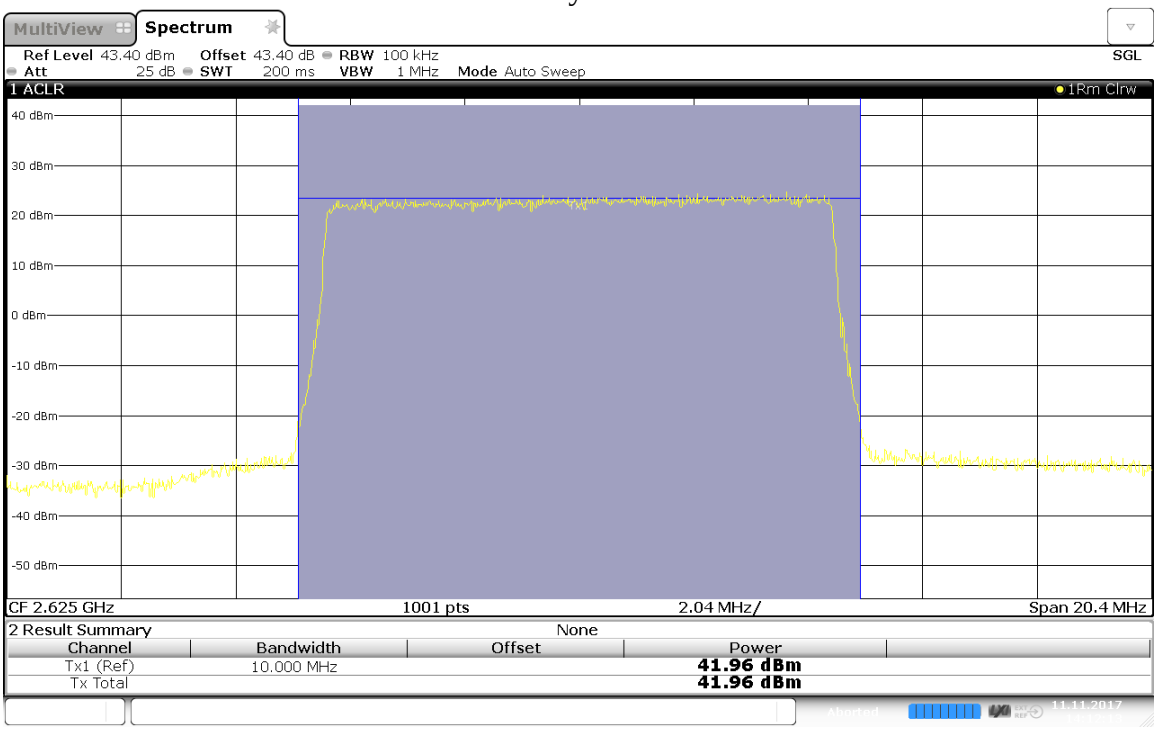


15:52:18 11.11.2017

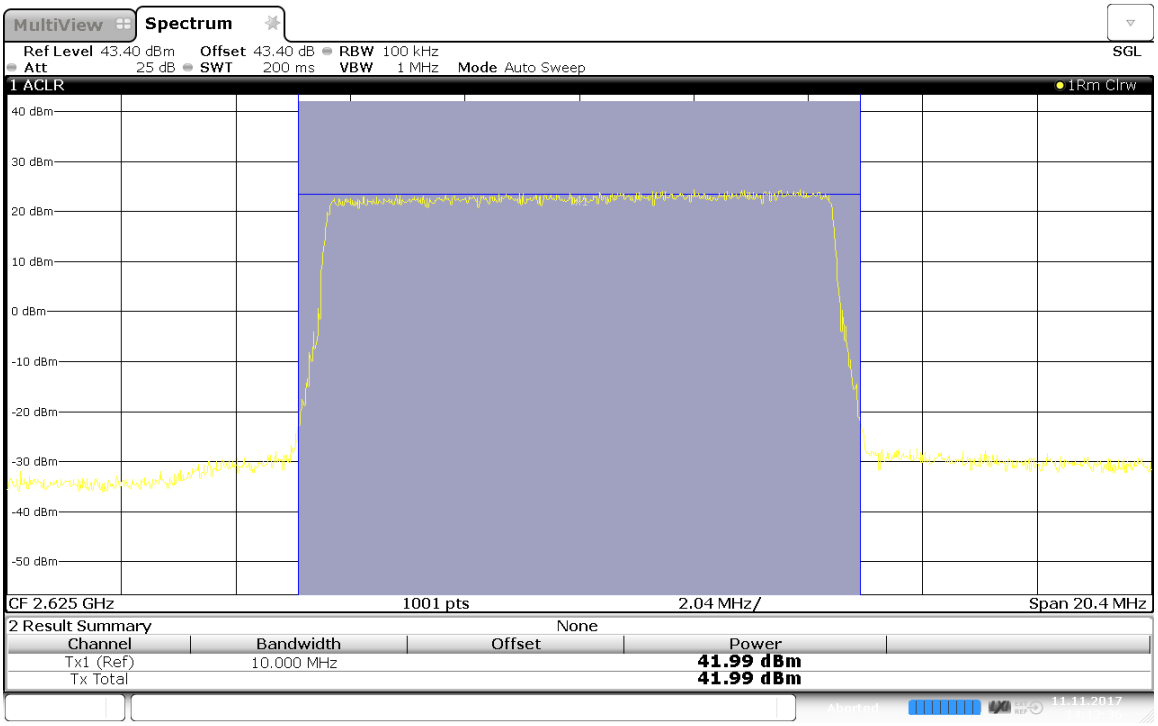
Channel Bandwidth :10M+10M(2625MHz & 2655MHz)

Port	Carry1 Center Freq. (MHz)	Carry1 Max output Power in dBm	Carry2 Center Freq. (MHz)	Carry2 Max output Power in dBm	Antenna gain dBi	Cable Loss dB	Dipole Antenna	Total Power in W Of single antenna
1	2625	41.96	2655	42.92	18	2	2.15	856.40
2		41.99		42.92	18	2	2.15	859.04
3		41.95		42.86	18	2	2.15	849.00
4		41.94		42.85	18	2	2.15	847.05

10M+10M - carry1-2625MHz-Port 1~4:



14:12:14 11.11.2017



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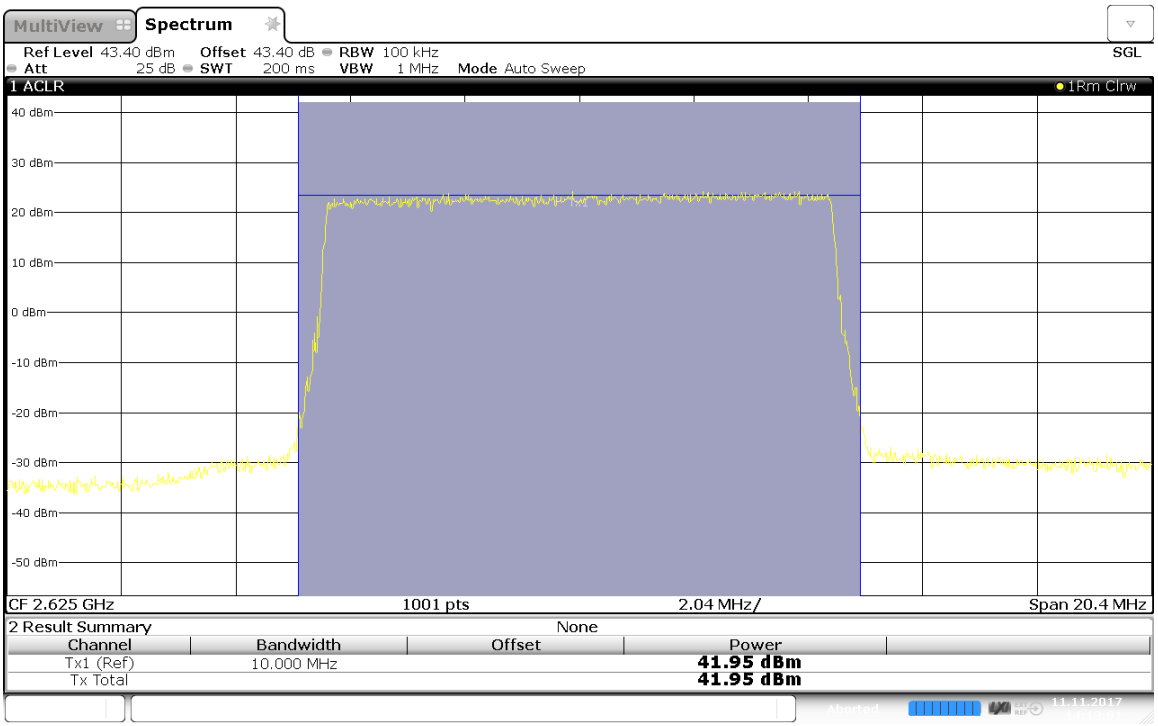

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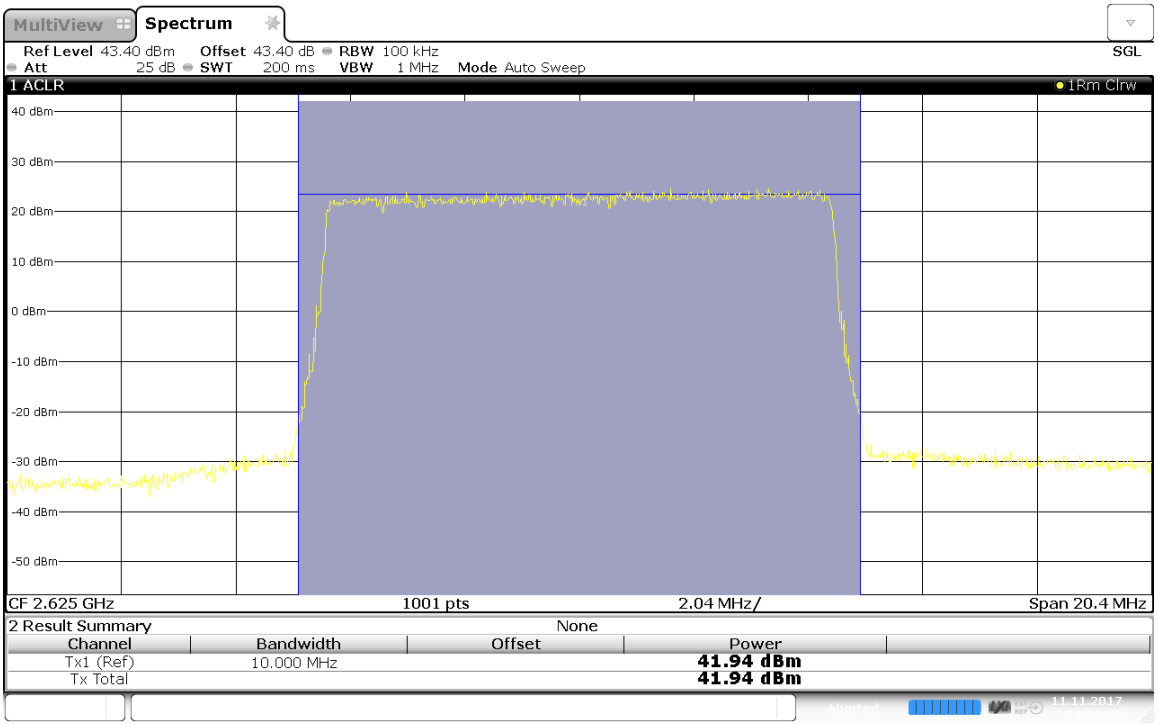
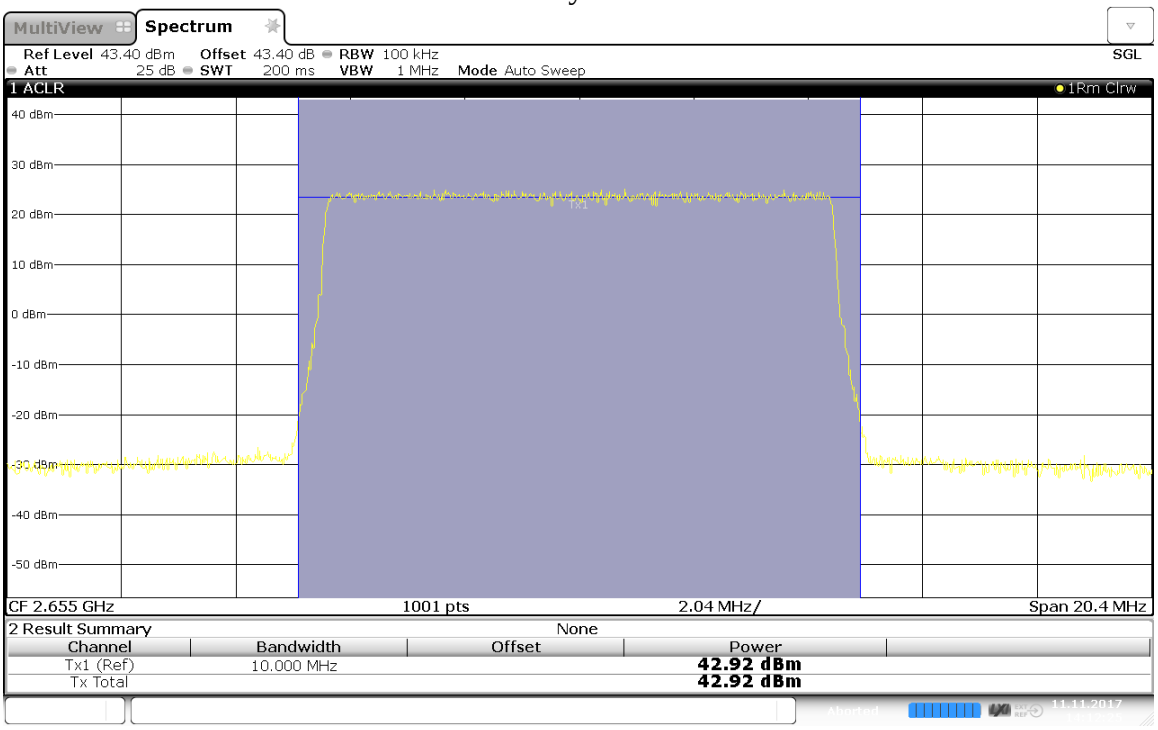
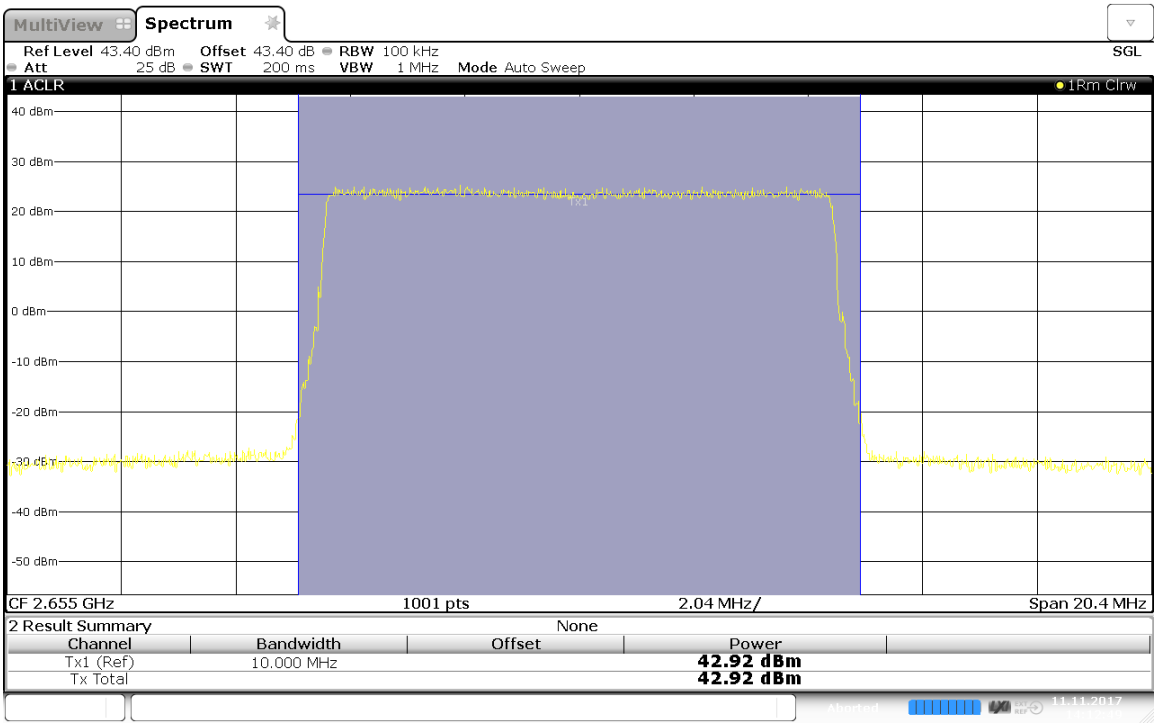


14:13:25 11.11.2017

10M+10M - carry2-2655MHz-Port 1~4:



14:12:26 11.11.2017



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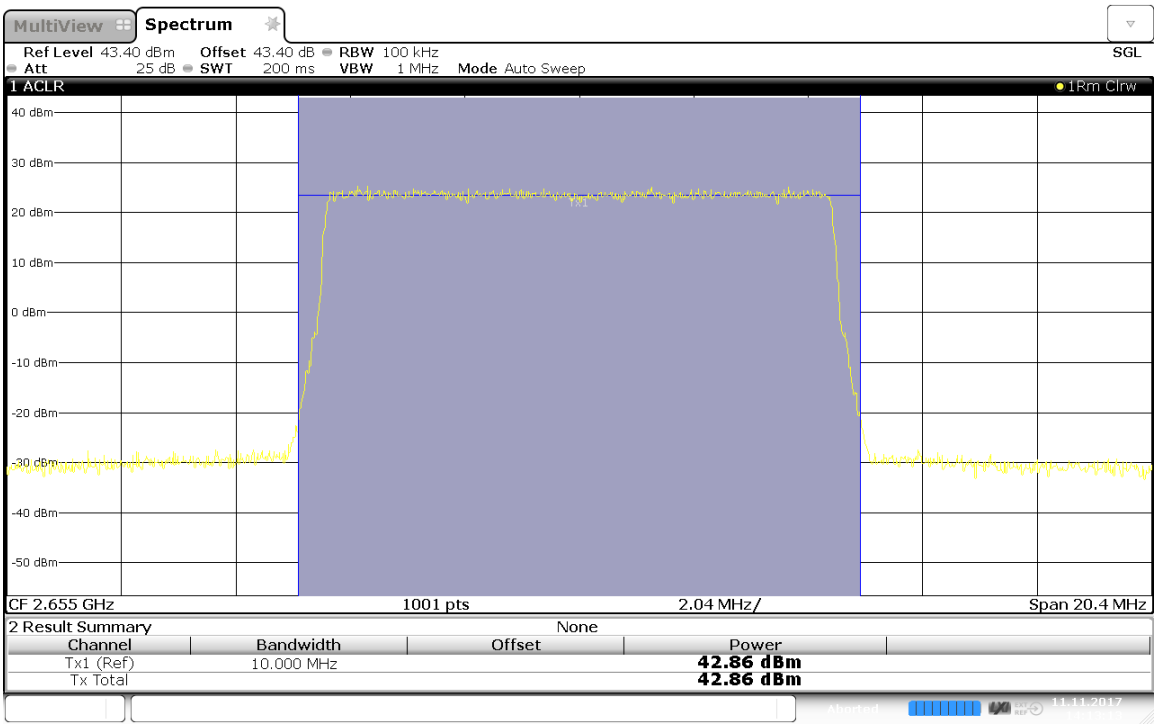
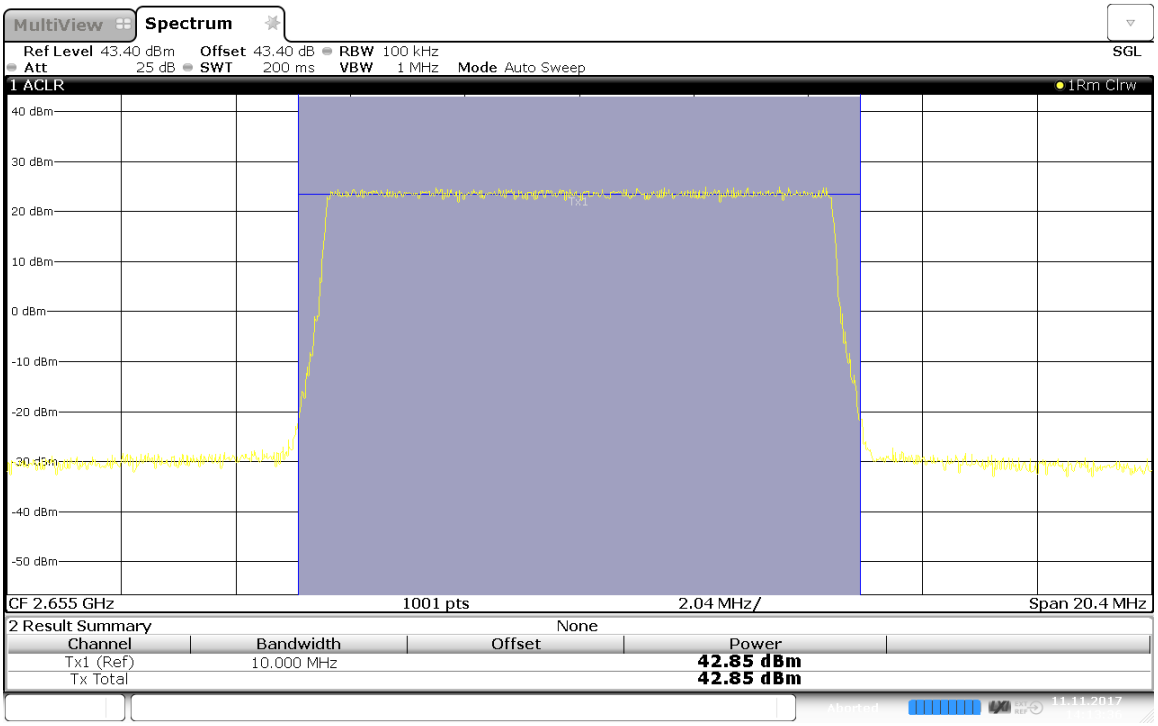


14:13:13 11.11.2017

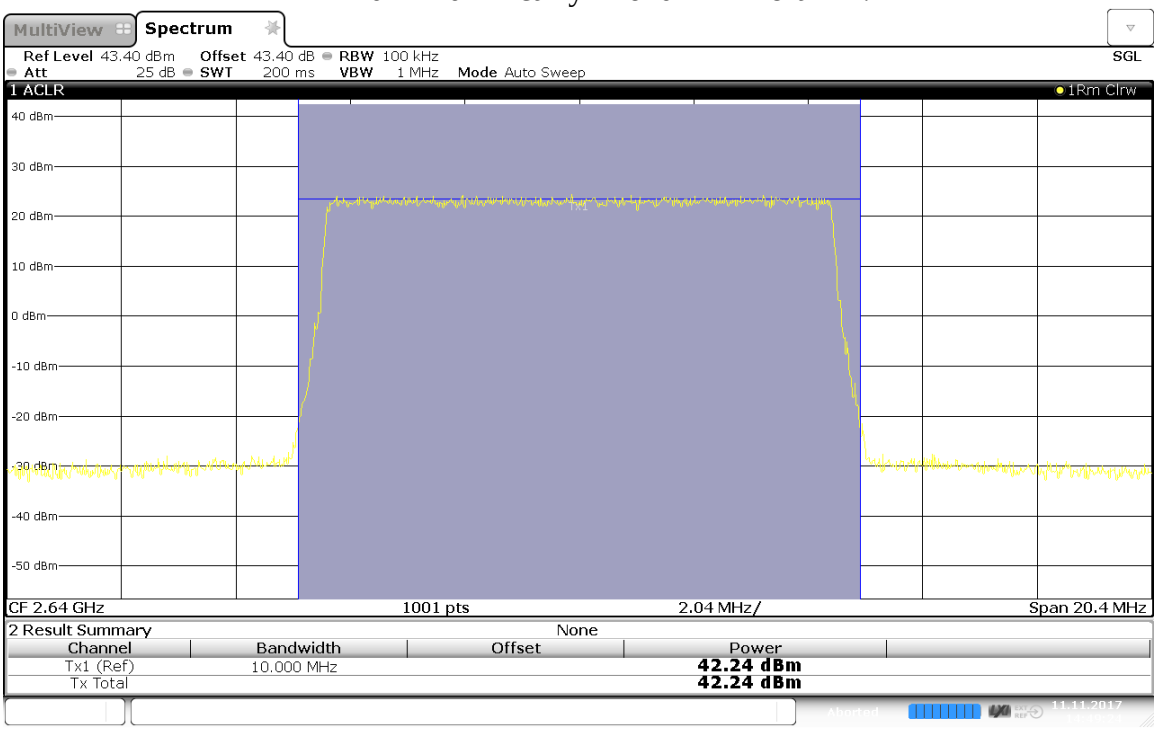


14:13:37 11.11.2017

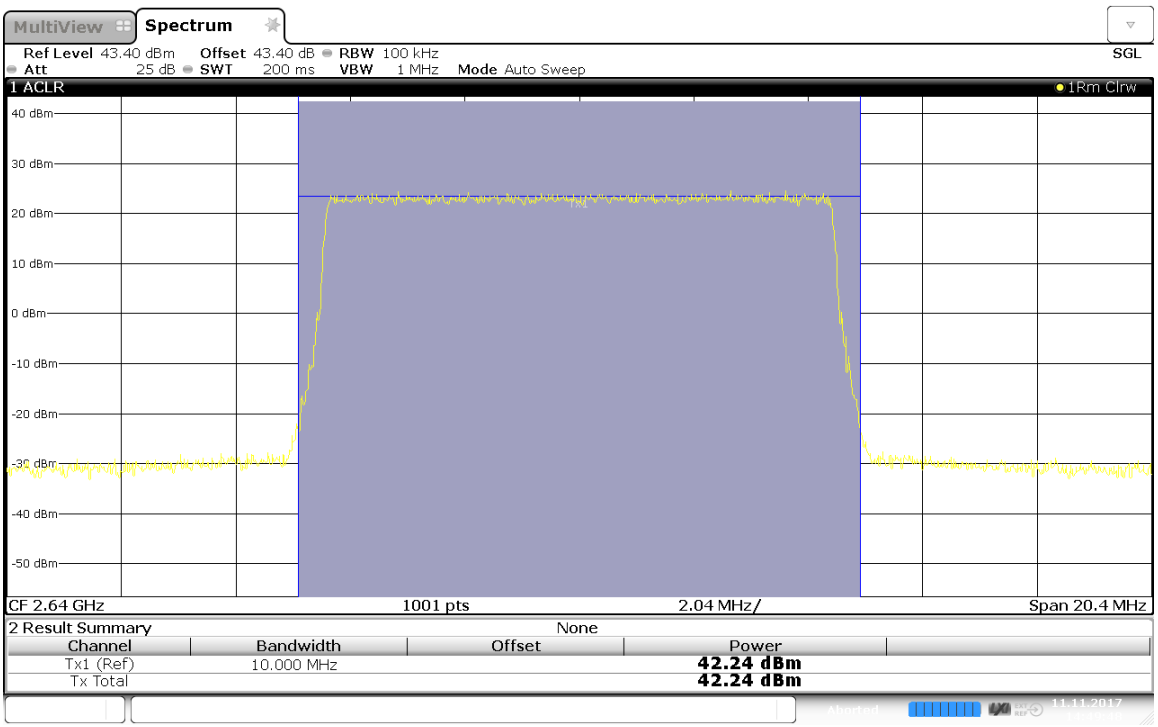
Channel Bandwidth :10M+10M(2640MHz & 2670MHz)

Port	Carry1 Center Freq. (MHz)	Carry1 Max output Power in dBm	Carry2 Center Freq. (MHz)	Carry2 Max output Power in dBm	Antenna gain dBi	Cable Loss dB	Dipole Antenna	Total Power in W Of single antenna
1	2640	42.24	2670	42.22	18	2	2.15	811.02
2		42.24		42.24	18	2	2.15	812.89
3		42.24		42.2	18	2	2.15	809.16
4		42.22		42.22	18	2	2.15	809.15

10M+10M - carry1-2640MHz-Port 1~4:



14:49:25 11.11.2017



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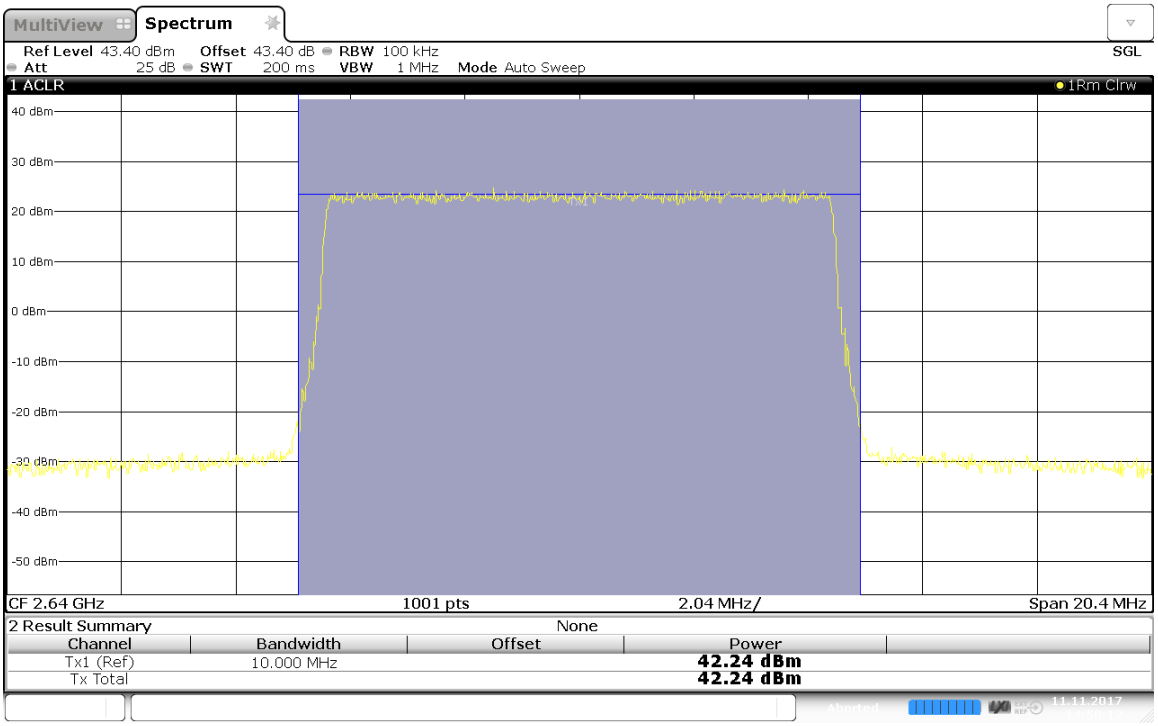

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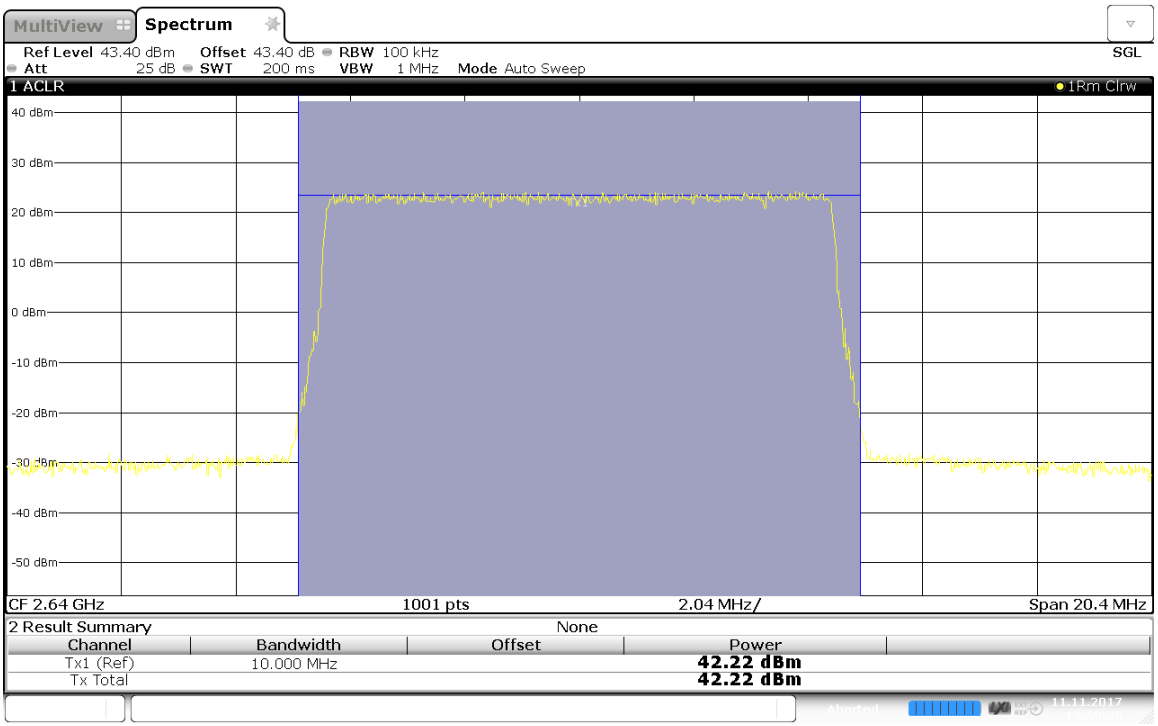
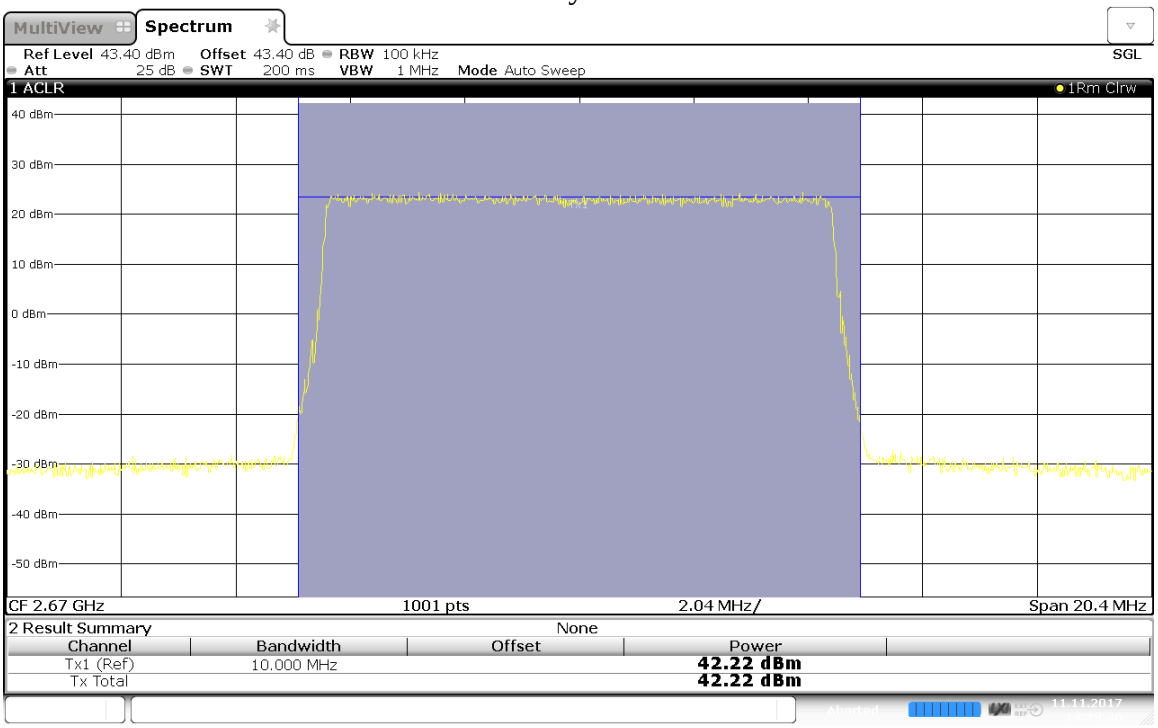
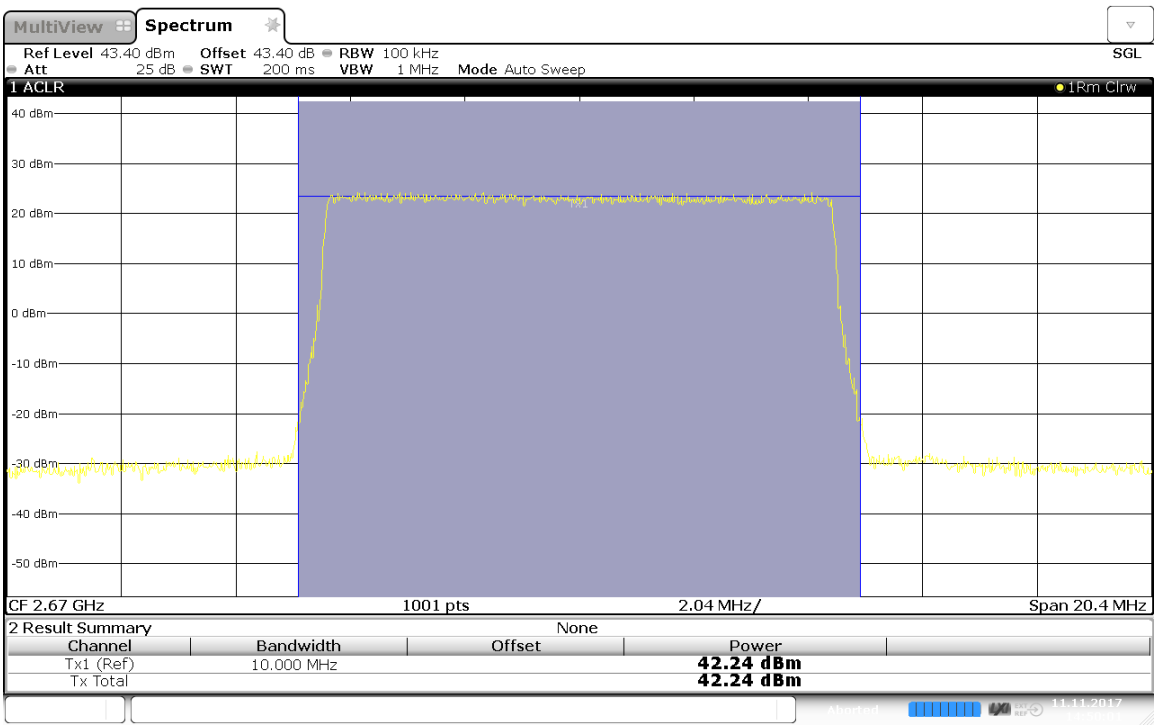


14:50:37 11.11.2017

10M+10M - carry2-2670MHz-Port 1~4:



14:49:37 11.11.2017



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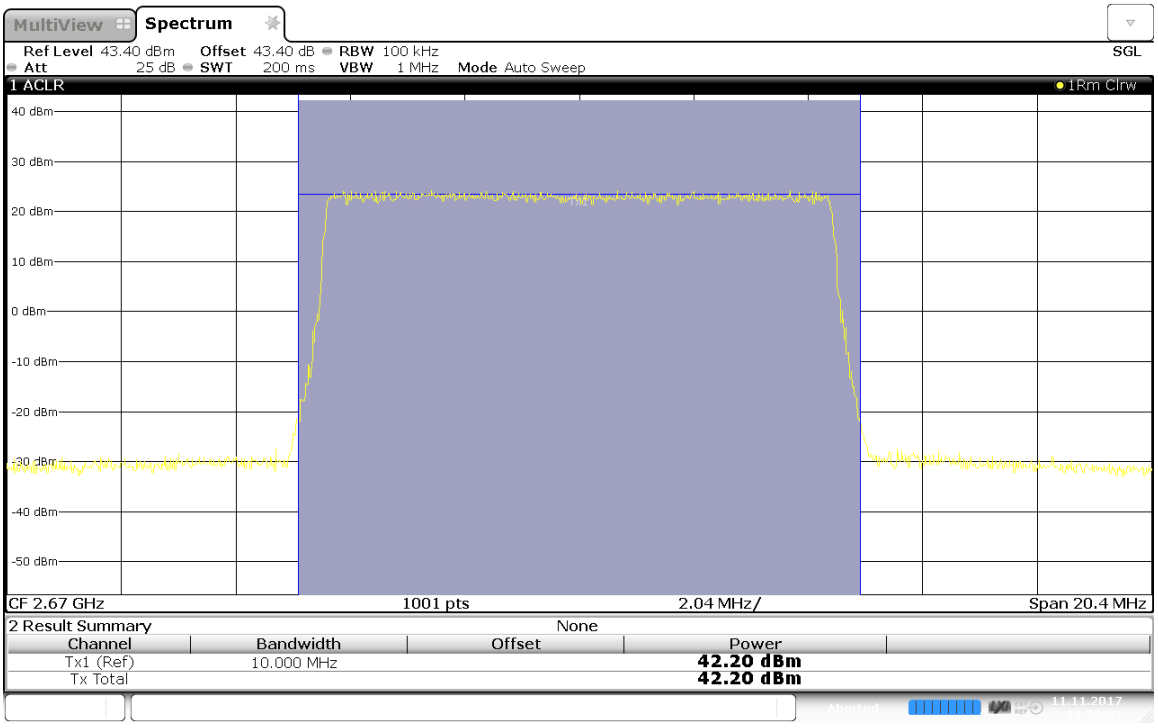

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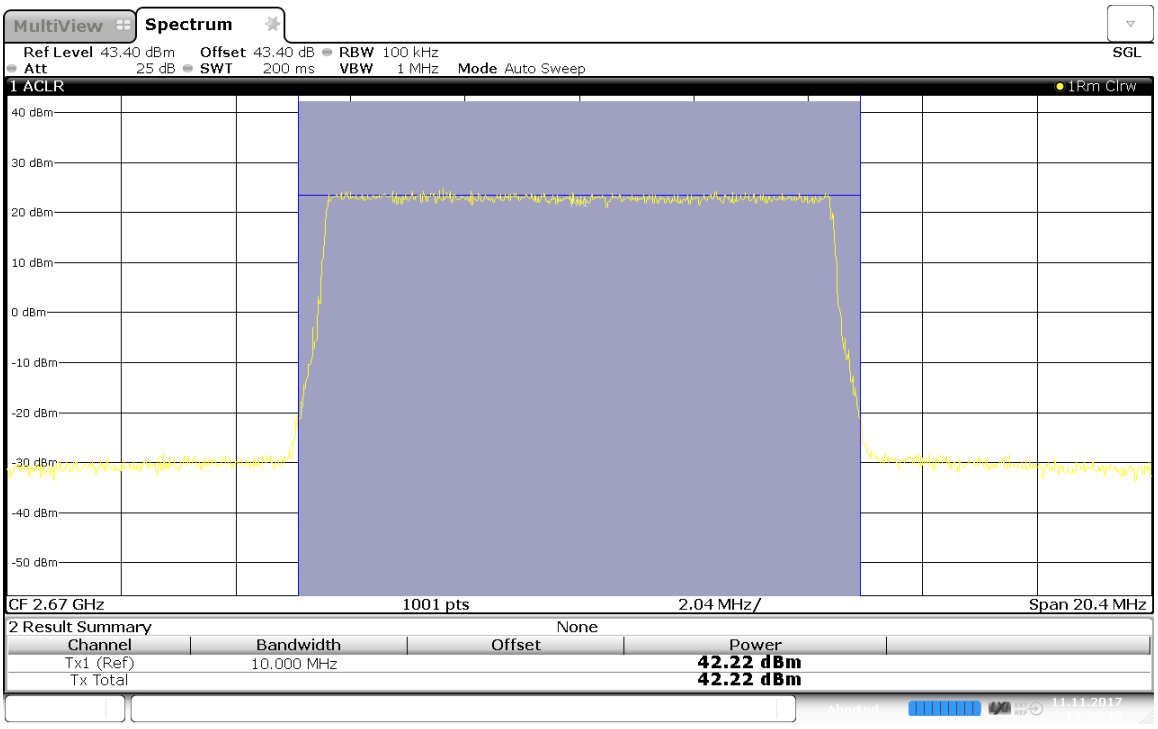
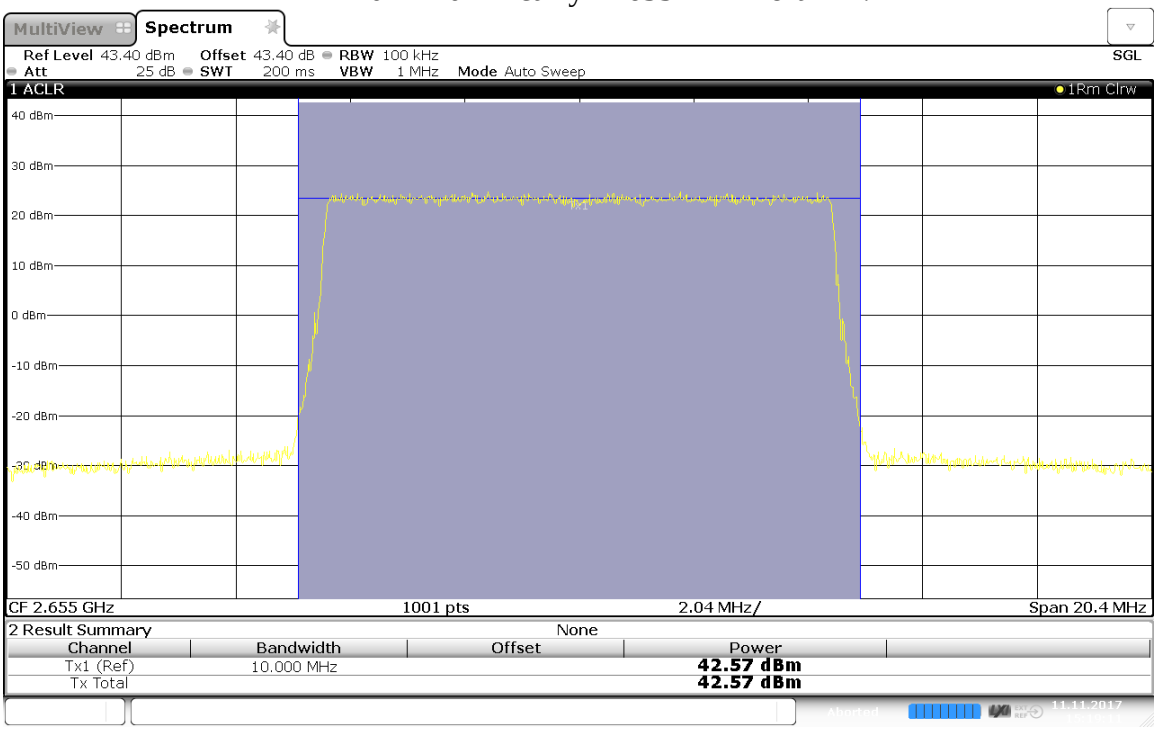


14:50:49 11.11.2017

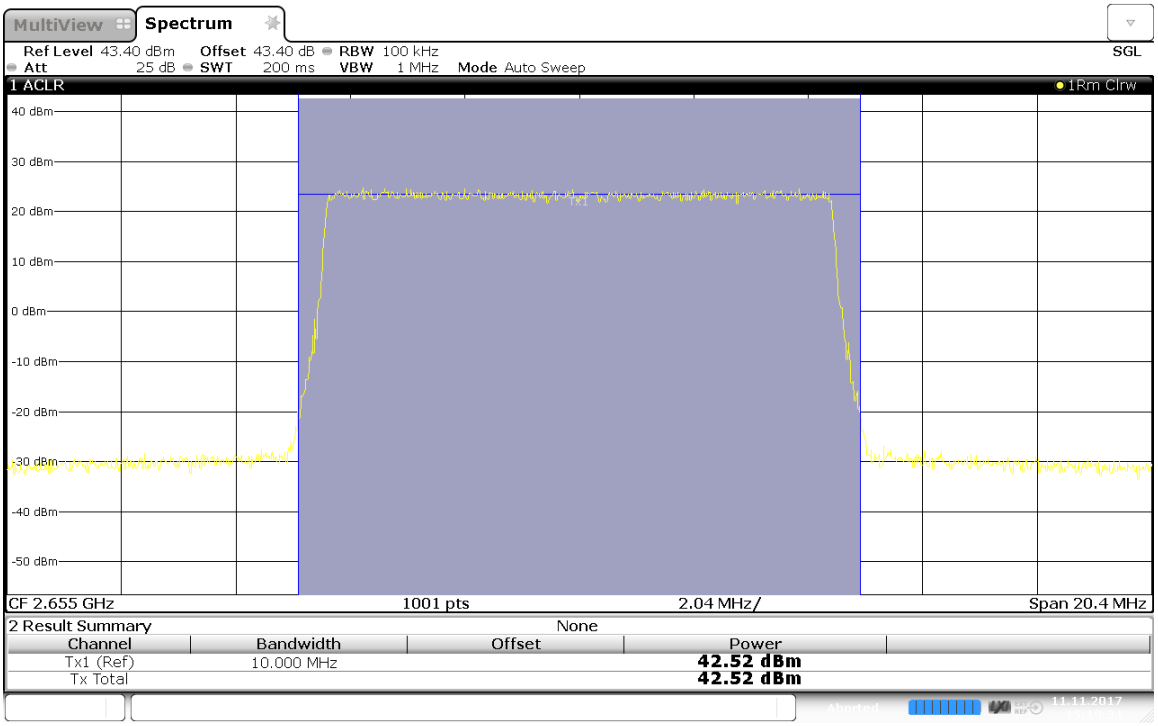
Channel Bandwidth :10M+10M(2655MHz & 2685MHz)

Port	Carry1 Center Freq. (MHz)	Carry1 Max output Power in dBm	Carry2 Center Freq. (MHz)	Carry2 Max output Power in dBm	Antenna gain dBi	Cable Loss dB	Dipole Antenna	Total Power in W Of single antenna
1	2655	42.57	2685	41.9	18	2	2.15	814.37
2		42.52		41.9	18	2	2.15	809.35
3		42.55		41.88	18	2	2.15	810.63
4		42.55		41.86	18	2	2.15	808.91

10M+10M - carry1-2655MHz-Port 1~4:



15:19:11 11.11.2017



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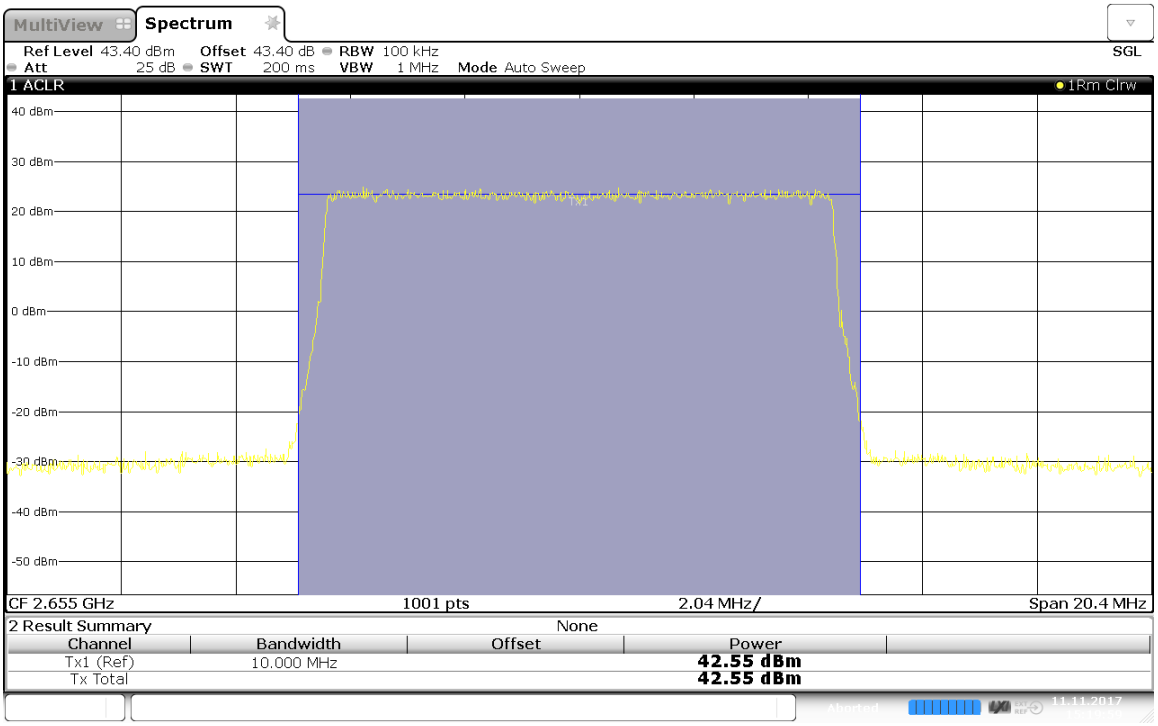

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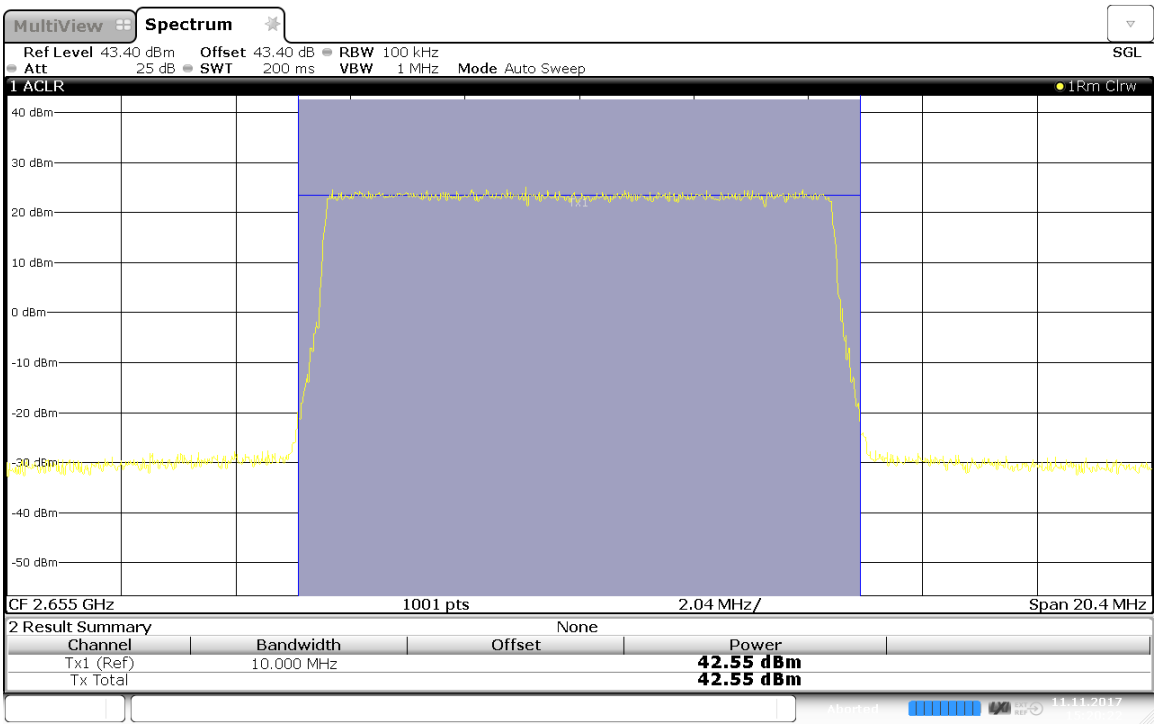

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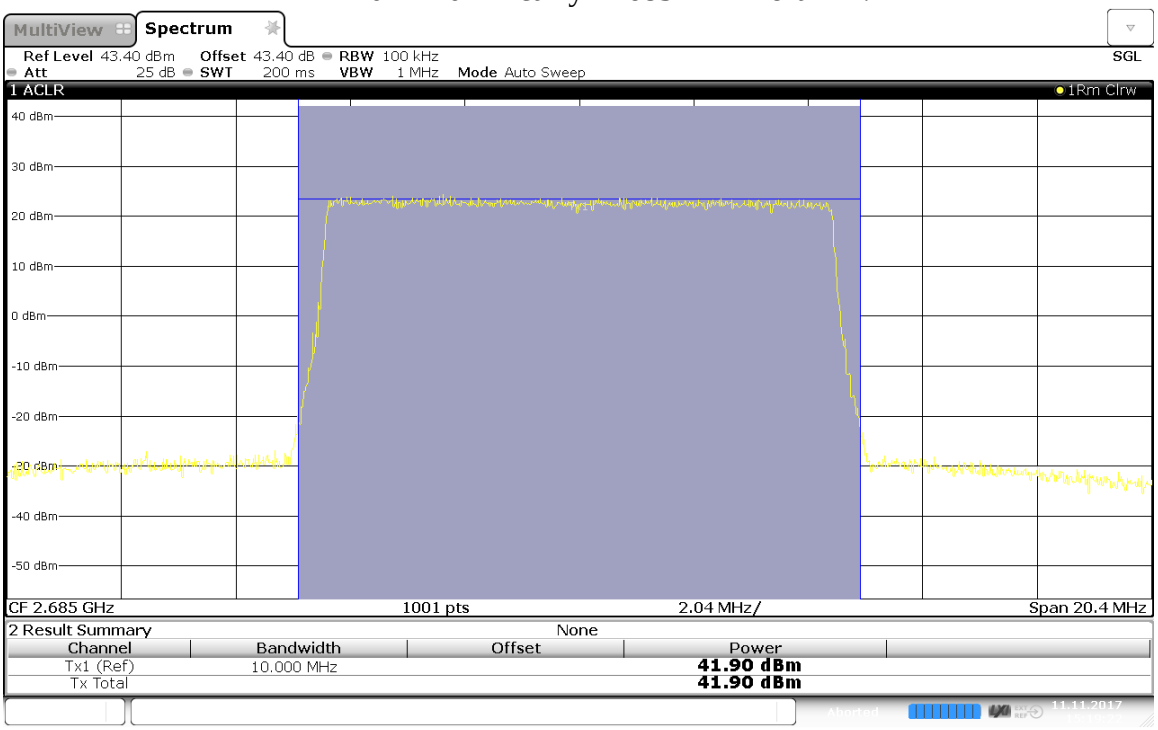
10M+10M - carry2-2685MHz-Port 1~4:



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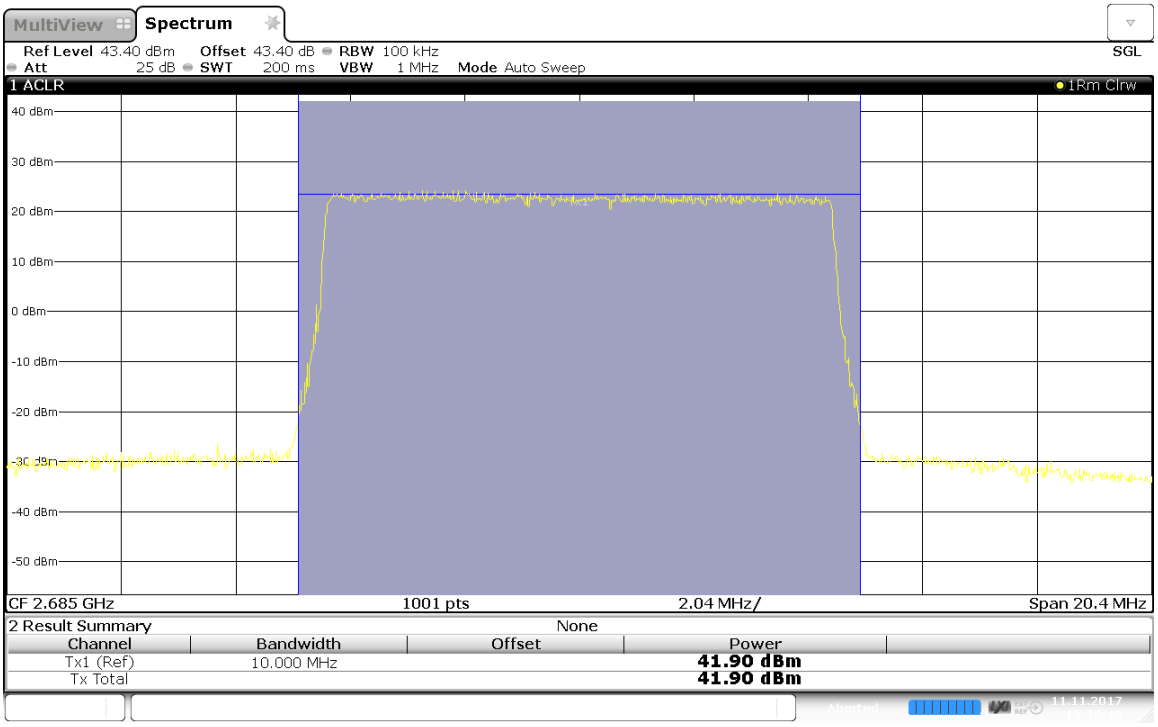

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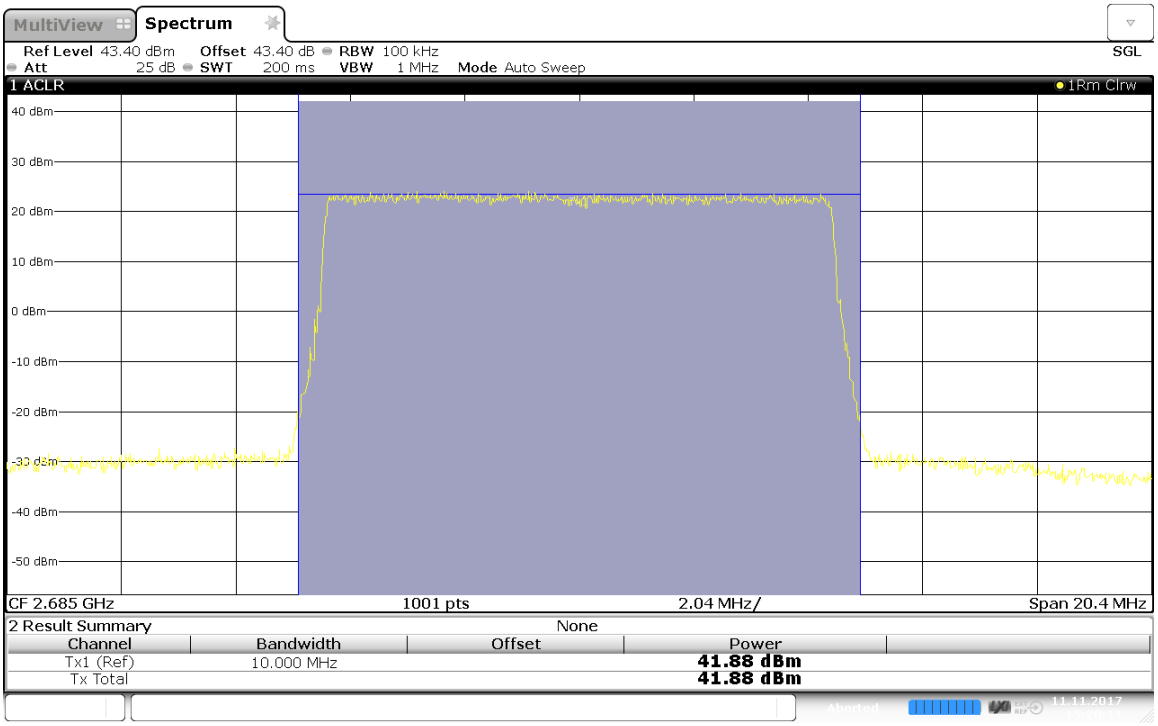
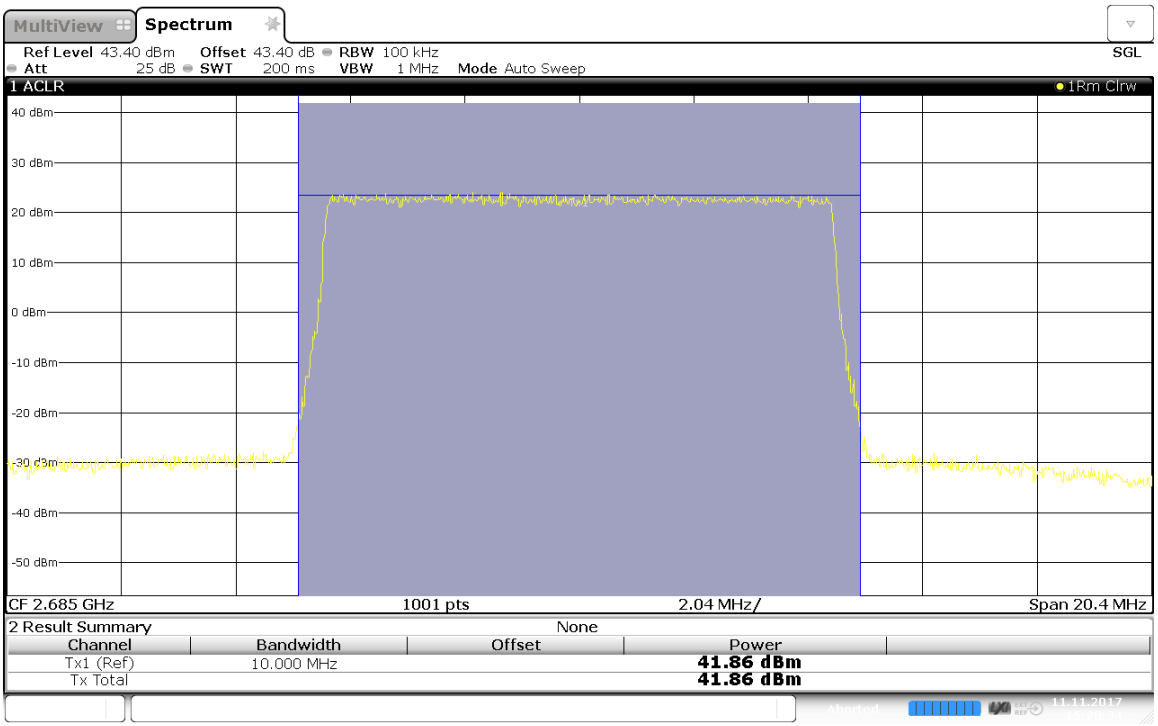


15:20:11 11.11.2017

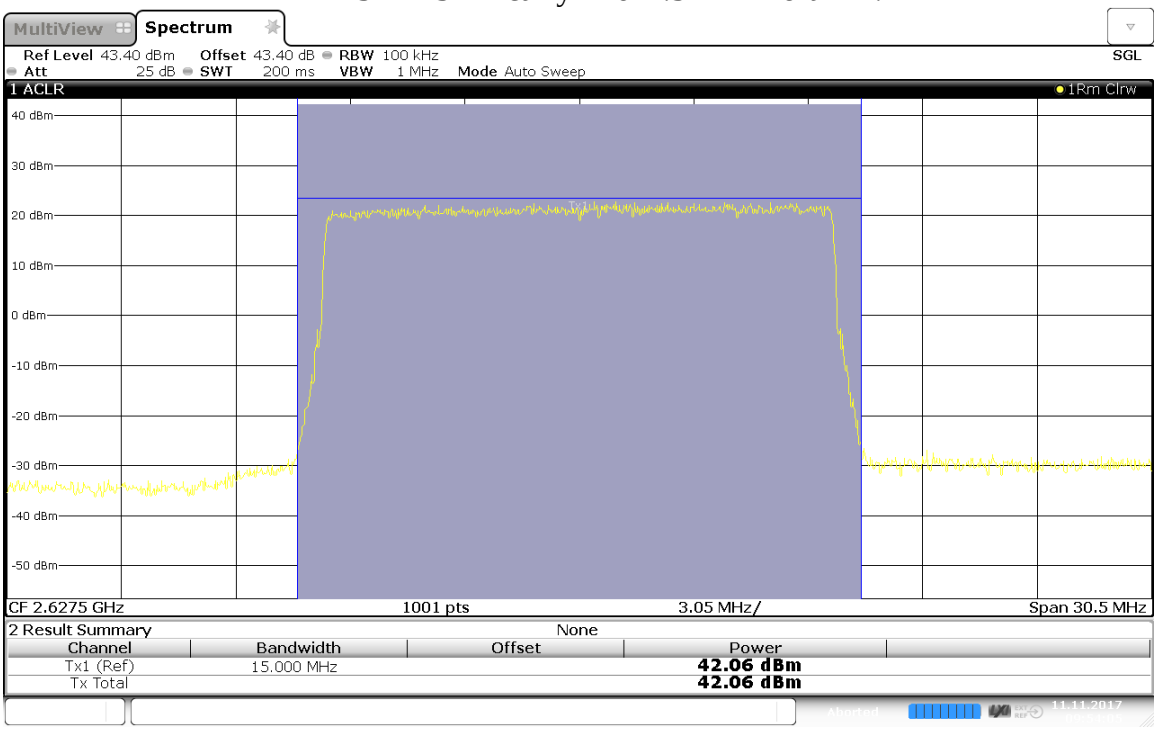


15:20:35 11.11.2017

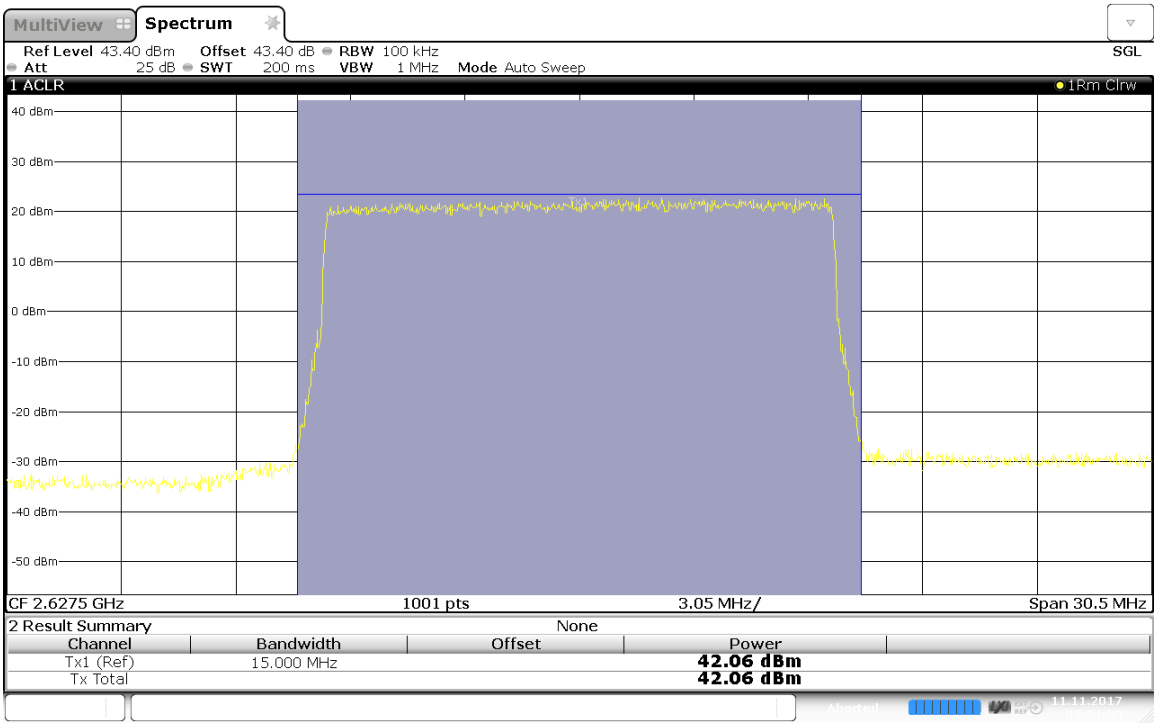
Channel Bandwidth :15M+15M(2627.5MHz & 2652.5MHz)

Port	Carry1 Center Freq. (MHz)	Carry1 Max output Power in dBm	Carry2 Center Freq. (MHz)	Carry2 Max output Power in dBm	Antenna gain dBi	Cable Loss dB	Dipole Antenna	Total Power in W Of single antenna
1	2627.5	42.06	2652.5	42.77	18	2	2.15	849.14
2		42.06		42.74	18	2	2.15	845.98
3		42.05		42.78	18	2	2.15	849.30
4		42.03		42.76	18	2	2.15	845.40

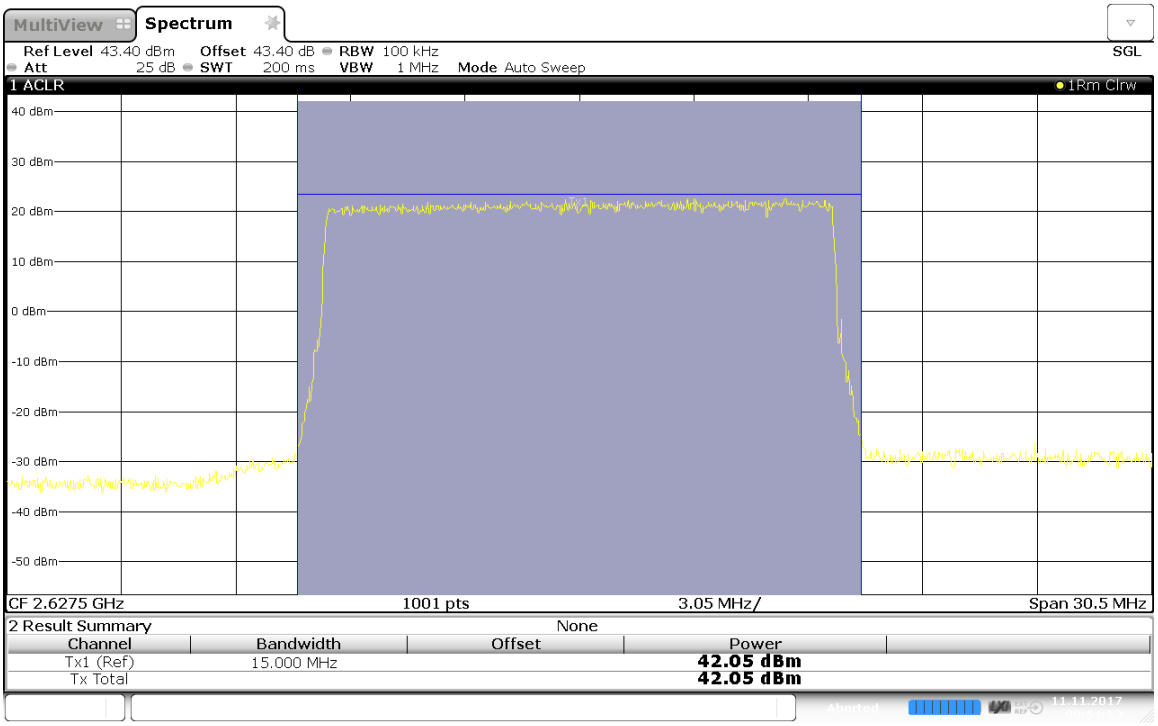
15M+15M - carry1-2627.5MHz-Port 1~4:



09:54:06 11.11.2017



09:54:30 11.11.2017



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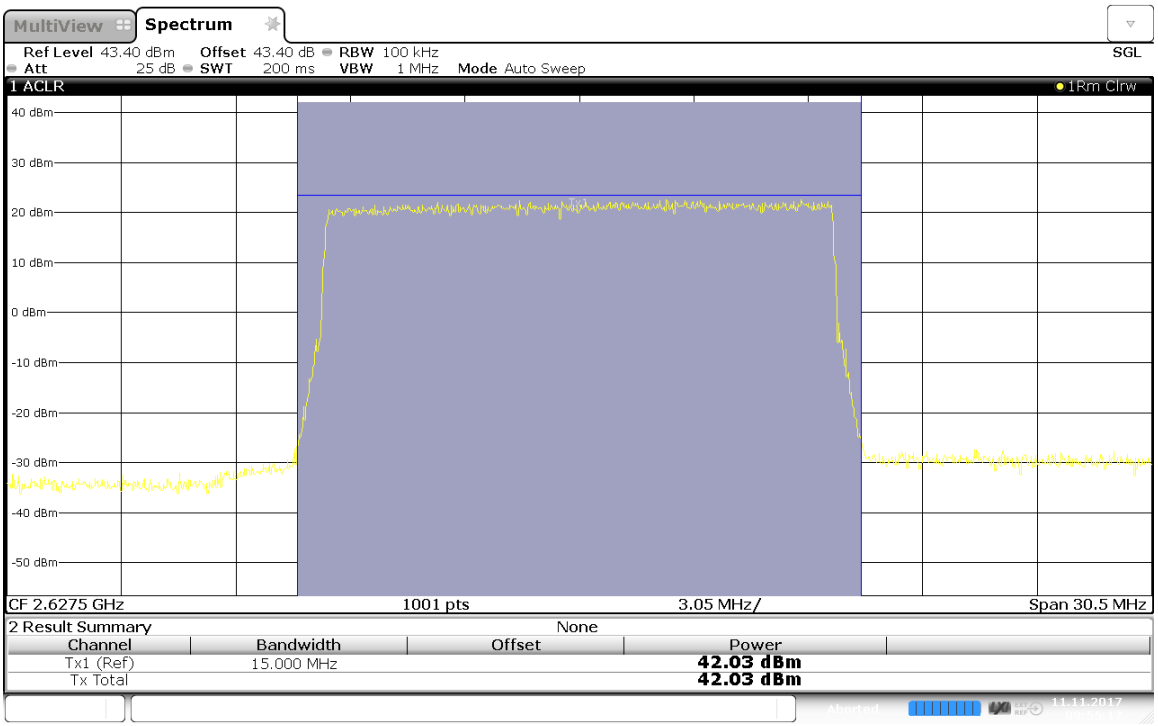

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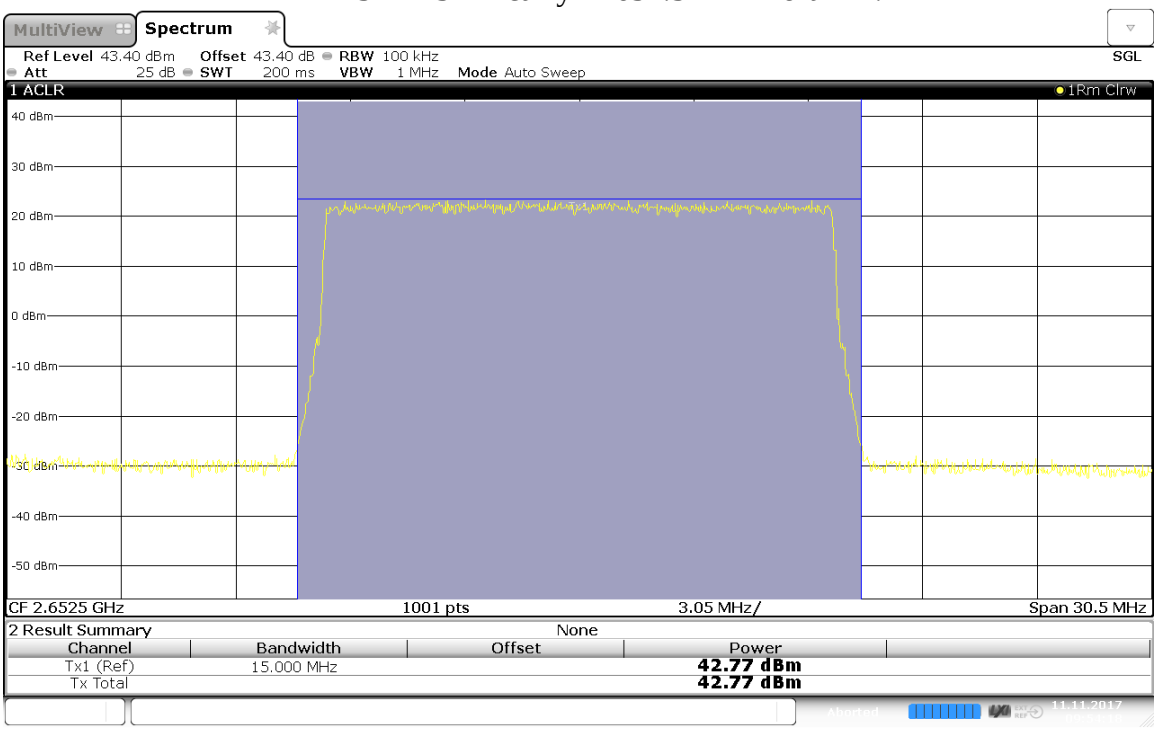
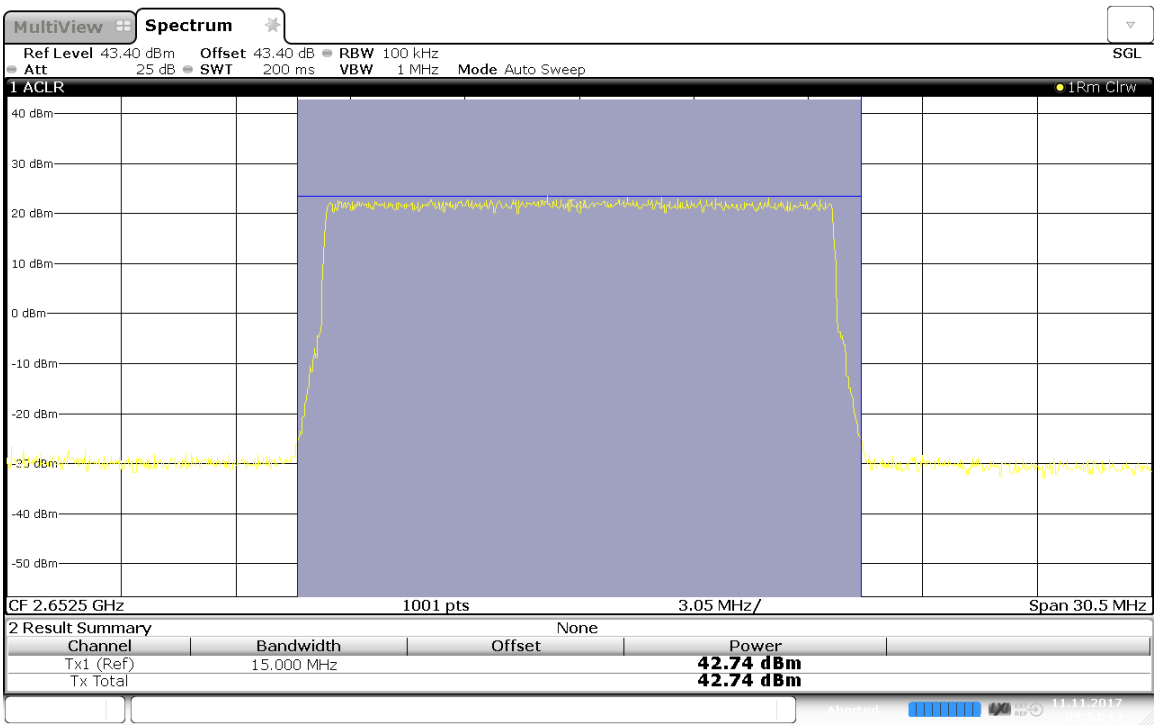
15M+15M - carry2-2652.5MHz-Port 1~4:



09:54:18 11.11.2017



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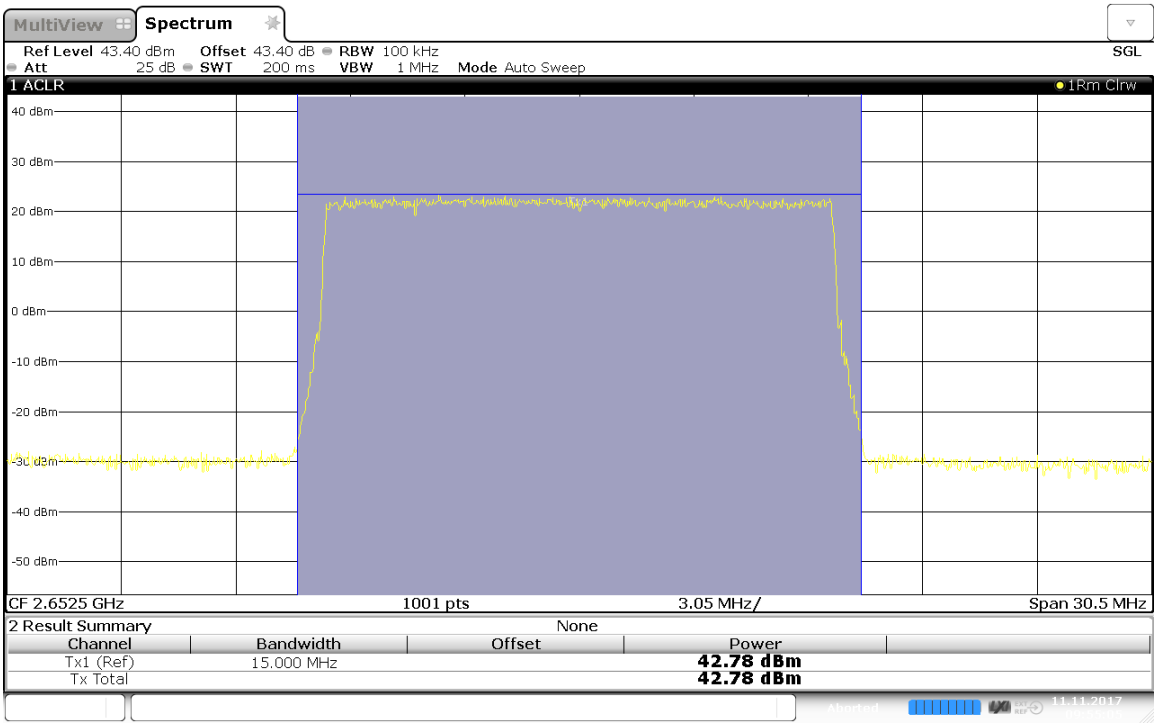

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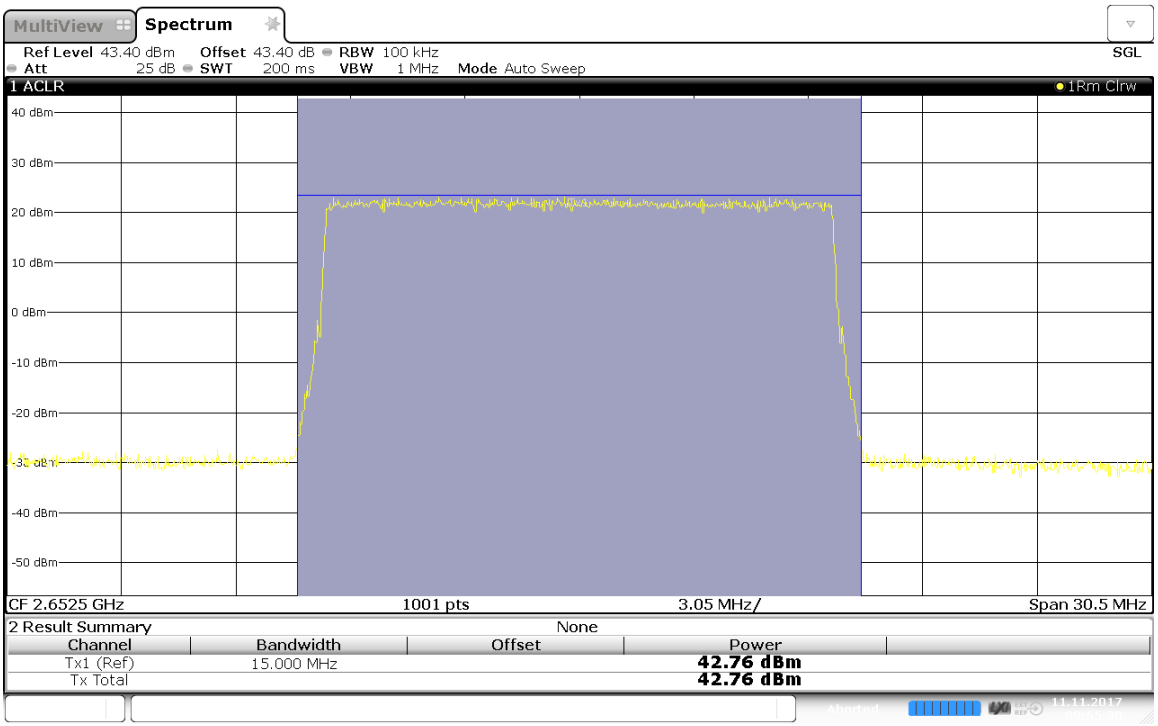
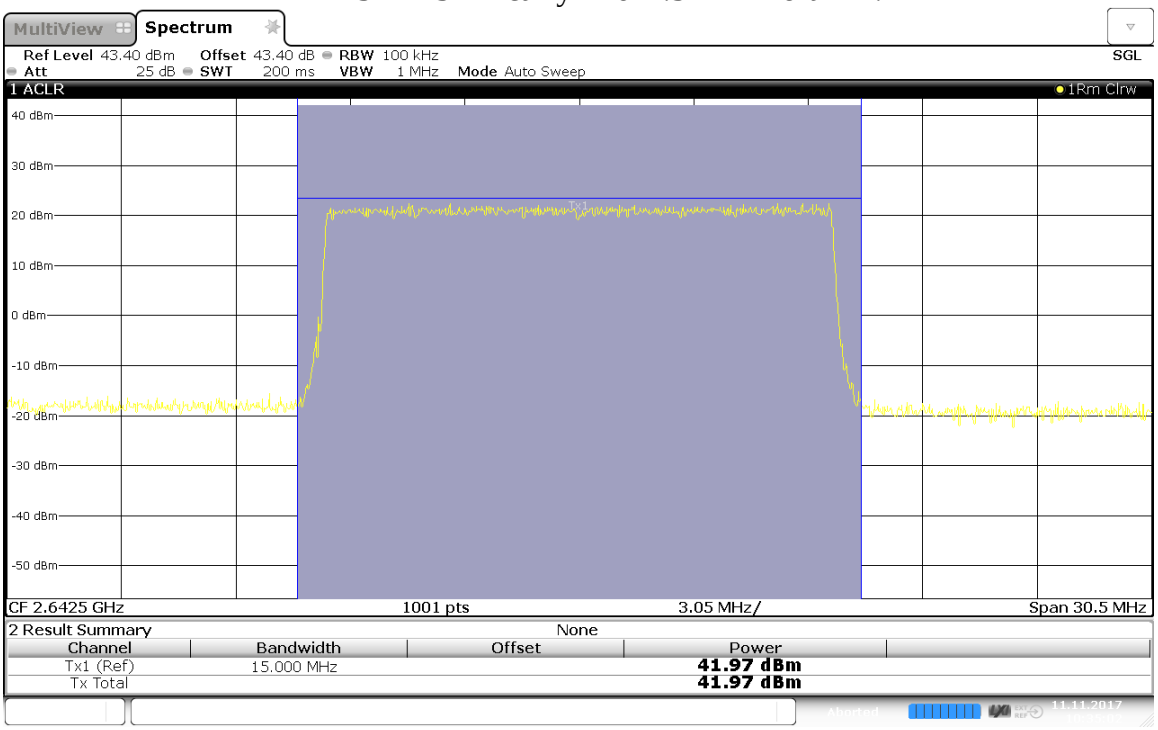


09:55:30 11.11.2017

Channel Bandwidth :15M+15M(2642.5MHz & 2667.5MHz)

Port	Carry1 Center Freq. (MHz)	Carry1 Max output Power in dBm	Carry2 Center Freq. (MHz)	Carry2 Max output Power in dBm	Antenna gain dBi	Cable Loss dB	Dipole Antenna	Total Power in W Of single antenna
1	2642.5	41.97	2667.5	42.21	18	2	2.15	785.59
2		42.21		42.17	18	2	2.15	803.59
3		42.18		42.21	18	2	2.15	804.51
4		42.14		42.19	18	2	2.15	798.98

15M+15M - carry1-2642.5MHz-Port 1~4:



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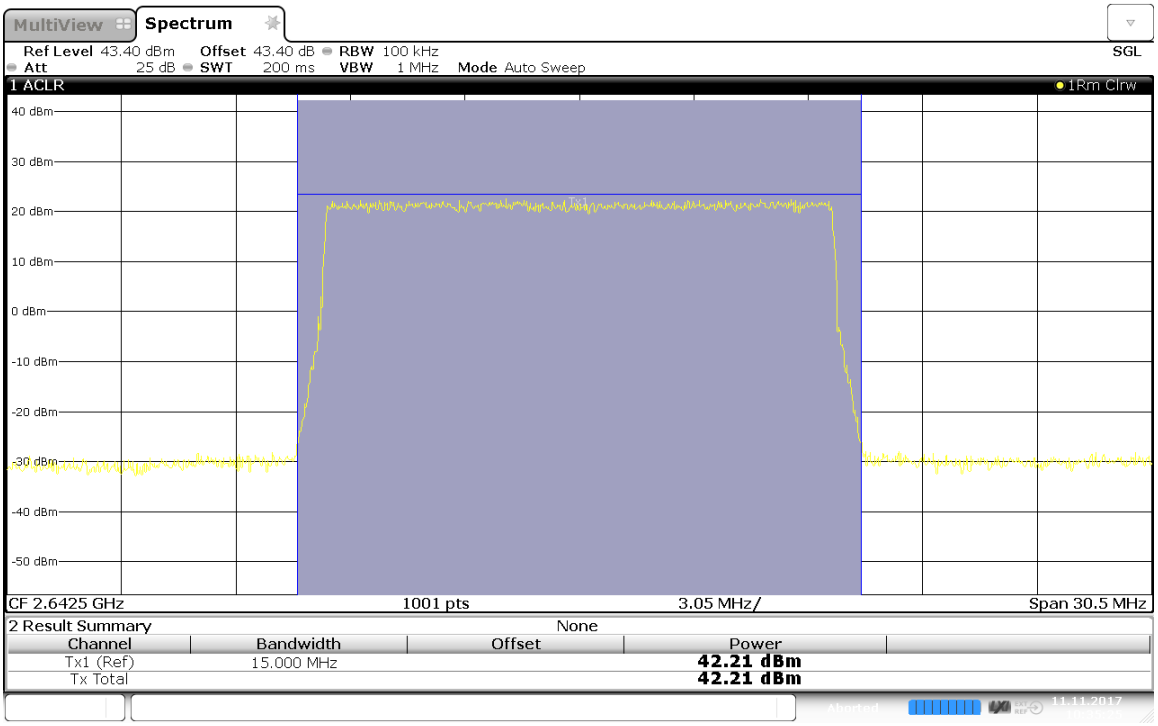

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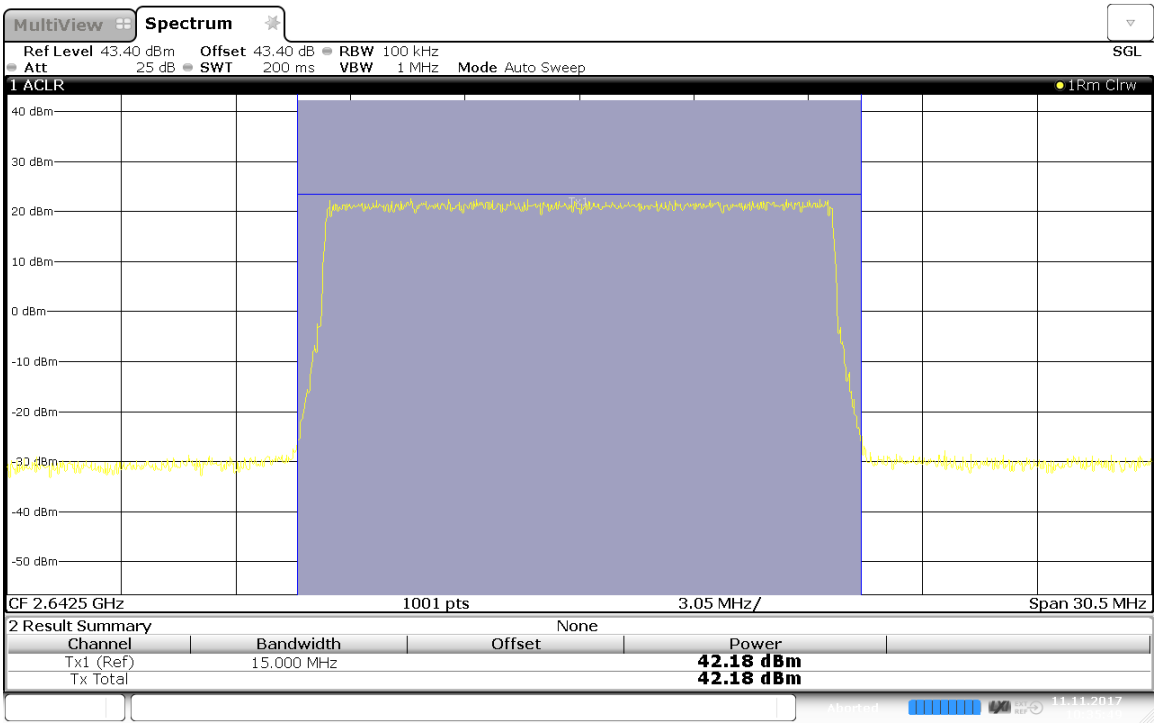
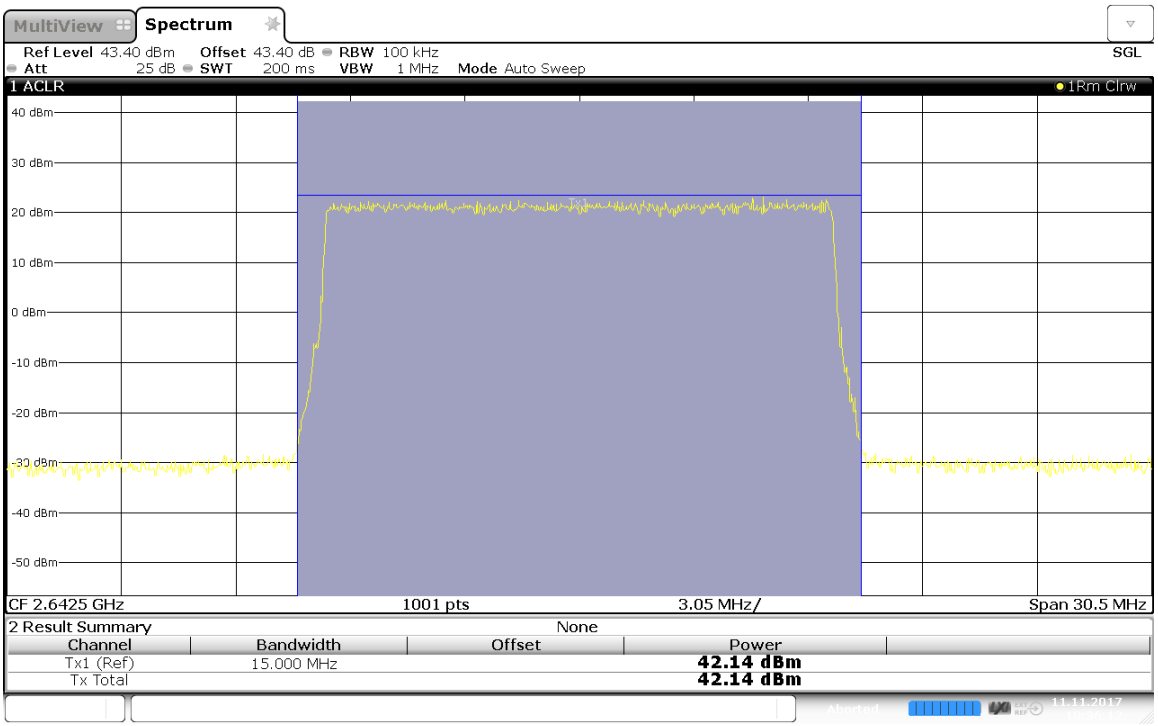
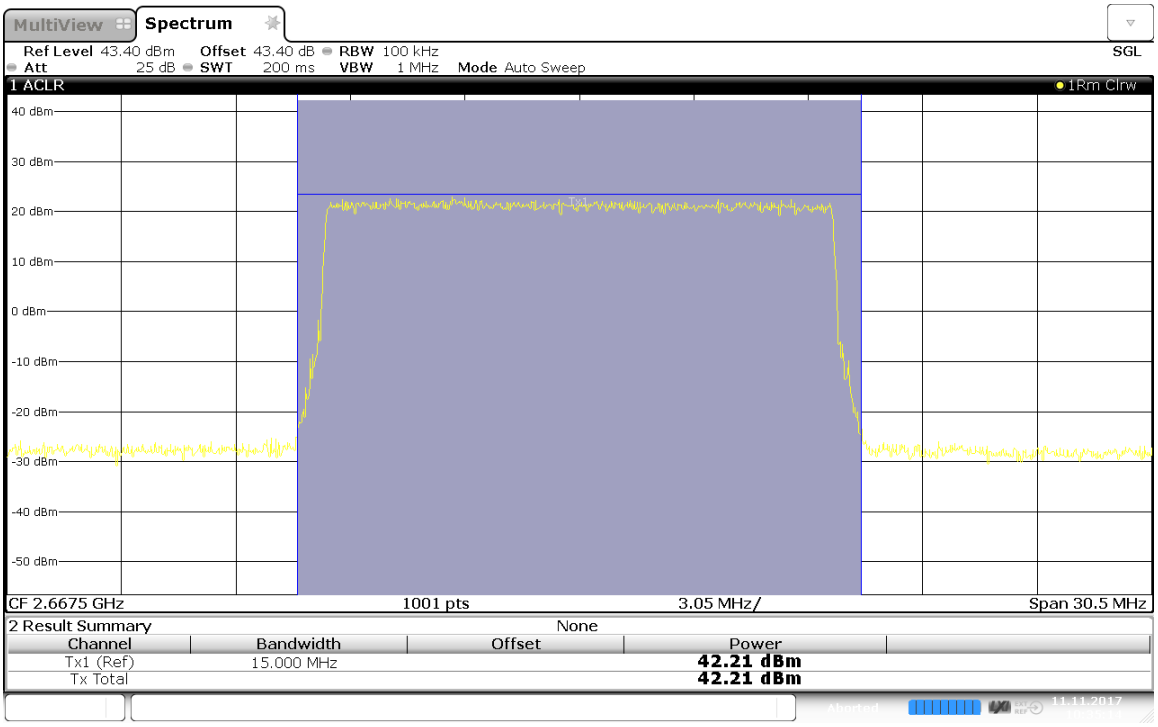


10:35:50 11.11.2017



10:36:13 11.11.2017

15M+15M - carry2-2667.5MHz-Port 1~4:



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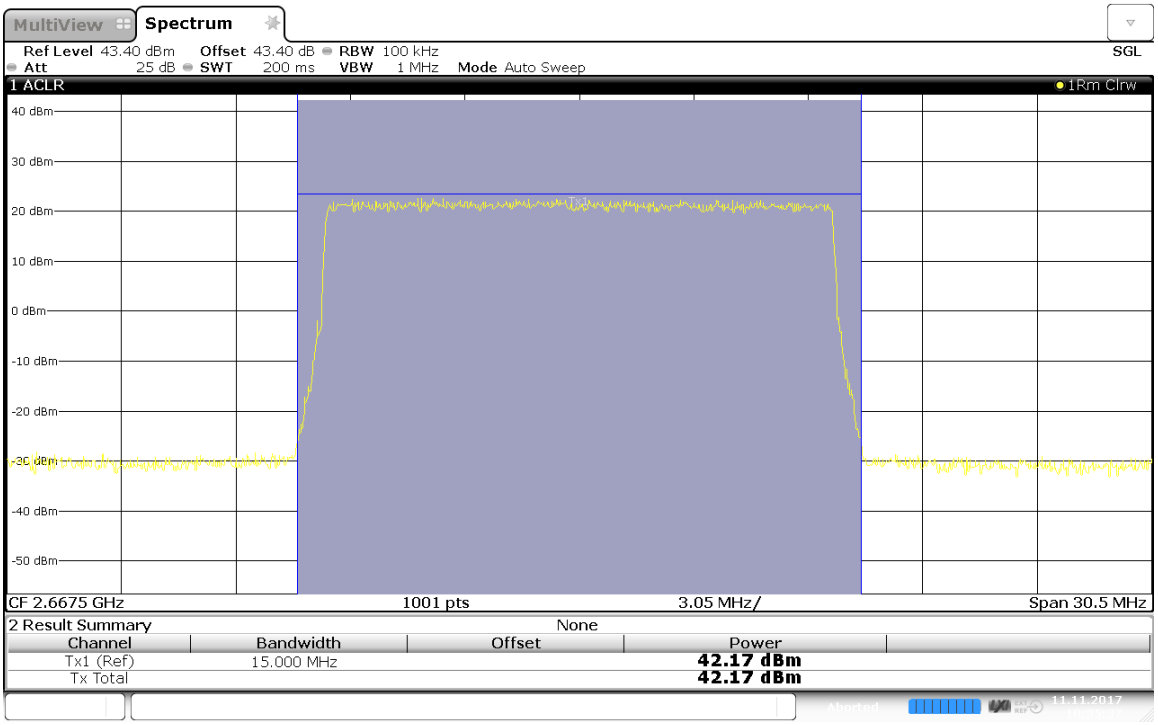

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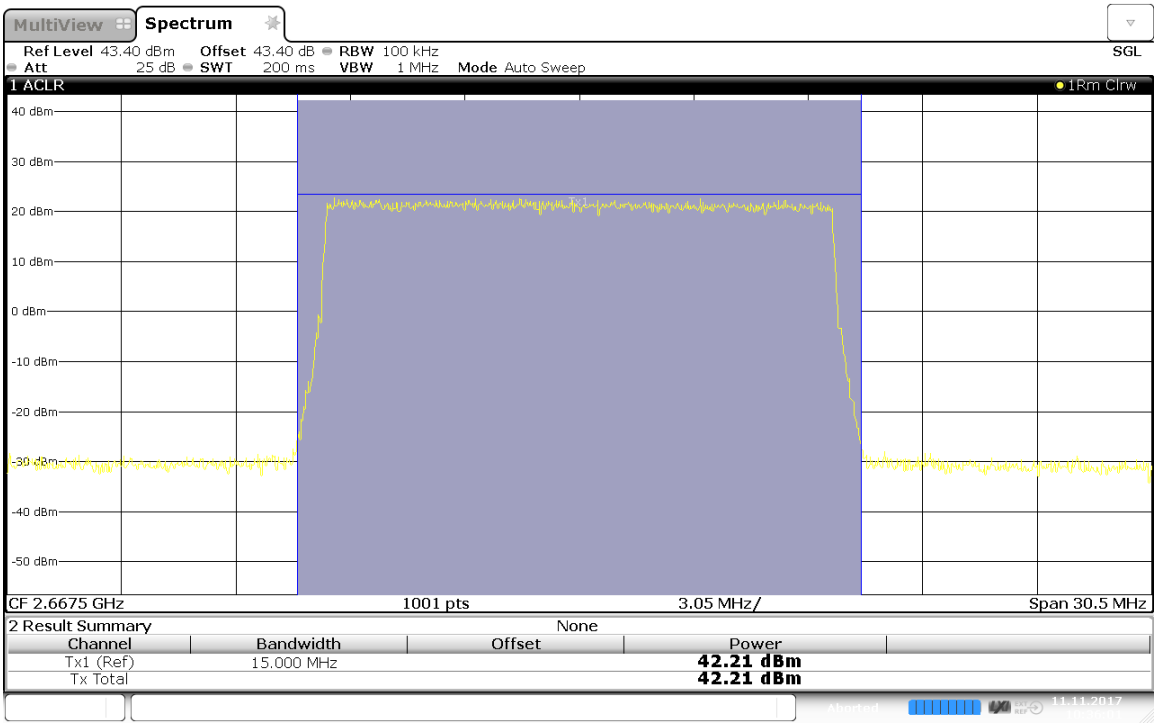
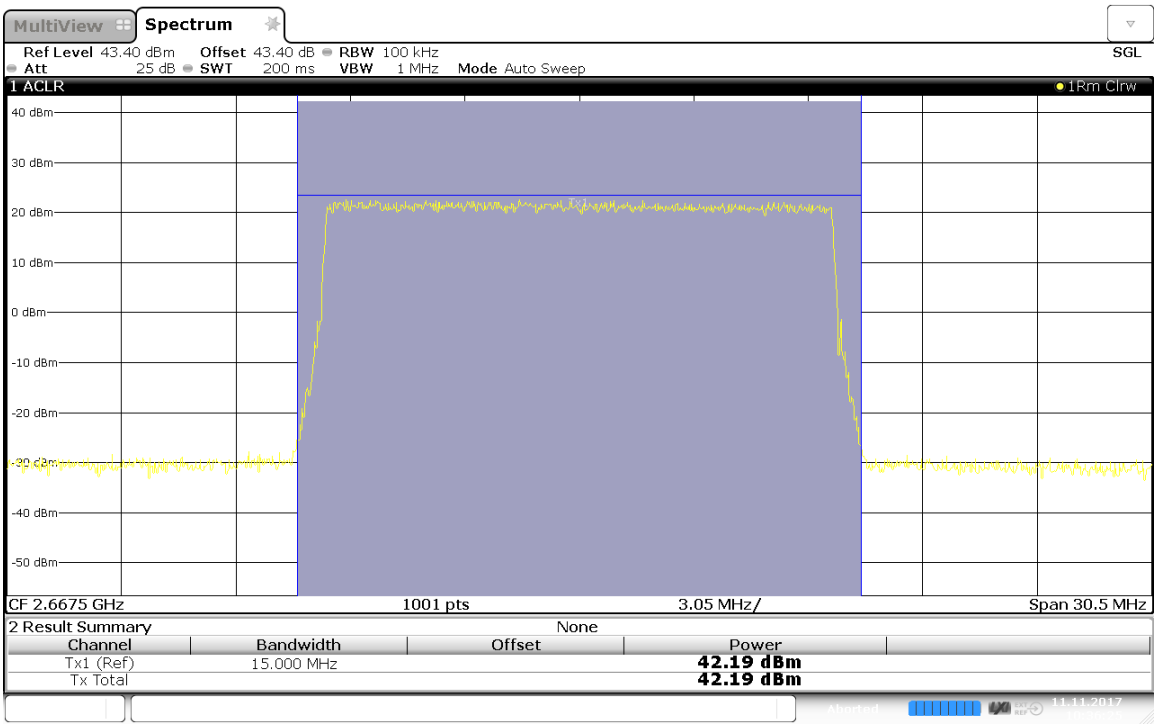


10:36:01 11.11.2017

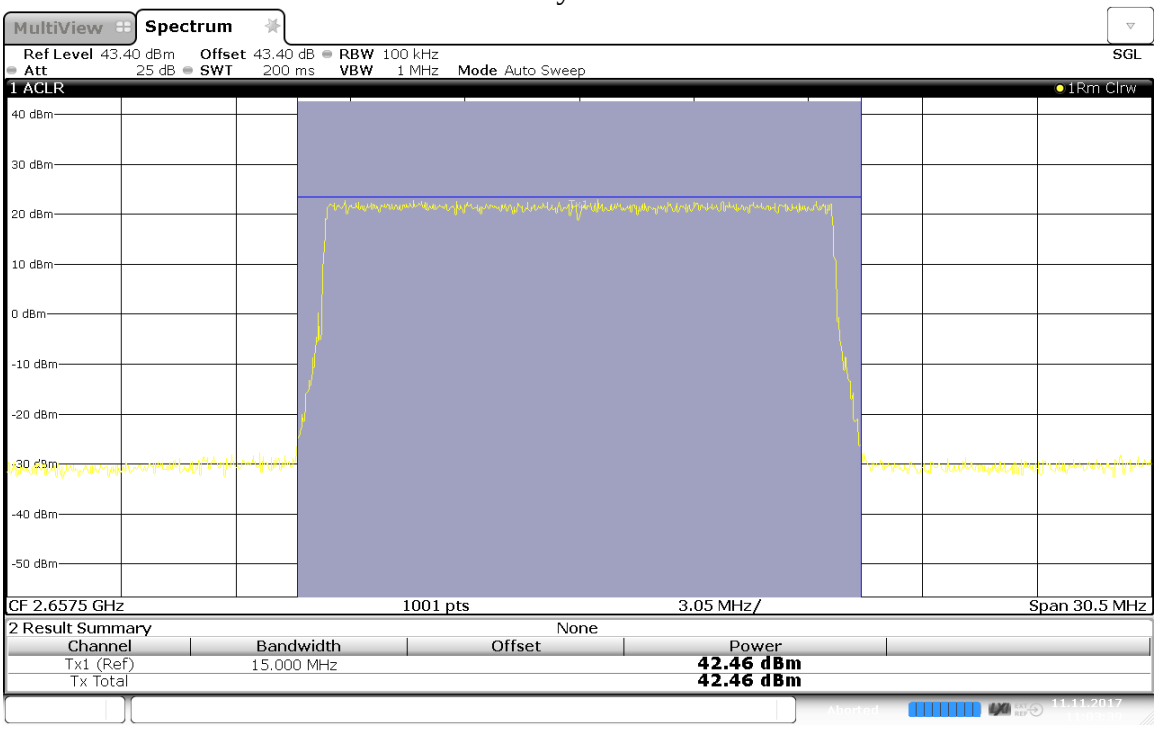


10:36:25 11.11.2017

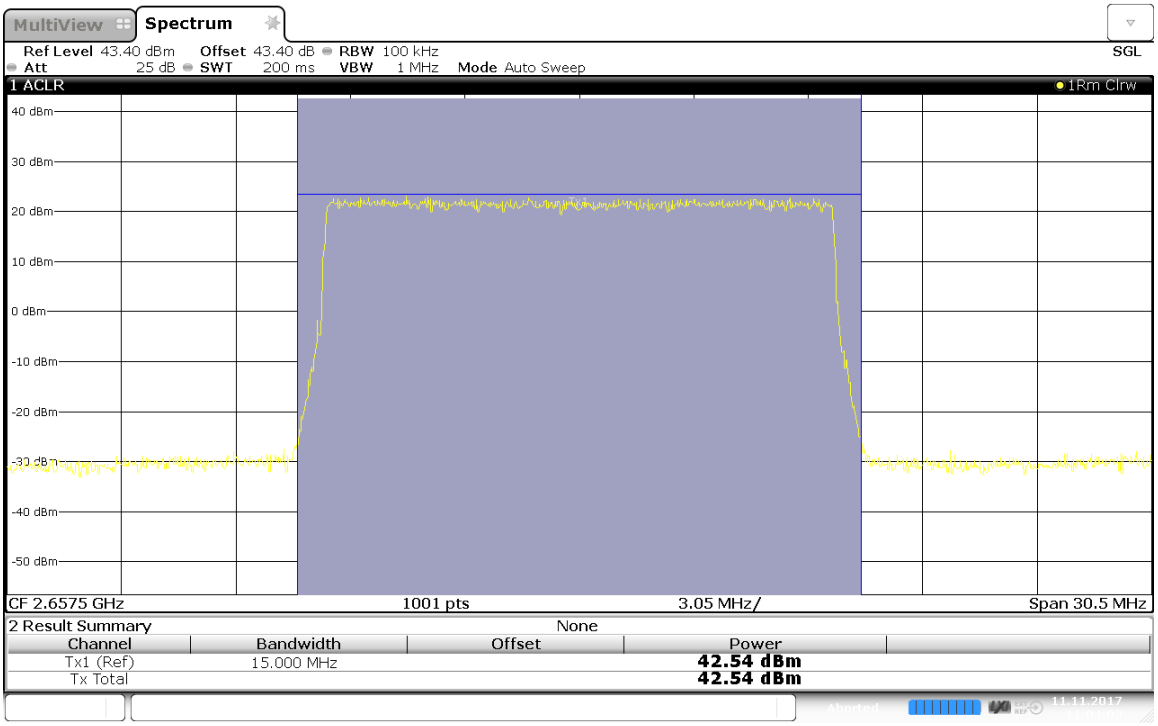
Channel Bandwidth :15M+15M(2657.5MHz & 2682.5MHz)

Port	Carry1 Center Freq. (MHz)	Carry1 Max output Power in dBm	Carry2 Center Freq. (MHz)	Carry2 Max output Power in dBm	Antenna gain dBi	Cable Loss dB	Dipole Antenna	Total Power in W Of single antenna
1	2657.5	42.46	2682.5	41.88	18	2	2.15	801.67
2		42.54		41.96	18	2	2.15	816.58
3		42.54		41.98	18	2	2.15	818.34
4		42.51		41.99	18	2	2.15	816.22

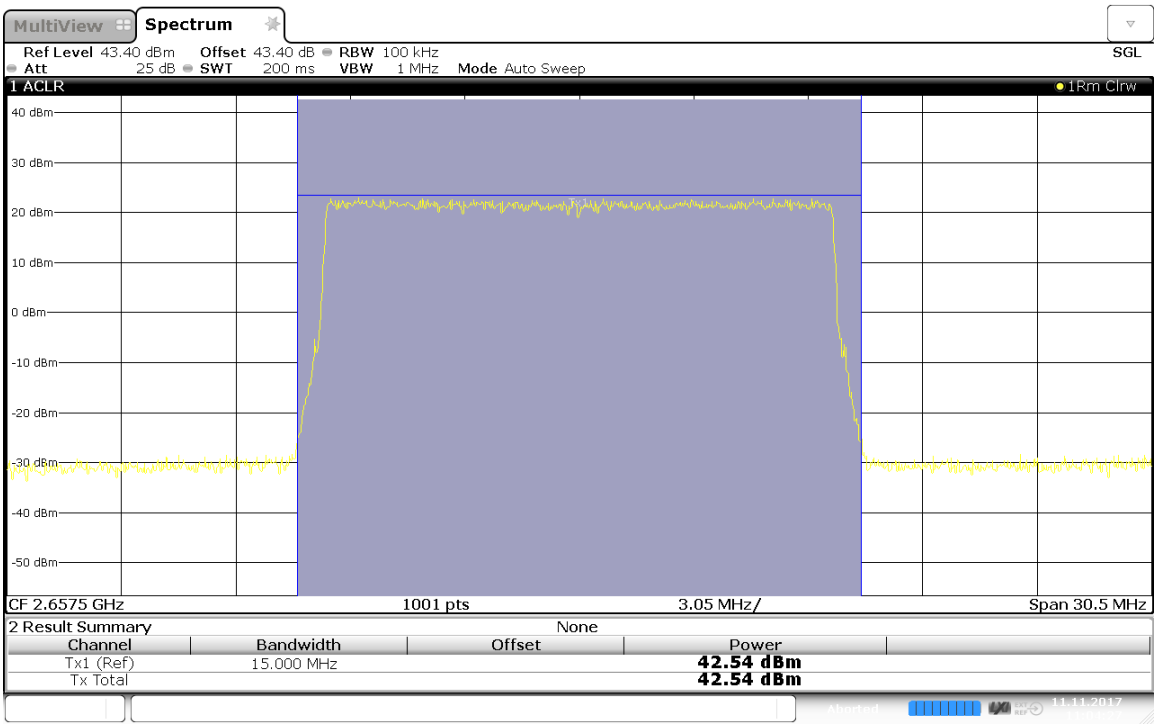
15M+15M - carry1-2657.5MHz-Port 1~4:



11:03:39 11.11.2017



11:04:03 11.11.2017



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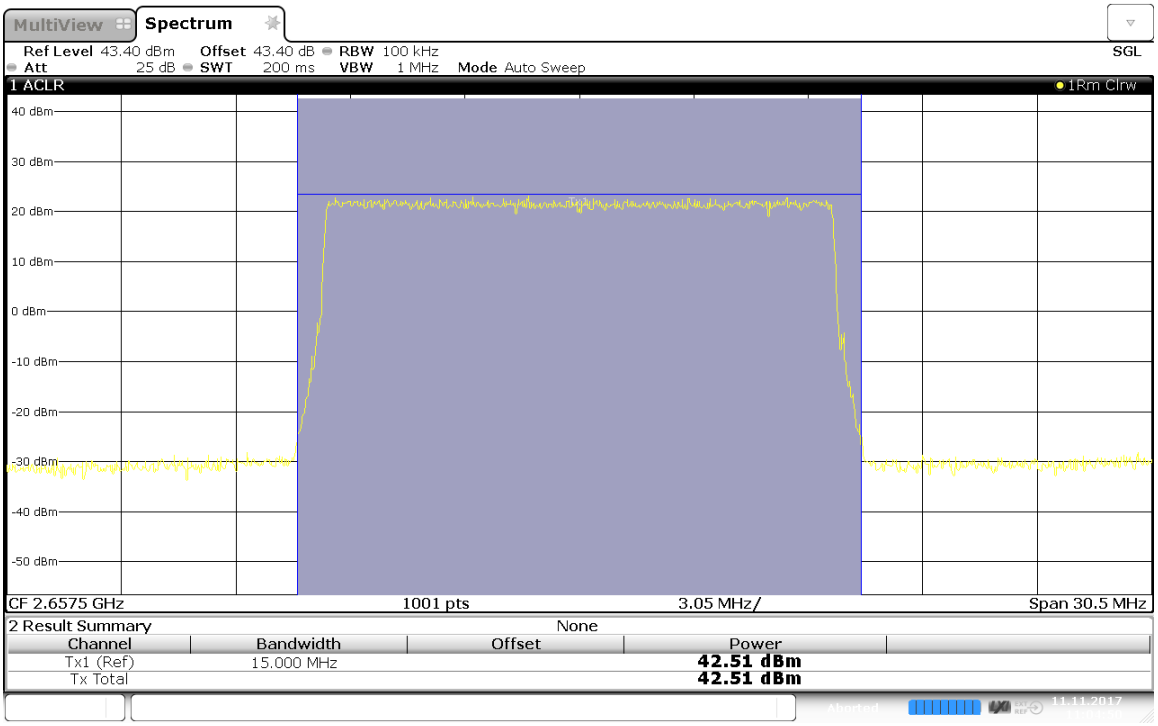
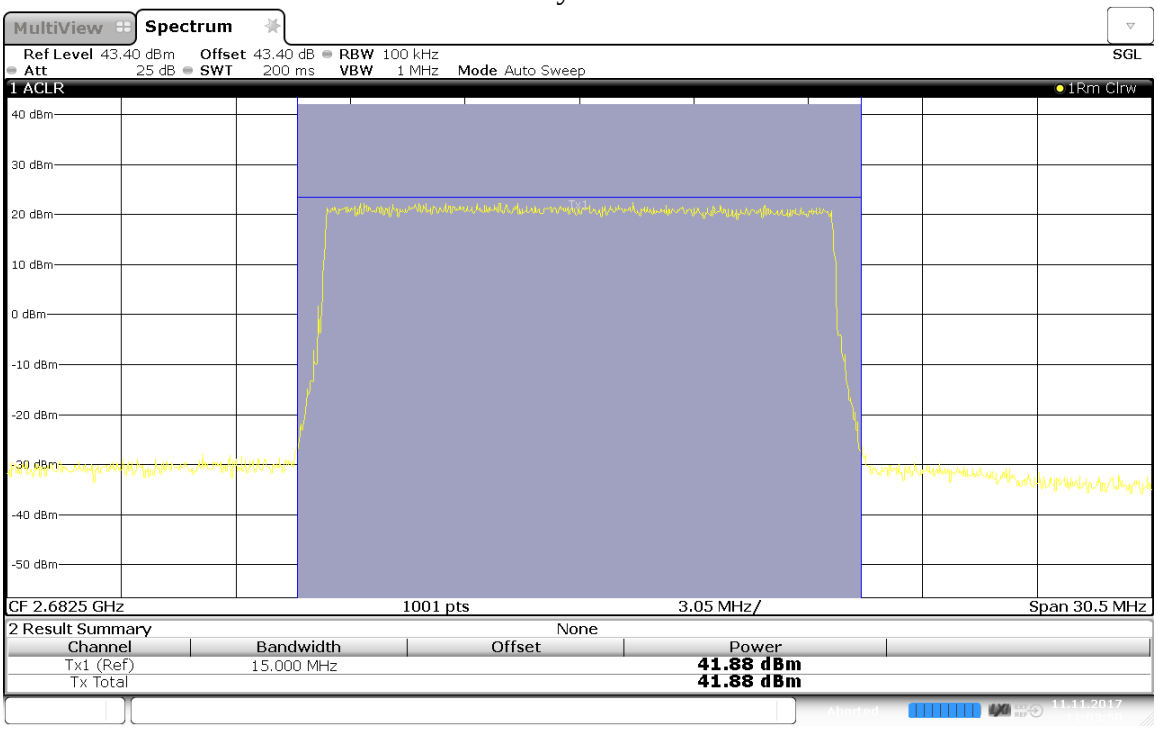
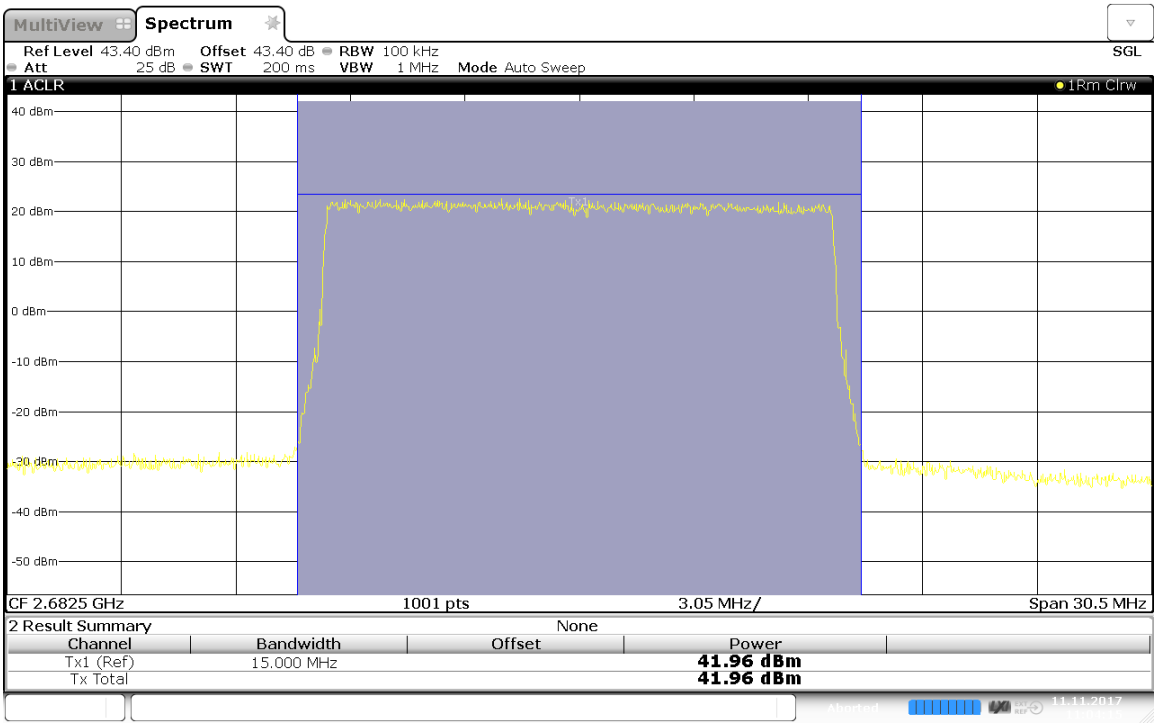


11:04:51 11.11.2017

15M+15M - carry2-2682.5MHz-Port 1~4:



11:03:51 11.11.2017



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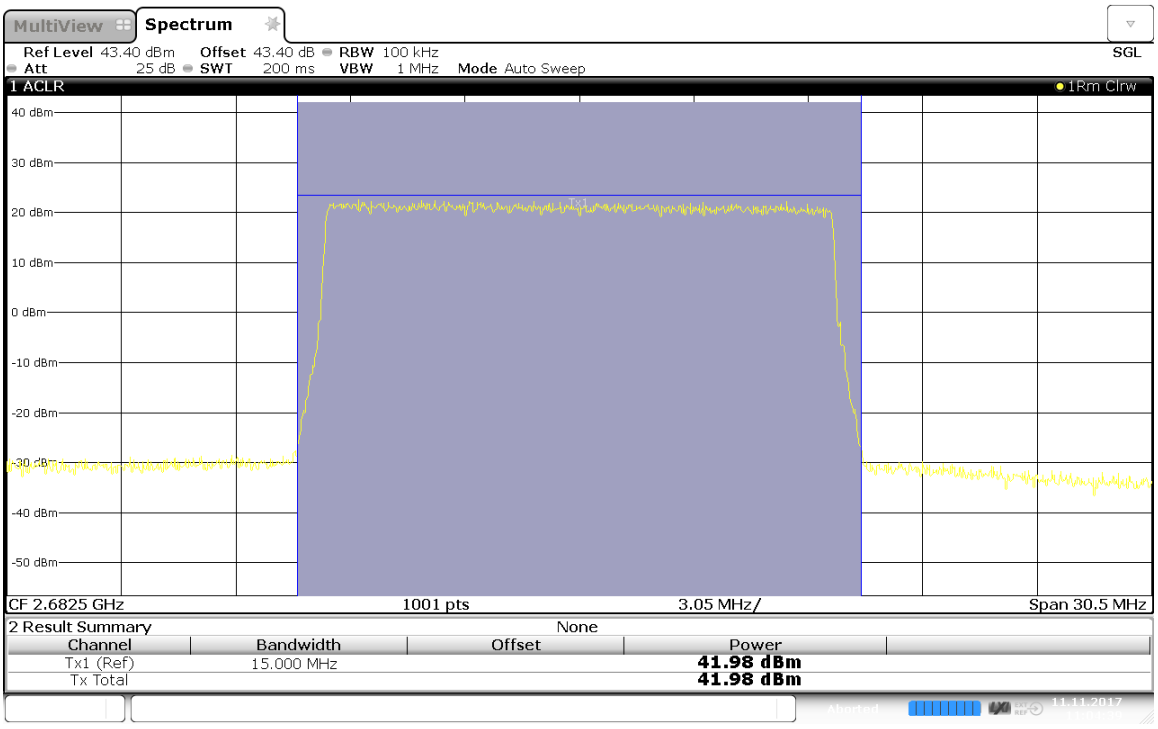

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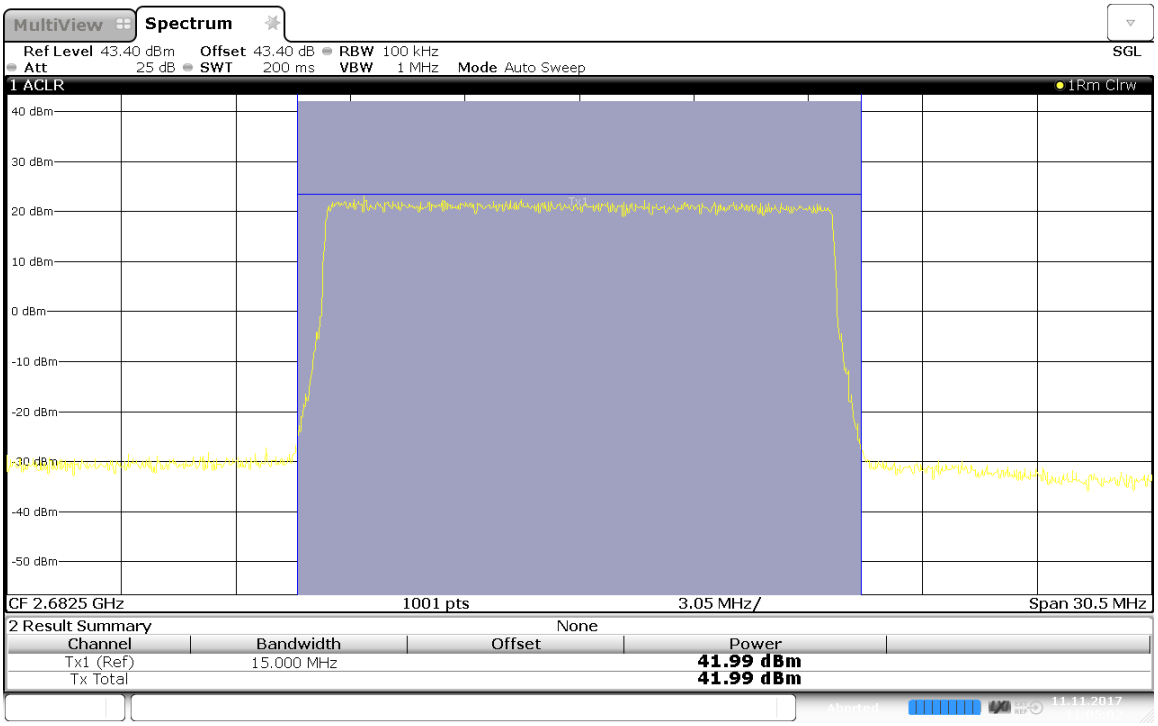
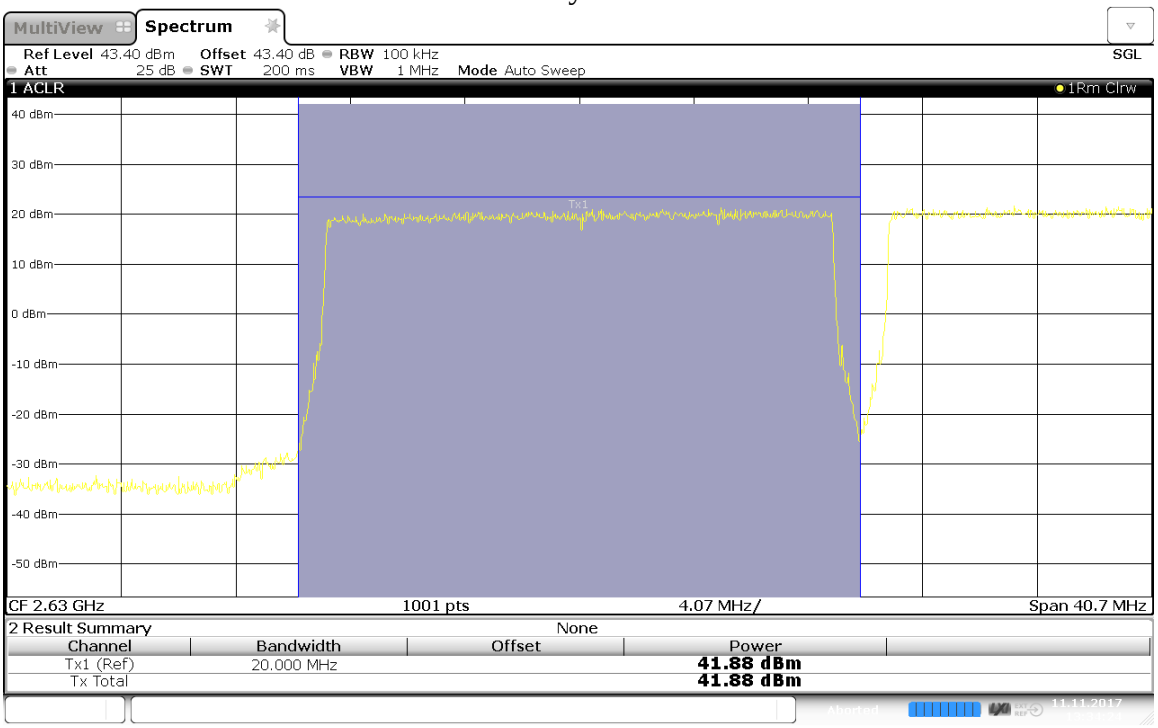


11:05:03 11.11.2017

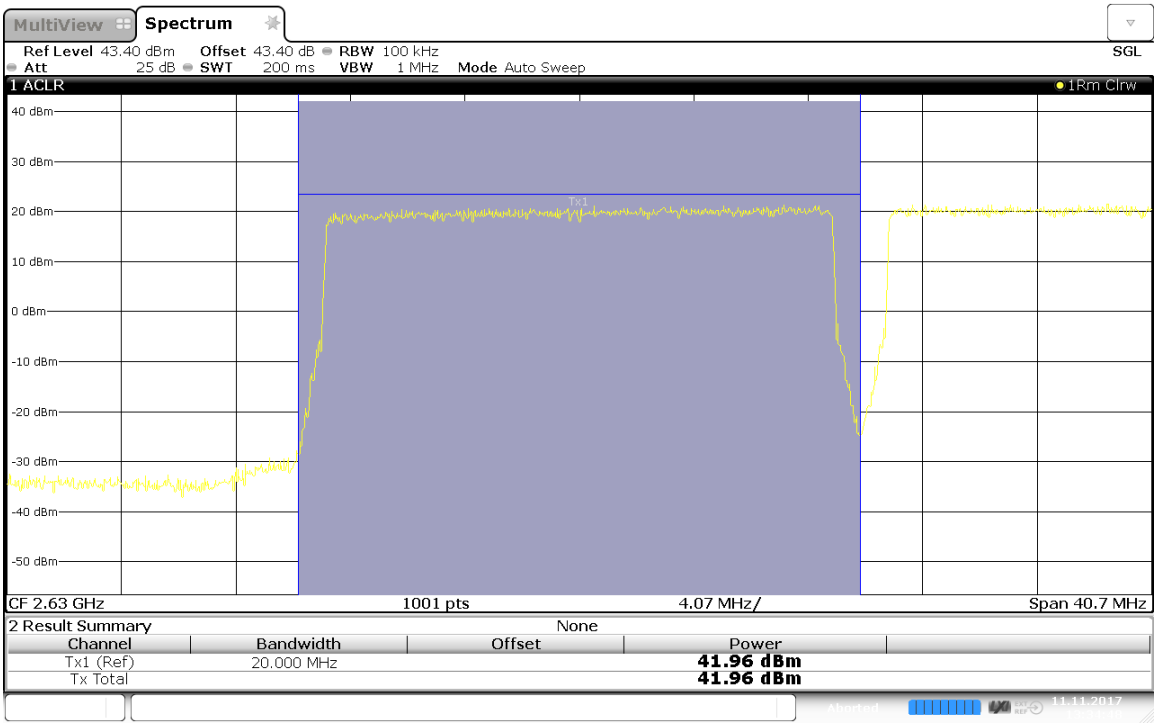
Channel Bandwidth :20M+20M(2630MHz & 2650MHz)

Port	Carry1 Center Freq. (MHz)	Carry1 Max output Power in dBm	Carry2 Center Freq. (MHz)	Carry2 Max output Power in dBm	Antenna gain dBi	Cable Loss dB	Dipole Antenna	Total Power in W Of single antenna
1	2630	41.88	2650	42.36	18	2	2.15	791.94
2		41.96		42.5	18	2	2.15	812.58
3		41.92		42.48	18	2	2.15	807.11
4		41.89		42.46	18	2	2.15	802.54

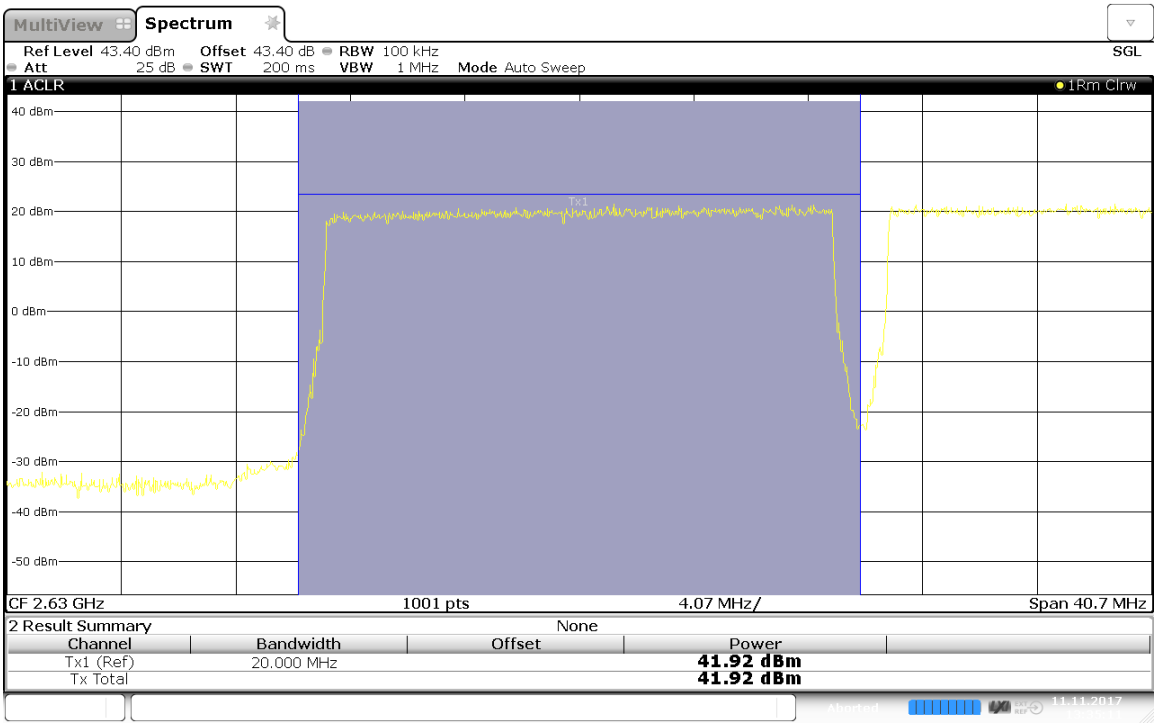
20M+20M - carry1-2630MHz-Port 1~4:



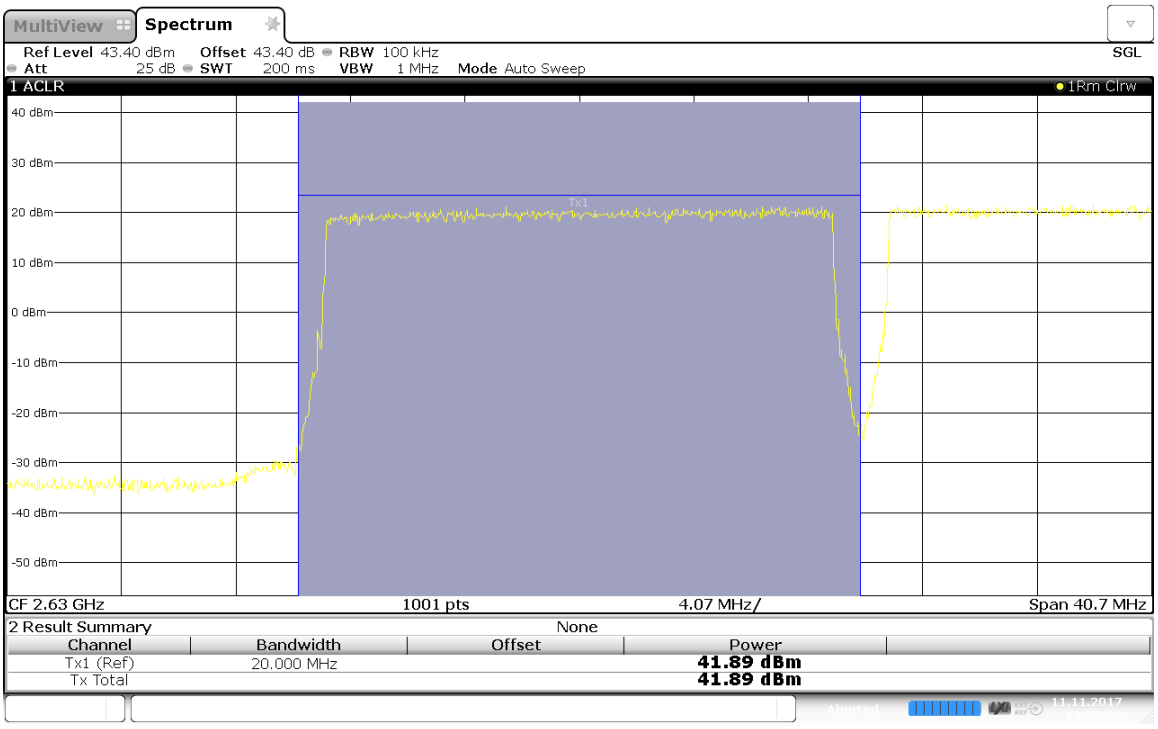
13:34:24 11.11.2017



13:34:48 11.11.2017

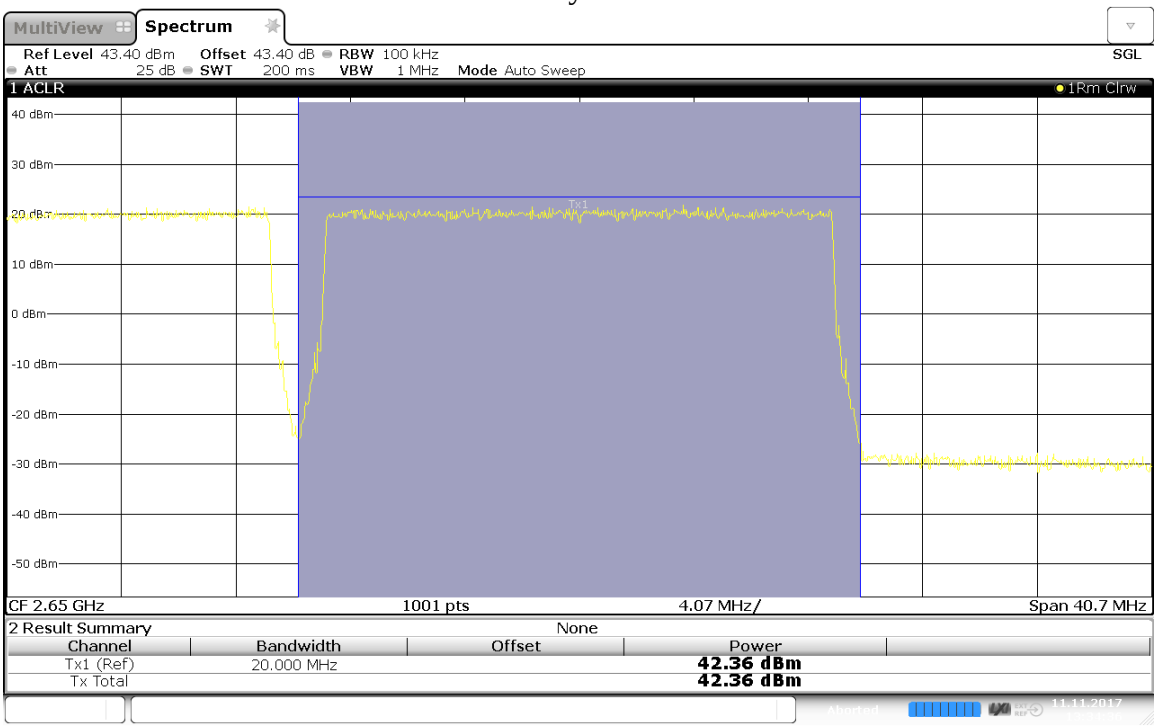


13:35:12 11.11.2017



13:35:36 11.11.2017

20M+20M - carry2-2650MHz-Port 1~4:



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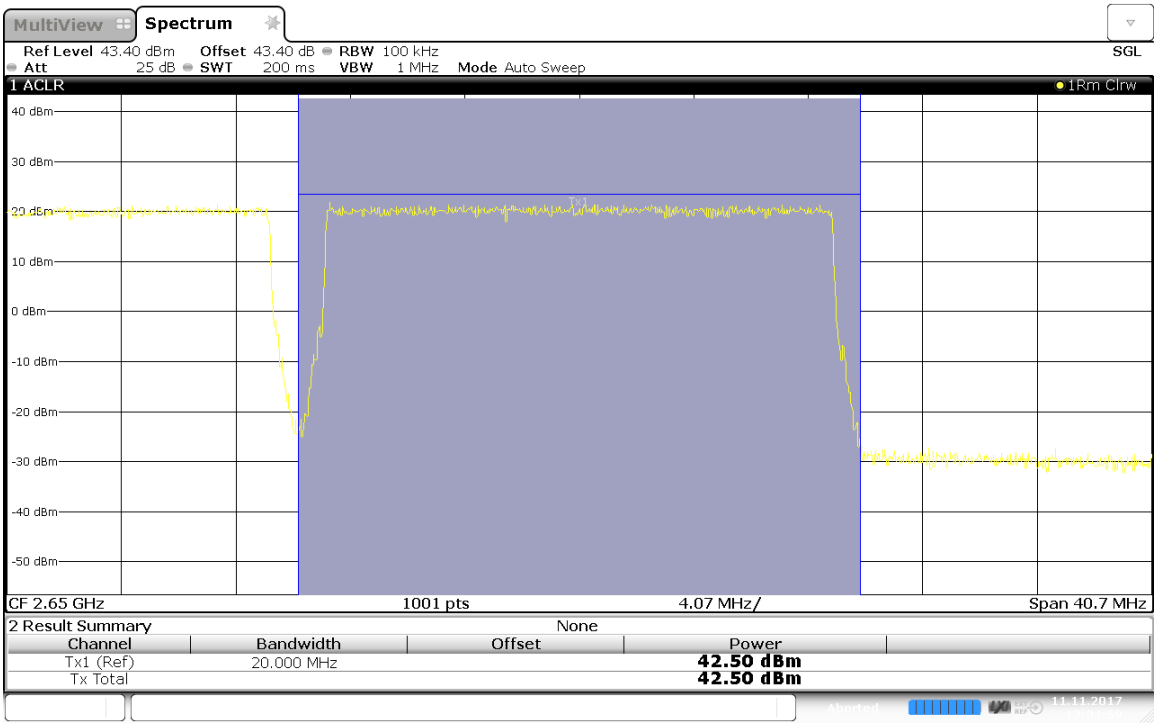
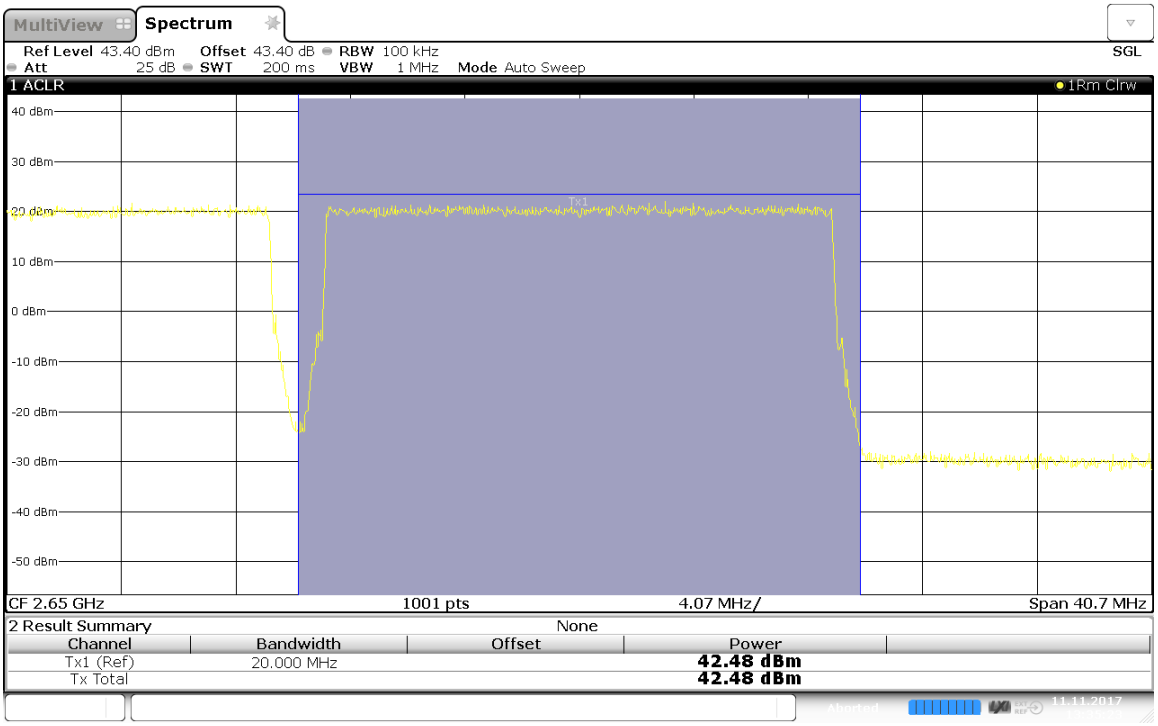
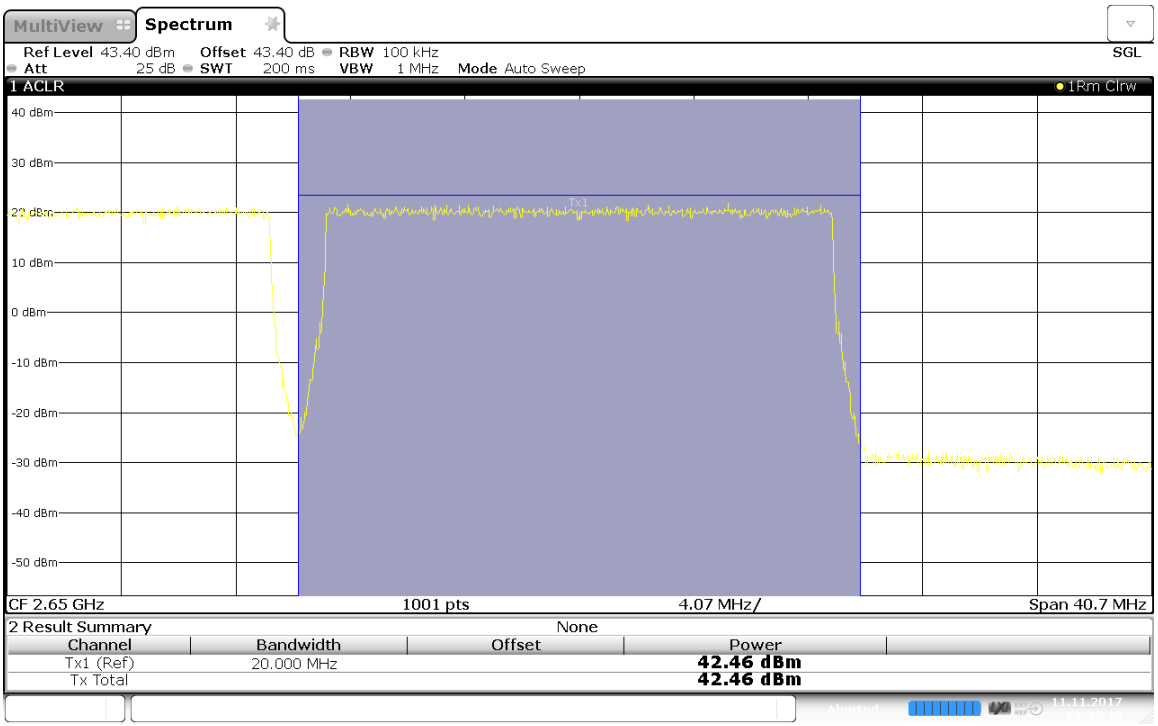


13:35:00 11.11.2017



13:35:24 11.11.2017

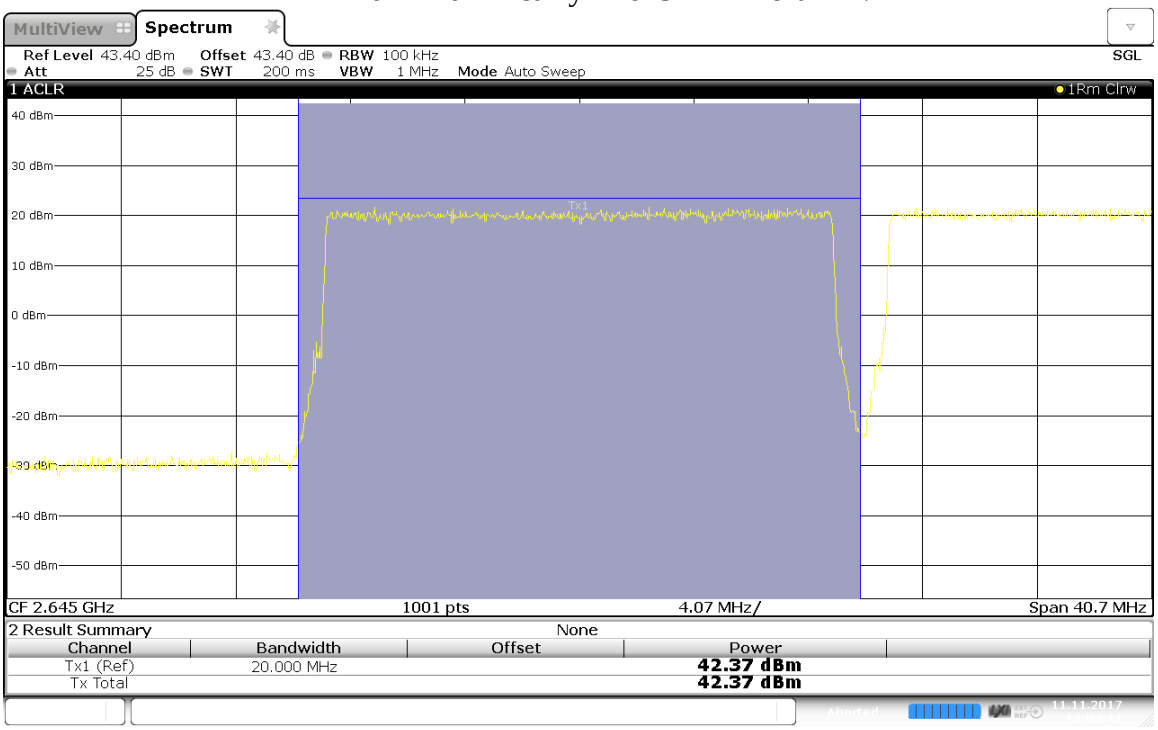


13:35:48 11.11.2017

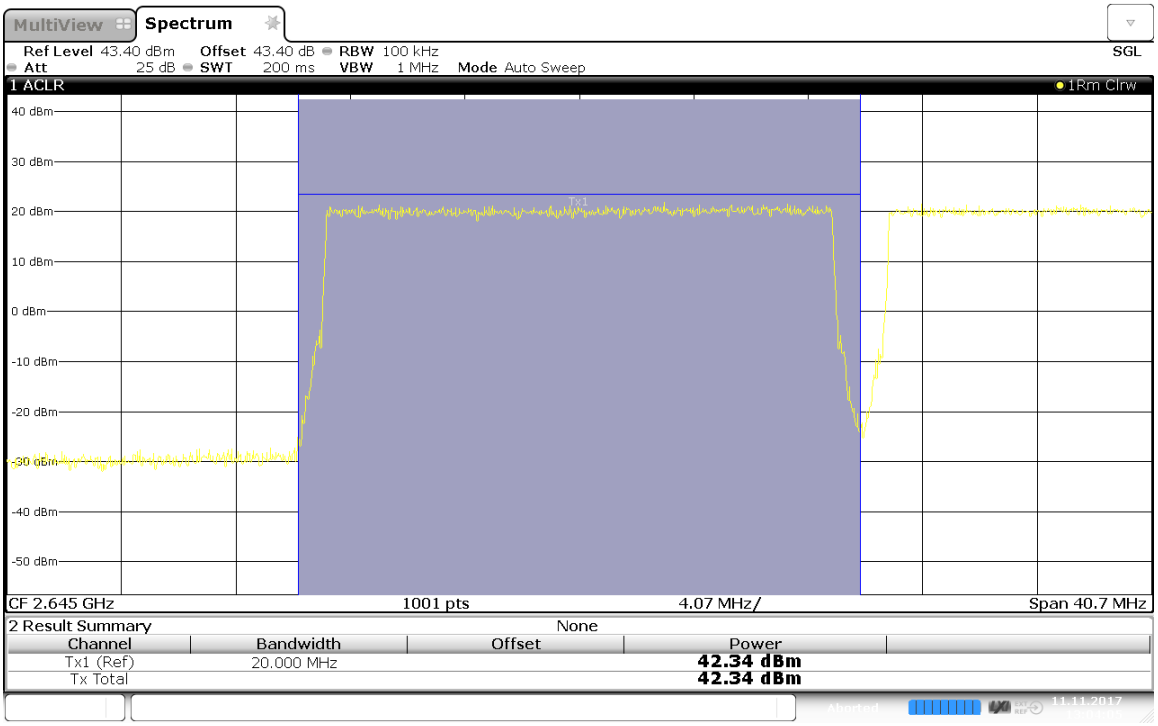
Channel Bandwidth :20M+20M(2645MHz & 2665MHz)

Port	Carry1 Center Freq. (MHz)	Carry1 Max output Power in dBm	Carry2 Center Freq. (MHz)	Carry2 Max output Power in dBm	Antenna gain dBi	Cable Loss dB	Dipole Antenna	Total Power in W Of single antenna
1	2645	42.37	2665	42.35	18	2	2.15	835.66
2		42.34		42.28	18	2	2.15	826.11
3		42.33		42.25	18	2	2.15	822.33
4		42.31		42.25	18	2	2.15	820.43

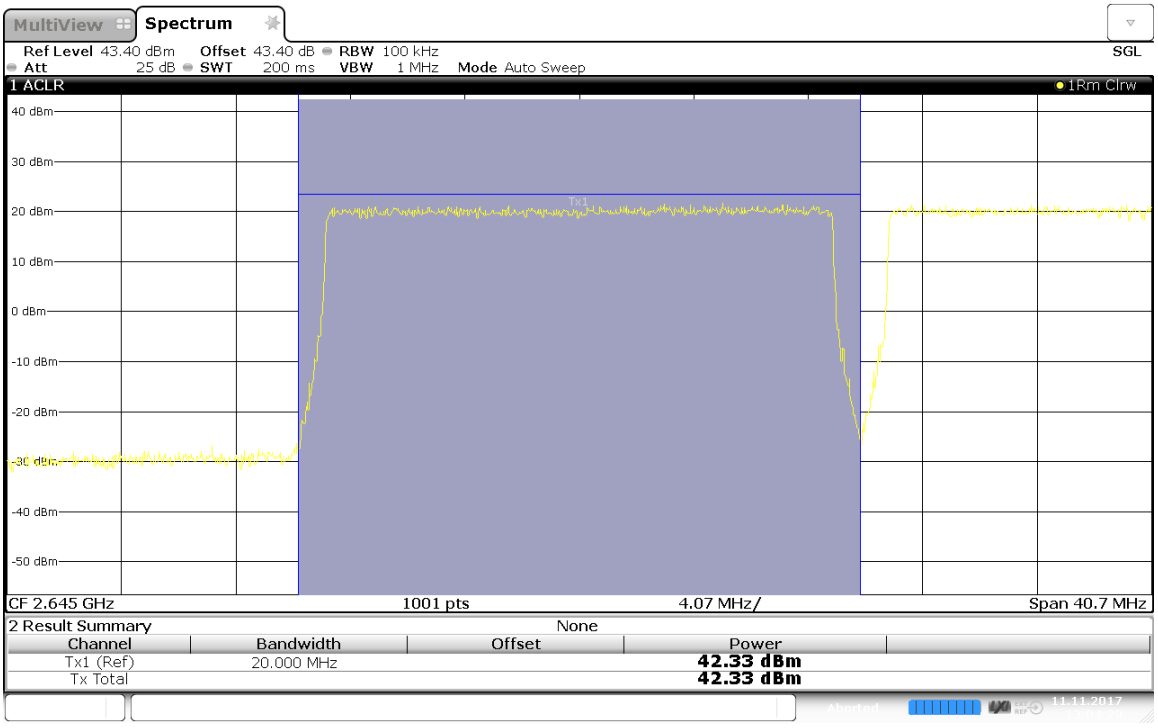
20M+20M - carry1-2645MHz-Port 1~4:



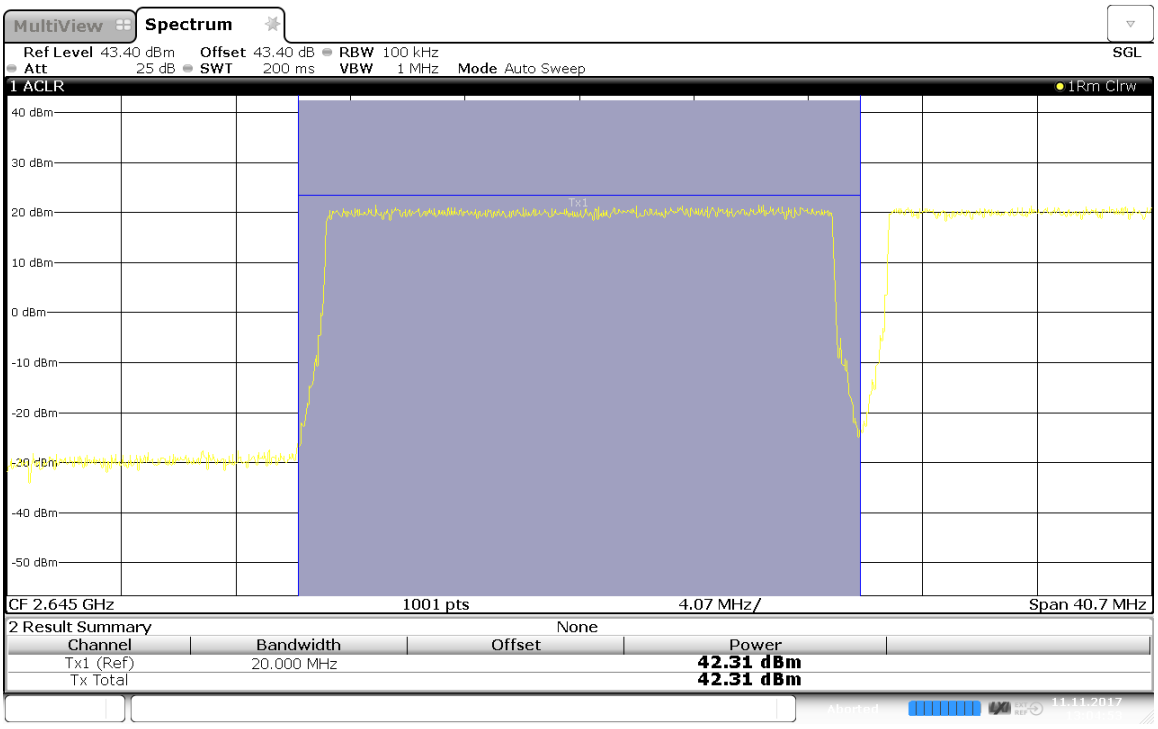
13:03:42 11.11.2017



13:04:06 11.11.2017

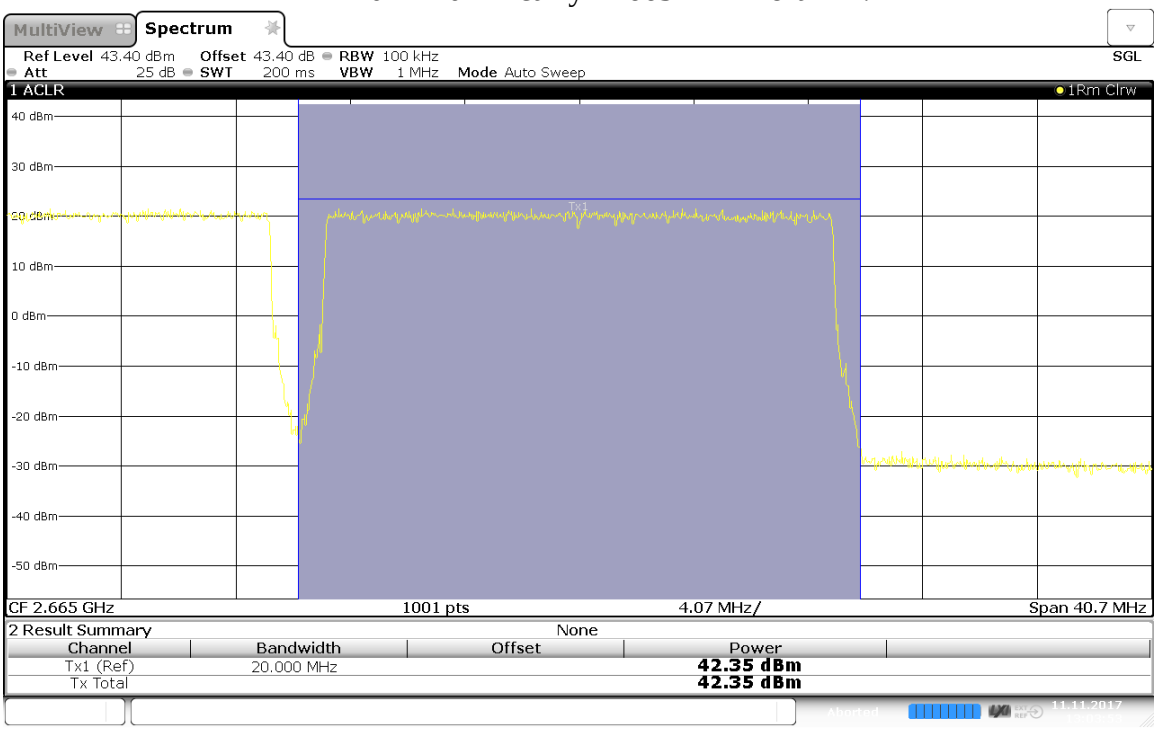


13:04:30 11.11.2017

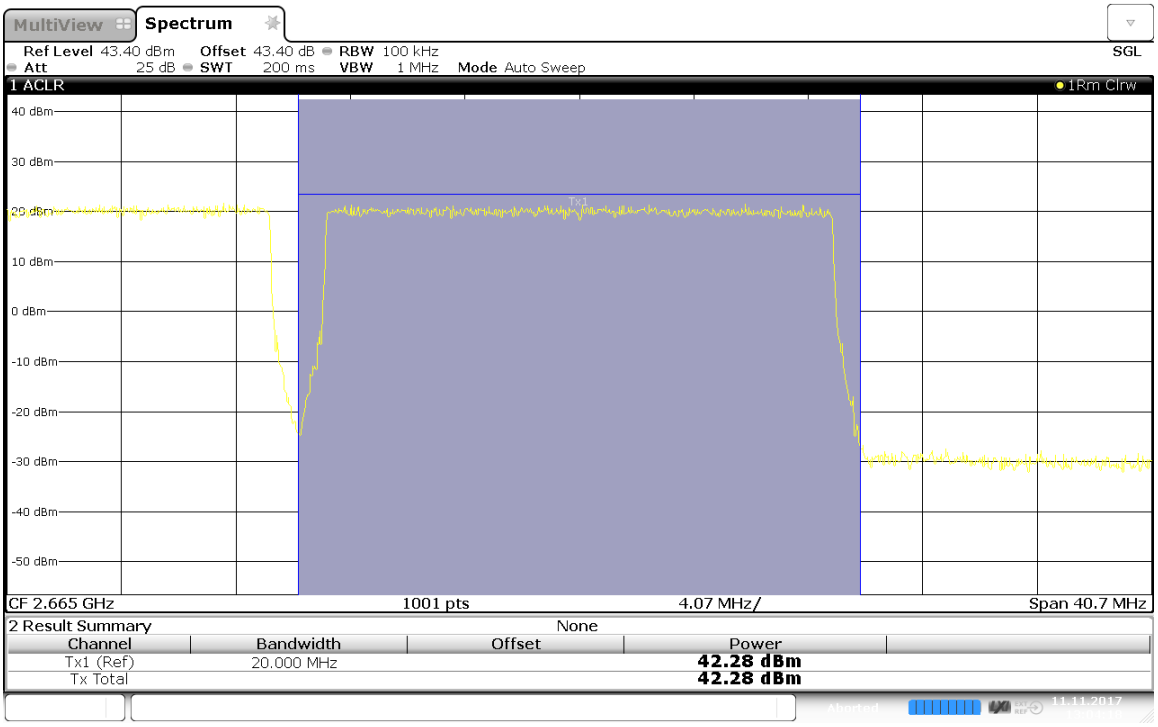


13:04:54 11.11.2017

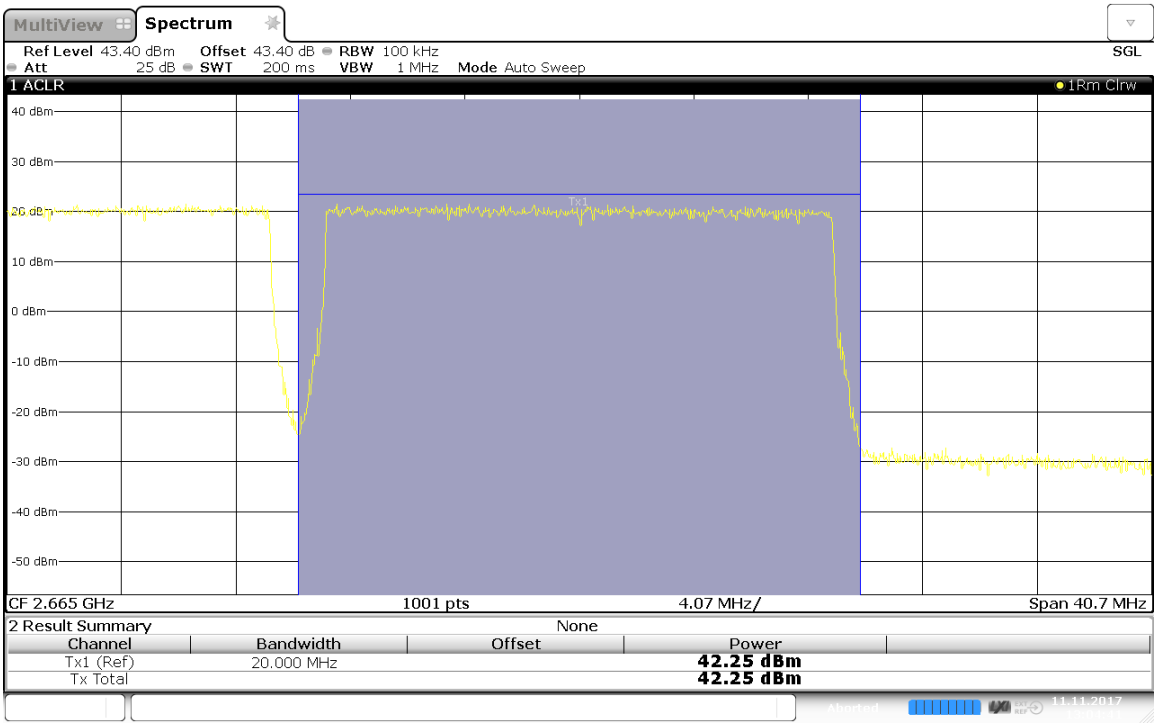
20M+20M - carry2-2665MHz-Port 1~4:



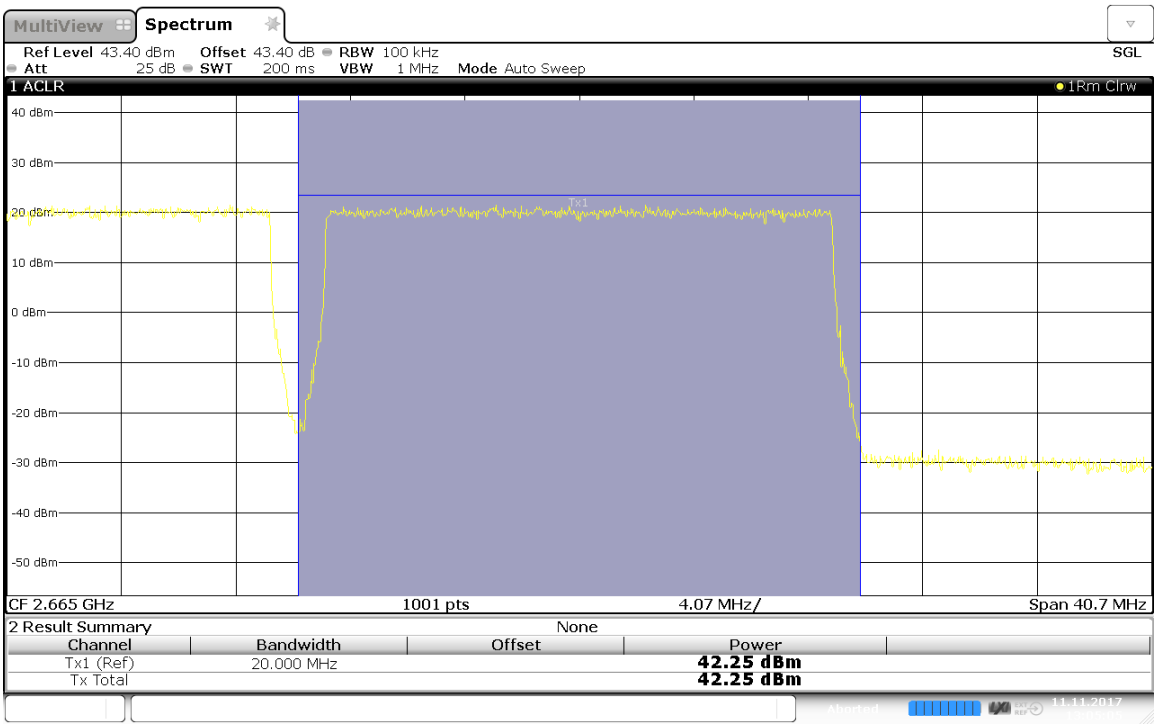
13:03:54 11.11.2017



13:04:18 11.11.2017



13:04:42 11.11.2017

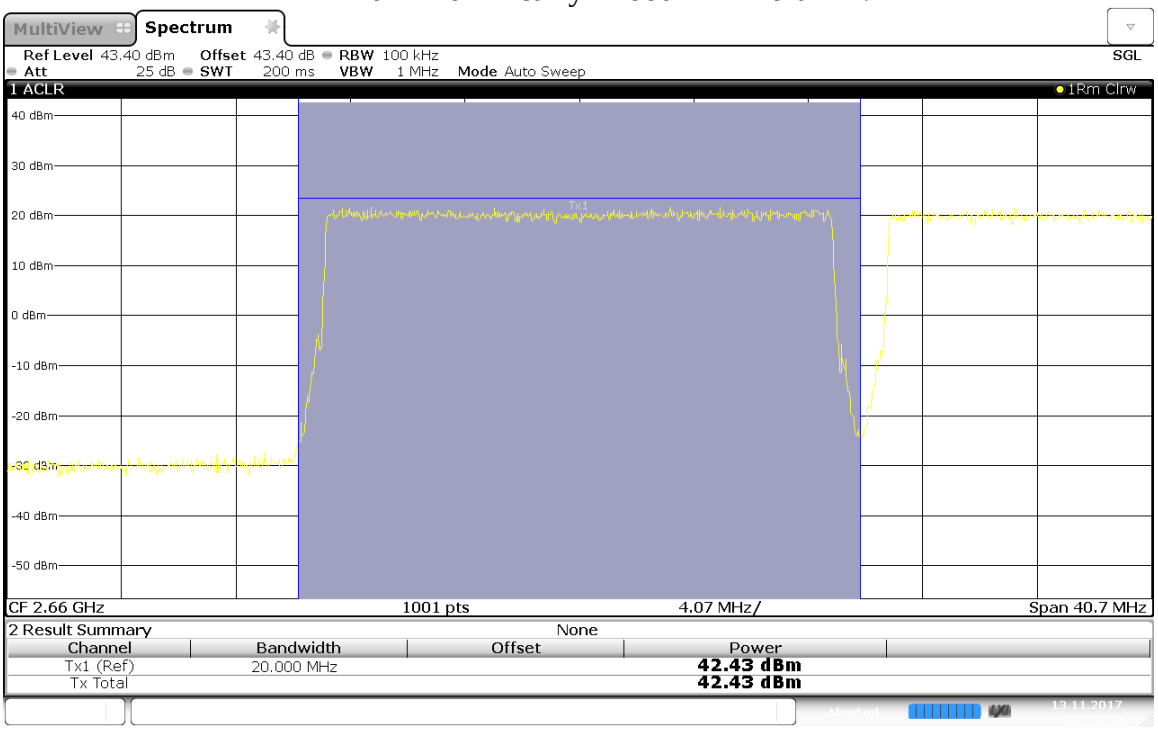


13:05:06 11.11.2017

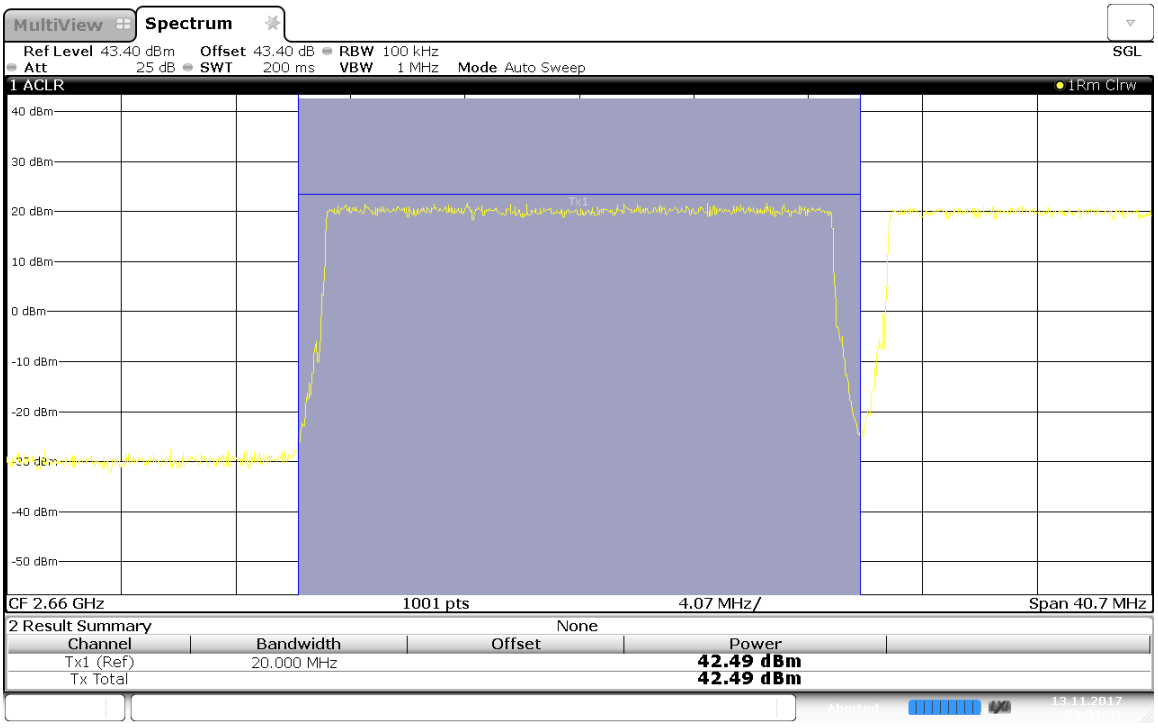
Channel Bandwidth :20M+20M(2660MHz & 2680MHz)

Port	Carry1 Center Freq. (MHz)	Carry1 Max output Power in dBm	Carry2 Center Freq. (MHz)	Carry2 Max output Power in dBm	Antenna gain dBi	Cable Loss dB	Dipole Antenna	Total Power in W Of single antenna
1	2660	42.43	2680	42.16	18	2	2.15	835.66
2		42.49		42.13	18	2	2.15	826.11
3		42.48		42.17	18	2	2.15	822.33
4		42.47		42.12	18	2	2.15	820.43

20M+20M - carry1-2660MHz-Port 1~4:



21:01:08 13.11.2017



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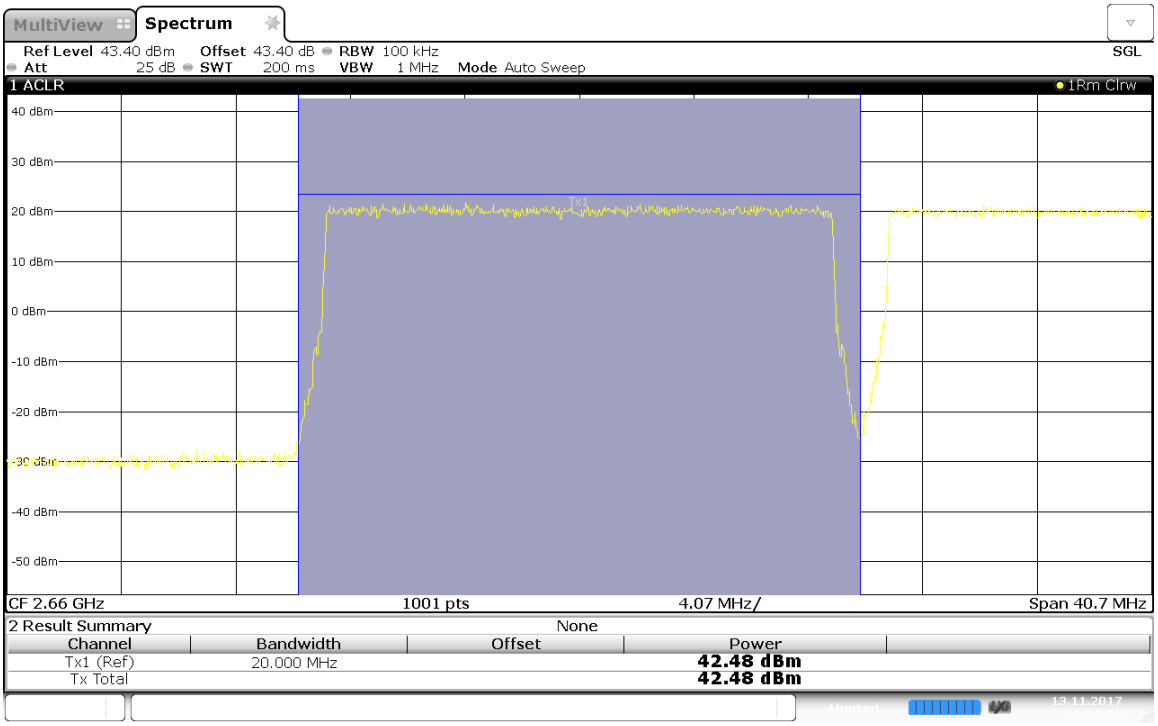

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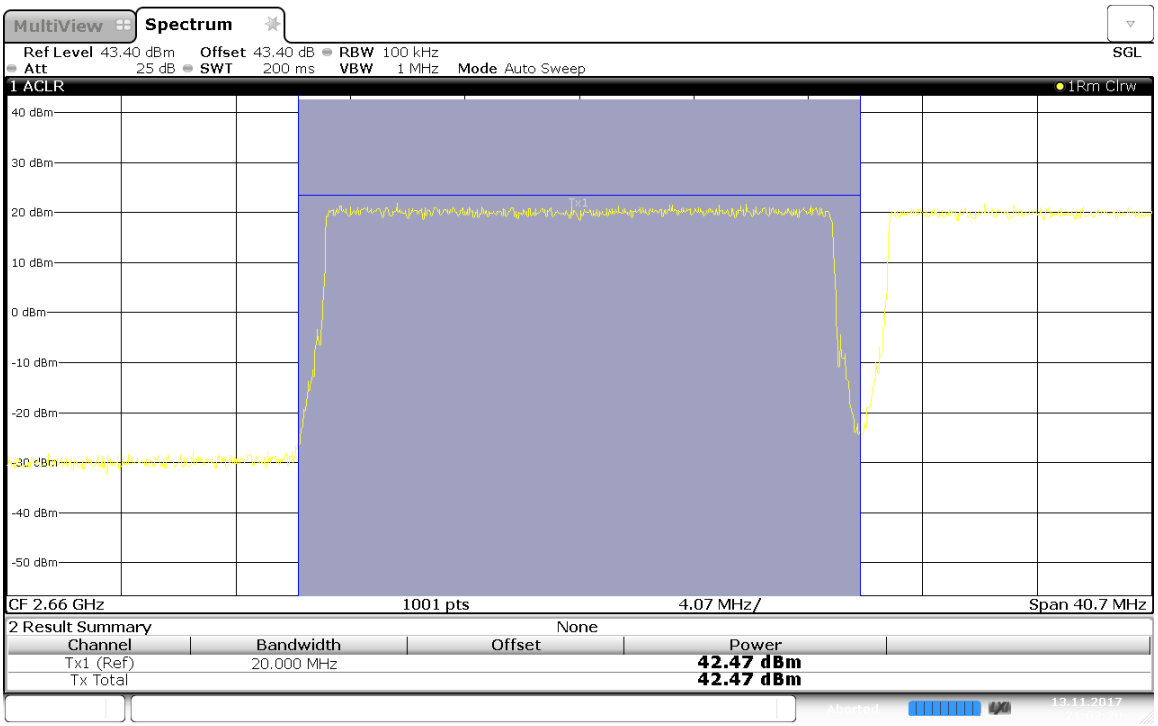
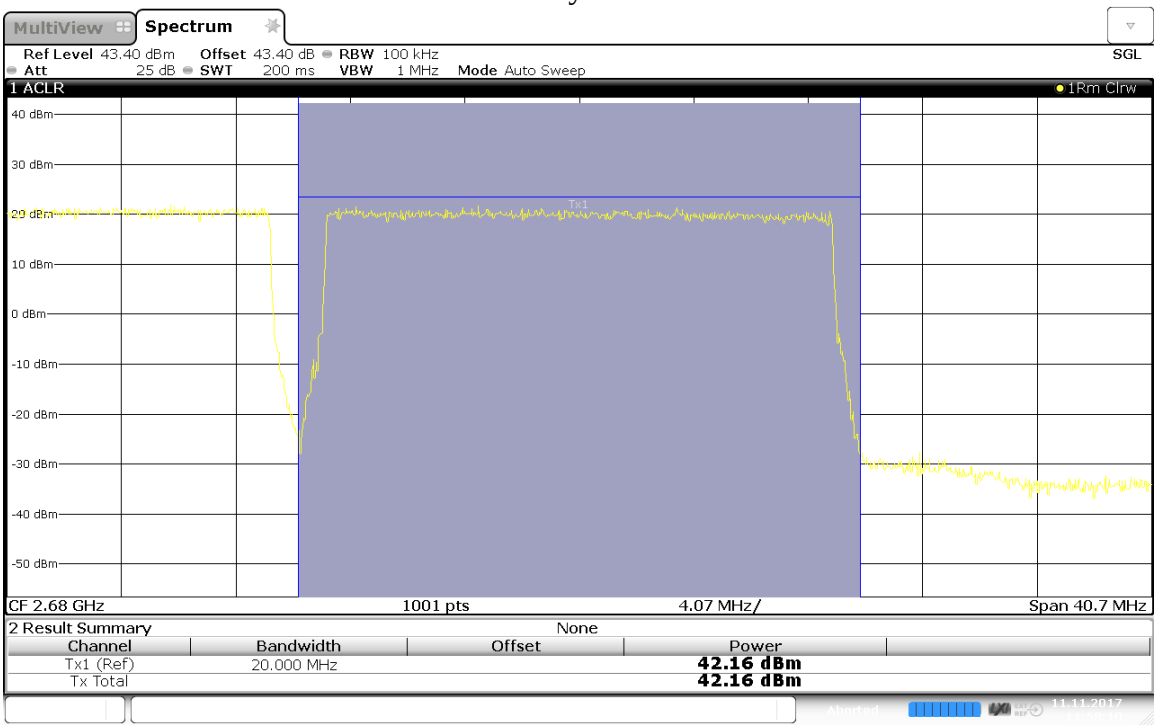
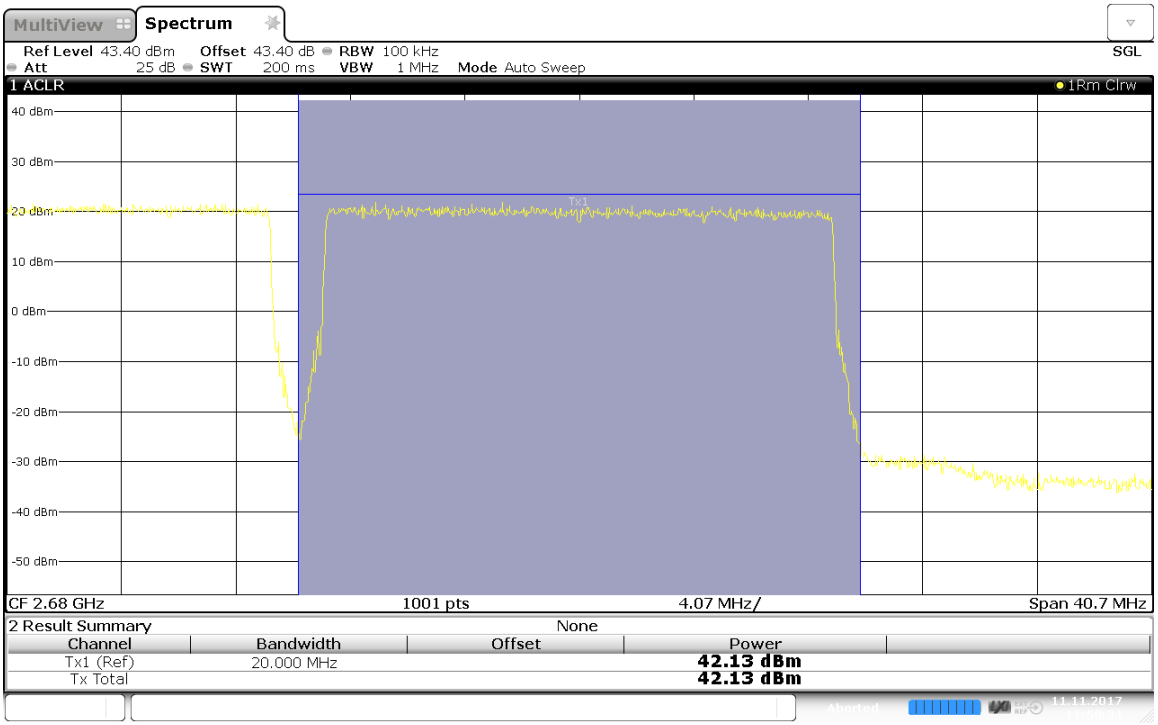


21:02:20 13.11.2017

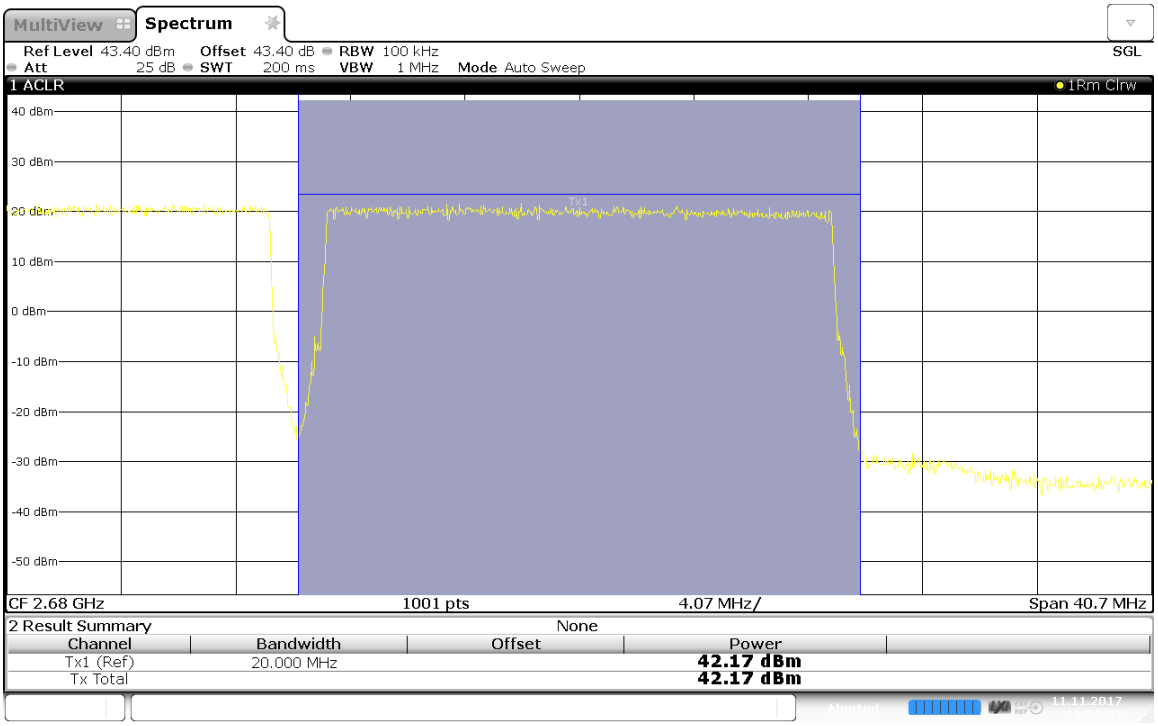
20M+20M - carry2-2680MHz-Port 1~4:



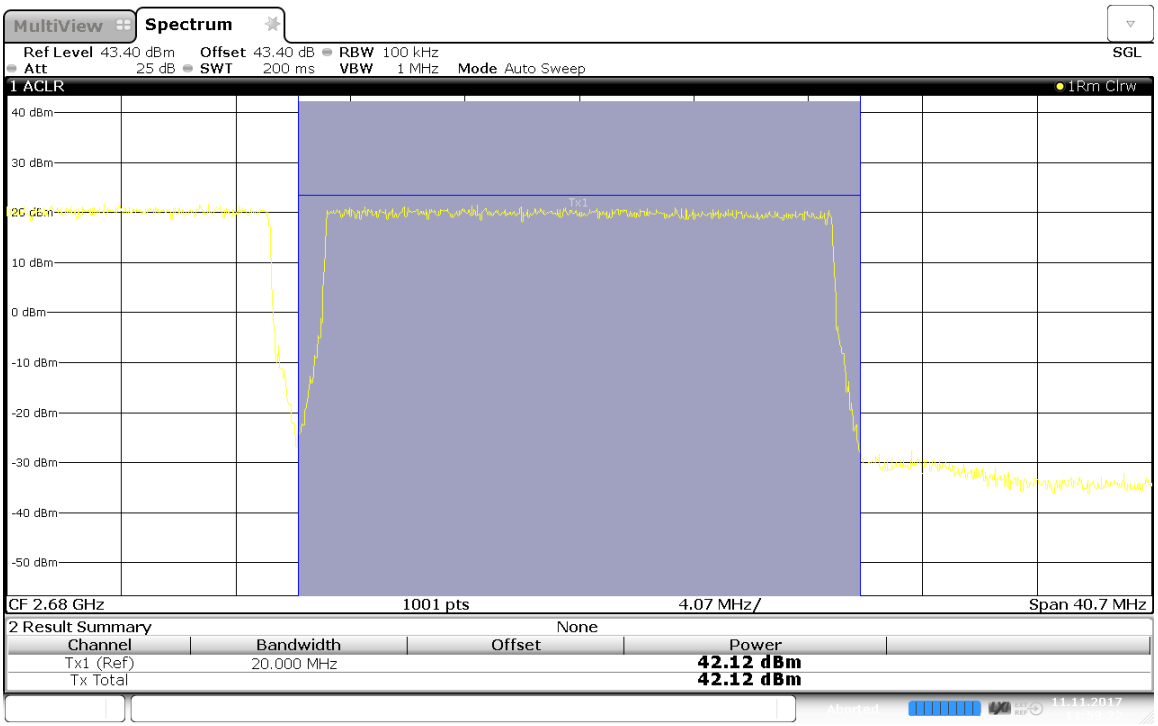
11:58:11 11.11.2017



11:58:34 11.11.2017



11:58:58 11.11.2017



11:59:22 11.11.2017

3.2. RF Exposure

3.2.1. Applicable standard: FCC §2.1091 §1.1037

3.2.2. Limit

According to §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.
According to §1.1310 and §2.1091 RF exposure is calculated. Limits for Maximum Permissible Exposure (MPE)

(B) Limits for General Population/Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm^2)	Averaging Time $\|E\|^2$, $\|H\|^2$ or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	$(180/f^2)$*	30
30-300	27.5	0.073	0.2	30
300-1500	--	--	f/1500	30
1500-100,000	--	--	1.0	30

3.2.3. Test Data

Predication of MPE limit at a given distance
Equation from page 18 of OET Bulletin 65, Edition 97-01
$S = EIRP/ 4\pi R^2$
Where: S = power density
EIRP= equivalent isotropically radiated power=ERP+2.15dB
R = distance to the center of radiation of the antenna= $[(ERP+2.15dB)/4\pi S]^{1/2}$

According to §27.50 , the effective radiated power (ERP) of base transmitters and cellular repeaters must not exceed 1000 Watts.
Frequency 2690MHz is between 1500MHz and 100,000MHz, and the Maximum $S=1mW/cm^2$

⇨ R=4.22m.

This equipment should be installed and operated with minimum distance 4.22m between the radiator & your body.

3.2.4. Test Result: pass

3.3. Moudulation Characteristics

3.3.1.Applicable Standard：

FCC §2.1047

3.3.2.Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
R&S	Signal & Spectrum Analyzer	FSW26	SB12724/01	2017.6.19	2018.6.18
DTS	DTS 40dB Attenuator	DTS100-40-3-1	09112005	2017.03.15	2018.03.15

*__statement of traceability:__ SMQ attests that all calibration has been performed per the A2LA requirements, traceable to NIM.

3.3.3.Test Procedure

LTE digital mode is used by EUT.

3.3.4.Environmental Conditions

Temperature:	20 °C
Relative Humidity:	53 %
ATM Pressure:	1009 mbar

3.3.5.Test Result: Pass

3.3.6.Test Mode: Transmitting LTE

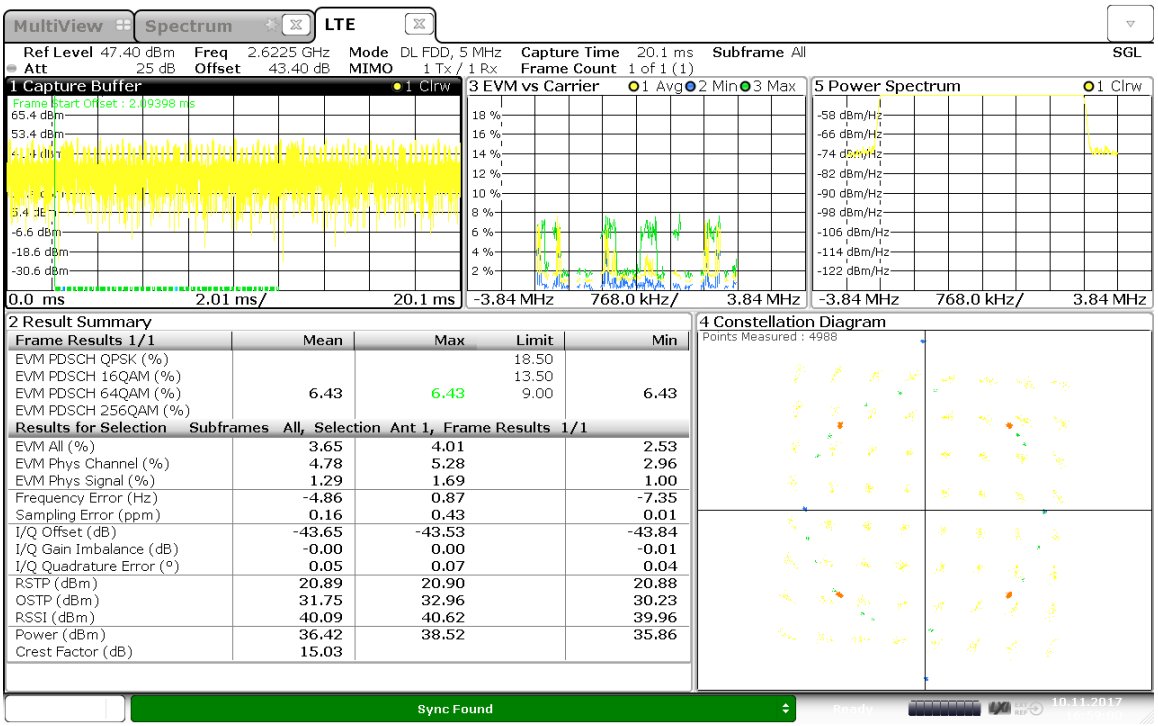
3.3.7.Test Data:

Single Carrier:

Channel Bandwidth :5M(2622.5MHz)

Frequency (MHz)	Test mode	Port	EVM(%)
2622.5	TM2.0	1	6.43
		2	4.25
		3	3.8
		4	3.73
	TM3.1	1	2.76
		2	2.77
		3	2.76
		4	2.77
	TM3.2	1	3.28
		2	3.28
		3	3.28
		4	3.29
	TM3.3	1	5.02
		2	6.88
		3	6.91
		4	6.9

5M -2622.5MHz-TM2.0-Port 1 ~4:



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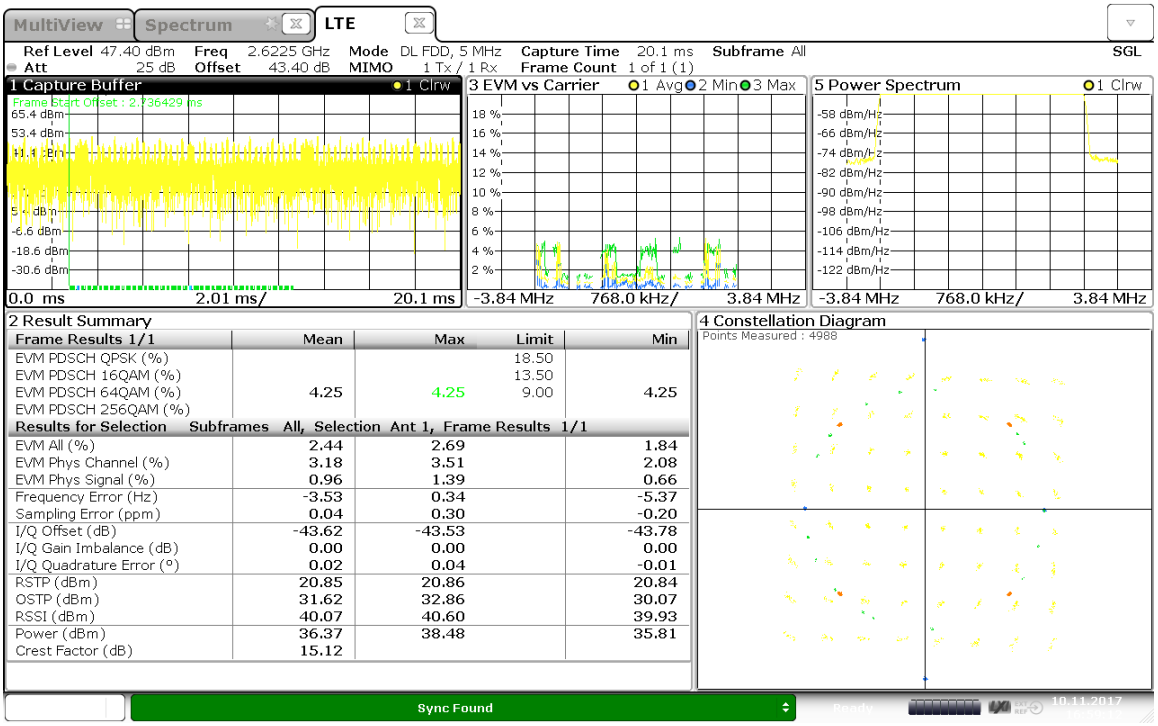

Frame Results 1/1	Mean	Max	Limit	Min
EVM PDSCH QPSK (%)			18.50	
EVM PDSCH 16QAM (%)			13.50	
EVM PDSCH 64QAM (%)	4.25	4.25	9.00	4.25
EVM PDSCH 256QAM (%)				
Results for Selection	**Subframes All, Selection Ant 1, Frame Results 1/1**			
EVM All (%)	2.44	2.69		1.84
EVM Phys Channel (%)	3.18	3.51		2.08
EVM Phys Signal (%)	0.96	1.39		0.66
Frequency Error (Hz)	-3.53	0.34		-5.37
Sampling Error (ppm)	0.04	0.30		-0.20
I/Q Offset (dB)	-43.62	-43.53		-43.78
I/Q Gain Imbalance (dB)	0.00	0.00		0.00
I/Q Quadrature Error (°)	0.02	0.04		-0.01
RSTP (dBm)	20.85	20.86		20.84
OSTP (dBm)	31.62	32.86		30.07
RSSI (dBm)	40.07	40.60		39.93
Power (dBm)	36.37	38.48		35.81
Crest Factor (dB)	15.12			

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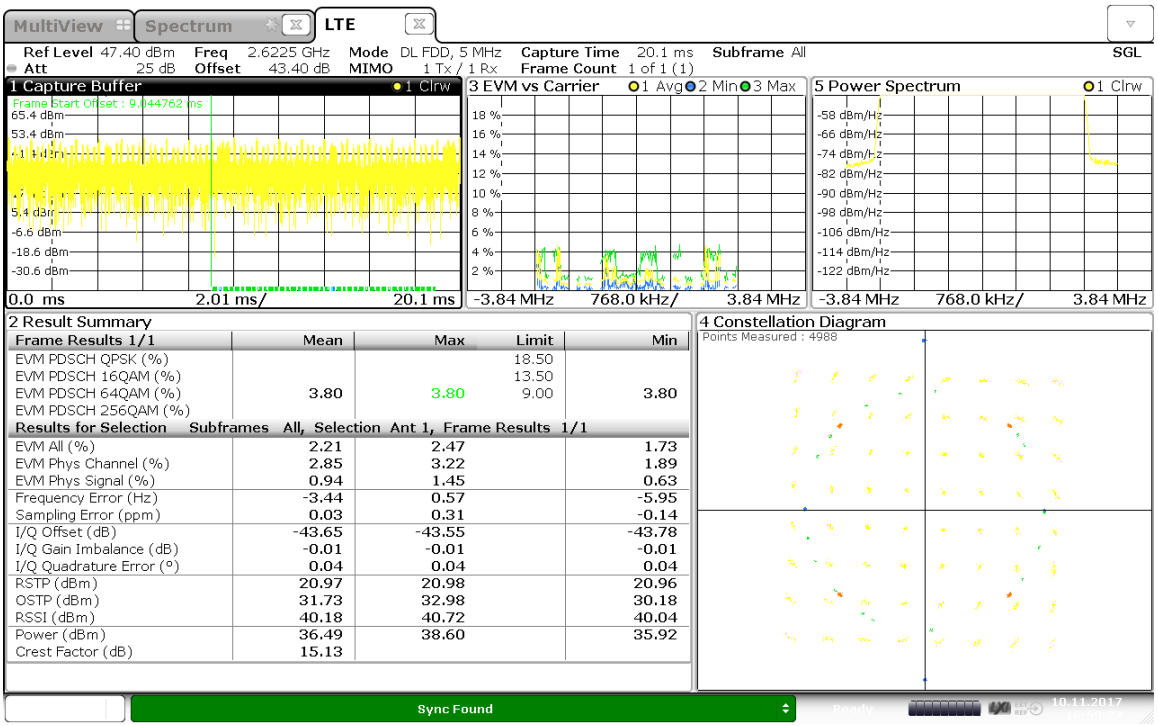

Frame Results 1/1	Mean	Max	Limit	Min
EVM PDSCH QPSK (%)			18.50	
EVM PDSCH 16QAM (%)			13.50	
EVM PDSCH 64QAM (%)	3.80	3.80	9.00	3.80
EVM PDSCH 256QAM (%)				
Results for Selection	**Subframes All, Selection Ant 1, Frame Results 1/1**			
EVM All (%)	2.21	2.47		1.73
EVM Phys Channel (%)	2.85	3.22		1.89
EVM Phys Signal (%)	0.94	1.45		0.63
Frequency Error (Hz)	-3.44	0.57		-5.95
Sampling Error (ppm)	0.03	0.31		-0.14
I/Q Offset (dB)	-43.65	-43.55		-43.78
I/Q Gain Imbalance (dB)	-0.01	-0.01		-0.01
I/Q Quadrature Error (°)	0.04	0.04		0.04
RSTP (dBm)	20.97	20.98		20.96
OSTP (dBm)	31.73	32.98		30.18
RSSI (dBm)	40.18	40.72		40.04
Power (dBm)	36.49	38.60		35.92
Crest Factor (dB)	15.13			

16:59:27 10.11.2017